CITY OF BEND

2019-2020 ANNUAL REPORT

STORMWATER NPDES PERMIT NO. 102901
STORMWATER UIC WPCF PERMIT NO. 103052

National Pollutant Discharge Elimination System
Municipal Separate Storm Sewer Annual Report

Underground Injection Control System Annual Report

Utility Department

Stormwater Utility
October 2020

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CITY OF BEND

FY 2019-20 NPDES Annual Report

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"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Jon Skidmore
Chief Operating Officer
City of Bend
October 29, 2020

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CITY OF BEND

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STORMWATER UIC WPCF PERMIT NO. 103052

National Pollutant Discharge Elimination System
Municipal Separate Storm Sewer Annual Report

Underground Injection Control System Annual Report

FINAL
October 29, 2020

Prepared by:

City of Bend
Utility Department
Stormwater Utility

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ACRONYMS AND ABBREVIATIONS

ACWA	Association of Clean Water Agencies
APWA	Association of Public Works Agencies
ASCE	American Society of Civil Engineers
AWWA	American Water Works Association
BEDAB	Bend Economic Development Advisory Board
BMPs	Best Management Practices
BOPA	Batteries, Oil, latex Paint, and Antifreeze
City	City of Bend, Oregon
CMP	Congestion Management Plan
CPESCL	Certified Professional in Erosion and Sediment Control Lead
COBA	Central Oregon Builders Association
COIC	Central Oregon Intergovernmental Council
COSM	Central Oregon Stormwater Manual
CTF	Stormwater Utility Fee Citizen's Task Force
DEQ	Oregon Department of Environmental Quality
DHS	Oregon Department of Health Services
DWPA	Drinking Water Protection Areas
EPA or US EPA	United States Environmental Protection Agency
ERU	Equivalent Residential Unit
FOG	Fats, Oil, Grease
FTE	Full Time Equivalent
FY	Fiscal Year
GIS	Geographic Information System
GPS	Geographical Positioning System
HHW or HHHW	Household Hazardous Waste
IAC	Utility Infrastructure Advisory Committee
IECA	International Erosion Control Association
IPM	Integrated Pest Management
ISWMP	Integrated Stormwater Management Plan
LID	Low Impact Development
MEP	Maximum Extent Practicable
Monitoring Plan	*City of Bend Water Quality Monitoring Plan*
MS4	Municipal Separate Storm Sewer System
NHD	High-Resolution National Hydrography Data Set
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
O & M	Operation & Maintenance
OEC	Oregon Environmental Council
OLCA	Oregon Landscape Contractors Association
PAG	Stormwater Quality Public Advisory Group
PCBs	Polychlorinated Biphenyls

ACRONYMS AND ABBREVIATIONS

PCOs	Pest Control Operators
PEO	Professional Engineers of Oregon
PIP	Public Involvement and Participation
PNCWA	Pacific Northwest Clean Water Agencies
POCs	Pollutants of Concern
	City of Bend Ambient Water Quality Monitoring Project
QAPP	Quality Assurance Project Plan
SWAT	Stormwater Action Team
SWMP	Storm Water Management Plan or Program
SWPPP	Storm Water Pollution Prevention Plan
TDM	Transportation Demand Management
TMDL	Total Maximum Daily Load
UDWC	Upper Deschutes Watershed Council
UGB	Urban Growth Boundary
UIC	Underground Injection Control; drywell or drill hole
USGS	United States Geologic Survey
WHPA	Wellhead Protection Area
WPCF	Water Pollution Control Facility

FY2019-2020 Annual Report

Section 1.0 Introduction



Background

The City of Bend is both a National Pollutant Discharge Elimination System (NPDES) designated small Municipal Separate Storm Sewer System (MS4) owner and operator, and a stormwater underground injection control (UIC) owner and operator. As such, the City is required to meet the requirements of NPDES Permit No. 102901 (DEQ File No. 113602) that it received on February 26, 2007 from the Oregon Department of Environmental Quality (DEQ) and of Water Pollution Control Facility-Underground Injection Controls (WPCF-UIC) Permit No. 103052 (DEQ File No. 112361) that it received on May 14, 2013.

NPDES Permit. The NPDES permit requirements are based on the federal Clean Water Act (33.U.S.C. §1342(p)), as amended, along with federal Environmental Protection Agency (EPA) regulations for MS4 discharges. The permit authorizes the discharge of stormwater from all municipal separate storm sewer system outfalls owned and operated by the City. The City has 36-38 outfalls to the river based on a 2019 field survey (two potential outfalls have not been verified) that serve a portion of the City along the Deschutes River and West Hills. Privately owned and maintained entities, such as the Old Mill District and specific subdivisions in town that do not discharge to the City's MS4 system, also have private outfalls that are outside of the City's direct jurisdiction with respect to the NPDES permit. The City has applied for renewal of its NPDES permit and continues to negotiate the terms for the next five-year permit. In the meantime, DEQ has administratively extended the City's NPDES permit coverage, so the City must continue to implement the Integrated Stormwater Management Plan (2006) during this time.

Per item 1 of the NPDES permit's Schedule C, Compliance Conditions and Schedules, initial implementation of the approved stormwater management plan (the City's *Integrated Stormwater Management Plan* (ISWMP)), was required to begin by July 31, 2007. The ISWMP (2006) described the activities the Program would implement during the City's first 5-year NPDES permit period. These activities are divided among the following major components of the Program:

- Overall Program Administration, Planning and Financing;
- Public Education and Outreach;
- Public Involvement and Participation;

- Illicit Discharge Detection and Elimination;
- Construction Site Stormwater Management;
- Post-Construction Stormwater Management in New and Redevelopments;
- Municipal Operations and Maintenance—Pollution Prevention and Good Housekeeping;
- Monitoring;
- Drinking Water Protection Areas: Investigation, Re-Delineation and Management.

WPCF UIC Permit. On May 14, 2013, the City received its first Water Pollution Control Facility Permit (WPCF) for Underground Injection Controls (UIC) under the federal Safe Drinking Water Act and Oregon Administrative Rules. This permit covers the City's drywells and drill holes that inject stormwater into the ground. The WPCF permit allows the City to operate Underground Injection Control systems to manage stormwater. Starting in FY2013-14, the City began implementing the Integrated Stormwater Management Plan 2022 (2012) that was accepted under the City's WPCF-UIC permit and was submitted for consideration as part of the NPDES permit reissuance negotiation.

Contents of the Annual Report

This represents the fourteenth City of Bend Stormwater Annual Report submitted to the DEQ and describes stormwater quality and pollution prevention activities implemented by the City during Fiscal Year (FY) 2019-2020 (July 2019 through June 2020). As quoted from item 2 of the NPDES permit's Schedule B, Monitoring and Reporting Requirements, the annual report must contain the following:

a) The status of compliance with permit conditions, an assessment of the appropriateness of the identified BMPs, progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP (maximum extent practicable), and the measurable goals for each of the minimum control measures;

b) Results of information collected and analyzed, if any, during the reporting period, including evaluation criteria used to assess the success of the program at reducing the discharge of pollutants to MEP;

c) A summary of the stormwater activities the permittee plans to undertake during the next reporting cycle, including a schedule for implementation;

d) A description of changes made to the SWMP, including changes to BMPs or measurable goals identified in the SWMP;

e) Information on all new additions or removals of annexed areas that result in an expansion or contraction of the MS4's boundaries;
f) Notice that the permittee is relying on another government entity to satisfy some of the permittee's permit obligations (if applicable); and,
g) Number and nature of enforcement actions taken.

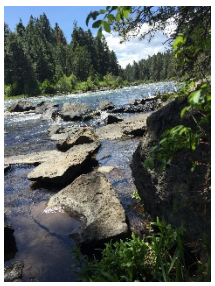
Per subsection 4. of the City WPCF-UIC permit, the annual Underground Injection Control System Report must:

a. Include stormwater monitoring reports conducted in accordance with their Stormwater Monitoring Plan, including a spreadsheet of all data from sampled UICs provided in the analytical laboratory reports;
b. Discuss any action level exceedances (outlined in Permit Table 1) and actions taken to address the exceedances;
c. Describe any actions taken to implement the Underground Injection Control System Management Plan required in Schedule D, condition 5, any proposed modifications to the Underground Injection Control System Management Plan, and any additional actions taken to manage the City's injection systems to ensure groundwater protection;
d. Describe any actions described in your Underground Injection Control System Management Plan that you were not able to complete and why;
e. Identify any injection systems that you closed, retrofitted, or installed during the year;
f. Describe your future (in the next year) known plans to install, modify, convert, or close any underground injection systems; and
g. Provide one hard copy and one electronic copy of the annual Underground Injection Control System Report to DEQ.

The Annual Report contains detailed information on each component required by both permits, including the purpose and general strategy of the component; the tasks completed; an assessment of the effectiveness of activities conducted in reducing or preventing stormwater pollution; and a summary, by individual component, of modifications proposed to the ISWMP per the review conducted this fiscal year. Supporting documents produced under each task are presented in an appendix at the end of each component section. At the end of each task header throughout the report, a notation is included as to whether the task applies to the City's Municipal Separate Storm Sewer System (MS4), which is the piped system that drains to the Deschutes River or other surface waterbody, or to Underground Injection Controls (UIC) or both. The stormwater quality regulatory requirements are different depending on whether the stormwater discharges through an MS4 or UIC system.

FY2019-2020 Annual Report

Section 2.0 Overall Program Management and Legal Authority



Introduction

This section describes the overall administrative and management support functions that the City provides to operate and manage the stormwater quality program. This section also describes activities to ensure adequate legal authority and to facilitate enforcement of the City's environmental codes related to water quality. In general, the City's stormwater staff are responsible for the overall coordination of the Integrated Stormwater Management Plan (ISWMP) (2006) and the ISWMP 2022 (2012). However, several City departments assist the stormwater utility staff with the coordination and implementation of the tasks, taking direct responsibility for some tasks.

Highlights

- All tasks being met.
- The City applied for coverage for an individual NPDES Phase II Permit, appropriate given the population of the City exceeding 100,000 people in 2019.
- Staff effectively pivoted to continue administering the program remotely when the Covid-19 pandemic hit.

Tasks Completed

Task	Description	Compliance Status	Tasks Completed	Effectiveness
ISWMP 2006 Task II-1	**Administration and Coordination (MS4 and UIC).** The Stormwater Action Team will meet as needed and at least quarterly. A list of team members along with yearly participation rates will be noted in the annual report along with meeting summaries. Participation in other work groups will be tracked and noted.	Fully Compliant	The Stormwater Action Team, long ago renamed Stormwater Coordinators, consist of multiple interdepartmental groups within the City that focus on coordinating on stormwater issues, and are comprised of: (a) Stormwater Liaisons (SL) consisting of representatives from multiple departments that focus on stormwater issues, (b) separately those department heads and in higher management attending a direct reports	A combination of the larger coordination meetings together with a continued emphasis on more focused meetings for efficiency appears to work well. With seven documented interdepartmental meetings, the Stormwater Coordinators exceeding the measurable goals for FY2019-20. The smaller ad hoc task group meetings worked well to focus on topics specific to the

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			meeting to the Chief Operating Officer, Jon Skidmore, discussing topics including stormwater, and, (c) Subgroups called ad hoc task groups (AHTG) of these. The City exceeded the requirement of having interdepartmental stormwater coordination meetings at least four times per year in FY2019-20. Meetings occurred on: August 6, 2019 (COO Direct Reports); August 20, 2019 (Streets/Stormwater); September 4, 2019 (CDD/Stormwater); October 24, 2019 (Stormwater Liaison); December 10, 2020; (CDD-Trash Enclosures); January 7, 2020 (Stormwater, CDD); April 20, 2020, May 4, 2020, May 26, 2020 and June 14, 2020 (Stormwater/CDD/EIPD); (see Appendix A). **Annexation Update.** In FY2019-20, the City made three annexations: the Rio Lobo Type II annexation off of Shevlin Park Rd. (40 acres, December 18, 2019); the Pahlisch Treeline Annexation near Anderson Ranch Rd. (28.3 acres, March 4, 2020); and the Petrosa Type II Annexation on the NE Edge of Bend (177	attendees. In addition, utility staff met multiple times internally and with downtown communications team members to coordinate outreach and messaging activities. Such separate meetings were not created at the time of the ISWMP development but are leveraged to efficiently coordinate on stormwater matters as well. The program has shown adaptability in this way.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			acres, March 9, 2020) (See Appendix A).	
ISWMP 2006 Task II-2	**Legal Authority (MS4 and UIC).** Evaluate the existing development rules, documents and identify needed updates, and work to resolve conflicts in existing ordinance, policy or code language pertaining to the creation and implementation of a stormwater program. Upon review, a final stormwater ordinance, along with appropriate development code language will be adopted and implemented	Fully Compliant	The goal of this task is to ensure that the City has the legal authority to implement the various elements of the ISWMP. Securing adequate legal authority has been a top priority in developing the stormwater quality program. On December 6, 2006, the Bend City Council adopted the Integrated Stormwater Management Plan. Since the adoption of the ISWMP, the Bend City Council has passed several resolutions establishing the stormwater utility, appeals and credit programs, ensuring adequate funding will be available to the stormwater utility. The City adopted Bend Code Title 16 “Grading, Excavation, and Stormwater Management" on January 4, 2012, and the Central Oregon Stormwater Manual (2010) as part of both bend Code Title 16 and the City of Bend Standards and Specifications. In FY2019-20 the City worked towards making updates to the Standards and Specifications but due to Covid-19 delays they have not yet been approved.	The City has met its measurable goals for all subtasks. Over the initial NPDES MS4 permit term, the City successfully passed resolutions and an ordinance to set up the stormwater utility, adopted the improved standards and specifications, and adopted the stormwater ordinance, Bend Code Title 16. The City continues to work towards continual improvement with review and update of its rules and policies. In March 2019, the City adopted improvements to the Standards and Specifications, including stormwater sections where we specified treatment priorities by area, among other changes. The City approved increasing lot coverage for state-required affordable housing and density requirements reasons related to UGB expansion last year, the results of which is impacting the ability of these developments to keep stormwater on site in an economically feasible manner. Although Bend Code Title does allow for

Task	Description	Compliance Status	Tasks Completed	Effectiveness
				formal agreements to allow for management across property lines.
ISWMP 2006 Task II-3	**Financing (MS4 and UIC).** Ensure adequate funding to implement this integrated stormwater management plan, and to complete a Stormwater Master Plan by Permit Year 4.	Fully Compliant	Over the course of the Integrated Stormwater Management Plan (2006) planning period, the City adopted several resolutions and Bend Code Title 16 that established a stormwater utility with enterprise funding through monthly service charges based on impervious surface coverage. The rate in FY2019-20 was $5.62/ equivalent residential unit (ERU), and the City Council passed a rate of $5.79/ ERU for FY2020-21 in June 2020. The increases are in line with the funding needed for the projects outlined in the City's Stormwater Master Plan, adopted by City Council on August 6, 2014. The fee is designed to cover quantity and quality issues. The funds are now covering stormwater improvements for al projects, not just stormwater priorities. The City plans to conduct a rate structure review and analysis given as a main driver the desire to have flexibility to comingle private and public stormwater on project; this work is anticipated in FY2020-21.	The City has successfully established a stormwater utility service charge, and began collecting fees of $4/ERU in July 2007. Fees were first raised to $5/ERU in July 2015 to meet the needs of the adopted Stormwater Master Plan, and yearly since to $5.15/ERU in July 2016 to $5.30/ERU starting in July 2017, to $5.46/ERU in July 2018, to $5.62/ERU in July 2019, and $5.79 in July 2020. The current fee for FY2019-20 was expected to raise $3.8M but may have fallen short given the continuing Covid 19 challenges, the full impacts of which are not yet known.
ISWMP 2006 Task II-4	**Planning (MS4 and UIC).** Annually review the ISWMP. Results of the	Fully Compliant	The City plans a thorough update of its ISWMP 2022 once the City's final NPDES MS4 permit	The City has reviewed the ISWMP during the draft NPDES MS4 Phase II permit

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	review and any changes to the SWMP will be reported on as part of the annual report, due by November 1 of each year.		conditions are known. At present, the City's existing individual NPDES MS4 permit is administratively extended.	comment period and feels it is most efficient to perform a thorough update of its ISWMP once the City's final NPDES MS4 Phase II permit conditions are finalized, especially as the ISWMP is also tied to the WPCF- UIC permit.
ISWMP 2006 Task II-5	**Annual Reporting (MS4 and UIC).** Prepare and submit annually a report of accomplishments achieved in the previous fiscal year (July 1 through June 30) and any continual improvement changes made to the DEQ by November 1.	Fully Compliant	In FY2019-20, the City prepared and submitted the FY2018-19 annual report by the November 1 deadline. This annual report, covering FY2019-20, is the fourteenth annual report prepared by the City and serves to cover ISWMP (2006), describing continuing activities and achievements made to meet the water quality requirements of the NPDES MS4 permit and ISWMP 2022, which has been approved by DEQ as the management document for the WPCF-UIC permit. This is the seventh annual report submitted to DEQ for activities required by the WPCF-UIC permit. Descriptions of effectiveness are included under each task. Per the City's stormwater permits, the annual reports are due by November 1 of each year.	The City has worked interdepartmentally and with public advisory group feedback each year to develop and submit each annual report on time. Annual reports are posted on the City's website.
ISWMP 2006	**UIC Registration (UIC).** On a map, show the location	Fully Compliant	The City's GIS geodatabase includes all known City-owned	This is an ongoing task, and the City continues to update

Task	Description	Compliance Status	Tasks Completed	Effectiveness
Task II-6a	of each structure. In addition, show the connections for each system that discharges to the Deschutes River, Assign descriptive ID codes and Upload information to GIS. Make GIS information available on the stormwater web site.		stormwater facilities, an impervious surface area layer and drinking water protection area layers. A copy of the most recent (October 2020) UIC registration list is included in Appendix I. This provides information on new UICs, as well as UICs that have been closed or retrofitted. The City's UIC facilities and wellhead protection areas are included on the City's mapping services website, BOOM, located at: http://www.bendoregon.gov/index.aspx?page=463. Additionally the City has street level imagery that staff can use for internal research purposes. In FY2019-20, staff completed incorporating the results of the 2019 river outfall inspection effort into the City's mapping database	and improve its base map of existing structures and knowledge of its facilities as the City grows. Please see Section 8 for numbers of and details on facilities. Section 10 includes more information specific to UICs.
ISWMP 2006 Task II-6b	**UIC Registration (continued) (UIC).** Develop UIC database that can easily transfer registration and decommissioning data to DEQ database. Enter data for all existing UICs. Develop process for registering new, modified or decommissioned injection systems before they are		With the WPCF UIC permit, the City submits its database along with the annual report once per year. The database is kept up to date by the Utility Data Services team. A process is in place to collect and provide the information included in the database. For more information, see Chapter 10, UIC.	DEQ has received our databases for updating their database accordingly.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	constructed, modified or decommissioned. Maintain accurate database.			
ISWMP 2022 BMP II-1	**Administration and Coordination (MS4 and UIC).** Stormwater coordination staff across divisions and departments will meet as needed and at least four times per year.	Fully Compliant	Task completed. See table below for responsibilities matrix. See Appendix A for organization charts. See ISWMP 2006 Task II.1. for more information.	See ISWMP 2006 Task II.1
ISWMP 2022 BMP II-2	**Legal Authority (MS4 and UIC).** Track Bend Code Title 16 implementation and compliance, through quantifiable measures. Seek as a general goal to reach 60% or above permit compliance by start of FY14-15.	Fully Compliant	See ISWMP 2006 Task II.2. City is seeing above 60% permit compliance (see Construction and Post-Construction sections).	See ISWMP 2006 Task II.2
ISWMP 2022 BMP II-3	**Financing (MS4 and UIC).** Ensure adequate funding to implement this integrated stormwater management plan and continue to meet operation and maintenance needs.	Fully Compliant	See also ISWMP 2006 Task II.3 The City conducts rate reviews periodically and adjusts rates to ensure adequate funding to meet water quality and water quantity needs.	See ISWMP 2006 Task II.3 The City is effectively meeting this task. The City will conduct a rate structure review and commit to biennial budget planning in FY2020-21.
ISWMP 2022 BMP II-4	**Planning (MS4 and UIC).** Annually review the *ISWMP 2022* to the degree allowed by	Fully Compliant	See ISWMP 2006 Task II.4 In the coming year, the City plans to continue to implement the tasks and performance standards in	See ISWMP 2006 Task II.4 The City is effectively meeting this task given the status of the two

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	permitting requirements, plan specific activities for the coming year, and revise the *ISWMP 2022* as needed.		the ISWMPs, and specifically the additional efforts listed throughout this report.	permits. The ISWMP cannot be updated while the NPDES permit is administratively extended.
ISWMP 2022 BMP II-5	**Annual Reporting (MS4 and UIC).** Report accomplishments achieved in the previous fiscal year (July 1 through June 30) and any continual improvement changes made, as allowed by permitting requirements, will be provided to the DEQ by November 1.	Fully Compliant	See ISWMP 2006 Task II.5	See ISWMP 2006 Task II.5 The City is effectively meeting this task with submittal of each of the annual reports since FY2006-07.

Table 2.1 Responsible Personnel

Permit Area of Responsibility	Specific BMPs	Lead Name[10]	Title (bold designates lead)	Department/ Division	Phone
Overall Interdepartmental Communication	All	**Eric King**	**City Manager**	City Administration	541-388-5505
Program Administration, Planning, and Finance	II-1, II-2, II-3, II-4, II-5	Eric King	City Manager	City Administration	541-388-5505
	II-1, II-2, II-3, II-4, II-5	**Paul Rheault**[1]	**Utility Director**	Utility Department	541-317-3000
	II-1, II-2, II-3, II-4, II-5	**Russell Grayson**	**Community Development Director**	Community Development Department	541-388-5580
	II-3	Sharon Wojda	Chief Financial Officer	Finance Department	541-693-2158
	II-1, II-2, II-3	**Ryan Oster**	**Engineer Director / City Engineer**	Community Development Department	541-388-5580
	II-1, II-2, II-3, II-4, II-5	Wendy Edde	Stormwater Program Manager	Utility Department	541-317-3000
Public Education and Outreach	III-1, , III-3, III-4, III-5	**Paul Rheault**	**Utilities Director**	Utility Department	541-317-3000
	III-1, III-3, III-5,	Anne Aurand	Communications Manager	City Administration	541-388-5573
	III-1	Russell Grayson	Community Development Department Director	Community Development Department	541-388-5580
	III-1, III-2, III-3, III-4, III-5	Wendy Edde	Stormwater Program Manager	Utility Department	541-317-3000
Public Involvement and Participation	IV-1, IV-2, IV-3, IV-4	**Paul Rheault**	**Utilities Director**	Utility Department	541-317-3000
	IV-2	Russell Grayson	Community Development Department Director	Community Development Department	541-388-5580

[1] As of July 2020, Paul Rheault has left the City of Bend. A current recruitment for his replacement is underway. Until completed, Chief Operating Officer Jon Skidmore is overseeing Paul's roles.

Permit Area of Responsibility	Specific BMPs	Lead Name[10]	Title (bold designates lead)	Department/ Division	Phone
Public Involvement and Participation	IV-2, IV-3, IV-4	Anne Aurand	Communications Manager	City Administration	541-388-5573
	IV-1, IV-2, IV-3,	Wendy Edde	Stormwater Program Manager	Utility Department	541-317-3000
	IV-3	Cheryl Howard	Volunteer Coordinator	City Administration	541-388-5579
Illicit Discharge Detection and Elimination	V-1, V-2, V-3, V-5,V-6	**Paul Rheault**	**Utilities Director**	Utility Department	541-317-3000
	V-5,V-6	Russell Grayson	Community Development Department Director	Community Development Department	541-388-5580
	V-3	Ryan Oster	Engineer Director / City Engineer	Engineering	541-317-3000
	V-3	Charles Swann	Streets Division Manager	Streets Department	541-317-3000
	V-2, V-4	Anne Aurand	Communications Manager	City Administration	541-388-5573
	V-3	Cheryl Howard	Volunteer Coordinator	City Administration	541-815-5559
	V-1, V-2, V-3	Wendy Edde	Stormwater Program Manager	Utility Department	541-317-3000
Construction Site Stormwater Activities	VI-1, VI-2	**Russell Grayson**	**Community Development Director**	Community Development Department	541-388-5580
	VI-1, VI-2	**Paul Rheault**	**Utilities Director**	Utility Department	541-317-3000
	VI-1, VI-2	**Ryan Oster**	**Engineer Director / City Engineer**	Engineering	541-317-3000
	VI-2	Wendy Edde	Stormwater Program Manager	Utility Department	541-317-3000
Post Construction Stormwater Management In New and Redevelopment	VII-1, VII-2	**Russell Grayson**	**Community Development Director**	Community Development Department	541-388-5580
	VII-1, VII-2	**Paul Rheault**	**Utilities Director**	Utility Department	541-317-3000
	VII-1, VII-2	**Ryan Oster**	**Engineer Director / City Engineer**	Engineering	541-317-3000
	VII-2	Wendy Edde	Stormwater Program Manager	Utility Department	541-317-3000
Pollution Prevention/Good Housekeeping for Municipal Operations	VIII-1, VIII-2, VIII-3, VIII-4	**Paul Rheault**	**Utilities Director**	Utility Department	541-317-3000
	VIII-5	**Russell Grayson**	**Community Development Director**	Community Development Department	541-388-5580

Permit Area of Responsibility	Specific BMPs	Lead Name[10]	Title (bold designates lead)	Department/ Division	Phone
	VIII-1, VIII-2, VIII-3, VIII-4	Charles Swann	Streets Division Manager	Streets Department	541-317-3000
Monitoring	IX-1, IX-2, IX-3	**Paul Rheault**	**Utilities Director**	Utility Department	541-317-3000
	IX-1, IX-2, IX-3	Wendy Edde	Stormwater Program Manager	Utility Department	541-317-3000
	IX-1, IX-2, IX-3	Jeff Buystedt	Field Sampling--Program Manager	Utility Department	541-317-3000
Underground Injection Controls (City-owned)	X-1, X-2, X-3	**Paul Rheault**	**Utilities Director**	Utility Department	541-317-3000
	X-3	**Ryan Oster**	**City Engineer**	Public Works	541-317-3000
	X-2	Charles Swann	Streets Division Manager	Streets Department	541-317-3000
	X-1, X-2, X-3	Wendy Edde	Stormwater Program Manager	Utility Department	541-317-3000
	X-2, X-3	Spencer Sanvitale	Utility Data Systems Program Manager	Utility Department	541-317-3000

10 Lead Responsible Person in **Bold** with assistance from personnel in regular-type text.

Summary of Effectiveness

Since the adoption of the ISWMP (2006), the City has (a) formed and maintained a stormwater utility, (b) obtained reliable funding for that utility, (c) staffed the utility, currently with a program manager, a senior program analyst, a compliance specialist, 5 dedicated stormwater field staff working on the Utility collections team, 3 FTE sweeper staff, 1/2 FTE management/administration staff, support to Engineering and Infrastructure Planning Department for stormwater capital projects, and additional temporary staff as needed. The City is actively coordinating internally, as well as with the public through the Stormwater Public Advisory Group and stormwater quality staff participate on other city planning task groups as invited. Additionally, the City is also actively coordinating with other municipalities in the state through the Oregon Association of Clean Water Agencies (ACWA), Pacific Northwest Clean Water Association (PNCWA), and American Public Works Association (APWA), to improve effectiveness, knowledge and efficiencies. Finally, staff worked to keep trained to ensure strong and efficient program management—stormwater utility staff obtained continuance of the APWA Certified Stormwater Manager designation; earned ASCE Foundation for Using GIS for Infrastructure Asset Management, and attended trainings such as TMDL Planning through the Center For Watershed Planning in FY2019-20 (see Appendix A).

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FY2019-2020 Annual Report

Section 3.0 Public Education and Outreach



Introduction

The purpose of this component is to implement a program to distribute educational materials to the community or conduct equivalent outreach activities about stormwater discharge impacts on water resources, including both surface waters and groundwater, and the steps that the public can take to reduce such pollutants in stormwater runoff. The City is committed to providing a strong public outreach component for this program to provide the public a basic understanding of what stormwater is and why using best management practices (BMPs) matter.

Highlights

- City created and distributed a Stable Loads brochure to help prevent debris and sediment from moving trucks.
- City provide air time for the 2019 BendFilm/Zolo Media/ City of Bend Clean Water Works video contest grand prize winner's public service announcement on local television channels, designed to prevent sewer overflows into streets and storm drains. Intermixed with additional stormwater psas in second half of fiscal year.
- Realized the final results of a multi-year statewide effort that City staff led the development of through the Oregon Association of Clean Water Agencies to develop a series of consistent statewide, topical best management practice outreach pieces covering: Food Service (fact sheet and poster); Landscape Maintenance (for the professional, and for hiring professionals); Pressure Washing and Surface Cleaning; RV Disposal; and Spills and Leaks.

Tasks Completed

Task	Description	Compliance Status	Tasks Completed	Effectiveness
ISWMP 2006 Task III-1	**Utility Bill Inserts, Brochures or Posters (MS4 and UIC).** Develop and distribute at least two stormwater information pieces to area residents per permit year on average. Distribute at least 4 information pieces.	Fully Compliant	On November 12, 2019, the City again distributed via email the Food Service BMP Training video that included stormwater pollution prevention messaging to all restaurants with a business license. The City also finalized, printed, and electronically distributed a Stable Loads brochure to all applicable construction related contractors.	Although we were not able to do the Clean Water Works Partnership Program in full this year given bandwidth and Covid issues, the City continues to get a strong stormwater pollution prevention message out in a positive manner appropriate for Bend.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			The City submitted two City News articles in July 2019, one for the Deschutes River Cleanup; and one announcing the Clean Water Works youth film contest winners. The City's Stormwater Program Manager served as the project manager for the ACWA IDDE brochures development. In December 2019, she with others in ACWA reviewed the final graphical layout of the products, which were released for use in the Spring 2020. Staff worked with downtown communication to release the first one on RV maintenance right before the July 4th 2020 weekend. The seven pieces included: Food Service (fact sheet and poster); Landscape Maintenance (for the professional, and for hiring professionals); Pressure Washing and Surface Cleaning; RV Disposal; and Spills and Leaks. In April-May 2020, the City conducted social media outreach for Clean Water Works Youth video contest push, and – partly in response to the changing school conditions resulting from the Covid-19 pandemic --created an informal video to help students with development of the entries that focused	The new Stable Loads fact sheet and insert targets one of our main pollutants of concern – sediment from construction activities, as well as debris. The finalization of the ACWA factsheets and poster gives the public easy to follow, statewide-consistent guidelines for best management practices. The Bend Current is a sign-up only e-newsletter, so the reach is not the same as the City Newsletter did when it was distributed in hard copy with the utility bills. But no study has been conducted locally assessing effectiveness in reach, because those who have self-selected to receive the e-newsletter are more likely to read it. The numbers of actual readers may be similar, in which case retiring the hard-copy version to all may have saved paper resources without significant loss of readership. The City Newsletter was distributed to all stormwater account holders; the Bend Current e-newsletter by comparison had 6,008

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			on pollution prevention for automobile wheels. The City completed and printed hardcopies for the Stable Loads fact sheet for all audiences and the Stable Loads stuffer for professional drivers. The City continued to distribute through passive means (at front desks, or during inspections, etc.): (a) LID Maintenance Fact Sheets: • Porous Pavement • Sedimentation Manhole • Rain Garden • Drywell • Catch Basin (b) One Water brochure that includes stormwater information to new Utility customers. (c) Annual Drinking Water Quality Report, which includes a brief summary of stormwater program activities to protect drinking water quality. (https://www.bendoregon.gov/waterreport) (d) educational pieces as part of the Clean Water Works campaign (e.g., television media buys, slides at BendFilm events, advertisements in the Bend Park and Recreation guide, advertising in playbills (see Appendix B)). Additionally, staff submitted, and the	subscribers in September 2019.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			Communications Department staff included, several stormwater messages in the Bend Current e-newsletter. The following articles were included: • July 2019: 2019 Clean Water Works Video Contest winner; Deschutes River Cleanup; Smart Irrigation tips; Plastic Bag Ban; Utility Rates update, and Septic to Sewer (see Appendix B). • September 2019: Announcing City Quest at the Fall Fest (see Appendix B) • November 2019: FOG outreach to prevent sewage backups in the streets/storm drains (see Appendix B) • March 2020: Greenways (promoting alternative transportation) • June 2020: Promoting the Drinking Water Report that includes a section on stormwater quality program.	
ISWMP 2006 Task III-2	**Stormwater Pollution Prevention Website (MS4 and**	Fully Compliant	The City's stormwater utility website is available at www.bendoregon.gov/stor	The main stormwater pages had over 5,700 views in FY2019-20, with the Clean Water

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	UIC). Update the website with a stormwater message in Permit Year 2, and to keep the website updated with new information in future years.		mwater. We continue to promote through our advertising the Clean Water Works campaign: www.bendoregon.gov/cleanwaterworks pages of the website to focus on the stormwater quality aspects of the utility. Modifications to the website to meet Americans with Disabilities Act (ADA) requirements continue with initial focus on ensuring our newest entries are ADA compatible. New information has been added in FY2019-20 including new videos and competition information.	works Kid's video and poetry contests seeing the most pageviews at 1,348, a rise of 429% over the same page in FY2018-2019. Pageviewers spent an average of 5 minutes 4 seconds on the page this fiscal year, suggesting they watched the videos focused on best management practices. Please see Appendix B for additional analysis. The City continues to work through the balance between updating the website so that all materials are meeting ADA requirements. Some older documents may need to be archived and made available upon request given the resource requirements to modify technical documents accordingly.
ISWMP 2006 Task III-3	**City News Broadcast, Stormwater Quality Messages, and Press Releases (MS4).** Post at least one stormwater quality-related message per year during each permit year.	Fully Compliant	The City ran its new flushable wipes psa on air throughout the year. This piece was the result of the grand prize winner of our Clean Water Works contest working with a professional producer to turn their entry into a professional commercial. Flushing wipes is a problem for the separate sanitary sewer collection system, but when that backs up as a result the	The City effectively met this requirement. Fewer City Editions are being created these days due to cuts in the Communication dept. budget, and Munch n Movies did not occur in 2019 again due to event organization issues, but BendFilm shares the Kids Contest psa each year and shows slides at each of its screenings

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			impact can affect the stormwater system. Additionally, the City ran a selection of four additional psas from past winners in 2020. In all, the City ran 621 paid spots, and received another 904 bonus spots given the non profit community benefit, for a total of 1,525 spots between September 2019 and August 2020. Additionally, on its own the Bend Bulletin printed an article about Rain Gardens, which helps the local efforts to educate (see Appendix B.) The City played two 30 second psa's to two full house performances at the Tower theater, announcing at and distributing Clean Water Works Kid's Video Contest announcements at the Westside Village Magnet school events on February 27, 2020. (See Appendix B). This is in addition to the City's school education program that includes information on the City's stormwater program and a better site design field trip (See Appendix B). The City placed Love Your River advertisements in the Bend Park and Recreation Guides for the issues they posted (the final was impacted by Covid-19).	for the year, including during the annual FilmFest. And this year BendFilm purchased the Tin Pan Theater and showed some there for a month instead.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			The City also participated in the online version of the Environmental Center's Earth Day events by providing information for their Goose Chase scavenger hunt app.	
ISWMP 2006 Task III-4	**Stormwater/ Watershed Diorama (MS4).** Purchase and make available the Stormwater/ Watershed diorama for educational opportunities.	Fully Compliant	The City has two educational dioramas -- a watershed plastic model; and a groundwater one showing how underground injection controls work. The City lent out both dioramas to the Bend-LaPine School District and the Environmental Center throughout the year until the Covid -19 crises shut down schools in mid-March. The City promoted both dioramas for free lending at Teacher's Night Out at the High Desert Museum in September (19th) and distributed information on additional supplies available for lending. In September 2019, the City loaned the UIC model to New Leaf Academy; and to Pilot Butte Middle School in October, Miller School in November, and Skyview Middle School in January. The City also participate in the City Quest Utility booth at the Fall Festival on October 5thoperating the UIC Model on display.	The City is meeting this task effectively.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
ISWMP 2006 Task III.5	**Performance Standards.** Prepared draft performance standards starting in Year 4 to obtain internal review, and finishing by midyear in Year 5 for inclusion in the permit package.	Fully Compliant	The City prepared the performance standards in the original five-year permit term and are currently implementing them (see section below).	Staff are effectively meeting the performance standards.
ISWMP 2022 BMP III-1	**Develop and Implement Strategic Outreach Plan Targeting Pollutants of Focus for the Public and City Employees (MS4 and UIC).** Develop and distribute at least one stormwater information piece to area residents per permit year. Existing outreach pieces will be made available as well. Provide Council and at least one to two targeted employee groups per year information on the stormwater program typically in areas needing coordination improvement.	Fully Compliant	See also ISWMP (2006) BMP III-1 The City is implementing its Strategic Outreach Plan for targeting pollutants of focus. The City is targeting sediment reduction and illicit discharge reduction especially around metals such as lead. This year the City developed and distributed its Stable Load brochure, several newsletter articles (noted above), and public service announcements. On September 16, 2019, City stormwater program staff participated in and distributed outreach at Venga Y Conozca during Bend's Welcoming Week. From there, staff promoted the idea of converting the City's One Water overview brochure including information about the City's utilities including stormwater into a Spanish translation format as well. That work is now in progress.	The City has been implementing its Strategic Outreach Plan. Pollution Prevention Training Fact Sheets are included in the City's Utility Department training program; and public versions are included in the Business Resources section of the City's website. General education of stormwater pollution prevention including diorama's, outreach at events including banners, kid's film contests and print advertising in the BPRD and Smart Shopper guides continues. The Public Advisory Group has focused on linkages between land use and stormwater, but all existing materials are available on the website. The Clean Water Works Partnership has been the umbrella for incentive programs.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			In FY2019-2020 the City distributed links to its 6-minute training video for food-service workers and poster to food service staff. Staff conversed or met with street sweeper staff as needed this year to share the importance of street sweeping efficiency for stormwater pollution prevention, and began implementation of a stormwater quality specific sweeping plan. Staff also began working closely with community development staff to address development pressures for density and drainage flexibility. The City staff submits for consideration in a Council memorandum an announcement of the availability of the stormwater annual report to City Council every year. The City has "Only Rain in the Storm Drain" DAS markers available to private users on a first come first serve basis.	
ISWMP 2022 BMP III-2	**Stormwater Pollution Prevention Website (MS4 and UIC).** Update the website with revised stormwater messages starting in FY2012-13, and to keep the website updated with new	Fully Compliant	See ISWMP (2006) BMP III-2	The City maintains a very thorough stormwater website. Additional improvements to the website are underway, as older material is being checked and updated, and a larger update is planned.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	information in future years.			
ISWMP 2022 BMP III-3	**Media Relations: City News Broadcast, Stormwater Quality Messages and Press Releases (MS4 and UIC).** Post on average at least one stormwater quality-related messages per year during each permit year.	Fully Compliant	See ISWMP (2006) BMP III-3. The City maintains several of its stormwater videos on the City's you tube website: https://www.youtube.com/user/CityofBendOregon/search?query=stormwater	This requirement is being exceeded. As of September 27, 2020, the original 2015/16 CWW Video contest psa has 76 views on the website, Lucie's Clean Water Works Poem from 2 years ago has 324 views; the 2018 winners has 89 views, the 2019 video winner posted 5 months ago has 32 views. The original Clean Water Works commercial has 458 view; the Bend Food Service Training video has 457 views; the Cleaning the Storm Drains and Fire Hydrants video from March 15, 2019 has 329 views on the website along.
ISWMP 2022 BMP III-4	**School/ Enrichment Activity Outreach: Stormwater/ Watershed Diorama (MS4 and UIC).** Make available the Stormwater/ Watershed diorama and videos for educational opportunities.	Fully Compliant	Please see ISWMP (2006) BMP III-4. The Ins and Outs of Water includes a section on stormwater. The Stormwater Quest field trip is offered as well, located in the Old Mill area to examine site design and stormwater facility measures. (See Appendix C.) City Stormwater staff met with Environmental Center	The education program aligns with core standards and is well liked by teachers. Covid-19 impacted the number of connections. As a whole, the Utility dept. through the Environmental Center contract reached 16 or 30 targeted elementary classrooms (516 or 750 students and 29 or 60 targeted presentation). Similarly for middle school, the Utility

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			staff in September 2019 to help train them to teach school children about the City's stormwater and other utilities. They met again in the spring to adjust to Covid- 19 restrictions, and offered ideas for Earth Day remote activities. The winner of the Clean Water Works Youth Video Contest was recognized before City Council, and the videos were shared with Council providing for an educational event for attendees (see Appendix C).	department reached 26 or 30 classrooms, 713 of 840 unique students and conducted 98 or 120 planned presentations and 120 of 896 field trips. The Environmental Center was able to pivot with Covid-19 impacts and provide some training to Pacific Crest Middle School online. The Environmental Center's evaluation showed that why in the pre-assessment 40% of the students did not know 3 ways to reduce stormwater pollution prior to the class, the number of "I don't know" answers dropped to 10% after the class with students providing correct answers.
ISWMP 2022 BMP III-5	**Implement Performance Standards (MS4 and UIC).** This task will be deemed complied with if the City has substantially met the performance standards per the ramp-up schedule included in Appendix B of the ISWMP 2022.	Fully Compliant	Please see below for a summary of performance standard implementation.	Having performance standards and separate strategic education outreach campaign together with an original ISWMP (2006) and an ISWMP 2022 makes tracking tasks more challenging than one consolidated plan. This could be improved by streamlining into one ISWMP if the two permits get on complimentary

Task	Description	Compliance Status	Tasks Completed	Effectiveness
				timelines and extraneous plans are minimized.

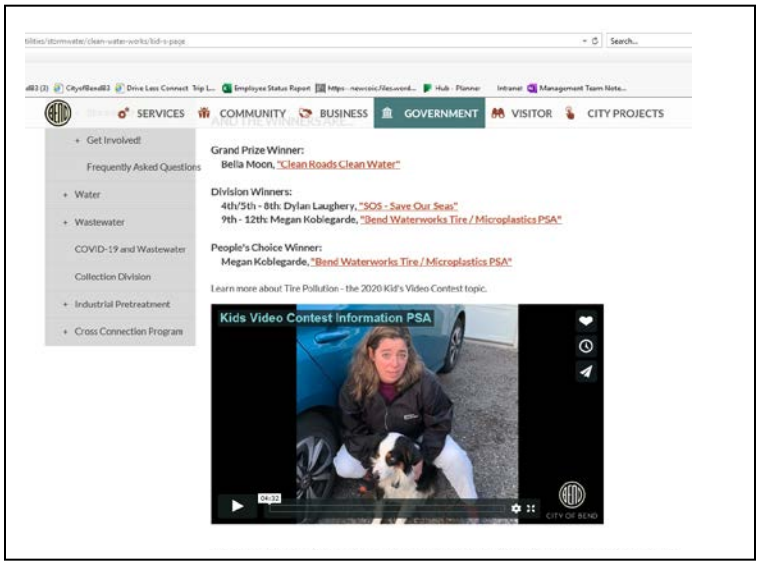
Performance Standards Implementation Status

Please see Section 4 for the combined Public Information and Participation Performance Standards Implementation Status table. The City is fully implementing the performance standards.

Summary of Effectiveness

The City met or exceeded the measurable goals for implementation of required permit activities. The focus this year was the successful continuation of the Clean Water Works Youth Video contest partnership program, this year focused on an emerging pollutant of concern—vehicle tire wear—and the final completion of the City of Bend Stable Loads flyer, and the Oregon Association of Clean Water Works outreach pieces. The communication coordination staff were able to secure an excellent deal with bonus buys for the media outreach component this year, focusing on two stations, and the stormwater utility leveraged costs by combining buys with other utilities divisions given the subject matter supported both.

The key word this year was “pivot” given the needs to make adjustments when the Covid-19 crisis hit. The City rose to the challenge by creating a helpful teaching video (see photo at right) for the youth video contest and extending the deadline for entries; to helping adjust the Earth Day event idea; to conducting an electronic mailout of Stable Load fact sheets; to having the Environmental Center conducting some of their school trainings for the City online.





FY2019-2020 Annual Report
Section 4.0 Public Involvement and Participation

Introduction

The goal of the public involvement and participation (PIP) component is to work with City residents, public employees, businesses, and government officials concerning the importance of and methods for controlling pollutants in urban runoff. Ultimately, community involvement in implementing pollution prevention practices and in evaluating and documenting conditions within the watershed is the only hope of achieving meaningful change in the quality of urban runoff.

Highlights

- Engaged as a sponsor in another successful Deschutes River Clean up event.
- In a continued innovative partnership with a nonprofit (BendFilm), a for profit media group (Central Oregon Daily), and the City of Bend, area 4th/5th-12th grade students interested in film vied for prizes in creating a 30-second public service announcement targeting pollutants from vehicle tires.
- Engineering and Infrastructure Planning Department staff held public meetings for CIP projects that contain stormwater improvements, including the Newport Project. Growth Management Staff held public meetings on the Core Area Plan and Transportation Management Plans.
- The Stormwater Public Advisory Group met and provided input on progress toward implementing their recommendations on how best to handle stormwater drainage with increasing density pressures.

Tasks Completed

Task	Description	Compliance Status	Tasks Completed	Effectiveness
ISWMP (2006) Task IV.1	**Public Advisory Committee (MS4).** Conduct at least semiannual meetings of the Public Advisory Committee.	Fully Compliant	The Public Advisory Group (PAG) met on September 18, 2019, January 9, 2020, and June 8, 2020 (see Appendix C). The meeting for March/April was impacted by the Covid-19 response and the City provided an online status update and encouraged attendees for that month's meeting to attend and provide comment on the Newport Corridor CIP	City staff exceeded the compliance metric for this task. The purpose of the PAG is to inform staff on how to improve its stormwater programs and activities, rather than providing input directly to City Council. The Newport Corridor CIP project is a major renovation of the storm drain lines coming down Newport and

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			project open house (see Appendix C).	taking water from the South side of Awbrey Butte to the Deschutes River. Thus it is a high priority project with lasting impacts, so the public input focus was efficient and effective despite Covid-19 impacts and the loss of an in person discussion. The PAG is extremely effective in providing staff viewpoints from different perspectives, allowing for distinctive improvements to approaches and products.
ISWMP (2006) Task IV.2	**Public Meeting (MS4).** Hold a Public Meeting in Permit Year 1. A similar meeting will be held in Year 4 prior to submittal of the permit application for the second permit period.	Fully Compliant	This task was met years ago when public meetings were held for the Stormwater Master Plan. PAG meetings are open to the public. Additionally, EIPD holds public meetings for their CIP projects that are funded in part by the stormwater utility—this year included an online public meeting for the Newport Corridor project (see Appendix C).	The City has met these tasks in the years prescribed. Additional public meetings are held as appropriate. The virtual open house for the Newport project welcomed 400 visitors over 17 days in April with the average stay of 5 minutes, resulting in 31 questions and comments.
ISWMP (2006) Task IV.3	**Stormwater Quality Volunteer Opportunities (MS4).** Provide support materials to interested volunteers for the identified opportunities.	Fully Compliant	The City hosts the Clean Water Works Youth Video Contest to create 30-second commercials on a stormwater topic. This effort had strong turnout this year. See www.bendoregon.gov/CleanWaterWorksKids to view the winning entries. The	The Clean Water Works Youth Video contest had strong representation across school and home schools, with about a dozen participants this year. BendFilm and Central Oregon Daily also donated time and

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			City continues to provide stormwater markers, and trash/sediment cleanup supplies to volunteers interested in marking storm drains and cleaning the city. The City also title sponsors the Upper Deschutes Watershed Council's yearly Deschutes River Cleanup (see Appendix C for an article in the City Utility Newsletter on the topic). PAG members (see task IV.1) are also volunteers.	effort. One teacher makes it a concerted portion of his curriculum given the educational component. Despite their availability, we did not have volunteers this year for storm drain marking. The City has an entire program focused on volunteers however, and stormwater is listed distinctly in the offerings: https://www.bendoregon.gov/government/departments/human-resources/volunteer-program Upper Deschutes Watershed Council Executive Direct Kris Knight reported an effective cleanup event in 2019. The event drew nearly 300 volunteers including 30 divers, and 1,360 pounds of garbage and invasive weeks were removed.
ISWMP (2006) Task IV.4	**Performance Standards (MS4).** Prepare draft performance standards starting in Year 3 to obtain internal review, and finishing in Year 4	Fully Compliant	Performance standards have been prepared and are being implemented (see table below).	The performance standards have been effective in providing measurable standards to meet.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	for inclusion in the permit package.			
ISWMP 2022 BMP IV-1	**Public Advisory Group (MS4).** Conduct at least semiannual meetings of the Public Advisory Group.	Fully Compliant	See ISWMP (2006) Task IV.1. The Public Advisory Group met bimonthly this fiscal year (see Appendix C).	Exceeded requirements. See above.
ISWMP 2022 BMP IV-2	**Public Meeting (MS4).** Hold a Public Meeting by Permit Year 4 or 5 for the mid-period revision, and again in FY20-21 or FY22-23 in time for the next permit period submittal.	Fully Compliant	Public meetings are held as needed, the most recent for the Stormwater Master Plan. City Councilors take public comment routinely; and the Stormwater Public Advisory Group meetings are open to the public. The City incorporates the public through open invite to stormwater public advisory group meetings, and several meetings were held by EIPD on CIP projects containing a stormwater component such as the Newport Corridor project. City Council allows for a public comment period at the start of each Council meeting as well, and the City provides multiple avenues to provide input.	Although this specific task was not applicable this year, the City provides several opportunities for public input through public meetings, both in general and for specific projects. A meeting on the ISWMP update was delayed due to the application for an individual permit for the MS4 NPDES Phase II permit that took place in December 2020. Staff will work with DEQ and PAG staff to discuss updates in FY2020-21.
ISWMP 2022 BMP IV-3	**Stormwater Quality Volunteer Opportunities (MS4).** Provide support materials to interested volunteers for the identified opportunities.	Fully Compliant	See ISWMP (2006) Task IV.3 The City has a volunteer coordinator that helps organize storm drain marking. The City worked with BendFilm and Zolo Media to hold the film contest	See ISWMP (2006) Task IV.3 The Clean Water Works Youth Film contest was a success with winners in the middle school, high school, people's choice, and grand prize areas.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			promoting a water quality message (see www.bendoregon.gov/cleanwaterworkskids). The City also continues to support as a title sponsor the Upper Deschutes Watershed Council's Deschutes River Cleanup held in late July.	The City effectively worked with the Environmental Center to add to their Goose Chase scavenger hunt when Earth Day community events were canceled due to the Covid-19 emergency (see page 4-11).
ISWMP 2022 BMP IV-4	**Performance Standards (MS4).** Implement the performance standards per the ISWMP 2022 schedule in Appendix B.	Fully Compliant	See ISWMP (2006) BMP IV.1	The City has been effective in fully meeting the performance standards (see next subsection).

Public Information and Participation Performance Standards

Coordination with Existing Opportunities/ Activities

Task	Description	Compliance Status	Tasks Comments
1	Stay sufficiently informed about the programs and materials being developed by Oregon Association of Clean Water Agencies (ACWA) and/or other suitable programs and groups by regularly attending or tracking ACWA or other appropriate stormwater, groundwater and public outreach committees.	Fully Compliant	Staff participated actively on the Groundwater Committee and the Stormwater Committee, and the City's Stormwater Program Manager is the project manager for the technical development portion ACWA Illicit Discharge outreach project, advocating for graphics development that have been completed in F2019-20. The City's Stormwater Program Manager was elected to the ACWA Executive Board Secretary/Treasurer position in spring 2019 for the FY2019-20 year.
2	Distribute and/or make readily available outreach and educational materials to appropriate audiences within the City. This includes, but is not limited to schools, volunteer committees, neighborhood associations, community groups, business groups and /or other environmental groups.	Fully Compliant	See task descriptions above. Staff participated in outreach events to teachers, community festivals, advertisements on social media, and also made materials readily available and advertised our website: www.bendoregon.gov/cleanwaterworks

City Staff and Officials

Task	Description	Compliance Status	Tasks Comments
1	Identify, develop, and communicate at least annually, information about the City's stormwater quality program to city management and elected officials so that they are well informed about the requirements, their role in implementing the local stormwater program, and the City's progress.	Fully Compliant	See task descriptions above. Staff provided an award ceremony to the winning students of the Clean Water Works Youth Video Contest in July 2019.
2	Train new employees involved with stormwater pollution prevention activities on their role in implementing the local stormwater program.	Fully Compliant	We use Target Solutions and supervisors provide training as appropriate.

Procedures and Training for Handling Telephone Calls from the Public About Stormwater Pollution Prevention

Task		Compliance Status	Tasks Comments
1	Establish procedures for answering, tracking, and efficiently routing stormwater- related telephone calls to the appropriate staff for handling.	Fully Compliant	See Chapter 5 for additional information.
2	Train staff assigned to answering or responding to telephone calls on the established procedures.	Fully Compliant	See Chapter 5 for additional information.
3	Promote the use of a City telephone number to facilitate public reporting of illicit discharges.	Fully Compliant	See Chapter 5 for additional information.

Storm Drain Inlet Stencils and Signs

Task	Description	Compliance Status	Tasks Comments
1	The City will have an active program to install stencils/storm drain markers on publicly owned storm drain inlets. This includes installation by municipal staff, contractors, volunteers, and/or community groups.	Fully Compliant	The City has both DAS storm drain markers for public drains with a “Don’t Pollute—Flows to Waterways” message, but also some ‘Only Rain in the Storm Drain” markers for private drains on a first come first served basis. These were used on the drains of Clean Water Works partners who did not already have their storm drains marked in 2018. Stormwater manhole lids have a permanent pollution prevention message stamped into them.
2	As a goal, stencils and signs will be maintained sufficiently to be legible.	Fully Compliant	The “Only Rain in the Storm Drain” message on manhole covered lids is stamped in and thus remains legible over time. City staff began a quality control review of the installed DAS markers in FY2018-19. As a result of these initial efforts, 25 DAS Markers that were no longer legible have been replaced. Given Covid, volunteer efforts did not occur in FY2019-20, but are expected to resume in FY2020-21. In FY2019-20, staff installed 50 DAS stormwater markers.

Coordination with Public Schools (K-12)

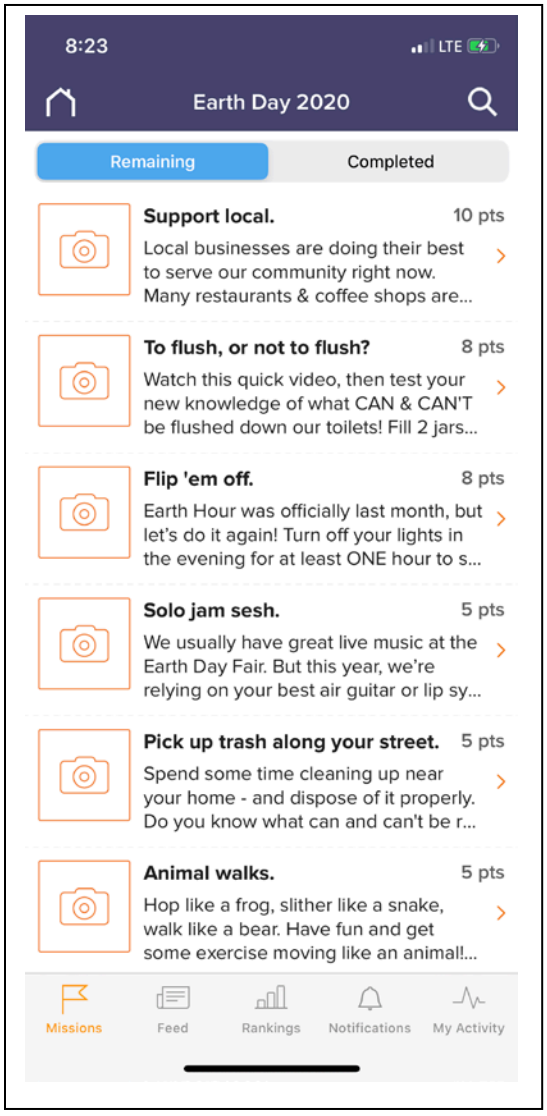
Task	Description	Compliance Status	Tasks Comments
1	The Stormwater Program Manager will either be responsible for distributing, or delegating the distribution of, information about school based outreach and educational materials to public schools within the City. This may include disseminating information on how to obtain copies of materials and providing lending opportunities for the watershed diorama, and may include working with outside groups who work directly with school children providing pollution prevention and water education.	Fully Compliant	The City participated in "Teacher's Night Out" at the High Desert Museum in September 2019, and has a contract with the Environmental Center to conduct utility education, including stormwater, to local elementary students. See related tasks for more information.

Local Community Outreach Program

Task	Description	Compliance Status	Tasks Comments
1	The City will participate in community outreach activities from the areas listed below for the purpose of communicating the general stormwater pollution prevention message, complementing regional or statewide coordinated specific messages for target audiences, and facilitating the proper management and disposal of targeted pollutants. The City will participate in at least three activities annually. (a) Distributing local, regional or statewide information through other venues (e.g., local newsletter, local magazine, mailing to target group, computer web site or network, local telephone directories, etc.). (b) Initiating new community events or playing a major role in planning and staging a community or city-wide event. Examples include, but are not limited to, Earth Day, Stream Stewardship Day, or other festival or fair, business mixer, seminar or workshop for a target group, contest, or coordination with	Fully Compliant	The City coordinates mainly with Upper Deschutes Watershed Council and the Environmental Center to conduct outreach. City participated in remote Earth Day, Deschutes River Cleanup (aka Stream Stewardship Day) and Quest at the Fall Fest We distributed stormwater information through the Bend Park and Recreation District's recreation guide as it tends to

Task	Description	Compliance Status	Tasks Comments
	businesses to provide pollution prevention discounts (e.g., recycled car wash discount). (c) Developing and raising watershed awareness (d) Coordinating with local volunteer groups to conduct outreach.		have a longer staying power than, say, a daily newspaper. We also ran several of the winning Clean Water Works Kid's contest PSAs on local television stations.

Summary of Effectiveness



The City exceeded its goals for public participation this year. The People's Choice Award contest continued to be effective at leading people to the Clean Water Works website. The partnership with Central Oregon Daily/Zolo Media and BendFilm continues to be excellent in helping to get the word out about both clean water and the contest to both students and the public, and now welcomes back Joe Dean an Emmy Award winning producer to mentor the grand prize winner. The film contest entrants have to learn the subject matter well to be able to effectively convey it to the public in a 30-second commercial (see 2018 student film contest winner Marvin professionally shooting part of his winning psa (picture at left). In 2019 staff effectively adjusted to the loss of Munch n Movies to buying air time on local television rather than have it displayed at a movie theater. The local Regal cinema is not cost effective as national contracts have gotten prime times, and McMennamin's that shows movies as well only provides their own advertising prior to showing. The City as of spring 2020 is now also working with the Tin Pan theater (seats about 20 per showing) to provide a cost-effective venue for displaying these public service announcements, in addition to television buys. Whereas on the print side the Bend Park and Recreation Guide is expected to be regularly printed and kept for the wide variety of activities included within, the City's advertising here was not as strong this year given they shut down and these the missed printing as a result of Covid-19. This does remain a strong avenue for print advertising however. Similarly the outreach for Earth Day was limited by Covid-19 concerns, but City staff worked closely with Environmental Center staff to pivot and provide an alternative even via Goose Chase (see picture) that attracted participants to compete in a number of scavenger hunt activities that could be conducted with proper distancing. These included washing the City's wipes video, and picking up trash along the street.

FY2019-2020 Annual Report

Section 5.0 Illicit Discharge Detection and Elimination



Introduction

The purpose of this component is to eliminate discharges of pollutants from illicit connections and illegal dumping to the storm drainage system. This chapter describes the activities conducted during FY2019-20 to address illicit discharges.

Highlights

- The City finished and distributed a new “Secure Your Loads” fact sheet.
- All reports of Illicit Discharges were investigated and followed up on in a timely manner.
- The water conservation performed over 151 sprinkler inspections this year, reducing water use and adjusting sprinkler heads to eliminate overspray onto city streets and sidewalks, thereby reducing dry weather flows.

Tasks Completed

Task	Description	Compliance Status	Tasks Completed	Effectiveness
ISWMP 2006 Task V.1	**Public Education on Illegal Discharges and Improper Disposal.** Develop or acquire public education materials in Year 1 of the permit period and determine an effective means of distribution. As part of this effort, the City will target business categories representing the greatest risk from a stormwater perspective and will research the effectiveness of workshops, self-inspection checklists, business license renewal	Fully Compliant	Stormwater staff develop a “Secure Your Loads” fact sheet. This fact sheet highlights the importance of not overloading trucks and covering your load to prevent sediment and other debris from falling or blowing out onto the streets and into the storm drain. A copy of the fact sheet is included in Appendix D. The City continues to implement the Clean Water Works campaign. This year the campaign focused automobile wheel wear and how it can harm our waters. It also included steps vehicle owners can take to reduce micro plastics from automobile and help protect both UICs and the river drainage systems.	The City effectively sent out the “Secure Your Load” fact sheet to 460 contacts including 349 contractors/construction workers with business licenses). Thus the City exceeded the goal of sending out education to over half of an industrial sector. (See Appendix D)

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	requirements, and green-program award type programs in determining effective means of distribution. The materials will be distributed to all public employees in Year 2 of the permit period. The materials will be distributed to half of the businesses in Year 2 and half in Year 3 of the permit period and yearly thereafter.			
ISWMP 2006 Task V.2	**Illicit Discharge Reporting Mechanism.** Establish a procedure for responding to reports of illicit discharges and advertise an illicit discharge reporting e-mail link on the stormwater pollution prevention web site and reporting telephone hotline.	Fully Compliant	The City has several ways for the public to report an illicit discharge. The City Stormwater Program advertises the public to call the Utility Department main phone number 541-317-3000, option 2. Another option is the Online Citizen Service Request (CSR). This form is available on the City's webpage. Customer service staff are trained to enter the information from these calls or forms into a CSR that is routed to stormwater for follow-up. Alternatively the Code Enforcement phone number 541-312-4908, option 5 in the phone tree is another path for reporting Illicit Discharges. The City continues to use the illicit discharge reporting standard	The City continues to improve its reporting mechanisms and targeted public education on illicit discharges. This year the City received 35 IDDE reports, 20 from the public and 15 from City staff. The City followed up on all reports and issued two Notice of Violations for illicit discharges.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			operating procedure (See Annual Report FY 2017-18 Appendix D for a copy of the SOP).	
ISWMP 2006 Task V.3	**Post Warnings About Illicit and Illegal Discharges**. In Year 1 the City will determine whether to use stencils (volunteer friendly but temporary), thermoplastic markers, or other options). Should the City decided to use stencils, the City will provide appropriate storm drain markers for volunteers in Permit Year 2. Bend will require developers to provide storm drain labels in Permit Year 3 (after implementing ordinance and procedure changes).	Fully Compliant	Per the Standards and Specifications (2010), all new and replaced stormwater manhole covers include a permanent imprinted, "Only Rain in the Storm Drain." The City installed 29 new curb inlets catch basins with this permanent imprint in FY2019-20. The City has an ongoing volunteer storm drain-marking program, with the installation of round, plastic semi-permanent markers that are affixed to existing catch basins. The marker includes a general "Don't Pollute" message. City staff installed/replaced 52 markers this year. Of those, staff replaced 10 existing markers that were damaged or missing as part of its QA/QC program. The City also provides on a first come first serve basis a limited number of markers for private stormwater facilities in our community. No requests were made this year.	The City has successfully integrated a method of providing a permanent stormwater quality message on all new public manhole lids and curb inlet drainage facilities. There was some confusion with public manhole covers with the message being placed on private facilities leading to maintenance responsibility confusion in the field. Staff are currently working to improve this area by having clear requirements that marking of private storm drains be with a different look to help distinguish between the two. Due in part to a lack of more active promotion, and in part to COVID 19 response the City did not have any volunteers affix storm drain markers this year. Instead, staff filled in effectively.
ISWMP 2006 Task V.4	**Post Illicit Discharge Prevention Information on Web Site.** PAC (Now Stormwater	Fully Compliant	Staff continues to coordinate outreach materials with the Stormwater Public Advisory Group and stormwater coordinators.	The City continues to provide information on its website for reporting illicit discharges. The Clean Water Works campaign pages

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	Public Advisory Group) to provide input on what to post on web site; SWAT (Now Stormwater Coordinators) to approve and City will post the information online.		Stormwater related materials are located in a central location at: (www.bendoregon.gov/stormwater). The page has five main categories, including "Get Involved" which links to a location to report illicit discharges.	include several outreach pieces targeting illicit discharge minimization. Staff received 20 calls this year from concerned citizens noting illicit discharges, which suggests that the contact information on the website and other methods is reaching the public.
ISWMP 2006 Task V.5	**Stormwater System Map.** Develop an approach and acquire the tools necessary to map in the first year, and to map 25% of the drainage system per year in the first four years of the permit.	Fully Compliant	The City developed a GIS geodatabase in FY2008-09 for all known stormwater facilities. The geodatabase is updated regularly as appropriate. A public map viewer is available online that includes locations of catch basins, storm drainage pipe and UICs. This viewer is located at: (www.bendoregon.gov/services/mapping-services/interactive-city-map).	The City has successfully conducted an in-field inventory and ongoing maintenance to keep the data map updated. The geodatabase includes directions of pipe flows as well as swales, UICs, and other features.
ISWMP 2006 Task V.6	**Illicit Discharge Ordinance.** Develop a draft ordinance in Year 1 through 3 of the permit period, finalize, and implement the ordinance by Year 5 of the permit period.	Fully Compliant	On January 4, 2012, the Council adopted a stormwater ordinance adopting Bend Code Title 16. Chapter 16.20 of the ordinance covers Illicit Discharge Controls. In FY2012-13, the City finalized the Illicit Discharge Best Management Practices Minimization Manual. Additionally, as part of the ordinance effort, interdepartmental staff worked through roles and responsibilities in 2012. The Stormwater utility	The City has successfully developed a stormwater ordinance, Bend Code Title 16 and the Illicit Discharge Manual. The City continues to implement the code, provide education materials and issue violations when voluntary compliance cannot be reached.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			takes primary responsibility for illicit discharge inspection, response and follow-up.	
ISWMP 2006 Task V.7	**Program to Detect and Address Illicit Discharges.** Evaluate the existing program and identify additional program requirements and resource and training needs in Year 3. Additional resources and training will be acquired in Year 4. The program implementation will begin in Year 5.	Fully Compliant	The Utility Department works closely with Operations staff, Building Inspectors, Engineering Inspectors and Industrial Pretreatment Program staff to coordinate IDDE efforts. When a spill or illicit discharge is noted, the Stormwater Analyst investigates to attempt to find and properly address the source. The City uses a program called Target Solutions to track staff training, exam results and to ensure stormwater performance standard trainings are occurring. In FY2019-20, public works staff were trained in: Concrete Use and Disposal; Winter Road Care; Leaky Equipment and Fueling; Spill Prevention, Control and Cleanup; Utility/Road Repair & Maintenance; Pressure Washing and Surface Cleaning; Vehicle and Equipment Washing; and Paint Use and Disposal. The trainings are provided as a series of stormwater-performance standard specific trainings and are implemented throughout the year to appropriate staff. Staff continue to conduct inspections of the City's	The City continued to use its tracking system, maintaining a spreadsheet of stormwater-specific follow-up actions, tracking **35** events in FY2019-20 (see Table 5.1 IDDE Summary FY2014-15 through FY2019-20 below) Construction site IDDE and erosion complaints are tracked in a separate database (See Chapter 6). See Appendix G for a complete list of all staff that received training on the performance standards, including specific training on illicit discharge detection and notification. Of the 35 IDDE reports this year, 15 (or 43%) were from City staff. Given the size of the stormwater program, it is useful to have extra eyes in the field and staff across disciplines who know what to look for to protect water quality.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			15th Street and Boyd Acres Corporation Yards in conjunction with quarterly Safety Inspections. This year City staff update the inspection form to include more specific information on the sites stormwater system, see Appendix D for a copy of the new inspection form.	
ISWMP 2006 Task V.8	**Minimize Landscape Irrigation Runoff.** In Year 1 and Year 2 determine efforts most effective in minimizing irrigation runoff by examining existing water patrol and smart (climatologically-based) controller efforts, and examining review and approval process for proper design and installation of irrigation systems. Funding mechanisms to also be determined. Determine methods to improve. Implementation of approved ideas are scheduled to begin in Year 3 and continue in Year 4.	Fully Compliant	Stormwater staff work closely with water conservation group to minimize dry weather flows from irrigation runoff. The water conservation group continued its sprinkler inspection program, offering free sprinkler inspections for utility customers. Staff performed over 151 inspections this year, reducing water use and adjusting sprinkler heads to eliminate overspray onto city streets and sidewalks. In addition to the sprinkler inspection program, the water conservation group responded to 91 irrigation dry weather flow complaints. A copy of the Water Wise Tracking database and example outreach has been included in Appendix D.	The work of the water conservation program has resulted in increased efforts towards improving landscape irrigation efficiency and reducing landscape irrigation runoff. These efforts directly reduce dry weather flows that can carry pollutants to the storm drain.
SWMP 2006 Task V.10 (Note: Task V.9 was	**Performance Standards.** Prepare draft performance standards starting in Year 3 for	Fully Compliant	Performance standards have been completed and incorporated into the ISWMP 2022 (see the Performance Standard Tables at the end of this	The City's implementation of the performance standards is in full compliance with the ISWMP 2022.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
omitted in error.)	obtaining internal review, and finishing in Year 4 for inclusion in the permit package.		chapter). The ISWMP 2022 was approved by DEQ as part of the WPCF-UIC permit issuance but has not yet been accepted as part of the City's NPDES permit reissuance that remains in negotiation. Performance Standards implementation status is available in Illicit Discharge Control Performance Standard tables below.	
ISWMP 2022 BMP V-1	**Public Education on Illegal Discharges and Improper Disposal (MS4 and UIC).** Continue to develop or acquire public education materials and determine an effective means of distribution (with prioritization). As part of this effort, the City will target business categories representing the greatest risk from a stormwater perspective and seek to use effective means of distribution. The City will work to coordinate with other programs (e.g., Industrial Pretreatment Program and the Water Conservation Program related to landscape	Fully Compliant	ISWMP 2006 Task V.1 completed tasks.	See ISWMP 2006 Task V.1 effectiveness.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	irrigation). Progress will be deemed satisfactory if all task deadlines are met.			
ISWMP 2022 BMP V-2	**Illicit Discharge Reporting Mechanism (MS4 and UIC).** Continue to provide and advertise an illicit discharge reporting email and/or phone link on the stormwater pollution prevention web site and outreach.	Fully Compliant	See ISWMP 2006 Task V.2 completed tasks.	See ISWMP 2006 Task V.2 effectiveness.
ISWMP 2022 BMP V-3	**Post Warnings About Illicit and Illegal Discharges (MS4 and UIC).** Include storm drain message permanent marking requirements in standards and specifications. Organize volunteers to paint or post markers, as appropriate. Markers to be posted (at least 50 per year on average)	Fully Compliant	See ISWMP 2006 Task V.3 completed tasks. See Figure 5-2 for a map showing locations of marked storm drains.	See ISWMP 2006 Task V.3 effectiveness. The City has successfully marked more than 50 per year on average.
ISWMP 2022 BMP V-4	**Post Illicit Discharge Prevention Information on Web Site (MS4 and UIC).** PAG, public or staff to provide input on what to post on web site; SC to	Fully Compliant	See ISWMP 2006 Task V.4 completed tasks.	See ISWMP 2006 Task V.4 effectiveness.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	approve. City to post information.			
ISWMP 2022 BMP V-5	**Implement Illicit Discharge Regulations (MS4 and UIC).** Continue to implement the illicit discharge sections of Bend Code Title 16 per the schedule in the Code.	Fully Compliant	See ISWMP 2006 Task V.6 completed tasks.	See ISWMP 2006 Task V.6 effectiveness.
ISWMP 2022 BMP V-6	**Implement Performance Standards Related to Illicit Discharge Controls (MS4 and UIC).** Implement the performance standards per the ISWMP 2022 schedule.	Fully Compliant	See ISWMP 2006 Task V.10 completed tasks.	See ISWMP 2006 Task V.10 effectiveness.

Figure 5-1 Reported Illicit Discharge Locations

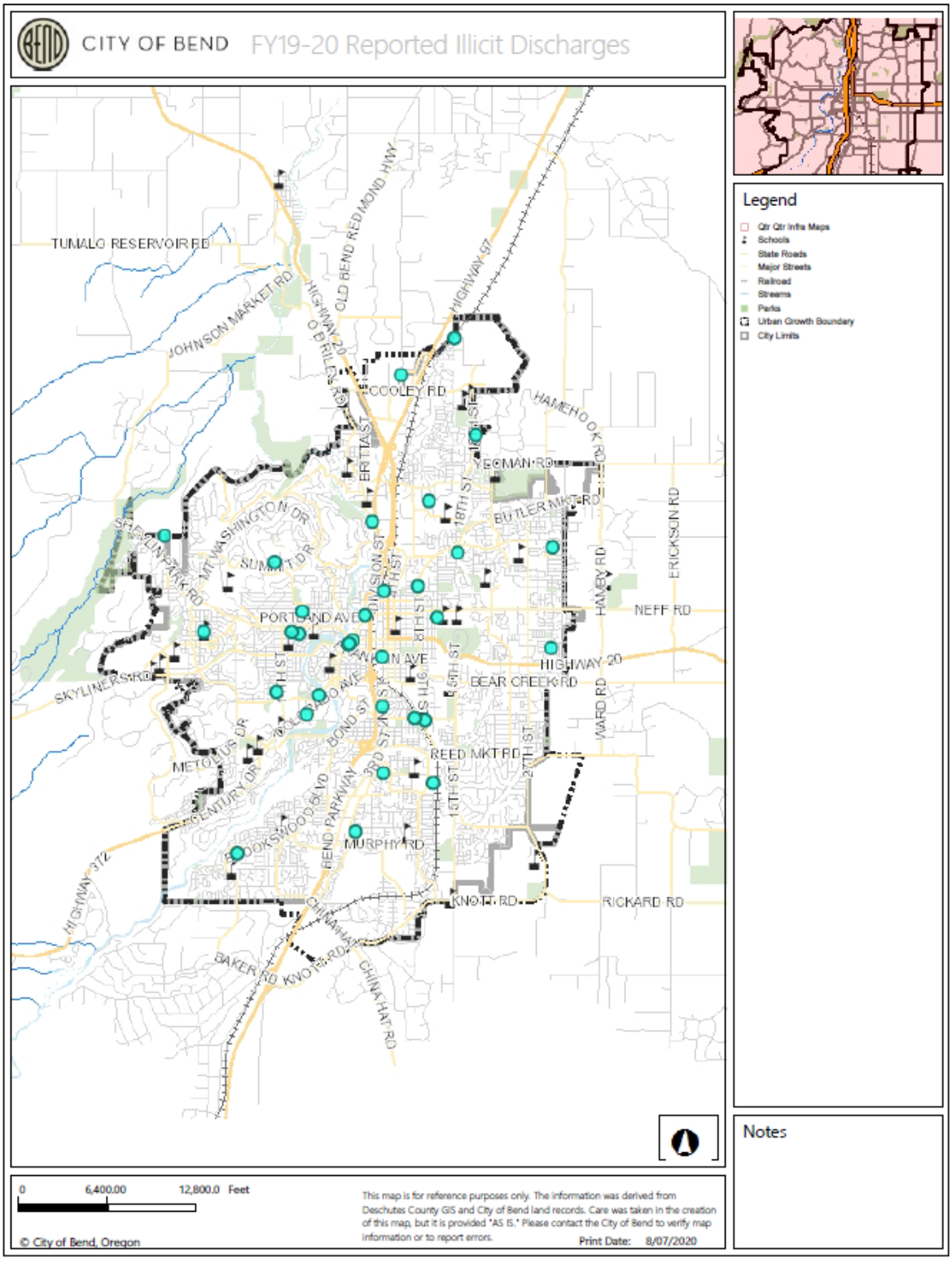
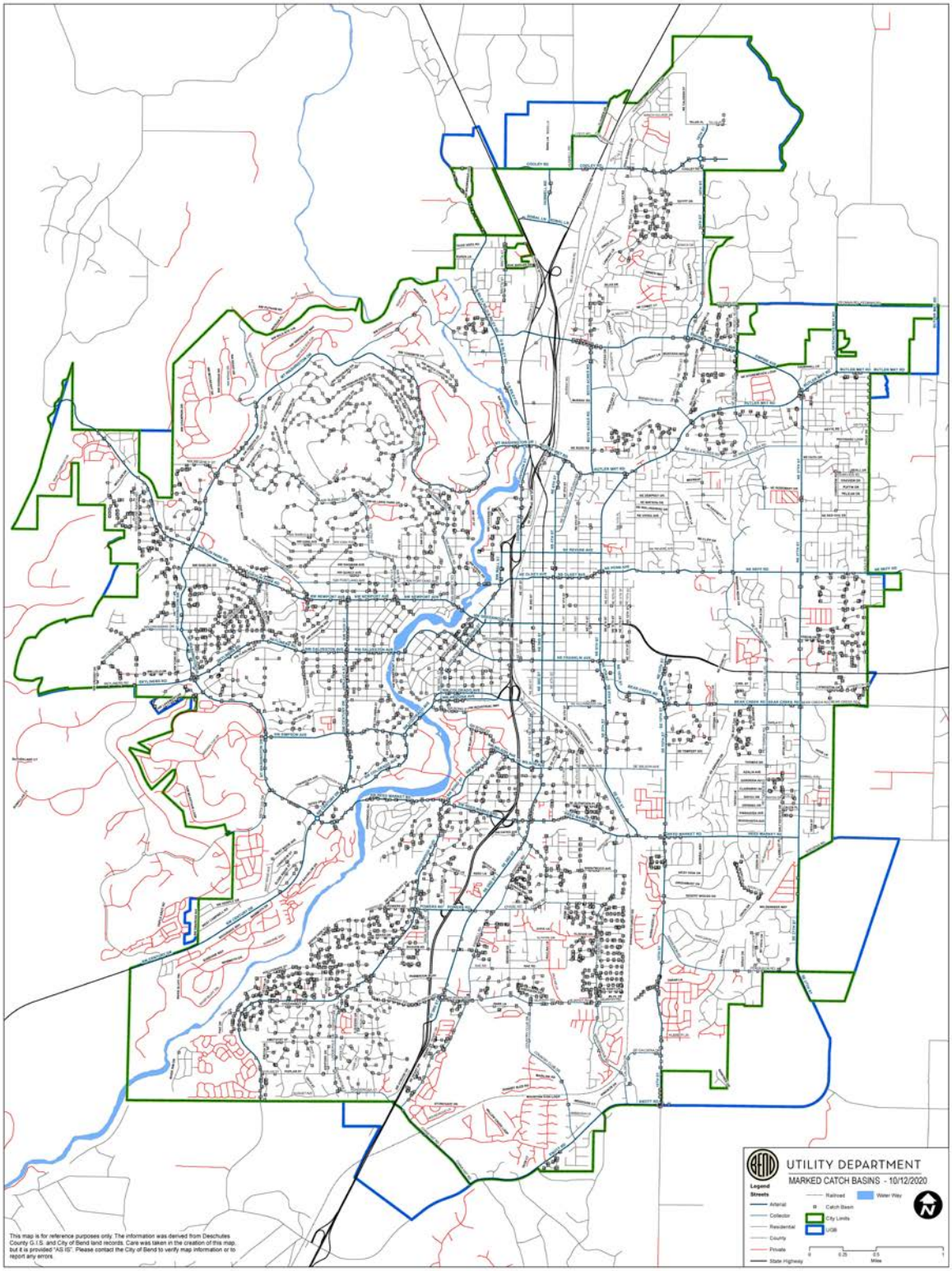


Figure 5-2 Locations of Storm Drain Markers



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Illicit Discharge Control Performance Standards

Prepare For Illicit Discharge Screening and Investigations

Task	Description	Compliance Status	Tasks Comments
1	Receive information on non-stormwater discharge reports;	Fully Compliant	See Task V.2
2	Assure that needed follow-up, elimination, and cleanup of illicit discharges are conducted;	Fully Compliant	See Task V.2
3	Provide other staff with information about the status of source identification and elimination. In particular, staff who identify an illicit discharge will be informed about its outcome;	Fully Compliant	See Task V.7
4	Make sure required reporting is completed;	Fully Compliant	See Task V.7
5	Distribute information to the City's management and elected officials, as requested, about the resources needed to implement these performance standards;	Fully Compliant	See Task V.7
6	Facilitate the implementation of these performance standards; and	Fully Compliant	See Task V.6
7	Be responsible for sharing activities and findings with the Stormwater Coordinators	Fully Compliant	Staff attends and shares updates during roundtable and other discussions at Stormwater Coordinators meetings
8	Train at least biennially City staff who maintain and repair the municipal storm drain conveyance system. Train other municipal staff who conduct field work where illicit discharges are likely to occur, to recognize illicit discharges and the procedures for responding to these discharges. Train all new staff who fill positions as described above, about illicit discharge recognition and response procedures.	Fully Compliant	See Task V.7
9	Keep maps of the completed municipal storm drain system sufficiently accurate to be used for tracing illicit discharges.	Fully Compliant	See Task V.5

Task	Description	Compliance Status	Tasks Comments
10	Train City staff assigned to conduct illicit discharge investigations on the knowledge and skills necessary to be effective. They will be familiar with guidance developed by the City and DEQ staff and these performance standards.	Fully Compliant	Fact sheets were developed in previous years and staff are trained on-line through Target Solutions. Trainings this year included Concrete Use and Disposal, Illicit Discharge Recognition and Reporting, Paint Use and Disposal, Pressure Washing & Surface Cleaning; Spill Prevention Control and Cleanup; Street Sweeping; Utility Road Repair & Maintenance; Vehicle and Equipment Washing (See Appendix G).

Conduct Field Screening

Task	Description	Compliance Status	Tasks Comments
1	Begin program to identify evidence of illicit discharges to the municipal storm drain conveyance system, using municipal maintenance and other local field staff while they are conducting their routine work. Report any evidence of illicit discharges identified during these field screening activities to the Stormwater Program Manager or designee for follow-up.	Fully Compliant	See Task V.7

Conduct Field Investigations

Task	Description	Compliance Status	Tasks Comments
1	Verify whether an illicit discharge has occurred, using information provided as part of field screening and complaints received from the public or other agencies. The goal will be to initiate follow-up activities within twenty-four business hours from the time the Stormwater Program Manager receives the report.	Fully Compliant	See Task V.2
2	When an illicit discharge has occurred, find the source and eliminate it, as soon as possible. Trace the source(s) of the illicit discharge using storm drain maps, inspecting manholes, and making surface observations. Record and maintain findings, as appropriate.	Fully Compliant	See Task V.2
3	Continue to inspect and follow-up illicit discharges until: a. The source of the illicit discharge is found and eliminated1; or b. The discharge has stopped and cannot be traced to a source"	Fully Compliant	See Task V.2
4	"If the City identifies three or more illicit discharges in a fiscal year within an area served by any major outfall or a UIC within a two year time of travel or wellhead protection area, additional illicit discharge investigations will be conducted in the area(s) served by the major outfall(s)/UIC during the subsequent fiscal year or sooner. These additional investigations will include one or more of the following, as appropriate: a. Periodic above ground surveillance of the area for visual evidence of illicit discharges; b. Additional inspections of businesses, if appropriate; c. Additional periodic investigations of outfalls, UICs, waterbodies, and open channels for evidence of illicit discharges; and/or d. Additional targeted educational outreach in the area."	Fully Compliant	The City received four waste cooking oil complaints in NW Gasoline Alley. Three of the complaints are related to a single waste hauler. City staff issued a NOV and has begun escalating enforcement. The City is also coordinating with the Downtown Business Association, providing educational materials to both the water hauler and restaurants. Staff are routinely inspecting the area for spills and will work to correct this issue in FY20-21.

Follow-Up to Field Screening and Investigations

Task	Description	Compliance Status	Tasks Comments
1	"When a party responsible for an illicit discharge is found, provide the responsible party with: a. educational information about the impacts of his or her actions, b. the requirements of the local stormwater ordinance, c. options for proper discharge or disposal, and/or d. educational materials describing BMPs. When the source of an illicit discharge has not been found, distribute educational outreach materials to residents and/or businesses located in the immediate vicinity of the illicit discharge."	Fully Compliant	See Annual Report FY 2017-18 Appendix D for a copy of the standard operating procedure.
2	If the discharge is traced to a business, the Stormwater Program Manager, or delegated staff, will distribute appropriate educational and BMP information.	Fully Compliant	Distribution of educational material is a first step with all IDDE follow-up.
3	The goal of follow-up investigations will be to stop the illicit discharge(s) as soon as practicable and protect water quality to the maximum extent practicable.	Fully Compliant	City staff make illicit discharge report follow-up a priority to protect water quality. The Utility Department has an on-call person 24 hours a day, 7 days a week to respond to calls for service. Spill kit and plugs are included in the City response vehicle made available to him/her during their on-call period. Stormwater staff make it a goal to investigate all reports within 24 hours or the following business/work day.
4	Begin enforcement procedures, if appropriate, as per the enforcement authorities as set forth in the City's municipal ordinances. a. Investigate and record reported spill reports and/or complaints about incidents within the City.	Fully Compliant	See BMP Task V-6

Task	Description	Compliance Status	Tasks Comments
	b. Become familiar with existing spill prevention, containment, response, and clean-up programs that cover the city's jurisdiction. c. Coordinate illicit discharge prevention, elimination, and clean-up activities with existing programs. d. Establish a mechanism for obtaining information about spill incidents from other agencies and departments within the municipality so that source identification and follow-up activities can be coordinated.		

Document and Report Completion

Task	Description	Compliance Status	Tasks Comments
1	Document the number and types of illicit discharge incidents reported and follow-up investigations conducted within the agency's jurisdiction. (This does not include information from fluid spills from automobile accidents.)	Fully Compliant	See BMP Task V.2
2	Collect information for annual reporting including: a. Number of illicit discharges identified as part of staff investigations; b. Number of illicit discharge reported by other city staff and the public; and c. Follow-up activities.	Fully Compliant	See BMP Task V.2

Summary of Effectiveness



The City has made significant progress including improved legal authority and clarifications through the illicit discharge ordinance section and associated Illicit Discharge Manual that now provides for additional education and enforcement in an effort to reduce illicit discharges. Since FY2010-11, the City has been using its customer service database program (INFOR). This program effectively assists in tracking initial stormwater illicit discharge reports and helps verify that the proper staff are notified of the incident. The City also continues to effectively use the online citizen service request to respond to illicit discharge reports. Stormwater staff are also seeing improvements in spill response notification from fire and water/wastewater utilities.

The City has effectively improved its staff training approach that will help reduce illicit discharges, and notification of spills. Illicit discharge detection and elimination efforts naturally appear to focus on sanitary sewer/septic system cross connections.

Table 5.1 IDDE Summary FY2014-15 through FY2019-20

FY	ID Total # of Reports	# of Confirmed Illicit Discharge Events.	# of Events Where Educational Materials were Provided	# of Verbal Warnings	# of Written Warnings	# of Notice of Violations Issued
FY14-15	56	48	45	30	1	1
FY15-16	48	37	35	24	2	4
FY16-17	33	26	24	19	1	3
FY17-18	25	17	20	14	2	1
FY18-19	32	19	20	15	2	0
FY19-20	35	27	17	13	1	2

Note that in FY2016-17 the stormwater program added a new Stormwater Compliance Specialists to focus on construction site inspections. The new inspection program began tracking construction related complaints in a separate database, thus reducing the breadth of IDDE complaints starting in FY2016-17.

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FY2019-2020 Annual Report

Section 6.0 Construction Site Stormwater Activities



Introduction

The objective of this component is to control pollutants discharged to municipal storm drains from new and redevelopment construction activities to the maximum extent practicable. Several of the pollutants of concern within the Deschutes River are directly attributed to sediment loading. The City sees it as a priority to reduce stormwater related sediment contributions into the river within its jurisdiction. Sediments are a major pollutant that can come off uncontrolled construction sites and have the potential to clog stormwater facilities (e.g. drywells, drill holes, and swales) and negatively impact the Deschutes River, which is 303(d) listed for sediment and turbidity within the City of Bend.

Construction sites that disturb one or more acres and discharge stormwater directly to a surface water body are already regulated through the state-administered NPDES 1200-C permit program. Many construction sites within the City limits are either smaller than one acre or the stormwater discharges do not drain to a surface water. As part of the Bend Code Title 16 Stormwater Ordinance, approved grading plans are required for all development activities that are adding 5,000 square feet or more of impervious surface or one or more UICs. Additionally, the Bend Code Title 16 Performance Standards require that sediment must be prevented from reaching the storm drain system for all construction sites regardless of size. In these cases, sediment is treated as an illicit discharge.

Highlights

- The City sponsored a Certified Erosion and Sediment Control Lead Training, the in-class portion of which was held in FY2019-20.
- The City conducted an active construction site erosion and sediment control program including plan review, site inspections, education and enforcement. Staff conducted 213 erosion and sediment control inspections, provided educational support at 27 pre-construction meetings, and provided 70 verbal warnings along with one Notice of Violation.
- Staff ensured program continuity despite a turnover in the Stormwater Compliance Technician Specialist position by creating a standard operating procedure, and efficiently conducting a hiring and training process, while adjusting onboard due to the Covid-19 response.
- Staff finalized, printed, and distributed stable load enforcement guidance.

Tasks Completed

Task	Description	Compliance Status	Tasks Completed	Effectiveness
ISWMP 2006 Task VI.1	**Evaluate and Update Regulatory Authority and Procedures**	Fully Compliant	In FY2019-20, the City began a routine review of the Design Standards, Construction Specifications, and the	The Stormwater Compliance Specialist has continued to take the lead on inspection form revisions,

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	Evaluate existing legal authority in Permit Year 1. If necessary, the ordinance, or other regulatory mechanism and procedures will be updated and adopted in the second permit year.		Development Codes, however, due to COVID-19 updates to the design standards and specifications were delayed and are scheduled to be considered next fiscal year. City Staff developed a standard operating procedure titled, “Erosion and Sediment Control (ESC) Compliance,” to outline an equitable approach for addressing ESC inspections and enforcement needs related to implementation of City of Bend (COB) Code Title 16 and COB Standard and Specifications. Specifically, to ensure that new and redeveloped properties properly and accurately address construction site stormwater quality processes as it relates to ESC and proper housekeeping. The City’s stormwater staff continues to work with city inspectors, engineers, contractors and developers to implement Bend Code Title 16 (January 2012). Part of the implementation process is the review of development and construction site plans through E-Plans, an electronic review software along with joint and coordinated inspections. The Stormwater Compliance Specialist	participation in pre-construction meetings to provide ESC education/expectation, ESC verification inspections, and enforcement when needed. An ESC Verification Inspection form is attached in Appendix E of the FY2018-19 annual report, and the Erosion and Sediment Control Compliance standard operating procedure is attached in Appendix E.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			continues to be responsible for educating, inspecting, regulating and enforcing construction site stormwater ESC compliance. City staff are continuously working to upgrade the City's software systems including permitting.	
ISWMP 2006 Task VI.2	**Construction Site Educational Materials** Develop or acquire public education materials in Year 1 of the permit period. The materials will be distributed to construction site operators in Year 2 and 3 of the permit period. The plan sheet will be developed in Year 4, and will be distributed and incorporated into standard operating procedures in Year 5.	Fully Compliant	In FY2019-20, staff finalized a "Secure Your Load" enforcement flyer that is targeted specifically to the construction and trucking community audience, and is sized like a bill stuffer (see Appendix E). The related fact sheet (see Appendix D) was sent out to all the invitees for the Certified Erosion and Sediment Control lead training. During inspections, the City's Stormwater Compliance Specialist distributes a 20-page illustrated ACWA Construction Site Stormwater Guide, and a fact sheet entitled "Sediment Prevention for Businesses" that includes information on both post-construction as well as construction erosion and sediment control. The second page included a segment entitled, "What Can You Do as a Builder/Contractor" with five BMPs and a list of resources for more information. These are	The City has met the schedules for this task in addition to providing additional education materials.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			also available on our stormwater website. The City continued to provide on our website the "Single Family Example Drainage Plan" to project proponents to help with implementation of Bend Code Title 16, along with a "Suggested BMPs for Single Family Construction Sites—Example Erosion and Sediment Control Plan." In fact, City staff have several construction site references on its website: www.bendoregon.gov/cleanwaterworks. The references include: • Single Family Example Drainage Plan • Suggested BMPs for Single Family Construction Sites—Example Erosion and Sediment Control Plan • Sediment Fact Sheet for Businesses • Maintain Construction Site BMPs Poster • Erosion and Sediment Control Fact Sheet • Grading Clearing & Erosion Permit Flow Chart • Drainage Submittal Flow Chart • Sample Erosion and Sediment Control Plan - Single Family Residential • Stormwater Maintenance Agreement • Central Oregon Stormwater Manual	

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			• Construction Stormwater Pollution Prevention (NPDES Webcasts) • Construction Stormwater Pollution Prevention Plan Development. The Certified Erosion and Sediment Control Lead course also includes a binder of related educational materials.	
ISWMP 2006 Task VI.3	**Construction Site Inspections and Violation Hotline** Identify a department to monitor the hotline in the third permit year, set up, and publicize the hotline by the fifth permit year.	Fully Compliant	Grading and ESC questions were routed to the City's Stormwater Compliance Specialist to coordinate compliance, investigate, and follow-up on cases. When ESC deficiencies are discovered on-site, the Stormwater Compliance Specialist in coordination with City inspectors, provides verbal education and warnings. If the ESC deficiencies are not addressed by the time the Stormwater Compliance Specialist returns for the next inspection, a formal Stormwater Violation Letter outlining the compliance deficiencies, inspection history, required corrective actions, and potential enforcement procedures may be issued. Long term compliance deficiencies can be enforced with the issuance of a civil penalty in coordination with the City of Bend legal team. An example Notice of Violation and the	Both commercial construction activity and single-family home starts have stayed elevated compared to prior years. To meet compliance goals, the Stormwater Compliance Specialist and Engineering/Building Inspectors provided verbal education, warnings, and enforcement measures to meet construction-site stormwater management goals. The Stormwater Compliance Specialist can issue a Stop Work Order until the problem is remedied, which prevents a project from progressing. This procedure proved to be an effective way to encourage contractors to repair erosion control deficiencies in a timely manner. City staff continues to review roles and responsibilities through

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			Inspection Tracking Log Book are attached in Appendix E. Erosion and sediment controls are required on all city issued construction permits. Engineering inspectors, building inspectors, and the Stormwater Compliance Specialist inspected for erosion and sediment controls on these permits, providing guidance and warnings as needed. All infrastructure projects were visited by an Engineering Inspector and/or Stormwater Compliance Specialist. Erosion and Sediment Control issues are forwarded to the Stormwater Compliance Specialist.	the LEAP process in which we work to upgrade our citywide computer software. With a continued high workload on the Community Development and Engineering departments, the Stormwater Compliance Specialist continues to devote a focus on construction site ESC inspections, therefore increasing compliance effectiveness and helping Inspectors with complaint response. The Stormwater Compliance Specialist along with other Utility staff made 213 construction site erosion and sediment control inspections, attended 27 preconstruction meetings, and issued one Stormwater Notice of Violation letter; these events were recorded in the Inspection Tracking Log Book (see Appendix E).
ISWMP 2006 Task VI.4	**Construction Site Education** The SWAT, with input for the PAC, will determine the best way to set up an education program for staff and the public.	Fully Compliant	In June 2020 the City of Bend Utility Department began hosting a virtual Certified Erosion and Sediment Control Lead (CESCL) Training geared towards construction contractors, engineers, and developers. The first part of the two part training	Although COVID-19 presented some unique challenges pertaining to education, the City was successful in attending and providing virtual education opportunities to meet its biennial training

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	Provide education and implementation materials to planning and engineering staff. Provide education and implementation materials to inspectors. Provide education and implementation materials to construction industry personnel.		was completed this fiscal year. The initial announcement flyer was sent out via email to local construction contacts together with the Stable Loads fact sheet. The class had 25 sign-ups and attendees. The City contracted with K2 Environmental LLC to organize the training, and registration. The City had planned to charge a small fee and host both the full training and a reissuance training, but with Covid-19 challenges, the City decided to host just the full training but for free.	requirements for this task. A copy of the CESCL announcement, workshop evaluation summary, and attendee list have been included in Appendix E. City Staff attended the Center for Watershed Protection Virtual Conference in April 2020 (see Appendix E for the agenda). The City's LEAP (Leading Effective Applications and Processes) efforts will continue through FY2020-21. These involve implementing CityView software that will provide better tracking, and an improved customer service portal thus increasing efficiency and customer experience.
ISWMP 2006 Task VI.5	**Participate in Regional Coordination Activities: Regional Stormwater Control Manual** In Year 1 and possibly 2, City staff will review the draft regional manual sections pertaining to construction	Fully Compliant	The Central Oregon Stormwater Manual (2010) has continued to be incorporated into the City's Design Standards, Construction Specifications, and Bend Code Title 16.	The COSM (2010) is part of the City's development rules, referred to in both the Standards and Specifications and Bend Code Title 16.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	activities and provide comment as requested. In Years 2 and 3, City staff will tailor necessary portions of the manual to the specifics within Bend. Implementation will begin in Year 3 and continue through Year 5.			
ISWMP 2006 Task VI.6	**Performance Standards** Prepare draft performance standards starting in Year 3 to obtain internal review, and finishing in Year 4 for inclusion in the permit package.	Fully Compliant	Performance standards have been completed and incorporated into the ISWMP 2022. The ISWMP 2022 (November 2012) was approved by DEQ as part of the WPCF-UIC permit issuance to begin in FY2013-14 and is being considered by the DEQ as part of the NPDES permit reissuance, expected to be a statewide general permit. A summary of initial implementation status of the New Development, Redevelopment, and Construction Site Controls Performance Standards are available in the table below.	The City's implementation of the performance standards is in full compliance with ISWMP 2022. The City will review the performance standards again when the upcoming NPDES permit conditions are known.
ISWMP 2022 BMP VI-1	**Implement the Stormwater Regulations (MS4 and UIC)** Implement the illicit discharge, erosion and sediment control and pollution prevention sections of Bend Code Title 16 and	Fully Compliant	See Task Completed: ISWMP (2006) Task VI. 1 Evaluate and Update Regulatory Authority and Procedures (MS4/UIC).	See Effectiveness: ISWMP (2006) Task VI. 1 Evaluate and Update Regulatory Authority and Procedures (MS4/UIC).

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	the Standards and Specifications.			
ISWMP 2022 BMP VI-2	**Implement Performance Standards Related to Construction Site Controls (MS4 and UIC)** Implemented the performance standards per the ISWMP 2022 schedule in Appendix B.	Fully Compliant	See Task Completed: ISWMP (2006) Task VI.6 Performance Standards (MS4/UIC).	See Effectiveness: ISWMP (2006) Task VI.6 Performance Standards (MS4/UIC).

New Development, Redevelopment, and Construction Site Controls Performance Standards

Development Plan Review and Permitting

Task	Description	Compliance Status	Tasks Comments
1	Obtain adequate legal authority to implement stormwater quality control measures for development, redevelopment, and construction activities as part of the development plan review and approval process.	Fully Compliant	See Bend Code Title 16, City of Bend Standards and Specifications and Central Oregon Stormwater Manual
2	Require developers and owner/builders of projects that include permanent stormwater facilities to ensure ongoing operation and maintenance of the facilities, as part of project approval documents.	Fully Compliant	See Bend Code Title 16, City of Bend Standards and Specifications and Central Oregon Stormwater Manual, and City's Maintenance Agreement.
3	Require developers and owner/builders of projects with potential for significant erosion and planned construction activity to plan, prepare for and implement effective erosion and sediment controls.	Fully Compliant	See Bend Code Title 16, City of Bend Standards and Specifications and Central Oregon Stormwater Manual
4	Ensure municipal capital improvement projects also include stormwater quality control measures during and after construction, as appropriate for each project.	Fully Compliant	Stormwater Utility staff review CIP projects to ensure stormwater quality control measures are included.
5	Inform developers and owner/builders of projects that disturb a land area of one acre or more in an area that drains to a surface water body of the state requirement to obtain coverage under the DEQ 1200C permit.	Fully Compliant	City in conjunction with DEQ staff have developed a map showing which locations in the City are in areas that may be subject to DEQ 1200C permits.
6	Require developers and owner/builders to control stormwater quality impacts of their projects by using appropriate BMPs. Encourage projects with significant stormwater pollution potential to mitigate impacts through site planning or design practices and/or post construction controls. For such projects, the developer and owner/builder will be encouraged to avoid, minimize, and mitigate, in that order, the potential adverse impacts to water quality.	Fully Compliant	City has educational materials available on the stormwater website and Stormwater Coordinators are actively developing ways to improve information flow to the development community.

Task	Description	Compliance Status	Tasks Comments
7	Review and refine, if necessary, the stormwater ordinance requiring site planning or design practices and/or post construction controls to protect water quality.	Fully Compliant	A routine update to the Standards and Specifications was initiated, yet ultimately delayed this fiscal year due to COVID-19. Updates will be considered in the next fiscal year.
8	Review, and as appropriate, incorporate policies and implementation measures into the General Plan and Development Code to help preserve and enhance water quality and protect sensitive areas. General Plan and Development Code amendments will be adopted periodically as part of the City's ongoing General Plan and Development Code updates.	Fully Compliant	General Plan was not updated this year, but existing plan contains protections.

Erosion and Sediment Control

Task	Description	Compliance Status	Tasks Comments
1	Maintain an erosion and sediment control program that includes requirements for minimum performance standards, sufficient enforcement authority, training and tools for inspectors, and information for developers and contractors.	Fully Compliant	See BMP tasks above and Appendix E.
2	As a condition for issuing a grading permit, require developers and owner/builders to prepare, submit for review and approval, and implement effective erosion and sediment control measures as per City regulations.	Fully Compliant	See BMP tasks above.

Construction Inspection

Task	Description	Compliance Status	Tasks Comments
1	For development projects with significant erosion potential, require that erosion and sediment control measures are implemented through a construction inspection process. Measures will be implemented in accordance with local ordinances and project conditions of approval, including the approved erosion	Fully Compliant	A standard operating procedure outlining the Erosion and Sediment Control Compliance process was developed. See

Task	Description	Compliance Status	Tasks Comments
	and sediment control plan. Measures will also be maintained as needed during construction.		BMP tasks above and Appendix E.
2	Through a construction inspection process, require that construction contractors properly store, use, and dispose of construction materials, chemicals, and wastes from construction sites and prevent illicit discharges to the storm drains and watercourses.	Fully Compliant	See BMP tasks above and Appendix E.
3	As part of normal inspections, municipal inspectors will review construction sites for adequacy of stormwater quality control measures. The municipal inspectors will prioritize assistance and guidance to onsite inspectors based on the following criteria: a. Project's potential impact on stormwater quality; b. Size of the project; c. Site topography and soil characteristics; d. Season in which the construction phase occurs; and e. Nature of the construction activity."	Fully Compliant	Communication between CDD inspectors and Utility Environmental Compliance is strong. The Utility Environmental Compliance specialist is able to prioritize his work with these criteria.
4	Require that each active construction site either be stabilized or have supplies and roll-out plans for immediate stabilization to be deployed prior to a major storm to minimize erosion and discharges of sediment from disturbed areas. As part of normal inspections, municipal inspectors will review to make sure these requirements are being met.	Fully Compliant	Requirements are discussed during plan review, preconstruction meetings, and inspections.
5	Review the inspection of construction sites with erosion and sediment controls following complaints or reports of sediment or pollutants being discharged in the public right of way.	Fully Compliant	Complaints and referrals are prioritized.

Education and Outreach

Task	Description	Compliance Status	Tasks Comments
1	"Distribute appropriate educational and training materials to city staff, contractors, construction site operators, developers, and owner/builders such as: a. Construction BMPs including erosion and sediment controls; b. Available guidance on the DEQ 1200C permit, if applicable; c. Site planning or design measures and post construction controls; and	Fully Compliant	See BMP tasks above and Appendix E. In addition to the CESCL Training, construction contractors receive educational materials as part of inspections or pre-construction meetings.

Task	Description	Compliance Status	Tasks Comments
	d. Information provided by DEQ staff regarding State and Federal permit and approval requirements for related project activities. Distribute this information and guidance materials to developers and owner/builders early in the application or design review process, or have available on the City's website as appropriate for the type of project."		
2	Train, at least biennially, appropriate construction inspection staff on inspection procedures, documentation, and enforcement related to stormwater pollution prevention.	Fully Compliant	See BMP tasks above and Appendix E.
3	Train, at least biennially, staff from planning, building, and public works staff on planning procedures, policies, design guidelines, and BMPs for stormwater pollution prevention and control.	Fully Compliant	City staff along with contractors were invited to and attended the CESCL Training. Additionally, the Stormwater Compliance Specialist provides verbal education to all participants in pre-construction meetings including City staff from other departments.
4	Distribute appropriate educational and outreach materials provided by the DEQ to those utility contractors (water supply, cable, phone, electrical, etc.) seeking encroachment and/or grading permits from the municipality.	Fully Compliant	Upon inspection, the Stormwater Compliance Specialist provided guidance on DEQ permitting by providing contact information and online resource guidance.

Enforcement Actions

The City has the ability to provide education, warnings, red tags (stop work orders), and monetary citations to violators. Most often, the Stormwater Compliance Technician and Building/Engineering inspectors work to educate as part of standard operating procedure and this collaborative approach quickly resolves any potential issues. In FY2019-20, one formal notice of violation letter was issued, and multiple verbal warnings resulted in compliance without the need for escalation. These events were recorded in the Inspection Tracking Log Book (see Appendix E).

Summary of Effectiveness



The City has successfully implemented the tasks in this component. Staff has continued to focus on education and coordination efforts, both internally and externally to ensure effective implementation of Bend Code Title 16, the Standards and Specifications, and the Central Oregon Stormwater Manual. The City has improved the program this year with the continued integration of the Stormwater Compliance Technician to handle ESC compliance tasks along with inspection needs. The adoption of Bend Code Title 16 provides adequate enforcement authority. Feedback from trainings is used to refine effectiveness and selection of future trainings. The City develops and distributes new education materials as the needs present themselves, which included finalizing and distributing the Stable Loads fact sheet this year, and is working towards improving enforcement staffing. In FY2019-20, despite a turnover in Stormwater Compliance Technician staffing, Utility staff made 213 construction site Erosion and Sediment Control Inspections, attended 27 preconstruction meetings, and issued one formal notice of violation letter. The development of the standard operating procedure was effective in ensuring a smooth transition and training approach for the new employee. A summary of the enforcement actions taken each fiscal year since 2016 can be found below in Table 6.1. Of the 53 active construction sites inspected in FY2019-20, 98% were able to come into compliance without resorting to a stop work order or NOV.

Table 6.1 Enforcement Action Summary

Fiscal Year	# of ESC Inspections	# of Pre-Construction Meetings Attended	# of Verbal Warnings	# of Stop-Work Orders	# of Notice of Violations issued
FY2016-17	106	20	53	0	1
FY2017-18	223	36	54	1	1
FY2018-19	248	35	64	0	1
FY2019-20	213	27	70	0	1

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Section 7.0 Post-Construction Stormwater Management and Redevelopment



Introduction

The objective of the Post-construction Stormwater Management in New Development and Redevelopment chapter is to minimize the discharge of pollutants in stormwater from new developments and redevelopments within the City limits.

Highlights

- Worked towards design completion of the Newport Corridor project, within the City's MS4 area, to adequately size and repair infrastructure in the area of South Awbrey Butte to the river in a manner that reduces flows and properly treats stormwater through the use of UICs, planters, and other bioretention and treatment. City engineering staff hosted a virtual open house on the project that involved 400 visitors over 17 days (5-minute average) and resulted in 31 questions and comments on the project.
- Began work on the Infiltration Study geotechnical update to increase understanding.
- Worked towards providing flexibility to allow mixing of private and public stormwater within a single subdivision so as not to impact water quality given density needs and height restrictions
- Performed Maintenance Inspections of 37 public stormwater facilities.
- City staff hosted a Center for Watershed Protection (CWP) webinar on May 20, 2020, for both staff and the public entitled "Small Scale BMPs in Urban Areas."

Tasks Completed

Task	Description	Compliance Status	Tasks Completed	Effectiveness
ISWMP 2006 Task VII-1	**Participate in Regional Stormwater Control Manual and Tailor to Bend (MS4 and UIC).** In Year 1 through 2, City staff will review the draft regional manual sections pertaining to post construction controls and provide comment as requested. In Years 2 and 3, City staff will tailor	Fully Compliant	The Central Oregon Stormwater Manual (2010) has been adopted as part of Bend Code Title 16 and the City's Standards and Specifications. Links to the COSM are available on the City's website. https://coic2.org/community-development/water-resources/	Obtaining a DEQ review of the revised COSM (2010) and adopting the manual as part of the City's Standards and Specifications and Bend Code Title 16 helped encourage its widespread use and provided the City enforcement authority to require its use. Other municipalities that have adopted the manual include Deschutes County and the City of Redmond, so it is

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	necessary portions of the manual to the specifics within Bend and distribute via posting the information to the website and providing to planning, engineering and inspection departments for distribution. Implementation will begin in Year 3 through Year 5 and continue ongoing.			serving as a regional guide. The COSM may need to be reviewed to consider DEQ's current risk-evaluation on stormwater UICs and new post-construction control requirements coming out of the anticipated NPDES Phase II MS4 permit once finalized. In FY2018-19, staff budgeted money for FY2020-21 for an update, but Covid impacts has impacted that budget line item; staff are reviewing in house specific portions instead, such as planting lists, trash enclosure source control guidance, and others related to increasing density with the City.
ISWMP 2006 Task VII-2	**Operation and Maintenance (MS4 and UIC).** In Year 1 City staff will determine responsibility for maintenance of controls by development type, and will begin updating local regulations, ordinances, and guidance to set up a program requiring operation and maintenance. A tracking program will be set up by	Fully Compliant	City staff has determined that, in general, private developments are required to maintain private stormwater facilities and the City maintains City stormwater infrastructure. Maintenance responsibility for regional controls will be considered on a case-by-case basis. In the past two years, with drainage, density, and development pressures, the City managers and Public Advisory Group are asking for more flexibility to allow private stormwater to be retained within a subdivision through	Acquiring maintenance agreements are useful for implementing Bend Code Title 16. In the future, additional guidance on proper maintenance, perhaps adding visuals to the maintenance descriptions in the COSM or other guidance, may help improve understanding of proper maintenance, especially with increasing flexibility for comingled drainage designs—staff will work to update the maintenance

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	Year 2. An O&M verification program that may include inspections of a subset of installed controls will begin in Year 4.		commingled facilities. This will require coordination to develop new processes for tracking, communicating and ensuring effective operation and maintenance. City staff has incorporated long-term operation and maintenance considerations within Bend Code Title 16 (See Annual Report FY2011-12 Appendix A), Bend Code Title 16: section 16.15.040). The code requires all new commercial development to submit a signed private maintenance agreement that will be recorded on the title of the property (see Annual Report FY2013-14, Appendix F for an example). In FY2019-20, the City received 21 new maintenance agreements for a total of 153. The Stormwater Program has copies of both private stormwater plans and these private maintenance agreements saved on Sharepoint by tax lot number. For City-owned facilities, field staff uses the INFOR asset management software along with GIS mapping to assist with maintenance tracking and facilities asset management. Field staff also continues to conduct a review of public stormwater facilities to determine which need to	agreement in the coming year. Preventative maintenance routes have been established in the INFOR system, and are being used to schedule and track routine maintenance operations. The number of inspections of public stormwater facilities conducted in FY2019-20 is down from the 55 inspections in FY2018-19, in part because the position was vacant between January and mid-April and additional time was needed to train the new staff hire. However, the City was effective in quickly turning around to hire and was able to secure positon coverage just prior to the hiring freeze as a result of the Covid-19 pandemic. The training was efficient because of the organization of the departing staffperson with record keeping and providing an updated standard operating procedure prior to departure, and because the training provided by Clean Water Services and the Portland Community College was able to be shifted to an online version that staff could attend in the pandemic situation. The

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			be improved/replaced as part of their everyday maintenance activities. The City's operations and maintenance field staff inspects the public stormwater facilities such as catch basins, sedimentation manholes, drywells, and drill holes and provides maintenance generally yearly and at least biennially for more see Section 8). With the addition of the Stormwater Compliance Specialist, the City has improved its intensive O&M verification program. This effort includes incorporating inspection and reporting sheets (see Task VII.3). The O&M verification program is tracked on Sharepoint. On the private side, the City continues to use E-Plans for project review and electronic record keeping but inspects only on complaint or request and for credit program facilities. The City continued efforts to capture new private stormwater facilities into their own database for easier retrieval and data analysis. Over 9,281 private facilities have been entered into the database by the end of FY2019-20, up slightly from 9,274 included by the end of June 2019, focusing	inspections of public stormwater facilities have been conducted and outstanding maintenance and installation deficiencies have been identified. The findings will help improve future maintenance on installation as program staff share findings with operations and engineering staff.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			mainly on entering newly installed private facilities. In September 2019, staff worked with DEQ UIC program staff to refine a proposed sediment manhole retrofit for open grate drill hole concept that would result in existing drill holes obtaining spill protection and no longer being open to the elements. In December 2019, Utility staff completed a drainage improvement project at 8th and Penn that included a pretreatment swale and UIC. Also in December, and staff and developed a stormwater drainage facility inspection program standard operating procedure (See Appendix F). Staff also began working creating technical guidance for pervious pavement applications. Over the course of the year 37 post construction control facility inspections were conducted by the City's Stormwater Compliance Technicians.	
ISWMP 2006 Task VII-3	**Evaluate and Update Plan Review and Inspection Programs (MS4)** Evaluate existing procedures and identify needed changes in	Fully Compliant	**Inspections.** The Stormwater Compliance Specialist has improved inspection documentation of post-construction stormwater controls while also leading the stormwater post-construction control inspection program. In	**Inspection and Plan Review.** The City is continuing to work through implementation of Bend Code Title 16 with respect to fine-tuning inspection and enforcement pathways given the significant reorganizations

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	Permit Year 1, to make needed changes and draft guidance in Year 2 and to implement the revised programs in Permit Year 3, and continue implementation ongoing.		FY2019-20, Stormwater Staff conducted new final warranty inspections of __ vegetated stormwater facilities. Staff attendance at the Vegetated Private Water Quality Management Training hosted by Clean Water Services and Portland Community College in June 2020 and previously has helped provide guidance in training and program development. The Stormwater Compliance Specialist has trained and coordinated closely with building and private engineering inspectors. Staff reviewed plans for Newport Corridor, Galveston, Murphy among others in FY2019-20. **Plan Review.** Additionally, staff conduct plan reviews of CIP projects and private projects through weekly red line meetings. Stormwater program staff have commented on several internal CIP projects as well as private projects to ensure stormwater considerations are being properly met. **Private Database.** In an effort to protect its drinking water resources, the City of Bend Utility Department continued its pursuit to collect location information for all private stormwater facilities. Location data	internally as city growth continues to increase. The City has been monitoring efforts closely and staff have widespread support to work to refine and improve the processes given the changes occurring in the City. With the hire of the Stormwater Compliance Specialist in 2017, the City has developed more effective stormwater facility inspection forms along with an inspection tracking spreadsheet. In FY2019-20, the departing Stormwater Compliance Specialist updated the standard operating procedures for post-construction control inspections. These were used to help train the incoming specialist (see Appendix F). In addition staff worked towards including the Compliance Specialist for final and warranty inspection acceptance prior to turnover to the utility department for ongoing operations and maintenance. These efforts were complicated with the departure of the EIPD director in August 2019, the hiring of the new director mid-year and the departure of the Utility Director in

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			was referenced from a number of sources including field crew observations, archived building permits, as-built files, and planning files. These newly created and edited stormwater layers are currently exported once a month into a usable format for the City's map viewer so that it is accessible to and viewable for City stormwater staff. When total examination of all digitized building documents is achieved, additional facilities will continue to be added on the basis of utility staff receiving approved plans to install new stormwater facilities as part of a construction or reconstruction project. Considerations are needed to continue to build the next steps of the database. Given the current existing gap between all collected facilities and those that are missing from the new database, creative solutions may need to be drawn up to capture the remaining lots; none of these solutions can be handled in the short-term. Physically archived building files have been properly scanned (digitally archived) for easier, more efficient consumption of documents currently stored solely in a physical paper	early July 2020. Copies of the SOP, inspection forms and an abbreviated copy of the tracking spreadsheet are available in Appendix F. The weekly red line reviews have helped Utility Department staff be more involved in plan review and able to provide comments to ensure proper stormwater requirements are met. **Private Database.** In recent years, the City has accomplished significant work by reviewing all existing commercial and industrial plans to develop the basis of its new private post-construction control database. This represents about 64% of the commercial and industrial tax lots mapped in the City. Data from new projects continued to be entered. The new Compliance Specialist has some experience and interest to help continue collecting outstanding information from existing developments for the Private Stormwater Facility Verification Program. This work is

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			format by the City of Bend. Historical building and planning permits contain a lot of the pertinent information. It is also beneficial to consider that when looking farther back in time through these historical documents, plot layout might not have remained static, meaning stormwater facilities might not have been tracked or adjusted accordingly on these documents. Staff recognized the need and took a step back from field work to begin reworking the work plan for the next steps of the process, which is to field verify facilities on sites without plans. To start this process, the Stormwater Program Manager took an ASCE course in the fall/winter on managing GIS work. With staff turnover in early January, however, and the Covid-19 pandemic adjustments in March that resulted in time constraints, and budget cutbacks to temporary staff, FY2019-20 progress was limited.	slated for the winter if construction activities settle down.
ISWMP 2006 Task VII.4	**Post-Construction Control Education** Educate developers, residential do-it-yourselfers and others involved in development and	Fully Compliant	In summer 2019, staff updated the cost data analysis of LID structures with recent local data. The City provided an additional training opportunities associated with post-construction	City staff successfully met the requirements of this task, and pivoted well with the needs for social distancing. Incorporating stormwater design

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	re-development about acceptable stormwater management and operation and maintenance practices. As part of this effort, the City will participate in a regional grant request for Low Impact Development education through coordination with the COIC. Conduct a biennial workshop and make information available on the website.		stormwater controls to internal staff and/or the public. In July 2019, staff attended a one-hour webinar, "Stormwater Compliance Services "Stormwater Compliance Success: Using Proactive BMPs to Minimize Regulatory Discharges." The City hosted Center for Watershed Protection. In April 2020, staff attended a TMDL Planning and Implementation Webinar. With the onboarding of new staff person Sam Rossi for the Stormwater Compliance Technician, staff provided Sam a low impact development and side design field training at the start of May using the Better Site Design guide; and post construction control operational and maintenance training by Clean Water Services called "The Nature of Green Infrastructure." In April two staff attended the Center for Watershed Protection's national conference. Staff also attended a Contech webinar "Manufactured Controls with Maintenance in Mind" in May 2020, and hosted a Center for Watershed Protection (CWP) webinar on May 20 2020, for both staff and the public entitled "Small Scale BMPs in Urban Areas." The CWP webinar worked well in sharing with both internal staff and the public	considerations into the Water-wise Gardening in Central Oregon Guide (February 2017) and City of Bend Waterwise Landscape Guide helps users consider stormwater drainage and design earlier in the planning process, allowing for more opportunities to affectively address the issues in a sustainable manner. Coordination with water conservation efforts has proven useful and has increased effectiveness. Having continuing education credits available is an incentive to draw the engineering community to the webinar trainings that provide access to national expertise. The distribution and availability of our outreach guides has provided a convenient and effective way for the public to access stormwater LID information at will.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			during the Covid-19 pandemic that has prevented in-person meetings. On June 18 staff attended a webinar, "Maintenance Guidelines for Pervious Concrete." (See Appendix F). The five new (as of May 2019) stormwater facility maintenance factsheets for Drywells, Rain Gardens, Permeable Pavements, Sedimentation Manholes, and Catch Basins are shared with project proponents and facility owners as appropriate, such as during inspections. (See Appendix F of the FY2018-19 for copies of the factsheets). In addition, staff continues to make available the following outreach guides on its website at bendoregon.gov/stormwaterbmp, and several are available through the Permit Center: • Better Site Design Walking Tour Booklet and Points to Ponder • Considering Stormwater at the Conceptual Planning Stage Brochure • Example Drainage Plan—Single Family Residential (2013) • Central Oregon Stormwater Manual (2010) • Oregon Rain Garden Guide • Central Oregon Plants for Stormwater Facilities (May 2013 update)	

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			• Stormwater Maintenance Agreement • Links to EPA website low impact development materials The City helped distribute "The Oregon Rain Garden Guide" and OSU Waterwise Gardening in Central Oregon guide (https://catalog.extension.oregonstate.edu/em9136/viewfile) that includes a stormwater management section and supplemental plant list for Central Oregon rain gardens developed in part by PAG members and local experts, providing copies at outreach events (i.e., Deschutes River Cleanup (July 2019) and Fall Fest (October 2019). The full color guide includes information specific to Central Oregon. The City also promotes the City of Bend Waterwise Landscape Guide, which includes the additions of rain gardens and permeable pavement in the infiltration planting plan figure and a two-page spread on stormwater management.	
ISWMP 2006 Task VII.5	**Performance Standards** Prepared draft performance standards starting in Year 3 to obtain	Fully Compliant	Performance standards have been completed and incorporated into the ISWMP 2022. The ISWMP 2022 was approved by DEQ as part of the WPCF-UIC permit issuance with	The City is on schedule with implementing the performance standards.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	internal review, and finishing in Year 4 for inclusion in the permit package.		implementation. Implementation efforts are included in the Performance Standards implementation status, available in the table below.	
ISWMP 2022 BMP VII-1	**Implement the Stormwater Regulations (MS4 and UIC)** Continue to implement the regulations related to post-construction controls of Bend Code Title 16 and the City Standards and Specifications.	Fully Compliant	In February 2020, staff met to address stormwater quality needs for the Newport corridor project in preparation for the 30% plans that were released in March, and met to discuss stormwater standards and specifications updates. City engineering staff hosted a virtual open house on the project that involved 400 visitors over 17 days (5 minute average) and resulted in 31 questions and comments on the project (See Appendix C). The City continues implementation efforts of both the Standards and Specifications and the Bend Code Title 16. Additionally, the Stormwater Compliance Specialist has worked with the Engineering Department to develop a maintenance plan for vegetated areas in the Right-of-way including bio-swales and planter boxes. Additionally, City stormwater staff continues to participate in the design team to address the stormwater runoff for various projects including Empire, Neff, Murphy, and	The City continues to implement post construction controls as part of retrofit projects, and was effective in securing budget increases to continue implementing the capital improvement projects outlined in the Stormwater Master Plan, adopted in August 2014. Delays in implementation area result of competing demands. The City is effective at implementing regulations in Bend Code Title 16 as it pertains to post-construction controls by providing plan review and drainage inspections for private development.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			Newport Corridor. Staff continued to provide input on other CIP and internal maintenance projects as well. Utility engineers managed a project to completion in FY2019-20 address a flooding issue at 8th and Olney using a swale and drywell; and rehabilitated a clogged dry well in an alley behind McMenamins. The City succeeded in tailoring its preferred post-construction facilities by area and including them in the last Standards and Specifications update. On the private development side, stormwater and engineering staff have continued to regulate post-construction controls through Bend Code Title 16 and the City Standards and Specifications. Plan review and drainage inspections have been implemented into the private development work flow for the Stormwater Compliance Specialist.	
ISWMP 2022 BMP VII-2	**Implement Performance Standards Related to New Development and Redevelopment Controls (MS4 and UIC)** Implemented the performance standards per the	Fully Compliant	A summary of the implementation status for the Performance Standards incorporated into ISWMP 2022 and accepted by DEQ under the City's WPCF-UIC permit is included below.	The City has been effective in implementing the performance standards.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	ISWMP 2022 schedule.			

Performance Standards

The City engages in a number of performance standards related to post-construction controls. In addition to the performance standards listed below, see also the "Development Plan Review and Permitting" Performance Standards in Section 6.0.

Lifespan Operation and Maintenance Verification Performance Standards

Targeting Inspections to Achieve the Most Benefit

Task	Description	Compliance Status	Tasks Comments
1	"Develop and update as needed, an operation and maintenance review plan or standard operating procedure (SOP) that describes the following: a. The inspecting divisions/department. b. The division/department that will conduct the stormwater follow-up and/or enforcement. c. How information and resources will be coordinated among agencies/departments. d. Priorities for inspecting stormwater facilities. Identify target businesses, if any, with high potential to discharge pollutants to the municipal storm drains or within wellhead protection areas. e. Proper recordkeeping procedures. The O&M review plan or SOP shall be tailored to the amount of staffing and financial resources available given program priorities."	Fully Compliant	Engineering PMs/inspectors inspect municipal facilities through construction and warranty. Storm facilities are then brought into City's Infor database for inspection and ongoing-maintenance by Utility operations staff. See also Tasks VII.2 and VII.3.
2	Educate business owners and operators about stormwater pollution prevention, separate from the inspection program.	Fully Compliant	See Section 3.0 Public Education and Outreach
3	"Respond to complaints or referrals from others about a facility. The response may include actions such as: a. Interviewing the caller concerning the specific nature of the problem; b. Referring the caller to the DEQ staff for compliance questions concerning the State requirements (i.e., 1200 Z permit, etc.). c. Referring the caller to another agency if the facility is outside the City's jurisdiction; d. Calling the facility and providing appropriate BMP information. e. For substantive complaints not covered above, schedule a facility inspection or site visit as soon as possible."	Fully Compliant	Complaints are directed to O&M, regulatory for illicit discharge, engineering as appropriate for applicable calls, and to appropriate outside agencies if outside the City's jurisdiction. The City Utilities Department tracks customer service requests through Infor.

Task	Description	Compliance Status	Tasks Comments
4	Inspect and distribute appropriate BMP information to businesses per the operation and maintenance review plan priority. Frequency of inspection should be commensurate to the businesses' potential to flood or discharge pollutants to City facilities and available staffing levels.	Fully Compliant	See Task VII-3 and VII.4
5	Re-evaluate the City's priorities for operation and maintenance of permanent stormwater facilities. Update the operation and maintenance review plan as needed. Coordinate with other city inspectors (e.g., IPP or fire) to coordinate and minimize the number of inspections per business.)	Fully Compliant	We discuss as needed maintenance agreements per the Stormwater Liaisons and as needed. Our current focus is to fully develop the database of private stormwater facilities, but in instances of spills, etc. staff coordinate closely with IPP, fire, county health, and others as appropriate.

Preparing for Inspections

Task	Description	Compliance Status	Tasks Comments
1	Train appropriate City facility inspectors so that each inspector possesses the knowledge and skill necessary to conduct effective stormwater inspections. This includes identifying potential pollutant sources that may be exposed to stormwater runoff and non-stormwater discharges to the storm drains.	Fully Compliant	See Task VII.4
2	The appropriate City's inspection staff will be responsible with being knowledgeable about the following: a. Stormwater regulations and requirements, including the City's ordinance and applicable state permits; b. Impacts of non-stormwater discharges to the river. surface water and groundwater; c. Inspection techniques and procedures; d. Follow-up and enforcement procedures; and e. Stormwater BMPs. The inspectors and managers will obtain periodic training to support inspection activities and to continue to improve program implementation.	Fully Compliant	See Task VII.4

Conducting Inspections

Task	Description	Compliance Status	Tasks Comments
1	Inspectors will review the facility layout to locate the storm drain system and/or stormwater drainage path.	Fully Compliant	See BMP tasks above and Appendix F materials. Inspectors have been trained through Clean Water Services training.
2	Inspectors will review/inspect the following areas, if access to the area is safe and drains to a stormwater management facility or area from which stormwater flow may ultimately leave the site. a. Outdoor process/manufacturing areas; b. Outdoor material storage areas; c. Outdoor waste storage/disposal areas; d. Outdoor vehicle and heavy equipment storage and maintenance areas; e. Outdoor parking areas and access roads; f. Outdoor wash areas; g. Surface discharge outlets from rooftop equipment; and h. Outdoor drainage from indoor areas. i. The status of onsite stormwater facilities. These areas will be inspected for 1) their need for maintenance; 2) their potential to discharge pollutants from non-stormwater discharges to public facilities, and 3) pollutant exposure to stormwater.	Fully Compliant	See BMP tasks above and Appendix F materials. Inspectors have been trained through Clean Water Services training.
3	Inspectors will notify the Stormwater Program Manager of potential to discharge pollutants from non-stormwater discharges, and pollutant exposure to stormwater from a business.	Fully Compliant	See Appendix F.
4	When a business that impacts stormwater quality is identified, the City 's Stormwater Program Manager will either be responsible for conducting, or delegating, the following: a. Communicate stormwater requirements. b. Distribute facility representatives with appropriate stormwater BMP information, educational materials, and inter/intra-agency referrals as needed. Ask the facility representative whether employees have been trained about how to prevent stormwater pollution.	Fully Compliant	See Appendix F.

Task	Description	Compliance Status	Tasks Comments
	c. Inform the facility representative of any problems or violations found. A schedule for correcting problems identified during the inspection, and a means for verifying their implementation will be discussed with the facility representative. This information will be noted and tracked. d. Document and track inspection activities, follow-up, and enforcement activities for reporting to the DEQ in annual reports.		

Achieving Facility Compliance

Task	Description	Compliance Status	Tasks Comments
1	If a problem is identified during an inspection, the Stormwater Program Manager will either be responsible for performing, or delegating a follow-up site visit or initiating a self-certification process where the facility representative certifies in writing that the problem has been remedied within the time specified by the Stormwater Program Manager.	Fully Compliant	See BMP tasks above and Appendix F materials. Inspectors have been trained through Clean Water Services training.
2	Begin enforcement procedures, if appropriate, as per the enforcement authorities as set forth in the City's municipal ordinances.	Fully Compliant	See BMP tasks above and Appendix F materials. Inspectors have been trained through Clean Water Services training.

Summary of Effectiveness



Replacement of dry well in public alley behind McMenamins.

The City is implementing the tasks in this section. Overall, City staff participated in attending and providing multiple workshops and presentations related to post-construction controls. The City has updated and actively implemented the development rules and legal authority to require and maintain adequate post-construction controls. The Stormwater Compliance Specialist has continued to perform maintenance verification inspections of post-construction stormwater facilities. The City is implementing the performance standards and is meeting or exceeding the approved schedule. Additionally, the City has been successful in securing funding for capital improvement projects described in the Stormwater Master Plan. While it has been seven years since the City has submitted the ISWMP 2022 and the City has reviewed the ISWMP 2022 this year the City is hesitant to update the plan until the City secures its final NPDES MS4 Phase II Permit; however the City seeks to continue to improve.

In FY 2020-21, staff will work to improve maintenance agreement and other procedures to allow for increasing flexibility to different approaches to comingle stormwater to increase flexible approaches such as regional controls keeping the 100-year storm within a subdivision; providing recommended improvements to standards and specifications updates; and working to complete technical guidance on permeable pavements. Staff will also work together with Data Services to improve the processes for collecting data for and updating the private control database.

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FY2019-20 Annual Report

Section 8.0 Municipal Operations and Maintenance



Introduction

The objective of this component is to maximize the removal of pollutants during routine maintenance and minimize the discharge of pollutants to watercourses and injection systems. Routine maintenance activities include street sweeping, inspections and cleaning of storm drainage facilities and litter control. The City public stormwater system has 5,230 drywells, 963 drill holes, 4 drain fields, 225 swales (20.6 Acres), and 10,629 catch basins in addition to the over 65 miles of storm pipe, 14 miles of which drain to the Deschutes River. This component also includes reviewing corporation yard practices and making recommendations to improve the quality of stormwater runoff from these facilities.



Highlights

- The sweeping program collected 9,158 cubic yards of material.
- Stormwater Operations maintained:
  - 11,647 catch basins
  - 5,692 UICs (dry wells and drill holes)
  - 606 Sediment Manholes
- Removing 302 yards of material
- Installed 7 drywell inserts at the Bend Airport.
- Updated corporation yard inspection form.

Tasks Completed

Task	Description	Compliance Status	Tasks Completed	Effectiveness
ISWMP 2006 Task VIII-1	**Street Sweeping (MS4).** Track the amount of materials collected via street sweeping activities, monitoring the build-up of litter and sediment between sweepings in Permit Years 2 and 3 and make a schedule recommendation in Permit Year 4. Starting in Permit Year 4, Bend will	Fully Compliant	The City continues to implement its Sweeping Operations Plan and in FY2019-20 created a stormwater quality specific plan (see Annual Report FY2016-17 Appendix G, and Appendix G respectively). The City operates 6 sweepers in total, 3 mechanical brooms and 3 air machines. The Stormwater Utility funds three FTEs sweeper positions.	This year the City sweeping program collected 9,158 cubic yards of material and traveled 27,607 miles. The removal of this material reduces clogging of stormwater facilities and keeps pollutants out of the Deschutes River and away from our underground drinking water aquifers. The amount of material removed is also related to the type of winter

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	implement the recommendation. The cleaning plan will include a monitoring component.		The sweeping plan is broken down into eight sweeping areas, each area has four zones and each zone requires approximately 40 hours for a sweeper to complete. Routes are designed based on the street classification and community needs. Sweeper operators review routes for accuracy and update the routes when needed. The City has finalized which GPS system will be used for tracking sweeper routes and broom up/down. In FY2020-21 the Fleet Manager will work with the IT department to integrate this new GPS system into the existing call out software. The City continues to utilize door hangers to quickly notify residents of trees or other obstacles that prevent both sweepers and stormwater crews from accessing the curb line. A copy of the door hanger was included in FY2017-18 Annual Report, Appendix G.	weather received and the quantity of traction material applied to the road. This winter was less severe than last year. Sweeping in the areas that drain to the river continues to be the highest importance from a stormwater quality perspective because the river is listed for sediment/turbidity. See Figure 8-1 below for a summary of FY2010-11 through FY2019-20 sweeping data. Stormwater and street staff meet as needed to discuss sweeping efficiency such, as the use of reader boards and the consideration of a callout system. In FY2019-20 staff met to finalize the stormwater quality street sweeping plan, and to discuss potential locations to test out a pre-notification pilot program to increase effectiveness. A pilot project is planned for FY2020-21.
ISWMP 2006 Task VIII-2	**Parking Lot Sweeping (MS4 and UIC).** Monitor the build-up of litter and sediment between sweepings of	Fully Compliant	The City is responsible for sweeping five parking lots throughout town: the downtown parking structure, Mirror Pond parking lots, the Brandis lot, and the Troy Field	Crews have not noticed excessive litter or sediments within the parking lots. See Task VIII-1 for more on effectiveness. The City continues to work

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	Public-owned parking lots in Permit Years 2 and 3 and make a schedule recommendation in Permit Year 4. Starting in Permit Year 4, Bend will Implement the recommendation. The cleaning plan will include a monitoring Component.		parking lot. The Street department is responsible for sweeping public roads and both corporation yards. The Facilities Department is responsible for sweeping parking lots and the parking structure. The City Stormwater Program Manager and the Sweeping Supervisor continue to meet and coordinate on sweeping efficiency.	improve sweeping efficiency over time.
ISWMP 2006 Task VIII-3	**Litter Collection and Material Disposal (MS4).** Establish a Clean Lots/Litter Task Group within Public Works, identify where improved cleaning needed most and develop cleaning plan and budget. Order additional equipment if necessary.	Fully Compliant	The City provides street-side litter receptacles in the downtown core area that are emptied by the local garbage/recycling company three times per week in the winter and four times per week in the summer. The Downtown Bend Business Association (DBBA) maintains these receptacles with routine cleaning and repair on an as-needed basis per an MOU with the DBBA and the City.	The City assists in the collection and disposal of litter in the Downtown area. City stormwater crews routinely inspect stormwater facilities, removing trash and debris. The City also participates in and sponsors the Upper Deschutes Watershed Council's Deschutes River Cleanup event in July of each year that focuses on trash removal.
ISWMP 2006 Task VIII-4	**Landscape Maintenance Practices (MS4 and UIC).** Establish a Landscaping Task Group within Public Works. Identify opportunities to improve practices and develop landscaping	Fully Compliant	In FY2019-20, the City recognized the culmination of several years of dedicated statewide work with the graphic finalization and release of a series of Oregon Association of Clean Water Agency brochures targeting various needed best management practices. Two of these brochures	The City is continuing to promote and install new stormwater surface controls in the right-of-way via low impact development. At present, the City has 225 landscaped stormwater facilities. The Stormwater Compliance Specialist

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	guidance. Host a workshop on stormwater requirements and BMPs (in FY2010-11). Implement improved practices.		focused on landscape maintenance – one for homeowners seeking to hire a landscape professional, and one for landscape maintenance practices (see Appendix G). The City's Program Manager served as the project manager for the creation of the technical portion of the project, and she served on the steering committee for the graphics team finalization. These guides compliment previous efforts by the City staff, such as working with the OSU extension program to update the water wise landscape guide (2017) to include a section on stormwater facility planning, sizing and shows several low impact development examples, and suitable plants for rain gardens, now newly updated June 2020. (https://catalog.extension.oregonstate.edu/em9136/viewfile).	completed 15 inspections of landscaped stormwater facilities and noted landscape maintenance items. In coordinating with the Water Conservation Group, the Specialist also began developing an effort to inventory landscaped stormwater facilities in order to collect additional landscape data during inspections.
ISWMP 2006 Task VIII-5	**Improved Catch Basin/ Storm Drain Facilities Cleaning (MS4 and UIC).** Establish a Catch Basin Task Group within Public Works and identify opportunities to improve maintenance practices. Develop	Fully Compliant	Four dedicated stormwater operations staff along with two seasonal staff maintained 11,647 catch basins, 6,813 UICs (dry wells and drill holes), 606 Sediment Manholes, removing 302 yards of material from the stormwater system. In addition to routine cleaning and inspections, field crews completed 32,268	The City's Stormwater Maintenance Program has met its informal goal of inspecting and cleaning every catch basin, drill hole and dry well once per year, removing 302 yards of material from the system in FY2019-20. See Figure 8-2 below for a summary of

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	improved maintenance procedures and implement those procedures.		work orders, including tasks such as catch basin cleaning, catch basin replacements and unplugging clogged drill holes. Field crews continue to use the INFOR Assets Management Program. Crews also maintain swales, detention basins, and bio-retention facilities quarterly, performing 762 inspections. Additionally, the Utility Department works with a landscape contractor to provide maintenance at 29 swale facilities throughout Bend.	FY2010-11 through FY2019-20 Storm Facility Cleaning data.
ISWMP 2006 Task VIII-6	**Spill Prevention, Response Materials, and Training (MS4 and UIC).** Identify spill-prone locations and develop and implement improved spill response procedures. Provide spill response kits and training to applicable employees in Permit Year 4 (FY2010-11).	Fully Compliant	Field crews installed **7** drywell inserts at the Bend Airport. The City is continuing to looking for funding to retrofit the last remaining open topped drywell at the Bend Airport. In FY2013-14 Stormwater crews began implementing a drill hole shut-off valve program. In subsequent years, field crews experienced valve clogging issues and began looking for an alternative solution. This year Stormwater staff developed a new catch basin /manhole design, which provides spill control for existing drill holes. Staff shared the draft design with DEQ UIC staff for their input as well. The new design includes a 48” deep sump and 18” trap. City	The installation of drywell inserts on high risk UICs helps reduce spill impacts because staff are given the ability to contain the material in a sump during a spill incident. The City installed 7 inserts at the Bend Airport. There is now only one remaining open top drywell. City staff will work to upgrade this drywell in FY2020-21. The spill trailer allows staff to quickly block off storm drains and contain spill events. Annual training helps staff understand how to respond to spill situations, when to report a spill and the importance of

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			staff recently installed one of the new catch basin/manhole to verify effectiveness. In FY2020-21, crews will monitor for clogging. If accepted by maintenance crews, staff will develop a plan for implement this upgrade on existing drill holes. The Street Department keeps one sander loaded year round for spill response. For larger spills the City maintains two spill containment trailers stocked with absorbents, booms, containment. They are located at each corporation yard (15th Street and Boyd Acres). Staff maintain small spill kits in streets and stormwater vehicles. Staff continue to make spill kits available for all other utility vehicles. Streets and Utility Field Crews receive training annually in spill prevention and response and in illicit discharge prevention (see Appendix G). The City uses integrated pest management (IPM) techniques for weed control but does track its weed control program pesticide use. The reporting information that is provided yearly to the State is available upon request. Stormwater crews carry storm drain	protecting storm drain from spills.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			plugs and absorbents for spill response.	
ISWMP 2006 Task VIII-7	**Illicit Dumping (MS4 and UIC).** Illicit dumping on City property can cause serious stormwater contamination. This BMP involves identifying locations of, and creating and implementing BMPs for City-controlled property where illicit or illegal dumping is likely to occur and contaminate stormwater runoff.	Fully Compliant	Crews sweep the downtown corridor where there is high pedestrian traffic at a more frequent rate than other areas of town. City staff are trained to report illicit discharges to the appropriate stormwater personnel. This year staff reported **15** of the **32** illicit discharges. The City continues to focus outreach efforts on its "Clean Water Works" campaign and storm drain marking program (see the Public Education and Public Participation chapters of the annual report for more information).	The City has implemented educational and inspection best management practices to help reduce the number and severity of illicit dumping incidences. Every storm drain facility is inspected annually by stormwater crews for evidence of illicit discharges.
ISWMP 2006 Task VIII-8	**City-owned Corporation Yards, Industrial and Commercial Facilities (MS4 and UIC).** Develop checklists of BMPs for City-owned commercial and industrial facilities in Year 2 and provide it to facility managers. Initial reviews to determine the status of BMP implementation (e.g. wash areas, loading areas, garbage area, storage areas, food	Fully Compliant	City staff continued to conduct municipal self-audits to improve water quality on corporation yard sites, performing quarterly inspections at both the Boyd Acres and 15th Street. This year staff updated the inspection form and completed regularly-scheduled inspections (see Appendix G for an example inspection). In 2016 the underground fuel tanks and pumps at the Pilot Butte Campus were removed. The fueling pad was previously uncovered, posing a risk to	The City has been effective in conducting corporation yards quarterly inspections and initiating discussions with appropriate staff to improve practices as needed. The City has also taken steps to provide basic pre-treatment on open grate UICs at the Boyd Acres facility.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	preparation and use areas) would be held in Year 3 and a meeting to discuss areas of improvement and schedules for improvement to be implemented by Year 5.		stormwater run-on and spills. Stormwater crews have installed Drywell-Catch Basin Inserts in all of the open topped drywells at the Boyd Acres Corporation Yard.	
ISWMP 2006 Task VIII-9	**Detect and Correct Cross-connections and Leaks (MS4).** Post cross-connection and leak detection and prevention information for sewer connections and septic systems on stormwater pollution prevention web site. Establish cross-connection and leak detection prevention team, determine areas within City where septic systems are still in use. Provide education on septic system maintenance, how to determine and address leaks to septic system owners; and encourage hookup to City sewer. Set up repair program for cross-connections and leaks as identified	Fully Compliant	Stormwater crews are trained to look for illicit connections as part of routine inspections. City crews collect CCTV inspections data on all new stormwater pipes both when installed and at the end of the warranty period. Crews verify that pipes are installed per the approved plans. This pipe survey data helps provide base line information and will allow for quicker identification of illicit connections in the future. In FY2018-19 staff performed dry weather inspections on all River Outfalls. In FY2017-18 the City purchased field screening test kits that allow staff to quickly evaluate potential cross connections. The SE Bend Septic to Sewer project is reducing the potential for cross connections by removing septic systems and connecting residents to the sewer system. This project	Implementing CCTV inspections for stormwater together with smoke test in the sanitary sewer have been effective for ensuring that cross-connections are addressed. The SE Bend Septic to Sewer project will help reduce the potential for cross connections by connecting residents to the sewer system. .

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			has the potential to eliminate 1,000 septic systems of the estimated 2,800 septic systems in operating within City limits. See the project website for additional information www.bendoregon.gov/government/se-bend-septic-to-sewer-advisory-committee.	
ISWMP 2006 Task VIII-10	**Promote Commute Alternatives for Municipal Employees and the Public (MS4).** Implement a transportation demand management program for city staff to encourage alternative modes of transportation and reduce single occupancy vehicle trips. Plan and Implement mass transit service (e.g. bus service (BAT)	Fully Compliant	The City continued its Transportation Demand Management program (TDM) to encourage the use of alternative modes of transportation. This program is coordinated through the Get There Oregon website. The City has 131 employees that participate in the program. Due to COVID 19 and a high percentage of staff temporally working from home, the incentive pay portion of the program was put on hold. Additionally city staff are creating neighborhood greenways for safer walking and bike routes. The goals of the program are to provide safer connections; reduce cut through traffic and speeds; help people cross busier streets; and guide and help get people to where they are going with pavement markings and signs. Construction on Phase 2 started in May 2020 and was completed in August 2020 on Phase 2 of the project.	The City continued to promote the TDM program, and electronic reporting through the Oregon Drive Less Connect website. City staff efforts saved **19,694** trips and reduced the number of miles driven alone. Creating safer walking and bike routes encourages more people to take alternative transportation than single occupant vehicle travel. These therefore act as a source control for reducing automobile related pollutants.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			For more information see: https://www.bendoregon.gov/city-projects/infrastructure-projects/neighborhood-greenways	
ISWMP 2006 Task VIII-11	**Performance Standards (MS4 and UIC).** Prepare draft performance standards starting in Year 3 to obtain internal review, and finishing in Year 4 for inclusion in the permit package.	Fully Compliant	Performance standards have been completed and incorporated into the ISWMP 2022. The ISWMP 2022 was approved by DEQ as part of the WPCF-UIC permit issuance in FY2013-14. The City is meeting the scheduled requirements, and a summary of the performance standards implementation status has been included in Performance Standard Tables provided below. Performance Standard Trainings are uploaded into Target Solutions, a program used to track staff trainings. Streets and Utility staff completed **1,040** trainings courses in **10** categories including; Utility / Road Repair and Maintenance, Concrete Use and Disposal, Vehicle and Equipment Washing, Winter Road Care, Leaky Equipment and Fueling, Paint Use and Disposal, Pressure Washing and Surface Cleaning, Spill Prevention Control and Cleanup, Stormwater Pollution Prevention and Illicit	The City has met its goal of completing the performance standards for inclusion in the ISWMP 2022 and implementation efforts are progressing effectively. The City is effectively implementing the performance standards as part of the ISWMP 2022.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			Discharge Recognition and Reporting. See Appendix G for a complete list of staff training.	
ISWMP 2022 BMP VIII-1	**Street Sweeping (MS4 and UIC).** Implement a street sweeping program per the Sweeping Plan and meeting the performance standards per their schedule. Meet the street sweeping performance standards per their schedule. Implement Street Sweeping/Water Main Flushing Coordination Pilot Program.	Fully Compliant	See ISWMP 2006 Task VIII.1 above.	See ISWMP 2006 Task VIII.1 effectiveness.
ISWMP 2022 BMP VIII-2	**Implement Performance Standards (MS4 and UIC).** Implemented the performance standards per the ISWMP 2022 schedule in Appendix B.	Fully Compliant	See ISWMP 2006 Task VIII.11	See ISWMP 2006 Task VIII.11 effectiveness
ISWMP 2022 BMP VIII-3	**Landscape Maintenance Practices (MS4 and UIC).** Ensure updated Standards and Specifications are implemented properly. Incorporate at least 5 stormwater surface controls (bioretention, filter strip, etc.) in right of	Fully Compliant	See also ISWMP 2006 Task VIII.4 The City of Bend Design Standards and Construction Specifications includes the design criteria and construction standards for all public infrastructures in the City of Bend and apply to both City Capital Improvement Projects (CIP's) and to private development projects where infrastructure will	The City installed 10 surface controls in FY2017-18 and an additional 15 this year, well exceeding the 5 required within the ISWMP 2022 permit planning term.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	way areas over ISWMP 2022 planning term. Properly maintain.		ultimately be owned by the City. The 2018 update was approved by City Council on March 1, 2018, and the 2020 update is currently undergoing review. In addition to the more than five landscaped stormwater facilities installed earlier in the permit period, the City is currently working to incorporate landscape facility measures into the Newport Corridor project. See Section VII for more details.	
ISWMP 2022 BMP VIII-4	**Improve Storm Drain Facilities Cleaning (MS4 and UICs).** Collect data through maintenance management system. Review and refine maintenance schedule if appropriate. Develop and implement improved maintenance procedures.	Fully Compliant	See ISWMP 2006 Task VIII.5	See ISWMP 2006 Task VIII.5 effect nesses
ISWMP 2022 BMP VIII-5	**Promote Commute Alternatives for Municipal Employees (MS4 and UIC).** Implement a Transportation Demand Management Program as	Fully Compliant	See ISWMP 2006 Task VIII.10.	See ISWMP 2006 Task VIII.10 effectiveness.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	separate funding allows city staff to encourage alternative modes of transportation and reduce single occupancy vehicle trips.			

Storm Drain Facilities Performance Standards

Routine Inspection and Cleaning

Task	Description	Compliance Status	Tasks Comments
1	When cleaning storm drain inlets and lines, remove the maximum amount of material at the nearest access point to minimize the potential for discharges to watercourses.	Fully Compliant	See Task VIII-5
2	Inspect and clean as necessary, storm drain facilities (catch basins, UICs, inlets, culverts, and v-ditches) at least biennially. The inspections and needed cleaning will preferably occur prior to winter.	Fully Compliant	See Task VIII-5

Record Keeping

Task	Description	Compliance Status	Tasks Comments
1	Report the amount of material removed when cleaning storm drainage facilities in monthly record keeping forms.	Fully Compliant	See Task VIII-5
2	Document and track areas where spills were reported and coordinate with the City's illicit discharge control staff.	Fully Compliant	See Section 5
3	As needed, identify and target areas for: 1) more frequent cleaning throughout the year or just prior to the rainy season; and 2) distribution of public education materials to discourage illegal dumping, etc.	Fully Compliant	See Task VIII-5

Spill Response (Multiple Agencies Involved)

Task	Description	Compliance Status	Tasks Comments
1	If non-hazardous materials are spilled, maintenance staff will contain the spill area immediately and clean when practical to prevent additional release and discharge of pollutants into the storm drain system.	Fully Compliant	See Task VIII-6
2	Maintenance staff will establish a response/removal procedure for non-hazardous materials after work hours (e.g., per spill plan).	Fully Compliant	See Task VIII-6
3	Maintenance staff will coordinate to determine the most appropriate follow-up response (e.g., tracking the source of a spill, identifying product labels, contacting Building and Planning Departments, contacting Stormwater	Fully Compliant	See Task VIII-6

Task	Description	Compliance Status	Tasks Comments
	Program Analyst with records and for educational follow-up, sending a clean-up bill to the responsible party, etc.).		
4	Work with local Fire and Police Departments to obtain summaries or copies of spill reports to the Stormwater Manager or his/her designee.	Fully Compliant	For any spills with the potential to affect Utilities, our Utility Risk Management and Safety Program Manager Ken Vaughan gets advised. As our assigned point person in Utilities, Ken is working with Police and Fire to finalize the update to the Emergency Operations plan.
5	Maintenance staff will be aware and up to date on the City's around-the-clock immediate response/removal procedure for hazardous or unknown materials.	Fully Compliant	See Task VIII-6

Disposal of Material

Task	Description	Compliance Status	Tasks Comments
1	Store material removed from storm drainage facilities on a concrete pad or other type of impermeable material away from storm drainage facilities. Drain wastewater to the sanitary sewer or allow to evaporate, preventing discharges to the storm drain system. Dispose of the material at an appropriate facility. Contact collections utility's staff prior to any new type of discharge in sanitary sewer.	Fully Compliant	The City has a dedicated de-watering site used by both stormwater and street sweeping equipment. The concrete pad drains to an oil water separator and discharges into the sanitary sewer system.

Municipal Maintenance Performance Standards

Street Sweeping Frequency

Task	Description	Compliance Status	Tasks Comments
1	Clean streets according to the City's Sweeping Plan.	Fully Compliant	See Task VIII.1

Problems Associated With Efficient Street Cleaning

Task	Description	Compliance Status	Tasks Comments
1	Maintain a consistent sweeping schedule.	Fully Compliant	See Task VIII.1
2	Obtain copies of garbage and recycling collection schedules and work with water utility personnel to understand schedules of major water line flushing effort to improve coordination (e.g., to prevent conflicts with sweeping on days when collection barrels are in the road or to sweep pollutants off streets prior to major water line flushing).	Fully Compliant	See Task VIII.1
3	Take appropriate measures to keep curbed areas clear during street cleaning. Measures may include, but are not limited to, developing and distributing newsletters and/or other public education materials notifying residents and businesses of street sweeping schedules; setting out temporary or permanent street signs; sending announcements through neighborhood association chairs, or website postings.	Fully Compliant	See Task VIII.1
4	Provide adequate staff for conveniently reporting trees interfering with street cleaning.	Fully Compliant	See Task VIII.1

Street Cleaning Maintenance to Maximize Pollutant Removal

Task	Description	Compliance Status	Tasks Comments
1	Provide a clean looking street. Conduct tandem driving in areas of heavy load to minimize dirt tracks, trails, or debris to degree practicable given weather and winter road safety measures.	Fully Compliant	See Task VIII.1

Task	Description	Compliance Status	Tasks Comments
2	Check street cleaning equipment for proper adjustment.	Fully Compliant	See Task VIII.1
3	Operate street cleaning equipment at the speed specified by the manufacturer.	Fully Compliant	See Task VIII.1

Street Cleaning Maintenance to Maximize Pollutant Removal

Task	Description	Compliance Status	Tasks Comments
1	Regularly inspect and maintain street cleaning equipment.	Fully Compliant	See Task VIII.1
2	Replace worn components as required to maximize efficiency.	Fully Compliant	See Task VIII.1

Spill Response

Task	Description	Compliance Status	Tasks Comments
1	Report spills observed on streets immediately for quick response by appropriate personnel.	Fully Compliant	See Task VIII.6
2	Respond to spills in accordance with appropriate response procedures. This includes appropriate measures to block storm drain inlets to prevent and minimize discharges from entering storm drainage facilities in the event of an accident, spill, or emergency fire-fighting activity.	Fully Compliant	See Task VIII.6

Record Keeping

Task	Description	Compliance Status	Tasks Comments
1	Track miles swept using a broom odometer or by tracking mileage.	Fully Compliant	See Task VIII.1
2	Track volume or weight of material removed for street cleaning.	Fully Compliant	See Task VIII.1

Task	Description	Compliance Status	Tasks Comments
3	Report summary of sweeping data in annual report.	Fully Compliant	See Task VIII.1
4	Document and track areas where spills were reported and coordinate with the City's illicit discharge control field surveys..	Fully Compliant	See IDDE Chapter V
5	As needed, identify and target areas for: 1) more frequent cleaning throughout the year or just prior to the rainy season; 2) additional efforts to remove vehicles; 3) distribution of public education materials to discourage illegal dumping, etc.	Fully Compliant	See Task VIII.1

Education/Training

Task	Description	Compliance Status	Tasks Comments
1	Train annually, municipal staff, as appropriate, responsible for street sweeping to identify and report illicit discharges, and to comply with the other street sweeping performance standards.	Fully Compliant	See Task VIII.11

Operations and Maintenance of Pump Stations Performance Standards

Visual Inspections

Task	Description	Compliance Status	Tasks Comments
1	~~Inspect wet wells or forebays once per month for oil spills or other noticeable pollutant discharge.~~ *Revised Per Annual Report FY2017-18* *"Visually inspect wet wells or forebays from exterior once per month and inspect wet well interiors or forebays at least once per year for oil spills or other noticeable pollutant discharge." This meets the original intent of the performance standard and does not preclude IDDE efforts (see Section 5.0).*	Fully Compliant	Wet well inspections and cleaning are tracked in INFOR.

Maximize Removal of Pollutants Prior to Discharge

Task	Description	Compliance Status	Tasks Comments
1	Conduct at least one comprehensive cleaning of wet wells annually to remove sediment prior to the start of the rainy season to minimize discharge of sediment. Clean wet wells with a vactor, if possible.	Fully Compliant	Wet well inspections and cleaning are tracked in INFOR.
2	If there is a large potential for pollutant discharge, have a spill kit readily available.	Fully Compliant	See Task VIII-6
3	If any spill is reported or observed, try to remove the material at the nearest access point. As practical, shut down the pump station if the material may reach it. (A storm event may necessitate operation of the pump station.) As possible, prevent spill from discharging.	Fully Compliant	City stormwater staff receive yearly training on IDDE. See
4	Store oil absorbent materials in appropriate maintenance vehicles.	Fully Compliant	See Task VIII-6
5	Track spills upstream to try and locate the source(s) of pollution. Document spill incidents as part of the illicit discharge program. Implement enforcement, as appropriate.	Fully Compliant	See Task V.7.

Disposal

Task	Description	Compliance Status	Tasks Comments
1	Dispose of screenings at a landfill, sediment at a location that will not re-enter the storm drain system or receiving waters through erosion, and oil-absorbed materials at a site licensed to accept hazardous waste.	Fully Compliant	Neither Corp Yard is within the MS4 system; screenings are ultimately deposited at the landfill.

Education/Training

Task	Description	Compliance Status	Tasks Comments
1	Educate all personnel responsible for maintaining stormwater pump stations about these performance standards. City staff will conduct or provide at least one training session annually to educate pump station personnel about these performance standards and illicit discharge identification and reporting.	Fully Compliant	Operators attend continuing education courses and Maintain Wastewater Collections Certifications. Also staff are trained yearly on IDDE.
2	Conduct drills as part of the training, as appropriate.	Fully Compliant	City on call staff regularly respond to pump station alarms and receive training on response procedures for both wastewater and stormwater pump stations. The City has one stormwater pump station.

Litter Control Performance Standards

Services

Task	Description	Compliance Status	Tasks Comments
1	Pick up litter receptacles located on City-owned property on a frequent enough basis to minimize or prevent spillage.	Fully Compliant	See Task VIII-3
2	Provide an adequate number of litter receptacles on City-owned property. The City will make every effort to contain litter in receptacles.	Fully Compliant	See Task VIII-3

Education and Enforcement

Task	Description	Compliance Status	Tasks Comments
1	Encourage participation in and assist with the litter removal activities associated with the Stream Stewardship Day or other similar clean-up event.	Fully Compliant	City staff assisted with Deschutes River Cleanup by using golf cart size rigs to collect materials and provide water to participants. (See Section 4)
2	Encourage public education efforts to include an anti-littering message.	Fully Compliant	See Section 3.

Winter Road Care Performance Standards

Winter Road Care to Minimize Pollutant Contribution

Task	Description	Compliance Status	Tasks Comments
1	City will consider full long-term social costs and environmental/public safety risks when determining winter road care strategies.	Fully Compliant	City staff together with Public Advisory Group members discussed winter road care materials in FY2017-18. Street Department staff are trained yearly on Stormwater BMPs to reduce impacts from winter road care activates.
2	The City will use alternative materials, such as basalt application, as much as possible and appropriate to minimize the use of chemical deicier (e.g., Mag Chloride), especially in sensitive areas.	Fully Compliant	City trains on this using Target Solutions training with standard fact sheets.
3	Chemical deicers will be properly stored and handled per the chemical storage performance standards.	Fully Compliant	These are stored at our 15th street Corporation Yard.
4	Any solid deicers used shall be properly covered to prevent contact with stormwater, and be stored outside of the 100 year floodplain.	Fully Compliant	Both corporation yards are outside of the MS4 area and 100 year floodplain.

Spill Response

Task	Description	Compliance Status	Tasks Comments
1	Report spills observed on streets immediately for quick response by appropriate personnel.	Fully Compliant	See Section 5
2	Respond to spills in accordance with appropriate response procedures.	Fully Compliant	See Section 5

Record Keeping

Task	Description	Compliance Status	Tasks Comments
1	Track amount of product used per month (chemical deicer and basalt sanding).	Fully Compliant	See Figure 8-3 for a summary of deicer used by month.

Education/Training

Task	Description	Compliance Status	Tasks Comments
1	Train at least biennially, municipal staff and contractors, as appropriate, responsible for winter road care and chemical deicer (e.g., MgCl2) application to minimize overuse, to vary amounts to reflect site-specific characteristics, such as road width and design, traffic concentration, and proximity to surface waters and sensitive areas; to identify and report illicit discharges, and to comply with the other winter road care performance standards.	Fully Compliant	This is included in the fact sheets used with Target Solutions training.

Corporation Yards Performance Standards

General Standards/Training

Task	Description	Compliance Status	Tasks Comments
1	Prepare and maintain a current Corporation Yard Stormwater Pollution Prevention Plan (SWPPP).	Fully Compliant	The SWPP was initially developed 2011 and last updated in 2015.
2	Prepare spill containment kits and store them in locations that have potential for spills (e.g., fueling areas, etc.). Conduct training annually, or as appropriate, on how to use the kits.	Fully Compliant	See Task VIII.6
3	Mark or stencil inlets to the storm drainage system with a "protect our waters-no dumping"-type message.	Fully Compliant	See Task V.3
4	Survey the facility annually for compliance with the performance standards. Any performance standard that has not been implemented will be identified in the annual report, along with a schedule for implementation.	Fully Compliant	See Task VIII.8
5	Post educational materials about these performance standards and best management practices in appropriate areas.	Fully Compliant	See Task V.7. Using Target Solutions
6	For each corporation yard, assign one person the primary responsibility for ensuring that performance standards are implemented and that all persons using the facility are aware of these performance standards.	Fully Compliant	See Tasks II.1 and VIII.8
7	Describe activities conducted to educate staff regarding the performance standards in the annual report.	Fully Compliant	See Task V.7

General Housekeeping

Task	Description	Compliance Status	Tasks Comments
1	Dispose of often, material removed from streets and storm drainage facilities to eliminate exposure to rainwater and runoff to the storm drain system.	Fully Compliant	Materials are dewatered at 15th Street (dewatering wash water is ultimately directed to sanitary sewer). Materials are screened to recover basalt rock for winter traction reuse and remaining materials are disposed of at Knott Landfill.

Task	Description	Compliance Status	Tasks Comments
2	Keep chemical storage areas neat and orderly	Fully Compliant	See Task VIII.8
3	Inspect the yard at least semiannually to ensure that there are no illicit discharges to the storm drain system. Train employees to report potential pollutant discharges when noticed to ensure pollutant discharges are controlled to the MEP.	Fully Compliant	See Task VIII.8
4	Sweep the corporation yard at least bimonthly	Fully Compliant	Bimonthly sweeping to begin Oct. 2016. Neither corporation yard drains to the MS4/river or is in a time of travel area for UICs. Portions of 15th corporation yards drain to surface swales or sheet flows to adjacent landscaping.
5	Stockpile materials away from streets, gutters, storm drain inlets, or water channels when possible.	Fully Compliant	Occurring at 15th Street.

Refuse Holding Areas

Task	Description	Compliance Status	Tasks Comments
1	When materials removed from storm drainage facilities are stored on site, store the materials on a concrete pad or other type of impermeable material away from storm drainage facilities. Use covers or other methods as appropriate to prevent blowing away of debris. Drain wastewater to the sanitary sewer, only upon approval from the local sanitary sewer agency, or allow to evaporate to prevent discharges to the storm drain system. Dispose of the material at an appropriate facility.	Fully Compliant	See Task VIII.8

Auxiliary Storage Areas/Yards

Task	Description	Compliance Status	Tasks Comments
1	Store chemicals in appropriate areas to prevent pollutant discharge to the storm drains.	Fully Compliant	See Task VIII.8

Chemical Storage

Task	Description	Compliance Status	Tasks Comments
1	Keep all containers containing hazardous materials or waste closed when not filling or emptying. Properly label containers using the NFPA or HMIS system (or other appropriate system as approved by City management). Protect the storage area from vandalism	Fully Compliant	See Task VIII.8
2	Review the Spill Prevention Plan and/or other appropriate materials (e.g. MSDS) for hazardous materials storage requirements.	Fully Compliant	City has a service for easy MSDS availability.
3	Store paint and other chemicals in an approved covered containment area. Design the floor so that spilled materials will be contained and easily removed.	Fully Compliant	See Task VIII.8 and Task V.7
4	If any material containers (not limited to hazardous material containers) are stored outside, keep the containers in a contained area that prevents discharge to the storm drain system from spills or exposure to rain. Ensure that all the containers are closed with tight-fitting lids. Design the area to prevent "run-on" of stormwater and runoff of spills.	Fully Compliant	Training occurring. See Task VIII.8 and Task V.7
5	When never-before-used materials are purchased, review the Material Safety Data Sheet (MSDS) to ensure that incompatible materials have the appropriate separation.	Fully Compliant	City has a service for easy MSDS availability and their use is encouraged by Safety and Risk Program Manager regularly at meetings.

Chemical Usage

Task	Description	Compliance Status	Tasks Comments
1	Ensure that necessary safety equipment and spill containment kits are readily accessible in areas where chemicals are used. Inspect safety equipment (e.g., eye wash) regularly to ensure they are operational.	Fully Compliant	See Task VIII.6
2	Review MSDSs.	Fully Compliant	The City subscribes to a MSDS website for quick access.
3	Minimize use of chemicals. Use water-based paints and non-toxic chemicals as much as possible.	Fully Compliant	Training occurring. See Task VIII.8 and Task V.7

Oil Based Paint

Task	Description	Compliance Status	Tasks Comments
1	Wipe paint out of brushes. Filter and reuse thinners or dispose of as hazardous waste. Dispose of the excess paint as hazardous waste or recycle. If there is too much paint to dry, recycle the paint or dispose of properly.	Fully Compliant	Training occurring. See Task VIII.8 and Task V.7

Water Based Paint

Task	Description	Compliance Status	Tasks Comments
1	Rinse paint out of brushes and discharge rinse water to the sanitary sewer. Recycle or dry excess paint in cans and dispose of the cans in the trash. If there is too much paint to dry, recycle the paint or dispose as hazardous waste.	Fully Compliant	Training occurring. See Task VIII.8 and Task V.7

Automotive Fluids

Task	Description	Compliance Status	Tasks Comments
1	Collect used fluids and recycle or dispose at an appropriate facility.	Fully Compliant	Training occurring. See Task VIII.8 and Task V.7

Pesticides

Task	Description	Compliance Status	Tasks Comments
1	Refer to the State of Oregon pesticide applicator requirements for pesticide mixing, application, storage and disposal requirements.	Fully Compliant	Only certified applicators use pesticides.
2	Consider using integrated pest management methods. Given a choice, use the least toxic pesticides and herbicides that will accomplish the job.	Fully Compliant	City landscape crews do this taking in consideration location, workload, and staffing. Only certified applicators use pesticides.
3	Apply pesticides at appropriate times to maximize their effectiveness and minimize their potential to run off.	Fully Compliant	See above. Stormwater Program Manager conducted a ride-along in FY 2015-16 with pesticide applicator for mutual education and to confirm.
4	Mix only as much pesticide as needed. Do not mix or load pesticides next to storm drain inlets or watercourses.		See above. Stormwater Program Manager conducted a ride-along in FY 2015-16 with pesticide applicator for mutual education and to confirm.

Solvent/Cleaning Solutions

Task	Description	Compliance Status	Tasks Comments
1	Properly recycle or dispose of used solvents/chemicals	Fully Compliant	Training occurring. See Task VIII.8 and Task V.7

Washing Vehicles/Equipment

Task	Description	Compliance Status	Tasks Comments
1	Clean all vehicles/equipment on designated wash areas that discharges washwater to landscaping, the sanitary sewer or recycling system. (Wash areas might be off-site to ensure discharge to the sanitary sewer or recycling system.)	Fully Compliant	Training occurring. See Task VIII.8 and Task V.7
2	Ensure wash area and sump (if applicable) are large enough so that all washwater drains to the sanitary sewer or recycling system. If necessary, re-grade area or install dikes to convey the washwater.	Fully Compliant	Most vehicles are washed off site through a contract with a local car wash. Boyd Acres Utility Corp Yard has a designated wash area.
3	Visually monitor the wash area to make sure it is consistently used.	Fully Compliant	See Task VIII.8

Fuel Dispensing Areas

Task	Description	Compliance Status	Tasks Comments
1	Store spill containment kits nearby. If spill occurs, use dry methods to clean and follow procedures in the Hazardous Materials Business Plan and/or Spill Prevention Plan.	Fully Compliant	See Task VIII.6
2	Train employees in proper fueling, cleaning, and spill response procedures.	Fully Compliant	See Task V.7. Using Target Solutions.
3	Discourage mobile fueling. If mobile equipment is fueled with a mobile fuel truck, have spill kits available and choose an area away from storm drain facilities, sanitary sewer systems, and waterbodies for fueling.	Fully Compliant	Fuel station at 15th Street Corp Yard was removed. Employees use commercial-only fill stations within the community.
4	Design new fueling area(s) to prevent "run-on" of stormwater and runoff of spills	Fully Compliant	Stormwater regulations and staff were consulted in design of a small tank at 15th Street in FY2015-16. COSM was consulted. It has not been installed yet.
5	Install signs reminding people not to "top off" tanks.	Fully Compliant	Majority of fueling is conducted off-site now and that is posted at fueling stations. Small engines only and they do not top off.
6	Consider covering fuel-dispensing areas. Prohibit fueling over open ground; ground should be covered by concrete or asphalt protected with a sealant.	Fully Compliant	See comments above. Fueling is not allowed over open ground.

Fleet Maintenance/Vehicle Parking Areas

Task	Description	Compliance Status	Tasks Comments
1	Inspect equipment for leaks on a regular basis. Use drip pans under leaking vehicles. Repair vehicles with significant leaks.	Fully Compliant	Training occurring. See Task VIII.8 and Task V.7

Task	Description	Compliance Status	Tasks Comments
2	Drain and replace motor oil and other fluids in a covered shop area. If fluids are changed outdoors, designate an area where there are no connections to the storm drains, watercourses, or the sanitary sewer. Select a designated area where spills can be easily cleaned up or drain to a closed pan and return to shop for proper disposal.	Fully Compliant	Training occurring. See Task VIII.8 and Task V.7
3	Periodically dry sweep the area.	Fully Compliant	Training occurring. See Task VIII.8 and Task V.7
4	Schedule outdoor repair activities for dry weather, if possible. Prevent repair supplies or work material from entering storm drains or watercourses	Fully Compliant	Training occurring. See Task VIII.8 and Task V.7
5	Clean equipment as it comes in for repairs using proper collection and disposal methods when necessary. Inspect equipment as it comes in for routine maintenance and clean if needed.	Fully Compliant	Training occurring. See Task VIII.8 and Task V.7

Road Repair and Maintenance Performance Standards

General Practices/Training

Task	Description	Compliance Status	Tasks Comments
1	Schedule excavation and road maintenance activities for dry weather, if feasible.	Fully Compliant	Training occurring. See Task V.7.
2	Equipment repairs and fueling or maintaining vehicles and equipment will be conducted in accordance with the Corporation Yard Performance Standards.	Fully Compliant	Training occurring. See Task V.7.
3	Recycle used motor oil, diesel oil, concrete, broken asphalt, etc. whenever possible.	Fully Compliant	Training occurring. See Task V.7.
4	Distribute educational and outreach materials, as appropriate, to those utility contractors (e.g., water supply, sewer, cable, phone, electrical, etc.) seeking encroachment and/or grading permits from the City.	Fully Compliant	Community Development Department distributes materials as appropriate.
5	Train at least biennially municipal staff and contractors conducting road repair and maintenance to comply with these performance standards.	Fully Compliant	Municipal staff are trained. See Task V.7. The City project manager is responsible for making their contractor aware of local requirements.

Asphalt/Concrete Removal

Task	Description	Compliance Status	Tasks Comments
1	After breaking up old pavement, remove and recycle as much as possible to avoid contact with rainfall and stormwater runoff.	Fully Compliant	Training occurring. See Task V.7.
2	Take measures to protect storm drain inlets prior to asphalt breaking or concrete sawing operations (e.g., place sand bags or filtering barrier around inlets). Clean afterwards by sweeping or removing as much material as possible. Do not wash down to the storm drain.	Fully Compliant	Training occurring. See Task V.7.
3	During saw-cutting operations, block or berm around storm drain inlets using sand bags or an equivalent appropriate filter device, or absorbent materials such as pads, pillows, or socks to contain slurry, or wet/dry vacuum the slurry. If slurry enters the storm drain system, remove the material immediately.	Fully Compliant	Training occurring. See Task V.7.
4	Remove saw-cut slurry (e.g., with a shovel or vacuum) before leaving at the end of the day.	Fully Compliant	Training occurring. See Task V.7

Patching and Resurfacing

Task	Description	Compliance Status	Tasks Comments
1	To minimize runoff from patching and resurfacing activities, materials will not be stockpiled in streets, gutter areas, or near storm drain inlets or waterbodies unless these areas are protected (i.e., stockpiled material should be covered to minimize stormwater runoff.)	Fully Compliant	Training occurring. See Task V.7.
2	Cover and seal manholes and storm drain inlets before applying seal coat, slurry seal, etc.	Fully Compliant	Training occurring. See Task V.7.
3	Never wash excess material from exposed aggregate concrete or similar treatments into a street or storm drain inlet. Designate an unpaved area for clean up and proper disposal of excess materials.	Fully Compliant	Training occurring. See Task V.7.
4	Use only as much water as necessary for dust control to avoid runoff.	Fully Compliant	Training occurring. See Task V.7.
5	Sweep up as much material as possible and dispose of properly.	Fully Compliant	Training occurring. See Task V.7.
6	Clean up spills and leaks from other equipment and work site areas using “dry” methods (absorbent materials and/or rags). Properly dispose of absorbent materials and rags. If spills occur on dirt areas, the contaminated soil will be removed properly and on a timely basis	Fully Compliant	Training occurring. See Task V.7.
7	After the job is complete, remove stockpiles (asphalt materials, sand, etc.) and other extra materials as soon as possible.	Fully Compliant	Training occurring. See Task V.7.
8	If it rains unexpectedly, take appropriate action to prevent pollution of stormwater runoff (e.g., divert runoff around work areas).	Fully Compliant	Training occurring. See Task V.7.
9	Wash down of streets is only permitted if runoff is controlled or contained, or appropriate best management practices are followed.	Fully Compliant	Training occurring. See Task V.7.

Signing and Striping

Task	Description	Compliance Status	Tasks Comments
1	Have spill kits or store spill absorbent materials on trucks to be used in the event of a spill.	Fully Compliant	Training occurring. See Task V.7.
2	Contain and clean up waste materials and dispose of them properly according to the MSDS.	Fully Compliant	Training occurring. See Task V.7.

Equipment Clean-up/Storage

Task	Description	Compliance Status	Tasks Comments
1	Clean sprayers, patch and paving equipment at the end of the day. Use approved collection methods and dispose or recycle waste materials at an approved facility.	Fully Compliant	Training occurring. See Task V.7.
2	If stored outdoors, cover sprayers, patch and paving equipment, if they contain pollutants, to prevent rainfall from transporting pollutants to the storm drain system.	Fully Compliant	Training occurring. See Task V.7. All are stored indoors.
3	Flush paint sprayer supply lines at the corporation yard. Use approved collection methods and dispose or recycle waste materials at an approved hazardous waste facility	Fully Compliant	Training occurring. See Task V.7. Corporation yard inspections are conducted quarterly.

Summary of Effectiveness



As demonstrated herein, the City has been able to refine its collection and cleaning programs to be more efficient (see Figures 8-1 through 8-4). The City has also been effective in installing several new landscaped drainage controls in the right-of-way. Crews are maintaining the system, and are making improvements to existing UICs to prevent pollutants from entering the UIC as well as to include emergency shut-off devices in the most high-risk areas to help facilitate quick and safe closure in the case of spills. Outreach and coordination to ensure pollution prevention at corporation yards continues and the City is working to be more effective with its staff trainings by incorporating Target Solutions software. The TDM program continues to be a success as well. The City permit remains administratively extended. While it has been six years since the City has submitted the ISWMP 2022 the City is hesitant to update this plan until the final permit conditions are known; however the City is committed to continual improvement. For example, street sweeper crews are working to incorporate improved effectiveness through the use of GPS tracking in their sweepers, and working to refine their stormwater sweeping plan for water quality.

Figure 8-1 Street Sweeping Summary

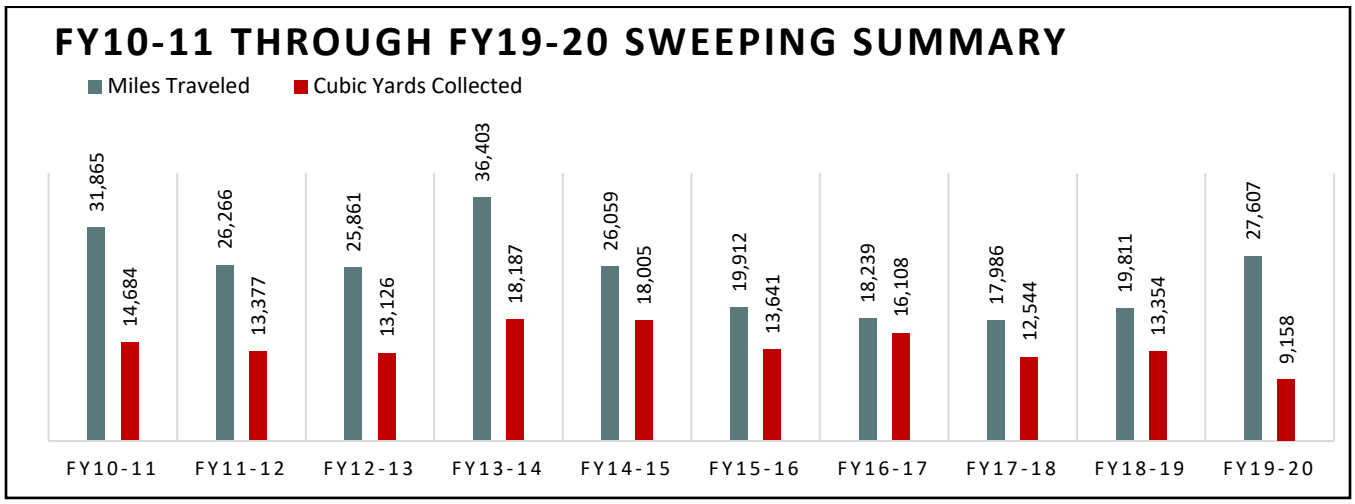


Figure 8-2 Storm Facility Cleaning Summary

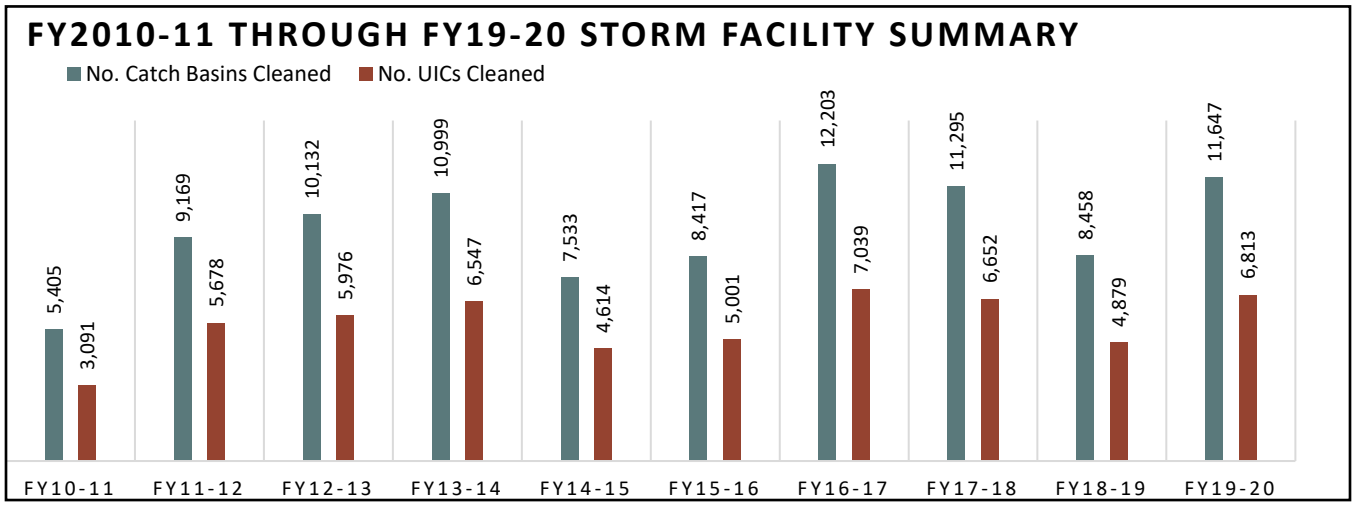


Figure 8-3 Winter Road Care by Month FY2019-20

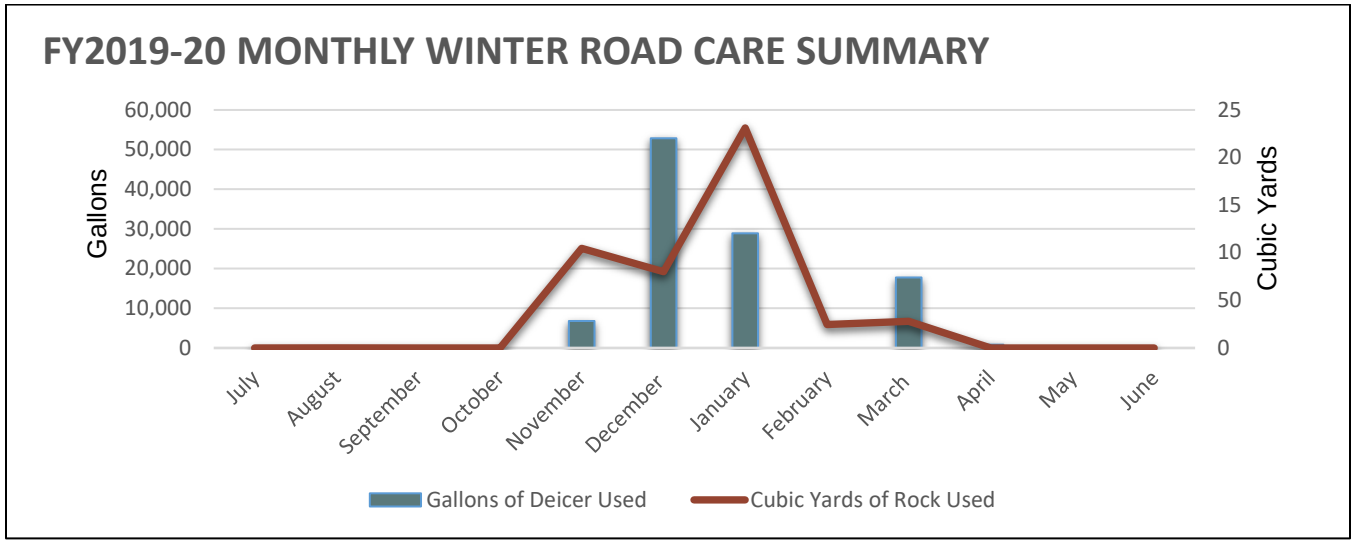
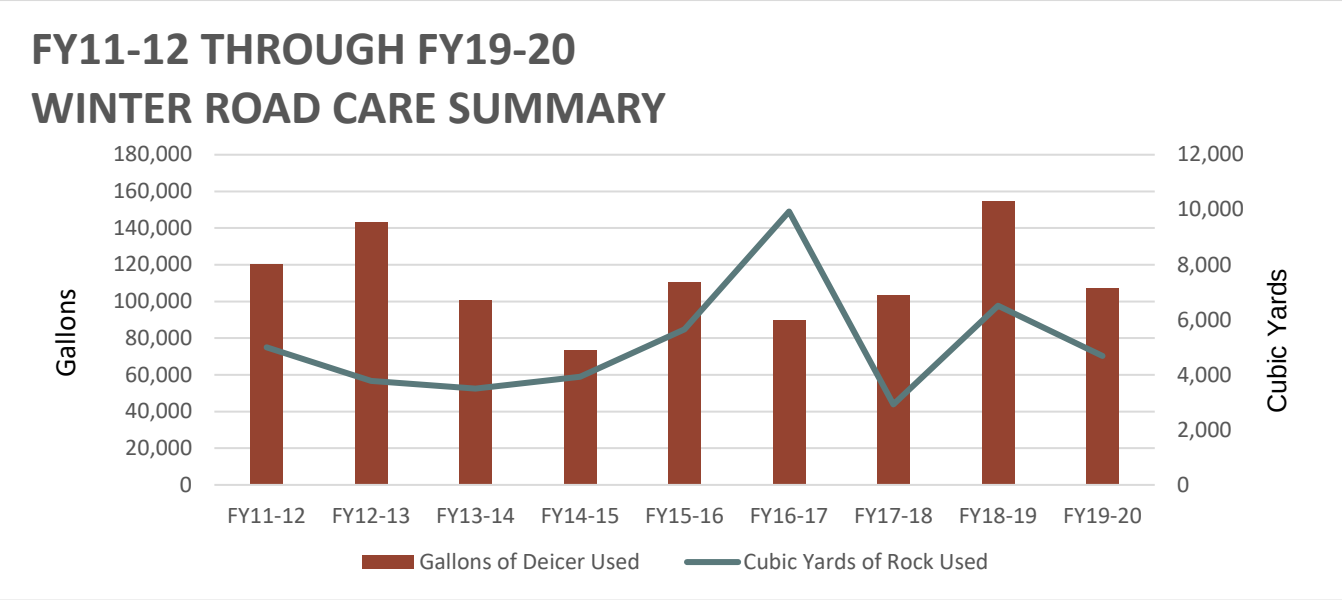


Figure 8-4 Winter Road Care Summary FY2011-12 through FY2019-20



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FY2019-2020 Annual Report
Section 9.0 Monitoring



Introduction

As a Phase II NPDES permittee, the City of Bend is not required to monitor stormwater discharges to the river, but is required to monitor stormwater drainages to UICs as part of its WPCF-UIC permit, received in May 2013.

Highlights

- Collected two stormwater runoff samples from each of the six representative monitoring locations; all analytes monitored were within compliance levels meeting the City's UIC WPCF permit monitoring requirements.
- The ambient river water quality monitoring program continues to collect and compile data through a new contract entered into in FY2019-20.
- The City's lab is NELAP certified for drinking water.

Tasks Completed

Task	Description	Compliance Status	Tasks Completed	Effectiveness
ISWMP 2006 Task IX-1	**Monitor Stormwater Discharges to Deschutes River (MS4).** Fund and implement the Upper Deschutes Watershed Council monitoring plan. Analyze and report results.	Fully Compliant	In 2004, the City and the Upper Deschutes Watershed Council (UDWC) first began a multi-year monitoring program to gather data on the presence or absence of pollutants of concern in the Deschutes River within the Bend Urban Growth Boundary (Deschutes River Miles 172 to 159). This baseline report was completed in FY2009-10. The City hire ESA to provide a data analysis update in FY2018-19. The City continues to collect and has developed a multi-year contract to continue to review and analyze the data. This baseline data combined with the ongoing monitoring is useful for comparing and monitoring river health over time and	The completion of the multi-year monitoring report in FY2009-10 along with the updated report in FY2018-19 continue to provide the City with valuable information. This document helps the City understand baseline conditions, water quality trends and helps determine effectiveness of the MS4 stormwater program.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
			helps evaluate effectiveness of pollution prevention efforts keeping in mind that it is an open state system and the epitome of the effectiveness evaluation for the river. In FY2018-19 the City reviewed and compiled river monitoring data from 2008-2017. That report entitled "City of Bend Ambient River Water Quality Monitoring: Deschutes River 2008-2017" was included in the FY2018-19 annual report, Appendix H. As part on an ongoing program, the City continues to collect and compile river monitoring data. The City entered a multi-year contract in FY2019-20, and the FY2017-19 data is being reviewed and an updated report will be completed in FY2020-21.	
ISWMP 2006 Task IX-2	**Enhanced Drinking Water Well Monitoring (UIC).** Form enhanced Monitoring Task Group and develop an enhanced monitoring plan. Obtain funding for enhanced monitoring and prepare annual	Fully Compliant	As part of the early year efforts, the City prepared a groundwater protectiveness study to model the impacts of contaminants in the vadose zone below UICs. The City continues to monitor drinking water quality as required under the Safe Drinking Water Act. The results of this	The City is meeting the Safe Drinking Water Act groundwater requirements through its regular well monitoring. The latest Water Master Plan update is currently underway. The City continues to collect data to help determine water quality changes over time.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	monitoring reports (write up in section of NPDES annual report may suffice).		monitoring are summarized in the City's annual Consumer Confidence / Drinking Water Quality Report, available at https://www.bendoregon.gov/government/departments/utilities/water/water-quality-reports , which includes a section on stormwater pollution prevention efforts.	
ISWMP 2006 Task IX-3	**Stormwater Monitoring for UICs (UIC)**. In the early years (FY2007-08 through FY 2011-12), form UIC monitoring task group and develop monitoring Plan. Obtain funding for UIC monitoring. Implement monitoring and prepare semi-annual monitoring reports.	Fully Compliant	The City continues to implement the UIC monitoring plan. With each sample a lab report is released. The City's plan calls for two samples per each of six sites each year. These lab reports form the semi-annual monitoring are summarized and incorporated into the annual report. See ISWMP 2022 BMP IX-2 below, for additional information on the UIC monitoring program.	See ISWMP 2022 BMP IX-2, effectiveness below.
ISWMP 2006 Task IX-4	**Performance standards (MS4 or UIC).** Prepared draft performance standards starting in Year 3 to obtain internal review, and finishing in Year 4 for inclusion in the permit package.	Fully Compliant	Performance standards have been completed and incorporated into the ISWMP 2022. The publically reviewed ISWMP 2022 was submitted in December of 2012 and approved by DEQ as part of the WPCF-UIC permit issuance.	The City continues to effectively implement the performance standards for monitoring as part of the ISWMP 2022 (see below).
ISWMP 2022 BMP IX-1	**Monitoring the Deschutes River (MS4).** Fund and implement a river water monitoring	Fully Compliant	The City continues to collect ambient water quality data since 2004. In March of 2019, the City completed reviewing and	The City continues to monitor the River ambient water quality and periodically

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	plan update starting in FY2018-19 through FY2022-23. Analyze and report results.		compiling the river monitoring data from 2008-2017. The final report title: City of Bend Ambient River Water Quality Monitoring: Deschutes River 2008-2017 was included in Appendix H of the FY2018-19 Annual Report. In FY2019-2022, the City entered into a contact for continued review, compilation, and analysis of ambient water quality data and work has begun on the update incorporating more recent data.	reviews this data for any emerging trends.
ISWMP 2022 BMP IX-2	**Stormwater Monitoring for UICs (UIC).** Develop monitoring plan by UIC permit due date and Submit to DEQ for review/approval. Sample the stormwater discharge to the underground injection systems at the location specified in the monitoring plan. Comply with the sampling frequency established in the stormwater monitoring plan unless circumstances beyond the City's reasonable control prevent such.	Fully Compliant	The City has developed and implemented a Stormwater Monitoring Plan. The plan is reviewed yearly. A copy of the most recent plan was included in FY2018-19 Annual Report in Appendix H. Stormwater staff record weather forecasts and monitoring activities in a field monitoring notebook, the notebook has been included in Appendix H. The City collected two stormwater samples at each of the six representative sample locations identified in the Monitoring Plan an; all analytes monitored were within compliance levels (See Appendix H).	The City has successfully implemented the stormwater monitoring plan, tracked weather forecasts and deployed sampler's based on those forecasts. The City collected two sample events from each of the six representative monitoring locations outlined in the monitoring plan. A summary of those results and the lab reports have been included in Appendix H. All analytes monitored were within compliance levels.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	Review monitoring results per the action levels in WPCF Permit Schedule A Table 1. In case of exceedance of individual or geometric mean samples, take corrective actions per WPCF Permit Condition A.3., and A.4. Provide monitoring reports results in annual report. Should any action level exceedance occurs, planned and implemented corrective actions will be reported			
ISWMP 2022 BMP VIIII-3	**Implement Performance Standards MS4 and UIC).** Implemented the performance standards per the ISWMP 2022 schedule in Appendix B.	Fully Compliant	See ISWMP 2006 Task IX.4, tasks completed above.	See ISWMP 2006 Task IX.4, effectiveness above.

Monitoring Control Performance Standards

Facility Procedures

Task	Description	Compliance Status	Tasks Comments
1	Maintain a NELAC accredited facility for stormwater-related laboratory testing.	Fully Compliant	Due to a change in how the Oregon Environmental Laboratory Accreditation Program (ORELAP) assesses proficiency testing for laboratories in 2020, in FY2019-20 the City of Bend's Water Quality Lab (COBWQL) had to respond to a deficiency in its quality system. A corrective action was initiated, and is currently on-schedule to correct the proficiency testing deficiency. At no time did the City of Bend Water Quality Lab's accreditation lapse and ORELAP has issued an accreditation certificate for the City of Bend Water Quality Lab for drinking water through August 23, 2021. The stormwater testing conducted by the City is for the UIC regulations per the Safe Drinking Water Act. Although stormwater sampling is separate, the

Task	Description	Compliance Status	Tasks Comments
			accreditation speaks to the fact that the City maintains proper QA/QC and operational procedures.

Preparing For and Conducting Monitoring Activities

Task	Description	Compliance Status	Tasks Comments
1	Maintain sampling plans and quality assurance plans, as appropriate.	Fully Compliant	Completed. See tasks above.
2	Conduct appropriate recordkeeping and reporting.	Fully Compliant	Completed. See Appendix H.

Summary of Effectiveness



The City has successfully developed and implemented a UIC monitoring plan tailored to Central Oregon climate challenges and updates this plan as needed (say, if a site is not receiving enough runoff to take a sample). The City has increased the effectiveness of its stormwater monitoring efforts through the use of automated grab samplers in conjunction with hand grab samples.

This year the City met its requirements by collected two stormwater runoff samples from each of the six representative monitoring locations, all analytes monitored were within compliance levels meeting the City's UIC WPCF permit monitoring requirements.

Future analysis of ambient water quality data will be more regular given the City has entered into a contract to provide report updates, for increased efficiency.

The City's laboratory maintained its NELAP certification for drinking water.

FY2019-20 Annual Report

Section 10.0 Drinking Water Protection Areas Investigation, Re-Delineation and Management and Underground Injection Control



Introduction

This section covers reporting of activities listed under Chapter 10 of the Integrated Stormwater Management Plan 2022 entitled "Underground Injection Controls," and Chapter 10 of the original ISWMP (2006) entitled "Drinking Water Protection Area Investigation, Delineation and Management." One of the highest priorities for the City is protecting its drinking water wells from contamination. To do this, the City needs to know where and how it should focus its protection efforts and to meet Underground Injection Control (UIC) requirements that are protective of groundwater. The purpose of this section is to provide the information the City needs to do this, especially with respect to the City's stormwater underground injection controls (UICs). For this reason, the title of this chapter changes between the Integrated Stormwater Management Plan (2006) and the ISWMP 2022, from "Drinking Water Protection Area Investigation, Delineation and Management," to "Underground Injection Controls," respectively. This chapter of the annual report covers both the ISWMP (2006) and ISWMP 2022 respective chapters.

Highlights

- Continued implementing the open-grate drywell retrofit plan, installing 7 new drywell inserts at the Bend Airport.
- City crews developed a design to include spill control protection and modify the open top drill hole to reduce tampering threat by installing a sediment manhole overtop the existing drill hole. Once initially installed (in early FY2020-21) City staff will monitor for effectiveness before developing a long term retrofit plan.
- Added 44 new drywells with sediment manhole treatment into the City's UIC system, and reported on 13 UICs decommissioned in the registration information being provided to DEQ with this report.

Tasks Completed

Task	Description	Compliance Status	Tasks Completed	Effectiveness
ISWMP 2006 Task X.1	**Drinking Water Protection Area Delineation (UIC).** Existing DWPAs need to be confirmed or replaced with new DWPAs that are based on the best available	Fully Compliant	Task was completed in past years, submitted to OHA and accepted. This information is available on BOOM our online mapping program. The City continues to improve the well location database. In FY2019-20	The original redelineation allowed for increased accuracy, allowing for improved resolution of the regional groundwater model. While the municipal supply wells and

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	information. In FY2007-08 to FY2008-09, investigate the existing drinking water protection area delineations and if necessary redelineate.		staff worked with a consulting firm to review new well information from the FY2018-19 inspections and update the GIS database. This update will be completed in FY2020-21.	DWPA remain unchanged, the City continues to improve its database on private well locations and anticipates updating the online BOOM well map in FY2020-21.
ISWMP 2006 Task X.2	**Drinking Water Protection Plan (UIC).** Determine how the City will most effectively manage development activities with the drinking water protection areas and provide education to entities that they are in sensitive areas through tasks such as identifying contaminant sources within the drinking water protections areas, developing targeted education materials, working to incorporate more stringent development design standards as appropriate, distribution educational materials and reviewing and refining emergency response SOPs and community partnerships for threats within drinking water protection areas.	Fully Compliant	In FY2017-18, the City updated its Systemwide Assessment as required in the WPCF UIC permit and submitted it to DEQ. More stringent requirements are required for areas within drinking water protection areas. The Stormwater Program Manager worked with the Stormwater Coordinators group to develop guidance for targeting treatment by the area (drainage to river, wellhead, etc.). These changes were incorporated in the last standard and specifications update.	The City has been effective in performing all required work in this area. In the past, the City prepared an initial source water assessment and the (5 year) update. The source water assessment includes contaminant sources. Staff have also worked with ACWA for UIC education; included drinking water protection area locations in the City's mapping system; and included more stringent development standards in Bend Code Title XVI and the Standards and Specifications.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	Continue development of a drinking water protection plan. The focus of this task will be to identify real and potential contaminant sources within the DWPAs, designate which are private and which are public sources, and develop and provide targeted educational materials on minimizing potential contaminant sources for those agencies, businesses, and residences within existing DWPAs. Work to incorporate more stringent design guidelines, as appropriate, for new or redevelopment within the DWPAs. Review potential threats and work with appropriate agencies to develop or refine emergency response standard operating procedures and communication pathways as appropriate.			
ISWMP 2006 Task X.3	**Groundwater Vulnerability Study (UIC).** Participate with COIC regarding the review and possible pursuit of a United	Fully Compliant	The City participated on the COIC work group and working together with the City of Redmond to completed a Groundwater Protectiveness study that informed the requirements	This task was completed on schedule and has been a useful tool for protecting Bend`s groundwater supply.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
	States Geological Survey (USGS) Groundwater Vulnerability Study proposal. The proposal would be for the USGS to assess the aquifer vulnerability and phase would focus on analyzing the intrinsic susceptibility of the aquifer system in the area, including analyzing existing water quality data and examining the geology of the unsaturated zone, and of the age and sources of water to different parts of the system. A second phase of the anticipated proposal would combine the susceptibility knowledge from the first phase with groundwater sampling and analysis for contaminants to better understand the aquifer's vulnerability.		of the City's WPCF UIC permit and other similar permits in the Bend area.	
ISWMP 2022 BMP X-1	**Complete Systemwide Assessment (UIC).** Collect necessary data to refine Systemwide Assessment per permit requirements/ request. Submit to DEQ.	Fully Compliant	The City has reviewed and updated the initial Systemwide Assessment in FY2017-18 and submitted it to DEQ in June 2018.	The City was effective in improving data quality in its update of the Systemwide Assessment that was accepted by DEQ.

Task	Description	Compliance Status	Tasks Completed	Effectiveness
ISWMP 2022 BMP X-2	**UIC Registration (UIC).** Continue to update and maintain accuracy of the stormwater geodatabase as needed and provide required updates to DEQ of UIC registration database.	Fully Compliant	The City's mapping system is continually updated. The updated UIC registration database is submitting to DEQ along with the annual report. (See Appendix I). Table 10.1 provides information on new UICs installed in FY2019-20. Table 10.2 summarizes decommissioned UICs in FY2019-20. Table 10.3 contains a list of anticipated new UICs in FY2020-21 and beyond. Table 10.4 summarizes anticipated UIC decommissioning in FY2020-21.	The database is kept up to date. The registration database in Appendix I includes the most complete information, including updates to UIC data, and information on spill and gross pollutant control best management practices installed.
ISWMP 2022 BMP X-3.1	**UIC Retrofits, Upgrades, or Decommissioning (UIC).** Review results of the approved Systemwide Assessment(s) and WPCF-UIC Permit in light of the Groundwater Protectiveness Model results to determine if any UICs need to be retrofitted or decommissioned to protect water quality.	Fully Compliant	In light of the Groundwater Protectiveness Model results, no additional UICs must be decommissioned or modified at this time to meet permit requirements as a result of the Systemwide Assessment.	
ISWMP 2022	**UIC Retrofits, Upgrades or Decommissioning**	Fully Compliant	The City continued implementing its open-grate drywell retrofit plan.	The City is on schedule to complete the UIC drywell retrofit project

Task	Description	Compliance Status	Tasks Completed	Effectiveness
BMP X-3.2	**(UIC) (continued).** If the City deems prudent given the results of subtask 1, the City may engage in upgrades or retrofits to UICs. In cases where decommissioning would be appropriate, the City may decommission a UIC.		(See annual report FY14-15, Appendix I). This year City staff purchased 7 new inserts at the Bend Airport (see Table 10.5). A list of UICs decommissioned and planned are included in tables below (see Table 10.2). Table 10.5 summarizes the UIC drywell retrofit project status.	in FY2020-21, with only 11 drywells remaining to be retrofitted. Utility staff will continue to coordinate with Airport Management to fund the remaining insert installations. The City has budgeted $50,000 in FY19-20 for drill hole upgrades that includes the installation of sediment manhole pre-treatment.
ISWMP 2022 BMP X-3.3	**UIC Retrofits, Upgrades or Decommissioning (UIC) (continued).** Commence with UIC retrofits/upgrades and/or decommissioning as needed on a prioritized risk-based schedule through standard procedures or implementation of the Decommission and Improvement Plan, if applicable, on a timeline per permit or plan requirements.		The City has continued its program to upgrade open grate drywells. This year the City installed **7** drywells inserts at the Airport, which lies in the County outside of City limits. The airport is continuing to work on secure funding for last remaining drywell that needs upgraded. Staff conducted a field review of drill holes in wellhead protection areas and developed a database to be used to prioritize future retrofits. City stormwater crews are testing a new design for retrofitting drill holes, by placing a sediment manhole overtop the existing drill hole. In FY2019-20, staff prepared to install one of the structures just after the end of the fiscal year. In FY20-21 staff will work to verify that the design will work as intended.	The catch basin inserts installed have been holding up well. Stormwater staff will then begin working upgrading high risk drill holes.

UIC Tables

Table 10.1 New UIC Installation FY2019-20

UIC Number	Install Date	Location/Project
DDW010722	8/9/2019	Murphy Corridor Improvements
DDW010724	8/8/2019	Murphy Corridor Improvements
DDW010726	8/22/2019	Luderman Crossing Ph.1
DDW010727	8/22/2019	Luderman Crossing Ph.1
DDW010728	8/22/2019	Luderman Crossing Ph.1
DDW010729	8/22/2019	Reside at Bear Creek
DDW010730	8/22/2019	Reside at Bear Creek
DDW010731	8/22/2019	Reside at Bear Creek
DDW010739	7/26/2019	5th Street Townhomes
DDW010740	7/26/2019	5th Street Townhomes
DDW010746	9/18/2019	Outcrop
DDW010747	9/18/2019	Outcrop
DDW010748	9/18/2019	Outcrop
DDW010749	9/18/2019	Outcrop
DDW010750	9/18/2019	Outcrop
DDW010751	10/17/2019	Discovery West Ph.1
DDW010752	10/17/2019	Discovery West Ph.1
DDW010753	10/17/2019	Discovery West Ph.1
DDW010754	10/17/2019	Discovery West Ph.1
DDW010755	10/17/2019	Discovery West Ph.1
DDW010756	10/17/2019	Discovery West Ph.1
DDW010757	10/17/2019	Discovery West Ph.1
DDW010758	10/17/2019	Discovery West Ph.1
DDW010759	10/17/2019	Discovery West Ph.1
DDW010760	10/17/2019	Discovery West Ph.1
DDW010761	10/17/2019	Discovery West Ph.1
DDW010762	10/17/2019	Discovery West Ph.1
DDW010763	10/17/2019	Discovery West Ph.1
DDW010764	10/17/2019	Discovery West Ph.1
DDW010765	10/17/2019	Discovery West Ph.1
DDW010776	10/21/2019	Waterbrook at the Old Mill
DDW010777	10/21/2019	Waterbrook at the Old Mill
DDW010778	10/21/2019	Waterbrook at the Old Mill
DDW010779	10/21/2019	Waterbrook at the Old Mill
DDW010784	1/7/2020	Murphy Corridor Ph.3
DDW010785	1/7/2020	Murphy Corridor Ph.3
DDW010786	1/7/2020	Murphy Corridor Ph.3

UIC Number	Install Date	Location/Project
DDW010787	1/7/2020	Murphy Corridor Ph.3
DDW010788	2/4/2020	Sundown Subdivision
DDW010799	10/28/2019	COVO Row
DDW010811	4/17/2020	Murphy Corridor Improvements Ph. 4
DDW010813	4/17/2020	Murphy Corridor Improvements Ph. 4
DDW010814	4/17/2020	Murphy Corridor Improvements Ph. 4
DDW010815	4/17/2020	Murphy Corridor Improvements Ph. 4

Table 10.2 FY2019-20 Decommissioned City of Bend UICs Summary

UIC Number	Description
DDW003237	1781, SKYLINERS RD
DDW003336	1635, BROOKSWOOD BLVD
DDW003066	147, S HWY 97
DDW003490	874, MURPHY RD
DDW007133	4251, NE TUCSON WAY
DDW003112	1056, NE 27TH ST
DDW007467	SW BROOKSWOOD BLVD
DDH009847	BROSTERHOUS RD
DDH009162	122, NE 4TH ST
DDH009220	NE QUIMBY AVE
DDW010099	STREET A/C HIDDEN HILLS
DDW008162	4975, MURPHY RD
DDW007156	NW POLARSTAR AVE

Table 10.3 Anticipated UIC Installation in FY2020-21 and Beyond

UIC Number	Date Added to Database	Location/Project	Comments
DDH010032	6/27/2018	Northwest Stormwater Drainage Improvements - Schedule B	Under Construction
DDW010676	3/22/2019	8th Street Improvements	Under Construction
DDW010677	4/9/2019	H.62430 EAGLE RD. - HANAI CENTER	Under Construction
DDW010678	8/27/2018	Home2Suites Hotel	Under Construction
DDW010686	7/2/2019	Sunlight Solar	Under Construction
DDW010687	7/18/2019	Arena Acres Subdivision Ph.2	Under Construction
DDW010688	7/18/2019	Arena Acres Subdivision Ph.2	Under Construction
DDW010689	7/18/2019	Arena Acres Subdivision Ph.2	Under Construction
DDW010690	6/11/2019	BLSD - New High School	Under Construction
DDW010691	6/11/2019	BLSD - New High School	Under Construction
DDW010692	6/11/2019	BLSD - New High School	Under Construction
DDW010693	6/11/2019	BLSD - New High School	Under Construction
DDW010694	6/11/2019	BLSD - New High School	Under Construction
DDW010695	6/11/2019	BLSD - New High School	Under Construction
DDW010696	6/11/2019	BLSD - New High School	Under Construction
DDW010697	6/11/2019	BLSD - New High School	Under Construction
DDW010698	6/11/2019	BLSD - New High School	Under Construction
DDW010699	6/11/2019	BLSD - New High School	Under Construction
DDW010700	6/11/2019	BLSD - New High School	Under Construction
DDW010701	6/11/2019	BLSD - New High School	Under Construction
DDW010702	6/11/2019	BLSD - New High School	Under Construction
DDW010703	6/11/2019	BLSD - New High School	Under Construction
DDW010704	6/11/2019	BLSD - New High School	Under Construction
DDW010705	6/11/2019	BLSD - New High School	Under Construction
DDW010706	6/11/2019	BLSD - New High School	Under Construction
DDW010707	6/11/2019	BLSD - New High School	Under Construction
DDW010708	6/11/2019	BLSD - New High School	Under Construction
DDW010709	6/11/2019	BLSD - New High School	Under Construction
DDW010710	6/11/2019	BLSD - New High School	Under Construction
DDW010711	6/11/2019	BLSD - New High School	Under Construction
DDW010712	6/11/2019	BLSD - New High School	Under Construction
DDW010713	6/11/2019	BLSD - New High School	Under Construction
DDW010714	6/11/2019	BLSD - New High School	Under Construction
DDW010715	6/11/2019	BLSD - New High School	Under Construction
DDW010716	6/11/2019	BLSD - New High School	Under Construction
DDW010717	6/11/2019	BLSD - New High School	Under Construction
DDW010718	6/11/2019	BLSD - New High School	Under Construction

UIC Number	Date Added to Database	Location/Project	Comments
DDW010719	6/11/2019	BLSD - New High School	Under Construction
DDW010720	6/11/2019	BLSD - New High School	Under Construction
DDW010721	6/11/2019	BLSD - New High School	Under Construction
DDW010732	7/30/2019	Canal Commons Ph.1	Under Construction
DDW010733	7/30/2019	Canal Commons Ph.1	Under Construction
DDW010734	8/17/2019	Arena Acres Ph.3	Under Construction
DDW010735	8/17/2019	Arena Acres Ph.3	Under Construction
DDW010736	9/3/2019	Outpost 44	Under Construction
DDW010737	9/3/2019	Outpost 44	Under Construction
DDW010738	9/3/2019	Outpost 44	Under Construction
DDW010780	9/20/2019	Empire Corridor Improvements Ph.2 - Segment 2	Under Construction
DDW010783	10/2/2019	Maricopa Arms	Under Construction
DDW010789	2/26/2020	Luderman Crossing Ph.2	Under Construction
DDW010790	2/26/2020	Luderman Crossing Ph.2	Under Construction
DDW010791	2/26/2020	Luderman Crossing Ph.2	Under Construction
DDW010792	2/26/2020	Luderman Crossing Ph.2	Under Construction
DDW010793	11/1/2019	Stone Creek Ph.E-2	Under Construction
DDW010794	11/1/2019	Stone Creek Ph.E-2	Under Construction
DDW010795	11/1/2019	Stone Creek Ph.E-2	Under Construction
DDW010796	11/1/2019	Stone Creek Ph.E-2	Under Construction
DDW010797	11/1/2019	Stone Creek Ph.E-2	Under Construction
DDW010798	2/12/2020	12th Street Alley Improvements	Under Construction
DDW010807	3/31/2020	Petrosa Roundabout	Under Construction
DDW010801	3/31/2020	Petrosa Roundabout	Under Construction
DDW010808	3/31/2020	Petrosa Roundabout	Under Construction
DDW010802	3/31/2020	Petrosa Roundabout	Under Construction
DDW010803	3/31/2020	Petrosa Roundabout	Under Construction
DDW010806	3/31/2020	Petrosa Roundabout	Under Construction
DDW010804	3/31/2020	Petrosa Roundabout	Under Construction
DDW010805	3/31/2020	Petrosa Roundabout	Under Construction
DDW010800	3/31/2020	Petrosa Roundabout	Under Construction
DDW010809	2/26/2020	Brian's Cabinets	Under Construction
DDW010810	4/18/2020	H.339 Century Dr.	Under Construction
DDW010816	1/21/2020	2nd & 3rd St Watermain Replacement	Under Construction
DDW010817	3/17/2020	Empire Corridor Improvements Ph.2 - Segment 3	Under Construction
DDW010818	3/17/2020	Empire Corridor Improvements Ph.2 - Segment 3	Under Construction
DDW010819	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010820	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010821	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction

UIC Number	Date Added to Database	Location/Project	Comments
DDW010822	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010823	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010824	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010825	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010826	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010827	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010828	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010829	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010830	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010831	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010832	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010833	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010834	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010835	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010836	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010837	5/4/2020	Discovery West Ph. 2A & 2B	Under Construction
DDW010838	4/29/2020	Skyline West Subdivision	Under Construction
DDW010839	4/29/2020	Skyline West Subdivision	Under Construction
DDW010840	4/29/2020	Skyline West Subdivision	Under Construction
DDW010841	4/29/2020	Skyline West Subdivision	Under Construction
DDW010842	4/29/2020	Skyline West Subdivision	Under Construction
DDW010843	4/29/2020	Skyline West Subdivision	Under Construction
DDW010844	4/29/2020	Skyline West Subdivision	Under Construction
DDW010847	4/29/2020	Skyline West Subdivision	Under Construction
DDW010848	4/29/2020	Skyline West Subdivision	Under Construction
DDW010849	4/29/2020	Skyline West Subdivision	Under Construction
DDW010850	6/1/2020	Petrosa Subdivision Ph.1	Under Construction
DDW010851	6/1/2020	Petrosa Subdivision Ph.1	Under Construction
DDW010852	6/1/2020	Petrosa Subdivision Ph.1	Under Construction
DDW010853	6/1/2020	Petrosa Subdivision Ph.1	Under Construction
DDW010854	6/1/2020	Petrosa Subdivision Ph.1	Under Construction
DDW010855	6/1/2020	Petrosa Subdivision Ph.1	Under Construction
DDW010856	6/1/2020	Petrosa Subdivision Ph.1	Under Construction
DDW010857	6/1/2020	Petrosa Subdivision Ph.1	Under Construction
DDW010858	6/1/2020	Petrosa Subdivision Ph.1	Under Construction
DDW010859	6/1/2020	Petrosa Subdivision Ph.1	Under Construction
DDW010860	6/1/2020	Petrosa Subdivision Ph.1	Under Construction
DDW010861	6/1/2020	Petrosa Subdivision Ph.1	Under Construction
DDW010862	6/1/2020	Petrosa Subdivision Ph.1	Under Construction

UIC Number	Date Added to Database	Location/Project	Comments
DDW010863	6/1/2020	Marken Summit	Under Construction
DDW010864	6/1/2020	Marken Summit	Under Construction
DDW010865	6/1/2020	Marken Summit	Under Construction
DDW010866	6/1/2020	Marken Summit	Under Construction
DDW010867	5/9/2020	Goodrich Park	Under Construction
DDW010868	7/28/2020	Countryside Ph.1	Under Construction
DDW010869	7/28/2020	Countryside Ph.1	Under Construction
DDW010870	7/28/2020	Countryside Ph.1	Under Construction
DDW010871	7/28/2020	Countryside Ph.1	Under Construction
DDW010872	6/28/2019	Desert Woods - Septic to Sewer	Under Construction
DDW010873	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010874	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010875	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010876	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010877	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010878	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010879	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010880	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010881	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010882	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010883	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010884	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010885	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010886	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010887	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010888	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010889	1/28/2020	Shevlin West Ph.1 & 2	Under Construction
DDW010890	9/11/2020	Murphy Corridor Improvements Ph. 5	Under Construction
DDW010891	9/11/2020	Murphy Corridor Improvements Ph. 5	Under Construction
DDW010892	9/11/2020	Murphy Corridor Improvements Ph. 5	Under Construction
DDW010893	9/11/2020	Murphy Corridor Improvements Ph. 5	Under Construction
DDW010894	9/11/2020	Murphy Corridor Improvements Ph. 5	Under Construction
DDW010895	9/11/2020	Murphy Corridor Improvements Ph. 5	Under Construction

Table 10.4 Anticipated Decommissioning in FY2020-21 and Beyond

UIC Number	Planned Activity	Project Timing	Project Name/ Comments
DDW002127	Decommissioned	Completed in 2020	Desert Woods and Neighborhood Extension Project; sent UIC testing reports to Kyle Winter on 8/25/20.
DDW008902	Decommissioned	Completed in 2020	Desert Woods and Neighborhood Extension Project; sent UIC testing reports to Kyle Winter on 8/25/20.
DDH009566	Decommissioning	Spring/Summer/Fall 2021	Neff and Purcell Intersection Improvements Project
DDH002068	Decommissioning	Spring/Summer/Fall 2021	Neff and Purcell Intersection Improvements Project
DDH009876	Decommissioning	Winter/Spring 2021	Columbia Roundabouts (1TCSR)
DDH009869	Decommissioning	Winter/Spring 2021	Columbia Roundabouts (1TCSR)
DDW008164	Decommissioning.	Summer 2021	Citywide Safety Improvements (1TCSI) – 3rd & Pinebrook Safety Crossing.

Table 10.5 Open Top Drywell Retrofit Status

City Facility ID	DEQ UIC #	DEQ Well #	Status
DDW003114	10025	1050	Installed
DDW009606	10025	2918	Installed
DDW009607	10025	2916	Installed
DDW009608	10025	2915	Installed
DDW009609	10025	2914	Installed
DDW009610	10025	2917	Installed
DDW009611	10025	1051	Installed
DDW009612	10025	2919	Installed
DDW009613	10025	2920	Installed
DDW009614	10025	2921	Installed
DDW009615	10025	2922	Installed
DDW009616	10025	2923	Scheduling for FY20-21
DDW009617	10025	2924	Installed
DDW009619	10025	1044	Installed
DDW009622	10025	1049	Installed
DDW009625	10025	1047	Installed
DDW009626	10025	1048	Installed
DDW010073	10025	5651	Installed
DDW007553	10025	5094	Installed
DDW007554	10025	5093	Installed
DDW007555	10025	5095	Installed
DDW007559	10025	5278	Installed
DDW007560	10025	5279	Installed
DDW007561	10025	5277	Installed
DDW001533	10025	437	Installed
DDW001534	10025	438	Installed
DDW001610	10025	514	Installed
DDW002053	10025	2461	Installed
DDW003091	10025	1517	Installed
DDW003102	10025	1544	Installed
DDW003146	10025	1528	Installed
DDW003179	10025	1577	Installed
DDW003239	10025	2014	Installed
DDW003276	10025	560	Installed
DDW003360	10025	458	Installed
DDW003386	10025	970	Installed
DDW003444	10025	2059	Installed
DDW003489	10025	513	Installed
DDW003495	10025	656	Installed
DDW003496	10025	440	Installed
DDW003499	10025	88	Installed
DDW003500	10025	130	Installed
DDW003504	10025	517	Installed
DDW003514	10025	540	Installed
DDW003529	10025	5006	Installed
DDW007207	10025	5023	Installed

City Facility ID	DEQ UIC #	DEQ Well #	Status
DDW007303	10025	5539	Installed
DDW007304	10025	72	Installed
DDW007536	10025	5365	Installed
DDW007567	10025	552	Installed
DDW007601	10025	5031	Installed
DDW008151	10025	5311	Installed
DDW008166	10025	5489	Installed
DDW008934	10025	5316	Installed
DDW009247	10025	657	Installed
DDW009523	10025	658	Installed
DDW003348	10025	185	Installed
DDW003352	10025	190	Installed
DDW003353	10025	189	Installed
DDW003354	10025	188	Installed
DDW003030	10025	538	Removed after further inspection / cleaning revealed not a UIC.
DDW003032	10025	139	Removed after further inspection / cleaning revealed not a UIC.
DDW010063	10025	5641	Installed
DDW010064	10025	5642	Installed
DDW010065	10025	5643	Installed
DDW010066	10025	5644	Installed
DDW010067	10025	5646	Installed
DDW010068	10025	5645	Installed
DDW010071	10025	5649	Installed
DDW010072	10025	5650	Installed
DDW003023	10025	631	Installed
DDW003027	10025	629	Installed
DDW003034	10025	630	Installed
DDW003041	10025	627	Installed

Summary of Effectiveness



The City has significantly increased scientific understanding of its system and groundwater aquifer through drinking water protection area delineation and vadose zone analysis, with refining knowledge of the locations and status of its UIC system, and completion of the potential contaminant source identification project and Systemwide Assessment. The City is actively implementing and nearing completion of an open-grate drywell retrofit project and is refining its drainage system as it redevelops to include pretreatment while actively conducting selective outreach and field modifications to be more protective within wellhead protection areas. The inserts are working well at capturing contaminants. Their longevity needs to be further considered. The City is looking to improve open grate drill holes by testing out promising field modification ideas.

Appendix A.1

Stormwater Coordinators Meeting Agendas/ Summaries/ Sign-ins

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Meeting Minutes

Operations Departments Directors Meeting
Tuesday, August 6, 2019
3:00 p.m. – 5:00 p.m.
Board Room, Bend City Hall

CITY OF BEND

1. **Standing Items (20 minutes):**
    - **LEAP Project Update**
      Not discussed
    - **Executive Team Meeting Update**
      Not discussed

2. **Outside Committee Discussion – Who Owns What (Mary Winters; 30 minutes)**
    - Interaction between City staff and outside consultants – come up with best ways to interact with both internal city departments and outside consultants
    - Issues with letting city documents go out to outside consultants when they should not
    - Come up with better ways to create and manage documents - how to present information to outside consultants
    - Protect in house documents
    - Bring back discussion to another meeting in late August, early September – have current project managers attend the meeting
    - Legal to send out memo

3. **Private Stormwater Discussion (Paul Rheault; 15 minutes)**
    - Pahlisch Luderman development using private and public stormwater
    - Legal and operational concerns
    - Who pays and when?
    - Issues:
        - City does not have adequate right-of-ways
        - Public system is undersized
        - Right of way sizing was made to take on all the private stormwater
        - City does not have control over private stormwater
        - Increase in stormwater fees
        - Would need to charge for addition service
    - CDD and Utilities to have a private stormwater discussion – Russ Grayson, Paul Rheault, Wendy Edde, and Ryan Oster to attend meeting

4. **August Council Community Building Subcommittee Meeting Preparation (Jon Skidmore; 45 minutes)**
    - August Community Building Subcommittee draft agenda discussion – agenda to include Chapter 4.7, RFI discussion, and SE Bend zone change
    - 4.7 memo brought to next week's Operations meeting.
    - Tuesday, August 20, 2019 joint meeting agenda overview by Eric King
        - Agenda to consist of:

- City Urban Growth plan work plan
- Housing strategies
- Future growth plan
- Public safety
- Joint project

5. **Roundtable Including Agenda Prep for Next Meeting (10 minutes)**
   Roundtable

   - Jon Skidmore
     - Water Filtration Plant bathrooms to close to water well

   Agenda Prep

   - Not discussed

Streets/Stormwater Meeting Summary

August 20, 2019

Attending: Christopher Blake, Mike Kirkpatrick (Streets), Wendy Edde (Utility)

Key Items Discussed:

- *Street Sweeping Timing Trials and GPS Testing:* Spring cleanup took 1.5 months; fall cleanup takes 1 moth; thunderstorm cleanup took 1.5 weeks; MS4 area took 2 weeks all at 3 employees, 3 machines uninterrupted. GPS maps shared.
- *Street Sweeping Plan:* Attendees reviewed draft plan in light of Chuck's comments and timing and GPS data. Agreed to some modifications. Long term goals for Streets is to improve efficiency to get abandoned cars and RVs out of the way, and to have the dump sites will help. Attendees eyed potentially the first two weeks of October as the first formal quarterly but Mike would look at schedules and workloads and confirm dates. With confirmed dates ahead of time, utilities can help get the word out to trim trees, move cars for the set period. Streets wants to keep costs at 40% of sweeping program at this time. Streets has plenty of reader boards that they can use to help with notification. They are working their routes to coordinate with garbage company timing as well.
- *Remote Dump Sites:* The dump sites will be helpful. Christopher is starting with one as a pilot, continuing to work with Rod Mingus to build one at Murphy and Brosterhaus, where Streets have done all the locates and have confirmed no permits are needed. Estimated cost for ecoblocks and pavement is $5,000 apiece – they may request for assistance to pay for these from Utility Stormwater. First site is going in later this week. Streets is also purchasing the PB Loader which they will use for all sweeping and other activities as well.
- *IDDE.* When Streets personnel see illicit discharges (anything other than "only rain in the storm drain") they are asked to contact David Buchanan. For construction site tracking or erosion and control issues, they are asked to contact Sean Mulderig. Both David and Sean work in Utilities.

Key Decisions Made/Key Action Items:

- Wendy will modify the Street Sweeping Plan for Stormwater based on data and comments made and send around for a final review/approval.
- Christopher Blake will send over a proposal for ecoblock funding for the remote dump site to Wendy.
- Mike will confirm MS4 quarterly sweeping window dates to Wendy and Streets will put out reader boards. With advanced timing, Wendy can coordinate to help get out doorhangers and encourage even/odd parking voluntarily as a pilot project to increase efficiency.
- Streets will continue to work to refine the GPS, coordinating with Fleet, etc.

Wendy Edde

Subject: Stormwater Discussion
Location: BoardRoom

Start: Thu 9/5/2019 10:00 AM
End: Thu 9/5/2019 11:00 AM

Recurrence: (none)

Meeting Status: Accepted

Organizer: Russell Grayson
Required Attendees: Ryan Oster; Wendy Edde; Troy Beck; Michael Buettner

Added Troy and Mike as well as scheduled the Board Room.

Wendy, I got your VM and figure it is best to get us together to chat. Looking at schedules, this was the earliest I could find with vacations.
Let me know if that works.
Thanks
Russ

Stormwater Coordinators
CDD + Utility SW Discussion
Sept. 5, 2019

Name	Dept.
1. Wendy [illegible]	Utility - EC - Storm
2. Mike Buettner	Utility Admin
3. Troy Beck	Utility Dept.
4. Ryan Oster	CDD
5. Russell Grayson	CDD

City of Bend
Stormwater Coordinators
Stormwater Liaison Meeting

Thursday October 24, 2019 12:30 PM to 1:30 PM
Eisenhower Room, Utility Department

Proposed Agenda
Purpose: Coordinate Stormwater Activities Among Affected Departments

I. Welcome and Introductions (2-3 minutes)

Objective: Welcoming remarks. Review and modify agenda as needed. Review and approve past meeting summaries.

II. Annual Report Review and Approval (5-7 minutes)

Objective: Discuss comments received during the review period, and any additional comments. Approve to submit for Jon's signature and finalized version to DEQ.

III. Drainage and Density Workshop Review (5-7 minutes)

Objective: Receive overview on results of the May workshop. Receive final versions of: rain gardens/bioretention swales; catch basins, sedimentation manholes, drywells, and pervious pavement. Discuss feedback, improvements, additional workshop needs.

IV. Water Quality Happenings (10 minutes)

Objective: Receive brief overview of pertinent water related efforts around the state and nation including the MS4 permit and stormwater litigation on the east coast and in Oregon, the DEQ Integrated Report draft, the HCP draft, Oregon Water Vision. Review new development requirements of MS4 Phase II General Permit and discuss implications.

V. Stormwater Flexibility Paradigm Shift Updates and Input (10 minutes)

Objective: Discuss activities to date to address municipal constraints {code flexibility, technical guidance (incorporate both new permit requirement, LID Consideration worksheet, cost data, flexibility needs), permit implications, funding (rates & credits, SDCs)}. Discuss technical guidance for permeable pavements & infiltration study. Discuss updates for meeting 3000 residential units goals/master planned projects.

VI. Sediment Reduction Continual Improvement Plan (10 min)

Objective: Discuss sediment/turbidity in the river. To address permit requirements, brainstorm projects, improvements, and activities that could be included in the required plan submittal related to reducing sediment and turbidity. These may include engineering projects, operational improvements, inspection focus improvements, code nuances, etc.

VII. Stormwater Facility Manhole Lids – Privately Maintained (5 minutes)

Objective: Discuss home for standard drawing for privately maintained stormwater access lids to include a pollution prevention message but be distinguishable given the spring 2019 standards and specs change.

VIII. Roundtable Updates/Discussions (7-10 minutes)

Objective: Discuss updates and stormwater coordination needs related to Streets, Building, Private Engineering, Planning, capital engineering, Utility O&M, and Communications.

City of Bend
Stormwater Coordinators
Meeting Attendance Sheet
October 24, 2019

	Name:	Department/Division:
1.	Wendy Edde	Utility - Storm
2.	Sean Mulderig	Utility - Stormwater
3.	[illegible]	Utility Storm
4.	Troy Beck	Utility Dept.
5.	Brad Mandal	CDD - Building
6.	Drew Wells	EIDD -
7.	Aaron Henson	CDD - Planning
8.	Drexell Barnes	Utility - Env. Compliance
9.		
10.		
11.		
12.		
13.		
14.		
15.		

City of Bend
Stormwater Coordinators

Stormwater Liaison Meeting

Meeting Summary
Thursday October 24, 2019 12:30 PM to 1:30 PM
Eisenhower Room, Utility Department

Attending: Brad Mandal (Building); Drew Wells (EIPD), Troy Beck (Utilities Ops), David Buchanan, Sean Mulderig, Drexell Barnes, Wendy Edde (Utility EC); Aaron Henson (CDD – Planning)

Key Issues Discussed

- No changes to past meeting minutes for FY2018-19—acceptable for inclusion in annual report.
- Drexell has some minor comments for the annual report, to be provided by end of day. No additional comments on the annual report.
- Any planned decommissioning of UICs included in the annual report will not need to go through DEQ's at least 30 days prior notification process; would save time. Drew will do a last check-in.
- Wendy shared an overview of the results of the Drainage and Density workshop – which received high rating from 23 respondents. Attendees requested for future workshops a two hour with field visits.
- Wendy provided overviews of permit litigation results across the US, including the Oregon MS4 permit. Wendy and Drexell provided an overview of the draft Integrated Report and noted comments are due December 2. This integrated report includes delistings. Wendy mentioned the Habitat Conservation Plan is out for review. Wendy mentioned that the new development requirement of the General Permit includes a retention standard and requires consideration of LID.
- Stormwater flexibility paradigm shift actions related to overcoming municipal constraints include: selecting FCS as suitable for conducting the rate structure reevaluation; David starting work on the infiltration study that can help with allowing for alternatives; and beginning work on technical guidance; and coordination on code updates to include the required LID flexibility while also accounting for affordable housing needs. Attendee discussed where technical guidance for private development should live, and no one provided a distinct answer.
- Attendees discussed ideas to reduce sediment to the river that could be included in a plan. Troy discussed Mt. Washington water is directed to the golf course. They are working together with an HOA to create a water feature for the golf course fed in part by stormwater given current easements.

Key Action Items

- Drew will check for any upcoming planned UICs that may be decommissioned in the next year.
- Stormwater staff will finalize the annual report for Jon Skidmore's signature.
- Troy to provide a copy of the dirt streets recommended for upgrade from utilities to streets.
- David to create a stormwater manhole drawing for private for inclusion in next standards and specs update.

Wendy Edde

Subject:	Trash Enclosures Follow-up
Location:	MtBachelorConf
Start:	Tue 12/10/2019 9:00 AM
End:	Tue 12/10/2019 10:00 AM
Recurrence:	(none)
Meeting Status:	Accepted
Organizer:	Catey Mackenzie
Required Attendees:	Joseph McClay; Billy Staten; Brad Mandal; Christina Davenport; Wendy Edde; David Buchanan; Amy Barry

After speaking with Bend Garbage, Joe wants to discuss if appropriate division (engineering/utilities?) can take the lead on addressing stormwater containment issues in regards to trash, grease, etc. from trash enclosure areas.
Since customers have the choice for types of garbage services they receive, Joe is tabling moving forward with requiring roofs on enclosures and what those standards look like.

Stormwater + Coordination
Garbage Enclosures Task Work Group
December 10, 2019

Name	Dept./D.V.
1. Wendy Eble	Utility/Storm
2. Billy Staten	CDD BLG.
3. Brad Mandel	" "
4. [illegible]	" "
5. [illegible]	CDD Building Safety
6. [illegible]	[illegible]
7. Amy Barry	Planning CDD
8. Christine Davenport	Utility / IPP

Wendy Edde

Subject: Pervious Pavements
Location: CddConferenceROOM

Start: Tue 1/7/2020 1:30 PM
End: Tue 1/7/2020 2:00 PM

Recurrence: (none)

Meeting Status: Accepted

Organizer: David Buchanan
Required Attendees: Chris Henningsen; Wendy Edde

Chris,

I`m working on developing some pervious pavement design guidance and preliminary details. I wanted to see if we could meet up prior to the Public Advisory meeting to get your thoughts.

Preliminary Details (see attached pdf.)
Draft Design Guidance (Chris I sent you a SharePoint link)

Thank you.

Permeable Pavement
Ad hoc Task Group
January 7, 2020

	Name	Division
1.	Chris Henningsen	PDED
2.		Storm
3.	Wendy Elle	Storm - Utility

Utility Stormwater Coordination.
3/11/2020

	Name	Division
1.	[illegible]	GL - Storm
2.	Troy Beck	Utility Dept.
3.	Nick McAteer	Utility Department
4.	Mike Buettner	Utility

Call-In - David Buchanan
Arrived Late - Paul Rheault

City of Bend

Stormwater Coordinators

Development Focus Subgroup

Proposed Agenda

Monday April 20, 2020 9:00 AM to 10:00 AM

Teams Meeting

Purpose: Coordinate Stormwater Activities Among Affected Departments

I. **Welcome and Introductions (2-3 minutes), All**
   - Objective: Welcoming remarks. Review and modify agenda as needed. Review and approve past meeting summaries.

II. **Updates (5-8 minutes), All**
   - Objective: Receive update since last meeting. (Permit, Staffing, FCS Rate Study Contract, Standards and Specs, Code updates, Geotech report, CIP projects, Grassroots efforts, etc.)

III. **Drainage and Density Flexibility Implementation: Issues List Completeness Review (15-20 minutes)**
   - Objective: Review list of stormwater related issues needing to be resolved for completeness. Add any additional issues that are known.

IV. **Issues List: Prioritization Discussion (15 minutes)**
   - Objective: Discuss issues in relation to needed timelines to create prioritization for next steps

V. **Confirm Next Steps (5-10 minutes)**
   - Objective: Discuss meeting frequency, necessary attendees, etc.

VI. **Roundtable Updates/Discussions (5-10 minutes)**
   - Objective: Discuss updates and stormwater coordination needs related to Streets, Building, Private Engineering, Planning, capital engineering, Utility O&M, and Communications.

2020 Stormwater Issues List—Development Related Items

Construction Related Activities

1. 1200-C Permit. Revisit taking on CN duties at next update given gas company issues.
2. 1200-C Permit – Need to get Map on Website (BOOM not being updated; searchable by address could be placed, would need link to CWW website)
3. Ensuring proper erosion and sediment control continues in light of rule allowing subcontractor's onsite before public infrastructure is complete.
4. Covered load issues. (Note: educational flyers created)

Post-Construction Controls, including private and CIP

General Work Coordination

1. Adding density flexibility allowances for development while being protective of water quality and need for rate structure update.
2. Adding density flexibility while protecting water quality – code review and update to allow for subdivision level regional controls w/o creating LID barriers
3. Density in previously built areas –concerns room in right of way.
4. Lack of clarity regarding staff assignment and incorporation into work flow to review work/facilities between 5 feet outside the building and the ROW.
5. Missed review opportunities: utility stormwater staff check infrastructure plans not land use plans.
6. Incorporating City View.
7. Stormwater Coordinators list updates with staffing modifications

Design Standards/Standard and Specifications

8. Design standards in Standards and Specs rather than development code with reference. Now being interpreted that Standards and Specs only apply to ROW. Need clarity on where to place design drawings for private and move in that direction.
9. Need to incorporate design for permanent storm drain markers/message for private facilities. (Note was included in last specs update not to have the private use the public design; need to provide design guidance for private).
10. Technical guidance for options for providing additional flexibility in stormwater design needed -- including permeable pavement, onsite UICs, green roofs, civic areas, etc. Consider incentives. Consider stormwater reuse (PAG request). Consider coordination with Parks for regional controls that serve as retention basins (need study on how long they would be out of service).
11. Need to incorporate Low Impact Development review and decisions in CDD process and completed sheets to Utility stormwater.
12. Clarity on source controls—overcoming barriers. (Especially covered garbage areas, fuel stations.

13. Local engineers asking for more guidance/information for designs; improving engineering strengths in stormwater calculations – question would an online tool be useful (Chambers request; others?)
14. SFR self-certification effectiveness concerns.

Drinking Water Source Water Protection/UICS

15. Current UIC testing in the interest of water conservation is not giving adequate information to determine if the UIC is actually effective or with a starting rate that can be compared to in the future for asset management and replacement planning purposes.
16. No drill holes allowed as standard, but private drill holes are being used in welded tuff areas; consider alternatives and measures to allow for water quality protection and to ensure a system that does not clog/works.
17. Drill hole retrofits needed – open in TOT.
18. No new UICs in TOT/wellhead protection areas. Includes private, but these project are going through. Need code update to better specify? Consider expanding through 10 year TOT (Portland does not allow infiltration or injection within 30 year TOT).
19. TOT maps for Avion, Roats are not advanced/accurate; affects development.

Project Related

20. Mirror Pond stormwater improvement adjustments given Park District project issues. Newport Corridor; Galveston; other opportunities.
21. Newport Corridor project – lack of room for bioretention facility in ROW. Makes sense to include final stretch of pipe. Tie in to Mirror Pond promises and anticipated MS4 permit needs.
22. Improve knowledge of geotechnical infiltration conditions (technical constraints, helps with Master Plan, recommended by PAG) – (Addressing through contract work). (Contract moving through approval)
23. Grass Roots memorial near Franklin Undercrossing, and ties to CIP project or Core Area Planning.

Communication Needs

24. Website Coordination and in light of City View changes coming
25. Need to complete private database and have solid process for updates/QA/QC.
26. Need to improve process for information capture and communication to public owners of what onsite improvements they have where.

City of Bend
Stormwater Coordinators

Development Focus
Subgroup Meeting

Meeting Summary

Monday, April 20, 2020 9:00 AM to 10:00 AM
Eisenhower Room, Utility Department

Attending: Aaron Henson, Pauline Hardie (CDD-Planning); Brad Mandal (CDD-Building); Dustin Elmore, Kyle Thomas, Chris Henningsen, Evan Malone (CDD-Engineering); Eric Forster (EIPD), David Buchanan, Wendy Edde (Utility EC); Aaron Henson (CDD – Planning)

Key Issues Discussed

- **Permit Update:**
    - The City has applied for an individual permit (NPDES MS4 Phase II) for stormwater draining to the river. Staff are tracking the negotiations by the Phase I communities as they negotiate a template for their permits.
- **Staffing Updates**:
    - Dustin Elmore has joined the City as the Community Development Department Assistant City Engineer, coming from the Portland area. Sean Mulderig left the City Stormwater Utility in January and Sam Rossi has recently joined the City to replace Sean as the Utility Compliance Specialist focused on erosion and sediment control and post-construction stormwater facility inspections.
- **Rate Structure Update**:
    - Staff are awaiting detailed comments from Community Development Department/City Manager's before moving forward with the project to allow developments to use the right of way for private stormwater drainage; this project was not budgeted for and will need reserve money allocated. Chris Henningsen noted that some subdivisions with Master Plans approved through land use have been allowed to send stormwater to either regional controls or into the street though it doesn't meet our existing standards.
- **Standards and Specifications Updates**.
    - Chris Henningsen indicated that the Standards and Specifications update has been delayed to likely June or July due to the need for public comment review given the Covid-19 pandemic response.

- **Code Updates:**
    - Pauline Hardie indicated that additional code adjustments are in the works to help with the Council goal of more housing, to allow/encourage small homes by reducing lot sizes down to 1,500 sf, and reducing setbacks down to 3 ft. from 5 feet. To meet HB2001, staff are also looking into reducing duplexes lot sizes down from 6,000 sf to 4,000 sf, to be equivalent to single family lots. Allowing funplexes and cottage homes on standard single family lots. This code change would also look to allow triplexes and four-plexes on these same size lots (currently Bend only has “multifamily” designation above duplex. Height maximums would be the same as existing within the zoning district, limited to a 30' height in multifamily residential areas.
- **Project updates:**
    - David Buchanan indicated that the contract for updating the Geotechnical report is underway; GSI has been selected to complete the work, which will be helpful to developers and for the next Stormwater Master Plan update. Wendy Edde gave kudos to EIPD for conducting an online public outreach and input platform for the Newport Corridor project. Eric Forster reported that Galveston is at 90% design but funding for construction has not yet been finalized.
- **Draft List of Current Issues to Work Through.**
    - Attendees began walking through the list of brainstormed issues for discussion, coordination and resolution. Attendees were asked to consider the listed items both for completeness and priority. The team walked through the Construction related items, including covered loads and 1200-C permit related items, and started in on post-construction items including rate structure modifications for drainage and density flexibility, HB 2306 implications. As access to the draft priority list posted on Teams did not reach everyone prior to the meeting, the decision was made to send the list out for further completeness and priority input.

Key Decisions Made/ Key Action Items

- Wendy will email the original meeting files posted out to attendees to ensure everyone has access to a copy.
- Attendees will review the items to include any additional and to rank by priority in terms of importance and time by next Monday. Wendy will send a format friendly for the effort.
- The subgroup will meet every two weeks to work through the items.
- Wendy will have Kyle review the content of the Secure Loads flyer prior to finalizing graphics; and then will work to distribute as an educational piece.
- Chris will share the link related to House Bill 2306 that provides for three paths of compliance related to construction process and allowing subcontractors on site.

City of Bend
Stormwater Coordinators
Development Focus Subgroup

Proposed Agenda

Monday May 4, 2020 9:00 AM to 10:00 AM
Teams Meeting

Purpose: Coordinate Stormwater Activities Among Affected Departments

I. Welcome and Introductions (2-3 minutes), All

- Objective: Welcoming remarks. Review and modify agenda as needed. Review and approve past meeting summaries.

II. Updates (3-5 minutes), All

- Objective: Receive update since last meeting.

III. Drainage and Density Flexibility Implementation Prioritization Exercise Results (5-10 minutes)

- Objective: Review results of prioritization exercise; provide any additional feedback.

IV. Understand Flexibility Needs and Challenges by Location and Development Type (15-20 minutes)

- Objective: Discuss issues in relation to needed timelines to create prioritization for next steps

V. Review Needs and Workflow -- Understand Current State and Needs (15-20 minutes)

- Objective: Discuss issues in relation to needed timelines to create prioritization for next steps

VI. Roundtable Updates/Discussions (5-10 minutes)

- Objective: Discuss updates and any new stormwater coordination needs related to Streets, Building, Private Engineering, Planning, capital engineering, Utility O&M, and Communications.

VII. Confirm Next Steps (5-10 minutes)

- Objective: Confirm action items, upcoming training opportunities, and next steps.

City of Bend
Stormwater Coordinators

Development Focus Subgroup

Proposed Agenda

Monday May 4, 2020 9:00 AM to 10:00

AM Teams Meeting

Attending: David Buchanan, Wendy Edde, Dustin Elmore, Eric Forster, Pauline Hardie, Chris Henningsen, Aaron Henson, Evan Malone, Brad Mandal, Kyle Thomas

Key Issues Discussed

- **Kudos** to Brad, Craig, and Jerry for work on Texaco Station on Galveston in response to citizen/Public Advisory Group member inquiry; to Kyle Thomas for assistance with interviewing and onboarding Sam Rossi, stormwater compliance technician for Erosion and Sediment Control and Post-Construction Controls; Drew Wells for considering importance of some bioretention on Newport project; and Aaron Henson for referring and erosion and sediment control concern that now has been resolved as a result.

- **Upcoming Trainings**: Tuesday May 5th Contech, designing Manufactured Treatment Devices with Maintenance in Mind; Wednesday May 20th Center for Watershed Protection "Small Scale BMPs"; later in June: Certified Erosion and Sediment Control Lead Workshop (date to be determined).

- **Drainage and Density Prioritization Results** were presented (see meeting materials, and end of this meeting summary). The utility rate re-structure to address the requested flexibility changes is needed to ensure that stormwater charges are being conducted equitably, which is a requirement. That is why staff focused last fall on developing a draft scope of work; still awaiting review comments from CDD and city management staff.

- **Standards and Specs, and Private Design Standards**. Update for standards and specifications currently postponed until mid-summer. For private streets, all private streets must be built to public standards. Separate technical guidance for private designs not captured in ROW standards would be useful to address missing links such as as parking lots and commercial/industrial sites, etc. The City of Portland has documents mimicking the standards and specification but for private developments—we could take a similar approach. The sign-off for single family residential lots is faced with often the homebuilder will create the developed lots and disappear, leaving substandard facilities to the homeowners to figure out in terms of what, determining maintenance needs for, and addressing any operational issues, or changes as a result of aesthetic desires. A clearer pathway to what they have, why they have it, what needs to be met if they want to change it out, and maintenance requirements is important to communicate and currently an area needing improvement. Some communities are requiring planter boxes rather than swales as they are more likely not to be changed out.

- **Maintenance Agreements**. These may be a tool for increasing use to obtain data and maintenance needs, and roles and responsibility clarifications as we modify our approach. Historically larger residential development have not required a maintenance agreement. Staff have been leaning on state DEQ requirements. Part of the considerations of maintenance agreement use is the cost of getting them filed.

- **Understanding Flexibility Needs and Challenges by Location and Development Type.** Attendees started work on this, by starting to fill in the separate table. Attendees discussed permeable pavement within 10 feet of structures (allowable since you can have dirt, water should drain away from structure); drywells under buildings-- designing sites to make drainage work with access from outside; green roofs an option should constraints be addressed; cisterns; multistory, one of the goals the city is working towards is affordability. There is limited room in the right of way with utilities. Goal here is to provide flexibility so that the best site by site combinations can be met -- including handling of stormwater.

Key Decisions Made/Key Action Items

- Wendy will send out the agenda and tables via email. Attendees will review the table on SharePoint “Density and Drainage Needs_Considerations” and add additional information or be prepared to discuss further to complete at the next meeting.

- Wendy will share invites to upcoming trainings. Subgroup will distribute amongst their staff as appropriate/applicable.

- Dustin will provide comments on the draft scope of work for stormwater rate structure within the w

City of Bend
Stormwater Coordinators

Development Focus Subgroup

Proposed Agenda
Tuesday May 26, 2020 8:30 AM to 9:30 AM
Teams Meeting

Purpose: Coordinate Stormwater Activities Among Affected Departments

I. Welcome and Introductions (2-3 minutes), All

   a. *Objective: Welcoming remarks. Review and modify agenda as needed. Review and approve past meeting summaries.*

II. Updates (3-5 minutes), All

   a. *Objective: Receive update since last meeting. Check in on recent workshops.*

III. Understand Flexibility Needs and Challenges by Location and Development Type (25-30 minutes)

   a. *Objective:* Complete table, discussing issues in relation to needed timelines to create prioritization for next steps

IV. Review Needs and Workflow -- Understand Current State and Needs (15-20 minutes)

   a. *Objective:* Discuss issues in relation to needed timelines to create prioritization for next steps

V. Roundtable Updates/Discussions (5-10 minutes)

   a. Objective: Discuss updates and any new stormwater coordination needs related to Streets, Building, Private Engineering, Planning, capital engineering, Utility O&M, and Communications.

VI. Confirm Next Steps (5 minutes)

   Objective: Confirm action items, upcoming training opportunities, and next steps.

City of Bend

Stormwater Coordinators

Development Focus Subgroup

Meeting Summary

Tuesday May 26, 2020 8:30 AM to 9:30 AM

Teams Meeting

Attending: Kyle Thomas, Dustin Elmore, Chris Henningsen (CDD-Private Engineering), Brad Mandal (CDD-Building), Pauline Hardie , Aaron Henson (CDD—Current Planning); David Buchanan, Wendy Edde (Utilities)

Key Items Discussed

- Updates:
  - Center for Watershed Protection webinar on small site BMPs in urban areas had strong attendance – the effectiveness evaluation surveys may be hiding in the junk mail folder.
  - **Understanding Flexibility Needs and Challenges by Location and Development Type**. Challenges with more parking on ROW streets is loss of efficiency for street sweepers—on car parked results i the length of three car lengths lost in sweeping.. Suggestions were made that notifying residents of street sweeping routes and days can help get cars off the street for a short time to increase sweeper efficiency. Utility staff noted they are working with Streets to improve this area, looking into the potential of using Water Smart to notify. Streets are working to get their routes into small enough areas and equipment reliability up to levels to be able to notify. Kyle indicated that Joshua Romero can help send informational notices via Nextdoor.
  - For Drinking Water Protection Areas, we should make sure we are more clearly identifying domestic well sites as there appears to be very limited information on Boom. David indicated we have the list of private wells that have been field verified but they are not all in BOOM yet. CDD engineering gets pushback if we do not have the maps clear.
- Understanding Needs and Workflow:
  - Standards and specifications update is in process, with a mid- to late summer time frame likely. Pauline is currently working on the small lot residential setback code changes. Have work sessions, Planning Commission and City Council coming up in the weeks following an internal review in early June. Technical guidance to go along with code changes will be helpful. Staff have been developing permeable pavement, maintenance sheets, and infiltration study update.

- Roundtable Discussion. Attendees briefly discussed the voluntary cross property stormwater facilities mentioned in the Center for Watershed Protection small urban sites BMPs webinar. Aaron indicated he recently signed off on the Cottages of Empire Village (Eplans 20-2009-SIMP at 20518 Empire Avenue between Empire and Glouchester) that has a similar concept, a property of 34 townhomes where roof drains are piped to a common swale. For such developments the Building permit easements are recorded in the plat. Dustin feels that these would be acceptable so long as we can get easements. stormwater maintenance agreements running with title are also needed Attendees asked if an applicant packet would be useful – a request was made to prepare anything we can to provide clear direction.

Key Decisions Made

- Offsite flexibility needs are limited to residential subdivisions and Bend Central District and other high density areas that have no parking requirements
- No issue with holding the 100 year storm within a subdivision as a whole (with flexibility to include right-of-way areas.)
- Wendy will use the input from today's meeting to start drafting modifications to code language to allow flexibility, but does not want to get overly flexibility so that impending new permit regulations make the city see-saw back and forth (loosening and tightening regulations).
- David will work with Utility data services to get well data on Boom or similar.

City of Bend
Stormwater Coordinators

Development Focus Subgroup

Proposed Agenda
Monday May 4, 2020 9:00 AM to 10:00 AM
Teams Meeting

Purpose: Coordinate Stormwater Activities Among Affected Departments

I. Welcome and Introductions (2-3 minutes), All
   - Objective: Welcoming remarks. Review and modify agenda as needed. Review and approve past meeting summaries.

II. Updates (3-5 minutes), All
   - Objective: Receive update since last meeting.

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VI. Roundtable Updates/Discussions (5-10 minutes)
   - Objective: Discuss updates and any new stormwater coordination needs related to Streets, Building, Private Engineering, Planning, capital engineering, Utility O&M, and Communications.

VII. Confirm Next Steps (5-10 minutes)
   - Objective: Confirm action items, upcoming training opportunities, and next steps.

City of Bend Stormwater Coordinators

Development Focus Subgroup

Meeting Summary
Monday June 15, 2020

Attending: Brad Mandal, Aaron Henson, Pauline Hardier, Chris Henningsen, Dustin Elmore (CDD); Eric Forster (EIPD), Wendy Edde (Utilities)

Key Issues Discussed

- **Updates.**
    - Attendees received updates on Center for Watershed Protection Small Urban BMPs webinar and a permeable pavement maintenance webinar. Some communities have swales crossing private front yard boundaries with formal agreement, voluntary. Attendees received overview of meeting materials provided:
- **Understanding Bookends of Post-Construction Requirements in NPDES Permit.**
    - Attendees walked through the post-construction control requirements of both the MS4 NPDES Phase II general permit and Salem's applicant review draft MS4 NPDES Phase I permit (not for further distribution) to better understand the bookends of what is required from a water quality permit sense for areas draining to surface waters.
- **Work Group Members for Solid Waste Containers Source Control Discussions**
    - Dustin explained that the request to get better clarification on Solid Waste Containers/Trash Dumpsters came up a couple weeks before and Dustin set out to collect development rule requirements for clarification from the perspectives of planning, building, and engineering. He received a lot of input and recognized that a lot of people have strong feelings, with specific coordinated guidance not yet solidified yet. Attendees were supportive of the idea of pulling everyone into one room at discuss collaborative ideas to meet the various needs and concerns. Attendees discussed appropriate invitees for that work group. Brad has talked with garbage companies about what size cart and where the size points are with moving and covering. Arron indicated planning does not require trash enclosures unless people propose outside trash. The Code requires them to be screened with the method for screen being a fence or a wall with a gate. Some folks are interested in covers; others do not want the expense. Example: Quickie Lube on 3rd Street across from Chan's Chinese restaurant -- they initially showed a cover; then they revised their plans. Once go with a cover, side yard setbacks and zoning or building code comes into play.
- **Roundtable Items**
    - Aaron noticed a plugged storm drain when attending a meeting, and saw the vactor team just downstream so he encouraged them to clean it – noticed in spring pollen, dirt tends to plug. He recognizes the crews are working hard. Wendy expressed appreciation for the extra eyes in the field.
    - Pauline provided an updated on the development code changes she is making for affordable housing encouragement. She has been incorporating staff comments and she plans to lead these through Planning Commission in July and City Council in August.

Key Decisions Made/Action Items

- Wendy will set a solid waste container discussion meeting inviting Dustin, Christina Davenport (IPP), Caroline Egan (Economic Development), Brad Mandal, Jerry Waugh, Larry Medina (Fire), police, and potentially garbage at some point. Dustin will forward invite to additional as appropriate as well.
- Attendees agreed to cancel the meeting occurring in two weeks given the holiday and to allow time for focused work to the topics at hand and the solid waste container.

Appendix A.2

Annexations in FY2019-20

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ORDINANCE NO. NS -2356

AN ORDINANCE ANNEXING APPROXIMATELY 40 ACRES OF LAND IN THE WEST UGB EXPANSION MASTER PLAN AREA 4, FOR THE SHEVLIN WEST MASTER PLANNED DEVELOPMENT.

Findings:

A. Bend Development Code Section 4.9.400A.1 provides for annexation of real property to cities when 100 percent of the property owners and a majority of electors, if any, registered in the territory proposed to be annexed consent to the annexation.

B. The City received an application for annexation of the territory shown on Exhibit A and described in Exhibit B (the "Area").

C. One hundred percent of property owners within the Area have filed a statement of consent to this annexation.

D. There are no registered electors within the Area.

E. Public notice for the City Council hearing was provided in accordance with the requirements of BDC 4.9.300.A.3, and BDC 4.1.423-4.1.425. On November 18, 2019, notice was mailed by the Planning Division to surrounding owners of record of property within 250 feet of the subject properties, and to the Summit West and Century West Neighborhood Association representatives. Notice was also posted in four public places on November 18, 2019, and posted in The Bulletin on November 16, 2019 and November 23, 2019. On November 22, 2019, *Notice of Proposed Development* signs were posted by the applicant along the property frontages at two locations, visible from adjacent rights of way.

F. The City Council held a public hearing on December 4, 2019 to enable the public to appear and be heard on the question of annexation.

G. The Area is contiguous to the City limits of the City of Bend along the east and north boundaries of the properties.

H. The applicant has entered into a Development Agreement with the City for the provision of all public facilities to serve the site with urban uses (PZ 18-0696).

Based on these findings, THE CITY OF BEND ORDAINS AS FOLLOWS:

Section 1. The territory containing approximately 40 acres of land as described in Exhibit A and depicted in Exhibit B, is annexed to the City of Bend.

Section 2. In addition to the findings set forth above, the City Council adopts

and incorporates the findings in Exhibit D.

Section 3. On the date the annexation becomes effective, the UA District will cease to apply and the zoning map will be automatically updated with the zoning district that implements the underlying Comprehensive Plan map designation, in accordance with the Shevlin West Master Planned Development and BDC 4.9.700 *Zoning of Annexed Areas*.

First Reading: December 4, 2019

Second reading and adoption by roll call vote: December 18, 2019

YES: Sally Russell, Mayor
Bruce Abernethy
Barb Campbell
Bill Moseley
Justin Livingston
Gena Goodman-Campbell
Chris Piper

NO: none

Sally Russell, Mayor

Attest:

Robyn Christie, City Recorder

Approved as to form:

Mary A. Winters, City Attorney

EXHIBIT A

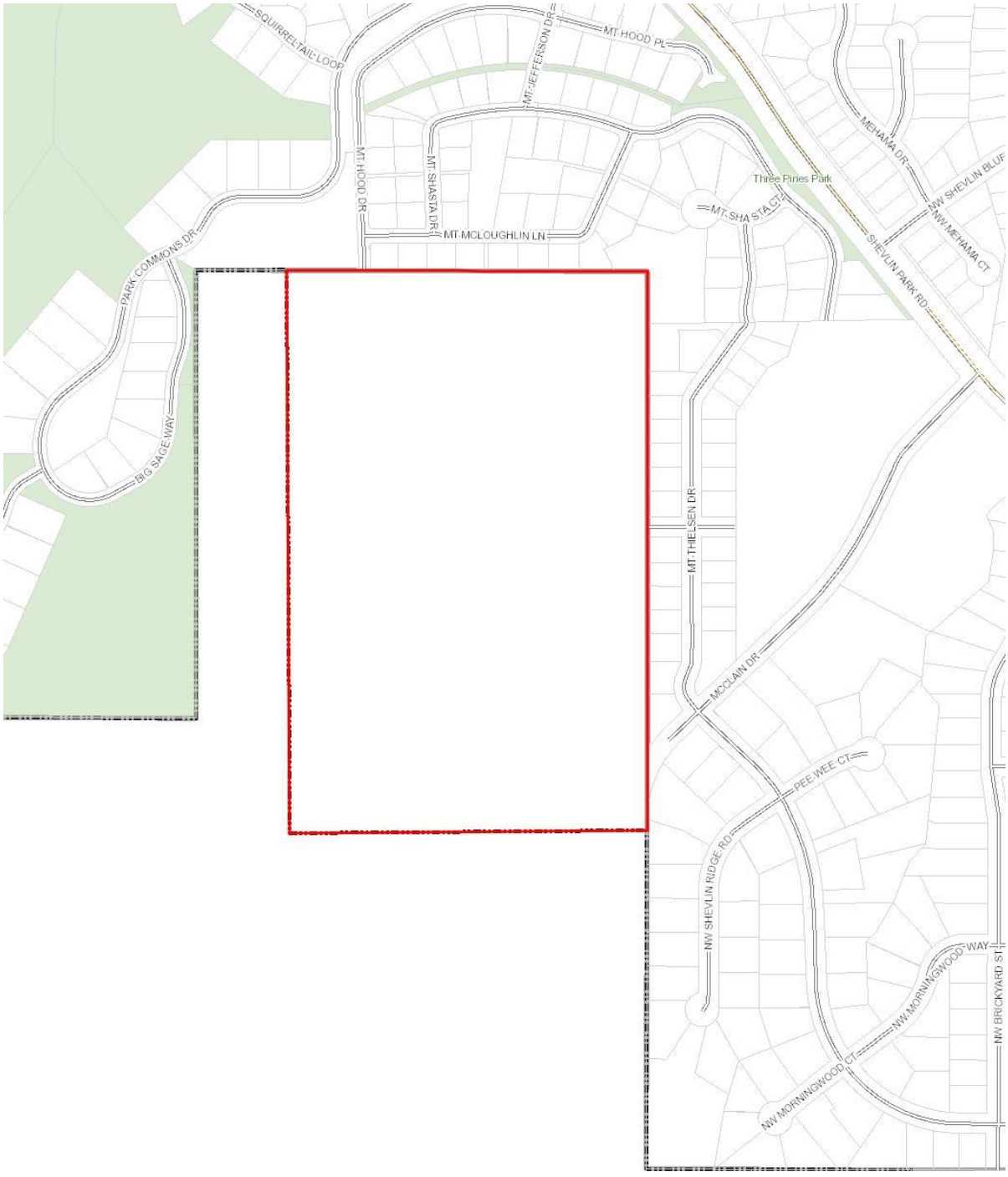

SQUIRRELTAIL LOOP
MT HOOD PL
MT JEFFERSON DR
MT HOOD DR
MT SHASTA DR
MT MCLOUGHLIN LN
MT SHASTA CT
Three Pines Park
MEHAMA DR
NW SHEVLIN BLUF
NW MEHAMA CT
SHEVLIN PARK RD
PARK COMMONS DR
BIG SAGE WAY
MT THIELSEN DR
MCCLAIN DR
PEE WEE CT
NW SHEVLIN RIDGE RD
NW MORNINGWOOD WAY
NW MORNINGWOOD CT
NW BRICKYARD ST

Exhibit B

LAND LOCATED IN THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 26, TOWNSHIP 17 SOUTH, RANGE 11 EAST, WILLAMETTE MERIDIAN, DESCHUTES COUNTY, OREGON, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST 1/16 CORNER OF SECTION 26;

THENCE SOUTH 00°03'25" WEST 1319.56 FEET TO THE CENTER-EAST 1/16 CORNER OF SECTION 26;

THENCE ALONG THE EAST LINE OF THE NW 1/4 SE 1/4 OF SECTION 26, SOUTH 00°13'35" WEST 321.05 FEET;

THENCE LEAVING SAID EAST LINE, SOUTH 89°38'01" WEST 1054.01 FEET;

THENCE NORTH 00°13'59" WEST 1652.37 FEET TO A POINT ON THE NORTH LINE OF THE SW 1/4 OF THE NE 1/4 OF SECTION 26;

THENCE ALONG SAID NORTH LINE, SOUTH 89°43'49" EAST 1063.30 FEET TO THE POINT OF BEGINNING;

CONTAINS 40.03 ACRES, MORE OR LESS.



RECORDING COVER SHEET (Please print or type)
This cover sheet was prepared by the person presenting the instrument for recording. The information on this sheet is a reflection of the attached instrument and was added for the purpose of meeting first page recording requirements in the State of Oregon, and does NOT affect the instrument. ORS 205.234

Deschutes County Official Records 2018 -45904
N Nancy Blankenship, County Clerk





$528.00

01202787201800459040880883

11/16/2018 10:15 AM

D-AG Cnt=1 Stn=2 AS
$440.00 $11.00 $61.00 $10.00 $6.00

AFTER RECORDING RETURN TO: ORS 205.234(1)(c)

City of Bend, CDD
Attn: Amy Barry
710 NW Wall Street
Bend, OR 97703

1. TITLE(S) OF THE TRANSACTION(S) ORS 205.234(1)(a)

Infrastructure Development Agreement

2. DIRECT PARTY(IES) / GRANTOR(S) ORS 205.234(1)(b)

NWX2 LLC
CCCC LLC
ERMK LLC
Kyle Coats
Rio Lobo Investments LLC
Anderson Ranch Holding Company, LLC
Administrative School District No. 1, Deschutes County

3. INDIRECT PARTY(IES) / GRANTEE(S) ORS 205.234(1)(b)

City of Bend

INFRASTRUCTURE DEVELOPMENT AGREEMENT TO SUPPORT URBAN AND RURAL DEVELOPMENT IN THE WEST BEND AREA

THIS INFRASTRUCTURE DEVELOPMENT AGREEMENT (this "Agreement") is made and entered into this 17th day of October, 2018, by and between the **CITY OF BEND**, a municipal corporation of the State of Oregon (the "City"); **NWX2 LLC**, an Oregon limited liability company ("NWX2"); **CCCC LLC**, an Oregon limited liability company; **ERMK LLC**, an Oregon limited liability company; **Kyle Coats** (collectively "Coats"); **RIO LOBO INVESTMENTS, LLC**, an Oregon limited liability company ("Rio Lobo"); **ANDERSON RANCH HOLDING COMPANY, LLC**, an Oregon limited liability company ("Anderson Ranch"); and **ADMINISTRATIVE SCHOOL DISTRICT NO. 1, DESCHUTES COUNTY**, a public school district of the State of Oregon (the "District") (each a "Party" and, collectively, the "Parties") in accordance with ORS 94.504 through 94.528. The purpose of this Agreement is to provide for the timing, construction, and funding of infrastructure necessary to support urban development in the West and Shevlin urban growth boundary ("UGB") expansion areas approved by the City in 2016 and rural development on specified adjacent exception area lands in Deschutes County (the "Transect").

RECITALS

A. NWX2, Coats, Rio Lobo, and Anderson Ranch ("Owners") are the owners of all of the property located in the West and Shevlin UGB expansion areas and, except as noted in Recital C, Coats and Rio Lobo are owners of all the property in the Transect areas (see ownership map attached as Exhibit A) (the "Properties"). For the purpose of this Agreement, Owners include any successors in interest to all or a portion of the Properties during the term of this Agreement.

B. NWX2 is the legal owner of approximately 245 acres in the West UGB expansion area as described in the attached Exhibit B ("NWX2 Property"). The NWX2 Property is designated as Master Plan Area 1 under Chapter 11 of the Bend Comprehensive Plan ("BCP").

C. Coats is the legal owner of approximately 68 acres in the Shevlin UGB expansion area as described in the attached Exhibit C (the "Coats Property"). The Coats Property is designated as the Shevlin Master Plan Area under BCP Chapter 11. Coats also owns six acres within the existing city limits that are included as part of the "Coats Property" for the purposes of determining the impact of development on the infrastructure systems under this Agreement. Coats is also the legal owner of approximately 346 acres in the Transect area as described in the attached Exhibit D. The District, holding title as Bend School District No. 1, is the legal owner of 32 acres in the Transect area as described in the attached Exhibit E (the "District Property") (collectively, "Transect North"). The District is a party to this Agreement for the limited purpose of authorizing the District Property to be included in the determination of the vehicular transportation impacts generated by development of all the Properties for the allocation of PM peak hour vehicular trips among the Properties, and for enforcement of the provisions of this Agreement if, and when, the District submits a land use application for an elementary school located on the Coats Property. The District has no construction obligations, financial obligations, or rights to vested entitlements, including transportation trips under this Agreement, provided, however, that if the District acquires a portion of the Coats Property for an elementary school, it will be allocated vested entitlements, including transportation trips under this Agreement.

D. Rio Lobo is the legal owner of two tracts of land in the West UGB expansion area. The first tract is approximately 31 acres and is described in the attached Exhibit F ("Rio Lobo Tract 1"). The second tract is approximately 40 acres and is described in the attached Exhibit G ("Rio Lobo Tract 2"). Rio Lobo is also the legal owner of approximately 304 acres in the Transect area described in the attached Exhibit H ("Transect South"). Rio Lobo Tract 1 is designated as Master Plan Area 3 under BCP Chapter 11. Rio Lobo Tract 2 is designated as Master Plan Area 4 under BCP Chapter 11.

E. Anderson Ranch is the legal owner of approximately 28 acres in the West UGB expansion area as described in the attached Exhibit I (the "Anderson Ranch Property"). The Anderson Ranch Property is designated as Master Plan Area 2 under BCP Chapter 11.

F. For purposes of this Agreement, "Infrastructure Improvements" means sewer, water, and vehicular transportation facilities and infrastructure improvements off-site or adjacent to the Properties.

G. Given the master plan requirements of BCP Chapter 11, the small number of Owners, and the collective impacts of the development of the Properties on adjacent and area infrastructure, the Parties agree that the costs and timing of the required Infrastructure Improvements should be determined and allocated as part of this Agreement in a comprehensive, collective, and equitable manner.

H. The Transect North and Transect South properties are outside the City's UGB, and are not subject to the City's land use jurisdiction. Coats and Rio Lobo agree and intend that this Agreement and its terms and conditions are binding on them and

have the force of contract as to the Transect North and Transect South properties. The Agreement will be binding as to the Transect North and Transect South properties when the Agreement becomes final, including resolution of any appeals.

AGREEMENT

In consideration of the mutual promises and performance obligations of each Party set out in this Agreement, the Parties hereby agree to the following terms and conditions.

1. Effective Date and Term of Agreement (ORS 94.504(2)(a); ORS 94.504(6)).

This Agreement shall be effective upon both the: (a) adoption of an ordinance by the City approving this Agreement in accordance with ORS 94.508; and (b) execution of this Agreement by the Parties. As used in this Agreement, "adoption of an ordinance by the City" means the date on which the ordinance becomes effective. This Agreement shall continue in effect for a period of 15 years after its effective date. Nothing in this section shall preclude the Parties from mutually agreeing to reopen, extend, terminate, or consider amendments to this Agreement at any time. Any amendments shall be made as provided in Section 10 below.

2. Description of Development Authorized and Required by This Agreement.

2.1 Generally (ORS 94.504(2)(b)). This Agreement is not intended to authorize or control any particular uses of the Properties. The uses, densities, and intensities of the Properties that will be annexed to and developed in the City are set forth in BCP Chapter 11 and will be implemented in accordance with the master plan requirements of the BCP and Bend Development Code ("BDC") Chapter 4.5 (Master

Planning and Development Alternatives) and annexation requirements of BDC Chapter 4.9 (Annexations).

2.2 Density and Intensity (ORS 94.504(2)(c)). As noted above, density and intensity of uses on the Properties are governed by BCP Chapter 11, except the Transect Properties, which are located in Deschutes County (the "County") and governed by Deschutes County Code, Title 19. The Transect North and Transect South properties are subject to a pending land use application, Deschutes County Community Development Department file numbers 247-18-000612-ZC, 247-18-000613-PA and 247-18-000614-TA as such filed numbers may be amended (the "Transect Application"). The Transect Application proposes development of 100 residential units in Transect North and 87 residential units in Transect South. This is the assumed density for the Transect Properties for the purpose of this Agreement. If the Transect is developed at lower densities, the terms of this Agreement are still binding on the Transect Properties. If the Transect Properties are developed or proposed to be developed at greater than the assumed density, the City may require additional mitigation from the Transect Properties.

2.3 Height and Size of Structures (ORS 94.504(2)(d)). Height and size of structures will be governed by the requirements of the BDC at the time of the master plan approval for the Properties, except the Transect Properties, which are located in the County and governed by Deschutes County Code, Title 19.

2.4 Provisions for Reservation or Dedication of Land for Public Purposes (ORS 94.504(2)(e)). This shall be determined at the time of the master plan approval

for each of the Properties in accordance with City or County regulations in effect at the time.

2.5 Schedule of Fees and Charges (ORS 94.504(2)(f)). Except as expressly provided for in this Agreement, fees and charges will be determined at the time of specific development applications for each of the Properties in accordance with the applicable City regulations in effect at the time of application submittal.

3. Schedule and Procedure for Compliance Review (ORS 94.504(2)(g)). This Agreement will demonstrate compliance with those sections of BDC Chapter 4.5, BDC Chapter 4.7 (Transportation Analysis), and BDC Chapter 4.9 (Annexation) applicable to off-site sewer, water, and vehicular transportation infrastructure adequacy for development of all the Properties subject to this Agreement.

4. Infrastructure Improvements (ORS 94.504(2)(h)). Because the uses and density on the Properties are either prescribed by the BCP and BDC or assumed for the Transect in accordance with the Transect Application, the overall off-site infrastructure impact as a result of development of the Properties can be reasonably determined and addressed. The purpose of this Agreement is to provide for the equitable allocation of those costs, and define development triggers and assignment of responsible parties for the construction of the required public improvements to fully mitigate off-site sewer, water, and vehicular transportation infrastructure impacts from the development of the Properties subject to this Agreement.

4.1 Transportation Infrastructure. Kittelson & Associates, Inc., has conducted the Westside Transportation Study, dated June 28, 2018 that analyzes the impacts of the full development of the Properties on the transportation system at the end of the

planning period (the "Kittelson Study"). The Kittelson Study has been submitted to and has been reviewed and approved by the City pursuant to City Permit BP-18-3441, and its conclusions are included in the City Engineer's Transportation Analysis Memo dated August 3, 2018, attached as Exhibit J. The Kittelson Study determined that full development of the Properties would impact eight intersections and several roads within the City road system. A map of the impacted intersections showing degree of impact is attached as Exhibit K. Exhibit K shows the Properties' overall proportionate share of new PM peak hour trips through each intersection within the City-approved study area, including the projected increase in background traffic ("Total Proportionate Share"). Exhibit K further shows each Owner's share of the Total Proportionate Share, and that full development of the Properties will generate approximately 75% of the new trips at two locations, requiring construction of roundabouts at the Skyline Ranch Road/Shevlin Park Road intersection and at the Skyline Ranch Road/Skyliners Road intersection. Exhibit K shows that full development of the Properties will have a lower impact on six existing City intersections. Table 5 of the Kittelson Study shows the trip generation assumptions per lot/acre/unit used to establish these impacts. The Parties will allocate and address these impacts as follows:

4.1.1 Skyline Ranch Road/Shevlin Park Road Roundabout. Coats will construct a single-lane asphalt roundabout at the Skyline Ranch Road/Shevlin Park Road intersection as generally depicted on Exhibit L when lots are platted or improved within the Coats Property that represent 50 percent of the total of PM peak hour trips projected to be generated by the development of the Coats Property as established in the Kittelson Study (237 of 475 combined total PM peak hour trips). As provided in

Section 4.1.6 of this Agreement, no party shall complete the connection from Skyline Ranch Road to Shevlin Park Road until the Skyline Ranch Road/Shevlin Park Road roundabout has been completed. The obligation to pay for and construct this roundabout shall run with the Coats Property. If Coats and/or Coats' successors in interest fail to construct this roundabout by the deadline established in this section, the City may refuse to approve additional plats or development applications not associated with an approved plat on the Coats Property until this roundabout is constructed and accepted by the City. The Skyline Ranch Road/Shevlin Park Road intersection roundabout is currently not on the City's Transportation System Development Charge ("TSDC") Project List and is therefore not eligible to receive TSDC credits for the construction of this improvement. If, because of a future update to the TSDC methodology, this improvement is added to the TSDC Project List before commencement of construction of the improvement, the Party constructing the improvement may apply for TSDC credits based on the City's TSDC methodology and code in effect at that time.

4.1.2 Skyliners Road/Skyline Ranch Road Roundabout. NWX2 will construct a single-lane asphalt roundabout at the Skyliners Road/Skyline Ranch Road intersection as generally depicted by Exhibit M when lots are platted or improved within the NWX2 Property that represent 50 percent of the total of PM peak hour trips projected to be generated by the development of the NWX2 Property as established in the Kittelson Study (480 of 959 combined total PM peak hour trips). As provided in Section 4.1.6 of this Agreement, no party shall complete the connection from Skyline Ranch Road to Shevlin Park Road until the Skyliners Road/Skyline Ranch Road

roundabout has been completed. The obligation to pay for and construct the roundabout shall run with the land with respect to the NWX2 Property. If NWX2 and/or its successors in interest fail to construct the roundabout by the deadline established in this section, the City may refuse to approve additional plats or development applications not associated with an approved plat on the NWX2 Property until the roundabout is constructed and accepted by the City. The Skyliners Road/Skyline Ranch Road intersection roundabout is currently not on the TSDC Project List and is therefore not eligible to receive TSDC credits for the construction of this improvement. If, because of a future update to the TSDC methodology this improvement is added to the TSDC Project List before commencement of construction of the improvement, the Party constructing the improvement may apply for TSDC credits based on the City's TSDC methodology and code in effect at that time.

4.1.3 Tracking and Accounting for Trips. Coats will be responsible for tracking and accounting for accumulated PM peak hour trips for the purposes of determining the trips trigger in Section 4.1.1, and NWX2 will be will be responsible for tracking and accounting for accumulated PM peak hour trips for the purposes of determining the trips trigger in Section 4.1.2. The affected Party will submit an estimate of accumulated PM peak hour trips with each subsequent development application under a master plan for the affected Property. This requirement will cease for the affected Party or Parties once a roundabout required under Sections 4.1.1 or 4.1.2 has been constructed and accepted by the City. The calculation of accumulated PM peak hour trips will be based on the following table:

Trip Generation Table for Trigger Calculation		
Use	PM Peak Hour Trips	
Single Family Detached Residential	1.0	per lot
Single Family Attached Residential	0.51	per lot
Multifamily	21.7	per acre of land
Commercial and Mixed-Employment Zones	20.0	per acre of land
600-Student Elementary School	90.0	per school

4.1.4 Payment in Lieu of Improvements to Other Intersections. The Properties' Total Proportionate Share of trips through the other six intersections will contribute to the eventual need for improvements to these other off-site intersections but will contribute lower percentages of the total estimated trips. See Kittelson Study. The Kittelson Study estimated the total cost of necessary improvements at these intersections/roundabouts at buildout, calculated based on the estimated cost at the time of this Agreement. The Owners' Total Proportionate Share of this cost is $1,400,000. In lieu of requiring the Owners to construct or pay costs toward construction of these intersections, NWX2, Rio Lobo (for the benefit of the Rio Lobo Tract 1 property), and Anderson Ranch will make payments to the City in the total amount of $1,400,000. NWX2 will pay $987,404, Anderson Ranch will pay $186,205, and Rio Lobo will pay $226,391. The payments will be due within 30 days after the date that this Agreement becomes final, including resolution of any appeals. If NWX2, Anderson Ranch, and/or Rio Lobo do not pay these amounts by the deadline in this section, the City may in its sole discretion impose a lien or liens on property owned by the delinquent Party in an amount not to exceed the proportionate share due by the delinquent Party. Such lien or liens shall be entered on the City lien docket and shall bear interest at the rate of 9 percent per year. The City may foreclose the lien in any

manner authorized by law. The City may expend these funds on any transportation improvement or improvements that it deems to be in the best interests of the City.

4.1.5 Extension of Regency Street. Coats agrees to construct the extension of Regency Street from its current improved terminus at the tax lot identified as 171125BD1200 (more specifically known as Lot 7 of Valhalla Heights Phase IV) to the Coats property boundary, which is approximately 850 feet, at such time as specified in the Coats property master plan or other development approval. The timing of the Regency Street extension will be determined with the master plan submittal for the Coats Property or other development approval based on the development layout and proposed phasing schedule. The Parties agree that the Regency Street right-of-way will be a maximum of 70 feet wide and that the City will not require more than a maximum 36-foot-wide paved roadway unless required for traffic calming or pedestrian safety. The extension of Regency Street is currently not on the TSDC Project List and is therefore not eligible to receive TSDC credits for the construction of this improvement. If, because of a future update to the TSDC methodology this improvement is added to the TSDC Project List before commencement of construction of the improvement, the Party constructing the improvement may apply for TSDC credits based on the City's TSDC methodology and code in effect at that time.

4.1.6 Construction of Skyline Ranch Road. In addition to the above-noted roundabouts, the Kittelson Study indicates that Skyline Ranch Road will need to be completed and connected from Skyliners Road to Shevlin Park Road.

(a) Timing and Completion. Except as provided below, each Owner will be responsible to construct the portion of Skyline Ranch Road that crosses

their individual Property. The triggers and phasing of the Skyline Ranch Road construction within the Anderson Ranch, Rio Lobo Tract 1, and NWX2 Properties will be determined at the time of their individual master plans. In no event, however, will any Party complete the construction of Skyline Ranch Road from NW Crossing Drive to the northern boundary of the Anderson Ranch Property until the roundabouts at Skyline Ranch Road/Shevlin Park Road and Skyliners Road/Skyline Ranch Road are completed and operational. If one or both of the roundabouts has not been completed by the time the final Party is required to construct the last segment of Skyline Ranch Road, that Party will dedicate the full right-of-way to permit final completion of the Road but will not be required to construct their portion of the road. The Party responsible for constructing the last of the two roundabouts to be completed will be responsible for completing the roadway so that Skyline Ranch Road is fully completed and connected within six months after the last of the two roundabouts is completed and in operation. If such Party fails to do so, the penalties in Section 4.1.1 or 4.1.2, as applicable, would apply to that Party.

(b) Location and Design. The Skyline Ranch Road alignment will be relocated as generally provided in Exhibit N. The final alignment will be determined in accordance with a transportation system plan and UGB post-acknowledgment plan amendment that will be submitted by NWX2, Rio Lobo, and Anderson Ranch in conjunction with the NWX2 master plan application. The Parties agree that the Skyline Ranch Road right-of-way will be a maximum of 70 feet wide. For the section of Skyline Ranch Road crossing the Rio Lobo property, the following two conditions will apply: 1) the City will not require more than a maximum 40 foot-wide

paved roadway other than for particular locations where pedestrian crossing safety improvements are required by the City Engineer; and 2) a continuous raised median will not be required. Skyline Ranch Road is currently not on the TSDC Project List and is therefore not eligible to receive TSDC credits for the construction of this improvement. If, because of a future update to the TSDC methodology this improvement is added to the TSDC Project List before commencement of construction of the improvement, the Party constructing the improvement may apply for TSDC credits based on the City's TSDC methodology and code in effect at that time.

4.1.7 Interim Safety Improvements to Existing Skyline Ranch Road/Shevlin Park Road Intersection. The Kittelson Study also identifies current sight-distance deficiencies for the south leg of Skyline Ranch Road at its intersection with Shevlin Park Road. The current sight-distance deficiency for the south leg movement is caused by sight-obscuring vegetation in the Shevlin Park Road right-of-way, the existing geometry of the roadways, and posted speed signage that exceeds standards. While construction of the roundabout at this intersection under Section 4.1.1 of this Agreement will address these deficiencies, interim safety measures as identified in Exhibit O will be necessary. The timing of the construction of these interim safety measures will be determined at the subsequent land use application for the Coats Property, but in no event will construction of the interim safety improvements occur later than the development of the first phase of the Coats Property that makes a vehicular connection to Skyline Ranch Road.

4.1.8 Right-of-Way. The Owners agree to dedicate any property necessary for right-of-way for the improvements required in Section 4.1. The

improvements provided for in Section 4.1 of this Agreement may require acquisition of additional rights-of-way from property owners who are not party to this Agreement ("Third-Party ROW"). The City may exercise its power of eminent domain, if necessary, to acquire any Third-Party ROW needed for the improvements. The City's reasonable out-of-pocket costs for acquiring the Third-Party ROW shall be reimbursed by the Party or Parties responsible for the improvement. Such costs include: compensation paid for the property, including any costs or reasonable attorney fees paid to the property owner as a condition of a settlement agreement or awarded by a court of competent jurisdiction or an arbitrator; and any independent-contractor costs, including appraisers, acquisition consultants, and/or outside legal counsel related to Third-Party-ROW acquisition efforts. The City and the responsible Party or Parties will enter into a reimbursement agreement governing process and payment at the time the improvement is constructed or triggered, whichever occurs first. The City will not commence any Third-Party ROW acquisition efforts until that agreement is executed and effective.

4.1.9 Other Indirect Impacts. The Parties agree that all other indirect impacts of development of the Properties on the City's and County's transportation systems will be recovered through the imposition of TSDCs on the Properties as they develop over time in accordance with applicable City and County policy and procedure. The Transect North and Transect South properties, which are located outside the City limits and within the County, will pay a City TSDC in addition to the County TSDC at the time of building permit issuance in an amount equal to the difference between the City TSDC and the County TSDC based on the adopted fee schedules at the time of permit

issuance. This obligation of the Transect Properties to pay a City TSDC is contingent on final land use approval by the County of the Transect Application.

4.2 Water Infrastructure. The City and Owners agree that the only off-site master plan water element will be the oversizing of the extension from the 24-inch water line at Sage Steppe Drive in Tree Farm north to McClain Drive. This will be constructed by Rio Lobo with the development of Transect South if that development is served with domestic water from the City of Bend. If the Transect South development is not to be served with City of Bend water, then Rio Lobo agrees to provide a minimum 20-foot-wide public utility easement within a roadway through the Transect Property to allow a future water line to be constructed from Sage Steppe Drive in the Tree Farm north to McClain Drive. Exhibit P depicts the conceptual alignment. This is supported by the City's Water and Sewer analysis attached as Exhibit Q. The City and Owners agree that this improvement qualifies as a master plan element for which eligible costs to construct qualify for Water System Development Charge ("WSDC") credits. WSDC credits will be provided for the difference in final construction costs between a City standard 8-inch water line and the 24-inch water line. Findings and evidence demonstrate that other than the off-site water infrastructure improvements identified herein, no off-site water infrastructure improvements or upgrades are required. The Parties agree that all other indirect impacts of development of the Properties, including Transect Properties utilizing City water services, on the City's water systems will be recovered through the imposition of WSDCs on the Properties as they develop over time in accordance with applicable City policy and procedure.

4.3 Sewer Infrastructure. Based on Exhibit R, the Parties agree that the sole off-site sewer infrastructure improvement required for development of the Properties (except for any off-site connections to reach nearby points of connection to the existing City collection system) are upgrades to the Shevlin Meadows, Shevlin Commons, and Awbrey Glen pump stations to City standards described in Exhibit R. Exhibit R details the nature of the agreed-upon upgrades to each pump station. Coats agrees to improve the Awbrey Glen pump station, none of the costs of which are eligible for Sewer System Development Charge ("SSDC") credit. Anderson Ranch agrees to improve the Shevlin Meadows pump station, of which 40 percent of the approved costs are eligible for SSDC credit. Rio Lobo agrees to improve the Shevlin Commons pump station, of which 75 percent of the approved costs are eligible for SSDC credit or reimbursement. Credits or reimbursements will be made consistent with current City SDC Policy. The SDC recovery areas for the improvements eligible for credit or reimbursement are shown in Exhibit R. All pump station upgrades must be completed not later than the date that the lots are platted or site plans approved that represent 50 percent of the Equivalent Dwelling Units ("EDUs") for the Owners' respective properties (Rio Lobo Tract 1, Rio Lobo Tract 2, the Coats Property, and the Anderson Ranch Property. This excludes Transect Properties). NWX2, Coats, Anderson Ranch, and Rio Lobo will enter into a separate agreement on the timing and reimbursement for construction of the pump station improvement consistent with this Agreement. The Parties agree that all other indirect impacts of development of the Properties on the City's sewer systems will be recovered through the imposition of SSDCs on the Properties, excluding Transect

Properties, as they develop over time in accordance with applicable City policy and procedure.

5. Effect of Agreement/Vesting.

5.1 Agreement Binding on the Parties for the Term of the Agreement. The City agrees and finds that the Infrastructure Improvements and mitigation payment provided for in this Agreement comply with the BCP, BDC, and City regulations. Findings demonstrating compliance with BDC Chapter 4.5, BDC Chapter 4.7, and BDC Chapter 4.9 pertaining to sewer, water, and vehicular infrastructure adequacy are included with the land use application for this Agreement. Under BDC 4.5.200.F.2, the duration of approval for future master plans for the Properties must coincide with the timeline outlined in the approved phasing plan and in accordance with the time frames studied in the transportation analysis and water and sewer capacity analysis for the community master plan. Site plan review or land division applications submitted consistent with or earlier than as provided in an approved phasing plan will not require an updated vehicular transportation analysis and off-site water and sewer capacity analysis as part of the development application. Infrastructure capacity may be reserved for the community master plan site up to the expiration of this Agreement. Except as provided in Section 5.3, below, the City will not impose any additional off-site infrastructure improvements or mitigation payments as conditions of approval of any subsequent development on the Properties. Notwithstanding the foregoing, the City may impose additional off-site vehicular transportation improvements as a condition of approval of developments by individual Owners if required by the Oregon Department of Transportation ("ODOT") in order to demonstrate compliance with the Transportation

Planning Rule (OAR Chapter 660, Division 12) for transportation facilities under ODOT's jurisdiction.

5.2 Transportation. This Agreement is intended to serve as the Transportation Mitigation Plan under BDC Section 4.7.600D.1 for the future individual master plan applications that will be submitted by the respective Parties. The analysis from which these mitigation measures were derived followed the methodology required to ensure consistency with the Transportation Planning Rule for transportation facilities under the City's jurisdiction, which will allow the Properties to be rezoned to be consistent with the comprehensive plan designations upon future annexation with future transportation analyses. The Parties may rely on this Agreement for the purposes of master plan approval, and the City is bound to accept this Agreement and the evidentiary support referenced by exhibits as demonstrating compliance with the referenced code sections. As noted in Section 4 of this Agreement, the relative transportation impacts of the Owners on the system are based on the amount of development as indicated in the Kittelson Study. If an Owner meets its obligations under this Agreement with regard to construction or contribution to construction of the roundabouts and payment of any mitigation fees, the trips allocated in Table 5 of the Kittelson Study will vest to each Property. If development does not occur as estimated in the Kittelson Study, then the Owner of each Property may apply these trips to any traffic analysis of any alternative development on the Property during the term of this Agreement for the purpose of eliminating or mitigating the traffic impact of the alternative development. If an Owner wishes to apply transportation trips to a different Property subject to this agreement, the Owner will submit a request to the City Engineer

for review. The City Engineer may require additional analysis to justify the transfer of trips.

5.3 On-Site and Related Improvements. On-site improvements not addressed in this Agreement are not governed or vested by this Agreement and will be addressed through subsequent master plan approval. Additional on-site water modeling will be required with subsequent Master Plan submittals to ensure adequate pipe sizing and looping to achieve minimum fire flows for each development phase. Off-site improvements other than off-site sewer, water, and vehicular transportation infrastructure improvements ("Other Off-site Improvements") are not governed or vested by this Agreement and will be addressed through subsequent master plan approval. Other Off-site Improvements include multimodal bike path and pedestrian connections, interim safety improvements (except as described in Section 4.1.7 of this Agreement), and emergency vehicle access.

5.4 The Transect Application. The City agrees that the mitigation measures described in this Agreement fully address off-site impacts to City transportation and water facilities for development of 100 single-family residential units in Transect North and 87 single-family residential units in Transect South and that this Agreement can be submitted to the County as part of the Transect Application to demonstrate full mitigation of off-site transportation and water impacts consistent with the terms of this Agreement.

6. Continuing Effect of Agreement (ORS 94.504(2)(i)).

6.1 In the case of any change in regional policy or federal or state law or other change in circumstance that renders compliance with this Agreement impossible or

unlawful, the Parties will attempt to give effect to the remainder of this Agreement, but only if such effect does not prejudice the substantial rights of any Party under this Agreement. If the substantial rights of any Party are prejudiced by giving effect to the remainder of this Agreement, then the Parties shall negotiate in good faith to revise this Agreement to give effect to its original intent. If, because of a change in policy, law, or circumstance, this Agreement fails its essential purpose—vesting of allowed uses and limitations on development conditions and certain payments—then the Parties shall be placed into their original position to the extent practical. It is the intent of this Agreement to vest development rights and conditions, including but not limited to the permitted uses, density and intensity of uses, infrastructure improvements, and fees and charges as set forth in this Agreement, notwithstanding any change in local ordinance or policy.

7. Assignability of Agreement (ORS 94.504(2)(k)). This Agreement runs with the land until termination and will bind the Parties and their successors, affiliates, and assigns. Notwithstanding the foregoing, lots or parcels contained within a City approved final plat at final master planned densities shall no longer be subject to the obligations contained in this Agreement.

8. Effect of Annexation (ORS 94.504(2)(L). This Agreement anticipates the development of all Properties, except for Transect North and Transect South, following

annexation. This Agreement will continue to apply by its terms to such Properties following annexation.

9. Default; Remedy (ORS 94.504(2)(j)).

9.1 Default/Cure. The following shall constitute defaults by a Party:

9.1.1 A breach of a material provision of this Agreement, whether by action or inaction of a Party that continues and is not remedied within 60 days after the other Party has given notice specifying the breach—provided that if the nonbreaching Party determines that such breach cannot with due diligence be cured within a period of 60 days—the nonbreaching Party may allow the breaching Party a longer period of time to cure the breach and, in such event, the breach shall not constitute a default so long as the breaching Party diligently proceeds to effect a cure, and the cure is accomplished within the longer period of time granted by the nonbreaching Party; or

9.1.2 Any assignment by a Party for the benefit of creditors, or adjudication as a bankruptcy, or appointment of a receiver, trustee, or creditor's committee over a Party.

9.2 Remedies. Each Party shall have all available remedies at law or in equity to recover damages and compel the performance of the other Party under to this Agreement. The rights and remedies afforded under this Agreement are not exclusive and shall be in addition to and cumulative with any and all rights otherwise available at law or in equity. The exercise by any Party of any one or more of such remedies shall not preclude the exercise by it, at the same or different time, of any other such remedy for the same default or breach or of any of its remedies for any other default or breach by any other Party, including without limitation the right to compel specific performance.

9.3 Mediation. Notwithstanding the forgoing, the Owners and City agree that any Parties subject to the dispute shall try to resolve any dispute or issue arising under this Agreement amicably and at a project level. If the dispute is not settled, the Parties shall participate in mediation as a next alternative step for dispute resolution before commencement of litigation. Such mediation will occur in Bend, Oregon. The Parties shall seek a mediator with experience in land use, real estate, or development. The mediation must commence within 90 days of the date the mediator is retained. The mediator's fees and expenses will be shared equally by all the Parties. All Parties agree to exercise their best efforts in good faith to resolve all disputes in the mediation.

10. Amendment or Termination of Agreement. This Agreement may only be amended or terminated by the mutual consent of all the Parties or their successors in interest in accordance with ORS 94.522.

11. Miscellaneous Provisions.

11.1 Notice. A notice or communication under this Agreement by any Party shall be in writing and shall be dispatched by registered or certified mail, postage prepaid, return receipt requested, or delivered by either personal delivery or nationally-recognized overnight courier (such as UPS or FedEx), or by facsimile transmission, and

11.1.1 In the case of a notice or communication to the applicable Owner, addressed as follows:

To NWX2: Kirk Schueler
Brooks Resources Corporation
409 N.W. Franklin Avenue
Bend, Oregon 97703

With copies to: Jeffrey G. Condit
Miller Nash Graham & Dunn LLP
3400 U.S. Bancorp Tower
111 S.W. Fifth Avenue
Portland, Oregon 97204

To Rio Lobo: John Fournier
Rio Lobo Investments LLC
95 S.W. Scalehouse Loop, #100
Bend, Oregon 97702

With copies to: Steven P. Hultberg
Radler White Parks & Alexander LLP
Post Office Box 2007
Bend, Oregon 97709

To Coats: Kyle Coats
63285 Skyline Ranch Road
Bend, Oregon 97701

With copies to: Tia M. Lewis
Schwabe Williamson & Wyatt
360 S.W. Bond Street, Suite 500
Bend, Oregon 97702

To Anderson Ranch: Dave Swisher
250 N.W. Franklin Avenue, Suite 401
Bend, Oregon 97703

To the District: Sharon Smith
Bend-La Pine Schools
520 N.W. Wall Street
Bend, Oregon 97703

11.1.2 In the case of a notice or communication to the City, addressed as follows:

Jon Skidmore
Assistant City Manager
City of Bend
710 Northwest Wall Street
Bend, Oregon 97703

With copies to: Ian Leitheiser
Assistant City Attorney
City of Bend
710 Northwest Wall Street
Bend, Oregon 97703

11.1.3 A Party may from time to time designate other or additional notice parties for the purpose of the Section in writing and dispatched as provided in this section.

11.2 Headings. Any titles of the sections of this Agreement are inserted for convenience of reference only and shall be disregarded in construing or interpreting any of its provisions.

11.3 Effect of Recitals (ORS 94.504(6)). The Recitals set forth above are the assumptions of the Parties and are incorporated as part of this Agreement.

11.4 Counterparts. This Agreement may be executed in five or more counterparts, each of which shall be deemed to be an original, and such counterparts shall constitute one and the same instrument.

11.5 Waivers.

11.5.1 No waiver made by any Party with respect to the performance, or manner, or time thereof of any obligation of any other Party, or any condition inuring to its benefit under this Agreement, shall be considered a waiver of any other rights of the Party making the waiver. No waiver by the City or an Owner of any provision of this Agreement or any breach thereof shall be of any force or effect unless in writing, and no such waiver shall be construed to be a continuing waiver.

11.5.2 Parties know and understands their rights under *Dolan v. City of Tigard* and its progeny and by entering into this Agreement waive any requirement that

the City demonstrate that the public improvements and other obligations of the Parties for the construction and financial responsibility set forth in this Agreement and related to the development of the Properties to master plan densities are roughly proportional to the burden and demands placed on the urban facilities and services by the development of the Property. The Parties further acknowledge that the requirements and obligations of the Parties, including but not limited to the required public improvements, are roughly proportional to the burden and demands on urban facilities and services that will result from development of the Properties. This waiver does not apply to public improvements or payments are not governed by this Agreement.

11.6 Attorney Fees. In the event of a suit, action, arbitration, or other proceeding of any nature whatsoever, including without limitation any proceeding under U.S. Bankruptcy Code, is instituted to interpret or enforce any provision of this Agreement, or with respect to any dispute relating to this Agreement, including without limitation any action in which a declaration of rights is sought or an action for rescission, the prevailing Party shall be entitled to recover from the losing Party its reasonable attorney, paralegal, accountant, and other expert fees, and all other fees, costs, and reasonably necessary expenses actually incurred, as determined by the judge or arbitrator at trial or arbitration, as the case may be, or on any appeal or review, in addition to all other amounts provided by law. This provision shall cover costs and attorney fees related to or with respect to proceedings in federal bankruptcy courts, including those related to issues unique to bankruptcy law. In the event the prevailing Party is represented by "in-house" counsel, the prevailing Party shall nevertheless be entitled to recover reasonable attorney fees based on the reasonable time incurred and

the attorney fee rates and charges reasonably and generally accepted in the Bend, Oregon, area for the type of legal services performed.

11.7 Time of the Essence. Time is of the essence for this Agreement.

11.8 Choice of Law. This Agreement shall be interpreted under the laws of the State of Oregon.

11.9 Calculation of Time. All periods of time referred to herein shall include Saturdays, Sundays, and legal holidays in the State of Oregon, except that if the last day of any period falls on any Saturday, Sunday, or legal holiday in the State of Oregon, the period shall be extended to include the next day that is not a Saturday, Sunday, or legal holiday.

11.10 Construction. In construing this Agreement, singular pronouns shall be taken to mean and include the plural, and the masculine pronoun shall be taken to mean and include the feminine and the neuter, as the context may require.

11.11 Severability. Consistent with Section 9 above, if any clause, sentence, or any other portion of the terms and conditions of this Agreement becomes illegal, null, or void for any reason, the remaining portions will remain in full force and effect to the fullest extent permitted by law.

11.12 Merger. This Agreement constitutes the entire agreement between all the Parties and supersedes all prior agreements except as such prior agreements are expressly incorporated by reference herein.

11.13 Place of Enforcement. Any action or suit to enforce or construe any provision of this Agreement by any of the Parties shall be brought in the Circuit Court of

the State of Oregon for Deschutes County or in the United States District Court for the District of Oregon.

11.14 Good Faith and Reasonableness. The Parties intend that the obligations of good faith and fair dealing apply to this Agreement generally, and that no negative inferences be drawn by the absence of an explicit obligation to be reasonable in any portion of this Agreement. The obligation to be reasonable shall only be negated if arbitrariness is clearly and explicitly permitted as to the specific item in question, such as in the case of a Party being given "sole discretion" or being allowed to make a decision in its "sole judgment."

11.15 Condition of City Obligations (ORS 94.504(5)). All City obligations under this Agreement that require the expenditure of funds are contingent on future appropriations by the City as part of the local budget process. Nothing in this Agreement implies an obligation on the City to appropriate any such monies.

11.16 Cooperation in the Event of Legal Challenge. In the event of any legal action instituted by a third party or other governmental entity or official challenging the validity of any provision of this Agreement, the Parties agree to cooperate in defending such action.

11.17 Enforced Delay, Extension of Times of Performance. In addition to the specific provisions of this Agreement, performance by any Party shall not be in default when delay or default is caused by war, insurrection, strikes, riots, floods, drought, earthquakes, fires, casualties, acts of God, governmental restrictions imposed or mandated by governmental entities other than the City, enactment of conflicting state or federal laws or regulations, new or supplementary environmental regulation or litigation,

or similar bases for excused performance that are not within reasonable control of the Party to be excused; provided, however, that the Parties agree to proceed in accordance with Section 9 upon the occurrence of any of the foregoing events also described in Section 9.

11.18 Other Necessary Acts. Each Party shall execute and deliver to the other all such further instruments and documents and take such additional acts (which, in the case of the City, shall require adopting necessary ordinances and resolutions) as may be reasonably necessary to carry out this Agreement in order to provide and secure to the other Parties the full and complete enjoyment of rights and privileges hereunder.

11.19 No Partnership. This Agreement does not create a partnership or joint venture among the Owners. Each Owner is solely and independently responsible for its obligations under this Agreement, and no Owner is responsible for payment or performance by any other Owner.

11.20 Recording. The City shall cause this Agreement to be recorded in accordance with ORS 94.5 28. The Parties shall reimburse the City for the cost of recording this Agreement.

11.21 Form of Agreement; Exhibits. This Agreement consists of 37 pages and 18 exhibits. The exhibits are identified as follows:

Exhibit	Name	Section	Contents
A	Ownership Map	Recital A	Map of all Properties covered by this Agreement
B	NWX2 Property	Recital B	Map and legal description
C	Coats Property	Recital C	Map and legal description
D	Transect North – Coats Ownership	Recital C	Map and legal description

Exhibit	Name	Section	Contents
E	Transect North—Bend-La Pine Schools Ownership	Recital C	Map and legal description
F	Rio Lobo Tract 1	Recital D	Map and legal description
G	Rio Lobo Tract 2	Recital D	Map and legal description
H	Transect South	Recital D	Map and legal description
I	Anderson Ranch	Recital E	Map and legal description
J	City Transportation Memo	4.1	City review of Kittelson Study
K	Impacted Intersections	4.1	Map of Impacted Intersections with proportionate shares of the impact by Property
L	Skyline Ranch/Shevlin Park Road Roundabout Plan	4.1.1	Conceptual plan drawings and specs
M	Skyline Ranch/Skyliners Roundabout Plan	4.1.2	Conceptual plan drawings and specs
N	Relocated Skyline Ranch Road Alignment	4.1.6	Shows new Skyline Ranch Road alignment and existing unimproved Skyline Ranch Road right-of-way

O	Skyline Ranch/Shevlin Park Road Interim Safety Improvements	4.1.7	Describes the necessary Skyline Ranch/Shevlin Park Road Interim Safety Improvements before roundabout construction
P	Water Main	4.2	Conceptual water line alignment between Sage Steppe Drive and McClain Drive
Q	City Water and Sewer Analysis	4.3	City response to our formal application
R	City Sanitary Sewer Pump Stations	4.3	Agreed-upon pump station upgrades and SDC recovery areas

[SIGNATURES TO FOLLOW]

Executed as of the day and year first above written.

CITY OF BEND, a municipal corporation of the State of Oregon

By: _____

Eric King, City Manager

STATE OF OREGON)
) ss.
County of _____)

The foregoing instrument was acknowledged before me this 16 day of October, 2018, by Eric King, City Manager of the City of Bend, Oregon, duly authorized by the City Council to execute this agreement on behalf of the City of Bend.

OFFICIAL STAMP
LINDA SUSAN MUNSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 957777
MY COMMISSION EXPIRES JANUARY 02, 2021

_____
Notary Public for Oregon
My Commission expires: 1/2/21

NWX2 LLC, an Oregon limited liability company

By: _____

Name: Kirk Schueler

Title: President, Brooks Resources, Managing Member

STATE OF OREGON)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 11 day of October, 2018, by Kirk Schueler on behalf of NWX2 LLC, a limited liability company.

OFFICIAL STAMP
DAWN MICHELLE HIGHERS
NOTARY PUBLIC-OREGON
COMMISSION NO. 952388
MY COMMISSION EXPIRES JULY 19, 2020

Dawn Higers
Notary Public for Oregon
My Commission expires: July 19, 2020

CCCC LLC, an Oregon limited liability company

By: R J Coats

Name: Robin L. Coats

Title: manager/member

STATE OF OREGON)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 15 day of October, 2018, by Robin L. Coats on behalf of CCCC LLC, an Oregon limited liability company.

Dawn Highers
Notary Public for Oregon
My Commission expires: July 19, 2020

OFFICIAL STAMP
DAWN MICHELLE HIGHERS
NOTARY PUBLIC-OREGON
COMMISSION NO. 952388
MY COMMISSION EXPIRES JULY 19, 2020

ERMK LLC, an Oregon limited liability company

By: Eric W. Coats

Name: ERIC W COATS

Title: mgr/mem

STATE OF OREGON)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 15 day of October, 2018, by Eric W. Coats on behalf of ERMK LLC, an Oregon limited liability company.

Dawn Hughes
Notary Public for Oregon
My Commission expires: July 19, 2020

OFFICIAL STAMP
DAWN MICHELLE HIGHERS
NOTARY PUBLIC-OREGON
COMMISSION NO. 952388
MY COMMISSION EXPIRES JULY 19, 2020

Kyle Coats



STATE OF OREGON)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 12th day of October, 2018, by Kyle Coats.

OFFICIAL STAMP
SHANNON RENEE LEVINE
NOTARY PUBLIC-OREGON
COMMISSION NO. 977417
MY COMMISSION EXPIRES JULY 29, 2022

Shannon Renee Levine
Notary Public for Oregon
My Commission expires: ~~September 29, 2018~~ SL July 29, 2022

RIO LOBO INVESTMENTS LLC, an Oregon limited liability company

By: _____

Name: Howard M. Day

Title: Manager

STATE OF OREGON)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 12 day of October, 2018, by Howard M. Day on behalf of Rio Lobo Investments LLC, an Oregon limited liability company.

_____
Notary Public for Oregon
My Commission expires: 02/11/2019

OFFICIAL STAMP
JENNIFER LYNNE CHOATE
NOTARY PUBLIC-OREGON
COMMISSION NO. 936235
MY COMMISSION EXPIRES FEBRUARY 11, 2019

ANDERSON RANCH HOLDING COMPANY, LLC, an Oregon limited liability company

By: D.K. Swisher

Name: Dave Swisher

Title: Member

STATE OF OREGON)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 15 day of October, 2018, by Dave Swisher on behalf of Anderson Ranch Holding Company LLC, an Oregon limited liability company.

Dawn Higgins
Notary Public for Oregon
My Commission expires: July 19, 2020

OFFICIAL STAMP
DAWN MICHELLE HIGHERS
NOTARY PUBLIC-OREGON
COMMISSION NO. 952388
MY COMMISSION EXPIRES JULY 19, 2020

Administrative School District No. 1, Deschutes County, a public school district of the State of Oregon

By: _____

Name: Bradley J. Henry

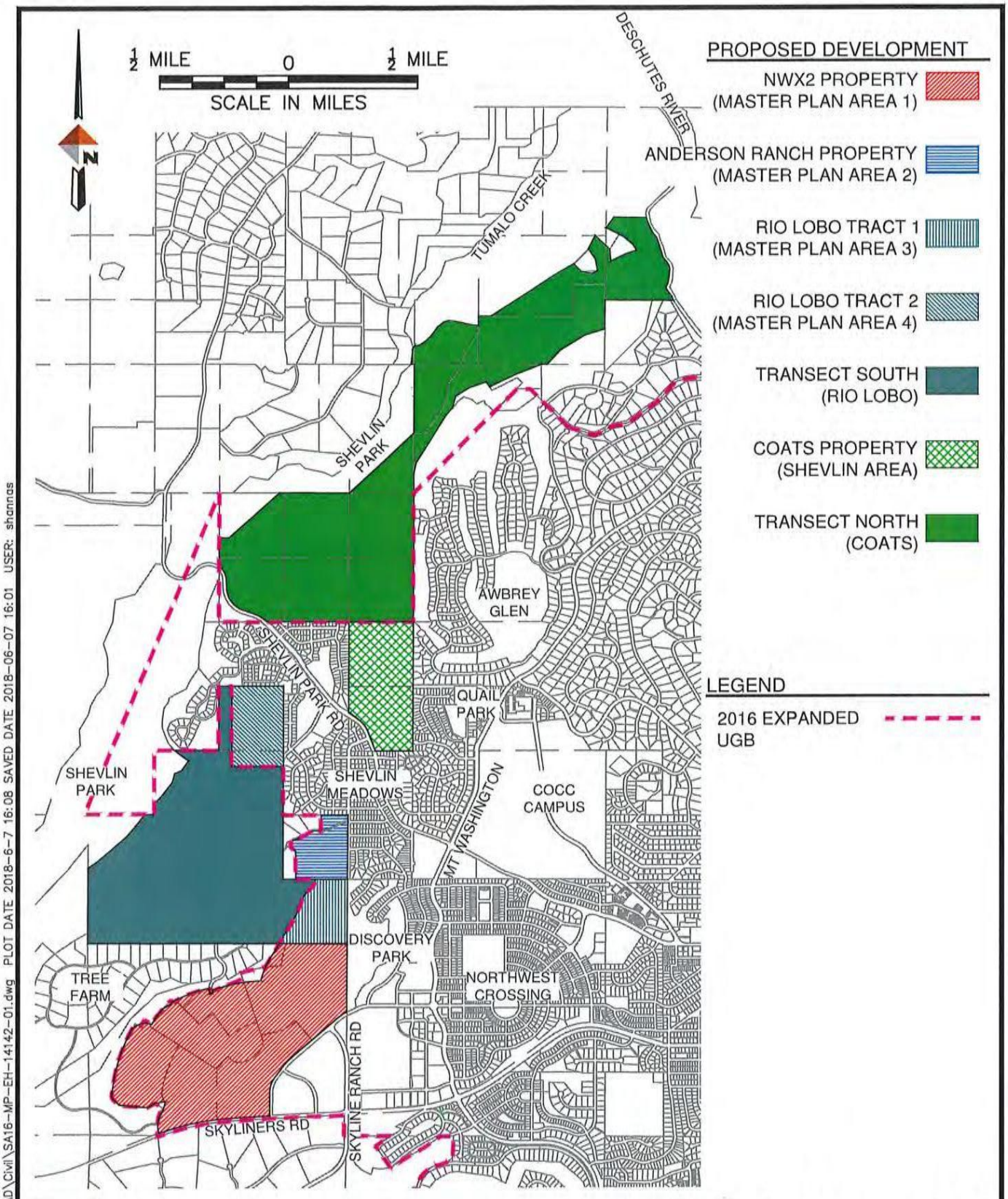
Title: COO/CFO

STATE OF OREGON)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 11 day of October, 2018, by Bradley J. Henry on behalf of Administrative School District No. 1, Deschutes County, an Oregon public school district.

OFFICIAL STAMP
DAWN MICHELLE HIGHERS
NOTARY PUBLIC-OREGON
COMMISSION NO. 952388
MY COMMISSION EXPIRES JULY 19, 2020

_____
Notary Public for Oregon
My Commission expires: July 19, 2020



Q:\22\14142-01\65CAD\Civil\SA16-MP-EH-14142-01.dwg PLOT DATE 2018-6-7 16:08 SAVED DATE 2018-06-07 16:01 USER: shannas

DOWL
WWW.DOWL.COM

963 SW Simpson, #200
Bend, Oregon 97702
541-385-4772

OWNERSHIP MAP

PROJECT	14142.01
DATE	06/07/2018

EXHIBIT A

DOWL

EXHIBIT B
NWX2 Property
Legal Description

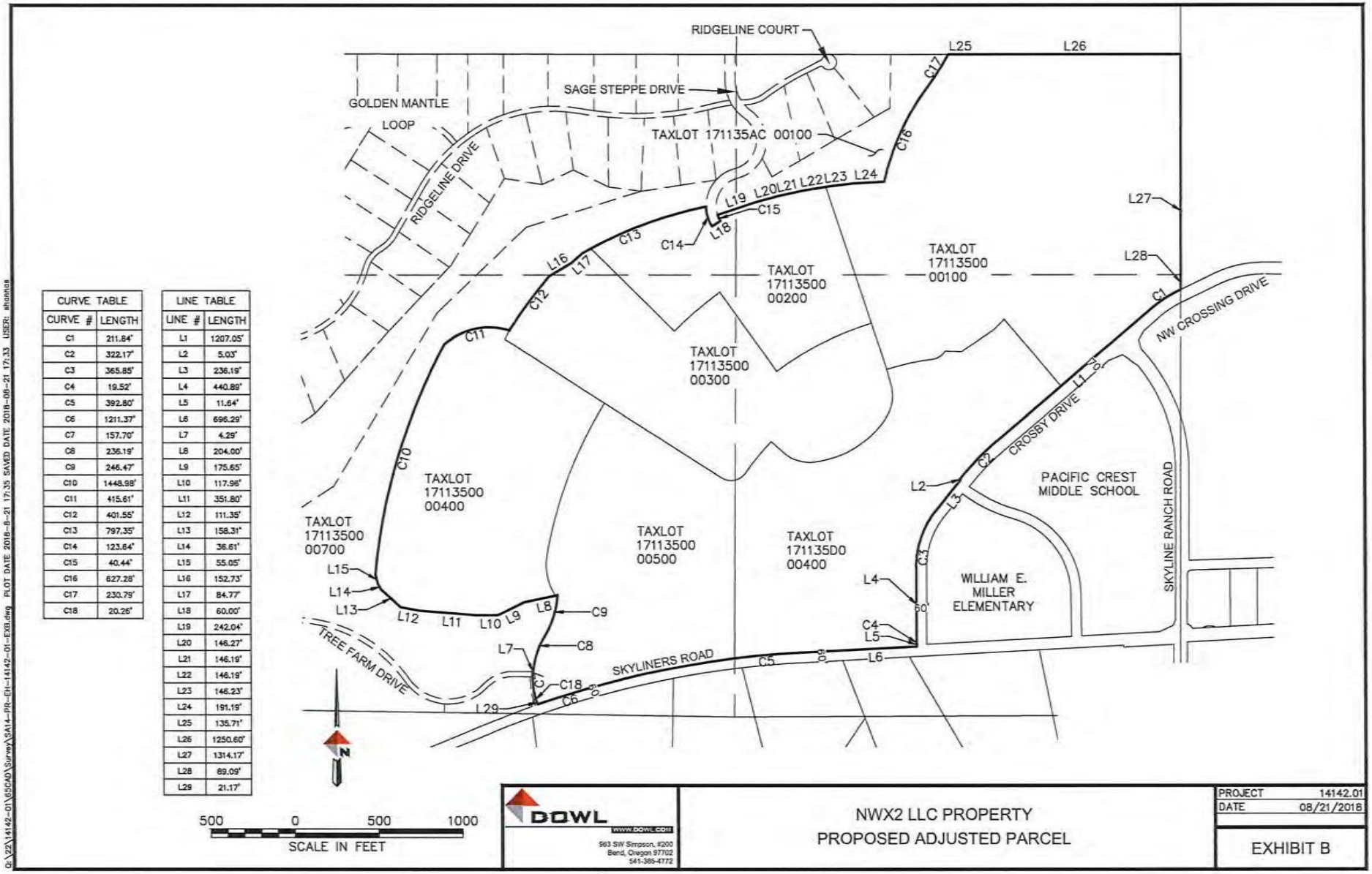
A parcel of land located in the South one-half of the Northeast one-quarter (S1/2 NE1/4), the Southeast one-quarter (SE1/4), the Southwest one-quarter (SW1/4), and the South one-half of the Northwest one-quarter (S1/2 NW1/4) of Section 35, Township 17 South, Range 11 East of the Willamette Meridian, Deschutes County, State of Oregon, being more particularly described as follows:

Beginning at the East One-quarter corner of said Section 35; thence along the east line of said Section 35, S 00° 13' 54" W a distance of 89.09 feet to a point on the northerly right of way of NW Crossing Drive, as defined by Dedication Deed recorded as Instrument Number 2014-29653 in the Deschutes County Official Records, said point being a point of non-tangent curvature; thence leaving said east line of Section 35 and along said northerly right of way line for the following four courses; thence along the arc of a 836.00 foot radius curve to the left, through a central angle of 14° 31' 07", an arc distance of 211.84 feet (the chord of which bears S 56° 55' 07" W, 211.27 feet) to a point of tangency; thence S 49° 39' 33" W a distance of 1207.05 feet to a point of curvature; thence along the arc of a 1650.00 foot radius curve to the left, through a central angle of 11° 11' 14", an arc distance of 322.17 feet (the chord of which bears S 44° 03' 56" W, 321.66 feet) to a point of non-tangency; thence S 49° 38' 10" E a distance of 5.03 feet to a point on the westerly right of way of NW Crosby Drive, as defined by Dedication Warranty Deed recorded as Instrument Number 2008-14744 in the Deschutes County Official Records; thence leaving said northerly right of way and along said westerly right of way line for the following five courses; thence S 38° 27' 35" W a distance of 236.19 feet to a point of non-tangent curvature; thence along the arc of a 545.00 foot radius curve to the left, through a central angle of 38° 27' 44", an arc distance of 365.85 feet (the chord of which bears S 19° 14' 34" W, 359.02) to a point of non-tangency; thence S 00° 00' 56" W a distance of 440.89 feet to a point of curvature; thence along the arc of a 368.03 foot radius curve to the left, through a central angle of 03° 02' 22", an arc distance of 19.52 feet (the chord of which bears S 01° 30' 15" E, 19.52 feet) to a point of non-tangency; thence S 02° 51' 14" E a distance of 11.64 feet to a point on the northerly right of way of Skyliners Road; thence leaving said westerly right of way and along said northerly right of way line for the following three courses; thence S 86° 58' 51" W a distance of 696.29 feet to a point of non-tangent curvature; thence along the arc of a 5596.39 foot radius curve to the left, through a central angle of 04° 01' 17", an arc distance of 392.80 feet (the chord of which bears S 84° 58' 48" W, 392.72 feet) to a point of non-tangent compound curvature, said point being at the intersection of said north right of way and the north-south center section line; thence continuing along said north right of way along the arc of a 5673.80 foot radius curve to the left, through a central angle of 12° 13' 58", an arc distance of 1211.37 feet (the chord of which bears S 76° 50' 09" W, 1209.07 feet) to a point of non-tangency; thence leaving said northerly right of way line of Skyliners Road, N 18° 58' 33" W a distance of 21.17 feet to a point of curvature; thence along the arc of a 211.53 foot radius curve to the right, through a central angle of 05° 29' 17", an arc distance of 20.26 feet (the chord of which bears N 16° 13' 55" W, 20.25 feet) to a point of non-tangent compound curvature; thence along the arc of a 619.98 foot radius curve to the right, through a central angle of 14° 34' 27", an

arc distance of 157.70 feet (the chord of which bears N 05° 46' 42" W, 157.28 feet) to a point of non-tangency; thence S 89° 21' 50" E a distance of 4.29 feet to a point of non-tangent curvature; thence along the arc of a 482.17 foot radius curve to the right, through a central angle of 28° 03' 57", an arc distance of 236.19 feet (the chord of which bears N 18° 44' 34" E, 233.84 feet) to a point of non-tangent reverse curvature; thence along the arc of a 524.82 foot radius curve to the left, through a central angle of 26° 54' 28", an arc distance of 246.47 feet (the chord of which bears N 16° 54' 10" E, 244.21 feet) to a point of non-tangency; thence S 78° 33' 23" W, a distance of 204.00 feet to a point on the easterly boundary of the plat of Tree Farm, recorded in Plat Cabinet I, Pages 260 through 278, and as Instrument Number 2016-44585 of the Deschutes County Official Records; thence along said easterly boundary for the following eight courses; thence S 63° 19' 11" W a distance of 175.65 feet; thence N 89° 47' 06" W a distance of 117.96 feet; thence N 85° 21' 59" W a distance of 351.80 feet; thence N 79° 44' 20" W a distance of 111.35 feet; thence N 48° 08' 56" W a distance of 158.31 feet; thence N 29° 30' 12" W a distance of 36.61 feet; thence N 14° 48' 33" W a distance of 55.05 feet to a point of non-tangent curvature; thence along the arc of a 3556.55 foot radius curve to the right, through a central angle of 23° 20' 34", an arc distance of 1448.98 feet (the chord of which bears N 16° 47' 22" E, 1438.98 feet) to a point of non-tangent curvature; thence leaving said easterly boundary, along the arc of a 400.00 foot radius curve to the right, through a central angle of 59° 31' 52", an arc distance of 415.61 feet (the chord of which bears N 77° 43' 52" E, 397.16 feet) to a point on the easterly boundary of said plat of Tree Farm and a point of non-tangent curvature; thence along said easterly boundary, along the arc of a 3256.41 foot radius curve to the right, through a central angle of 07° 03' 54", an arc distance of 401.55 feet (the chord of which bears N 36° 36' 40" E, 401.29 feet) to a point of non-tangency; thence leaving said easterly boundary, N 59° 27' 16" E a distance of 152.73 feet; thence N 49° 03' 46" E a distance of 84.77 feet to a point of non-tangent curvature; thence along the arc of a 2548.38 foot radius curve to the right, through a central angle of 17° 55' 37", an arc distance of 797.35 feet (the chord of which bears N 69° 14' 47" E, 794.10 feet) to a point on the westerly right of way of Sage Steppe Drive, as defined by said plat of Tree Farm, and a point of non-tangent curvature; thence along said westerly right of way, along the arc of a 230.00 foot radius curve to the left, through a central angle of 30° 48' 03", an arc distance of 123.64 feet (the chord of which bears S 16° 17' 47" E, 122.16 feet) to a point on the easterly boundary of said plat of Tree Farm and a point of non-tangency; thence along said easterly boundary, N 58° 16' 15" E a distance of 60.00 feet to a point on the easterly right of way of said Sage Steppe Drive and a point of non-tangent curvature; thence leaving said easterly boundary and along said easterly right of way, along the arc of a 170.00 foot radius curve to the right, through a central angle of 13° 37' 43", an arc distance of 40.44 feet (the chord of which bears N 24° 52' 16" W, 40.34 feet) to a point of non-tangency; thence leaving said easterly right of way, N 71° 34' 07" E a distance of 242.04 feet; thence N 75° 12' 26" E a distance of 146.27 feet; thence N 77° 56' 29" E a distance of 146.19 feet; thence N 80° 40' 32" E a distance of 146.19 feet; thence N 83° 24' 36" E a distance of 146.23 feet; thence N 86° 32' 47" E a distance of 191.19 feet to a point of non-tangent curvature; thence along the arc of an 1483.61 foot radius curve to the right, through a central angle of 24° 13' 31", an arc distance of 627.28 feet (the chord of which bears N 24° 40' 05" E, 622.62 feet) to a point of non-tangent reverse curvature; thence along the arc of a 2447.87 foot radius curve to the left, through a central angle of 05° 24' 07", an arc distance of 230.79 feet (the chord of which bears N 32° 25'

40" E, 230.70 feet) to a point on the north line of said plat of Tree Farm, being a point on the north line of the South one-half of the Northeast one-quarter (S 1/2 NE 1/4) of said Section 35 and a point of non-tangency; thence along said north line, S 89° 57' 40" E a distance of 135.71 feet to the northeast corner of said plat; thence leaving said plat and continuing along said north line of the South one-half of the Northeast one-quarter, S 89° 57' 40" E a distance of 1250.60 feet to the North 1/16th corner common to said Section 35 and Section 36, Township 17 South, Range 11 East of the Willamette Meridian; thence along said east line of Section 35, S 00° 14' 07" W a distance of 1314.17 feet to said East One-quarter corner of said Section 35 and the Point of Beginning.

Said parcel contains 246 acres, more or less.



CURVE TABLE	
CURVE #	LENGTH
C1	211.84'
C2	322.17'
C3	365.85'
C4	19.52'
C5	392.80'
C6	1211.37'
C7	157.70'
C8	236.19'
C9	246.47'
C10	1448.98'
C11	415.61'
C12	401.55'
C13	797.35'
C14	123.64'
C15	40.44'
C16	627.28'
C17	230.79'
C18	20.26'

LINE TABLE	
LINE #	LENGTH
L1	1207.05'
L2	5.03'
L3	236.19'
L4	440.89'
L5	11.64'
L6	696.29'
L7	4.29'
L8	204.00'
L9	175.65'
L10	117.96'
L11	351.80'
L12	111.35'
L13	158.31'
L14	36.61'
L15	55.05'
L16	152.73'
L17	84.77'
L18	60.00'
L19	242.04'
L20	146.27'
L21	146.19'
L22	146.19'
L23	146.23'
L24	191.19'
L25	135.71'
L26	1250.60'
L27	1314.17'
L28	89.09'
L29	21.17'

DOWL
www.dowl.com
963 SW Simpson, #200
Bend, Oregon 97702
541-385-4772

NWX2 LLC PROPERTY
PROPOSED ADJUSTED PARCEL

PROJECT	14142.01
DATE	08/21/2018

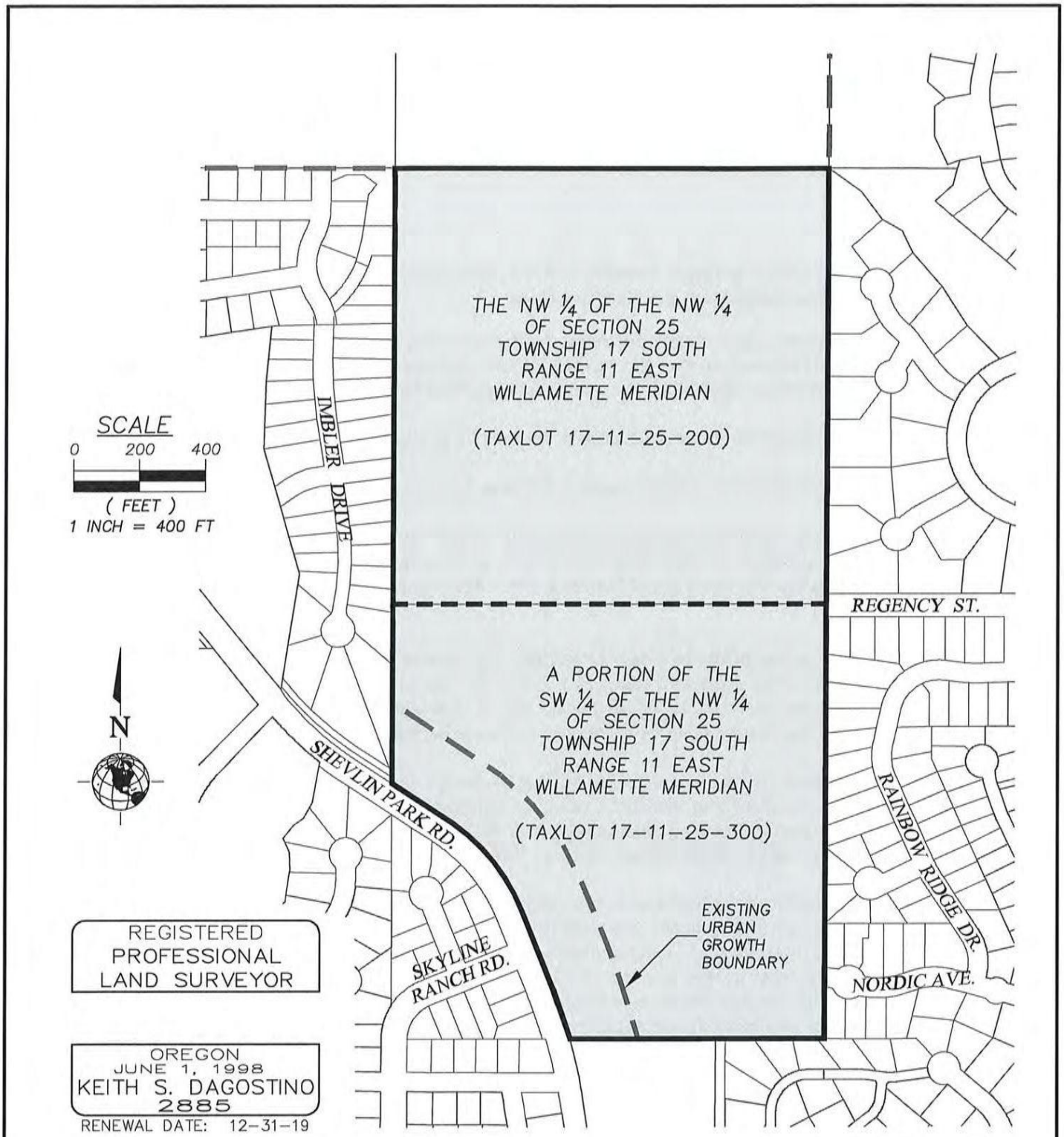
EXHIBIT B

O:\22\14142-01\65CAD\Survey\SA14-PR-EH-14142-01-EXB.dwg PLOT DATE 2018-8-21 17:35 SAVED DATE 2018-08-21 17:33 USER: shonnse

Exhibit C
Coats/Shevlin– UGB LANDS

The Northwest Quarter of the Northwest Quarter of Section 25, and all that portion of the Southwest Quarter of the Northwest Quarter of Section 25 lying Northerly of Shevlin Park Road; all in Township 17 South, Range 11 East, Willamette Meridian, Deschutes County Oregon.





REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JUNE 1, 1998
KEITH S. DAGOSTINO
2885
RENEWAL DATE: 12-31-19

SHEET: 1 of 1

DESIGNED: KSD
DRAWN BY: CAB
APP'D BY: KSD
CHECK'D BY: KSD
LAST EDIT: 7/23/18
PLOT DATE: 7/23/18

SCALE: 1"=400'

INFRASTRUCTURE DEVELOPMENT AGREEMENT

COATS PROPERTY

EXHIBIT C

BEND OREGON

PROJECT: COAT001

DRAWING FILE NAME: WIG_LEGAL_MAPS.DWG

D'Agostino Parker, LLC
CIVIL ENGINEERING / LAND DEVELOPMENT SERVICES
61278 KING JEROBOAM AVE
BEND, OR 97702
P: (541) 693-4134

Exhibit D
Coats Transect North

All those portions of land located in Township 17 South, Range 11 East, Willamette Meridian, Deschutes County Oregon, more particularly described as follows:

Parcel 1-The Northwest Quarter of the Southeast Quarter of Section 23; Excepting therefrom all that land conveyed to Bend Metropolitan Park and Recreation District by Bargain and Sale Deed recorded January 31, 2003 as Document No. 2003-07391, Deschutes County Official Records(Tax lot 17-11-23-502);

Parcel 2-The East half of the Southeast Quarter of Section23 (Tax lots 17-11-23-500 and -503);

Parcel 3-The West half of the Southwest Quarter of Section 24 (Tax lots 17-11-24-600 and -700);

Parcel 4- All that portion of the Southwest Quarter of the Northwest Quarter of Section 24 described as Lot of Record 30 in Bargain and Sale Deed to CCCC LLC, an Oregon limited liability Company, recorded December 17, 2014 as Document No. 2014-42292, Deschutes County Official Records (Tax lot 17-11-24-403);

Parcel 5-All that portion of the East half of the Northwest Quarter of Section 24, and portion of the Northwest Quarter of the Northeast Quarter of Section 24, conveyed to CCCC LLC, an Oregon limited liability Company, and described as Adjusted Coats LR# 28, in Bargain and Sale Deed recorded April 17, 2017 as Document No. 2017-14430, Deschutes County Official Records (Tax lot 17-11-24-102);

Parcel 6- All that portion of the East half of the Northwest Quarter of Section 24, and portion of the South half of the Southwest Quarter of Section 13, conveyed to KYLE COATS, and described as Adjusted Coats LR# 29, in Bargain and Sale Deed recorded April 17, 2017 as Document No. 2017-14435, Deschutes County Official Records (Tax lots 17-11-24-100 and 17-11-13-500);

Parcel 7-All that portion of the Southeast Quarter of Section 13, conveyed to EMRK,LLC, and described as Adjusted Coats LR# 13, in Bargain and Sale Deed recorded April 17, 2017 as Document No. 2017-14434, Deschutes County Official Records, **lying Southerly of the following described line**;
Commencing at the South quarter corner of said Section 13;
Thence North 00°05'07" East 796.00 feet more or less, along the West line of said Southeast Quarter Section 13 to the centerline of the Bend Feed Canal Pipeline;
Thence continuing North 00°05'07" East 192.18 feet more or less, along the West line of said Southeast Quarter Section 13 to the **True Point of Beginning**;
Thence South 89°57'22" East 270.53 feet;
Thence North 57°11'05" East 1271.52 feet;
Thence North 86°12'12" East 132.45 feet;
Thence North 55°09'08" East 598.83 feet to the boundary of that certain land described in Warranty Deed from Robert L. and Joyce E. Coats to David and Rebecca Weber, recorded April 29, 1998, as Instrument No. 98-17761, Deed 491-1007, Deschutes County Official Records;
Thence along said boundary of Instrument No. 98-17761 the following five courses;
South 42°53'00" East 178.57 feet;

Thence South 78°08'00" East 232.80 feet;
Thence North 61°22'00" East 129.90 feet;
Thence North 11°50'30" West 250.00 feet;
Thence North 34°29'30" West 189.50 feet;
Thence leaving said boundary North 51°06'08" East 311.84 feet;
Thence South 46°11'50" East 121.3 feet more or less to the East line of said Southeast Quarter Section 13. (Portion of Tax lot 17-11-13-100)

Parcel 8- All that portion of the Southwest Quarter of Section 13, conveyed to EMRK,LLC, and described as Adjusted Coats LR# 13, in Bargain and Sale Deed recorded April 17, 2017 as Document No. 2017-14434, Deschutes County Official Records. (Portion of Tax lot 17-11-13-100)

Together with:

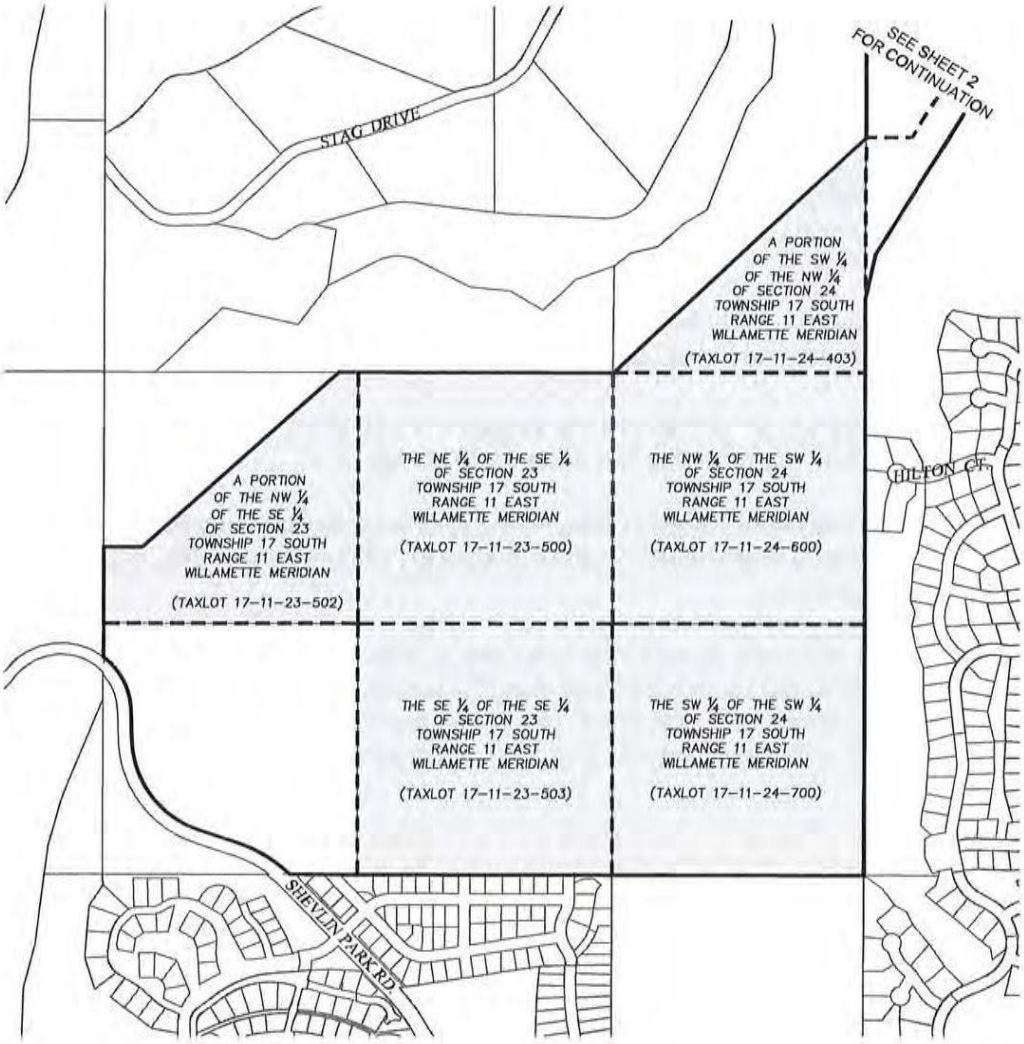
Parcel 9- All that portion of the North 1/2 of the Southwest Quarter of Section 18 Township 17 South, Range 12 East, Willamette Meridian, Deschutes County Oregon more particularly described as follows:

All that land described as Lot of Record 37 in Bargain and Sale Deed, recorded December 17, 2014 as Document No. 2014-42291; **excepting therefrom the following:**

All that portion of said Lot of Record 37 lying northerly of the following described line, and westerly of that land described in Warranty Deed recorded August 31, 1981 in Volume 346, page 712, Deschutes County Official Records;

Commencing at the Southwest corner of the Northwest quarter of the Southwest Quarter of said Section 18; Thence North 00°33'05" East 1109.05 feet along the West line of said Northwest Quarter to the **True Point of Beginning;** Thence South 46°11'50" East 108.64 feet to the boundary of said land described in said Warranty Deed, Volume 346, Page 712. (Portion of Tax lot 17-12-18-100)





N

SCALE

600 0 300 600 1200

(FEET)

1 INCH = 600 FT

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JUNE 1, 1998
KEITH S. DAGOSTINO
2885
RENEWAL DATE: 12-31-19

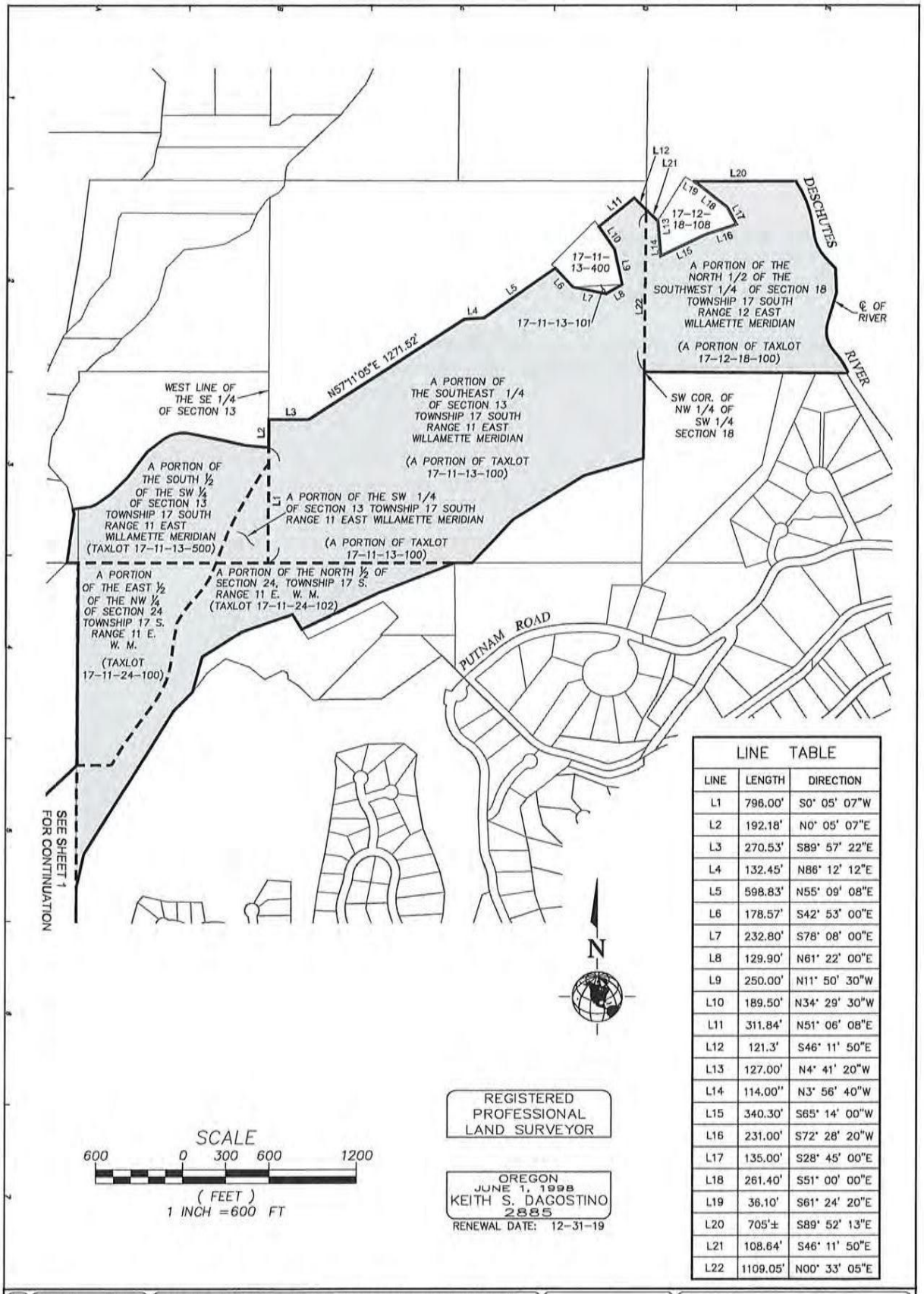
SHEET 1 OF 2

DESIGNED: KSD
DRAWN BY: CAB
LAST EDIT: 7/23/18
PLOT DATE: 7/23/18
SCALE: 1"=600'

INFRASTRUCTURE DEVELOPMENT AGREEMENT
TRANSECT NORTH
EXHIBIT D
DESCHUTES_CO OREGON

PROJECT: COAT001
DRAWING FILE NAME: WG Legal Maps.dwg

D'Agostino Parker, LLC
61278 King Jeroboam Ave
Bend, OR 97702
P: (541) 633-4134



LINE TABLE		
LINE	LENGTH	DIRECTION
L1	796.00'	S0° 05' 07"W
L2	192.18'	N0° 05' 07"E
L3	270.53'	S89° 57' 22"E
L4	132.45'	N86° 12' 12"E
L5	598.83'	N55° 09' 08"E
L6	178.57'	S42° 53' 00"E
L7	232.80'	S78° 08' 00"E
L8	129.90'	N61° 22' 00"E
L9	250.00'	N11° 50' 30"W
L10	189.50'	N34° 29' 30"W
L11	311.84'	N51° 06' 08"E
L12	121.3'	S46° 11' 50"E
L13	127.00'	N4° 41' 20"W
L14	114.00''	N3° 56' 40"W
L15	340.30'	S65° 14' 00"W
L16	231.00'	S72° 28' 20"W
L17	135.00'	S28° 45' 00"E
L18	261.40'	S51° 00' 00"E
L19	36.10'	S61° 24' 20"E
L20	705'±	S89° 52' 13"E
L21	108.64'	S46° 11' 50"E
L22	1109.05'	N00° 33' 05"E

SHEET 2 OF 2

DESIGNED: KSD
DRAWN BY: CAB
LAST EDIT: 7/23/18
PLOT DATE: 7/23/18
SCALE: 1"=600'

INFRASTRUCTURE DEVELOPMENT AGREEMENT
TRANSECT NORTH
EXHIBIT D
DESCHUTES_CO OREGON
PROJECT: COAT001
DRAWING FILE NAME: WG Legal Maps.dwg

D'Agostino Parker, LLC
61278 SING JEROBOAM AVE
BEND, OR 97702
P: (541) 633-4134

Exhibit E
Administrative School District No. 1, Deschutes County
Map and Tax lot: 1711230000600

That portion of the Southwest Quarter of the Southeast Quarter (SW1/4SE1/4), Section Twenty-three (23), Township Seventeen (17) South, Range Eleven (11), East of the Willamette Meridian, lying North of the Shevlin Market Road, Deschutes County, Oregon.

Excepting therefrom that portion conveyed to Deschutes County, a municipal corporation by Deed recorded August 15, 1977, Instrument No. 256-167, Deed Records.

Administrative School District No. One, Deschutes County

Shevlin Property



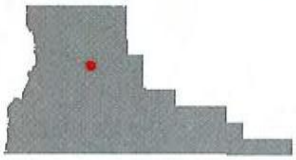


Exhibit E

EXHIBIT "F"

LAND LOCATED IN THE SOUTHEAST ¼ OF THE NORTHEAST ¼ AND THE NORTHEAST ¼ OF THE SOUTHEAST ¼ OF SECTION 26, TOWNSHIP 17 SOUTH, RANGE 11 EAST, WILLAMETTE MERIDIAN, DESCHUTES COUNTY, OREGON, MORE PARTICULARLY DESCRIBD AS FOLLOWS:

BEGINNING AT THE NORTHEAST 1/16 CORNER OF SAID SECTION 26;

THENCE ALONG THE NORTH LINE OF THE SOUTHAST ¼ OF THE NORTHEAST 1/1 OF SAID SECTION 26, NORTH 89°43'49" WEST 1063.30 FEET;

THENCE SOUTH 00°13'59" EAST 1317.13 FEET TO A PONT ON THE EAST-WEST CENTERLINE OF SAID SECTION 26;

THENCE CONTINUING SOUTH 00°13'59" EAST 335.24 FEET;

THENCE NORTH 89°38'01" EAST 1054.02 FEET TO A POINT ON THE EAST LINE OF THE NORTHEAST ¼ OF THE SOUTHEAST ¼ OF SAID SECTION 26;

THENCE ALONG THE EAST LINE, NORTH 00°13'33" EAST 321.05 FEET TO THE EAST 1/16 CORNER OF SAID SECTION 26;

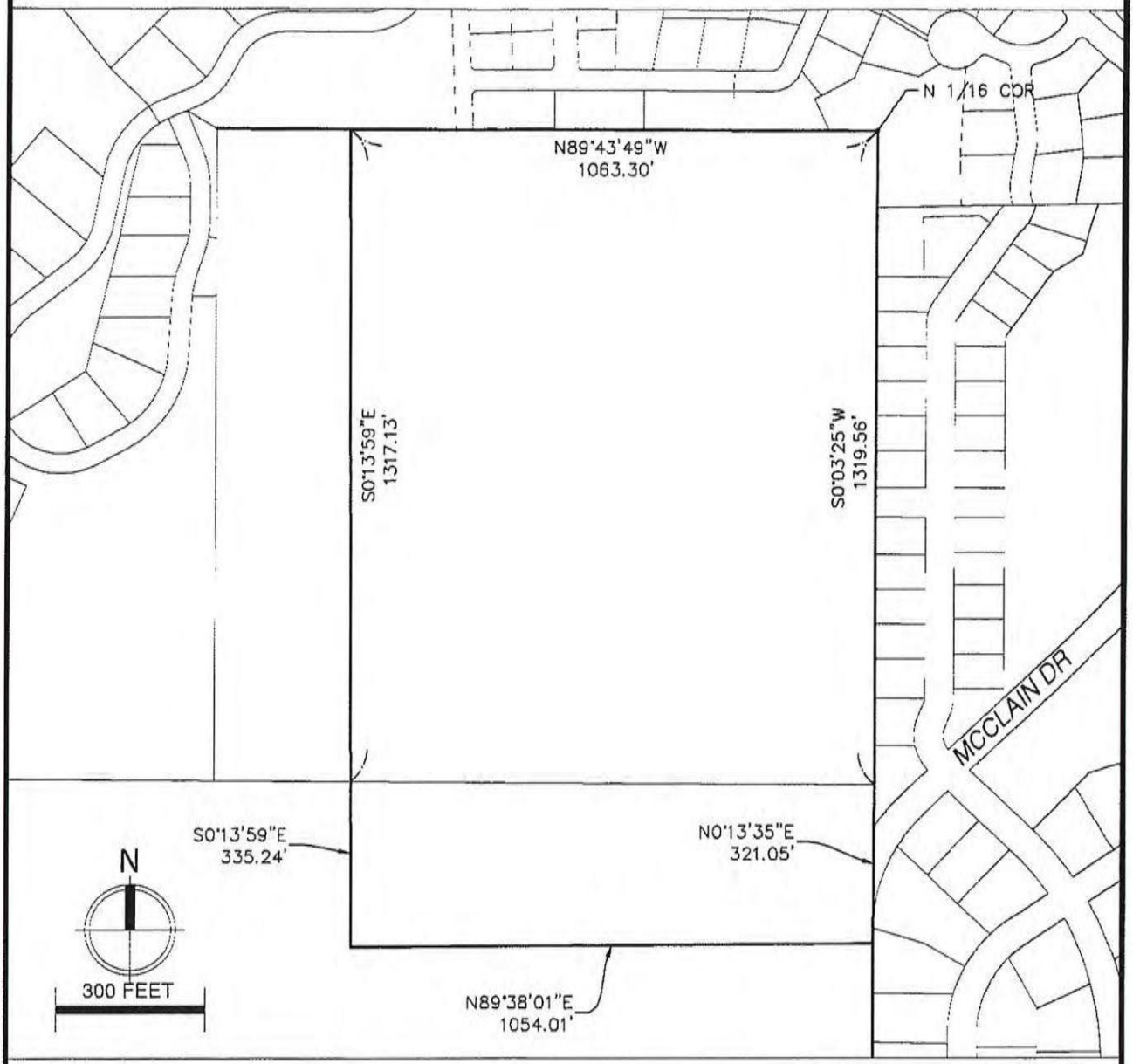
THENCE ALONG THE EAST LINE OF THE SOUTHEAST ¼ OF THE NORTHEAST 1/44 OF SAID SECTION 26, NORTH 00°03'25" EAST 1319.56 FEET TO THE POINT OF BEGINNING;

CONTAINS 1,743,668 SQUARE FEET OR 40.029 ACRES, MORE OR LESS.



EXHIBIT F

LAND LOCATED IN THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 26, TOWNSHIP 17 SOUTH, RANGE 11 EAST, WILLAMETTE MERIDIAN
DESCHUTES COUNTY, OREGON



BECON
CIVIL ENGINEERING & LAND SURVEYING
549 SW MILL VIEW WAY
SUITE 105
BEND, OREGON 97702
(541) 633-3140
www.beconeng.com

FOR: RIO LOBO, LLC

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
DEC. 16, 2009
ERIK J. HOFFMAN
70814

RENEWS: JUN. 30, 2017

DATE: 08/10/2018	SCALE: 1" = 300'	DRAWN BY: JLB	PROJ: 13861

EXHIBIT G

LAND LOCATED IN THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 17 SOUTH, RANGE 11 EAST, WILLAMETTE MERIDIAN, DESCHUTES COUNTY, OREGON, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 35;

THENCE ALONG THE EAST LINE OF SAID SECTION 35, SOUTH 00°14'12" 1314.08 FEET TO THE NORTH 1/16 CORNER COMMON TO SECTIONS 35 AND 36;

THENCE ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35, NORTH 89°57'40" WEST 1324.60 FEET, TO THE NORTHEAST 1/16 CORNER OF SAID SECTION 35;

THENCE ALONG THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35, NORTH 89°57'40" WEST 63.60 FEET;

THENCE LEAVING SAID SOUTH LINE AND ALONG THE FOLLOWING EIGHT COURSES, BEING THE PROPOSED WESTERLY RIGHT OF WAY OF SKYLINE RANCH ROAD;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 1035.00 FEET, AN ARC LENGTH OF 170.80 FEET, A TOTAL ANGLE OF 09°27'19", AND A CHORD WHICH BEARS NORTH 27°53'48" EAST 170.61 FEET;

THENCE NORTH 32°37'28" EAST 188.92 FEET;

THENCE NORTH 29°34'46" EAST 297.75 FEET;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 565.00 FEET, AN ARC LENGTH OF 78.16 FEET, A TOTAL ANGLE OF 07°55'33", AND A CHORD WHICH BEARS NORTH 25°37'00" EAST 78.10 FEET;

THENCE NORTH 21°39'13" EAST 345.16 FEET;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 335.00.00 FEET, AN ARC LENGTH OF 148.09 FEET, A TOTAL ANGLE OF 25°19'39", AND A CHORD WHICH BEARS NORTH 34°19'03" EAST 146.88 FEET;

THENCE NORTH 46°58'52" EAST 111.97 FEET;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 265.00 FEET, AN ARC LENGTH OF 179.51 FEET, A TOTAL ANGLE OF 38°48'47", AND A CHORD WHICH BEARS NORTH 27°34'29" EAST 176.10 FEET, TO A POINT ON THE NORTH LINE OF SAID SECTION 35;

THENCE ALONG SAID NORTH LINE, SOUTH 89°54'58" EAST 657.66 FEET TO THE POINT OF BEGINNING.

CONTAINS 1,353,517 SQUARE FEET OR 31.072 ACRES, MORE OR LESS.

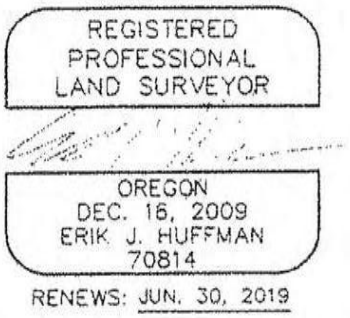
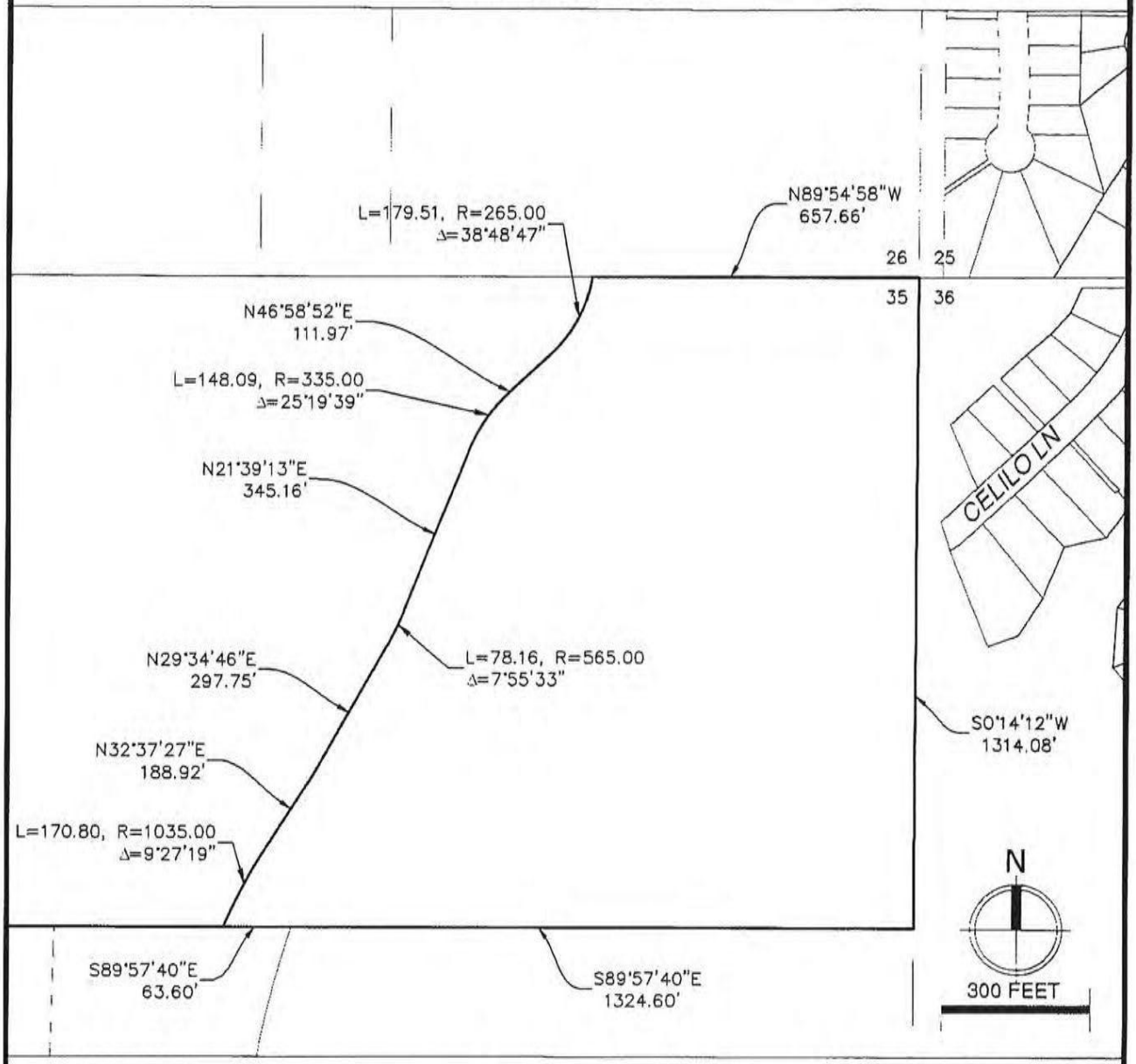


EXHIBIT G

LAND LOCATED IN THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 17 SOUTH, RANGE 11 EAST, WILLAMETTE MERIDIAN

DESCHUTES COUNTY, OREGON



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ERIK J. HUFFMAN
70814

RENEWS: JUN. 30, 2017

DATE: 08/10/2018	SCALE: 1" = 300'	DRAWN BY: JLB	PROJ: 13861

EXHIBIT H

LAND LOCATED IN THE SOUTHWEST 1/4 OF SECTION 26, THE SOUTHEAST 1/4 OF SECTION 26, THE NORTHWEST 1/4 OF SECTION 35, AND THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 17 SOUTH, RANGE 11 EAST, WILLAMETTE MERIDIAN, DESCHUTES COUNTY, OREGON, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THAT PROPERTY DESCRIBED IN INSTRUMENT NUMBER 2006-62213, DESCHUTES COUNTY OFFICIAL RECORDS;

EXCEPTING THEREFROM;

BEGINNING AT THE EAST 1/16 CORNER OF SAID SECTION 26;

THENCE ALONG THE EAST-WEST CENTERLINE OF SAID SECTION 26, NORTH 89°35'46" WEST, 1056.65 FEET;

THENCE SOUTH 00°13'59" EAST 335.24 FEET;

THENCE NORTH 89°38'01" EAST 1054.02 FEET TO A POINT ON THE EAST LINE OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SAID SECTION 26;

THENCE ALONG SAID EAST LINE, NORTH 00°13'35" EAST 321.05 FEET TO THE POINT OF BEGINNING.

ALSO EXCEPTING THEREFROM;

BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 35;

THENCE ALONG THE EAST LINE OF SAID SECTION 35, SOUTH 00°14'12" 1314.08 FEET TO THE NORTH 1/16 CORNER COMMON TO SECTIONS 35 AND 36;

THENCE ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35, NORTH 89°57'40" WEST 1324.60 FEET, TO THE NORTHEAST 1/16 CORNER OF SAID SECTION 35;

THENCE ALONG THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35, NORTH 89°57'40" WEST 63.60 FEET;

THENCE LEAVING SAID SOUTH LINE AND ALONG THE FOLLOWING EIGHT COURSES, BEING THE PROPOSED WESTERLY RIGHT OF WAY OF SKYLINE RANCH ROAD;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 1035.00 FEET, AN ARC LENGTH OF 170.80 FEET, A TOTAL ANGLE OF 09°27'19", AND A CHORD WHICH BEARS NORTH 27°53'48" EAST 170.61 FEET;

THENCE NORTH 32°37'28" EAST 188.92 FEET;

THENCE NORTH 29°34'46" EAST 297.75 FEET;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 565.00 FEET, AN ARC LENGTH OF 78.16 FEET, A TOTAL ANGLE OF 07°55'33", AND A CHORD WHICH BEARS NORTH 25°37'00" EAST 78.10 FEET;

THENCE NORTH 21°39'13" EAST 345.16 FEET;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 335.00.00 FEET, AN ARC LENGTH OF 148.09 FEET, A TOTAL ANGLE OF 25°19'39", AND A CHORD WHICH BEARS NORTH 34°19'03" EAST 146.88 FEET;

THENCE NORTH 46°58'52" EAST 111.97 FEET;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 265.00.00 FEET, AN ARC LENGTH OF 179.51 FEET, A TOTAL ANGLE OF 38°51'47", AND A CHORD WHICH BEARS NORTH 27°34'29" EAST 176.10 FEET, TO A POINT ON THE NORTH LINE OF SAID SECTION 35;

THENCE ALONG SAID NORTH LINE, SOUTH 89°54'58" EAST 657.62 FEET TO THE POINT OF BEGINNING.

TOGETHER WITH;

BEGINNING AT THE NORTH 1/16 CORNER OF SAID SECTION 26;

THENCE SOUTH 00°02'23" WEST 1316.45, TO THE CENTER 1/4 CORNER OF SAID SECTION 26;

THENCE ALONG THE EAST-WEST CENTERLINE OF SAID SECTION 26, SOUTH 89°35'46" EAST 274.20 FEET;

THENCE NORTH 00°13'59" WEST 1317.13 FEET TO A POINT ON THE NORTH LINE OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 26;

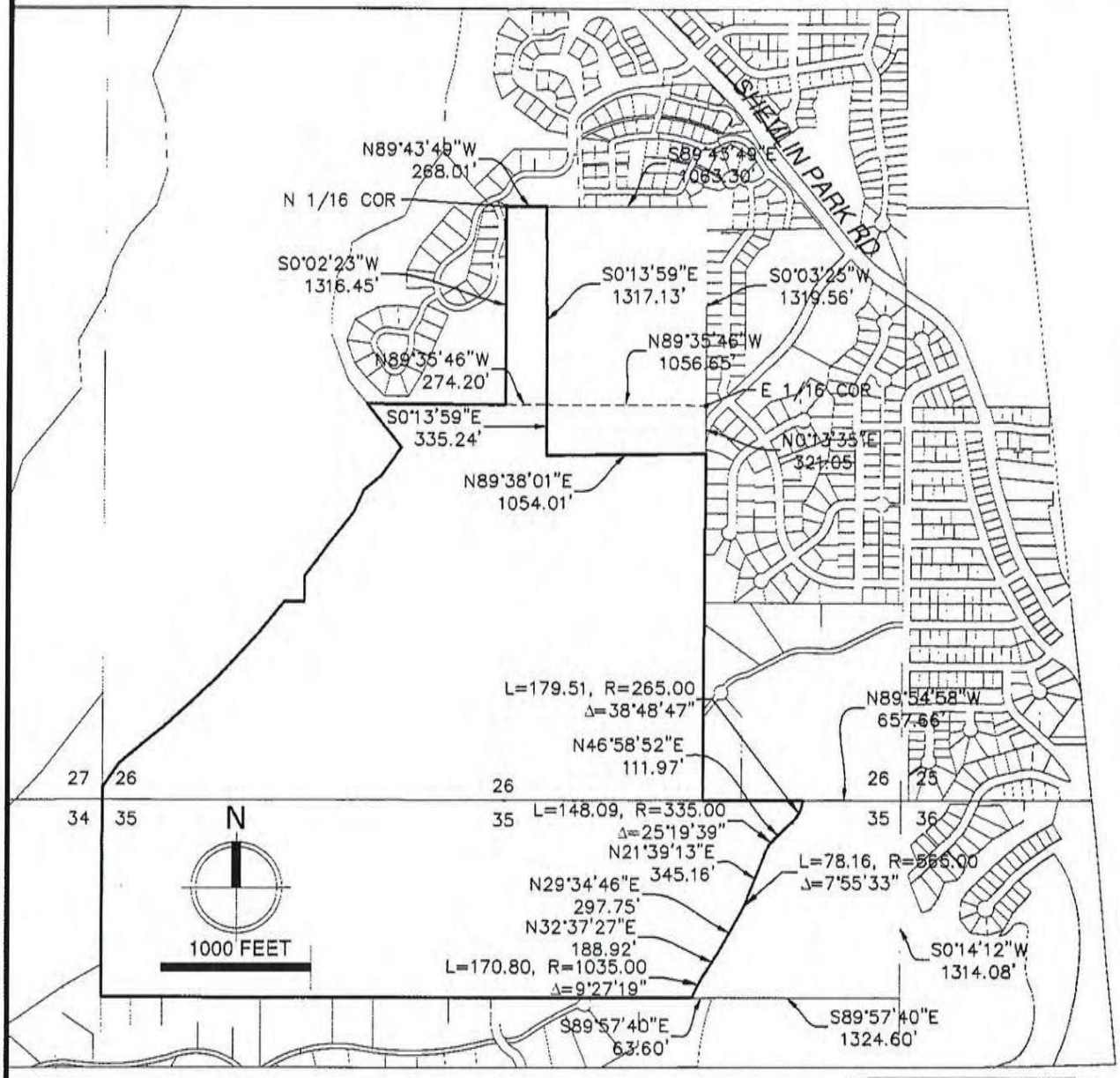
THENCE NORTH 89°43'49" WEST 268.01 FEET TO THE POINT OF BEGINNING.

CONTAINS 13,242,312 SQUARE FEET OR 304.002 ACRES, MORE OR LESS.



EXHIBIT H

LAND LOCATED IN THE SOUTHWEST 1/4 OF SECTION 26, THE SOUTHEAST 1/4 OF SECTION 26, THE NORTHWEST 1/4 OF SECTION 35, AND THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 17 SOUTH, RANGE 11 EAST, WILLAMETTE MERIDIAN, DESCHUTES COUNTY, OREGON



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FOR: RIO LOBO, LLC

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
DEC. 16, 2009
ERIK C. HUFFMAN
70814

RENEWS: JUN. 30, 2017

DATE: 08/10/2018	SCALE: 1" = 1000'	DRAWN BY: JLB	PROJ: 13861

LEGAL DESCRIPTION
DSW-02
May 25, 2018
Page 1 OF 1

EXHIBIT I

A tract of land lying in the southeast one-quarter of the southeast one-quarter Section 26, Township 17 South, Range 11 East, Willamette Meridian, City of Bend, Deschutes County, Oregon and being all of Common 1 and a portion of both Common 2 and Anderson Ranch Road (private way) of the plat of Anderson Ranch P.U.D., Deschutes County Survey Plat Records and being more particularly described as follows:

Bearings are based on Anderson Ranch P.U.D., Deschutes County Survey Records.

The boundary of this Legal Description is based on Anderson Ranch P.U.D., Deschutes County Survey Records.

Beginning at the southeast corner and the initial point of Anderson Ranch P.U.D., thence along the east line of Anderson Ranch P.U.D. North 00°23'18" East 1311.66 feet to the northeast corner of said Anderson Ranch P.U.D.; thence along the north line of said Anderson Ranch P.U.D. North 89°44'47" West 546.94 feet to the east line of Tract A, Document 2015-024819 Deschutes County Deed Records; thence along said east line South 00°09'39" East 299.06 feet to the north line of Anderson Ranch Road (private way); thence along said north line North 87°14'00" West 108.77 feet to a point of curve left; thence around the curve left (Central angle = 31°12'15", Radius = 266.00 feet, Long Chord bears South 77°09'53" West, 143.08 feet) 144.87 feet to the southeast corner of Lot 2 of said Anderson Ranch P.U.D.; thence leaving said north line South 28°26'15" East 32.00 feet to the south line of said Anderson Ranch Road (private way); thence along said south line South 61°33'42" West 253.90 feet to a point of curve right; thence around the curve right (Central angle = 12°58'40", Radius = 166.00 feet, Long Chord bears South 68°03'02" West, 37.52 feet) 37.60 feet; thence South 74°32'24" West 41.10 to a point of curve left; thence around the curve left (Central angle = 34°38'21", Radius = 184.00 feet, Long Chord bears South 57°13'14" West, 109.55 feet) 111.24 feet to a point of compound curve left; thence around the curve left (Central angle = 66°46'18", Radius = 13.00 feet, Long Chord bears South 06°30'55" West, 14.31 feet) 15.15 feet to a point of reverse curve left; thence around the curve left (Central angle = 75°09'53", Radius = 47.00 feet, Long Chord bears South 10°42'42" West, 57.33 feet) 61.66 feet to the northeast corner of Lot 4 of said Anderson Ranch P.U.D.; thence along the east line of said Lot 4 the following two courses: South 41°42'34" East 167.33 feet; thence South 00°12'45" West 558.07 feet to the south line of said Anderson Ranch P.U.D.; thence along said south line South 89°54'52" East 1062.92 feet to the **Point Of Beginning.**

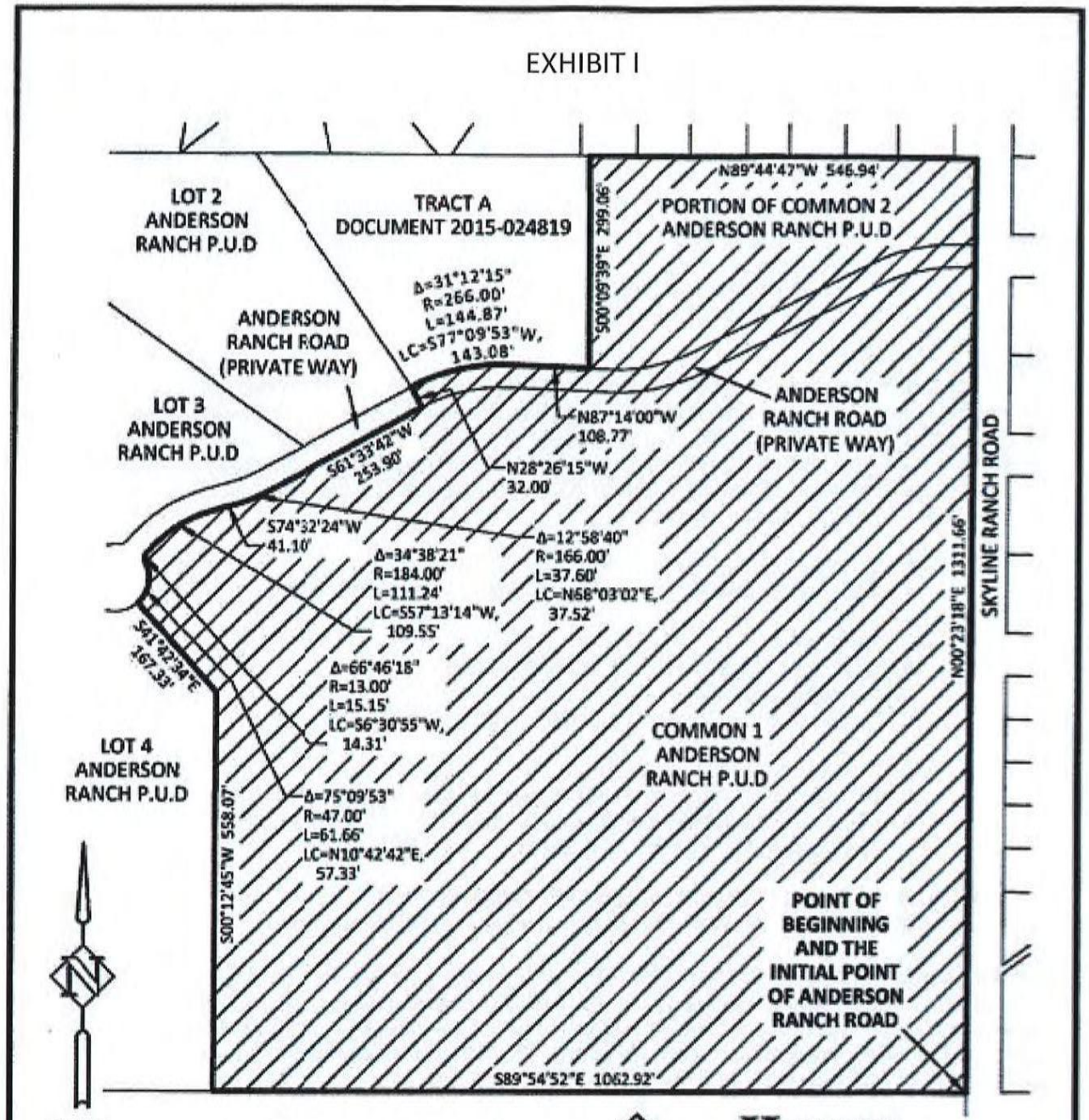
Containing 28.06 acres more or less.

See the attached Exhibit Map, which is made a part hereof.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
Nov. 08, 2010
JOHN TAYLOR HAGLUND
55022PLS
RENEWS: 6-30-2019

EXHIBIT I



SCALE
1" = 200'

± 28.06 ACRES

SEE ATTACHED
LEGAL DESCRIPTION

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
NOVEMBER 11, 2010
JOHN TAYLOR HAGLUND
55022

RENEWS: 6-30-2019

HHPR Harper Houf Peterson Righellis Inc.

ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS

250 NW Franklin Ave., Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DSW-02 JTH 05/25/2018 PAGE 1 OF 1

EXHIBIT J

CITY OF BEND ENGINEERING DIVISION
TRAFFIC ANALYSIS MEMO – TIA REVIEW
BP18-3441-TRFA
WESTSIDE ANNEXATION

COMMUNITY DEVELOPMENT

Date: August 3, 2018
Project Site: Multiple project lots
Contact: Matt Kittelson
Kittelson & Associates, Inc.
541-312-8300

Existing Conditions:
The Westside Infrastructure Group (WIG) is made up of four (4) property owners that are working to develop the North West properties in Bend. These properties are primarily within the UGB but have not been annexed into the City Limits. Because of the cost and timing to the regional NW development of the properties, the WIG property owners are collaborating in a master plan development submittal and collectively forming agreements with the City to benefit all development. The members of the WIG area as follows:

1) Discovery West / NWX2, LLC (NWX2)
    a. 245 acres in the West UGB Expansion Area – Master Plan Area 1

2) CCC, LLC (Coats),
    a. 68 acres in the Shevlin UGB Expansion Area
    b. 6 acres in City limits
    c. 378 acres in the Transect Area North – Deschutes County

3) Rio Lobo Investments, LLC (Rio Lobo)
    a. 31 acres in the West Bend UGB Expansion Area – Master Plan Area
    b. 40 acres in the West bend UGB Expansion Area – Master Plan Area
    c. 304 acres in the Transect Area South

4) Anderson Ranch Holdings Company LLC (Anderson Ranch)
    a. 28 acres in the West UFB Expansion Area – Master Plan Area 2

The West expansion project sites are north of Skyliners Road and east of the Tree Farm Subdivision and south of Shevlin Park Road. The Shevlin expansion is north of Shevlin Park Road and abutting Regency Street. All expansion areas are within the Urban Growth Boundary (UGB) approved in 2016 but outside the current City Limits. The Transect Area is within Deschutes County, outside the UGB, but directly west of the West expansion area.

Density of the lots area governed by the Bend Comprehensive Plan (BCP) chapter 11, except for the Transect properties, which are located in the County and are governed by Deschutes County Code, Title 19.

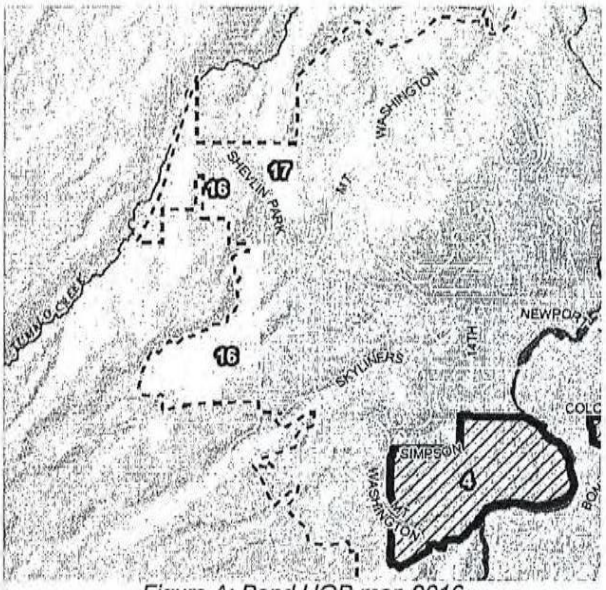


Figure A: Bend UGB map 2016
#16 area – West Expansion area
#17 – Shevlin Expansion area

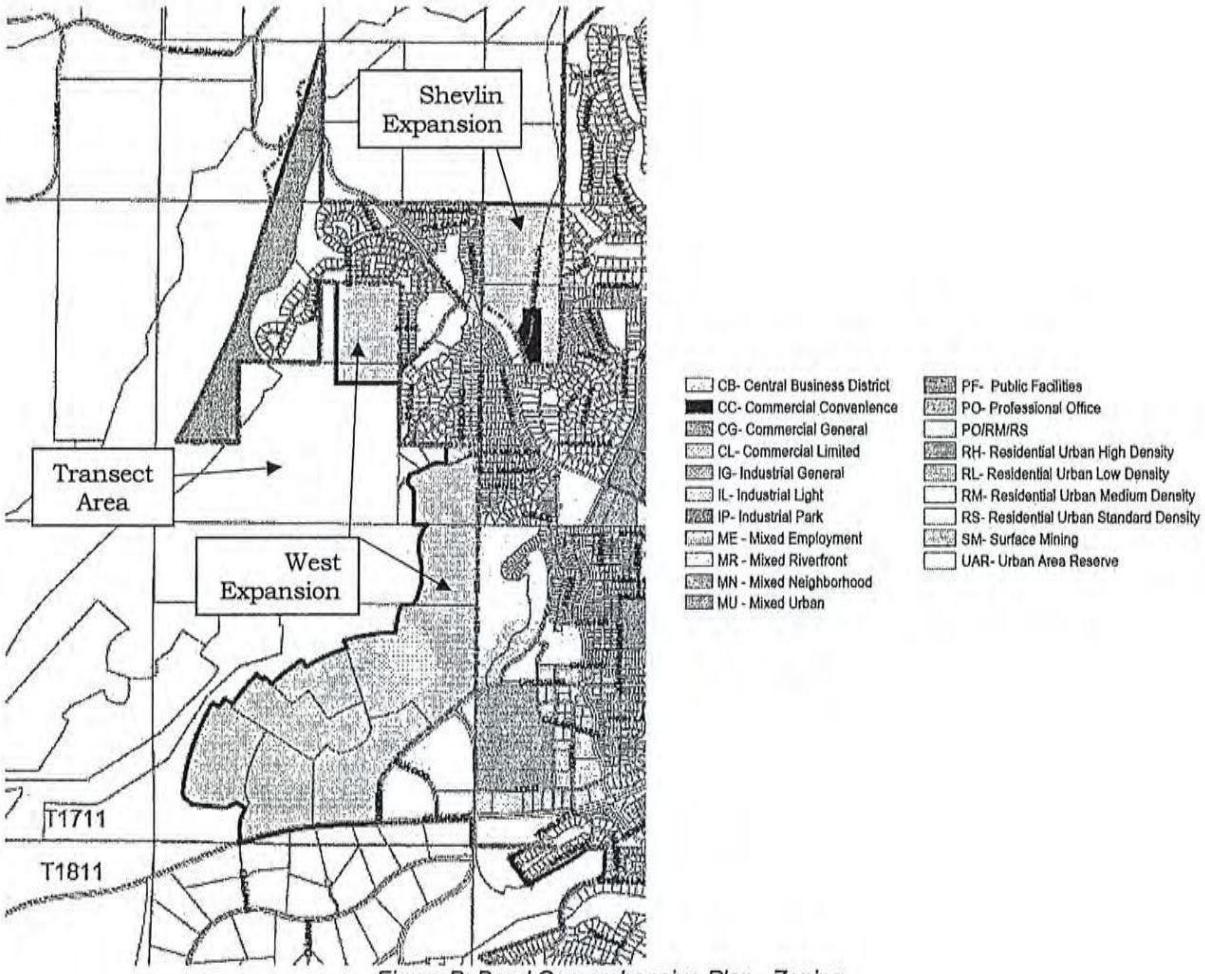


Figure B: Bend Comprehensive Plan - Zoning

Proposed Development:

The WIG development sites are anticipated to have a full buildout horizon of 20 years. The anticipated growth at buildout, is anticipated as follows:

West Area

- 321 gross acres of residential,
    - A minimum 870 and maximum 967 residential units
        - 9 percent attached single family units,
        - 21 percent multifamily units (includes duplexes and triplexes)
        - 70 percent detached single family units
- 7 gross acres of commercial, and
- 14 gross acres of mixed employment.

Maximum requirements for each area:

- Master Plan area 1 (Discovery West)
    - 650 units residential
        - 60 attached single family
        - 142 multifamily units
    - All 21 acres of commercial and mixed employment lands are in this area

- Master Plan Area 2 (Anderson Ranch)
    - 65 units in total
        - At least 12 attached single family units

- Master Plan Area 3 (Rio Lobo)
    - 136 units in total
        - At least 16 attached single family units
        - At least 59 multifamily units
            - 20 percent of the multifamily units will be affordable housing

- Mater Plan Area 4 (Rio Lobo)
    - 116 housing units with no mix of housing types specified or required.

Shevlin Area (Coats)

- 60 gross acres of residential
    - A minimum 162 units (i.e. 81 percent of the max) and a maximum of 200 units
        - A minimum 10 percent attached single family units
        - A minimum 21 percent multifamily units (including duplex and triplex)
        - A maximum of 69 percent detached single family units
- 8 gross acres of commercial.
- 600-student elementary school

Transect lands (Coats & Rio Lobo)

- Transect North (Coats) – anticipated 100 units
- Transect South (Rio Lobo) – anticipated 87 units

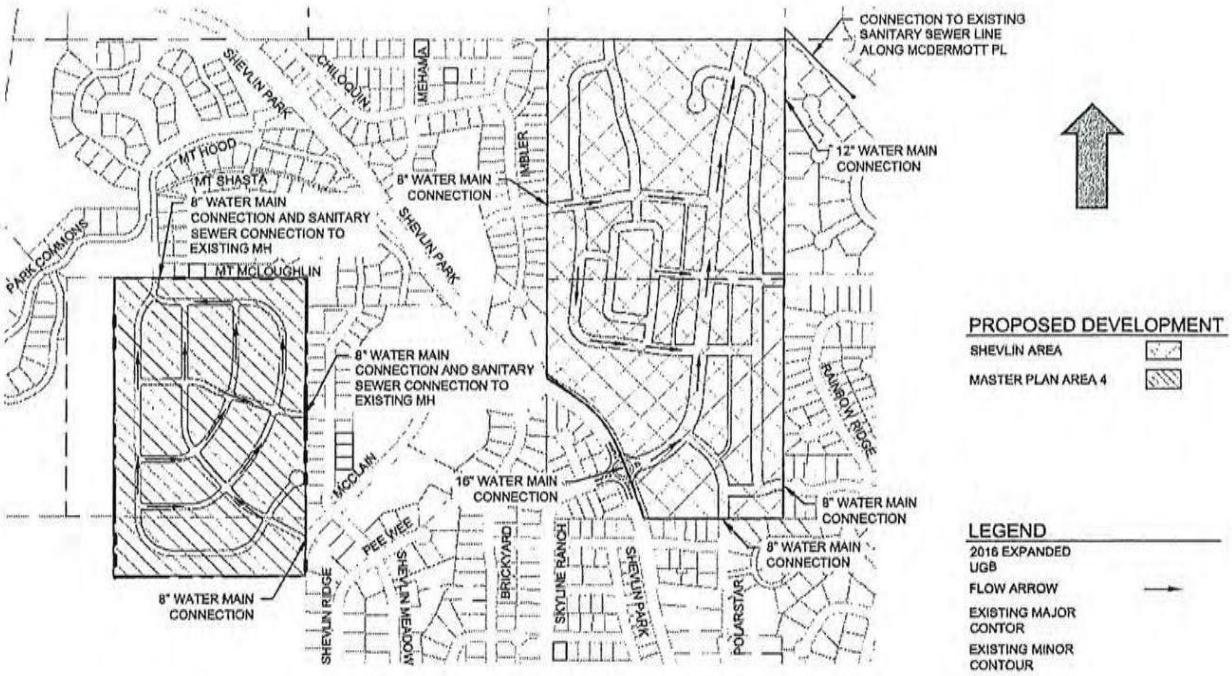


Figure D: Masterplan area 4 and Shevlin Area

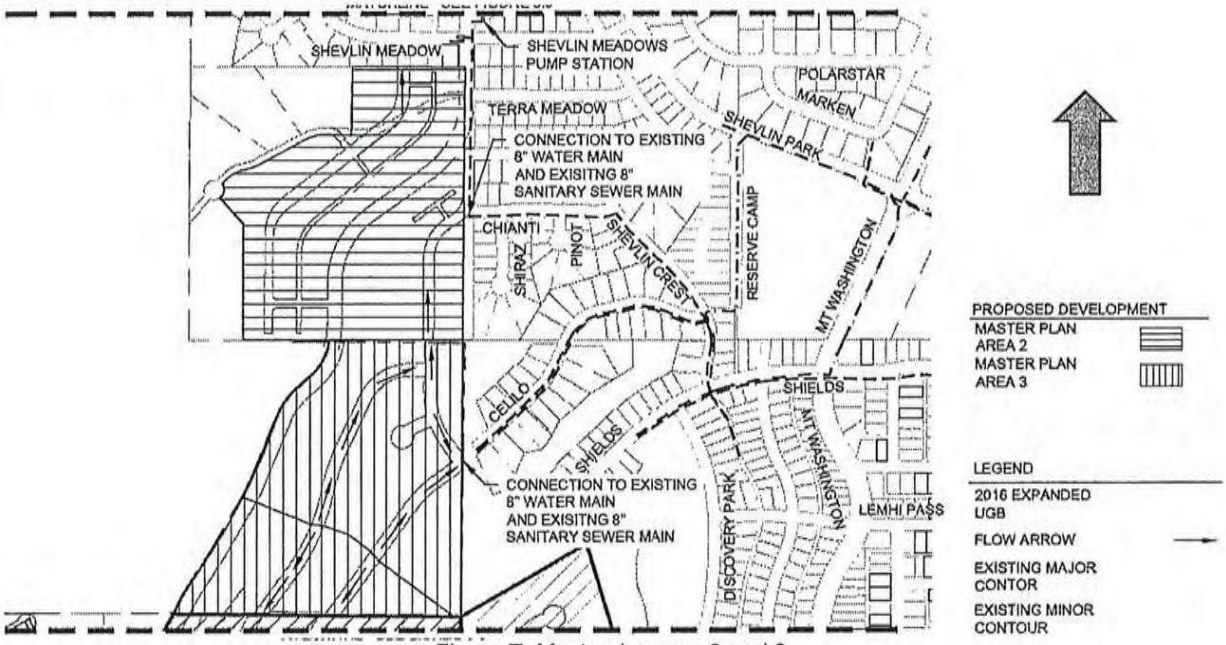


Figure E: Masterplan area 2 and 3

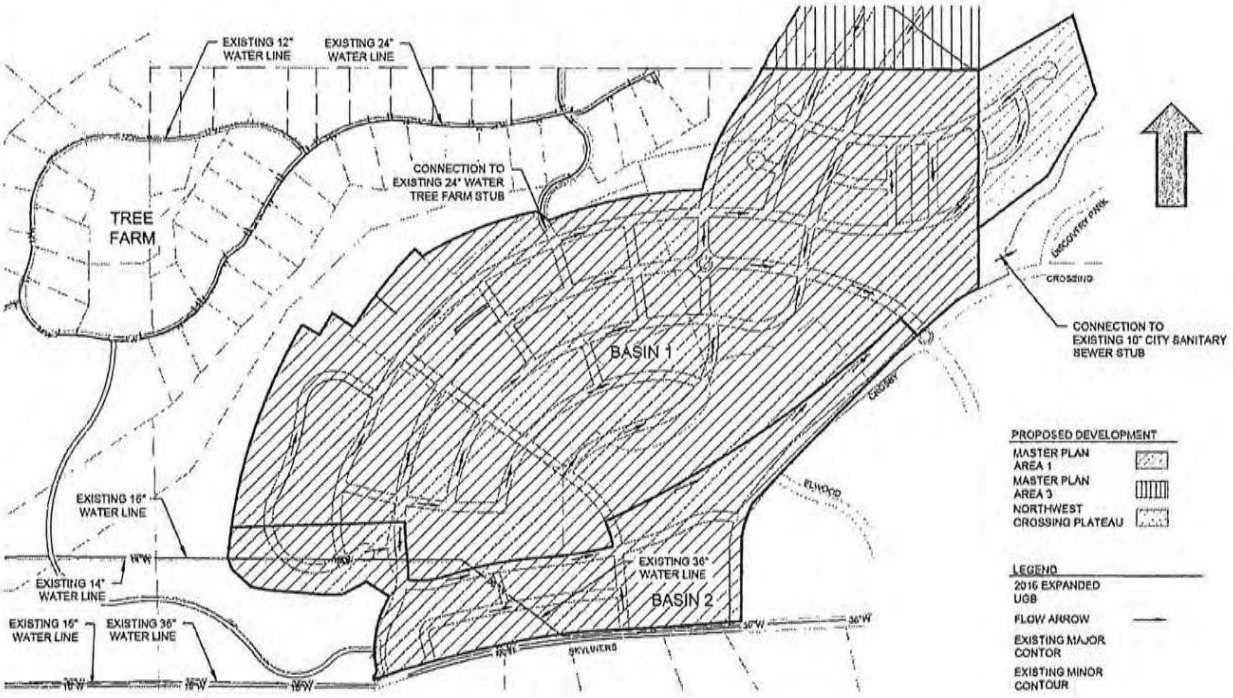


Figure F: Masterplan area 1 and 3

Transportation Impact Analysis (TIA) Required: ☑ Yes ☐ No

Kittelson & Associates submitted a Transportation Facilities Report (TFR), dated June 28, 2018, as part of TFR application number BP18-3441-TRFA (Kittelson project 21085).

The analysis was done based on a buildout horizon assumption of 2033 or beyond for Master Plan area 1 and the Shevlin Area. The Anderson Ranch and Rio Lobo areas may have a shorter duration than that anticipated for the master plan buildout. For consistency, it was assumed all developments would be completed by 2040 for determining the traffic impact mitigations.

Study intersections included:

Shevlin Park Road at Skyline Ranch Road
Shevlin Park Road at Mt. Washington Drive
Shevlin Park Road at NW Crossing Drive
14th Street at Newport Avenue
Mt. Washington Drive at Regency Drive
Skyliners Road at Skyline Ranch Road
Shevlin Park Road at College Way
Mt Washinton Drive at NW Crossing Drive
Mt. Washington Drive at Skyliners Road
Skyliners Road at Crosby Drive
Skyliners Road at Lemhi Pass Drive
Skyliner Ranch Road at NW Crossing Drive
14th Street at Galveston Avenue

These intersection analysis is based on the ITE trip rates:

Land Use	ITE Code	Size	Total Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Trips	In	Out	Trips	In	Out
Master Plan Area 1 (Discovery West)									
Single Family	210	448	4,264	336	84	252	448	282	166
Townhomes	230	60	348	26	4	22	31	21	10

Apartments	220	142	944	72	14	58	88	57	31
Retail	820	22,870	976	22	14	8	85	41	44
Office	710	205,820	2,270	321	282	39	307	52	255
Total			8,802	777	398	379	959	453	506
Master Plan Area 2 (Anderson Ranch)									
Single Family	210	53	504	40	10	30	53	33	20
Townhomes	230	12	70	5	1	4	6	4	2
Total			574	45	11	34	59	37	22
Master Plan Area 3 (Rio Lobo)									
Single Family	210	61	580	46	12	34	61	38	23
Townhomes	230	16	92	7	1	6	8	5	3
Apartments	220	59	392	30	6	24	37	24	13
Total			1,064	83	19	64	106	67	39
Master Plan Area 4 (Rio Lobo)									
Single Family	210	116	1,104	87	22	65	116	73	43
Total West Area									
Single Family	210	678	6,452	509	128	381	678	426	252
Townhomes	230	88	510	38	6	32	45	30	15
Apartments	220	201	1,336	102	20	82	125	81	44
Retail	820	22,870	976	22	14	8	85	41	44
Office	710	205,820	2,270	321	282	39	307	52	255
Total			11,544	992	450	542	1,240	630	610
Shevlin Area (Coats)									
Existing Use	*Studies*	*297 acres*	*(100)*	*(16)*	*(8)*	*(8)*	*(16)*	*(8)*	*(8)*
Single Family	210	161	1,532	121	30	91	161	101	60
Townhomes	230	20	116	9	2	7	10	7	3
Apartments	220	42	280	21	4	17	26	17	9
Retail	820	26,140	1,116	25	16	9	97	47	50
Office	710	60,980	672	95	84	11	91	15	76
Elementary School	520	600	774	270	149	121	90	44	46
Total			4,390	525	277	248	459	223	226
Transect (North and South Areas)									
Single Family	210	100	952	75	19	56	100	63	37
Single Family	210	87	828	65	16	49	87	55	32
Total All Areas									
Total Trips			17,714	1,657	762	895	1,886	971	915

Table A: Anticipated ITE Trips from WIG developments

Under a no-build condition, the following intersections are shown to already exceed City standards:

- Lemhi Pass at Skyliners Road
- 14th Street at Newport Avenue
- 14th Street at Galveston Avenue

Under 2040 build-out conditions, the following intersections, in addition to the no-build condition intersections listed previously, exceed City standards:

- Skyline Ranch Road at Skyliners Road
- Shevlin Park Road at College Way
- Mt. Washington Drive at Skyliners Road
- Mt. Washington Drive at Regency Street
- Shevlin Park Road at Skyline Ranch Road

Intersection		Exist. Traffic Control	Exist.	2040 No Build	Phase 1: 25% Build Out	Phase 2: 50% Build Out	Phase 3: 75% Build Out	2040 Build
Crosby Dr	Skyliners Rd	TWSC	Meets	Meets	Meets	Meets	Meets	Meets
Skyline Ranch Rd	Skyliners Rd	TWSC	Meets	Meets	Meets	Meets	Meets	Exceed
Skyline Ranch Rd	Crosby Dr	TWSC	Meets	Meets	Meets	Meets	Meets	Meets
Mt. Washington Dr	Skyliners Rd	Single Lane Roundabout	Meets	Meets	Meets	Meets	Exceed	Exceed
Mt. Washington Dr	NW Crossing Dr	Single Lane Roundabout	Meets	Meets	Meets	Meets	Meets	Meets
Lemhi Pass	Skyliners Rd	TWSC	Meets	Exceed	Exceed	Exceed	Exceed	Exceed
14th St	Galveston Ave	Single Lane Roundabout	Meets	Exceed	Exceed	Exceed	Exceed	Exceed
14th St	Newport Ave	Single Lane Roundabout	Meets	Exceed	Exceed	Exceed	Exceed	Exceed
College Way	Shevlin Park Rd	Single Lane Roundabout	Meets	Meets	Meets	Meets	Meets	Exceed
NW Crossing Dr	Shevlin Park Rd	Single Lane Roundabout	Meets	Meets	Meets	Meets	Meets	Meets
Mt. Washington Dr	Shevlin Park Rd	Single Lane Roundabout	Meets	Meets	Meets	Meets	Meets	Meets
Mt. Washington Dr	Regency St	TWSC	Meets	Meets	Meets	Meets	Meets	Exceed
Shevlin Park Rd	Skyline Ranch Rd	TWSC	Meets	Meets	Meets	Meets	Meets	Exceed

Table B: Intersection analysis – Meet or Exceed BDC 4.7 criteria

Facility Upgrade Requirements: Anticipated Mitigation

Below are the anticipated mitigation requirements for the proposed site development. These points of mitigation can be modified upon the filing and review of the land use application, as there may be components that change or that were discussed in the burden of proof and may not have been brought to the City's attention. The site development is anticipated to have the following mitigation requirements:

Mitigation 1: The WIG shall enter into a Development Agreement with the City of Bend outlining the overall transportation mitigation package.

Mitigation 2: A Single Lane (asphalt) Roundabout at Skyline Ranch Road at Shevlin Park Road. The Roundabout shall be constructed no later than the date that the lots are platted that represent 50 percent of the Coats' p.m. peak hour trips or when the extension of Skyline Ranch Road is complete from Skyliners Road to Shevlin Park Road, whichever comes first.

Mitigation 3: A Single Lane (asphalt) Roundabout at Skyline Ranch Road at Skyliners Road. The Roundabout shall be constructed no later than the date that the lots are platted that represent 50 percent of the NWX2's p.m. peak hour trips or when the extension of Skyline Ranch Road is complete from Skyliners Road to Shevlin Park Road, whichever comes first.

Mitigation 4: Skyline Ranch Road will be completed and connected from Skyliners Road to Shevlin Park Road. The WIG shall coordinate with the City of Bend to determine the best alignment and submit for a Transportation System Plan amendment to accompany the master plan submittals for each individual property's development. If the existing unimproved Skyline Ranch Road right of way south of NW Chianti Lane is no longer needed for public road purposes after the new Skyline ranch Road is constructed, the City is open to a right of way vacation to return the land to the Anderson Ranch's ownership and/or adjacent owners.

Mitigation 5: Regency Street shall be constructed from its current improved terminus at the tax lot identified as 171125BD1200 to Coats' land boundary, which is approximately 850' at such time as specified in the Coats' master plan or other development approval.

Mitigation 6: All local and higher classification streets, private or public, shall be constructed to City of Bend standards and specifications as each phase of each property develops. Deviations from the Bend Development Code can be permitted, if approved by the City, through the master plan submittal for each development.

Mitigation 7: The sight distance deficiency at the south leg of Skyline Ranch Road and Shevlin Park Road shall be mitigated under the first phase of development that abuts Shevlin Park Road. The mitigation measures shall be proposed by the EOR for one of the adjacent properties. Mitigation shall be approved by the City prior to work beginning with the understanding that it is a temporary fix until the future roundabout at this location will is constructed.

Mitigation 8: All property owners will pay the Transportation System Development Charge (TSDC) assessed by the City at the time of development.

Mitigation 9: The Transect Properties will pay the difference between the Deschutes County TSDCs and the City of Bend TSDCs assessed at the time of development.

Mitigation 10: Coordination of multi-modal infrastructure, specifically bicycle and pedestrian systems, along with connections to nearby systems will be determined at the time of master plan approvals.

Mitigation 11: In lieu of making intersection improvements at Mt. Washington Drive at Regency, Skyliners Road at Lemhi Pass, Galveston at 14th Street, Mt. Washington Drive at Skyliners Road, Shevlin Park Road at College Way, and Newport Avenue at 14th Street – the City will accept a contribution of $1,400,000.00. This contribution is based on the following breakdown of the intersection impacts:

Intersection	Current Condition	Proposed Improvement	Cost	Proportionate Share	Total

Newport/14th	Single Lane Roundabout	Roundabout Improvements	$960,000	19.5%	$	187,200
Mt Washington/Regency	Unsignalized Intersection	Signalized Intersection	$ 300,000	43.8%	$	131,400
Skyliners/Lehmi Pass	Unsignalized Intersection	Signalized Intersection	$ 300,000	30.9%	$	92,700
Galveston/14th	Single Lane Roundabout	Roundabout Improvements	$ 960,000	18.8%	$	180,480
Mt Washington/Skyliners	Single Lane Roundabout	Roundabout Improvements	$ 960,000	51.8%	$	497,280
Shevlin/College Way	Single Lane Roundabout	Roundabout Improvements	$960,000	26.6%	$	255,360
Additional Funding			$55,580		$	55,580
					$	1,400,000

Duration of Approval:
If a land use application or development agreement is not completed within six (6) months from the date this memorandum was signed, this approval shall be void.

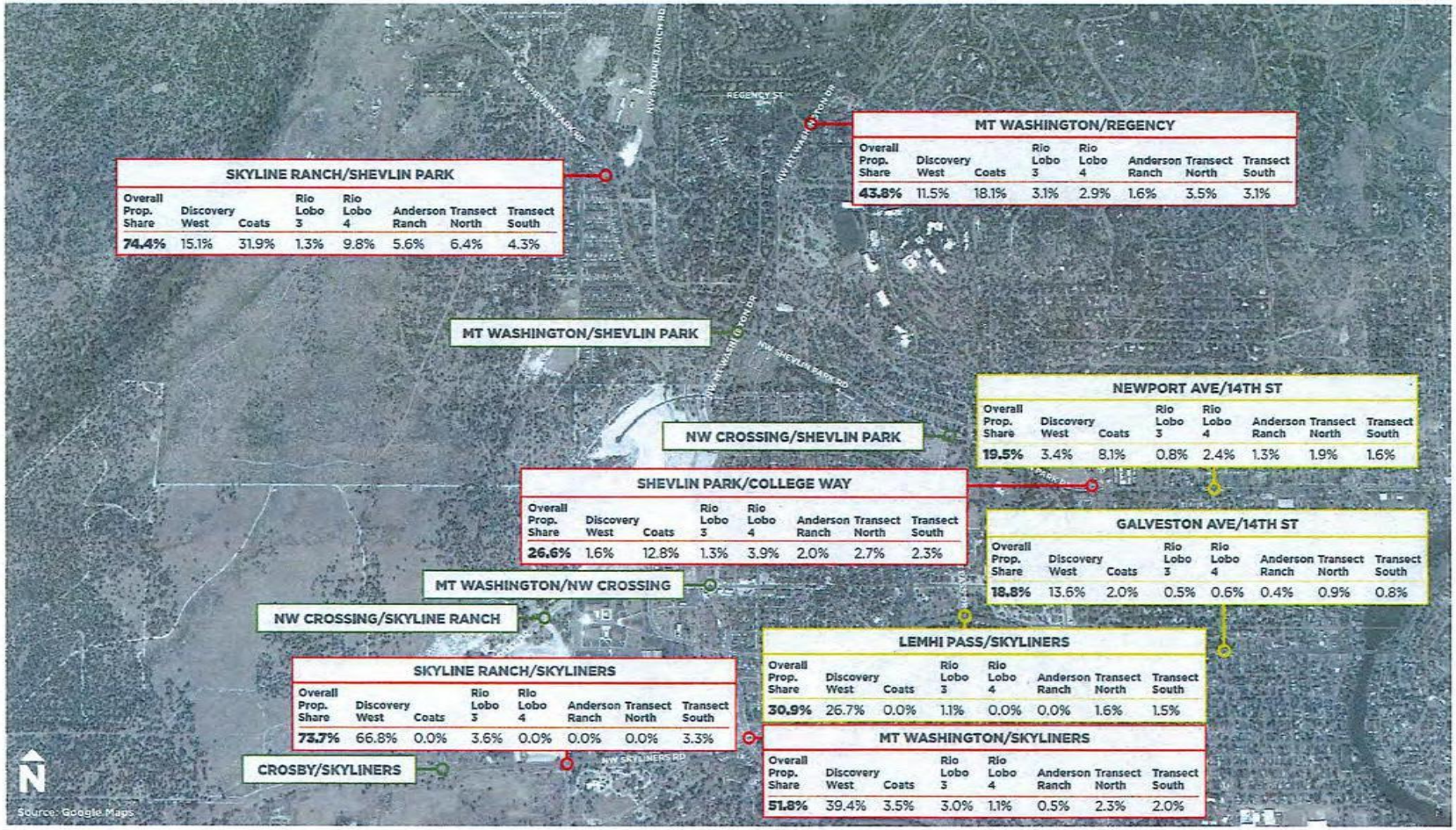
WRITTEN BY: Chris Henningsen, PE, Principal Engineer
chenningsen@bendoregon.gov
(541) 388-5571

APPROVED BY: _____ **DATE:** 8/8/2018
Ryan Oster, PE, City Engineer

EXHIBIT K

H:\21\21085 - NorthWest Crossing 2\graphics

MAY 2018



○ Meets Standards

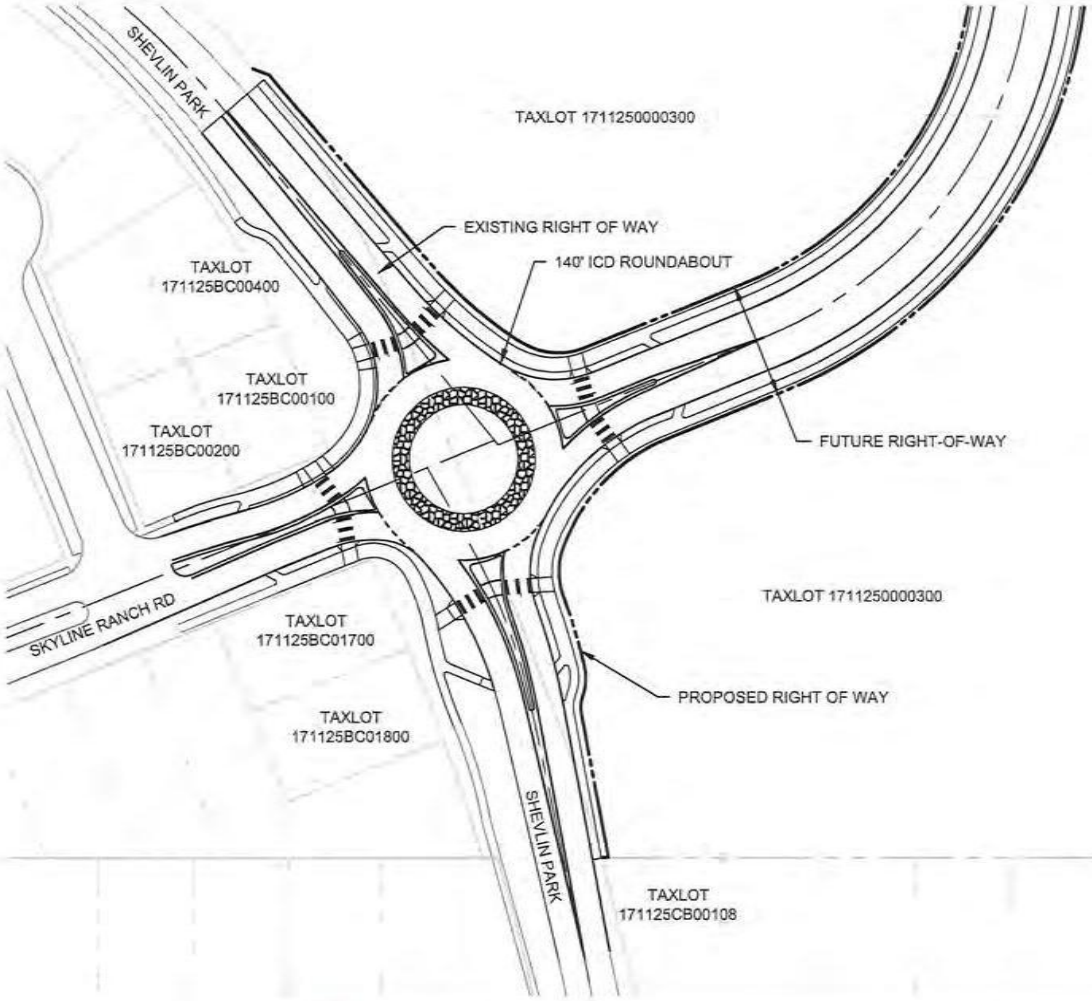
○ Exceeds Standards : Build Condition

○ Exceeds Standards : No Build & Build Condition

WESTSIDE TRANSPORTATION STUDY

DRAFT **2040 Transportation Proportionate Share**

KITTELSON & ASSOCIATES



N

80 0 80

SCALE IN FEET

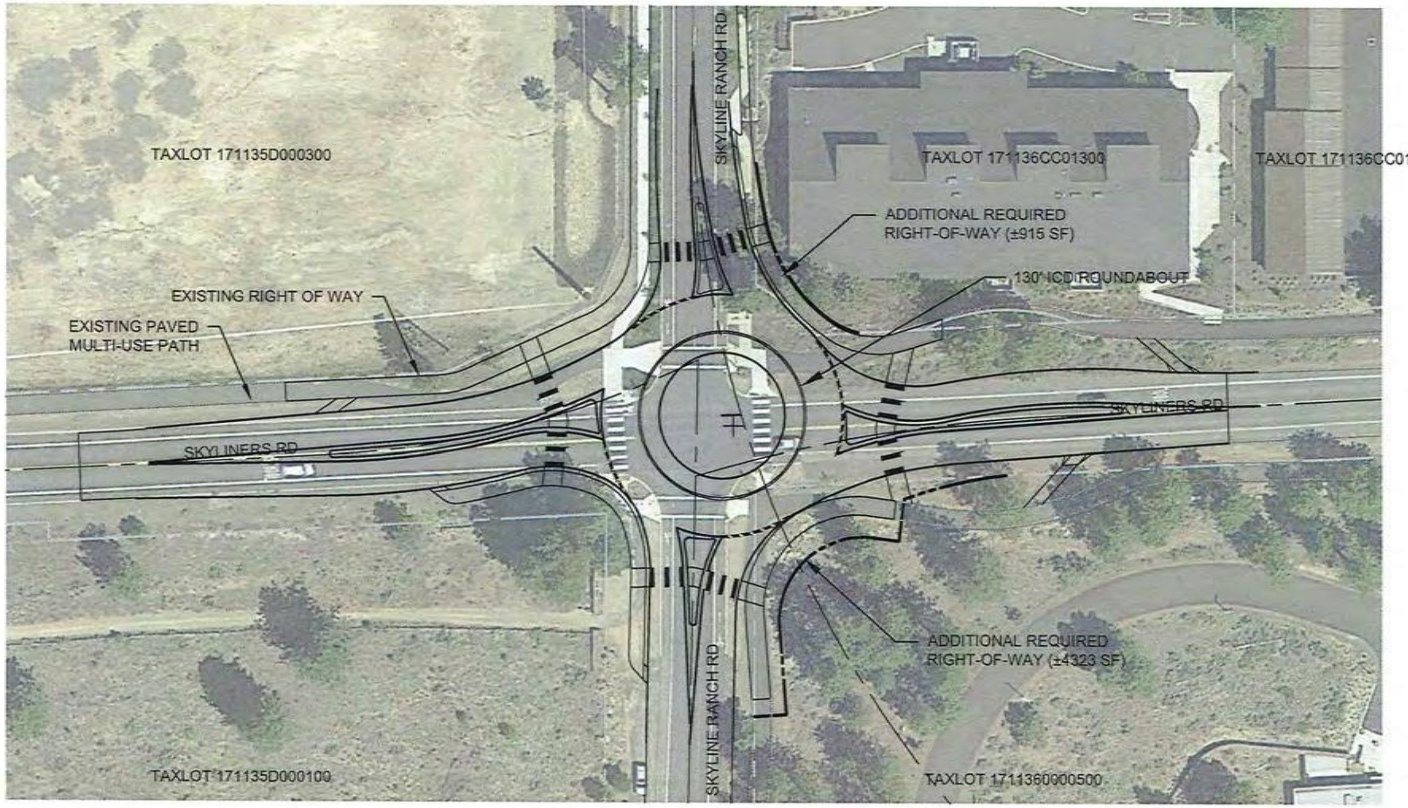
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www.dowl.com
963 SW Simpson, #200
Bend, Oregon 97702
541-385-4772

DISCOVERY WEST
SKYLINE RANCH AT SHEVLIN PARK ROUNDABOUT PLAN
BEND, OREGON

PROJECT	14142-01
DATE	6/07/2018

EXHIBIT L

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N

60 0 60

SCALE IN FEET

Note: Shifted and reduced roundabout. NW quadrant impacts have not been evaluated.

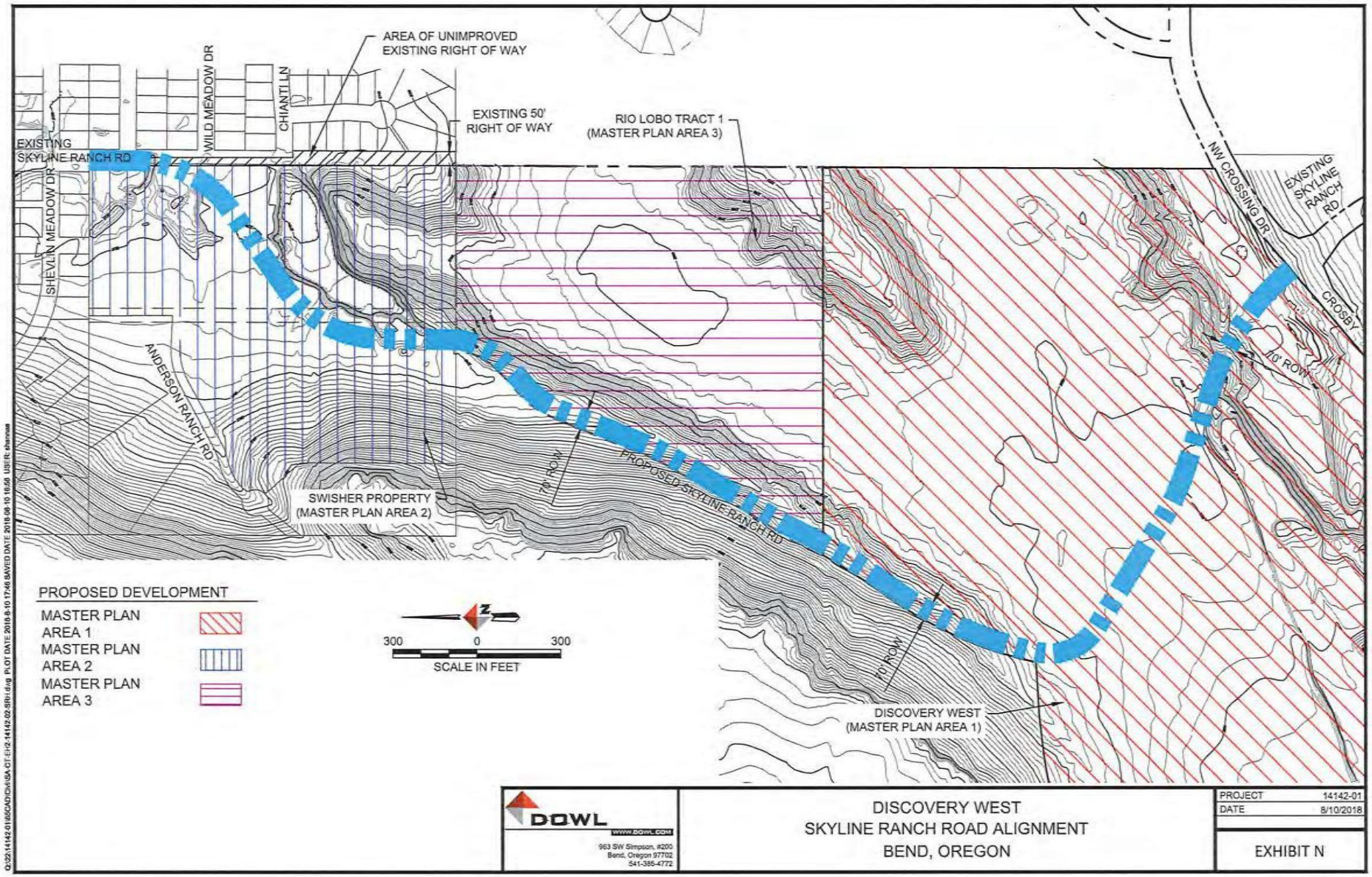
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Bend, Oregon 97702
541-385-4772

DISCOVERY WEST
SKYLINE RANCH AT SKYLINERS ROUNDABOUT PLAN
BEND, OREGON

PROJECT	14142-01
DATE	07-25-2018

EXHIBIT M

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Bend, Oregon 97702
541-385-4772

DISCOVERY WEST
SKYLINE RANCH ROAD ALIGNMENT
BEND, OREGON

PROJECT	14142-01
DATE	8/10/2018

EXHIBIT N

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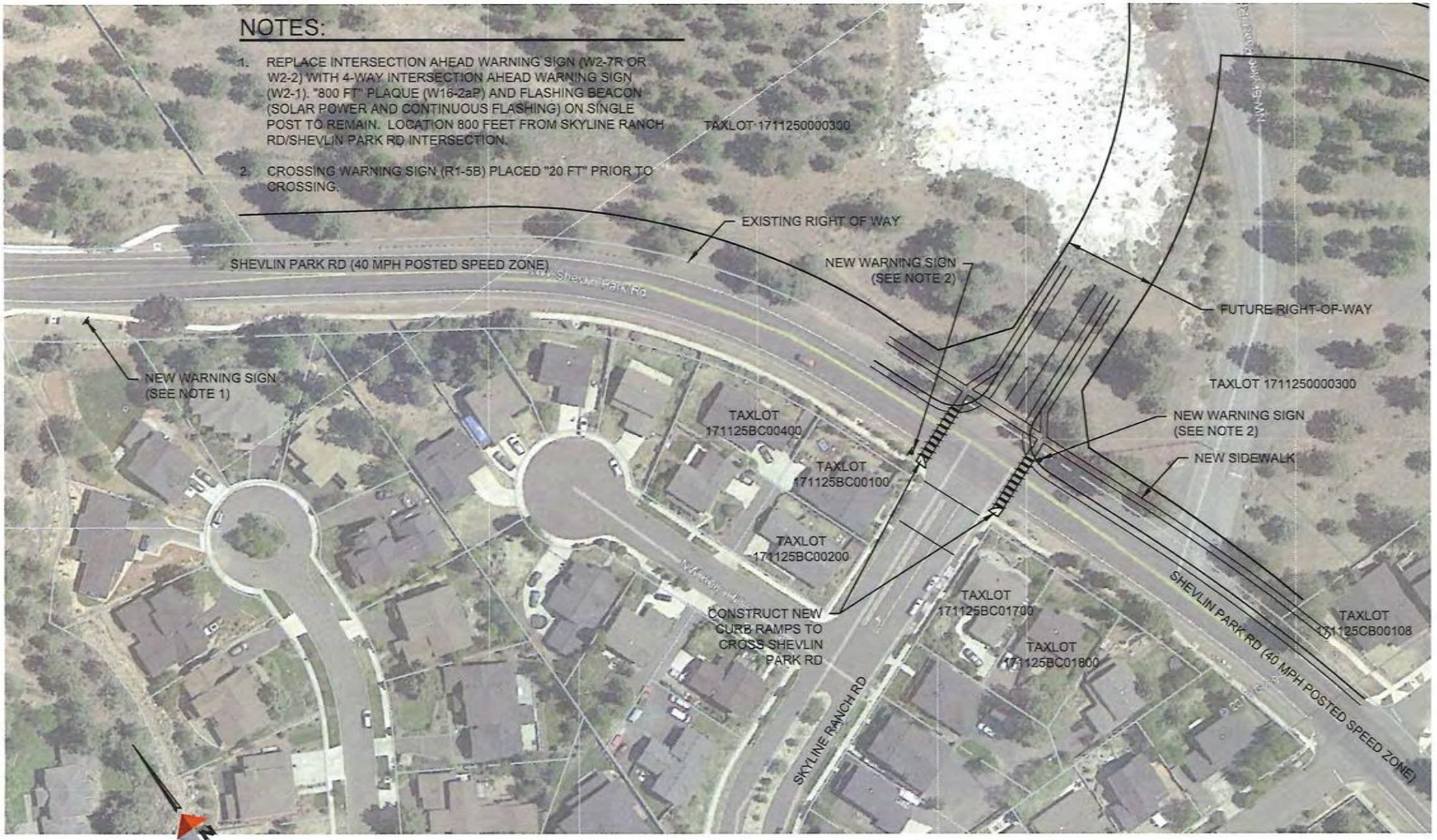
INTERIM SAFETY IMPROVEMENT PHASE 1

SKYLINE RANCH / SHEVLIN PARK RD
FOR EXISTING CONDITIONS
BEND, OREGON

PROJECT	14142-01
DATE	7/18/2018

EXHIBIT O-1

Q:\2014142.01\95CAD\CIVIL\BA-GT-EH2-14142.02.dwg PLOT DATE 2018-7-24 16:18 SAVED DATE 2018-07-24 16:04 USER: kiewr



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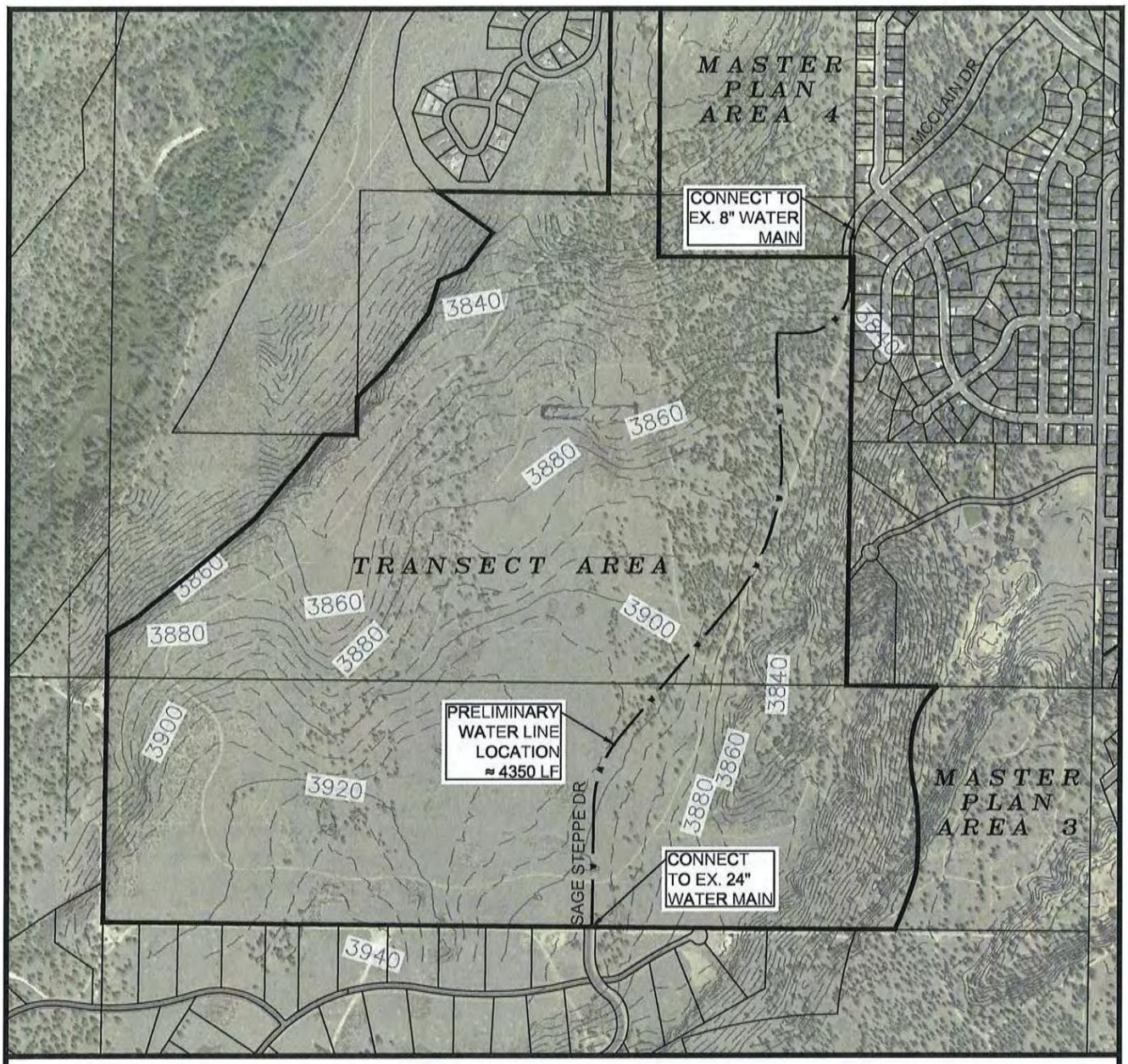
INTERIM SAFETY IMPROVEMENT PHASE 2

SKYLINE RANCH / SHEVLIN PARK RD
WITH FUTURE SKYLINE RANCH RD CONSTRUCTED
BEND, OREGON

PROJECT	14142-01
DATE	7/18/2018

EXHIBIT O-2

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BECON
CIVIL ENGINEERING & LAND SURVEYING

WATER LINE EXHIBIT P

TRANSECT AREA

CITY OF BEND

DATE: 07/18/2018	SCALE: 1" = 800'	DRAWN BY: JLB	PROJ: 13861	SHEET 1 of 1

Exhibit Q

CITY OF BEND ENGINEERING DIVISION
UTILITY AVAILABILITY MEMO – SWA CERTIFICATE
WEST SIDE EXPANSION AREAS

COMMUNITY DEVELOPMENT

Date:	June 18, 2018
Project Site:	West Side and Shevlin UGB Expansion Areas
Contact:	NWX 2, LLC 541-749-2934

PROJECT PROPOSAL

Six properties on the West Side of the City are proposing to develop. The development areas will be a mixture of Commercial, Industrial, and Residential areas. The development areas are broken down in Figure 1 and 2. Table 1 has the estimations of what will be built in each area.

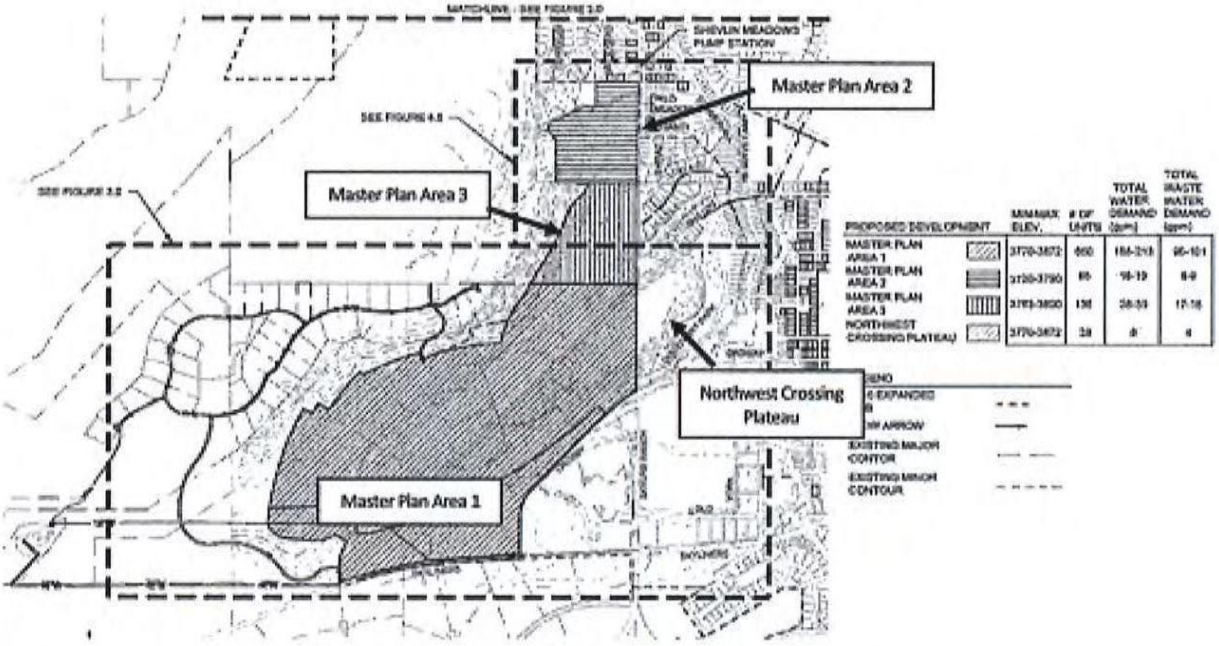


Figure 1: Master Plan areas 1,2,3 and Northwest Crossing Plateau

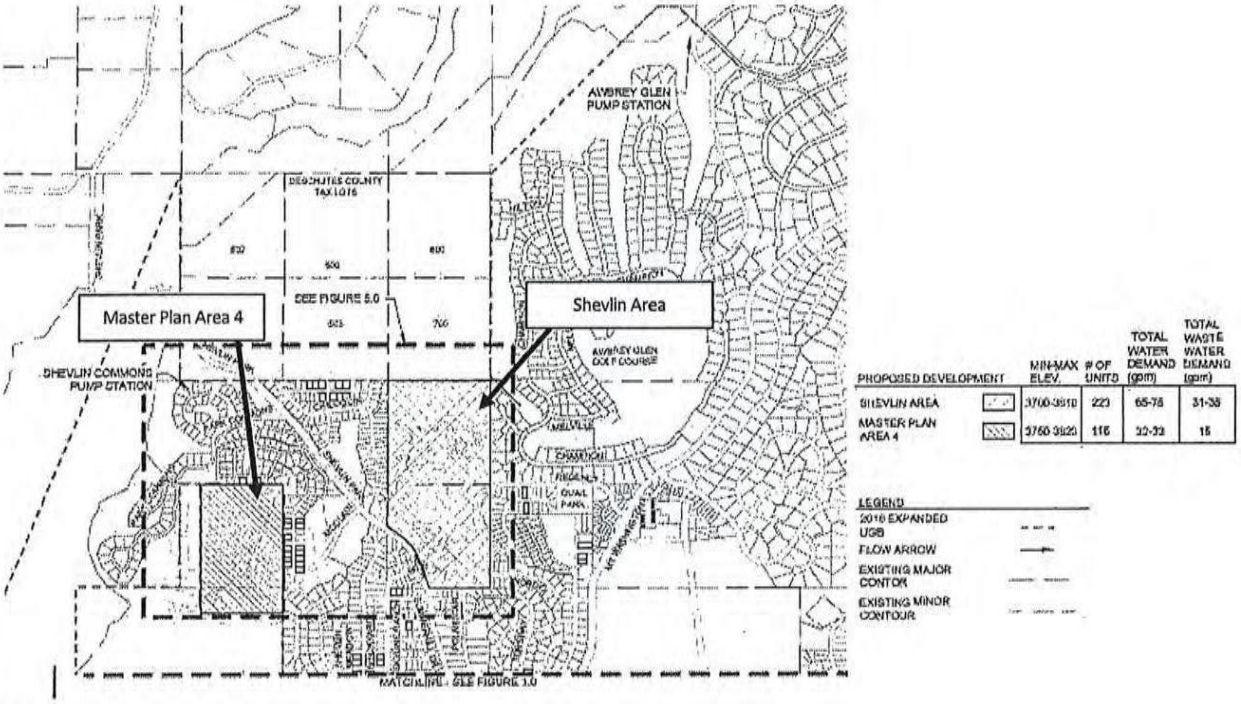


Figure 2: Master Plan Area 4 and Shevlin Area

Table 1: Summary of Proposed Flow Rates:

Master Plan Area	Number of Single Family Dwellings	Mixed Employment/Commercial Acreage	Potential Accessory Dwelling Units and Live/Work Units	Estimated Water Consumption	Estimated Sewer Consumption
Master Plan Area 1	650	21 Acres	90	237 gpm	65 gpm
Master Plan Area 2	65	0	2	18 gpm	6 gpm
Master Plan Area 3	136	0	2	37 gpm	12 gpm
Master Plan Area 4	116	0	3	32 gpm	11 gpm
Shevlin Area (UGB)	200	8 Acres	34	77 gpm	20 gpm

Shevlin Area (within City limits)	23	0	1	6 gpm	2 gpm
NWX Plateau	28	0	1	8 gpm	3 gpm
Total:	**1,218**	**29 Acres**	**133**	**415 gpm**	**119 gpm**

MODELING LOCATIONS

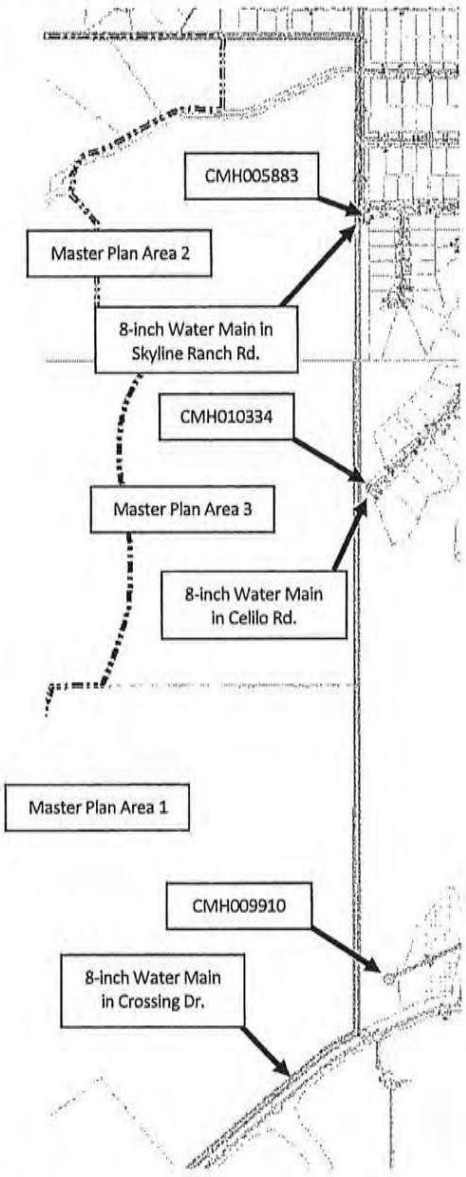


Figure 3: Master Plan Areas 1,2, and 3 Potential Connection Points

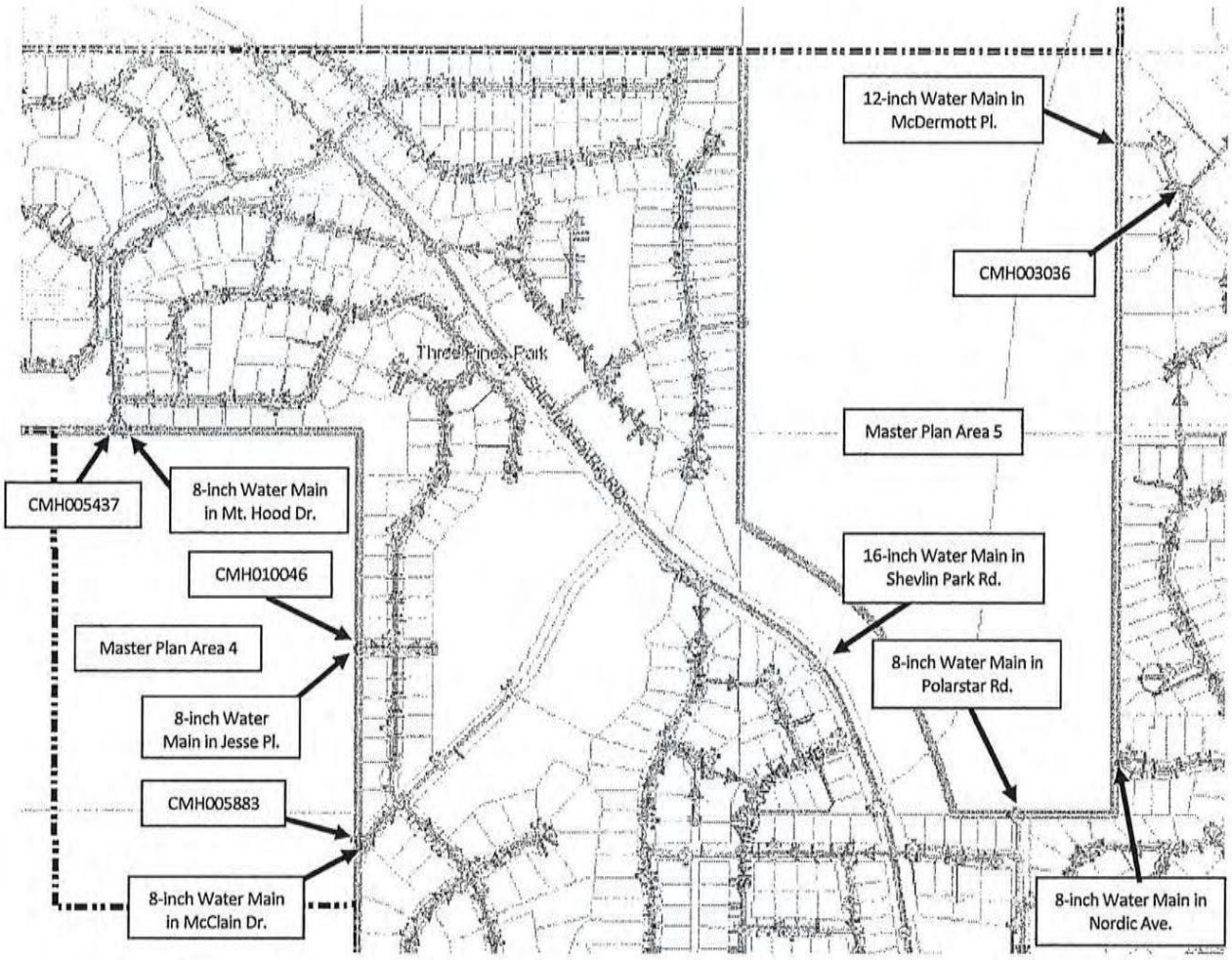


Figure 2: Master Plan Area 4 and Shevlin Area Potential Connection Points

SEWER ANALYSIS

Flow Rate:

119 gpm = 130* gpd (gallons per day) per residential unit and 427* gpapd (gallons per acre per day) for Non-Residential tax lots

*City of Bend Master Plan Rates

Existing Conditions:

- The developments are not served by the City of Bend sewer system

Proposal:

The following scenarios were evaluated:

Proposal 1: The development will extend gravity mains from the manholes listed in Figures 3 and 4.

Results:
The analysis was performed for conduit capacity, manhole freeboard, and lift station capacity. Flow was modeled at the manholes listed in Figures 3 and 4 above. The sewer system does have sufficient capacity for the proposal. For the development to be granted sewer capacity the following mitigations must be completed.

Anticipated Mitigations
Below are the anticipated mitigation requirements for the proposed site development. These points of mitigation can be modified upon the filing and review of the land use application, as there may be components that change or that were discussed in the burden of proof and may not have been brought to the City's attention. The site development is anticipated to have the following mitigation requirements:

Mitigation 1: Sewer services shall be sized by the Engineer of Record; 4-inch minimum sewer service lateral to each lot is required.

Mitigation 2: City of Bend Code allows only one sewer service lateral per tax lot.

Mitigation 3: The development must extend gravity mains that meet City of Bend standards throughout the proposed master plan areas to serve each new tax lot. The sewer mains must be extend within the City of Bend Right of Way when possible. If a gravity main is not located within the Right of Way then a 20 foot sewer easement centered over the main needs to be provided. Final alignments of the sewer mains, size of the mains, and locations of manholes will be finalized with the Infrastructure plans based on final review by City Engineering. All main extensions must be done through a Tier 3 Right of Way (Infrastructure) permit.

Mitigation 4: The development must extended the gravity mains at minimum grade to serve the maximum amount of lots possible. If the topography does not allow for a complete extension of the main to serve the properties with gravity service, the development may extend a pressure main, which meets City of Bend standards, the remainder of the distance.

Mitigation 5: The Shevlin Meadows Lift Station does not currently meet City of Bend Standards and Specifications. Therefore, the Lift Station shall be upgraded to the latest City of Bend Standards and Specifications; including new pumps to serve the basin area and development assumptions for the additional available vacant land within the basin. The upgrade shall also include an analysis of the existing Lift Station to determine the additional equipment (i.e. rails, valving, control panels, generator, fencing, and access) that will be required to bring the station to current City standards. The Engineer of Record shall request a scoping meeting with the City prior to initiating any design work in order to ensure all required elements of the upgrade are determined.

Mitigation 6: The Shevlin Commons Lift Station does not currently meet City of Bend Standards and Specifications. Therefore, the Lift Station shall be upgraded to the latest City of

Bend Standards and Specifications; including new pumps to serve the basin area and development assumptions for the additional available vacant land within the basin. The upgrade shall also include an analysis of the existing Lift Station to determine the additional equipment (i.e. rails, valving, control panels, generator, fencing, and access) that will be required to bring the station to current City standards. The Engineer of Record shall request a scoping meeting with the City prior to initiating any design work in order to ensure all required elements of the upgrade are determined.

Mitigation 7: The Awbrey Glen Lift Station does not currently meet City of Bend Standards and Specifications. Therefore, the Lift Station shall be upgraded to the latest City of Bend Standards and Specifications; including an evaluation of capacity to serve the basin area and development assumptions for the additional available vacant land within the basin. The upgrade shall include an analysis of the existing Lift Station to determine the additional equipment (i.e. rails, valving, control panels, generator, fencing, and access) that will be required to bring the station to current City standards. The Engineer of Record shall request a scoping meeting with the City prior to initiating any design work in order to ensure all required elements of the upgrade are determined.

WATER ANALYSIS

Flow Rate:

Water: 415 gpm = 172* gpcpd (gallons per capita per day) per residential unit and 4000* gpapd (gallons per acre per day) for Non-Residential tax lots

*City of Bend Master Plan Rates

Existing Conditions:

- The development is not currently served by City Water.
- The Master plan areas are bordered by water mains located in Pressure Zone 3 and Pressure Zone 4C.

Proposal:

The following scenarios were evaluated:

Proposal 1: The development will extend water mains from the junctions shown in figures 3 and 4.

Results:
System and fire flow data was modeled at the following junctions. Each junction is located at one of the proposed connection points for the West Side Expansion Areas. No water mains that would be located inside the expansion areas were modeled at this time.

Location	Main Diameter	Elevation (ft)	Est. Static Pressure (psi)	Est. Residual Pressure (psi)	Est. Flow Available
Skyliners Rd. (Jct-307)	36-Inch Ductile Iron (Pressure Zone 3)	3830	67.94	66.28	3,500+ gpm
NW Crossing Dr. and NW Elwood Ln. (Jct-6719)	8-inch Ductile Iron (Pressure Zone 3)	3818	71.03	40.46	3,500+ gpm
NW Crossing Dr. and NW Elwood Ln. (Jct-6719)	12-inch Ductile Iron (Pressure Zone 3)	3772	90.17	80.04	3,500+ gpm
NW Celilo Ln. (Jct-6719)	8-inch Ductile Iron (Pressure Zone 3)	3798	78.63	20	2,217 gpm
NW Skyline Ranch Rd. and NW Chianti Ln. (Jct-592)	8-inch Ductile Iron (Pressure Zone 4C)	3730	72.19	41.88	3,500+ gpm
NW Brickyard St. and NW Shevlin Meadow Dr. (Jct-656)	8-inch Ductile Iron (Pressure Zone 4C)	3728	73.09	49.09	3,500+ gpm
NW Jesse Pl. and Mt. Thielsen Dr. (Jct-8271)	8-inch Ductile Iron (Pressure Zone 3)	3807	74.16	20	2,165 gpm
Mt Hood Dr. and Mt McLoughlin Ln. (Jct-797)	8-inch Ductile Iron (Pressure Zone 3)	3752	98.42	20	3,406 gpm
Shevlin Park Rd. and NW Skyline Ranch Rd. (Jct-734)	16-inch Ductile Iron (Pressure Zone 3)	3746	101.11	88.58	3,500+ gpm
NW Chardonnay Ln. and NW Polarstar Ave. (Jct-7181)	8-inch Ductile Iron (Pressure Zone 4D)	3775	75.61	20	2,439 gpm
NW Shevlin Bluffs Dr. and NW Imbler Ct. (Jct-7181)	8-inch Ductile Iron (Pressure Zone 3)	3796	79.53	20	2,549 gpm
NW Regency St. (Jct-790)	10-inch Ductile Iron (Pressure Zone 3)	3776	91.13	58.28	3,500+ gpm

Notes:

1. Operational water pressure service rates are between 40 to 90 psi. Less than 40 psi may require a private booster pump. Greater than 90 psi may require a private pressure reducing valve. Both items are required to be shown on a plumbing permit.
2. Maximum water flow rates are estimate at 20 psi residual. Flow rates greater than this should not be used for design or for fire code. Estimates are based on City modeling data and should not be used for detailed designs. The applicant is recommended to perform a hydrant flow test at the site for precise information.

Anticipated Mitigations:

Below are the anticipated mitigation requirements for the proposed site development. These points of mitigation can be modified upon the filing and review of the land use application, as there may be components that change or that were discussed in the burden of proof and may not have been brought to the City's attention. The site development is anticipated to have the following mitigation requirements:

Mitigation 1: Water services shall be sized by the Engineer of Record; 1-inch minimum water service lateral to each lot is required.

Mitigation 2: City of Bend Code allows only one water service lateral per tax lot.

Mitigation 3: The development must extend water mains that meet City of Bend standards throughout the proposed master plan areas to serve each new tax lot. The water mains must be extended within the City of Bend Right of Way when possible. If the water mains is not located within the Right of Way then a 20 foot water easement centered over the main needs to be provided. The development must loop the water mains within the development when possible to reduce the number of dead-end mains within the system. Final alignment of the water mains and the locations of waterline appurtenances locations, such as valves, and fire hydrants will be finalized with the infrastructure plans based on final review by the Fire Marshall and City Engineer. All the water main extensions must be done through a Tier 3 Right of Way (Infrastructure) permit.

Mitigation 4: Each phase of the master plan areas must submit for a revised water analysis prior to approval of the infrastructure plans. Additional mitigations may be required at this time to ensure each phase has sufficient fire flow.

Mitigation 5: The development must construct a Pressure Reducing Valve that meets City of Bend standards whenever two different Pressure Zones are connected.

DURATION OF APPROVAL

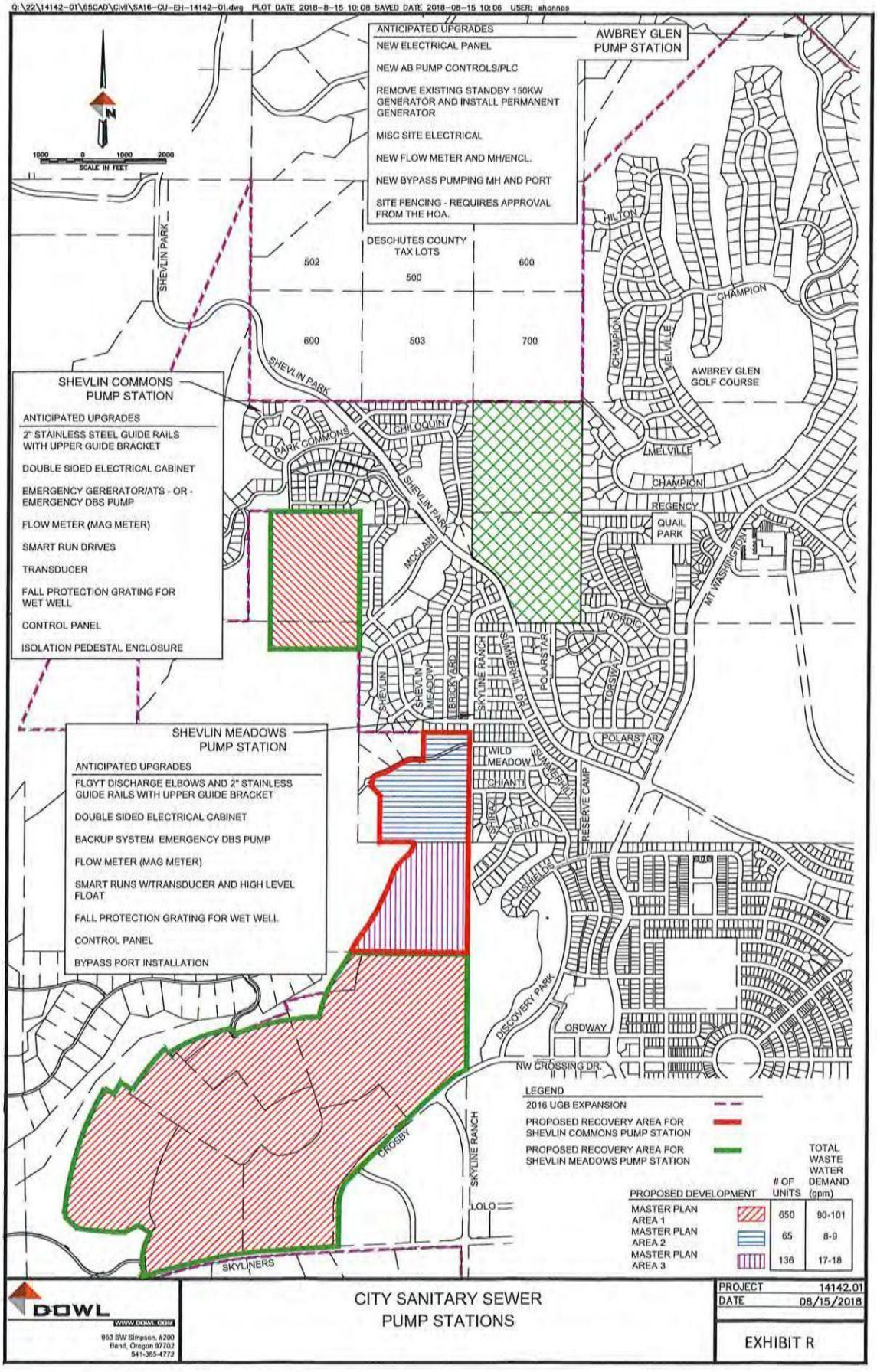
It is the responsibility of the applicant or land owner to verify the size and location of all laterals serving the property(ies).

This approval is valid for six (6) months from date of signature. If a land use application is not submitted within 6 months of the date of signature, this approval shall be considered void.

WRITTEN BY: Evan Malone, Associate Engineer
emalone@bendoregon.gov
(541) 388-5525

APPROVED BY: _____ DATE: 7/23/18
Ryan Oster, PE, PMP, City Engineer

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Bend, Oregon 97702
541-383-4772

CITY SANITARY SEWER PUMP STATIONS

PROJECT 14142.01
DATE 08/15/2018

EXHIBIT R

EXHIBIT D

SHEVLIN WEST ANNEXATION FINDINGS

APPLICABLE CRITERIA, STANDARDS, AND PROCEDURES:

Criteria

Bend Development Code

Chapter 4.9 Annexations

Bend Comprehensive Plan

Chapter 7, Transportation Systems
Chapter 11, Growth Management

Oregon Administrative Rules

Chapter 660-012-0000, Transportation Planning

Procedures

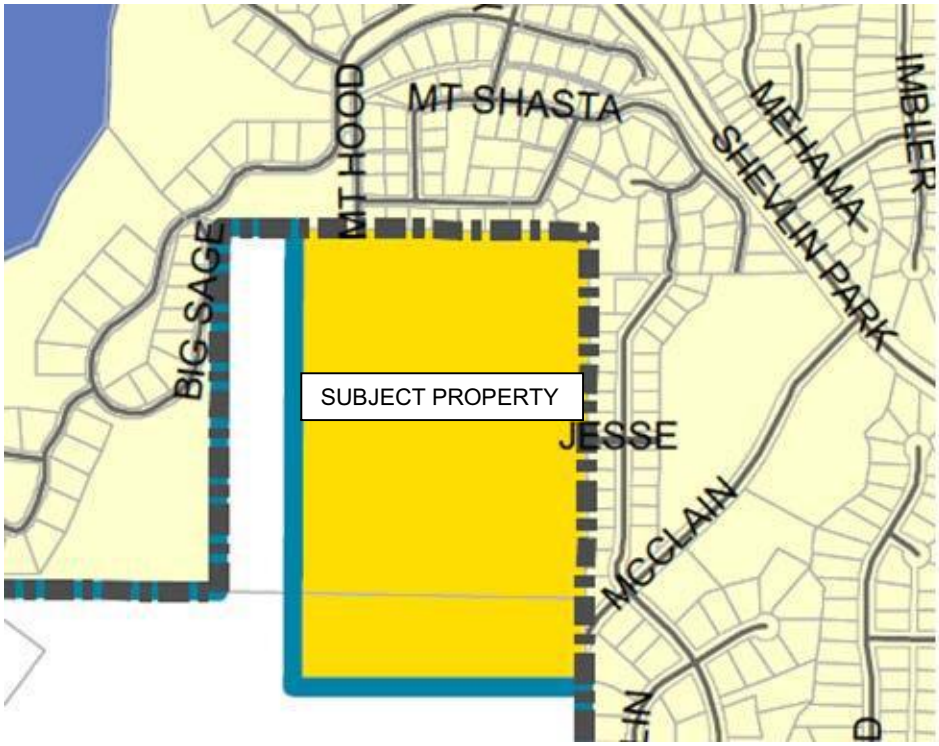
Bend Development Code

Chapter 4.1 Development Review and Procedures

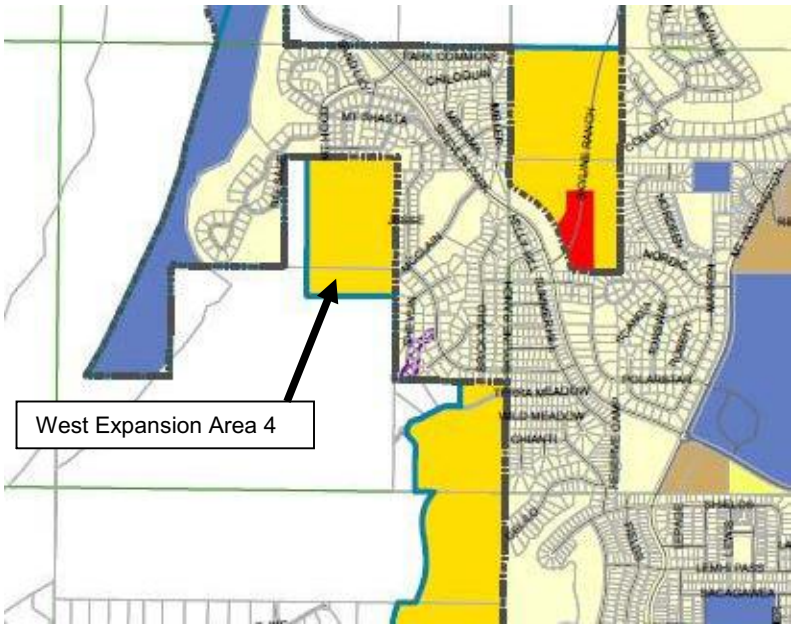
4.1.400 Type II and Type III Applications
4.1.800 Quasi-Judicial Hearings

FINDINGS OF FACT:

1. **SITE DESCRIPTION AND LOCATIONS:** The 40-acre subject property is located within the West Expansion Master Plan Area 4 of the recently expanded Urban Growth Boundary. The subject property has an address of 3225 NW Shevlin Park Road which is approximately 1/8 mile to the northeast. The property is accessed from Mt. Hood Drive to the north and NW Jesse Place to the east. The west stub of NW McClain Drive will cross the southeast corner of the property when developed.



2. **ZONING:** The properties are within the recently expanded UGB and are currently zoned Urbanizable Area (UA). The property in West Expansion Master Plan Area 4 is designated Residential Urban Low Density.





3. **PROPOSAL:** A Type III Quasi-judicial request for Annexation of the UGB West Expansion Master Plan Area 4 for the Shevlin West Master Planned Development.

4. **PUBLIC NOTICE AND COMMENTS:** Prior to submittal of this application and related applications, the applicants hosted a public meeting on February 13, 2019 and March 12, 2019, in accordance with BDC 4.1.215. Public notice for the City Council hearing was provided in accordance with the requirements of BDC 4.9.300.A.3, and BDC 4.1.423-4.1.425. On November 18, 2019, the Planning Division mailed notice to surrounding owners of record of property within 250 feet of the subject properties, and to the Summit West and Century West Neighborhood Association representatives. Notice was also posted in four public places on November 18, 2019, and posted in *The Bulletin* on November 16, and November 23, 2019. On November 22, 2019, *Notice of Proposed Development* signs were posted by the applicant along the property frontages at two locations, visible from adjacent rights of way.

5. **APPLICATION ACCEPTANCE DATE:** This Type III Quasi-judicial Annexation petition was submitted on July 31, 2019. The application was deemed complete on October 7, 2019.

APPLICATION OF THE CRITERIA:

Bend Development Code

Chapter 4.9, Annexations

4.9.200 Applicability.

Land to be annexed must be contiguous to the existing City limits.

FINDING: The land to be annexed is contiguous to the existing City limits along the entire eastern and northern boundary.

4.9.300 Review Processes.

A. Annexation. The following general processes apply to all annexation proposals:

1. **Annexations are reviewed using the Type III or Type IV process as determined by the City, based on a consideration of the factors for treating an application as quasi-judicial or legislative. Since annexations are a jurisdictional transfer, the City Council is the sole review authority.**
2. **City Council approval of annexations will be by ordinance.**
3. **Notice of the City Council hearing to consider the annexation proposal must follow the notification process required for the Type III or Type IV application, except a notice of the hearing must be published in a newspaper of general circulation in the City once each week for two successive weeks prior to the day of hearing, and notices of the hearing must be posted in four public places in the City for a like period.**

FINDING: The proposed annexation is initiated by the property owner for a specific property, and is therefore considered a quasi-judicial application. Notice for the City Council Hearing followed the notification process required for Type III applications, as well the requirements for publishing notice in the newspaper and in four public places as required under BDC4.9.300.A.3.

On November 18, 2019, notice was mailed by the Planning Division to surrounding owners of record of property within 250 feet of the subject properties, and to the Summit West and Century West Neighborhood Association representatives and to those who submitted comment prior to the hearing before the Planning Commission. On November 22, 2019, Notice of Proposed Development signs were posted by the applicant along the property frontages at two locations, visible from adjacent rights of way. Notice was also posted in four public places on November 18, 2019, and posted in The Bulletin on November 16 and November 23, 2019.

B. Area and Master Planning. Unless exempted in subsection (B)(1) of this section, expansion areas as shown in Figure 4.9.300 will require area and/or master plan approval prior to or concurrently with annexation. The exemptions to master planning in BDC Chapter 4.5, Master Planning and Development Alternatives, are not applicable to properties in the Urbanizable Area (UA) District. Development in expansion areas must comply with the applicable Bend Comprehensive Plan Specific Expansion Area Policies in Table 4.9.300.

Table 4.9.300 - Specific Expansion Area Policies

Expansion Area	Bend Comprehensive Plan Specific Expansion Area Policies
West Area	11-100 through 11-108

FINDING: The subject property is located in the West expansion area. A major community master plan in accordance with BDC Chapter 4.5 was submitted on October 1, 2019, under PZ 19-0373. On October 28, 2019, the Planning Commission made a recommendation to the City Council for approval of the Shevlin West MPD. The Shevlin West MPD is scheduled to be heard by the City Council concurrently with this annexation request. As addressed in the Planning Commission findings for PZ 19-0373, the Shevlin West MPD complies with Bend Comprehensive Plan Policies 11-100 through 11-108.

4.9.400 Initiation Procedures.

A. An annexation proposal for the contiguous territory proposed to be annexed may be initiated by petition in compliance with one of the following initiation procedures:

1. All of the owners of land in the contiguous territory proposed to be annexed and not less than 50 percent of the electors, if any, residing in the territory, consent in writing to the annexation of their land in the territory and file a statement of their consent with the City;

FINDING: The Shevlin West property is owned by Rio Lobo Investments, LLC, who has initiated this application and consented in writing to annexation in compliance with the procedures in A.1. There are no residents within the territory proposed to be annexed.

4.9.500 Submittal Requirements.

A. The application must include:

1. A completed and signed annexation application packet on forms provided by the City.

2. A petition including the statement of consent, on City forms, completed by property owners and/or electors residing in the territory that meets the requirements of BDC 4.9.400, Initiation Procedures.

3. Legal description of the territory including abutting right-of-way to be annexed and a boundary survey certified by a registered engineer or surveyor.

4. A map showing the territory including abutting right-of-way to be annexed and properties within 300 feet of the territory.

5. A narrative which addresses the approval criteria in BDC 4.9.600 and the requirements of BDC 4.9.300(B).

FINDING: The application materials uploaded to ePlans for PZ 19-0566 contain all of the above requirements.

6. A letter or other written documentation from the Bend Park and Recreation District which indicates that the applicant has met with the District to discuss the proposed annexation, and provided the District an opportunity to review the annexation area for options to enhance existing parks and trails, and develop new parks and trails.

FINDING: The applicant states that they met with Park District Staff numerous times over the last year regarding park planning within the Shevlin West boundary. The applicant provided a letter from the BPRD outlining the relevant points of a tentative agreement between the District and Shevlin West for a new 3.51 acre neighborhood park and trail plan for the property included in the Shevlin West MPD. In addition, the Shevlin West MCMP will contain a 0.49-acre tree preservation/open space area in the southwest corner. The western edge of the proposed master plan area is bordered by eight acres of open space, to be maintained by BPRD per the BPRD Vegetation Management Guidelines. This land is proposed to be dedicated to BPRD as part of the Westgate master plan/tentative plan application approved by Deschutes County. These eight acres of open space, in addition to the proposed 3.51-acre park in the northwest corner of the subject property, will provide a natural buffer between the proposed master plan area and rural areas to the west. The 0.49-acre private tree preservation/open space area in the southwest corner will be located in a separate tract and will be conveyed to an owners association that will include an open space easement. The conveyance instrument will include provisions for maintenance, etc.

7. **A completed and signed Bend Park and Recreation District annexation agreement, unless the property(s) to be annexed is already located within the Bend Park and Recreation District.**

FINDING: The subject property is already located within the boundaries of the Bend Park and Recreation District.

8. **A letter or other written documentation from the Bend-La Pine School District which indicates that the applicant has met with the District to discuss the proposed annexation and provided the District an opportunity to review and comment on the proposed annexation.**

FINDING: The applicant submitted a letter from the Bend-La Pine School District confirming that they discussed the master plan and annexation with the applicant. The letter confirmed that the District does not have a need at this time for additional school facilities in the vicinity of the subject site, and that the District is supportive of the proposed Shevlin West MPD.

9. **Territories with irrigation district water rights or other irrigation district facilities must include the following:**

FINDING: The subject property does not include any irrigation district water rights or other irrigation facilities. No comments were received from any of the irrigation districts in response to the notice provided.

10. **If the City has not yet amended its public facilities and transportation plans for the affected expansion area, inclusion of an applicant initiated amendment to the relevant plan(s) or other evidence that the necessary infrastructure planning under Statewide Planning Goals 11 and 12 will take place prior to or concurrently with annexation.**

FINDING: The Westside Infrastructure Group Development Agreement (WIG DA) provides for the timing, construction and funding of infrastructure necessary to support urban development in the West and Shevlin UGB Expansion Areas in accordance with the relevant Comprehensive Plan policies for these areas. This DA was adopted by the City Council in October 2018 and satisfies the necessary infrastructure planning under Statewide Planning Goals 11 and 12.

4.9.600 Approval Criteria.

A. The City Council may approve, or approve with conditions, the proposed annexation application if all of the following criteria are met:

1. The annexation proposal is consistent with the Bend Comprehensive Plan policies and plan designations applicable to the territory as determined by the Planning Director or designee.

FINDING: The proposed annexation is based on the Shevlin West Major Community Master Plan, which addresses and implements BCP Policies 11-100 to 11-108 pertaining to the West Expansion Area.

2. The annexation proposal is consistent with an approved area plan and/or master plan, unless exempted in BDC 4.9.300(B)(1).

FINDING: The Bend Planning Commission held a public hearing on the master plan on October 28, 2019, and moved to recommend approval of the master plan to the Bend City Council. The Planning Commission findings are attached as an exhibit to the Ordinance for City Council consideration under PZ 19-0373, which is under review concurrent with this annexation request.

3. The proposal demonstrates how the annexed territory is capable of being served by public facilities and services with adequate capacity as determined by the City, including sanitary sewer collection, domestic water, transportation, schools, and parks, consistent with the City's adopted public facility plans, transportation system plan, and applicable district plans, either as provided in an applicable area or master plan or by demonstrating how such public facilities and services will be provided in an orderly, efficient and timely manner.

FINDING: The Westside Infrastructure Group Development Agreement (WIG DA) approved under city file PZ 18-0696 (Ordinance NS-2316, effective November 16, 2018) specifies the timing and extent of sewer, water, and transportation facility improvements necessary to support the uses contemplated in the Bend Comprehensive Plan for the entire West and Shevlin UGB expansion. The WIG DA includes a Transportation Analysis prepared by Kittelson & Associates and findings demonstrating compliance with BDC Chapter 4.7. The findings in support of PZ 18-0696 also conclude that existing sewer and water facilities are currently adequate or will be made adequate with the installation of certain improvements specified in the WIG DA. The provisions of the WIG DA are binding on both the applicant and the City of Bend for a period of 15 years from enactment, to November 16, 2033. Those findings and conclusions adopted in support of Ordinance NS-2316 are incorporated by reference and will be relied upon by both the applicant and the City of Bend to ensure compliance with this criterion.

Comments from the Bend-La Pine School District indicate that no additional school facilities are needed in the vicinity of this master plan area that is being annexed. The Shevlin West MPD includes approximately 3.51 acres of park and open space land that the applicant intends to transfer to the Bend Park and Recreation District (BPRD). The applicant will continue to work with BPRD on the development of these park and open space facilities as proposed with the MPD.

4. The proposal demonstrates how public facility and service impacts, including as applicable: on- and off-site improvements, construction and modernization of

existing infrastructure (water, sewer, stormwater, transportation) to City standards and specifications, and impacts to existing infrastructure inside the City's current city limits, will be adequately mitigated through an annexation agreement or other funding mechanism approved by the City Council prior to annexation. The City will use the standards and criteria of BDC Chapter 4.7, Transportation Analysis, for analysis and mitigation of transportation impacts.

FINDING: Chapter 4.7 was addressed in PZ 18-0696, the WIG DA. Transportation system deficiencies were identified through the combined TIA prepared for all West and Shevlin UGB expansion area properties based on the maximum development potential identified for each property in the Bend Comprehensive Plan. Specific transportation improvements and mitigation payments were identified and imposed through the terms of the WIG DA. Those findings of compliance with BDC Chapter 4.7 in support of NS-2316 are also incorporated by reference.

5. **Owner(s) have committed to transfer all irrigation district water rights from the property, unless exempted in subsection (A)(5)(a)(i) of this section.**

FINDING: The properties are not in an irrigation district boundary and do not have any irrigation district water rights or irrigation district conveyance facilities.

6. **Sufficient evidence acceptable to the City has been provided demonstrating that the irrigation district had an opportunity to review the layout and design for any impacts on irrigation district conveyance facilities and to recommend reasonable protections for such facilities consistent with the irrigation district's adopted rules and regulations, system improvement plans and/or development policies.**

FINDING: The subject property does not include water rights and is not within an irrigation district.

7. **The proposal demonstrates that approval of the annexation and zoning districts that implement the underlying Bend Comprehensive Plan map designations is consistent with the provisions of BDC 4.6.600, Transportation Planning Rule Compliance.**

4.6.600 Transportation Planning Rule Compliance.

When a development application includes a proposed Comprehensive Plan amendment or annexation, the proposal must be reviewed to determine whether it significantly affects a transportation facility, in accordance with Oregon Administrative Rule (OAR) 660-012-0060.

660-012-0060 - Plan and Land Use Regulations Amendments

(1) If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:

(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);

(b) Change standards implementing a functional classification system; or

(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.

(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or

(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.

(2) If a local government determines that there would be a significant effect, then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted TSP through one or a combination of the remedies listed in (a) through (e) below, unless the amendment meets the balancing test in subsection (2)(e) of this section or qualifies for partial mitigation in section (11) of this rule.

(d) Providing other measures as a condition of development or through a development agreement or similar funding method, including, but not limited to, transportation system management measures or minor transportation improvements. Local governments shall, as part of the amendment, specify when measures or improvements provided pursuant to this subsection will be provided.

(4) Determinations under sections (1)–(3) of this rule shall be coordinated with affected transportation facility and service providers and other affected local governments.

(b) Outside of interstate interchange areas, the following are considered planned facilities, improvements and services:

(D) Improvements to state highways that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when ODOT provides a written statement that the improvements are reasonably likely to be provided by the end of the planning period.

FINDING: OAR 660-012 implements Oregon Statewide Planning Goal 12. Goal 12 imposes a requirement on local governments to develop, maintain and update transportation plans consistent with the planning and implementation guidelines of Goal 12. The City's Comprehensive Plan dictates the number of units to be developed on the subject property, and the master plan does not propose to exceed those limits. However, compliance with the TPR was not addressed at the time of UGB acknowledgement for the expansion areas, instead being deferred to individual master plan/annexation applications.

This section requires a local government to put in place certain measures if an amendment would significantly effect a transportation facility. As documented in the WIG Infrastructure Agreement (Ordinance NS-2316), the WIG applicants made a monetary contribution to the City's off-site 14th Street Corridor Project, and will construct two new roundabouts and extend Skyline Ranch Road in phases to serve the Westside developments, providing new transportation facilities in the City of Bend that will serve vehicular, pedestrian, and bicycle transportation needs, all consistent with the requirements of Goal 12. In the findings in support of the WIG Development Agreement, and in the Agreement itself (Section 5.2), the City Council concluded that these improvements mitigated the impacts of the proposed development and satisfied the TPR as it relates to city managed facilities.

In addition the applicant has coordinated with ODOT in anticipation of the annexation application and documents the discussions via a transportation memo (Exhibit F). This memo was submitted to and approved by Miranda Wells, ODOT. The memo concludes that the annexation proposal does not meet ODOT thresholds for further analysis of major off-site intersections for the following reasons:

1) The location of the submit property on Bend's west-side is three miles (by air) from the US 97 corridor, or approximately 4.3 miles via Shevlin Park Road-Newport Avenue. As such, the first criterion does not apply.

2) In order to meet the second criteria of 50 or more turning movements on a State facility over 50% of the site-generated trips would need to rely on a single US 97 interchange. As trips disperse north and south on Mt Washington Drive or continue east on Shevlin Park Road, this level of impact could not be reached.

3) Exceeding the third criteria would require that 90% of the site-generated trips would impact a single highway segment. Again, with the dispersion between northbound and southbound travel on Mt Washington Drive and trips to the downtown, this level of impact would not be reached.

The proposed mitigation as specified above is captured in the Annexation Agreement, which will ensure consistency with the provisions of BDC 4.6.600, *Transportation Planning Rule Compliance*, and satisfies the requirements of OAR 660-012-0060.

BDC 4.9.600.A. Approval Criteria *(Continued)*

8. **The proposal demonstrates how rights-of-way will be improved to urban standards as determined by the City, including rights-of-way in cherry stem annexations.**

FINDING: The Shevlin West MPD (PZ 19-0373) includes specific right-of-way improvements for all existing public rights-of-way adjoining the project and all future public rights-of-way within the project. The Private Development Engineering (PDE) Division reviewed the proposed street layout and street improvement cross sections and found them to be generally acceptable as proposed. Final alignment and design of streets will be further refined through subsequent land division applications.

4.9.700 Zoning of Annexed Areas.

The Bend Comprehensive Plan map provides for the future City zoning classifications of all property within the City's Urbanizable Area (UA) District. On the date the annexation becomes effective, the UA District will cease to apply and the zoning map will be

automatically updated with the zoning district that implements the underlying Comprehensive Plan map designation.

FINDING: The Shevlin West Major Community Master Plan area will be designated Residential Low Density. As stated above, on the date the annexation becomes effective, the UA District will cease to apply and the zoning map will be automatically updated with the zoning district that implements the underlying Comprehensive Plan map designation, with the layout approved for the Shevlin West MPD.

ORDINANCE NO. NS - 2366

AN ORDINANCE ANNEXING APPROXIMATELY 28.3 ACRES OF LAND IN THE WEST UGB EXPANSION MASTER PLAN AREA 2, FOR THE TREELINE MASTER PLANNED DEVELOPMENT.

Findings:

A. Bend Development Code Section 4.9.400A.3 provides for annexation of real property to the City when 100 percent of the property owners that represent more than half the assessed value of all real property in the contiguous territory proposed to be annexed consent to the annexation.

B. The City received an application for annexation of the territory shown on Exhibit A and described in Exhibit B (the "Area").

C. One hundred percent of property owners within the Area have filed a statement of consent to this annexation.

D. There are no registered electors within the Area.

E. Public notice for the City Council hearing was provided in accordance with the requirements of BDC 4.9.300.A.3, and BDC 4.1.423-4.1.425. On January 30, 2020, notice was mailed by the Planning Division to surrounding owners of record of property within 250 feet of the subject properties, and to the Summit West Neighborhood Association representative. Notice was also posted in four public places on February 7, 2020, and posted in The Bulletin on February 5, 2020 and February 12, 2020. On February 7, 2020, *Notice of Proposed Development* signs were posted by the applicant along the property frontages at two locations, visible from adjacent rights of way.

F. The City Council held a public hearing on February 19, 2020 to enable the public to appear and be heard on the question of annexation.

G. The Area is contiguous to the City limits of the City of Bend along the east and north boundaries of the properties.

H. The applicant has entered into a Development Agreement with the City for the provision of all public facilities to serve the site as it develops with urban uses (PZ 18-0696).

Based on these findings, THE CITY OF BEND ORDAINS AS FOLLOWS:

Section 1. The territory containing approximately 28.3 acres of land as described in Exhibit A and depicted in Exhibit B, is annexed to the City of Bend.

Section 2. In addition to the findings set forth above, the City Council adopts and incorporates the findings in Exhibit C.

Section 3. On the date the annexation becomes effective, the UA District will cease to apply and the zoning map will be automatically updated with the zoning district that implements the underlying Comprehensive Plan map designation, in accordance with the Treeline Master Planned Development and BDC 4.9.700 *Zoning of Annexed Areas.*

First Reading: February 19, 2020

Second reading and adoption by roll call vote: March 4, 2020

YES: Sally Russell, Mayor
Bruce Abernethy
Barb Campbell
Bill Moseley
Justin Livingston
Chris Piper

NO: none

Sally Russell, Mayor

Attest:

Robyn Christie, City Recorder

Approved as to form:

Mary A. Winters, City Attorney

AKS ENGINEERING & FORESTRY, LLC
2777 NW Lolo Drive, Suite 150, Bend, OR 97703
P: (541) 317-8429 | www.aks-eng.com
AKS Job #7084
OFFICES IN: BEND, OR - KEIZER, OR - TUALATIN, OR - VANCOUVER, WA

EXHIBIT A

Legal Description
City of Bend Annexation

All of Common 1, and a portion of Common 2, of the plat "Anderson Ranch P.U.D.", by Peter A. Manley filed on February 7, 2002 as County Survey Number 14827, Deschutes County Survey Records, and a portion of Anderson Ranch Road, located in the Southeast One-Quarter of Section 26, Township 17 South, Range 11 East, Willamette Meridian, Deschutes County, Oregon, and being more particularly described as follows:

Beginning at the southeast corner of Section 26, being marked by a 3 inch diameter "Deschutes County" brass cap, also being the southeast corner of Common 1, of the Plat "Anderson Ranch P.U.D."; thence along the south line of said Common 1, North 89°54'52" West 1062.96 feet to the southwest corner of said Common 1; thence along the westerly line of Common 1, North 00°11'47" East 558.08 feet; thence continuing along said westerly line, North 41°39'55" West 167.26 feet to the southerly right-of-way line of Anderson Ranch Road and being a point of non-tangent curvature; thence northerly along said southerly right-of-way line (varying width from centerline) on an arc of a 47.00 foot radius curve to the left, (the radius point of which bears North 41°43'15" West) an arc distance of 61.66 feet, through a central angle of 75°09'59", (the chord of which bears North 10°41'45" East 57.33 feet); thence continuing along said southerly right-of-way line (varying width from centerline) on an arc of a 13.00 foot radius curve to the right, an arc distance of 15.15 feet, through a central angle of 66°47'15", (the chord of which bears North 6°30'23" East 14.31 feet) to a point 16.00 feet from centerline; thence continuing along said southerly right-of-way line (16.00 feet from centerline) for the following courses; thence along an arc of a 184.00 foot radius curve to the right, an arc distance of 111.24 feet, through a central angle of 34°38'23", (the chord of which bears North 57°13'13" East 109.56 feet); thence North 74°32'24" East 41.10 feet; thence along an arc of a 166.00 foot radius curve to the left, an arc distance of 37.60 feet, through a central angle of 12°58'43", (the chord of which bears North 68°03'02" East 37.52 feet); thence North 61°33'41" East 253.90 feet; thence along an arc of a 234.00 foot radius curve to the right, an arc distance of 63.78 feet, through a central angle of 15°36'56", (the chord of which bears North 69°22'09" East 63.58 feet); thence leaving said southerly right-of-way line perpendicular and at right angles to said southerly right-of-way line North 12°49'23" West 32.00 feet to the northerly right-of-way line of Anderson Ranch Road and being a point of non-tangent curvature; thence easterly along said northerly right-of-way line (16.00 feet from centerline) on an arc of a 266.00 foot radius curve to the right, (the radius point of which bears South 12°49'23" East) and arc distance of 72.38 feet, through a central angle of 15°35'23", (the chord of which bears North 84°58'19" East 72.15 feet); thence continuing along said northerly right-of-way line South 87°14'00" East 106.42 feet to the southeast corner of the land described in Bargain and Sale Deed For Property Line Adjustment, recorded June 23, 2015 as Instrument Number 2015-24819, Deschutes County Official Records, also being South 87°14'00" East 55.05 feet from the southwest corner of Common 2, of the Plat "Anderson Ranch P.U.D."; thence along the east line of said Bargain and Sale Deed being parallel with and 55.00 feet easterly of, when measured to right angles to the west line of said Common 2, North 00°17'38"

East 298.93 feet to the north line of said Common 2, being on the City of Bend city limits line; thence continuing along said north line and city limits line, South 89°44'02" East 546.98 feet to the west right-of-way line of Skyline Ranch Road (25.00 feet from centerline), and being the east line of said Section 26; thence along said west right-of-way line, east section line, and continuing along said city limits line, South 00°23'18" West 1311.58 to the said Point of Beginning.

The above described tract of land contains 28.02 acres, more or less.

Bearings for this description are based on the Central Oregon Coordinate System per County Survey Number 20012, by Jacob D. Powell, filed on September 26, 2019, Deschutes County Survey Records.

12/06/2019

REGISTERED
PROFESSIONAL
LAND SURVEYOR

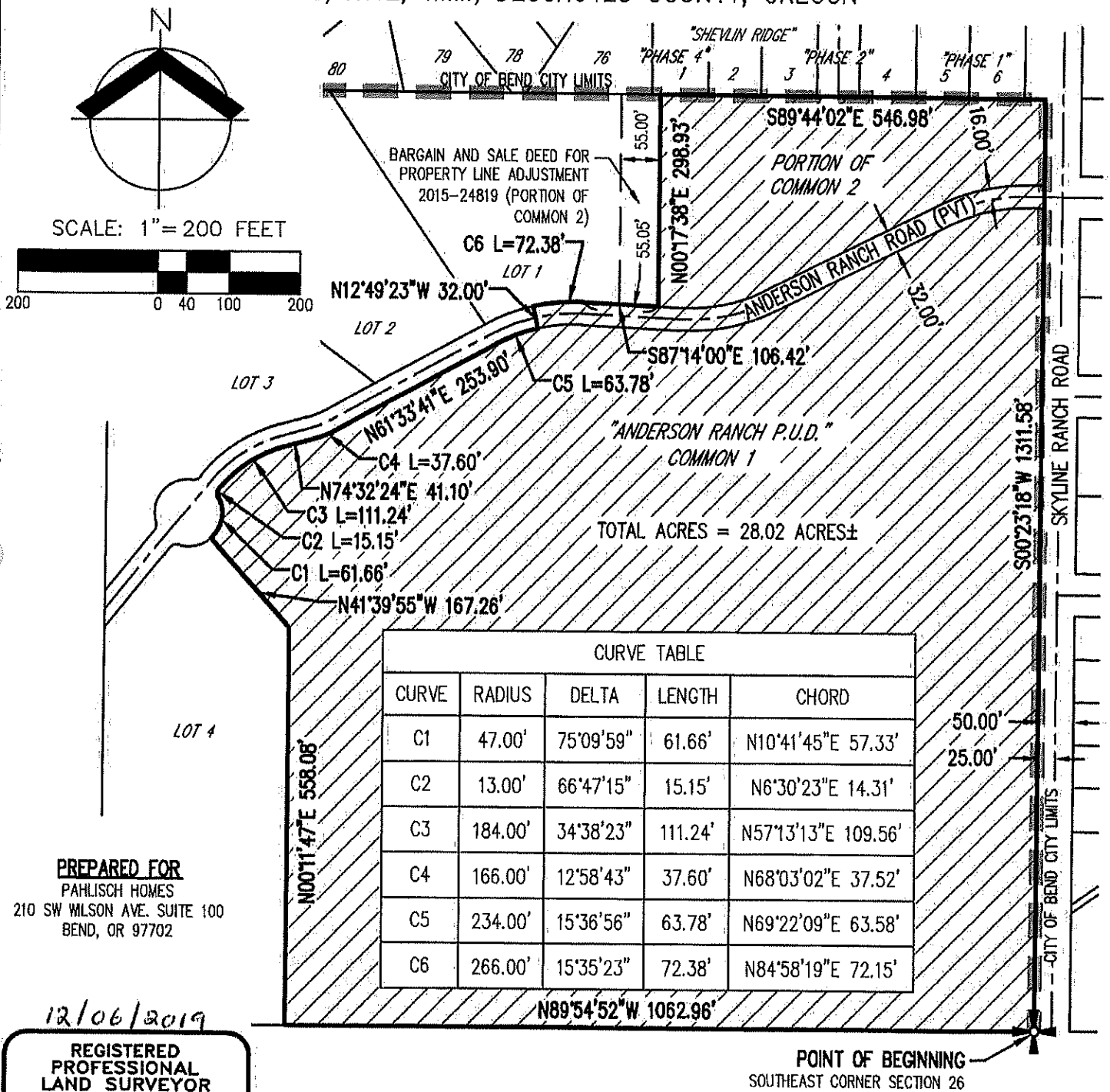
Jacob D. Powell

OREGON
MARCH 8, 2016
JACOB D. POWELL
90744PLS
RENEWS: 12/31/20

EXHIBIT B

MAP OF LEGAL DESCRIPTION

ALL OF COMMON 1, AND A PORTION OF COMMON 2, PLAT OF "ANDERSON RANCH P.U.D." AND A PORTION OF ANDERSON RANCH ROAD, LOCATED IN THE SE 1/4 OF SEC. 26, T17S, R11E, W.M., DESCHUTES COUNTY, OREGON



CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	CHORD
C1	47.00'	75°09'59"	61.66'	N10°41'45"E 57.33'
C2	13.00'	66°47'15"	15.15'	N6°30'23"E 14.31'
C3	184.00'	34°38'23"	111.24'	N57°13'13"E 109.56'
C4	166.00'	12°58'43"	37.60'	N68°03'02"E 37.52'
C5	234.00'	15°36'56"	63.78'	N69°22'09"E 63.58'
C6	266.00'	15°35'23"	72.38'	N84°58'19"E 72.15'

PREPARED FOR
PAHLISCH HOMES
210 SW WILSON AVE. SUITE 100
BEND, OR 97702

12/06/2019

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
MARCH 8, 2016
JACOB D. POWELL
90744PLS
RENEWS: 12/31/20

ANNEXATION	EXHIBIT B
AKS ENGINEERING & FORESTRY, LLC 2777 NW LOLO DR, STE 150 BEND, OR 97703 541.317.8429 WWW.AKS-ENG.COM	DRWN: JDP CHKD: MSK AKS JOB: 7084

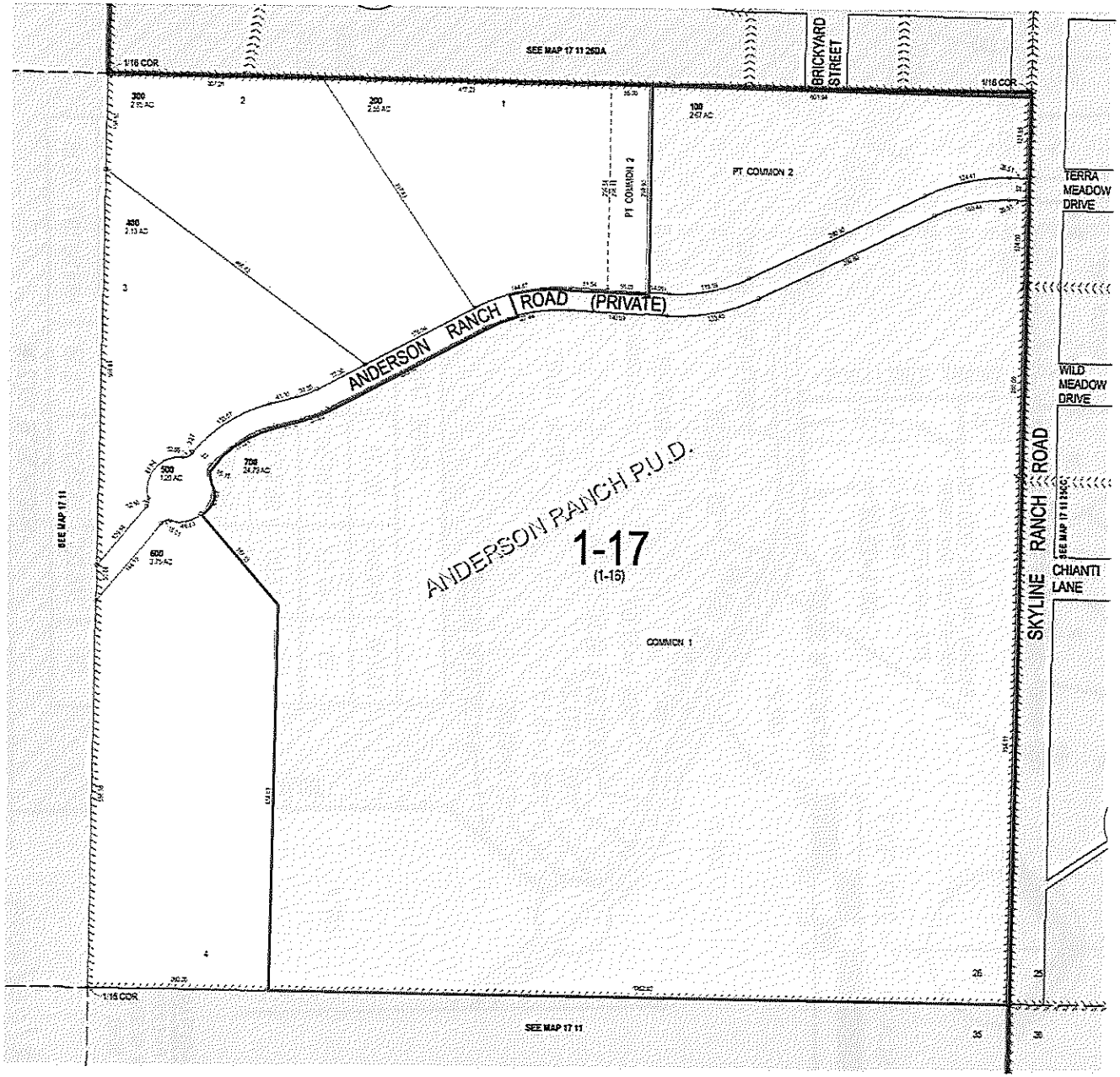
THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY

7/28/2015

S.E.1/4 S.E.1/4 SEC.26 T.17S. R.11E. W.M.
DESCHUTES COUNTY
1" = 100'

EXHIBIT C

17 11 26DD



AKS JOB: 7084

17 11 26DD

EXHIBIT C

FINDINGS FOR TREELINE ANNEXATION

COMMUNITY DEVELOPMENT

APPLICABLE CRITERIA, STANDARDS, AND PROCEDURES:

Criteria

Bend Development Code

Chapter 4.9 Annexations

Bend Comprehensive Plan

Chapter 7, Transportation Systems
Chapter 11, Growth Management

Oregon Administrative Rules

Chapter 660-012-0000, Transportation Planning

Procedures

Bend Development Code

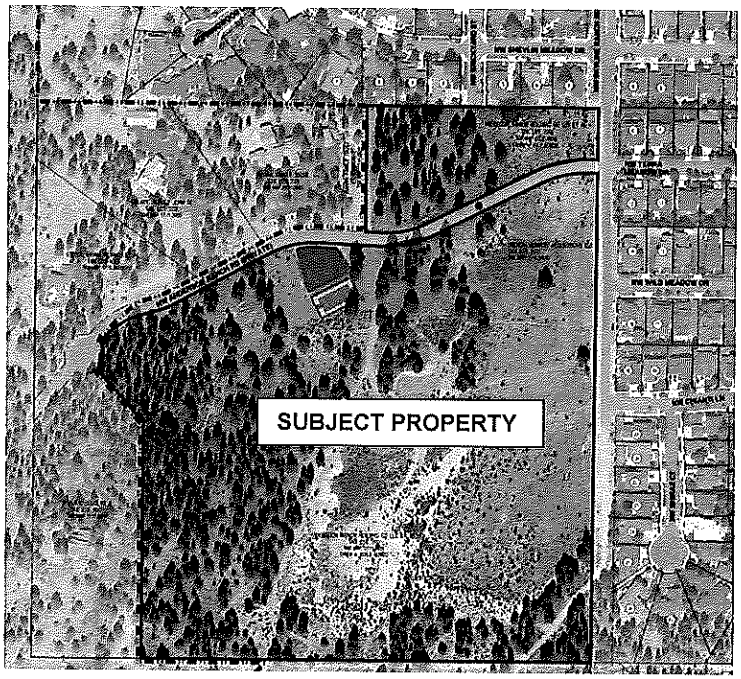
Chapter 4.1 Development Review and Procedures

4.1.400 Type II and Type III Applications
4.1.800 Quasi-Judicial Hearings

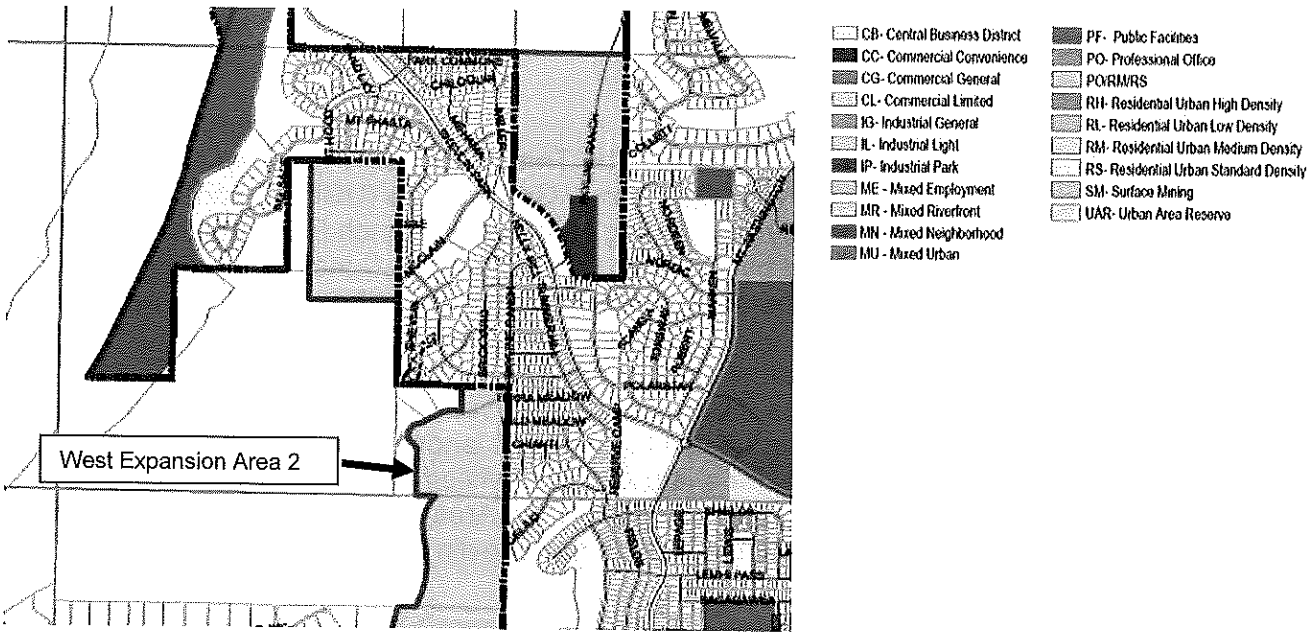
FINDINGS OF FACT:

1. **SITE DESCRIPTION AND LOCATIONS:** The Treeline Master Plan Area encompasses ±28.3 acres of the ±344-acre West Area Urban Growth Area (UGB) Expansion Area. The Master Plan Area is bounded by the existing NW Skyline Ranch Road right-of-way to the east. Undeveloped land owned by Rio Lobo Investments, LLC including Master Plan Area 3 and the Westside Transect Zone abuts the southern property boundary. The approved Discovery West Master Plan area is located further to the south. Outside the UGB, land immediately to the west and northwest is zoned Urban Area Reserve (UAR10) and consists of large-lot rural residential uses. Farther west, the Westside Transect Zone forms the boundary between the UGB and undeveloped forest lands to the west, and has been approved by Deschutes County for a large lot subdivision called Westgate. Abutting developed properties to the east of the Master Plan Area carry the Residential Standard Density (RS) zoning designation and include the Shevlin Meadows, Shevlin Ridge, and Shevlin Crest subdivisions.

   The property currently contains a private sports court but is otherwise devoid of structures. Topography on the site varies. Large areas along the western edge and southeastern corner slope up at 10 to 25 percent to the property boundary. A ravine at the southern portion of the property—the location of an old pumice mine—creates slopes greater than 25 percent before leveling off to the north. Existing vegetation is typical of the west side of Bend and includes coniferous trees—primarily Junipers and Ponderosa Pines—of varying heights and maturities.



2. **ZONING:** The properties are within the recently expanded UGB and are currently zoned Urbanizable Area (UA). The property in West Expansion Master Plan Area 2 is designated Residential Urban Low Density.



3. **PROPOSAL:** A Type III Quasi-judicial request for Annexation of the UGB West Expansion Master Plan Area 2 for the Treeline Master Planned Development.

4. **PUBLIC NOTICE AND COMMENTS:** Prior to submittal of this application and related applications, the applicants hosted a public meeting on August 5, 2019 in accordance with BDC 4.1.215. Public notice for the City Council hearing was provided in accordance with the requirements of BDC 4.9.300.A.3, and BDC 4.1.423-4.1.425. On January 30, 2020, the

Planning Division mailed notice to surrounding owners of record of property within 250 feet of the subject properties, and to the Summit West Neighborhood Association representative. Notice was also posted in four public places on February 7, 2020, and posted in *The Bulletin* on February 5 and 12, 2020. On February 7, 2020, *Notice of Proposed Development* signs were posted by the applicant along the property frontages at two locations, visible from adjacent rights of way.

5. **APPLICATION ACCEPTANCE DATE:** This Type III Quasi-judicial Annexation petition was submitted on January 29, 2020. The application was deemed complete on January 30, 2020.

APPLICATION OF THE CRITERIA:

Bend Development Code

Chapter 4.9, Annexations

4.9.200 Applicability.

Land to be annexed must be contiguous to the existing City limits.

FINDING: The land to be annexed is contiguous to the existing City limits along the entire eastern and northern boundary.

4.9.300 Review Processes.

A. Annexation. The following general processes apply to all annexation proposals:

1. **Annexations are reviewed using the Type III or Type IV process as determined by the City, based on a consideration of the factors for treating an application as quasi-judicial or legislative. Since annexations are a jurisdictional transfer, the City Council is the sole review authority.**
2. **City Council approval of annexations will be by ordinance.**
3. **Notice of the City Council hearing to consider the annexation proposal must follow the notification process required for the Type III or Type IV application, except a notice of the hearing must be published in a newspaper of general circulation in the City once each week for two successive weeks prior to the day of hearing, and notices of the hearing must be posted in four public places in the City for a like period.**

FINDING: The proposed annexation is initiated by the property owner for a specific property, and is therefore considered a quasi-judicial application. Notice for the City Council Hearing followed the notification process required for Type III applications, as well the requirements for publishing notice in the newspaper and in four public places as required under BDC4.9.300.A.3.

On January 30, 2020, notice was mailed by the Planning Division to surrounding owners of record of property within 250 feet of the subject properties, and to the Summit West and Century West Neighborhood Association representatives and to those who submitted comment prior to the hearing before the Planning Commission. On February 7, 2020, Notice of Proposed Development signs were posted by the applicant along the property frontages at two locations, visible from adjacent rights of way. Notice was also posted in four public places on February 7, 2020, and posted in The Bulletin on February 5 and 12, 2020.

B. Area and Master Planning. Unless exempted in subsection (B)(1) of this section, expansion areas as shown in Figure 4.9.300 will require area and/or master plan approval prior to or concurrently with annexation. The exemptions to master planning in BDC Chapter 4.5, Master Planning and Development Alternatives, are not applicable to properties in the Urbanizable Area (UA) District. Development in expansion areas must comply with the applicable Bend Comprehensive Plan Specific Expansion Area Policies in Table 4.9.300.

Table 4.9.300 - Specific Expansion Area Policies

Expansion Area	Bend Comprehensive Plan Specific Expansion Area Policies
West Area	11-100 through 11-108

FINDING: The subject property is located in the West expansion area. A major community master plan in accordance with BDC Chapter 4.5 was submitted on October 18, 2019, under PZ 19-0793. On January 27, 2020, the Planning Commission made a recommendation to the City Council for approval of the Treeline MPD. The Treeline MPD is scheduled to be heard by the City Council concurrently with this annexation request. As addressed in the Planning Commission findings for PZ 19-0793, the Treeline MPD complies with Bend Comprehensive Plan Policies 11-100 through 11-108.

4.9.400 Initiation Procedures.

A. An annexation proposal for the contiguous territory proposed to be annexed may be initiated by petition in compliance with one of the following initiation procedures:

1. All of the owners of land in the contiguous territory proposed to be annexed and not less than 50 percent of the electors, if any, residing in the territory, consent in writing to the annexation of their land in the territory and file a statement of their consent with the City;

FINDING: The Treeline property is owned by Shevlin Heights Acquisitions, LLC, Anderson Ranch Holdings, LLC, David Bone, Jeffrey R. Colker Trust and Kirk Trust. Pahlisch Homes Inc. has initiated this application on behalf of the owners and all owners consented in writing to annexation in compliance with the procedures in A.1. There are no residents within the territory proposed to be annexed.

4.9.500 Submittal Requirements.

A. The application must include:

1. A completed and signed annexation application packet on forms provided by the City.

2. A petition including the statement of consent, on City forms, completed by property owners and/or electors residing in the territory that meets the requirements of BDC 4.9.400, Initiation Procedures.

3. Legal description of the territory including abutting right-of-way to be annexed and a boundary survey certified by a registered engineer or surveyor.

4. A map showing the territory including abutting right-of-way to be annexed and properties within 300 feet of the territory.

5. **A narrative which addresses the approval criteria in BDC 4.9.600 and the requirements of BDC 4.9.300(B).**

FINDING: The application materials uploaded to ePlans for PZ 20-0062 contain all of the above requirements.

6. **A letter or other written documentation from the Bend Park and Recreation District which indicates that the applicant has met with the District to discuss the proposed annexation, and provided the District an opportunity to review the annexation area for options to enhance existing parks and trails, and develop new parks and trails.**

FINDING: Throughout the Master Planning process, the applicant has coordinated with the Bend Parks and Recreation District (BPRD) to ensure adequate park and trail facilities are provided for future use. BPRD has not indicated the need for additional parks within the property to be annexed. However, the Treeline Master Plan includes ±6.9 acres (±24% of the Master Plan Area) of permanent open space planned to provide defensible space for wildfire mitigation, passive recreation areas for future residents, and stormwater retention. Exhibit C of the application includes a letter from BPRD documenting coordination and communication.

7. **A completed and signed Bend Park and Recreation District annexation agreement, unless the property(s) to be annexed is already located within the Bend Park and Recreation District.**

FINDING: The subject property is already located within the boundaries of the Bend Park and Recreation District.

8. **A letter or other written documentation from the Bend-La Pine School District which indicates that the applicant has met with the District to discuss the proposed annexation and provided the District an opportunity to review and comment on the proposed annexation.**

FINDING: The applicant submitted a letter from the Bend-La Pine School District confirming that they discussed the master plan and annexation with the applicant. The letter confirmed that the District does not have a need at this time for additional school facilities in the vicinity of the subject site.

9. **Territories with irrigation district water rights or other irrigation district facilities must include the following:**

FINDING: The subject property does not include any irrigation district water rights or other irrigation facilities. No comments were received from any of the irrigation districts in response to the notice provided.

10. **If the City has not yet amended its public facilities and transportation plans for the affected expansion area, inclusion of an applicant initiated amendment to the relevant plan(s) or other evidence that the necessary infrastructure planning under Statewide Planning Goals 11 and 12 will take place prior to or concurrently with annexation.**

FINDING: The Westside Infrastructure Group Development Agreement (WIG DA) provides for the timing, construction and funding of infrastructure necessary to support urban development in

the West and Shevlin UGB Expansion Areas in accordance with the relevant Comprehensive Plan policies for these areas. This DA was adopted by the City Council in October 2018 and satisfies the necessary infrastructure planning under Statewide Planning Goals 11 and 12.

4.9.600 Approval Criteria.

A. The City Council may approve, or approve with conditions, the proposed annexation application if all of the following criteria are met:

1. The annexation proposal is consistent with the Bend Comprehensive Plan policies and plan designations applicable to the territory as determined by the Planning Director or designee.

FINDING: The proposed annexation is based on the Treeline Major Community Master Plan, which addresses and implements BCP Policies 11-100 to 11-108 pertaining to the West Expansion Area.

2. The annexation proposal is consistent with an approved area plan and/or master plan, unless exempted in BDC 4.9.300(B)(1).

FINDING: The Bend Planning Commission held a public hearing on the master plan on January 27, 2020, and moved to recommend approval of the master plan to the Bend City Council. The Planning Commission findings are attached as an exhibit to the Ordinance for City Council consideration under PZ 19-0793, which is under review concurrent with this annexation request.

3. The proposal demonstrates how the annexed territory is capable of being served by public facilities and services with adequate capacity as determined by the City, including sanitary sewer collection, domestic water, transportation, schools, and parks, consistent with the City's adopted public facility plans, transportation system plan, and applicable district plans, either as provided in an applicable area or master plan or by demonstrating how such public facilities and services will be provided in an orderly, efficient and timely manner.

FINDING: The Westside Infrastructure Group Development Agreement (WIG DA) approved under city file PZ 18-0696 (Ordinance NS-2316, effective November 16, 2018) specifies the timing and extent of sewer, water, and transportation facility improvements necessary to support the uses contemplated in the Bend Comprehensive Plan for the entire West and Shevlin UGB expansion. The WIG DA includes a Transportation Analysis prepared by Kittelson & Associates and findings demonstrating compliance with BDC Chapter 4.7. The findings in support of PZ 18-0696 also conclude that existing sewer and water facilities are currently adequate or will be made adequate with the installation of certain improvements specified in the WIG DA. The provisions of the WIG DA are binding on both the applicant and the City of Bend for a period of 15 years from enactment, to November 16, 2033. Those findings and conclusions adopted in support of Ordinance NS-2316 are incorporated by reference and will be relied upon by both the applicant and the City of Bend to ensure compliance with this criterion.

Comments from the Bend-La Pine School District and BPRD indicate that no additional school or park facilities are needed in the vicinity of this master plan area that is being annexed. However, 6.9 acres of park and open space land are provided in the Treeline master plan which will be managed by the Treeline Homeowner's Association.

4. **The proposal demonstrates how public facility and service impacts, including as applicable: on- and off-site improvements, construction and modernization of existing infrastructure (water, sewer, stormwater, transportation) to City standards and specifications, and impacts to existing infrastructure inside the City's current city limits, will be adequately mitigated through an annexation agreement or other funding mechanism approved by the City Council prior to annexation. The City will use the standards and criteria of BDC Chapter 4.7, Transportation Analysis, for analysis and mitigation of transportation impacts.**

FINDING: Chapter 4.7 was addressed in PZ 18-0696, the WIG DA. Transportation system deficiencies were identified through the combined TIA prepared for all West and Shevlin UGB expansion area properties based on the maximum development potential identified for each property in the Bend Comprehensive Plan. Specific transportation improvements and mitigation payments were identified and imposed through the terms of the WIG DA. Those findings of compliance with BDC Chapter 4.7 in support of NS-2316 are also incorporated by reference.

5. **Owner(s) have committed to transfer all irrigation district water rights from the property, unless exempted in subsection (A)(5)(a)(i) of this section.**

FINDING: The properties are not in an irrigation district boundary and do not have any irrigation district water rights or irrigation district conveyance facilities.

6. **Sufficient evidence acceptable to the City has been provided demonstrating that the irrigation district had an opportunity to review the layout and design for any impacts on irrigation district conveyance facilities and to recommend reasonable protections for such facilities consistent with the irrigation district's adopted rules and regulations, system improvement plans and/or development policies.**

FINDING: The subject property does not include water rights and is not within an irrigation district.

7. **The proposal demonstrates that approval of the annexation and zoning districts that implement the underlying Bend Comprehensive Plan map designations is consistent with the provisions of BDC 4.6.600, Transportation Planning Rule Compliance.**

4.6.600 Transportation Planning Rule Compliance.

When a development application includes a proposed Comprehensive Plan amendment or annexation, the proposal must be reviewed to determine whether it significantly affects a transportation facility, in accordance with Oregon Administrative Rule (OAR) 660-012-0060.

660-012-0060 - Plan and Land Use Regulations Amendments

(1) If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:

(a) Change the functional classification of an existing or planned transportation

facility (exclusive of correction of map errors in an adopted plan);

(b) Change standards implementing a functional classification system; or

(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.

(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or

(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.

(2) If a local government determines that there would be a significant effect, then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted TSP through one or a combination of the remedies listed in (a) through (e) below, unless the amendment meets the balancing test in subsection (2)(e) of this section or qualifies for partial mitigation in section (11) of this rule.

(d) Providing other measures as a condition of development or through a development agreement or similar funding method, including, but not limited to, transportation system management measures or minor transportation improvements. Local governments shall, as part of the amendment, specify when measures or improvements provided pursuant to this subsection will be provided.

(4) Determinations under sections (1)–(3) of this rule shall be coordinated with affected transportation facility and service providers and other affected local governments.

(b) Outside of interstate interchange areas, the following are considered planned facilities, improvements and services:

(D) Improvements to state highways that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when ODOT provides a written statement that the improvements are reasonably likely to be provided by the end of the planning period.

FINDING: OAR 660-012 implements Oregon Statewide Planning Goal 12. Goal 12 imposes a requirement on local governments to develop, maintain and update transportation plans consistent with the planning and implementation guidelines of Goal 12. The City's Comprehensive Plan dictates the number of units to be developed on the subject property, and the master plan does not propose to exceed those limits. However, compliance with the TPR

was not addressed at the time of UGB acknowledgement for the expansion areas, instead being deferred to individual master plan/annexation applications.

This section requires a local government to put in place certain measures if an amendment would significantly effect a transportation facility. As documented in the WIG Infrastructure Agreement (Ordinance NS-2316), the WIG applicants made a monetary contribution to the City's off-site 14th Street Corridor Project, and will construct two new roundabouts and extend Skyline Ranch Road in phases to serve the Westside developments, providing new transportation facilities in the City of Bend that will serve vehicular, pedestrian, and bicycle transportation needs, all consistent with the requirements of Goal 12. In the findings in support of the WIG Development Agreement, and in the Agreement itself (Section 5.2), the City Council concluded that these improvements mitigated the impacts of the proposed development and satisfied the TPR as it relates to city managed facilities.

Similar to the recently approved Shevlin West/Rio Lobo Annexation (PZ-19-0566), the annexation proposal does not meet ODOT thresholds for further analysis of major off-site intersections for the following reasons:

1) The location of the submit property on Bend's west-side is three miles (by air) from the US 97 corridor, or approximately 4.3 miles via Shevlin Park Road-Newport Avenue. As such, the first criterion does not apply.

2) In order to meet the second criteria of 50 or more turning movements on a State facility over 50% of the site-generated trips would need to rely on a single US 97 interchange. As trips disperse north and south on Mt Washington Drive or continue east on Shevlin Park Road, this level of impact could not be reached.

3) Exceeding the third criteria would require that 90% of the site-generated trips would impact a single highway segment. Again, with the dispersion between northbound and southbound travel on Mt Washington Drive and trips to the downtown, this level of impact would not be reached.

The proposed mitigation as specified above is captured in the WIG Infrastructure Agreement, which will ensure consistency with the provisions of BDC 4.6.600, *Transportation Planning Rule Compliance*, and satisfies the requirements of OAR 660-012-0060.

BDC 4.9.600.A. Approval Criteria *(Continued)*

8. **The proposal demonstrates how rights-of-way will be improved to urban standards as determined by the City, including rights-of-way in cherry stem annexations.**

FINDING: The Treeline MPD (PZ 19-0793) includes specific right-of-way improvements for all existing public rights-of-way adjoining the project and all future public rights-of-way within the project. The Private Development Engineering (PDE) Division reviewed the proposed street layout and street improvement cross sections and found them to be generally acceptable as proposed. Final alignment and design of streets will be further refined through subsequent land division applications.

4.9.700 Zoning of Annexed Areas.

The Bend Comprehensive Plan map provides for the future City zoning classifications of all property within the City's Urbanizable Area (UA) District. On the date the annexation

becomes effective, the UA District will cease to apply and the zoning map will be automatically updated with the zoning district that implements the underlying Comprehensive Plan map designation.

FINDING: The Treeline Major Community Master Plan area will be designated Residential Low Density with a Standard Lot Residential zoning overlay on the eastern portion of the subject property. As stated above, on the date the annexation becomes effective, the UA District will cease to apply and the zoning map will be automatically updated with the zoning district that implements the underlying Comprehensive Plan map designation, with the layout approved for the Treeline MPD.

RECORDING COVER SHEET (Please print or type)
This cover sheet was prepared by the person presenting the instrument for recording. The information on this sheet is a reflection of the attached instrument and was added for the purpose of meeting first page recording requirements in the State of Oregon, and does NOT affect the instrument. ORS 205.234

Deschutes County Official Records **2018-45904**
Nancy Blankenship, County Clerk





$528.00

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$440.00 $11.00 $61.00 $10.00 $6.00

AFTER RECORDING RETURN TO: ORS 205.234(1)(c)

City of Bend, CDD
Attn: Amy Barry
710 NW Wall Street
Bend, OR 97703

1. TITLE(S) OF THE TRANSACTION(S) ORS 205.234(1)(a)

Infrastructure Development Agreement

2. DIRECT PARTY(IES) / GRANTOR(S) ORS 205.234(1)(b)

NWX2 LLC
CCCC LLC
ERMK LLC
Kyle Coats
Rio Lobo Investments LLC
Anderson Ranch Holding Company, LLC
Administrative School District No. 1, Deschutes County

3. INDIRECT PARTY(IES) / GRANTEE(S) ORS 205.234(1)(b)

City of Bend

INFRASTRUCTURE DEVELOPMENT AGREEMENT TO SUPPORT URBAN AND RURAL DEVELOPMENT IN THE WEST BEND AREA

THIS INFRASTRUCTURE DEVELOPMENT AGREEMENT (this "Agreement") is made and entered into this 17th day of October, 2018, by and between the **CITY OF BEND**, a municipal corporation of the State of Oregon (the "City"); **NWX2 LLC**, an Oregon limited liability company ("NWX2"); **CCCC LLC**, an Oregon limited liability company; **ERMK LLC**, an Oregon limited liability company; **Kyle Coats** (collectively "Coats"); **RIO LOBO INVESTMENTS, LLC**, an Oregon limited liability company ("Rio Lobo"); **ANDERSON RANCH HOLDING COMPANY, LLC**, an Oregon limited liability company ("Anderson Ranch"); and **ADMINISTRATIVE SCHOOL DISTRICT NO. 1, DESCHUTES COUNTY**, a public school district of the State of Oregon (the "District") (each a "Party" and, collectively, the "Parties") in accordance with ORS 94.504 through 94.528. The purpose of this Agreement is to provide for the timing, construction, and funding of infrastructure necessary to support urban development in the West and Shevlin urban growth boundary ("UGB") expansion areas approved by the City in 2016 and rural development on specified adjacent exception area lands in Deschutes County (the "Transect").

RECITALS

A. NWX2, Coats, Rio Lobo, and Anderson Ranch ("Owners") are the owners of all of the property located in the West and Shevlin UGB expansion areas and, except as noted in Recital C, Coats and Rio Lobo are owners of all the property in the Transect areas (see ownership map attached as Exhibit A) (the "Properties"). For the purpose of this Agreement, Owners include any successors in interest to all or a portion of the Properties during the term of this Agreement.

B. NWX2 is the legal owner of approximately 245 acres in the West UGB expansion area as described in the attached Exhibit B ("NWX2 Property"). The NWX2 Property is designated as Master Plan Area 1 under Chapter 11 of the Bend Comprehensive Plan ("BCP").

C. Coats is the legal owner of approximately 68 acres in the Shevlin UGB expansion area as described in the attached Exhibit C (the "Coats Property"). The Coats Property is designated as the Shevlin Master Plan Area under BCP Chapter 11. Coats also owns six acres within the existing city limits that are included as part of the "Coats Property" for the purposes of determining the impact of development on the infrastructure systems under this Agreement. Coats is also the legal owner of approximately 346 acres in the Transect area as described in the attached Exhibit D. The District, holding title as Bend School District No. 1, is the legal owner of 32 acres in the Transect area as described in the attached Exhibit E (the "District Property") (collectively, "Transect North"). The District is a party to this Agreement for the limited purpose of authorizing the District Property to be included in the determination of the vehicular transportation impacts generated by development of all the Properties for the allocation of PM peak hour vehicular trips among the Properties, and for enforcement of the provisions of this Agreement if, and when, the District submits a land use application for an elementary school located on the Coats Property. The District has no construction obligations, financial obligations, or rights to vested entitlements, including transportation trips under this Agreement, provided, however, that if the District acquires a portion of the Coats Property for an elementary school, it will be allocated vested entitlements, including transportation trips under this Agreement.

D. Rio Lobo is the legal owner of two tracts of land in the West UGB expansion area. The first tract is approximately 31 acres and is described in the attached Exhibit F ("Rio Lobo Tract 1"). The second tract is approximately 40 acres and is described in the attached Exhibit G ("Rio Lobo Tract 2"). Rio Lobo is also the legal owner of approximately 304 acres in the Transect area described in the attached Exhibit H ("Transect South"). Rio Lobo Tract 1 is designated as Master Plan Area 3 under BCP Chapter 11. Rio Lobo Tract 2 is designated as Master Plan Area 4 under BCP Chapter 11.

E. Anderson Ranch is the legal owner of approximately 28 acres in the West UGB expansion area as described in the attached Exhibit I (the "Anderson Ranch Property"). The Anderson Ranch Property is designated as Master Plan Area 2 under BCP Chapter 11.

F. For purposes of this Agreement, "Infrastructure Improvements" means sewer, water, and vehicular transportation facilities and infrastructure improvements off-site or adjacent to the Properties.

G. Given the master plan requirements of BCP Chapter 11, the small number of Owners, and the collective impacts of the development of the Properties on adjacent and area infrastructure, the Parties agree that the costs and timing of the required Infrastructure Improvements should be determined and allocated as part of this Agreement in a comprehensive, collective, and equitable manner.

H. The Transect North and Transect South properties are outside the City's UGB, and are not subject to the City's land use jurisdiction. Coats and Rio Lobo agree and intend that this Agreement and its terms and conditions are binding on them and

have the force of contract as to the Transect North and Transect South properties. The Agreement will be binding as to the Transect North and Transect South properties when the Agreement becomes final, including resolution of any appeals.

AGREEMENT

In consideration of the mutual promises and performance obligations of each Party set out in this Agreement, the Parties hereby agree to the following terms and conditions.

1. Effective Date and Term of Agreement (ORS 94.504(2)(a); ORS 94.504(6)).

This Agreement shall be effective upon both the: (a) adoption of an ordinance by the City approving this Agreement in accordance with ORS 94.508; and (b) execution of this Agreement by the Parties. As used in this Agreement, "adoption of an ordinance by the City" means the date on which the ordinance becomes effective. This Agreement shall continue in effect for a period of 15 years after its effective date. Nothing in this section shall preclude the Parties from mutually agreeing to reopen, extend, terminate, or consider amendments to this Agreement at any time. Any amendments shall be made as provided in Section 10 below.

2. Description of Development Authorized and Required by This Agreement.

2.1 Generally (ORS 94.504(2)(b)). This Agreement is not intended to authorize or control any particular uses of the Properties. The uses, densities, and intensities of the Properties that will be annexed to and developed in the City are set forth in BCP Chapter 11 and will be implemented in accordance with the master plan requirements of the BCP and Bend Development Code ("BDC") Chapter 4.5 (Master

Planning and Development Alternatives) and annexation requirements of BDC Chapter 4.9 (Annexations).

2.2 Density and Intensity (ORS 94.504(2)(c)). As noted above, density and intensity of uses on the Properties are governed by BCP Chapter 11, except the Transect Properties, which are located in Deschutes County (the "County") and governed by Deschutes County Code, Title 19. The Transect North and Transect South properties are subject to a pending land use application, Deschutes County Community Development Department file numbers 247-18-000612-ZC, 247-18-000613-PA and 247-18-000614-TA as such filed numbers may be amended (the "Transect Application"). The Transect Application proposes development of 100 residential units in Transect North and 87 residential units in Transect South. This is the assumed density for the Transect Properties for the purpose of this Agreement. If the Transect is developed at lower densities, the terms of this Agreement are still binding on the Transect Properties. If the Transect Properties are developed or proposed to be developed at greater than the assumed density, the City may require additional mitigation from the Transect Properties.

2.3 Height and Size of Structures (ORS 94.504(2)(d)). Height and size of structures will be governed by the requirements of the BDC at the time of the master plan approval for the Properties, except the Transect Properties, which are located in the County and governed by Deschutes County Code, Title 19.

2.4 Provisions for Reservation or Dedication of Land for Public Purposes (ORS 94.504(2)(e)). This shall be determined at the time of the master plan approval

for each of the Properties in accordance with City or County regulations in effect at the time.

2.5 Schedule of Fees and Charges (ORS 94.504(2)(f)). Except as expressly provided for in this Agreement, fees and charges will be determined at the time of specific development applications for each of the Properties in accordance with the applicable City regulations in effect at the time of application submittal.

3. Schedule and Procedure for Compliance Review (ORS 94.504(2)(g)). This Agreement will demonstrate compliance with those sections of BDC Chapter 4.5, BDC Chapter 4.7 (Transportation Analysis), and BDC Chapter 4.9 (Annexation) applicable to off-site sewer, water, and vehicular transportation infrastructure adequacy for development of all the Properties subject to this Agreement.

4. Infrastructure Improvements (ORS 94.504(2)(h)). Because the uses and density on the Properties are either prescribed by the BCP and BDC or assumed for the Transect in accordance with the Transect Application, the overall off-site infrastructure impact as a result of development of the Properties can be reasonably determined and addressed. The purpose of this Agreement is to provide for the equitable allocation of those costs, and define development triggers and assignment of responsible parties for the construction of the required public improvements to fully mitigate off-site sewer, water, and vehicular transportation infrastructure impacts from the development of the Properties subject to this Agreement.

4.1 Transportation Infrastructure. Kittelson & Associates, Inc., has conducted the Westside Transportation Study, dated June 28, 2018 that analyzes the impacts of the full development of the Properties on the transportation system at the end of the

planning period (the "Kittelson Study"). The Kittelson Study has been submitted to and has been reviewed and approved by the City pursuant to City Permit BP-18-3441, and its conclusions are included in the City Engineer's Transportation Analysis Memo dated August 3, 2018, attached as Exhibit J. The Kittelson Study determined that full development of the Properties would impact eight intersections and several roads within the City road system. A map of the impacted intersections showing degree of impact is attached as Exhibit K. Exhibit K shows the Properties' overall proportionate share of new PM peak hour trips through each intersection within the City-approved study area, including the projected increase in background traffic ("Total Proportionate Share"). Exhibit K further shows each Owner's share of the Total Proportionate Share, and that full development of the Properties will generate approximately 75% of the new trips at two locations, requiring construction of roundabouts at the Skyline Ranch Road/Shevlin Park Road intersection and at the Skyline Ranch Road/Skyliners Road intersection. Exhibit K shows that full development of the Properties will have a lower impact on six existing City intersections. Table 5 of the Kittelson Study shows the trip generation assumptions per lot/acre/unit used to establish these impacts. The Parties will allocate and address these impacts as follows:

4.1.1 Skyline Ranch Road/Shevlin Park Road Roundabout. Coats will construct a single-lane asphalt roundabout at the Skyline Ranch Road/Shevlin Park Road intersection as generally depicted on Exhibit L when lots are platted or improved within the Coats Property that represent 50 percent of the total of PM peak hour trips projected to be generated by the development of the Coats Property as established in the Kittelson Study (237 of 475 combined total PM peak hour trips). As provided in

Section 4.1.6 of this Agreement, no party shall complete the connection from Skyline Ranch Road to Shevlin Park Road until the Skyline Ranch Road/Shevlin Park Road roundabout has been completed. The obligation to pay for and construct this roundabout shall run with the Coats Property. If Coats and/or Coats' successors in interest fail to construct this roundabout by the deadline established in this section, the City may refuse to approve additional plats or development applications not associated with an approved plat on the Coats Property until this roundabout is constructed and accepted by the City. The Skyline Ranch Road/Shevlin Park Road intersection roundabout is currently not on the City's Transportation System Development Charge ("TSDC") Project List and is therefore not eligible to receive TSDC credits for the construction of this improvement. If, because of a future update to the TSDC methodology, this improvement is added to the TSDC Project List before commencement of construction of the improvement, the Party constructing the improvement may apply for TSDC credits based on the City's TSDC methodology and code in effect at that time.

4.1.2 Skyliners Road/Skyline Ranch Road Roundabout. NWX2 will construct a single-lane asphalt roundabout at the Skyliners Road/Skyline Ranch Road intersection as generally depicted by Exhibit M when lots are platted or improved within the NWX2 Property that represent 50 percent of the total of PM peak hour trips projected to be generated by the development of the NWX2 Property as established in the Kittelson Study (480 of 959 combined total PM peak hour trips). As provided in Section 4.1.6 of this Agreement, no party shall complete the connection from Skyline Ranch Road to Shevlin Park Road until the Skyliners Road/Skyline Ranch Road

roundabout has been completed. The obligation to pay for and construct the roundabout shall run with the land with respect to the NWX2 Property. If NWX2 and/or its successors in interest fail to construct the roundabout by the deadline established in this section, the City may refuse to approve additional plats or development applications not associated with an approved plat on the NWX2 Property until the roundabout is constructed and accepted by the City. The Skyliners Road/Skyline Ranch Road intersection roundabout is currently not on the TSDC Project List and is therefore not eligible to receive TSDC credits for the construction of this improvement. If, because of a future update to the TSDC methodology this improvement is added to the TSDC Project List before commencement of construction of the improvement, the Party constructing the improvement may apply for TSDC credits based on the City's TSDC methodology and code in effect at that time.

4.1.3 Tracking and Accounting for Trips. Coats will be responsible for tracking and accounting for accumulated PM peak hour trips for the purposes of determining the trips trigger in Section 4.1.1, and NWX2 will be will be responsible for tracking and accounting for accumulated PM peak hour trips for the purposes of determining the trips trigger in Section 4.1.2. The affected Party will submit an estimate of accumulated PM peak hour trips with each subsequent development application under a master plan for the affected Property. This requirement will cease for the affected Party or Parties once a roundabout required under Sections 4.1.1 or 4.1.2 has been constructed and accepted by the City. The calculation of accumulated PM peak hour trips will be based on the following table:

Trip Generation Table for Trigger Calculation		
Use	PM Peak Hour Trips	
Single Family Detached Residential	1.0	per lot
Single Family Attached Residential	0.51	per lot
Multifamily	21.7	per acre of land
Commercial and Mixed-Employment Zones	20.0	per acre of land
600-Student Elementary School	90.0	per school

4.1.4 Payment in Lieu of Improvements to Other Intersections. The Properties' Total Proportionate Share of trips through the other six intersections will contribute to the eventual need for improvements to these other off-site intersections but will contribute lower percentages of the total estimated trips. See Kittelson Study. The Kittelson Study estimated the total cost of necessary improvements at these intersections/roundabouts at buildout, calculated based on the estimated cost at the time of this Agreement. The Owners' Total Proportionate Share of this cost is $1,400,000. In lieu of requiring the Owners to construct or pay costs toward construction of these intersections, NWX2, Rio Lobo (for the benefit of the Rio Lobo Tract 1 property), and Anderson Ranch will make payments to the City in the total amount of $1,400,000. NWX2 will pay $987,404, Anderson Ranch will pay $186,205, and Rio Lobo will pay $226,391. The payments will be due within 30 days after the date that this Agreement becomes final, including resolution of any appeals. If NWX2, Anderson Ranch, and/or Rio Lobo do not pay these amounts by the deadline in this section, the City may in its sole discretion impose a lien or liens on property owned by the delinquent Party in an amount not to exceed the proportionate share due by the delinquent Party. Such lien or liens shall be entered on the City lien docket and shall bear interest at the rate of 9 percent per year. The City may foreclose the lien in any

manner authorized by law. The City may expend these funds on any transportation improvement or improvements that it deems to be in the best interests of the City.

4.1.5 Extension of Regency Street. Coats agrees to construct the extension of Regency Street from its current improved terminus at the tax lot identified as 171125BD1200 (more specifically known as Lot 7 of Valhalla Heights Phase IV) to the Coats property boundary, which is approximately 850 feet, at such time as specified in the Coats property master plan or other development approval. The timing of the Regency Street extension will be determined with the master plan submittal for the Coats Property or other development approval based on the development layout and proposed phasing schedule. The Parties agree that the Regency Street right-of-way will be a maximum of 70 feet wide and that the City will not require more than a maximum 36-foot-wide paved roadway unless required for traffic calming or pedestrian safety. The extension of Regency Street is currently not on the TSDC Project List and is therefore not eligible to receive TSDC credits for the construction of this improvement. If, because of a future update to the TSDC methodology this improvement is added to the TSDC Project List before commencement of construction of the improvement, the Party constructing the improvement may apply for TSDC credits based on the City's TSDC methodology and code in effect at that time.

4.1.6 Construction of Skyline Ranch Road. In addition to the above-noted roundabouts, the Kittelson Study indicates that Skyline Ranch Road will need to be completed and connected from Skyliners Road to Shevlin Park Road.

(a) Timing and Completion. Except as provided below, each Owner will be responsible to construct the portion of Skyline Ranch Road that crosses

their individual Property. The triggers and phasing of the Skyline Ranch Road construction within the Anderson Ranch, Rio Lobo Tract 1, and NWX2 Properties will be determined at the time of their individual master plans. In no event, however, will any Party complete the construction of Skyline Ranch Road from NW Crossing Drive to the northern boundary of the Anderson Ranch Property until the roundabouts at Skyline Ranch Road/Shevlin Park Road and Skyliners Road/Skyline Ranch Road are completed and operational. If one or both of the roundabouts has not been completed by the time the final Party is required to construct the last segment of Skyline Ranch Road, that Party will dedicate the full right-of-way to permit final completion of the Road but will not be required to construct their portion of the road. The Party responsible for constructing the last of the two roundabouts to be completed will be responsible for completing the roadway so that Skyline Ranch Road is fully completed and connected within six months after the last of the two roundabouts is completed and in operation. If such Party fails to do so, the penalties in Section 4.1.1 or 4.1.2, as applicable, would apply to that Party.

(b) Location and Design. The Skyline Ranch Road alignment will be relocated as generally provided in Exhibit N. The final alignment will be determined in accordance with a transportation system plan and UGB post-acknowledgment plan amendment that will be submitted by NWX2, Rio Lobo, and Anderson Ranch in conjunction with the NWX2 master plan application. The Parties agree that the Skyline Ranch Road right-of-way will be a maximum of 70 feet wide. For the section of Skyline Ranch Road crossing the Rio Lobo property, the following two conditions will apply: 1) the City will not require more than a maximum 40 foot-wide

paved roadway other than for particular locations where pedestrian crossing safety improvements are required by the City Engineer; and 2) a continuous raised median will not be required. Skyline Ranch Road is currently not on the TSDC Project List and is therefore not eligible to receive TSDC credits for the construction of this improvement. If, because of a future update to the TSDC methodology this improvement is added to the TSDC Project List before commencement of construction of the improvement, the Party constructing the improvement may apply for TSDC credits based on the City's TSDC methodology and code in effect at that time.

4.1.7 Interim Safety Improvements to Existing Skyline Ranch Road/Shevlin Park Road Intersection. The Kittelson Study also identifies current sight-distance deficiencies for the south leg of Skyline Ranch Road at its intersection with Shevlin Park Road. The current sight-distance deficiency for the south leg movement is caused by sight-obscuring vegetation in the Shevlin Park Road right-of-way, the existing geometry of the roadways, and posted speed signage that exceeds standards. While construction of the roundabout at this intersection under Section 4.1.1 of this Agreement will address these deficiencies, interim safety measures as identified in Exhibit O will be necessary. The timing of the construction of these interim safety measures will be determined at the subsequent land use application for the Coats Property, but in no event will construction of the interim safety improvements occur later than the development of the first phase of the Coats Property that makes a vehicular connection to Skyline Ranch Road.

4.1.8 Right-of-Way. The Owners agree to dedicate any property necessary for right-of-way for the improvements required in Section 4.1. The

improvements provided for in Section 4.1 of this Agreement may require acquisition of additional rights-of-way from property owners who are not party to this Agreement ("Third-Party ROW"). The City may exercise its power of eminent domain, if necessary, to acquire any Third-Party ROW needed for the improvements. The City's reasonable out-of-pocket costs for acquiring the Third-Party ROW shall be reimbursed by the Party or Parties responsible for the improvement. Such costs include: compensation paid for the property, including any costs or reasonable attorney fees paid to the property owner as a condition of a settlement agreement or awarded by a court of competent jurisdiction or an arbitrator; and any independent-contractor costs, including appraisers, acquisition consultants, and/or outside legal counsel related to Third-Party-ROW acquisition efforts. The City and the responsible Party or Parties will enter into a reimbursement agreement governing process and payment at the time the improvement is constructed or triggered, whichever occurs first. The City will not commence any Third-Party ROW acquisition efforts until that agreement is executed and effective.

4.1.9 Other Indirect Impacts. The Parties agree that all other indirect impacts of development of the Properties on the City's and County's transportation systems will be recovered through the imposition of TSDCs on the Properties as they develop over time in accordance with applicable City and County policy and procedure. The Transect North and Transect South properties, which are located outside the City limits and within the County, will pay a City TSDC in addition to the County TSDC at the time of building permit issuance in an amount equal to the difference between the City TSDC and the County TSDC based on the adopted fee schedules at the time of permit

issuance. This obligation of the Transect Properties to pay a City TSDC is contingent on final land use approval by the County of the Transect Application.

4.2 Water Infrastructure. The City and Owners agree that the only off-site master plan water element will be the oversizing of the extension from the 24-inch water line at Sage Steppe Drive in Tree Farm north to McClain Drive. This will be constructed by Rio Lobo with the development of Transect South if that development is served with domestic water from the City of Bend. If the Transect South development is not to be served with City of Bend water, then Rio Lobo agrees to provide a minimum 20-foot-wide public utility easement within a roadway through the Transect Property to allow a future water line to be constructed from Sage Steppe Drive in the Tree Farm north to McClain Drive. Exhibit P depicts the conceptual alignment. This is supported by the City's Water and Sewer analysis attached as Exhibit Q. The City and Owners agree that this improvement qualifies as a master plan element for which eligible costs to construct qualify for Water System Development Charge ("WSDC") credits. WSDC credits will be provided for the difference in final construction costs between a City standard 8-inch water line and the 24-inch water line. Findings and evidence demonstrate that other than the off-site water infrastructure improvements identified herein, no off-site water infrastructure improvements or upgrades are required. The Parties agree that all other indirect impacts of development of the Properties, including Transect Properties utilizing City water services, on the City's water systems will be recovered through the imposition of WSDCs on the Properties as they develop over time in accordance with applicable City policy and procedure.

4.3 Sewer Infrastructure. Based on Exhibit R, the Parties agree that the sole off-site sewer infrastructure improvement required for development of the Properties (except for any off-site connections to reach nearby points of connection to the existing City collection system) are upgrades to the Shevlin Meadows, Shevlin Commons, and Awbrey Glen pump stations to City standards described in Exhibit R. Exhibit R details the nature of the agreed-upon upgrades to each pump station. Coats agrees to improve the Awbrey Glen pump station, none of the costs of which are eligible for Sewer System Development Charge ("SSDC") credit. Anderson Ranch agrees to improve the Shevlin Meadows pump station, of which 40 percent of the approved costs are eligible for SSDC credit. Rio Lobo agrees to improve the Shevlin Commons pump station, of which 75 percent of the approved costs are eligible for SSDC credit or reimbursement. Credits or reimbursements will be made consistent with current City SDC Policy. The SDC recovery areas for the improvements eligible for credit or reimbursement are shown in Exhibit R. All pump station upgrades must be completed not later than the date that the lots are platted or site plans approved that represent 50 percent of the Equivalent Dwelling Units ("EDUs") for the Owners' respective properties (Rio Lobo Tract 1, Rio Lobo Tract 2, the Coats Property, and the Anderson Ranch Property. This excludes Transect Properties). NWX2, Coats, Anderson Ranch, and Rio Lobo will enter into a separate agreement on the timing and reimbursement for construction of the pump station improvement consistent with this Agreement. The Parties agree that all other indirect impacts of development of the Properties on the City's sewer systems will be recovered through the imposition of SSDCs on the Properties, excluding Transect

Properties, as they develop over time in accordance with applicable City policy and procedure.

5. Effect of Agreement/Vesting.

5.1 Agreement Binding on the Parties for the Term of the Agreement. The City agrees and finds that the Infrastructure Improvements and mitigation payment provided for in this Agreement comply with the BCP, BDC, and City regulations. Findings demonstrating compliance with BDC Chapter 4.5, BDC Chapter 4.7, and BDC Chapter 4.9 pertaining to sewer, water, and vehicular infrastructure adequacy are included with the land use application for this Agreement. Under BDC 4.5.200.F.2, the duration of approval for future master plans for the Properties must coincide with the timeline outlined in the approved phasing plan and in accordance with the time frames studied in the transportation analysis and water and sewer capacity analysis for the community master plan. Site plan review or land division applications submitted consistent with or earlier than as provided in an approved phasing plan will not require an updated vehicular transportation analysis and off-site water and sewer capacity analysis as part of the development application. Infrastructure capacity may be reserved for the community master plan site up to the expiration of this Agreement. Except as provided in Section 5.3, below, the City will not impose any additional off-site infrastructure improvements or mitigation payments as conditions of approval of any subsequent development on the Properties. Notwithstanding the foregoing, the City may impose additional off-site vehicular transportation improvements as a condition of approval of developments by individual Owners if required by the Oregon Department of Transportation ("ODOT") in order to demonstrate compliance with the Transportation

Planning Rule (OAR Chapter 660, Division 12) for transportation facilities under ODOT's jurisdiction.

5.2 Transportation. This Agreement is intended to serve as the Transportation Mitigation Plan under BDC Section 4.7.600D.1 for the future individual master plan applications that will be submitted by the respective Parties. The analysis from which these mitigation measures were derived followed the methodology required to ensure consistency with the Transportation Planning Rule for transportation facilities under the City's jurisdiction, which will allow the Properties to be rezoned to be consistent with the comprehensive plan designations upon future annexation with future transportation analyses. The Parties may rely on this Agreement for the purposes of master plan approval, and the City is bound to accept this Agreement and the evidentiary support referenced by exhibits as demonstrating compliance with the referenced code sections. As noted in Section 4 of this Agreement, the relative transportation impacts of the Owners on the system are based on the amount of development as indicated in the Kittelson Study. If an Owner meets its obligations under this Agreement with regard to construction or contribution to construction of the roundabouts and payment of any mitigation fees, the trips allocated in Table 5 of the Kittelson Study will vest to each Property. If development does not occur as estimated in the Kittelson Study, then the Owner of each Property may apply these trips to any traffic analysis of any alternative development on the Property during the term of this Agreement for the purpose of eliminating or mitigating the traffic impact of the alternative development. If an Owner wishes to apply transportation trips to a different Property subject to this agreement, the Owner will submit a request to the City Engineer

for review. The City Engineer may require additional analysis to justify the transfer of trips.

5.3 On-Site and Related Improvements. On-site improvements not addressed in this Agreement are not governed or vested by this Agreement and will be addressed through subsequent master plan approval. Additional on-site water modeling will be required with subsequent Master Plan submittals to ensure adequate pipe sizing and looping to achieve minimum fire flows for each development phase. Off-site improvements other than off-site sewer, water, and vehicular transportation infrastructure improvements ("Other Off-site Improvements") are not governed or vested by this Agreement and will be addressed through subsequent master plan approval. Other Off-site Improvements include multimodal bike path and pedestrian connections, interim safety improvements (except as described in Section 4.1.7 of this Agreement), and emergency vehicle access.

5.4 The Transect Application. The City agrees that the mitigation measures described in this Agreement fully address off-site impacts to City transportation and water facilities for development of 100 single-family residential units in Transect North and 87 single-family residential units in Transect South and that this Agreement can be submitted to the County as part of the Transect Application to demonstrate full mitigation of off-site transportation and water impacts consistent with the terms of this Agreement.

6. Continuing Effect of Agreement (ORS 94.504(2)(i)).

6.1 In the case of any change in regional policy or federal or state law or other change in circumstance that renders compliance with this Agreement impossible or

unlawful, the Parties will attempt to give effect to the remainder of this Agreement, but only if such effect does not prejudice the substantial rights of any Party under this Agreement. If the substantial rights of any Party are prejudiced by giving effect to the remainder of this Agreement, then the Parties shall negotiate in good faith to revise this Agreement to give effect to its original intent. If, because of a change in policy, law, or circumstance, this Agreement fails its essential purpose—vesting of allowed uses and limitations on development conditions and certain payments—then the Parties shall be placed into their original position to the extent practical. It is the intent of this Agreement to vest development rights and conditions, including but not limited to the permitted uses, density and intensity of uses, infrastructure improvements, and fees and charges as set forth in this Agreement, notwithstanding any change in local ordinance or policy.

7. Assignability of Agreement (ORS 94.504(2)(k)). This Agreement runs with the land until termination and will bind the Parties and their successors, affiliates, and assigns. Notwithstanding the foregoing, lots or parcels contained within a City approved final plat at final master planned densities shall no longer be subject to the obligations contained in this Agreement.

8. Effect of Annexation (ORS 94.504(2)(L). This Agreement anticipates the development of all Properties, except for Transect North and Transect South, following

annexation. This Agreement will continue to apply by its terms to such Properties following annexation.

9. Default; Remedy (ORS 94.504(2)(j)).

9.1 Default/Cure. The following shall constitute defaults by a Party:

9.1.1 A breach of a material provision of this Agreement, whether by action or inaction of a Party that continues and is not remedied within 60 days after the other Party has given notice specifying the breach—provided that if the nonbreaching Party determines that such breach cannot with due diligence be cured within a period of 60 days—the nonbreaching Party may allow the breaching Party a longer period of time to cure the breach and, in such event, the breach shall not constitute a default so long as the breaching Party diligently proceeds to effect a cure, and the cure is accomplished within the longer period of time granted by the nonbreaching Party; or

9.1.2 Any assignment by a Party for the benefit of creditors, or adjudication as a bankruptcy, or appointment of a receiver, trustee, or creditor's committee over a Party.

9.2 Remedies. Each Party shall have all available remedies at law or in equity to recover damages and compel the performance of the other Party under to this Agreement. The rights and remedies afforded under this Agreement are not exclusive and shall be in addition to and cumulative with any and all rights otherwise available at law or in equity. The exercise by any Party of any one or more of such remedies shall not preclude the exercise by it, at the same or different time, of any other such remedy for the same default or breach or of any of its remedies for any other default or breach by any other Party, including without limitation the right to compel specific performance.

9.3 Mediation. Notwithstanding the forgoing, the Owners and City agree that any Parties subject to the dispute shall try to resolve any dispute or issue arising under this Agreement amicably and at a project level. If the dispute is not settled, the Parties shall participate in mediation as a next alternative step for dispute resolution before commencement of litigation. Such mediation will occur in Bend, Oregon. The Parties shall seek a mediator with experience in land use, real estate, or development. The mediation must commence within 90 days of the date the mediator is retained. The mediator's fees and expenses will be shared equally by all the Parties. All Parties agree to exercise their best efforts in good faith to resolve all disputes in the mediation.

10. Amendment or Termination of Agreement. This Agreement may only be amended or terminated by the mutual consent of all the Parties or their successors in interest in accordance with ORS 94.522.

11. Miscellaneous Provisions.

11.1 Notice. A notice or communication under this Agreement by any Party shall be in writing and shall be dispatched by registered or certified mail, postage prepaid, return receipt requested, or delivered by either personal delivery or nationally-recognized overnight courier (such as UPS or FedEx), or by facsimile transmission, and

11.1.1 In the case of a notice or communication to the applicable Owner, addressed as follows:

To NWX2: Kirk Schueler
Brooks Resources Corporation
409 N.W. Franklin Avenue
Bend, Oregon 97703

With copies to: Jeffrey G. Condit
Miller Nash Graham & Dunn LLP
3400 U.S. Bancorp Tower
111 S.W. Fifth Avenue
Portland, Oregon 97204

To Rio Lobo: John Fournier
Rio Lobo Investments LLC
95 S.W. Scalehouse Loop, #100
Bend, Oregon 97702

With copies to: Steven P. Hultberg
Radler White Parks & Alexander LLP
Post Office Box 2007
Bend, Oregon 97709

To Coats: Kyle Coats
63285 Skyline Ranch Road
Bend, Oregon 97701

With copies to: Tia M. Lewis
Schwabe Williamson & Wyatt
360 S.W. Bond Street, Suite 500
Bend, Oregon 97702

To Anderson Ranch: Dave Swisher
250 N.W. Franklin Avenue, Suite 401
Bend, Oregon 97703

To the District: Sharon Smith
Bend-La Pine Schools
520 N.W. Wall Street
Bend, Oregon 97703

11.1.2 In the case of a notice or communication to the City, addressed as follows:

Jon Skidmore
Assistant City Manager
City of Bend
710 Northwest Wall Street
Bend, Oregon 97703

With copies to: Ian Leitheiser
Assistant City Attorney
City of Bend
710 Northwest Wall Street
Bend, Oregon 97703

11.1.3 A Party may from time to time designate other or additional notice parties for the purpose of the Section in writing and dispatched as provided in this section.

11.2 Headings. Any titles of the sections of this Agreement are inserted for convenience of reference only and shall be disregarded in construing or interpreting any of its provisions.

11.3 Effect of Recitals (ORS 94.504(6)). The Recitals set forth above are the assumptions of the Parties and are incorporated as part of this Agreement.

11.4 Counterparts. This Agreement may be executed in five or more counterparts, each of which shall be deemed to be an original, and such counterparts shall constitute one and the same instrument.

11.5 Waivers.

11.5.1 No waiver made by any Party with respect to the performance, or manner, or time thereof of any obligation of any other Party, or any condition inuring to its benefit under this Agreement, shall be considered a waiver of any other rights of the Party making the waiver. No waiver by the City or an Owner of any provision of this Agreement or any breach thereof shall be of any force or effect unless in writing, and no such waiver shall be construed to be a continuing waiver.

11.5.2 Parties know and understands their rights under *Dolan v. City of Tigard* and its progeny and by entering into this Agreement waive any requirement that

the City demonstrate that the public improvements and other obligations of the Parties for the construction and financial responsibility set forth in this Agreement and related to the development of the Properties to master plan densities are roughly proportional to the burden and demands placed on the urban facilities and services by the development of the Property. The Parties further acknowledge that the requirements and obligations of the Parties, including but not limited to the required public improvements, are roughly proportional to the burden and demands on urban facilities and services that will result from development of the Properties. This waiver does not apply to public improvements or payments are not governed by this Agreement.

11.6 Attorney Fees. In the event of a suit, action, arbitration, or other proceeding of any nature whatsoever, including without limitation any proceeding under U.S. Bankruptcy Code, is instituted to interpret or enforce any provision of this Agreement, or with respect to any dispute relating to this Agreement, including without limitation any action in which a declaration of rights is sought or an action for rescission, the prevailing Party shall be entitled to recover from the losing Party its reasonable attorney, paralegal, accountant, and other expert fees, and all other fees, costs, and reasonably necessary expenses actually incurred, as determined by the judge or arbitrator at trial or arbitration, as the case may be, or on any appeal or review, in addition to all other amounts provided by law. This provision shall cover costs and attorney fees related to or with respect to proceedings in federal bankruptcy courts, including those related to issues unique to bankruptcy law. In the event the prevailing Party is represented by "in-house" counsel, the prevailing Party shall nevertheless be entitled to recover reasonable attorney fees based on the reasonable time incurred and

the attorney fee rates and charges reasonably and generally accepted in the Bend, Oregon, area for the type of legal services performed.

11.7 Time of the Essence. Time is of the essence for this Agreement.

11.8 Choice of Law. This Agreement shall be interpreted under the laws of the State of Oregon.

11.9 Calculation of Time. All periods of time referred to herein shall include Saturdays, Sundays, and legal holidays in the State of Oregon, except that if the last day of any period falls on any Saturday, Sunday, or legal holiday in the State of Oregon, the period shall be extended to include the next day that is not a Saturday, Sunday, or legal holiday.

11.10 Construction. In construing this Agreement, singular pronouns shall be taken to mean and include the plural, and the masculine pronoun shall be taken to mean and include the feminine and the neuter, as the context may require.

11.11 Severability. Consistent with Section 9 above, if any clause, sentence, or any other portion of the terms and conditions of this Agreement becomes illegal, null, or void for any reason, the remaining portions will remain in full force and effect to the fullest extent permitted by law.

11.12 Merger. This Agreement constitutes the entire agreement between all the Parties and supersedes all prior agreements except as such prior agreements are expressly incorporated by reference herein.

11.13 Place of Enforcement. Any action or suit to enforce or construe any provision of this Agreement by any of the Parties shall be brought in the Circuit Court of

the State of Oregon for Deschutes County or in the United States District Court for the District of Oregon.

11.14 Good Faith and Reasonableness. The Parties intend that the obligations of good faith and fair dealing apply to this Agreement generally, and that no negative inferences be drawn by the absence of an explicit obligation to be reasonable in any portion of this Agreement. The obligation to be reasonable shall only be negated if arbitrariness is clearly and explicitly permitted as to the specific item in question, such as in the case of a Party being given "sole discretion" or being allowed to make a decision in its "sole judgment."

11.15 Condition of City Obligations (ORS 94.504(5)). All City obligations under this Agreement that require the expenditure of funds are contingent on future appropriations by the City as part of the local budget process. Nothing in this Agreement implies an obligation on the City to appropriate any such monies.

11.16 Cooperation in the Event of Legal Challenge. In the event of any legal action instituted by a third party or other governmental entity or official challenging the validity of any provision of this Agreement, the Parties agree to cooperate in defending such action.

11.17 Enforced Delay, Extension of Times of Performance. In addition to the specific provisions of this Agreement, performance by any Party shall not be in default when delay or default is caused by war, insurrection, strikes, riots, floods, drought, earthquakes, fires, casualties, acts of God, governmental restrictions imposed or mandated by governmental entities other than the City, enactment of conflicting state or federal laws or regulations, new or supplementary environmental regulation or litigation,

or similar bases for excused performance that are not within reasonable control of the Party to be excused; provided, however, that the Parties agree to proceed in accordance with Section 9 upon the occurrence of any of the foregoing events also described in Section 9.

11.18 Other Necessary Acts. Each Party shall execute and deliver to the other all such further instruments and documents and take such additional acts (which, in the case of the City, shall require adopting necessary ordinances and resolutions) as may be reasonably necessary to carry out this Agreement in order to provide and secure to the other Parties the full and complete enjoyment of rights and privileges hereunder.

11.19 No Partnership. This Agreement does not create a partnership or joint venture among the Owners. Each Owner is solely and independently responsible for its obligations under this Agreement, and no Owner is responsible for payment or performance by any other Owner.

11.20 Recording. The City shall cause this Agreement to be recorded in accordance with ORS 94.528. The Parties shall reimburse the City for the cost of recording this Agreement.

11.21 Form of Agreement; Exhibits. This Agreement consists of 37 pages and 18 exhibits. The exhibits are identified as follows:

Exhibit	Name	Section	Contents
A	Ownership Map	Recital A	Map of all Properties covered by this Agreement
B	NWX2 Property	Recital B	Map and legal description
C	Coats Property	Recital C	Map and legal description
D	Transect North—Coats Ownership	Recital C	Map and legal description

Exhibit	Name	Section	Contents
E	Transect North—Bend-La Pine Schools Ownership	Recital C	Map and legal description
F	Rio Lobo Tract 1	Recital D	Map and legal description
G	Rio Lobo Tract 2	Recital D	Map and legal description
H	Transect South	Recital D	Map and legal description
I	Anderson Ranch	Recital E	Map and legal description
J	City Transportation Memo	4.1	City review of Kittelson Study
K	Impacted Intersections	4.1	Map of Impacted Intersections with proportionate shares of the impact by Property
L	Skyline Ranch/Shevlin Park Road Roundabout Plan	4.1.1	Conceptual plan drawings and specs
M	Skyline Ranch/Skyliners Roundabout Plan	4.1.2	Conceptual plan drawings and specs
N	Relocated Skyline Ranch Road Alignment	4.1.6	Shows new Skyline Ranch Road alignment and existing unimproved Skyline Ranch Road right-of-way

O	Skyline Ranch/Shevlin Park Road Interim Safety Improvements	4.1.7	Describes the necessary Skyline Ranch/Shevlin Park Road Interim Safety Improvements before roundabout construction
P	Water Main	4.2	Conceptual water line alignment between Sage Steppe Drive and McClain Drive
Q	City Water and Sewer Analysis	4.3	City response to our formal application
R	City Sanitary Sewer Pump Stations	4.3	Agreed-upon pump station upgrades and SDC recovery areas

[SIGNATURES TO FOLLOW]

Executed as of the day and year first above written.

CITY OF BEND, a municipal corporation of the State of Oregon

By: _____

Eric King, City Manager

STATE OF OREGON)
) ss.
County of _____)

The foregoing instrument was acknowledged before me this 16 day of October, 2018, by Eric King, City Manager of the City of Bend, Oregon, duly authorized by the City Council to execute this agreement on behalf of the City of Bend.

OFFICIAL STAMP
LINDA SUSAN MUNSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 957777
MY COMMISSION EXPIRES JANUARY 02, 2021

_____
Notary Public for Oregon
My Commission expires: 1/2/21

NWX2 LLC, an Oregon limited liability company

By: _____

Name: Kirk Schueler

Title: President, Brooks Resources, Managing Member

STATE OF OREGON)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 11 day of October, 2018, by Kirk Schueler on behalf of NWX2 LLC, a limited liability company.

OFFICIAL STAMP
DAWN MICHELLE HIGHERS
NOTARY PUBLIC-OREGON
COMMISSION NO. 952388
MY COMMISSION EXPIRES JULY 19, 2020

_____
Notary Public for Oregon
My Commission expires: July 19, 2020

CCCC LLC, an Oregon limited liability company

By: R J Coats

Name: Robin L. Coats

Title: manager/member

STATE OF OREGON)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 15 day of October, 2018, by Robin L. Coats on behalf of CCCC LLC, an Oregon limited liability company.

Dawn Highers
Notary Public for Oregon
My Commission expires: July 19, 2020

OFFICIAL STAMP
DAWN MICHELLE HIGHERS
NOTARY PUBLIC-OREGON
COMMISSION NO. 952388
MY COMMISSION EXPIRES JULY 19, 2020

ERMK LLC, an Oregon limited liability company

By: Eric W. Coats

Name: ERIC W COATS

Title: mgr/mem

STATE OF OREGON)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 15 day of October, 2018, by Eric W. Coats on behalf of ERMK LLC, an Oregon limited liability company.

Dawn Highers
Notary Public for Oregon
My Commission expires: July 19, 2020

OFFICIAL STAMP
DAWN MICHELLE HIGHERS
NOTARY PUBLIC-OREGON
COMMISSION NO. 952386
MY COMMISSION EXPIRES JULY 19, 2020

Kyle Coats

STATE OF OREGON)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 12th day of October, 2018, by Kyle Coats.

OFFICIAL STAMP
SHANNON RENEE LEVINE
NOTARY PUBLIC-OREGON
COMMISSION NO. 977417
MY COMMISSION EXPIRES JULY 29, 2022

Notary Public for Oregon
My Commission expires: ~~September 29, 2018~~ SL July 29, 2022

RIO LOBO INVESTMENTS LLC, an
Oregon limited liability company

By: _____

Name: Howard M. Day

Title: Manager

STATE OF OREGON)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 12 day of October, 2018, by Howard M. Day on behalf of Rio Lobo Investments LLC, an Oregon limited liability company.

_____
Notary Public for Oregon
My Commission expires: 02/11/2019

OFFICIAL STAMP
JENNIFER LYNNE CHOATE
NOTARY PUBLIC-OREGON
COMMISSION NO. 936235
MY COMMISSION EXPIRES FEBRUARY 11, 2019

ANDERSON RANCH HOLDING COMPANY, LLC, an Oregon limited liability company

By: D.K. Swisher

Name: Dave Swisher

Title: Member

STATE OF OREGON)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 15 day of October, 2018, by Dave Swisher on behalf of Anderson Ranch Holding Company LLC, an Oregon limited liability company.

Dawn Highers
Notary Public for Oregon
My Commission expires: July 19, 2020

OFFICIAL STAMP
DAWN MICHELLE HIGHERS
NOTARY PUBLIC-OREGON
COMMISSION NO. 952386
MY COMMISSION EXPIRES JULY 19, 2020

Administrative School District No. 1, Deschutes County, a public school district of the State of Oregon

By: _____

Name: Bradley J. Henry

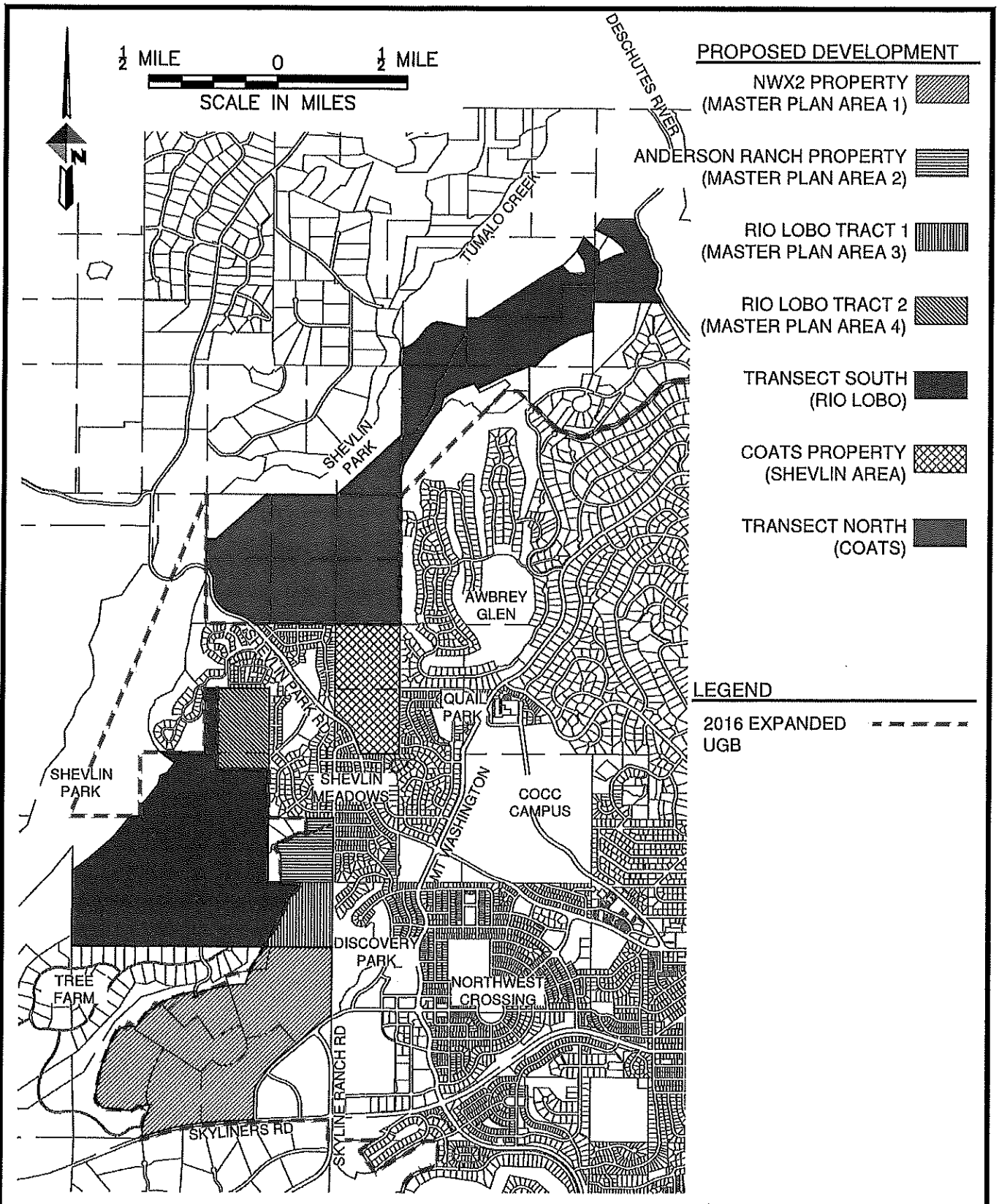
Title: COO/CFO

STATE OF OREGON)
) ss.
County of Deschutes)

The foregoing instrument was acknowledged before me this 11 day of October, 2018, by Bradley J. Henry on behalf of Administrative School District No. 1, Deschutes County, an Oregon public school district.

OFFICIAL STAMP
DAWN MICHELLE HIGHERS
NOTARY PUBLIC-OREGON
COMMISSION NO. 952388
MY COMMISSION EXPIRES JULY 19, 2020

_____
Notary Public for Oregon
My Commission expires: July 19, 2020



Q:\22\14142-01\65CAD\Civil\SA16-MP-EH-14142-01.dwg PLOT DATE 2018-6-7 16:08 SAVED DATE 2018-06-07 16:01 USER: shannas

DOWL
www.dowl.com
963 SW Simpson, #200
Bend, Oregon 97702
541-385-4772

OWNERSHIP MAP

PROJECT	14142.01
DATE	06/07/2018

EXHIBIT A

DOWL

EXHIBIT B
NWX2 Property
Legal Description

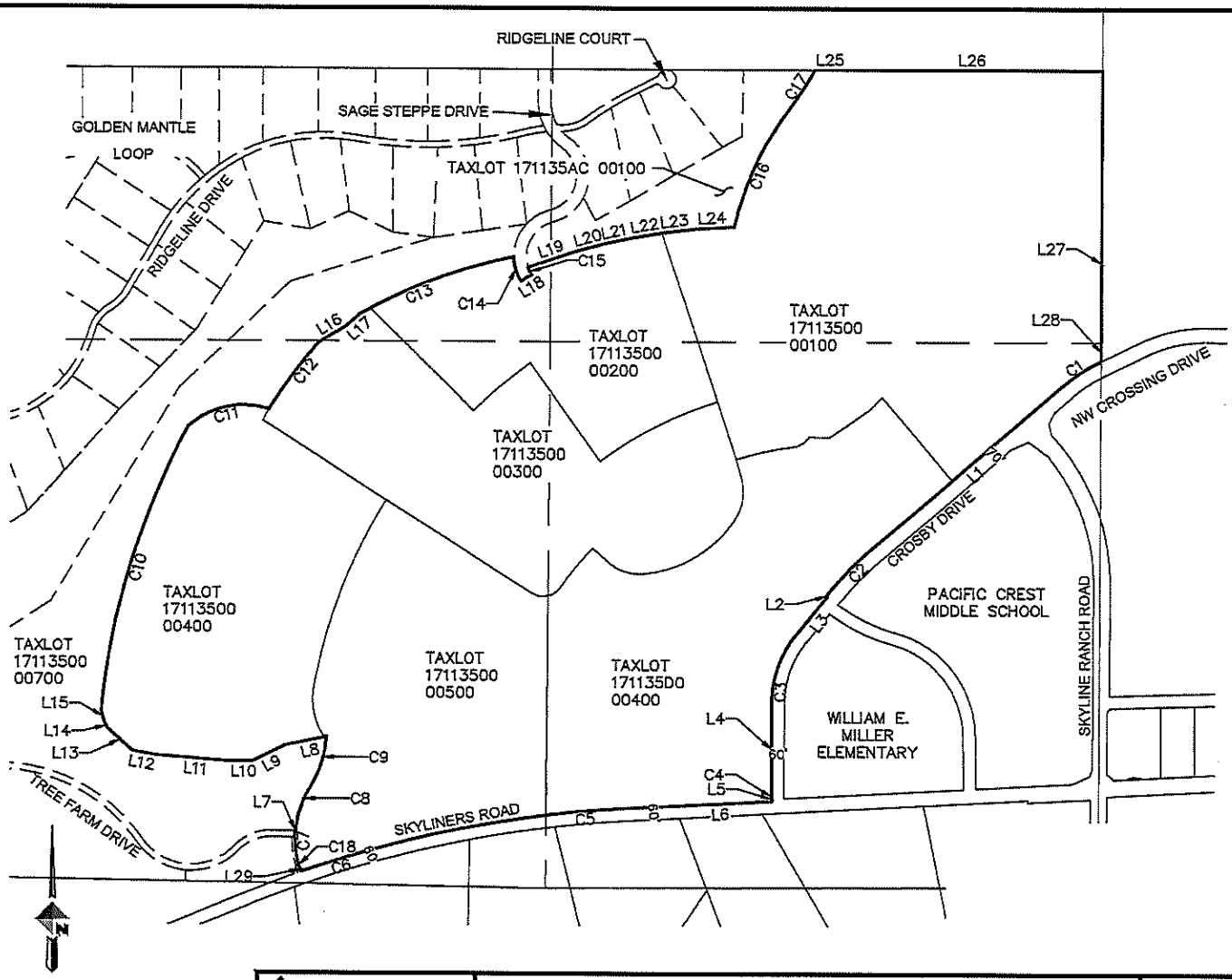
A parcel of land located in the South one-half of the Northeast one-quarter (S1/2 NE1/4), the Southeast one-quarter (SE1/4), the Southwest one-quarter (SW1/4), and the South one-half of the Northwest one-quarter (S1/2 NW1/4) of Section 35, Township 17 South, Range 11 East of the Willamette Meridian, Deschutes County, State of Oregon, being more particularly described as follows:

Beginning at the East One-quarter corner of said Section 35; thence along the east line of said Section 35, S 00° 13' 54" W a distance of 89.09 feet to a point on the northerly right of way of NW Crossing Drive, as defined by Dedication Deed recorded as Instrument Number 2014-29653 in the Deschutes County Official Records, said point being a point of non-tangent curvature; thence leaving said east line of Section 35 and along said northerly right of way line for the following four courses; thence along the arc of a 836.00 foot radius curve to the left, through a central angle of 14° 31' 07", an arc distance of 211.84 feet (the chord of which bears S 56° 55' 07" W, 211.27 feet) to a point of tangency; thence S 49° 39' 33" W a distance of 1207.05 feet to a point of curvature; thence along the arc of a 1650.00 foot radius curve to the left, through a central angle of 11° 11' 14", an arc distance of 322.17 feet (the chord of which bears S 44° 03' 56" W, 321.66 feet) to a point of non-tangency; thence S 49° 38' 10" E a distance of 5.03 feet to a point on the westerly right of way of NW Crosby Drive, as defined by Dedication Warranty Deed recorded as Instrument Number 2008-14744 in the Deschutes County Official Records; thence leaving said northerly right of way and along said westerly right of way line for the following five courses; thence S 38° 27' 35" W a distance of 236.19 feet to a point of non-tangent curvature; thence along the arc of a 545.00 foot radius curve to the left, through a central angle of 38° 27' 44", an arc distance of 365.85 feet (the chord of which bears S 19° 14' 34" W, 359.02) to a point of non-tangency; thence S 00° 00' 56" W a distance of 440.89 feet to a point of curvature; thence along the arc of a 368.03 foot radius curve to the left, through a central angle of 03° 02' 22", an arc distance of 19.52 feet (the chord of which bears S 01° 30' 15" E, 19.52 feet) to a point of non-tangency; thence S 02° 51' 14" E a distance of 11.64 feet to a point on the northerly right of way of Skyliners Road; thence leaving said westerly right of way and along said northerly right of way line for the following three courses; thence S 86° 58' 51" W a distance of 696.29 feet to a point of non-tangent curvature; thence along the arc of a 5596.39 foot radius curve to the left, through a central angle of 04° 01' 17", an arc distance of 392.80 feet (the chord of which bears S 84° 58' 48" W, 392.72 feet) to a point of non-tangent compound curvature, said point being at the intersection of said north right of way and the north-south center section line; thence continuing along said north right of way along the arc of a 5673.80 foot radius curve to the left, through a central angle of 12° 13' 58", an arc distance of 1211.37 feet (the chord of which bears S 76° 50' 09" W, 1209.07 feet) to a point of non-tangency; thence leaving said northerly right of way line of Skyliners Road, N 18° 58' 33" W a distance of 21.17 feet to a point of curvature; thence along the arc of a 211.53 foot radius curve to the right, through a central angle of 05° 29' 17", an arc distance of 20.26 feet (the chord of which bears N 16° 13' 55" W, 20.25 feet) to a point of non-tangent compound curvature; thence along the arc of a 619.98 foot radius curve to the right, through a central angle of 14° 34' 27", an

arc distance of 157.70 feet (the chord of which bears N 05° 46' 42" W, 157.28 feet) to a point of non-tangency; thence S 89° 21' 50" E a distance of 4.29 feet to a point of non-tangent curvature; thence along the arc of a 482.17 foot radius curve to the right, through a central angle of 28° 03' 57", an arc distance of 236.19 feet (the chord of which bears N 18° 44' 34" E, 233.84 feet) to a point of non-tangent reverse curvature; thence along the arc of a 524.82 foot radius curve to the left, through a central angle of 26° 54' 28", an arc distance of 246.47 feet (the chord of which bears N 16° 54' 10" E, 244.21 feet) to a point of non-tangency; thence S 78° 33' 23" W, a distance of 204.00 feet to a point on the easterly boundary of the plat of Tree Farm, recorded in Plat Cabinet I, Pages 260 through 278, and as Instrument Number 2016-44585 of the Deschutes County Official Records; thence along said easterly boundary for the following eight courses; thence S 63° 19' 11" W a distance of 175.65 feet; thence N 89° 47' 06" W a distance of 117.96 feet; thence N 85° 21' 59" W a distance of 351.80 feet; thence N 79° 44' 20" W a distance of 111.35 feet; thence N 48° 08' 56" W a distance of 158.31 feet; thence N 29° 30' 12" W a distance of 36.61 feet; thence N 14° 48' 33" W a distance of 55.05 feet to a point of non-tangent curvature; thence along the arc of a 3556.55 foot radius curve to the right, through a central angle of 23° 20' 34", an arc distance of 1448.98 feet (the chord of which bears N 16° 47' 22" E, 1438.98 feet) to a point of non-tangent curvature; thence leaving said easterly boundary, along the arc of a 400.00 foot radius curve to the right, through a central angle of 59° 31' 52", an arc distance of 415.61 feet (the chord of which bears N 77° 43' 52" E, 397.16 feet) to a point on the easterly boundary of said plat of Tree Farm and a point of non-tangent curvature; thence along said easterly boundary, along the arc of a 3256.41 foot radius curve to the right, through a central angle of 07° 03' 54", an arc distance of 401.55 feet (the chord of which bears N 36° 36' 40" E, 401.29 feet) to a point of non-tangency; thence leaving said easterly boundary, N 59° 27' 16" E a distance of 152.73 feet; thence N 49° 03' 46" E a distance of 84.77 feet to a point of non-tangent curvature; thence along the arc of a 2548.38 foot radius curve to the right, through a central angle of 17° 55' 37", an arc distance of 797.35 feet (the chord of which bears N 69° 14' 47" E, 794.10 feet) to a point on the westerly right of way of Sage Steppe Drive, as defined by said plat of Tree Farm, and a point of non-tangent curvature; thence along said westerly right of way, along the arc of a 230.00 foot radius curve to the left, through a central angle of 30° 48' 03", an arc distance of 123.64 feet (the chord of which bears S 16° 17' 47" E, 122.16 feet) to a point on the easterly boundary of said plat of Tree Farm and a point of non-tangency; thence along said easterly boundary, N 58° 16' 15" E a distance of 60.00 feet to a point on the easterly right of way of said Sage Steppe Drive and a point of non-tangent curvature; thence leaving said easterly boundary and along said easterly right of way, along the arc of a 170.00 foot radius curve to the right, through a central angle of 13° 37' 43", an arc distance of 40.44 feet (the chord of which bears N 24° 52' 16" W, 40.34 feet) to a point of non-tangency; thence leaving said easterly right of way, N 71° 34' 07" E a distance of 242.04 feet; thence N 75° 12' 26" E a distance of 146.27 feet; thence N 77° 56' 29" E a distance of 146.19 feet; thence N 80° 40' 32" E a distance of 146.19 feet; thence N 83° 24' 36" E a distance of 146.23 feet; thence N 86° 32' 47" E a distance of 191.19 feet to a point of non-tangent curvature; thence along the arc of an 1483.61 foot radius curve to the right, through a central angle of 24° 13' 31", an arc distance of 627.28 feet (the chord of which bears N 24° 40' 05" E, 622.62 feet) to a point of non-tangent reverse curvature; thence along the arc of a 2447.87 foot radius curve to the left, through a central angle of 05° 24' 07", an arc distance of 230.79 feet (the chord of which bears N 32° 25'

40" E, 230.70 feet) to a point on the north line of said plat of Tree Farm, being a point on the north line of the South one-half of the Northeast one-quarter (S 1/2 NE 1/4) of said Section 35 and a point of non-tangency; thence along said north line, S 89° 57' 40" E a distance of 135.71 feet to the northeast corner of said plat; thence leaving said plat and continuing along said north line of the South one-half of the Northeast one-quarter, S 89° 57' 40" E a distance of 1250.60 feet to the North 1/16th corner common to said Section 35 and Section 36, Township 17 South, Range 11 East of the Willamette Meridian; thence along said east line of Section 35, S 00° 14' 07" W a distance of 1314.17 feet to said East One-quarter corner of said Section 35 and the Point of Beginning.

Said parcel contains 246 acres, more or less.



CURVE TABLE	
CURVE #	LENGTH
C1	211.84'
C2	322.17'
C3	365.85'
C4	19.52'
C5	392.80'
C6	1211.37'
C7	157.70'
C8	236.19'
C9	246.47'
C10	1448.98'
C11	415.61'
C12	401.55'
C13	797.35'
C14	123.64'
C15	40.44'
C16	627.28'
C17	230.79'
C18	20.25'

LINE TABLE	
LINE #	LENGTH
L1	1207.05'
L2	5.03'
L3	235.19'
L4	440.89'
L5	11.64'
L6	695.29'
L7	4.29'
L8	204.00'
L9	175.65'
L10	117.96'
L11	351.80'
L12	111.35'
L13	158.31'
L14	36.61'
L15	55.05'
L16	152.73'
L17	84.77'
L18	60.00'
L19	242.04'
L20	146.27'
L21	146.19'
L22	146.19'
L23	146.23'
L24	191.19'
L25	135.71'
L26	1250.80'
L27	1314.17'
L28	89.09'
L29	21.17'

500 0 500 1000
SCALE IN FEET

DOWL
www.DOWL.com
963 SW Simpson, #200
Bend, Oregon 97702
541-385-4772

NWX2 LLC PROPERTY
PROPOSED ADJUSTED PARCEL

PROJECT 14142.01
DATE 08/21/2018

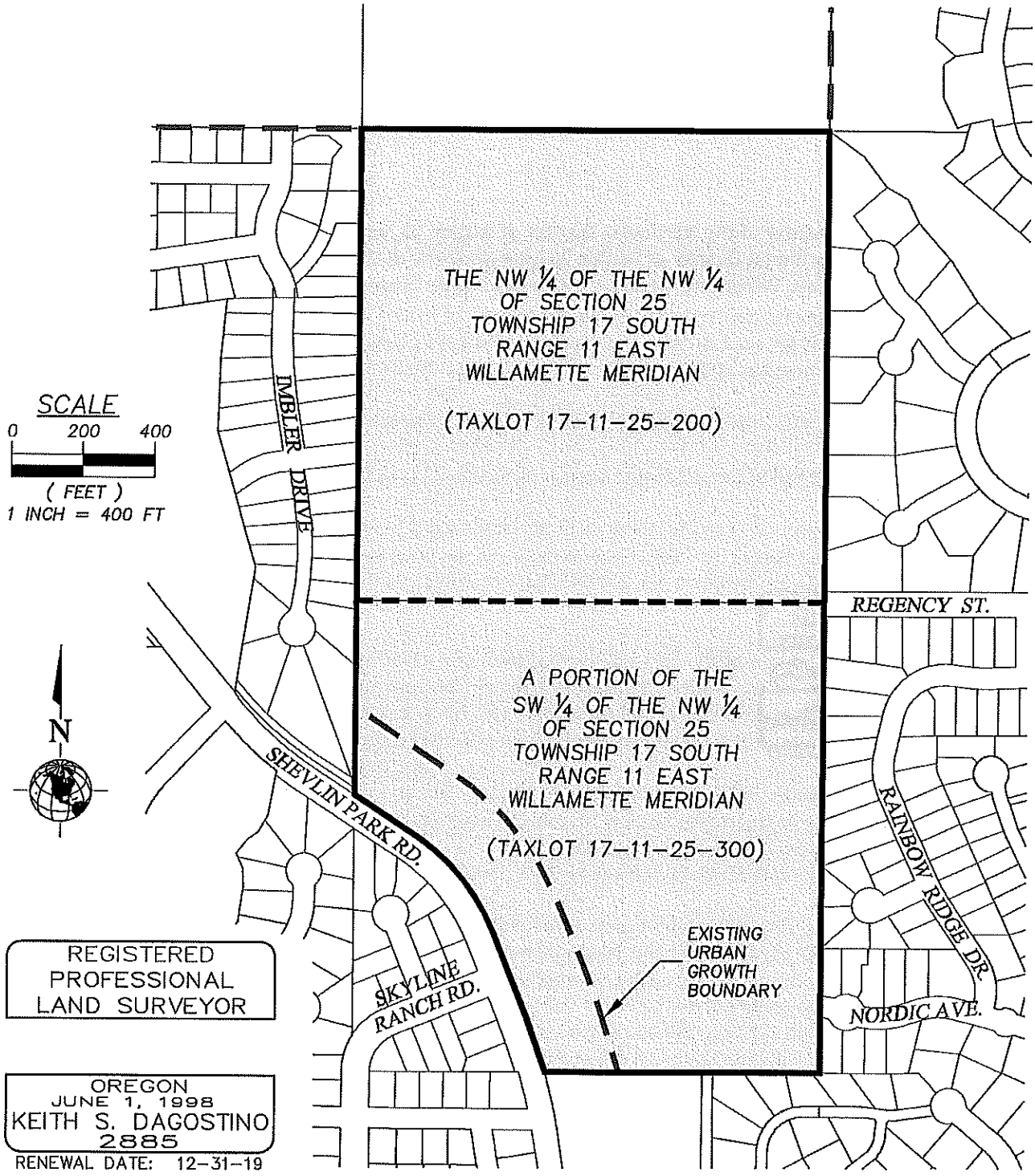
EXHIBIT B

G:\22\14142-01\650AD\Survey\SA14-PRE-EH-14142-01-EXB.dwg PLOT DATE 2018-08-21 17:35 SAVED DATE 2018-08-21 17:33 USER: shannaa

Exhibit C
Coats/Shevlin– UGB LANDS

The Northwest Quarter of the Northwest Quarter of Section 25, and all that portion of the Southwest Quarter of the Northwest Quarter of Section 25 lying Northerly of Shevlin Park Road; all in Township 17 South, Range 11 East, Willamette Meridian, Deschutes County Oregon.





REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JUNE 1, 1998
KEITH S. DAGOSTINO
2885
RENEWAL DATE: 12-31-19

SHEET: 1 of 1

DESIGNED: KSD
DRAWN BY: CAB
APP'D BY: KSD
CHECK'D BY: KSD
LAST EDIT: 7/23/18
PLOT DATE: 7/23/18

SCALE: 1"=400'

INFRASTRUCTURE DEVELOPMENT AGREEMENT

COATS PROPERTY

EXHIBIT C

BEND OREGON

PROJECT: COAT001

DRAWING FILE NAME: WIG_LEGAL_MAPS.DWG

D'Agostino Parker, LLC
CIVIL ENGINEERING / LAND DEVELOPMENT SERVICES
61278 KING JEROBOAM AVE
BEND, OR 97702
P: (541) 693-4134

Exhibit D
Coats Transect North

All those portions of land located in Township 17 South, Range 11 East, Willamette Meridian, Deschutes County Oregon, more particularly described as follows:

Parcel 1-The Northwest Quarter of the Southeast Quarter of Section 23; Excepting therefrom all that land conveyed to Bend Metropolitan Park and Recreation District by Bargain and Sale Deed recorded January 31, 2003 as Document No. 2003-07391, Deschutes County Official Records(Tax lot 17-11-23-502);

Parcel 2-The East half of the Southeast Quarter of Section23 (Tax lots 17-11-23-500 and -503);

Parcel 3-The West half of the Southwest Quarter of Section 24 (Tax lots 17-11-24-600 and -700);

Parcel 4- All that portion of the Southwest Quarter of the Northwest Quarter of Section 24 described as Lot of Record 30 in Bargain and Sale Deed to CCCC LLC, an Oregon limited liability Company, recorded December 17, 2014 as Document No. 2014-42292, Deschutes County Official Records (Tax lot 17-11-24-403);

Parcel 5-All that portion of the East half of the Northwest Quarter of Section 24, and portion of the Northwest Quarter of the Northeast Quarter of Section 24, conveyed to CCCC LLC, an Oregon limited liability Company, and described as Adjusted Coats LR# 28, in Bargain and Sale Deed recorded April 17, 2017 as Document No. 2017-14430, Deschutes County Official Records (Tax lot 17-11-24-102);

Parcel 6- All that portion of the East half of the Northwest Quarter of Section 24, and portion of the South half of the Southwest Quarter of Section 13, conveyed to KYLE COATS, and described as Adjusted Coats LR# 29, in Bargain and Sale Deed recorded April 17, 2017 as Document No. 2017-14435, Deschutes County Official Records (Tax lots 17-11-24-100 and 17-11-13-500);

Parcel 7-All that portion of the Southeast Quarter of Section 13, conveyed to EMRK,LLC, and described as Adjusted Coats LR# 13, in Bargain and Sale Deed recorded April 17, 2017 as Document No. 2017-14434, Deschutes County Official Records, **lying Southerly of the following described line;**
Commencing at the South quarter corner of said Section 13;
Thence North 00°05'07" East 796.00 feet more or less, along the West line of said Southeast Quarter Section 13 to the centerline of the Bend Feed Canal Pipeline;
Thence continuing North 00°05'07" East 192.18 feet more or less, along the West line of said Southeast Quarter Section 13 to the **True Point of Beginning;**
Thence South 89°57'22" East 270.53 feet;
Thence North 57°11'05" East 1271.52 feet;
Thence North 86°12'12" East 132.45 feet;
Thence North 55°09'08" East 598.83 feet to the boundary of that certain land described in Warranty Deed from Robert L. and Joyce E. Coats to David and Rebecca Weber, recorded April 29, 1998, as Instrument No. 98-17761, Deed 491-1007, Deschutes County Official Records;
Thence along said boundary of Instrument No. 98-17761 the following five courses;
South 42°53'00" East 178.57 feet;

Thence South 78°08'00" East 232.80 feet;
Thence North 61°22'00" East 129.90 feet;
Thence North 11°50'30" West 250.00 feet;
Thence North 34°29'30" West 189.50 feet;
Thence leaving said boundary North 51°06'08" East 311.84 feet;
Thence South 46°11'50" East 121.3 feet more or less to the East line of said Southeast Quarter Section 13. (Portion of Tax lot 17-11-13-100)

Parcel 8- All that portion of the Southwest Quarter of Section 13, conveyed to EMRK,LLC, and described as Adjusted Coats LR# 13, in Bargain and Sale Deed recorded April 17, 2017 as Document No. 2017-14434, Deschutes County Official Records. (Portion of Tax lot 17-11-13-100)

Together with:

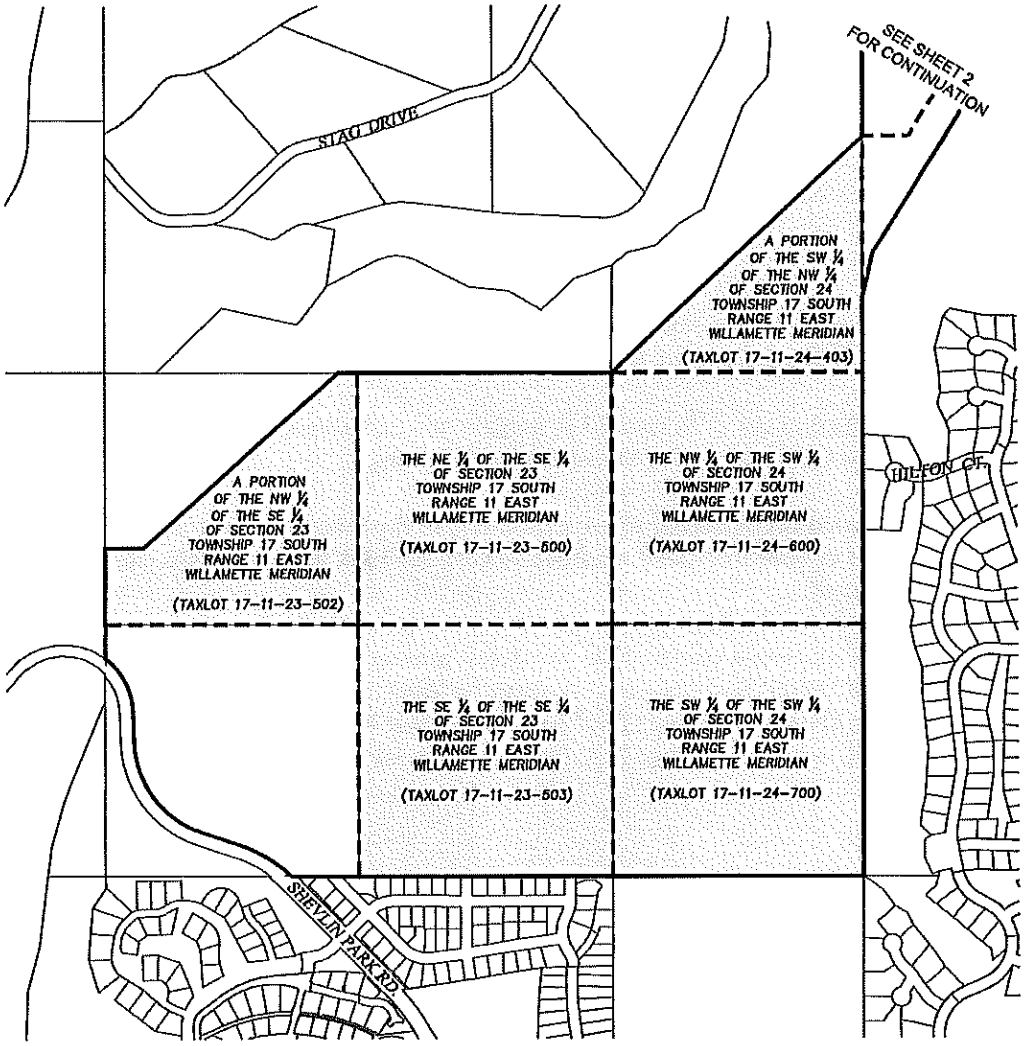
Parcel 9- All that portion of the North 1/2 of the Southwest Quarter of Section 18 Township 17 South, Range 12 East, Willamette Meridian, Deschutes County Oregon more particularly described as follows:

All that land described as Lot of Record 37 in Bargain and Sale Deed, recorded December 17, 2014 as Document No. 2014-42291; **excepting therefrom the following:**

All that portion of said Lot of Record 37 lying northerly of the following described line, and westerly of that land described in Warranty Deed recorded August 31, 1981 in Volume 346, page 712, Deschutes County Official Records;

Commencing at the Southwest corner of the Northwest quarter of the Southwest Quarter of said Section 18; Thence North 00°33'05" East 1109.05 feet along the West line of said Northwest Quarter to the **True Point of Beginning;** Thence South 46°11'50" East 108.64 feet to the boundary of said land described in said Warranty Deed, Volume 346, Page 712. (Portion of Tax lot 17-12-18-100)





N

SCALE

600 0 300 600 1200

(FEET)

1 INCH = 600 FT

REGISTERED PROFESSIONAL LAND SURVEYOR

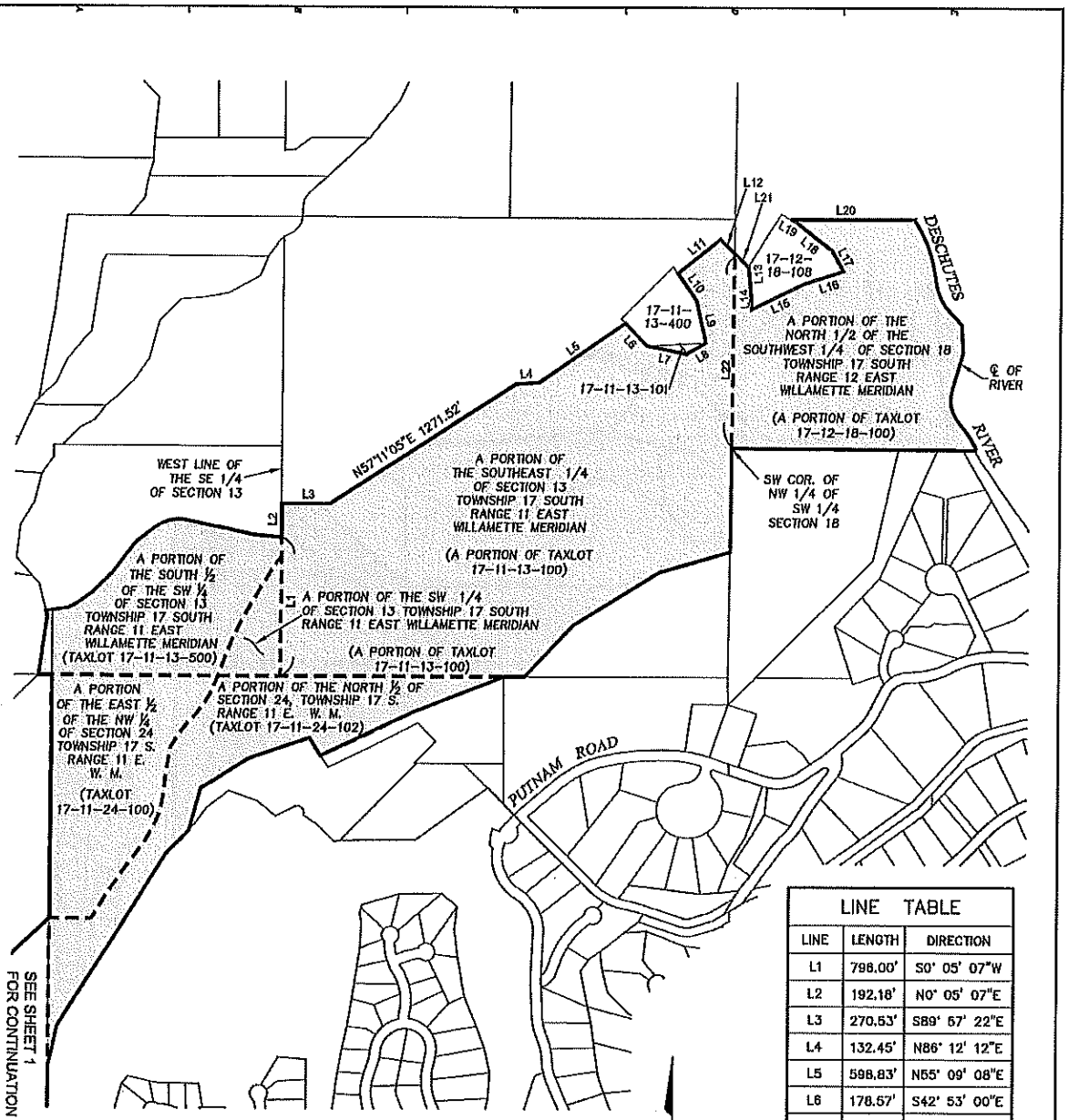
OREGON
JUNE 1, 1998
KEITH S. DAGOSTINO
2885
RENEWAL DATE: 12-31-19

SHEET 1 OF 2

DESIGNED: KSD
DRAWN BY: CAB
LAST EDIT: 7/23/18
PLOT DATE: 7/23/18
SCALE: 1"=600'

INFRASTRUCTURE DEVELOPMENT AGREEMENT
TRANSECT NORTH
EXHIBIT D
DESCHUTES_CO OREGON
PROJECT: COAT001
DRAWING FILE NAME: WG Legal Maps.dwg

D'Agostino Parker, LLC
61278 SE 27TH ST, BEND, OR 97702
P: (541) 633-3140



LINE TABLE		
LINE	LENGTH	DIRECTION
L1	798.00'	S0° 05' 07"W
L2	192.18'	N0° 05' 07"E
L3	270.53'	S89° 57' 22"E
L4	132.45'	N86° 12' 12"E
L5	598.83'	N55° 09' 08"E
L6	178.57'	S42° 53' 00"E
L7	232.60'	S78° 08' 00"E
L8	129.90'	N61° 22' 00"E
L9	250.00'	N11° 50' 30"W
L10	189.50'	N34° 29' 30"W
L11	311.84'	N51° 06' 08"E
L12	121.3'	S46° 11' 50"E
L13	127.00'	N4° 41' 20"W
L14	114.00"	N3° 56' 40"W
L15	340.30'	S85° 14' 00"W
L16	231.00'	S72° 28' 20"W
L17	135.00'	S28° 45' 00"E
L18	261.40'	S51° 00' 00"E
L19	36.10'	S61° 24' 20"E
L20	705'±	S89° 52' 13"E
L21	108.64'	S46° 11' 50"E
L22	1109.05'	N00° 33' 05"E

SCALE
600 0 300 600 1200
(FEET)
1 INCH =600 FT

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JUNE 1, 1988
KEITH S. DAGOSTINO
2885
RENEWAL DATE: 12-31-19

SHEET 2 OF 2

DESIGNED: KSD
DRAWN BY: CAB
LAST EDIT: 7/23/18
PLOT DATE: 7/23/18
SCALE: 1"=600'

INFRASTRUCTURE DEVELOPMENT AGREEMENT
TRANSECT NORTH
EXHIBIT D
DESCHUTES_CO OREGON
PROJECT: COAT001
DRAWING FILE NAME: WG Legal Maps.dwg

D'Agostino Parker, LLC
61279 KING JEROBOAM AVE
BEND, OR 97702
P: (541) 093-4134

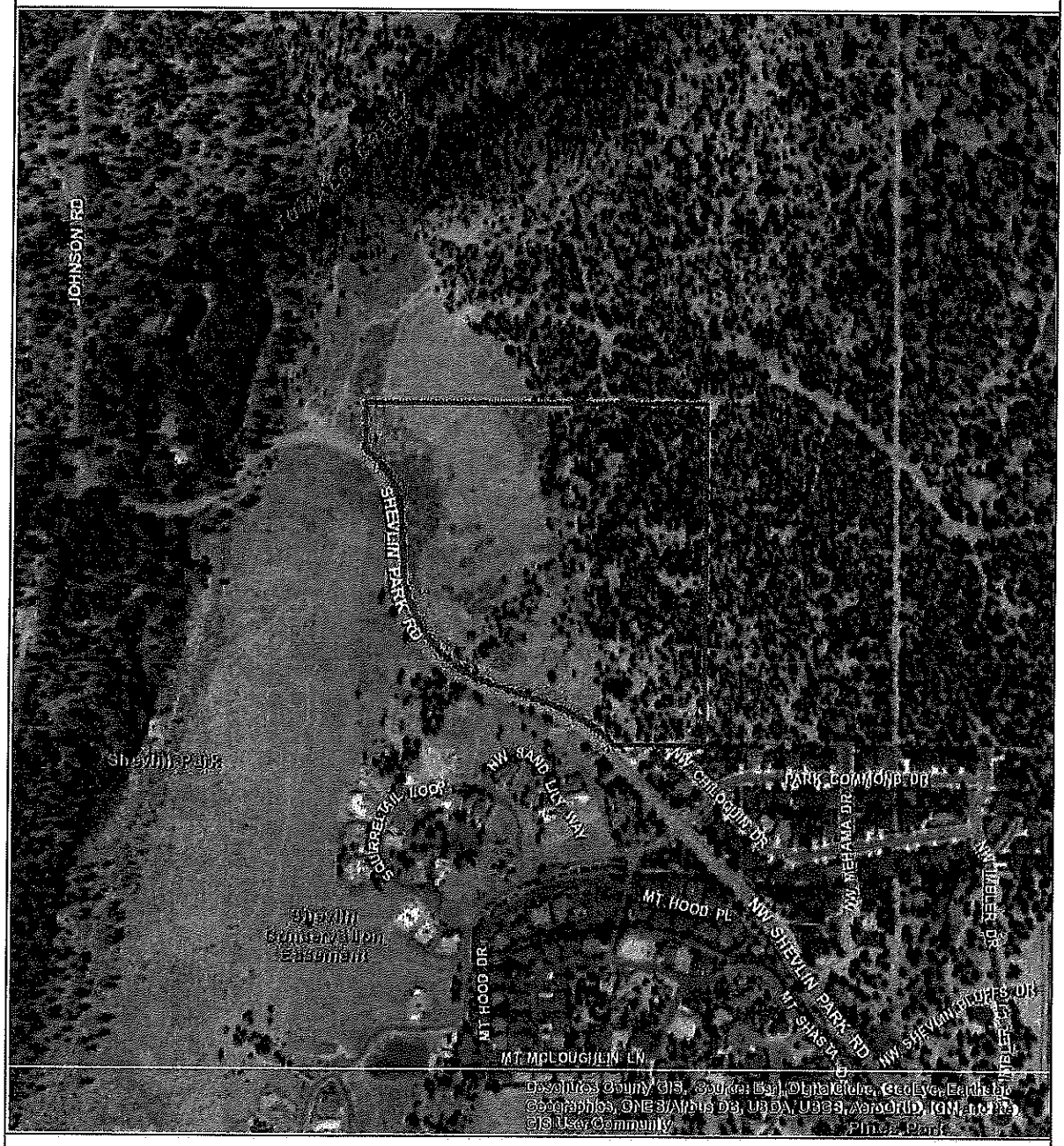
Exhibit E
Administrative School District No. 1, Deschutes County
Map and Tax lot: 1711230000600

That portion of the Southwest Quarter of the Southeast Quarter (SW1/4SE1/4), Section Twenty-three (23), Township Seventeen (17) South, Range Eleven (11), East of the Willamette Meridian, lying North of the Shevlin Market Road, Deschutes County, Oregon.

Excepting therefrom that portion conveyed to Deschutes County, a municipal corporation by Deed recorded August 15, 1977, Instrument No. 256-167, Deed Records.

Administrative School District No. One, Deschutes County

Shevlin Property



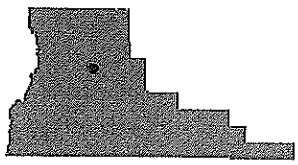


Exhibit E

DESCHUTES COUNTY

EXHIBIT "F"

LAND LOCATED IN THE SOUTHEAST ¼ OF THE NORTHEAST ¼ AND THE NORTHEAST ¼ OF THE SOUTHEAST ¼ OF SECTION 26, TOWNSHIP 17 SOUTH, RANGE 11 EAST, WILLAMETTE MERIDIAN, DESCHUTES COUNTY, OREGON, MORE PARTICULARLY DESCRIBD AS FOLLOWS:

BEGINNING AT THE NORTHEAST 1/16 CORNER OF SAID SECTION 26;

THENCE ALONG THE NORTH LINE OF THE SOUTHAST ¼ OF THE NORTHEAST 1/1 OF SAID SECTION 26, NORTH 89°43'49" WEST 1063.30 FEET;

THENCE SOUTH 00°13'59" EAST 1317.13 FEET TO A PONT ON THE EAST-WEST CENTERLINE OF SAID SECTION 26;

THENCE CONTINUING SOUTH 00°13'59" EAST 335.24 FEET;

THENCE NORTH 89°38'01" EAST 1054.02 FEET TO A POINT ON THE EAST LINE OF THE NORTHEAST ¼ OF THE SOUTHEAST ¼ OF SAID SECTION 26;

THENCE ALONG THE EAST LINE, NORTH 00°13'33" EAST 321.05 FEET TO THE EAST 1/16 CORNER OF SAID SECTION 26;

THENCE ALONG THE EAST LINE OF THE SOUTHEAST ¼ OF THE NORTHEAST 1/44 OF SAID SECTION 26, NORTH 00°03'25" EAST 1319.56 FEET TO THE POINT OF BEGINNING;

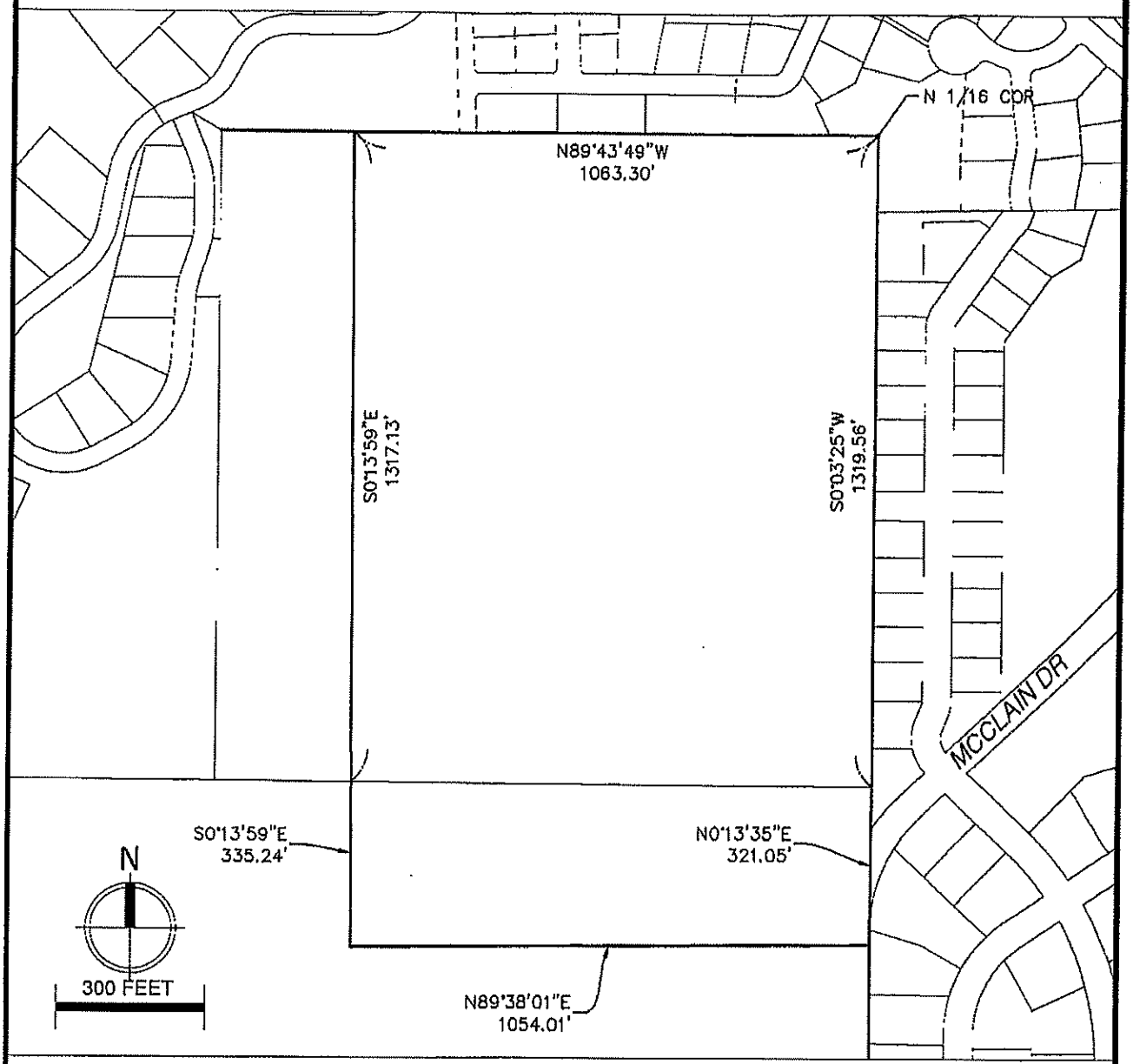
CONTAINS 1,743,668 SQUARE FEET OR 40.029 ACRES, MORE OR LESS.



RENEWS: JUN. 30, 2019

EXHIBIT F

LAND LOCATED IN THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 26, TOWNSHIP 17 SOUTH, RANGE 11 EAST, WILLAMETTE MERIDIAN
DESCHUTES COUNTY, OREGON



BECON
CIVIL ENGINEERING & LAND SURVEYING
549 SW MILL VIEW WAY
SUITE 105
BEND, OREGON 97702
(541) 633-3140
www.beconeng.com

FOR: RIO LOBO, LLC

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
DEC. 16, 2009
ERIK J. HOFFMAN
70874

RENEWS: JUN. 30, 2017

DATE: 08/10/2018	SCALE: 1" = 300'	DRAWN BY: JLB	PROJ: 13861

EXHIBIT G

LAND LOCATED IN THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 17 SOUTH, RANGE 11 EAST, WILLAMETTE MERIDIAN, DESCHUTES COUNTY, OREGON, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 35;

THENCE ALONG THE EAST LINE OF SAID SECTION 35, SOUTH 00°14'12" 1314.08 FEET TO THE NORTH 1/16 CORNER COMMON TO SECTIONS 35 AND 36;

THENCE ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35, NORTH 89°57'40" WEST 1324.60 FEET, TO THE NORTHEAST 1/16 CORNER OF SAID SECTION 35;

THENCE ALONG THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35, NORTH 89°57'40" WEST 63.60 FEET;

THENCE LEAVING SAID SOUTH LINE AND ALONG THE FOLLOWING EIGHT COURSES, BEING THE PROPOSED WESTERLY RIGHT OF WAY OF SKYLINE RANCH ROAD;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 1035.00 FEET, AN ARC LENGTH OF 170.80 FEET, A TOTAL ANGLE OF 09°27'19", AND A CHORD WHICH BEARS NORTH 27°53'48" EAST 170.61 FEET;

THENCE NORTH 32°37'28" EAST 188.92 FEET;

THENCE NORTH 29°34'46" EAST 297.75 FEET;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 565.00 FEET, AN ARC LENGTH OF 78.16 FEET, A TOTAL ANGLE OF 07°55'33", AND A CHORD WHICH BEARS NORTH 25°37'00" EAST 78.10 FEET;

THENCE NORTH 21°39'13" EAST 345.16 FEET;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 335.00.00 FEET, AN ARC LENGTH OF 148.09 FEET, A TOTAL ANGLE OF 25°19'39", AND A CHORD WHICH BEARS NORTH 34°19'03" EAST 146.88 FEET;

THENCE NORTH 46°58'52" EAST 111.97 FEET;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 265.00 FEET, AN ARC LENGTH OF 179.51 FEET, A TOTAL ANGLE OF 38°48'47", AND A CHORD WHICH BEARS NORTH 27°34'29" EAST 176.10 FEET, TO A POINT ON THE NORTH LINE OF SAID SECTION 35;

THENCE ALONG SAID NORTH LINE, SOUTH 89°54'58" EAST 657.66 FEET TO THE POINT OF BEGINNING.

CONTAINS 1,353,517 SQUARE FEET OR 31.072 ACRES, MORE OR LESS.

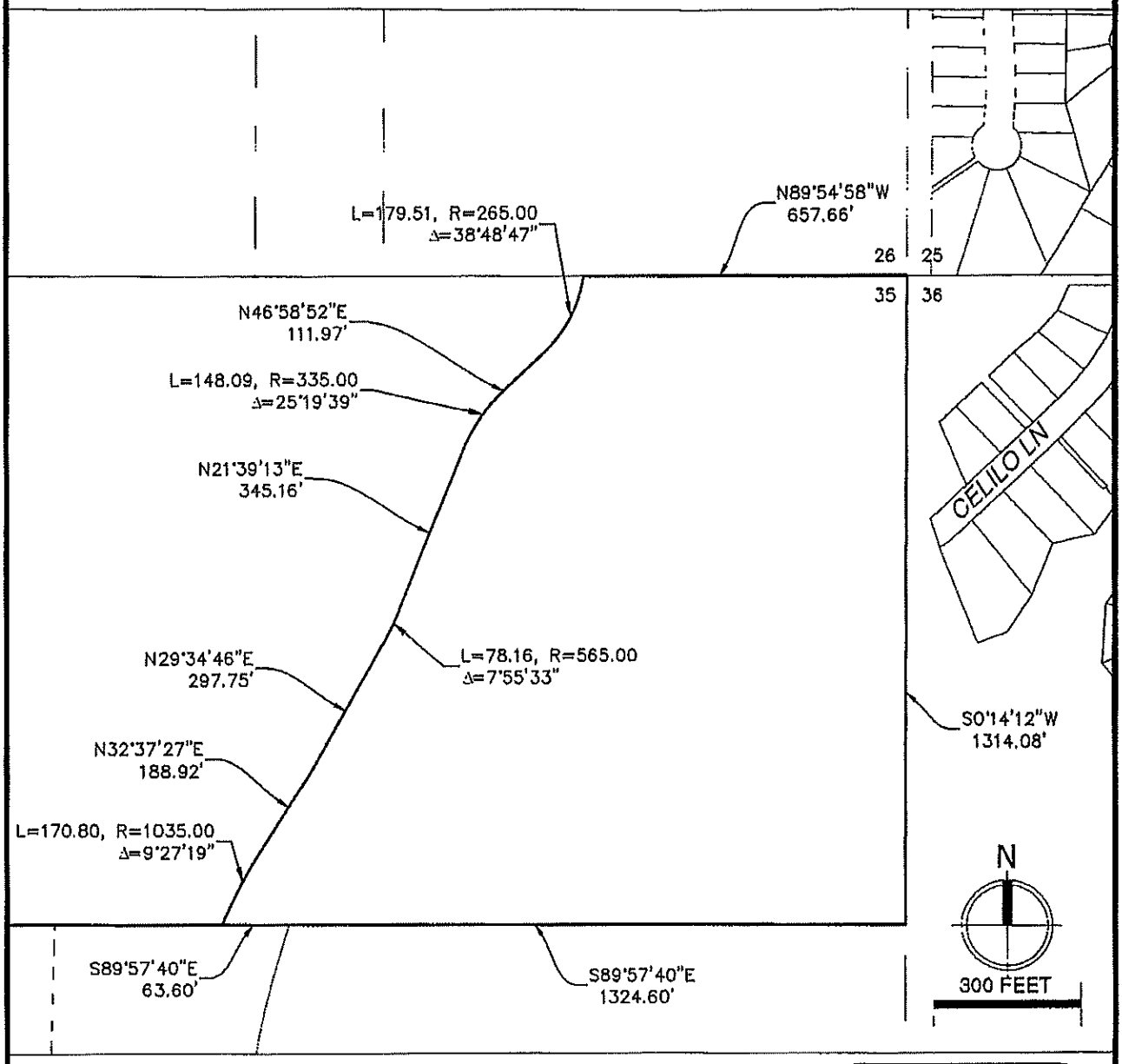


RENEWS: JUN. 30, 2019

EXHIBIT G

LAND LOCATED IN THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 17 SOUTH, RANGE 11 EAST, WILLAMETTE MERIDIAN

DESCHUTES COUNTY, OREGON



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FOR: RIO LOBO, LLC

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OREGON
DEC. 16, 2009
ERIK J. HUFFMAN
70814

RENEWS: JUN. 30, 2017

DATE: 08/10/2018	SCALE: 1" = 300'	DRAWN BY: JLB	PROJ: 13861

EXHIBIT H

LAND LOCATED IN THE SOUTHWEST 1/4 OF SECTION 26, THE SOUTHEAST 1/4 OF SECTION 26, THE NORTHWEST 1/4 OF SECTION 35, AND THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 17 SOUTH, RANGE 11 EAST, WILLAMETTE MERIDIAN, DESCHUTES COUNTY, OREGON, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THAT PROPERTY DESCRIBED IN INSTRUMENT NUMBER 2006-62213, DESCHUTES COUNTY OFFICIAL RECORDS;

EXCEPTING THEREFROM;

BEGINNING AT THE EAST 1/16 CORNER OF SAID SECTION 26;

THENCE ALONG THE EAST-WEST CENTERLINE OF SAID SECTION 26, NORTH 89°35'46" WEST, 1056.65 FEET;

THENCE SOUTH 00°13'59" EAST 335.24 FEET;

THENCE NORTH 89°38'01" EAST 1054.02 FEET TO A POINT ON THE EAST LINE OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SAID SECTION 26;

THENCE ALONG SAID EAST LINE, NORTH 00°13'35" EAST 321.05 FEET TO THE POINT OF BEGINNING.

ALSO EXCEPTING THEREFROM;

BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 35;

THENCE ALONG THE EAST LINE OF SAID SECTION 35, SOUTH 00°14'12" 1314.08 FEET TO THE NORTH 1/16 CORNER COMMON TO SECTIONS 35 AND 36;

THENCE ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35, NORTH 89°57'40" WEST 1324.60 FEET, TO THE NORTHEAST 1/16 CORNER OF SAID SECTION 35;

THENCE ALONG THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35, NORTH 89°57'40" WEST 63.60 FEET;

THENCE LEAVING SAID SOUTH LINE AND ALONG THE FOLLOWING EIGHT COURSES, BEING THE PROPOSED WESTERLY RIGHT OF WAY OF SKYLINE RANCH ROAD;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 1035.00 FEET, AN ARC LENGTH OF 170.80 FEET, A TOTAL ANGLE OF 09°27'19", AND A CHORD WHICH BEARS NORTH 27°53'48" EAST 170.61 FEET;

THENCE NORTH 32°37'28" EAST 188.92 FEET;

THENCE NORTH 29°34'46" EAST 297.75 FEET;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 565.00 FEET, AN ARC LENGTH OF 78.16 FEET, A TOTAL ANGLE OF 07°55'33", AND A CHORD WHICH BEARS NORTH 25°37'00" EAST 78.10 FEET;

THENCE NORTH 21°39'13" EAST 345.16 FEET;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 335.00.00 FEET, AN ARC LENGTH OF 148.09 FEET, A TOTAL ANGLE OF 25°19'39", AND A CHORD WHICH BEARS NORTH 34°19'03" EAST 146.88 FEET;

THENCE NORTH 46°58'52" EAST 111.97 FEET;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 265.00.00 FEET, AN ARC LENGTH OF 179.51 FEET, A TOTAL ANGLE OF 38°51'47", AND A CHORD WHICH BEARS NORTH 27°34'29" EAST 176.10 FEET, TO A POINT ON THE NORTH LINE OF SAID SECTION 35;

THENCE ALONG SAID NORTH LINE, SOUTH 89°54'58" EAST 657.62 FEET TO THE POINT OF BEGINNING.

TOGETHER WITH;

BEGINNING AT THE NORTH 1/16 CORNER OF SAID SECTION 26;

THENCE SOUTH 00°02'23" WEST 1316.45, TO THE CENTER 1/4 CORNER OF SAID SECTION 26;

THENCE ALONG THE EAST-WEST CENTERLINE OF SAID SECTION 26, SOUTH 89°35'46" EAST 274.20 FEET;

THENCE NORTH 00°13'59" WEST 1317.13 FEET TO A POINT ON THE NORTH LINE OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 26;

THENCE NORTH 89°43'49" WEST 268.01 FEET TO THE POINT OF BEGINNING.

CONTAINS 13,242,312 SQUARE FEET OR 304.002 ACRES, MORE OR LESS.

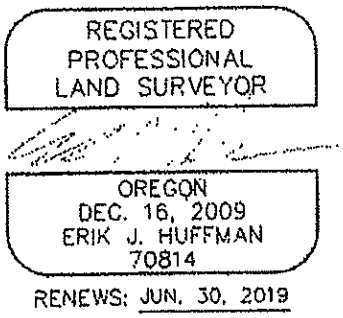
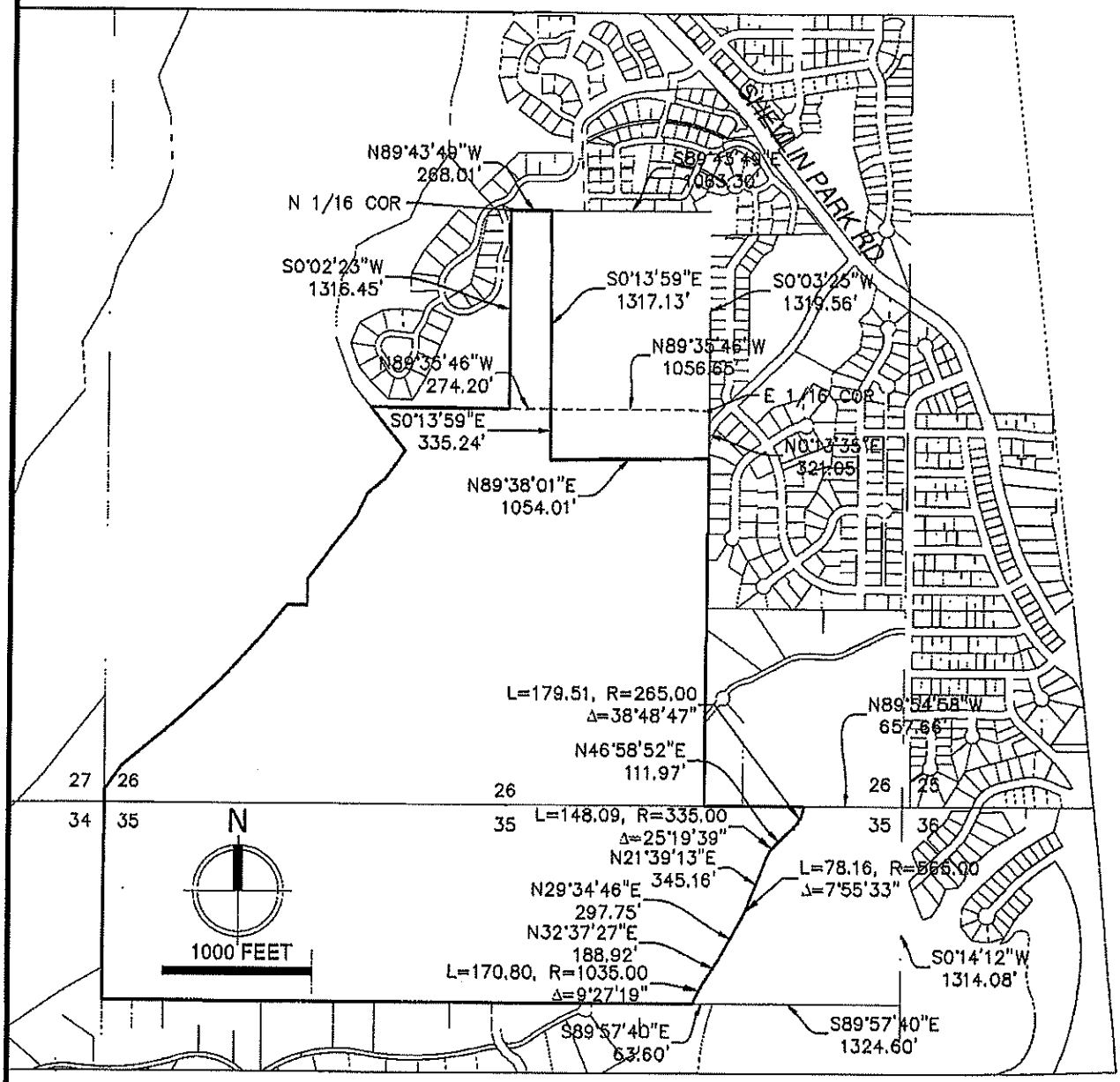


EXHIBIT H

LAND LOCATED IN THE SOUTHWEST 1/4 OF SECTION 26, THE SOUTHEAST 1/4 OF SECTION 26, THE NORTHWEST 1/4 OF SECTION 35, AND THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 17 SOUTH, RANGE 11 EAST, WILLAMETTE MERIDIAN, DESCHUTES COUNTY, OREGON



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FOR: RIO LOBO, LLC

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
DEC. 16, 2009
ERIK C. HUFFMAN
70814

RENEWS: JUN. 30, 2017

DATE: 08/10/2018	SCALE: 1" = 1000'	DRAWN BY: JLB	PROJ: 13861

LEGAL DESCRIPTION
DSW-02
May 25, 2018

EXHIBIT I

A tract of land lying in the southeast one-quarter of the southeast one-quarter Section 26, Township 17 South, Range 11 East, Willamette Meridian, City of Bend, Deschutes County, Oregon and being all of Common 1 and a portion of both Common 2 and Anderson Ranch Road (private way) of the plat of Anderson Ranch P.U.D., Deschutes County Survey Plat Records and being more particularly described as follows:

Bearings are based on Anderson Ranch P.U.D., Deschutes County Survey Records.

The boundary of this Legal Description is based on Anderson Ranch P.U.D., Deschutes County Survey Records.

Beginning at the southeast corner and the initial point of Anderson Ranch P.U.D., thence along the east line of Anderson Ranch P.U.D. North 00°23'18" East 1311.66 feet to the northeast corner of said Anderson Ranch P.U.D.; thence along the north line of said Anderson Ranch P.U.D. North 89°44'47" West 546.94 feet to the east line of Tract A, Document 2015-024819 Deschutes County Deed Records; thence along said east line South 00°09'39" East 299.06 feet to the north line of Anderson Ranch Road (private way); thence along said north line North 87°14'00" West 108.77 feet to a point of curve left; thence around the curve left (Central angle = 31°12'15", Radius = 266.00 feet, Long Chord bears South 77°09'53" West, 143.08 feet) 144.87 feet to the southeast corner of Lot 2 of said Anderson Ranch P.U.D.; thence leaving said north line South 28°26'15" East 32.00 feet to the south line of said Anderson Ranch Road (private way); thence along said south line South 61°33'42" West 253.90 feet to a point of curve right; thence around the curve right (Central angle = 12°58'40", Radius = 166.00 feet, Long Chord bears South 68°03'02" West, 37.52 feet) 37.60 feet; thence South 74°32'24" West 41.10 to a point of curve left; thence around the curve left (Central angle = 34°38'21", Radius = 184.00 feet, Long Chord bears South 57°13'14" West, 109.55 feet) 111.24 feet to a point of compound curve left; thence around the curve left (Central angle = 66°46'18", Radius = 13.00 feet, Long Chord bears South 06°30'55" West, 14.31 feet) 15.15 feet to a point of reverse curve left; thence around the curve left (Central angle = 75°09'53", Radius = 47.00 feet, Long Chord bears South 10°42'42" West, 57.33 feet) 61.66 feet to the northeast corner of Lot 4 of said Anderson Ranch P.U.D.; thence along the east line of said Lot 4 the following two courses: South 41°42'34" East 167.33 feet; thence South 00°12'45" West 558.07 feet to the south line of said Anderson Ranch P.U.D.; thence along said south line South 89°54'52" East 1062.92 feet to the **Point Of Beginning.**

Containing 28.06 acres more or less.

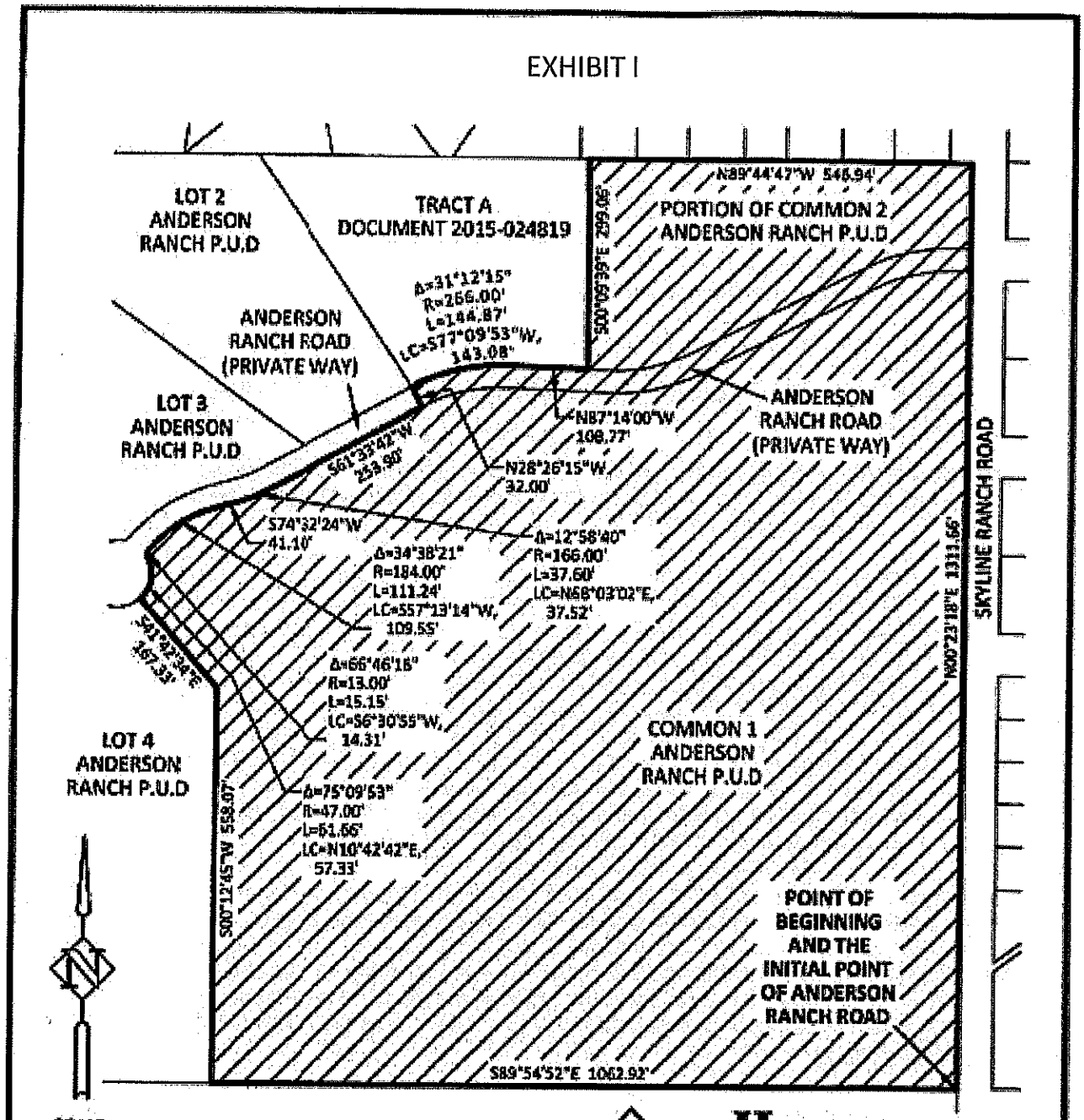
See the attached Exhibit Map, which is made a part hereof.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
Nov. 08, 2010
JOHN TAYLOR HAGLUND
55022PLS

RENEWS: 6-30-2019

EXHIBIT I



SCALE
1" = 200'

± 28.06 ACRES

SEE ATTACHED
LEGAL DESCRIPTION

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
NOVEMBER 11, 2010
JOHN TAYLOR HAGLUND
55022

RENEWS: 6-30-2019

Harper Houf Peterson Righellis Inc.

ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS

250 NW Franklin Ave., Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DSW-02 JTH 05/25/2018 PAGE 1 OF 1

EXHIBIT J

CITY OF BEND ENGINEERING DIVISION
TRAFFIC ANALYSIS MEMO – TIA REVIEW
BP18-3441-TRFA
WESTSIDE ANNEXATION

COMMUNITY DEVELOPMENT

Date: August 3, 2018
Project Site: Multiple project lots
Contact: Matt Kittelson
Kittelson & Associates, Inc.
541-312-8300

Existing Conditions:
The Westside Infrastructure Group (WIG) is made up of four (4) property owners that are working to develop the North West properties in Bend. These properties are primarily within the UGB but have not been annexed into the City Limits. Because of the cost and timing to the regional NW development of the properties, the WIG property owners are collaborating in a master plan development submittal and collectively forming agreements with the City to benefit all development. The members of the WIG area as follows:

1) Discovery West / NWX2, LLC (NWX2)
   a. 245 acres in the West UGB Expansion Area – Master Plan Area 1

2) CCC, LLC (Coats),
   a. 68 acres in the Shevlin UGB Expansion Area
   b. 6 acres in City limits
   c. 378 acres in the Transect Area North – Deschutes County

3) Rio Lobo Investments, LLC (Rio Lobo)
   a. 31 acres in the West Bend UGB Expansion Area – Master Plan Area
   b. 40 acres in the West bend UGB Expansion Area – Master Plan Area
   c. 304 acres in the Transect Area South

4) Anderson Ranch Holdings Company LLC (Anderson Ranch)
   a. 28 acres in the West UFB Expansion Area – Master Plan Area 2

The West expansion project sites are north of Skyliners Road and east of the Tree Farm Subdivision and south of Shevlin Park Road. The Shevlin expansion is north of Shevlin Park Road and abutting Regency Street. All expansion areas are within the Urban Growth Boundary (UGB) approved in 2016 but outside the current City Limits. The Transect Area is within Deschutes County, outside the UGB, but directly west of the West expansion area.

Density of the lots area governed by the Bend Comprehensive Plan (BCP) chapter 11, except for the Transect properties, which are located in the County and are governed by Deschutes County Code, Title 19.

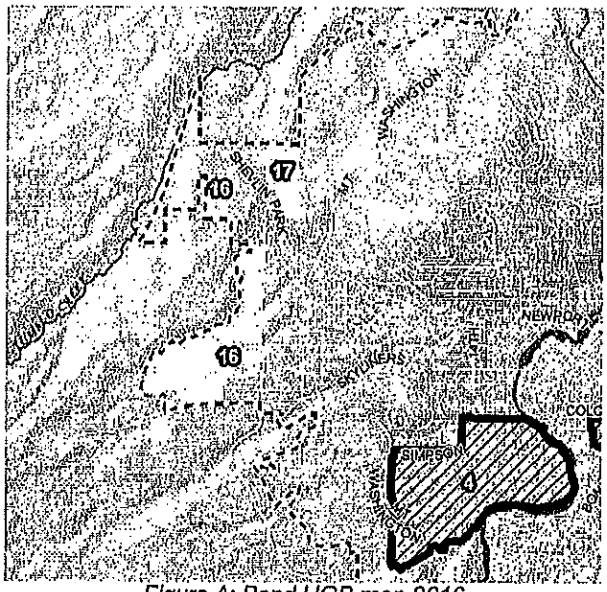


Figure A: Bend UGB map 2016
#16 area – West Expansion area
#17 – Shevlin Expansion area

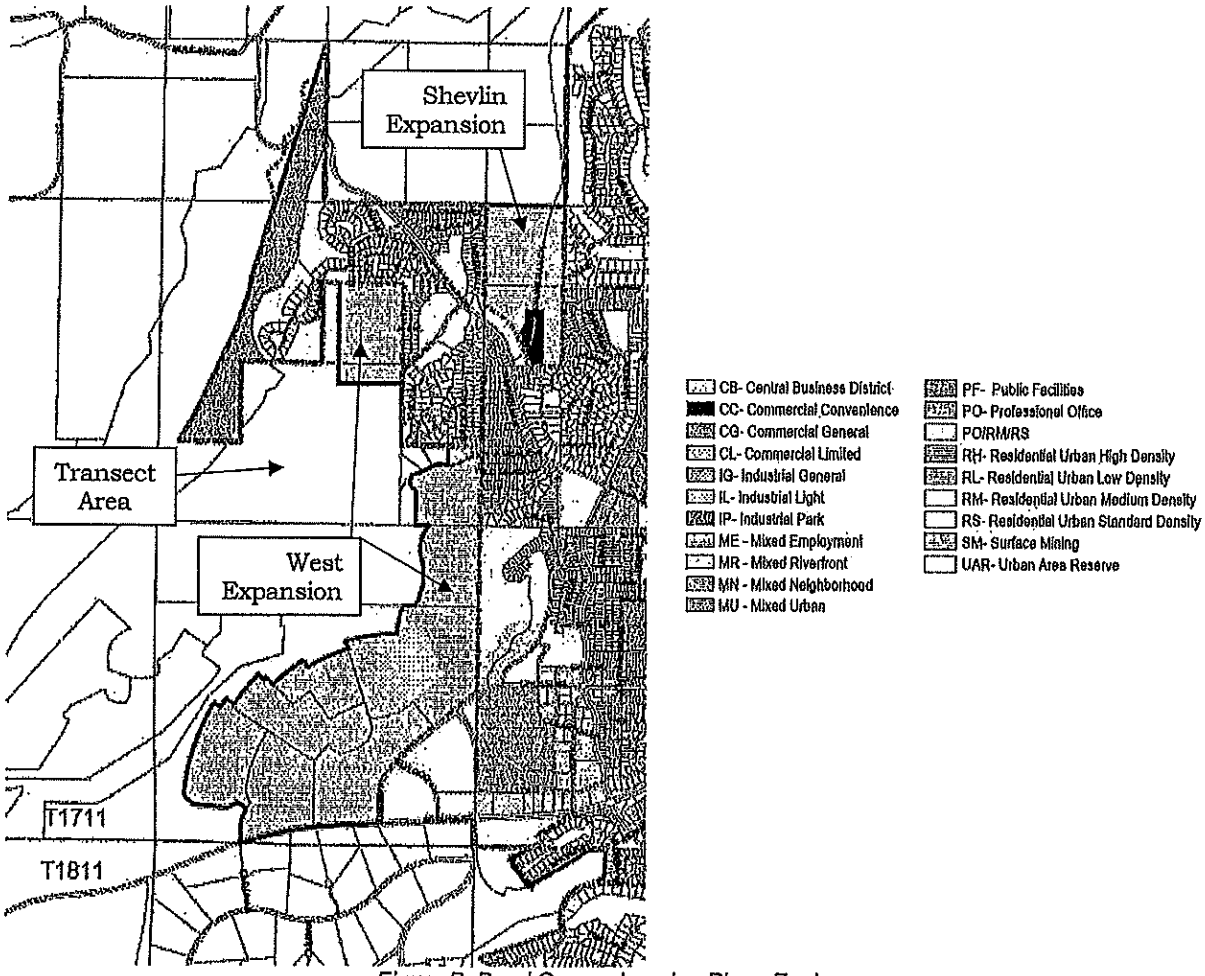


Figure B: Bend Comprehensive Plan - Zoning

Proposed Development:

The WIG development sites are anticipated to have a full buildout horizon of 20 years. The anticipated growth at buildout, is anticipated as follows:

West Area

- 321 gross acres of residential,
    - A minimum 870 and maximum 967 residential units
        - 9 percent attached single family units,
        - 21 percent multifamily units (includes duplexes and triplexes)
        - 70 percent detached single family units
- 7 gross acres of commercial, and
- 14 gross acres of mixed employment.

Maximum requirements for each area:

- Master Plan area 1 (Discovery West)
    - 650 units residential
        - 60 attached single family
        - 142 multifamily units
    - All 21 acres of commercial and mixed employment lands are in this area

- Master Plan Area 2 (Anderson Ranch)
    - 65 units in total
        - At least 12 attached single family units

- Master Plan Area 3 (Rio Lobo)
    - 136 units in total
        - At least 16 attached single family units
        - At least 59 multifamily units
            - 20 percent of the multifamily units will be affordable housing

- Mater Plan Area 4 (Rio Lobo)
    - 116 housing units with no mix of housing types specified or required.

Shevlin Area (Coats)

- 60 gross acres of residential
    - A minimum 162 units (i.e. 81 percent of the max) and a maximum of 200 units
        - A minimum 10 percent attached single family units
        - A minimum 21 percent multifamily units (including duplex and triplex)
        - A maximum of 69 percent detached single family units
- 8 gross acres of commercial.
- 600-student elementary school

Transect lands (Coats & Rio Lobo)

- Transect North (Coats) – anticipated 100 units
- Transect South (Rio Lobo) – anticipated 87 units

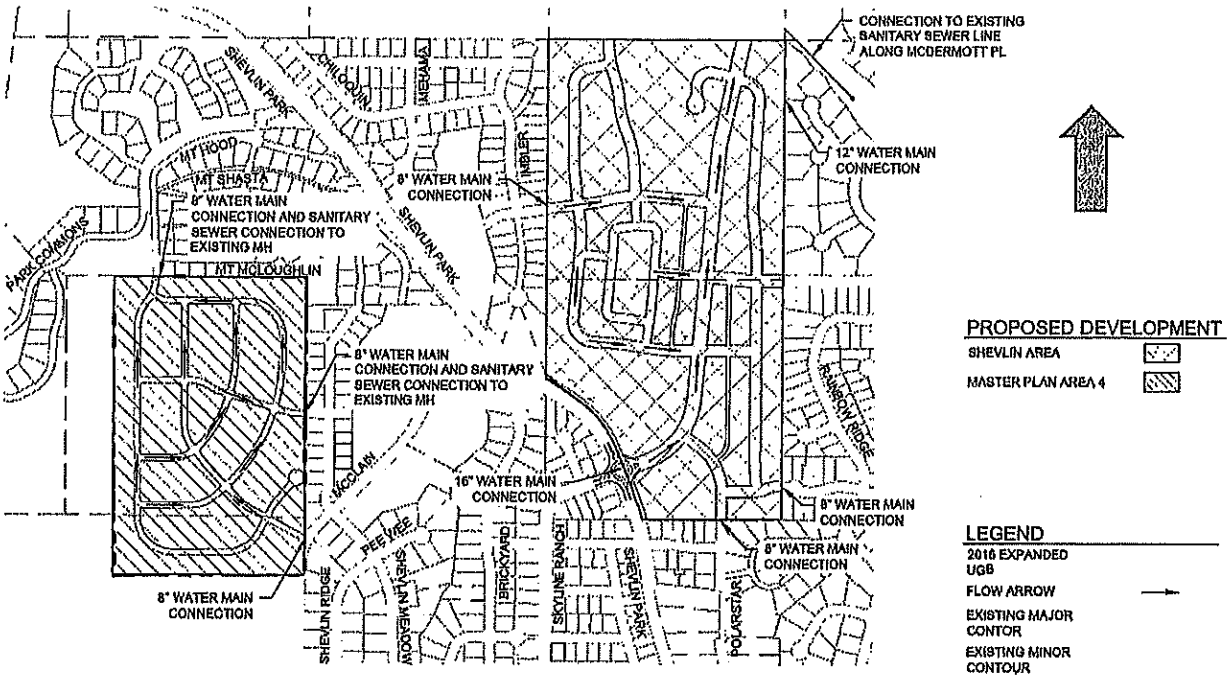


Figure D: Masterplan area 4 and Shevlin Area

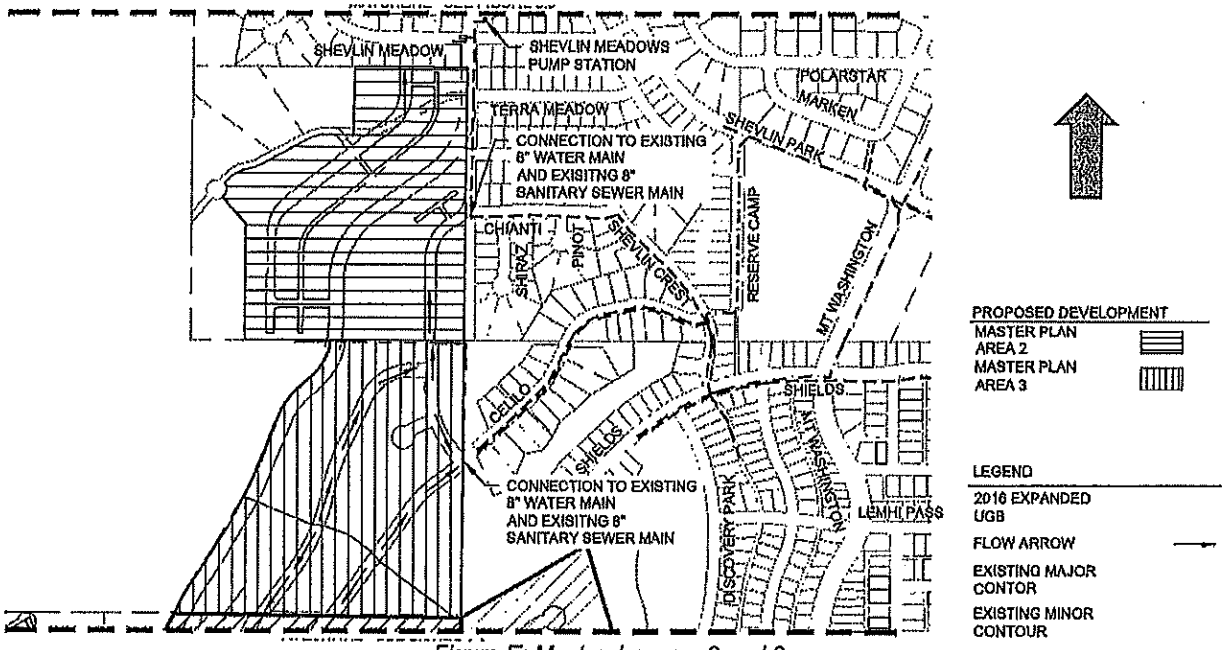


Figure E: Masterplan area 2 and 3

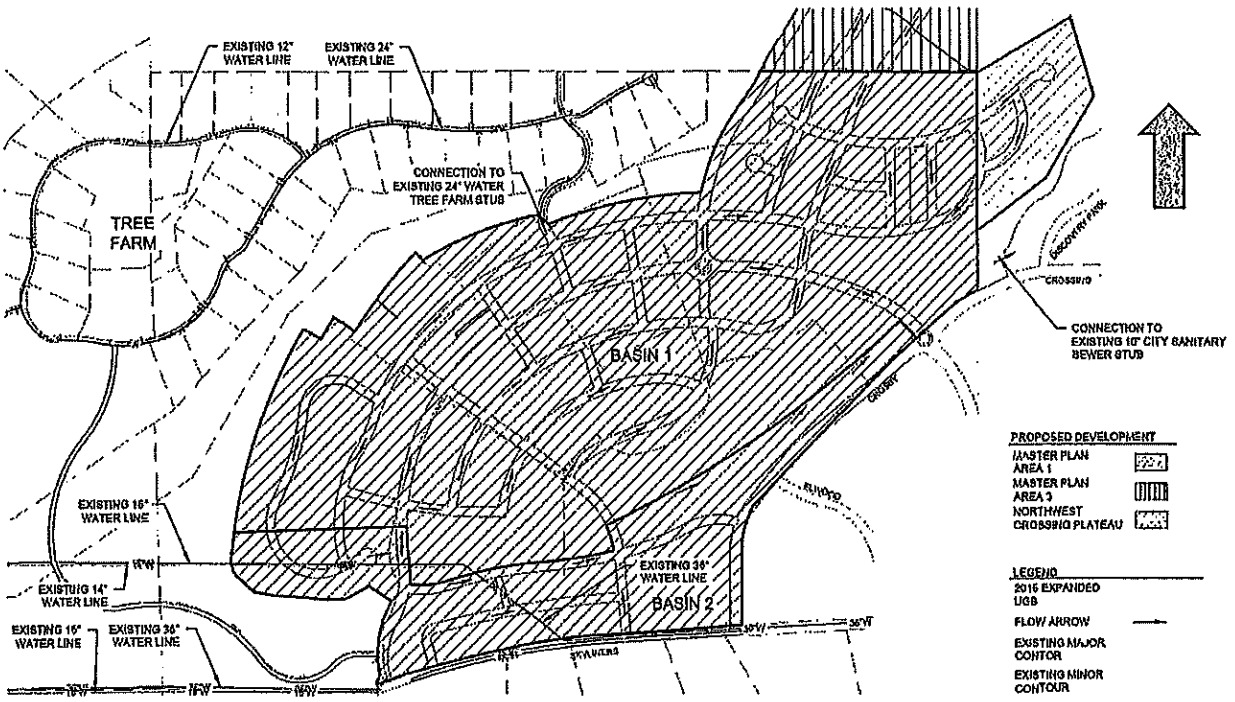


Figure F: Masterplan area 1 and 3

Transportation Impact Analysis (TIA) Required: ☑ Yes ☐ No

Kittelson & Associates submitted a Transportation Facilities Report (TFR), dated June 28, 2018, as part of TFR application number BP18-3441-TRFA (Kittelson project 21085).

The analysis was done based on a buildout horizon assumption of 2033 or beyond for Master Plan area 1 and the Shevlin Area. The Anderson Ranch and Rio Lobo areas may have a shorter duration than that anticipated for the master plan buildout. For consistency, it was assumed all developments would be completed by 2040 for determining the traffic impact mitigations.

Study intersections included:

Shevlin Park Road at Skyline Ranch Road
Shevlin Park Road at Mt. Washington Drive
Shevlin Park Road at NW Crossing Drive
14th Street at Newport Avenue
Mt. Washington Drive at Regency Drive
Skyliners Road at Skyline Ranch Road
Shevlin Park Road at College Way
Mt Washinton Drive at NW Crossing Drive
Mt. Washington Drive at Skyliners Road
Skyliners Road at Crosby Drive
Skyliners Road at Lemhi Pass Drive
Skyliner Ranch Road at NW Crossing Drive
14th Street at Galveston Avenue

These intersection analysis is based on the ITE trip rates:

Land Use	ITE Code	Size	Total Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Trips	In	Out	Trips	In	Out
Master Plan Area 1 (Discovery West)									
Single Family	210	448	4,264	336	84	252	448	282	166
Townhomes	230	60	348	26	4	22	31	21	10

Apartments	220	142	944	72	14	58	88	57	31
Retail	820	22,870	976	22	14	8	85	41	44
Office	710	205,820	2,270	321	282	39	307	52	255
Total			8,802	777	398	379	959	453	506
Master Plan Area 2 (Anderson Ranch)									
Single Family	210	53	504	40	10	30	53	33	20
Townhomes	230	12	70	5	1	4	6	4	2
Total			574	45	11	34	59	37	22
Master Plan Area 3 (Rio Lobo)									
Single Family	210	61	580	46	12	34	61	38	23
Townhomes	230	16	92	7	1	6	8	5	3
Apartments	220	59	392	30	6	24	37	24	13
Total			1,064	83	19	64	106	67	39
Master Plan Area 4 (Rio Lobo)									
Single Family	210	116	1,104	87	22	65	116	73	43
Total West Area									
Single Family	210	678	6,452	509	128	381	678	426	252
Townhomes	230	88	510	38	6	32	45	30	15
Apartments	220	201	1,336	102	20	82	125	81	44
Retail	820	22,870	976	22	14	8	85	41	44
Office	710	205,820	2,270	321	282	39	307	52	255
Total			11,544	992	450	542	1,240	630	610
Shevlin Area (Coats)									
Existing Use	*Studies*	*297 acres*	*(100)*	*(16)*	*(8)*	*(8)*	*(16)*	*(8)*	*(8)*
Single Family	210	161	1,532	121	30	91	161	101	60
Townhomes	230	20	116	9	2	7	10	7	3
Apartments	220	42	280	21	4	17	26	17	9
Retail	820	26,140	1,116	25	16	9	97	47	50
Office	710	60,980	672	95	84	11	91	15	76
Elementary School	520	600	774	270	149	121	90	44	46
Total			4,390	525	277	248	459	223	226
Transect (North and South Areas)									
Single Family	210	100	952	75	19	56	100	63	37
Single Family	210	87	828	65	16	49	87	55	32
Total All Areas									
Total Trips			17,714	1,657	762	895	1,886	971	915

Table A: Anticipated ITE Trips from WIG developments

Under a no-build condition, the following intersections are shown to already exceed City standards:

- Lemhi Pass at Skyliners Road
- 14th Street at Newport Avenue
- 14th Street at Galveston Avenue

Under 2040 build-out conditions, the following intersections, in addition to the no-build condition intersections listed previously, exceed City standards:

- Skyline Ranch Road at Skyliners Road
- Shevlin Park Road at College Way
- Mt. Washington Drive at Skyliners Road
- Mt. Washington Drive at Regency Street
- Shevlin Park Road at Skyline Ranch Road

Intersection		Exist. Traffic Control	Exist.	2040 No Build	Phase 1: 25% Build Out	Phase 2: 50% Build Out	Phase 3: 75% Build Out	2040 Build
Crosby Dr	Skyliners Rd	TWSC	Meets	Meets	Meets	Meets	Meets	Meets
Skyline Ranch Rd	Skyliners Rd	TWSC	Meets	Meets	Meets	Meets	Meets	Exceed
Skyline Ranch Rd	Crosby Dr	TWSC	Meets	Meets	Meets	Meets	Meets	Meets
Mt. Washington Dr	Skyliners Rd	Single Lane Roundabout	Meets	Meets	Meets	Meets	Exceed	Exceed
Mt. Washington Dr	NW Crossing Dr	Single Lane Roundabout	Meets	Meets	Meets	Meets	Meets	Meets
Lemhi Pass	Skyliners Rd	TWSC	Meets	Exceed	Exceed	Exceed	Exceed	Exceed
14th St	Galveston Ave	Single Lane Roundabout	Meets	Exceed	Exceed	Exceed	Exceed	Exceed
14th St	Newport Ave	Single Lane Roundabout	Meets	Exceed	Exceed	Exceed	Exceed	Exceed
College Way	Shevlin Park Rd	Single Lane Roundabout	Meets	Meets	Meets	Meets	Meets	Exceed
NW Crossing Dr	Shevlin Park Rd	Single Lane Roundabout	Meets	Meets	Meets	Meets	Meets	Meets
Mt. Washington Dr	Shevlin Park Rd	Single Lane Roundabout	Meets	Meets	Meets	Meets	Meets	Meets
Mt. Washington Dr	Regency St	TWSC	Meets	Meets	Meets	Meets	Meets	Exceed
Shevlin Park Rd	Skyline Ranch Rd	TWSC	Meets	Meets	Meets	Meets	Meets	Exceed

Table B: Intersection analysis – Meet or Exceed BDC 4.7 criteria

Facility Upgrade Requirements: Anticipated Mitigation

Below are the anticipated mitigation requirements for the proposed site development. These points of mitigation can be modified upon the filing and review of the land use application, as there may be components that change or that were discussed in the burden of proof and may not have been brought to the City's attention. The site development is anticipated to have the following mitigation requirements:

Mitigation 1: The WIG shall enter into a Development Agreement with the City of Bend outlining the overall transportation mitigation package.

Mitigation 2: A Single Lane (asphalt) Roundabout at Skyline Ranch Road at Shevlin Park Road. The Roundabout shall be constructed no later than the date that the lots are platted that represent 50 percent of the Coats' p.m. peak hour trips or when the extension of Skyline Ranch Road is complete from Skyliners Road to Shevlin Park Road, whichever comes first.

Mitigation 3: A Single Lane (asphalt) Roundabout at Skyline Ranch Road at Skyliners Road. The Roundabout shall be constructed no later than the date that the lots are platted that represent 50 percent of the NWX2's p.m. peak hour trips or when the extension of Skyline Ranch Road is complete from Skyliners Road to Shevlin Park Road, whichever comes first.

Mitigation 4: Skyline Ranch Road will be completed and connected from Skyliners Road to Shevlin Park Road. The WIG shall coordinate with the City of Bend to determine the best alignment and submit for a Transportation System Plan amendment to accompany the master plan submittals for each individual property's development. If the existing unimproved Skyline Ranch Road right of way south of NW Chianti Lane is no longer needed for public road purposes after the new Skyline ranch Road is constructed, the City is open to a right of way vacation to return the land to the Anderson Ranch's ownership and/or adjacent owners.

Mitigation 5: Regency Street shall be constructed from its current improved terminus at the tax lot identified as 171125BD1200 to Coats' land boundary, which is approximately 850' at such time as specified in the Coats' master plan or other development approval.

Mitigation 6: All local and higher classification streets, private or public, shall be constructed to City of Bend standards and specifications as each phase of each property develops. Deviations from the Bend Development Code can be permitted, if approved by the City, through the master plan submittal for each development.

Mitigation 7: The sight distance deficiency at the south leg of Skyline Ranch Road and Shevlin Park Road shall be mitigated under the first phase of development that abuts Shevlin Park Road. The mitigation measures shall be proposed by the EOR for one of the adjacent properties. Mitigation shall be approved by the City prior to work beginning with the understanding that it is a temporary fix until the future roundabout at this location will is constructed.

Mitigation 8: All property owners will pay the Transportation System Development Charge (TSDC) assessed by the City at the time of development.

Mitigation 9: The Transect Properties will pay the difference between the Deschutes County TSDCs and the City of Bend TSDCs assessed at the time of development.

Mitigation 10: Coordination of multi-modal infrastructure, specifically bicycle and pedestrian systems, along with connections to nearby systems will be determined at the time of master plan approvals.

Mitigation 11: In lieu of making intersection improvements at Mt. Washington Drive at Regency, Skyliners Road at Lemhi Pass, Galveston at 14th Street, Mt. Washington Drive at Skyliners Road, Shevlin Park Road at College Way, and Newport Avenue at 14th Street – the City will accept a contribution of $1,400,000.00. This contribution is based on the following breakdown of the intersection impacts:

Intersection	Current Condition	Proposed Improvement	Cost	Proportionate Share	Total

Newport/14th	Single Lane Roundabout	Roundabout Improvements	$960,000	19.5%	$ 187,200
Mt Washington/Regency	Unsignalized Intersection	Signalized Intersection	$ 300,000	43.8%	$ 131,400
Skyliners/Lehmi Pass	Unsignalized Intersection	Signalized Intersection	$ 300,000	30.9%	$ 92,700
Galveston/14th	Single Lane Roundabout	Roundabout Improvements	$ 960,000	18.8%	$ 180,480
Mt Washington/Skyliners	Single Lane Roundabout	Roundabout Improvements	$ 960,000	51.8%	$ 497,280
Shevlin/College Way	Single Lane Roundabout	Roundabout Improvements	$960,000	26.6%	$ 255,360
Additional Funding			$55,580		$ 55,580
					$ 1,400,000

Duration of Approval:
If a land use application or development agreement is not completed within six (6) months from the date this memorandum was signed, this approval shall be void.

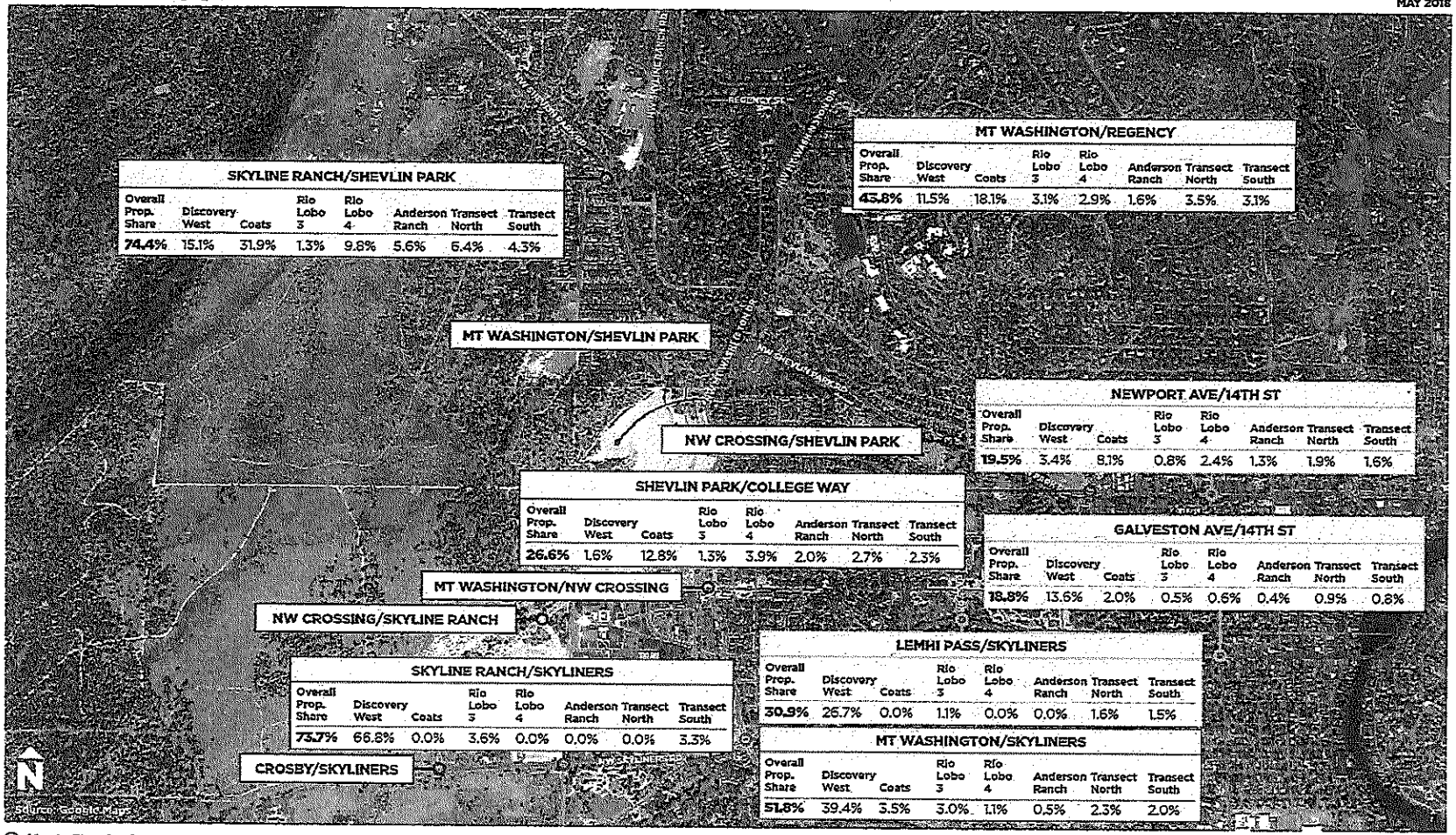
WRITTEN BY: Chris Henningsen, PE, Principal Engineer
chenningsen@bendoregon.gov
(541) 388-5571

APPROVED BY: _____ **DATE:** 8/8/2018
Ryan Oster, PE, City Engineer

EXHIBIT K

H:\21\21085 - NorthWest Crossing 2\graphics

MAY 2018



○ Meets Standards

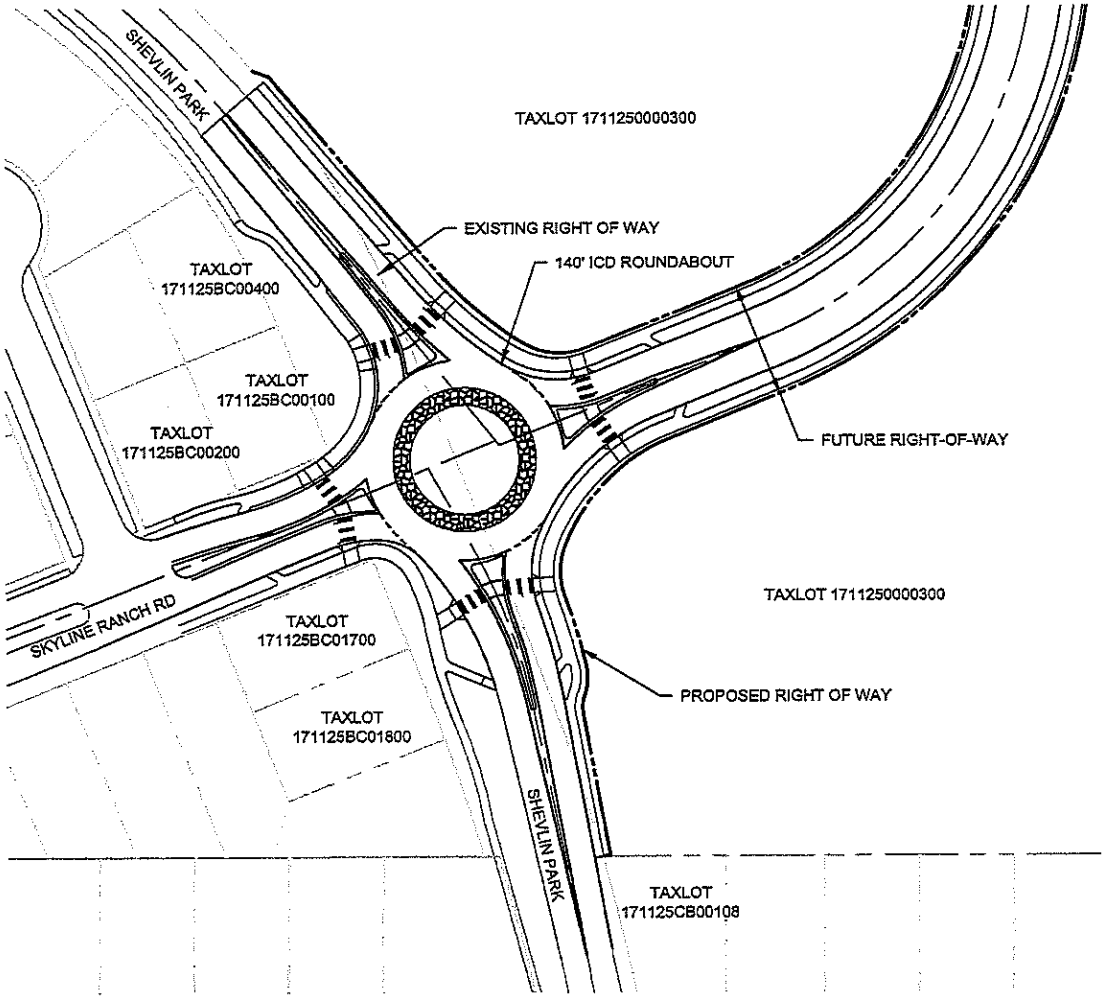
○ Exceeds Standards : Build Condition

○ Exceeds Standards : No Build & Build Condition

WESTSIDE TRANSPORTATION STUDY

DRAFT **2040 Transportation Proportionate Share**

KITTELSON & ASSOCIATES



N

80 0 80

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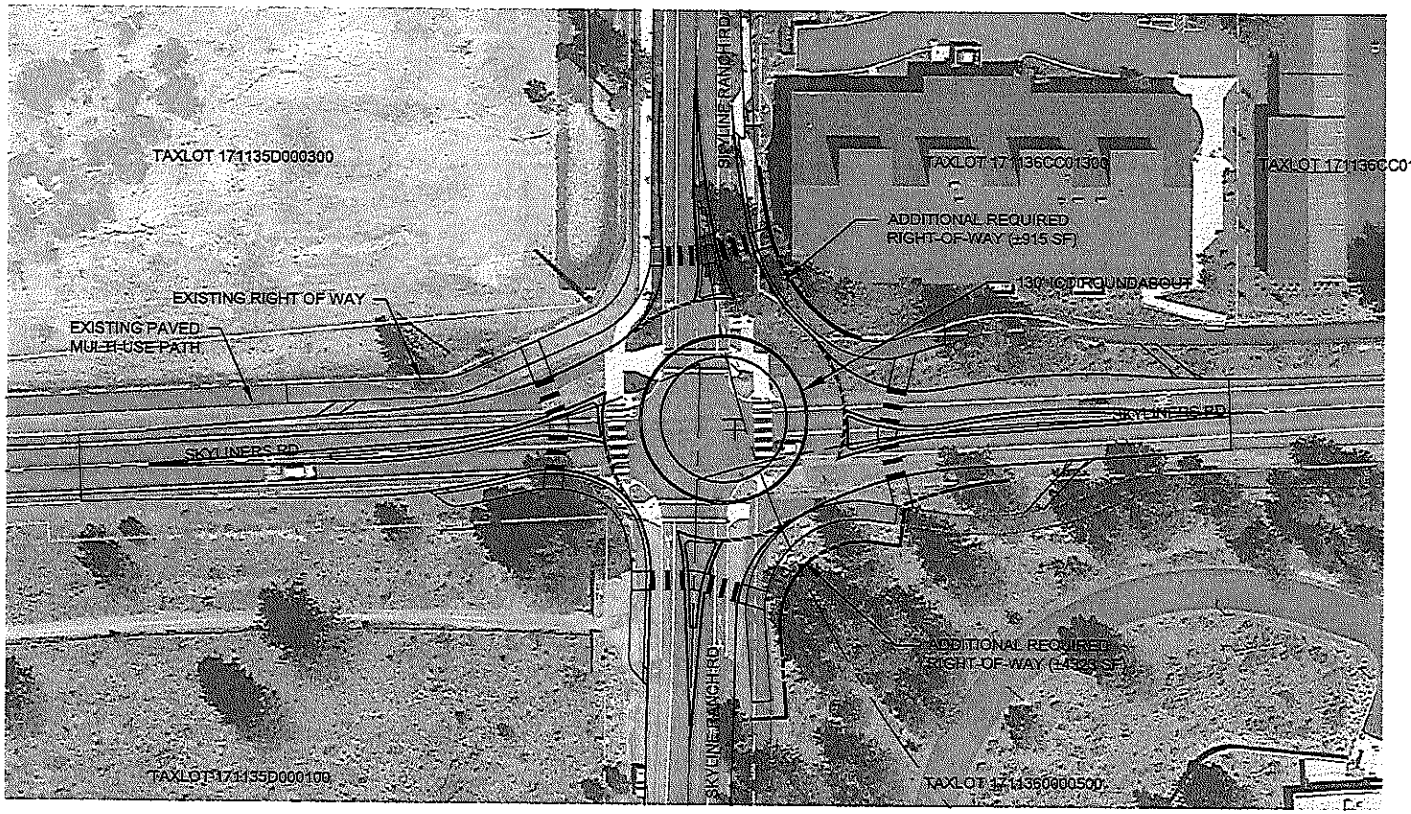
DOWL
www.dowl.com
963 SW Simpson, #200
Bend, Oregon 97702
541-385-4772

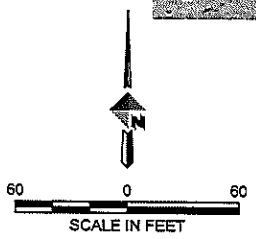
DISCOVERY WEST
SKYLINE RANCH AT SHEVLIN PARK ROUNDABOUT PLAN
BEND, OREGON

PROJECT	14142-01
DATE	6/07/2018

EXHIBIT L

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Note: Shifted and reduced roundabout. NW quadrant impacts have not been evaluated.

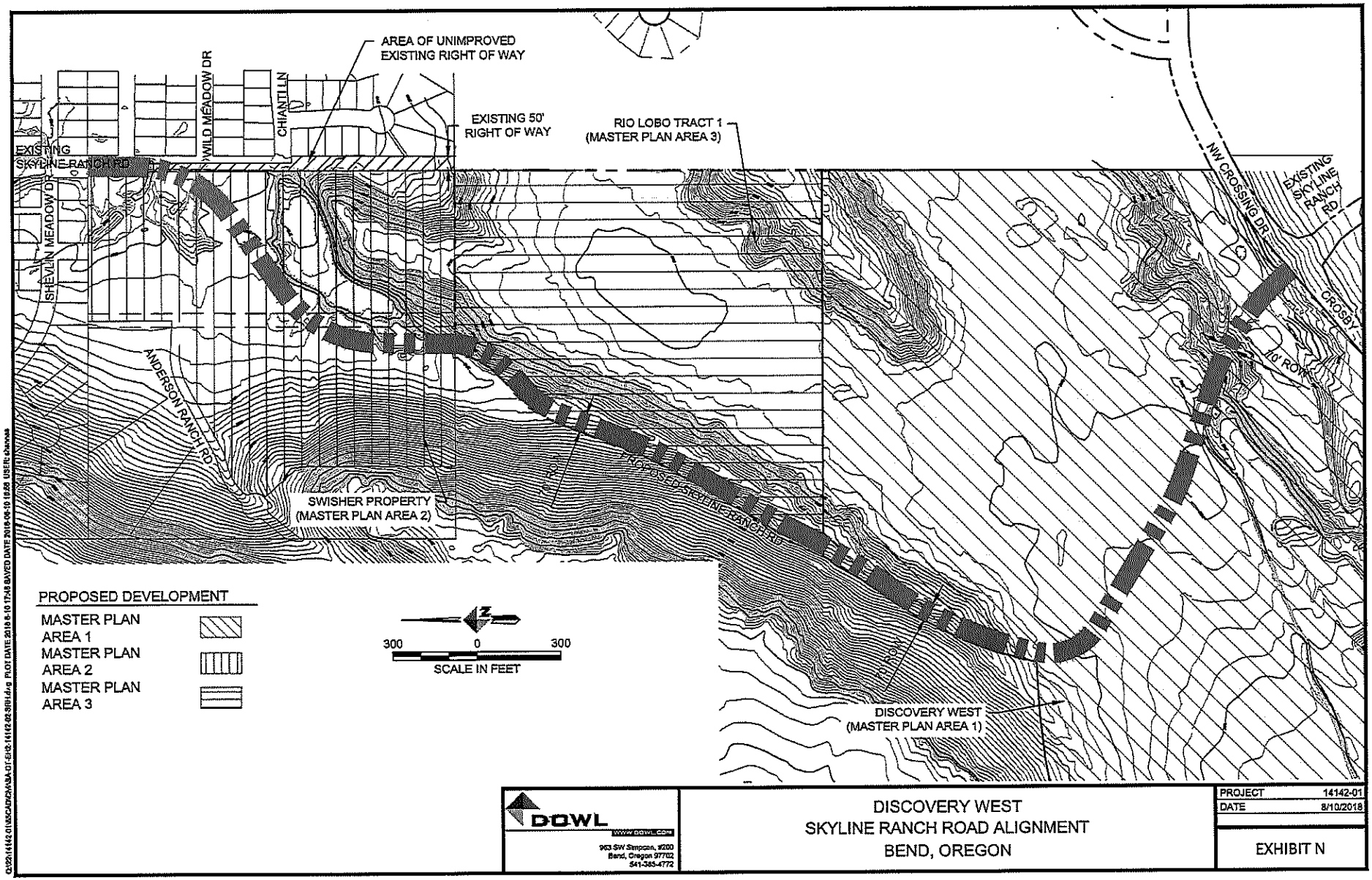
DOWL
WWW.DOWL.COM
963 SW Simpson, #200
Bend, Oregon 97702
541-385-4772

DISCOVERY WEST
SKYLINE RANCH AT SKYLINERS ROUNDABOUT PLAN
BEND, OREGON

PROJECT	14142-01
DATE	07-25-2018

EXHIBIT M

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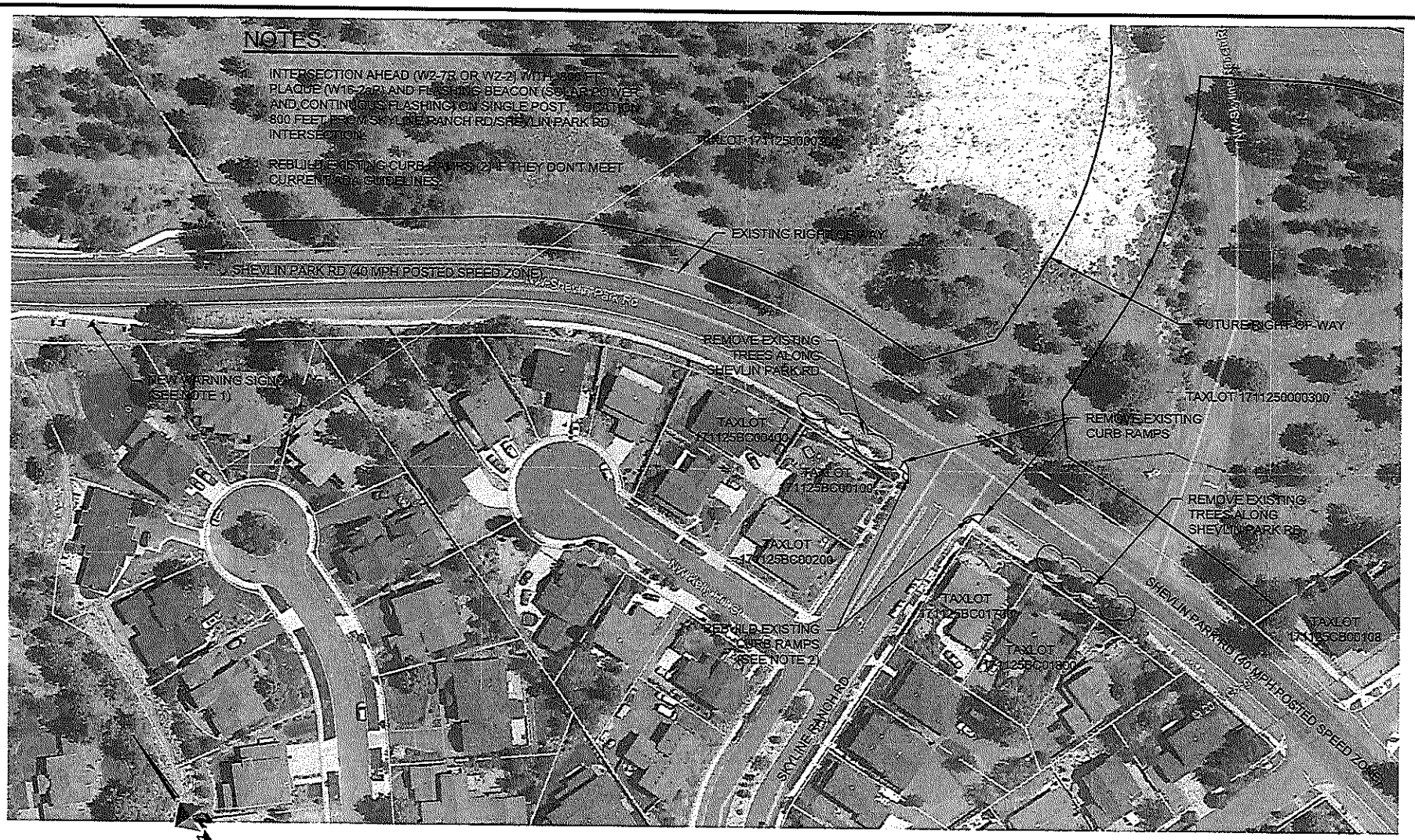
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963 SW Simpson, #200
Bend, Oregon 97702
541-383-4772

DISCOVERY WEST
SKYLINE RANCH ROAD ALIGNMENT
BEND, OREGON

PROJECT	14142-01
DATE	8/10/2018

EXHIBIT N

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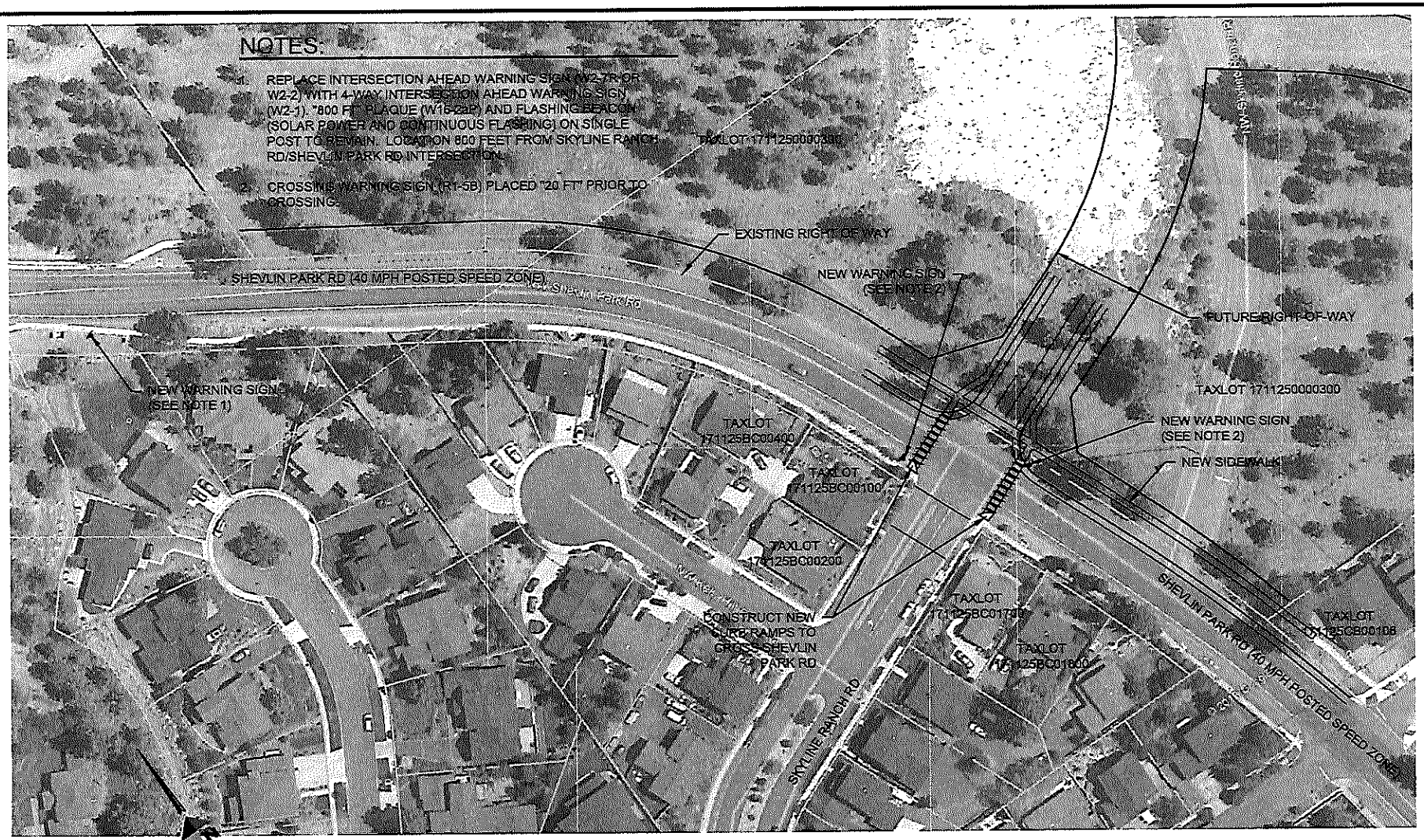
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WWW.DOWL.COM
963 SW Simpson, #280
Bend, Oregon 97702
541-385-4772

INTERIM SAFETY IMPROVEMENT PHASE 1
SKYLINE RANCH / SHEVLIN PARK RD
FOR EXISTING CONDITIONS
BEND, OREGON

PROJECT	14142-01
DATE	7/16/2018

EXHIBIT O-1

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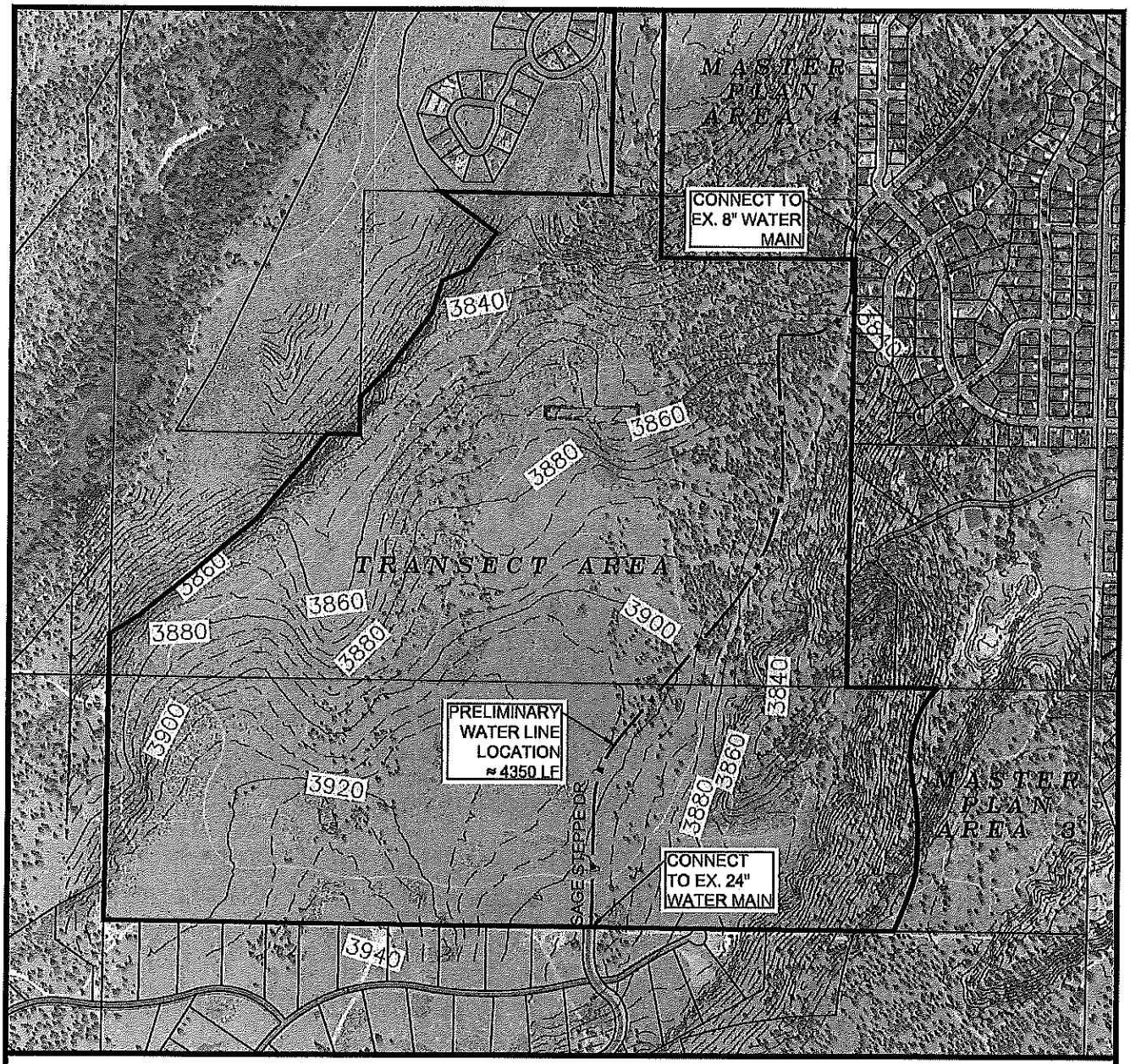
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963 SW Simpson, #200
Bend, Oregon 97702
541-385-4772

INTERIM SAFETY IMPROVEMENT PHASE 2
SKYLINE RANCH / SHEVLIN PARK RD
WITH FUTURE SKYLINE RANCH RD CONSTRUCTED
BEND, OREGON

PROJECT	14142-01
DATE	7/18/2018

EXHIBIT O-2

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N

LEGEND:

TAX ASSESSOR PROPERTY LINE

PROPOSED WATER LINE

TRANSECT AREA

BECON
CIVIL ENGINEERING & LAND SURVEYING

WATER LINE EXHIBIT P

TRANSECT AREA

CITY OF BEND

DATE: 07/18/2018	SCALE: 1" = 800'	DRAWN BY: JLB	PROJ: 13861	SHEET 1 of 1

Exhibit Q

CITY OF BEND ENGINEERING DIVISION
UTILITY AVAILABILITY MEMO – SWA CERTIFICATE
WEST SIDE EXPANSION AREAS

COMMUNITY DEVELOPMENT

Date:	June 18, 2018
Project Site:	West Side and Shevlin UGB Expansion Areas
Contact:	NWX 2, LLC
	541-749-2934

PROJECT PROPOSAL

Six properties on the West Side of the City are proposing to develop. The development areas will be a mixture of Commercial, Industrial, and Residential areas. The development areas are broken down in Figure 1 and 2. Table 1 has the estimations of what will be built in each area.

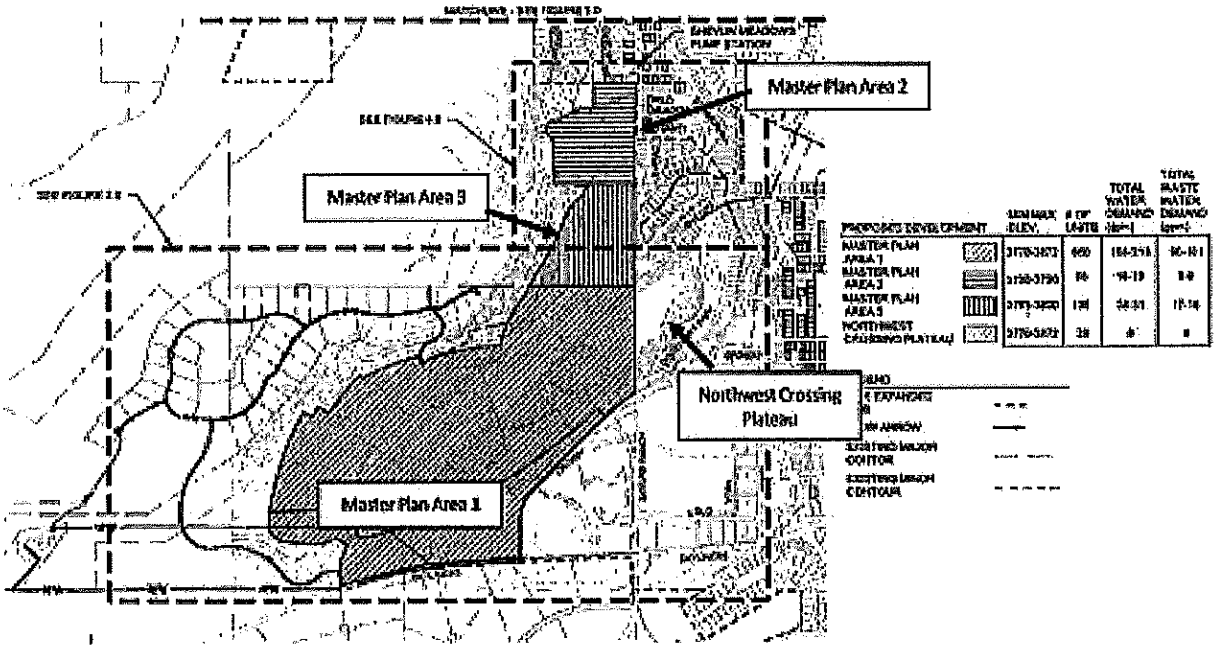


Figure 1: Master Plan areas 1,2,3 and Northwest Crossing Plateau

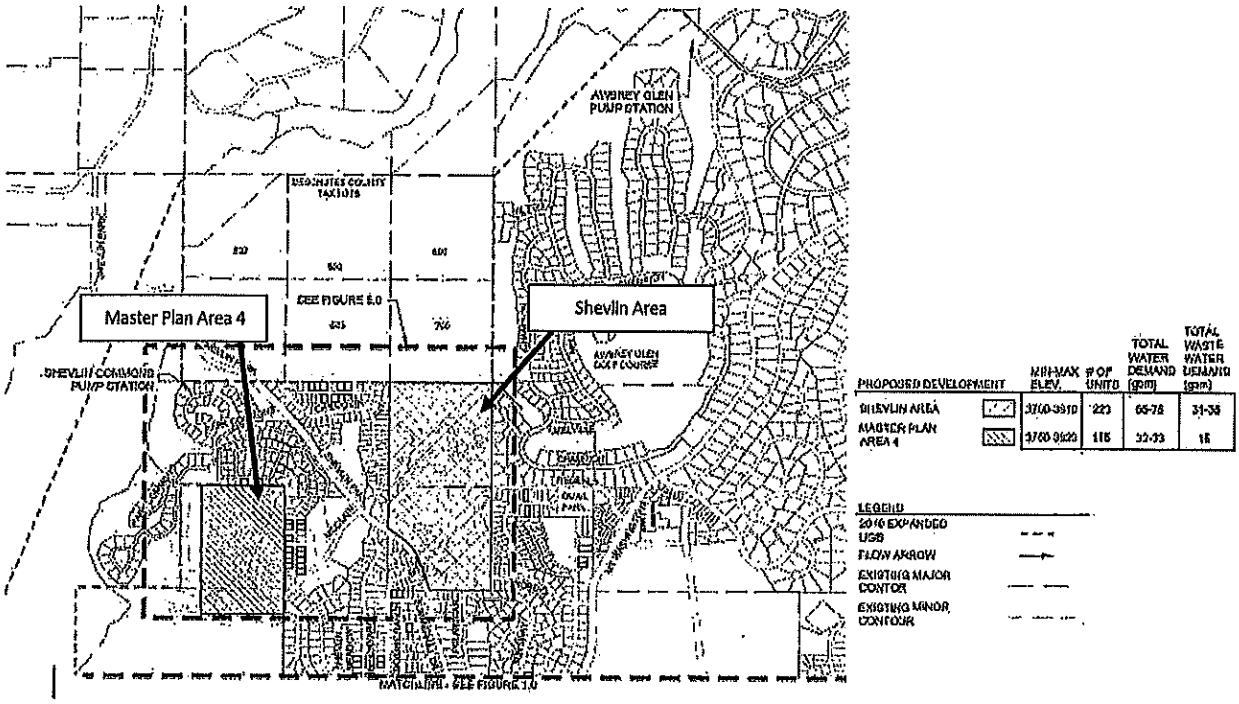


Figure 2: Master Plan Area 4 and Shevlin Area

Table 1: Summary of Proposed Flow Rates:

Master Plan Area	Number of Single Family Dwellings	Mixed Employment/Commercial Acreage	Potential Accessory Dwelling Units and Live/Work Units	Estimated Water Consumption	Estimated Sewer Consumption
Master Plan Area 1	650	21 Acres	90	237 gpm	65 gpm
Master Plan Area 2	65	0	2	18 gpm	6 gpm
Master Plan Area 3	136	0	2	37 gpm	12 gpm
Master Plan Area 4	116	0	3	32 gpm	11 gpm
Shevlin Area (UGB)	200	8 Acres	34	77 gpm	20 gpm

Shevlin Area (within City limits)	23	0	1	6 gpm	2 gpm
NWX Plateau	28	0	1	8 gpm	3 gpm
Total:	**1,218**	**29 Acres**	**133**	**415 gpm**	**119 gpm**

MODELING LOCATIONS

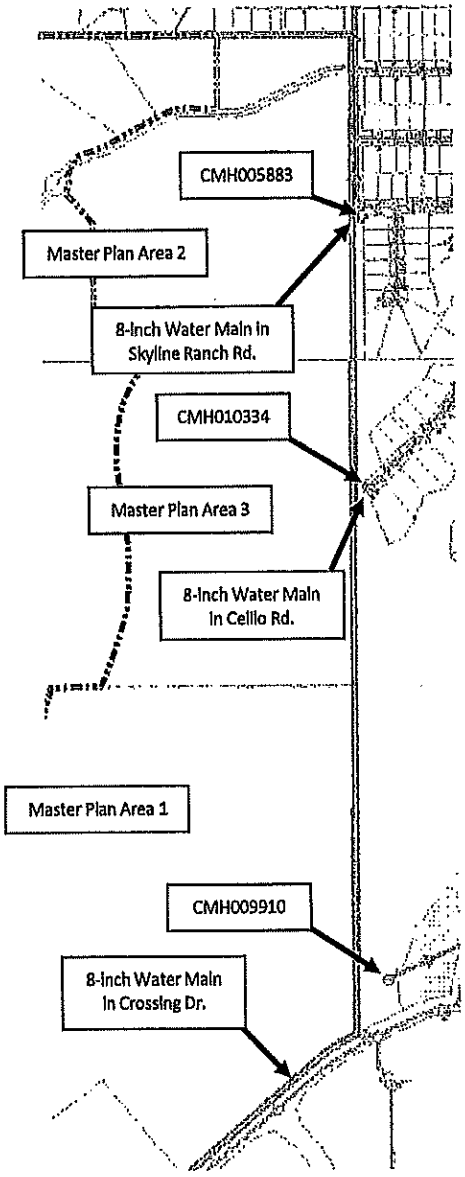


Figure 3: Master Plan Areas 1,2, and 3 Potential Connection Points

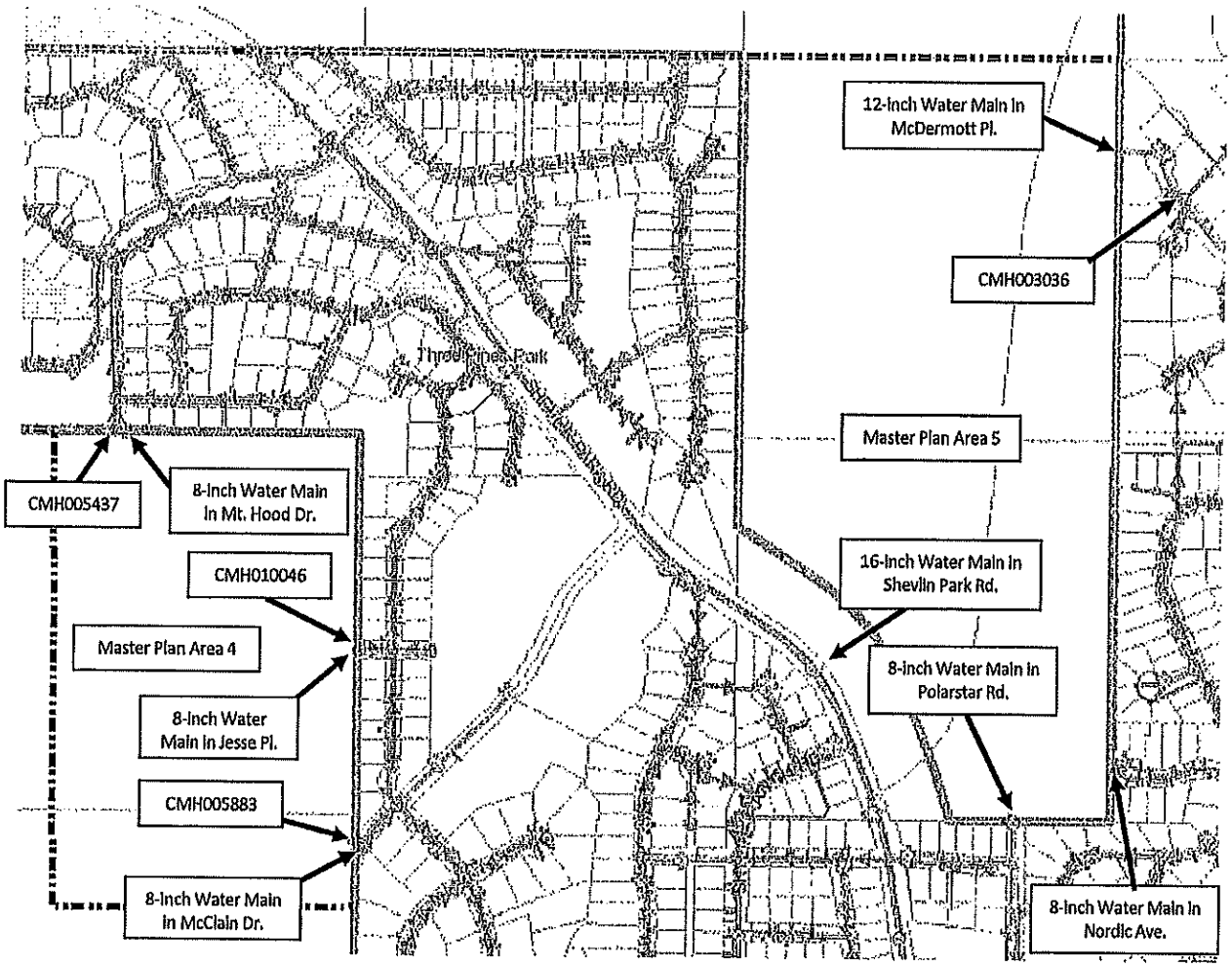


Figure 2: Master Plan Area 4 and Shevlin Area Potential Connection Points

SEWER ANALYSIS

Flow Rate:

119 gpm = 130* gpd (gallons per day) per residential unit and 427* gpapd (gallons per acre per day) for Non-Residential tax lots

*City of Bend Master Plan Rates

Existing Conditions:

- The developments are not served by the City of Bend sewer system

Proposal:

The following scenarios were evaluated:

Proposal 1: The development will extend gravity mains from the manholes listed in Figures 3 and 4.

Results:
The analysis was performed for conduit capacity, manhole freeboard, and lift station capacity. Flow was modeled at the manholes listed in Figures 3 and 4 above. The sewer system does have sufficient capacity for the proposal. For the development to be granted sewer capacity the following mitigations must be completed.

Anticipated Mitigations
Below are the anticipated mitigation requirements for the proposed site development. These points of mitigation can be modified upon the filing and review of the land use application, as there may be components that change or that were discussed in the burden of proof and may not have been brought to the City's attention. The site development is anticipated to have the following mitigation requirements:

Mitigation 1: Sewer services shall be sized by the Engineer of Record; 4-inch minimum sewer service lateral to each lot is required.

Mitigation 2: City of Bend Code allows only one sewer service lateral per tax lot.

Mitigation 3: The development must extend gravity mains that meet City of Bend standards throughout the proposed master plan areas to serve each new tax lot. The sewer mains must be extend within the City of Bend Right of Way when possible. If a gravity main is not located within the Right of Way then a 20 foot sewer easement centered over the main needs to be provided. Final alignments of the sewer mains, size of the mains, and locations of manholes will be finalized with the Infrastructure plans based on final review by City Engineering. All main extensions must be done through a Tier 3 Right of Way (Infrastructure) permit.

Mitigation 4: The development must extended the gravity mains at minimum grade to serve the maximum amount of lots possible. If the topography does not allow for a complete extension of the main to serve the properties with gravity service, the development may extend a pressure main, which meets City of Bend standards, the remainder of the distance.

Mitigation 5: The Shevlin Meadows Lift Station does not currently meet City of Bend Standards and Specifications. Therefore, the Lift Station shall be upgraded to the latest City of Bend Standards and Specifications; including new pumps to serve the basin area and development assumptions for the additional available vacant land within the basin. The upgrade shall also include an analysis of the existing Lift Station to determine the additional equipment (i.e. rails, valving, control panels, generator, fencing, and access) that will be required to bring the station to current City standards. The Engineer of Record shall request a scoping meeting with the City prior to initiating any design work in order to ensure all required elements of the upgrade are determined.

Mitigation 6: The Shevlin Commons Lift Station does not currently meet City of Bend Standards and Specifications. Therefore, the Lift Station shall be upgraded to the latest City of

Bend Standards and Specifications; including new pumps to serve the basin area and development assumptions for the additional available vacant land within the basin. The upgrade shall also include an analysis of the existing Lift Station to determine the additional equipment (i.e. rails, valving, control panels, generator, fencing, and access) that will be required to bring the station to current City standards. The Engineer of Record shall request a scoping meeting with the City prior to initiating any design work in order to ensure all required elements of the upgrade are determined.

Mitigation 7: The Awbrey Glen Lift Station does not currently meet City of Bend Standards and Specifications. Therefore, the Lift Station shall be upgraded to the latest City of Bend Standards and Specifications; including an evaluation of capacity to serve the basin area and development assumptions for the additional available vacant land within the basin. The upgrade shall include an analysis of the existing Lift Station to determine the additional equipment (i.e. rails, valving, control panels, generator, fencing, and access) that will be required to bring the station to current City standards. The Engineer of Record shall request a scoping meeting with the City prior to initiating any design work in order to ensure all required elements of the upgrade are determined.

WATER ANALYSIS

Flow Rate:

Water: 415 gpm = 172* gpcpd (gallons per capita per day) per residential unit and 4000* gpapd (gallons per acre per day) for Non-Residential tax lots

*City of Bend Master Plan Rates

Existing Conditions:

- The development is not currently served by City Water.
- The Master plan areas are bordered by water mains located in Pressure Zone 3 and Pressure Zone 4C.

Proposal:

The following scenarios were evaluated:

Proposal 1: The development will extend water mains from the junctions shown in figures 3 and 4.

Results:
System and fire flow data was modeled at the following junctions. Each junction is located at one of the proposed connection points for the West Side Expansion Areas. No water mains that would be located inside the expansion areas were modeled at this time.

Location	Main Diameter	Elevation (ft)	Est. Static Pressure (psi)	Est. Residual Pressure (psi)	Est. Flow Available
Skyliners Rd. (Jct-307)	36-Inch Ductile Iron (Pressure Zone 3)	3830	67.94	66.28	3,500+ gpm
NW Crossing Dr. and NW Elwood Ln. (Jct-6719)	8-Inch Ductile Iron (Pressure Zone 3)	3818	71.03	40.46	3,500+ gpm
NW Crossing Dr. and NW Elwood Ln. (Jct-6719)	12-inch Ductile Iron (Pressure Zone 3)	3772	90.17	80.04	3,500+ gpm
NW Celilo Ln. (Jct-6719)	8-inch Ductile Iron (Pressure Zone 3)	3798	78.63	20	2,217 gpm
NW Skyline Ranch Rd. and NW Chianti Ln. (Jct-592)	8-inch Ductile Iron (Pressure Zone 4C)	3730	72.19	41.88	3,500+ gpm
NW Brickyard St. and NW Shevlin Meadow Dr. (Jct-656)	8-inch Ductile Iron (Pressure Zone 4C)	3728	73.09	49.09	3,500+ gpm
NW Jesse Pl. and Mt. Thielsen Dr. (Jct-8271)	8-inch Ductile Iron (Pressure Zone 3)	3807	74.16	20	2,165 gpm
Mt Hood Dr. and Mt McLoughlin Ln. (Jct-797)	8-inch Ductile Iron (Pressure Zone 3)	3752	98.42	20	3,406 gpm
Shevlin Park Rd. and NW Skyline Ranch Rd. (Jct-734)	16-inch Ductile Iron (Pressure Zone 3)	3746	101.11	88.58	3,500+ gpm
NW Chardonnay Ln. and NW Polarstar Ave. (Jct-7181)	8-inch Ductile Iron (Pressure Zone 4D)	3775	75.61	20	2,439 gpm
NW Shevlin Bluffs Dr. and NW Imbler Ct. (Jct-7181)	8-inch Ductile Iron (Pressure Zone 3)	3796	79.53	20	2,549 gpm
NW Regency St. (Jct-790)	10-inch Ductile Iron (Pressure Zone 3)	3776	91.13	58.28	3,500+ gpm

Notes:

1. Operational water pressure service rates are between 40 to 90 psi. Less than 40 psi may require a private booster pump. Greater than 90 psi may require a private pressure reducing valve. Both items are required to be shown on a plumbing permit.
2. Maximum water flow rates are estimate at 20 psi residual. Flow rates greater than this should not be used for design or for fire code. Estimates are based on City modeling data and should not be used for detailed designs. The applicant is recommended to perform a hydrant flow test at the site for precise information.

Anticipated Mitigations:

Below are the anticipated mitigation requirements for the proposed site development. These points of mitigation can be modified upon the filing and review of the land use application, as there may be components that change or that were discussed in the burden of proof and may not have been brought to the City's attention. The site development is anticipated to have the following mitigation requirements:

Mitigation 1: Water services shall be sized by the Engineer of Record; 1-inch minimum water service lateral to each lot is required.

Mitigation 2: City of Bend Code allows only one water service lateral per tax lot.

Mitigation 3: The development must extend water mains that meet City of Bend standards throughout the proposed master plan areas to serve each new tax lot. The water mains must be extended within the City of Bend Right of Way when possible. If the water mains is not located within the Right of Way then a 20 foot water easement centered over the main needs to be provided. The development must loop the water mains within the development when possible to reduce the number of dead-end mains within the system. Final alignment of the water mains and the locations of waterline appurtenances locations, such as valves, and fire hydrants will be finalized with the infrastructure plans based on final review by the Fire Marshall and City Engineer. All the water main extensions must be done through a Tier 3 Right of Way (Infrastructure) permit.

Mitigation 4: Each phase of the master plan areas must submit for a revised water analysis prior to approval of the infrastructure plans. Additional mitigations may be required at this time to ensure each phase has sufficient fire flow.

Mitigation 5: The development must construct a Pressure Reducing Valve that meets City of Bend standards whenever two different Pressure Zones are connected.

DURATION OF APPROVAL

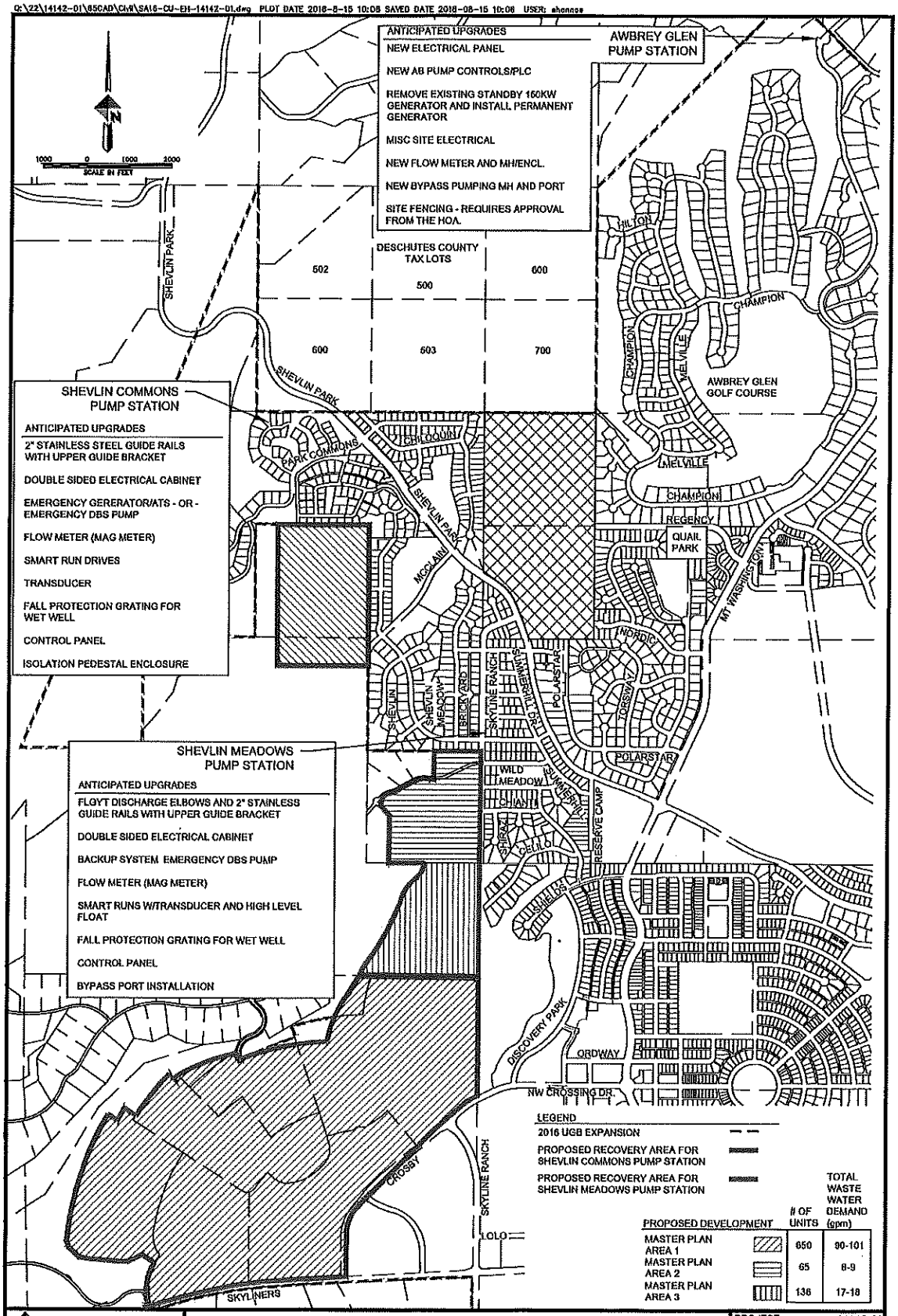
It is the responsibility of the applicant or land owner to verify the size and location of all laterals serving the property(ies).

This approval is valid for six (6) months from date of signature. If a land use application is not submitted within 6 months of the date of signature, this approval shall be considered void.

WRITTEN BY: Evan Malone, Associate Engineer
emalone@bendoregon.gov
(541) 388-5525

APPROVED BY: _____ DATE: 7/23/18
Ryan Oster, PE, PMP, City Engineer

G:\22\14142-01\85CAD\Civil\SA15-CU-EH-14142-01.dwg PLOT DATE 2018-8-15 10:08 SAVED DATE 2018-08-15 10:08 USER: shannon



DOWL
WWW.DOWL.COM
963 SW Simpson, #200
Bend, Oregon 97702
541-385-4772

CITY SANITARY SEWER PUMP STATIONS

PROJECT 14142.01
DATE 08/15/2018

EXHIBIT R

Deschutes County Official Records 2020-11217
Nancy Blankenship, County Clerk

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03/12/2020 09:51 AM

D-ANXCON Cnt=1 Stn=2 AS
$315.00 $11.00 $61.00 $10.00 $6.00

$403.00

After recording, return to:
City of Bend
Attn: Colin Stephens, CDD
710 NW Wall St.
Bend, OR 97703

PETROSA ANNEXATION AGREEMENT

This Annexation Agreement ("Agreement") is made this 9th day of ~~February~~ March, 2020 between the City of Bend ("City") and Pahlisch Homes, Inc. and the owners identified on Exhibit A (collectively, the "Owners"), who are the owners of record of the property described in Exhibit B and shown on Exhibit C ("Property).

The purposes of this Agreement are:

1. to memorialize the agreement between the parties to annex the Property into the City;

2. to assign responsibilities among the parties for performance of certain requirements to develop the Property;

3. to memorialize the Agreement among the parties on the allocation of financial responsibility for the public facilities and services that are necessary to serve the Property; and

4. to guarantee the City's requirements for the provision of urban services to the Property.

RECITALS

A. Owners intend to develop the Property pursuant to the Bend Comprehensive Plan (the "BCP"), the Bend Development Code (the "BDC") and a City-approved Major Master Plan. The Property is within the City's Urban Growth Boundary (UGB) and is contiguous to the city limits at Deschutes Market Road and NE Butler Market Road. Therefore, the Property is eligible for annexation subject to BDC Chapter 4.9.

B. Owners intend to develop the residential components of the Property with a mix of single family and multi-family housing as required by BCP Policies 11-56 to 11-63. Based on the lot size, configuration and layout of the proposed development as well as current construction costs, Owners and the City anticipate that approximately 65% of the non-high density residential units will be offered for sale at or near Bend's median home price at the time of sale. This Agreement is predicated in part on an understanding between the City and Owners that Owners' anticipated development of the Property will provide a complete neighborhood with a substantial amount of the proposed housing at or near the median home price, addressing a critical need in the City's housing supply.

C. The Property consists of approximately 177 acres located in the Northeast Edge Expansion Area that is subject to the requirements and limitations of the BCP Specific Expansion Area Policies 11-56 through 11-63, including the requirement that

development is subject to a major community master plan approval under BDC Chapter 4.5.

D. The Property is currently zoned Urbanizable Area ("UA") and is designated Residential Standard ("RS"), Residential Medium Density ("RM"), Residential High Density ("RH") and General Commercial ("GC") on the BCP Map pursuant to Policies 11-58 and 11-59 of the Bend Comprehensive Plan.

E. On July 12, 2019, Owners submitted a request to the City for approval of a Major Community Master Plan (City File No. PZ 19-0515) ("Petrosa Master Plan"). Development of the Property consistent with the Petrosa Master Plan is sometimes referred to as the "Petrosa Project."

F. On January 15, 2020, Owners submitted a request to the City to annex the Property to the City (City File No. PZ 20-0005).

G. Annexation of the Property requires Owners to prove that all criteria under BDC 4.9.600 are met.

H. In order to meet the BDC 4.9.600 criteria and to satisfy the City's conditions for an affirmative decision to annex the Property, and in exchange for the obligations of the City set forth in Section 2 of this Agreement, Owners agree to comply with all requirements imposed in this Agreement and all other City codes, regulations, and standards applicable to the Property, including the Petrosa Master Plan. This Agreement is consistent with and intended to implement the BCP Specific Expansion Area Policies 11-56 through 11-63 and other applicable policies of the BCP.

I. Owners have expressed interest in potential amendments to certain sections of the City's Municipal Code and Development Code, including BC 2.20, BC 12.10, and BDC 4.7, for the purpose of providing improved tools for infrastructure financing. The Municipal Code and Development Code provide for discretionary processes to request legislative changes at BC 1.10.030 and BDC 4.1.520, respectively. The City and Owners recognize that Owners or another party may choose to request legislative changes under those processes, but that the City has discretion in whether and how to process those requests.

AGREEMENT

Based upon the Recitals, which are incorporated as part of this Agreement, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the parties, the parties agree as follows:

1. **Obligations of Owners**. Consistent with the above Recitals, Owner agrees to perform the obligations of this Agreement and comply with and meet all City codes, standards, and regulations, including the Petrosa Master Plan. All exhibits attached are conceptual and nothing in this Agreement prohibits refinements to meet City standards as part of the required development applications.

2. **Master Plan Approval**. Owner will seek approval of a Major Community Master Plan under BDC Chapter 4.5 for the Petrosa Master Plan concurrent with approval of

this Annexation Agreement. This Agreement will become effective upon authorized signatures of all parties, approval of the Petrosa Master Plan by the City Council, and expiration of all applicable appeal periods or when the City's approval of the Master Plan is otherwise final.

3. **Water**. In order to serve the Property consistent with BCP Specific Expansion Area Policies 11-56 through 11-63 and other applicable policies of the BCP and the BDC, the water system improvements identified on Exhibit D must be constructed by Owners pursuant to the phasing and development schedule set forth in the Petrosa Master Plan. The property is in the Avion service territory and will be served by Avion water.

4. **Sewer**. In order to serve the Property consistent with BCP Specific Expansion Area Policies 11-56 through 11-63 and other applicable policies of the BCP and the BDC, the wastewater collection system improvements identified on Exhibit E must be constructed pursuant to the phasing and development schedule set forth in the Petrosa Master Plan.

4.1 **Wastewater System SDC Credits**. Owners and the City acknowledge that Owners are required to construct certain wastewater collection infrastructure as more particularly set forth in the Petrosa Master Plan. As of the Effective Date none of the wastewater collection infrastructure is included on any SDC Project List or adopted Capital Improvement Program ("CIP") and are therefore currently not eligible for SDC Credits under Bend Code ("BC") 12.10.130. If any of the wastewater collection infrastructure required under this Agreement and the Petrosa Master Plan are later included on any SDC Project List or CIP, Owners will be permitted to apply for SDC Credits under BC 12.10.130 for any such improvements, subject at all times to the requirements of BC Chapter 12.10 in effect at the time of application.

4.2 **Wastewater System Reimbursement District**. Owners and the City acknowledge that Owners will be required to construct certain wastewater collection infrastructure as more particularly set forth in the Petrosa Master Plan. As of the Effective Date none of the wastewater collection infrastructure is included on any SDC Project List or adopted Capital Improvement Program ("CIP") and are therefore currently not eligible for SDC Credits under Bend Code ("BC") 12.10.130. Owners have expressed interest in seeking to form a reimbursement district under BC Chapter 2.20 to permit Owners to obtain reimbursement from benefitting property owners for the costs associated with wastewater collection infrastructure.

5. **Transportation**. In order to serve the Property consistent with BCP Specific Expansion Area Policies 11-56 through 11-63 and other applicable policies of the BCP and the BDC, together with the Transportation Planning Rule (OAR 660-012-0060) the transportation system improvements identified on Exhibit F-1(A-U) must be constructed by Owners pursuant to the phasing and development schedule set forth in the Petrosa Master Plan (the "SDC Projects"). In addition to the SDC Projects, the Petrosa Master Plan identifies additional on- and off-site transportation projects which are necessary to serve the Property (the "Non-SDC Projects"). Owners are required to construct the Non-SDC Projects pursuant to the phasing and development schedule set forth in the Petrosa Master Plan.

5.1 **Transportation SDC Project List**. The City will consider an amendment to the transportation system SDC Project List to include the SDC Projects, together with the estimated cost of such improvements and the percentage of such cost eligible to be funded with improvement fee revenues, as set forth on Exhibit F-2.

5.2 **Transportation System SDC Credits**. Pursuant to BDC 12.10.130(C), the transportation system improvements identified on Exhibit F-2 will be eligible for SDC credits in the percentages set forth on Exhibit F-2, to the extent the improvements are on the adopted Transportation SDC Project List. Owners and the City acknowledge that Owners are required to construct the Non-SDC Projects. As of the Effective Date the Non-SDC Projects are not included on any SDC Project List or adopted CIP. If any of the Non-SDC Projects are later included on any SDC Project List or CIP, Owners will be permitted to seek SDC Credits under BC 12.10.130 for any such improvements, subject at all times to the requirements of BC Chapter 12.10 then in effect.

5.3 **Transportation System Reimbursement District**. Owners have expressed interest in seeking to form a reimbursement district under BC Chapter 2.20 to permit Owners to obtain reimbursement from benefitting property owners for the costs associated with a portion of the Non-SDC Projects. While the City acknowledges that a reimbursement district might be an appropriate tool for a party to recoup costs associated with infrastructure investments which benefit geographic areas beyond master plan areas, current City code does not specifically address the use of reimbursement districts in UGB expansion areas.

5.4 **Transportation Planning Rule Compliance**. The Parties acknowledge that (i) the construction of the SDC Projects and the Non-SDC Projects will benefit multiple transportation modes and provide improvements to locations other than the affected facilities; and (ii) the system-wide benefits are sufficient to balance the significant effects identified in the Annexation Transportation Impact Analysis (TIA), even though the improvements will not result in consistency for all performance standards. . Attached as Exhibit G are written statements of approval from the Oregon Department of Transportation ("ODOT") and Deschutes County pursuant to OAR 660-012-0060(2)(e) acknowledging compliance with the Transportation Planning Rule, OAR 660-012-0060.

5.4.1 Owner will mitigate the impacts of the Petrosa Master Plan development on state transportation facilities through the payments set forth in the November 23, 2019 Traffic Analysis Memo – TFR Review and the November 13, 2019 letter from ODOT to the City attached as Exhibit H and incorporated within this Agreement.

5.5 **Dedication of Right of Way**. Owners agree to dedicate sufficient right of way under Owners' control to the City to accommodate the transportation improvements described above, and to meet the minimum right of way widths required by BDC Chapter 3.4 and or the Petrosa Master Plan.

6. **Stormwater.** Unless otherwise approved and consistent with the Petrosa Master Plan, Owner will hold all stormwater on site and develop the Property consistent with all City requirements. Owners will complete all on-site stormwater requirements as

required by the Petrosa Master Plan approval and all subsequent development applications (e.g., site plan review, subdivision).

7. **Median Sales Price.** The parties acknowledge that the Petrosa Master Plan includes design features, including lot size, setbacks and density which directly affect lot value and the associated initial sale price of dwelling units. As of the effective date of this Agreement, and based on current construction costs and the current median home price in Bend of $440,900.00, Owners anticipate that approximately sixty-five percent (65%) of the single-family dwellings, including, detached single-family dwellings and townhomes, constructed will be offered for initial sale at or below the current Bend median home price. Owners' housing designs, as well as lot layout, density and size are intended to meet both the City's and Owners' desire to provide housing units at or near the current median home price in Bend. Owner agrees to use reasonable efforts to ensure that at least sixty-five percent of the single-family dwellings, including, detached single-family dwellings and townhomes, will be offered for initial sale at or below the current Bend median home price of $440,900.00. The parties acknowledge that construction cost increases, changes to Bend's median home price and other external factors may increase or decrease the median home price and affect Owners' ability to meet the housing price target set forth in this Section 7. In no event shall the inability of Owners to meet the housing price target under this Section 7.1 be deemed a default under this Agreement. On or before January 31 of each year during buildout of the Petrosa Master Plan, Owner will provide the City with a summary of the number of units sold during the prior calendar year, as well as the sales price of such units, together with any additional pricing information deemed relevant by Owners in Owners' sole discretion.

8. **Obligations of the City**. Consistent with the above recitals, the City agrees to:

8.1 Process the application for annexing the Property into the City Limits.

8.2 Conduct a timely review of and issue a decision on the Petrosa Master Plan applications.

8.3 The City acknowledges that the value of the right-of-way to be dedicated by Owner exceeds the value of right-of-way to be vacated in connection with NE Cole Road. Accordingly, the City does not anticipate recommending that payment will be required as a condition of any future vacation in connection with NE Cole Road. This expectation does not extend to normally applicable application and processing fees, utility relocation costs, or other costs that will be the responsibility of Owners or third parties, all of which will be allocated in the normal fashion.

8.4 Owner acknowledges that the City cannot prospectively agree to any specific outcomes.

9. **Covenants Running with the Land**. It is the intention of the parties that the terms and obligations of this Agreement are necessary for the annexation and development of the Property and as such will run with the Property and will be binding upon the heirs, executors, assigns, administrators, and successors of the parties and are construed to be a benefit and burden upon the Property. This Agreement must be

recorded with the Deschutes County Recorder upon execution. Execution and recording of this agreement are preconditions to the annexation of the Property into the City. These covenants will expire for each portion of the Property upon recording of a final plat for that portion of the Property under the Petrosa Master Plan. The parties will execute and record any document necessary to release such covenants at the time of recording of the final plat.

10. **Limitations on Development**. Upon annexation Owners agree that no portion of the Property may be developed prior to the City's final approval of the Petrosa Master Plan. Development of the Property under the Petrosa Master Plan will be subject to additional land use and permit approval as provided in the BDC.

11. **Mutual Cooperation**. The City and Owner will endeavor to cooperate with each other in implementing the terms of this Agreement.

12. **Modification of Agreement**. This Agreement may be modified only in writing upon mutual agreement of all parties. This Agreement may not be modified such that urban facilities and services are not provided in a timely manner to the Property.

13. **Land Use Approval**. Except as set forth in Section 13 below, nothing in this Agreement is to be construed as waiving any requirements of the Bend Code, Bend Development Code or Bend Comprehensive Plan provisions which may be applicable to the use and development of the Property. Nothing in this Agreement is to be construed as the City providing or agreeing to provide approval of any building, land use, or other development application or grading permit application.

14. **Exactions**. Owners know and understand its rights under *Dolan v. City of Tigard* and its progeny. By entering into this Agreement, Owners waive any requirement that the City demonstrate that the public improvements and other obligations imposed on Owners in this Agreement or the Petrosal Master Plan are roughly proportional to the burden and demands placed upon the urban facilities and services by the development of the Property. Owners acknowledge that the requirements and obligations of Owners, including but not limited to the required public improvements, are roughly proportional to the burden and demands on urban facilities and services that will result from development of the Property.

15. **Invalidity**. If any provision of this Agreement is deemed unenforceable or invalid, such enforceability or invalidity will not affect the enforceability or validity of any other provision of this Agreement.

16. **State Law**. The validity, meaning, enforceability and effect of this Agreement and the rights and liabilities of the parties shall be determined in accordance with the laws of the State of Oregon.

17. **Effective Date**. This Agreement will become effective upon authorized signatures by all parties, approval of the Petrosa Master Plan by the City Council, and expiration of all applicable appeal periods or when the City's approval of the Master Plan is otherwise final.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

OWNERS:

Dennis L. Pahlisch, President
Pahlisch Homes, Inc.

STATE OF OREGON)
)
County of Deschutes)

This instrument was acknowledged before me on ~~February~~ March 9th, 2020, by Dennis L. Pahlisch, President of Pahlisch Homes, Inc.

OFFICIAL STAMP
EMILY JEAN RILEY
NOTARY PUBLIC-OREGON
COMMISSION NO. 976956
MY COMMISSION EXPIRES JULY 15, 2022

Notary Public for Oregon

CITY OF BEND

Eric King, City Manager

STATE OF OREGON)
)
County of Deschutes)

This instrument was acknowledged before me on February 27, 2020, by Eric King as City Manager of the City of Bend.

OFFICIAL STAMP
LINDA SUSAN MUNSON
NOTARY PUBLIC-OREGON
COMMISSION NO. 957777
MY COMMISSION EXPIRES JANUARY 02, 2021

Notary Public for Oregon

EXHIBIT A

OWNERS

Authorized Member
Pahlisch Homes at Petrosa, LP

STATE OF OREGON)
)
County of Deschutes)

This instrument was acknowledged before me on ~~February~~ March 9th, 2020, by Dennis Pahlisch, as an authorized member of Pahlisch Homes at Petrosa. LP.

OFFICIAL STAMP
EMILY JEAN RILEY
NOTARY PUBLIC-OREGON
COMMISSION NO. 976956
MY COMMISSION EXPIRES JULY 15, 2022

Notary Public for Oregon

Dennis L. Pahlisch, Member
Jeremiah 29:11, LLC

STATE OF OREGON)
)
County of Deschutes)

This instrument was acknowledged before me on ~~February~~ March 9th, 2020, by Dennis L. Pahlisch, Member of Jeremiah 29:11 LLC.

OFFICIAL STAMP
EMILY JEAN RILEY
NOTARY PUBLIC-OREGON
COMMISSION NO. 976956
MY COMMISSION EXPIRES JULY 15, 2022

Notary Public for Oregon

David D. Suchy, Member
21460-D, LLC

STATE OF OREGON)
)
County of Deschutes)

This instrument was acknowledged before me on ~~February~~ March 9th, 2020, by David D. Suchy as a member of 21460-D, LLC.



Notary Public for Oregon

David C. Nipper,
Trustee of the Danny Allen Nipper Trust

STATE OF OREGON)
)
County of Deschutes)

This instrument was acknowledged before me on ~~February~~ March 4th, 2020, by David C. Nipper as the Trustee of the Danny Allen Nipper Trust.



Notary Public for Oregon

David C. Nipper

STATE OF OREGON)
)
County of Deschutes)

This instrument was acknowledged before me on ~~February~~ March 4th, 2020, by David C. Nipper.



Notary Public for Oregon

Tammy M. Nipper

STATE OF OREGON)
)
County of Deschutes)

This instrument was acknowledged before me on ~~February~~ March 4th, 2020, by Tammy M. Nipper.



Notary Public for Oregon

AKS ENGINEERING & FORESTRY, LLC
12965 SW Herman Road, Suite 100, Tualatin, OR 97062
P: (503) 563-6151 | www.aks-eng.com
AKS Job #6777
ENGINEERING & FORESTRY
OFFICES IN: BEND, OR - KEIZER, OR - TUALATIN, OR - VANCOUVER, WA

EXHIBIT B

City of Bend Annexation

A tract of land and road rights-of-way located in the Southwest One-Quarter of Section 13, the Southwest One-Quarter and the Southeast One-Quarter of Section 14, the Northwest One-Quarter, the Northeast One-Quarter, and the Southeast One-Quarter of Section 23, and the Northwest One-Quarter of Section 24, Township 17 South, Range 12 East, Willamette Meridian, Deschutes County, Oregon, and being more particularly described as follows:

Beginning at the North One-Quarter corner of said Section 23; thence North 00°03'13" West 20.00 feet to the northerly right-of-way line of Yeoman Road (20.00 feet from centerline) and the True Point of Beginning; thence along said northerly right-of-way line, South 89°58'58" East 30.04 feet to the easterly right-of-way line of Cole Road (30.00 feet from centerline); thence along said easterly right-of-way line, South 00°03'42" West 20.01 feet to the northerly line of Section 23; thence along said northerly line and the easterly extension thereof, South 89°57'25" East 2668.18 feet to the northerly extension of the easterly right-of-way line of Butler Market Road (30.00 feet from centerline); thence along said northerly extension and said easterly right-of-way line, South 00°07'02" East 500.00 feet to the easterly extension of the south line of Document Number 2019-40244; thence along said easterly extension and the south line of said Deed, North 89°57'17" West 963.73 feet to the east line of Document Number 99-54982; thence along said east line, South 00°10'34" West 820.88 feet to the southeast corner thereof; thence along the south line of said Deed, North 89°59'50" West 162.91 feet to the east line of Document Number 2019-12625; thence along said east line and the southerly extension thereof, South 00°02'35" West 1362.39 feet to the south right-of-way line of Butler Market Road (40.00 feet south of the east-west centerline of said Section 23); thence along said south right-of-way line, South 89°53'31" West 1539.87 feet to the east right-of-way line of Eagle Road (30.00 feet from centerline) and the Bend city limits line; thence along the northerly extension of said east right-of-way line and said city limits line, North 00°03'06" East 68.59 feet to the north right-of-way line of Butler Market Road (30.00 feet from centerline); thence along said north right-of-way line and continuing along said city limits line, South 89°46'53" West 1,075.74 feet; thence continuing along said city limits line on a curve to the left with a Radius of 1,175.92 feet, Delta of 11°37'28", Length of 238.58 feet, and Chord of South 83°58'09" West 238.17 feet to a line parallel with and 30.00 feet easterly of the centerline of Deschutes Market Road; thence along said parallel line and continuing along said city limits line, North 07°29'34" West 20.57 feet; thence continuing along said parallel line and said city limits line on a curve to the right with a Radius of 262.69 feet, Delta of 7°27'04", Length of 34.16 feet, and Chord of North 03°46'02" West 34.14 feet; thence North 00°02'30" West 377.58 feet; thence along a curve to the right with Radius 45,014.47 feet, Delta of 00°14'55", Length of 195.23 feet, and Chord of North 00°04'57" East 195.23 feet to the southerly line of Document Number 2012-8162; thence leaving said parallel line and said city limits line along said southerly line, North 89°53'31" East 738.03 feet to the westerly line of Document Number 2019-9588; thence along said westerly line, North 00°03'42" East 162.18 feet to the southerly line of Document Number 2018-32237; thence along said southerly line, South 89°53'31" West 573.34 feet to the westerly line of said Deed; thence

along said westerly line, North 00°18'30" West 103.59 feet to the westerly south line of said Deed; thence along said westerly south line, South 87°36'30" West 152.23 feet to the easterly right-of-way line of North Unit Main Canal; thence along said easterly right-of-way line, North 74°12'02" East 194.78 feet; thence continuing along said easterly right-of-way line on a curve to the left with Radius 356.50 feet, Delta 75°00'38", Length of 466.72 feet, and Chord of North 36°41'43" East 434.10 feet; thence North 00°48'58" West 35.25 feet to the south line of the Northeast One-Quarter of the Northwest One-Quarter of said Section 23; thence along said south line, South 89°57'41" West 160.01 feet to the westerly right-of-way line of North Unit Main Canal; thence along said westerly right-of-way line, North 00°48'58" West 319.13 feet to the south line of Document Number 2018-31353; thence along said south line, North 89°38'33" West 289.89 feet to the east right-of-way line of Deschutes Market Road (30.00 feet from centerline) and said city limits line; thence along said east right-of-way line and said city limits line, North 00°13'50" East 28.51 feet to the easterly extension of the south line of Parcel 1 of Partition Plat Number 2007-074; thence along said easterly extension and continuing along said city limits line, North 89°38'33" West 60.00 feet to the west right-of-way line of Deschutes Market Road (30.00 feet from centerline); thence leaving said city limits line and along said west right-of-way line, North 00°13'50" East 27.80 feet; thence continuing along said west right-of-way line on a curve to the left with a Radius of 127,016.62 feet, Delta of 00°15'20", Length of 566.53 feet, and Chord of North 00°06'10" East 566.53 feet; thence continuing along said west right-of-way line and the northerly extension thereof, North 00°01'30" West 421.02 feet to a line parallel with and 40.00 feet northerly of the north line of said Section 23; thence along said parallel line, South 89°58'58" East 1345.14 feet to the True Point of Beginning.

The above described tract of land contains 183 acres, more or less.

01/29/2020

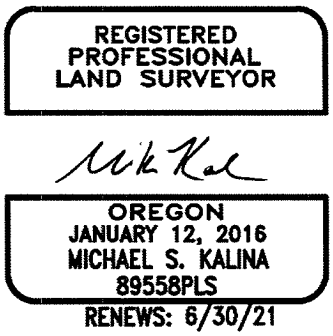
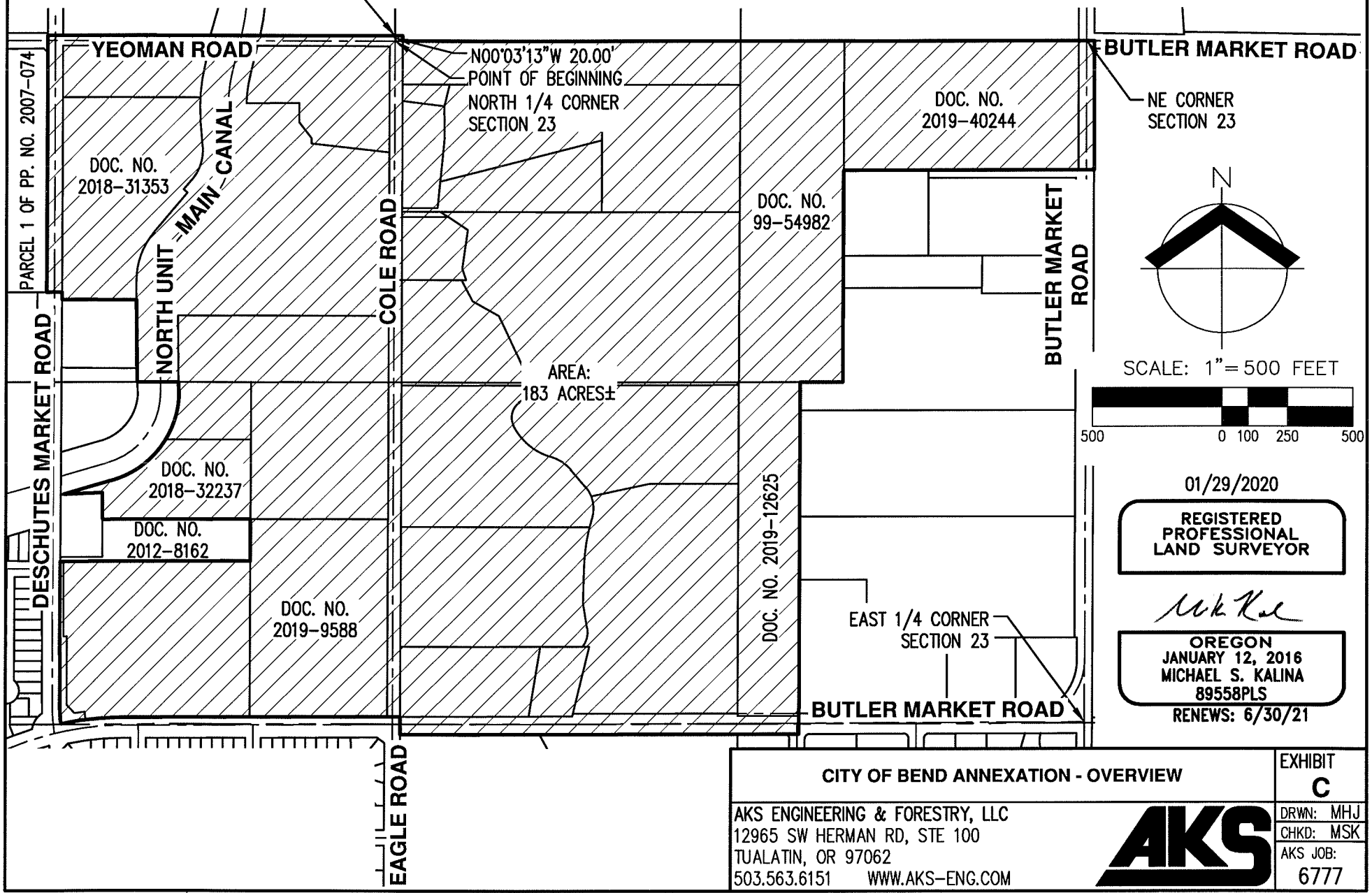


EXHIBIT C

A TRACT OF LAND AND ROAD RIGHTS-OF-WAY LOCATED IN THE SW 1/4 OF SEC. 13, THE SW AND SE 1/4 OF SEC. 14, THE NW, NE, AND SE 1/4 OF SEC. 23, AND THE NW 1/4 OF SEC. 24, T17S, R12E, W.M., DESCHUTES COUNTY, OREGON



01/29/2020

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JANUARY 12, 2016
MICHAEL S. KALINA
89558PLS
RENEWS: 6/30/21

CITY OF BEND ANNEXATION - OVERVIEW

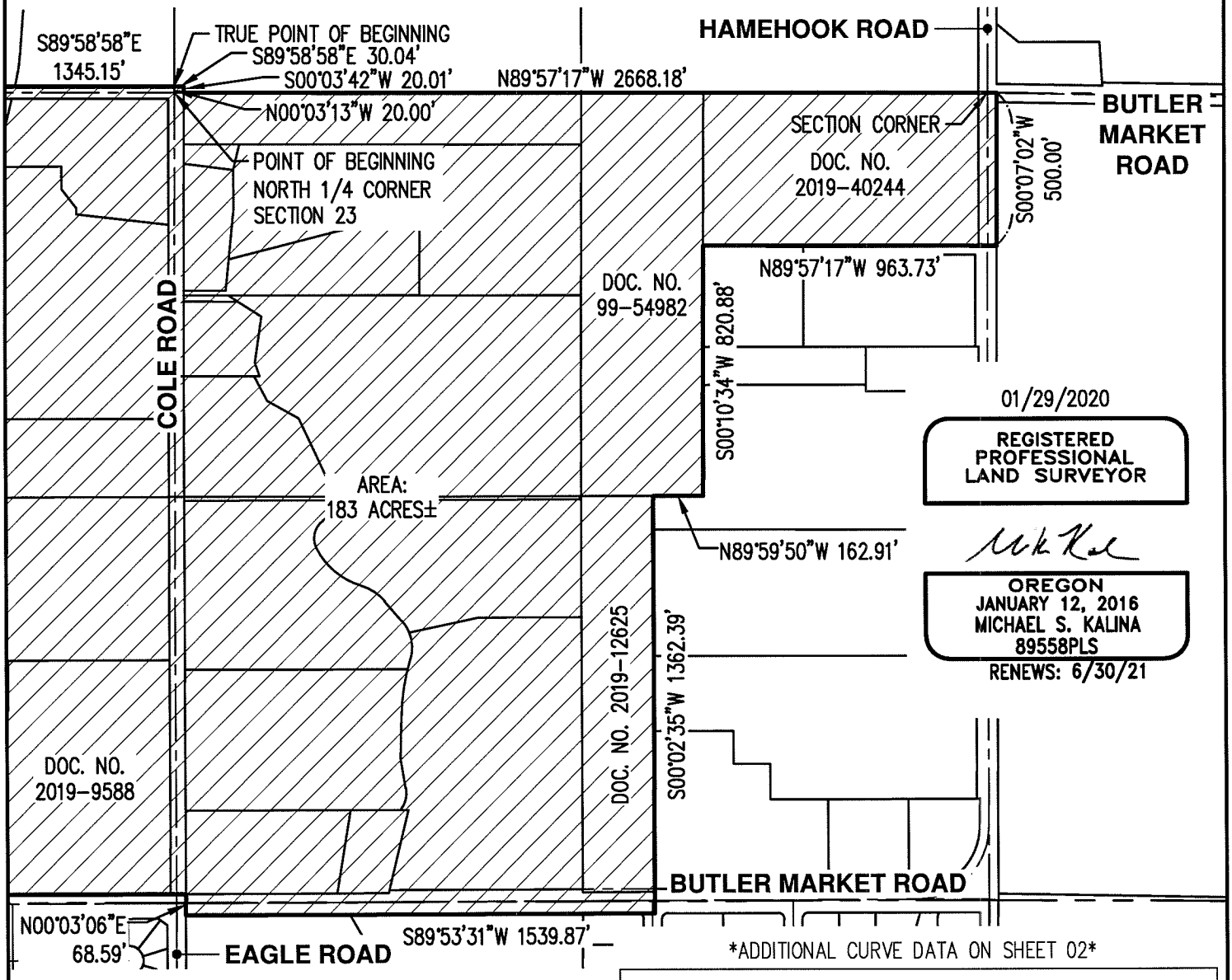
EXHIBIT C

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM

DRWN: MHJ
CHKD: MSK
AKS JOB: 6777

EXHIBIT C

A TRACT OF LAND AND ROAD RIGHTS-OF-WAY LOCATED IN THE SW 1/4 OF SEC. 13, THE SW AND SE 1/4 OF SEC. 14, THE NW, NE, AND SE 1/4 OF SEC. 23, AND THE NW 1/4 OF SEC. 24, T17S, R12E, W.M., DESCHUTES COUNTY, OREGON



01/29/2020

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JANUARY 12, 2016
MICHAEL S. KALINA
89558PLS
RENEWS: 6/30/21

ADDITIONAL CURVE DATA ON SHEET 02

CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	CHORD
C1	1175.92'	11°37'28"	238.58'	S83°58'09"W 238.17'
C2	262.69'	7°27'04"	34.16'	N3°46'02"W 34.14'
C3	45014.47'	0°14'55"	195.23'	N0°04'57"E 195.23'

N

SCALE: 1"= 500 FEET

500 0 100 250 500

CITY OF BEND ANNEXATION - 02

EXHIBIT C

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM

DRWN: MHJ
CHKD: MSK
AKS JOB: 6777

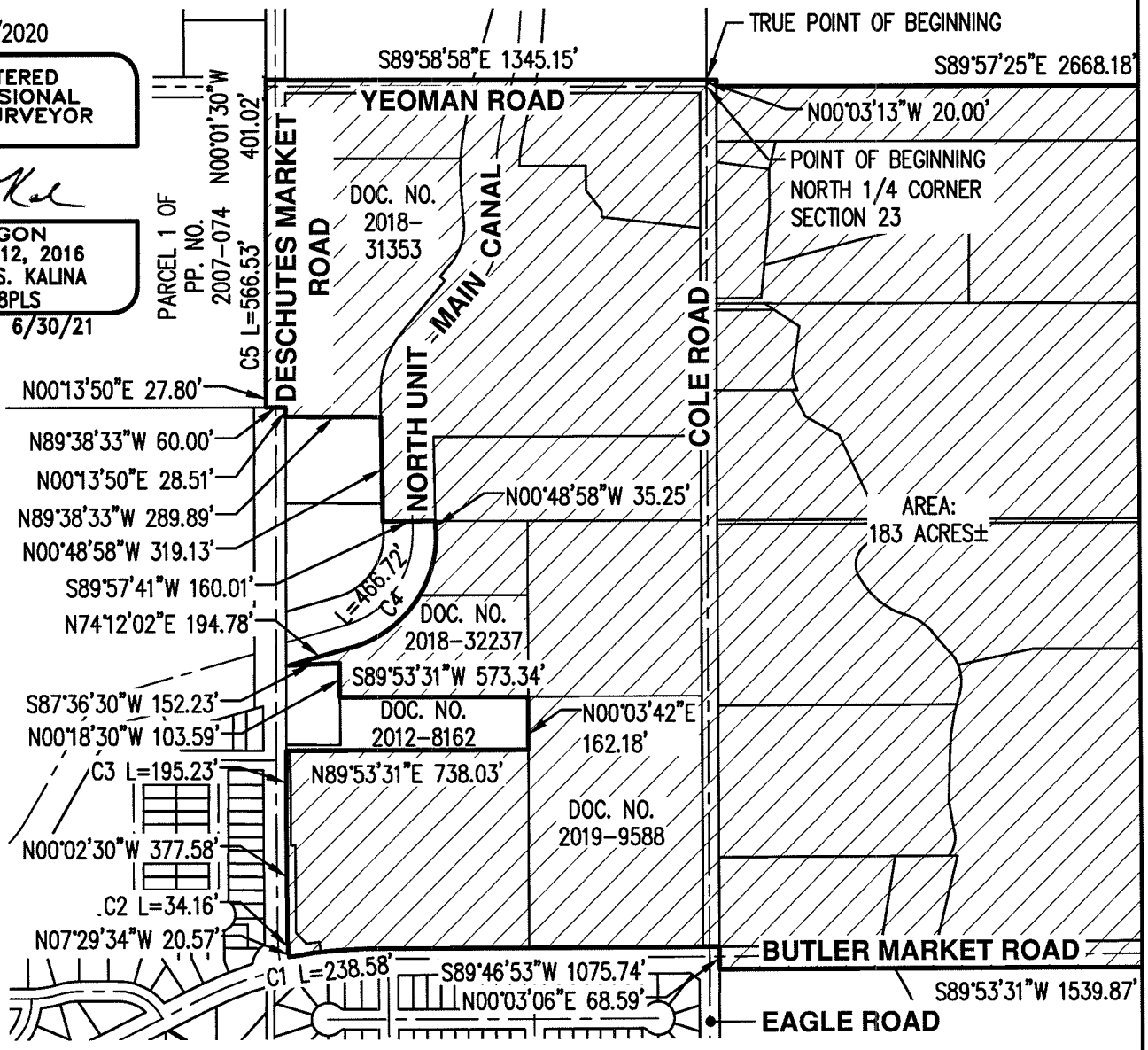
EXHIBIT C

A TRACT OF LAND AND ROAD RIGHTS-OF-WAY LOCATED IN THE SW 1/4 OF SEC. 13, THE SW AND SE 1/4 OF SEC. 14, THE NW, NE, AND SE 1/4 OF SEC. 23, AND THE NW 1/4 OF SEC. 24, T17S, R12E, W.M., DESCHUTES COUNTY, OREGON

1/29/2020

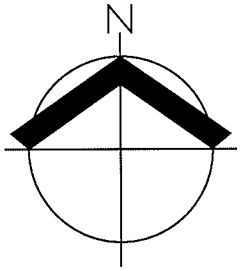
REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JANUARY 12, 2016
MICHAEL S. KALINA
89558PLS
RENEWS: 6/30/21



ADDITIONAL CURVE DATA ON SHEET 01

CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	CHORD
C4	356.50'	75°00'38"	466.72'	N36°41'43"E 434.10'
C5	127016.62'	0°15'20"	566.53'	N0°06'10"E 566.53'



SCALE: 1"= 500 FEET

500 0 100 250 500

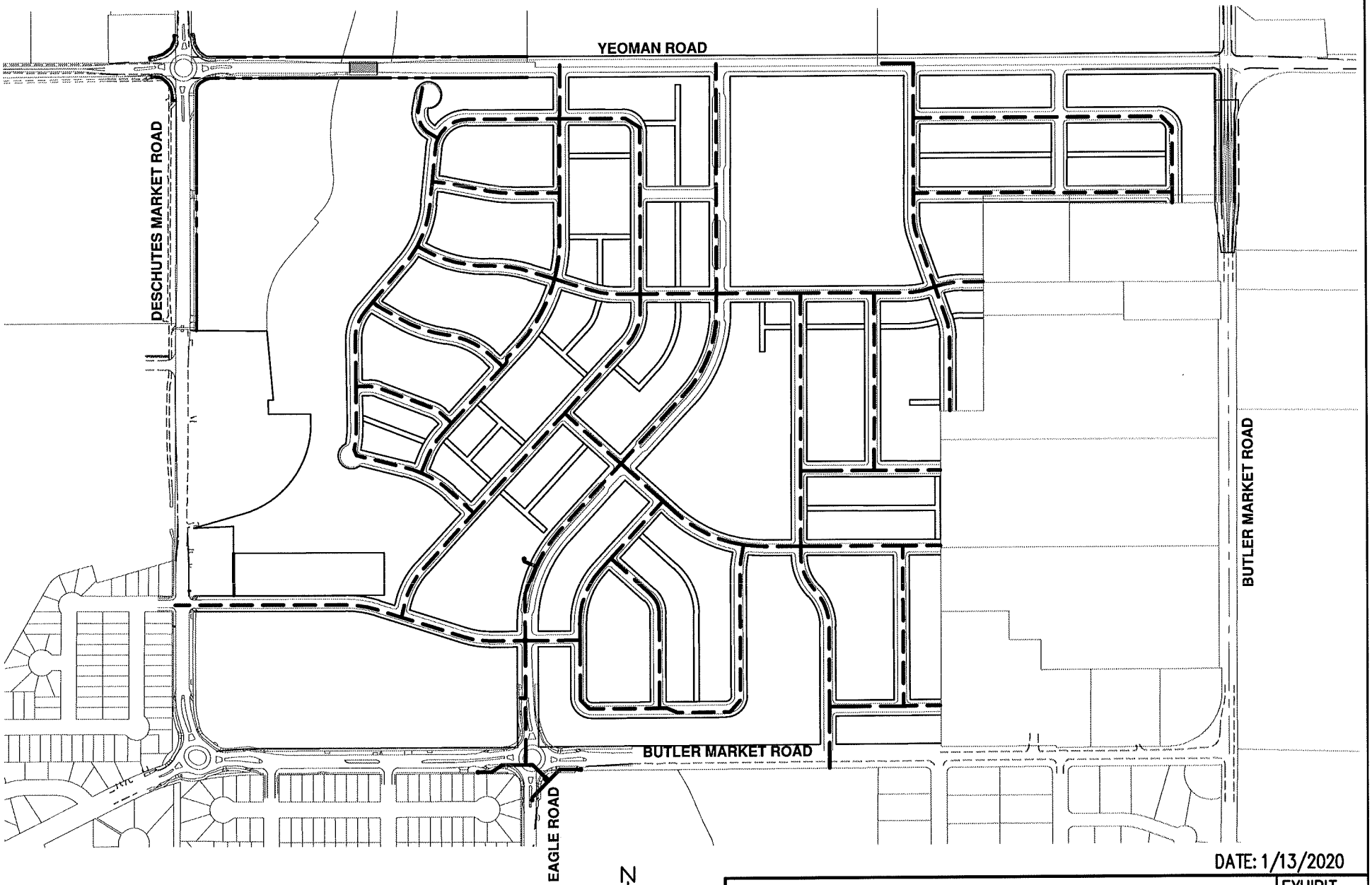
CITY OF BEND ANNEXATION - 03

EXHIBIT C

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM

DRWN: MHJ
CHKD: MSK
AKS JOB: 6777

DWG: 6777 20200129 CITY ANNEX EXH | 02



DATE: 1/13/2020

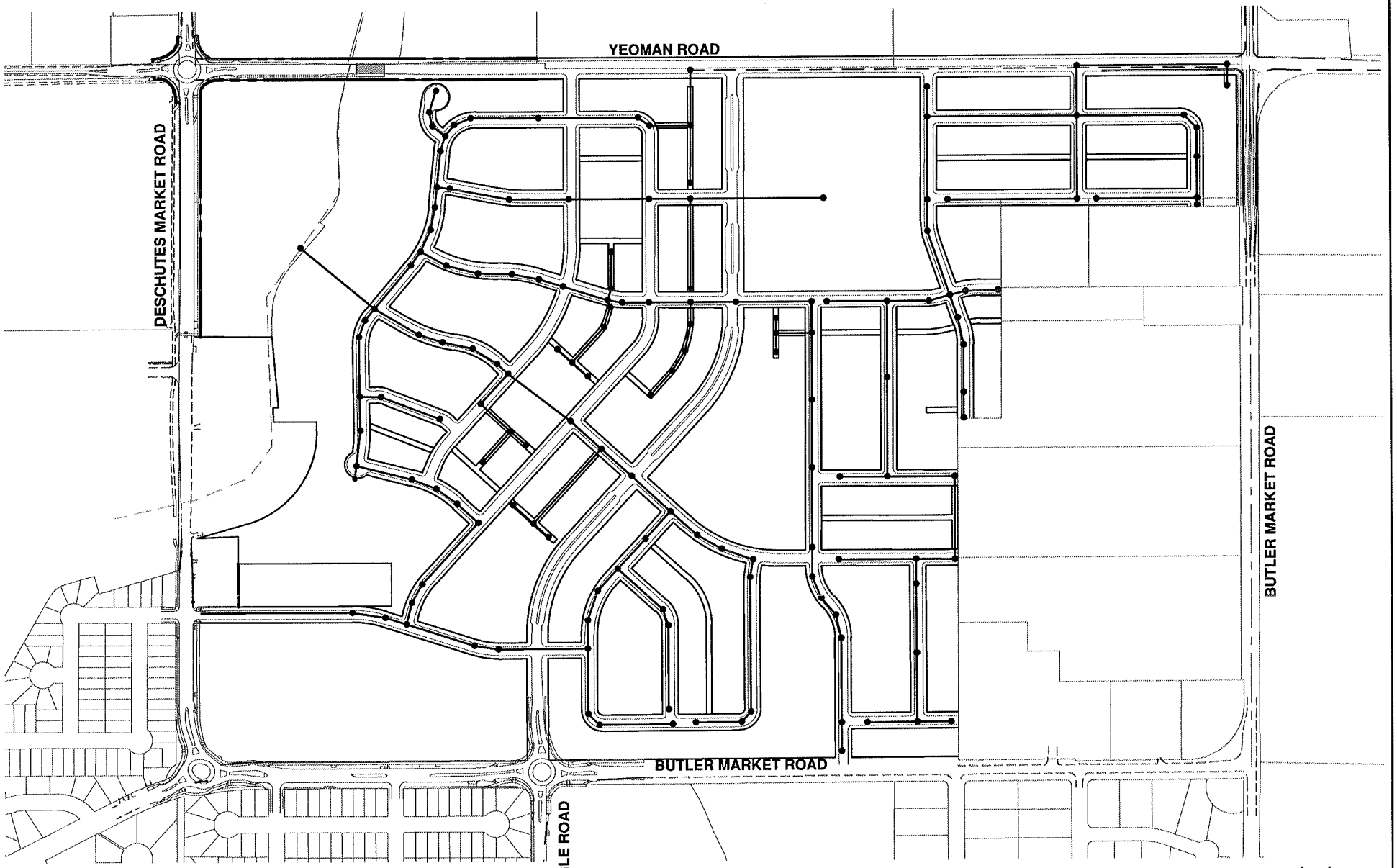
PROPOSED WATER IMPROVEMENTS

PETROSA MASTER PLAN
WATER IMPROVEMENTS

EXHIBIT **D**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



PROPOSED SEWER IMPROVEMENTS

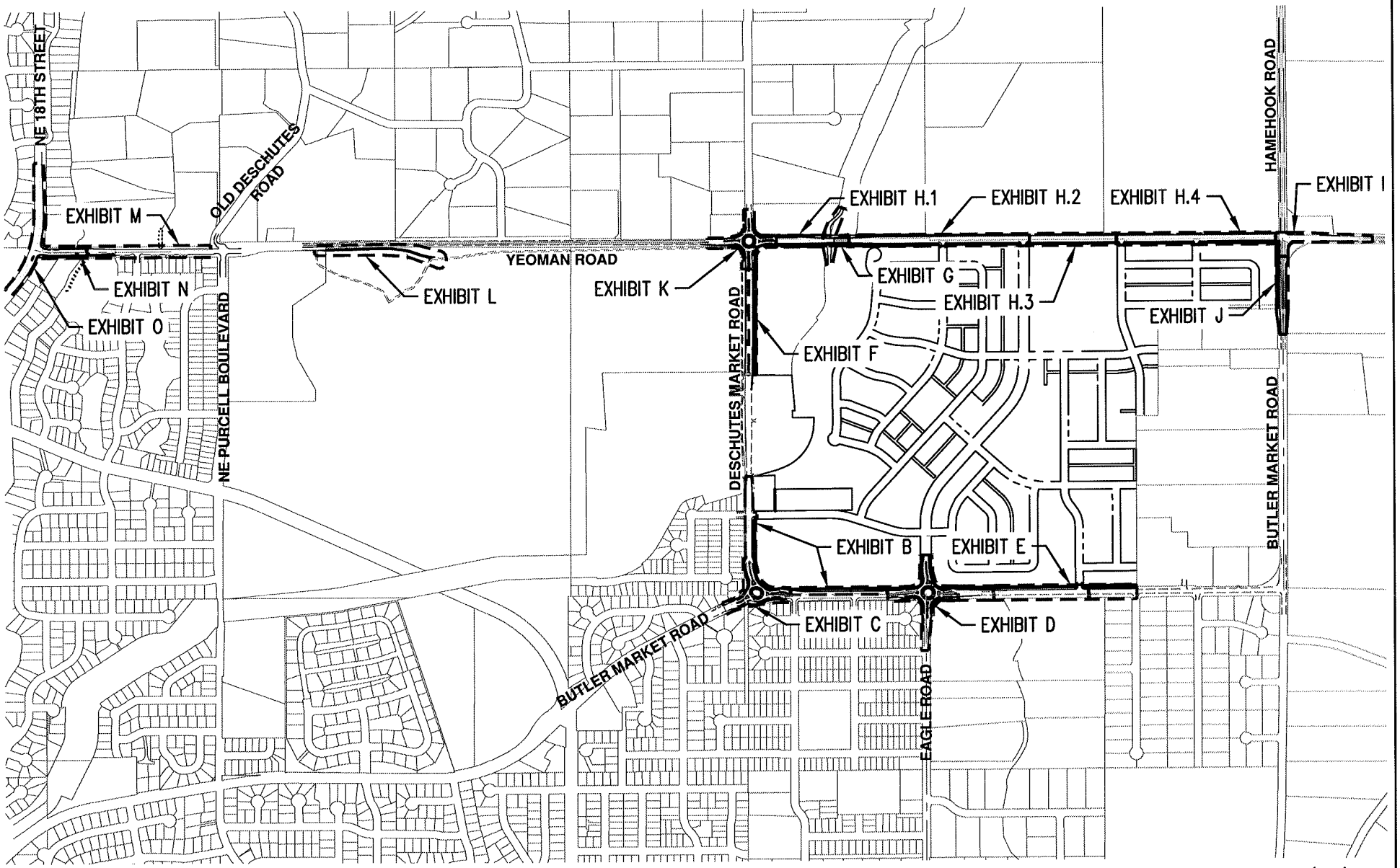
DATE: 1/13/2020

PETROSA MASTER PLAN
SEWER IMPROVEMENTS

EXHIBIT **E**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



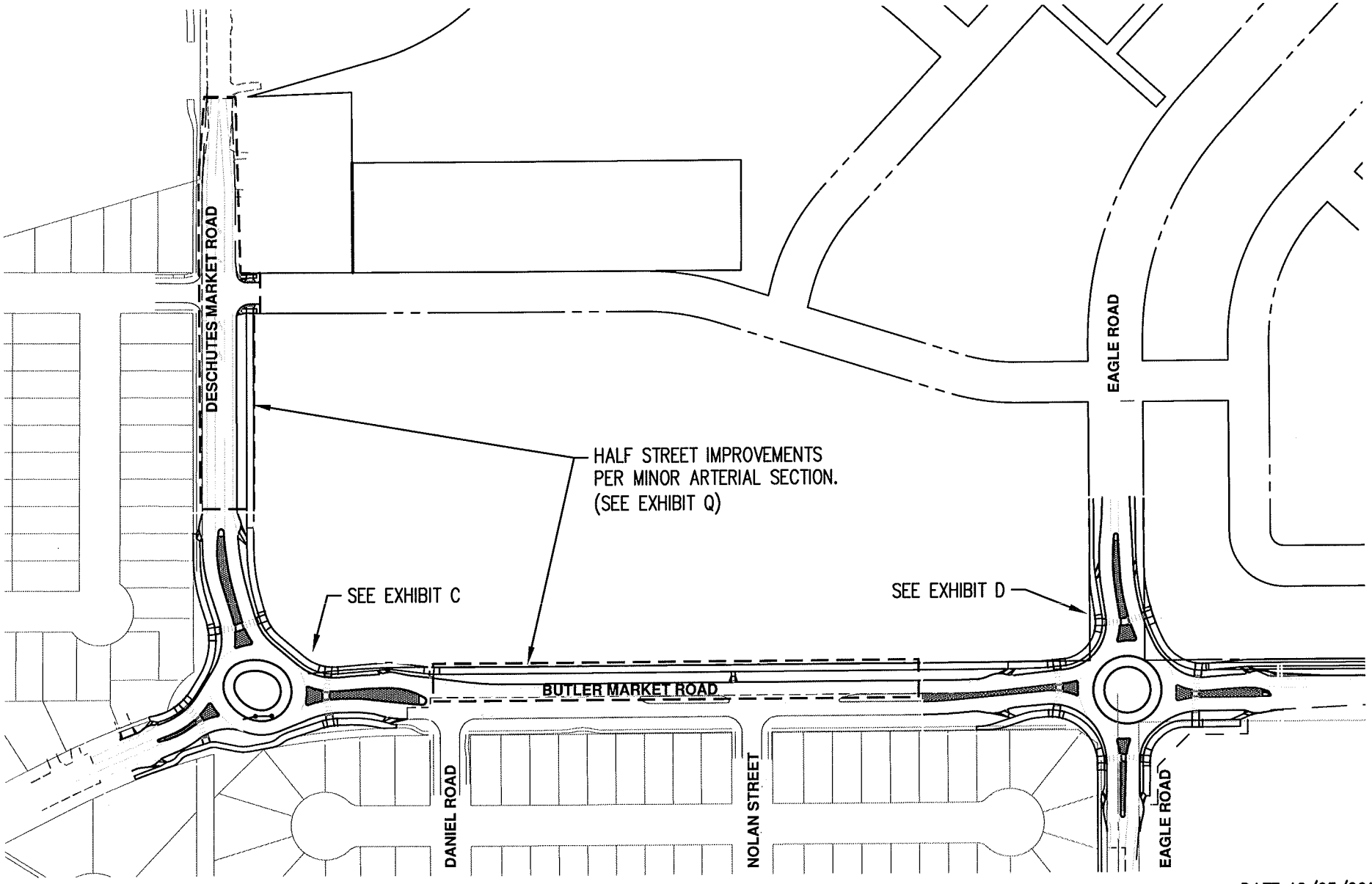
DATE: 12/05/2019

PETROSA MASTER PLAN
OFFSITE IMPROVEMENTS KEY MAP

EXHIBIT **F1(A)**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



DATE: 12/05/2019

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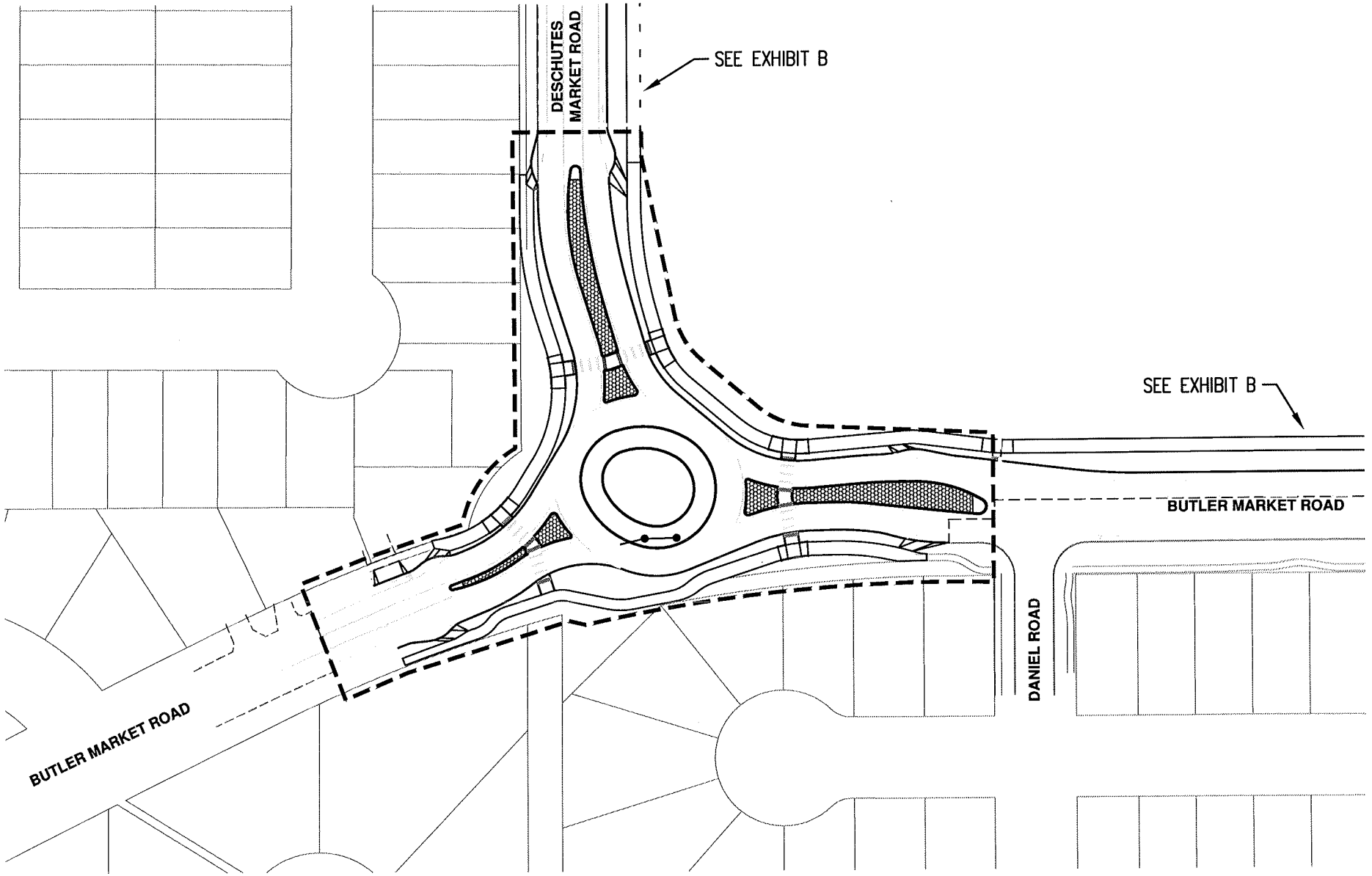
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PETROSA MASTER PLAN
DESCHUTES/BUTLER COMMERCIAL FRONTAGE

EXHIBIT **F1(B)**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



DATE: 12/05/2019

SCALE: 1"=100 FEET

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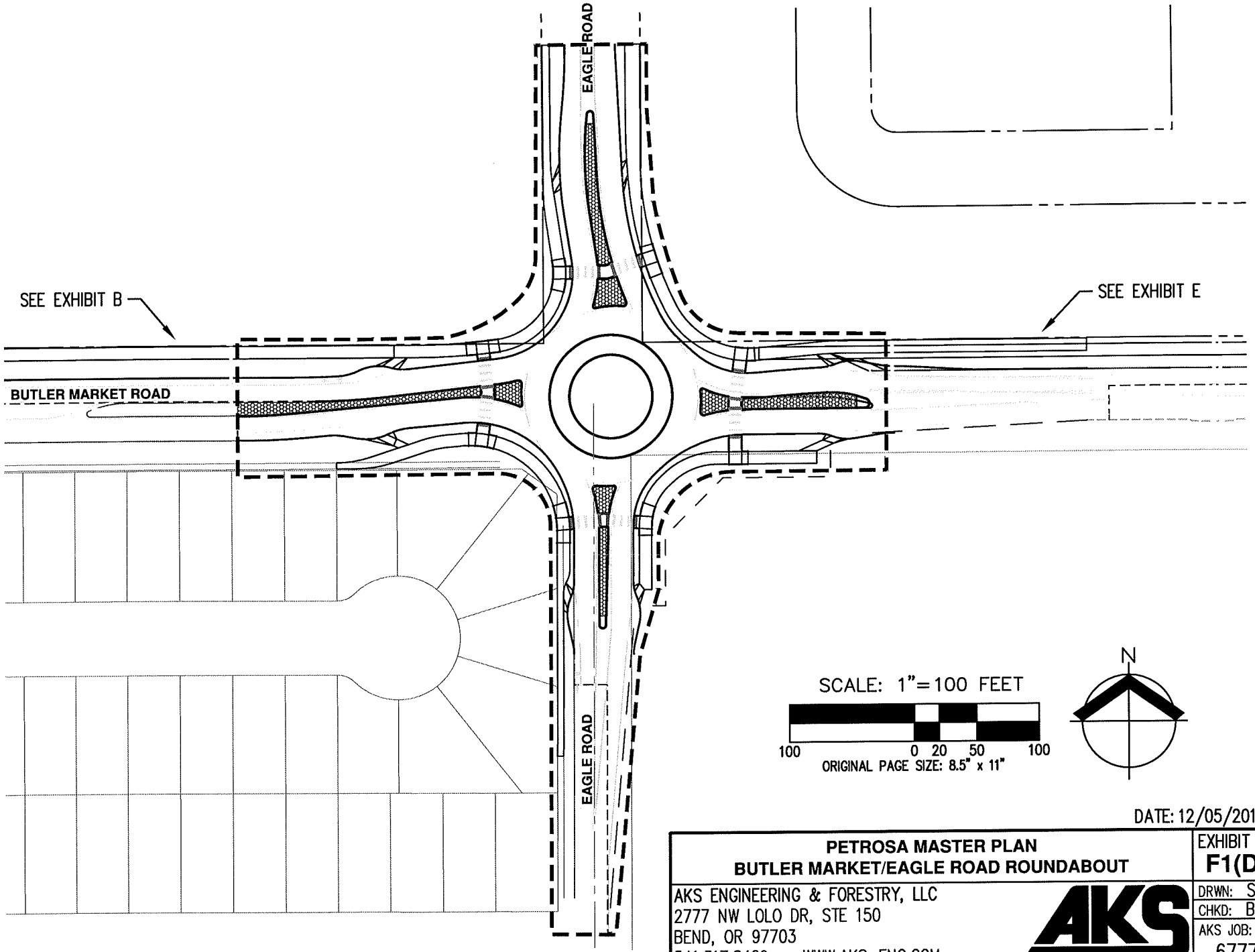
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PETROSA MASTER PLAN
BUTLER MARKET/DESCHUTES MARKET ROUNDABOUT

EXHIBIT **F1(C)**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



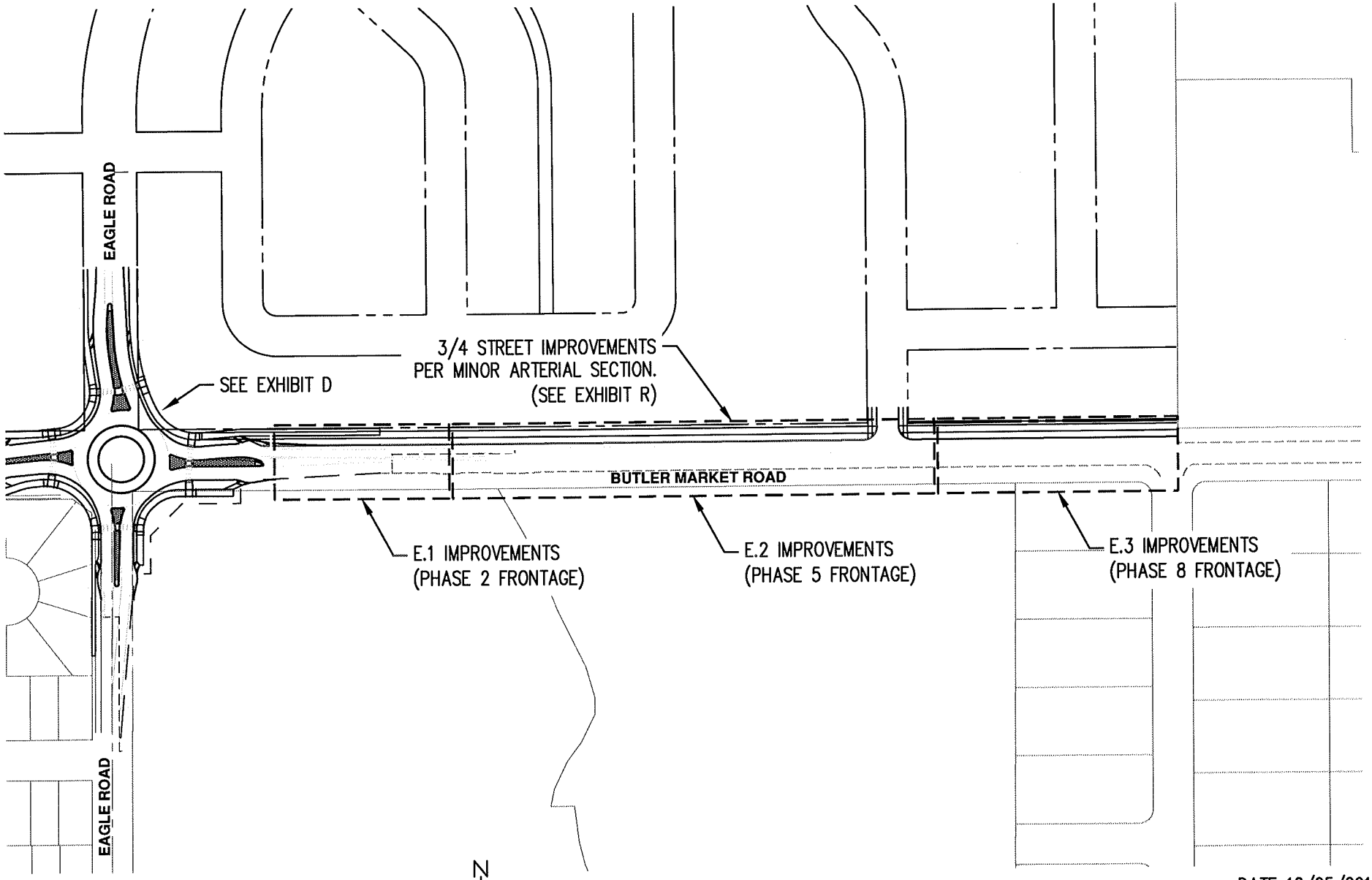
DATE: 12/05/2019

PETROSA MASTER PLAN
BUTLER MARKET/EAGLE ROAD ROUNDABOUT

EXHIBIT **F1(D)**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



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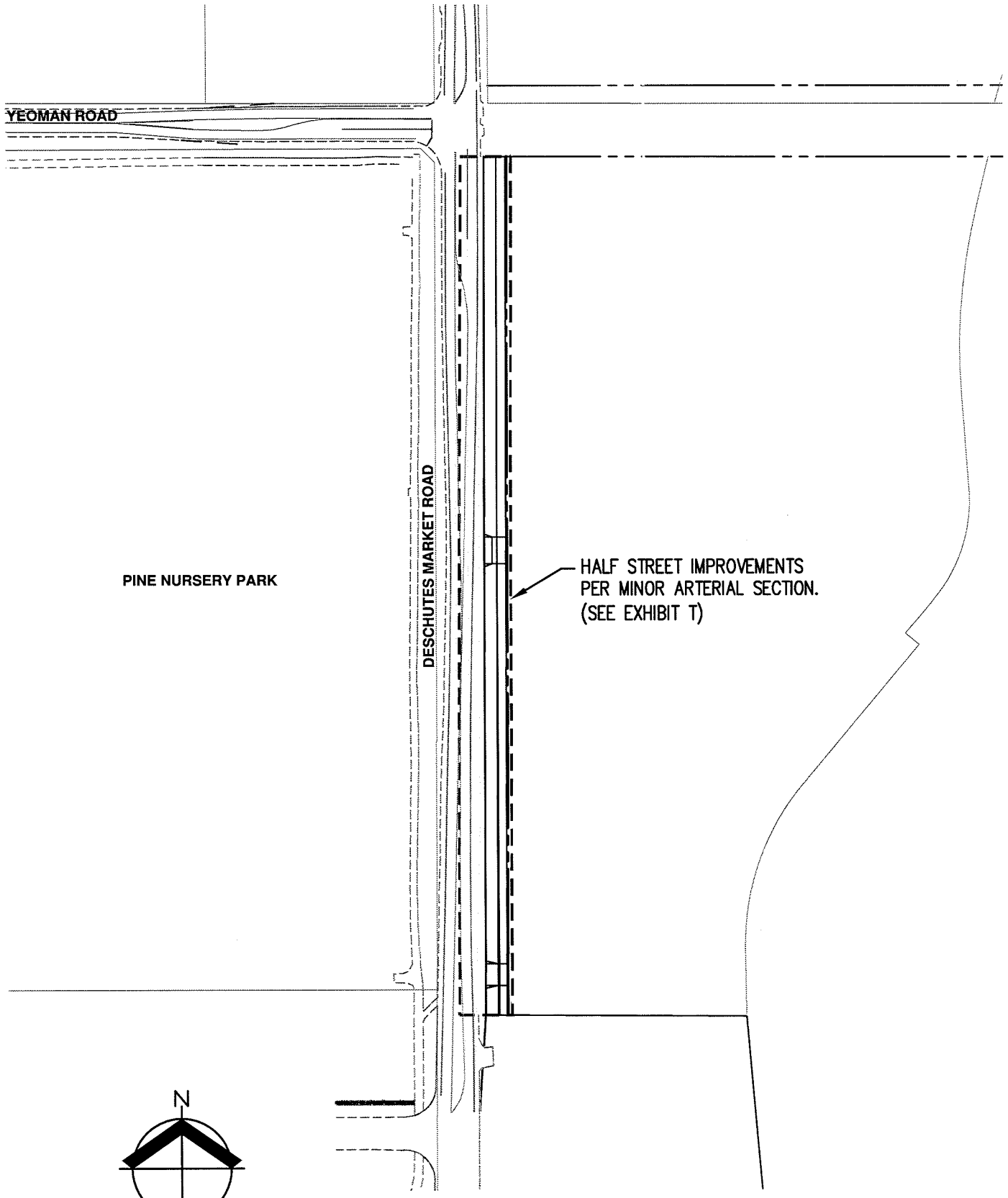
DATE: 12/05/2019

PETROSA MASTER PLAN
BUTLER MARKET ROAD - PHASE 2, 5, & 8 FRONTAGE

EXHIBIT **F1(E)**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



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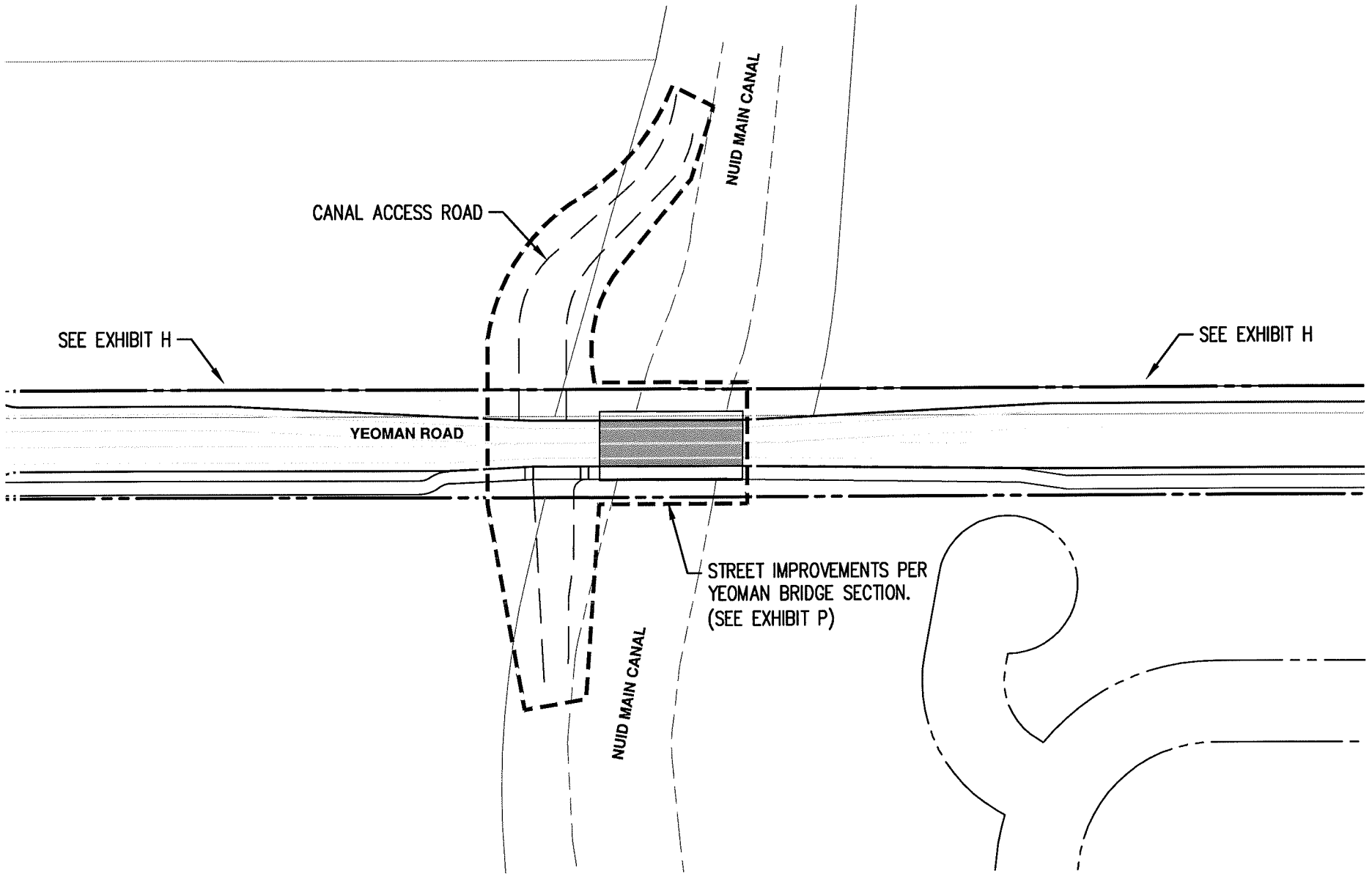
DATE: 12/05/2019

PETROSA MASTER PLAN
DESCHUTES MARKET ROAD RH-1 FRONTAGE

EXHIBIT **F1(F)**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



DATE: 12/05/2019

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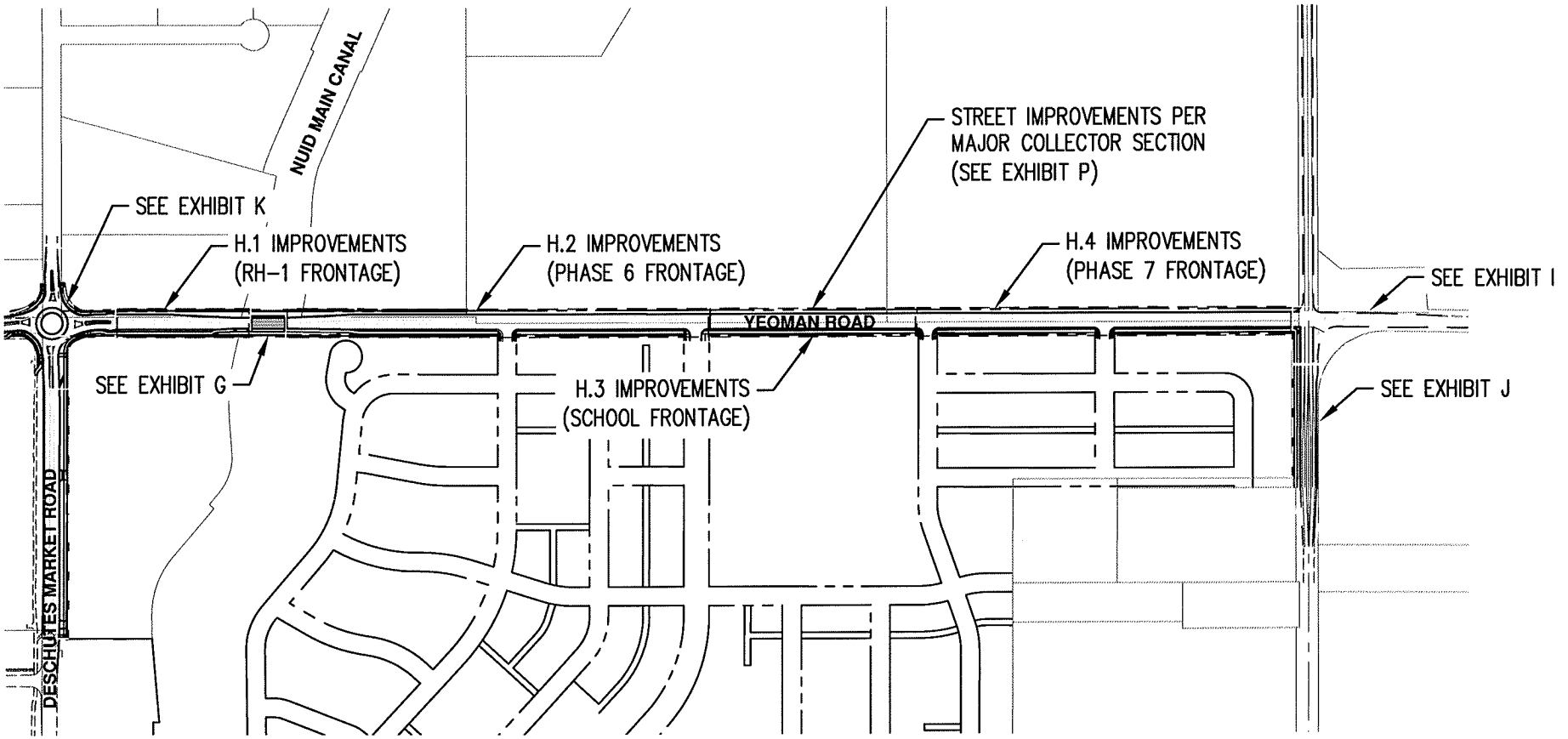
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PETROSA MASTER PLAN
YEOMAN ROAD BRIDGE

EXHIBIT **F1(G)**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



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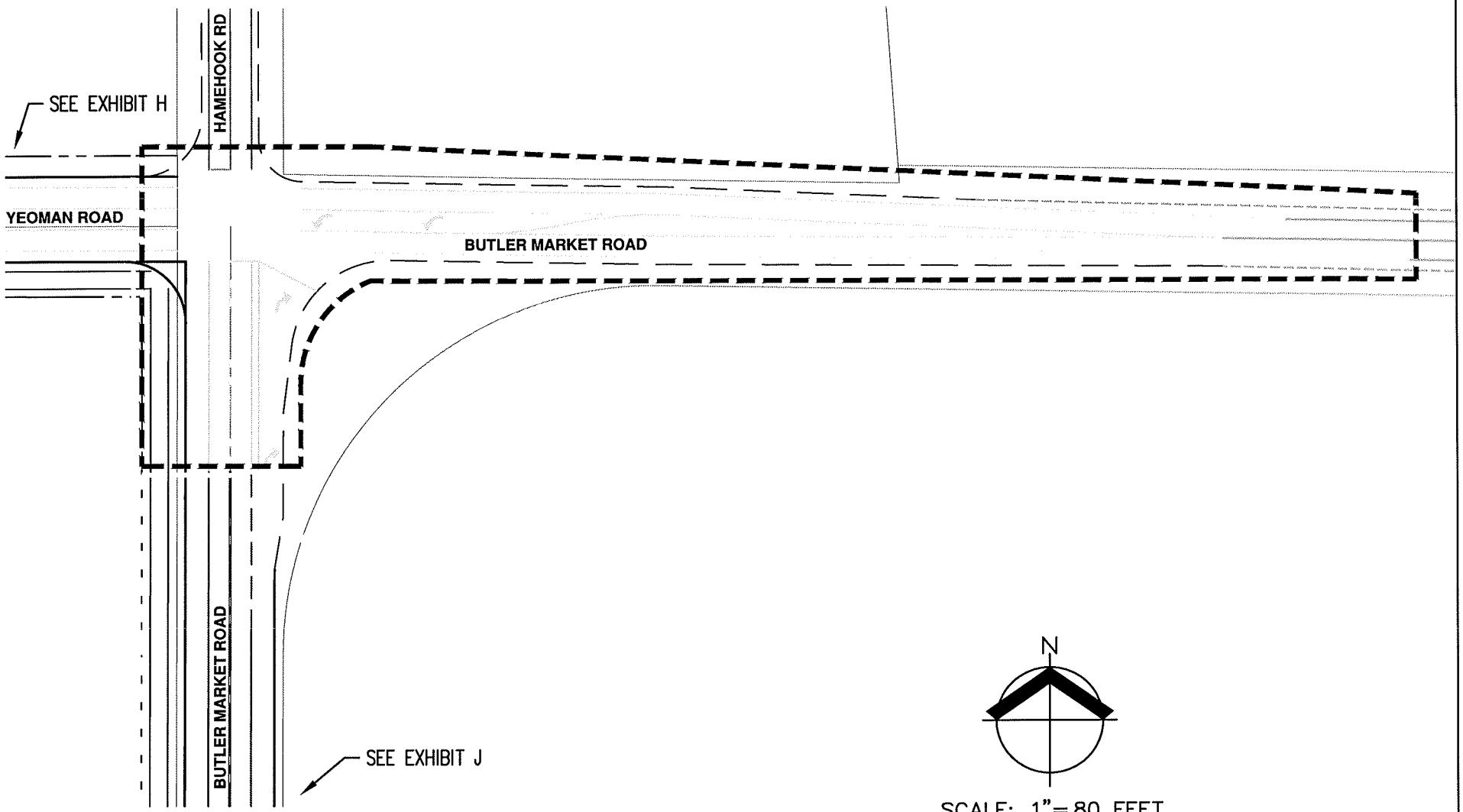
DATE: 12/05/2019

PETROSA MASTER PLAN
YEOMAN ROAD FRONTAGE - PHASE 6 & 7, RH-1, & SCHOOL

EXHIBIT **F1(H)**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



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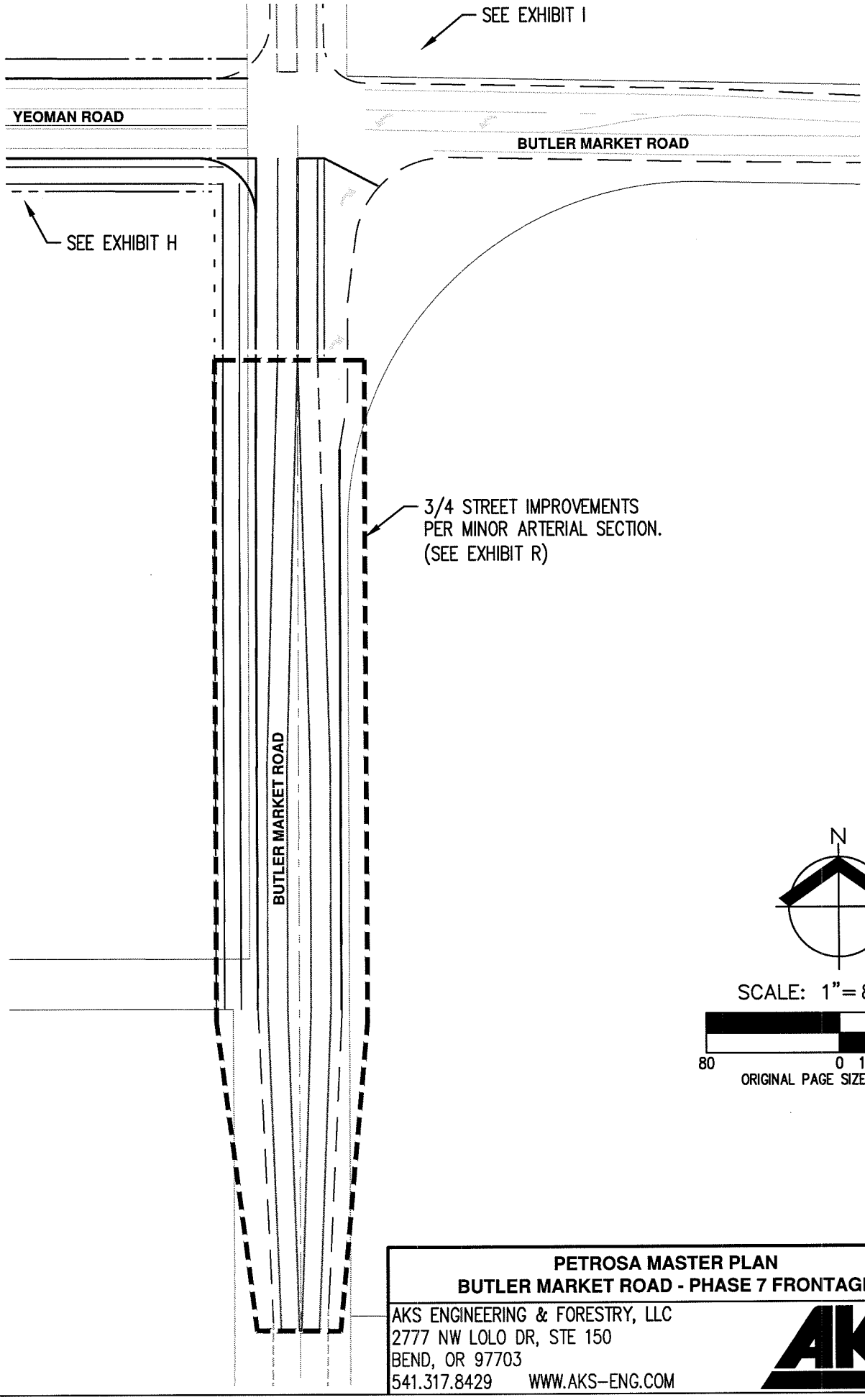
DATE: 12/05/2019

PETROSA MASTER PLAN
YEOMAN/BUTLER MARKET/HAMEHOOK INTERSECTION

EXHIBIT **F1(I)**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



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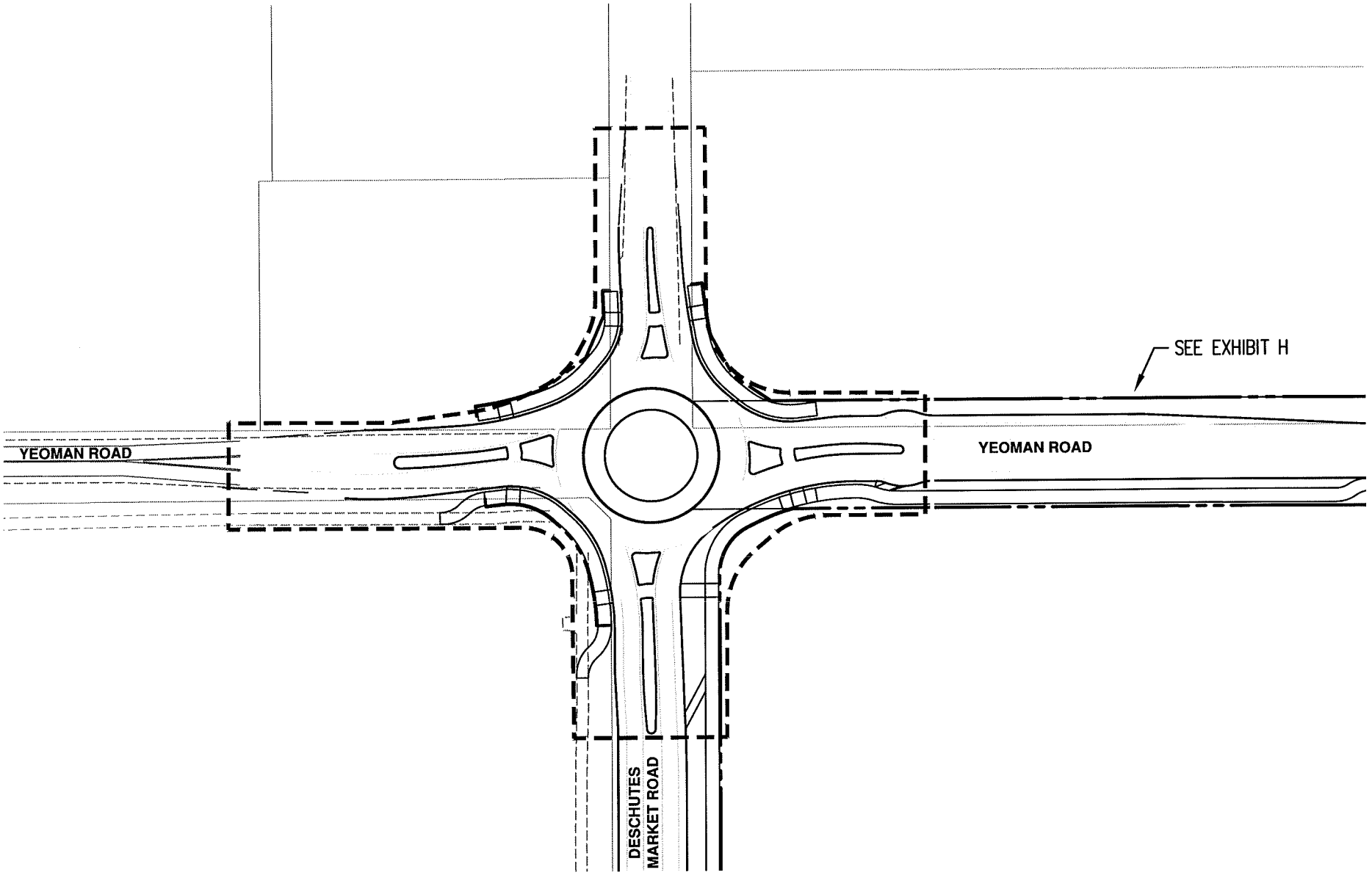
DATE: 12/05/2019

PETROSA MASTER PLAN
BUTLER MARKET ROAD - PHASE 7 FRONTAGE

EXHIBIT **F1(J)**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



DATE: 12/05/2019

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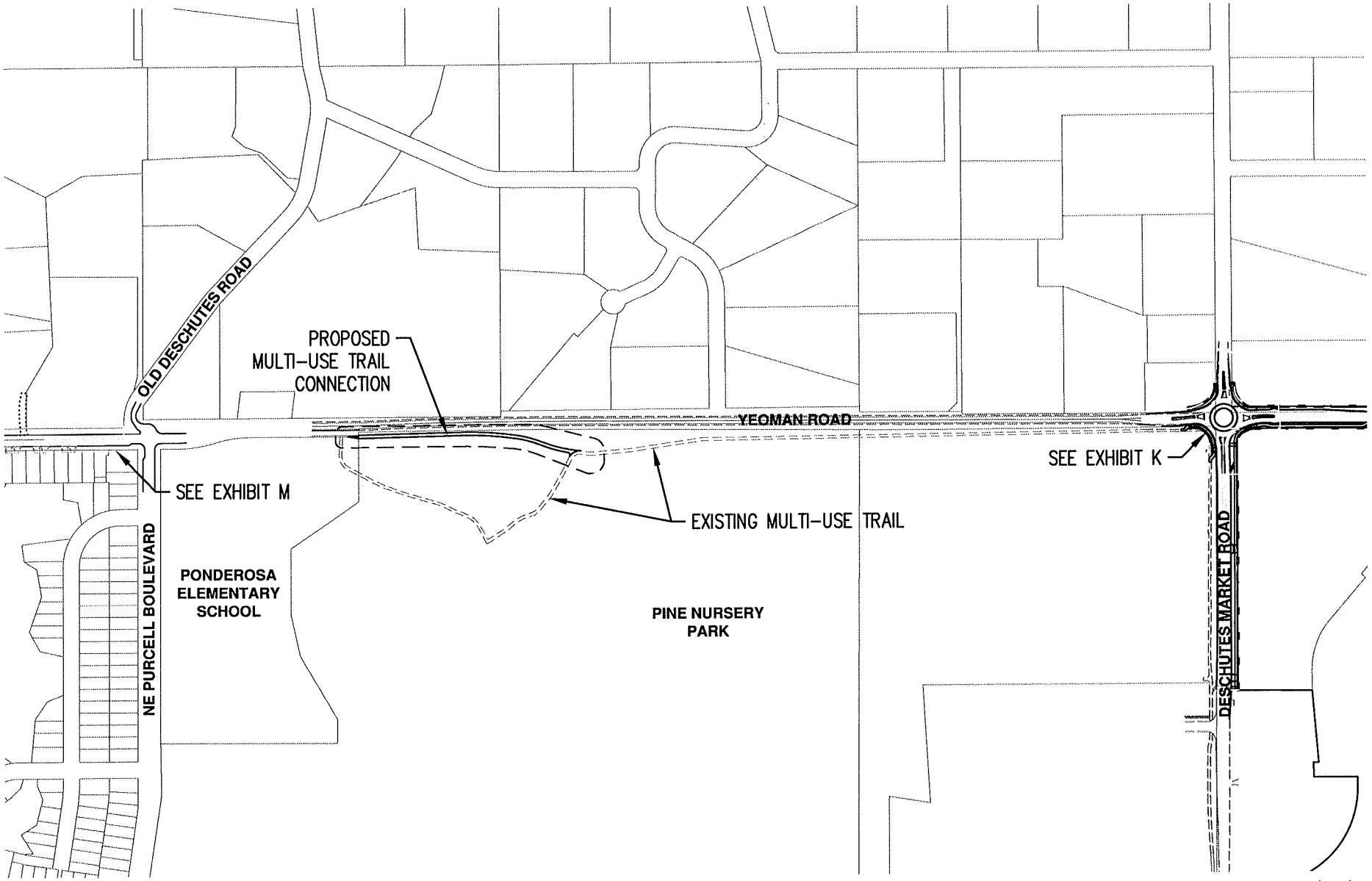
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PETROSA MASTER PLAN
YEOMAN ROAD/DESCHUTES MARKET ROUNDABOUT

EXHIBIT **F1(K)**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



DATE: 12/05/2019

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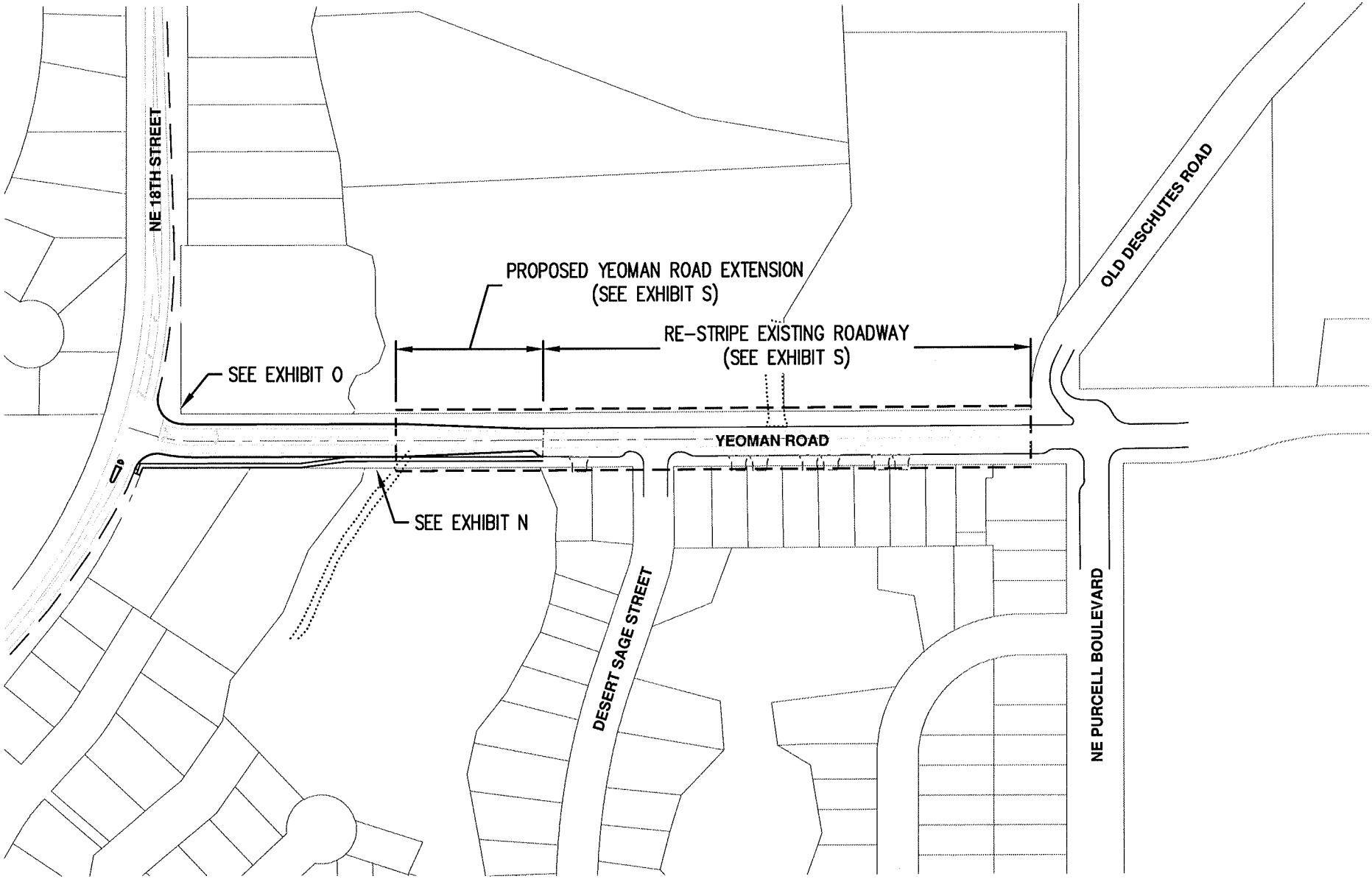
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PETROSA MASTER PLAN
YEOMAN ROAD MULTI-USE TRAIL IMPROVEMENTS

EXHIBIT **F1(L)**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



DATE: 12/05/2019

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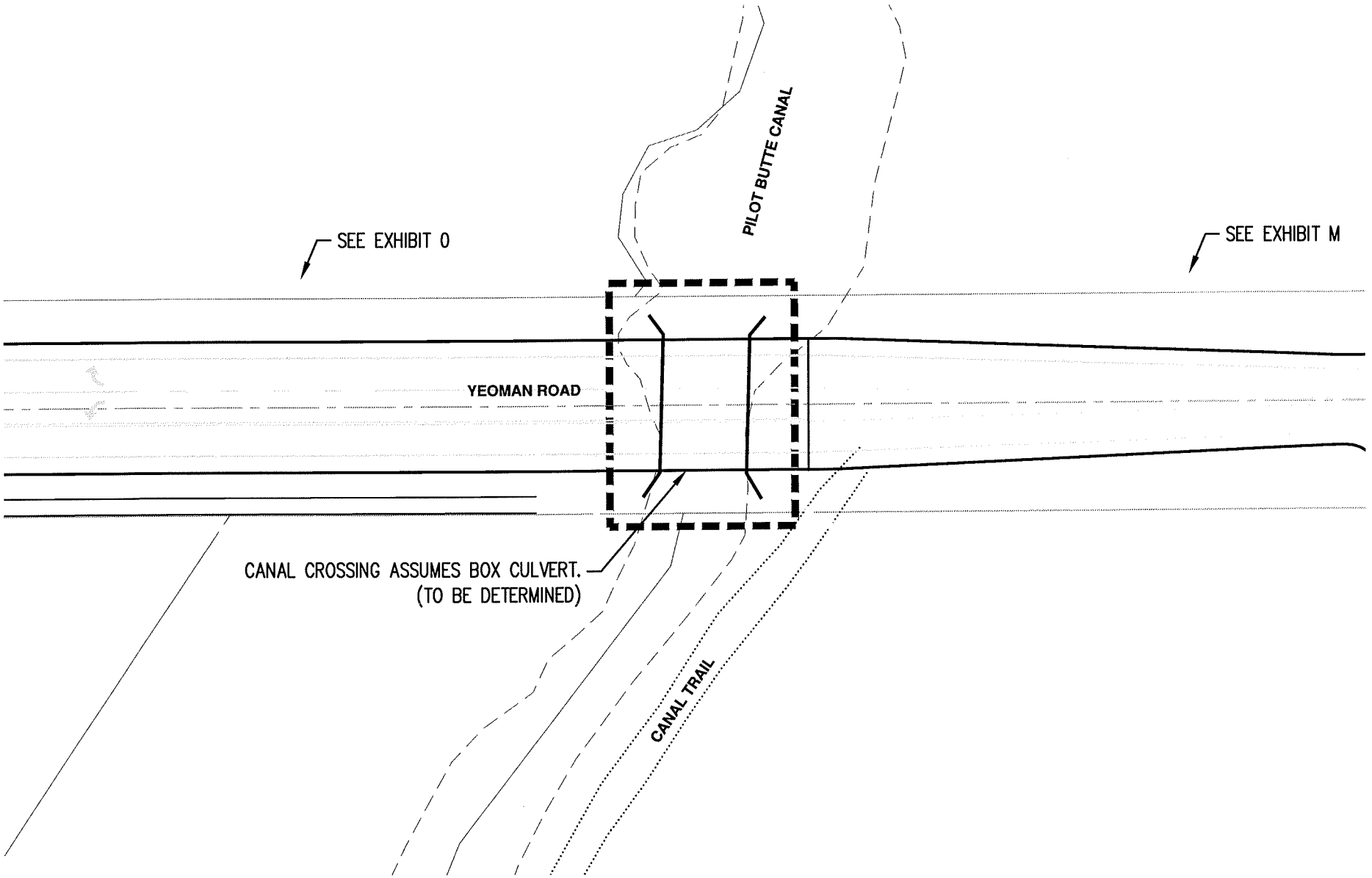
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PETROSA MASTER PLAN
YEOMAN ROAD EXTENSION TO NE 18TH STREET

EXHIBIT **F1(M)**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



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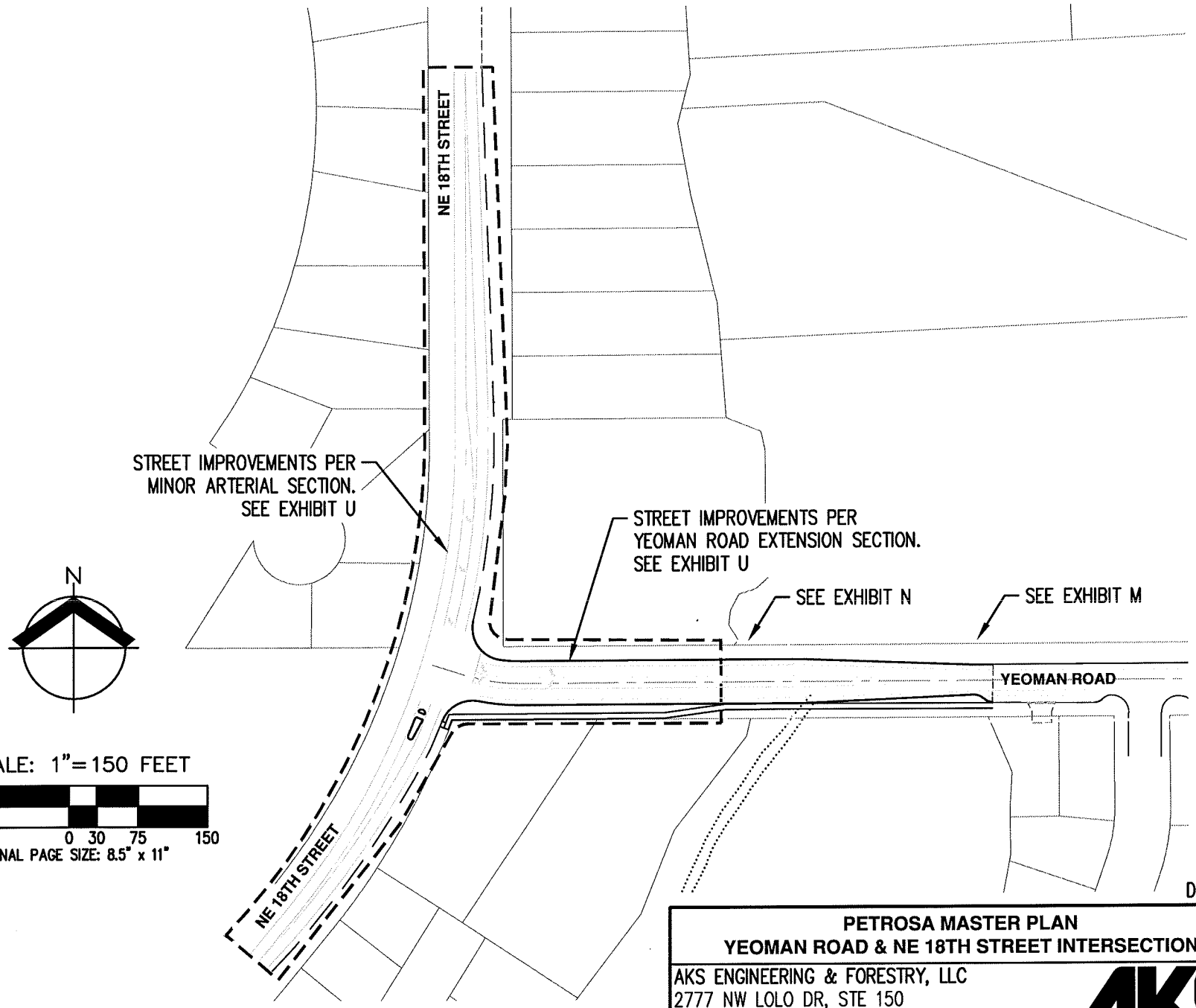
DATE: 12/05/2019

PETROSA MASTER PLAN
YEOMAN ROAD EXTENSION - CANAL CROSSING

EXHIBIT **F1(N)**

AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



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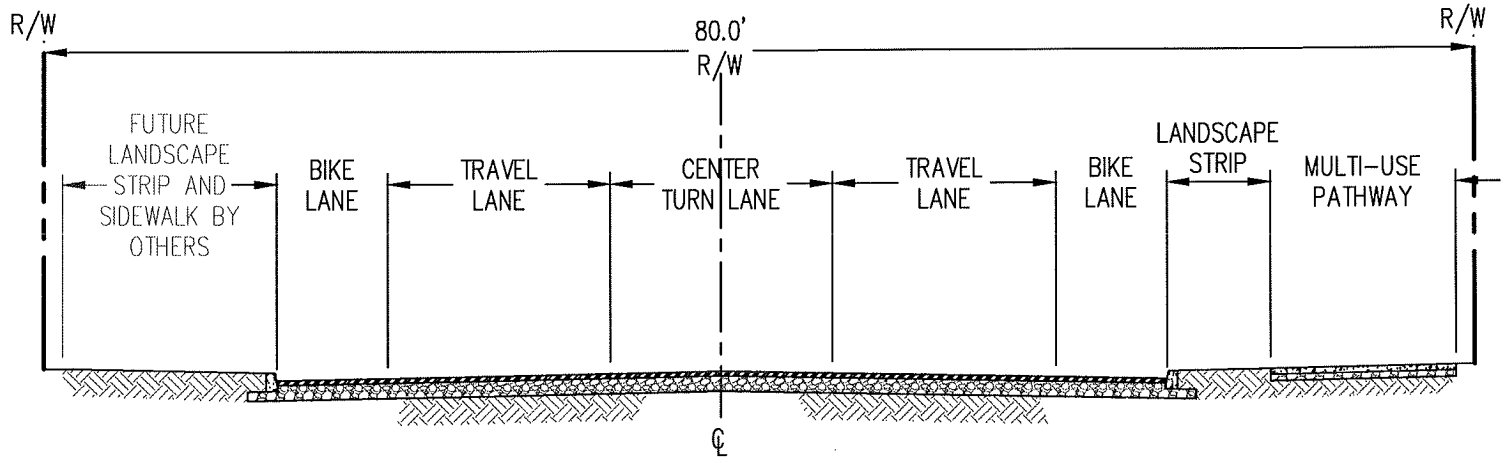
DATE: 12/05/2019

PETROSA MASTER PLAN
YEOMAN ROAD & NE 18TH STREET INTERSECTION

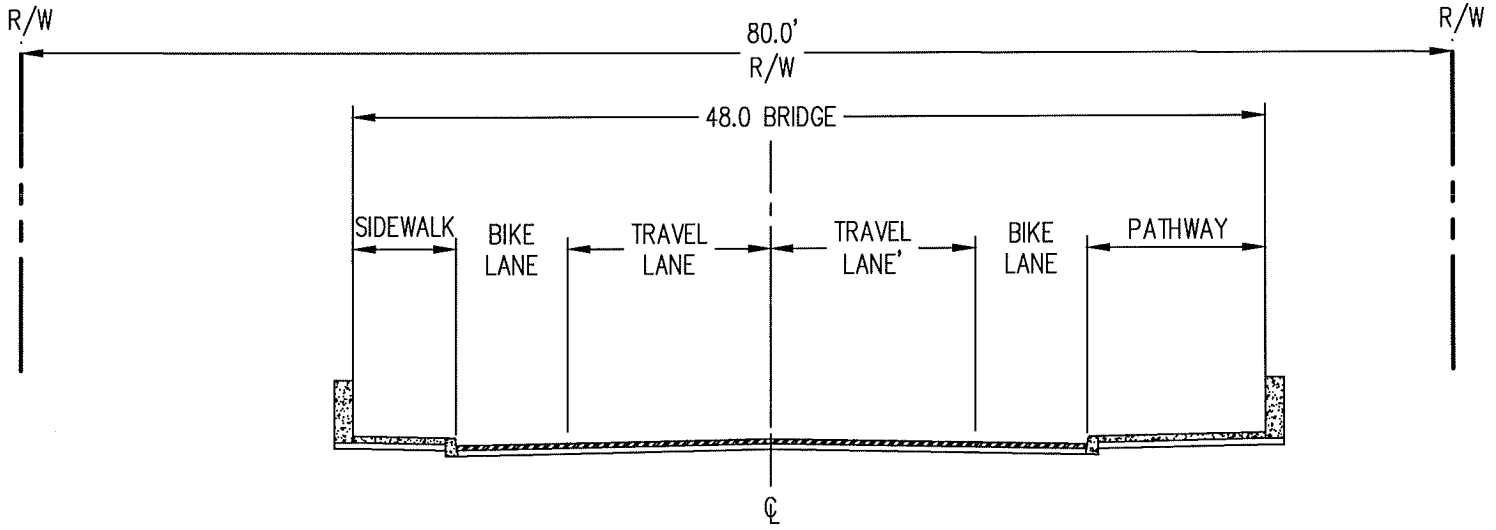
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AKS ENGINEERING & FORESTRY, LLC
2777 NW LOLO DR, STE 150
BEND, OR 97703
541.317.8429 WWW.AKS-ENG.COM

DRWN: SMJ
CHKD: BLW
AKS JOB: 6777



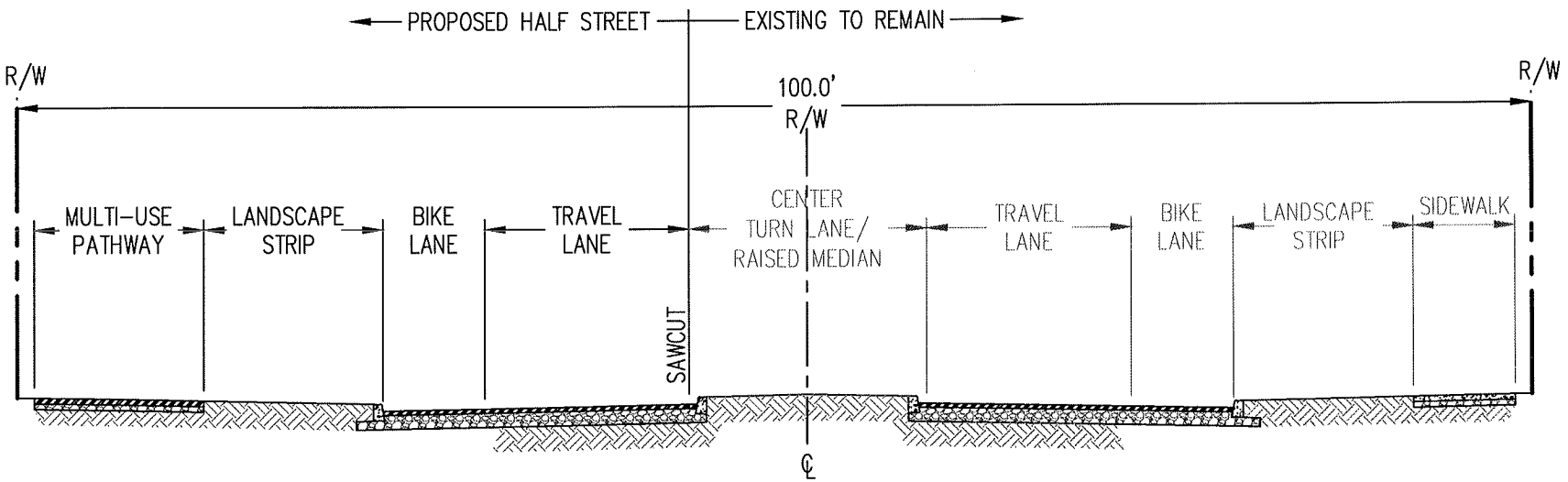
MAJOR COLLECTOR



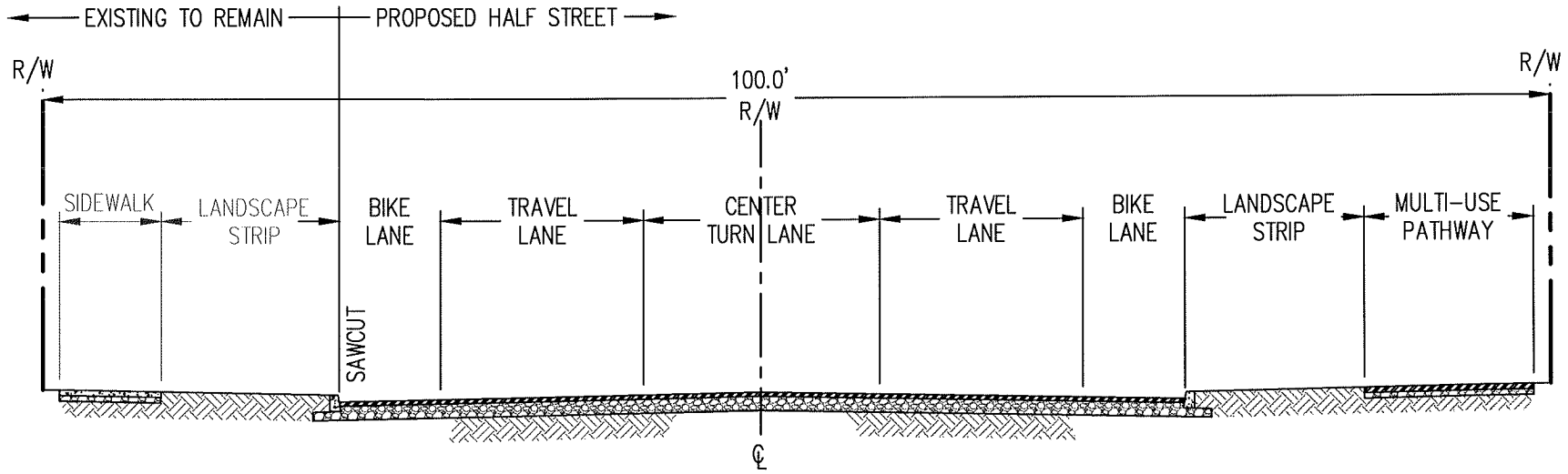
YEOMAN BRIDGE

DATE: 12/05/2019

PETROSA MASTER PLAN STREET SECTIONS	EXHIBIT F1(P)
AKS ENGINEERING & FORESTRY, LLC 2777 NW LOLO DR, STE 150 BEND, OR 97703 541.317.8429 WWW.AKS-ENG.COM	DRWN: SMJ CHKD: BLW AKS JOB: 6777



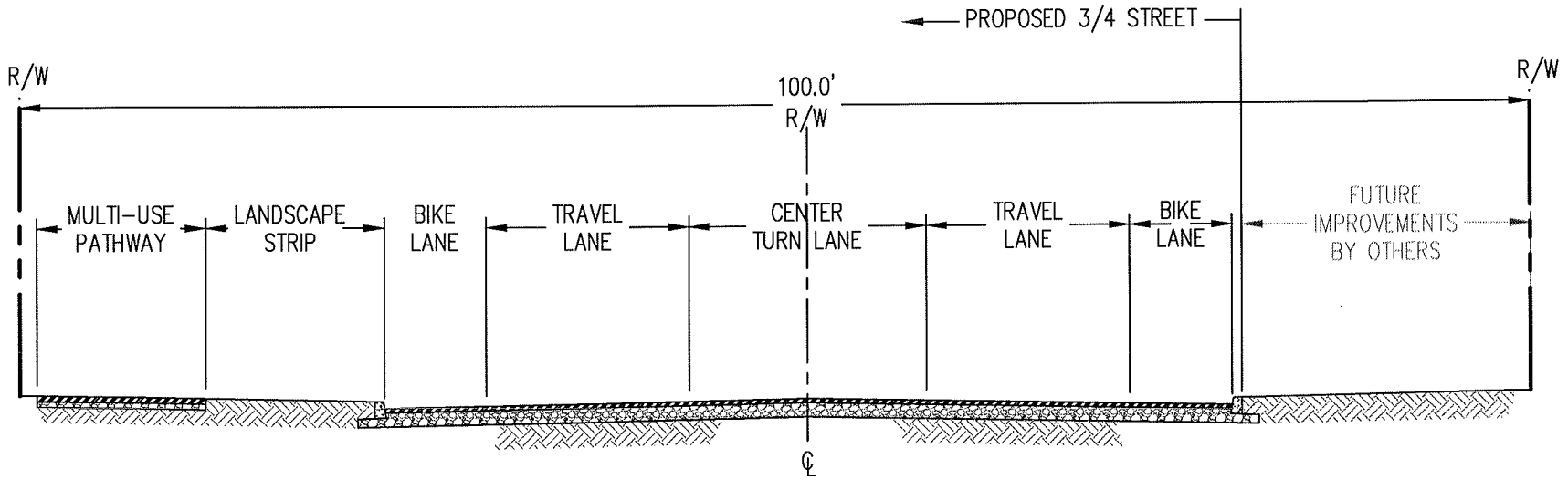
MINOR ARTERIAL (BUTLER MARKET)



MINOR ARTERIAL (DESCHUTES MARKET)

DATE: 12/05/2019

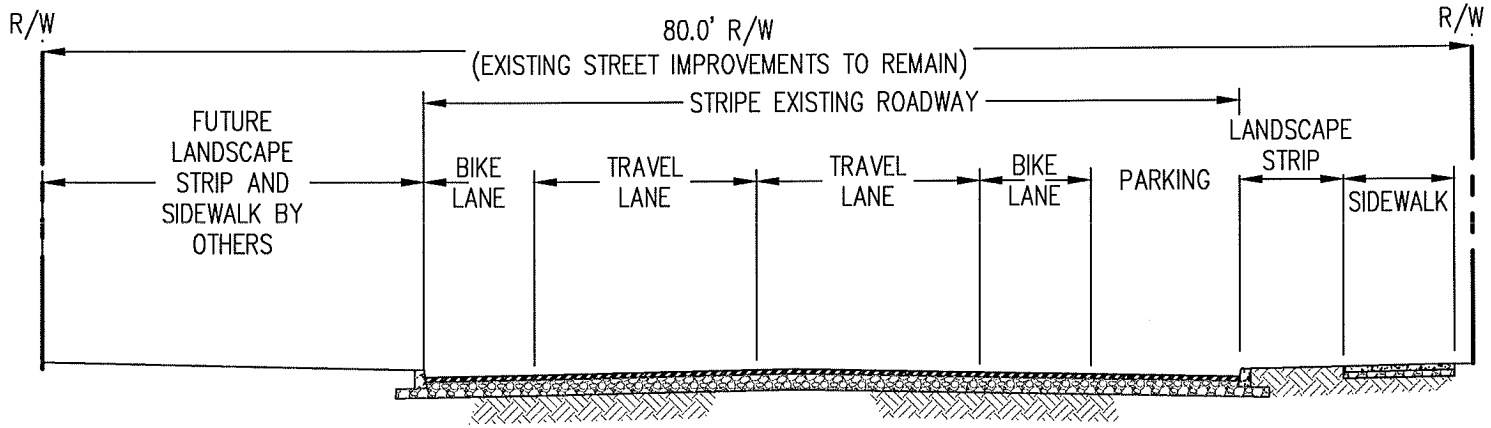
PETROSA MASTER PLAN **STREET SECTIONS**	EXHIBIT **F1(Q)**
AKS ENGINEERING & FORESTRY, LLC 2777 NW LOLO DR, STE 150 BEND, OR 97703 541.317.8429 WWW.AKS-ENG.COM	DRWN: SMJ CHKD: BLW AKS JOB: 6777



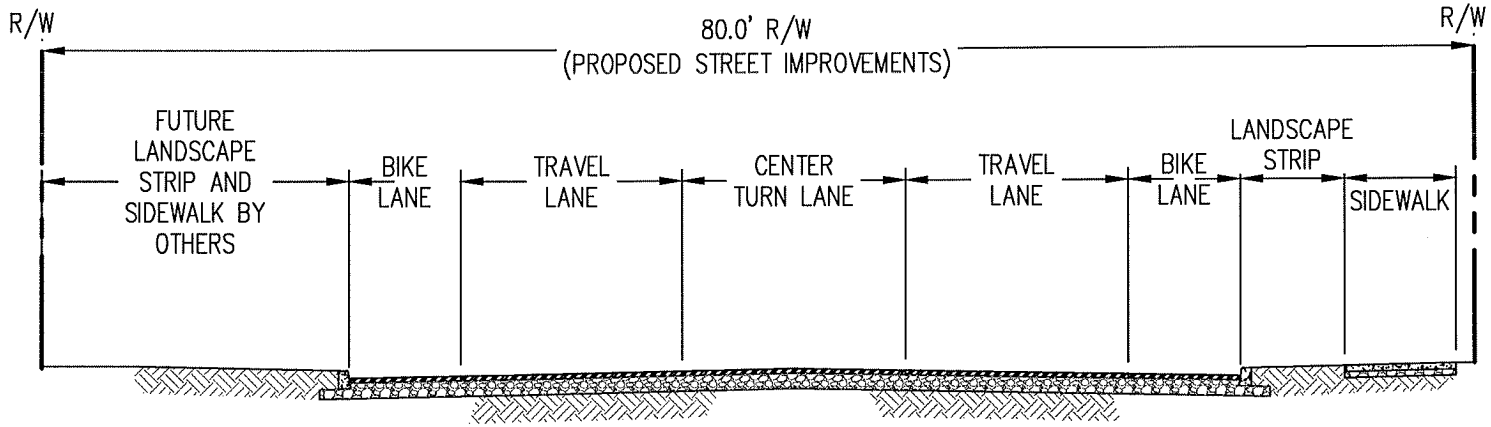
MINOR ARTERIAL (BUTLER MARKET)

DATE: 12/05/2019

PETROSA MASTER PLAN STREET SECTIONS	EXHIBIT F1(R)
AKS ENGINEERING & FORESTRY, LLC 2777 NW LOLO DR, STE 150 BEND, OR 97703 541.317.8429 WWW.AKS-ENG.COM	DRWN: SMJ CHKD: BLW AKS JOB: 6777



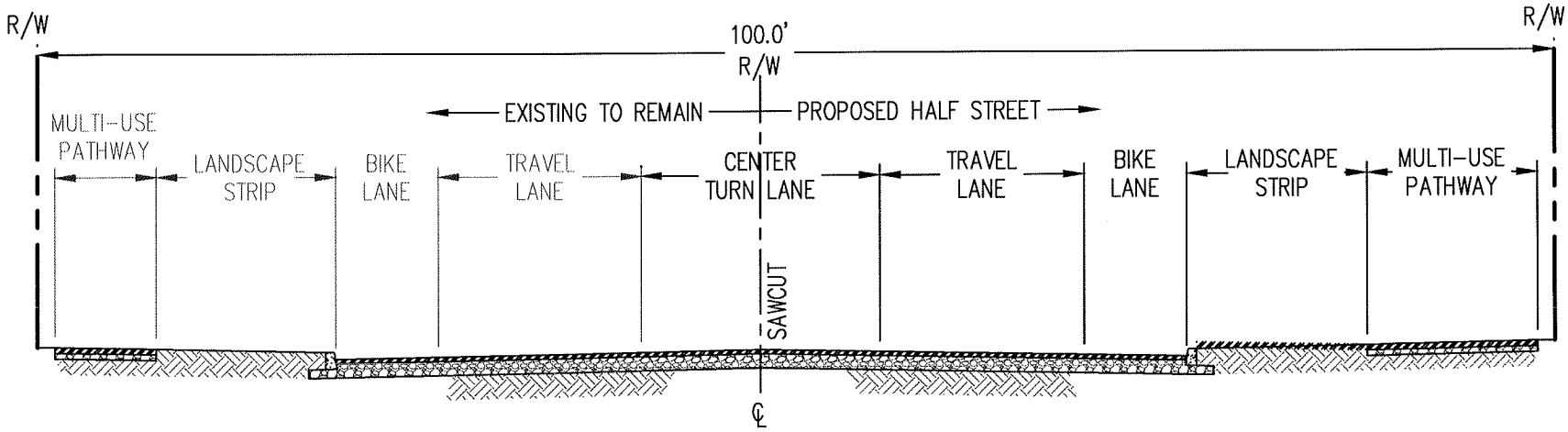
YEOMAN ROAD – WEST OF PURCELL BOULEVARD
EXISTING STREET IMPROVEMENTS TO REMAIN



YEOMAN ROAD – WEST OF PURCELL BOULEVARD
PROPOSED YEOMAN ROAD EXTENSION

DATE: 12/05/2019

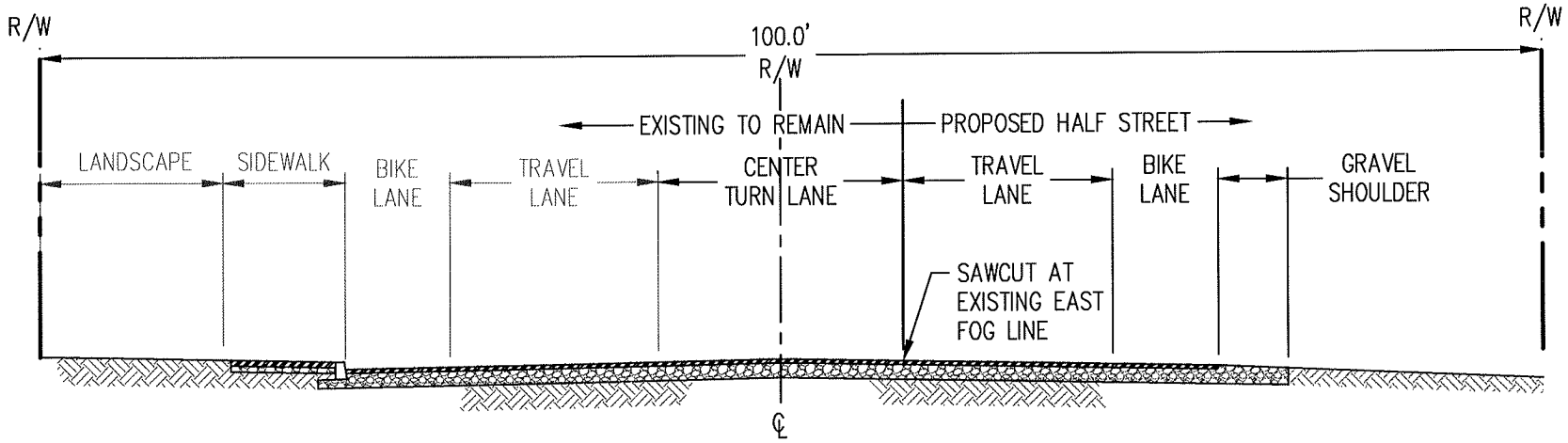
PETROSA MASTER PLAN STREET SECTIONS	EXHIBIT F1(S)
AKS ENGINEERING & FORESTRY, LLC 2777 NW LOLO DR, STE 150 BEND, OR 97703 541.317.8429 WWW.AKS-ENG.COM	DRWN: SMJ CHKD: BLW AKS JOB: 6777



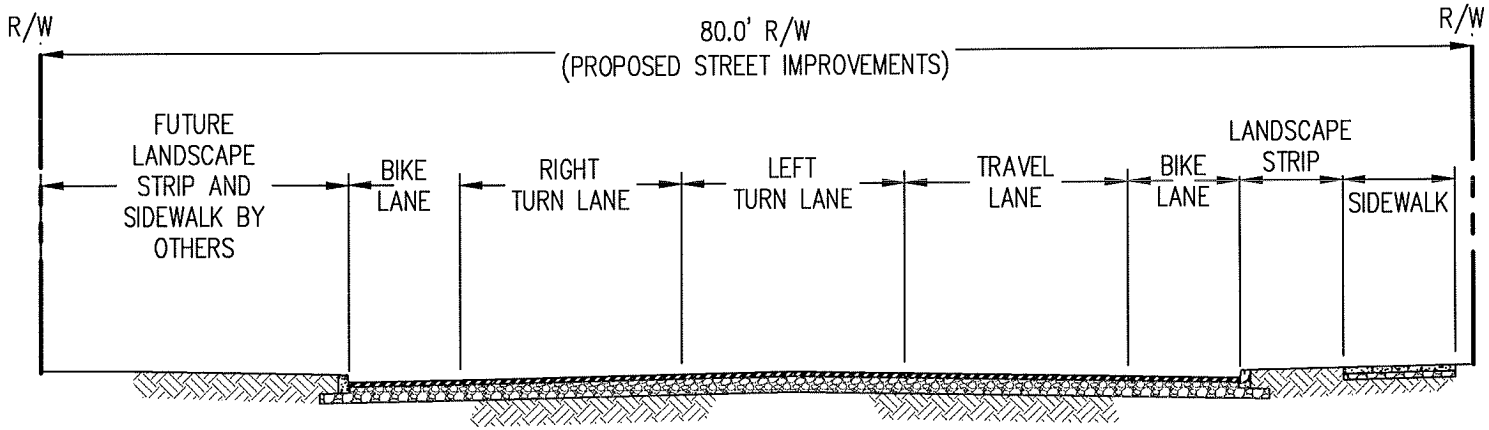
MINOR ARTERIAL (DESCHUTES MARKET)

DATE: 12/05/2019

PETROSA MASTER PLAN STREET SECTIONS	EXHIBIT F1(T)
AKS ENGINEERING & FORESTRY, LLC 2777 NW LOLO DR, STE 150 BEND, OR 97703 541.317.8429 WWW.AKS-ENG.COM	DRWN: SMJ CHKD: BLW AKS JOB: 6777



MINOR ARTERIAL (NE 18TH STREET)



YEOMAN ROAD – WEST OF PURCELL BOULEVARD
PROPOSED YEOMAN ROAD EXTENSION

DATE: 12/05/2019

PETROSA MASTER PLAN STREET SECTIONS	EXHIBIT F1(U)
AKS ENGINEERING & FORESTRY, LLC 2777 NW LOLO DR, STE 150 BEND, OR 97703 541.317.8429 WWW.AKS-ENG.COM	DRWN: SMJ CHKD: BLW AKS JOB: 6777

FINAL PETROSA TRANSPORTATION SDC PROJECTS

EXHIBIT F-2

Projects List	Reference	Land Purchase	Construction	Utilities	Sub-Total	Softcost at 15%	Contingency removed	TOTAL PROJECT
Deschutes & Butler RAB	C	$0	$1,500,000	$180,000	$1,680,000	$252,000.00		$1,932,000.00
Butler & Eagle RAB	D	$91,010	$2,047,386	$790,000	$2,928,396	$439,259.40		$3,367,655.40
Yeoman West (Purcell to 18th)	M, N, O	$20,000	$1,070,000	$85,000	$1,175,000	$176,250.00		$1,351,250.00
Yeoman NUID Bridge	G	$30,000	$1,830,000	$25,000	$1,885,000	$282,750.00		$2,167,750.00
1/2 Yeoman Frontage (East of Deschutes)	H	$494,065	$2,539,625	$175,000	$3,208,690	$481,303.50		$3,689,993.50
1/2 Butler Frontage at UGB	E, J	$41,000	$1,201,160	$150,000	$1,392,160	$208,824.00		$1,600,984.00
							TOTAL:	***$14,109,632.90***

EXHIBIT G

Subject: FW: Des. Co. comments on Petrosa master plan & TPR (PZ-19-0515)
Date: Wednesday, November 6, 2019 at 12:54:12 PM Pacific Standard Time
From: Joe Bessman
To: Jerry Jones, Jr., Dennis Pahlisch, Steve Hultberg (shultberg@radlerwhite.com), Robinson, Michael C., Joey Shearer, Brian Wilkinson, Emily Riley, Cory Bittner
Attachments: image001.png, image002.png, image003.png, image004.png

County response to Petrosa

Joe Bessman, PE
Principal, Owner

Transight Consulting, LLC
Bend, Oregon
office: (458) 202-5565
cell: (503) 997-4473
email: joe@transightconsulting.com
web: https://transightconsulting.net/

From: Peter Russell <Peter.Russell@deschutes.org>
Sent: Wednesday, November 6, 2019 12:52 PM
To: 'kswenson@bendoregon.gov' <kswenson@bendoregon.gov>; Chris Doty <Chris.Doty@deschutes.org>; Cody Smith <Cody.Smith@deschutes.org>
Cc: Joe Bessman <Joe@transightconsulting.com>; Peter Russell <Peter.Russell@deschutes.org>
Subject: Des. Co. comments on Petrosa master plan & TPR (PZ-19-0515)

Hi, Karen,
Deschutes County appreciates the opportunity to review the Transight traffic analysis dated June 2019, regarding the proposed Petrosa mixed-use development on the northeast Urban Growth expansion area of Bend. The site is generally bounded by Deschutes Market Road on the west, Yeoman Road on the north, and Butler Market Road on the east and south. Of the 36 study intersections, three (3) are under the jurisdiction of Deschutes County: Deschutes Market/Hamehook; Powell Butte Highway/Butler Market; and Hamby/Neff. According to the traffic analysis performed for the Transportation Planning Rule (TPR) , only one intersection – Deschutes Market/Hamehook – does not meet the County's performance standard of Level of Service (LOS) D in 2040. This intersection does not meet LOS D currently, either. The application proposes numerous improvements, both on- and off-site, to comply with the TPR under 660-012-0060(2)(e), which provides for improvements to other modes, facilities, and locations other than those that are significantly affected. The County finds the traffic memo and the proposed mitigations comply with the TPR as it pertains to County intersections.

The application materials show a realignment of Eagle Road from Butler Market Road north to a future eastward extension of Yeoman Road that would connect to the Butler Market/Hamehook intersection. The extension of Yeoman, a County collector, is on the County's Transportation System Plan (TSP) map. County staff supports the concept of both extending Yeoman east from Deschutes Market Road to Butler Market-Hamehook and having Eagle extending north to Yeoman. The submitted master plan materials, however, do not show the existing Cole Road, which was first established as the D.H. Yeomans Rd by Crook County in 1914 (Crook County Commissioners Journal Volume 5, Page 244) and was later established again as Cole Rd by Deschutes County in 1948 (Deschutes County Commissioners Journal Volume 5, Page 395). The proposed master plan would require Cole Road to be vacated (please see page 76 of the traffic analysis and Table 3-12

on page 77). Staff points out the jurisdictional authority of Cole Road is currently the County. A Board of County Commissioners' order will be required to transfer jurisdictional authority post-annexation to the City per the City-County joint management agreement and Oregon Revised Statute (ORS) 373.270, transferring jurisdiction over county roads with cities.

Please let me know if you have any questions. Thanks.

Peter Russell | Senior Transportation Planner
DESCHUTES COUNTY COMMUNITY DEVELOPMENT
117 NW Lafayette Avenue | Bend, Oregon 97703
PO Box 6005 | Bend, Oregon 97708
Tel: (541) 383-6718 | www.deschutes.org/cd

Disclaimer: Please note that the information in this email is an informal statement made in accordance with DCC 22.20.005 and shall not be deemed to constitute final County action effecting a change in the status of a person's property or conferring any rights, including any reliance rights, on any person.

EXHIBIT G

Oregon

Kate Brown, Governor

Department of Transportation
Region 4 Headquarters
63055 N. Highway 97, Bldg. K
Bend, OR 97703
Phone: (541) 388-6180
Fax: (541) 388-6231

November 13, 2019

Eric King, City Manager
City of Bend
710 NW Wall St.
Bend, OR 97703

Subject: Northeast Edge Urban Growth Boundary (NE UGB) Expansion Area and Petrosa Master Plan Transportation Planning Rule (TPR) Compliance

Dear Mr. King:

This letter outlines the Oregon Department of Transportation's (ODOT) position regarding TPR compliance for the NE UGB expansion area and the Petrosa development. Please note that the Petrosa development makes up a significant portion of NE Edge UGB expansion area. Based upon the attached TPR Compliance Memo from Transight Consulting, dated October 10, 2019, ODOT and the City of Bend (City) agree that certain locations on roadways under the jurisdiction of ODOT will be significantly affected by traffic associated with the buildout of the NE UGB expansion area and the Petrosa Master Plan.

ODOT, City, and the developer of Petrosa, Pahlisch Homes Inc., have also agreed upon a suite of potential projects, on both the State and local transportation systems, which would mitigate for the Petrosa impacts. The proposed mitigation projects and the developer's proportionate share for its impacts to ODOT transportation facilities, are as follows:

• US 20/Butler Market Road-Mt. Washington Drive	$49,960.35
• US 97/Butler Market Road Southbound Ramp	$134,423.93
• US 20/27th Street	$27,554.54
• US 97/Empire Avenue Northbound Ramp	$202,328.16

ODOT is seeking confirmation that the City will continue to work cooperatively with ODOT to pursue funding to ensure completion of the mitigation projects listed above by the planning horizon year of 2040. Further, that the City and ODOT will identify sources of funding for joint City/ODOT projects and consider adding the above listed projects to the City's Transportation System Development Charges methodology.

ODOT fully recognizes the complexity and uncertainty associated with the mitigation projects as both the US 97 Parkway Plan and City of Bend Transportation System Plan (TSP) are currently being developed. Both ODOT's and the City's commitments to fund the listed mitigation projects are contingent upon the projects being included in the US 97 Parkway Plan and Bend TSP once adopted. As of the date of this letter, all the listed mitigation projects are proposed to be included in the City's TSP.

With the inclusion of the proposed mitigation improvements in ODOT and City transportation plans, and a commitment to work together to identify funding sources for the projects, ODOT believes that the system-wide benefits of the proposed mitigation projects are sufficient to balance the significant affects generated by the buildout of the Petrosa Master Plan and the potential future development of the remainder of the NE UGB expansion area.

Sincerely,

Gary Farnsworth
ODOT Region 4 Manager

Cc: Russ Grayson
Ryan Oster

EXHIBIT H

TRANSIGHT CONSULTING, LLC
Transportation Engineering and Planning Services



Date:	October 10, 2019
To:	Rick Williams and Miranda Wells, PE, ODOT
From:	Joe Bessman, PE
Project Reference No.:	1205
Subject:	Petrosa (NE Edge UGB) Transportation Planning Rule Compliance

The purpose of this memorandum is to document compliance with the Transportation Planning Rule (TPR) for the Pahlisch Homes' Petrosa Neighborhood located within the Northeast Edge Urban Growth Boundary expansion area. The Master Plan is subject to the TPR as it is an amendment to the City's acknowledged land use regulations.

BACKGROUND AND PLANNING CONTEXT

The Northeast Edge UGB area was identified for urban growth through the City's UGB process that was initiated in 2007, remanded by the Department of Land Conservation and Development, and ultimately approved in December 2016. The transportation element of this process was led by the City's Growth Management Department. The transportation findings generally stated that the amount and types of lands being urbanized were necessary to meet the City's 20-year housing and employment needs through the year 2040.

The analysis prepared by the City in coordination with ODOT's Transportation Planning and Analysis Unit showed that with the combination of lands being brought into the UGB and the internal efficiency (upzoning of internal properties) provided the lowest overall Vehicle Miles Traveled of any scenario considered. This analysis only provided a comparative assessment of the City and State system using the ODOT travel demand models but showed that the only "significantly impacted" facility with this combination of lands would be specific sections of the US 20 corridor. ODOT provided a letter of support as part of this process in concurrence with the findings and recommendations.

Following approval of the UGB, the Growth Management section of the City's Comprehensive Plan was amended to include the specific land use and density assumptions that the UGB process was premised on. These are contained for the Northeast Edge UGB lands within Comprehensive Plan policies 11-56 through 11-63. This requires that the NE Edge support a future elementary school, community shopping area (serving existing and future residents), and various park and open space needs. Figure 1 illustrates the Comprehensive Plan image that is intended to serve as a vision for this area.

All of the planning for the NE Edge was identified as a City-initiated Area Plan (legislative process). However, as the timing of this planning work by the City did not meet the development timeline and current housing demands Pahlisch Homes elected to complete this planning process in close coordination with City staff, with weekly check-in meetings to ensure that the plans are consistent with the Comprehensive Plan land use and density requirements and the City's Development Code.

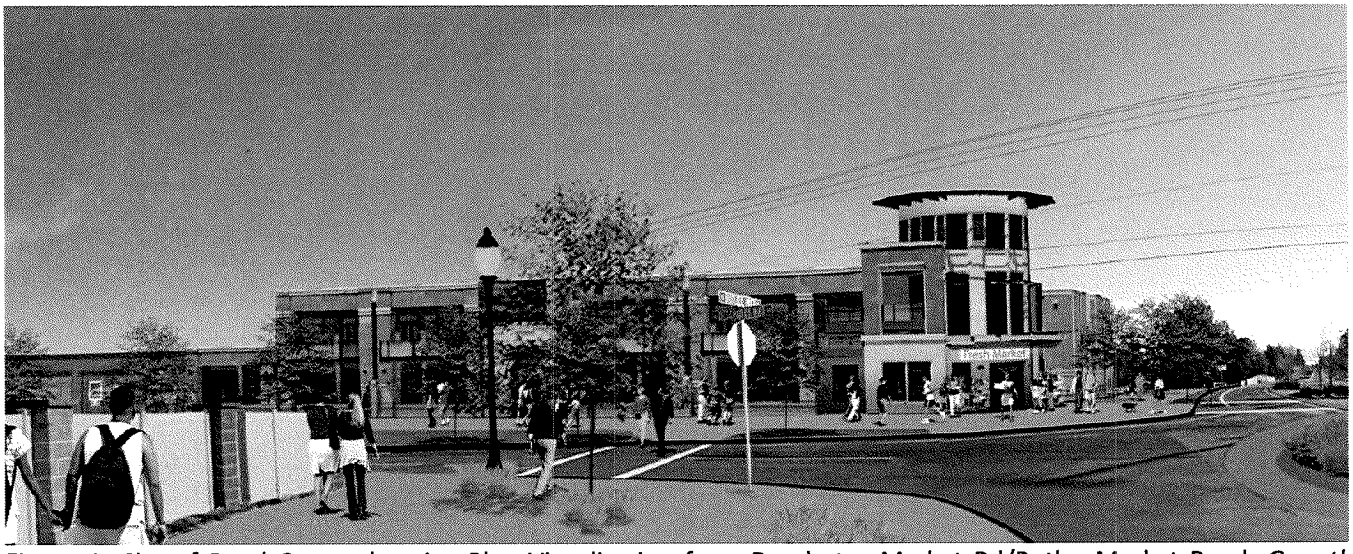


Figure 1. City of Bend Comprehensive Plan Visualization from Deschutes Market Rd/Butler Market Road, *Growth Management, pp 29.*

To address regional impacts of the UGB expansion areas the City began work on its Transportation System Plan and ODOT has initiated a review of the Bend Parkway needs. These plans are still being prepared but incorporate consistent land use assumptions and transportation impacts of the entirety of the Northeast Edge UGB lands (and all other expansion areas). These plans are intended to address major citywide infrastructure needs related to facility classifications and cross sections, as well as the interface between the City and State roadway system. Critical infrastructure decisions, such as the planned cross-section and design of critical corridors (such as NE 27th Street, Empire Avenue, etc.) and the location and types of US 97 connections will be determined by these regional plans. The purpose of the NE Edge Transportation Analysis is to help inform these on-going efforts and to ensure the following (Goal 11-60):

> *The street, path, and bikeway network shall provide connectivity throughout this area, connect to existing abutting local roads, and provide opportunities for connections to adjacent undeveloped land both inside and outside the UGB. The transportation network shall be consistent with the Bend Transportation System Plan.*

In order to formally annex each of the UGB areas into the City's Urban Growth Boundary the City is requiring that an area master plan be prepared. The transportation element of this analysis is intended to extend urban transportation facilities to the property, support the orderly extension of transportation infrastructure, and identify critical safety and operational needs to support access to the incorporated lands. Consistent with the purpose statement of the Transportation Planning Rule (OAR 660-12-0000), this is also to encourage a safe, convenient, and economic transportation system.

TRANSPORTATION PLANNING RULE COMPLIANCE

The Oregon Administrative Rules Chapter 660 Division 12 (Transportation Planning) implements Statewide Planning Goal 12. This division effectively requires coordination between land use planning and transportation to optimize the transportation system for safety, accessibility, economic development, and efficiency. A typical rezoning process is required to comply directly with Section -0060 (Plan and Land Use Regulation Amendments). For a quasi-judicial land use application this typically requires an assessment of conditions with the current and proposed zoning and demonstration that the change does not create an unmitigated significant impact on the transportation system. Where a degradation in service beyond the adopted performance standards or a change in functional classification occurs the applicant is responsible for addressing this impact through transportation improvements, changes to the adopted plans, and/or various types of "balancing" tests so that the overall mitigation is proportionate to the impacts.

The transportation analysis prepared for the NE Edge UGB area incorporates land use assumptions consistent with and as required by the land uses specified within the City's Comprehensive Plan. As was identified in the UGB expansion, the addition of a regional commercial node helps serve the existing residential areas that surround the Petrosa property, and the comprehensive analysis of the NE Edge lands (within and outside of Pahlisch Homes control) provides a clear path for the included properties that are not yet ready for urbanization. This analysis was prepared to highlight system needs under current conditions and with the inclusion of the UGB lands. As scoped and agreed to by affected agencies, separate analysis of the existing (rural) zoning (as a comparative "no-build" scenario) was not provided, as this scenario is not reflected in any of the long-range modeling and would not be consistent with on-going planning efforts for the NE Edge properties or other UGB expansion lands.

The analysis prepared for the NE Edge provides a higher level of analysis detail surrounding the proposed lands but also includes analysis of many of the same regional intersections as the City's on-going Transportation System Planning efforts. The study area for the NE Edge includes intersections along the Empire Avenue, Butler Market Road, and NE 27th Street corridors that are currently being highlighted as "deficient" within the City's on-going planning. The City TSP analysis also highlights current needs along US 97, Butler Market Road/Deschutes Market Road, the Empire Avenue corridor, and the US 20 corridor, consistent with the findings contained within the Petrosa traffic report.

While the NE Edge UGB lands need to remain compliant with the Transportation Planning Rule, the process of master planning and annexing these lands was intended to be conducted as part of a legislative process. The approach applied within the UGB process (a comparative analysis only) and incomplete status of on-going regional plans being prepared by the City and State complicate this process as the regional infrastructure needs and solutions that the NE Edge lands build into have not yet been formally established.

For purposes of addressing compliance with the Transportation Planning Rule, the applicant's proposed mitigation complies with OAR 660-012-0060(2)(e) by providing improvements that would benefit modes other than the significantly affected mode, improvements to facilities other than the significantly affected facility, and through improvements at other locations. The analysis shows that the system-wide benefits are sufficient to balance the significant effect of the overall project, even though the improvements may not result in consistency for all performance standards.

As was requested by ODOT, Figure 3 illustrates the forecast system needs, and Table 1 provides a summary of the study area intersections that were scoped in collaboration with ODOT staff and summarizes the operational needs and pro-rata impacts of the project to help provide the TPR compliance determination

as cited above. While the operations analysis is focused on point-based conditions, the issues highlighted within the traffic study are as follows:

- The City of Bend is reliant on the US 97 system for north-south travel today. Congestion surrounding the corridor is resulting in very high volumes of regional trips relying on Deschutes Market Road to travel between Redmond and the City's east side.
- Because of the high volume of regional traffic on Deschutes Market Road that is bypassing the US 97 corridor, both the Butler Market Road and Yeoman Road intersections will require roundabouts (or signals) when the connections are made. In addition, the Deschutes Market Road/Hamehook intersection experiences high delays for the low-volume southbound left-turn maneuver. Essentially, the rural routes are serving in a much more critical role than they were intended.
- The City's planned extension of Empire Avenue will more directly link the US 97 corridor with the 27th Street corridor (and Knott Road – Baker Road), providing an eastside route past major employment, retail, and residential destinations. However, while all prior analyses show that this will need to be a complete five-lane section to support the projected 2040 demands (and even 2020 demands) the City has elected to construct this segment as a three-lane section. The analysis prepared as part of the Empire Avenue corridor plan shows how critical the completion of Yeoman Road is to support the three-lane section and single-lane roundabouts being designed and constructed.
- When Empire Avenue is connected traffic volumes on NE Butler Market Road are expected to be reduced. Improvements to the NE Butler Market Road interchange with US 97 and specific intersection treatments that are already identified in City and ODOT plans (such as Butler Market Road/4th Street and Butler Market Road/Wells Acres Road) could help increase parallel east-west capacity within northeast Bend.
- The Eagle Road corridor is classified as a Local Street within the City's current Transportation System Plan but is already serving in a more prominent role. As a parallel route to the congested NE 27th Street corridor more trips are diverting to Eagle Road (and Hamby Road) for north-south travel.
- The transportation analysis prepared for the Northeast Edge is based on stand-alone ITE trip rates and does not take into account the creation of a new "town center" area within the 22 acres designated by the City for commercial uses or the new elementary school. These types of uses will help contain the northeast area's trips and reduce the reliance on Empire Avenue and NE 27th Street for shopping, dining, and entertainment trips.
- Multimodal accommodations are being provided with the Petrosa project to support walking, biking, and transit travel modes. The site will extend a walkway connection to the NE 27th Street corridor, provide a new Cascade East Transit stop connected into the retail area, and will develop a system of pathways and sidewalks that meet the defined "low cycling stress" definitions. Enhancements to the BPRD trail system tie in and support a regional trail network and link the new neighborhood with Pine Nursery Park. Complete routes are provided for the entire neighborhood to access the planned elementary school, and school zones and pathways will support safe school routes. In addition, the new pathways along Yeoman Road will tie the site to the NE 18th Street corridor and provide intersection treatments with enhanced crossings.

As this summary outlines, the Petrosa project's transportation improvements integrate priority needs in northeast Bend, creating a complete neighborhood that supports multimodal choices, safety, efficiency. While the total "pro-rata" approach shows nearly $5,000,000 in transportation improvements to mitigate the impact of the project, more than double this amount is being provided to support urbanization of surrounding roads, support regional demands, and to create the parallel Yeoman Road corridor.

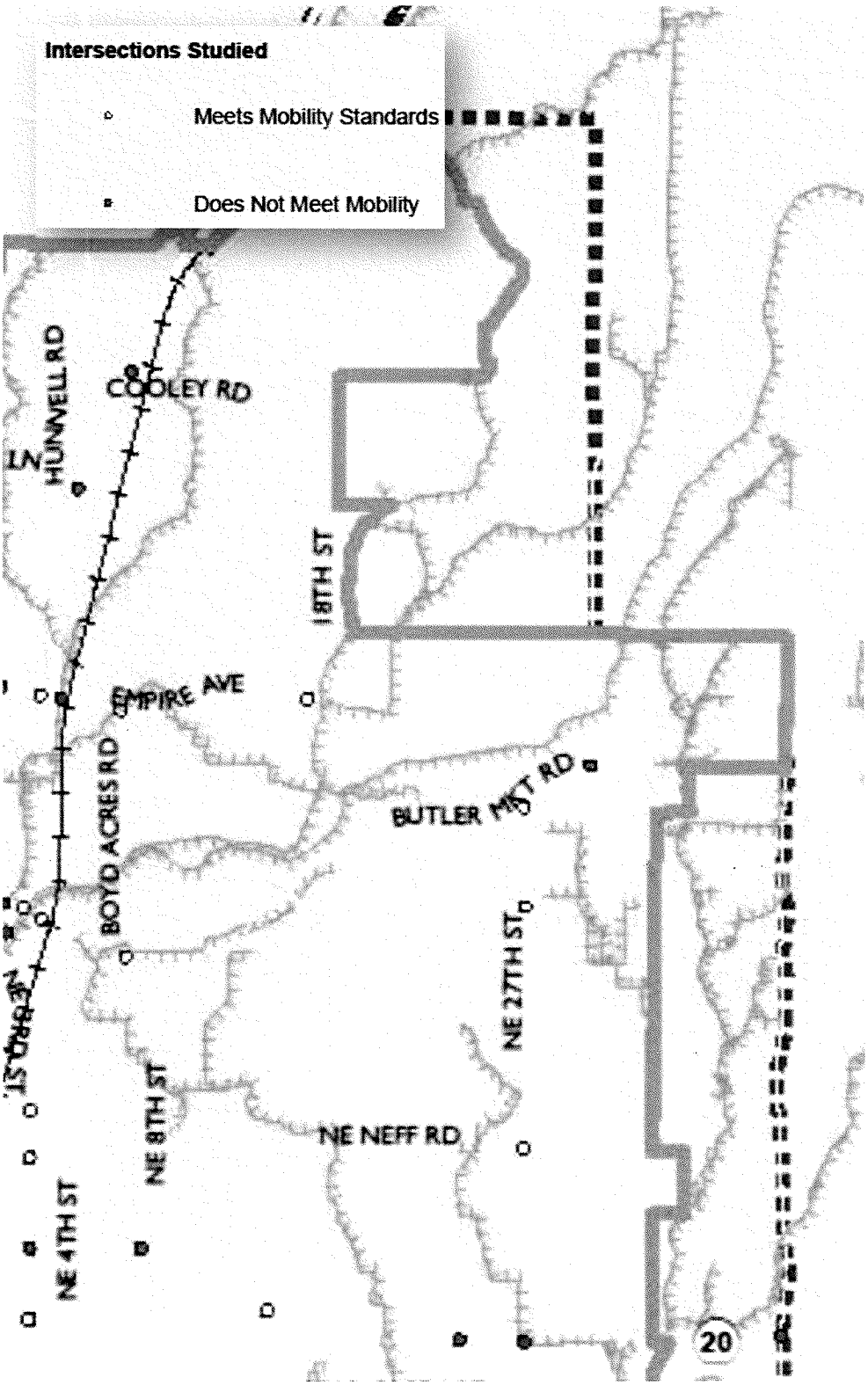


Figure 2. Draft Existing Conditions Analysis.
Source: https://www.bendoregon.gov/Home/ShowDocument?id=37163

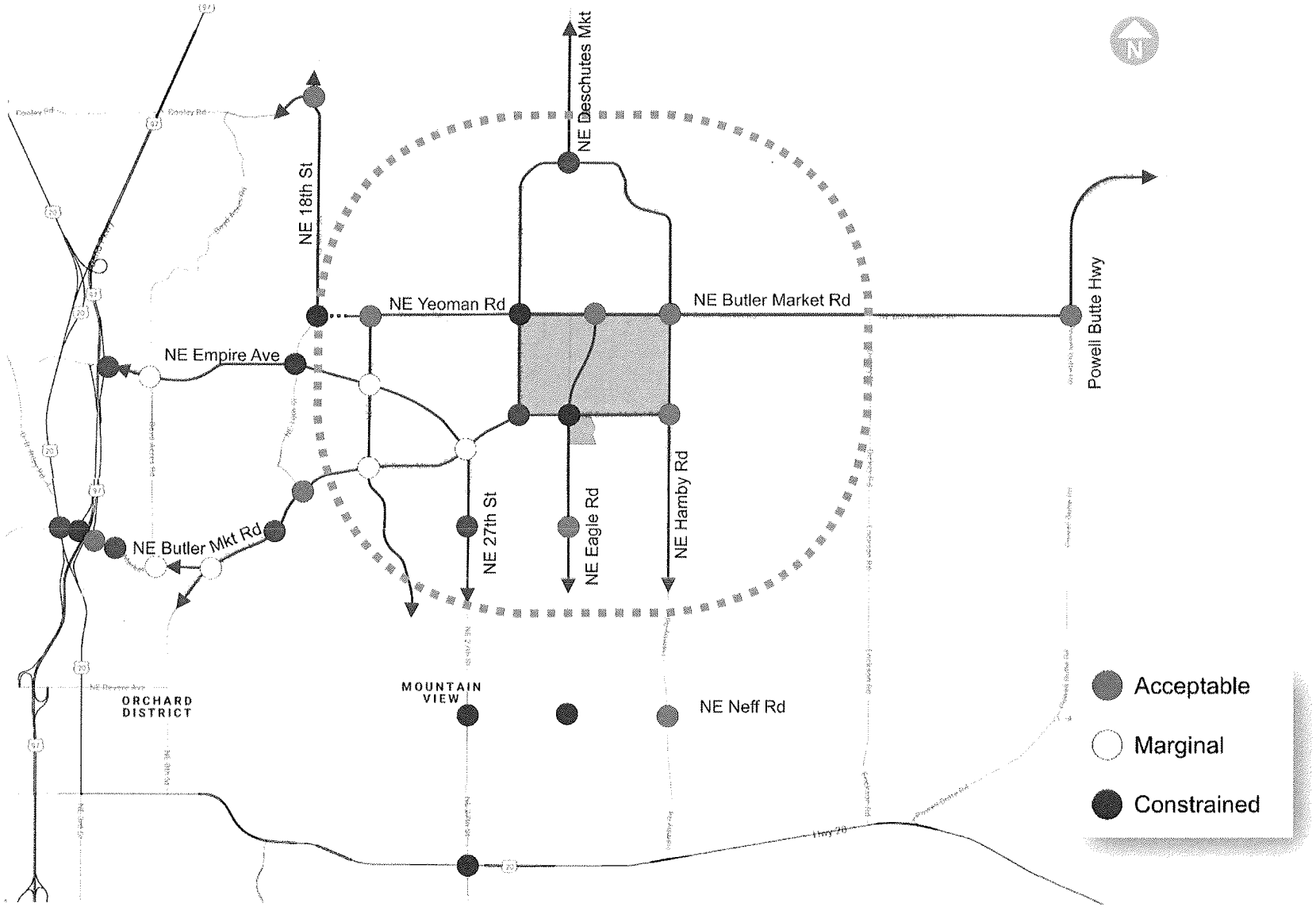


Figure 3. Projected Year 2040 Automotive System Conditions, Weekday PM Peak Hour (Includes Empire Avenue and Yeoman Road Extensions)

Table 1. Summary of Study Area Intersection Operations and Impacts, Weekday PM Peak Hour

Intersection	Roadway Authority	Intersection Control Type	Adopted Performance Standard	Meets Performance Standard Today?	Meets Performance Standard in 2040?	Mitigation Need	2040 Traffic Volume	Site-Generated Trips/ Percentage	Est. Pro Rata Cost
1: NE 18th St/ Cooley Rd	City of Bend	Multilane Roundabout	v/c ratio < 1.0	Yes	Yes	None.	2,706	91 3%	$0.00
2: NE Deschutes Mkt Rd/ Hamehook Rd	Deschutes County	Minor Street Stop Controlled	Level of Service "D"	No	No	Separate Southbound Right-turn Lane.	1,485	102 7%	$17,171.72
3: NE 18th St/ NE Yeoman Rd	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	Not Applicable	No	Single-Lane Roundabout (or Traffic Signal)	1,874	209 11%	$278,815.37
4: NE Purcell Blvd/ NE Yeoman Rd	City of Bend	All-Way Stop-Control	Delay < 80 seconds	Yes	Yes	None.	804	288 36%	$0.00
5: NE Deschutes Mkt Rd/ NE Yeoman Rd	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	Yes	No	Single-Lane Roundabout (or Traffic Signal)	1,606	428 27%	$666,251.56
6: Eagle Rd/ NE Yeoman Rd	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	Not Applicable	Yes	None.	365	365 100%	$0.00
7: East Access/ NE Yeoman Rd	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	Not Applicable	Yes	None.	122	122 100%	$0.00
8: NE Butler Mkt Rd-Hamehook Rd/ NE Yeoman Rd	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	Yes	Yes	None.	862	72 8%	$0.00
9: Powell Butte Hwy/ Butler Mkt Rd	Deschutes County	Minor Street Stop Controlled	Level of Service "D"	Yes	Yes	None.	956	30 3%	$0.00
10: US 97 NB Ramp/ Empire Blvd	ODOT	Signalized Ramp Terminal	v/c ratio < 0.85	No	No	Included within Empire Avenue Improvement Plan, Juniper Ridge Rezone Approval Conditions, and INFRA Project.	3,608	146 4%	$202,328.16
11: Boyd Acres Rd/ Empire Blvd	City of Bend	Signalized	v/c ratio < 1.0	Yes	Yes	None.	3,697	182 5%	$0.00
12: NE 18th St/ Empire Blvd	City of Bend	Multilane Roundabout	v/c ratio < 1.0	Yes	No	Additional Widening of Empire Avenue Required to Support Travel Demands	3,019	203 7%	$100,861.21
13: Purcell Blvd/ Empire Blvd	City of Bend	Planned Roundabout	v/c ratio < 1.0	Yes	Yes	None.	2,260	169 7%	$0.00
14: Deschutes Mkt Rd/ North Access	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	Not Applicable	Yes	None.	1,145	148 13%	$0.00
15: Deschutes Mkt Rd/ South Access	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	Not Applicable	Yes	None.	1,243	280 23%	$0.00
16: Deschutes Mkt Rd/ Butler Mkt Rd	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	No	No	Single-Lane Roundabout (or Traffic Signal)	2,028	723 36%	$891,272.19
17: Eagle Rd/ Butler Mkt Rd	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	Yes	No	Single-Lane Roundabout (or Traffic Signal)	1,447	810 56%	$1,399,447.13
18: East Access/ Butler Mkt Rd	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	Not Applicable	Yes	None.	731	238 33%	$0.00

(Continued)

Table 1 (Continued). Summary of Study Area Intersection Operations and Impacts, Weekday PM Peak Hour

Intersection	Roadway Authority	Intersection Control Type	Adopted Performance Standard	Meets Performance Standard Today?	Meets Performance Standard in 2040?	Mitigation Option	2040 Traffic Volume	Site-Generated Trips/ Percentage	Est. Pro Rata Cost
19: Hamby Rd/ Butler Mkt Rd	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	Yes	Yes	None.	918	118 13%	$0.00
20: Butler Market Rd/ East Access	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	Not Applicable	Yes	None.	719	88 12%	$0.00
21: US 20/ Mt. Washington Dr - Butler Market Rd	ODOT	Signalized	v/c ratio < 0.85	No	No	Assessment on-going within Bend Parkway Plan (and Transportation System Plan).	5,044	126 2%	$49,960.35
22: US 97 SB Ramp/ Butler Mkt Rd	ODOT	Stop Controlled Ramp Terminal	v/c ratio < 0.85	Yes	No	Signalization and widening of the southbound ramp anticipated, to be addressed within the Bend Parkway Plan.	1,812	139 8%	$134,243.93
23: US 97 NB Ramp/ Butler Mkt Rd	ODOT	Stop Controlled Ramp Terminal	v/c ratio < 0.85	Yes	Yes	None.	1,943	147 8%	$0.00
24: NE 4th Street/Butler Market Rd	City of Bend	All-Way Stop-Control	Delay < 80 seconds	No	No	Identified as a Single-Lane Roundabout in the City's SDC list	2,022	187 9%	$231,206.73
25: NE Boyd Acres Rd/ NE Butler Market Rd	City of Bend	Signalized	v/c ratio < 1.0	Yes	Yes	None.	2,518	209 8%	$0.00
26: NE 8th St/Butler Mkt Rd	City of Bend	Roundabout	v/c ratio < 1.0	Yes	Yes	None.	2,557	284 11%	$0.00
27: Brinson Blvd/ Butler Mkt Rd	City of Bend	Signalized	v/c ratio < 1.0	Yes	Yes	None.	2,161	356 16%	$0.00
28: Purcell Blvd/ Butler Mkt Rd	City of Bend	Signalized	v/c ratio < 1.0	Yes	Yes	None.	2,169	500 23%	$0.00
29: NE 27th St/ Butler Mkt Rd	City of Bend	Signalized (Planned Multilane Roundabout)	v/c ratio < 1.0	Yes	Yes	None.	3,524	684 19%	$0.00
30: NE 27th St/ Wells Acres Rd	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	No	No	Capacity improvements will be required; scale will depend on TSP needs identified for the 27th Street corridor and balancing with safety needs of High School. Capacity improvements will likely require widening to a five-lane section and multilane capacity treatment (signal or roundabout)	2,308	141 6%	$305,459.27
31: Eagle Rd/ Wells Acres Rd	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	Yes	Yes	None.	680	244 36%	$0.00
32: NE 27th St/ Neff Rd	City of Bend	Signalized	v/c ratio < 1.0	Yes	No	Capacity improvements will be required, scale will depend on TSP solutions for 27th Street corridor and review of widening needs to a five-lane section.	3,801	230 6%	$60,510.39
33: Eagle Rd/ Neff Rd	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	Yes	No	Capacity improvements will be needed, single-lane roundabout or traffic signal	1,765	164 9%	$232,294.62
34: Hamby Rd/ Neff Rd	Deschutes County	All-Way Stop-Control	Delay < 80 seconds	Yes	Yes	None.	1,275	65 5%	$0.00

(Continued)

Table 1 (Continued). Summary of Study Area Intersection Operations and Impacts, Weekday PM Peak Hour

Intersection	Roadway Authority	Intersection Control Type	Adopted Performance Standard	Meets Performance Standard Today?	Meets Performance Standard in 2040?	Mitigation Need	2040 Traffic Volume	Site-Generated Trips/ Percentage	Est. Pro Rata Cost
35: NE 27th St/ US 20	ODOT	Signalized	v/c ratio < 0.85	No	No	Intersection is fully built-out to urban standards. Improvements are likely to be required on parallel routes (Bear Creek)	5,226	144 3%	$27,554.54
36: Butler Mkt/ Wells Acres	City of Bend	Minor Street Stop Controlled	Delay < 50 seconds	No	No	Single-lane Roundabout Identified in City SDC list	368	368 18%	$460,000.00
Total									**$5,057,377**

TRANSPORTATION PLANNING RULE COMPLIANCE

Table 2 provides a summary of the relevant criteria from section -0060 and how they pertain to the subject property.

Table 2. Summary of OAR 660-12-0060 Criteria Applicability

Section	Criteria	Applicable?
1	Describes how to determine if a proposed land use action results in a significant impact.	Yes, see response below
2	Describes measures for complying with Criterion #1 where a significant impact is determined.	Yes, see response below
3	Describes measures for complying with Criteria #1 and #2 without assuring that the allowed land uses are consistent with the function, capacity and performance standards of the facility.	No
4	Determinations under Criteria #1, #2, and #3 are coordinated with other local agencies.	Yes (Application requires coordination with ODOT and Deschutes County)
5	Indicates that the presence of a transportation facility shall not be the basis for an exception to allow development on rural lands.	No
6	Indicates that local agencies should credit developments that provide a reduction in trips.	Yes, see response below
7	Outlines requirements for a local street plan, access management plan, or future street plan.	Yes, see response below
8	Defines a mixed-use, pedestrian-friendly neighborhood.	Yes, see response below
9	Outlines requirements under which a local government may find that an amendment to a zoning map does not significantly affect an existing and planned transportation facility.	No
10	Outlines requirements under which a local government may amend a plan without applying performance standards related to motor vehicle traffic congestion, delay or travel time for an area designated as a Mixed-Use Multimodal Area.	No
11	Outlines requirements under which a local government may approve an amendment with partial mitigation for traded sector jobs.	No

As shown in Table 2, there are eleven criteria that apply to Plan and Land Use Regulation Amendments. Of these, Criteria #1, #2, and #4 are applicable to the proposed land use action, and per sections 6 through 8 the site does qualify as a mixed-use pedestrian friendly neighborhood. These criteria is provided below in *italics* with responses shown in standard font.

Transportation Planning Rule Section 1: Determination of Significant Impacts

This section describes how the finding of a significant impact is defined. This section shows that the subject project creates a significant impact on the transportation system.

OAR 660-012-0060 (1) If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:

(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);

(b) Change standards implementing a functional classification system; or

(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.

(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

Response: All area roads with the exception of Eagle Road are expected to continue to function in a manner consistent with their existing functional classification. Under existing conditions, Eagle Road carries a higher north-south through volume that is inconsistent with its classification as a *Local Street*. This is likely due to the roadway supporting the travel demands on the parallel NE 27th Street and NE Hamby Road corridors. The section of Eagle Road south of Butler Market Road will likely be reclassified with the ongoing update of the City of Bend Transportation System Plan, and already this road is being constructed with bicycle lanes as is only typical for *Collectors* and *Arterials*.

Eagle Road through the Northeast Edge UGB lands is identified within the Area Plan as a *Neighborhood Route*, which is intended to provide a classification between the City's *Local Street* and *Major Collector* designations. This designation is not currently included in the City's Transportation System Plan, nor is the proposed roadway cross-section. This designation and design reflect the greater role Eagle Road is anticipated to play in supporting the school and commercial land uses. The reclassification of Eagle Road will result in the finding of a significant impact on the transportation system; however, the identification and design of this facility consistent with this identified need is the purpose and intent of the master plan and area planning process, and this designation only impacts the new section of Eagle Road between Butler Market Road and Yeoman Road.

(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or

Response: There are several regional intersections surrounding and included within the study area of the Northeast Edge UGB lands that will experience congestion with or without the new complete neighborhood. Several of these locations do not meet mobility targets/standards under existing conditions. These findings are already separately documented within the City's draft Transportation System Plan and ODOT's on-going US 97 Parkway Plan. The urbanization of the NE Edge UGB lands will incrementally impact various roadways and intersections as separately identified within this report. Accordingly, the project results in a significant affect.

(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.

Response: As discussed in the June Transportation Impact Analysis and summarized in Table 1, multiple intersections are expected to exceed City, County, and State mobility standards with or without the new neighborhood. There are locations within the study area that are experiencing failing conditions today and without mitigation will operate with higher delays with the additional Northeast Edge UGB lands. The solution to these system issues are being considered as part of the City's on-going Transportation System Plan and the US 97 Parkway Plan. Accordingly, the project results in a significant affect.

Transportation Planning Rule Section 2: Compliance with Significant Effect

Where a significant impact is identified this section describes the options to mitigate this finding. The TPR provides a variety of measures, including adopting land use measures, adding the necessary facilities into agency plans (and funding mechanisms), changing the standards, constructing improvements, or providing improvements to facilities/modes other than just the impacted facility/mode. The subject project incorporates elements of all four sections but heavily relies on the system-wide balancing test of Section 2(e).

OAR 660-012-0060 (2) Where a local government determines that there would be a significant effect, compliance with section (1) shall be accomplished through one or a combination of the following unless the amendment meets the balancing test in subsection (2)(e) of this section or qualifies for partial mitigation in section (11) of this rule. A local government using subsection (2)(e), section (3), section (10) or section (11) to approve an amendment recognizes that additional motor vehicle traffic congestion may result and that other facility providers would not be expected to provide additional capacity for motor vehicles in response to this congestion.

(a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.

Response: The incorporation of higher densities within the NE Edge lands is intended to prevent additional sprawl into more constrained areas or other locations that would result in higher overall Vehicle Miles Travelled. The inclusion of the property into the UGB and the specific land use designations and density requirements is in and of itself a land use measure that was adopted to support area transportation needs through the City's UGB process.

(b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.

Response: The City's Transportation System Plan is currently being prepared and will address the regional issues. This plan is being coordinated with ODOT's US 97 Parkway Plan, as the treatment of interchange terminals and Parkway connections will substantially alter current City travel patterns on the City and County roadway system. The City is currently in the process of identifying funding mechanisms to help comply with these requirements and has already identified increased Transportation System Development Charges. They are contemplating a new transportation bond measure to help manage existing and planned City growth.

Within the subject property and surrounding the site there are several improvements that are proposed in conjunction with the project. This includes construction of Eagle Road and Yeoman Road, and improvements to support regional travel needs.

(c) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.

Response: The master plan is creating a Special Planned District which will provide a new section of City Code specific to the Northeast Edge UGB lands. This will include new facility classifications (such as the proposed *Neighborhood Route* designation of Eagle Road) and brings other surrounding collector and arterial facilities into compliance with their urban designation. As the TSP process already accounts for the Northeast Edge UGB lands within its base assumptions no changes are required to the on-going Transportation System Planning efforts that are underway, although site-specific roadway alignments, cross-sections, and mitigation strategies should be integrated and prioritized according to their regional need.

(d) Providing other measures as a condition of development or through a development agreement or similar funding method, including but not limited to transportation system management measures or minor transportation improvements. Local governments shall as part of the amendment, specify when measures or improvements provided pursuant to this subsection will be provided.

Response: There are several transportation measures being implemented to address surrounding transportation system needs. As identified within this report, these include the extension of Yeoman Road to create a new transportation corridor, four new roundabouts, and other treatments such as pedestrian crossings, school zones, unique streetscapes, and transit accommodations. The timing of these improvements is directly correlated to the project phasing plan as outlined within the TIA. Additional specifics related to these improvements will be outlined within the Annexation Agreement.

Based on discussions with ODOT staff, to address impacts to State facilities a separate pro-rata payment will be provided per the costs outlined in Table 1. The affected intersections include the following costs:

- US 20/Butler Market Road – Mt Washington Dr: $49,960.35
- US 97 Southbound Ramp/Butler Market Road: $134,243.93

- US 20/NE 27th Street: $27,554.54
- US 97 Northbound Ramp/Empire Avenue: $202,328.16

These costs to ODOT facilities total $414,086.97, with the timing of payment of these fees to be captured within the project annexation agreement. As the traffic study is premised on full build-out of the entire UGB area these costs include both the Petrosa lands within the master plan and the external areas shown in Figure 4.

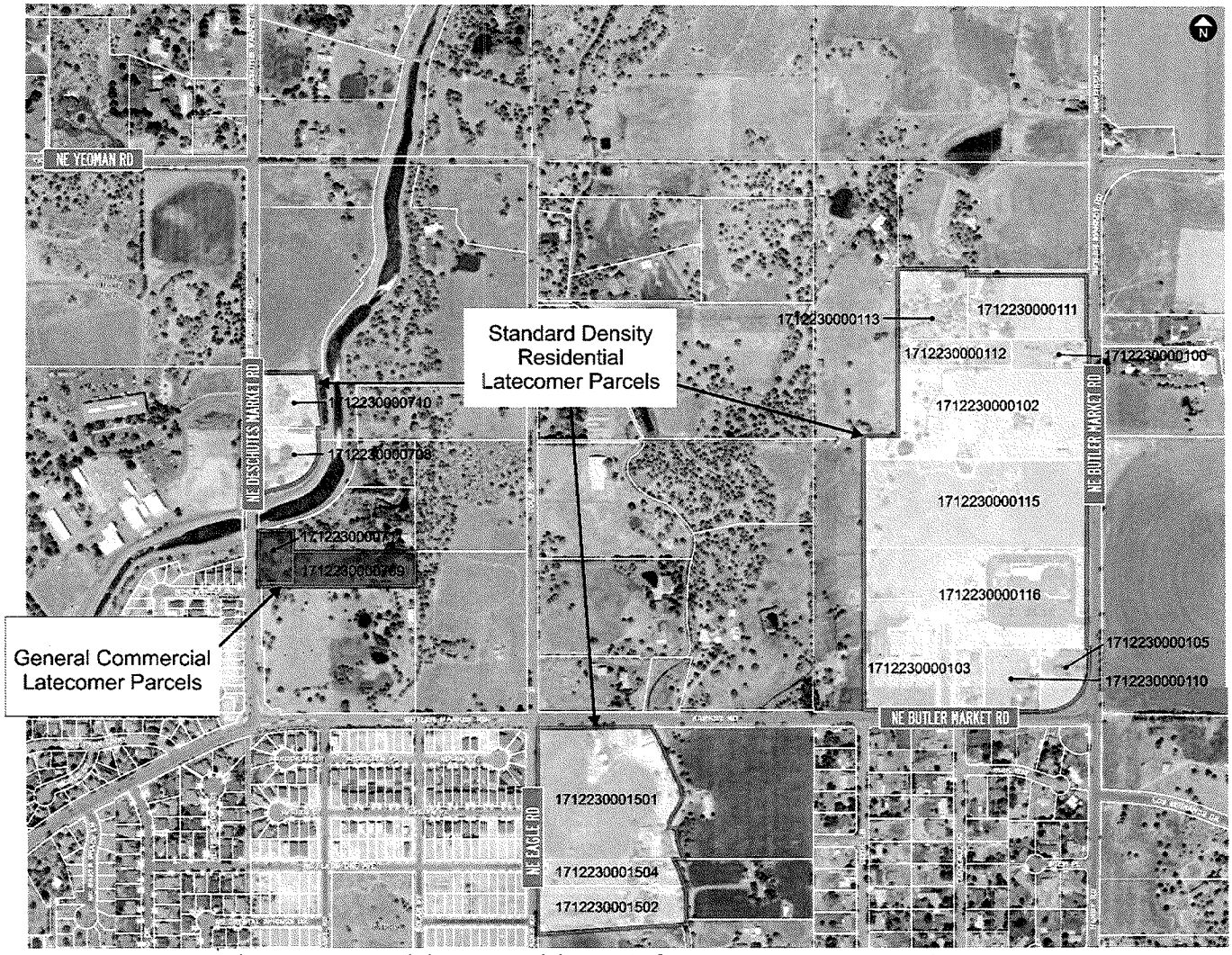


Figure 4. Properties subject to per weekday PM peak hour trip fee to ODOT upon annexation.

Fees collected by the City and provided to ODOT will be earmarked for planning, operations, or capacity improvements to the Empire Avenue, Butler Market, or US 20 corridors.

(e) Providing improvements that would benefit modes other than the significantly affected mode, improvements to facilities other than the significantly affected facility, or improvements at other locations, if the provider of the significantly affected facility provides a written statement that the system-wide benefits are sufficient to balance the significant effect, even though the improvements would not result in consistency for all performance standards.

Response: The master plan provides a review of multimodal infrastructure to connect the site with surrounding transportation services and infrastructure. This includes linkages to the adjacent Pine Nursery Park, trail systems throughout the new urban area, and extensive treatments along the periphery of the area to bring the surrounding rural roads to an urban design standard. Extensive pathways and school zone treatments are also planned surrounding the future elementary school, allowing residents of the entire neighborhood to walk to the school or to Pine Nursery Park.

The improvements and investment provided within the Yeoman Road corridor far outweigh the demands of the project. Yeoman Road has been identified as a system need and has been a part of the current County and City Transportation System Plans. The Yeoman Road corridor was recently identified within the Empire Avenue improvement plans as a critical connection for the viability of the newly constructed roundabouts and streetscape on the Empire Avenue corridor; without this treatment the on-going construction of Empire Avenue will not be adequate to support current demands and additional widening of the road and roundabouts would be necessary.

In addition, drivers heading north on the US 97 corridor are diverting along NE Deschutes Market Road toward the Deschutes Junction today. The rural intersections bordering the property are experiencing high delays and congestion as these facilities were not designed to support these regional travel demands. New roundabouts at Deschutes Market Road/Butler Market Road and Deschutes Market Road/Yeoman Road support these City and County facilities in their regional connectivity role, and with these improvements helps to remove trips from the most constrained portions of US 97. These improvements to the Deschutes Market Road corridor can be more cost-effectively provided than improvements on US 97 itself, consistent with the prioritization of investments as required within the Oregon Highway Plan as Policy 2B:

> *It is the policy of the State of Oregon to provide state financial assistance to local jurisdictions to develop, enhance, and maintain improvements on local transportation systems when they are a cost-effective way to improve the operation of the state highway system if:*
>
> - *The off-system costs are less than or equal to on-system costs, and/ or the benefits to the state system are equal to or greater than those achieved by investing in on-system improvements;*
> - *Local jurisdictions adopt land use, access management and other policies and ordinances to assure the continued benefit of the off-system improvement to the state highway system;*
> - *Local jurisdictions agree to provide advance notice to ODOT of any land use decisions that may impact the off-system improvement in such a way as to adversely impact the state highway system; and*
> - *Local jurisdictions agree to a minimum maintenance level for the off-system improvement that will assure the continued benefit of the off-system improvement to the state highway system.*

The roundabout planned at the NE Butler Market Road/Eagle Road intersection improves the Eagle Road corridor as urbanization pressures are increasing the role it plays within the City. As indicated in this report, the draft Transportation System Plan is considering increasing the classification of this facility to some form of a *Collector* roadway. The roadway is already being treated as a Collector within its streetscape design today, with new development being required to provide bicycle lanes along their frontage. The proposed roundabout will support this elevated

function, increasing the ability of the corridor to reduce trips on the congested NE 27th Street corridor.

Overall this master plan provides minor transportation measures, refines the general concepts within the adopted Transportation System Plan, provides improvements to other travel modes, and provides other measures through the land use planning that preceded these efforts to mitigate its impacts and reduce citywide vehicle miles travelled. Accordingly, it is requested that as part of ODOT's review that ODOT provide a written statement indicating support of the improvements to the City infrastructure that provides improvements to facilities other than the dispersed significantly affected intersections.

Transportation Planning Rule Section 4: Agency Coordination

This section of the TPR requires coordination with other service providers. The application has been scoped with and provided to Deschutes County and ODOT, and there have been weekly meetings with City staff.

OAR 660-12-0060(4) Determinations under sections (1)–(3) of this rule shall be coordinated with affected transportation facility and service providers and other affected local governments.

Response: The City of Bend coordinates land use applications with affected agencies. The project scoping was coordinated with Deschutes County and ODOT, draft reports were provided to both agencies, and the final report was also submitted to agencies with a request for comments. In addition to the written materials, the team has met weekly with the City of Bend and has discussed and met with Deschutes County and ODOT on multiple occasions to coordinate findings and mitigation strategies.

(a) In determining whether an amendment has a significant effect on an existing or planned transportation facility under subsection (1)(c) of this rule, local governments shall rely on existing transportation facilities and services and on the planned transportation facilities, improvements and services set forth in subsections (b) and (c) below.

(b) Outside of interstate interchange areas, the following are considered planned facilities, improvements and services:

(A) Transportation facilities, improvements or services that are funded for construction or implementation in the Statewide Transportation Improvement Program or a locally or regionally adopted transportation improvement program or capital improvement plan or program of a transportation service provider.

(B) Transportation facilities, improvements or services that are authorized in a local transportation system plan and for which a funding plan or mechanism is in place or approved. These include, but are not limited to, transportation facilities, improvements or services for which: transportation systems development charge revenues are being collected; a local improvement district or reimbursement district has been established or will be established prior to development; a development agreement has been adopted; or conditions of approval to fund the improvement have been adopted.

(C) Transportation facilities, improvements or services in a metropolitan planning organization (MPO) area that are part of the area's federally-approved, financially constrained regional transportation system plan.

(D) Improvements to state highways that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when ODOT provides a written statement that the improvements are reasonably likely to be provided by the end of the planning period.

(E) Improvements to regional and local roads, streets or other transportation facilities or services that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when the local government(s) or transportation service provider(s) responsible for the facility, improvement or service provides a written statement that the facility, improvement or service is reasonably likely to be provided by the end of the planning period.

Response: This analysis relies on the projects identified within the financially constrained Regional Transportation Plan as included in the MPO's travel demand modeling. This analysis approach is consistent with these requirements, and with on-going planning being conducted by the State and City. There are several other pending transportation plans in the area that will be further refined within either a design or the Transportation System Plan process.

Transportation Planning Rule Section 6: Mixed-Use Neighborhoods

Section 6 of the TPR seeks to reduce the regulatory barriers to creating dense mixed-use and multimodal neighborhoods. The subject property complies with this section of Code with its integrated retail, school, and neighborhood plans.

(6) In determining whether proposed land uses would affect or be consistent with planned transportation facilities as provided in sections (1) and (2), local governments shall give full credit for potential reduction in vehicle trips for uses located in mixed-use, pedestrian-friendly centers, and neighborhoods as provided in subsections (a)–(d) below;

(a) Absent adopted local standards or detailed information about the vehicle trip reduction benefits of mixed-use, pedestrian-friendly development, local governments shall assume that uses located within a mixed-use, pedestrian-friendly center, or neighborhood, will generate 10% fewer daily and peak hour trips than are specified in available published estimates, such as those provided by the Institute of Transportation Engineers (ITE) Trip Generation Manual that do not specifically account for the effects of mixed-use, pedestrian-friendly development. The 10% reduction allowed for by this section shall be available only if uses which rely solely on auto trips, such as gas stations, car washes, storage facilities, and motels are prohibited;

(b) Local governments shall use detailed or local information about the trip reduction benefits of mixed-use, pedestrian-friendly development where such information is available and presented to the local government. Local governments may, based on such information, allow reductions greater than the 10% reduction required in subsection (a) above;

(c) Where a local government assumes or estimates lower vehicle trip generation as provided in subsection (a) or (b) above, it shall assure through conditions of approval, site plans, or approval standards that subsequent development approvals support the development of a mixed-use, pedestrian-friendly center or neighborhood and provide for on-site bike and pedestrian connectivity and access to transit as provided for in OAR 660-012-0045(3) and (4). The provision of on-site bike and pedestrian connectivity and access to transit may be accomplished through application of acknowledged ordinance provisions which comply with 660-012-0045(3) and (4) or through conditions of approval or findings adopted with the plan amendment that assure compliance with these rule requirements at the time of development approval; and

(d) The purpose of this section is to provide an incentive for the designation and implementation of pedestrian-friendly, mixed-use centers and neighborhoods by lowering the regulatory barriers to plan amendments which accomplish this type of development. The actual trip reduction benefits of mixed-use, pedestrian-friendly development will vary from case to case and may be somewhat higher or lower than presumed pursuant to subsection (a) above. The Commission concludes that this assumption is warranted given general information about the expected effects of mixed-use, pedestrian-friendly development and its intent to encourage changes to plans and development patterns. Nothing in this section is intended to affect the application of provisions in local plans or ordinances which provide for the calculation or assessment of systems development charges or in preparing conformity determinations required under the federal Clean Air Act.

Response: The identification of the NE Edge UGB area as a mixed-use neighborhood within the City's UGB process directly complies with these provisions. While only a 7 percent internal trip reduction was applied within the transportation analysis the site would comply with a minimum reduction of 10 percent internalization. The support of the City's low stress cycling network, provision of transit amenities, and mixed-use neighborhood that conforms with Growth Management's density requirements fully complies with this section. Per Subsection (d), while the actual trip benefits may vary, this minimum 10 percent internalization credit is intended as an incentive to support mixed-use centers and neighborhoods.

Transportation Planning Rule Section 7: Commercial Lands

The proposed project includes a total of 22 acres of commercial lands and so is required to address Section 7 of the TPR. This is accomplished through the master plan and area plan that outline the street plans and sections.

(7) Amendments to acknowledged comprehensive plans and land use regulations which meet all of the criteria listed in subsections (a)–(c) below shall include an amendment to the comprehensive plan, transportation system plan the adoption of a local street plan, access management plan, future street plan or other binding local transportation plan to provide for on-site alignment of streets or accessways with existing and planned arterial, collector, and local streets surrounding the site as necessary to implement the requirements in OAR 660-012-0020(2)(b) and 660-012-0045(3):

(a) The plan or land use regulation amendment results in designation of two or more acres of land for commercial use;

(b) The local government has not adopted a TSP or local street plan which complies with OAR 660-012-0020(2)(b) or, in the Portland Metropolitan Area, has not complied with Metro's requirement for street connectivity as contained in Title 6, Section 3 of the Urban Growth Management Functional Plan; and

(c) The proposed amendment would significantly affect a transportation facility as provided in section (1).

Response: The proposed NE Edge UGB lands exceed two acres of commercial use, there is no adopted TSP with a supporting street plan, and the proposed amendment creates a significant affect. The City's requirements for an Area Plan address the local street plan (and should be adopted into the draft TSP efforts) and the commercial lands serve as a "town center" node to reduce trips throughout the surrounding area. The Area Plan included within this application addresses these requirements, although there is some flexibility in the specific alignment of roads and their connections to *Collectors* and *Arterials* within properties not under the control of the applicant.

Transportation Planning Rule Section 8: Pedestrian Friendly Neighborhood

Section 8 defines what a "Mixed-Use Pedestrian Friendly Center or Neighborhood is. This shows that the proposed plans for the Petrosa development comply outright with these requirements as have previously been established as part of the City's UGB expansion process.

(8) A "mixed-use, pedestrian-friendly center or neighborhood" for the purposes of this rule, means:

(a) Any one of the following:

(A) An existing central business district or downtown;

(B) An area designated as a central city, regional center, town center or main street in the Portland Metro 2040 Regional Growth Concept;

(C) An area designated in an acknowledged comprehensive plan as a transit oriented development or a pedestrian district; or

(D) An area designated as a special transportation area as provided for in the Oregon Highway Plan.

(b) An area other than those listed in subsection (a) above which includes or is planned to include the following characteristics:

(A) A concentration of a variety of land uses in a well-defined area, including the following:

(i) Medium to high density residential development (12 or more units per acre);

(ii) Offices or office buildings;

(iii) Retail stores and services;

(iv) Restaurants; and

(v) Public open space or private open space which is available for public use, such as a park or plaza.

(B) Generally include civic or cultural uses;

(C) A core commercial area where multi-story buildings are permitted;

(D) Buildings and building entrances oriented to streets;

(E) Street connections and crossings that make the center safe and conveniently accessible from adjacent areas;

(F) A network of streets and, where appropriate, accessways and major driveways that make it attractive and highly convenient for people to walk between uses within the center or neighborhood, including streets and major driveways within the center with wide sidewalks and other features, including pedestrian-oriented street crossings, street trees, pedestrian-scale lighting and on-street parking;

(G) One or more transit stops (in urban areas with fixed route transit service); and

(H) Limit or do not allow low-intensity or land extensive uses, such as most industrial uses, automobile sales and services, and drive-through services.

Response: All of the requirements for a "mixed use pedestrian friendly center or neighborhood" are met with the proposed Northeast Edge UGB lands as defined within subsection (b) and as required within the Comprehensive Plan policies for the development and urbanization of these lands.

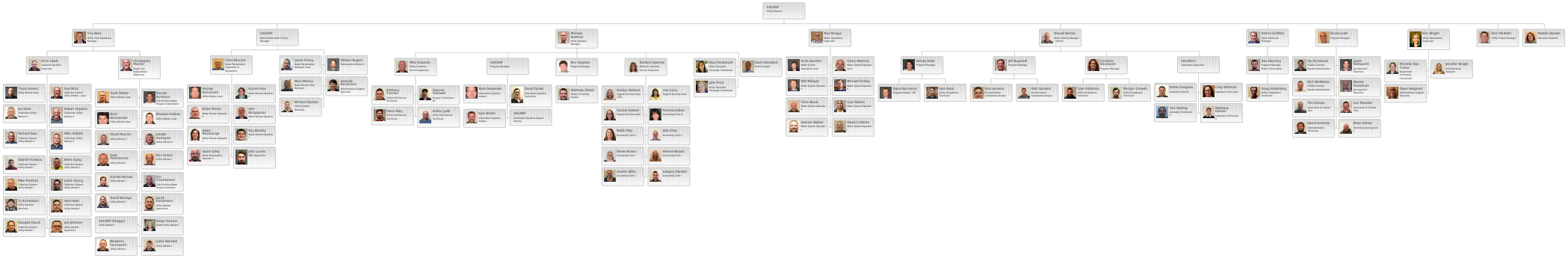
NEXT STEPS

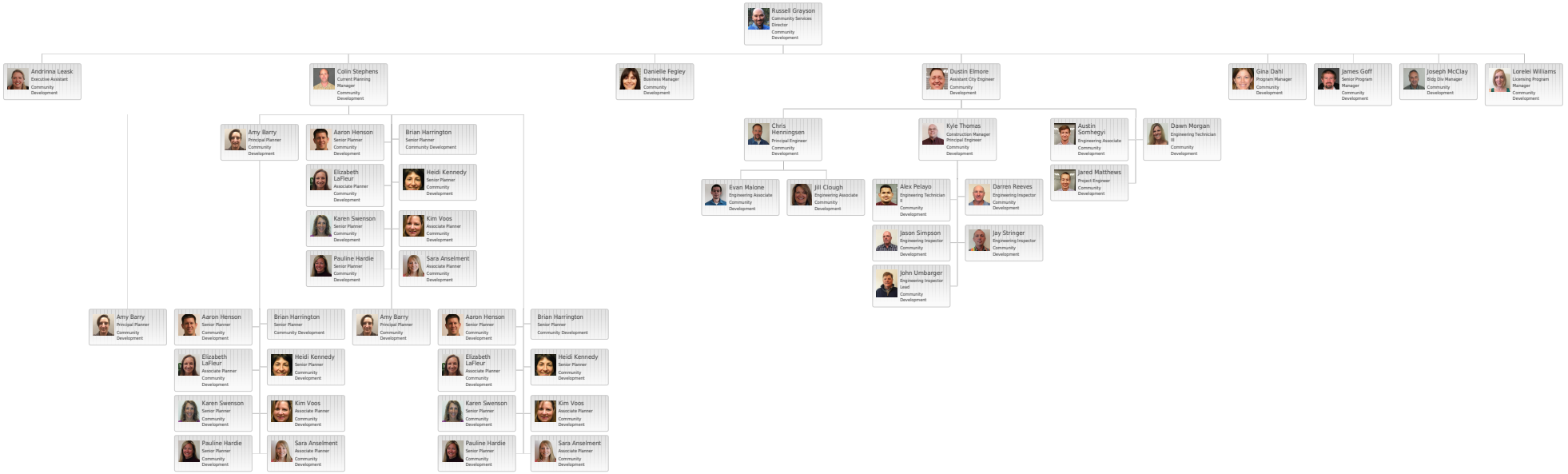
We trust that these materials provide the affected agencies adequate documentation on how the proposed NE Edge/Petrosa project complies with the Transportation Planning Rule as part of the project annexation and master plan. Ultimately, the applicant's proposed mitigation will comply with the Transportation Planning Rule under OAR 660-012-0060(2)(e) by providing improvements that would benefit modes other than the significantly affected mode, improvements to facilities other than the significantly affected facility and through improvements at other locations.

Based on our discussions with City staff we believe that these system-wide benefits are sufficient to balance the significant impact of the overall project, even though the improvements may not result in consistency for all performance standards at each off-site intersection. From discussions with ODOT staff a supplemental net new weekday p.m. peak hour fee of $281.88 in combination with the proposed transportation improvements ODOT also agrees that the project complies with the Transportation Planning Rule. Please let me know if you have any questions on these materials.

Appendix A.3

Organizational Charts by Department:
Utilities, Community Development, EIPD, Streets


VACANT
Utility Director
Troy Heck
Utility Field Operations Manager
Chris Libolt
Collection System Supervisor
Travis Sackett
Utility Worker Lead
Ian Klotz
Collections Utility Worker I
Richard Kuss
Collection System Utility Worker II
Gabriel Morales
Collection System Utility Worker I
Mike Preston
Collection System Utility Worker I
Ty Richardson
Utility Systems Mechanic
Douglas Mauck
Collection System Utility Worker I
Paul Brick
Collection System Utility Worker - Lead
Robert Hopkins
Collections Utility Worker II
Mike Gillette
Collections Utility Worker II
Brent Suing
Collection System Utility Worker I
Justin Young
Collection System Utility Worker I
Hank Baer
Collection System Utility Worker I
Joe Johnson
Utility Worker Apprentice
Christopher Martinez
Water and Wastewater Operations Supervisor
Scott Weber
Utility Worker Lead
Nick Rochester
Utility Worker Lead
Stuart Reynolds
Utility Worker I
Isaac Whitehead
Utility Worker I
Harold Nichols
Utility Worker I
Jared Warrego
Utility Worker I
VACANT (Shaggy)
Utility Worker I
Benjamin Hartsworth
Utility Worker I
Donald Bernreuter
Water Drinking Water Program Coordinator
Brandon Pribbeno
Utility Worker Lead
Joseph Hollingsworth
Utility Worker II
Rich Landon
Utility Worker I
Eric Chamberlain
Water Drinking Water Program Coordinator
Jacob Rampagnon
Utility Worker Apprentice
Robyn Sorensen
Water Utility Worker I
Justin Bernard
Utility Worker I
VACANT
Water Reclamation Facility Manager
Chris Morales
Water Reclamation Operations Supervisor
George McCardell
Water Reclamation Operator II
Allan Perez
Water Reclamation Operator I
Alan Wadsworth
Water Reclamation Operator I
Aaron Utley
Water Reclamation Operator I
Wynne Hee
Water System Operator II
Ian Montgomery
Water System Operator I
Ray Bradley
Water System Operator I
Josh Lucero
WRF Apprentice
Lance Finney
Water System Lead
Marc Mickey
Water System Mechanic
Michael Stanton
Utility Systems Mechanic
William Rogers
Maintenance Worker I
Amanda Rodriguez
Administrative Support Specialist
Michael Buettner
Utility Business Manager
Mike Edwards
Utility Customer Service Supervisor
Anthony Gilliam
Utility Field Service Technician
Steve Riley
Utility Field Service Technician
Dakota Gallegos
Program Technician - Sr
Arthur Judd
Utility Field Service Technician
VACANT
Program Manager
Mark Alexander
Information Systems Analyst
Kyle Winder
Information Systems Analyst
Chris Clarke
Information Systems Technician
VACANT
Information Systems Analyst - Vacancy
Ken Vaughan
Program Manager
Matthew Zerbst
Utility Planning Analyst
Barbara Sparrow
Utility Customer Service Supervisor
Roslyn Holland
Customer Service Lead - CSS
Connie Hulbert
Customer Service Lead
Robin May
Accounting Tech I
Renee Brown
Accounting Tech I
Amelia Wills
Accounting Tech I
Lisa Curry
Customer Service Lead
Amanda Gilbert
Accounting Tech III
Jake Sing
Accounting Tech II
Jolene Woods
Accounting Tech I
Gregory Daniels
Accounting Tech I
Mary Pocklington
Utility Education Campaign Coordinator
Julie Price
Utility Education Campaign Coordinator
Dave Strickland
Senior Analyst
Rod Mingus
Water Operations Supervisor
Scott Gardner
Water System Operations Lead
Will Hidlage
Water System Operator
Chris Wood
Water System Operator
Andrew Walker
Water System Operator
Corey Mastrud
Water System Operator
Michael Findley
Water System Operator
Tyler Babcock
Water System Operator
David Crabtree
Water System Operator
Wendy Kide
Program Manager
David Buchanan
Program Analyst - GIS
Sam Rossi
Utility Compliance Technician
PT Bagstad
Program Manager
Nick Jenkins
Environmental Compliance Analyst
Matt Sanders
Environmental Compliance Analyst
Christine Davenport
Program Manager
Tyler Patterson
Utility Compliance Technician
Morgan Crowell
Utility Compliance Technician
VACANCY
Laboratory Supervisor
Stefan Dangelo
Analytical Chemist
Tom Welling
Laboratory Technician II
Cody Whitman
Laboratory Tech Lead
Matthew Mahaffey
Laboratory Technician
Gerald Nichols
Water Quality Manager - Interim
Patrick Griffiths
Water Resources Manager
Dan Deming
Program Manager - Water Conservation
Craig Vanderbeek
Utility Compliance Technician
David Lovell
Program Manager
Gil Pritchard
Utility Controls System Administrator
Nick McMahon
Utility Controls System Administrator
Tim Carlson
Instrument & Control Tech
David Armenta
Instrumentation Technician
Scott Wentworth
Electrician
Mechanic
Mario Pacheco
Electrician
Mechanic
Sam Moulder
Instrument & Control Tech
Brian Hilton
Electrical Journeyman
Ken Wright
Utility Department Manager
Nick McAbee
Utility Project Manager
Natalie Daniels
Materials Assistant
Michelle Alpi Trainor
Department Administrative Coordinator
Dawn Helgeson
Administrative Support Specialist
Jennifer Wright
Administrative Assistant


Russell Grayson
Community Services Director
Community Development
Andrinna Leask
Executive Assistant
Community Development
Colin Stephens
Current Planning Manager
Community Development
Danielle Fegley
Business Manager
Community Development
Dustin Elmore
Assistant City Engineer
Community Development
Gina Dahl
Program Manager
Community Development
James Goff
Senior Program Manager
Community Development
Joseph McClay
Bldg Div Manager
Community Development
Lorelei Williams
Licensing Program Manager
Community Development
Amy Barry
Principal Planner
Community Development
Aaron Henson
Senior Planner
Community Development
Brian Harrington
Senior Planner
Community Development
Elizabeth LaFleur
Associate Planner
Community Development
Heidi Kennedy
Senior Planner
Community Development
Karen Swenson
Senior Planner
Community Development
Kim Voos
Associate Planner
Community Development
Pauline Hardie
Senior Planner
Community Development
Sara Anselment
Associate Planner
Community Development
Chris Henningsen
Principal Engineer
Community Development
Kyle Thomas
Construction Manager
Principal Engineer
Community Development
Austin Somhegyi
Engineering Associate
Community Development
Dawn Morgan
Engineering Technician III
Community Development
Evan Malone
Engineering Associate
Community Development
Jill Clough
Engineering Associate
Community Development
Alex Pelayo
Engineering Technician II
Community Development
Darren Reeves
Engineering Inspector
Community Development
Jared Matthews
Project Engineer
Community Development
Jason Simpson
Engineering Inspector
Community Development
Jay Stringer
Engineering Inspector
Community Development
John Umbarger
Engineering Inspector Lead
Community Development



Ryan Oster PE, PMP
EIPD Director/City Engineer
O 541-693-2134
C 503-332-9956



Eric Forster PE, PLS, PMP
Assistant City Engineer
O 541-317-3040
C 541-388-7974



Brad Tower PE
Project Engineer
O 541-323-8528
C 541-588-2651



Josh Swain
Engineering Inspector
O 541-323-8512
C 541-640-6306



Katherina Barguil
Engineering Tech III
O 541-388-5558
C 541-588-2664



Lindsey Cromsigt PE
Project Engineer
O 541-617-4520
C 541-588-0675



George Franklet PE
Principal Engineer
O 541-693-2182
C 541-728-3456



Chad Towell
Engineering Inspector Lead
O 541-388-5559
C 541-280-0168



Deedee Fraley PE
Project Engineer
O 541-385-6199
C 541-678-3617



Drew Wells PE
Project Engineer
O 541-388-5526
C 541-588-0581



Patrick Konop
Engineering Inspector
O 541-323-8592
C 541-903-0811



Rory Rowan PE
Project Engineer
O 541-388-5575
C 541-588-2427



Sinclair Burr PE
Project Engineer
O 541-330-4018
C 503-866-4530



Jessica MacClanahan PE, PMP
Principal Engineer
O 541-330-4003
C 503-544-7321



Alex Doza EIT
Engineering Associate
O 541-323-8595
C 541-678-2597



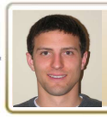
Bret Dalrymple
Engineering Inspector
O 541-388-5565
C 541-480-9490



Brittany Park PE
Project Engineer
O 541-323-8593
C 541-588-0700



Jake Sherman PE
Project Engineer
O 541-383-4882
C 360-430-4668



Jason Suhr PE, PMP
Project Engineer
O 541-317-3053
C 541-678-3813



Kevin Bays
Engineering Inspector
O 541-323-8535
C 541-797-4092



Oliver Murray PE
Project Engineer
O 541-693-2183
C 503-679-0847



Dana Wilson
Management Analyst
O 541-388-5566
C 541-213-9851



Teresa Findley
Program Technician I
O 541 388-5578



Charanne Stein
Program Coordinator
O 541-323-8597

Technical Support Services



Adele McAfee
Executive Assistant
O 541-317-3003
C 541-390-5441



Christopher Coleman
Administrative Support Specialist
O 541-330-4012

Department Admin Support

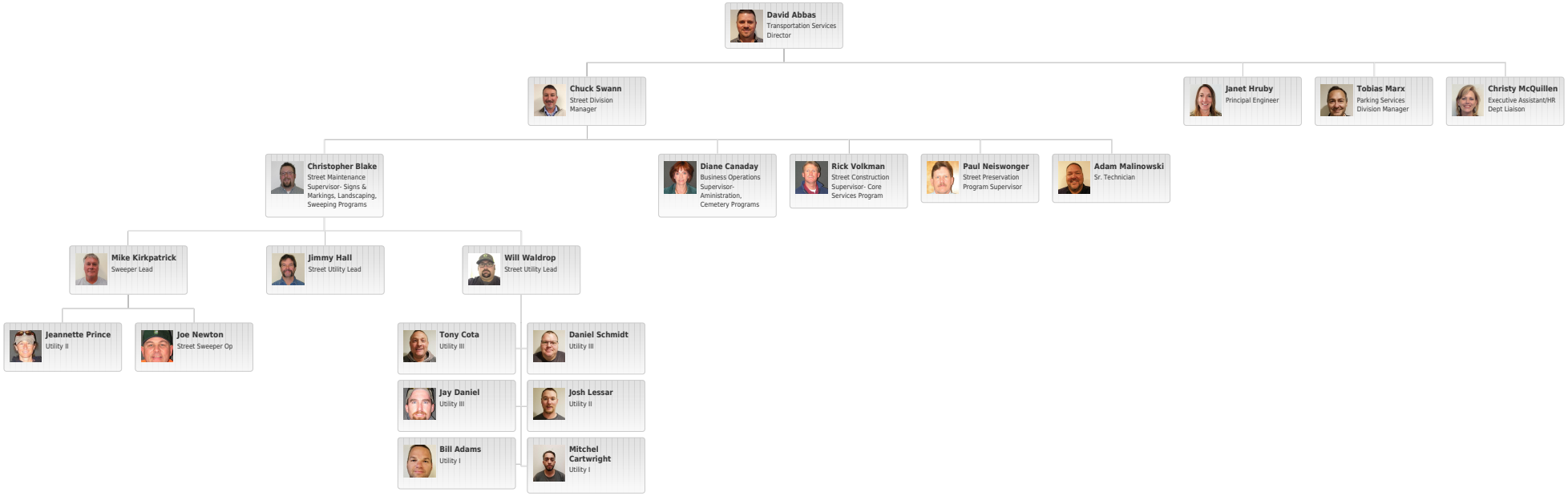


Bob DenOuden
Growth Mgt & EIPD
GIS Performance Analyst
O 541-330-4024

GIS Support Services

BEND ENGINEERING

06/03/2020


David Abbas
Transportation Services Director
Chuck Swann
Street Division Manager
Janet Hruby
Principal Engineer
Tobias Marx
Parking Services Division Manager
Christy McQuillen
Executive Assistant/HR Dept Liaison
Christopher Blake
Street Maintenance Supervisor- Signs & Markings, Landscaping, Sweeping Programs
Diane Canaday
Business Operations Supervisor- Aministration, Cemetery Programs
Rick Volkman
Street Construction Supervisor- Core Services Program
Paul Neiswonger
Street Preservation Program Supervisor
Adam Malinowski
Sr. Technician
Mike Kirkpatrick
Sweeper Lead
Jimmy Hall
Street Utility Lead
Will Waldrop
Street Utility Lead
Jeannette Prince
Utility II
Joe Newton
Street Sweeper Op
Tony Cota
Utility III
Daniel Schmidt
Utility III
Jay Daniel
Utility III
Josh Lessar
Utility II
Bill Adams
Utility I
Mitchel Cartwright
Utility I

Appendix A.4

Staff Certifications and General Trainings

THE AMERICAN PUBLIC WORKS ASSOCIATION

HAS CONFERRED UPON

Wendy G. Edde, CSM

THE DESIGNATION OF

CERTIFIED STORMWATER MANAGER (CSM)

FOR DEMONSTRATING A HIGH LEVEL OF COMPETENCE FOR STORMWATER MANAGEMENT BY SUCCESSFULLY COMPLETING AN EXAMINATION, DOCUMENTING EDUCATION AND WORK EXPERIENCE, AND FULFILLING PRESCRIBED STANDARDS OF CONDUCT AND PERFORMANCE REQUIRED FOR CSM.

Date of Certification: August 6, 2019

Certified Until: August 5, 2024

Brian R. Usher
Chair, Certification Council

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

This certificate is presented to

Wendy Edde

in recognition of successful completion of

CEU: 2.3

Foundation for Using Geographic Information Systems (GIS) for Infrastructure Asset Management (GOCGIA20)

12/16/2019

and for demonstrating a commitment to engineering excellence through lifelong learning.

Gayle Claman

Gayle Claman, CAE
Managing Director, Continuing Education

Florida Provider Number:
0003826
Florida Course Number:

Please retain this certificate for your continuing education records.
1801 Alexander Bell Drive, Reston, VA 20191-4400 Phone: (800) 548-2723

AUTHORIZED IACET PROVIDER

CENTER FOR WATERSHED PROTECTION

Center for Watershed Protection Webcast
Certificate of Completion

is hereby granted to

David Buchanan

to certify that he/she has completed to satisfaction a
one and one-half (1.5) hour training on the subject of:

TMDL Planning and Implementation

Granted: April 29, 2020

Hye Yeong Kwon
Executive Director



Appendix B

Public Education and Outreach on Stormwater Impacts

Appendix B.1

City Newsletters/Bend Current (Stormwater-Specific Articles)

Appendix B.2

Safe Disposal of Water from your Pool and Spa

Appendix B.3

One Water Handout

Appendix B.4

KTZV and Bend Bulletin Articles

Appendix B.5

Educational Outreach (Bend Park and Recreation and BendFilm)

Appendix B.6

City Council Memorandums

Appendix B.7

Clean Water Works Partnership Program Evaluation

Ok to Pay	Media Buys Months	2020 Stormwater Education Media Buys	Owner	Station	# Pd Spts	# N/C Spts	Total Spts	Spot Name
	Jan	Util. Cpg Sept19-March 20	Wendy	KOHD	53	12	65	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
	Jan	Util. Cpg Sept19-March 20	Wendy	KBNZ	0	74	74	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
	Feb	Util. Cpg Sept19-March 20	Wendy	KOHD	52	8	60	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
	Feb	Util. Cpg Sept19-March 20	Wendy	KBNZ	0	81	81	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
X	Mar	Util. Cpg Sept19-March 20	Wendy	KOHD	52	8	60	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
	Mar	Util. Cpg Sept19-March 20	Wendy	KBNZ	0	63	63	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
X	Apr	Util. Cpg Apr2-May 20	Wendy	KOHD	57	0	57	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
	Apr	Util. Cpg Apr2-May 20	Wendy	KBNZ	0	406	406	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
X	May	Util. Cpg Apr2-May 20	Wendy	KOHD	32	0	32	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
	May	Util. Cpg May20-Aug20	Wendy	KBNZ	0	40	40	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
X	May	Util. Cpg May20-Aug20	Wendy	KOHD	23	3	26	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
	June	Util. Cpg May20-Aug20	Wendy	KOHD	44	8	52	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
	June	Util. Cpg May20-Aug20	Wendy	KBNZ	0	99	99	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
	July	Util. Cpg May20-Aug20	Wendy	KOHD	43	8	51	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
	July	Util. Cpg May20-Aug20	Wendy	KBNZ	0	91	91	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
	August	Util. Cpg May20-Aug20	Wendy	KOHD	49	8	57	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18
	August	Util. Cpg May20-Aug20	Wendy	KBNZ	0	90	90	Wipes 2019 Student PSA; Flow Rivers; Dirty Water; Storm Clean Water 2018; Clean water Student Film18

BendFilm, City of Bend, Central Oregon Daily's
Clean Water Works Kid's Video Contest
An opportunity for those who care a whole awful lot
www.bendoregon.gov/CleanWaterWorksKids



Westside Village Adventure Camps

Bend Park & Recreation DISTRICT

Adventure, art, boundless creativity – Dive into a journey packed with drama, singing, dancing, and playing the ukuleles and drums. Create inspiring art projects and play engaging games. Get moving with walking adventures or playing at the park. Imagination has no limits!
Ages: 5 - 14

Conference camp (April 8-10)
Sign up: www.bookeo.com/friendsofwvms
Spring break and summer camps:
SIgn up: www.bendparksandrec.org/activities/how-to-register/

"Unless someone like you cares a whole awful lot, nothing is going to get better. It's not."

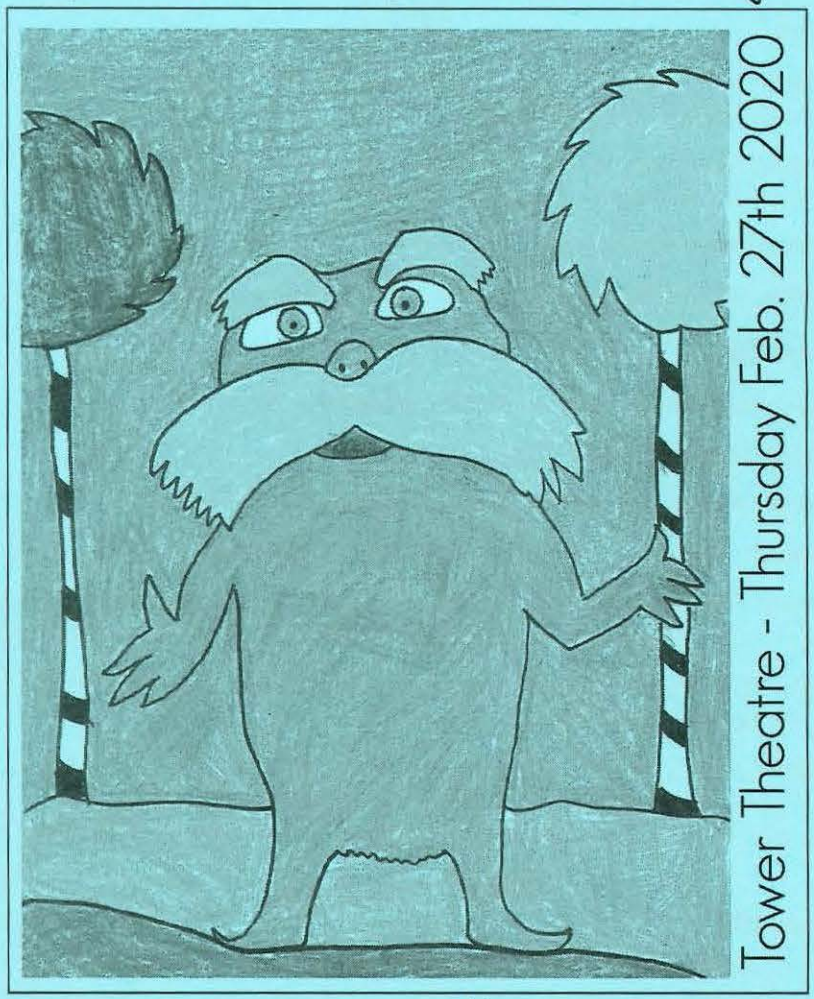
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Elden Homes
Northwest AeroBarrier
Bend Spirits
Unitarian Universalists of Central Oregon
Team Sams
Deschutes Brewery
Rockin' Dave's
10 Barrel Brewing Co

Friends of WVMS presents

THE LORAX:

The Musical - The Westside Way



Tower Theatre - Thursday Feb. 27th 2020

sponsored by

bS Blackstrap
nicorpa
Clean Water Works
Bend Spirits

Clean Water Works – City of Bend Public Service Announcements

"Bend Aquaculture," featuring WVMS alum Elijah Kraus - 2018 Grand Prize Winner
"The Issue With Flushable Wipes:" - 2019 Grand Prize Winner

Introduction to The Lorax by Geneva Grube and Will Mowry

Prelude: "Ripple" instrumental

by The Grateful Dead
Ameline Shultz, Piper Cronin, Miranda Kajikawa, Karlee Petersen

Act I

Scene I

Band: Emily Krehbiel, Will Mowry, Piper Cronin, Sebastian Mente, Miranda Kajikawa, Ameline Shultz

Loraxians: Madi Rice, Makenna Fraser, Maggie Cushen, Rowan Tracy, Ali Heinly, Lucy Egertson Gralie Williams

Storyteller: Kailey Goodsell, Zoe Du Toit

Children: Campbell Hurzeler, Ali Heinly, Anja-Katrina Naerheim

Scene IIa

Old Once-lers: Kai Brennan (Act 1), Ty Bueker (Act 2)

Young Once-ler: Parker Garcia

Lorax: Maggie Spampinato (afternoon), Stella Hurzeler (evening)

Swans: Ocean Kezer, Hari Foote, Violet Alloy, Bridget Gibson, Gabi Fernandez

Bears: Geneva Grube, Stella Hurzeler (afternoon), Maggie Spampinato (evening), Piper Lawless, Addie Bluhm, Landen Barlow, Sam Jacobsen, Sunny Kezer, AJ Stuehling

Fish: Dennis Drury, Megan Sommers, Liliana Clark, Patrick Gibson, Haylen Smith, Eun Mi Kippley, Karlee Petersen

Trees: Lincoln Jennings, Joseph Torres, Leunam Carreno-Beltran, Tatum Hoffmann, Ally Martin, Marley Miller, Luke Petersen, Jayden Hamilton, James Turner, Ella Williams, Maddison Kandle, Zachary Williams, Xander Hurst, Tatsuo Kippley

"Ripple" - The Grateful Dead

Scene IIb

Band, Loraxians, Young Onceler, Lorax, Storyteller, Influencer, Onceler Family

Influencer: Cierra Lafferty

Onceler Family: Seth Rozek, Dax Flanagan, Val Baz, Austin Harder, Quincy Bernahl, Asha Berliner, Lucy Egertson, Serafina Quercini, Eben Osher, Ameline Shultz, Amanda Bellusci, Carys Evans, Hayden Cagle, Kyra Rice



INTERMISSION

cocktails available in lobby

ACT 2:

WATCH YOUR GARDEN GROW

by Mark Ransom

Scene I

Band, Loraxians, Young Onceler, Storyteller, Lorax, Bears, Swans, Fish, Less Trees

Poetry Slam

written by Mr. Dave and students

"SAY SOMETHING BEAUTIFUL"

by Greg Holden

Scene II

Band, Loraxians, Young Onceler, Onceler Family, Lorax, Storyteller, Old Onceler, Last 2 Trees

Scene III

Band, Loraxians, Old Onceler, Children

Finale

"PLANTING SEEDS"

by Nimesh "Nimo" Pastel and David Nahmod

THE CREATORS of magic

Producer/ Director: Miss Lovely
Assistant Director: Mr. Dave
Music & Choir Directors: Patrick Pearsall, Stephanie Slade
Choreography: Miss Lovely, Sarah and Shelby Walker, Shawn O'Grady
Original Music: Mark Ransom
Script Adaptation: Mark Ransom, Miss Lovely, Mr. Dave

A SPECIAL THANKS TO

Sets: Brett Madrigal, Sarah Swoffer, Liz Uhazy
Set Artists: Kathleen Lombard, Leslie Sutton, Ingrid Lustig
Costumes: Gabriel and Ariana Fernandez, Grandma Cheryl McCoy
Videography: Didrik Johnck
Friends Board Outreach: Nichola Mente

4:51

Friends of Westside Villa...

Home About Events Photos Videos Co

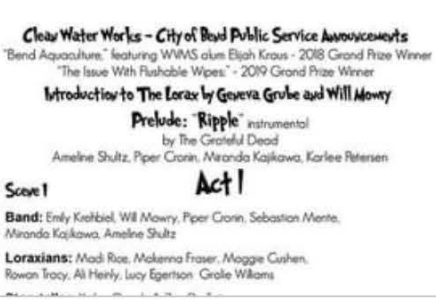
Friends of Westside Village Magnet School

Mar 1 ·

Thank you, Ms. Lovely and crew, for creating another magical piece! The students and parents will forever cherish this evening. THANK YOU!!!
Video coming soon!!!









Message

YEAR-ROUND WORLDCLASS PICKLEBALL

IS JUST AROUND THE CORNER.



INTRO TO PICKLEBALL

COURTS OPEN TO THE PUBLIC

CLINICS / CAMPS

INDIVIDUAL AND GROUP LESSONS

RATING CLASSES

ORGANIZED PLAY

PICKLEBALL ZONE BEND

OREGON PICKLEBALL Academy

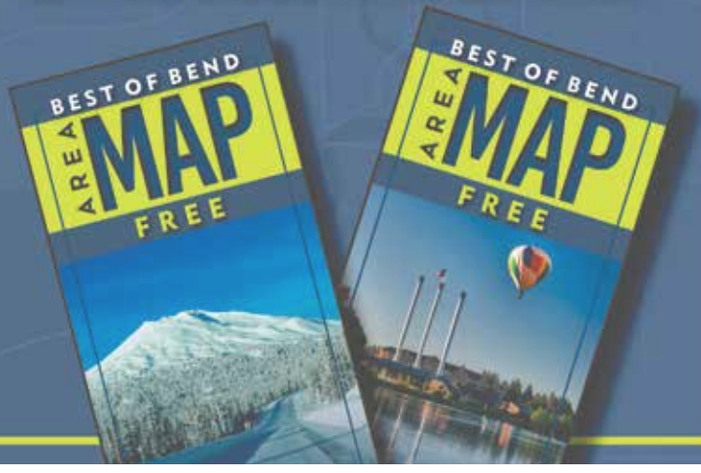
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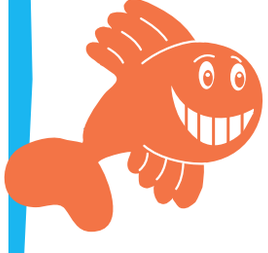


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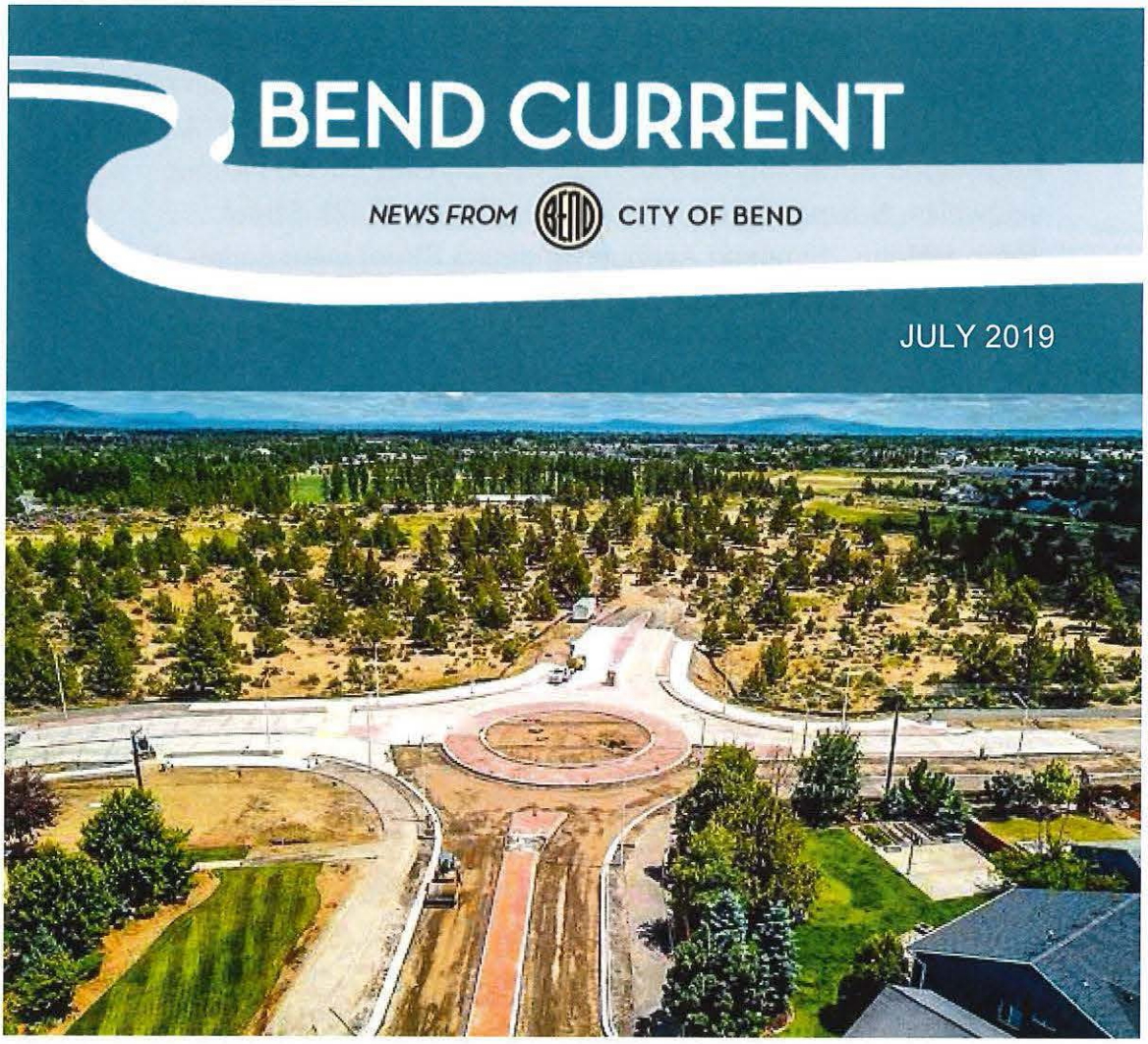


Wendy Edde

From: communications@bendoregon.gov on behalf of City of Bend <communications@bendoregon.gov>
Sent: Thursday, July 18, 2019 6:12 PM
To: Wendy Edde
Subject: Bend Current: Newsletter for the Community, July 2019

Updates on the City's work to improve transportation in Bend, the plastic bag ban, a Community Climate Action Plan online open house and much more!

Date: 07/18/2019 6:03 PM



TRANSPORTATION CONSTRUCTION AND FUNDING

The City has heard a clear message from the community that transportation – such as traffic congestion and neighborhood street safety - are top concerns.

The City is working to provide safe, reliable, transportation options.

The **Empire Corridor improvements** are under way, and we're about to start **Murphy Corridor improvements**, both of which will provide new road extensions to improve east-west connections across Bend, help address traffic congestion, and provide safer walking and biking routes.

With the adoption of the **2019-21 budget** in June, the Council approved an increase to transportation system development charges (SDCs) and franchise fees to bring in approximately $1 million per year for the Neff Road/Purcell Boulevard intersection, Reed Market Road/Bond Street roundabout, Highway 20/Greenwood Avenue sidewalks, Newport Avenue from College Way to 9th Street improvements, Simpson Avenue/Columbia Street intersection, Butler Market Road/Wells Acres Road roundabout, neighborhood greenways and more.

But there is much more work to do. The **Citywide Transportation Advisory Committee** will prioritize an **updated list of needed projects** that will move the community into the future.

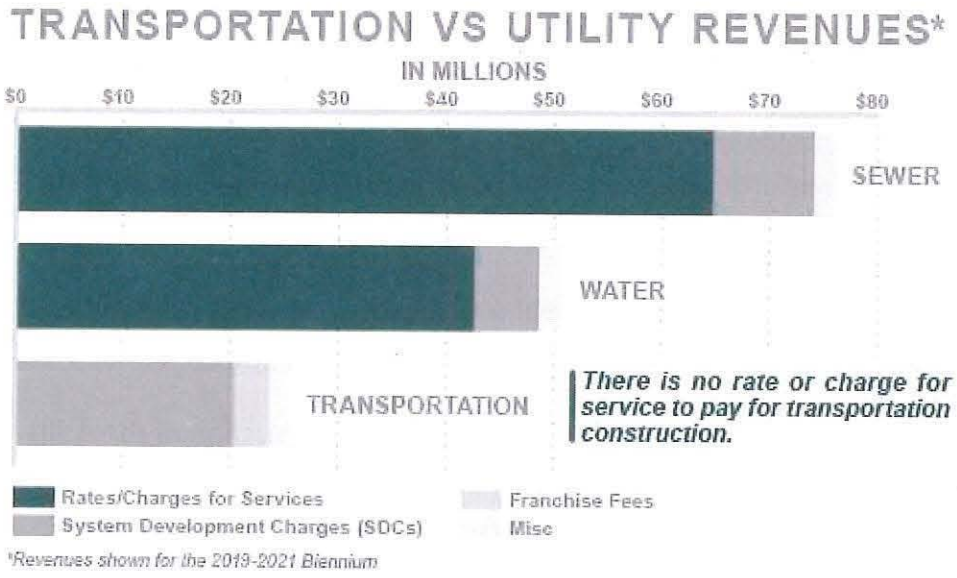
Transportation is difficult to fund. There is no rate or charge for service to pay for transportation construction, like there is for sewer or water.

SDCs, also called impact fees, are collected when new development occurs in Bend. They are used to fund a portion of new streets, sanitary sewers and water, and are necessary to provide adequate funding for growth-related capital improvements. They can't pay for ongoing maintenance, though. Since SDCs result from growth and development, revenues over time are volatile since they increase and decrease based on the amount of development going on in Bend.

Bend's property taxes, already one of the lowest rates in the state, cannot be increased without a change of state legislation, due to

Measures 5 and 50 passed in the 1990's. Federal and state funding is limited and variable.

So, the City is exploring sustainable sources of funding to keep up with the needs. Stay tuned as we update the **Transportation System Plan**, which will identify our highest transportation needs and recommendations for how to pay for them!





MURPHY CORRIDOR IMPROVEMENT PROJECT

The **Murphy Corridor Improvements Project** will greatly improve and increase connectivity, emergency response times, and safety in Southeast Bend for neighborhoods, the traveling public, bicyclists and pedestrians.

Watch the video here.

This project includes two distinct segments:

1. Murphy Road extended east from Brosterhous Road to 15th Street.
2. Complete street upgrades between Parrell Road and Brosterhous Road, and the addition of a roundabout at the intersection of Country Club Road.

Construction of the 15th Street roundabout and sidewalk extension will begin in August and is expected to be completed in November.

You are invited to an open house prior to construction of the 15th Street roundabout and sidewalk extension. It will be held from 9 a.m. - 11 a.m. and 5 p.m. - 7 p.m. on Tuesday, August 6, at the Murphy Project staging area, directly across from the entrance of The Bridges at Shadow Glen neighborhood, 61155 SE 15th Street, Bend, OR.

For more information, visit the project website:

Murphy Corridor Project



FIREWORKS TASKFORCE SUCCESS

Police officers and Fire inspectors teamed up for patrols several nights in late June and early July to respond exclusively to illegal fireworks calls as part of the Fireworks Taskforce. Efforts of the taskforce resulted in one arrest for the possession and sale of illegal fireworks and 256 calls for service related to fireworks.

The Fireworks Taskforce focused on areas in Bend where data showed more reports of illegal fireworks in the past. Social media comments and feedback also helped to identify additional areas to be patrolled. In fact, social media interactions helped identify two addresses that were allegedly responsible for illegal fireworks shows in the past. Taskforce members made contact with residents at those addresses prior to the July 4 holiday. Taskforce members were able to maintain compliance with fireworks laws at both addresses.

There was a significant increase in firework complaints through non-emergency dispatch this year, likely due to the taskforce's community education efforts that directed people to call in and report what they see.

The taskforce has receive mostly positive feedback from the community on the effectiveness of its efforts this year. Some community members are asking for more patrols in the future and others are saying this year's patrols worked well.

The taskforce will develop patrols next year using data from this year and will continue working with neighborhood associations to educate the community on the dangers of illegal fireworks. They may also work with City Council to review current City ordinance for possible enhancements.



COUNCIL UPDATES

Council did not meet on July 3 due to the holiday.

PLASTIC BAG UPDATE

The Bend City Council voted to repeal a City ordinance intended to encourage the use of reusable bags and limit the use of carryout plastic bags. The ordinance went into effect July 1 and enforcement was going to begin Jan. 1, 2020.

Aside from the City ordinance, the State legislature recently passed a bill banning single-use plastic check out bags statewide that takes effect Jan. 1, 2020. The State bill is largely similar to the City's ordinance. It's different from the City ordinance because it also includes plastic restaurant take-out bags and the fee for bags provided to customers is at least five cents (compared to the City's 10 cents). So confusing!

Councilors repealed the City ordinance to comply with the State law and help minimize confusion between the City ordinance and State law. Informational materials and enforcement will now be the State's responsibility, but the City still encourages you to "Bring your bag, Bend!"



COMMUNITY CLIMATE ACTION PLAN ONLINE OPEN HOUSE

There's still a few days to participate in our online open house! The City and the **Climate Action Steering Committee** are inviting Bend residents to learn about the **Community Climate Action Plan** recommendations for reducing community fossil fuel use and provide feedback.

The online open house describes the committee's recommended strategies for the Community Climate Action Plan and how the committee developed them. It also provides an opportunity for public comment on the plan. Community participation will help the City and committee set priorities for the best ways to voluntarily reduce fossil fuel use in the community.

The online open house is available at **www.BendClimateAction.participate.online** through July 31, 2019.

More information about the Community Climate Action Plan: **bendoregon.gov/ccap**.

NEW UTILITY RATES

New utility rates went into effect on July 1, 2019. You may notice some changes in your bill as a result. Visit **bendoregon.gov/utilityrates** for more information.



DESCHUTES RIVER CLEANUP – JULY 27

Join us in our support for the **23rd Annual Deschutes River Cleanup**!

The City of Bend continues our sponsorship of this important cleanup day, and encourages everyone to join us at the annual cleanup event taking place from 10 a.m. to 2 p.m. on Saturday, July 27, at Riverbend Park.

The **Upper Deschutes Watershed Council** is organizing cleanup activities both in and along the Deschutes River from Slough

Campground to Drake Park. Attendees can help remove litter from the stream banks, pull invasive weeds, or bring their paddleboards, kayaks, or canoes to help Central Oregon Diving divers pull garbage out of the river.

Contact Kolleen from the Upper Deschutes Watershed Council at (541) 382-6103, ext. 33 for more information.



SMART IRRIGATION MONTH

July is Smart Irrigation Month, it also happens to be our peak month for outdoor water use and a good time to make sure you're using irrigation efficiently. Inspecting your system can help you identify leaks, uneven watering and situations which waste water.

Sign up for a free Sprinkler Inspection and find ways to save water from the City of Bend's WaterWise team. Call (541) 317-3000 (option 2) or email us at **conservation@bendoregon.gov** to get started.

Follow a few simple water saving tips this month:

1. Review you system monthly to check for leaks and needed adjustments. Sign into your WaterSmart account at **bendoregon.gov/watersmart** to customize water use alerts and learn where you use the most water.
2. Repair irrigation leaks & breaks as soon as possible.
3. Schedule irrigation in the evening or early morning.

4. Adjust sprinklers to keep water on the landscape to prevent waste.
5. Use your seasonal adjust % feature on the irrigation controller to make monthly adjustments to runtimes.
6. Use new technology such as Smart Irrigation Controllers to help with ease of accessibility and scheduling adjustments.
7. Learn more ways to save at **waterwisetips.org**.



FOURTH ANNUAL KID'S FILM CONTEST WINNERS ANNOUNCED

Local students were recognized at the July 17, 2019 City Council meeting for their talented filmmaking skills in creating 30-second public service announcements. The topic this year was flushable wipes, with 24 entrants sharing what does and doesn't go down the toilet to prevent sewer system clogging, backups, and environmental and human health issues.

Judges from sponsoring partners City of Bend, BendFilm, and Zolo Media's Central Oregon Daily selected the winners:

- 2019 Grand Prize: Cedar Vickery, Summit High School
- 5th-8th Grade Division: Ella Schubert, Pacific Crest Middle School

- 9th-12th Grade Division: Colin Brown, Bend High School

Cedar Vickery's entry, "The Issues with Flushable Wipes" cleverly demonstrated that wipes do not dissolve in our sewer system. As part of the grand prize, Vickery received prize money, a gift card for his teacher, plus the opportunity to work in-studio with Central Oregon Daily producers to turn his video into a professional commercial. The commercial will air locally and screen at the BendFilm Festival Future Filmmakers event in October. Vickery also won the People's Choice award.

"The students were creative in their explanation of what should and shouldn't go down into the sewer system and why," says Wendy Edde, City of Bend Stormwater Program Manager. "If pumps and pipes become clogged, the sewer can back up into our streets and enter our separate storm drains that lead directly to our river or towards our underground drinking water, causing harm and significant repair costs."

"The kids clearly understand that toilets are not trashcans and wipes should not be flushed," says Christina Davenport, City of Bend Industrial Pretreatment Program Manager. "Congratulations to all of our winners for teaching our community what they have learned. We are proud of every participant; and appreciate their enthusiasm. They did an amazing job!"

For more information or to view the winning videos, visit the City of Bend website at **bendoregon.gov/cleanwaterworkskids**.

(541) 388-5505
communications@bendoregon.gov

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To obtain this information in an alternate format such as Braille, large print, etc., please contact Anne Aurand at: communications@bendoregon.gov; Relay Users Dial 7-1-1.



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BEND CURRENT

NEWS FROM CITY OF BEND

AUGUST 2019



TRANSPORTATION CELEBRATION

In August we celebrated good transportation news, including the completion of the roundabout at Empire Avenue and Purcell Boulevard and a $60.4 million federal grant to the Oregon Department of Transportation that will improve Highway 97 on Bend's north end.

The roundabout opening marked the completion of the first phase of the **Empire Corridor Improvement Project** that will improve connectivity, safety and transportation options in Bend.

The City's $25.4 million investment in the Empire Corridor Improvement Project, (largely derived from recently-increased transportation system development charges), along with funding commitments from the State of Oregon and Deschutes County, helped leverage the $60.4 million federal grant, one of the biggest awarded by the **U.S. Department of Transportation's $855,950,000 Infrastructure for Rebuilding America (INFRA) grants**.

The $60.4 million grant helps reach the $171 million in funding needed to design and construct the US 97 Bend North Corridor project, the last segment of the US 97 Bend Parkway. **Read more about this here.**



KEEPING YOUR ROADS GOOD

So far this summer, the City's street preservation work has improved approximately 85 miles of roads in Bend. This picture is of recent slurry seal work, a newer, cost-effective tool we use to seal cracks and restore pavement flexibility on roads that are in low to moderate distress. **See how it looks in action!** The City also chip sealed some roads this summer, and we're still finishing some repaving. Regular maintenance extends the life of a street and

saves money. Every $1 spent on preservation saves $5 for rehabilitation or $12 for reconstruction. We're keeping good roads good and working to use your tax dollars effectively and efficiently. Thank you for your patience when your travels are affected by maintenance work.

Find out more:

Street Preservation



NEIGHBORHOOD STREET SAFETY PROGRAM

The City of Bend is accepting project applications for the **Neighborhood Street Safety Program** for small-scale residential street projects to address pedestrian and bicycle safety, safe routes to school, speeding, intersection control and crossings, and other safety related issues. The Bend City Council supported the program with $800,000 in funding for the biennium. Any Bend resident can **submit an application online** until Sept. 20, 2019. Each project application received by the deadline will be reviewed and prioritized by the **Neighborhood Association** representing the neighborhood where the proposed project is located. The top two projects from each Neighborhood Association will then be prioritized citywide by the **Neighborhood Leadership Alliance**. **Read more details here** or **bendoregon.gov/streetsafety**.

Watch the video here:

Neighborhood Street Safety Program

COUNCIL UPDATES



MURPHY CORRIDOR IMPROVEMENTS

As part of the **Murphy Corridor Improvements Project**, southbound 15th Street will be closed at Ferguson though October 31. Councilors approved a $3.8 million Guaranteed Maximum Price amendment to construct Murphy Corridor Improvements along 15th Street, including a new roundabout at 15th and Murphy Road. **Read the summary here.** Future design and construction phases will include the extension of Murphy Road to Brosterhous and the modernization of Murphy from Brosterhous to Parrell.



SEPTIC TO SEWER

Councilors approved a $1.3 million contract for construction management and inspection services for the Desert Woods and Neighborhood Extension Project, helping 145 homes decommission septic tanks and connect to City sewer, and decommissioning two City-operated pump stations. This is the first phase of the **Septic to Sewer Conversion Program**, which allows residents to apply to the City to complete a sewer project. This program, the result of public advisory group recommendations, allows residents where properties are currently served by private onsite septic systems to apply to the City to complete a sewer project. **Read more in the summary here.**

SUBCOMMITTEES

As part of a new **Council subcommittee structure**, the Council kicked off its first subcommittee meeting this month. The Stewardship Subcommittee met and took an initial look at climate action strategies. Another three-councilor subcommittee, the Community Building Subcommittee, will consider the Development Code and other community development related work. That meeting will happen in Council Chambers on August 26 at 3 p.m.

All subcommittee meetings are open to the public.

PLASTIC BAG BAN

Council chose to repeal a City ordinance limiting the use of carryout plastic bags because the State legislature recently passed a similar bill banning single-use plastic check out bags statewide that takes effect January 1, 2020. The decision to repeal the City ordinance was made in order to comply with the State law and to eliminate confusion between the City ordinance and State law.

SIDEWALK EXEMPTION

The council unanimously voted to require a payment in lieu of constructing sidewalks as part of certain land use applications in the Wood River Village neighborhood. The payment in lieu will help fund sidewalks in the Woodriver Village Subdivision on the shared roadways, including all of Woodriver Drive and roads identified by **the blue lines on the map included in this issue summary**. Councilors then voted 4/3 to have staff develop limited criteria for other similar neighborhoods, to consider a citywide payment in lieu fee for sidewalks and alternative design standards to traditional sidewalks for pedestrian and accessibility alternatives to piecemeal frontage improvements in areas of existing neighborhoods.

JUNIPER RIDGE

On August 11 a fire burned an RV on the City-owned property called Juniper Ridge. Prompted by concerns from neighbors and public safety officials about additional human caused fire on the property, Councilors directed City staff to develop a policy regarding efforts to remove established campsites where homeless populations reside on public land. **See photos of recent fire here.**

Separately, the Council approved an urban renewal plan amendment, which is intended to further support goals around the development of high-quality employment uses, the preservation and enhancement of the area's natural assets, the improvement of traffic and transportation, and to provide public utilities to the Juniper Ridge area. **Read the issue summary here.**

NEFF - PURCELL INTERSECTION

Based on information about construction costs and detours and future traffic delay comparisons, Councilors prefer to improve the Neff Road and Purcell Boulevard with a signal instead of a roundabout. Construction is expected in 2021. **View the presentation here.**



NEW FIRE CHIEF



CHIEF INNOVATION OFFICER

We are proud to announce Bend Fire and Rescue Battalion Chief Todd Riley as Bend's next Fire Chief! He will replace Chief Larry Langston who retires in October.

Riley has more than 20 years in the fire service with 16 years in Bend. He became a fulltime firefighter here in 2002, after serving in Sacramento. He quickly rose up the ranks—to captain and battalion chief—due to his commitment to the fire service, the community and his natural leadership abilities. He has also completed the National Fire Academy's Executive Fire Officer Program.

"Battalion Chief Riley has the skills, heart and tenacity that will provide strong leadership," said City Manager Eric King. "Most importantly, he has a fierce commitment to the people we're sworn to serve."

Meet Stephanie Betteridge, the City's new Chief Innovation Officer! The position replaces what was previously cast as an Assistant City Manager. The Chief Innovation Officer is the face for a bigger movement that involves staff across all departments that are working to address challenges and opportunities facing our evolving community. Betteridge also oversees information technology, performance management, and the replacement of core business systems that can touch all the City's programs and projects.

This new direction will enable the City to improve decision making and processes based on data and be more responsive to community needs and expectations.

"Innovation is about leveraging a combination of data, technology, people and process," Betteridge said. "As an organization, we'll have a new focus on how we are currently using data, and how we could use it better to improve our services."

FROM OUR PARTNERS AT THE OREGON DEPARTMENT OF TRANSPORTATION:

The Oregon Department of Transportation has kicked off a "**Keep Oregon Connected**" campaign to help people all across the state better understand transportation funding and the need to find new, sustainable ways to pay for our roads and bridges.

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BEND CURRENT

NEWS FROM CITY OF BEND

SEPTEMBER 2019



THE MURPHY ROAD & 15TH STREET ROUNDABOUT IS TAKING SHAPE!

Improvements Projects will include three roundabouts and other roadway improvements between 15th Street and Parrell Road. Construction will continue west and should be complete by July 2021.

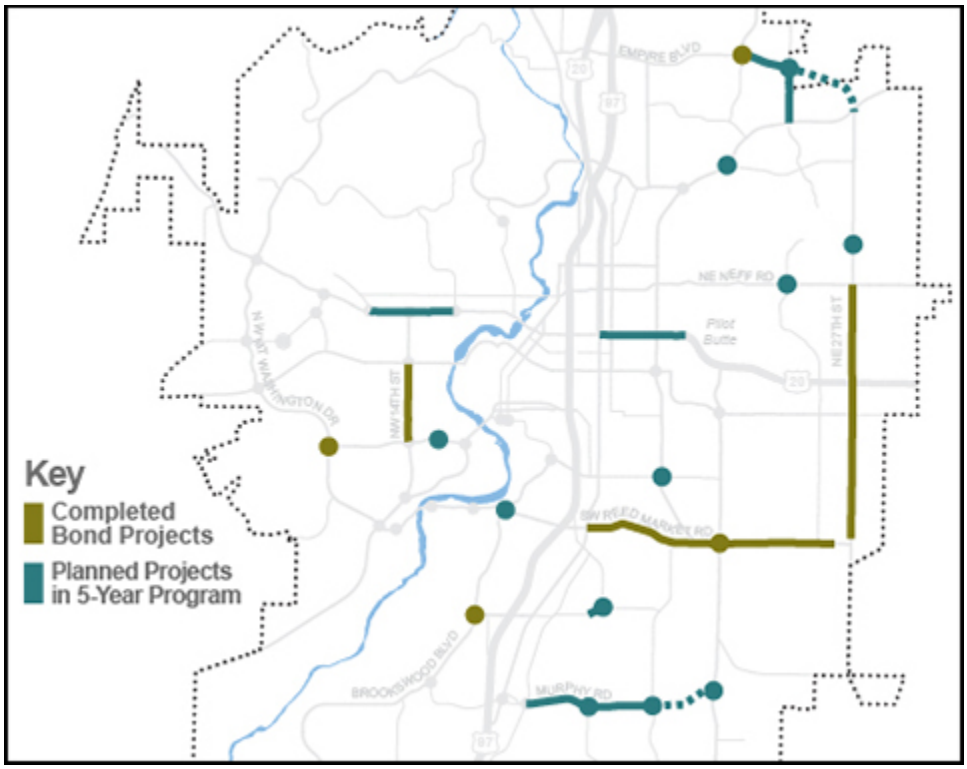
Visit **bendoregon.gov/murphyproject** to find out more.





EMPIRE EXTENSION

The City is in the final phase of Empire Corridor Improvements Project that connects Empire east to Butler Market Road and 27th Street. **Learn what's next in this video.**



Improving Traffic Flow and Safety

The Bend community is asking for better traffic flow and more safe, reliable transportation options. The City's Capital Improvement Program in the **2019-21 budget** includes roughly $74 million in projects and programs to address transportation needs citywide. These projects range from major intersections to sidewalk improvements. Some projects will be funded through recently-

increased Transportation System Development Charges, (fees on development), and Franchise Fees, (what some utilities pay to use the City's right-of-way). We also dedicated funds for a **Neighborhood Street Safety Program**.

While we are addressing some current, critical transportation needs, we are also planning for Bend's future by updating our current **Transportation System Plan**. This project began in February 2018 and still continues, with considerable community input. The **Citywide Transportation Advisory Committee** recently sorted a long list of transportation infrastructure projects and programs that comprise the bulk of Bend's Transportation System Plan into near-term (1-10 years), mid-term (11-15 years), and long-term (16-20 years) categories.

Identified Projects Will:

1. **Improve traffic flow:** Interchange improvements at U.S. 97 and Powers, Murphy Road, Colorado Avenue, and Butler Market Road; corridor improvements on Portland Avenue, Colorado Avenue, Olney Avenue, Bear Creek Road, and Reed Market Road; and key roundabout intersection improvements;
2. **Improve neighborhood safety:** New connections and roundabouts to connect Third Street to the Old Mill area, Chase Road roundabouts and improvements, key bike and pedestrian routes, and a citywide sidewalk infill program;
3. **Promote school access and safety including:** Improvements along Franklin Avenue and Bear Creek Road, improved bike lanes along Olney Avenue, safety improvements for Juniper Elementary and Pilot Butte Middle School, and a citywide school access and safety program.





All These Projects Can Be Completed with Additional Funding.

The City is working with citizens on funding recommendations. Some of the options discussed include:

- **General Obligation Bond:** Revenue generated by increasing property taxes over the life of the Bond for capital projects. Requires voter approval.
- **Transportation Utility Fee:** A fee assessed on all businesses and households to pay for infrastructure maintenance or programs.
- **Urban Renewal funding:** Property tax revenues from growth in assessed value in the designated urban renewal area, for capital investment inside the urban renewal area.
- **Transportation System Development Charges:** Increased charges on development to fund growth-related capital improvements.
- **County Vehicle Registration Fee:** A recurring charge on individuals that own cars, trucks, and other vehicles. The Deschutes County Commission would need to approve the fee and implement it County-wide.
- **Targeted sales tax:** Typically added to the price at the point of sale.
- **Local Option Levy:** Temporary property tax increase. Requires voter approval.
- **Local Seasonal Fuel Tax:** Tax on the sale of gasoline and other fuels. Requires voter approval.

Next Steps:

Recommendations will go to the City Council in January 2020 and will set a roadmap of funding tools that will pay for the transportation system Bend residents want to see in the future.

Learn More:

Mayor Sally Russell and City Manager Eric King will speak on the state of transportation, the City's accomplishments and upcoming transportation initiatives at the **Bend Chamber's State of the City** on October 8.

Some neighborhood associations are hosting presentations about transportation at their fall general membership meetings. **Connect with your neighborhood association** to see if transportation is on its meeting agenda.



BEND POLICE LATINO ENGAGEMENT

To progress on a goal to connect with the Latino community in Bend, a group from the Police Department recently participated in the UNIDOS Program and the North Texas Law Enforcement Community Engagement Summit. Topics included mental health and wellness training, planning and promotion of community events, diverse outreach and LGBTQ+ outreach.

UNIDOS is a Latino community outreach program that initiated in Dallas in 2006. Its main goal is to work closely with the Latino

community, increase their participation with law enforcement, and promote safer communities.

Bend Police's ultimate goal is to connect with the Latino population here in Central Oregon and build opportunities to learn the specific challenges that this part of our community is facing.



NEIGHBORHOOD STREET SAFETY PROGRAM UPDATE

The Neighborhood Street Safety Program has received over 180 project applications since Aug. 5!

This new program is for small-scale, residential street projects to address pedestrian and bicycle safety, safe routes to school, speeding, intersection control and crossings, and other residential street traffic safety issues. City Council approved $800,000 for the program in the City's 2019-2021 budget.

Have a project idea? There's still time to **submit a project application**! Applications are due Sept. 20. After applications close, each of Bend's 13 **Neighborhood Associations** will prioritize the projects in their neighborhoods for the **Neighborhood Leadership Alliance**, and ultimately the City, to consider for funding and construction.

Visit **bendoregon.gov/streetsafety** to find out more.

COUNCIL UPDATES

Stay Informed!

Did you know that regular City Council meetings are livestreamed and viewable after the meetings, which take place on the first and third Wednesdays of the month? Videos are archived at **bendoregon.gov/councilagenda**.



COUNCIL SUBCOMMITTEES

Councilors have begun meeting in a new subcommittee structure in addition to their regular meetings. The Community Building Subcommittee met Aug. 26 and discussed several issues related to development, traffic impacts, short-term rentals and multiplexes. The Stewardship Subcommittee meets at 3:30 p.m. on September 24 at City Hall in the Council Chambers, 710 NW Wall Street. You can get **information about the subcommittees, find meeting dates and times and**



SPECIAL TRANSPORTATION MEETING

A special Council meeting on Transportation Funding Options has been scheduled from 3 to 5 p.m. on Monday, Sept. 30 in Council Chambers at City Hall, 710 NW Wall Street. This meeting is open to the public and will not be livestreamed.

agendas here. All meetings are open to the public.

DOWNTOWN SPECIAL EVENTS

On Sept. 4, Councilors discussed **special events downtown**, in particular how many events should be held downtown, the need for pre- and post-event meetings, administrative review processes and parking. This issue will be discussed at the November Council Subcommittee.

CHILDCARE SHORTAGE

On Sept. 18, Councilors learned more about childcare provider issues facing our community. Providers find it difficult and expensive to develop childcare businesses. The City is exploring solutions that might help, such as possible incentives to encourage further childcare business developments. **Here is the Council presentation.**

LAND USE FOR LES SCHWAB

Council did not make a final decision and will keep the written record open for seven days on a Les Schwab proposal to relocate its tire sales and service operations from Franklin Avenue to a lot bound by Third Street, Clay Street, Fourth Street and Burnside Avenue, in the Bend Central District. The Bend Central District regulations do not allow 'automobile-dependent' uses (where automobiles are served by the use and the use would not exist without them). Les Schwab is asking the City to amend the Development Code and Zoning Map to remove the subject property from the Bend Central District in order to allow an automotive-dependent use on the subject property. The file is accessible in the public viewer of **ePlans** by searching for file PZ-19-0177.

Input: kswenson@bendoregon.gov

Here is the issue summary. The Council will discuss the issue next at its October 16 meeting.



CITY QUEST AT FALL FEST

Join the City of Bend for some family fun at City Quest during Bend Fall Festival, from 11 a.m. to 6 p.m. on Saturday, Oct. 5. Talk to City employees and learn more about the services we provide.

For one day, Oregon Avenue will become City Quest, an interactive, hands-on family experience complete with a fire engine, police car, snow plows, fire and rescue demonstrations, interactive water models, games and more. Children can even pick up a City Quest Passport, get it stamped at each station, and earn a special prize.

See you at Fall Fest!

PREPARE FOR WINTER

We apologize for bringing this up now, but … winter is coming. It's never too early to prepare.

Bend is a 3,623-foot-elevation town known for great downhill and Nordic skiing. That means we get snow! Average snowfall is more than 20 inches of snow in a winter. Get the resources and supplies you need on hand before you're snowed in.

One thing you can do now, to help plows get as close to the curb as possible when snow plowing operations are activated, is to cut back your trees along the right-of-way. Trees and shrubs may have grown since last year, so it's a great time to get outside and check.

You might also look into protecting your pipes, or prepare for winter driving. Find your snow tires and buy snow shovels and roof rakes. Learn more tips for preparing at **bendoregon.gov/winter**.



Community Climate Action Plan

CLIMATE ACTION PLAN

Because we live in a community that values a healthy natural environment, the Bend City Council has emphasized the importance of taking natural resources into consideration as we grow as a community. After almost a year and a half of work, the Council-appointed **Climate Action Steering Committee** has finalized its recommendations to help the community reduce its fossil fuel emissions.

The proposed **Community Climate Action Plan** identifies ways that we can reduce our environmental impacts while boosting the economy and providing a social benefit. The plan describes new programs, policies, initiatives, and investments that the Community and City can do together to help reduce fossil fuel use.

Actions fit into four categories, based on where emissions come from: energy supply, energy in buildings, transportation, and waste and materials. **More information about those four categories can be found here.**

The City is taking the lead by pursuing renewable energy and energy efficiency projects in our own facilities and operations. But to achieve the plan's goals, the whole community must participate. This means other entities and organizations will need to lead some initiatives, and individual residents and businesses will need to participate in new programs, to reduce fossil fuel consumption by 49% by 2030.

This could involve making energy efficiency improvements on your home with the help of incentives, changing the way you manage household waste, taking advantage of alternative transportation as new transportation investments are made, or participating in a new voluntary natural gas offset program. If we do our part now, future generations can enjoy Bend like we do today!

The City Council is currently scheduled to discuss and consider the plan in November.



SEPTIC TO SEWER CONVERSION PROGRAM

The Citywide Septic to Sewer Conversion Program will assist in converting properties reliant on septic systems for wastewater disposal to public sewer. The program allows neighborhoods with an interest in connecting to nearby sewer to apply for funds to cover the public infrastructure costs of extending sewer lines to

their properties. The program is funded by citywide sewer rate payers.

The next round of applications are now being accepted and are due Feb. 1, 2020. Heads up, folks, the application is a little time-intensive.

For more information about the sewer conversion program **see the frequently asked questions on this webpage**. You can also **find the application form here**.

EMERGENCY ALERT SERVICE

Are you signed up for crucial emergency alerts? We encourage you to **sign up for this great service offered by Deschutes County Sherff's Office**.

The Deschutes Alert System can call, text or email you with important information during an emergency. Emergency services in Deschutes County can relay critical information to you about natural disasters or other emergencies that require your immediate attention at the phone number of your choice.

“It’s quick and easy to sign up,” said Sgt. Nathan Garibay, Emergency Services Manager with the Deschutes County Sheriff’s Office. “Emergencies happen with little or no notice at any time of the day or night. Help us help you get the information you need to be safe, as quickly as possible.”

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BEND CURRENT

NEWS FROM CITY OF BEND

NOVEMBER 2019



SAFE TRAVEL AND TRAFFIC IMPROVEMENTS

Community members say traffic congestion and safety is Bend's most pressing problem. They want the City to improve traffic flow and safety for people who drive, ride bikes and walk.

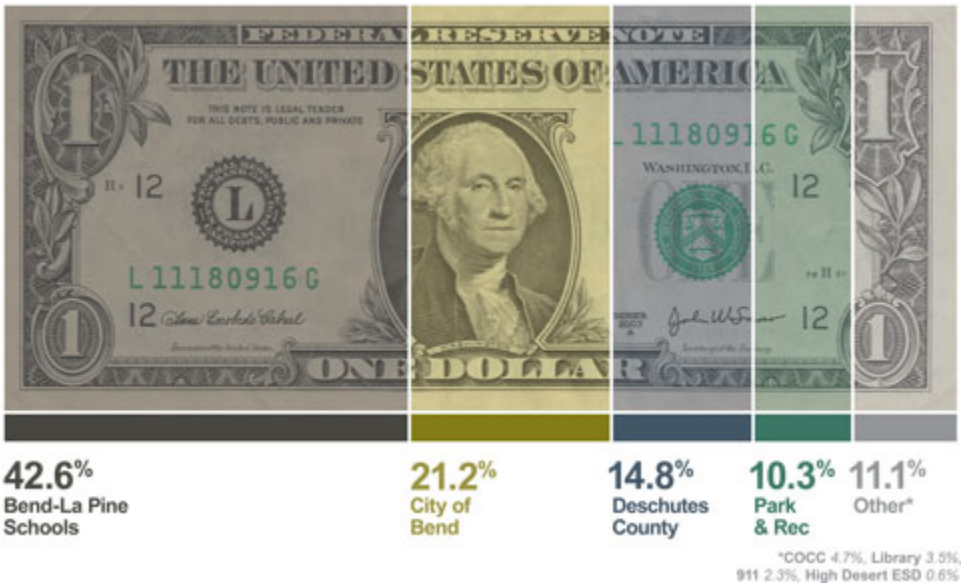
Public opinion research shows people most want improvements to Reed Market Road, connections to U.S. 97 Parkway, better East/West and North/South cross-town connections and intersection bottleneck improvements. The community also supports projects that complete missing segments of sidewalks and bike routes and create safer routes and access to schools and parks. Funding options for these types of safe travel and traffic improvements include a General Obligation bond.

The City has been working on a plan to address these needs. Some projects that improve traffic flow and safety (like **Empire** and **Murphy** corridor improvements) are already funded and in construction. If voters approve bond funding, work can begin on more priority projects.

The community is invited to help identify priority projects via a **one-minute survey** and learn more at **bendoregon.gov/safe-travel**.

The City Council is expected to decide in February 2020 on whether to ask voters to approve a bond measure.

Learn more in this video: **What we're doing to address traffic flow and safety**.



HOW PROPERTY TAXES ARE SPENT

Did your property tax bills arrive?

Many of you wonder where your taxes go. We at the City of Bend work alongside our partner agencies—the Bend Park and Recreation, Bend-LaPine Schools, Deschutes County—who take the lead on things like parks, schools and health. About 21 percent of your property tax dollars go to the City of Bend. The City's budget is spent on core needs from improving our roads to keeping you safe and bringing in new jobs and affordable housing.

Everything we do is focused on helping Bend work as smoothly as possible while providing Bendites with the most value for their tax dollars.

The City's General Fund is mostly made up of property taxes. Other sources of income for the General Fund include some room taxes (i.e. lodging taxes) and franchise fees.

Only about 30 percent of the total revenues that the City receives go in to the General Fund, and they are known as "discretionary" funds. The other approximately 70 percent (the part that is not the General Fund) are what we call "restricted" funds. Learn more in this video: **How the City's budget works**.

We make Bend a city. We make Bend work.



KEEP YOUR HOME CLOG-FREE DURING THE HOLIDAYS

Protect your pipes! Keep your pipes flowing this holiday season by putting all trash and cooled cooking fat into the garbage for safe disposal:



SIDEWALK RESPONSIBILITIES AND ENFORCEMENT

As we know, white fluffy snow transforms into a concrete ice block if we don't remove it from our sidewalks quickly. Shovel before it packs down

- Scrape foods from dishes into the garbage instead of the sink.
- Limit use of garbage disposals. They only add to the trash going down the drain and can cause sewer problems.
- Wipe cooled grease and fats from pots, pans and dishes with paper towels before they go into the sink to prevent blockages and save water.

If your pipes get blocked by grease, food solids and trash, it causes blockages that can redirect wastewater into the streets or back into our homes and businesses. *Yuck!*

Learn more at **bendoregon.gov/fog** or **watch this cute video**.

and becomes immobile if possible!

Many of our neighbors use sidewalks to access schools, stores, transit and school bus stops. Adjacent property owners are responsible for shoveling sidewalks. We want to take a common sense approach to enforcement of snow and ice on sidewalks. We understand that after a major snow storm, everyone will be behind with maintaining sidewalks. It is ideal to have your sidewalks cleared within the time frame outlined in our code, but we also realize it's not always realistic. The code says people should remove snow and ice on sidewalks within six hours of daylight after the snow has fallen or accumulated in commercial areas, or one day in all other areas.

With over 2,000 warning letters issued in the last few years, the City will be issuing citations to repeat offenders and providing warnings to first time offenders this year.





WINTER STREET OPERATIONS

Everyone has a responsibility to prepare for winter. That means getting resources and supplies lined up before the big storm hits. Learn what to expect and get information about street plowing, sidewalk shoveling and protecting your home at **bendoregon.gov/winter**.

The Streets and Operations Department has a plan for winter street operations, including how we prioritize streets to plow and sand, how we handle driveways and how we'll deal with certain problematic streets where on-street parking during particularly heavy snowfall has contributed to increasingly narrow and sometimes impassable roads. These are what we call "emergency snow zones."

As part of a pilot project, during declared snow emergencies, the City will ask that "emergency snow zone" marked streets be cleared of parked cars, to help us plow from curb to curb. **Learn more here about where the locations are, how to find out if an emergency is declared and what to do if your car is towed.**

Watch our 2019-20 winter video: **How the City maintains streets in winter**.

NEIGHBORHOOD ASSOCIATION SURVEY

Did you know that there is a direct conduit for communication between Bend neighborhoods and City Council? The

Neighborhood Leadership Alliance (NLA) advisory committee provides a direct and continuing means for **Neighborhood Associations** to participate and provide input to the City Council from the community.

The NLA has just wrapped up its first year as a committee. As members begin to identify their path forward, they are asking for your input. They have developed a short survey in an effort to help committee members better understand what the community knows about Neighborhood Associations, what feelings there are about Neighborhood Associations, and preferred communication methods among neighborhoods.

We invite you to share your input in this short 2-minute survey open to all community members through Dec. 31, 2019. **Take the survey now!**



Community Climate Action Plan

COMMUNITY CLIMATE ACTION PLAN

The Community Climate Action Plan is a set of strategies that will guide both the City and the community as we work together to reduce our fossil fuel use. The goal is to decrease fossil fuel use in Bend by 40 percent by 2030 and a 70 percent decrease by 2050 (from a baseline year of 2016).

A community advisory group, the **Climate Action Steering Committee**, has been working since early last year on a plan that encourages and incentivizes businesses and residents to voluntarily reduce fossil fuel use. The **City Council** is tentatively scheduled to vote on approving this plan on Wednesday, December 4. The plan is a roadmap to a sustainable future and suggests practical action across a wide range of sectors and activities.

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BEND CURRENT

NEWS FROM CITY OF BEND

MARCH 2020



A MESSAGE FROM MAYOR SALLY RUSSELL

These past couple of weeks have been disturbing and difficult for all of us in light of the COVID-19, coronavirus pandemic. At the City of Bend, we are following guidelines from State and Federal public health experts and making appropriate changes to our operations.

Earlier this week the Governor announced further means to decrease the rate of infection over the next four weeks, including restricting bars and restaurants to take-out service only, banning gatherings of more than 25 people, and urging Oregonians to avoid gatherings of more than 10 people.

These changes help protect those on the front lines: nurses and doctors, grocery store clerks and public servants of all kinds - people in our community whose jobs have gotten harder and riskier. To protect the health and safety of first responders and

Oregon families, we must work together. There is something you can do: Social distancing will save lives.

Young and healthy people need to practice social distancing as much as the at-risk populations. Anyone could be contagious, even without showing symptoms. Isolation from our friends and neighbors will slow the rate of transmission and get Oregon to the other side of this. Please know I think of it as an amazing act of solidarity, and I thank you all for participating.

HERE'S WHAT THE CITY IS DOING:

*We have declared a **local state of emergency** as a result of the COVID-19 and **the declaration** will be in effect through at least April 15.*

This declaration allows more flexibility and authorization for the City Manager to take actions to help protect the health and safety of the community, through a number of means: from limiting access to public places, to buying items or services related to health and safety without normal procurement procedures that can take additional time.

To restrict the spread of COVID-19 and to protect the City's workforce so employees can continue to provide crucial City services, the City Manager has developed emergency policies regarding the use of sick leave, vacation leave, telecommuting, meeting protocols, and more.

These changes will remain in effect for the duration of the emergency.

CANCELATIONS AND CLOSURES:

The City has canceled advisory committee meetings and project-specific outreach meetings or open houses. You can see here tonight that this Council meeting is limited and livestreamed. The Council meeting on April 1 is canceled.

Beginning Thursday, March 19, all City facilities, excluding the main Police Department lobby, will be closed to the public. Staff can still

work in the buildings in order to provide service, but within social distancing guidelines.

UTILITY BILLING:

Paying utility bills can be done online or over the phone.

PERMIT COUNTER:

Staff from the Community Development permit counter will help customers on the phone or online.

MUNICIPAL COURT:

Bend Municipal Court sessions are cancelled and the court office is closed. Court clerks are available by phone for questions about appearances or payments.

COMMUNITY AND ECONOMIC RESILIENCY:

At the moment, we are not encouraging tourism to our town. Our partners at Visit Bend pulled all paid media and canceled promotions related to tourism in Bend. With Mount Bachelor closing and our restaurants and bars closed for business, tourism will likely slow organically for the next few months.

Families in Oregon are faced with joblessness. We have 7,000 businesses in Bend that employ close to 80,000 people. Our emergency declaration helps us support businesses so that they can support their employees.

An emergency declaration allows us to justify not shutting off water for those with outstanding bills, easing regulatory processes for businesses having to adapt to these new restrictions, and creating support systems for local businesses to help with hardships due to this emergency, and more. We must respond to the immediate needs of our community to protect the economy and the people in Bend.

Also, the City is working to support area nonprofits who serve individuals and families experiencing homelessness during this critical time. We will help them be able to provide meals, case

management services and hotel or rental assistance for those with the highest medical risk.

WATER SERVICE:

While this emergency is in place, the City will not send shut-off notices or shut off water for non-payment of unpaid water bills. It's vitally important that our community have the ability to wash hands and keep their spaces cleaned, despite any economic hardship they may be experiencing.

IN CLOSING:

This is unprecedented for our community, and for the world. It may seem like we're in the middle of this, but it's just the beginning. So let's support each other. I've seen it happening already: numerous, humbling acts of generosity we are surrounded by. That's what I want to close with.

We've seen strangers helping older people who are frightened to go into a grocery store, and individuals organizing support groups to provide care and comfort to others who need help. Ask yourself if you can help a friend or neighbor who is a health professional or first responder: bring them a meal, watch their child, walk their dog.

Thank you for caring, for taking the time to listen and help. If everyone pulls together it will make life just a little easier.

Learn more at bendoregon.gov/covid19

FOR INFORMATION ON COVID-19:

- Deschutes County Public Health for countywide updates: **deschutes.org/covid19**
- Oregon Health Authority for statewide updates: **healthoregon.org/coronavirus**
- Centers for Disease Control and Prevention (CDC) for U.S. updates: **cdc.gov/covid19**

- Central Oregon Emergency Information Network (COEIN) for local updates: **coemergencyinfo.blogspot.com**
- Community members can call 2-1-1 for general information and questions about COVID-19

BUSINESS RESOURCES

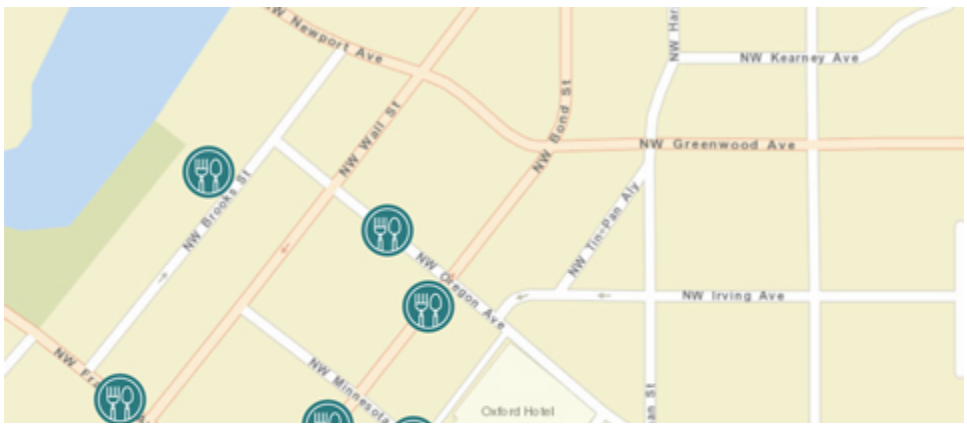
The economic impact of COVID-19 on the Bend economy will be far-reaching, business assistance programs are still being developed by numerous agencies, lending institutions, and other organizations across the country.

You can find an evolving list of available programs here.

DELIVERY & TAKEOUT DURING PANDEMIC

Governor Kate Brown has ordered the temporary closing of all bars and sit-down eateries. However, many of Bend's restaurants, breweries, pubs, and bakeries are offering takeout, curbside pick-up, and delivery so that you can maintain social distancing during the coronavirus crisis.

Find out which local establishments are offering delivery and takeout during the COVID-19 pandemic.





PARKING HELP

The City of Bend understands the hardship that some local businesses will experience as a result of limiting restaurant and bar service to help prevent the spread of the COVID-19 virus. In support of downtown business, the City of Bend will temporarily relax parking restrictions and enforcement in downtown.

The City is also creating some dedicated “Curbside Pick-Up Areas” that retailers and restaurants can use to easier serve customers so they can stay in business.

Downtown parking adjustments include:

- No enforcement of time limits on City lots
- Free parking in the **Centennial Parking Garage**
- Creation of Curb-Side Pickup Zones in support of downtown business

As we carefully monitor this current situation, we will shorten or extend the time of these adjustments as needed. Thanks for supporting your local businesses during this time.

TRANSPORTATION BOND CANCELED

The City Council voted to withdraw the May ballot measure for the transportation bond, in light of the COVID-19 pandemic and related economic impacts. Circumstances have changed dramatically since Council agreed to put the bond measure on the May ballot.

The reasons include:

- Uncertainty about how long this COVID-19 pandemic will last

- Likely economic impacts, in particular, Bend's service sector, which is affected by a reduction in hotel and restaurant activity
- A more volatile municipal bond market, and
- Advice from economic, business and public health experts

Although transportation issues are a high community priority, at this time public health concerns are the primary focus of the nation and our community. The City will continue to monitor the economic impacts of COVID-19, and may consider referring the general obligation bond measure for transportation improvements to the voters when appropriate in the future.

Read the resolution.



STREET PRESERVATION

The Bend City Council has authorized about $3.2 million for street preservation work in Bend this summer to improve about 77 lane miles of Bend's roads. This includes inlay/overlay, chip seal, and slurry seal treatments.

Knife River will do the **paving work**, Intermountain is the contractor for **slurry seal work**, and chip seals are performed by the City in an agreement with Deschutes County. The maps here shows which roads in Bend will get treated this summer as well as the three-year plan for street preservation. To learn more about Bend's street preservation practices, visit **bendoregon.gov/streetpreservation**, which includes an interactive map about this summer's plans.

"In recent years, the City has been steadily improving our pavement conditions through increased efforts with our maintenance and preservation work. We want to continue this improving trend on the conditions of our transportation system," said Streets & Operations Director David Abbas.



WEEKLY ROAD REPORT

The City of Bend will be releasing a weekly road and traffic report each Friday during peak construction season to help members of our community plan the quickest, safest and most reliable routes to their destinations. The weekly report is intended to provide information about various projects within City limits that impact public roadways. To receive the weekly report, individuals must subscribe to Weekly Road and Traffic Reports, found under "news" at **bendoregon.gov/enews**.

Travelers can also check in on our interactive, online map at **bendoregon.gov/traffic** that will be regularly updated to show the current and upcoming projects that may affect travelers.

GREENWAYS

Councilors approved a contract to build Phase 2 of the Bicycle Greenways project, on multiple streets including NW Milwaukee, NE 2nd, SE Roosevelt, SE Centennial and SE Paiute, to be built in the 2020 construction season and to **designate speeds of 20 mph on Neighborhood Greenways when posted**.

Neighborhood Greenways are local streets that provide more comfortable and safer routes for walking and biking than nearby busier streets, due to signs, pavement markings, and traffic calming (such as speed humps) to slow and discourage cut through traffic. These streets remain open to auto traffic with access to homes and businesses unaffected.

bendoregon.gov/neighborhoodgreenways

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BEND CURRENT

NEWS FROM CITY OF BEND

APRIL 2020



Thank you to everyone who is making a difference in our community's health by staying at home as much as possible during this time. *It's helping.*

COVID-19 RESOURCES

VIDEO MESSAGES FROM:



Mayor Sally Russell
What does "stay home" look like?



Fire Chief Todd Riley
We can only help you if you help up save lives.



Deputy Police Chief Paul Kansky
Keep our community safe. Help support each other.

In case you missed it, **here is the special COVID-19 newsletter from last week** which includes details about how to get outside and stay active safely, how to report violations of **the Governor's "Stay Home, Save Lives" order**, the latest recommendations on wearing masks, and much more.

Our **bendoregon.gov/covid19** webpage includes **community resources, if you need help or want to lend a hand**. And, updates on relevant news and financial assistance programs for businesses are at **bendoregon.gov/bizresources**. It's all translated to Spanish, too. Información sobre COVID-19 (Coronavirus Nuevo): **bendoregon.gov/covid19-es**.

STATE OF EMERGENCY

The City Council approved an **extended Local State of Emergency declaration** through at least May 6, which allows for temporary emergency policies about procurement practices, office closures, employee telecommuting, meeting protocols, project and advisory committee meeting cancelations and more. The declaration also says:

- The City will not send shut-off notices or shut off water for non-payment of unpaid water bills while this emergency is in place.
- All permitted special events are canceled during this emergency, and no new permits will be issued.
- Some restrictions, processes and fees will be temporarily relaxed to support businesses and those in need of transitional housing.

WATER AND SEWER BILL ASSISTANCE FOR BEND BUSINESSES

Council approved **COVID-19 Crisis Assistance Program - water and sewer bill relief funds** to help businesses struggling financially due to lost income from Oregon's "Stay At Home" order. The City of Bend will soon begin accepting online applications for commercial water and sewer bill assistance to help ease the financial burden to local businesses caused by the COVID-19 pandemic.

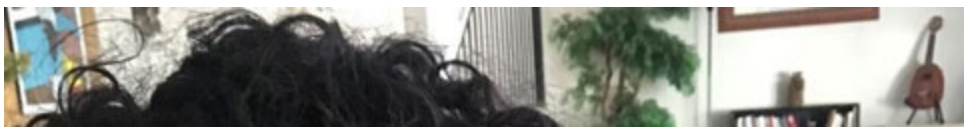
"The Crisis Assistance Program provides some certainty and immediate relief for businesses in Bend that have been hardest hit by this economic crisis," said Bend Business Advocate Ben Hemson.

The City will develop a process to track crisis relief funds, an online funding application submittal portal and provide "Frequently Asked Questions" with helpful instructions. Watch **bendoregon.gov/bizresources** for more information in coming days.

CITY EMPLOYEES

City of Bend employees continue to serve our community by providing essential services and also, some new ways to give back. About 57 percent of our non-Public Safety employees are teleworking, maintaining continuity in the core services we provide. The City is also offering employees volunteering options to do from home, like data entry, grant writing and reviews, coordination and other assistance. Some staff are sewing masks for our healthcare professionals. Others are coordinating volunteers and resources to help those in need. One of our Police officers provided American Sign Language translation during a Central Oregon Emergency Information Network press conference that was livestreamed on the network's Facebook page.

We will occasionally feature these great employees on our City's Facebook page. Please check them out! Here's one of our recent features:





Katherina Barguil is an engineering technician who generally works on water and sewer infrastructure projects. At the onset of the COVID-19 crisis, Katherina began translating City materials and website content and engaging with the Spanish-speaking community via social media, because she felt it was her civic duty to reach out to the disenfranchised in our community and equip them with the information and the resources they need to survive. Her supervisor and the City Manager supported this shift in her workday.

"I'm helping with this effort because of my parents, both proud immigrants and American citizens, are still safe and healthy in New York City partly because of the breadth of information and resources made available in Spanish and the many different languages spoken there. I'm doing this for both my cousins in Colombia who are doctors on the front lines of this pandemic, who risk their lives each day at the hospital, and who remind me that in order to beat this we must be more united than ever, despite cultural, language, and physical barriers."

BEND POLICE

Because of our diverse community, the Bend Police Department is proud to have Spanish speaking officers and staff available to serve our Latino community. **Check out this Police video.**



MURPHY

The roundabout at Murphy Road and Brosterhous Road is now open! Crews wrapped it up on April 8, almost two weeks ahead of schedule. This new roundabout helps improve mobility, connectivity and safety on one of Bend's major east-west corridors. It's part of a multi-year project extending Murphy Road up and over the railroad tracks from Brosterhous Road to 15th Street. Learn more about the project at **bendoregon.gov/murphyproject**.





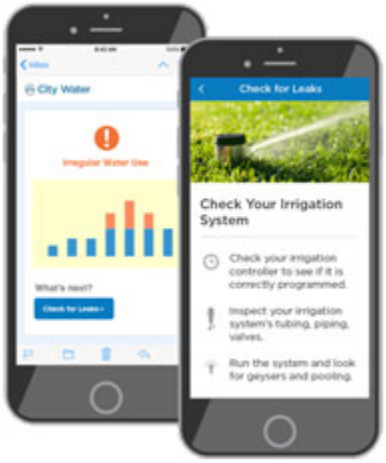
EMPIRE

Part of the Empire Corridor Improvements Project, the NE Purcell Boulevard Bridge is now open to traffic. Widening this bridge over the irrigation canal finished ahead of schedule, allowing the next segment of construction to begin. Now, closures are at the intersections of 27th Street/Butler Market Road, Deschutes Market Road/Butler Market Road, and Eagle Road/Butler Market Road. The south, north, and east legs of 27th/Butler Market will reopen in July.

All other closures will be reopen in mid-September. These closures are necessary to allow construction of roundabouts at 27th Street, Deschutes Market Road, and Eagle Road.

For more information on detour and access routes, go to **bendoregon.gov/empire** or call the construction hotline: (541) 200-6979.





SPRING IRRIGATION

For anyone working on landscape during this “Stay Home” order, here is an opportunity to learn about your outdoor water use. Every year as water customers activate their irrigation systems, the City sees an increase in water demand. During the summer months, 60 percent of the water the City produces goes to landscape irrigation. Use your time at home this spring to check off some of your outdoor projects and become an expert at managing your seasonal water use:

- Log into the City’s customer water portal at **bendoregon.gov/watersmartinfo** to see your water use, set usage alerts, and get water saving suggestions. Knowing how much water you use is the first step to saving water and money.
- Visit **WaterWisetips.org** for a free toolkit and guides on sprinkler system start-ups, evaluation, repair and scheduling to help get your system in shape for the season.
- Be sure to consult a landscape professional if you’re unsure about whether you can handle an irrigation project.





BLUE SKY GRANT

The City has installed 324 solar modules at the Water Filtration Facility west of Bend. A $60,341 grant from Pacific Power's Blue Sky participants funded about 25 percent of the total expected project cost of $266,000.

We expect the new solar modules to generate an estimated 190 megawatt-hours of energy annually, which will help lower the City's energy bill, saving approximately $12,000 per year in energy costs! The project will also help the City reduce its carbon emissions by nearly 180,000 pounds per year over 20 years.

The project is one strategy to help the City reduce fossil fuel use at its facilities, as recommended in the City's Climate Action Goals, which were established by Council Resolution 3044. Other strategies include the recently-completed conversion of over 2,000 public streetlights to LEDs and performing energy efficiency improvements in Fire Department, Police Department and parking facilities. A planning effort is underway to identify additional energy efficiency strategies, as well as reducing fossil fuel from fleet vehicles and procuring off-site renewable energy.

Learn more at: **bendoregon.gov/energy**.





AFFORDABLE HOUSING FUNDS

The City of Bend's Economic Development Department is asking for proposals for two annual funding programs that would provide over $1 million for affordable housing developments and social service organizations in Bend. **Get more information here.**

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BEND CURRENT
NEWS FROM CITY OF BEND
JULY 2020

A MESSAGE FROM THE MAYOR:



Mayor of Bend, Sally Russell

Everyone in Bend plays a part in keeping our community healthy and safe as Deschutes County sees an increase in the number of new cases of COVID-19.

My heart breaks for our community members directly impacted by the COVID-19 outbreak at a local memory care facility that was announced by Deschutes County Health Services on July 15.

These are challenging times for the Bend community. Keeping each other safe and our businesses open means following the state guidelines in place to help limit the spread of COVID-19.

On July 1, Governor Brown made it a statewide requirement to wear face coverings in all indoor public places. On July 15, it became a **statewide requirement to wear face coverings in outdoor public places** where physical distance cannot be maintained, like busy sidewalks or crowded parking lots. Governor Brown also limited the size of indoor social get-togethers to a

maximum of 10 people.

Many members of our community have questions about the state guidelines and what they mean. The best place to learn about the state guidelines is **coronavirus.oregon.gov**.

As a community we must understand the urgency and necessity for each and every one of us to do our very best to minimize the spread of COVID-19. I am concerned about the health and safety of Bend. Thatâ€™s why Council voted on July 15 to take some additional steps to help limit the spread of COVID-19 in our community. You can read more about what weâ€™re doing in the Council Update below.

Letâ€™s all do our part to keep each other safe and limit the spread of COVID-19 by following the three Wâ€™s:

- Wear a face covering
- Watch your distance
- Wash your hands

MEET BEND'S NEW POLICE CHIEF



Bend's new Police Chief, Michael Krantz

The City of Bend has selected Portland Police Bureau Assistant Chief Michael Krantz as Bendâ€™s next Police Chief. Krantz will serve the 115-year-old Bend Police Department in the position previously held by Chief Jim Porter, who retired after more than 29 years of service to the Bend community.

Krantz is a 27-year veteran of the Portland Police Bureau. While serving in Portland, he built the bureauâ€™s Office of Community Engagement to support the development of ongoing relationships and trust with the greater Portland community. Krantz also managed the development and implementation of the bureauâ€™s Racial Equity Plan, focused on addressing

the root causes of inequities within the bureau and with community access to the bureau. He also served in strategic services, criminal intelligence, rapid response and training capacities.

Learn more about Bendâ€™s next Police Chief.

UPDATE: BEND'S TRANSPORTATION SYSTEM PLAN



Bendâ€™s Transportation System Plan is ready for adoption. After more than two years of research and public involvement, City staff, the Citywide Transportation Advisory Committee and the Transportation Steering Committee have completed a **final draft of Bendâ€™s updated Transportation System Plan**

The public hearing phase for the adoption of the plan began on July 13 with a Planning Commission and City Council work session, and continues through August 19 with a City Council hearing.

To learn more about the plan, **watch this video** and **visit the project website**.

STAGE 1 WATER CURTAILMENT ISSUED



In recognition of the July 1 Drought Declaration for Deschutes County, a Stage 1 water curtailment alert has been issued for the City of Bend. This Stage 1 water curtailment alert, in accordance with our state-approved water conservation and management plan, will not require any mandatory actions by customers at this time. It serves as a reminder that everyone needs to be responsible with water use. **Read the full press release here**.

For the latest City of Bend drought-related information visit **bendoregon.gov/drought**.

FIRST NEIGHBORHOOD STREET SAFETY PROGRAM COMPLETED



Building on the success of the Neighborhood Greenways project, Councilors prioritized funding for the creation of a traffic safety program in the 2019-2021 biennial budget. With neighborhood speeding and its effect on livability as one of the top complaints the City receives each year, the Neighborhood Street Safety Program was created to build small-scale residential street projects to help address these issues.

More than 360 applications were submitted by residents across Bend in the fall of 2019. An interactive mapping tool was created to allow the public to track projects as they were reviewed and ranked by the 13 Neighborhood Associations in Bend. The top 25 projects from the associations were then advanced to the Neighborhood Leadership Alliance (NLA) advisory committee. The committee worked with City staff to prioritize the top eight projects within the $800,000 of funding available across the neighborhoods.

The first of the eight selected projects was completed this spring, providing a safe crossing to Ponderosa Park from 15th Street. The remaining projects will be built in 2020 and 2021.

See the interactive mapping tool, view project designs, and more at **bendoregon.gov/streetsafety**.

EXPANDING SPACES FOR OUTDOOR BUSINESS USE



Some businesses in downtown Bend have temporarily expanded their operations into the right-of-way to help meet COVID-19 physical distancing requirements. The use of right-of-way for business operations is part of a City program to help support local businesses that might need more space to operate during the reopening process.

Under the program, businesses can apply to temporarily use right-of-ways, such as sidewalks and public parking spaces, to extend their business operations outdoors. So far, about seven businesses have received permits to expand their seating and dining outside into the right-of way. A few more businesses are expected to apply.

Click here for more information about additional outdoor space for businesses.

PHASE 2 OF NEIGHBORHOOD GREENWAYS UNDERWAY



In March 2020, Councilors approved Phase 2 of the Bicycle Greenways project, also known as Neighborhood Greenways, on multiple streets including NW Milwaukee, SE 2nd, SE Roosevelt, SE Centennial and SE Paiute. Councilors approved designating **speeds of 20 mph on these Neighborhood Greenways** when posted.

Phase 2 construction is about half done, and should wrap up in mid-August. Later this summer, Council is expected to vote on a construction contract for Phase 3, which is planned for later in the fall and includes NW Cumberland, Gilchrist, Shasta, Delaware and Division.

For information on neighborhood greenway designs and answers to frequently asked questions, visit **bendoregon.gov/neighborhoodgreenways**.

TRAFFIC CHANGES COMING TO BUTLER MARKET ROAD AND 27TH STREET



As part of the Empire Corridor Improvements Project, the new roundabout at Butler Market Road and 27th Street will be partially opened to north-south traffic beginning in mid-August. This is the first of a series of traffic and detour changes along Butler Market Road as three new roundabouts near their completion in early fall.

Exact dates for the partial roundabout opening and traffic changes at Butler Market Road and 27th Street are still being finalized.

Updates on the timing of the opening and a map of upcoming detour changes will be posted at **bendoregon.gov/empire**.

DESCHUTES RIVER CLEANUP DAY



The City continues being an active supporter of the Upper Deschutes Watershed Councilâ€™s Deschutes River Cleanup Day, taking place this year on Saturday, July 25, 2020.

Mark your calendars and join us, your friends, and neighbors to help pull weeds and collect litter along our beautiful waterways! **Click here to learn more and register**.

CLEAN WATER WORKS STUDENT VIDEO CONTEST WINNERS



Bella Moon, Grand Prize Winner

Congratulations to the winners of our 2020 Clean Water Works Video Contest!

- Dylan Laughery (5th - 8th grade division)
- Megan Koblegarde (9th - 12th grade division and People's Choice Award)
- Bella Moon (pictured above) - Grand Prize - Entry: "Clean Roads Clean Water"

All winners received prizes. As grand prize winner, Bella wins the opportunity to work with media professionals to convert her 30-second film into a professional public service announcement focusing on pollution prevention to protect our river and have it debut at the BendFilm Festival.

We appreciate all of our fifth through twelfth grade students who entered this year and look forward to seeing more great entries next year.

The City hosts the Clean Water Works Video Contest annually in partnership with BendFilm and

Central Oregon Daily News. The theme this year was reducing pollution from automobile wheels.

To view the winning entries and learn more about the contest, visit **bendoregon.gov/CleanWaterWorksKids**.

PUBLIC HEARING FOR CORE AREA TAX INCREMENT FINANCE PLAN



On August 5, 2020, City Council will hold a public hearing on the adoption of the Core Area Tax Increment Finance (TIF) Plan, commonly called Urban Renewal. The hearing is the result of a multi-year public process that included a public advisory board, community surveys, open houses and events, and presentations to applicable taxing districts.

Public comments on the plan may be submitted for City Council consideration in writing by 5 p.m. on Wednesday, August 5, 2020, to **mstuart@bendoregon.gov**. Public comments may also be provided via telephone during the public hearing. A toll-free number to call in with comments will be posted on the meeting agenda at: **bendoregon.gov/councilagenda**.

For more information on the plan, visit **bendoregon.gov/core-area-tif**.

COUNCIL UPDATES

Transportation Bond

At the City council meeting on July 15, Council began discussing the possibility of placing a general obligation bond measure for transportation projects on the November 2020 ballot. The $190 million bond would likely include the same projects listed in the May 2020 ballot measure. Council removed the measure from the May ballot amid uncertainty of the impacts of the COVID-19 pandemic. No decision was made on a bond measure at the Council meeting. Council will continue its discussion during its Aug. 5 meeting.

COVID-19: Discouraging Travel to Bend

To help limit the spread of COVID-19 in the community, Council voted to direct the City Manager to re-issue an administrative order discouraging travel to Bend. The order will be similar to the **one issued in May**, which expired when Deschutes County entered Phase 2 of Reopening Oregon. This new administrative order will expire on Labor Day. Council is expected to ratify the order on Aug. 5.

PROWELL SPRINGS NAME IS OFFICIAL!



On July 9, the U.S. Board of Geographic Names approved "Prowell Springs" as the name for the source of Bendâ€™s surface water. The name honors the late Roger Prowell who worked in the Cityâ€™s water division for 24 years, ultimately serving as its Water Quality Supervisor. Prowell was known for his unwavering dedication to protecting the water quality within the Bend Municipal Watershed where the springs are located.

â€œThis honor recognizes the loving care Roger provided to all Bend community members through his protection and care of our watershed,â€ said Stormwater Program Manager Wendy Edde, who led the Cityâ€™s efforts to support naming the springs.

The effort garnered widespread support throughout the community and state, with hundreds signing letters, several submitting personal letters of support, the City Council and Deschutes County Commissioners supporting the effort, and a local craft brewery naming a beer after the man who took special care to connect the Bend community to its surface water source.

Prowell Springs will now be entered into the U.S. Geological Survey (USGS) Geographic Names

Information System. The name will be found when using online map servers. It will also be printed on the next series of USGS topographic maps on the Broken Top quadrangle.

UTILITY RATE INCREASES

New utility rates went into effect July 1, 2020. You may notice some changes to your bill as a result. Visit **bendoregon.gov/utilityrates** for more information.

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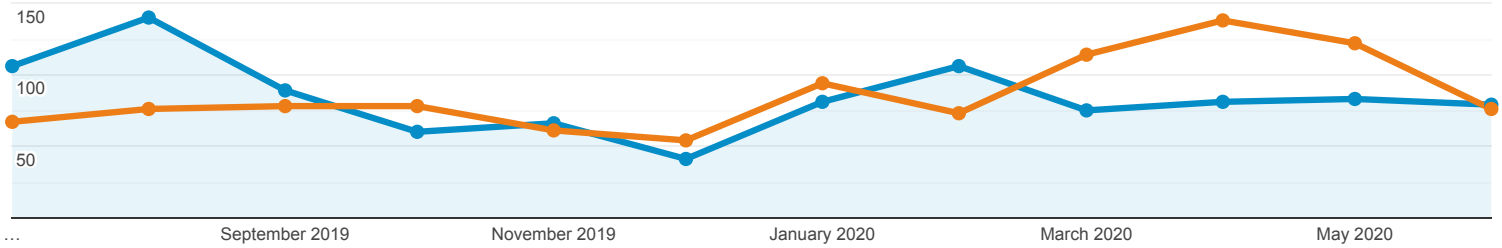
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Jul 1, 2019 - Jun 30, 2020
Compare to: Jul 1, 2018 - Jun 30, 2019

All Users
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Explorer

Jul 1, 2019 - Jun 30, 2020: Pageviews
Jul 1, 2018 - Jun 30, 2019: Pageviews



Page	Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	% Exit
	2.33% ↓ 1,007 vs 1,031	2.06% ↓ 762 vs 778	12.46% ↑ 00:01:07 vs 00:00:59	6.53% ↓ 23.82% vs 25.49%	0.43% ↓ 17.58% vs 17.65%
1. /government/departments/utilities/stormwater					
Jul 1, 2019 - Jun 30, 2020	**1,007** **(100.00%)**	762 (100.00%)	00:01:07	23.82%	17.58%
Jul 1, 2018 - Jun 30, 2019	**1,031** **(100.00%)**	778 (100.00%)	00:00:59	25.49%	17.65%
% Change	**-2.33%**	**-2.06%**	**12.46%**	**-6.53%**	**-0.43%**

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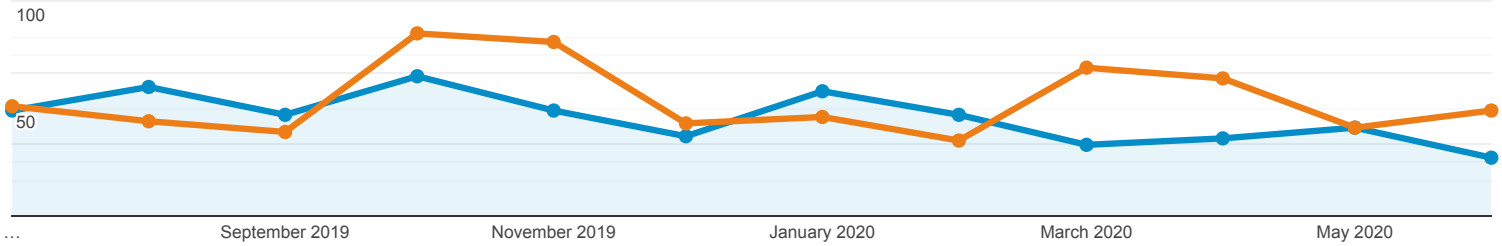
ALL » PAGE: /government/departments/utilities/stormwater/watershed

Jul 1, 2019 - Jun 30, 2020
Compare to: Jul 1, 2018 - Jun 30, 2019

All Users
-0.01% Pageviews

Explorer

Jul 1, 2019 - Jun 30, 2020: Pageviews
Jul 1, 2018 - Jun 30, 2019: Pageviews



Page	Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	% Exit
	15.15% ↓ 549 vs 647	12.32% ↓ 427 vs 487	30.16% ↓ 00:03:05 vs 00:04:25	2.05% ↓ 67.70% vs 69.12%	8.30% ↑ 61.93% vs 57.19%
1. /government/departments/utilities/stormwater/watershed					
Jul 1, 2019 - Jun 30, 2020	**549** **(100.00%)**	427 (100.00%)	00:03:05	67.70%	61.93%
Jul 1, 2018 - Jun 30, 2019	**647** **(100.00%)**	487 (100.00%)	00:04:25	69.12%	57.19%
% Change	**-15.15%**	**-12.32%**	**-30.16%**	**-2.05%**	**8.30%**

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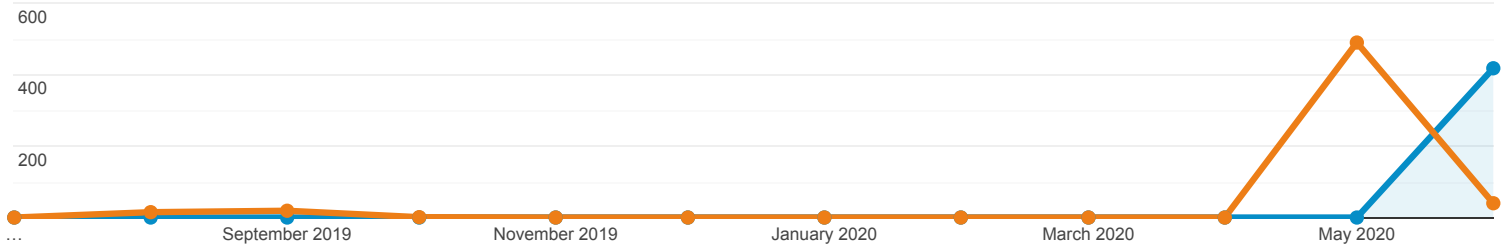
ALL » PAGE: /government/departments/utilities/stormwater/clean-water-works/clean-water-works-kids-video-contest-2018-vote

Jul 1, 2019 - Jun 30, 2020
Compare to: Jul 1, 2018 - Jun 30, 2019

All Users
-0.01% Pageviews

Explorer

Jul 1, 2019 - Jun 30, 2020: Pageviews
Jul 1, 2018 - Jun 30, 2019: Pageviews



Page	Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	% Exit
	26.02% ↓ 418 vs 565	36.04% ↓ 284 vs 444	17.38% ↓ 00:04:02 vs 00:04:53	15.18% ↓ 69.77% vs 82.25%	19.97% ↓ 60.77% vs 75.93%
1. /government/departments/utilities/stormwater/clean-water-works/clean-water-works-kids-video-contest-2018-vote					
Jul 1, 2019 - Jun 30, 2020	**418** (100.00%)	284 (100.00%)	00:04:02	69.77%	60.77%
Jul 1, 2018 - Jun 30, 2019	**565** (100.00%)	444 (100.00%)	00:04:53	82.25%	75.93%
% Change	**-26.02%**	**-36.04%**	**-17.38%**	**-15.18%**	**-19.97%**

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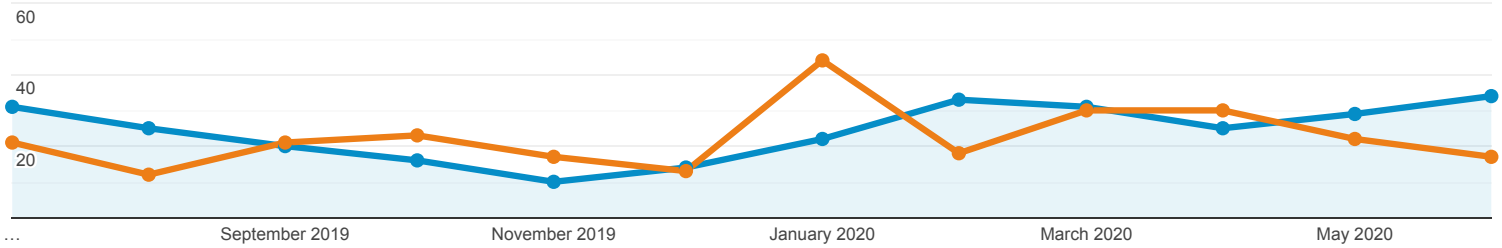
ALL » PAGE: /government/departments/utilities/stormwater/regulations

Jul 1, 2019 - Jun 30, 2020
Compare to: Jul 1, 2018 - Jun 30, 2019

All Users
+0.00% Pageviews

Explorer

Jul 1, 2019 - Jun 30, 2020: Pageviews
Jul 1, 2018 - Jun 30, 2019: Pageviews



Page	Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	% Exit
	8.21% ▲ 290 vs 268	**12.83%** ▲ 211 vs 187	**0.23%** ▲ 00:02:11 vs 00:02:11	**8.34%** ▼ 52.17% vs 56.92%	**8.49%** ▲ 37.24% vs 34.33%
1. /government/departments/utilities/stormwater/regulations					
Jul 1, 2019 - Jun 30, 2020	**290** (100.00%)	211 (100.00%)	00:02:11	52.17%	37.24%
Jul 1, 2018 - Jun 30, 2019	**268** (100.00%)	187 (100.00%)	00:02:11	56.92%	34.33%
% Change	**8.21%**	**12.83%**	**0.23%**	**-8.34%**	**8.49%**

Rows 1 - 1 of 1

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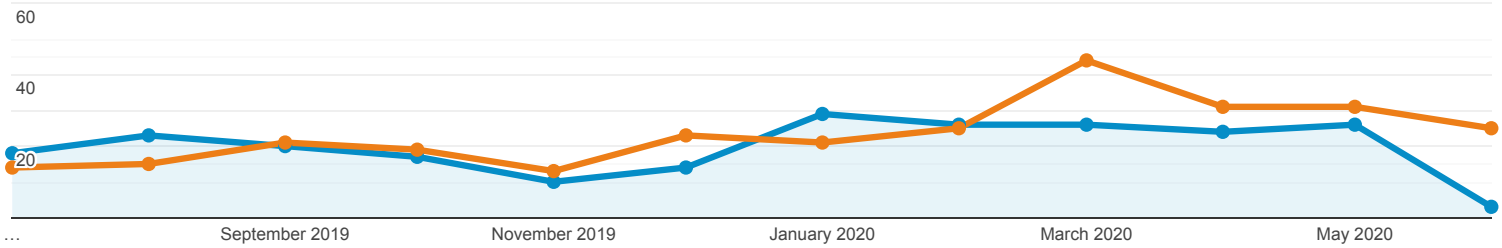
ALL » PAGE: /government/departments/utilities/stormwater/stormwater-master-plan

Jul 1, 2019 - Jun 30, 2020
Compare to: Jul 1, 2018 - Jun 30, 2019

All Users
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Explorer

Jul 1, 2019 - Jun 30, 2020: Pageviews
Jul 1, 2018 - Jun 30, 2019: Pageviews



Page	Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	% Exit
	16.31% ↓ 236 vs 282	17.79% ↓ 171 vs 208	14.48% ↑ 00:03:34 vs 00:03:07	13.10% ↑ 73.58% vs 65.06%	4.21% ↓ 41.10% vs 42.91%
1. /government/departments/utilities/stormwater/stormwater-master-plan					
Jul 1, 2019 - Jun 30, 2020	**236** **(100.00%)**	171 (100.00%)	00:03:34	73.58%	41.10%
Jul 1, 2018 - Jun 30, 2019	**282** **(100.00%)**	208 (100.00%)	00:03:07	65.06%	42.91%
% Change	**-16.31%**	**-17.79%**	**14.48%**	**13.10%**	**-4.21%**

Rows 1 - 1 of 1

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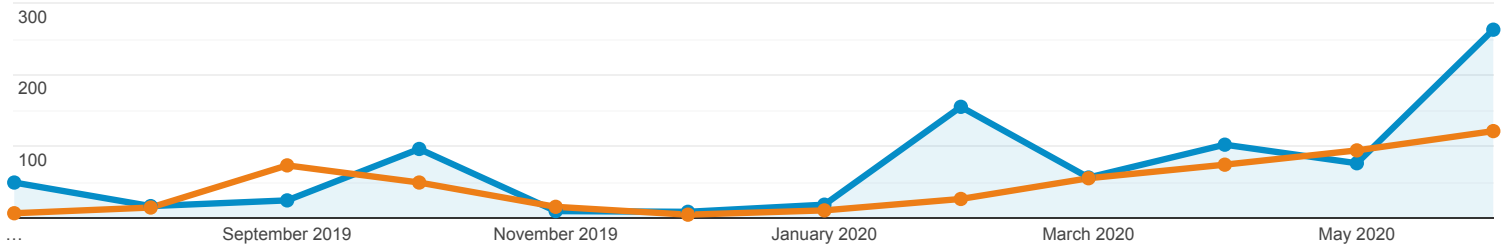
ALL » PAGE: /government/departments/utilities/stormwater/clean-water-works/kid-s-page

Jul 1, 2019 - Jun 30, 2020
Compare to: Jul 1, 2018 - Jun 30, 2019

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Explorer

Jul 1, 2019 - Jun 30, 2020: Pageviews
Jul 1, 2018 - Jun 30, 2019: Pageviews



Page	Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	% Exit
	61.18% ▲ 872 vs 541	68.29% ▲ 658 vs 391	28.45% ▼ 00:01:11 vs 00:01:39	17.45% ▼ 41.06% vs 49.74%	16.71% ▼ 27.87% vs 33.46%
1. /government/departments/utilities/stormwater/clean-water-works/kid-s-page					
Jul 1, 2019 - Jun 30, 2020	**872** **(100.00%)**	658 (100.00%)	00:01:11	41.06%	27.87%
Jul 1, 2018 - Jun 30, 2019	**541** **(100.00%)**	391 (100.00%)	00:01:39	49.74%	33.46%
% Change	**61.18%**	**68.29%**	**-28.45%**	**-17.45%**	**-16.71%**

Rows 1 - 1 of 1

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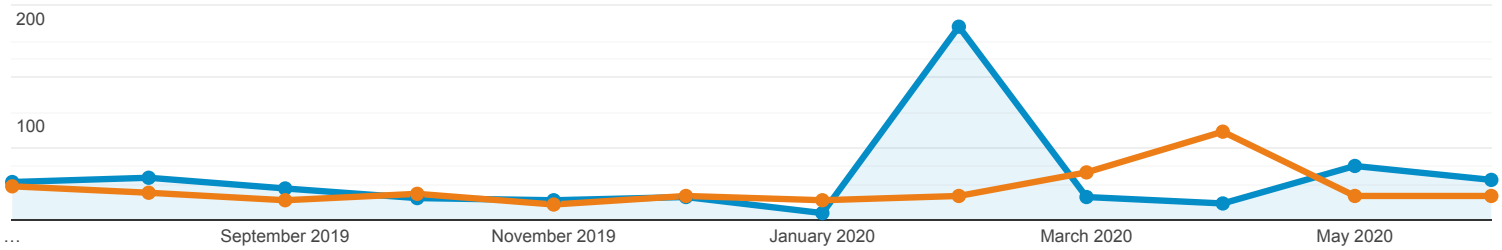
ALL » PAGE: /government/departments/utilities/stormwater/stormwater-master-plan/flooding-hot-spots

Jul 1, 2019 - Jun 30, 2020
Compare to: Jul 1, 2018 - Jun 30, 2019

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Explorer

Jul 1, 2019 - Jun 30, 2020: Pageviews
Jul 1, 2018 - Jun 30, 2019: Pageviews



Page	Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	% Exit
	36.92% ↑ 471 vs 344	37.90% ↑ 433 vs 314	3.61% ↓ 00:03:23 vs 00:03:31	0.93% ↓ 86.52% vs 87.33%	0.49% ↑ 84.71% vs 84.30%
1. /government/departments/utilities/stormwater/stormwater-master-plan/flooding-hot-spots					
Jul 1, 2019 - Jun 30, 2020	**471** (100.00%)	433 (100.00%)	00:03:23	86.52%	84.71%
Jul 1, 2018 - Jun 30, 2019	**344** (100.00%)	314 (100.00%)	00:03:31	87.33%	84.30%
% Change	**36.92%**	**37.90%**	**-3.61%**	**-0.93%**	**0.49%**

Rows 1 - 1 of 1

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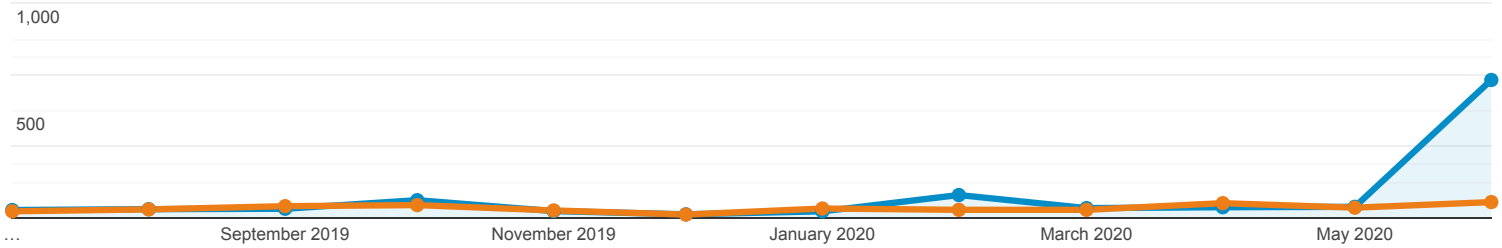
ALL » PAGE: /government/departments/utilities/stormwater/clean-water-works

Jul 1, 2019 - Jun 30, 2020
Compare to: Jul 1, 2018 - Jun 30, 2019

All Users
+0.03% Pageviews

Explorer

Jul 1, 2019 - Jun 30, 2020: Pageviews
Jul 1, 2018 - Jun 30, 2019: Pageviews



Page	Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	% Exit
	121.18% ↑ 1,159 vs 524	**54.31%** ↑ 662 vs 429	**37.95%** ↑ 00:01:12 vs 00:00:52	**70.56%** ↑ 46.31% vs 27.15%	**33.37%** ↑ 25.45% vs 19.08%
1. /government/departments/utilities/stormwater/clean-water-works					
Jul 1, 2019 - Jun 30, 2020	**1,159** (100.00%)	662 (100.00%)	00:01:12	46.31%	25.45%
Jul 1, 2018 - Jun 30, 2019	**524** (100.00%)	429 (100.00%)	00:00:52	27.15%	19.08%
% Change	**121.18%**	**54.31%**	**37.95%**	**70.56%**	**33.37%**

Rows 1 - 1 of 1

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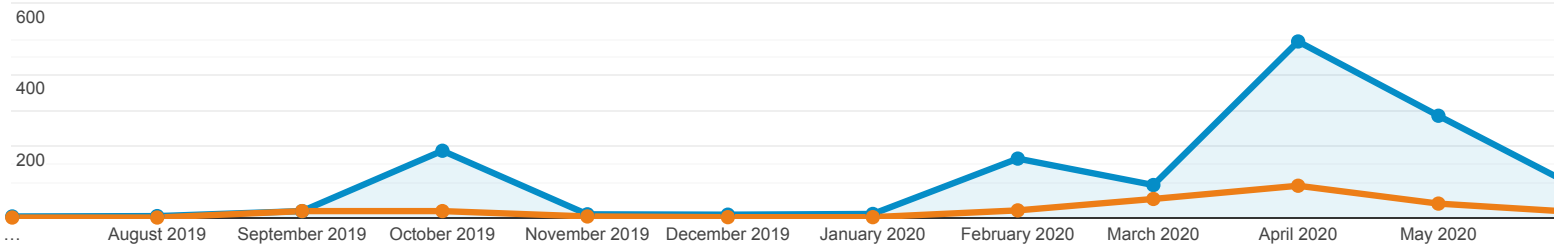
ALL » PAGE: /government/departments/utilities/stormwater/clean-water-works/kid-s-video-contest-entries-2017/video-and-poetry-contests

Jul 1, 2019 - Jun 30, 2020
Compare to: Jul 1, 2018 - Jun 30

All Users
+0.06% Pageviews

Explorer

Jul 1, 2019 - Jun 30, 2020: Pageviews
Jul 1, 2018 - Jun 30, 2019: Pageviews



Page	Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	%
	428.63% ▲ 1,348 vs 255	431.91% ▲ 1,000 vs 188	38.12% ▲ 00:05:04 vs 00:03:40	4.79% ▼ 80.84% vs 77.14%	2
1. /government/departments/utilities/stormwater/clean-water-works/kid-s-video-contest-entries-2017/video-and-poetry-contests					
Jul 1, 2019 - Jun 30, 2020	**1,348** (100.00%)	1,000 (100.00%)	00:05:04	80.84%	
Jul 1, 2018 - Jun 30, 2019	**255** (100.00%)	188 (100.00%)	00:03:40	77.14%	
% Change	**428.63%**	**431.91%**	**38.12%**	**4.79%**	

Rows

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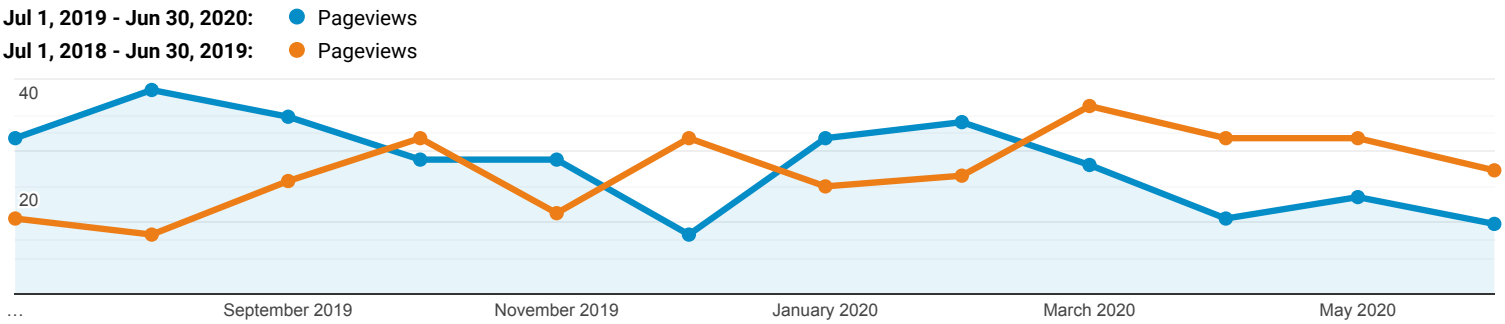
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ALL » PAGE: /government/departments/utilities/stormwater/about-stormwater

Jul 1, 2019 - Jun 30, 2020
Compare to: Jul 1, 2018 - Jun 30, 2019

All Users
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Explorer



Page	Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	% Exit
	5.05% ▲ 291 vs 277	3.31% ▼ 234 vs 242	20.64% ▼ 00:01:22 vs 00:01:43	0.44% ▼ 85.33% vs 85.71%	23.85% ▼ 35.74% vs 46.93%
1. /government/departments/utilities/stormwater/about-stormwater					
Jul 1, 2019 - Jun 30, 2020	**291** (100.00%)	234 (100.00%)	00:01:22	85.33%	35.74%
Jul 1, 2018 - Jun 30, 2019	**277** (100.00%)	242 (100.00%)	00:01:43	85.71%	46.93%
% Change	**5.05%**	**-3.31%**	**-20.64%**	**-0.44%**	**-23.85%**

Rows 1 - 1 of 1

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A rain garden's many benefits

By Kathy Van Mullekom
Daily Press (Newport News, Va.) Apr 25, 2014 Updated Jan 31, 2020 0

1 of 2



A bird bath and feeders accent a rain garden.

Restaurants Open for Business



Support locally owned restaurants with carry out and to-go options

Browse options



https://www.bendbulletin.com/lifestyle/a-rain-garden-s-many-benefits/article_5f50161e-73fb-51c5-b72e-44760f4a919d.html

A rain garden's many benefits

By Kathy Van Mullekom
Daily Press (Newport News, Va.)
Apr 29, 2014



A bird bath and feeders accent a rain garden.
Carol Fryer

Rain is a natural resource for your yard.

Think of it as pennies from heaven — free moisture that nourishes your

plants and nixes high water bills.

Ask a master gardener how best to access that rich resource and you are likely to hear "rain garden."

A rain garden is also a fuss-free way to help clean up our environment.

When it rains, water falls on roofs, driveways, lawns, between houses, over parking lots and through storm drains. As stormwater travels over these surfaces, it collects pollutants, pesticides, herbicides, sediments and pet wastes. In undisturbed landscapes, such as woods and open field, there is very little stormwater runoff because rainwater filters through soil or evaporates into the atmosphere.



"Seventy percent of pollutants in our streams, rivers and lakes are carried there by stormwater," says Carol Fyrer, a master gardener in Williamsburg, Va. She and other local master gardeners are using their skills to help homeowners develop rain gardens in places where erosion, water conservation and pollution control are concerns.

"Most people do not know that about half of the pollutants are caused by what we do in our gardens and yards.

"Planting a rain garden might seem like a small part of stormwater management, but if you calculate the amount of rain that runs off you roof, you might be very surprised. Water running off a house roof can be channeled into a rain garden, rather than heading into the street to a storm drain carrying pollutants with it."

What is a rain garden?

A rain garden is an attractive landscape feature designed to capture, filter and infiltrate stormwater back into the soil — rather than rain running off your property or causing erosion, according to Carol.

"They are built as shallow depressions — basins — in the ground that are filled with good draining soil mix and beautiful plants that can tolerate wet soil and periods of drought," she says.

As water collects in the rain garden, it is filtered and slowly absorbed by soil and plants. Soil and plant roots of the trees, shrubs and perennials planted in the rain garden filter pollutants, pesticides and herbicides from the rainwater. Well-designed rain gardens will hold water for no longer than 24-48 hours.

Why are rain gardens important?

Rain gardens have several advantages, according to Darl Fletcher, assistant horticulture curator at the Virginia Living Museum — www.thevlm.org — in Newport News, Va. The museum's rain garden is located in front of the green roof of the Goodson Living Green House, and is planted with witch hazel, sweet pepperbush, strawberry bush, Virginia sweetspire and copper iris — native species that will be sold at its April plant



"Rain gardens help reduce and filter stormwater runoff, which reduces stormwater pollution as well as increases groundwater replenishment," says Fletcher.

"They provide habitat for wildlife, are attractive, are low maintenance — do not require mowing, fertilization or watering once established — and can increase property values with their use of creative landscape design."

Where to build a rain garden?

A rain garden should be at least 10 feet from a house so water soaking into the soil does not seep into the foundation. Do not place the rain garden directly over a septic system, or underground utilities.

A wet area of your land may not be a good spot since the infiltration is poor there. An area closer to the runoff source — roof or driveway — to intercept the water is a better choice, according to Carol.

If your water table is high, less than 2 feet deep from the surface, a rain garden will not work since infiltration is an issue, she adds.

Locate a rain garden in sun or partial sun, not directly under a big tree.

Placing a rain garden in a flatter part of a yard makes digging much easier.

A slope of less than 12 percent grade work is best since the base of the rain garden must be level, and less incline requires less filling in of the downward side of a slope.

OUR WATER SYSTEM: A JOURNEY THROUGH BEND

In partnership with the City of Bend, The Environmental Center presents a free series that orients your students to water movement and use in our watershed. Lessons are accompanied by field trips to water facilities.

the environmental center

For more information, or to schedule, contact:
April Farmer
April@envirocenter.org
541.385.6908 x15

CITY OF BEND

Classroom Presentations

Watersheds and Water Users

Students take a virtual tour of the watershed, learn about Bend's dual source water system, identify ways they connect with water, learn how our community uses water as well as the impacts that result.

Ins and Outs of Water

Students tour their school grounds to explore how water gets into and out of our schools. They will research water, sewer lines, and stormwater drains on city maps to gain an understanding of the city infrastructure needed to provide and manage water, including customer pre-treatment, reclamation systems, and stormwater.

Sewer Studies

Students learn what happens to wastewater once it leaves our schools, homes, and businesses and enters the City's sewage system. They learn what can and cannot go down drains and toilets. Lastly, they learn how water is treated at the reclamation facility before it is released back into the environment.

Be Water Wise

Students generate reasons and methods to conserve water based on what they learned during the series. Students utilize hands-on models for water conservation strategies indoors and outdoors.

Field Trips

From Mountains to Homes

Take a half day to visit the Bridge Creek Intake and Outback Water Filtration Facility to experience our water sources, the system of pipelines that bring water into the City, and see filtration firsthand.

Wastewaters' New Life

Take a second half day to visit the Wastewater Reclamation Facility and adjacent Hatfield Ponds. Students will tour the facility, observe the cleaning process, learn about the hidden organisms that clean water, and see where the cleaned water releases into natural systems.

Stormwater QUEST

Students solve a puzzle as they visit locations along the Deschutes River, including Farewell Bend and River Bend Parks. As they travel along the quest, they will learn how City infrastructure minimizes the impact of stormwater pollution.

COB 2019-20 End of Year Activities Report

City of Bend

Geneva Mayall

6/1/20

This document provides an update of the activities to-date in each focus area for the scope of work for the City of Bend water consultant contract, conducted by The Environmental Center from August 28th 2019- May 15th 2020.

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Measuring Educational Results

Pre and Post Program assessments

- Updated and revised google forms assessment as well as added a pre/post assessment to analyze the information gleaned by students.
  Link to Pre-Assessment Responses: 2019-20 Pre-Assessment Responses (edit view)
  Link to Post-Assessment Responses: 2019-20 Post-Assessment Responses (edit view)
  The most missed questions were:
  - **"Which watershed supplies Bend's drinking water?"**
    (Pre-Assessment response: 14% correct Post-Assessment response 79% correct → 65% improvement rate)
  - **"What is the primary source of surface water that gets supplied to Bend?"**
    (Pre-Assessment response: 38% correct Post-Assessment response 78% correct → 40% improvement rate)
  - **"In Bend, where does our stormwater flow?"**
    Students showed a good base of stormwater knowledge, exhibited by the number of correct responses in the Pre-Assessment. However, when asked to list 3 ways we can reduce stormwater pollution, around 40% of the Pre-Assessment responses were, "I Don't Know" whereas an improvement in understanding was exhibited in the Post-Assessment responses where there was only 10% of responses as "I Don't Know," and more responses including, "Bioswales, Raingardens, Don't Litter, Green Roofs, Dry Wells, More Pervious surfaces…"
  - **"Water usage increases the most in the summer time due to…"**
    In the Pre-Assessment, 14% of the students answered incorrectly by selecting "Pools." However a majority answered correctly with "Sprinklers and Lawn Irrigation." There was an improvement however in the Post-Assessment when only 8% answered incorrectly and 84% answered correctly.
  - **"List three methods you will use to conserve water"**
    Overall, students had reasonable responses on the Pre and Post Assessment showing that they had a good foundation of what conservation means.(Ex: "bigger loads of laundry, turn off faucet when brushing teeth, shorter showers, fix leaky pipes…) However, looking at the Post-Assessment, after the students learned that outdoor irrigation was the biggest use of water in the summer, there was the expectation and hope that the students would incorporate this knowledge into their understanding of water conservation. Only about 2% of the responses in the Post- Assessment included reducing outdoor water use or incorporating native plants.

Examples of short answer responses from Post-Assessment:

List 3 ways stormwater pollution could be reduced	"Bio swales, pervious pavement, less littering."	"Dry wells, green roofs"	"Don't litter, carpooling: reducing use of cars, use bioswales and other pervious surfaces that can filter out pollutants"	"Build wastewater pipes that lead to the water reclamation center"
List 3 methods you will use to conserve water	"Shorter showers, less sink use, not as much sprinkler use."	"Full loads of laundry, shorter showers, monitor sprinkler times"	"I can take shorter showers, I can put a gallon jug in my toilet back to reduce ten gallons of water a day, I can convert my lawn to a desert."	"Turn water off while brushing teeth, put big loads of laundry in, and make sure dishwasher is whole"

Agenda
Bend City Council
July 17, 2019
City Council Chambers, Bend City Hall
710 NW Wall, Bend, Oregon

CITY OF BEND

BUILDING ON OUR PAST
SERVING THE PRESENT
SHAPING BEND'S FUTURE

Light Meal, 5:30 p.m.

City Council Work Session, 3:00 p.m.

1. **Convene Work Session**

2. **Quarterly Council- Board/Commission check-ins (Planning Commission, Affordable Housing Advisory Committee, Bend Economic Development Advisory Board, Neighborhood Leadership Alliance, Climate Action Steering Committee)**

3. **Council Goal Overview (Eric) 5 minutes**
   - **Land Supply and Dashboard (Jesse Thomas) 10 minutes**
   - **Illegal Fireworks Enforcement - recap of actives and outcomes (Clint Burleigh, Larry Medina) 10 minutes**
   - **Fire Resiliency Plan (Doug Green) 10 minutes**
   - **Safe Streets Program (David Abbas) 20 minutes**
   - **Overview of Code Updates (Carolyn and Russ)**
     - **Suspension of mobility standards (Ryan and Colin)**

4. **BEDAB – Innovation District 20 minutes**

Dinner during Executive Session, approx. 5:30 p.m.

5. **Executive Session under authority of ORS 192.660 (2) (h) to consult with attorney regarding legal rights and duties of a public body with regard to current litigation or litigation likely to be filed (30 min.)**

6. **Return to Open Session (approx. 6 p.m.)**

7. **Council schedule requests**
   - **Downtown events (Councilor Moseley)**
   - **Review of CTAC communication and scope of work (Councilor Moseley)**
   - **City Manager Review Process (Councilor Moseley)**

City Council Regular Meeting, 7:00 p.m.

1. **Roll Call: Mayor Sally Russell, Mayor Pro Tem Bruce Abernethy Councilor Bill Moseley, Councilor Barb Campbell, Councilor Gena Goodman Campbell Councilor Justin Livingston, Councilor Chris Piper**

2. **Pledge of Allegiance**

3. **Good of the Order**

   A. **Winners for the annual City of Bend, BendFilm, Zolo Media Youth Video Contest**

4. **Visitor's Section**– *3 minutes per person; when invited to the podium, please state your name and whether you live inside the City of Bend.*

5. **Consider a Motion to approve the Consent Agenda**

   A. **Accept Meeting Minutes:**
   April 3, 2019, work session
   April 3, 2019, regular meeting

   B. **OLCC Report**

   C. **Monthly Financial Report**

   D. **Authorize price agreements with RH2, Beecher Engineering, Inc., and Elcon Associates, Inc. for electrical engineering on-call services**

   E. **Authorize an agreement with PMWeb for the acquisition of PMWeb software with the associated business process and implementation services for capital project management in an amount not to exceed $234,950, with additional annual costs for ongoing software services of $28,500**

   F. **Authorize an agreement with Wilson Curb Inc. for the construction of the Citywide Safety Improvements at 3rd & Hawthorne and 3rd & Franklin project in the amount of $292,424.00**

   G. **Authorize a contract with Murraysmith, Inc., in substantially the form presented to City Council, for construction management services for the Murphy Corridor Improvements Project in an amount not to exceed $271,758.00**

   H. **Authorize a contract amendment with Angelo Planning Group (APG) for the Bend TSP/MTP Update of the Transportation and Land Use Planning Program in an amount not to exceed $291,818**

End of Consent Agenda

6. **First reading of an ordinance to repeal the City's plastic bag ordinance**
Recommended motion: I move for a first reading of the Ordinance amending Title 5, Public Protection, of the Bend Municipal Code to repeal Chapter 5.65, encouraging the Use of Reusable Bags and Limiting the Use of the Carryout Plastic Bags.

7. **Pioneer Park Lift Station Project – removed from agenda**

8. **An agreement between the City of Bend and SiCamore Semi LLC. for a Bend Enterprise Zone property tax exemption on new capital investment for up to five years**
Recommended motion: I move to approve the agreement between the City of Bend and SiCamore Semi LLC. to extend a Bend Enterprise Zone property tax exemption for up to five consecutive years on new capital investment and to authorize the City Manager to sign the agreement in substantially the form presented to Council.

9. **Water Reclamation Facility Settlement**
Recommended motion: I move to approve the settlement reached in mediation with Apollo and CH2M, including a $3.2 million contribution from the City, in a form to be approved by the City Attorney's Office.

10. **Second reading of an ordinance granting a non-exclusive franchise to Pacific Power**
Recommended motion: I move for a roll call vote on the second reading of the emergency ordinance granting a non-exclusive franchise to Pacific Power.

11. **Second reading of an ordinance to amend Chapter 6.20 of the Bend Municipal Code to permit Temporary Parking Restriction Areas**
Recommended motion: I move for a roll call vote on the second reading of the ordinance to amend Bend Code Chapter 6.20 to permit Temporary Parking Restriction Areas and declaring an emergency adoption.

12. **Council Action and Reports**
    A. Committee Reports

13. **Receive City Manager's Report**

14. **Adjourn**

Accessible Meeting/Alternate Format Notification

This meeting/event location is accessible. Sign and other language interpreter service, assistive listening devices, materials in alternate format such as Braille, large print, electronic formats, language translations or any other accommodations are available upon advance request at no cost. Please contact the City Recorder no later than 48 hours in advance of the meeting at rchristie@bendoregon.gov, 541-388-5505, fax 541-385-6676, or TTY 541-312-8478. Providing at least 2 days notice prior to the event will help ensure availability.

Appendix C

Public Involvement and Participation

Appendix C.1

Public Advisory Group:
Meeting/ Agendas/ Summaries/ Sign-ins

Appendix C.2

Storm Drain Marking Map

CITY OF BEND

City of Bend
Stormwater Public Advisory Group (June 2020)

	Last name	First Name	Organization	Representing
1	Wallace	Scott	Bend Chamber of Commerce	Business/Industry: Large
2	Salvesen	Aaron	Salvesen Homes	Business/Industry: Small
3	Rich	Barbara	Citizen, Richcraft Studios	Citizen At Large
4	Oberlender	Jim	Citizen, Retired	Citizen at Large or Neighborhood Association
5	Klein	Lawrence	Wylder Solutions, LLC	Consulting or Engineering
6	Headley	Tom	Century-West	Consulting or Engineering
7	Payne	Jeff	Panterra Homes & COBA	Developers--Excavation/Homebuilding
8	Hart-Henderson	Chris	Heart Spring Design	Developers--Landscape Architect or Design
9	Newbold	Moey	Central Oregon Land Watch	Environmental Group--Education/Density
10	Richter	Joanne	Upper Deschutes Watershed Council	Environmental Group--Watershed
11	Mastro	Bronwen	Bend Park and Recreation District	Intergovernmental Coordination
12	Cleveland	Todd	Environmental Health, Deschutes County	Intergovernmental Coordination
13	Moore	Fredrick	Oregon Department of Environmental Quality	Regulatory Liaison
14	Edde	Wendy	Stormwater Program Manager City of Bend	Stormwater Staff
15	Buchanan	David	Senior Analyst, City of Bend	Stormwater Staff
16	Forster	Eric	Asst. City Engineer, City of Bend	City Staff
	Interested Parties			
17				
18	Mandal	Brad	Building Official, CDD, City of Bend	City Staff
19	Hardie	Pauline	Senior Planner, CDD, City of Bend	City Staff
20	Platt	Allison	Senior Planner, CDD, City of Bend	City Staff
21	Oster	Ryan	Engineering and Infrastructure Planning Director, City of Bend	City Staff
22	Rheault	Paul	Utility Director, City of Bend	City Staff
23	Barnes	Drexell	Interim Water Quality Manager, City of Bend	City Staff

CITY OF BEND

Stormwater

Public Advisory Group Proposed Agenda

Wednesday, September 18, 2019

11:00 AM – 12:30 PM
City Hall—Board Room,
710 NW Wall Street (Note different room location)

I. **Welcome and Introductions,** All, 11:00-11:05 AM
Objectives: Introductions. Review agenda, previous meeting summary.

II. **Summer and Fall Activities and "Drainage and Density" Updates, Recommendations Status and Next Steps,** 11:05 – 11:15 PM, Wendy Edde, Ryan Oster, and Pauline Hardie
Objectives: Receive updates on Summer Activities (Deschutes River Cleanup; Welcoming Week; Teacher's Night Out); upcoming Fall Activities: Oktoberfest, Fall Fest. Review drainage and density recommendations status list. Receive updates on Spring "Drainage and Density" Better Site Design Workshop Evaluation; Stormwater Facility Maintenance Guidance; Low Impact Development Cost Data; Code Updates (Pauline Hardie)

III. **Clean Water Works BendFilm Kid's Video Contest: Winners, and Upcoming Contest,** Wendy, All 11:15-11:20 AM
Objectives: Review 2020 program and contest themes. Provide ideas for contest themes for future years. Here is a link to the final psa for the 2019 grand prize winning entry on wipes:
https://vimeo.com/347173957 **Password: water**

IV. **"Secure Your Loads" Flyer Review,** Wendy, All 11:20-11:30 AM
Objectives: Provide review comments on the "Secure Your Loads" draft outreach.

V. **Annual Report Development Status and Review Schedule,** Wendy, 11:30-11:40 AM
Objectives: Receive update on status of FY2018-19 Annual Stormwater Report development, and communicate review schedules; discuss preference for offline review or an October meeting.

VI. **Ambient Water Quality Monitoring – Formatting for Yearly Snapshots,** All, 11:40-11:50
Objectives: Staff are moving forward with yearly data compilation of ambient water quality data. A yearly snapshot formatting similar to Lake Tahoe's State of the Lake report, within available budget, has been suggested. Review the State of the Lake report and provide input on what aspects you think would be useful and transferable here.

VII. **Roundtable Discussion and Updates,** All, 11:50-12:00 PM
Objective: Open Discussion.

VIII. **CIP Project Overview: Newport Avenue Stormwater and Corridor Improvements,** Drew Wells, EIPD, All, 12:00 -12:10 PM

Objectives: Meet Project Manager Drew Wells (EIPD) and receive an update and overview of the Newport Corridor project, the main goals and objectives, a review of previous work done, and the quantity and quality upgrades for stormwater that are planned, together with an overview of the project schedule. Provide input.

IX. **CIP Brainstorm: Franklin Underpass,** Moey Newbold, Jim Lord, Allison Platt, All 12:10 PM – 12:25 PM

Objectives: Receive an overview on recent discussions among various planning groups about the Franklin Underpass area, receive an understanding of the stormwater and other issues needing to be solved there, discuss and provide input on ideas to meet multiple needs.

X. **Meeting Summary and Effectiveness Check-ins,** All, 12:25-12:30 PM

Objective: Continual improvement of meeting effectiveness. Confirm action items; discuss next meeting date.

CITY OF BEND

City of Bend
Stormwater Quality Public Advisory Group
Attendance Sheet
September 18, 2019

	Name:	Organization:
1.	Todd Cleveland	Deschutes Co. CDD
2.	FREDRICK MOORE	OREGON DEQ
3.	Drexell Barnes	City of Bend
4.	RYAN OSTER	City of Bend
5.	Brad Mandal	City of Bend
6.	Pauline Hardie	Bend
7.	Chris Hart-Henderson	Heart Springs
8.	Tom HEADLEY	CENTURY WEST ENGINEERING
9.	Mary Newbold	Central OR LandWatch
10.	Scott Wallace	Bend Chamber of Commerce - Wallace Group
11.	Lawrence Klein	Wylder Solutions LLC
12.	Sasha Sulla	BPRD
13.	MARK BUNSTON	BPRD
14.	[signature]	COB
15.	Robin Lewis	Transportation (added, did not sign in)
16.		

CITY OF BEND

Stormwater Quality

Public Advisory Group Meeting Summary

Thursday, September 18, 2019
10:00 AM – 11:30 AM

Members and City Staff Attending

Todd Cleveland (Deschutes County Environmental Health); Fredrick Moore (DEQ); Chris Hart-Henderson (Heart Springs Design); Tom Headley (Century West Engineering); Moey Newbold (Central Oregon LandWatch); Lawrence Klein (Wylder Solutions, LLC); Scott Wallace (Wallace Group, Bend Chamber of Commerce, Large Business/Industry); Sasha Sulia, Mark Ellington (Bend Park and Recreation District); Ryan Oster, Brad Mandal, David Buchanan, Drexell Barnes, Pauline Hardie, and Robin Lewis (City of Bend)

Key Items Discussed

- **Drainage Density Update**

Ryan Oster provided an overview of the new 15th street development (Luderman subdivision) project. The developer gave up two lots for regional drainage facilities. This reduced the number of drywells by half, installing private collection system for roof runoff. City still has work to do before this becomes the new standard including working out the billing issues. The subdivision is designed to keep the 100-year storm event onsite.

- **Clean Water Works Video Contest**

David Buchanan showed the 2019 Clean Water Works Video contest winning film about wipes. He also passed around this year's contestant flyer. This year's topic is automobiles and what impact they can have on water quality.

- **Secure Your Loads Flyer**

The draft secure your loads flyer was distributed to PAG members. Tom Headley asked about how we plan to distribute the flyer. Chis Hart-Henderson thought maybe Deschutes County Landfill could help distribute it. COBA said they are willing to send it out when completed. David asked the group to send any comments to Wendy Edde.

- **Annual Report**

David reported that the annual report is getting reviewed internally, and Wendy will send out a draft for PAG review prior to submittal by the November 1 deadline.

- **Ambient Water Quality Report**

Drexell Barnes briefly discussed the ambient water quality data. The Lake Tahoe report was passed around for the group to look at as a possible model for future reporting efforts, tailored to Bend's size. Moey Newbold was interested in getting a hardcopy of the City's report. (An electronic version was sent with meeting materials electronically on September 18.)

- **Round Table**
  - Chris noted a portable toilet issue in the county along a couple different waterbodies. Wendy had forwarded the report over to DEQ. Fredrick Moore from DEQ looked into the codes and found that the site met setback requirements. Todd brought up that the county permits septic haulers and tracks them closely. Normally the companies have a name and phone number that you can call for service. He thought most would clean it up but noted it could be a training issue with the employees.
  - Scott Wallace noted some borderline fraudulent waterproofing companies have been giving some crazy expensive quotes for services that are not needed. The quotes included installing waterproofing barriers that are not necessary in this climate.
  - Pauline Hardie provided an update on recent planning code changes for cottages, involving revising how the City calculates ADUs.

- **Franklin Underpass**

Moey wants to make sure the City is coordinating across departments. Robin Lewis from Transportation Department discussed some of the issues and possible impervious surface removal options, including removing a turn lane. Ryan discussed the City budget and plans for the Franklin underpass project described in the Stormwater Master Plan (2014).

- **Newport Project**

The meeting was running ahead of schedule, so instead of waiting around for 15 minutes for the formal presentation, Ryan and David provided a quick overview on the Newport line replacement project. The project is getting marketed to the public as a street improvement project since that is what most people will see but it's driven by the need to replace the Newport stormwater line and improve stormwater water quality. The proposed improvement area was shown on google maps, there was some specific questions on total project costs that required more detailed information than staff had informally on hand. It was recommend we reschedule this formal presentation for the next meeting.

Key Decisions Made/Action Items

- The Public Advisory Group members will provide any additional comments on the draft "Secure Your Loads" flyer to Wendy or David.
- Any PAG members wanting more copies of the Kid's Video Contest flyer to help distribute to 5th – 12th graders should contact Wendy.
- Instead of a meeting in October, the Public Advisory Group will receive and independently review the draft Stormwater Annual Report and comment back to Wendy.
- City staff will finalize and submit the annual report by the November 1 deadline. Annual reports are posted on the City website at www.bendoregon.gov/stormannualreport.
- Staff will provide a hardcopy of the City of Bend Ambient Water Quality Report to Moey. PAG members with any additional input on the Lake Tahoe State of the Lake report format as a general model for future reporting efforts will provide comment to Wendy.
- City staff will reschedule the presentation on the Newport project to a future meeting.

CITY OF BEND

Stormwater

Public Advisory Group

Proposed Agenda

Thursday January 9, 2020

10:00 AM – 11:30 AM
Utility Annex, Eisenhower Conference Room
62975 Boyd Acres Road (Note different room location than September)

I. **Welcome and Introductions,** All, 10:00-10:10 AM
Objectives: Introductions. Review agenda, previous meeting summary, staff updates.

II. **Newport Avenue Stormwater and Corridor Improvements,** Jessie Rykel-Wilson and Shawn Ellis (Parametrix), 10:10 -10:30 PM
Objectives: Meet our consultants from Parametrix who will provide an overview of the Newport Corridor project, the main goals and objectives, the planned quantity and quality upgrades for stormwater, status update, and an overview of the project schedule and costs. Provide input.

III. **Infiltration Study Update Project,** 10:30 – 10:40 AM, David Buchanan
Objectives: Receive a status update on the infiltration study project recommended by PAG.

IV. **Permeable Pavement Discussion: What Has Been Your Experience So Far?,** 10:40 – 10:55, Wendy Edde and David, All
Objectives: Permeable pavement is a low impact development tool that can provide added flexibility for development projects. The City is starting to develop technical guidance for its use. Provide input on PAG member experiences, both positive and areas needing improvement or more information, to help refine the development of the guidance for best applicability in Bend.

V. **Stormwater Service Charge Review Contract,** 10:55– 11:05 AM, Wendy
Objectives: In working to address municipal constraints related to the drainage and density discussion recommendations, the City is needed to update the fee structure.

VI. **Stormwater Regulatory Updates,** Wendy, David 11:05-11:15 AM
Objectives: Receive update on the City's permit for stormwater drainage to the river, and annual report submittal, and projects.

VII. **Roundtable Discussion and Updates,** All, 11:15-11:25 AM
Objective: Open Discussion.

VIII. **Meeting Summary and Effectiveness Check-ins,** All, 11:25-11:30 AM
Objective: Continual improvement of meeting effectiveness. Confirm action items; discuss next meeting date.

Stormwater

Meeting Summary

Thursday January 9, 2020

10:00 AM – 11:30 AM
Utility Annex, Eisenhower Conference Room

Attending: Barbara Rich (Richcraft Studios); Todd Cleveland (Deschutes County CDD); Chris Hart-Henderson (Heart Springs Landscape design LLC); Lawrence Klein (Wylder Solutions); Scott Wallace (Wallace Group/Bend Chamber); Joanne Richter (Upper Deschutes Watershed Council); Bronwen Mastro (Bend Park & Recreation District); Tom Headley (Century West Engineering); Chris Henningsen (City of Bend Private Development Engineering Division); Brad Mandal (City of Bend Building); Drexell Barnes, David Buchanan, Wendy Edde (City of Bend Utilities); Jim Oberlander (phone); Jessie Rykels-Wilson (Parametrix)

Key Items Discussed

- **Newport Avenue Stormwater and Corridor Improvements.** Jessie Rykel-Wilson (Parametrix) gave an overview of the Newport Corridor improvement project. The project came about as the stormwater pipe under Newport is in need of replacement that outfalls into Mirror Pond near the footbridge by Harmon Park. She shared the main goals of the project: to improve the quality and reduce the quantity of the stormwater being discharged into the Deschutes River; and to limit impacts to existing discharge points at the Deschutes River. She provided an overview of the scope and approach, and shared that this is a synergy project designed to provide a cohesive design of new stormwater, sewer lines, water main, full depth pavement, accessible pedestrian facilities and coordinate upgrades/relocations of franchise utilities. To date, surveys and infiltration testing have been conducted. Jessie shared the schedule which included 30% designs are expected in February-March, final design by October 2020, and construction to begin in Spring 2021. Drew Wells is the City's project manager. The project is being paid in part by a loan from Oregon DEQ. A public open house is scheduled for March. Jessie fielded questions about cigarette butts as a pollutant (the project will include catch basins and sediment manholes), curb reveal issues, and right of way constraints. Scott Wallace asked for outfall volumes and peak discharges, and Jessie indicated she would look up the information and report back.
- **Infiltration Study Project Update.** David Buchanan will be the project manager for the geotechnical infiltration study project, to provide an update to the report last completed in 2006-2007. This project will be completed in to support the next

stormwater master plan update, provide information to provide technical support for making stormwater facility type decisions per the request of PAG as part of drainage and density discussions.

- **Permeable Pavement Discussion.** It was recognized that there is a need for technical guidance within Bend for permeable pavements design and installation to provide for added flexibility in stormwater facility techniques. Attendees took part in a discussion of their experience with various types of permeable pavement. Several notes were collected from the group discussion, which David will use in drafting technical guidance. Brad Mandal suggested incentives for Builders rather than landowners may be more effective or equally important given the added cost of installation. An ACWA workshop on permeable pavement is also expected this year. Turf Stone was mentioned as a local manufacturer of pavers for driveways and parking lots.
- **Stormwater Service Charge Review.** The City has received a draft proposal to help review the stormwater service charge structure to account for the flexibility recommended to allow combining of private and public stormwater within a subdivision or planned development to allow for streetside or regional controls. For decades, local regulations have required separation of private and public stormwater given our dispersed system. Originally our regulations required developers and property owners to keep all stormwater on site; in 2010 and 2012, we provided clarity by requiring the 25-year, 24-hour (2.5" storm depth) be kept on site with safe passage for the 100-year storm (3.1" storm depth). Recent code changes are allowing more lot coverage, and state plumbing rules allow only conveyance not infiltration within 10 feet of homes, making it increasingly difficult to maintain stormwater created within onsite swales in single-family residential areas. The City's current stormwater service charge rate structure is set up on a simplified manner; it needs to be updated to allow for the flexibility requested to combine stormwater or allow for regional controls. It makes sense to account for some of the other update needs as well, including to the credit program. The timing is fortunate as the City is updating its computer software, including for billing. The scope of work is undergoing review; funding has not been allocated within this biennial budget period and would need to be allocated to support this project. Public advisory group members recognized the importance of the work. Staff would like the PAG to serve as the public stakeholder input group for this process, and it is envisioned that it would take a number of meetings, likely held more often for a period to work through the issues. PAG members were amendable to this approach.
- **Stormwater Regulatory Updates.** The City applied for an individual permit for its NPDES MS4 Phase II stormwater permit for stormwater draining to the river through its municipal piped system by the December deadline. Given the size of Bend, as the largest Phase II community nearing 100,000 population, it makes sense for the City to obtain an individual permit. Larger Phase I communities are currently negotiating their individual permits.

- **Roundtable Discussion.** Attendees discussed citizen complaint phone numbers, private stormwater basins maintained by homeowners associations, and dumpster areas. Bronwen Mastro shared that Mark Ellington has retired from Bend Park and Recreation District. Sean Mulderig has amicably left the City as of January 3. The City is working to fill the vacancy.

Key Decisions Made/ Key Action Items

- Jessie or Drew Wells will report back on outfall volumes and peak discharges from the Newport project at a future meeting.
- David will release the request for proposals for the geotechnical infiltration study project in the month or so.
- David will use the permeable pavement discussion notes to develop technical guidance for permeable pavement use.
- City staff will continue to move the rate study scope through internal review and budget allocation.
- The PAG will be used as the public stakeholder group to review the stormwater rate structure when a contract is signed.
- Staff will work with DEQ to negotiate the individual permit.
- Wendy will work to obtain necessary approvals to have Bronwen take Mark's place on the Stormwater Public Advisory Group representing

Stormwater Public Advisory Group

Proposed Agenda

Monday June 8, 2020

2:00 PM – 3:00 PM
Remote Meeting (Click link below to join)

CITY OF BEND

Join Microsoft Teams Meeting

Learn more about Teams | Meeting options

I. **Welcome and Introductions,** All, 2:00-2:05 PM
Objectives: Introductions. Review agenda, previous meeting summary, staff updates.

II. **Newport Avenue Stormwater and Corridor Improvements Updates,** Drew Wells, 2:05 -2:15 PM
Objectives: Project manager Drew Wells joins us to provide updates since the January meeting, and the virtual online open house results PAG members were encouraged to participate in in lieu of our April meeting.

III. **Infiltration Study Update Project,** 2:15 – 2:25 PM, David Buchanan
Objectives: Receive a status update on the infiltration study project recommended by PAG.

IV. **Other Drainage and Density Updates**, 2:20 PM – 2:25 PM
Objectives: Discuss action item status, code and fee structure updates..

V. **Source Control Discussion: Covered Dumpsters,** 2:25 – 2:45 PM, All
Objectives: The Central Oregon Stormwater Manual, the design manual for Bend, requires source controls in certain situations. Source controls are those facilities or controls designed to prevent stormwater from coming into contact with pollutants. Discuss barriers/concerns related to covered dumpsters, provide input on level of concerns, and brainstorm ideas for improvements.

VI. **Public Education Improvements Discussion,** 2:45– 2:50 PM, Wendy
Objectives: Provide input on areas of public education needs, ideas for improvements for use in updating the strategic plan.

VII. **Roundtable Discussion and Updates,** All, 2:50-2:57 PM
Objective: Circle around the meeting attendees for updates, open discussion.

VIII. **Meeting Summary and Effectiveness Check-ins,** All, 2:57-3:00 PM
Objective: Continual improvement of meeting effectiveness. Confirm action items; discuss next meeting date.

Stormwater Public Advisory Group

Drainage and Density Status of Action and Requested Items

Requested Item	***Status (as of 06/042020)***
Additional Information and/or Study Needs Prior to or as part of Stormwater Management Plan Development ♦ Recommend updated comparison cost data between the different facility types and scale, including construction and lifecycle costs	Low Impact Development cost comparison sheet developed for the Drainage and Density workshop (May 2019) (see also September 18, 2019 meeting packet).
♦ Recommend looking into stormwater reuse and cost analysis.	
♦ Research septic set back requirements from stormwater facilities.	OAR 340-71-2020 (3) covers septic tanks. No specified setbacks from stormwater facilities
♦ Incorporate lessons from Reno, NV's and other similar programs for example ideas (see more details below)	Shared and incorporating lessons from Gresham, OR into
♦ Explore impact of unpaved roads and alleys: Do they reduce peak flows? Would paving them result in increased runoff; what if paved with permeable? Reduced sediment loads? Do they have fewer utilities under them? Good candidates for permeable?	Streets is working with utilities to find best candidates for potential upgrades.
♦ Revisit with the next COSM update: how will Climate Change impact the design storm over time?	On hold due to Covid-related budget reductions and other project costs.
♦ Determining effective incentives for going beyond minimum requirements • Research storm types to provide a determination of how	Incentives may be considered as part of a credit program update; with the billing program update nearing completion the timing is improving to update the credit program.

Requested Item	*Status (as of 06/042020)*
long sport field/retention areas might be out of action or the need for backups in case of a scheduled event with economic impacts should be affected.	Timing of sport fields to be out of action if used as a detention facility combination would depend on the design of the facility, and could be adjusted.
♦ Additional Information Needs for Master Plan/Code/Specs Updates • SFR tracking • Permeable pavement check in • Cost Comparison • Demonstration Projects	--Permeable Pavement maintenance fact sheet created (June 2019); technical guidance under development --Permeable Pavement technical guidance under development. --Cost comparison work developed for May 2019 Drainage and Density workshop.
Recommendations for Improvements • Provide another training(s) on stormwater management techniques and designs based on Bend's soils for builders. Address common misperception that "It doesn't rain here."	--Held Drainage and Density Workshop in May 2019 that focused on low impact development techniques applicable to Central Oregon. --Updating Geotechnical Infiltration study (FY2020, FY2021) --Urban small scale BMPs Center for Watershed Protection webinar held May 2020.
• Address how best to manage runoff on infill lots—the last-to-build builder should not be responsible for correcting previously approved problems; potential for long-term issues should be minimized.	--Working towards incorporating flexibility and overcoming municipal hurdles, starting with subdivisions. --Meeting biweekly this spring internally to understand breadth of needs and work on modifications needed.
• Provide homeowners and business owners access to drainage plans and to notify new customers about the availability of drainage plans and responsibilities related to those. –And Related Item-- • Improve how drainage information is carried through to the subsequent property owners to ensure they have access to drainage plans.	--Meeting biweekly this spring internally to understand breadth of needs and work on modifications needed.

Requested Item	***Status (as of 06/042020)***
• Commercial developments are required to have recorded stormwater maintenance agreements on the title. • Residential needs improvement. • City staff will look into available options given current and upcoming software.	
• Research the City of Reno as one example, and other communities that have positively addressed concerns like these. For instance, Boise is drafting stormwater MOU`s with private land owners. Incorporate Gresham's lessons learned into development rule updates: o Wood weirs are no longer allowed as check dams because water flows around them. Gresham has switched to concrete weirs to help prevent erosion. o Curb cut design is important, making sure you have a 2-inch drop at the inlet to prevent bypass of stormwater flows past the facility. o Infiltration rate is improving over time due to plant root growth. o Average ponding depth was a key factor for reducing runoff volumes. Deeper yet less steep facilities hold more rainfall/higher peak flows. o Longer facilities can intercept more rainfall if they have multiple inlets. Gresham now requires inlets at least every 25 feet.	Gresham's lessons learned were shared with engineering staff updating the standards and specifications (2019).

Requested Item	***Status (as of 06/042020)***
• On steep slopes, terrace with check dams in such a way that soil is flat within the facility rather than sloped with the hill.	
• Explore the possibility further of locating parks at the low spot of a subdivision to provide a neighborhood recreational experience that doubles for stormwater management during the few wet periods received in Bend.	Draft policy, code and ordinance review conducted in spring 2019. Locating parks at the low spot of a subdivision is allowed.
• Research the ability of regional controls to provide supplemental sports fields in addition to the minimum number needed for economic gains due to tournaments, etc. Can sports fields be used as a stormwater retention pond? Yes, but it was noted that sports fields have a lot of pressures to be usable during all weather conditions. Central Oregon hosts many tournaments. Could also be an option for non-supplemental opportunities with additional research providing a determination of how long they might be out of action or need for backups in case of a scheduled event should be affected, given that storms can come through in cells and affect one area of town and not another.	May be able to incorporate as a supplemental question in the infiltration study update (see next item).
• Provide an improved City map showing the overlays where infiltration is better if possible with additional data since the original Stormwater Master Plan, which includes some basic infiltration zones and identifies several areas of perched groundwater. This	Project budgeted for FY19-20. David Buchanan is project manager. Contracting underway.

Requested Item	***Status (as of 06/042020)***
recommendation recognizes that there is a lot of variability in Bend when it comes to infiltration rates, even on a single taxlot. One size doesn't fit all, but this can help with the need to plan for each geographic area in the revised Master Plan. Coordinate to include data required since last Master Plan for inclusion in compilation.	
• Sediment is a pollutant of concern in the river, can carry other pollutants adsorbed to sediment particles, and can lead to clogging of facilities and related public safety issues. Specific planning strategies to reduce sediment loads coming off of sloped areas and from winter road care (while recognizing their benefits compared to soluble and other chemical approaches) especially should be a focus of the master plan update.	Updated Street Sweeping plan for stormwater quality to include focus on increasing street sweeping efficiency in the MS4 area. --Tracking implementation --Investigating use of Water Sense as a notification tool for sweeping times.
♦ City utility staff will work on a new customer booklet/brochure that would be sent out to all new customers that might prove to be a vehicle for this.	City staff created the One Water brochure – a very high level brochure that provides basic information about each of the utilities. Informs people that they may have swales onsite and what underground injection controls are.

Stormwater

Meeting Summary

Thursday January 9, 2020

10:00 AM – 11:30 AM
Utility Annex, Eisenhower Conference Room

Attending: Barbara Rich (Richcraft Studios); Todd Cleveland (Deschutes County CDD); Chris Hart-Henderson (Heart Springs Landscape design LLC); Lawrence Klein (Wylder Solutions); Scott Wallace (Wallace Group/Bend Chamber); Joanne Richter (Upper Deschutes Watershed Council); Bronwen Mastro (Bend Park & Recreation District); Tom Headley (Century West Engineering); Chris Henningsen (City of Bend Private Development Engineering Division); Brad Mandal (City of Bend Building); Drexell Barnes, David Buchanan, Wendy Edde (City of Bend Utilities); Jim Oberlander (phone); Jessie Rykels-Wilson (Parametrix)

Key Items Discussed

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- Wendy will work to obtain necessary approvals to have Bronwen take Mark's place on the Stormwater Public Advisory Group representing

NEWPORT CORRIDOR IMPROVEMENTS —
Our Open House Has Moved Online!

A Project in Your Neighborhood

Newport Corridor Improvements will replace the aging and failing stormwater drainage system along Newport Avenue from College Way to 9th Street, and down Nashville Avenue to the Deschutes River.

The project will also provide drainage improvements in the South Awbrey Butte area to reduce flows into the Newport Avenue system to help prevent flooding and improve water quality discharged to the Deschutes River.



The Newport Corridor project will also result in a new roadway for people who drive, ride bikes and walk.

Virtual Open House — *Join Us Online!*

Project neighbors are invited to attend an upcoming public open house online:

When: Wednesday, April 1 through Friday, April 17

How: Go to www.online-voice.net/bendnewportcorridor/

What: *See the design concept*
Get answers to your questions
Offer comments on the design

Working Above and Below Ground

In addition to the drainage system improvements, Newport Corridor upgrades will also:

- ✓ Reconstruct the roadway from College Way to 9th Street.
- ✓ Replace the existing sewer trunk line.
- ✓ Replace water distribution pipes in the rebuilt roadway.
- ✓ Install new sidewalks, curb ramps, lighting, landscape irrigation, and signage.

NEWPORT CORRIDOR IMPROVEMENTS

Learn More
For a project map and more details visit the project website at
bendoregon.gov/newportimprovements

24-Hour Hotline:
541-200-6972

710 NW Wall St.
Bend, OR 97703

Search Nextdoor



Community Relations Manager Makayla Oliver, City of Bend AGENCY

ONLINE OPEN HOUSE: Newport Corridor Improvements

The City of Bend will be hosting an online open house for upcoming Newport Corridor Improvements. Project neighbors interested in seeing the design concept, having questions answered, or hoping to submit comment are invited to visit www.online-voice.net/bendnewportcorridor/ anytime between April 1 and April 17.

Newport Corridor Improvements will replace the aging and failing stormwater drainage system along Newport Avenue from College Way to 9th Street, and down Nashville Avenue to the Deschutes River. This project will also provide drainage improvements in the south Awbrey Butte area to reduce flows into the Newport Avenue system to help prevent flooding and improve water quality discharged into the Deschutes River, and will result in a new roadway for people who drive, ride bikes and walk.



River West
Neighborhood Association

NEWPORT CORRIDOR IMPROVEMENTS - ONLINE OPEN HOUSE

April 1st to April 17th

The City of Bend will be hosting an online open house for upcoming Newport Corridor Improvements. Project neighbors interested in seeing the design concept, having questions answered, or hoping to submit comment are invited to visit www.online-voice.net/bendnewportcorridor/ anytime between April 1 and April 17.

Newport Corridor Improvements will replace the aging and failing stormwater drainage system along Newport Avenue from College Way to 9th Street, and down Nashville Avenue to the Deschutes River. This project will also provide drainage improvements in the south Awbrey Butte area to reduce flows into the Newport Avenue system to help prevent flooding and improve water quality discharged into the Deschutes River, and will result in a new roadway for people who drive, ride bikes and walk.

Newport Corridor Improvements Project Timeline
2017 – Drainage Study in Newport corridor and South Awbrey Butte area
Spring 2019 – DEQ Loan funds replacement of the Newport Ave stormwater system
Fall 2019 – Design Begins
Winter 2019-20 – Survey and Geotechnical Drilling
Spring 2020 – Potholing Activity on Newport Ave & Nashville Ave
Spring 2021 – Construction Begins
Fall 2022 – Construction Complete

Facebook Watch



City of Bend, Oregon Government
May 27 at 11:56 PM ·

LAST CALL FOR VIDEO ENTRIES!
The Clean Water Works Kid's Contest closes June 1 for entries! You have one more weekend to get those cameras out and director hats on. We work with partners like BendFilm Festival and Central Oregon Daily News/Zolo Media to make this happen.
For the 2020 focus, we're looking to show how automobile wheel wear (from tires, balance weights, brake pads) can harm our waters and steps we all can take to help prevent pollution from automobile wheels. Contest Title: Tired of Pollution – Wheel Steps to Protect Our River.
Here's Mackenzie Hice's final product after getting to produce a commercial with Zolo Media after she won the Grand Prize in 2015/2016!
CONTEST DETAILS: https://bit.ly/2Xy2rOg

6 7 Shares

Share

City of Bend, Oregon Government
September 30 at 12:04 AM ·

Meet our new Police Chief, Mike Krantz

Meet our new Police Chief, Mike Krantz:
Hear how Mike Krantz plans to work to make sure the City of Bend Police Department provides the service today's community wants.

BEND UTILITY
Newsletter

News for City of Bend Utility Professionals

JULY/AUGUST 2019



Happy summer everyone!

Let me offer a big "THANK YOU" to all of the staff that are in the field navigating our busy streets and balancing schedules to keep our systems running smoothly. Driving around Bend during the busy tourist season can take a bit longer when our local populations swells to over 100,000 on any given day. Drive defensively and please be safe out there.

While you're out and about you may notice a few new ROW landscapes along city streets as Dan explains below. It's great to see multiple teams collaborating to make these facilities work for everyone involved. And thank you to those who participated in the annual Deschutes River Cleanup event. It is a great way to give back to the river and community!

Mike Buettner
Utility Business Manager

NEW CIP'S IMPROVE ROW LANDSCAPES

By Dan Denning, Utility Program Compliance Specialist

The WaterWise team has recently gained a presence in the plan review process for future City of Bend landscape projects. This evolution was driven by the focus of improving our own utility landscapes to be examples of well managed irrigation systems. We recognize we have a moving ship with a dynamic set of challenges, but our priority is to improve things going forward. With capital improvement projects happening around the City, it is an ideal opportunity to execute some new ideas about what a right of way landscape should entail.

14th STREET

The improvements to 14th St. were recently completed showing an example of a thoughtful transition to a WaterWise streetscape.

A low water use plant palate is combined with efficient irrigation, including inline drip in the planters and MP rotators on any areas with turf. The irrigation system is controlled by a Weathermatic Smart Central Control system, which utilizes local weather data to make adjustments to runtimes as needed.

EMIPIRE CORRIDOR

Improvements to Empire Blvd. east of 18th St. began last year and saw the completion of the first phase in 2019. Phase Two is underway and expected to be complete in 2020.

Inline drip irrigation was installed to eliminate overspray from planter areas. Overhead irrigation should be avoided in these areas as it leads to wasted water and transportation of organic material and excess nutrients into storm drains and water bodies.

The drip system was installed complete with air relief valves and auto end flushes and is controlled by a Weathermatic Smart timer.

Low water use native plant material was used to reduce the amount of water required to maintain a healthy landscape in Central Oregon.

Rock mulch was used as a durable alternative to plant based mulch and was installed with the proper grade to prevent rock from being kicked out into the roadway.

MURPHY CORRIDOR

The Murphy Corridor is currently in the planning phase and will also incorporate improvements with WaterWise landscape and irrigation themes.

2019 PUBLIC WORKS DAY - GRILL & CHILL


Safety Award
Sam Borgongnoni


Innovation Award
Ty Richardson & Warren Packebush


Customer Service Award
Matt Zeibol


MVP Award
Arthur Judd


P.R.I.D.E. Award
Justin Young


Chili Cook-off Winner
Jimmy Hall - 3 years in a row


Corn Hole Champions
John Casarez & Andrew Johnson


Tape Toss Winner
Matt Hanseon - 15 ft


Equipment Rodeo Winner
Scott Winter











WHAT'S THE LATEST?

KRONOS

Our payroll application, Kronos Timekeeper software has an upgrade coming in August. Watch for 'sneak peek' invitations soon!

SharePoint

Our employee intranet (your internal website for City staff) is migrating to Modern Sharepoint. Look forward to a cleaner look with better functionality and speed. The Utility Department migration is scheduled for December.

STREETS FLEET UTILITIES EIPD PUBLIC WORKS JUNIPER RIDGE INDUSTRIAL SITE

Plans are in still the works for Utilities, Streets, Fleet and EIPD to move to a new Public Works facility in the Juniper Ridge industrial area in 2027.

CHECK BEFORE BACKING



BEFORE BACKING, BE SURE TO CHECK BEHIND YOUR VEHICLE.

ANNUAL DESCHUTES RIVER CLEANUP EVENT



Watershed stewards of all ages joined together for another successful year at the 23nd annual Deschutes River Cleanup event on Saturday, July 27, 2019. River clean-up activities were in the Deschutes River and along its riparian areas between Meadow Camp and Drake Park. Volunteers brought their paddleboards, kayaks, and canoes to help Central Oregon Diving divers pull garbage out of the river, and helped pull invasive weeds and remove litter from the stream banks.

Our Stormwater Program is a regular sponsor and other Utility staff also volunteer at this fantastic annual event. Love your river and put this event on your bucket list for next summer!

Appendix E

Construction Site Stormwater Activities

CITY OF BEND
STANDARD OPERATING PROCEDURE

Standard Operation of: **City of Bend Erosion and Sediment Control Compliance Program** **BEND CODE TITLE 16.10: Clearing, Grading, and Erosion Control on Construction Sites**	**Creation Date:** 12/20/2019
Approved By: **Reviewed By: WE, DB** **Author: Sean Mulderig**	**Revision Date:** 5/4/2020

Subject: City of Bend standard construction erosion and sediment control (ESC) compliance process. This standard operating procedure will address pre-inspection project review/research, pre-construction meetings, initial ESC Best Management Practices (BMP) inspections, routine ESC inspections, follow-up inspections, complaint response inspections, and enforcement. Implementation of this program is to ensure compliance with BEND CODE TITLE 16.10: Clearing, Grading, and Erosion Control on Construction Sites

Scope and Location:
City of Bend Stormwater system, right of way, and private property with potential to impact the City's stormwater system or drinking water aquifers via stormwater.

- **I. Location and Coverage**
  - a. Throughout the City limits.
  - b. 24-7
- **II. Enforcement Approach—Construction Site Activities**
  - **a. Coverage (Applicable to Chapter 16.10)**
    - i. ESC pollution prevention required on all construction sites regardless of permit or not.
      1. Exemptions from permit (must still meet performance standards)—16.10.010B.
    - ii. Clearing, Grading and Erosion Control Permit (or requirements as part of plan approval)

List of Tools/Equipment/Material:
Involved Equipment:
1. E-Plans (Permitted Building Plans)
2. Computers with Code Enforcement tracking (HTE, Excel Spreadsheets, or LEAP Software).
3. Monitoring Equipment (Turbidity Meter and Sludge Judge, both found in vehicle or blue bay)

4. Communication Tools (Printed Outreach Materials)
5. Safety personal protective equipment (PPE) for construction sites (Safety Vest, Steel-Toe Boots, safety glasses, and Hard Hat)

Hazards Identification:

1. Standard desk work (minor risk: paper cuts, carpal tunnel, eye strain, etc.)
2. Standard active construction site hazards

Purpose: To have a standard, equitable approach for addressing erosion and sediment control (ESC) inspections and enforcement needs related to implementation of City of Bend (COB) Code Title 16 and COB Standard and Specifications. Specifically, to ensure that new and redeveloped properties properly and accurately address construction site stormwater quality processes as it relates to ESC and proper housekeeping.

a. Pre-inspection

i. Project plan review/research
   1. E-plans will push out email notifications when new building plans are submitted. ESC plans are usually attached to most infrastructure (INFR), grading and drainage (GRDR), and commercial (COMM) projects
   2. ESC plans needs to be checked for the appropriate best management practices (BMPs) such as: sediment fencing, construction entrance(s), inlet protection, concrete washouts, and dust control measures. All BMPs need to show proper locations and follow City of Bend (COB) standards and specifications. The emphasis should be prevent the soil from moving first (erosion control), and manage it
   3. Submit comments by marking up the plans with arrows and comment boxes. Save comments under the name “Stormwater”.
   4. Once comments are submitted, design engineers should address those comments with oversight from City engineers.

ii. Educational materials
   1. During all inspections make sure to bring the following materials:
      A. “Oregon Association of Clean Water Agencies (ACWA) Construction Site Stormwater Guide”
      B. Clean Water Works fliers for Sediment Prevention and Illicit Discharges
      C. A copy of applicable sections of Bend Code Title 16
      D. Applicable sections of COB Standards and Specifications
   2. Hand-out materials should be given to contractors or anyone that has interest in the program.

ii. Pre-construction meetings
   1. INFR pre-construction meetings (Pre-Cons)
      a. Pre-Cons are led by the Right-of-Way (ROW) Manager for the COB Engineering Department. The intent of these meetings are for developers to gain final City approval before starting work in the ROW. Finalized INFR plans are

required before developers are allowed to request for Pre-Con.

b. The developer, project engineer, City engineering, general contractor, various sub-contractors, City inspectors, and utilities should have representation for the Pre-con. Scheduling and project coordination/concerns should be addressed between all parties.
c. In terms of ESC, scheduling and any questions should be addressed in the beginning of the meeting due to it being in the grading phase of the project. Cross reference the plans and confirm with the contractors the placement and proposed timeline of BMP installations.
d. Schedule with contractors a time to perform an initial inspection (see section b.i) to verify correct installation per plan or approved substitute.
e. Upon receiving notice of the pre-con, add each project into the Inspection Tracking Log (spreadsheet database) and assign an ID number.

2. Pre-grading meetings for GRDR permits
    a. Once GRDR permits are finalized and approved by the City, Engineering will schedule an on-site pre-grading meeting with the developer, project engineer, City engineering, general contractor, excavator, and the Stormwater Compliance Specialist.
    b. All parties will meet on-site and will walk the site addressing any questions/concerns with work scheduling and installation of ESCs and tree protection.
    c. All COB standard ESCs should be included and installed on GRDR projects.
    d. Schedule with contractors a time to perform an initial inspection (see section b.i) to verify correct installation per plan or approved substitute.
    e. Upon receiving notice of the pre-grading meeting for GRDR permits, add each project into the Inspection Tracking Log (spreadsheet database) and assign an ID number.

b. Inspections

i. Initial ESC BMP Inspections
    1. Before the grading phase of a project begins contractors must install ESC BMPs per Bend Code Title 16 and the approved plans.
    2. The Stormwater Compliance Specialist will schedule a time with the contractor to inspect the initial ESC BMP installation.
    3. During the initial ESC BMP inspection the Stormwater Compliance Specialist will cross reference the approved plans with the installation. It's important to verify proper installation of BMPs (refer to City of Bend Standard and Specifications).
        a. Sediment fencing needs to be trenched and backfilled. Sewn-pocket fencing needs to be installed with stakes facing the construction side.
        b. Construction entrances needs to have properly sized 3-6" drain rock with sufficient length and width. Installations with

smaller sized rock are common and not effective at preventing sediment tracking in the ROW.

c. Inlet protection needs to be installed at all construction affected stormwater inlets/grates. “Witches Hats” are the approved COB standard with the exception of bio-bags at curb-cut inlets.
d. Concrete washout locations need to be away from any heavily traffic areas and stormwater facilities. Washouts need to be fully contained.
e. Dust management needs to be verified. Is there going to be rock crushing onsite? Will there be a water truck/service onsite? How can we keep neighboring properties from being affected?
f. If development is to be completed in current phase, a final stabilization plan will be required. This is especially important for developments built on steep slopes. Refer to City of Bend Standards and Specifications for slope stabilization requirements (see COB standards, section 7.1.3).

2. Throughout the inspection take pictures of proper and improper installations, while also noting any practices that are and are not in compliance. Use an app on your phone or a camera that includes a date/time stamp on the pictures. Record all inspection results in the Inspection Tracking Log Book (see section c). Upload photos into the SharePoint Media/Construction/FY(year) folder. Ensure photos are renamed by site ID number and date (e.g. ID XX_Year Month Day).
3. Once Initial ESC BMP Inspection is completed, make sure to notify contractor of any deficiencies that need to be corrected. If needed, schedule a Follow-up inspection (see section b.iii).

ii. Routine ESC Inspections

1. Throughout the project build it’s important to routinely verify that contractors are properly maintaining their ESC BMPs and preventing their sediment from affecting stormwater systems. Often times, ESC BMPs should adapt as the project site changes; this should be noted on the contractor’s on-site plans.
2. The Stormwater Compliance Specialist should perform a routine inspection on a 1-4 week cycle dependent on impact/speed of project.
3. ESC BMPs should be inspected as if it was an Initial ESC BMP Inspection (see section b.i)
4. If ESC BMPs are in compliance resume routine inspection cycle. If deficiencies are noted, schedule a follow-up inspection (see section b.iii) with the contractor.
4. Throughout the inspection, take pictures of proper and improper installations, while also noting any practices that are and are not in compliance. Use an app on your phone or a camera that includes a date/time stamp on the pictures. Record all inspection results in the Inspection Tracking Log Book (see section c). Upload photos into the SharePoint Media/Construction/FY(year) folder. Ensure

photos are renamed by site ID number and date (e.g. ID XX_Year Month Day).

iii. Follow-up Inspections

1. If ESC deficiencies are noted during any inspection a follow-up inspection should be scheduled with the contractor to verify that corrective actions have been made.
2. Depending on urgency, weather, and threat to water quality, a follow-up inspection should be scheduled within a couple weeks at a maximum. If the deficiencies are urgent, a 1-2 day timeline should be sufficient.
3. ESC BMPs should be inspected as if it was an Initial ESC BMP Inspection (see section b.i)
5. Throughout the inspection take pictures of proper and improper installations, while also noting any practices that are and are not in compliance. Use an app on your phone or a camera that includes a date/time stamp on the pictures. Record all inspection results in the Inspection Tracking Log Book (see section c). Upload photos into the SharePoint Media/Construction/FY(year) folder. Ensure photos are renamed by site ID number and date (e.g. ID XX_Year Month Day).
4. If ESC BMPs are in compliance resume routine inspection cycle. If deficiencies are still not corrected, schedule an additional follow-up inspection with the contractor. In the event that no attempt to correct deficiencies has been made, a Notice of Violation (NOV) should be written and given to the responsible person/party with a new compliance deadline. Failure to comply by the NOV deadline may result in further enforcement steps. It is important to make this clear with the contractor before issuing the NOV.

iv. Complaint Response Inspection

1. Complaint notifications are received through the front desk, forwarded from other departments, or received directly. Complaint response is handled with priority due to direct impact of COB citizens or other urgent matters.
2. When receiving the complaint record as much information as possible: contact information, location, situation detail, and any affiliations. All complaints are kept anonymous.
3. If contact information for responsible person/party is already known, call them and try to resolve the issue promptly and then follow-up with a site visit.
4. Document all conversations and inspections in the Inspection Tracking Log Book.
6. Throughout the inspection take pictures of proper and improper installations, while also noting any practices that are and are not in compliance. Use an app on your phone or a camera that includes a date/time stamp on the pictures. Record all inspection results in the Inspection Tracking Log Book (see section c). Upload photos into the SharePoint Media/Construction/FY(year) folder. Ensure photos are renamed by site ID number and date (e.g. ID XX_Year Month Day).

5. If ESC BMPs are in compliance resume routine inspection cycle. If deficiencies are noted, schedule a follow-up inspection (see section b.iii) with the contractor.

v. COB Capital Improvement Projects (CIP)
   1. City of Bend Capital Improvement Projects should be inspected and held to the same standards as Private Development Projects. The only thing different is how to approach scheduling inspections and knowing who to report defiencies to. If a complaint is received regarding a CIP, determine who the COB project engineer and inspector is and address it with them. They will talk to the contractors directly and have them resolve the deficiency. In some cases the project engineer would want the Stormwater Compliance Specialist to come on-site and speak with the contractor at fault.
   2. All enforcement will be handled by the COB Project Engineer and Inspector in communication with the Stormwater Utility for record keeping and ensured compliance.

vi. Non-permitted ESC Inspections
   1. Some projects are of a small enough size that they do not need permits, etc. These are typically single family residential or smaller redevelopment projects. Despite not being tracked or required to obtain a permit, these projects still must meet the performance standards (no sediment to the COB infrastructure). These are treated as an Illicit Discharge Detection and Elimination compliance though tracked under ESC Inspections.
   2. The Stormwater Compliance Specialist should keep eyes out for violations of performance standards in non-permitted projects when commuting through the COB, when received as a complaint, and as time is available to note and drive past known smaller projects.
   3. For a site violating a performance standard, ESC BMPs should be inspected as if it was an Initial ESC BMP Inspection (see section b.i). Upon noting the violation, add each project into the Inspection Tracking Log (spreadsheet database) and assign an ID number.
   4. If ESC BMPs are in compliance resume routine inspection cycle. If deficiencies are noted, schedule a follow-up inspection (see section b.iii) with the contractor.
   5. Throughout the inspection, take pictures of proper and improper installations, while also noting any practices that are and are not in compliance. Use an app on your phone or a camera that includes a date/time stamp on the pictures. Record all inspection results in the Inspection Tracking Log Book (see section c). Upload photos into the SharePoint Media/Construction/FY(year) folder. Ensure photos are renamed by site ID number and date (e.g. ID XX_Year Month Day).

d. Inspection Tracking

i. During any inspection, record information outlined in the “Stormwater Construction BMP Inspection Form” (see below). This inspection sheet

was developed by the City of Bend with consideration from the Central Oregon Stormwater Manual and COB Code Title 16.



Stormwater Construction BMP Inspection Form

UTILITY DEPARTMENT

Site ID #: _____ Date & Time: _____

Site Address: _____ Inspected by: _____

Reason for Inspection: ☐ Routine ☐ Complaint Inv. ☐ Follow-Up

Weather: ☐ Clear ☐ Cloudy ☐ Other: _____

Responsible Person: _____ Phone #: _____ Email: _____

Contact Address: _____

1. General Practices During Construction: (yes is compliant)

i. Are sensitive lands or ASI areas protected from vehicles/equipment?	☐ YES	☐ NO	☐ N/A
ii. Are stormwater infiltration areas protected from vehicles/equipment?	☐ YES	☐ NO	☐ N/A
iii. Are trees protected with fencing?	☐ YES	☐ NO	☐ N/A
iv. Are materials/debris properly stored out of the right-of-way?	☐ YES	☐ NO	☐ N/A
v. Are hazardous pollutants/chemicals properly stored and/or managed?	☐ YES	☐ NO	☐ N/A
vi. Are general housekeeping practices properly implemented?	☐ YES	☐ NO	☐ N/A

Section 1 Comments: _____

2. Erosion and Sediment Control Practices During Construction: (yes is compliant)

i. Are sediment stabilization BMPs properly installed and/or effective?	☐ YES	☐ NO	☐ N/A
ii. Are discharges adequately controlled to prevent runoff from coming off site?	☐ YES	☐ NO	☐ N/A
iii. Are construction entrances properly installed and/or effective?	☐ YES	☐ NO	☐ N/A
iv. Are access ramps properly installed and/or effective? (sediment ramps are not permitted)	☐ YES	☐ NO	☐ N/A
v. Are inlet protection BMPs properly installed and/or effective?	☐ YES	☐ NO	☐ N/A
vi. Are perimeter controls properly installed and/or effective?	☐ YES	☐ NO	☐ N/A

Section 2 Comments: _____

3. Contractor Inspections: (yes is compliant)

i. Are the Erosion Sediment Control Plans available onsite and/or being used?	☐ YES	☐ NO	☐ N/A
ii. Are inspections/maintenance forms being used? (e.g. maintenance plan/schedule)	☐ YES	☐ NO	☐ N/A

Section 3 Comments: _____

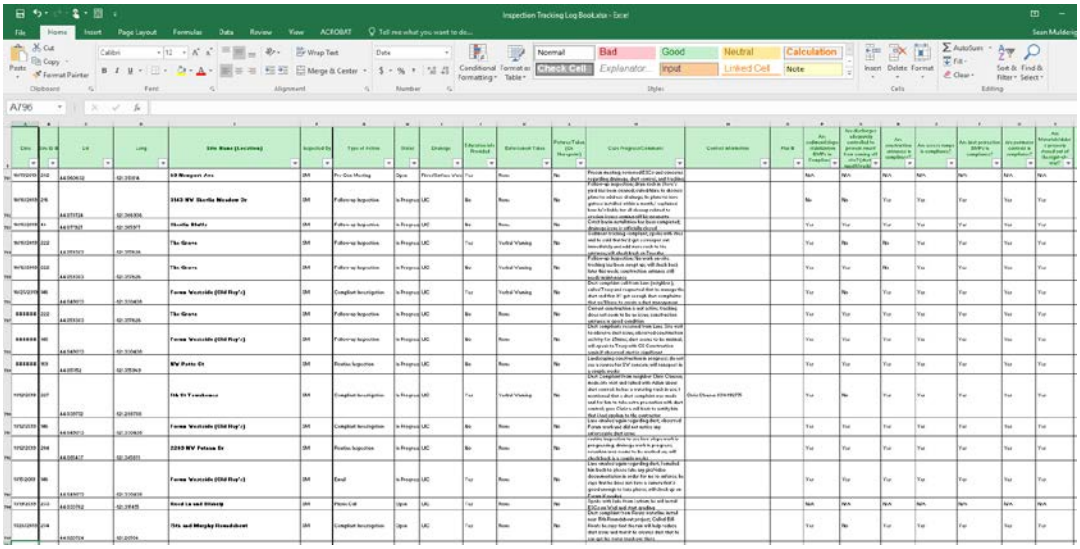
4. Enforcement Action:

- ☐ Follow-Up Inspection (Verbal Warning)
- ☐ Written Notice of Non-Compliance
- ☐ Yellow Tag (48 Hour Compliance Notice)
- ☐ Red Tag (Stop Work Order)
- ☐ Delay Future Inspections (Building/PDE)
- ☐ Code Enforcement Notice of Violation/Citation

i. Is the site compliant with Bend Code Title 16 and any other applicable permits? ☐ YES ☐ NO

Section 4 Comments/Corrective Actions: _____

ii. All information in the “Stormwater Construction BMP Inspection Form” needs to be recorded in the “Inspection Tracking Log Book”, as seen below. Both can be found in the erosion and sediment control folder of Sharepoint.



iii. When capable, inspection documentation should include pictures with a date and time stamp. It is important to record and take pictures of both non-compliant and compliant items.

iv. In the “comments” field record any information regarding follow-up inspection scheduling and compliance deadlines.

e. ESC Compliance and Enforcement

i. Compliance steps

1. If site is out of compliance per COB Code Title 16, education materials along with an initial verbal warning will be given to the

Responsible Person/Party (RP) with a compliance deadline of the Stormwater Compliance Specialist's discretion. Usually this deadline will be a minimum of 24hrs and a maximum of 2-weeks dependent on urgency (e.g., potential to pollute including forecasted storm or shower activity; high winds, etc.).

2. If the RP fails to meet compliance standards by the original deadline but makes an attempt, a new deadline will be issued along with a second verbal warning notifying the RP of the potential enforcement procedures. If no attempt has been made to address deficiencies by original deadline, issue Notice of Violation (NOV). An example NOV can be found on Sharepoint.
3. A NOV will be issued if the second compliance deadline is not met or no attempt to correct original deficiencies has been made.
    a. The NOV will state a final compliance deadline and the type of enforcement to be taken.
        i. Before an NOV is issued, Building and Engineering Inspectors will be notified of the compliance issue.
        ii. Building and Engineering Inspectors will be sent a copy of the NOV.
4. If compliance by NOV deadline is not met, Building Inspectors, Engineering Inspectors, and Stormwater Compliance Specialist will be expected to delay further inspections, issue stop work orders, or issue civil penalties until compliance is achieved.
5. All verbal and written education, warning, and violations should be recorded in the inspection tracking form and summarized for monthly and annual reports.

e. Potential Challenges/Coordination Issues

i. Inspector Coordination/Overlap
ii. Construction Site and Illicit Discharge overlap
iii. Record-keeping and Data Tracking

f. References

i. Educational Tools (see www.bendoregon.gov/cleanwaterworks Business page and Construction Subsection)
    1. Fact Sheet with Performance Standards from 16.10.070 through 16.10.100 and 16.15.040
    2. ESC Applicability Flow Chart
    3. Guidance for 1200-C permits at Permit Center
    4. ACWA Construction Site Guide
    5. COSM 2010—ESC chapter
    6. Example SFR erosion and sediment control plan
    7. ESC fact sheet

ii. Additional Educational Tools Needed
    1. Checklist for Permit Center Staff of application needs.
    2. Criteria of special circumstances when Soils and Geological Reconnaissance Report should be required.
    3. Map of WOZ and ASI zones
    4. Inspection form for onsite inspector
    5. Performance Standards Guidance

SECURE YOUR LOAD

Do the Right Thing for Your Community

Ask Yourself...

Is there any way debris can fall or blow out of my vehicle/truck? Is my load secure on the top, sides and bottom?



Cover It!



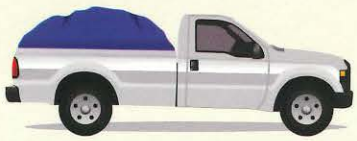
Why?
Road debris or sediment...

- Causes Accidents
- Creates Ugly Litter Along Roadway
- Accelerates Aging of Streets
- Covers Spawning Gravels
- Damages Our River

UTILITY DEPARTMENT

62975 Boyd Acres Road
Bend, OR 97701
541-317-3000, ext. 2
FAX: 541-317-3046
www.bendoregon.gov/cleanwaterworks

CLEAN WATER WORKS
We work for clean water



$10 Discount at Knott Landfill when you cover your load.

IT'S THE LAW
Bend Code Title 16.20
Deschutes County Ordinance 13.36.040
ORS Section 818.300

Bend Code Title 16.20 Illicit Discharge Controls

B. Any person engaged in activities that will or may result in pollutants entering a storm drain... shall undertake reasonable measures to reduce such pollutants.

C. No person shall throw, deposit, leave, maintain, keep, or permit to be thrown, deposited, placed, left or maintained, any refuse, rubbish, garbage, debris, sediment, or other discarded or abandoned objects, articles, and accumulations, in or upon any street, alley, sidewalk, storm drain...or other drainage structures...so that the same might be or become a pollutant... .

Deschutes County Ordinance 13.36.040

No person shall transport waste or solid waste in or on a motor vehicle or trailer upon a public road unless such waste or solid waste is covered and secured.

2017 ORS Section 818.300 - Operations with Sifting or Leaking Load

(1.) A person commits the offense of operating with a sifting or leaking load if the person does any of the following:

(a) Drives or moves on a highway any vehicle or combination of vehicles that is so constructed or loaded so as to allow its contents to drop, sift, leak, or otherwise escape therefrom.

(b) Owns a vehicle or combination of vehicles and causes or permits the vehicle or combination of vehicles to be driven or moved on a highway when the vehicle or combination of vehicles is so constructed or loaded so as to allow its contents to drop, sift, leak, or otherwise escape therefrom.

(3.) Violation of the offense described in this section is subject to civil liability under ORS818.410 which states, "The owner and driver of anything using a state, county or city highway, street or bridge in violation...are jointly and severally liable to the state, county or city for all damage done as a result of the violation."

(4.) The offense described in this section, operating with a sifting or leaking load, is a Class B traffic violation. [1983 c.338 §524; 1985 c.393 §31]

For more information visit:

www.deschutes.org/solidwaste/page/cover-and-secure-your-load
www.codepublishing.com/or/bend/html/Bend16/Bend16.20 html
www.oregonlaws.org/ors/818.300

Only Rain in the Storm Drain. Call 541-317-3000 ext. 2 to report anything else.

Accommodation Information for People with Disabilities

To obtain this information in an alternate format such as Braille, large print, or electronic, please contact 541-317-3000 ext. 2 or email utilities@bendoregon.gov.

UTILITY DEPARTMENT

CLEAN WATER WORKS
We work for clean water

Stormwater Construction BMP Inspection Form

UTILITY DEPARTMENT

Site ID #: _____ **Date & Time:** _____

Site Address: _____ **Inspected by:** _____

Reason for Inspection:	☐ Routine	☐ Complaint Inv.	☐ Follow-Up
Weather:	☐ Clear	☐ Cloudy	☐ Other:_____

Responsible Person: **Phone #:** **Email:**

Contact Address:

1. General Practices During Construction: (yes is compliant)

i. Are sensitive lands or ASI areas protected from vehicles/equipment?	☐ YES	☐ NO	☐ N/A
ii. Are stormwater infiltration areas protected from vehicles/equipment?	☐ YES	☐ NO	☐ N/A
iii. Are trees protected with fencing?	☐ YES	☐ NO	☐ N/A
iv. Are materials/debris properly stored out of the right-of-way?	☐ YES	☐ NO	☐ N/A
v. Are hazardous pollutants/chemicals properly stored and/or managed?	☐ YES	☐ NO	☐ N/A
vi. Are general housekeeping practices properly implemented?	☐ YES	☐ NO	☐ N/A

Section 1 Comments:

2. Erosion and Sediment Control Practices During Construction: (yes is compliant)

i. Are sediment stabilization BMPs properly installed and/or effective?	☐ YES	☐ NO	☐ N/A
ii. Are discharges adequately controlled to prevent runoff from coming off site?	☐ YES	☐ NO	☐ N/A
iii. Are construction entrances properly installed and/or effective?	☐ YES	☐ NO	☐ N/A
iv. Are access ramps properly installed and/or effective? (sediment ramps are not permitted)	☐ YES	☐ NO	☐ N/A
v. Are inlet protection BMPs properly installed and/or effective?	☐ YES	☐ NO	☐ N/A

vi. Are perimeter controls properly installed and/or effective?	☐ YES	☐ NO	☐ N/A

Section 2 Comments:

3. Contractor Inspections: (yes is compliant)

i. Are the Erosion Sediment Control Plans available onsite and/or being used?	☐ YES	☐ NO	☐ N/A
ii. Are Inspections/maintenance forms being used? (e.g. maintenance plan/schedule)	☐ YES	☐ NO	☐ N/A

Section 3 Comments:

4. Enforcement Action:

☐ Follow-Up Inspection (Verbal Warning)

☐ Written Notice of Non-Compliance

☐ Yellow Tag (48 Hour Compliance Notice)

☐ Red Tag (Stop Work Order)

☐ Delay Future Inspections (Building/PDE)

☐ Code Enforcement Notice of Violation/Citation

i. Is the site compliant with Bend Code Title 16 and any other applicable permits?	☐ YES	☐ NO

Section 4 Comments/Corrective Actions:

City of Bend (FY2019-20)								
Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
7/2/2019	169	**NW Potts Ct**	Routine Inspection	In Progress	UIC	No	None	Routine Inspection; minor erosion from the storm; sediment fencing held back sediment; will reinspect in a couple weeks
7/2/2019	137	**Lodges at Bachelor View**	Routine Inspection	In Progress	UIC	Yes	None	Routine Inspection to check slope stabilization; extra tackifier not applied yet; for the most part slopes held up with rain yesterday; Ben was finishing installation of drillhole with riser casing; liner fabric reinstalled
7/2/2019	44	**Shevlin Bluffs**	Compliant Investigation	In Progress	UIC	Yes	None	Complaint investigation; sediment from all lots (developed and undeveloped) were showing signs of erosion; storm affected all areas on the west side; will get streets to send over a sweeper
7/3/2019	204	**2289 NW Putnam Dr**	Compliant Investigation	Open	UIC	No	None	Complaint received regarding sediment from yesterday's storm originating from SFR development (2289 NW Putnam Road) depositing onto her driveway; no drywells/drillholes/river-drainage in the vicinity; attempted to speak to builder; builder not onsite; submitted requested to get street sweeping
7/3/2019	137	**Lodges at Bachelor View**	Routine Inspection	In Progress	UIC	Yes	None	Drywell/drillhole test; easily passes infiltration test; failed drywell/drainage issue has been resolved
7/9/2019	206	**749 NE Seward Ave**	Compliant Investigation	Open	UIC	Yes	Verbal Warning	Complaint regarding bark mulch stockpiling in ROW; spoke to landscapers and requested that in the future that they stockpile on private property
7/9/2019	205	**Homewood Suites**	Routine Inspection	Open	UIC	No	None	Routine Inspection; no tracking issues; sed fencing is good condition; will reinspect in a couple weeks
7/9/2019	204	**2289 NW Putnam Dr**	Compliant Investigation	In Progress	UIC	No	None	Builder still not on-site; will check later in the week
7/9/2019	198	**1609 SW Chandler Ave**	Follow-up Inspection	In Progress	UIC	No	None	Construction entrance has been installed; no tracking in ROW; will reinspect in a couple weeks
7/10/2019	203	**19476 Pine Drive**	Follow-up Inspection	In Progress	UIC	Yes	Verbal Warning	Complaint investigation; spoke with Josh about the dust issue and explain to him that the dirt road is not ROW; request that he increase watering of the road to reduce dust; we discussed to addition of gravel to the road; will run it by Chris (PED)
7/11/2019	137	**Lodges at Bachelor View**	Follow-up Inspection	In Progress	UIC	No	None	Jay notified me to inspect the tackifier application before approving final; tackifier has been applied at the COB standard specifications; notified Jay of my approval
7/11/2019	44	**Shevlin Bluffs**	Follow-up Inspection	In Progress	UIC	No	None	Sediment in ROW has been cleaned up; streets have been swept
7/16/2019	208	**3160 NW Metke Pl**	Compliant Investigation	In Progress	UIC	Yes	Verbal Warning	Complaint investigation; sediment in ROW; spoke with general contractor Tye and requested that they clean the ROW and make an attempt to stabilize disturbed slopes; will check back next week to re-inspect
7/16/2019	207	**3401 NW Bryce Canyon Ln**	Compliant Investigation	In Progress	UIC	Yes	None	Drainage complaint investigation; neighbor reported that runoff and sediment from new SFD next door has flooded onto his property; the new home looks to be finaled; need to check with building dept to see if anything can be done
7/17/2019	206	**749 NE Seward Ave**	Follow-up Inspection	Closed	UIC	No	None	Bark dust cleaned off ROW; closed
7/23/2019	209	**Pacific Crest Middle Soccer Fields**	Pre-Con Meeting	Open	UIC	Yes	None	Pre-con meeting; discussed esc measures and drainage; will meet after pre-con to do initial site inspection

City of Bend (FY2019-20)								
Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
7/23/2019	209	**Pacific Crest Middle Soccer Fields**	Routine Inspection	In Progress	UIC	Yes	None	Met with Josh on-site; inspected the ESCs; Const entrance, inlet protection, and sed fencing; all look to be compliant; will reinspect in a few weeks
7/24/2019	193	**Reside Bear Creek Subdiv**	Compliant Investigation	In Progress	UIC	No	None	Complaint received from PDE regarding tracking and not using the construction entrance; will inspect tomorrow and talk with Doug (foreman)
7/25/2019	193	**Reside Bear Creek Subdiv**	Compliant Investigation	In Progress	UIC	Yes	Verbal Warning	Spoke with Doug and Bob regarding the tracking onto the ROW and the repair and utilization of the construction entrance; Inlet protection also needs maintenenace; they wil have it repaired/maintained within the next couple days; will reinspect on Monday
7/26/2019	210	**Luderman Crossing**	Compliant Investigation	Open	UIC	Yes	Verbal Warning	Dust complaint; called JRS to request that he increase watering and that is crews are aware of dust impacts on the surrounding homes; will make site vist on Tuesday
7/30/2019	210	**Luderman Crossing**	Follow-up Inspection	In Progress	UIC	Yes	Verbal Warning	Follow-up inspection; Observation of dust during construction; active watering occuring during observation; called complainant and discussed further action; told her that I have worked with Jake to ensure watering is continuous; spoke with Jake on site to confirm
7/30/2019	193	**Reside Bear Creek Subdiv**	Follow-up Inspection	In Progress	UIC	Yes	Verbal Warning	Follow-up inspection; additional drain rock needed in construction entrance; left voicemail with Doug
7/31/2019	211	**The Alexander Hotel (NE Watt Way)**	Compliant Investigation	Open	UIC	Yes	Verbal Warning	White residue from drywall compound has been washed into ROW and Stormdrain; spoke to the superintendent and requested that he get's the street cleaned as well as the catch basin; he has ordered a vactor to powerwash and vacuum it tomorrow. Will reinspect on Friday
7/31/2019	193	**Reside Bear Creek Subdiv**	Phone Call	In Progress	UIC	Yes	Verbal Warning	Spoke to Doug and he said that he'll get a truck load of roack within the week and that he'll keep the street clean
7/31/2019	151	**20901 Cooley Rd**	Routine Inspection	Open	UIC	No	None	Routine Inspection; grading work still in progress; construction entrance and sed fencing is in good condition; will check back in a couple weeks
8/1/2019	146	**Forum Westside (Old Ray's)**	Compliant Investigation	Open	UIC	Yes	Verbal Warning	Dust Complaint; spoke with from CS Construction; he says that they've been watering; no active dust issue upon site visit; requested that he pay extra attention to dust
8/1/2019	135	**OB Riley Rd Elementary School**	Routine Inspection	In Progress	UIC	No	None	Reinspect the fixed SW infrastructure and how plantings are going; the cb to swale in the NE corner of project has been installed but not finished; plantings are still in progress
8/1/2019	113	**Stone Creek Sub Div**	Compliant Investigation	In Progress	UIC	Yes	Verbal Warning	Dust compliant; no active dust issue noticable; spoke with Jay who was operating the water truck and he says that they've been constantly watering; will reinspect next week
8/5/2019	211	**The Alexander Hotel (NE Watt Way)**	Follow-up Inspection	In Progress	UIC	Yes	None	Catchbasin, curbline, and drywell has been cleaned
8/5/2019	202	**Rivers Edge Phase 21**	Compliant Investigation	In Progress	UIC	Yes	Verbal Warning	Complaint received; sediment tracking out on to mount washington; left voicemail with Justin; will find project manager; check back ina couple days if no response
8/5/2019	193	**Reside Bear Creek Subdiv**	Follow-up Inspection	In Progress	UIC	No	None	Rock has been added to construction entrance; will reinspect next week
8/5/2019	146	**Forum Westside (Old Ray's)**	Compliant Investigation	In Progress	UIC	Yes	Verbal Warning	Dust Complaint from a business owner; spoke with from CS Construction; he says that they've been watering; no active dust issue upon site visit; requested that he pay extra attention to dust

City of Bend (FY2019-20)								
Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
8/5/2019	146	**Forum Westside (Old Ray's)**	Compliant Investigation	In Progress	UIC	Yes	Verbal Warning	Dust Complaint; spoke with from CS Construction; he says that they've been watering; no active dust issue upon site visit; told him that if dust isnt managed then construction will have to be haulted
8/6/2019	212	**New High School off 15th**	Pre-Con Meeting	Open	UIC	Yes	Verbal Warning	Pre-con meeting; new highschool on south end of town; will perform site inspection next week to confirm proper esc installation
8/6/2019	146	**Forum Westside (Old Ray's)**	Phone Call	In Progress	UIC	Yes	Verbal Warning	Spoke to Tracy about dust; he claims that they are constantly watering for dust supression; I mentioned that they need to water more and be aware of neighbors; he said they will
8/6/2019	113	**Stone Creek Sub Div**	Pre-Con Meeting	In Progress	UIC	Yes	Verbal Warning	Pre-con meeting; phase 2 of stone creek subdiv; spoke about dust control issues and complaints received from neighbors; will inspect in the next couple weeks
8/7/2019	202	**Rivers Edge Phase 21**	Compliant Investigation	In Progress	UIC	Yes	Verbal Warning	Complaint received; sediment tracking out on to mount washington; spoke to the project manager Chris; he will have a construction entrance installed and the street cleaned today
8/14/2019	213	**SFR on Overlook Dr**	Compliant Investigation	In Progress	UIC	Yes	Verbal Warning	Compliant Investigation; concrete wash in the ROW from being washed out near curb; spoke to GC (Nick) about removing material; he will have it removed next week; reinspect a week from Monday
8/14/2019	204	**2289 NW Putnam Dr**	Follow-up Inspection	In Progress	UIC	Yes	Verbal Warning	Follow-up inspection; spoke with builder about sediment washing away from property; requested that he sweep up sediment deposits down the street and stabilize his slopes; asked him to notify me when work has been completed and/or he has a plan
8/14/2019	44	**Shevlin Bluffs**	Compliant Investigation	In Progress	UIC	Yes	None	Complaint received from Mat; Flooding has occurred on his property and the surrounding neighbors; pictures have been taken of the event; ESC are also needed on vacant lots; spoke with Troy and Travis to see if we can install water bars in ROW to divert water to catch basins; will meet with Jeremy from skylight homes
8/16/2019	214	**61424 Cultus Lake Ct**	Compliant Investigation	In Progress	UIC	No	None	Street has been cleaned and site has added stabilization and sediment controls
8/16/2019	137	**Lodges at Bachelor View**	Compliant Investigation	In Progress	UIC	Yes	None	Erosion off lots led to flooding over the last weekend; multiple concerned citizens called; will have to talk to the developer to get mess cleaned up and the lots further stabilized; email sent to Justin requesting clean-up and further stabilzation with reference to NOV in December
8/16/2019	44	**Shevlin Bluffs**	Follow-up Inspection	In Progress	UIC	Yes	None	Met with Jeremy to discuss solutions for drainage and esc issues; he has dug a 3 foot deep trench along bottom of last lot; sediment fencing has been installed along upper lots; discussed installation of water bars; will inform Mat of any decisions made
8/19/2019	137	**Lodges at Bachelor View**	Email	In Progress	UIC	No	None	Justin emailed informing me that the road and SW facilities will be cleaned out this week; wants to set up a meeting for Friday to discuss this project and the process moving forward.
8/23/2019	215	**NW Shevlin Park Rd before Shevlin Park**	Compliant Investigation	Open	River/Surface Waters	No	None	City ROW has erosion of ditch line drainage that may be leading in to Tumalo creek; evident during thunderstorms; will bring this up with SW operations to see if ditch maintenance can be done to fisx erosion issues

City of Bend (FY2019-20)								
Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
8/23/2019	137	**Lodges at Bachelor View**		In Progress	UIC	Yes	None	Wendy, Chris H, and Sean met with Justin , Todd , and Brett ; discussed erosion and sediment control and what is expected from TNW and developer going forward; reviewed that its City Standard to stabilize slopes and to hold developer/contractor responsible till stabilization is held through warranty period; Notice of Violation was referenced to show original violation and that its held effective to warranty bond is released.
8/27/2019	216	**3143 NW Shevlin Meadow Dr**	Compliant Investigation	Open	UIC	Yes	None	Call with Steve; spoke of neighbor's drainage into his yard; will visit SFR development and research building inspection status; will need to provide education if still under construction
8/27/2019	209	**Pacific Crest Middle Soccer Fields**	Routine Inspection	In Progress	UIC	No	None	Routine Inspection; tracking is minimal; slopes have stayed stabilized through rain events; will check back in a couple weeks
8/27/2019	204	**2289 NW Putnam Dr**	Compliant Investigation	In Progress	UIC	Yes	None	Spoke with neighbor regarding erosion issues from SFR construction; erosion and sediments continue to be an ongoing issue; he is concerned about the ditch line being filled in with sediment; will contact builder to find out when ESC improvements will be made
9/4/2019	204	**2289 NW Putnam Dr**	Phone Call	In progress	UIC	Yes	Verbal Warning	Spoke with Builder; he said that he is waiting for the gas company to finish before he stabilizes the slopes; large stockpile of sediment next to road; I told him that he needs to have erosion and sediment controls up so that he doesn't get another slope failure in addition to having his stockpile wash away; I notified him of the storm that we may potentially get tomorrow
9/6/2019	204	**2289 NW Putnam Dr**	Follow-up Inspection	In Progress	UIC	Yes	Verbal Warning	Complaint from 3rd different neighbor; Slope failure on property and sediments in ROW; multiple warnings have been given to builder; NOV to be issued
9/9/2019	204	**2289 NW Putnam Dr**	Email	In Progress	UIC	Yes	NOV Issued	NOV issued; messaged David on 9/12 to warn him of the potenial rain this upcoming weekend
9/12/2019	216	**3143 NW Shevlin Meadow Dr**	Compliant Investigation	Open	UIC	Yes	None	Met with on-site; showed me failed retention pond and drain rock filled in with sediment; voicemail from builder and he has plans to install gutters; will check back with him on date planned and request that he also cleans drainage rock from property
9/12/2019	201	**Arena Acres**	Compliant Investigation	In Progress	UIC	Yes	Verbal Warning	Dust compliant; spoke with Wade; he says they are watering 24/7 with a water bar; drive by and verified; mike called the customer back
9/13/2019	217	**Greenwood and Harriman St**	Compliant Investigation	Open	UIC	Yes	Verbal Warning	Spoke with Builder regarding sediment pile in ROW; told him about the regulation prohibiting him from discharging sediment into the stormdrain; he said he'd get it cleaned up early next week; warned him about the rain the weekend; he tarped it and cleared gutterline in the meantime
9/13/2019	108	**Butler Crossing Subdivision**	Compliant Investigation	In Progress	UIC	Yes	None	Complaint call; spoke with homeowner about drainage issues from neighbor behind; both houses are no longer in construction; told her that this is a civil dispute with her neighbor

City of Bend (FY2019-20)								
Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
9/17/2019	218	**1264 NE Jones Rd**	Compliant Investigation	Open	UIC	Yes	None	neighbor complained about runoff and sediment coming into her yard; I called her neighbor to see if they can alter drainage to not go into neighbors yard; he said that he'd talk to Habitat for Humanities to see if they can fund it; said that she be willing to pay for it; I told that she should go talk to and see if they can arrange something
9/24/2019	220	**1778 NW 12th St**	Phone Call	Open	UIC	Yes	None	Spoke with regarding erosion issues from property above his house; he has already spoke with David B regarding potential fixes by the City; I will give him a call on Firday to take a look at his property
9/24/2019	219	**20583 Painters Ct**	Phone Call	Open	UIC	Yes	None	Spoke with about erosion issues from neighbor; informed him that it's a civil issue and that he should speak to his neighbor before taking legal action
9/25/2019	221	**Shire Ln**	Phone Call	Open	UIC	Yes	None	Spoke to regarding inlet protection not being maintained; flooding risk; will contact builder Friday morning
9/25/2019	204	**2289 NW Putnam Dr**	Routine Inspection	In Progress	UIC	No	None	Slope did not fail with recent rains; seems like stormwater is being diverted to retention area; will check back next week
9/25/2019	169	**NW Potts Ct**	Routine Inspection	In Progress	UIC	No	None	Buildings are being built; no current ESC issue
9/25/2019	90	**Black Pines Subdivision**	Routine Inspection	In Progress	UIC	No	None	No current ESC issues; 3 homes have been finished
9/27/2019	221	**Shire Ln**	Compliant Investigation	In Progress	UIC	Yes	Verbal Warning	Spoke with the Project Manager for MonteVista Homes; All homes are on a private street; told him about the complaint regarding plugged catch basins; he will take care of it.
9/27/2019	220	**1778 NW 12th St**	Compliant Investigation	In Progress	UIC	Yes	None	City ROW eroding driveway approach; will discuss with SW crew to see if water bars or berms can be installed to disperse water; spoke with homeoener
9/30/2019	135	**OB Riley Rd Elementary School**	Follow-up Inspection	In Progress	UIC	Yes	None	Follow-up inspection to see if facilities are holdiong up; catch basin on the NE corner of site is not functioning as intended and road base is eroding away; emailed Jay and Travis to see if we can have it fixed
10/1/2019	222	**The Grove**	Pre-Con Meeting	Open	UIC	Yes	None	Pre-grading meeting; meet with TNW Project Manager (Alex) and Sunwest builders; ESCs have already been installed; sed fening around entire perimiter; inlet protection and const entrance to spec; will check up next week
10/8/2019	224	**Canal Commons**	Compliant Investigation	Open	UIC	Yes	Verbal Warning	Spoke with Foreman CJ (Alex Hodge Construction) regarding dust complaint; watering truck is know on-site; will schedule a meeting tomorrow morning
10/8/2019	223	**20800 Sockeye Pl**	Pre-Con Meeting	Open	UIC	Yes	None	Met with Cory for onsite pre-grading meeting; ESCs have already been installed correctly; will reinspect in a couple weeks
10/9/2019	225	**Empire Extension**	Routine Inspection	Open	UIC	Yes	None	Met with Bret and Tom regarding the empire extension and the relation with Canal Commons; Tom will keep an eye out for any issues with Canal Commons: Empire extension has their ESCs up
10/9/2019	224	**Canal Commons**	Routine Inspection	In Progress	UIC	Yes	None	Met onsite; Alex or Cj were not there; walked site and called Alex; he claims that he'd have all the ESCs up by tomorrow per plan 19-1798 (C-2). I told him that I'd inspect on Friday. I also brought up that he needs to be using a water truck if they're making dust. He said that it wouldn't be an issue since they have that water service set up now.

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Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
10/11/2019	228	**SE Corner of Milwaukee Ave and Knoxville Blvd**	Compliant Investigation	Open	UIC	Yes	None	Complaint call regarding concrete wash going into public catch basin. Created CSR for clean-up. Will determine who was the contractor and follow up with enforcment and education.
10/11/2019	227	**5th St Townhomes**	Pre-Con Meeting	Open	River/Surface Waters	Yes	None	Pre-con meeting; discussed ESC installation before clearing and grubbing; Plan is to start site work by the tuesday; will inspect when Adam gives me a call
10/11/2019	226	**Education Foundation on Lolo Dr**	Pre-Con Meeting	Open	UIC	Yes	None	Pre-con meeting; discussed ESC installation before clearing and grubbing; Plan is to start site work by the 23rd of Oct; will inspect when Alex gives me a call
10/12/2019	222	**The Grove**	Follow-up Inspection	In Progress	UIC	No	Verbal Warning	Follow-up Inspection; No work on-site, tracking has been swept up; will check back later this week; construction entrance still needs maintenance
10/14/2019	228	**SE Corner of Milwaukee Ave and Knoxville Blvd**	Phone Call	In Progress	UIC	Yes	Verbal Warning	Spoke with Betty (CG Brothers); she claims that a new employee had an accident that led to the discharge; I will be sending CG Brothers a service charge invoice after City crews clean catch basin and street. I spoke with field Manager Jose and we will meet tomorrow for education and enforcement information
10/15/2019	230	**15th and Ferguson**	Compliant Investigation	In Progress	UIC	No	None	EIPD project not finished; swale showing signs of erosion
10/15/2019	229	**37 Franklin Ave**	Final Inspection	In Progress	UIC	No	None	1 year warranty inspection; everything looks good
10/15/2019	228	**SE Corner of Milwaukee Ave and Knoxville Blvd**	Follow-up Inspection	In Progress	UIC	Yes	Verbal Warning	Met with Jose to provide educational pieces along with explaining to him the impacts of concrete wash in the drywell; drywell cleaned; concrete had to be jack hammered our of drywell; Invoice to be created by Travis and sent over to me
10/15/2019	228	**SE Corner of Milwaukee Ave and Knoxville Blvd**	Email	In Progress	UIC	Yes	Code Compliance	Created utility service bill to Betty; warning that escalated enforcement will be taken if concrete spill were to happen again
10/15/2019	225	**Empire Extension**	Follow-up Inspection	In Progress	UIC	Yes	None	Spoke to Tom about tracking out of their entrance; told him to make sure to have it cleaned up if it get bad
10/15/2019	224	**Canal Commons**	Follow-up Inspection	In Progress	UIC	Yes	None	Follow-up inspection; ESCs are installed per plan; they have a water truck onsite; reminded them to watch tracking out on to Butler Market; will check back next week
10/15/2019	106	**Brooksmill Phase 2**	Final Inspection	In Progress	UIC	No	None	1 year warranty inspection; SW MH lids need to meet spec; vegatation might be needed on the planter strip
10/16/2019	227	**5th St Townhomes**	Routine Inspection	In Progress	River/Surface Waters	Yes	None	initial ESC installation iinspection; met with Adam to walk site; sed fence installed per plan besides the high side near the street; Adam and his crew will installed sed fencing on the North Side once water and sewer are installed; his crews will sweep daily
10/16/2019	216	**3143 NW Shevlin Meadow Dr**	Phone Call	In Progress	UIC	Yes	None	Called reporting that had cleaned the drain rock in his front yard; has not installed gutters and downspouts yet; I emailed building to see if they could do anything about the situation
10/17/2019	232	**69 Newport Ave**	Pre-Con Meeting	Open	River/Surface Waters	Yes	None	Precon meeting; reviewed ESCs and concerns regarding drainage, dust control, and tracking
10/17/2019	231	**NW 8th St (next to Hillside Park)**	Pre-Con Meeting	Open	UIC	Yes	None	Precon meeting; reviewed ESCs and concerns regarding drainage, dust control, and tracking; they are planning on shortening the project by a couple lots, removing the fire line access path this creating less of an erosion concern; will see if we can install a swale to capture runoff before hitting the paved road

City of Bend (FY2019-20)								
Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
10/17/2019	224	**Canal Commons**	Pre-Con Meeting	In Progress	UIC	Yes	None	Precon meeting; reviewed ESCs and concerns regarding drainage, dust control, and tracking
10/18/2019	222	**The Grove**	Follow-up Inspection	In Progress	UIC	Yes	Verbal Warning	Sediment tracking complaint; spoke with Alex and he said that he'd get a sweeper out immediately and add more rock to the entrance; will check back on Tuesday
10/18/2019	216	**3143 NW Shevlin Meadow Dr**	Follow-up Inspection	In Progress	UIC	No	None	Follow-up inspection; drain rock in yard has been cleaned; called to discuss plans to address drainage; he plans to have gutters installed within a month; I explained how he's liable for all cleanup related to erosion issues coming off his property
10/18/2019	44	**Shevlin Bluffs**	Follow-up Inspection	In Progress	UIC	No	None	Catch basin installation has been completed; drainage issue is officially closed
10/25/2019	146	**Forum Westside (Old Ray's)**	Compliant Investigation	In Progress	UIC	Yes	Verbal Warning	Dust complaint call from neighbor; called Tracy and requested that he manage the dust and that if I get enough dust complaints that we'll have to create a dust management plan
10/29/2019	222	**The Grove**	Follow-up Inspection	In Progress	UIC	No	None	Current construction is not active; tracking does not seem to be an issue; construction entrance in good condition
10/29/2019	169	**NW Potts Ct**	Routine Inspection	In Progress	UIC	No	None	Landscaping construction in progress; do not see a source for SW concern; will reinspect in a couple weeks
10/29/2019	146	**Forum Westside (Old Ray's)**	Follow-up Inspection	In Progress	UIC	No	None	Dust compliants received . Site visit to observe dust issue; observed construction activity for 25mins; dust seems to be minimal; will speak to Tracy with CS Construction again if observed dust is significant
11/12/2019	227	**5th St Townhomes**	Compliant Investigation	In Progress	River/Surface Waters	Yes	Verbal Warning	Dust Complaint from neighbor; made site visit and talked with Adam about dust control; he has a watering truck in use; I mentioned that a dust complaint was made and for him to take extra precaution with dust control; gave Chris a call back to notify him that i had spoken to the contractor
11/12/2019	204	**2289 NW Putnam Dr**	Routine Inspection	In Progress	UIC	No	None	routine inspection to see how slope work is progressing; drainage work in progress; retention area seems to be worked on; will check back in a couple weeks
11/12/2019	146	**Forum Westside (Old Ray's)**	Compliant Investigation	In Progress	UIC	No	None	emailed again regarding dust; observed Forum work and did not notice any enforceable dust issue
11/15/2019	146	**Forum Westside (Old Ray's)**	Email	In Progress	UIC	Yes	None	emailed again regarding dust; I emailed him back to please take any pic/video docuementation in order for me to enforce; he says that he does not have a camera that’s good enough to take photo; will check up on Forum if needed
11/19/2019	233	**Reed Ln and Blakely**	Phone Call	Open	UIC	Yes	None	Spoke with Luke from Latham; he will install ESCs on Wed and start grading
11/20/2019	234	**15th and Murphy Roundabout**	Compliant Investigation	Open	UIC	Yes	None	Dust complaint from Roats waterline install near 15th Roundabout project; Called Bill he says that the rain will help reduce dust issue and that if he creates dust that he can get his water truck out there
12/24/2019	236	**West Hills Cottages**	Final Inspection	Open	UIC	No	None	INFR final inspection; private streets; public infr does not have stormwater; slopes above project need to be watched
12/24/2019	231	**8th and Trenton**	Routine Inspection	Open	UIC	Yes	None	Initial ESC inpsection; Sediment fencing installed per plan properly; construction entrance is currently sufficient but could be longer if need be; asked Kyle (contractor) if he could confirm with engineering tree protection before starting grading

City of Bend (FY2019-20)								
Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
1/31/2020	237	**Reed Lane Apartments**	Routine Inspection	In Progress	UIC	No	None	Inspected the site on 1/31/2020, All public utilities, curbs and sidewalks have been installed, road base is 2" below finish grade and waiting on asphalt pavement. Inlet protection was installed on all of the catch basins.
1/31/2020	235	**8th and Trenton**	Routine Inspection	Open	UIC	No	Verbal Warning	Performed a site inspection on 1/31/2020. There was no activity at the site, only a couple pieces of equipment parked in the excavation area. Curb has been removed and the construction entrance covered by ¾" gravel. Inlet protection on the downstream catch basin was in good condition. The construction entrance needs maintenance and the road swept. I Called and spoke with Kyle on 2/3/2020 and discussed the construction entrance, He is installing water line onto the property in the same location as the entrance. He will replace the entrance after the waterline gets installed this week.
1/31/2020	232	**69 Newport Ave**	Routine Inspection	Open	River/Surface Waters	No	Verbal Warning	Performed a site inspection on 1/31/2020. The contractor installed two silt fences between the project site and River. The lower silt fence, halfway down the bank was not buried or backfilled. The upper silt fence on the Southwest comer looked to be in good working condition. There were no visible signs of erosion along the river bank. The stockpile in the northwest corner has some potential for erosion. I spoke with the Forman/Excavator about this stock pile and He was going to remove it later today, using it as backfill for the recently constructed footing.
1/31/2020	227	**5th St Townhomes**	Routine Inspection	In Progress	River/Surface Waters	No	None	Inspected the site on 1/31/2020, no active construction is happing. All utilities, curbs and sidewalks are installed, road base is 3" below finish grade and just waiting on asphalt pavement. Inlet protection should be installed on the new catch basins, but not likely to be an issue until the road gets paved.
1/31/2020	222	**The Grove**	Routine Inspection	In Progress	UIC	No	None	Inspected the site on 1/31/2020, the contractor was pouring concrete footings and installing unground utilities. Most of the site had an excavated trench along the perimeter. Silt fence was installed and in fair condition, construction entrance looked good and there was no ESC corrections needed at the time of inspection.
1/31/2020	169	**NW Potts Ct**	Routine Inspection	In Progress	UIC	No	Verbal Warning	Overall the site was in good condition, final landscaping has been installed on the south side of the project. There was a small amount of erosion on the NE corner where the silt fence was pulled back for the installation of some concrete stairs. One inlet was not protected near the job shack. I spoke with the Forman about the two issues. Photos show some rock in the roadway but it was unclear if it was construction related or cinder from winter road operations, but the road should be swept weather permitting. All parking areas are curb and rocked. They are still working on foundations for the last couple of buildings.
2/3/2020	238	**Neff Place II**	Routine Inspection	In Progress	UIC	No	None	Walked the site on 2/3/2020, the silt fence has been properly installed around the perimeter, construction entrance is located off a paved access/power sub-station access. Inlet protection has been installed along Crushing Drive, overall the sites ESC`s are in good condition and no corrections are needed at this time.

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Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
2/3/2020	224	**Canal Commons**	Routine Inspection	In Progress	UIC	Yes	None	This site has allot of activity from several separate projects including a City CIP project. Overall there was no sign of erosion leaving the site, with some minor tracking onto Thornhill Drive but it looked like the road had been swept recently. The construction entrance may need some fresh rock.
2/3/2020	212	**New High School off 15th**	Routine Inspection	Open	UIC	No		Walked the site on 2/3/2020, there was no evidence of erosion leaving the site. The large graded sports field area drained to a couple small sedimentation ponds. There was no silt fence installed along the perimeter. The construction entrance was working, they created a large gravel parking area with multiple job shacks. Surrounding streets did not have inlet protection, I need to locate the ESC plan to see what was required.
2/3/2020	146	**Forum Westside (Old Ray's)**	Routine Inspection	In Progress	UIC	No	Verbal Warning	Project is in the final stages of construction. Utilities, curbs and sidewalk have been installed. Parking areas is graveled and ready for pavement. Silt fence on the east side of property is falling down and deteriorated, there was no inlet protection for the onsite catch basins. Recommend removing damaged silt fence and replacing only at the locations that is eroding near the CS job trailer. Some of the sand bag holding the fence are rotted and leaking sand. Overall the side is stable and there was no signs that erosion was leaving the site.
2/20/2020	241	**Maricopa Arms**	Routine Inspection	Open	UIC	No	None	Project was just getting started, equipment was brought onto the site and trees cut down but no grading/ESC installed yet. Will need to check back next week make sure they get silt fence up and entrance installed.
2/20/2020	240	**62800 IMBLER Dr**	Compliant Investigation	Open	UIC	Yes	None	SFR site with no ersion controls and a drirt berm over the curb. Sent email to contrator on 2/20, The contractor replyed and said they will get it cleaned up by 2/26.
2/20/2020	239	**630 NE DALTON ST**	Routine Inspection	In Progress	UIC	YEs	None	Tracking issues, entrance was not up to standards. Emailed contractor requesting the entrace be upgraded and street cleaned by 2/28/2020.
2/20/2020	231	**NW 8th St (next to Hillside Park)**	Routine Inspection	Open	UIC	Yes	None	The site looked very good, construction entrance has been re-installed after the water line was installed onsite and silt fence was in place. No corrections are needed at this time. Still have some erosion issues coming off the parks trails adjacent to the project site.
2/27/2020	242	**(Outcrop) NW Reserve Camp Ct.**	Pre-Con Meeting	Open	UIC	No	None	Request they call fro ESC inspection.
2/27/2020	241	**Maricopa Arms**	Routine Inspection	Open	UIC	No	None	Inlet protection and construction entrance has been installed.
3/13/2020	244	**Shevlin West Subdivision**	Routine Inspection	Open	UIC	No	Verbal Warning	City staff met onsite with Fredrick from Oregon DEQ, to evaluate if a 1200C permit was needed. During the site inspection there was some minor tracking and inlet protection missing on a couple catch basins. City staff emailed the project manager, requesting the road be cleaned and additional inlet protection be installed
3/13/2020	242	**(Outcrop) NW Reserve Camp Ct.**	Routine Inspection	Open	UIC	No	None	This was the first inspection for the site, two construction entrances have been installed, along with silt fence and tree protection. Some minor tracking on the lower entrance, but overall the site looked good. There was no activity on the site during this inspection.

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3/16/2020	243	**OSU Landfill Redevelopment**	Compliant Investigation	Open	UIC	Yes	Verbal Warning	A concerned neighbor is worried about dust coming off the OSU/Landfill redevelopment project. City staff researched the site, determining that the is currently under a State issued Permit. City staff forwarded photos to the State Inspector and the Project manager. City staff also provided the project manager with a copy of Bend Code Title 16.
3/23/2020	244	**Shevlin West Subdivision**	Follow-up Inspection	Open	UIC	No	None	The corrections requested during the last inspection have been addressed. The access road is slightly dirty, but overall the project looked to be doing a good job controlling erosion.
3/23/2020	241	**Maricopa Arms**	Routine Inspection	Open	UIC	No	None	City staff inspected the site, but no work was occurring at the time. Contraction entrance has been installed and overall no erosion issues where observer. Inlet protection was also in good condition.
3/23/2020	232	**69 Newport Ave**	Routine Inspection	Open	River/Surface Waters	No	None	This a small site that is very busy, the east building is going vertical and west building footings have been backfilled. Overall the site looked to be in fair condition, the construction entrance has been removed so utilities can be installed. The parking area in the middle of the site is almost entirely gravel now.
3/23/2020	231	**NW 8th St (next to Hillside Park)**	Routine Inspection	Open	UIC	No	None	City staff inspected the site, but no work was occurring at the time. Curbs have been poured and silt fence and construction entrance looked to be operational. Overall the site looked pretty good, and no corrections are needed.
3/23/2020	227	**5th St Townhomes**	Routine Inspection	Open	UIC	No	None	This infrastructure work is completed, but the onsite work still remains. Overall the site is flat and stable, but given the lack of vegetation there is a potential for dust issues. City staff will continue to monitor the site.
3/23/2020	210	**Luderman Crossing**	Routine Inspection	Open	UIC	No	None	Phase 1 infrastructure is complete and the roads have been installed. Work is starting on phase 2 now, there was a small amount of tracking onto the new asphalt. An onsite water truck was doing a good job keeping the dust down. Overall the site is in acceptable condition. Staff did not have a vest or hard hat, so they did not enter the site, but will follow up with contractor to make sure inlet protection has been installed on the new stormwater facilities.
3/23/2020	113	**Stone Creek Sub Div**	Routine Inspection	Open	UIC	Yes	Verbal Warning	There was some tracking on this site, the construction entrance has been removed and looked to be prepped for base rock. Some material was getting tracked out onto the street. City staff will follow-up with an email and photos.
3/25/2020	225	**Empire Extension**	Routine Inspection	Open	UIC	No	None	Inspected the construction entrance and there was no sign of tracking.
3/25/2020	224	**Canal Commons**	Routine Inspection	Open	UIC	No	None	Inspected the construction entrance and there was no sign of tracking.
3/25/2020	222	**The Grove**	Routine Inspection	Open	UIC	No	None	Inspected the perimeter and construction entrance only. I did not go onsite, but overall the site looked to be in good condition with no tracking. There is still site work/ utility work taking place, they had an open trench across NW Crossing Dr.

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3/25/2020	212	**New High School off 15th (Caldera High School)**	Routine Inspection	Open	UIC	No	None	Some work was still taking place, but site grading has been completed. There was no signs of tracking issues at this time and overall the site looked to be in good condition from my perimeter inspection.
3/25/2020	169	**NW Potts Ct**	Routine Inspection	Open	UIC	No	None	Site work is mostly complete and most the activity is now taking place inside the buildings. No tracking was observed and the project perimeter looked to be stable. I did not inspect on site due to social distaining.
3/25/2020	151	**20901 Cooley Rd**	Routine Inspection	Open	UIC	No	None	The site perimeter looked to be in good condition, no signs of tracking.
3/25/2020	146	**Forum Westside (Old Ray's)**	Routine Inspection	Open	UIC	No	None	Most the work taking place on the site is now on the interior. The parking lot is still gravel, and there are a few small stock piles on site. No tracking was observed, I did not go onsite to inspect inlet protection.
3/25/2020	137	**Lodges at Bachelor View**	Routine Inspection	Open	UIC	No	None	All site work has been completed, several homes are occupied. There is only one single family home under construction at this time. The slopes on the site looked to be stable, they have installed silt fence check dams perpendicular on the steepest sloped section. Site looked to be holding up well.
3/26/2020	247	**Les Schwab Tire Center**	Pre-Con Meeting	Closed	UIC	No	None	Right of way work to begin first week in May for sewer line work.
3/26/2020	246	**Partners in Care Inc Hospice House 2611 NE COURTNEY DR**	Pre-Con Meeting	Closed	UIC	No	None	ROW work is schetduled to begin in about a month out, onsite work to start next week.
3/26/2020	245	**476 NE DEKALB AVE**	Pre-Con Meeting	Closed	UIC	No	None	ROW work is schetduled to begin on the 30th.
3/31/2020	248	**Petrosa Round About**	Pre-Con Meeting	Closed	UIC	No	None	Stll waiting on final documetns to be uploaded. Work would start paving tomorrow, closing butlter market on Thursday.
4/1/2020	210	**Luderman Crossing - Phase 1 Complete**	Final Inspection	Closed	UIC	No	Verbal Warning	The site had some tracking Issues and the pond slopes need stabilized. Since the project is in the process of developing a final punch list, I sent the needed corrections to the Engineering inspector, Jason so He can include the issue in the punch list.
4/2/2020	249	**478 SE RAILROAD ST (CNG Gas Main Installation)**	Pre-Con Meeting	Open	UIC	No	None	CGN Gas line replacement project off of 9th Street. Project start date on 4/20.
4/6/2020	238	**Neff Place II**	Routine Inspection	Closed	UIC	No	None	Site looked good, the project is very flat with limited erosion potential. No tracking issues, the silt fence was still up around the entire perimeter.
4/6/2020	221	**Shire Ln**	Final Inspection	Closed	UIC	No	None	Project is completed, no additional inspection are needed.
4/6/2020	218	**1264 NE Jones Rd**	Final Inspection	Closed	UIC	No	None	Project is completed
4/6/2020	201	**Arena Acres**	Routine Inspection	In Progress	UIC	No	None	Site work has been completed and all utilities, curb and streets have been installed. The individual lots need stabilized. There is not inlet protection on the new basins, and old silt fence remains but is not functional. A single home has been built but no other work is taking place at this time. Work is on hold due to a Eagles nest near project, work should resume in June.

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4/6/2020	197	**Home2 Suites**	Routine Inspection	In Progress	UIC	Yes	Verbal Warning	Rough grading has been completed, most of the site is now gravel. They are working on footings and building utilities. They have pushed gravel overtop the sidewalk to protect the curb. Inlet protection should be installed on the adjacent catch basin and a wood ramp installed.
4/6/2020	192	**SE Holiday Inn**	Compliant Investigation	Closed	UIC	No	None	Most of the work is now focused on interior finishes. Final grading has been completed, but the parking area has not been paved. Overall the site is stable with no sign of tracking or erosion leaving the site.
4/8/2020	250	**925 NW ROANOKE AVE**	Routine Inspection	Closed	UIC	No	None	Site looked good, they has silt fence installed on the downhill side and construction entrances at both ends of Quincy Dr.
4/8/2020	243	**OSU Landfill Redevelopment**	Routine Inspection	Closed	UIC	Yes	None	No dust was visible today. No City permits have been issued, the project is permed by Oregon DEQ.
4/8/2020	204	**2289 NW Putnam Dr**	Final Inspection	Closed	UIC	No	None	This project is completed, all of the homes have been completed and landscaping installed.
4/8/2020	200	**Black Oak and Beall**	Final Inspection	Closed	UIC	No	None	This project is completed, all of the homes have been completed and landscaping installed.
4/8/2020	198	**1609 SW Chandler Ave**	Routine Inspection	Closed	UIC	No	None	Most the grading has been completed, the parking lot is gravel and crews were working on the building exterior. ROW utility work looks to have been completed and the roadway has been patched. They installed silt fence along the north property line, the site was in good overall condition.
4/8/2020	90	**Black Pines Subdivision**	Routine Inspection	In Progress	UIC	No	Verbal Warning	The construction entrance looked good, a small section of silt fence needs reinstalled. City staff will email a photo to the builder and request the correction.
4/8/2020	53	**The Pointe**	Routine Inspection	In Progress	River/Surface Waters	No	Verbal Warning	Lots of tracking and not inlet protection on private catch basins. The silt fence between the river and project site looked to be in ok condition.
4/13/2020	251	**Outpost 44**	Compliant Investigation	Closed	UIC	Yes	Verbal Warning	Dust Complaint received on Friday. Inspected the site this morning around 10 am. No dust was occurring at this time, but the entire lot was bare dry soil. Staff emailed JRS Forman requesting additional watering effort and inlet protection be installed on the new street.
4/16/2020	252	**20800 SOCKEYE PL Brian's Cabinets**	Pre-Con Meeting	Closed	UIC	No	None	C ROW work is starting on 4/20/2020
4/21/2020	232	**69 Newport Ave**	Compliant Investigation	Open	River/Surface Waters	Yes	Verbal Warning	Silt fence needs re-installed and the construction entrance additional rock. Sent email request to the Forman on the project. Will re-inspect next week.
4/21/2020	232	**69 Newport Ave**	Follow-up Inspection	Open	River/Surface Waters	No		Staff inspected the site, silt fence had not been repair/re-installed.
4/28/2020	113	**Stone Creek Sub Div**	Compliant Investigation	Open	UIC	No	Verbal Warning	A sediment ramp was being used on White Tail St (phase II). No inlet protection on grated catch basins and curbside inlets. City staff did not speak with anyone onsite. Sent an email and photos on 4/29/20. Inlet protection and the ramp were priority. Tracking on Brosterhaus improved since last inspection. Compliance reguested by end of week. Will follow up later this week.
4/29/2020	164	**Element Hotel (Portland and Wall)**	Email	Open	UIC	No	None	I emailed Mike to introduce myself and update him on the complaint we received. I inquired about landscaping phase. Will follow up after this afternoon's inspection.

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4/29/2020	164	**Element Hotel (Portland and Wall)**	Compliant Investigation	Open	UIC	No	None	Inspection presented various issues with ESC and potential safety hazards in ROW. An email was sent to Kyle to update him on ROW issues. ESC compliance priorities included: sediment fence and perimeter control repairs/maintenance, inlet protection to be installed on-site, tracking issue from entrance - requested on-site rock construction entrance, and desposited sediment on the sidewalk in NE corner of site. I have not heard from Mike. Will track down responsible person.
4/30/2020	232	**69 Newport Ave**	Follow-up Inspection	Closed	River/Surface Waters	No	None	Silt fence has been re-installed and rock added to entrance. The site is now fully compliant.
4/30/2020	164	**Element Hotel (Portland and Wall)**	Phone Call	Open	UIC	Yes	Verbal Warning	I called Michael to intruduce myself and discuss ESC. He said they have "all the resources to correct items" and the timeframe we outline will be met. I forwarded email with corrective actions and timeframe of end of day Friday. Will inspect fixes next week.
4/30/2020	113	**Stone Creek Sub Div**	Phone Call	Open	UIC	No	None	I called Wade to confirm receipt of email sent on 4/29/20. Wade confirmed that he got it and his forman is working on fixes. Wade is headed out to site today to confirm. I will stop by site tomorrow if I don't hear from Wade.
5/1/2020	113	**Stone Creek Sub Div**	Follow-up Inspection	Closed	UIC	Yes	Verbal Warning	passed along a Dust Complaint. I informed Wade of complaint and requested compliance by this weekend. Wade responded by expalining they are mitigating dust from rock crushing (primary source) and unstable soil. I followed up with public complaintant. Also, I visited site to follow up on ramp and inlet protection. Sediment ramp is removed and witches hat installed on inlet pictured. I took photos of tracking on Brosterhous rd. No follow up planned at this time.
5/5/2020	250	**925 NW ROANOKE AVE**	Routine Inspection	Open	UIC	Yes	Verbal Warning	Observed tracking and sediment storage on roadway from water utility work being implmented along 9th. Asked forman for clean up by the end of the work day. Jay was also on-site and noted the issue with tracking. Sediment fence installed on downhill side in decent condition. Rocked entrance to quincy was good. Curb cut along Roanoke might warrant rock check dams to dissapate any concentrated flow coming from Roanoke to 9th. Will follow up by end of week.
5/5/2020	235	**8th and Trenton**	Routine Inspection	Open	UIC	No	None	Road looked to be ready for final pavement. 3/4" gravel appeared to still be inplace with no 3-6" rock pad entrance, however, gravel looked to be ready for pavement. No inlet protection on on-site UIC. I will call Kyle to mention inlet protection.
5/5/2020	164	**Element Hotel (Portland and Wall)**	Follow-up Inspection	Open	UIC	No	None	Found no action taken. I will follow up with Michael this week.
5/6/2020	250	**925 NW ROANOKE AVE**	Phone Call	Open	UIC	No	None	Kyle said they will be cleaning up sediment tracking at the end of everyday until water utility phase completed.
5/6/2020	235	**8th and Trenton**	Phone Call	Open	UIC	No	None	I called Kyle to mention inlet protection need. No pavement is planned until they can connect to waterline after restrictions lift from pandemic. Low risk due to 6" height between gravel and inlet.

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5/6/2020	164	**Element Hotel (Portland and Wall)**	Phone Call	Open	UIC	Yes	Verbal Warning	I called Michael to confirm receipt of email sent last week. He confirmed and said that he has the excavating company (located in Pendleton) on it. He will send pics of work completed. I will follow up next week.
5/6/2020	164	**Element Hotel (Portland and Wall)**	Email	Open	UIC	Yes	Verbal Warning	I emailed Michael to follow up verbal warning.
5/11/2020	253	**102 NW RIVERSIDE**	Compliant Investigation	Open	UIC	No	Verbal Warning	Spoke with the owner/builder regarding the complaint. Noted tracking on the ROW. Asked for cleanup, removal of broken gravel bags by inlet, and berm to prevent runoff from site. Will follow up with an inspection later this week.
5/11/2020	250	**925 NW ROANOKE AVE**	Follow-up Inspection	Open	UIC	No	None	Tracking and sediment storage on roadway had been removed. 3/4" gravel installed to stabilize soil along waterline portion of 9th st. (larger rock would have been preferable). Asked Kyle to place large rock as a berm along driveway entrance to prevent water from the street entering the project. A construction roack entrance similar to the one used on Quincy. I called Kyle to ask him to remove the sediment from the witches hat as the overflow notches were almost breached. Will follow up later this week when we have received rainfall.
5/11/2020	164	**Element Hotel (Portland and Wall)**	Follow-up Inspection	Open	UIC	Yes	Verbal Warning	On-site inlet protection had been installed. All other concerns remain; sediment fence repair, tracking at sidewalk entrance, and loose sediment on sidewalk/roadway. Further enforcement may be necessary if sediment fence is not resolved. I emailed Michael explaining remaining tasks and potential for enforcement. I will follow up after Wednesday.
5/11/2020	90	**Black Pines Subdivision**	Routine Inspection	Open	UIC	No	None	Construction entrance looked good, however, there was minor tracking evident. Will request that the ROW is swept.
5/11/2020	53	**The Pointe**	Routine Inspection	Open	River/Surface Waters	No	None	The silt fence needs some attention. Sediment stock piles need perimeter control. Some homes have landscaping in place, others look to be close to finish. Will reach out to forman.
5/12/2020	237	**Reed Lane Apartments**	Routine Inspection	Open	UIC	No	None	Tracking on Reed Ln. is evident, will ask for it to be swept and rock construction entrance install. Will follow up with contractor once tracked down.
5/12/2020	233	**Reed Ln and Blakely**	Routine Inspection	Open	UIC	No	None	Sediment fence installed improperly and removed in some locations. Tracking was evident on new roadway, will ask for it to be swept. No on-site inlet protection. Large stockpile of native topsoil is a secondary concern that may warrant tackifier. Neighbor stopped by and provided dust complaint. Contractors have begun home construction with one home built and foundations of others being constructed. Will follow up with the responsible party once tracked down.
5/12/2020	90	**Black Pines Subdivision**	Email	Open	UIC	No	Verbal Warning	Emailed to request that the ROW is swept and cleaned at the end of each work day.
5/12/2020	53	**The Pointe**	Email	Open	River/Surface Waters	Yes	Verbal Warning	Emailed Jessica to request the sediment fence repair and stockpile containment. I will follow up next week once I hear from Jessica.

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5/13/2020	237	**Reed Lane Apartments**	Email	Open	UIC	Yes	Verbal Warning	I emailed Luke to inform him of tracking and lack of rock construction entrance. Will follow up next week.
5/13/2020	233	**Reed Ln and Blakely**	Email	Open	UIC	Yes	Verbal Warning	I emailed Luke to inform him of sediment fence, inlet protection, and dust complaint. Will follow up next week.
5/13/2020	164	**Element Hotel (Portland and Wall)**	Follow-up Inspection	Closed	UIC	No	None	City staff inspected repairs and found the project to be in compliance.
5/14/2020	255	**339 SW CENTURY DR. - PTC**	Pre-Con Meeting	Closed	UIC	No	None	Luke is main sub and will be starting in a couple weeks once they can get across Century Dr.. I asked for 1) inlet protection on all catch basins and 2) area designated for concrete washout away from SW facilities. Luke will call when inlet protection is installed.
5/14/2020	254	**Discovery West Ph 2A-2B**	Pre-Con Meeting	Closed	River/Surface Waters	No	None	Mobilization will begin with clearing/grubbing next week. Stormwater beginning of June; Sewer to Road work until August; Stormwater facilities begin mid August; Sub Contractors at end of August. No ESC Plan documented. Dust control with water truck will be on-site; they can do hydro seeding/tackifier if needed, but not expecting issue. Inlet protection will be installed. Entrance is non-issue for ROW (long gravel entrance). Perimeter control is minimal; maybe silt fence on south side. Robert will schedule initial inspection.
5/14/2020	90	**Black Pines Subdivision**	Email	Open	UIC	No	None	Ryan emailed and confirmed sweeping. The excavator is also aware of clean up during haul days. If no photo provided will stop by next week.
5/15/2020	248	**Petrosa Round About**	Routine Inspection	Open	UIC	No	None	Water trucks were on-site and dust control appeared to be adequate. Inserts in catch basins need maintenance/clean out while curb side bio-bags need cleaning. Sediment fence adjacent to Deschutes Market Rd. needs to be trenched/backfilled. Entrance on Eagle is not an issue now, but will monitor. Will remind superintendent of clean out/ maintence for inlet protection and ask for proper install on sediment fence. Will follow up next week.
5/15/2020	247	**Les Schwab Tire Center**	Routine Inspection	Open	UIC	No	None	On-site grading was underway. The pavement entrance was being removed. No inlet protection on ROW catch basins/ drill holes. No perimeter control in place. Will monitoring entrance for BMP install and tracking; currently not an issue. Spoke with Chad regarding inlet protection on Burnside and 3rd st. Asked for perimeter control on SW corner. Will follow up next week to check work and monitor entrance.
5/18/2020	250	**925 NW ROANOKE AVE**	Follow-up Inspection	Open	UIC	No	None	Some erosion apparent on driveway will some 3/4" rock transported to ROW/inlet protection on catch basin. Kyle said he cleaned catch basin last week and will continued to monitor. They will be paving/replacing driveway once water is tested. Mentioned tracking on Quincy. I will follow up with Kyle regarding clean up of tracking.
5/18/2020	237	**Reed Lane Apartments**	Follow-up Inspection	Open	UIC	No	None	Tracking issue and entrance unresolved. I reminded Luke of issue. He said they are on it.
5/18/2020	233	**Reed Ln and Blakely**	Follow-up Inspection	Open	UIC	No	Verbal Warning	Noticed no change with silt fence, inlet protection, and additional tracking near home with foundation being constructed. Dust non issue at this time due to recent precip. Luke said he asked his guys to take care of last week. I mentioned tracking issue. Will follow later this week to confirm progress.

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5/19/2020	272	**2375 NW MAJESTIC RIDGE DR.**	Compliant Investigation	Closed	UIC	No	None	Follow-up inspection after speaking with complainant; erosion coming from irrigation valve box; eroding near retaining wall; I explained that City ROW isn't impacted nor is it impacting the issue; recommended that a building contractor inspect damage to wall.
5/19/2020	257	**20865 REDSIDE CT.**	Initial Inspection	Open	UIC	No	None	I noticed biobag inlet protection on grated catch basin, a sediment ramp in the ROW, tracking from non-rocked entrance, and no sediment fence. The ESC plan called for all elements. I will track down contact this week.
5/19/2020	256	**Shevlin Multi-Family**	Initial Inspection	Open	UIC	No	None	As requested by Latham, we performed an intial inspection. Inlet protection and rock entrance installed. Sediment fence being installed along perimeter; will check install on Shevlin Hixen Dr. next week. Luke confirmed that a 1200 C permit was obtained. Will coordiante with Fredrick at DEQ if anything comes up.
5/19/2020	253	**102 NW RIVERSIDE**	Follow-up Inspection	Closed	UIC	No	None	ROW looked to have been cleaned. No issues evident.
5/19/2020	248	**Petrosa Round About**	Routine Inspection	Open	UIC	No	None	Eagle entrance did not appear to have any tracking or runoff coming off site. I spoke with Eric and informed him that site looked stable from last week's visit. Asked for inlet protection clean out/maintenance at catch basins and silt fence trenching/blackfill. Eric said he will get right on it. Will follow up next week. Jake is the primary contractor for this site also. He said silt fence had been repaired during 5/22/20 site visit at Petrosa Sub.
5/19/2020	247	**Les Schwab Tire Center**	Follow-up Inspection	Open	UIC	No	None	No inlet protection on ROW catch basins/ drill holes. No perimeter control in place. Straw wattles staged. Paved entrance removed, no rock entrance, tracking with turbid runoff going towards 3rd. Left a voicemail for Chad to mention entrance tracking issue. Will follow up this week.
5/19/2020	113	**Stone Creek Sub Div**	Routine Inspection	Closed	UIC	No	None	The entrance on Brosterhous that had previously caused tracking issues has been paved. No tracking issue. No follow up planned at this time.
5/19/2020	53	**The Pointe**	Follow-up Inspection	Closed	River/Surface Waters	No	None	Sediment stock pile had silt fence and wattle. Other silt fence looked to be repaired. No follow up planned at this time.
5/20/2020	257	**20865 REDSIDE CT.**	Phone Call	Open	UIC	Yes	Verbal Warning	I emailed Mike addressing concerns. He called to confirm items including removal of sediment ramp, inlet protection replacement, construction entrance, and temporary removal of sediment fence to access utilities. He said Jared from Engineering approved everything (pre-grading must have taken place before I came onboard). He'll have it done in 24 hrs. I will follow up next week.
5/21/2020	258	**Sockeye to Stevens**	Pre-Con Meeting	Closed	UIC	No	None	Asked for ESC plan. They will be following notes on plan set. I asked for inlet protection in areas with active construction. Start time unknown; no follow up planned.
5/21/2020	251	**Outpost 44**	Routine Inspection	Open	UIC	No	None	Noticeable tracking on Ross Rd. and Boyd Acres Rd. Rock construction entrance installed. Will ask for ROW to be swept and cleaned up daily this week.

City of Bend (FY2019-20)								
Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
5/21/2020	247	**Les Schwab Tire Center**	Follow-up Inspection	Open	UIC	No	None	Straw wattles installed along SW corner. No equipment on-site. Sediment deposition along burnside from entrance. Spoke with Chad and he said inserts ordered don't fit catch basins, will be installing new ones when they get them. He was going to install under over pass, but I said plans only call for protection at burnside and 3rd. Rock construction entrance will be installed before next phase when equipment is coming back on-site. He said they swept up before leaving site. I asked if he would notify me once they have entrance in.
5/22/2020	259	**Petrosa Sub. Ph 1 & 2**	Initial Inspection	Closed	River/Surface Waters	Yes	None	Jake met us on-site. Entrance to site is Butler off of Dicky Rd. from the east. Silt fence appeared to be installed in correct locations per plan and was installed correctly. Dust control in place. Pavement should be inplace by October for Ph1&2.
5/22/2020	254	**Discovery West Ph 2A-2B**	Initial Inspection	Open	River/Surface Waters	No	None	Robert called to notify me that only silt fence that exists is the portion at toe slope of sewer work to be completed. He said other areas did not warrant fence since they aren't grading to edge of top slope though they would install more should we want it. SFR contractors will be doing that eventually. I walked perimeter draining towards park and noticed bare soil/lack of understory on slope. Inlet protection installed except for two catch basins on Blodgett Way. Rock construction entrances are not long enough. Will ask Robert to extend aggregate on entrances eventually, add inlet protection, and utilize silt fence when approaching top of slope. Will follow up with him next week.
5/22/2020	251	**Outpost 44**	Phone Call	Open	UIC	No	Verbal Warning	Left a voicemail for Jared requesting clean up of tracking on Ross Rd. Will follow up nex week.
5/22/2020	242	**(Outcrop) NW Reserve Camp Ct.**	Routine Inspection	Open	UIC	No	Verbal Warning	Noticed tracking on Shevlin Rd. so performed routine inspection. No perimeter control or silt fence along corner of Shevlin and Reserve Camp Ct. Biobags had quite a bit of sediment/debris accumulation. Spoke with Jeremy on-site and requested clean up of inlet protection, and rock construction entrance should tracking on Shevlin proceed. He said they're sweeping everyday. Couldn't find ESC plan. Will follow up next week.
5/27/2020	256	**Shevlin Multi-Family**	Follow-up Inspection	Closed	UIC	No	None	Inspected the silt fence on the Shevlin Hixon Dr. toe slope. The fence was correctly installed and was already retaining sediment. Clearning began on the slope adjacent to the silt fence. We spoke with Luke about cleaning up the tracking at the main entrance that looked to be from vehicle traffic to the side of the rock construction entrance. He said trucks are temporarily accessing side because of removal of fill in front of rock pad. Will monitor tracking issue.
5/27/2020	250	**925 NW ROANOKE AVE**	Follow-up Inspection	Open	UIC	No	None	I visited tracking on Quincy. I spoke with someone from Kyle's team regarding the tracking and asked for keeping everything swept. Base rock was being applied to Quincy.
5/27/2020	242	**(Outcrop) NW Reserve Camp Ct.**	Follow-up Inspection	Open	UIC	No	None	Still debris/sediment around inlet protection near Shevlin Rd. on Reserve Camp. Entrance on Shevlin Rd. still looked to be in use and tracking evident. Will follow up with Jeremy this week.
5/29/2020	257	**20865 REDSIDE CT.**	Follow-up Inspection	Open	UIC	No	None	Sediment ramp removed. Inlet protection and rock construction entrance still not in compliance. Sean (excavator on-site) said that he will correct issue ASAP. I said I will follow up next week.

City of Bend (FY2019-20)								
Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
5/29/2020	244	**Shevlin West Subdivision**	Routine Inspection	In Progress	UIC	No	None	There was tracking, inlet protection missing, and incorrect inserts being used in some CBs. Called Corey on 6/3 to ask for correct inlet protection and routine cleaning of McClain. Extension on McClain ready for pavement. Will follow up next week to confirm progress.
5/29/2020	242	**(Outcrop) NW Reserve Camp Ct.**	Follow-up Inspection	Open	UIC	Yes	Verbal Warning	Still debris/sediment around inlet protection. Tracking has intensified. Sent an email to Jeremy asking for maintenance on bio bags, rock construction entrances, and proper sweeping of roadways. Will follow up with Jeremy next week.
5/29/2020	137	**Lodges at Bachelor View**	Final Inspection	Closed	UIC	No	None	Infrastructure has been completed. Many graded lots remain without homes. Erosion and sediment deposition evident. David is emailing Jay to place items on punch list.
6/1/2020	242	**(Outcrop) NW Reserve Camp Ct.**	Email	Closed	UIC	No	None	Jeremy provided pictures of work progress and installation of BMPs. Will monitor tracking issue. No follow up planned at this time.
6/1/2020	233	**Reed Ln and Blakely**	Follow-up Inspection	In Progress	UIC	No	Verbal Warning	No change in silt fence or inlet protection. Tracking improved. Some evidence of erosion and sedimentation near canal and remaining silt fence. I emailed Luke asking for compliance by Wednesday of this week. Will follow up later in the week.
6/2/2020	254	**Discovery West Ph 2A-2B**	Email	Closed	River/Surface Waters	No	None	Robert provided pictures of corrected items and clarification. Will monitor project progress in coming weeks. No follow up planned at this time.
6/2/2020	250	**925 NW ROANOKE AVE**	Compliant Investigation	Closed	UIC	No	None	Complaint received mentioning gravel on 12th st (9th st). Gravel appeared to originate from the site near the driveway after runoff along 9th jumped behind the curb. Issue had been cleaned up. Curb is installed and paving is scheduled soon, base rock is in. Tracking on Quincy improved. Asked Kyle to remove gravel from insert on 9th and Portland. They were performing work as we left. No follow up expected at this time.
6/2/2020	241	**Maricopa Arms**	Routine Inspection	In Progress	UIC	No	None	Catch basin and base rock installed, with curb being poured when we arrived. Silt fence was in fine shape. Sedimentation of drill hole evident. Spoke with Peter on 6/3 to ask for cleaning of roadway and drill hole and for inlet protection. Will follow up in next couple weeks.
6/2/2020	210	**Luderman Crossing**	Routine Inspection	In Progress	UIC	No	None	The site had tracking issues. Slope along Lincoln Ln., sediment against curb, and access road (paved road with gravel on top) to Phase 2 presents a challenge. Pond slopes appeared to be stablized with tackifier. Construction entrances were not in compliance. New catch basins with inlet protection had build up of debris/sediment. No inlet protection on private catch basins nearest existing development on southern boundary. Spoke with Jake on 6/3 and asked for cleanup of tracking on Phase I and sediment removal and inlet protection maintenance on Lincoln, specifically. I mentioned that construction entrances were not in compliance. He said primary entrance on Reed Market is delayed 3 weeks. We will discuss plan for Lincoln paved/gravel entrance, rest of inlet protection maintenance, private catch basin inlet protection, and construction entrances during our site visit next week. Reference ESC Plan before visit for silt fence install above pond and "after grading".

City of Bend (FY2019-20)								
Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
6/2/2020	201	**Arena Acres**	Routine Inspection	In Progress	UIC	No	None	A few more foundations being installed. Work has resumed. Inlet protection in place and performing well (see pictures). Quite a bit of sediment accumulation from weekend's storm around curbside catch basins with protection. Source unidentified. Volunteer vegetation established. Spoke with Wade on 6/3 to ask for roadway to be swept. He said they are just getting back into Phase I and will take care of in next day or two. Phase II has issues being resolved and is delayed. Will follow up in the coming weeks.
6/3/2020	260	**Conners Ave. Medical Office Building**	Initial Inspection	In Progress	UIC	No	None	City staff inspected site after noticing sediment on Conners Ave.. Improper inlet protection on catch basins and full of debris/sediment. No inlet protection on drill hole, water and oil sheen visible. Construction entrance installed, however, rill erosion from entrance behind curb down Conners. No perimeter control and evidence of erosion/runoff from roof drains. Sediment on neighbors property and near private catch basins. Building up, parking area being worked on by excavator. Will reach out this week to see where they are in project and ask for measures to keep sediment on site.
6/3/2020	257	**20865 REDSIDE CT.**	Follow-up Inspection	Closed	UIC	No	None	All items addressed. No follow up planned.
6/4/2020	262	**Winco Foods River Mall**	Pre-Con Meeting	Closed	UIC	No	None	Work scheduled for week of the 15th. All work scheduled within Shop Co. and utility easements.
6/4/2020	261	**Luderman Sidewalks**	Pre-Con Meeting	Closed	UIC	No	None	Project is part of 15th st corridor improvement and Desert Woods and will be completed within 145 days starting June 10th. City staff commented on concrete washout area to be designated and away from SW facilities.
6/4/2020	259	**Petrosa Sub. Ph 1**	Pre-Con Meeting	Open	River/Surface Waters	No	None	David and I inspected silt fence installation in May with Jake on-site. City staff asked for inlet protection once the catch basins are installed on-site. Will inspect construction entrance once work on 350 ft section on Eagle is paved in coming weeks. Also commented on dust control.
6/5/2020	260	**Conners Ave. Medical Office Building**	Follow-up Inspection	In Progress	UIC	No	None	City staff returned to site to collect more information. Inlet protection had been removed. Owner of adjacent apartments stopped by and said that access/parking area of apartments floods frequently. He had contacted the City. INFOR has a work order for cleanup and infiltration test on both drill holes. Will follow up with contractor to talk about items.
6/5/2020	222	**The Grove**	Routine Inspection	In Progress	UIC	No	None	City staff inspected the perimeter of the project. Tracking evident. Inlet protection on catch basin on Ordway Rd. had sediment/debris in and around it with water remaining in witches hat. Will follow up next week with David on-site.
6/5/2020	198	**1609 SW Chandler Ave**	Routine Inspection	In Progress	UIC	No	None	City staff walked the northern perimeter of the site. No erosion observed, however, sediment deposits against curb. Curb upslope from project site appeared to be swept. Concrete washout (wet) against sidewalk with signs of runoff to catch basins. Catch basin had grey/white water. Will follow up next week with David on-site.
6/9/2020	243	**OSU Landfill Redevelopment**	Routine Inspection	Closed	UIC	No	None	City staff checked northern portion of site for hydroseeding application and could not verify if measures had been taken.

City of Bend (FY2019-20)								
Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
6/9/2020	222	**The Grove**	Follow-up Inspection	In Progress	UIC	No	None	City staff noticed fugitive dust from site. Tracking an issue on the western entrance. Construction entrance has filled in with sediment. Gravel material in ROW near chain link fence. Will call Jim and follow up with email to ask for maintenance on construction entrance, cleaning of roadway and inlet protection and removal of material in ROW. Will see what dust control measures they are implementing.
6/9/2020	210	**Luderman Crossing**	Follow-up Inspection	In Progress	UIC	Yes	Verbal Warning	City staff inspected the site and found no progress since the last correspondence with Jake. Jake did not meet us on-site. Wind was transporting dust from the large stockpile on Lincoln. Will follow up with email to Jake for corrections below and plan for stockpile.
6/9/2020	198	**1609 SW Chandler Ave**	Follow-up Inspection	In Progress	UIC	Yes	Verbal Warning	City staff discussed items to request of contractor. Emailed Blake to notify contractor of proper concrete washout and inlet protection.
6/10/2020	260	**Conners Ave. Medical Office Building**	Phone Call	In Progress	UIC	Yes	Verbal Warning	City staff spoke with Joe regarding erosion on-site. Joe mentioned the neighbor had walked the site with him and Joe is resolving roof drain runoff with berm along perimeter. I asked if he would refresh rock on entrance to reduce at corner of entrance. Will monitor that issue specifically during storms this week. Will follow up with inspection to check on progress next week. Did not ask for inlet protection, called Travis to check on status of drill hole maintenance.
6/10/2020	241	**Maricopa Arms**	Follow-up Inspection	In Progress	UIC	No	None	No one was on-site during inspection. No work performed on drill hole issue. Emailed Peter on 6/12 to follow up and check on the status.
6/10/2020	233	**Reed Ln and Blakely**	Follow-up Inspection	In Progress	UIC	No	None	City staff inspected silt fence repairs. Some areas not trenched/backfilled properly. Called Luke on 6/11/20 to request additional repairs. Will follow up.
6/10/2020	212	**New High School off 15th (Caldera High School)**	Routine Inspection	Open	UIC	No	None	City staff walked perimeter of project site. Most of the project site has reached final grade with the buidling and roads nearing completion. Water trucks were on-site. Concrete washout slurry pit was near entrance and appeared to be serving it's purpose. New road along western and northern perimeter was clean and in good condition.
6/11/2020	264	**Campbell Sewer Extension**	Pre-Con Meeting	Closed	UIC	No	None	Extending sewer and water with some asphalt restoration. Project should be wrapped up in 3 weeks. No comments, or initial inspection was scheduled due to nature of work being performed.
6/11/2020	263	**Marken Summit**	Pre-Con Meeting	Closed	UIC	No	None	Clearing and grubbing starts tomorrow. Construction entrance has been installed. Inlet protection will be installed. Sediment fence to be installed prior to grading. Final stabilization will be tackifier per plan and follow COB standards. Some confusion regarding hydroseed requirement vs. tackifier. Greg said fill slope will be concern and that seed and wattles can be installed after talking with developer. Silt fence will remain. Mass grading through July, pavement down first week of November. Greg will call me once silt fence is installed for initial inspection.

City of Bend (FY2019-20)								
Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
6/16/2020	265	**2289 PUTNAM RD.**	Compliant Investigation	Closed		Yes	Verbal Warning	City staff responded to a complaint from neighbor re: sediment in ROW. Building being constructed. Access road up hillside was main source identified. Owner said that the access road would not be an issue moving forward and vegetation will be promoted. I informed him of our performance standards and followed up with the complainant. No follow up planned at this time.
6/16/2020	244	**Shevlin West Subdivision**	Follow-up Inspection	In Progress	UIC	No	None	City staff noticed correct inlet protection. McClain extension has been paved (some sediment desposited from previous activities). No inlet protection on new catch basins to swales. Clearing underway on-site. Will perform site visit with DB tomorrow to inspect on-site work and then follow up with Corey.
6/16/2020	201	**Arena Acres Phase I**	Follow-up Inspection	Closed	UIC	No	None	City staff inspected the roadway and found improvement. PM for Palisch or Hayden came to talk with us and said that Phase II will be underway in coming weeks. Construction entrances not installed on Phase I yet. Will monitor site in coming weeks.
6/17/2020	273	**2429 NW SACAGAWEA LN.**	Compliant Investigation	In Progress	UIC	No	None	Follow-up inspection after speaking with complainant; neighbor's driveway to the west provides runoff from roof/patio that is eroding complainant property near retaining wall; met complainant on-site and encouraged working with neighbor, or exploring county mediation process; did not speak with neighbor.
6/17/2020	250	**925 NW ROANOKE AVE**	Final Inspection	Closed	UIC	Yes	None	City staff attended meeting between CDD inspectors/engineers and Kyle (excavator). Slope south of new road will be hydroseeded/tackified. Minor slope near intersection will also be stabilized. Asked for inlet protection on new catch basin. No follow up planned.
6/17/2020	244	**Shevlin West Subdivision**	Initial Inspection	In Progress	UIC	No	None	City staff inspected on-site work. Initial clearing underway. Construction entrance is installed. Some minor tracking evident. County/City transition will be something to monitor. Will follow up in coming week.
6/18/2020	266	**Bend High School - Sewer Extension**	Pre-Con Meeting	Closed	UIC	No	None	Small off-site sewer extension project adjacent to a gravel road. Asked for notification once inlet protection is installed. Starting next week.
6/18/2020	260	**Conners Ave. Medical Office Building**	Follow-up Inspection	Closed	UIC	No	None	City staff inspected entrance erosion and found issue to be resolved. Down spout erosion issue was resolved according to Joe. Prep for parking lot was being completed when on-site. No seidment on roadway. No inlet protection, however, COB stormwater will be perofrming infiltration testing and possible reconditioning on drill holes. No follow up planned at this time.
6/23/2020	248	**Petrosa Round About**	Routine Inspection	Closed	UIC	No	None	City staff inspected inlet protection maintenance. Inlet protection appered to be in good condition.
6/23/2020	225	**Empire Extension**	Routine Inspection	In Progress	UIC	No	None	Curb and pavement was installed with some portions being installed closer to the roundabout at 27th. Exposed bare soil at bridge abutments did not have any sediment control. Spoke with Sinclair on 6/29 to have contractor address sediment control and silt fence repair.
6/23/2020	224	**Canal Commons**	Routine Inspection	Closed	UIC	No	None	City staff inspected the entrance and areas abutting the Empire Ext. project. Site looked good.

City of Bend (FY2019-20)								
Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
6/23/2020	222	**The Grove**	Follow-up Inspection	In Progress	UIC	Yes	Verbal Warning	City staff inspected items previously requested. Tracking and lack of maintenance on western entrance. Requested that road be swept and maintenace performed. Will follow up on Friday.
6/24/2020	256	**Shevlin Multi-Family**	Routine Inspection	In Progress	UIC	No	None	Silt fence still appeared to be in decent condition. Some tracking evident. Slope cuts being excavated. Water truck operating when on-site. NTP on INFR permit received; will coordinate with foreman to set up inspection.
6/24/2020	255	**339 SW CENTURY DR. - PTC**	Routine Inspection	In Progress	UIC	No	None	City staff spoke with the Foreman, Steve, as the utilities were being connected across Century. No inlet protection on catch basins down slope. Steve said he would install on basins to north. Asked for roadway to be swept. Slope on entry to building footprint may become issue. Small footprint, no construction entrance. Will monitor.
6/24/2020	252	**20800 SOCKEYE PL Brian's Cabinets**	Routine Inspection	In Progress	UIC	No	None	One building established, with drywell installed, and utilities being connected. Inlet protection installed (not witches hats). Tracking evident from unrocked entrance. Will contact Corey to understand what the plan is for the entrance with existing asphalt.
6/24/2020	198	**1609 SW Chandler Ave**	Follow-up Inspection	Closed	UIC	No	None	City staff inspected perimeter. Inlet protection installed. More wet concrete like substance near original area. I spoke with Blake on-site and requested that no further washout take place near catch basin. I also requested that sediment against curb be cleaned up. Will follow up next week.
6/25/2020	270	**Rivers Edge Phase 19 & 20**	Pre-Con Meeting	Closed	UIC	No	None	Grading being performed. Wattles and fence installed. Water trucks on shifts. Will perform initial inspection next week.
6/25/2020	269	**693 SE GLENWOOD DR. Industrial**	Routine Inspection	In Progress	UIC	No	None	City staff noticed some tracking from site, no perimeter control, and concrete washout near private drive sloping towards catch basins on Glenwood. Spoke with Bruce since Mark is out of town. He said he will forward email to Corey (their contractor for project) to resolve items. No ESC plan.
6/25/2020	268	**Bend High School - Alden Ave. Remodel**	Routine Inspection	Closed	UIC	No	None	City staff inspected and spoke with the foreman and project managers. Found no inlet protection, silt fence, or entrance per ESC plan that we reviewed in their office. Silt fence was propsed at top of slope and entrance is unlikely as they are working on area and site was small. Trackig not an issue. Asked for inlet protection. No follow up planned.
6/25/2020	267	**Carmen Loop**	Routine Inspection	In Progress	UIC	No	None	No one was on-site during inspection. No inlet protection on catch basin with sediment on ROW of Carmen Lp. No construction entrance, but minimal tracking. No perimeter control on south side. Bio bags installed on curbside CB on American. Will find foreman and ask for inlet protection (proposed in upcoming permit), ROW swept clean and perimeter control (in plan set) after understanding project phasing better. 6/26 phone call with Matt - he will get right on it. I will stop by next week.
6/25/2020	261	**Luderman Sidewalks**	Routine Inspection	Closed	UIC	No	None	Crushing work being performed between Twin Lakes and King. Proper inlet protection used. Wattles along perimeter as needed. Site looked good. No follow up planned.
6/25/2020	249	**478 SE RAILROAD ST (CNG Gas Main Installation)**	Routine Inspection	In Progress	UIC	No	None	City staff spoke with foreman regarding lack of inlet protection on drill holes and catch basins. He said he will install inlet protection. He said he will be here through July crossing 9th then paving restoration. Will monitor when they move onto 9th street.

City of Bend (FY2019-20)								
Erosion and Sediment Control Inspection Tracking Log								
Date	**Site ID #**	**Site Name (Location)**	**Type of Action**	**Status**	**Drainage**	**Education Info Provided**	**Enforcement Taken**	**Case Progress/Comments**
6/25/2020	245	**476 NE DEKALB AVE**	Routine Inspection	Closed	UIC	No	None	City staff checked status of project and found drywell and sed manhole installed. No one on-site during visit. Small site. No issues at this time.
6/25/2020	222	**The Grove**	Email	Closed	UIC	Yes	Verbal Warning	Jim emailed to explain that the entrances were both being paved next week; tracking to improve. Taylor NW washed the entrance and cleaned tracking. I said that Title 16 calls for dry sweeping, provided education, and asked for dry sweeping moving forward.
6/25/2020	210	**Luderman Crossing**	Follow-up Inspection	In Progress	UIC	Yes	Verbal Warning	No one on-site during visit. Utilities appeared to be staked and base rock poured on Phase II. Tracking worsened on Ph I but from SFR lots. Concrete washout with apparent runoff to catch basin. Inlet protection appeared to be maintained. Asked Ian for immediate attention and resolution of tracking and concrete washout. Ian said they're on it. Will follow up next week.
6/25/2020	113	**Stone Creek Sub Div**	Routine Inspection	Closed	UIC	No	None	City staff walked the perimeter of the phases under warranty that abut the current phased construction. Inlet protection in grated catch basins, minimal tracking evident at construction entrance, and rocked entrance in decent condition. Will monitor tracking, dust, and entrance moving forward.
6/26/2020	271	**Goodrich Park**	Compliant Investigation	In Progress	UIC	Yes	None	Utility dept referral of tracking on 8th st. Clearing and grubbing taking place. Rock entrance in poor condition. Silt fence not trenched, however, good buffer currently in place. Dust control in place. Site uses gravel road (Quimby) to access 8th st. Asked Sean for fresh rocked entrance to prevent additional tracking. Will follow up in coming weeks to check on other ESC.
6/26/2020	263	**Marken Summit**	Compliant Investigation	Closed	UIC	Yes	None	Clearing and grubbing in progress. Prepping for blasting. Dust complaint received, water truck on-site. Multiple entrances being used; one rocked entrance. Some tracking from water truck. Sediment fence in decent condition but needs to be extended in areas. Inlet protection not installed and improper insert used. Mike said fence and proper inserts are coming. Will keep access to rocked entrance. Dust from skidding logs; was difficult to control dust. Done skidding. He will call when ESC install/repairs complete.
6/30/2020	263	**Marken Summit**	Compliant Investigation	Closed	UIC	Yes	None	Another dust complaint received. Spoke with Mike on-site. He said they were blasting this morning and loading trucks with duff layer. Water truck was watering. Spoke with water truck operator and reminded that entrance was to be used. Additional tracking. Will follow up next week to inspect items below.



CESCL Training

Certified Erosion and Sediment Control Lead

What is it?

A training to obtain a 3-year certification for erosion and sedimentation control. There is a classroom day and a field day requirement for certification.

DUE TO COVID-19, the field day (day 2) will be offered at a later date not yet determined. A certification cannot be issued without the field day, but you'll be half-way there! You will be notified when the field training is scheduled.

Why do I need this training?

For construction projects over 1 acre in size, a CESCL-certified person is required by Oregon and Washington.

When is it?

Monday, June 29th, 2020

9am- 5pm

Where is the training?

Online using the zoom app

How do I register?

Go to k2-env.com/training.html

How much does it cost?

It's free!

Questions?

Email: ali@k2-env.com

Call: 541-706-0405

BEND UTILITY DEPARTMENT

CLEAN WATER WORKS — We work for clean water

K2 ENVIRONMENTAL

City of Bend CESCL Certification

Attendee List -

Day 1 - 6/29/20 -

Name	Company	email	phone
Dustin Herman	BWI	dherman@bwidrilling.us	541-777-7340
Paul Kevin Bays	City of Bend	kbays@bendoregon.gov	(541) 797-4092
Kelby Harding	HP Civil	kelbyh@hpcivil.com	(971) 209-5542
Morgan Otley (Christie)	Otley Excavation Co. LLC	otleyexcavation@gmail.com	(541) 788-8551
Joel Murphy	Summit Axis LLC	joel.murphy@summitaxis.net	(541) 391-9383
Matthew Williams	C A Rowles Engineering	matt@carowles.com	(541) 585-2207
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Ryan Johnson	BWI	rjohnson@bwidrilling.us	(541) 977-9707
Gail Bloom	Tim Bloom Construction,Inc	gail@bloomconstructioninc.com	(541) 948-0584
Taylor Blevins	Skanska	taylor.blevins@skanska.com	(541) 233-3950
Hans Rindfleisch	Skanska USA Building, Inc	hans.rindfleisch@skanska.com	(541) 499- 7693
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Jeff Bason	Rock S.	jeff@rocksupremacy.com	(541) 383-7625
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David Alvey	James E John	dalvey@jejohn.com	(360) 524-5959
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Larry Stott	James E John	lstott@jejohn.com	(503) 867-3061
Lane Weidman		lanekweidman@gmail.com	(541) 639-7122
Jacob Struck	Skanska	jacob.struck@skanska.com	
Jason Biever	Skanska	jason.biever@skanska.com	

CESCL Workshop Evaluation Summary

Date: June 29th, 2020

UTILITY DEPARTMENT

The CESCL Certification was hosted virtually due to social distancing requirements related to the COVID-19 Pandemic. Twenty five attendees participated in a one day virtual instruction where the traditional classroom format of the certification process was provided. The traditional field portion of the certification was also held virtually with 11 attendees participating on day one and 4 attendees on day two. Of the 15 that attended both sessions, 9 attendees completed an evaluation form. All received evaluations are summarized below.

1. INTRODUCTION AND GOALS				
1	**2**	**3**	**4**	**5**
			11%(1)	88%(8)

2. WHAT IS EROSION				
1	**2**	**3**	**4**	**5**
				100%(9)

3. EROSION AND SEDIMENTATION PROCESSES				
1	**2**	**3**	**4**	**5**
			33%(3)	67%(6)

4. REGULATORY REQUIREMENTS				
1	**2**	**3**	**4**	**5**
			45%(4)	56%(5)

5. STORMWATER POLLUTION PREVENTION PLANS (SWPPs)				
1	**2**	**3**	**4**	**5**
			45%(4)	56%(5)

6. ACTIVITY – DRAW 13 ESC ELEMENTS ON A JOB SITE				
1	**2**	**3**	**4**	**5**
		11%(1)	22%(2)	67%(6)

7. BEST MANAGEMENT PRACTICES (BMPs)				
1	**2**	**3**	**4**	**5**
			22%(2)	77%(6)

8. MONITORING, RECORDING, RECORD KEEPING				
1	2	3	4	5
	11%(1)		44%(4)	44%(4)

9. ACTIVITY – DAY 1 REVIEW				
1	2	3	4	5
			8%(1)	92%(12)

10. ACTIVITY - QUIZ				
1	2	3	4	5
			11%(1)	89%(8)

11. ACTIVITY – MOCK SWPPP INSPECTION				
1	2	3	4	5
		22%(2)	22%(2)	56%(5)

12. ACTIVITY – JEOPARDY REVIEW				
1	2	3	4	5
			44%(4)	56%(5)

13. ACF WEST PRESENTATION				
1	2	3	4	5
11%(1)		22%(2)	11%(1)	56%(5)

Comments:

- Great class, my internet was the hard part.
- This was such a great training! You both went above and beyond! Can't wait to take the refresher!
- Thanks for making it fun
- Great class! Thank you!
- This Has Been a great class , I have seen the other CESCL preform these tasks on many projects but was not aware of all the items that was involved in the their jobs. Overall learned a lot during the course. If there is a quick reference guide or standard templates that we could use, that would be very helpful.

- Liked Kevin with ACF presentation, to some degree though it felt like a sells pitch for their products.
- Jepardy was fun, I ended up losing the guest speaker due to my internet, was able to get back in though. I really like the online learning, it is harder to stay focused though.
- Ali did a great job explaining the BMP's

StormwaterONE

Acknowledges that

Gwendolyn Edde

has successfully completed the
Stormwater Training Program to become a

Certified Erosion and Sediment Control Lead

Completion Date: 09/28/2019

Expiration Date: 09/27/2022

8 PDHs

Topic Covered:

- Definitions, Acronyms and Resources
- CESCL Re-Certification Intro
- SWPPP Risk Management
- SWPPP Inspection Review
- BMP Performance
- Tackling a Subdivision
- Low Impact Development (LID)



Certificate Number: c188aae4

Andrew Demers, President

Tuesday, April 14th			
9:00 AM – 10:00 AM *Zoom Webinar (Tues)*	**Opening Plenary** 1. Welcome to the Virtual Conference Hye Yeong Kwon, *Executive Director of the Center for Watershed Protection, Inc.* 2. A Word from the City of Austin, Texas Mayor Steve Adler, *City of Austin, TX* **(PENDING CONFIRMATION)** Mike Personett, *City of Austin, TX, Watershed Protection Department*		
10:00 AM – 10:15 AM *Zoom Webinar (Tues)*	**Transition 1: Ad Break** Ecotone, Inc. Apex Companies, LLC		
10:15 AM – 11:15 AM	Concurrent Sessions 1		
Zoom Room 1 (Tues)	Zoom Room 2 (Tues)	Zoom Room 3 (Tues)	Zoom Room 4 (Tues)
Watershed Planning & Implementation (I)	**Stream Restoration (I)**	**The Green Economy (I)**	**Stormwater Management**
Moderator & CWP Staff: Carol Wong, PE *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Mike Hickman *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Bryan Seipp *Center for Watershed Protection, Inc.*	Moderator: Bob Bathurst, PE *Century Engineering, Inc.* CWP Staff: Ari Daniels, PE *Center for Watershed Protection, Inc.*
The Onondaga County Save the Rain Program: 220 Completed Projects in 10 Years – Lessons Learned & Success Stories • Zachary Monge, PE *Jacobs Engineering Group*	**The Answer is Not True or False: Correctly Applying a Wicked Problem Approach to Restoring Urban Streams** • Kimberly Horndeski *Texas Parks & Wildlife Department* • Chris Herrington, PE *City of Austin, TX, Watershed Protection Department*	**Growing Pains & Gains: Exploring Stormwater Credit Trading Successes and Challenges in the Toddler Years** • Jacob Dorman, AICP *Contech Engineered Solutions, LLC* • Chris French *BioClean Environmental*	**Passive Stormwater Management is a Thing of the Past: Smart Stormwater Infrastructure is the Key to a Climate-Resilient Future** • Bob Bathurst, PE *Century Engineering, Inc.*
The Catawba-Wateree Basin-Wide Water Loss Control Program • Drew Blackwell *Cavanaugh & Associates, PA*	**DEM Differencing as an Approach for Identification of Stream Restoration Projects and Quantification of Streambank Sediment and Nutrient Loads** • Lisa Fraley-McNeal *Center for Watershed Protection, Inc.* • Mike Hickman *Center for Watershed Protection, Inc.*	**Iowa SRF: Funding for Nonpoint Source Watershed Projects** • Lee Wagner *Iowa Department of Natural Resources, SRF Nonpoint Source Program*	**The California Web App: Predicting the Probability of BMP Effluent Concentrations** • Kenneth Schiff *Southern California Coastal Water Research Project*

Tuesday, April 14th			
11:15 AM – 11:20 AM	Transition 2: Free Time		
11:20 AM – 12:00 PM *Zoom Webinar (Tues)*	**Stream Restoration Crediting: Panel Discussion and Q&A** Overview of Bay Program Protocols • Bill Stack, PE *Center for Watershed Protection, Inc.* WERF Stream Restoration Crediting • Lisa Fraley-McNeal *Center for Watershed Protection, Inc.* North Carolina Stream Mitigation & 404 Permitting • Barbara Doll, PhD *North Carolina State University, Department of Biological & Agricultural Engineering* Stream Mitigation Crediting • Rich Starr *Ecosystem Planning & Restoration (EPR)*		
12:00 PM – 1:00 PM *Zoom Webinar (Tues)*	**Lunch Break (I): Quarantine Memes** Hye Yeong Kwon, Executive Director, *Center for Watershed Protection, Inc.* Marlyn Argueta, *Center for Watershed Protection, Inc.* Let's deal with this uncertain and stressful situation with a little bit of humor! We'll be sharing our favorite quarantine memes during this lunch break. If you have any you'd like to contribute, send them to Jordan Fox (jf@cwp.org).		
1:00 PM – 2:00 PM	Concurrent Sessions 2		
Zoom Room 1 (Tues)	Zoom Room 2 (Tues)	Zoom Room 3 (Tues)	Zoom Room 4 (Tues)
Chlorides & Water Quality (I)	**Smart Systems & Emerging Technologies (I)**	**Stormwater Management at the National Scale**	**Watershed Forestry**
Moderator: Andres Torizzo *Watershed Consulting Associates* CWP Staff: Mike Hickman *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Carol Wong, PE *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Lisa Fraley-McNeal *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Bryan Seipp *Center for Watershed Protection, Inc.*
Continuous Chloride Monitoring and Development of a Recommended TMDL in a Vermont Urban Stream • Andres Torizzo *Watershed Consulting Associates*	**Innovative Solutions to Address Everyday Stormwater Problems** • Jason Swartz, PE *Black & Veatch Corporation*	**Effectively Governing Stormwater through Regional Collaboration** • Kim Jones, CEPSCI *Town of Bluffton, SC, Watershed Management Division* • Kathryn Ellis, EIT *McCormick Taylor*	**Urban Trees: An Overlooked Asset in Stormwater Management?** • Matthew Werle *GreenBlue Urban*

Tuesday, April 14th			
Impact of Road Salting Treatments on Shallow Groundwater Quality in Reston, Virginia • Emily Vorek *George Mason University, Department of Environmental Science & Policy*	**SMART Infrastructure** • David Batts, LEED AP *EcoServices*	**Developing a National Resource for Stormwater Managers** • Greg Williams, PhD, PE *StormTrap, LLC*	**Floodplain Network Reforestation: Greenbelts, Resiliency, & Carbon Sequestration** • Ana Gonzalez, PhD *City of Austin, TX, Watershed Protection Department*
2:00 PM – 2:15 PM *Zoom Webinar (Tues)*	**Transition 3: Ad Break** Stormwater Inspect Cobb & Fendley		
2:15 PM – 3:15 PM *Zoom Webinar (Tues)*	**Special Plenary Session** 1. Hye Yeong Kwon *Center for Watershed Protection, Inc.* 2. Dr. Katharine Hayhoe *Professor in the Public Administration Program & Director of the South-Central Climate Science Center at Texas Tech University*		
3:15 PM – 3:30 PM *Zoom Webinar (Tues)*	**Transition 4: Ad Break** K Friese + Associates Stormwater Systems Contech Engineered Solutions, LLC		
3:30 PM – 5:00 PM	Concurrent Sessions 3		
Zoom Room 1 (Tues)		Zoom Room 2 (Tues)	
Creative Strategies for the Implementation of Green Stormwater Infrastructure on Private and Public Lands		**Climate Change from an Austin, Texas Perspective**	
Moderator: Jaclyn Rhoads, PhD *Pinelands Preservation Alliance* CWP Staff: Mike Hickman *Center for Watershed Protection, Inc.*		Moderator: Mike Personett *City of Austin, TX, Watershed Protection Department, retired* CWP Staff: Jordan Fox *Center for Watershed Protection, Inc.*	
• Jaclyn Rhoads, PhD *Pinelands Preservation Alliance* • Isabella Castiglioni *Pinelands Preservation Alliance* • Susan Miller *Darby Creek Valley Association*		**Water Forward: Integrated Water Resource Plan** • Marisa Flores Gonzalez *Austin Water* • Richard Hoffpauir *Hoffpauir Consulting*	
		Atlas 14: A Climate Change Fingerprint • Kevin Shunk, PE, CFM *City of Austin, TX, Watershed Protection Department* • Matt Hollon	

Tuesday, April 14th	
	City of Austin, TX, Watershed Protection Department
	Climate Resilience Action Plan for the City of Austin's Assets & Operations • Marc Coudert *City of Austin, TX, Office of Sustainability*
	Opportunities to Address Climate Change on Drainage Projects • Tom Ennis, PE, LEED AP *City of Austin, TX, Watershed Protection Department*

Wednesday, April 15th Join Information

As an attendee, you may enter each room online and/or by calling in. If you decide to call in, you must also enter the room by clicking the Join Link in order to view the presentations (and not just hear them). When you call in, you will be prompted to enter the Meeting ID (which is listed underneath the Join Link for each room), followed by the # sign. You will then have the option to enter a 2-digit participant ID; this is optional, and you can skip entry by pressing the # sign again.

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IMPORTANT NOTE: Any time you need to switch rooms, close the window of the room you're currently in before trying to enter a new one!

Room Name	Join Link	Call-In Information
Zoom Webinar (Wed)	https://zoom.us/j/993074354 Webinar ID: 993 074 354	One tap mobile +13126266799, 444794468# US (Chicago) +19292056099, 444794468# US (New York) Dial by your location +1 312 626 6799 US (Chicago) +1 929 205 6099 US (New York) +1 253 215 8782 US (Seattle) +1 301 715 8592 US (Washington DC) +1 346 248 7799 US (Houston) +1 669 900 6833 US (San Jose) 877 853 5257 US Toll-free 888 475 4499 US Toll-free
Zoom Room 1 (Wed)	https://zoom.us/j/513202044 Meeting ID: 513 202 044	
Zoom Room 2 (Wed)	https://zoom.us/j/514008166 Meeting ID: 514 008 166	
Zoom Room 3 (Wed)	https://zoom.us/j/331846855 Meeting ID: 331 846 1855	
Zoom Room 4 (Wed)	https://zoom.us/j/228606095 Meeting ID: 228 606 095	

Wednesday, April 15th			
9:30 AM – 10:00 AM *Zoom Webinar (Wed)*	Morning Check-In (I) Hye Yeong Kwon, Executive Director, Center for Watershed Protection, Inc.		
10:00 AM – 11:00 AM	Concurrent Sessions 4		
Zoom Room 1 (Wed)	Zoom Room 2 (Wed)	Zoom Room 3 (Wed)	Zoom Room 4 (Wed)
Watershed Planning & Implementation (II)	**BMP Maintenance**	**Stormwater Outreach (I)**	**Smart Systems & Emerging Technologies (II)**
Moderator: Matt Hollon *City of Austin, TX, Watershed Protection Department* CWP Staff: Bryan Seipp *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Carol Wong, PE *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Jordan Fox *Center for Watershed Protection, Inc.*	Moderator: Bob Bathurst, PE *Century Engineering, Inc.* CWP Staff: Lisa Fraley-McNeal *Center for Watershed Protection, Inc.*
Texas Nonpoint Source GIS Viewer for Watershed Planning • Tim Cawthon *Texas Commission on Environmental Quality, Nonpoint Source Program*	**Balancing Water Quality Performance and Maintenance Demands of Innovative Biofilters** • Vaikko Allen *Contech Engineered Solutions, LLC* • Craig Fairbaugh *Contech Engineered Solutions, LLC*	**Get Outside! Two Projects Creating Functional Landscapes to Manage Stormwater and Attract People** • Neil Myers *V3 Companies*	**Decrypting Stormwater Pollution: Identifying Urban Watershed Typologies Using Machine Learning** • Matthew Smith *Florida International University*
Lessons Learned from Watershed Master Planning in Austin, Texas • Matt Hollon *City of Austin, TX, Watershed Protection Department*	**Maintaining Permeable Pavers for Long-Term Infiltration** • Kevin Earley *Oldcastle Architectural Products Group*	**How We're Creating 200,000 Source Water Protectors** • Trey Burns *Anderson Regional Joint Water System*	**The Solution to Designing Climate-Resilient Stormwater Infrastructure is in the Forecast** • Bob Bathurst, PE *Century Engineering, Inc.*
11:00 AM – 11:15 AM *Zoom Webinar (Wed)*	**Transition 5: Ad Break** GreenBlue Urban Chesapeake Bay Trust		
11:15 AM – 12:00 PM *Zoom Webinar (Wed)*	**Watershed & Stormwater Trivia** Moderators: • Bryan Seipp • Ari Daniels, PE *Center for Watershed Protection, Inc.*		
	There will be 5 winners, each of whom will be sent a $25 gift card (either Amazon or Visa, your choice!)		

Wednesday, April 15th			
12:00 PM – 1:00 PM *Zoom Webinar (Wed)*	**Lunch Break (II): Water Facts for Kids** Karen Titus, *Center for Watershed Protection, Inc.* Jordan Fox, *Center for Watershed Protection, Inc.* We'll be sharing some kid-friendly fun facts and videos about watersheds, stormwater, and water quality during this lunch break.		
1:00 PM – 2:00 PM	Concurrent Sessions 5		
Zoom Room 1 (Wed)	Zoom Room 2 (Wed)	Zoom Room 3 (Wed)	Zoom Room 4 (Wed)
Chlorides & Water Quality (II)	**Promoting Resiliency in Design**	**Planning for TMDLs & MS4s**	**Stormwater Planning & Implementation (I)**
Moderator & CWP Staff: Jordan Fox *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Ari Daniels, PE *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Mike Hickman *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Carol Wong, PE *Center for Watershed Protection, Inc.*
Brining as a Stormwater Best Management Practice for Winter Road Maintenance: A Paired Study of Six Suburban Communities • Danelle Haake *National Great Rivers Research & Education Center*	**Evaluating the Capacity of Natural Infrastructure for Flood Abatement at the Watershed Scale** • Barbara Doll, PhD *North Carolina State University, Department of Biological & Agricultural Engineering*	**Utilizing Watershed Management Techniques to Improve Water Quality and Address TMDLs** • Greg Phillips *GBMc & Associates*	**Geospatial Quantification of Stormwater Trash Program Effectiveness** • Gary Conley *2NDNATURE*
Model for Protection: Lake George Road Salt Reduction Initiative • Chris Navitsky, PE *Lake George Waterkeeper*	**The Waller Creek Tunnel Inlet Bypass at Waterloo Park** • Ramesh Swaminathan, PE *City of Austin, TX, Watershed Protection Department* • John Beachy *City of Austin, TX, Watershed Protection Department* • Lisa Storer *City of Austin, TX, Parks & Recreation Department*	*Open slot;* *go join another Zoom Room!*	**Valuing the Different Ecosystem Services Provided by Detention Ponds** • Joan Ureta *Clemson University* • Marzieh Motallebi *Clemson University*
2:00 PM – 2:15 PM	Transition 6: Free Time		

Wednesday, April 15th			
2:15 PM – 3:15 PM	Concurrent Sessions 6		
Zoom Room 1 (Wed)	Zoom Room 2 (Wed)	Zoom Room 3 (Wed)	Zoom Room 4 (Wed)
The Green Economy (II)	**BMP Design & Maintenance**	**Stormwater Planning, Implementation, & Permit Compliance**	**Monitoring**
Moderator & CWP Staff: Lisa Fraley-McNeal *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Carol Wong, PE *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Ari Daniels, PE *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Bryan Seipp *Center for Watershed Protection, Inc.*
Stormwater for Sale: Washington DC's Stormwater Retention Credit Program • Greg Hoffmann, PE *Center for Watershed Protection, Inc.*	**Underground Stormwater Devices: Cleaning Up the Confusion** • Anna Griggs *Apex Companies, LLC*	**Green Infrastructure: Implementing a Unique CSO Consent Decree Requirement** • Joseph Danyluk, AICP *Jacobs Engineering Group* • Kimberly Colich *Northeast Ohio Regional Sewer District*	**Turning Data into Doing with Digital Clean Water Accounting** • Gary Conley *2NDNATURE*
Can Stormwater Structures Improve Housing Prices? A Case Study in Coastal South Carolina • Joan Ureta *Clemson University* • Marzieh Motallebi *Clemson University*	**Best Practices for the Maintenance of Permeable Interlocking Concrete Pavements (PICP)** • David Smith *Interlocking Concrete Pavement Institute*	**Post-Construction Water Quality Requirements for Permit Compliance** • Howard Redfearn, CFM, QEP *City of Mansfield, TX*	**Status and Applications of South Carolina's First Statewide Citizen Science Monitoring Program (SC AAS)** • Zach Nemec *Clemson University, Center for Watershed Excellence*
3:30 PM – 5:00 PM *Zoom Webinar (Wed)*	**Virtual Happy Hour with the Center for Watershed Protection** Join us for a webcams-on Virtual Happy Hour! We'll be drinking, sharing stories, and there may be a few debuts from CWP pets and kids!		

Thursday, April 16th Join Information

As an attendee, you may enter each room online and/or by calling in. If you decide to call in, you must also enter the room by clicking the Join Link in order to view the presentations (and not just hear them). When you call in, you will be prompted to enter the Meeting ID (which is listed underneath the Join Link for each room), followed by the # sign. You will then have the option to enter a 2-digit participant ID; this is optional, and you can skip entry by pressing the # sign again.

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Room Name	Join Link	Call-In Information
Zoom Webinar (Thurs)	https://zoom.us/j/873528542 Webinar ID: 873 528 542	One tap mobile +13126266799, 444794468# US (Chicago) +19292056099, 444794468# US (New York) Dial by your location +1 312 626 6799 US (Chicago) +1 929 205 6099 US (New York) +1 253 215 8782 US (Seattle) +1 301 715 8592 US (Washington DC) +1 346 248 7799 US (Houston) +1 669 900 6833 US (San Jose) 877 853 5257 US Toll-free 888 475 4499 US Toll-free
Zoom Room 1 (Thurs)	https://zoom.us/j/757677211 Meeting ID: 757 677 211	
Zoom Room 2 (Thurs)	https://zoom.us/j/181544097 Meeting ID: 181 544 097	
Zoom Room 3 (Thurs)	https://zoom.us/j/873728050 Meeting ID: 873 728 050	
Zoom Room 4 (Thurs)	https://zoom.us/j/437174452 Meeting ID: 437 174 452	

Thursday, April 16th			
9:30 AM – 10:00 AM *Zoom Webinar (Thurs)*	Morning Check-In (II) Hye Yeong Kwon, Executive Director, Center for Watershed Protection, Inc.		
10:00 AM – 11:00 AM	Concurrent Sessions 7		
Zoom Room 1 (Thurs)	Zoom Room 2 (Thurs)	Zoom Room 3 (Thurs)	Zoom Room 4 (Thurs)
Watershed Planning & Implementation (III)	**Stormwater BMPs & GI**	**Stormwater Outreach (II)**	**Stormwater Program & Design Resiliency**
Moderator & CWP Staff: Mike Hickman *Center for Watershed Protection, Inc.*	Moderator: Eric Loucks, PE *City of Austin, TX, Watershed Protection Department* CWP Staff: Carol Wong, PE *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Jordan Fox *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Ari Daniels, PE *Center for Watershed Protection, Inc.*
Proactive Protection: The Upper Langham Creek Frontier Program • Jonathan St. Romain, PE *Harris County, TX, Flood Control District* • Cory Stull, PE, CFM, GISP *Freese & Nichols, Inc.* • Ashley Poe, PE, CFM *Freese & Nichols, Inc.*	**Effective Stormwater BMPs and Environmental Compliance Management for New Highway Construction on the Edwards Aquifer Recharge Zone** • Charlotte Gilpin, PE, CFM *K Friese + Associates* • Edward Rashin *Hicks & Company*	**Measuring Stormwater Outreach** • Eric Eckl *Water Words that Work, LLC*	**Climate-Adaptive Stormwater Management: A Living Systems Approach** • April Schneider, PE, LEED AP ND *Stantec Consulting Services, LLC* • Amy Seek, ASLA *Stantec Consulting Services, LLC*
Nonpoint Source Pollution Success Stories • Cynthia Curtis *U.S. EPA Nonpoint Source Program* • Ellie Flaherty *U.S. EPA, Nonpoint Source Program*	**Biochar/Iron Sand Filters to Remove Bacteria & Nutrients in an Urban Watershed** • Lu Zhang, PhD *Wenck Associates, Inc.*	**Stormwater Roadshow** • Spencer Peck, JD, MA *City of Atlanta, GA, Department of Watershed Management*	**Advancing Resiliency in Drainage Infrastructure** • Susan Alvarez, PE, CFM *City of Dallas, TX, Office of Environmental Quality & Sustainability*
11:00 AM – 11:15 AM *Zoom Webinar (Thurs)*	**Transition 7: Ad Break** Freese & Nichols, Inc. Black & Veatch Corporation		

Thursday, April 16th	
11:15 AM – 12:00 PM *Zoom Webinar (Thurs)*	**Sponsor Trivia** Moderators: • Karen Titus *Center for Watershed Protection, Inc.* • Marlyn Argueta *Center for Watershed Protection, Inc.*
	There will be 5 winners, each of whom will be sent a $25 gift card (either Amazon or Visa, your choice!)
12:00 PM – 1:00 PM *Zoom Webinar (Thurs)*	**Lunch Break (III): Tips for Teleworking** Karen Titus, *Center for Watershed Protection, Inc.* Carol Wong, PE, *Center for Watershed Protection Inc.* We'll be sharing some of our favorite tips for working from home during this lunch break! If you have any you'd like included, send them along to Jordan Fox (jf@cwp.org).
1:00 PM – 1:35 PM *Zoom Webinar (Thurs)*	**Poster Session Speed-Round** Moderator: Ari Daniels, PE & Mike Hickman *Center for Watershed Protection, Inc.*
	Spatial and Temporal Variability of Nitrous Oxide Fluxes from the Forested Ecosystem • Jack Goldman *University of Vermont*
	Evaluating the Hydrologic Impact of an On-Campus Green Roof • Eleanor Henson *University of Arkansas, Fayetteville*
	Watershed Management and the Whitefish Climate Action Plan • Karin Hilding, PE *City of Whitefish, MT*
	Development of a Hurricane Recovery Function and Resilience Model for Single-Family Residential Homes • Uriel Clark, EIT *Rowan University*
	Best Practices for Winter Maintenance Operations & State of Practice in Maryland Municipalities • Jordan Fox *Center for Watershed Protection, Inc.*

Thursday, April 16th			
1:35 PM – 2:00 PM *Zoom Webinar (Thurs)*	**Meditation & Yoga** • Heather Jefferson *Heart Warming Yoga and Haven on the Lake* Put down your laptop, stand up from your chair, and find a space on the floor to breathe, stretch, and let go. Our yoga class will include 2 minutes of breathwork, 20 minutes of poses, and 3 minutes of constructive rest (savasana). The class will leave you feeling calm, grounded, and peaceful.		
2:00 PM – 2:15 PM *Zoom Webinar (Thurs)*	**Transition 8: Ad Break** Thank you to our Bronze & Supporting Sponsors!		
2:15 PM – 3:15 PM	Concurrent Sessions 8		
Zoom Room 1 (Thurs)	Zoom Room 2 (Thurs)	Zoom Room 3 (Thurs)	Zoom Room 4 (Thurs)
Stream Restoration (II)	**Stormwater Planning & Implementation (II)**	**BMP Maintenance & Retrofits**	**Community Involvement**
Moderator & CWP Staff: Lisa Fraley-McNeal *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Mike Hickman *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Carol Wong, PE *Center for Watershed Protection, Inc.*	Moderator & CWP Staff: Jordan Fox *Center for Watershed Protection, Inc.*
Old Mill Dam Replaced by Regenerative Stream Channel Improves Biological Resiliency • Roman Jesien, PhD *Maryland Coastal Bays Program*	**Stormwater Program Planning Part I: Recognizing the Need for a New Project Prioritization Framework** • Paul Kovalcik *Northeast Ohio Regional Sewer District*	**Rooting Out Pollution along the Green Line: Five Years of Green Infrastructure Operation & Maintenance** • Nate Zwonitzer, CPSWQ *Capitol Region Watershed District*	**Removing Barriers to Community-Led Green Stormwater Infrastructure** • Jessie Hillman *Blue Water Baltimore, Inc.*
Reducing Sediment and Nutrient Loadings through Streambank Restoration • Sandi Formica *Watershed Conservation Resource Center*	**Stormwater Program Planning Part II: A Benefit-Based Framework for Prioritizing Projects** • Joseph Danyluk, AICP *Jacobs Engineering Group*	**Roadside Ditch Management, Maintenance, and Retrofits for Water Quality Improvement** • Carol Wong, PE *Center for Watershed Protection, Inc.*	**It's the City's Responsibility! Encouraging Public Involvement to Maintain Stormwater Assets through an Adopt-A-Drain Program** • Tanisha Lawson *City of Atlanta, GA, Department of Watershed Management*
3:15 PM – 3:30 PM	Transition 9: Free Time		

Thursday, April 16th		
3:30 PM – 5:00 PM	Concurrent Sessions 9	
	Zoom Room 1 (Thurs)	Zoom Room 2 (Thurs)
	New Solutions for Old (and New) Problems: How to Develop a System for Reducing Pollution from Sealcoat Products	**Pivoting to the Future: Planning for Flood Resilience in Virginia Beach**
	Moderator: Lillian Power *District of Columbia, Department of Energy & the Environment* CWP Staff: Carol Wong, PE *Center for Watershed Protection, Inc.*	Moderator: Tonia Utterback *City of Virginia Beach, VA, Public Works Engineering* CWP Staff: Jordan Fox *Center for Watershed Protection, Inc.*
	• Lillian Power *District of Columbia, Department of Energy & the Environment* • John Maleri *District of Columbia, Department of Energy & the Environment* • Greg Allen, PhD *U.S. EPA, Chesapeake Bay Program* • Tom Ennis *City of Austin, TX, Watershed Protection Department*	• Tonia Utterback *City of Virginia Beach, VA, Public Works Engineering* • Charles Bodnar *City of Virginia Beach, VA, Public Works Engineering* • Sue Kriebel *City of Virginia Beach, VA, Public Works Engineering*
5:05 PM – 5:30 PM *Zoom Webinar (Thurs)*	Closing Remarks Hye Yeong Kwon, Executive Director, Center for Watershed Protection, Inc.	

Appendix F

Post-Construction Stormwater Management in New and Redevelopment

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Appendix F.3

Stormwater Drainage Facilities Inspection Standard Operating Procedure

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CITY OF BEND
STANDARD OPERATING PROCEDURE

Standard Operation of: **City of Bend Stormwater Drainage Facility Maintenance Inspections**	**Creation Date:** 1/3/2020 Revised/Approved: 5/19/2020
Approved By: Wendy Edde, CSM, Program Manager **Reviewed By: Wendy Edde** **Author: Sean Mulderig**	**Revision No or Date:** 6/10/2020

Subject: City of Bend (COB) standard post-construction stormwater drainage facility maintenance inspection process. This standard operating procedure will address pre-inspection research, routine public drainage facility inspections, private drainage facility inspections, and report generation. Implementation of this program is to ensure compliance with City of Bend and DEQ permitting.

Scope and Location:
Private and public stormwater drainage facilities within the City of Bend.

- **I. Location and Coverage**
  - a. Throughout the City limits
  - b. 24-7 as needed (typically working hours)
- **II. Enforcement Approach—Post-Construction SW Facility maintenance**
  - a. **Routine Maintenance compliance**
    - i. Maintenance agreement between developer and City of Bend
    - ii. City of Bend Standards and Specifications
    - iii. Oregon DEQ MS4 and WPCF permits
  - b. **Guidance**
    - i. Central Oregon Stormwater Manual

List of Tools/Equipment/Material:
Involved Equipment:
1. E-Plans (Permitted Building Plans)
2. Computers with Code Enforcement tracking (HTE, Excel Spreadsheets, or LEAP Software).
3. Monitoring Equipment (Turbidity Meter and Sludge Judge, both found in vehicle or blue bay)
4. Communication Tools (Printed Outreach Materials)
5. Safety PPE for construction sites (Safety Vest, Steel-Toe Boots, safety glasses, and Hard Hat)

Hazards Identification: 1. Standard desk work (minor risk: paper cuts, carpal tunnel, eye strain, etc.) 2. Standard active construction site hazards 3. Standard right-of-way work site hazards 4. Standard private property access, site hazards
Purpose: To have a standard, equitable approach for verifying maintenance on and operability of private and public permanent stormwater drainage facilities within the City of Bend.

1) Inspection Selection

i. Inspect new landscaped stormwater facilities before end of warranty to determine acceptability and to form a baseline for future inspections.

ii. Inspect City ROW landscape facilities at least once per biennium, and preferably at least once per year.

iii. Inspect 10% of credit program facilities per year (minimum 2 per year)
(a) random selection so all are inspected at least once within 10 years.

iv. Inspect 20% of maintenance agreement facilities per year (minimum 2 per year)
(a) random selection so all are inspected at least once within five years.

v. Additional inspections as per programs associated with building system knowledge as agreed/time permitting.

2) Pre-inspection

i. Site plan research

1. Search E-plans and sharepoint to find any applicable drainage plans, maintenance agreements, or drainage reports. Download new information to the stormwater sharepoint sites (see below). Maintenance agreements should have a site plan showing stormwater facility locations attached.
(a) ROW swale planting plans are located here:
https://bendoregon.sharepoint.com/sites/Util_SW/Swale%20Planting%20Plans/Forms/AllItems.aspx
(b) Private Maintenance Agreements are located here:
https://bendoregon.sharepoint.com/sites/Util_SW/Maintenance%20Agreements/Forms/AllItems.aspx
(c) Maintenance Annual Report Submittals are located here:
https://bendoregon.sharepoint.com/sites/Util_SW/Private%20Maintenance%20Inspections/Forms/AllItems.aspx
2. Cross reference the plan set with our private and/or public stormwater infrastructure asset list
3. Find specific maintenance requirements for all facilities in inspection area using COB maintenance factsheets or the Central Oregon Stormwater Manual (COSM)

ii. Educational materials

1. During all inspections make sure to bring the following materials:

A. COB Maintenance Fact Sheets
    i. Porous Pavement
    ii. Sedimentation Manhole
    iii. Drywell
    iv. Catch Basin
    v. Rain Garden
B. Revised COSM Inspection Sheets for City of Bend (see sharepoint for inspection sheets)

2. Hand-out materials should be given to property owners/managers or anyone that has interest in the program.

3) Inspections

i. Public Stormwater Drainage Facility Maintenance Inspections
1. Open the Utility Viewer on BOOM
2. Access the Facility ID and location of specific public drainage facility
3. Cross reference any plan set that we may have on the Q-drive (Q:\IMAGES)
4. Use applicable inspection sheets to perform a maintenance inspection and record all inspection results in the Inspection Tracking Log Book (see section c), in the facility inspection tab.
5. Throughout the inspection take pictures of proper and improper design, and/or maintenance, while also noting any practices that are and are not in compliance. Use an app on your phone or a camera that includes a date/time stamp on the pictures.
6. Assign a maintenance rating for the facility (see maintenance rating index on sharepoint)
7. If maintenance rating is 4 or 5, notify the stormwater operations and maintenance crew
8. Once maintenance is performed, request pictures from crew or reinspect to verify that corrective actions have been made.

ii. Private Stormwater Drainage Facility Maintenance Inspections
1. Voluntary Inspections
    a. Citizens in the City of Bend are welcome to call the Stormwater Compliance Group to schedule a free Stormwater Infrastructure Maintenance Inspection.
    b. Determine location of site and pull any plans from the Q-drive or E-plans.
    c. Once specific drainage plans are found, cross reference the asset list with Facility IDs. These Private Facility IDs can be pulled up by the Data Services group.
    d. Schedule a time a place to meet the property owner or manager.
    e. The Stormwater Compliance Specialist will walk the property with the manager/owner.
    f. Measure sediment levels in Catch Basins, Sediment Manholes, Drywells, and any other sump facilities.
    g. Use applicable inspection sheets to perform maintenance inspections and record all inspection results in the Inspection Tracking Log Book (see section c), in the facility inspection tab. Note instances of low impact development

site designs and include those in your inspection report as beneficial.

h. Throughout the inspection take pictures of proper and improper design, and/or maintenance, while also noting any practices that are and are not in compliance. Use an app on your phone or a camera that includes a date/time stamp on the pictures.
i. Assign a maintenance rating for each of the facilities (see maintenance rating index on sharepoint)
j. Incorporate any newly known low impact development site designs and stormwater facilities into the City's private GIS database working with Data Services personnel.
k. Generate an inspection report and send it to owner/manager. Here is an example inspection report: https://bendoregon.sharepoint.com/sites/Util_SW/WorkingInternal/Forms/AllItems.aspx?id=%2Fsites%2FUtil%5FSW%2FWorkingInternal%2FStormwater%20Facility%20Inspection%20Report%5FO%2EB%2E%20Riley%20Rd%2E%20Elementray%20School%2Epdf&parent=%2Fsites%2FUtil%5FSW%2FWorkingInternal

iii. Credit Program Inspection

a. A select few properties within the City are receiving COB Utility Bill credits for exceeding Stormwater management requirements. These locations are a high priority in terms of routine inspections.
b. When property is scheduled to be inspected, determine who is responsible for stormwater maintenance. Send them a letter requesting a time and date to perform the inspection. An example inspection request letter can be found here: https://bendoregon.sharepoint.com/:w:/r/sites/Util_SW/_layouts/15/Doc.aspx?sourcedoc=%7B32AF032B-54DC-4CFD-A629-2B88811C31BC%7D&file=Private%20Stormwater%20Facilities%20Inspection%20Letter_Walmart.docx&action=default&mobileredirect=true
c. Pull any plans from the Drainage Report, Q-drive, or E-plans.
d. Once specific drainage plans are found, cross reference the asset list with Facility IDs. These Private Facility IDs can be pulled up by the Data Services group.
e. Schedule a time a place to meet the property owner or manager.
f. The Stormwater Compliance Specialist will walk the property with the manager/owner.
g. Measure sediment levels in Catch Basins, Sediment Manholes, Drywells, and any other sump facilities.
h. Use applicable inspection sheets to perform maintenance inspections and record all inspection results in the

Inspection Tracking Log Book (see section c), in the facility inspection tab.

i. Throughout the inspection take pictures of proper and improper design, and/or maintenance, while also noting any practices that are and are not in compliance. Use an app on your phone or a camera that includes a date/time stamp on the pictures. Note instances of low impact development site designs and include those in your inspection report as beneficial.
j. Assign a maintenance rating for each of the facilities (see maintenance rating index on sharepoint)
k. Generate an inspection report and send it to owner/manager.
l. Incorporate any newly known low impact development site designs and stormwater facilities into the City's private GIS database working with Data Services personnel.
m. If the facility is no longer functional or an inspection within a reasonable time is refused, forward to stormwater audit staff (senior program analyst) for modifications of the credit amount.

iv. Maintenance Agreement Inspection

a. Properties that have a maintenance agreement with the COB need to have their facilities inspected on a routine basis.
b. When property is scheduled to be inspected, determine who is responsible for stormwater maintenance. Send them a letter requesting a time and date to perform the inspection with reference to the maintenance agreement.
c. Pull any plans from the Drainage Report, Q-drive, or E-plans.
d. Once specific drainage plans are found, cross reference the asset list with Facility IDs. These Private Facility IDs can be pulled up by the Data Services group.
e. Schedule a time and a place to meet the property owner or manager.
f. The Stormwater Compliance Specialist will walk the property with the manager/owner.
g. Measure sediment levels in Catch Basins, Sediment Manholes, Drywells, and any other sump facilities.
h. Use applicable inspection sheets to perform maintenance inspections and record all inspection results in the Inspection Tracking Log Book (see section c), in the facility inspection tab. Note instances of low impact development site designs and include those in your inspection report as beneficial.
i. Throughout the inspection take pictures of proper and improper design, and/or maintenance, while also noting any practices that are and are not in compliance. Use an app on your phone or a camera that includes a date/time stamp on the pictures.

j. Assign a maintenance rating for each of the facilities (see maintenance rating index on sharepoint)
k. Generate an inspection report and send it to owner/manager.
l. Incorporate any newly known low impact development site designs and stormwater facilities into the City's private GIS database working with Data Services personnel.

v. Maintenance Inspection of Properties Without a Maintenance Agreement
   a. Properties that do not have a maintenance agreement with the COB will be offered to have their facilities inspected on a routine basis. (We will start with voluntary inspections; often these will be done as part of other projects, or in areas where there may be drainage issues).
   b. When property is scheduled to be inspected, determine who is responsible for stormwater maintenance. Send them a letter offering an inspection and requesting a time and date to perform the inspection with reference to an incentives that may be provided or benefits as a result.
   c. Pull any plans from the Drainage Report, Q-drive, or E-plans.
   d. Once specific drainage plans are found, cross reference the asset list with Facility IDs. These Private Facility IDs can be pulled up by the Data Services group.
   e. Schedule a time and a place to meet the property owner or manager.
   f. The Stormwater Compliance Specialist will walk the property with the manager/owner.
   g. Measure sediment levels in Catch Basins, Sediment Manholes, Drywells, and any other sump facilities.
   h. Use applicable inspection sheets to perform maintenance inspections and record all inspection results in the Inspection Tracking Log Book (see section c), in the facility inspection tab.
   i. Throughout the inspection take pictures of proper and improper design, and/or maintenance, while also noting any practices that are and are not in compliance. Use an app on your phone or a camera that includes a date/time stamp on the pictures. Note instances of low impact development site designs and include those in your inspection report as beneficial.
   j. Assign a maintenance rating for each of the facilities (see maintenance rating index on sharepoint)
   k. Generate an inspection report and send it to owner/manager.
   l. Incorporate any newly known low impact development site designs and stormwater facilities into the City's private GIS database working with Data Services personnel.

4) Inspection Tracking and Report Generation

a. During any inspection, record information outlined in the "Stormwater Facility Inspection Sheets". This inspection sheet was developed by the City of Bend with consideration from the Central Oregon Stormwater Manual. Here is the link to the inspection sheets:
   https://bendoregon.sharepoint.com/:w:/r/sites/Util_SW/_layouts/15/Doc.aspx?sourcedoc=%7B743BAADE-F995-4DCB-ADD7-206FEBB2EBED%7D&file=Water%20Quality%20Facility%20Field%20Inspection%20Sheet.docx&action=default&mobileredirect=true&DefaultItemOpen=1
b. All information in the "Stormwater Facility Inspection Sheets" needs to be recorded in the "Inspection Tracking Log Book" in the "facility inspection tab". Here is the link to the spreadsheet: https://bendoregon.sharepoint.com/:x:/r/sites/Util_SW/_layouts/15/Doc.aspx?sourcedoc=%7BE45AB641-22AA-4BB2-A55B-75F5215A24F0%7D&file=Inspection%20Tracking%20Log%20Book.xlsx&action=default&mobileredirect=true&DefaultItemOpen=1
c. Once all inspected facilities have been recorded, generate a report and send it to property owner/manager. Here is an example inspection report:
   https://bendoregon.sharepoint.com/:w:/r/sites/Util_SW/_layouts/15/Doc.aspx?sourcedoc=%7BD56F3040-D440-4871-8279-BAFDCA4171E3%7D&file=Stormwater%20Facility%20Inspection%20Report_Tuscany%20Pines%20Phase%202%20SubDiv.docx&action=default&mobileredirect=true&DefaultItemOpen=1

d. Separately, report number of inspections by type internally for monthly report by 10th of the month following. Include summaries of inspection activities in the post-construction control section of annual report for the period July 1 – June 30th each year; the annual report is due to DEQ by no later than November 1 of each year.

Appendix F.1

Stormwater Facility Inspection Forms

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Inspection and Maintenance Checklist

Catch Basin Inserts

Facility ID: _____ Date of Inspection: _____ Type of Inspection: □Routine □Re-Inspection[1]

Inspector(s): _____ Maintenance Rating: _____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the facility's performance (holes/tears in fabric, broken metal frame, missing components, etc.).				
3. Is the facility free of significant trash and debris accumulation? Yes, if the facility is less than 50% full of trash or debris (green waste, weeds, etc.).				
4. Is the facility free of excessive sediment? Yes, if the facility is less than 50% full of sediment. Note that if sediment is clogging the fabric and is preventing adequate drainage, it is appropriate to check No and include a note.				
5. Is the facility free of other visual pollutants? Yes, if there are no signs of non-sediment pollutants like oil, grease, fertilizers, pesticides, etc.				
6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				

Inspection and Maintenance Checklist

7. Is the facility free of standing water? Yes, if the BMP is free of standing water.				
8. Is the irrigation system working correctly?			X	
9. Is the facility free of erosion/scouring?			X	
10. Is the facility well vegetated?			X	
11. Is the facility free of excessive vegetation?			X	
12. Is the “rip-rap” associated with the facility in adequate condition?			X	
13. Are the facility inlets/outlets free of obstructions? Yes, if the inlets and outlets are free of objects that could prevent flow in or out of the facility.				
14. Is the filter media in an acceptable condition? Yes, if oil absorbent material is present and still in functioning condition.				

[1] Re-inspection of a previously-noted maintenance issue

[2] Refer to Stormwater Facility Maintenance Rating Criteria Attachment

Inspection and Maintenance Checklist

Conveyance System

Facility ID:_____ Date of Inspection:_____ Type of Inspection: □Routine □Re-Inspection[1]

Inspector(s): _____ Maintenance Rating:_____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the conveyance of water.				
3. Is the facility free of significant trash and debris accumulation? Yes, if the facility contains no trash or debris.				
4. Is the facility free of excessive sediment? Yes, if sediment on the bottom of the conveyance system is not altering the flow of water or higher than 20% of the design depth.				
5. Is the facility free of other visual pollutants? Yes, if there are no signs of non-sediment pollutants like oil, grease, fertilizers, pesticides, etc.				
6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				

Inspection and Maintenance Checklist

7. Is the facility free of standing water? Yes, if the BMP is free of standing water.				
8. Is the irrigation system working correctly?			X	
9. Is the facility free of erosion/scouring?			X	
10. Is the facility well vegetated?			X	
11. Is the facility free of excessive vegetation? Yes, if no vegetation is observed growing through the conveyance system.				
12. Is the “rip-rap” associated with the facility in adequate condition?			X	
13. Are the facility inlets/outlets free of obstructions? Yes, if the inlets and outlets are free of objects that could prevent flow in or out of the facility.				
14. Is the filter media in an acceptable condition?			X	

[1] Re-inspection of a previously-noted maintenance issue

[2] Refer to Stormwater Facility Maintenance Rating Criteria Attachment

Inspection and Maintenance Checklist

Drywell

Facility ID:_____ Date of Inspection:_____ Type of Inspection: □Routine □Re-Inspection[1]

Inspector(s): _____ Maintenance Rating:_____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the facilities performance (e.g., holes/tears in filter fabric, warped or broken inlet).				
3. Is the facility free of significant trash and debris accumulation? Yes, if there is less than 2 feet of accumulated debris, sediment, and trash.				
4. Is the facility free of excessive sediment? Yes, if there is less than 2 feet of accumulated debris, sediment, and trash.				
5. Is the facility free of other visual pollutants? Yes, if there are no signs of non-sediment pollutants like oil, grease, fertilizers, pesticides, etc.				
6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				
7. Is the facility free of standing water?				

Inspection and Maintenance Checklist

Yes, if the facility is free of standing water at least 72 hours after a rain event.				
8. Is the irrigation system working correctly?			X	
9. Is the facility free of erosion/scouring?			X	
10. Is the facility well vegetated?			X	
11. Is the facility free of excessive vegetation? Yes, if no vegetation is observed growing in the facility.				
12. Is the “rip-rap” associated with the facility in adequate condition?			X	
13. Are the facility inlets/outlets free of obstructions? Yes, if the inlets are free of objects that could prevent flow in to the facility.				
14. Is the filter media in an acceptable condition?			X	

[1] Re-inspection of a previously-noted maintenance issue

[2] Refer to Stormwater Facility Maintenance Rating Criteria Attachment

Inspection and Maintenance Checklist

Vegetated Filter Strip

Facility ID:_____ Date of Inspection:_____ Type of Inspection: □Routine □Re-Inspection[1]

Inspector(s): _____ Maintenance Rating:_____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the facility's performance (e.g., rodent holes, trampling).				
3. Is the facility free of significant trash and debris accumulation? Yes, if the facility does not contain significant amounts of trash or debris.				
4. Is the facility free of excessive sediment? Yes, if sediment depth does not exceed 2 inches or more than 10% of the vegetated area, or if sediment in any area is not above the height of the vegetation.				
5. Is the facility free of other visual pollutants? Yes, if there are no signs of non-sediment pollutants like oil, grease, fertilizers, pesticides, etc.				
6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				

Inspection and Maintenance Checklist

7. Is the facility free of standing water? Yes, if the BMP is free of standing water.				
8. Is the irrigation system working correctly? Yes, if the sprinklers are in good condition (i.e. not broken), and there are no signs of over-watering, and the vegetation is healthy.				
9. Is the facility free of erosion/scouring? Yes, if the facility is free of eroded or scoured areas due to high flows, wind, or flow channelization.				
10. Is the facility well vegetated? Yes, if vegetated cover does not contain sparse, bare, or eroded patches in significant areas of the facility. Yes, if vegetation is sparse, but is installed per plans.				
11. Is the facility free of excessive vegetation? Yes, if planted vegetation is not excessively tall, and there are no nuisance weeds present that appear to be overgrowing planted vegetation.				
12. Is the “rip-rap” associated with the facility in adequate condition? Yes, if the rip-rap is present, functional, and not full of sediment.				
13. Are the facility inlets/outlets free of obstructions? Yes, if flow is spread evenly over the entire filter strip width.				
14. Is the filter media in an acceptable condition?			X	

[1] Re-inspection of a previously-noted maintenance issue

[2] Refer to Stormwater Facility Maintenance Rating Criteria Attachment

Inspection and Maintenance Checklist

Vegetated Swale (Non-Infiltration)

Facility ID:_____ Date of Inspection:_____ Type of Inspection: □Routine □Re-Inspection[1]

Inspector(s): _____ Maintenance Rating:_____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the facility's performance (e.g., rodent holes, trampling).				
3. Is the facility free of significant trash and debris accumulation? Yes, if the facility does not contain significant amounts of trash or debris.				
4. Is the facility free of excessive sediment? Yes, if sediment depth does not exceed 2 inches or more than 10% of the vegetated area, or if sediment in any area is not above the height of the vegetation.				
5. Is the facility free of other visual pollutants? Yes, if there are no signs of non-sediment pollutants like oil, grease, fertilizers, pesticides, etc.				
6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				

Inspection and Maintenance Checklist

7. Is the facility free of standing water? Yes, if the BMP is free of standing water.				
8. Is the irrigation system working correctly? Yes, if the sprinklers are in good condition (i.e. not broken), and there are no signs of over-watering, and the vegetation is healthy.				
9. Is the facility free of erosion/scouring? Yes, if the facility is free of eroded or scoured areas due to high flows, wind, or flow channelization.				
10. Is the facility well vegetated? Yes, if vegetated cover does not contain sparse, bare, or eroded patches in significant areas of the facility. Yes, if vegetation is sparse, but is installed per plans.				
11. Is the facility free of excessive vegetation? Yes, if planted vegetation is not excessively tall, and there are no nuisance weeds present that appear to be overgrowing planted vegetation.				
12. Is the “rip-rap” associated with the facility in adequate condition? Yes, if the rip-rap is present, functional, and not full of sediment.				
13. Are the facility inlets/outlets free of obstructions? Yes, if the inlets and outlets are free of objects that could prevent flow in or out of the facility, excluding energy dissipation devices located at the inlet/outlet.				
14. Is the filter media in an acceptable condition?			X	

[1] Re-inspection of a previously-noted maintenance issue

[2] Refer to Stormwater Facility Maintenance Rating Criteria Attachment

Inspection and Maintenance Checklist

Green Roof

Facility ID:_____ Date of Inspection:_____ Type of Inspection: □Routine □Re-Inspection[1]

Inspector(s): _____ Maintenance Rating:_____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the facility's performance (e.g., rodent holes, trampling).				
3. Is the facility free of significant trash and debris accumulation? Yes, if the facility does not contain significant amounts of trash or debris.				
4. Is the facility free of excessive sediment? Yes, if there are no signs of excessive sediment added to the facility.				
5. Is the facility free of other visual pollutants? Yes, if there are no signs of non-sediment pollutants like oil, grease, fertilizers, pesticides, etc.				
6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				

Inspection and Maintenance Checklist

7. Is the facility free of standing water? Yes, if the BMP is free of standing water.				
8. Is the irrigation system working correctly? Yes, if the sprinklers are in good condition (i.e. not broken), and there are no signs of over-watering, and the vegetation is healthy.				
9. Is the facility free of erosion/scouring? Yes, if the facility is free of eroded or scoured areas due to high flows, wind, or flow channelization.				
10. Is the facility well vegetated? Yes, if vegetation covers over 90% of facility and does not contain sparse, bare, or eroded patches.				
11. Is the facility free of excessive vegetation? Yes, if planted vegetation is not excessively tall, and nuisance weeds cover no more than 20% of the facility.				
12. Is the “rip-rap” associated with the facility in adequate condition?			X	
13. Are the facility inlets/outlets free of obstructions? Yes, if flow is spread evenly over the entire surface of the green roof.				
14. Is the filter media in an acceptable condition?			X	

[1] Re-inspection of a previously-noted maintenance issue

[2] Refer to Stormwater Facility Maintenance Rating Criteria Attachment

Inspection and Maintenance Checklist

Bio-Infiltration Swale/Bio-Infiltration Basin

Facility ID: _____ Date of Inspection: _____ Type of Inspection: □Routine □Re-Inspection[1]

Inspector(s): _____ Maintenance Rating: _____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the facility's performance (e.g., rodent holes, trampling).				
3. Is the facility free of significant trash and debris accumulation? Yes, if the facility does not contain significant amounts of trash or debris.				
4. Is the facility free of excessive sediment? Yes, if sediment depth does not exceed 2 inches or more than 10% of the vegetated area, or if sediment in any area is not above the height of the vegetation.				
5. Is the facility free of other visual pollutants? Yes, if there are no signs of non-sediment pollutants like oil, grease, fertilizers, pesticides, etc.				

Inspection and Maintenance Checklist

6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				
7. Is the facility free of standing water? Yes, if the facility is free of standing water at least 72 hours after a rain event.				
8. Is the irrigation system working correctly? Yes, if the sprinklers are in good condition (i.e. not broken), and there are no signs of over-watering, and the vegetation is healthy.				
9. Is the facility free of erosion/scouring? Yes, if the facility is free of eroded or scoured areas due to high flows, wind, or flow channelization.				
10. Is the facility well vegetated? Yes, if vegetated cover does not contain sparse, bare, or eroded patches in significant areas of the facility. Yes, if vegetation is sparse, but is installed per plans.				
11. Is the facility free of excessive vegetation? Yes, if planted vegetation is not excessively tall, and there are no nuisance weeds present that appear to be overgrowing planted vegetation.				
12. Is the “rip-rap” associated with the facility in adequate condition? Yes, if the rip-rap is present, functional, and not full of sediment.				
13. Are the facility inlets/outlets free of obstructions? Yes, if the inlets/outlets/bypass are free of objects, sediment build up, or excessive vegetation, which could prevent flow in or out of the facility, excluding energy dissipation devices located at the inlet/outlet. Yes, if f runoff sheet flows evenly into the facility.				

Inspection and Maintenance Checklist

Infiltration Trench

Facility ID: _____ Date of Inspection: _____ Type of Inspection: □Routine □Re-Inspection[1]

Inspector(s): _____ Maintenance Rating: _____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the facility's performance (low gravel, eroding sidewalls, etc.).				
3. Is the facility free of significant trash and debris accumulation? Yes, if the facility does not contain significant amounts of trash or debris (green waste, weeds, rocks, etc.).				
4. Is the facility free of excessive sediment? Yes, if sediment depth does not exceed 2 inches or more than 10% of the surface treatment area.				
5. Is the facility free of other visual pollutants? Yes, if there are no signs of non-sediment pollutants like oil, grease, fertilizers, pesticides, etc.				
6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				

Inspection and Maintenance Checklist

7. Is the facility free of standing water? Yes, if the facility is free of standing water at least 72 hours after a rain event.				
8. Is the irrigation system working correctly?			X	
9. Is the facility free of erosion/scouring? Yes, if the facility is free of eroded or scoured areas due to high flows, wind, or flow channelization.				
10. Is the facility well vegetated?			X	
11. Is the facility free of excessive vegetation? Yes, if vegetation does not cover 10% of the surface or more.				
12. Is the “rip-rap” associated with the facility in adequate condition?				
13. Are the facility inlets/outlets free of obstructions? Yes, if the inlets and outlets are free of objects that could prevent flow in or out of the facility.				
14. Is the filter media in an acceptable condition?			X	

[1] Re-inspection of a previously-noted maintenance issue

[2] Refer to Stormwater Facility Maintenance Rating Criteria Attachment

Inspection and Maintenance Checklist

Media Filter (e.g., Stormfilter)

Facility ID: _____ Date of Inspection: _____ Type of Inspection: □Routine □Re-Inspection[1]

Inspector(s): _____ Maintenance Rating: _____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the facility's performance (broken filters, warped or broken inlet, damaged forebay, etc.).				
3. Is the facility free of significant trash and debris accumulation? Yes, if the trash, debris, and sediment levels are below 6" in the forebay, below 0.25" on top of the cartridges, below 4" at the bottom of the vault, or below the manufacturer's recommended maintenance levels.				
4. Is the facility free of excessive sediment? Yes, if the trash, debris, and sediment levels are below 6" in the forebay, below 0.25" on top of the cartridges, below 4" at the bottom of the vault, or below the manufacturer's recommended maintenance levels.				
5. Is the facility free of other visual pollutants? Yes, if there are no signs of non-sediment pollutants like oil, grease, fertilizers, pesticides, etc.				

Inspection and Maintenance Checklist

6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				
7. Is the facility free of standing water? Yes, if the facility is free of standing water at least 72 hours after a rain event.				
8. Is the irrigation system working correctly?			X	
9. Is the facility free of erosion/scouring?			X	
10. Is the facility well vegetated?			X	
11. Is the facility free of excessive vegetation?			X	
12. Is the “rip-rap” associated with the facility in adequate condition?			X	
13. Are the facility inlets/outlets free of obstructions? Yes, if the inlets and outlets are free of objects that could prevent flow in or out of the facility.				
14. Is the filter media in an acceptable condition? Yes, if the cartridge media is in functioning condition per maintenance specifications.				

[1] Re-inspection of a previously-noted maintenance issue

[2] Refer to Stormwater Facility Maintenance Rating Criteria Attachment

Inspection and Maintenance Checklist

Oil/Water Separator

Facility ID:_____ Date of Inspection:_____ Type of Inspection: □Routine □Re-Inspection[1]

Inspector(s): _____ Maintenance Rating:_____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the facility's performance (broken filters, warped or broken inlet, damaged forebay, etc.).				
3. Is the facility free of significant trash and debris accumulation? Yes, if the trash, debris, and sediment levels are below 6 inches at the bottom of the vault, or below the manufacturer's recommended maintenance levels.				
4. Is the facility free of excessive sediment? Yes, if the trash, debris, and sediment levels are below 6 inches at the bottom of the vault, or below the manufacturer's recommended maintenance levels.				
5. Is the facility free of other visual pollutants? Yes, if there is less than 1 inch of oil or grease accumulation at the surface of the water. Yes, if no evidence of fertilizers, pesticides, vector breeding habitat, etc.				
6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				

Inspection and Maintenance Checklist

7. Is the facility free of standing water?			X	
8. Is the irrigation system working correctly?			X	
9. Is the facility free of erosion/scouring?			X	
10. Is the facility well vegetated?			X	
11. Is the facility free of excessive vegetation?			X	
12. Is the “rip-rap” associated with the facility in adequate condition?			X	
13. Are the facility inlets/outlets free of obstructions? Yes, if the inlets and outlets are free of objects that could prevent flow in or out of the facility.				
14. Is the filter media in an acceptable condition?			X	

[1] Re-inspection of a previously-noted maintenance issue

[2] Refer to Stormwater Facility Maintenance Rating Criteria Attachment

Inspection and Maintenance Checklist

Detention System (Closed/Open)

Facility ID:_____ Date of Inspection:_____ Type of Inspection: □Routine □Re-Inspection[1]

Inspector(s): _____ Maintenance Rating:_____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the facility's performance (e.g., rodent holes, trampling).				
3. Is the facility free of significant trash and debris accumulation? Yes, if the facility does not contain significant amounts of trash or debris.				
4. Is the facility free of excessive sediment? Yes, if sediment does not exceed 15% total capacity in any given area.				
5. Is the facility free of other visual pollutants? Yes, if there are no signs of non-sediment pollutants like oil, grease, fertilizers, pesticides, etc.				
6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				

Inspection and Maintenance Checklist

7. Is the facility free of standing water?			X	
8. Is the irrigation system working correctly? Yes, if the sprinklers are in good condition (i.e. not broken), and there are no signs of over-watering, and the vegetation is healthy.				
9. Is the facility free of erosion/scouring? Yes, if the facility is free of eroded or scoured areas due to high flows, wind, or flow channelization.				
10. Is the facility well vegetated? Yes, if vegetated cover does not contain sparse, bare, or eroded patches in significant areas of the facility. Yes, if vegetation is sparse, but is installed per plans.				
11. Is the facility free of excessive vegetation? Yes, if planted vegetation is not excessively tall, and there are no nuisance weeds present that appear to be overgrowing planted vegetation.				
12. Is the “rip-rap” associated with the facility in adequate condition? Yes, if the rip-rap is present, functional, and not full of sediment.				
13. Are the facility inlets/outlets free of obstructions? Yes, if the inlets/outlets/bypass are free of objects, sediment build up, or excessive vegetation, which could prevent flow in or out of the facility, excluding energy dissipation devices located at the inlet/outlet. Yes, if f runoff sheet flows evenly into the facility.				
14. Is the filter media in an acceptable condition?			X	

Inspection and Maintenance Checklist

Porous Pavement/Pavers

Facility ID: _____ Date of Inspection: _____ Type of Inspection: □Routine □Re-Inspection[1]

Inspector(s): _____ Maintenance Rating: _____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the facility's performance (degraded pavement, broken pavers, cracks, etc.).				
3. Is the facility free of significant trash and debris accumulation? Yes, if the facility does not contain significant amounts of trash or debris.				
4. Is the facility free of excessive sediment? Yes, if sediment is not preventing/altering the infiltration of stormwater.				
5. Is the facility free of other visual pollutants? Yes, if there are no signs of non-sediment pollutants like oil, grease, fertilizers, pesticides, etc.				
6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				

Inspection and Maintenance Checklist

7. Is the facility free of standing water? Yes, if the facility is free of standing water at least 72 hours after a rain event.				
8. Is the irrigation system working correctly?			X	
9. Is the facility free of erosion/scouring?			X	
10. Is the facility well vegetated?			X	
11. Is the facility free of excessive vegetation? Yes, if vegetation does not cover 10% of the surface or more.				
12. Is the “rip-rap” associated with the facility in adequate condition?			X	
13. Are the facility inlets/outlets free of obstructions?			X	
14. Is the filter media in an acceptable condition?			X	

[1] Re-inspection of a previously-noted maintenance issue

[2] Refer to Stormwater Facility Maintenance Rating Criteria Attachment

Inspection and Maintenance Checklist

Sedimentation Manhole

Facility ID: _____ Date of Inspection: _____ Type of Inspection: □ Routine □ Re-Inspection[1]

Inspector(s): _____ Maintenance Rating: _____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the facility's performance (broken tee/snout, warped or broken inlet, etc.).				
3. Is the facility free of significant trash and debris accumulation? Yes, if the trash, debris, and sediment levels are below 50% of sump depth or one foot below the tee/snout/outlet.				
4. Is the facility free of excessive sediment? Yes, if the trash, debris, and sediment levels are below 50% of sump depth or one foot below the tee/snout/outlet.				
5. Is the facility free of other visual pollutants? Yes, if there are no signs of non-sediment pollutants like oil, grease, fertilizers, pesticides, etc.				
6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				

Inspection and Maintenance Checklist

7. Is the facility free of standing water?			X	
8. Is the irrigation system working correctly?			X	
9. Is the facility free of erosion/scouring?			X	
10. Is the facility well vegetated?			X	
11. Is the facility free of excessive vegetation?			X	
12. Is the “rip-rap” associated with the facility in adequate condition?			X	
13. Are the facility inlets/outlets free of obstructions? Yes, if the inlets and outlets are free of objects that could prevent flow in or out of the facility.				
14. Is the filter media in an acceptable condition?			X	

[1] Re-inspection of a previously-noted maintenance issue

[2] Refer to Stormwater Facility Maintenance Rating Criteria Attachment

Inspection and Maintenance Checklist

Wet Pond

Facility ID:_____ Date of Inspection:_____ Type of Inspection: □Routine □Re-Inspection[1]

Inspector(s): _____ Maintenance Rating:_____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the facility's performance.				
3. Is the facility free of significant trash and debris accumulation? Yes, if the facility does not contain significant amounts of trash or debris.				
4. Is the facility free of excessive sediment? Yes, if sediment build up is not affecting the flow of water into the pond or its storage capacity.				
5. Is the facility free of other visual pollutants? Yes, if there are no signs of non-sediment pollutants like oil, grease, fertilizers, pesticides, etc.				
6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				

Inspection and Maintenance Checklist

7. Is the facility free of standing water?			X	
8. Is the irrigation system working correctly?			X	
9. Is the facility free of erosion/scouring? Yes, if the facility is free of eroded or scoured areas due to high flows, wind, or flow channelization.				
10. Is the facility well vegetated? Yes, if vegetated cover does not contain sparse, bare, or eroded patches along the shoreline.				
11. Is the facility free of excessive vegetation? Yes, if planted vegetation is not excessively tall, and there are no nuisance weeds present that appear to be overgrowing planted vegetation.				
12. Is the “rip-rap” associated with the facility in adequate condition? Yes, if the rip-rap is present, functional, and not full of sediment.				
13. Are the facility inlets/outlets free of obstructions? Yes, if the inlets/outlets/bypass are free of objects, sediment build up, or excessive vegetation, which could prevent flow in or out of the facility, excluding energy dissipation devices located at the inlet/outlet. Yes, if f runoff sheet flows evenly into the facility.				
14. Is the filter media in an acceptable condition?			X	

[1] Re-inspection of a previously-noted maintenance issue

[2] Refer to Stormwater Facility Maintenance Rating Criteria Attachment

Inspection and Maintenance Checklist

Catch Basin

Facility ID: _____ Date of Inspection: _____ Type of Inspection: □Routine □Re-Inspection[1]

Inspector(s): _____ Maintenance Rating: _____[2]

Question	Yes	No	NA	Comments
1. Is the facility accessible for inspection? Yes, if the inspector is able to do a visual inspection.				
2. Is the facility free of damage? Yes, if there is no structural damage from post installation activities that would hinder the facility's performance (broken tee/snout, warped or broken inlet, etc.).				
3. Is the facility free of significant trash and debris accumulation? Yes, if the trash, debris, and sediment levels are below 50% of sump depth or one foot below the tee/snout/outlet.				
4. Is the facility free of excessive sediment? Yes, if the trash, debris, and sediment levels are below 50% of sump depth or one foot below the tee/snout/outlet.				
5. Is the facility free of other visual pollutants? Yes, if there are no signs of non-sediment pollutants like oil, grease, fertilizers, pesticides, etc.				
6. Is the facility free of unpleasant odors? Yes, if there are no foul smelling odors.				

Inspection and Maintenance Checklist

7. Is the facility free of standing water?			X	
8. Is the irrigation system working correctly?			X	
9. Is the facility free of erosion/scouring?			X	
10. Is the facility well vegetated?			X	
11. Is the facility free of excessive vegetation?			X	
12. Is the “rip-rap” associated with the facility in adequate condition?			X	
13. Are the facility inlets/outlets free of obstructions? Yes, if the inlets and outlets are free of objects that could prevent flow in or out of the facility.				
14. Is the filter media in an acceptable condition?			X	

[1] Re-inspection of a previously-noted maintenance issue

[2] Refer to Stormwater Facility Maintenance Rating Criteria Attachment

Appendix F.2

Inspection Tracking Log Book

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City of Bend (FY2019-20)							
Stormwater Facilities Inspection Tracking Log							
Facility ID	**Date of Inspection**	**Time**	**Type of Inspection**	**Drainage**	**Comments**	**Maintenance Rating Following Inspection**	**Last Rain Event**
DSWL00038	6/17/2020	1519	Routine	Infiltrates (No Overflow)	Small swale with grass. No actions needed.	1	<72hrs ago
DSWL00193	6/17/2020	1519	Routine	Infiltrates (No Overflow)	Small swale with rock channel bottom. No actions needed.	0	<72hrs ago
DSWL00213	5/26/2020	1145	Warranty	Infiltrates (No Overflow)	Small swale with rock channel bottom. No apparent plantings. Some sediment deposition near inlet.	2	>72hrs ago
DSWL00212	5/22/2020	830	Warranty	Infiltrates (No Overflow)	Small swale with buried rock gallery; plantings are in poor shape with excessive invasive weed growth; signs of erosion around base of sprinklers; sediment deposition is evident.	4	>72hrs ago
DSWL00214	5/22/2020	800	Warranty	Infiltrates (No Overflow)	Large pond swale; planted vegetation seems to be in good condition with no significant signs of erosion; sediment deposition is minimal. Pond did not infiltrate within 72 hr timeframe after rain event.	4	>72hrs ago
DWSL00121	11/21/2019	1254	Routine	UIC	Large swale; native vegetation with no signs of erosion; larger vegetation needed; path through swale compacting soils	3	>72hrs ago
DWSL00122	11/21/2019	1253	Routine	UIC	Large swale; native vegetation with no signs of erosion; larger vegetation needed; path through swale compacting soils	3	>72hrs ago
DWSL00123	11/21/2019	1257	Routine	UIC	Large swale; native vegetation with no signs of erosion; larger vegetation needed; path through swale compacting soils	3	>72hrs ago
DWSL00083	11/20/2019	1342	Routine	UIC	sparse native vegetation present; bare dirt with little stormwater storage; slope stabilization/veg needed for DEQ treatment requirement	2	>72hrs ago
DWSL00084	11/20/2019	1327	Routine	UIC	Well vegetated with no signs of erosion	1	>72hrs ago
DWSL00054	11/14/2019	1202	Routine	UIC	Long swale along Mt Washington; minor erosion and lack of vegetation; swale is full of broken glass along eastern portion; pieces small enough to not be an immediate safety threat	4	>72hrs ago
DWSL00055	11/14/2019	1210	Routine	UIC	Very little vegetation present; bare dirt with minor signs of erosion; slope stabilization/veg needed for DEQ treatment requirement	3	>72hrs ago
DWSL00063	11/14/2019	1234	Routine	UIC	No vegetation present; bare rock and gravel with no signs of erosion; veg needed for DEQ treatment requirement; pipe from catch basin could potentially short circuit into drywell	3	>72hrs ago
DWSL00064	11/14/2019	1249	Routine	UIC	Large outfall in canyon; not really a SW treatment LID; well vegetated with minor signs of erosion	2	>72hrs ago
DWSL00066	11/14/2019	1315	Routine	UIC	Large swale; vegetated and no signs of erosion; larger vegetation needed; few pieces of trash	2	>72hrs ago
DWSL00067	11/14/2019	1317	Routine	UIC	Large swale; vegetated and no signs of erosion; larger vegetation needed; few pieces of trash	2	>72hrs ago
DWSL00053	11/12/2019	1415	Routine	UIC	Large retention area in low spot of community; well vegetated and no signs of erosion; two UICs in the retention area	2	>72hrs ago
DCBP001929	10/2/2019	1428	Routine	UIC	<1" accumulated sediment/debris in sump; 2' overlay surrounding catch basin should be installed per plan	4	>72hrs ago
DCBP001935	10/2/2019	1425	Routine	UIC	<3" accumulated sediment/debris in sump	2	>72hrs ago
DCBP001936	10/2/2019	1429	Routine	UIC	<4" accumulated sediment/debris in sump	2	>72hrs ago
DCBP001937	10/2/2019	1430	Routine	UIC	>12" accumulated sediment/debris in sump; sediment needs to be removed	4	>72hrs ago
DCBP001938	10/2/2019	1424	Routine	UIC	<3" accumulated sediment/debris in sump	2	>72hrs ago
DCBP001939	10/2/2019	1423	Routine	UIC	<3" accumulated sediment/debris in sump	2	>72hrs ago
DCBP001940	10/2/2019	1425	Routine	UIC	<3" accumulated sediment/debris in sump	2	>72hrs ago
DDWP001588	10/2/2019	1428	Routine	UIC	little to no floatables present	1	>72hrs ago
DDWP001591	10/2/2019	1425	Routine	UIC	little to no floatables present	1	>72hrs ago
DDWP001592	10/2/2019	1429	Routine	UIC	Cannot locate; buried under landscaping	NA	>72hrs ago
DDWP001593	10/2/2019	1430	Routine	UIC	little to no floatables present	1	>72hrs ago
DDWP001594	10/2/2019	1424	Routine	UIC	little to no floatables present	1	>72hrs ago
DDWP001595	10/2/2019	1423	Routine	UIC	little to no floatables present	1	>72hrs ago
DDWP001596	10/2/2019	1425	Routine	UIC	little to no floatables present	1	>72hrs ago
DSMHP000093	10/2/2019	1425	Routine	UIC	<1" accumulated sediment/debris in sump; little to no floatables present	1	>72hrs ago
DSMHP000094	10/2/2019	1429	Routine	UIC	<1" accumulated sediment/debris in sump; little to no floatables present	1	>72hrs ago
DSMHP000095	10/2/2019	1430	Routine	UIC	<2" accumulated sediment/debris in sump; little to no floatables present	1	>72hrs ago

City of Bend (FY2019-20)							
Stormwater Facilities Inspection Tracking Log							
Facility ID	**Date of Inspection**	**Time**	**Type of Inspection**	**Drainage**	**Comments**	**Maintenance Rating Following Inspection**	**Last Rain Event**
DSMHP000096	10/2/2019	1424	Routine	UIC	<1" accumulated sediment/debris in sump; little to no floatables present; plug missing from pipe T	2	>72hrs ago
DSMHP000097	10/2/2019	1423	Routine	UIC	<1" accumulated sediment/debris in sump; little to no floatables present	1	>72hrs ago
DSMHP000098	10/2/2019	1425	Routine	UIC	<1" accumulated sediment/debris in sump; little to no floatables present; plug missing from pipe T	2	>72hrs ago

Appendix F.4
Small Scale BMPs in Urban Areas Webinar

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Wa ershed & Stormwater Management • Webcast Ser es



Small Scale BMPs

May 20, 2020

GreenBlue URBAN

Hawks Environmental

ARLINGTON VIRGINIA DEPARTMENT OF ENVIRONMENTAL SERVICES

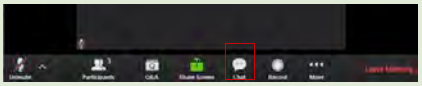
1

Welcome to the Webcast

- Professional Development Hours – We are offering PDHs for our watershed and stormwater management webcast series. A registered attendee must watch the entire webcast to be eligible to earn the PDHs. A pdf Certificate of Completion will be sent out after webcast to the person who registered for the webcast. The varying nature of certification requirements for each state means we cannot guarantee that CEU's will be awarded and it is up to the individual to determine if CEU's or PDH's will be awarded based on the policies of their local certifying board. Email webcast@cwp.org with questions.
- Resources – After the webcast, we will email a resources sheet, speaker contact information, and the presentation.

2

Note: In the screen sharing layout, Zoom automatically switches to full-screen to optimize the document or presentation view.



To Answer a Poll Question – Polling questions appear during the webcast. To answer a poll question, click on the radio button to the left of your answer and click submit. If you select other than please provide an answer in the chat box.

Chat Box

As an attendee in the webinar, you can chat with other attendees, panelists(including the host), depending on what chat permissions the webinar host has allowed. Read about all attendee controls.

- As an attendee, Chat will be in the controls at the bottom of your screen.
- When you click on chat, the chat window will appear. It will be on the right if you are not in full screen. If you are in full screen, it will appear in a window that you can move around your screen.
- Type your message and press Enter to send it.
  - You can also select who you would like to send the message to by clicking on the drop down next to To:.

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Webcast Team



Laurie Hawks
President
Hawks Environmental, LLC



Matthew Werle
Consultant
GreenBlue Urban



Lily Whitesell
Stormwater Outreach Specialist
Arlington County Environmental Services

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POLL QUESTION #1

How many people are participating in the webcast today at your location?

a) Just me
b) 2 to 5
c) 6 to 10
d) More than 10

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POLL QUESTION #2

Who are you representing today?

- Municipality/Local Government
- State government
- Federal government
- Private consultant
- Nonprofit organization
- University
- Other (tell us in the chat box)

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Wa ershed & Stormwater Management • Webcast Ser es

Webcast Outline

- Stormwaterwise Landscapes (Lily Whitesell)
- (Laurie Hawks)
- Urban Trees – An Overlooked Asset In Stormwater Management (Matthew Werle)

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StormwaterWise Landscapes



ecoaction arlington

ARLINGTON VIRGINIA | DEPARTMENT OF ENVIRONMENTAL SERVICES

8

Arlington, Virginia

- Population 226,400 (2019)
- 26.5 square miles
- 42% impervious

- 32 miles of streams
- 373 miles of storm sewers



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About StormwaterWise Landscapes

- Sustainable stormwater incentive program for Arlington private property owners
- Reimbursement/matching grant program
- Pilot year in 2012; HOA/business program added in 2014
- An education and outreach initiative; stormwater MS4 permit requirement
- ~60 residential participants accepted per year; 10 HOAs/businesses
- Participants are selected via lottery process (some preference given if applied more than once, or had a drainage site visit)



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StormwaterWise Practices

Practice	Residential Minimum Size	Residential Reimbursement	HOA Minimum Size	HOA Reimbursement
Conservation Landscape	150 square feet	$1000	300 square feet	$2000
Permeable Pavement	150 square feet	$2500	300 square feet	$4000
Rain Garden	100 square feet	$1500	150 square feet	$3000
Pavement Removal	150 square feet	$1500	300 square feet	$3000

Reimbursement is 50% of project cost, up to the cap for each practice.
Total reimbursement per property is capped at $2500 for residential, $4000 for HOA.

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Project Costs

Practice	Typical Project Cost	Minimum size (Homeowners)	Cost per Square Foot	Reimburse-ment Max (Homeowners)
Conservation Landscape	$3000	150 square feet	$5-25	$1000
Permeable Pavement	$9,500	100 square feet	$20-$30	$2500
Rain Garden	$3000 - $5000	100 square feet	$20-30	$1500
Pavement Removal	$3000	150 square feet	$4-10	$1500

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Program Timeline

- February – March: Applications received, lottery selection process, notifications and participant agreements returned
- April – May: Site visits and recommendation reports
- By June 30, participants select project type and contact at least one contractor
- By August 15, participants/contractors submit plans
- By October 31, project installation completed
- By January 30, participants submit receipts and reimbursement request

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StormwaterWise Contractors

- Homeowners hire contractors for the project
- Rain gardens and permeable pavers require trained contractors
- Annual contractor training in August
- Specifications, guidance and contractor list provided online



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Funding



- Fiscal agent – EcoAction Arlington
- $80,000 NFWF grant for 2013-14
- County Stormwater Fund
- 3 County staff currently work on program, ~30% of 1 FTE;+ EcoAction staff time
- Annual budget $120,000; private investment has averaged about 3 times public investment

Year	ROI	Private Investment	Public Investment
2018	3.6	240,326	65,048
2017	3.2	$191,542	$59,462
2016	3.0	$124,936	$41,116

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Program Impact

2013-2019

- 300 projects
- Drainage area managed by projects = 4.6 acres
- Impervious area treated = 1.5 acre
- Approx 4 lbs/yr P, 50 lbs/yr N

- 164 conservation landscapes
- 61 permeable pavement
- 57 rain gardens
- 14 pavement removal
- 5 cisterns



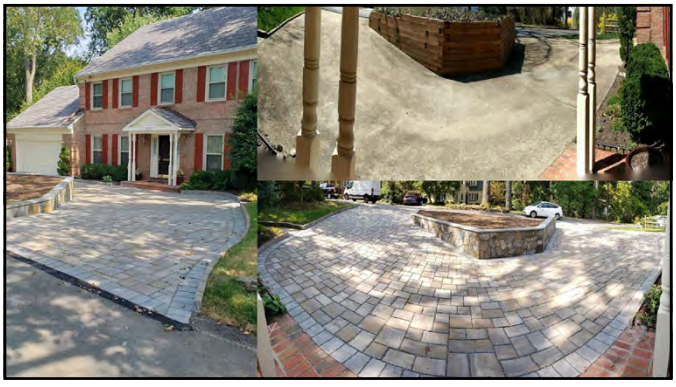
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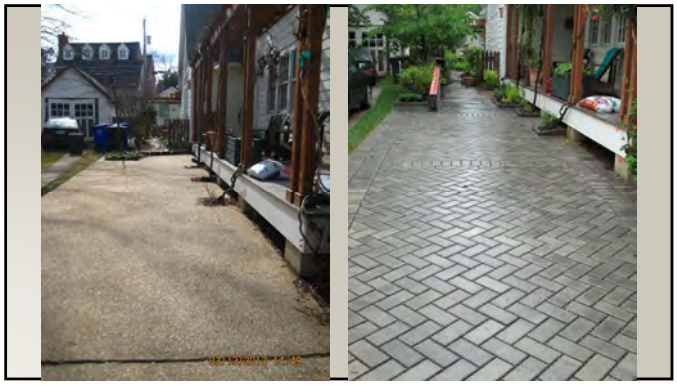


Permeable Pavement

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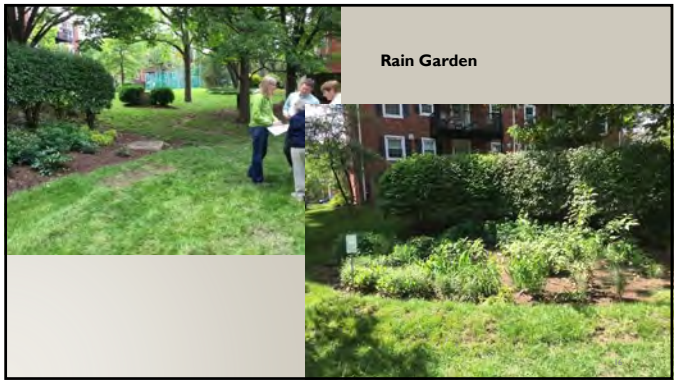
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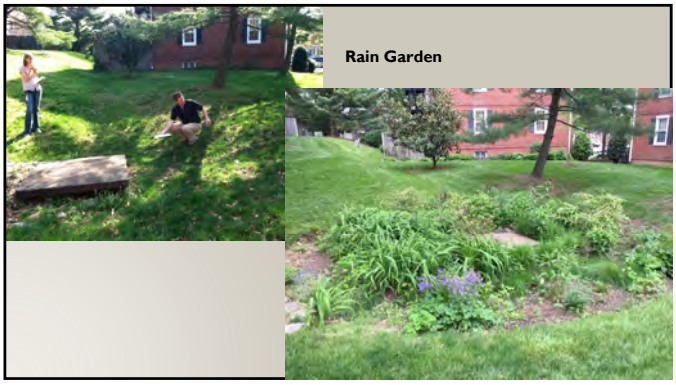
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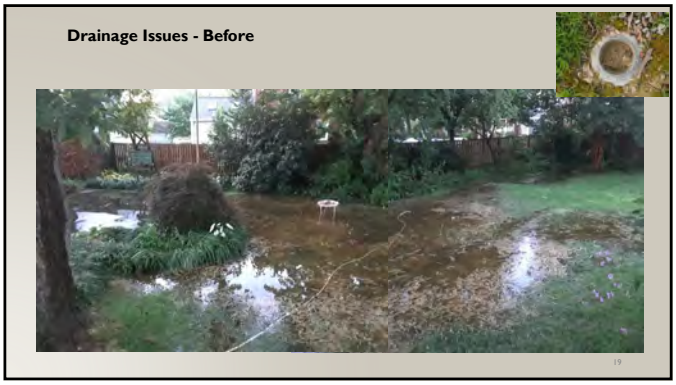
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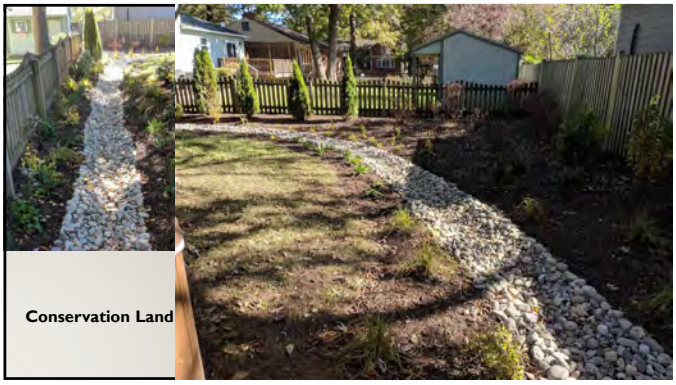
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Participant Feedback

In a survey, 97% of program participants said they would recommend the program to their neighbor, and 95% said they felt they are making a difference for water quality. Some feedback from participants is below:

- We are certainly much better consumers and stewards for stormwater than we were before.
- Both rain gardens are working just as we had hoped, and I know we have reduced our runoff into Four Mile Run. We are proud to be a part of this very worthwhile program!
- I had a good experience and I am thrilled with the results.
- We feel good that we not only solved our water drainage problem, but we also helped our neighbor with their water problem. cannot get over the difference! Thank you so much!!
- Without StormwaterWise and your help, this never would have happened. I will never be able to express my gratitude!

34

41

Questions?

LilyWhitesell
Stormwater Outreach Specialist
Office of Sustainability and Environmental Management
Department of Environmental Services
Arlington County
lwhitesell@arlingtonva.us
703-228-3042



35

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City of Roswell

Myrtle Street Permeable Pavers

CWP May 20, 2020

Laurie Hawks / President
Hawks Environmental

Roswell georgia

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Agenda

- Introduction
- Stormwater background
- Shared Stormwater Facility Policy
- Permeable Paver Project
- Benefits and challenges
- Questions



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Introduction

- Incorporated in 1854
- Northern Suburb of Atlanta, population of ~95,000
- Historic downtown area with aging storm infrastructure
- Vibrant community with cultural events, festivals, business community
- Quality of life
- 2017 GMA Live Work Play



45

Introduction

- Water resources integral part of history and identity
- Many parks located near streams and river
- 8 major watersheds
- 5 impaired streams, including Chattahoochee River



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Stormwater Background

- Strong development/ redevelopment demand
- Land is at a premium - stormwater ponds, BMPs take up valuable real estate
- Older areas difficult to meet current requirements
- Stormwater infrastructure lacking or aged
- Flooding in some areas



47

Shared Stormwater Facilities

- Recognized need for creative solutions to stormwater management
- Around 2015
  - Shared Stormwater Facilities policy established
  - BMP Revolving Fund and Green Infrastructure Implementation project (USEPA 319(h) grant)



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Shared Stormwater Facilities Policy

Established policy that allows

- Two or more private entities to share in establishment and/or maintenance of stormwater management facility
- The City may establish a facility and provide credits for private community to voluntarily purchase
- The City and one or more private entities to share in establishment and/or maintenance of stormwater management facility



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Shared Stormwater Facilities Policy

Private Applicants

- Application/approval process
- Hydrology study/design criteria
- Impervious acre treated is unit of benefit
- Project cost based on fair mark value and contribution of each partner
- MOA with all parties – plan, responsibilities, ROW, funding, ownership, O&M
- Implementation



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Shared Stormwater Facilities Policy

City Projects

- Modify ordinance to allow purchase of credits in-lieu of on-site stormwater treatment
- Set up separate fund
- Sell and track credits – credit unit, value, use, tracking, approved sub-basin



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Myrtle Street Permeable Pavers

USEPA 319(h) grant

- "BMP Revolving Fund and Green Infrastructure Implementation"
- Demonstrate Green Infrastructure
- Permeable pavers
- Install project in City property/ROW
- Build facility in area experiencing redevelopment pressure



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Myrtle Street Permeable Pavers

- Impaired Hog Waller Creek watershed
- Underground gravel reservoir to hold and treat stormwater,
- High preliminary infiltration rates
- Provide voluntary credits for sale
- County library purchased credit





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Myrtle Street/Zion Circle





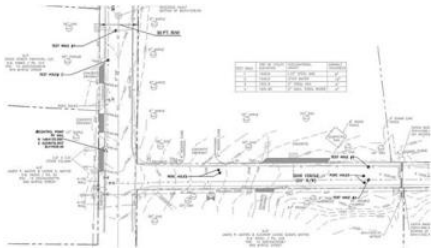
54

MyrtleZ on Shared S ormwa er Quality Facility Cred Tracking

Parcel ID	Total Parcel	Parcel Acreage in Basin	Impervious Acreage C edit s Purchased	W. Q Volume	Parcel Address	Purchaser	Date C edit s
1900401300027	2.76	1.14	0.13	1100	174 Norcross Street	Fulton County (Robert L. Pitts)	?
1900401300241	28.59	0.47			28 Mill Street		
2001402500664	0.67	0.67			953 Forrest Street		
2001402500665	0.67	0.67			945 Forrest Street		
2001402500256	0.67	0.67			913 Forrest Street		
2001402500114	0.52	0.52			902 Myrtle Street		
2001402500227	0.44	0.33			913 Forrest Street		
2001402500130	0.33	0.31			914 Myrtle Street		
2001402500255	0.36	0.08			938 Myrtle Street		
2001402500312	0.49	0.49			913 Myrtle Street		
2001402500313	0.49	0.49			913 Myrtle Street		
2001402500309	0.32	0.32			932 Zion Circle		
2001402500953	0.38	0.38			940 Myrtle Street		
2001402500391	0.65	0.68			933 Myrtle Street		
2001402500397	0.93	0.82			183 Norcross Street		
2001402500411	0.52	0.07			943 Zion Circle		
2001402500899	0.64	0.54			937 Myrtle Street		
2001402500900	0.64	0.64			945 Myrtle Street		
2001402500920	0.35	0.35			950 Zion Circle		
2001402500529	0.20	0.20			914 Zion Circle		
2001402500801	0.30	0.31			938 Zion Circle		
2001402500718	0.29	0.29			168 Norcross Street		
2001402500726	0.39	0.39			958 Zion Circle		
2001402500734	0.43	0.43			946 Zion Circle		
2001402500735	0.43	0.43			934 Zion Circle		
2001402500411	0.38	0.38			964 Myrtle Street		
2001402500958	0.38	0.38			954 Myrtle Street		
2001402500964	0.43	0.43			944 Myrtle Street		
2001402500674	1.27	1.14			Zion Circle		
2001402500900	0.23	0.23			191 Norcross Street		
2001402500916	0.22	0.22			974 Myrtle Street		
2001402500917	0.22	0.22			200 Norcross Street		
2001402500999	0.50	0.50			924 Myrtle Street		
2001402501005	0.45	0.45			916 Forrest Street		
2001402501021	1.00	0.10			938 Zion Circle		
2001402501120	0.31	0.31			934 Zion Circle		
2001402501138	0.33	0.33			930 Zion Circle		
2001402501563	1.14	1.14			125 Norcross Street		
2001402501618	0.27	0.27			Courtland Terrace		
Totals		16.97	0.13	1100.00			
	Total Water Quality Capacity (cf)		7578				
	Water Quality Volume Purchased (cf)		1100				
	Total W. Q. Capacity Available (cf)		6478				

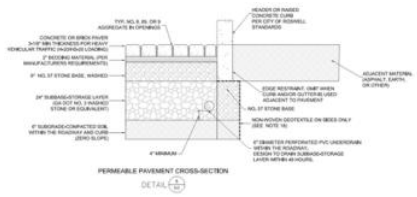
55

Survey, Geotech and SUE



56

Pervious Paver Detail



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Excavation



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Underdrain Installation



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Storage Stone Layer



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Base Stone Layer and Compaction



61

Concrete Cut Off Wall



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Homeowner Access



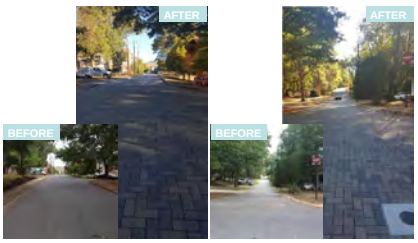
63

System Outlet



64

Myrtle Street/Zion Circle



65

Ribbon Cutting



66

Brochure



67

Lesson Learned
Shared Facilities Policy

- Benefits
  - Flexibility for developers and city to meet stormwater requirements
  - Option for re-development, difficult urban sites
  - Ease of permitting
  - Expanded use of land on site
- Challenges
  - City staff time, policy, and fund set up
  - Negotiations, each site unique
  - Developers and City work on different time frames (City needs Mayor and Council approval)
- Moving forward
  - WQ onsite, detention only in shared facility

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Thank you.
Questions?



Laurie Hawks

Hawks Environmental
lhawks@hawks-env.com
678.231.6433

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OUR MISSION:
To enable sustainable cities through green and blue infrastructure.



GreenBlue URBAN

71

- **Urban Tree Planting Systems**
- **Bioretention Tree Pits**
- **Combined Tree/Stormwater Systems**

GreenBlue URBAN



(866) 282-2743
www.greenblue.com

72

A few of the ecosystem benefits trees offer:

Carbon Reduction
Oxygen Creation
Wind Deflection
Stormwater Runoff Reduction
Stormwater Quality Improvement
Reducing Urban Heat Island Effect
Improving Air Quality
Encouraging Exercise
Protecting Biodiversity
Noise Abatement
Improving Health
Providing Shade
Calming Traffic
Moderating Temperature
Increasing Property Values

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73

HOW CAN WE BETTER UTILIZE TREES FOR STORMWATER MANAGEMENT?

URBAN TREES AN OVERLOOKED ASSET N STORMWATER MANAGEMENT?

GreenBlue URBAN
Establishing the future urban landscape

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Designing for **Healthy Urban Trees**:

THE STORMWATER BENEFITS FROM TREES

- Transpiration
- Interception
- Reduced Throughfall
- Increased Infiltration
- Phytoremediation



GreenBlue URBAN

75

Designing for **Healthy Urban Trees**:

THE STORMWATER BENEFITS FROM TREES

- Aesthetic – 52%
- Stormwater – 31%
- Energy – 12%
- Air Quality – 4%
- CO2 – 1%



Environmental & Economic Benefits
567 Indiana Communities
May 2011

GreenBlue URBAN

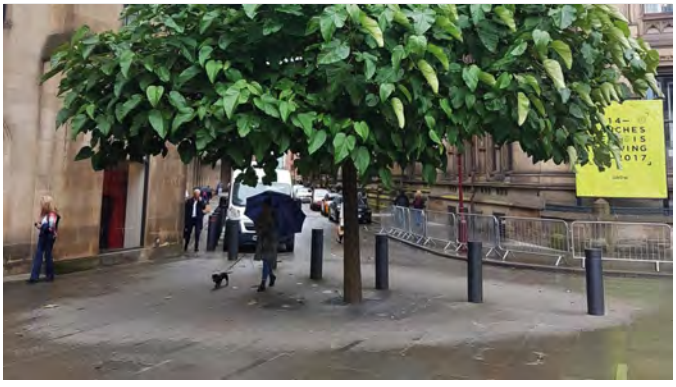
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URBAN TREES AN OVERLOOKED ASSET N STORMWATER MANAGEMENT?



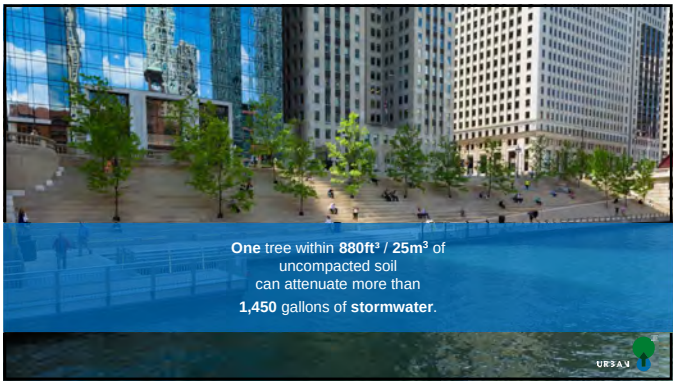
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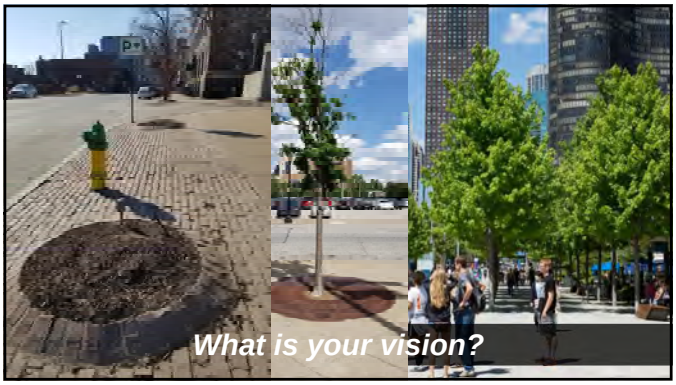
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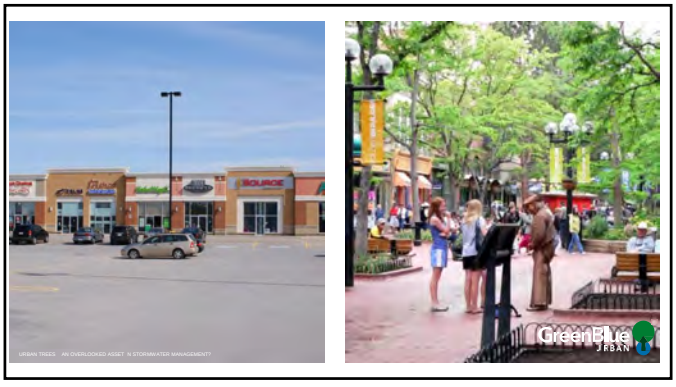
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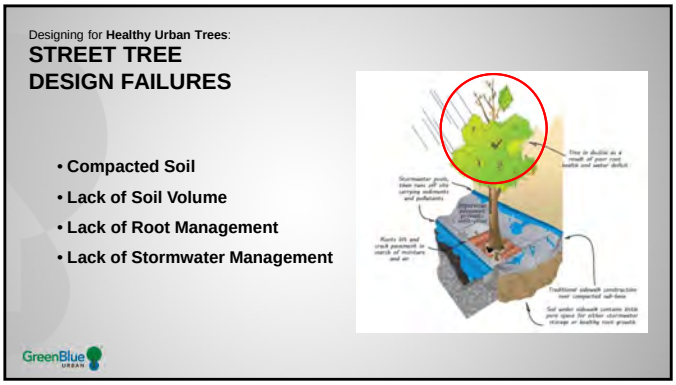
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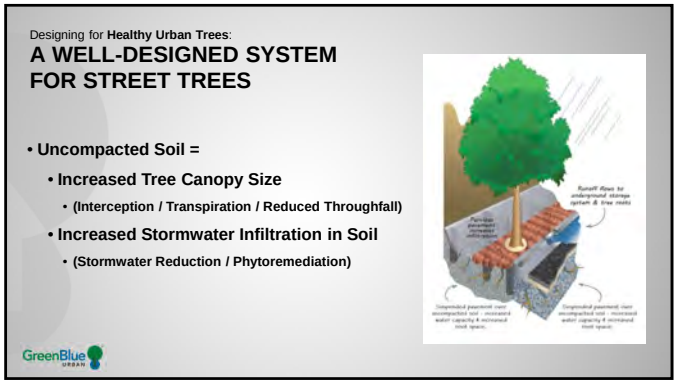
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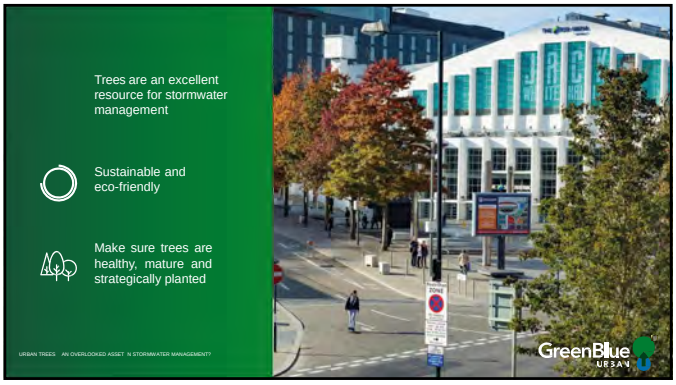
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How Do We Achieve These Benefits?

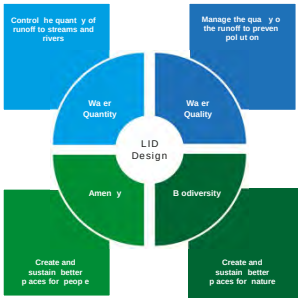
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Establishing the future urban landscape

URBAN TREES – AN OVERLOOKED ASSET IN STORMWATER MANAGEMENT?

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Why use a tree as part of Low Impact Development?

- Canopy interception
- Water draw for transpiration
- Deep infiltration to surrounding soil
- Symbiotic relationship with soil mycorrhiza helps deal with pollutants
- Meets the requirements of the four pillars of LID strategy



URBAN TREES – AN OVERLOOKED ASSET IN STORMWATER MANAGEMENT?

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Urban Treepit Design

- ✓ Stormwater Management
- ✓ Uncompacted Soil Volume
- ✓ Treepit Drainage
- ✓ Root Management
- ✓ Soil Aeration
- ✓ Tree Irrigation
- ✓ Tree Anchoring

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ArborSystem™
Urban Tree Planting System

The complete solution for sustainable urban trees and green infrastructure.

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- **Structural Capacity** *(Exceeds AASHTO H-20/HS-20 with as little as 8" of pavement profile.)*
- **Usable Soil Volume** *(>97% void space)*
- **Modularity** *(16" & 24" upright)*
- **100% Recycled Plastic**

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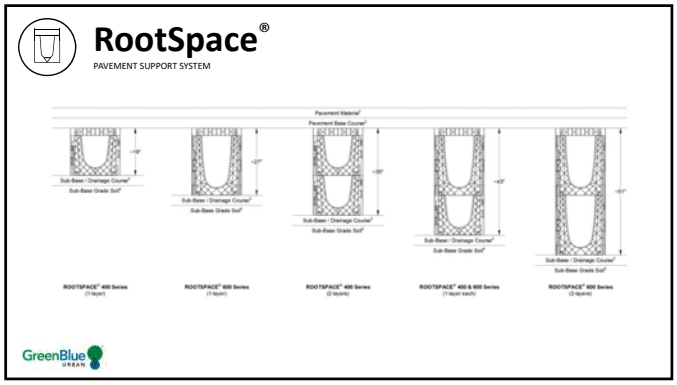
RootSpace®
PAVEMENT LOAD CAPACITY CHART

Pavement Design*	Pavement Thickness (in.)	H exceeds or exceeds the AASHTO † Design Requirements				H-stable Load Capacity - Single‡ w/ Steel SLS.R		H-stable Load Capacity - Dual‡ w/ Steel 7 x 16"	
		AASHTO † H-20	AASHTO † HS-20	AASHTO † H-25	AASHTO † HS-25	Wheel	Axle	Wheel	Axle
2.375" Interlocking Pedestrian 1" Sand Base 4" Compacted Aggregate	7.375"	✓	✓	✖	✖	10,438 lbs	20,876 lbs	19,995 lbs	39,990 lbs
2.375" Interlocking Pedestrian 1" Sand Base 4" Unreinforced Concrete	7.375"	✓	✓	✓	✓	15,201 lbs	30,402 lbs	22,968 lbs	44,268 lbs
3.125" Interlocking Pedestrian 1" Sand Base 16" Compacted Aggregate	16.125"	✓	✓	✓	✓	22,668 lbs	45,336 lbs	31,745 lbs	63,528 lbs
4" Asphalt 12" Compacted Aggregate	16"	✓	✓	✓	✓	26,445 lbs	52,890 lbs	38,298 lbs	76,626 lbs
4" Unreinforced Concrete 4" Compacted Aggregate	8"	✓	✓	✓	✓	14,338 lbs	28,676 lbs	29,856 lbs	42,798 lbs
6" Unreinforced Concrete 4" Compacted Aggregate	10"	✓	✓	✓	✓	19,644 lbs	39,288 lbs	27,439 lbs	56,229 lbs
6" Reinforced Concrete 4" Compacted Aggregate	10"	✓	✓	✓	✓	38,295 lbs	68,618 lbs	39,645 lbs	79,290 lbs

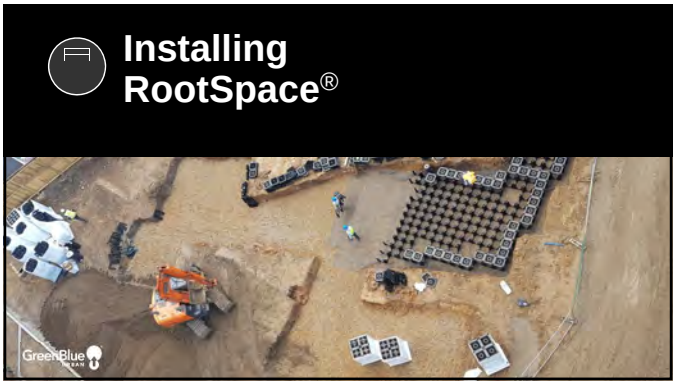
1. It is the responsibility of the designer to ensure that the paving materials exhibit the intended design wheel load.
2. AASHTO ¹ Guide for design of Pavement Structures, H-20/HS-20 and H-25/HS-25 wheel/axle load design requirements.
3. H-stable Load rating includes the weight of the pavement materials and a 1.5 safety factor.
4. AASHTO ¹ Single wheel Contact Area: 10" x 16" or 160 square inches
5. AASHTO ¹ Double wheel Contact Area: 10" x 28" or 280 square inches

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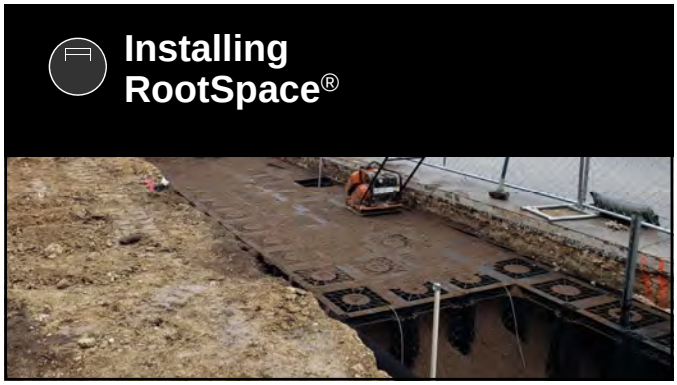
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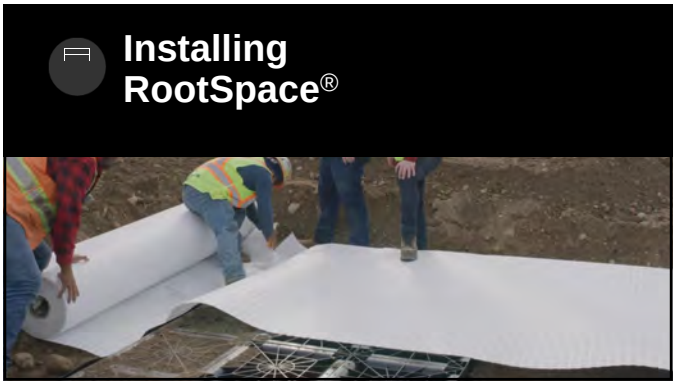
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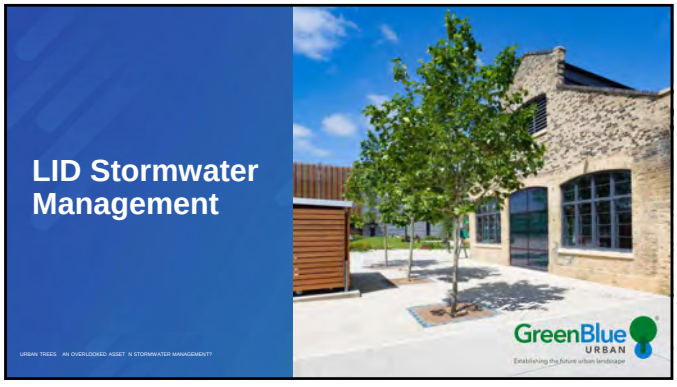
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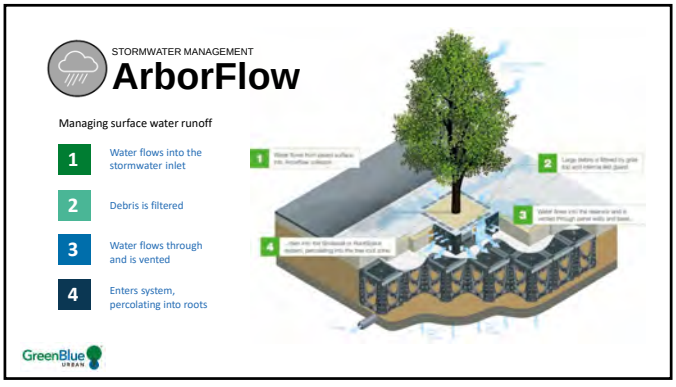
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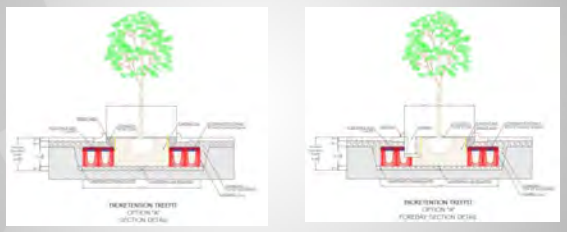


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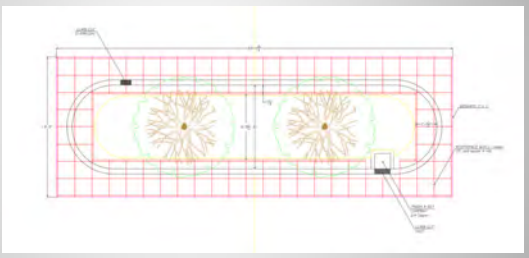
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Designing for **Healthy Urban Trees**:
BIORETENTION TREEPITS



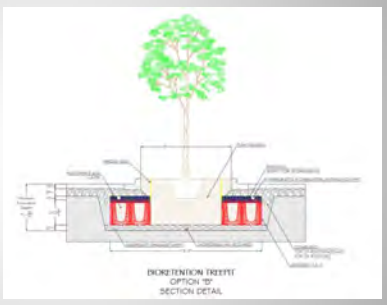
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Designing for **Healthy Urban Trees**:
BIORETENTION TREEPITS



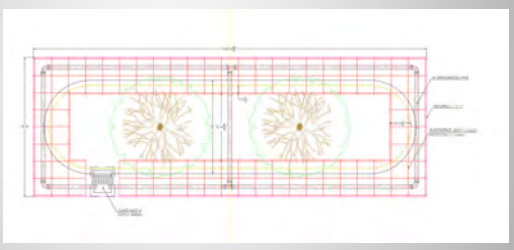
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Designing for **Healthy Urban Trees**:
BIORETENTION TREEPITS



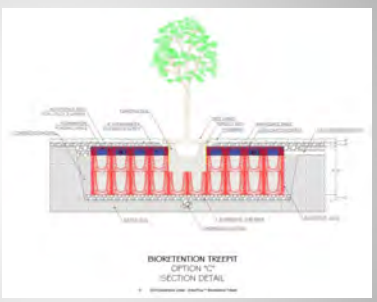
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Designing for **Healthy Urban Trees**:
BIORETENTION TREEPITS



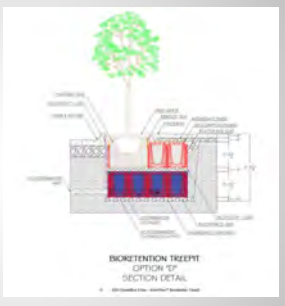
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Designing for **Healthy Urban Trees**:
BIORETENTION TREEPITS



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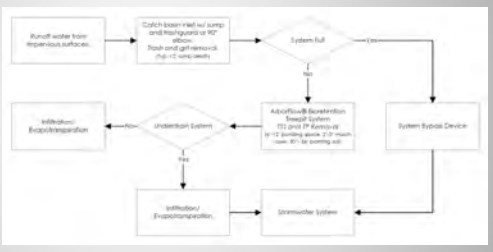
Designing for **Healthy Urban Trees**:
STORMWATER TREEPITS



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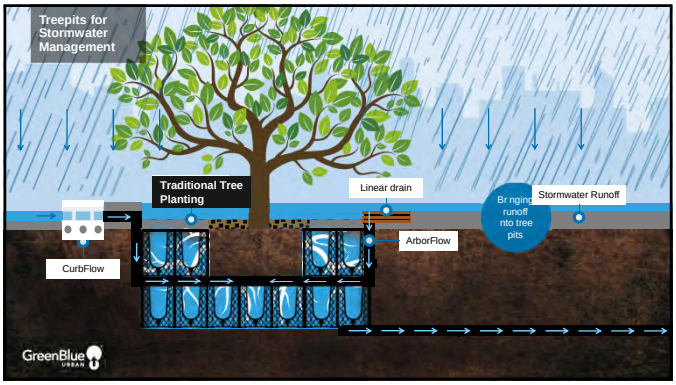
Designing for **Healthy Urban Trees**:

BIORETENTION TREEPITS



GreenBlue URBAN

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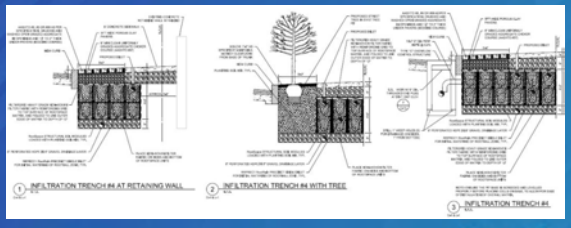


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113

Case study:
City of Lancaster, Pennsylvania



GreenBlue URBAN

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Case study:
City of Lancaster, Pennsylvania

- $2.8 million in air quality, energy, and climate related benefits annually
- Reduced gray infrastructure capital costs of $120 million
- Reduced wastewater pumping and treatment costs of $661,000
- Reduced stormwater volumes
- Improved stormwater qual ty
- Enhanced aesthet cs
- Reduced air pollut on
- Improved publ c health
- Increased property values
- Reduced energy costs associated with cool ng and heat ng bui dings
- Reduced heat s and affect

URBAN TREES AN OVERLOOKED ASSET N STORMWATER MANAGEMENT?

GreenBlue URBAN

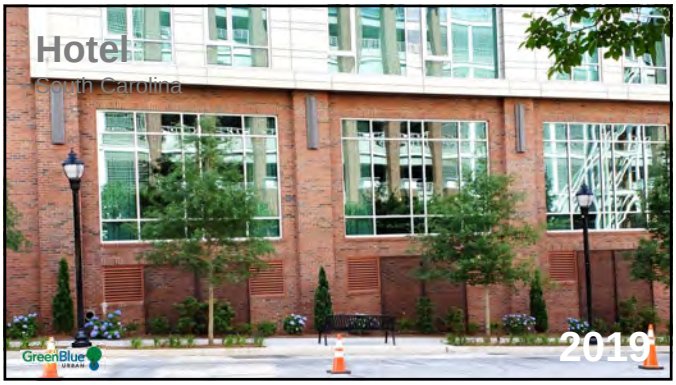
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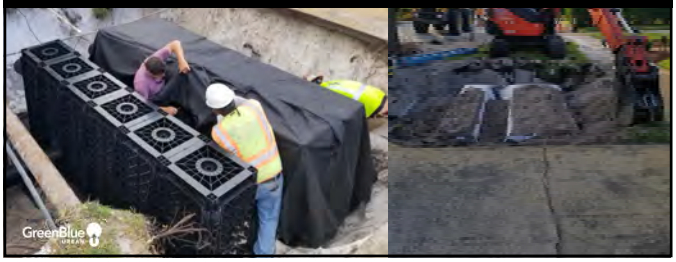
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Stormwater Infiltration
Florida



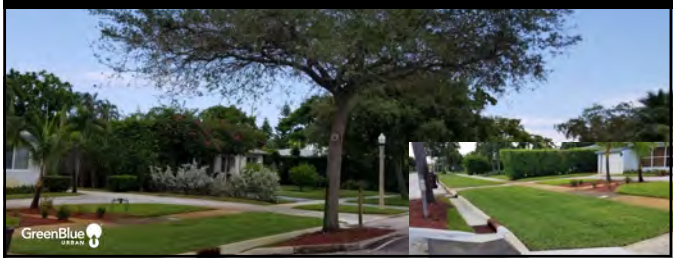
121

Stormwater Infiltration
Florida



122

Stormwater Infiltration
Florida



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MAINTENANCE

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Maintaining LID Tree Pits
Drainage Requirements

Spring
Check and clear stormwater inlets.

Summer
Inspect and clear debris from inlets.

Late Fall
Clear leaf debris from inlets.

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Maintaining LID Tree Pits
Tree Requirements

Early Spring
Inspect tree ties.
Clear leaf debris from inlet channels.
Top up mulch levels.

Summer
Irrigate regularly until establishment.
Check canopy for pest and disease.

Late Fall
Clear fallen leaves.
Prune as required.

Early Winter
Inspect canopy and branch structure for defects etc.

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About GreenBlue Urban



URBAN TREES AN OVERLOOKED ASSET N STORMWATER MANAGEMENT?

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About GreenBlue Urban

History



Founded n 1992 to research and provide urban tree plant ng solut ons.

Prov de guidance to local author t es, andscape architects, engineers.



Market eader n special st tree pit products.

Unr val ed support serv ce in the urban tree-plant ng wor d.



URBAN TREES AN OVERLOOKED ASSET N STORMWATER MANAGEMENT?

GreenBlue Urban

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About GreenBlue Urban

Consulting



Landscape architecture and design



Stormwater management & services



Support & training

URBAN TREES AN OVERLOOKED ASSET N STORMWATER MANAGEMENT?

GreenBlue Urban

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The principal considerations

Best Management Practices for LID stormwater management

Load bearing Pavement Support System	Irrigation & Aeration for healthy soil	Drainage & Overflow provision
Adequate uncompacted soil volume	Root management to protect infrastructure	Source control maintainable inlets



URBAN TREES – AN OVERLOOKED ASSET IN STORMWATER MANAGEMENT?

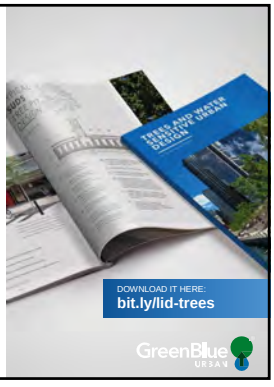
131

Thank you

Trees and Water Sensitive Urban Design

A step by step guide to successfully planting trees in a LID system.

Matthew Werle
matthew.werle@greenblue.com
(865) 951-7290
www.greenblue.com



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Post-Webcast Information

- Participation Certificate – Participation certificates are also available. If you have multiple attendees, please save the certificate to your computer. You can type the attendees name in the name field and then print the certificate.



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Thank you for Joining Us Today!

Did you know that you can have access to complementary webcasts at the CWP?

To learn more please contact Karen Titus at kmt@cwp.org / 443-392-7836

or visit: https://www.cwp.org/join-now/

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Thanks for attending
Small Scale BMPs
May 20, 2020

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Appendix F.5

Maintenance Guidelines for Pervious Concrete Webinar

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Provider Number: G416
Course: DSP101 | 1.0 LU/HSW | 1.0 PDH

Designing Pervious Concrete (1 Hour)

AIA-CES Number DSP101: 1.0 LU|HSW (1.0 Hour) | 1.0 PDH for Engineers



Pervious concrete pavement is considered a best management practice by the Environmental Protection Agency (EPA) and is a recommended solution to reducing runoff in the LEED Green Building Rating System. Pervious concrete pavement is ideal for parking areas, sidewalks, patios, tennis courts, roads and driveway. This one-hour webinar provides an introduction to designing a pervious concrete pavement infiltration system.

Learning Objectives:

- Understand properties of pervious concrete.
- Understand subgrade and subbase requirements for a pervious concrete pavement system.
- Understand structural design of pervious concrete pavement.
- Understand hydrologic design of pervious concrete pavement systems.
- Discuss special requirements for freeze/thaw durability and heavy traffic conditions.

Who Should Attend: This Webinar will help civil engineers, architects, landscape architects and public works officials understand the principles behind proper design of pervious concrete. Contractors, product suppliers and land developers will also benefit from this Webinar.

Instructors:
Philip Kresge, Senior Vice President, Local Paving, NRMCA
Ken Justice, P.E., Senior Director, Local Paving, NRMCA, Certified Pervious Concrete Craftsman

SWS
STORM WATER SOLUTIONS

Wendy Edde

Is awarded 1.0 Professional Development Hour
For the successful completion of the Storm Water Solutions webinar:

Storm Water Compliance Success: Using Proactive BMPs to Minimize Regulatory Discharges

July 31st, 2019

Facilitator:
Robin Pasteur
Publisher, Water Group



1 Hour Webinar
1 PDH

Acceptance of this credit is at the discretion of the receiving agency

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Operations and Maintenance Costs of Low Impact Development

LID Measure	Cost of Design/Install	Maintenance Tasks/Costs	Lifespan	Considerations for High Desert Environment	Sources	Applicability
Bioretention Planter	$5 - $12 per square foot for residential applications. $15 - $60 per square foot for commercial applications	Sediment removal Debris removal Weed control Landscaping Inspections Dry season watering Replacement of mulch yearly	With proper care, Bioretention planters can last for 15 years without heavy maintenance.	Ideal for desert environments. Using drought tolerant native vegetation helps to remove pollutants from stormwater. Reduces urban heat island effect through increased vegetation.	-University of Alabama ,Costs of Urban Stormwater Control Practices 2006	Commercial Right-of-Way Residential
Bioretention Swale (Rain Garden)	$20,000 - $35,000 per facility depending on area.	Sediment removal Trash removal Replanting of dead vegetation Landscaping $134/swale/year	With proper maintenance, these systems can last indefinitely.	Using drought tolerant native vegetation, swales can treat a large volume of stormwater. Allows for infiltration directly towards groundwater.	-City of Bend, CIP project bid quotes, 2017-19; Infor, 2019. -University of Alabama, 2006.	Commercial Right-of-Way Residential
Drywell	Installation costs for drywells are anywhere from $12,000 to $20,000	Sediment removal Repairing Pipes Removing Contaminants Regular inspection maintenance - $2.15-$11/unit/year Corrective Maintenance/Flood Response - $90-$180/unit as needed	30 years with proper upkeep.	A drywell is an underground injection control and must be registered /rule authorized or permitted by Oregon DEQ. Highly permeable desert soils make dry wells ideal for allowing infiltration during periods of heavy precipitation. Excavation via blasting may be required for areas of pink tuff.	-City of Portland , Taking it Underground – Stormwater Solutions Handbook – Environmental Services, 2006. -City of Bend 2019	Commercial Right-of-Way Residential
Sediment Manhole	$7,000 per facility that measures 4 feet in diameter and 8 feet in depth.	Regular Inspections on a seasonal basis $1.50-$3.50/unit/year Sediment removal via Vactor truck	30 years with proper upkeep.	Because turbidity is a pollutant of concern in the Deschutes river, these facilities are an important part of a treatment train by allowing sediment to settle out before water makes it back into the river. They are an effective spill control in areas of UICs.	-City of Bend, 2017-2019; 2019 -Portland Stormwater Management Manual, O&M Specifications Water Quality Manholes, 2016	Commercial Right-of-Way
Subterranean Infiltration Basin	For an infiltration trench with dimensions 100x10x6 feet $7,100 - $16,800	Buffer strip mowing Lawn care Trench Inspection Sediment removal	30 – 45 years with major maintenance at the 15 year mark.	Deeper than they are wide, infiltration trenches are considered underground injection controls (UICs) and must be registered and rule	- City of Portland 2006	Commercial Residential Right-of-Way

LID Measure	Cost of Design/Install	Maintenance Tasks/Costs	Lifespan	Considerations for High Desert Environment	Sources	Applicability
				authorized/permitted by DEQ. Due to moderately rapid permeability, infiltration trenches can help reduce the amount of water lost to evaporation by allowing quicker infiltration.		
Rainwater Catchment Barrel	Small 55 gallon barrel - $150 Large 5,000 gallon tank – $2,500 not including installation	Inspections and debris removal Yearly cleaning	20 to 50 years with proper maintenance	With only 12 inches of rain a year, a cistern can help to conserve municipal water that would typically be used to water plants. Serves to provide stormwater benefit only when storage capacity is available during a rain storm.	– City of Portland Cisterns, Environmental Services 2006	Commercial Residential
Permeable Pavement	Permeable Pavers – $12/Sq.Ft Grass Pavers - $10/Sq.Ft Permeable Asphalt - $6/Sq.Ft Porous Concrete - $4/Sq.Ft	Annual inspection of the entire facility Power washed every three years Removal of sediment three times a year to prevent clogging	20 to 40 years with typical routine maintenance.	Permeable pavement can help to increase infiltration in areas that would otherwise have none. Full depth permeable pavement below the frost line can be costly in rocky soils. Early evidence of significant pollutant removal benefit with permeable overcoat only. Longevity may be minimized with studded tires. Best used in low traffic areas such as driveways or walkways/paths. Extra care is necessary to protect pavement from clogging.	-Green Values – National Stormwater Management Calculator 2009 – University of Maryland, Permeable Pavement Fact Sheet 2016	Commercial Residential Right-of-Way
Green Roof	Simple extensive roofs $10/Sq.Ft Intensive load roofs - $25/Sq.Ft.	Periodic watering if precipitation is less than 0.5 inches in a two week period. Removal of weeds Fertilizing plants regularly	With proper care, the roof below the green roof can last for 30 to 50 years.	Green roofs can help to reduce stormwater runoff volume, the amount of heating or cooling a building needs, as well as provide noise reduction. Extensive green roofs weight compares to tile roofs; intensive green roofs are heavier. Structural engineering needs should be considered. Proper installation is critical.	- City of Portland, Environmental Services Cost Benefit Evaluation of Ecoroofs, 2008 -Reducing Urban Heat Islands: Compendium of Strategies Green Roofs 2014	Commercial Residential

Appendix G

Municipal Operations and Maintenance Activities

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Appendix G.1

Stormwater Quality Sweeping Plan

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City of Bend Stormwater Utility

Street Sweeping for Stormwater Plan

FY2019-2020 – FY2020-2021

CITY OF BEND

Background. The needs of the stormwater quality program are separate from other sweeping needs. The City Stormwater Utility currently pays for 3 FTE sweeper personnel (based on an agreement to cover the equivalent to 40% of the sweeper program), and has purchased one sweeper, and has set aside money to assist with GPS for improved tracking and recordkeeping. Currently Streets Dept. employs 4 sweeper personnel in total, and one of the 3 FTE stormwater positions is vacant. As such, a plan for stormwater sweeping is appropriate, especially as the storwmater work is now split between the Utility Department and the Streets Department.

Sweeping for stormwater is important for two reasons—first to keep pollutants such as litter and sediment out of the storm drain system. Second some pollutants can also cause clogging of the storm drain facilities. This latter factor is tempered a bit given the extensive Utility O&M program the City has for its catch basin, sediment manhole, and UIC maintenance, but streets are considered part of the conveyance system for stormwater and are thus not charged a fee for impervious surface coverage.

Goals. The goals of the stormwater sweeping program are to reduce localized flooding and stormwater pollutants for receiving waters.

Objectives. The objectives of the stormwater sweeping are to:

(a) reduce sediments and other pollutants in the area that drains to the river; and

(b) keep stormwater facilities clear of blocking debris that can result in localized flooding, including larger gross pollutants (trash and debris or leaves that can block inlets) together with smaller pollutants (sediments that can clog dry wells or drill holes, reducing infrastructure life) throughout the City.

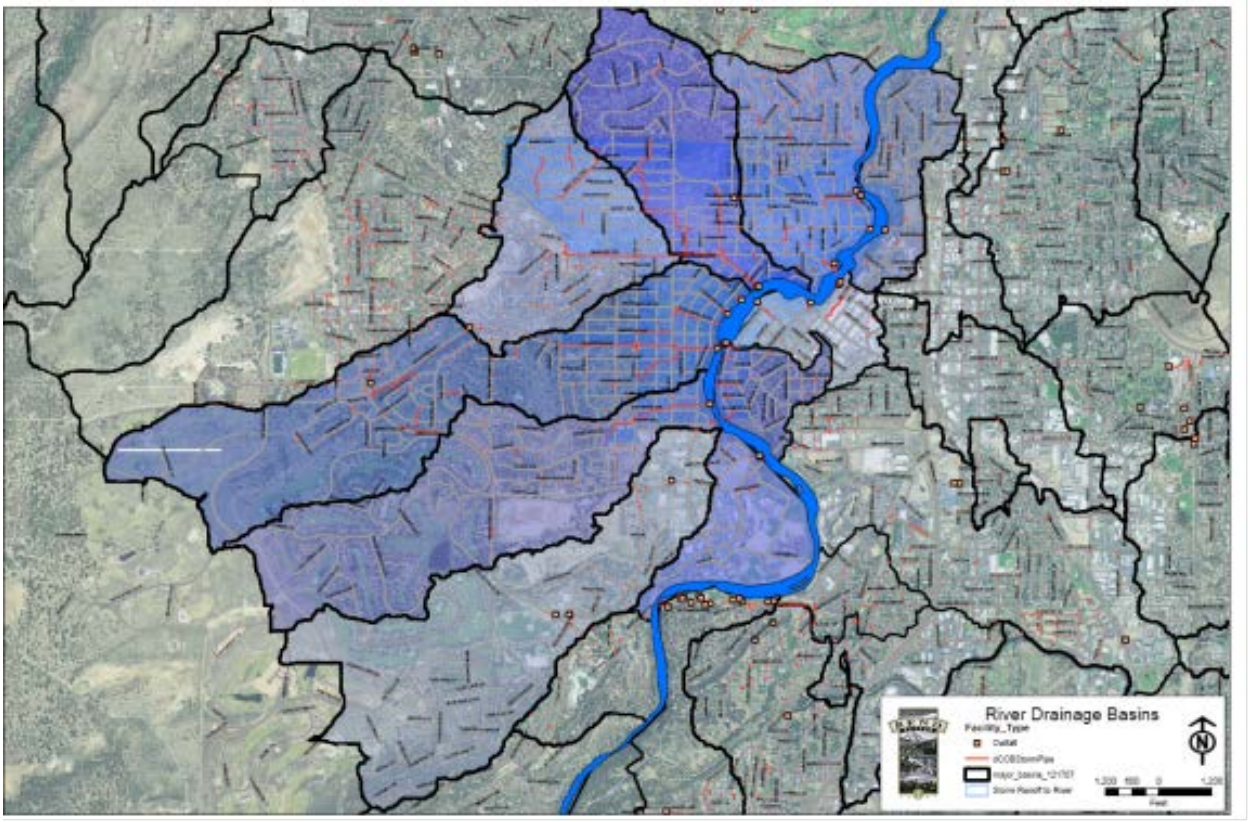
Levels of Service Action Plan for Assigned Stormwater Fee Supported Sweepers.

In spring/summer of 2019, the Street Sweeping program used GPS to determine the time needed at current resource levels (3 employees, 3 machines). For the spring cleanup of the entire City a focused effort took 1.5 months. A fall cleanup of the entire City is estimated to take a focused effort of 1 months. Cleanup after three summer thunderstorms took 1.5 weeks for concentrations in hillside areas. Sweeping of the

MS4 area of at least the center lane (given preliminary analysis that did not incorporate efforts to encourage off-street parking), took 2 weeks of focused effort.

Streets Sweeping Program for Stormwater shall:

1) Schedule to sweep the curb lines of each of the public street in the major basins that drain to the MS4 at least once per quarter on a prescheduled basis that allows for proper outreach of timing (e.g., “first two weeks of October, January, April, July”, except during those times when temperatures or weather that are documented prohibit sweeping. This area is 53 lane miles. (See figure below). For purposes of regulatory reporting this item will be met if each public street in the major basins that drain to the MS4 are swept on a scheduled basis at least four times per year on a quarterly schedule (given consideration for weather and equipment issues), unless otherwise shown that weather prevented sweeping.



2) Sweep in a manner that allows us to inform those that are in the MS4 basin when the sweeper is scheduled to be there so we can get cars off the street for added efficiency (e.g., Utility staff communicating an even/odd parking request for the scheduled two weeks as an interim measure to increase efficiency).

3) Sweep the full street in the MS4 area and each street in the rest of the City at a bare minimum of twice per year, at least once in spring and once in fall to keep the street basalt picked up, and timed to keep storm drain gutters clear of fall leaf drop and debris, with priority to known flooding problem areas and bottom of hillsides. Sweep as

needed for storm cleanup to ensure public safety and to pick up sediments and debris carried onto public roadways. Use reader boards and notifications (e.g., door hangers, reverse calls, etc.) to inform public to increase efficiency by encouraging cars off the street and proper trimming of tree and shrubbery limbs to allow access to curb lines.

4) To the degree possible, assign specific sweepers to specific employees for improved care and thus efficiency.

5) Track stormwater program sweeping through Infor for better record keeping and reporting effectiveness. Continue with GPS tracking to increase efficiency. Track time, locations, amounts of materials collected, and miles spent sweeping with brooms up and brooms down, and sweeping average speed when brooms are down for stormwater sweeping. Also report total amounts of material collected and miles spent brooms down for total sweeping (stormwater and other sweeping). Report both to Stormwater Utility for use in quarterly financial reporting, annual reporting, and performance metrics. GPS maps should be provided as well when available.

6) To ensure 3.0 FTE is spent on implementing the stormwater sweeping plan, provide utility program manager with a breakout of time spent sweeping per the stormwater plan and in total (e.g., including time spent sweeping otherwise (e.g., accident cleanup, construction prep, etc.)). If replacements are used, provide their time sweeping per the stormwater plan.

7) Funds on resale of equipment purchased by the stormwater utility to be returned to utility for use in future stormwater sweeper program equipment purchases.

8) Include stormwater utility program staff in the decisionmaking for which sweeper equipment to purchase with stormwater utility money to ensure high efficiency for water quality goals and stormwater utility needs.

9) Streets to purchase an overshot (PB Loader) to assist with efficiency as well as other Streets Department needs and does not need Stormwater Utility assistance for this.

Stormwater Utility shall:

1) Prepare the draft annual report incorporating the sweeping data. Provide sweeping data in utility monthly reports.

2) Continue to fund the 3.0 FTE Sweeper personnel in the Streets Program for Stormwater Sweeping work.

3) Provide continued assistance with prioritization of GPS as needed.

4) Work together operationally as needed and requested and jointly approved.

5) Are available to assist with notification upon request in advance (e.g., provision of extra reader boards, dispersal of door hangers, robot notification phone calls, social media notifications) to help clear street of cars, overhanging tree branches and basketball hoops.

6) Utility will help with location of pads and potentially costs for ecoblock fencing materials (rough estimate $5,000 per site) for temporary storage of sweeper spoils, such as the pilot site at Murphy and Brosterhaus, currently under development.

Timing: The City has been working towards improved efficiency for the past few years. The rest of the current biennium will be used to prepare for and ramp up implementation of the street sweeping plan for stormwater, with full implementation expected in the FY2019-20 year and continuing. GPS data will be reported on as it becomes available in coordination with the Fleet and IT Departments. Streets will provide quarterly reports of street sweeping activities to Stormwater Utility as part of payment request and for regulatory reporting.

This plan will be reviewed and updated every biennium or more frequently if needed.

Appendix G.2

ACWA Landscape Brochures

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FOR HOMEOWNERS

LOOKING TO HIRE A LANDSCAPE MAINTENANCE SERVICE?

Ask your landscape maintenance contractor to use these best management practices to help protect our waters, our environment and those you love!



WHY BOTHER WITH BEST MANAGEMENT PRACTICES?

Best Management Practices (BMPs) are designed to protect both our streams and underground drinking water quality, and to prevent clogging our stormwater facilities. Implementing BMPs can make a positive difference to help protect our waters, properties, and public health.

BEST MANAGEMENT PRACTICES

- Do not blow or sweep trash, yard debris, soils or chemicals into street or storm drains. Collect and properly dispose of these materials.
- Properly compost or dispose of debris daily.
- Inspect and safely clean onsite landscape stormwater facilities (e.g., rain gardens, swales) to ensure they operate as designed.
- Mow high, often, and with sharp blades.
- Store fertilizers and other chemicals under cover.
- Purchase the least amount of landscape chemicals needed for your site.
- Use integrated pest management practices. For more information visit: www.oregon.gov/ODA/programs/Pesticides/RegulatoryIssues/Pages/IPM.aspx
- Adjust sprinklers to minimize irrigation overspray.
- Check local rules! Never stockpile landscaping material (e.g., dirt, bark chips, sand gravel) in the roadway or on pervious pavement unless your municipality allows it.
- Roots hold soils in place. Plant slopes with dense ground covering plants to prevent erosion.

CONSIDER HIRING AN ECOBIZ CERTIFIED LANDSCAPER! SEE WWW.ECOBIZ.ORG

oracwa.org

oregon association of CLEAN WATER agencies

IMPORTANT MEASURES YOU CAN TAKE

Do **NOT** apply pesticides, herbicides or fertilizers under windy conditions, or when rain, snow, sleet or hail is predicted within the next 48 hours.

mon	tues	wed	thurs	fri	sat	sun
✓	✗	✗	✗	✗	✓	✓

WHAT IS WRONG WITH THIS PICTURE?

Common practices such as these can pollute our water:



1. Over spraying fertilizer/pesticides on the sidewalk and applying them under wet conditions.



2. Raking or blowing leaves and grass off yard and into streets.



3. Leaving pet waste that can carry bacteria to waterways.



4. Stockpiling landscape material into the street where it can be a driving safety hazard, clog drains, and result in pollution.



5. Allowing irrigation overspray to enter waterways.



WHERE DO THESE DRAINS GO?

Depending on where you are, stormwater can either travel to a stream or river, soak into the ground through landscaped facilities, or be injected towards underground water supplies. Therefore, it is important to keep our stormwater clean.

BEND UTILITY DEPARTMENT

Only rain in the storm drain. If you notice anything else in the drain, please call 541-317-3000 ext. 2. For more information visit our website at bendoregon.gov/stormwater.

CLEAN WATER WORKS — We work for clean water

oracwa.org

oregon association of CLEAN WATER agencies

FOR LANDSCAPERS

LANDSCAPE MAINTENANCE

FOR HEALTHY WATERS AND HAPPY CUSTOMERS



Landscape maintenance benefits your customers and their landscapes, and also has a big impact on the local watershed.

WHAT'S HARMFUL TO OUR WATERWAYS?

YARD DEBRIS
Yard debris such as grass, leaves, tree needles, and soil can enter storm drain facilities and cause blockages and flooding.

CHEMICALS
Any landscape chemical including pesticides, fertilizers, and oils and fuels from equipment, can contribute to water pollution.

SOIL
Soil that enters waterways can clog fish gills and damage stream habitat.



NEVER LET THEM ENTER STORM DRAINS!



Here's what to avoid:

- Never stockpile landscaping materials (e.g. dirt, bark dust, sand and gravels) in the roadway or on pervious pavement.
- Do not apply pesticides or fertilizers under windy conditions or when rain is predicted within the next 48 hours.
- Don't blow, dump or wash yard debris into the roadway.
- Don't let landscape water runoff into the roadway.
- If yard debris burning is allowed in your area, please don't burn the material near the water's edge.

oregon association of CLEAN WATER agencies

oracwa.org

BEST MANAGEMENT PRACTICES

To help you better serve your customers, here are some simple steps to protect human health, our streams, rivers, and drinking water supplies.



LANDSCAPE MAINTENANCE

Plant With Purpose

- Plant slopes densely to prevent erosion.
- Build the soil with compost and mulch to produce healthy plants.
- Mow lawns high, often, and with sharp blades. Consider using a mulching lawn mower to improve turf health.
- Inspect and clean the landscaped stormwater treatment facilities (e.g., rain gardens, bio-retention, swales) in accordance with their operation and maintenance plan.
- Compost yard debris.
- Use native plants where appropriate.
- Cover or place perimeter sediment controls around landscaping material piles per local requirement timelines to prevent runoff to the stormwater system.

CONSIDER BECOMING AN ECOBIZ CERTIFIED LANDSCAPER! SEE WWW.ECOBIZ.ORG

PESTICIDE & FERTILIZER USE

Minimize Chemical Use

- Pull weeds instead of spraying.
- Use appropriate mechanical and biological controls.
- Purchase only the amount of pesticides and fertilizer that you need for your site.
- Apply spot treatments instead of broad application.
- When needed, use slow-release fertilizers to prevent wash off; consider using organic products.
- Sweep up product that lands on impervious surfaces.

Read Carefully

- Apply pesticides and fertilizers according to the manufacturer's recommendations and specific soil needs.
- Follow label recommendations to dispose of unused chemicals–**it's the law.**

Store Thoughtfully

- Store all chemicals under cover to protect from wind and rain.

WATERFRONT LANDSCAPING

Protect Our Waterways

- Use a buffer strip of native plants between the waterway and the yard to help filter pollutants.
- Plant trees and shrubs near water's edge to provide shade and help keep the water cool.

UTILITY DEPARTMENT

Only rain in the storm drain. If you notice anything else in the drain, please call 541-317-3000 ext. 2. For more information visit our website at bendoregon.gov/stormwater.

CLEAN WATER WORKS
We work for clean water

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Appendix G.3

Performance Standards Trainings

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Performance Standard Trainings

Compli Tailgate Training Example: Landscape Maintenance

Landscape Maintenance Fact Sheet

Applicable Performance Standards & Best Management Practices

Pesticides, herbicides and fertilizers contain chemicals that can affect our drinking water supply and the water quality of the Deschutes Rivers. It's important that we keep these chemicals out of the water supply.

Landscape Maintenance

- Use all reasonable measures to reduce pollutants from entering storm drains (e.g., litter, fertilizers, etc.). **
- Properly dispose of debris daily. ** *Do not leave it where it may enter a storm drain.*
- Inspect and clean the landscaped storm drainage facilities as needed (inspect at least twice a year) to ensure they operate as originally designed. **
- **Avoid blowing trash, yard debris, and dust into streets or gutters.** ***

Landscape Irrigation and Lawn Watering *(City of Bend Water Customers Only)*

- To minimize water waste City of Bend Irrigation hours are from 5:00 PM to 9:00 AM.
- Even address should water on even numbered days and odd address numbers should water on odd numbered days of the month.
- Adjust your watering amounts once vegetation is established or as the weather and temperature change.
- Overspray is not allowed; adjust sprinklers heads and automatic sprinkler cycles to avoid dry weather flows.

Pesticides and Fertilizers

- Store and maintain spill cleanup materials near pesticide, herbicides and fertilizers storage areas. **
- Use pesticides, herbicides and fertilizers according to the manufacturer's recommendations. **
- Use integrated pest management practices where appropriate. ***
- Use up pesticide, rinse containers, use rinse water as product. ***
- Purchase only the amount of pesticides and fertilizer you need for your site. ***
- Avoid using metal-based algaecides (copper sulfate) in fountain water. ***
- Do not apply pesticides, herbicides and fertilizers under windy condition. Sweep up overblown product.

Disposal Requirements

Pesticides, Herbicides & Fertilizers (Hazardous Materials)

- Use rinse water as product and dispose of rinsed containers in trash.**
- Dispose unused material as hazardous waste. **

Garden Clippings

- Compost or take to landfill. **

Tree Trimming

- Chip, if necessary, before composting or sending to landfill. **

Do's and Don'ts

Do compost yard debris.	Do sweep up excess fertilizer that lands on sidewalks and roadways.	Do pull noxious weeds.	Don't blow or dump yard debris in the roadway.	Don't let landscape water runoff into the roadway.
				

Codes and Regulations

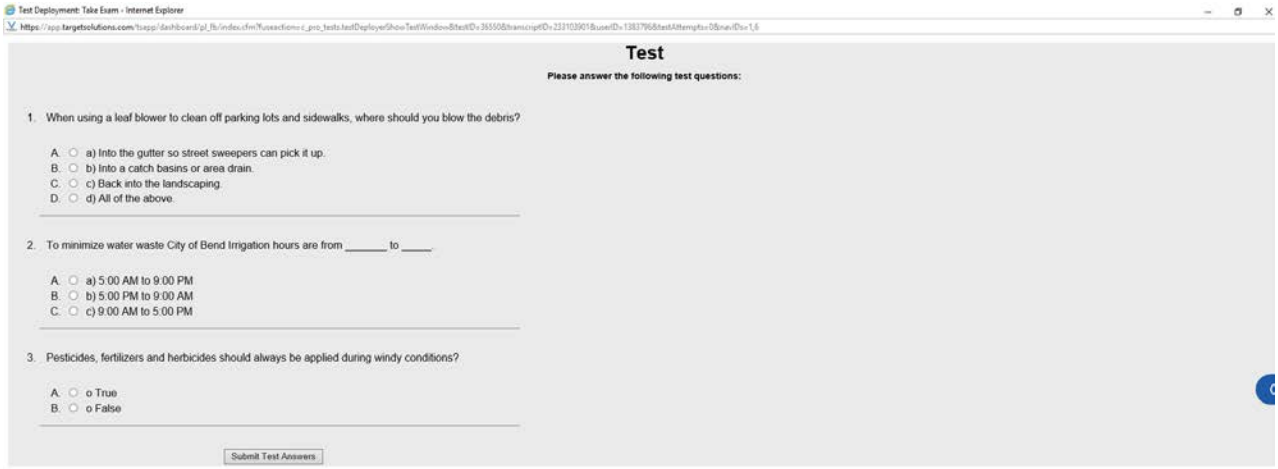
- Bend Code Title 16 www.bendoregon.gov/swregulations
- Illicit Discharge Minimization Best Management Manual www.bendoregon.gov/idmanual
- Bend Code 13.30.010 (Invasive Noxious Weeds)

Additional Resources

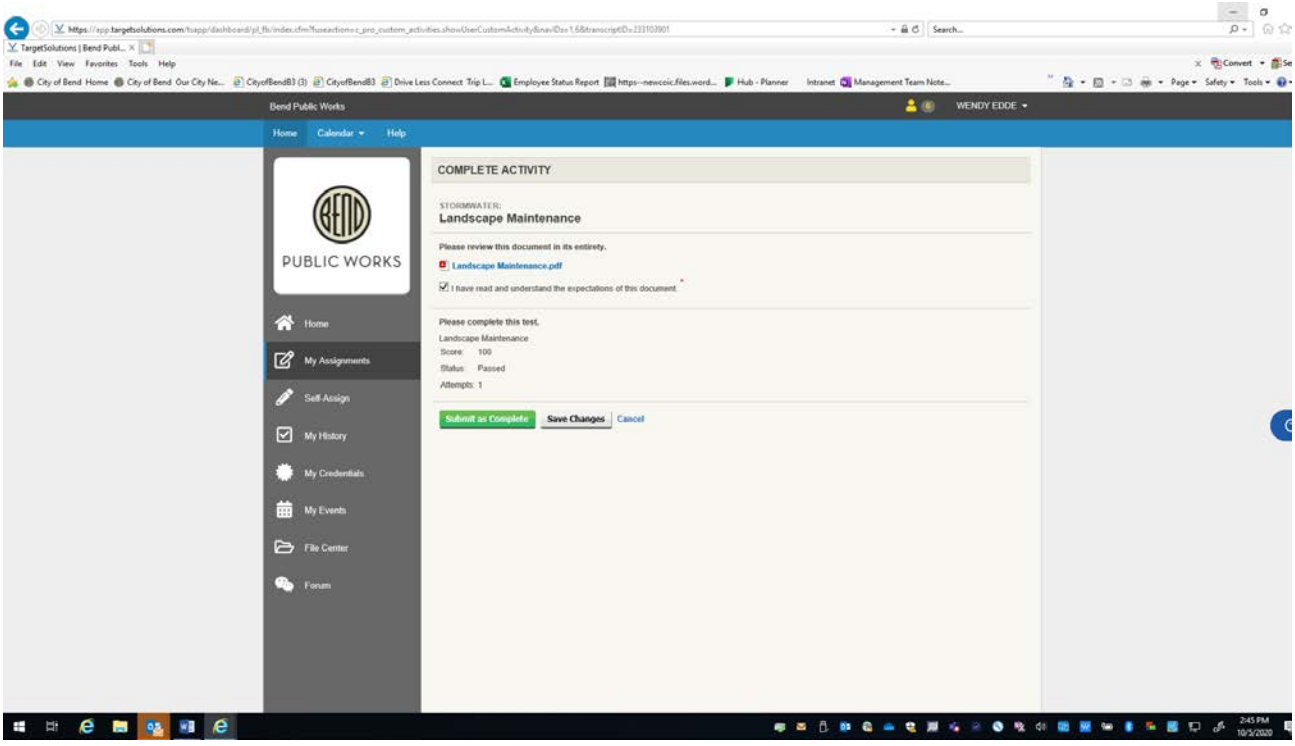
www.deschutes.org/Rc
www.bend.watersmartc

Regulatory Drivers
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anual Requirement
anual Recommendation

1 / 1


Test Deployment: Take Exam - Internet Explorer
Test
Please answer the following test questions:
1. When using a leaf blower to clean off parking lots and sidewalks, where should you blow the debris?
A. a) Into the gutter so street sweepers can pick it up.
B. b) Into a catch basins or area drain.
C. c) Back into the landscaping.
D. d) All of the above.
2. To minimize water waste City of Bend Irrigation hours are from _____ to _____.
A. a) 5:00 AM to 9:00 PM
B. b) 5:00 PM to 9:00 AM
C. c) 9:00 AM to 5:00 PM
3. Pesticides, fertilizers and herbicides should always be applied during windy conditions?
A. o True
B. o False
Submit Test Answers




Bend Public Works
WENDY EDDE
Home
Calendar
Help
PUBLIC WORKS
Home
My Assignments
Self-Assign
My History
My Credentials
My Events
File Center
Forum
COMPLETE ACTIVITY
STORMWATER:
Landscape Maintenance
Please review this document in its entirety.
Landscape Maintenance.pdf
I have read and understand the expectations of this document.
Please complete this test.
Landscape Maintenance
Score: 100
Status: Passed
Attempts: 1
Submit as Complete
Save Changes
Cancel

Stormwater Training 7-1-19 to 6-30-20
Type: Completions
Run Date: 9/14/2020 15:29
Shares: Not Shared
Filters: Number of Activities 11
User Status Active, Offline
Number of Courses 0
Completion Date Range From 07/01/2019 To 06/30/2020
Type All Assignments

Last Name	Assignment Name	Assignment Type	Completion Date
NEISWONGER	Concrete Use and Disposal	Stormwater	7/1/2019
OLIVER	Concrete Use and Disposal	Stormwater	7/1/2019
PARENT	Concrete Use and Disposal	Stormwater	7/2/2019
BLACKWELDER	Concrete Use and Disposal	Stormwater	7/3/2019
MASTRUD	Concrete Use and Disposal	Stormwater	7/3/2019
MOSHER	Concrete Use and Disposal	Stormwater	7/3/2019
BUHMANN	Concrete Use and Disposal	Stormwater	7/5/2019
DAVENPORT	Concrete Use and Disposal	Stormwater	7/9/2019
MINGUS	Concrete Use and Disposal	Stormwater	7/16/2019
GARDNER	Concrete Use and Disposal	Stormwater	7/22/2019
ROUNDS	Concrete Use and Disposal	Stormwater	8/2/2019
DAVENPORT	Concrete Use and Disposal	Stormwater	8/12/2019
HALL	Concrete Use and Disposal	Stormwater	8/21/2019
SWANN	Concrete Use and Disposal	Stormwater	8/30/2019
DANIEL	Concrete Use and Disposal	Stormwater	9/5/2019
FINNEY	Concrete Use and Disposal	Stormwater	9/16/2019
KLOTZ	Concrete Use and Disposal	Stormwater	9/17/2019
ROGERS	Concrete Use and Disposal	Stormwater	9/25/2019
UTLEY	Concrete Use and Disposal	Stormwater	9/30/2019
JONES	Concrete Use and Disposal	Stormwater	11/26/2019
MICKEY	Concrete Use and Disposal	Stormwater	12/6/2019
THOMASSON	Concrete Use and Disposal	Stormwater	12/16/2019
CHAMBERLAIN	Concrete Use and Disposal	Stormwater	2/3/2020
FINDLEY	Concrete Use and Disposal	Stormwater	2/3/2020
FOLLOSE	Concrete Use and Disposal	Stormwater	2/3/2020
GARDNER	Concrete Use and Disposal	Stormwater	2/3/2020
HOPKINS	Concrete Use and Disposal	Stormwater	2/3/2020
JOHNSON	Concrete Use and Disposal	Stormwater	2/3/2020
JONES	Concrete Use and Disposal	Stormwater	2/3/2020
MILLIGAN	Concrete Use and Disposal	Stormwater	2/3/2020
PRENTICE	Concrete Use and Disposal	Stormwater	2/3/2020
PRINCE	Concrete Use and Disposal	Stormwater	2/3/2020
YOUNG	Concrete Use and Disposal	Stormwater	2/3/2020
Ziebol	Concrete Use and Disposal	Stormwater	2/3/2020
BAER	Concrete Use and Disposal	Stormwater	2/4/2020
CRABTREE	Concrete Use and Disposal	Stormwater	2/4/2020
GILLETTE	Concrete Use and Disposal	Stormwater	2/4/2020
HALL	Concrete Use and Disposal	Stormwater	2/4/2020
HICKS	Concrete Use and Disposal	Stormwater	2/4/2020
KIRKPATRICK	Concrete Use and Disposal	Stormwater	2/4/2020
NEWTON	Concrete Use and Disposal	Stormwater	2/4/2020
Peterson	Concrete Use and Disposal	Stormwater	2/4/2020

Last Name	Assignment Name	Assignment Type	Completion Date
QUAL	Concrete Use and Disposal	Stormwater	2/4/2020
VAUGHAN	Concrete Use and Disposal	Stormwater	2/4/2020
WINTER	Concrete Use and Disposal	Stormwater	2/4/2020
Wolckenhauer	Concrete Use and Disposal	Stormwater	2/4/2020
NEISWONGER	Concrete Use and Disposal	Stormwater	2/5/2020
Babich	Concrete Use and Disposal	Stormwater	2/12/2020
CARTWRIGHT	Concrete Use and Disposal	Stormwater	2/12/2020
Holmgren	Concrete Use and Disposal	Stormwater	2/18/2020
MUNSON	Concrete Use and Disposal	Stormwater	2/18/2020
RADER	Concrete Use and Disposal	Stormwater	2/18/2020
THOMASSON	Concrete Use and Disposal	Stormwater	2/18/2020
LESSAR	Concrete Use and Disposal	Stormwater	2/24/2020
BUHMANN	Concrete Use and Disposal	Stormwater	2/25/2020
Farnsworth	Concrete Use and Disposal	Stormwater	2/25/2020
HAUCK	Concrete Use and Disposal	Stormwater	2/26/2020
WOOD	Concrete Use and Disposal	Stormwater	2/27/2020
SCHMIDT	Concrete Use and Disposal	Stormwater	3/4/2020
WALDROP	Concrete Use and Disposal	Stormwater	3/4/2020
FUGATE	Concrete Use and Disposal	Stormwater	3/9/2020
MASTRUD	Concrete Use and Disposal	Stormwater	3/16/2020
ROUNDS	Concrete Use and Disposal	Stormwater	3/16/2020
Olson	Concrete Use and Disposal	Stormwater	3/17/2020
BUCHANAN	Concrete Use and Disposal	Stormwater	3/19/2020
HOLMGREN	Concrete Use and Disposal	Stormwater	3/19/2020
BLACKWELDER	Concrete Use and Disposal	Stormwater	3/20/2020
VOLKMAN	Concrete Use and Disposal	Stormwater	3/23/2020
SOMERS	Concrete Use and Disposal	Stormwater	3/24/2020
BYRD	Concrete Use and Disposal	Stormwater	3/26/2020
Combs	Concrete Use and Disposal	Stormwater	3/30/2020
BLAKE	Concrete Use and Disposal	Stormwater	4/1/2020
BECK	Concrete Use and Disposal	Stormwater	4/3/2020
Adams	Concrete Use and Disposal	Stormwater	4/9/2020
BORREGO	Concrete Use and Disposal	Stormwater	4/10/2020
NICHOLS	Concrete Use and Disposal	Stormwater	4/10/2020
Paulson	Concrete Use and Disposal	Stormwater	4/13/2020
LARSON	Concrete Use and Disposal	Stormwater	4/14/2020
SOMERS	Concrete Use and Disposal	Stormwater	4/16/2020
Suing	Concrete Use and Disposal	Stormwater	4/16/2020
MINGUS	Concrete Use and Disposal	Stormwater	4/17/2020
LIBOLT	Concrete Use and Disposal	Stormwater	4/27/2020
MOSHER	Concrete Use and Disposal	Stormwater	4/28/2020
BARNARD	Concrete Use and Disposal	Stormwater	4/29/2020
SCARBROUGH	Concrete Use and Disposal	Stormwater	4/29/2020
WIMPARI	Concrete Use and Disposal	Stormwater	5/1/2020
Walker	Concrete Use and Disposal	Stormwater	5/5/2020
PETITMERMET	Concrete Use and Disposal	Stormwater	5/11/2020
EDDE	Concrete Use and Disposal	Stormwater	5/15/2020
RICHARDSON	Concrete Use and Disposal	Stormwater	5/15/2020
FONSECA	Concrete Use and Disposal	Stormwater	6/24/2020
ABBAS	Illicit Discharge Recognition and Reportin	Stormwater	7/1/2019
ARMER	Illicit Discharge Recognition and Reportin	Stormwater	7/1/2019
MOULDER	Illicit Discharge Recognition and Reportin	Stormwater	7/1/2019

Last Name	Assignment Name	Assignment Type	Completion Date
NEISWONGER	Illicit Discharge Recognition and Reportin	Stormwater	7/1/2019
OLIVER	Illicit Discharge Recognition and Reportin	Stormwater	7/1/2019
RILEY	Illicit Discharge Recognition and Reportin	Stormwater	7/1/2019
STENSLAND	Illicit Discharge Recognition and Reportin	Stormwater	7/1/2019
CARLSON	Illicit Discharge Recognition and Reportin	Stormwater	7/2/2019
PARENT	Illicit Discharge Recognition and Reportin	Stormwater	7/2/2019
Walker	Illicit Discharge Recognition and Reportin	Stormwater	7/2/2019
WALSWORTH	Illicit Discharge Recognition and Reportin	Stormwater	7/2/2019
ARMENTA	Illicit Discharge Recognition and Reportin	Stormwater	7/3/2019
BLACKWELDER	Illicit Discharge Recognition and Reportin	Stormwater	7/3/2019
LARSON	Illicit Discharge Recognition and Reportin	Stormwater	7/3/2019
MASTRUD	Illicit Discharge Recognition and Reportin	Stormwater	7/3/2019
WALLING	Illicit Discharge Recognition and Reportin	Stormwater	7/3/2019
WILLIS	Illicit Discharge Recognition and Reportin	Stormwater	7/3/2019
BECK	Illicit Discharge Recognition and Reportin	Stormwater	7/5/2019
MOSHER	Illicit Discharge Recognition and Reportin	Stormwater	7/5/2019
NICHOLS	Illicit Discharge Recognition and Reportin	Stormwater	7/5/2019
NICHOLS	Illicit Discharge Recognition and Reportin	Stormwater	7/5/2019
SOMERS	Illicit Discharge Recognition and Reportin	Stormwater	7/8/2019
ALBECK	Illicit Discharge Recognition and Reportin	Stormwater	7/9/2019
MALINOWSKI	Illicit Discharge Recognition and Reportin	Stormwater	7/9/2019
MCATEER	Illicit Discharge Recognition and Reportin	Stormwater	7/9/2019
Olson	Illicit Discharge Recognition and Reportin	Stormwater	7/15/2019
MCATEER	Illicit Discharge Recognition and Reportin	Stormwater	7/16/2019
MINGUS	Illicit Discharge Recognition and Reportin	Stormwater	7/16/2019
BUHMANN	Illicit Discharge Recognition and Reportin	Stormwater	7/19/2019
ROUNDS	Illicit Discharge Recognition and Reportin	Stormwater	7/19/2019
RICHARDSON	Illicit Discharge Recognition and Reportin	Stormwater	7/24/2019
BRICK	Illicit Discharge Recognition and Reportin	Stormwater	7/29/2019
PRICE	Illicit Discharge Recognition and Reportin	Stormwater	7/30/2019
WINTER	Illicit Discharge Recognition and Reportin	Stormwater	7/30/2019
DAVENPORT	Illicit Discharge Recognition and Reportin	Stormwater	8/5/2019
HOWE	Illicit Discharge Recognition and Reportin	Stormwater	8/6/2019
DAVENPORT	Illicit Discharge Recognition and Reportin	Stormwater	8/12/2019
ROUNDS	Illicit Discharge Recognition and Reportin	Stormwater	8/12/2019
RICHMOND	Illicit Discharge Recognition and Reportin	Stormwater	8/13/2019
LEATH	Illicit Discharge Recognition and Reportin	Stormwater	8/29/2019
HALL	Illicit Discharge Recognition and Reportin	Stormwater	8/30/2019
SWANN	Illicit Discharge Recognition and Reportin	Stormwater	8/30/2019
SWANN	Illicit Discharge Recognition and Reportin	Stormwater	8/30/2019
KLOTZ	Illicit Discharge Recognition and Reportin	Stormwater	9/9/2019
FINNEY	Illicit Discharge Recognition and Reportin	Stormwater	9/16/2019
KLOTZ	Illicit Discharge Recognition and Reportin	Stormwater	9/17/2019
SCARBROUGH	Illicit Discharge Recognition and Reportin	Stormwater	9/18/2019
UTLEY	Illicit Discharge Recognition and Reportin	Stormwater	9/30/2019
EDWARDS	Illicit Discharge Recognition and Reportin	Stormwater	10/1/2019
LINDSEY	Illicit Discharge Recognition and Reportin	Stormwater	10/2/2019
GARDNER	Illicit Discharge Recognition and Reportin	Stormwater	10/8/2019
HRUBY	Illicit Discharge Recognition and Reportin	Stormwater	10/13/2019
MICKEY	Illicit Discharge Recognition and Reportin	Stormwater	10/18/2019
BRADLEY	Illicit Discharge Recognition and Reportin	Stormwater	11/26/2019
FUGATE	Illicit Discharge Recognition and Reportin	Stormwater	11/26/2019

Last Name	Assignment Name	Assignment Type	Completion Date
JACKSON	Illicit Discharge Recognition and Reportin	Stormwater	11/26/2019
JONES	Illicit Discharge Recognition and Reportin	Stormwater	11/26/2019
JONES	Illicit Discharge Recognition and Reportin	Stormwater	11/26/2019
ROGERS	Illicit Discharge Recognition and Reportin	Stormwater	11/26/2019
SMITH	Illicit Discharge Recognition and Reportin	Stormwater	11/26/2019
THOMASSON	Illicit Discharge Recognition and Reportin	Stormwater	12/16/2019
MORRISON	Illicit Discharge Recognition and Reportin	Stormwater	12/18/2019
MICCOLIS	Illicit Discharge Recognition and Reportin	Stormwater	12/23/2019
BYRD	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
CASHWELL	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
Crowell	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
Dorsey	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
FOLLOSE	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
GARDNER	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
HAUCK	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
Helgeson	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
Hemperley	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
MARX	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
MCMAHON	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
OREY	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
PRENTICE	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
RADER	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
RITTER	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
VAUGHAN	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
VOLKMAN	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
WOOD	Illicit Discharge Recognition and Reportin	Stormwater	4/1/2020
BLAKE	Illicit Discharge Recognition and Reportin	Stormwater	4/2/2020
Combs	Illicit Discharge Recognition and Reportin	Stormwater	4/2/2020
ELPI-TRAINOR	Illicit Discharge Recognition and Reportin	Stormwater	4/2/2020
HOPKINS	Illicit Discharge Recognition and Reportin	Stormwater	4/2/2020
JENNESS	Illicit Discharge Recognition and Reportin	Stormwater	4/2/2020
JOHNSON	Illicit Discharge Recognition and Reportin	Stormwater	4/2/2020
LUCERO	Illicit Discharge Recognition and Reportin	Stormwater	4/2/2020
SANDERS	Illicit Discharge Recognition and Reportin	Stormwater	4/2/2020
YOUNG	Illicit Discharge Recognition and Reportin	Stormwater	4/2/2020
ALEXANDER	Illicit Discharge Recognition and Reportin	Stormwater	4/3/2020
BURNSON	Illicit Discharge Recognition and Reportin	Stormwater	4/3/2020
Holmgren	Illicit Discharge Recognition and Reportin	Stormwater	4/3/2020
JUDD	Illicit Discharge Recognition and Reportin	Stormwater	4/3/2020
ROGERS	Illicit Discharge Recognition and Reportin	Stormwater	4/3/2020
Wolckenhauer	Illicit Discharge Recognition and Reportin	Stormwater	4/3/2020
Ziebol	Illicit Discharge Recognition and Reportin	Stormwater	4/6/2020
PATTERSON	Illicit Discharge Recognition and Reportin	Stormwater	4/8/2020
MAC GEORGE	Illicit Discharge Recognition and Reportin	Stormwater	4/9/2020
Adams	Illicit Discharge Recognition and Reportin	Stormwater	4/10/2020
BORREGO	Illicit Discharge Recognition and Reportin	Stormwater	4/10/2020
NICHOLS	Illicit Discharge Recognition and Reportin	Stormwater	4/10/2020
SCHMIDT	Illicit Discharge Recognition and Reportin	Stormwater	4/10/2020
BUETTNER	Illicit Discharge Recognition and Reportin	Stormwater	4/13/2020
CARTWRIGHT	Illicit Discharge Recognition and Reportin	Stormwater	4/13/2020
BROWN	Illicit Discharge Recognition and Reportin	Stormwater	4/14/2020
HANSEN	Illicit Discharge Recognition and Reportin	Stormwater	4/14/2020

Last Name	Assignment Name	Assignment Type	Completion Date
NEWBERG	Illicit Discharge Recognition and Reportin	Stormwater	4/14/2020
May	Illicit Discharge Recognition and Reportin	Stormwater	4/15/2020
D'Angona	Illicit Discharge Recognition and Reportin	Stormwater	4/16/2020
MUNSON	Illicit Discharge Recognition and Reportin	Stormwater	4/16/2020
Olson	Illicit Discharge Recognition and Reportin	Stormwater	4/16/2020
Zarate	Illicit Discharge Recognition and Reportin	Stormwater	4/17/2020
Babich	Illicit Discharge Recognition and Reportin	Stormwater	4/20/2020
FINDLEY	Illicit Discharge Recognition and Reportin	Stormwater	4/22/2020
MCQUILLEN	Illicit Discharge Recognition and Reportin	Stormwater	4/22/2020
RICHMOND	Illicit Discharge Recognition and Reportin	Stormwater	4/22/2020
HICKS	Illicit Discharge Recognition and Reportin	Stormwater	4/23/2020
MALINOWSKI	Illicit Discharge Recognition and Reportin	Stormwater	4/28/2020
Farnsworth	Illicit Discharge Recognition and Reportin	Stormwater	4/29/2020
MILLIGAN	Illicit Discharge Recognition and Reportin	Stormwater	4/29/2020
SCARBROUGH	Illicit Discharge Recognition and Reportin	Stormwater	4/29/2020
WINTER	Illicit Discharge Recognition and Reportin	Stormwater	4/29/2020
Paulson	Illicit Discharge Recognition and Reportin	Stormwater	5/5/2020
BUHMANN	Illicit Discharge Recognition and Reportin	Stormwater	5/6/2020
QUAL	Illicit Discharge Recognition and Reportin	Stormwater	5/6/2020
WILLIS	Illicit Discharge Recognition and Reportin	Stormwater	5/7/2020
HALL	Illicit Discharge Recognition and Reportin	Stormwater	5/11/2020
MASTRUD	Illicit Discharge Recognition and Reportin	Stormwater	5/11/2020
PETITMERMET	Illicit Discharge Recognition and Reportin	Stormwater	5/11/2020
BUCHANAN	Illicit Discharge Recognition and Reportin	Stormwater	5/12/2020
CRABTREE	Illicit Discharge Recognition and Reportin	Stormwater	5/12/2020
WHITMAN	Illicit Discharge Recognition and Reportin	Stormwater	5/12/2020
BARNES	Illicit Discharge Recognition and Reportin	Stormwater	5/14/2020
HRUBY	Illicit Discharge Recognition and Reportin	Stormwater	5/19/2020
PARENT	Illicit Discharge Recognition and Reportin	Stormwater	5/20/2020
BAER	Illicit Discharge Recognition and Reportin	Stormwater	5/22/2020
DONATO	Illicit Discharge Recognition and Reportin	Stormwater	5/26/2020
WALDROP	Illicit Discharge Recognition and Reportin	Stormwater	5/26/2020
HINTON	Illicit Discharge Recognition and Reportin	Stormwater	5/28/2020
STENSLAND	Illicit Discharge Recognition and Reportin	Stormwater	5/28/2020
Bonahoom	Illicit Discharge Recognition and Reportin	Stormwater	5/29/2020
CHAMBERLAIN	Illicit Discharge Recognition and Reportin	Stormwater	6/3/2020
PACKEBUSH	Illicit Discharge Recognition and Reportin	Stormwater	6/4/2020
FURLOW	Illicit Discharge Recognition and Reportin	Stormwater	6/8/2020
NEWTON	Illicit Discharge Recognition and Reportin	Stormwater	6/8/2020
LESSAR	Illicit Discharge Recognition and Reportin	Stormwater	6/9/2020
COMBS	Illicit Discharge Recognition and Reportin	Stormwater	6/10/2020
HOLMGREN	Illicit Discharge Recognition and Reportin	Stormwater	6/12/2020
Timineri	Illicit Discharge Recognition and Reportin	Stormwater	6/12/2020
LARSON	Illicit Discharge Recognition and Reportin	Stormwater	6/15/2020
BUYSTEDT	Illicit Discharge Recognition and Reportin	Stormwater	6/16/2020
JONES	Illicit Discharge Recognition and Reportin	Stormwater	6/16/2020
DAVENPORT	Illicit Discharge Recognition and Reportin	Stormwater	6/17/2020
PACKEBUSH	Illicit Discharge Recognition and Reportin	Stormwater	6/17/2020
BECK	Illicit Discharge Recognition and Reportin	Stormwater	6/18/2020
BARNARD	Illicit Discharge Recognition and Reportin	Stormwater	6/19/2020
FONSECA	Illicit Discharge Recognition and Reportin	Stormwater	6/24/2020
HOWELL	Illicit Discharge Recognition and Reportin	Stormwater	6/25/2020

Last Name	Assignment Name	Assignment Type	Completion Date
Mcconnell	Illicit Discharge Recognition and Reportin	Stormwater	6/25/2020
NEISWONGER	Illicit Discharge Recognition and Reportin	Stormwater	6/25/2020
WIMPARI	Illicit Discharge Recognition and Reportin	Stormwater	6/25/2020
ALLEY	Illicit Discharge Recognition and Reportin	Stormwater	6/26/2020
EDWARDS	Illicit Discharge Recognition and Reportin	Stormwater	6/26/2020
GILLETTE	Illicit Discharge Recognition and Reportin	Stormwater	6/26/2020
FORE	Illicit Discharge Recognition and Reportin	Stormwater	6/29/2020
STANTON	Illicit Discharge Recognition and Reportin	Stormwater	6/29/2020
ATWOOD	Illicit Discharge Recognition and Reportin	Stormwater	6/30/2020
CURRY	Illicit Discharge Recognition and Reportin	Stormwater	6/30/2020
HULBERT	Illicit Discharge Recognition and Reportin	Stormwater	6/30/2020
VODERBERG	Illicit Discharge Recognition and Reportin	Stormwater	6/30/2020
WRIGHT	Illicit Discharge Recognition and Reportin	Stormwater	6/30/2020
BUCHANAN	Landscape Maintenance	Stormwater	7/3/2019
Crowell	Landscape Maintenance	Stormwater	7/3/2019
FOLLOSE	Landscape Maintenance	Stormwater	7/3/2019
GILLETTE	Landscape Maintenance	Stormwater	7/3/2019
PARENT	Landscape Maintenance	Stormwater	7/3/2019
RADER	Landscape Maintenance	Stormwater	7/3/2019
WINTER	Landscape Maintenance	Stormwater	7/3/2019
Ziebol	Landscape Maintenance	Stormwater	7/3/2019
BECK	Landscape Maintenance	Stormwater	7/5/2019
CHAMBERLAIN	Landscape Maintenance	Stormwater	7/5/2019
LARSON	Landscape Maintenance	Stormwater	7/5/2019
MUNSON	Landscape Maintenance	Stormwater	7/5/2019
NICHOLS	Landscape Maintenance	Stormwater	7/5/2019
PETITMERMET	Landscape Maintenance	Stormwater	7/5/2019
STANTON	Landscape Maintenance	Stormwater	7/5/2019
VOLKMAN	Landscape Maintenance	Stormwater	7/5/2019
Wolckenhauer	Landscape Maintenance	Stormwater	7/5/2019
FINDLEY	Landscape Maintenance	Stormwater	7/8/2019
MILLIGAN	Landscape Maintenance	Stormwater	7/8/2019
SOMERS	Landscape Maintenance	Stormwater	7/8/2019
WOOD	Landscape Maintenance	Stormwater	7/9/2019
YOUNG	Landscape Maintenance	Stormwater	7/9/2019
BAER	Landscape Maintenance	Stormwater	7/10/2019
HOPKINS	Landscape Maintenance	Stormwater	7/11/2019
NEWTON	Landscape Maintenance	Stormwater	7/11/2019
Paulson	Landscape Maintenance	Stormwater	7/11/2019
PRENTICE	Landscape Maintenance	Stormwater	7/11/2019
Olson	Landscape Maintenance	Stormwater	7/15/2019
BORGOGNONI	Landscape Maintenance	Stormwater	7/16/2019
LESSAR	Landscape Maintenance	Stormwater	7/16/2019
MINGUS	Landscape Maintenance	Stormwater	7/16/2019
VAUGHAN	Landscape Maintenance	Stormwater	7/16/2019
PRINCE	Landscape Maintenance	Stormwater	7/17/2019
Farnsworth	Landscape Maintenance	Stormwater	7/19/2019
BORREGO	Landscape Maintenance	Stormwater	7/26/2019
BUHMANN	Landscape Maintenance	Stormwater	8/1/2019
VOLKMAN	Landscape Maintenance	Stormwater	8/1/2019
BARNARD	Landscape Maintenance	Stormwater	8/2/2019
HICKS	Landscape Maintenance	Stormwater	8/2/2019

Last Name	Assignment Name	Assignment Type	Completion Date
KIRKPATRICK	Landscape Maintenance	Stormwater	8/2/2019
Peterson	Landscape Maintenance	Stormwater	8/2/2019
CARTWRIGHT	Landscape Maintenance	Stormwater	8/5/2019
GARDNER	Landscape Maintenance	Stormwater	8/5/2019
Mcconnell	Landscape Maintenance	Stormwater	8/5/2019
NEISWONGER	Landscape Maintenance	Stormwater	8/5/2019
QUAL	Landscape Maintenance	Stormwater	8/5/2019
SCHMIDT	Landscape Maintenance	Stormwater	8/5/2019
BLAKE	Landscape Maintenance	Stormwater	8/6/2019
COTA	Landscape Maintenance	Stormwater	8/6/2019
WALDROP	Landscape Maintenance	Stormwater	8/6/2019
HOLMGREN	Landscape Maintenance	Stormwater	8/13/2019
SCARBROUGH	Landscape Maintenance	Stormwater	8/15/2019
Suing	Landscape Maintenance	Stormwater	8/15/2019
OLIVER	Landscape Maintenance	Stormwater	8/19/2019
Combs	Landscape Maintenance	Stormwater	8/21/2019
Holmgren	Landscape Maintenance	Stormwater	8/21/2019
DAVENPORT	Landscape Maintenance	Stormwater	9/3/2019
EDDE	Landscape Maintenance	Stormwater	9/3/2019
FORE	Landscape Maintenance	Stormwater	9/3/2019
SWANN	Landscape Maintenance	Stormwater	9/3/2019
Timineri	Landscape Maintenance	Stormwater	9/3/2019
HALL	Landscape Maintenance	Stormwater	9/4/2019
DANIEL	Landscape Maintenance	Stormwater	9/5/2019
RICHARDSON	Landscape Maintenance	Stormwater	9/5/2019
HAUCK	Landscape Maintenance	Stormwater	9/9/2019
CRABTREE	Landscape Maintenance	Stormwater	9/10/2019
JUDD	Landscape Maintenance	Stormwater	9/10/2019
MAC GEORGE	Landscape Maintenance	Stormwater	9/10/2019
Babich	Landscape Maintenance	Stormwater	9/16/2019
KLOTZ	Landscape Maintenance	Stormwater	9/17/2019
Walker	Landscape Maintenance	Stormwater	9/17/2019
FONSECA	Landscape Maintenance	Stormwater	9/19/2019
MASTRUD	Landscape Maintenance	Stormwater	9/19/2019
ARMENTA	Landscape Maintenance	Stormwater	9/24/2019
MOULDER	Landscape Maintenance	Stormwater	9/24/2019
CARLSON	Landscape Maintenance	Stormwater	9/25/2019
PACKEBUSH	Landscape Maintenance	Stormwater	9/25/2019
PATTERSON	Landscape Maintenance	Stormwater	9/25/2019
LIBOLT	Landscape Maintenance	Stormwater	9/27/2019
RILEY	Landscape Maintenance	Stormwater	9/30/2019
ROUNDS	Landscape Maintenance	Stormwater	9/30/2019
EDWARDS	Landscape Maintenance	Stormwater	10/1/2019
UTLEY	Landscape Maintenance	Stormwater	10/1/2019
LINDSEY	Landscape Maintenance	Stormwater	10/2/2019
ROGERS	Landscape Maintenance	Stormwater	10/4/2019
BYRD	Landscape Maintenance	Stormwater	10/7/2019
COMBS	Landscape Maintenance	Stormwater	10/7/2019
BRADLEY	Landscape Maintenance	Stormwater	10/8/2019
GARDNER	Landscape Maintenance	Stormwater	10/10/2019
MOSHER	Landscape Maintenance	Stormwater	10/11/2019
WALSWORTH	Landscape Maintenance	Stormwater	10/17/2019

Last Name	Assignment Name	Assignment Type	Completion Date
MALINOWSKI	Landscape Maintenance	Stormwater	10/21/2019
LEATH	Landscape Maintenance	Stormwater	10/22/2019
RICHMOND	Landscape Maintenance	Stormwater	10/22/2019
MORRISON	Landscape Maintenance	Stormwater	10/23/2019
BLACKWELDER	Landscape Maintenance	Stormwater	10/25/2019
MICCOLIS	Landscape Maintenance	Stormwater	11/5/2019
ARMER	Landscape Maintenance	Stormwater	11/26/2019
FUGATE	Landscape Maintenance	Stormwater	11/26/2019
JONES	Landscape Maintenance	Stormwater	11/26/2019
SMITH	Landscape Maintenance	Stormwater	11/26/2019
BRICK	Landscape Maintenance	Stormwater	12/11/2019
MICKEY	Landscape Maintenance	Stormwater	12/13/2019
THOMASSON	Landscape Maintenance	Stormwater	12/16/2019
SOMERS	Landscape Maintenance	Stormwater	12/20/2019
FINNEY	Landscape Maintenance	Stormwater	12/27/2019
JACKSON	Landscape Maintenance	Stormwater	2/3/2020
Ziebol	Operation and Maintenance of Stormwate	Stormwater	4/7/2020
Ziebol	Operation and Maintenance of Stormwate	Stormwater	4/7/2020
HOPKINS	Operation and Maintenance of Stormwate	Stormwater	4/13/2020
YOUNG	Operation and Maintenance of Stormwate	Stormwater	4/13/2020
JOHNSON	Operation and Maintenance of Stormwate	Stormwater	4/14/2020
PRENTICE	Operation and Maintenance of Stormwate	Stormwater	4/20/2020
HAUCK	Operation and Maintenance of Stormwate	Stormwater	4/22/2020
BUCHANAN	Operation and Maintenance of Stormwate	Stormwater	5/12/2020
BAER	Operation and Maintenance of Stormwate	Stormwater	5/22/2020
Ziebol	Operation and Maintenance of Stormwate	Stormwater	5/27/2020
BARNARD	Paint Use and Disposal	Stormwater	7/1/2019
PARENT	Paint Use and Disposal	Stormwater	7/3/2019
PATTERSON	Paint Use and Disposal	Stormwater	7/4/2019
CHAMBERLAIN	Paint Use and Disposal	Stormwater	7/5/2019
MUNSON	Paint Use and Disposal	Stormwater	7/5/2019
NICHOLS	Paint Use and Disposal	Stormwater	7/5/2019
PETITMERMET	Paint Use and Disposal	Stormwater	7/5/2019
VOLKMAN	Paint Use and Disposal	Stormwater	7/5/2019
HICKS	Paint Use and Disposal	Stormwater	7/11/2019
BORGOGNONI	Paint Use and Disposal	Stormwater	7/16/2019
MINGUS	Paint Use and Disposal	Stormwater	7/16/2019
VOLKMAN	Paint Use and Disposal	Stormwater	7/18/2019
Farnsworth	Paint Use and Disposal	Stormwater	7/19/2019
BORREGO	Paint Use and Disposal	Stormwater	7/26/2019
LARSON	Paint Use and Disposal	Stormwater	7/26/2019
Babich	Paint Use and Disposal	Stormwater	7/30/2019
BUHMANN	Paint Use and Disposal	Stormwater	7/31/2019
Peterson	Paint Use and Disposal	Stormwater	8/2/2019
CARTWRIGHT	Paint Use and Disposal	Stormwater	8/5/2019
FORE	Paint Use and Disposal	Stormwater	8/5/2019
Mcconnell	Paint Use and Disposal	Stormwater	8/5/2019
NEISWONGER	Paint Use and Disposal	Stormwater	8/5/2019
SCHMIDT	Paint Use and Disposal	Stormwater	8/5/2019
BLAKE	Paint Use and Disposal	Stormwater	8/6/2019
COTA	Paint Use and Disposal	Stormwater	8/6/2019
HOLMGREN	Paint Use and Disposal	Stormwater	8/13/2019

Last Name	Assignment Name	Assignment Type	Completion Date
Combs	Paint Use and Disposal	Stormwater	8/15/2019
OLIVER	Paint Use and Disposal	Stormwater	8/19/2019
BECK	Paint Use and Disposal	Stormwater	8/22/2019
COMBS	Paint Use and Disposal	Stormwater	8/26/2019
MOULDER	Paint Use and Disposal	Stormwater	8/26/2019
LEATH	Paint Use and Disposal	Stormwater	8/29/2019
HALL	Paint Use and Disposal	Stormwater	8/30/2019
ARMENTA	Paint Use and Disposal	Stormwater	9/3/2019
BRADLEY	Paint Use and Disposal	Stormwater	9/3/2019
CRABTREE	Paint Use and Disposal	Stormwater	9/3/2019
DAVENPORT	Paint Use and Disposal	Stormwater	9/3/2019
EDDE	Paint Use and Disposal	Stormwater	9/3/2019
HAUCK	Paint Use and Disposal	Stormwater	9/3/2019
LIBOLT	Paint Use and Disposal	Stormwater	9/3/2019
RILEY	Paint Use and Disposal	Stormwater	9/3/2019
SWANN	Paint Use and Disposal	Stormwater	9/3/2019
Timineri	Paint Use and Disposal	Stormwater	9/3/2019
Walker	Paint Use and Disposal	Stormwater	9/3/2019
CARLSON	Paint Use and Disposal	Stormwater	9/4/2019
DANIEL	Paint Use and Disposal	Stormwater	9/5/2019
PACKEBUSH	Paint Use and Disposal	Stormwater	9/5/2019
RICHARDSON	Paint Use and Disposal	Stormwater	9/5/2019
JUDD	Paint Use and Disposal	Stormwater	9/10/2019
FINNEY	Paint Use and Disposal	Stormwater	9/16/2019
KLOTZ	Paint Use and Disposal	Stormwater	9/17/2019
FONSECA	Paint Use and Disposal	Stormwater	9/19/2019
MASTRUD	Paint Use and Disposal	Stormwater	9/19/2019
BLACKWELDER	Paint Use and Disposal	Stormwater	9/24/2019
RICHMOND	Paint Use and Disposal	Stormwater	9/24/2019
BYRD	Paint Use and Disposal	Stormwater	9/26/2019
ROUNDS	Paint Use and Disposal	Stormwater	9/30/2019
EDWARDS	Paint Use and Disposal	Stormwater	10/1/2019
UTLEY	Paint Use and Disposal	Stormwater	10/1/2019
LINDSEY	Paint Use and Disposal	Stormwater	10/2/2019
ROGERS	Paint Use and Disposal	Stormwater	10/4/2019
GARDNER	Paint Use and Disposal	Stormwater	10/9/2019
MOSHER	Paint Use and Disposal	Stormwater	10/11/2019
WALSWORTH	Paint Use and Disposal	Stormwater	10/17/2019
MALINOWSKI	Paint Use and Disposal	Stormwater	10/21/2019
MORRISON	Paint Use and Disposal	Stormwater	10/23/2019
ARMER	Paint Use and Disposal	Stormwater	11/26/2019
FUGATE	Paint Use and Disposal	Stormwater	11/26/2019
JACKSON	Paint Use and Disposal	Stormwater	11/26/2019
JONES	Paint Use and Disposal	Stormwater	11/26/2019
SMITH	Paint Use and Disposal	Stormwater	11/26/2019
BRICK	Paint Use and Disposal	Stormwater	12/11/2019
MICKEY	Paint Use and Disposal	Stormwater	12/13/2019
SOMERS	Paint Use and Disposal	Stormwater	12/13/2019
THOMASSON	Paint Use and Disposal	Stormwater	12/16/2019
SOMERS	Paint Use and Disposal	Stormwater	12/20/2019
MICCOLIS	Paint Use and Disposal	Stormwater	12/24/2019
Adams	Paint Use and Disposal	Stormwater	4/10/2020

Last Name	Assignment Name	Assignment Type	Completion Date
HOPKINS	Paint Use and Disposal	Stormwater	4/13/2020
JUDD	Paint Use and Disposal	Stormwater	4/13/2020
YOUNG	Paint Use and Disposal	Stormwater	4/13/2020
JOHNSON	Paint Use and Disposal	Stormwater	4/14/2020
VAUGHAN	Paint Use and Disposal	Stormwater	4/14/2020
VOLKMAN	Paint Use and Disposal	Stormwater	4/14/2020
Holmgren	Paint Use and Disposal	Stormwater	4/15/2020
MUNSON	Paint Use and Disposal	Stormwater	4/16/2020
Olson	Paint Use and Disposal	Stormwater	4/17/2020
PRENTICE	Paint Use and Disposal	Stormwater	4/20/2020
HAUCK	Paint Use and Disposal	Stormwater	4/22/2020
JONES	Paint Use and Disposal	Stormwater	4/22/2020
RICHMOND	Paint Use and Disposal	Stormwater	4/22/2020
HICKS	Paint Use and Disposal	Stormwater	4/23/2020
LUCERO	Paint Use and Disposal	Stormwater	4/27/2020
WOOD	Paint Use and Disposal	Stormwater	4/27/2020
MALINOWSKI	Paint Use and Disposal	Stormwater	4/28/2020
FINDLEY	Paint Use and Disposal	Stormwater	4/29/2020
MILLIGAN	Paint Use and Disposal	Stormwater	4/29/2020
SCARBROUGH	Paint Use and Disposal	Stormwater	4/29/2020
Combs	Paint Use and Disposal	Stormwater	5/1/2020
Paulson	Paint Use and Disposal	Stormwater	5/5/2020
QUAL	Paint Use and Disposal	Stormwater	5/6/2020
WINTER	Paint Use and Disposal	Stormwater	5/7/2020
PETITMERMET	Paint Use and Disposal	Stormwater	5/11/2020
BUCHANAN	Paint Use and Disposal	Stormwater	5/12/2020
CRABTREE	Paint Use and Disposal	Stormwater	5/12/2020
GARDNER	Paint Use and Disposal	Stormwater	5/12/2020
MAC GEORGE	Paint Use and Disposal	Stormwater	5/12/2020
PATTERSON	Paint Use and Disposal	Stormwater	5/19/2020
PARENT	Paint Use and Disposal	Stormwater	5/20/2020
BAER	Paint Use and Disposal	Stormwater	5/22/2020
Ziebol	Paint Use and Disposal	Stormwater	5/27/2020
Farnsworth	Paint Use and Disposal	Stormwater	5/28/2020
CHAMBERLAIN	Paint Use and Disposal	Stormwater	6/3/2020
MCMAHON	Paint Use and Disposal	Stormwater	6/4/2020
NEWTON	Paint Use and Disposal	Stormwater	6/8/2020
SCHMIDT	Paint Use and Disposal	Stormwater	6/8/2020
LESSAR	Paint Use and Disposal	Stormwater	6/9/2020
LARSON	Paint Use and Disposal	Stormwater	6/15/2020
WALDROP	Paint Use and Disposal	Stormwater	6/16/2020
BLAKE	Paint Use and Disposal	Stormwater	6/18/2020
NEISWONGER	Paint Use and Disposal	Stormwater	6/25/2020
BUHMANN	Paint Use and Disposal	Stormwater	6/26/2020
EDWARDS	Paint Use and Disposal	Stormwater	6/26/2020
FORE	Paint Use and Disposal	Stormwater	6/29/2020
STANTON	Paint Use and Disposal	Stormwater	6/29/2020
ARMER	Pressure Washing & Surface Cleaning	Stormwater	7/1/2019
BARNARD	Pressure Washing & Surface Cleaning	Stormwater	7/1/2019
NEISWONGER	Pressure Washing & Surface Cleaning	Stormwater	7/1/2019
OLIVER	Pressure Washing & Surface Cleaning	Stormwater	7/1/2019
ARMENTA	Pressure Washing & Surface Cleaning	Stormwater	7/3/2019

Last Name	Assignment Name	Assignment Type	Completion Date
Babich	Pressure Washing & Surface Cleaning	Stormwater	7/3/2019
LARSON	Pressure Washing & Surface Cleaning	Stormwater	7/3/2019
MASTRUD	Pressure Washing & Surface Cleaning	Stormwater	7/3/2019
PARENT	Pressure Washing & Surface Cleaning	Stormwater	7/3/2019
VOLKMAN	Pressure Washing & Surface Cleaning	Stormwater	7/3/2019
BECK	Pressure Washing & Surface Cleaning	Stormwater	7/5/2019
BUHMANN	Pressure Washing & Surface Cleaning	Stormwater	7/5/2019
MOSHER	Pressure Washing & Surface Cleaning	Stormwater	7/5/2019
NICHOLS	Pressure Washing & Surface Cleaning	Stormwater	7/5/2019
PETITMERMET	Pressure Washing & Surface Cleaning	Stormwater	7/5/2019
HAUCK	Pressure Washing & Surface Cleaning	Stormwater	7/8/2019
SOMERS	Pressure Washing & Surface Cleaning	Stormwater	7/8/2019
MALINOWSKI	Pressure Washing & Surface Cleaning	Stormwater	7/9/2019
MOULDER	Pressure Washing & Surface Cleaning	Stormwater	7/11/2019
Olson	Pressure Washing & Surface Cleaning	Stormwater	7/15/2019
MINGUS	Pressure Washing & Surface Cleaning	Stormwater	7/16/2019
GARDNER	Pressure Washing & Surface Cleaning	Stormwater	7/22/2019
BUHMANN	Pressure Washing & Surface Cleaning	Stormwater	7/24/2019
CARLSON	Pressure Washing & Surface Cleaning	Stormwater	7/26/2019
RILEY	Pressure Washing & Surface Cleaning	Stormwater	7/26/2019
EDDE	Pressure Washing & Surface Cleaning	Stormwater	7/30/2019
ROUNDS	Pressure Washing & Surface Cleaning	Stormwater	8/1/2019
Walker	Pressure Washing & Surface Cleaning	Stormwater	8/1/2019
LIBOLT	Pressure Washing & Surface Cleaning	Stormwater	8/2/2019
BRICK	Pressure Washing & Surface Cleaning	Stormwater	8/5/2019
DAVENPORT	Pressure Washing & Surface Cleaning	Stormwater	8/5/2019
SCHMIDT	Pressure Washing & Surface Cleaning	Stormwater	8/5/2019
BLACKWELDER	Pressure Washing & Surface Cleaning	Stormwater	8/9/2019
BLAKE	Pressure Washing & Surface Cleaning	Stormwater	8/9/2019
DAVENPORT	Pressure Washing & Surface Cleaning	Stormwater	8/12/2019
RICHARDSON	Pressure Washing & Surface Cleaning	Stormwater	8/12/2019
ROUNDS	Pressure Washing & Surface Cleaning	Stormwater	8/12/2019
RICHMOND	Pressure Washing & Surface Cleaning	Stormwater	8/13/2019
UTLEY	Pressure Washing & Surface Cleaning	Stormwater	8/13/2019
WALSWORTH	Pressure Washing & Surface Cleaning	Stormwater	8/13/2019
LEATH	Pressure Washing & Surface Cleaning	Stormwater	8/29/2019
HALL	Pressure Washing & Surface Cleaning	Stormwater	8/30/2019
SWANN	Pressure Washing & Surface Cleaning	Stormwater	8/30/2019
SWANN	Pressure Washing & Surface Cleaning	Stormwater	8/30/2019
VOLKMAN	Pressure Washing & Surface Cleaning	Stormwater	9/4/2019
FINNEY	Pressure Washing & Surface Cleaning	Stormwater	9/16/2019
KLOTZ	Pressure Washing & Surface Cleaning	Stormwater	9/17/2019
ROGERS	Pressure Washing & Surface Cleaning	Stormwater	9/20/2019
UTLEY	Pressure Washing & Surface Cleaning	Stormwater	9/30/2019
EDWARDS	Pressure Washing & Surface Cleaning	Stormwater	10/1/2019
LINDSEY	Pressure Washing & Surface Cleaning	Stormwater	10/2/2019
BRADLEY	Pressure Washing & Surface Cleaning	Stormwater	10/8/2019
FUGATE	Pressure Washing & Surface Cleaning	Stormwater	11/26/2019
JACKSON	Pressure Washing & Surface Cleaning	Stormwater	11/26/2019
JONES	Pressure Washing & Surface Cleaning	Stormwater	11/26/2019
SMITH	Pressure Washing & Surface Cleaning	Stormwater	11/26/2019
MICKEY	Pressure Washing & Surface Cleaning	Stormwater	12/6/2019

Last Name	Assignment Name	Assignment Type	Completion Date
MICKEY	Pressure Washing & Surface Cleaning	Stormwater	12/13/2019
MORRISON	Pressure Washing & Surface Cleaning	Stormwater	12/16/2019
THOMASSON	Pressure Washing & Surface Cleaning	Stormwater	12/16/2019
MICCOLIS	Pressure Washing & Surface Cleaning	Stormwater	12/23/2019
Adams	Pressure Washing & Surface Cleaning	Stormwater	4/10/2020
HOPKINS	Pressure Washing & Surface Cleaning	Stormwater	4/13/2020
JUDD	Pressure Washing & Surface Cleaning	Stormwater	4/13/2020
Paulson	Pressure Washing & Surface Cleaning	Stormwater	4/13/2020
YOUNG	Pressure Washing & Surface Cleaning	Stormwater	4/13/2020
JOHNSON	Pressure Washing & Surface Cleaning	Stormwater	4/14/2020
VAUGHAN	Pressure Washing & Surface Cleaning	Stormwater	4/14/2020
VOLKMAN	Pressure Washing & Surface Cleaning	Stormwater	4/14/2020
Holmgren	Pressure Washing & Surface Cleaning	Stormwater	4/15/2020
MUNSON	Pressure Washing & Surface Cleaning	Stormwater	4/16/2020
Olson	Pressure Washing & Surface Cleaning	Stormwater	4/17/2020
PRENTICE	Pressure Washing & Surface Cleaning	Stormwater	4/20/2020
BYRD	Pressure Washing & Surface Cleaning	Stormwater	4/22/2020
HAUCK	Pressure Washing & Surface Cleaning	Stormwater	4/22/2020
RICHMOND	Pressure Washing & Surface Cleaning	Stormwater	4/22/2020
Babich	Pressure Washing & Surface Cleaning	Stormwater	4/23/2020
HICKS	Pressure Washing & Surface Cleaning	Stormwater	4/23/2020
LUCERO	Pressure Washing & Surface Cleaning	Stormwater	4/27/2020
WOOD	Pressure Washing & Surface Cleaning	Stormwater	4/27/2020
MALINOWSKI	Pressure Washing & Surface Cleaning	Stormwater	4/28/2020
FINDLEY	Pressure Washing & Surface Cleaning	Stormwater	4/29/2020
MILLIGAN	Pressure Washing & Surface Cleaning	Stormwater	4/29/2020
SCARBROUGH	Pressure Washing & Surface Cleaning	Stormwater	4/29/2020
Combs	Pressure Washing & Surface Cleaning	Stormwater	5/1/2020
GARDNER	Pressure Washing & Surface Cleaning	Stormwater	5/5/2020
QUAL	Pressure Washing & Surface Cleaning	Stormwater	5/6/2020
WINTER	Pressure Washing & Surface Cleaning	Stormwater	5/7/2020
HALL	Pressure Washing & Surface Cleaning	Stormwater	5/11/2020
PETITMERMET	Pressure Washing & Surface Cleaning	Stormwater	5/11/2020
BUCHANAN	Pressure Washing & Surface Cleaning	Stormwater	5/12/2020
CRABTREE	Pressure Washing & Surface Cleaning	Stormwater	5/12/2020
MAC GEORGE	Pressure Washing & Surface Cleaning	Stormwater	5/12/2020
PATTERSON	Pressure Washing & Surface Cleaning	Stormwater	5/19/2020
PARENT	Pressure Washing & Surface Cleaning	Stormwater	5/20/2020
BAER	Pressure Washing & Surface Cleaning	Stormwater	5/22/2020
Farnsworth	Pressure Washing & Surface Cleaning	Stormwater	5/26/2020
Ziebol	Pressure Washing & Surface Cleaning	Stormwater	5/27/2020
CHAMBERLAIN	Pressure Washing & Surface Cleaning	Stormwater	6/3/2020
MCMAHON	Pressure Washing & Surface Cleaning	Stormwater	6/4/2020
BLAKE	Pressure Washing & Surface Cleaning	Stormwater	6/5/2020
NEWTON	Pressure Washing & Surface Cleaning	Stormwater	6/8/2020
SCHMIDT	Pressure Washing & Surface Cleaning	Stormwater	6/8/2020
LESSAR	Pressure Washing & Surface Cleaning	Stormwater	6/9/2020
LARSON	Pressure Washing & Surface Cleaning	Stormwater	6/15/2020
JONES	Pressure Washing & Surface Cleaning	Stormwater	6/16/2020
WALDROP	Pressure Washing & Surface Cleaning	Stormwater	6/16/2020
NEISWONGER	Pressure Washing & Surface Cleaning	Stormwater	6/25/2020
BUHMANN	Pressure Washing & Surface Cleaning	Stormwater	6/26/2020

Last Name	Assignment Name	Assignment Type	Completion Date
EDWARDS	Pressure Washing & Surface Cleaning	Stormwater	6/26/2020
HOLMGREN	Pressure Washing & Surface Cleaning	Stormwater	6/26/2020
FORE	Pressure Washing & Surface Cleaning	Stormwater	6/29/2020
STANTON	Pressure Washing & Surface Cleaning	Stormwater	6/29/2020
NICHOLS	Spill Prevention, Control, and Cleanup	Stormwater	7/5/2019
MCATEER	Spill Prevention, Control, and Cleanup	Stormwater	7/9/2019
BARNES	Spill Prevention, Control, and Cleanup	Stormwater	11/4/2019
BUCHANAN	Spill Prevention, Control, and Cleanup	Stormwater	11/4/2019
CANADAY	Spill Prevention, Control, and Cleanup	Stormwater	11/4/2019
CURRY	Spill Prevention, Control, and Cleanup	Stormwater	11/4/2019
Dorsey	Spill Prevention, Control, and Cleanup	Stormwater	11/4/2019
FOLLOSE	Spill Prevention, Control, and Cleanup	Stormwater	11/4/2019
GRIFFITHS	Spill Prevention, Control, and Cleanup	Stormwater	11/4/2019
Hemperley	Spill Prevention, Control, and Cleanup	Stormwater	11/4/2019
Holmgren	Spill Prevention, Control, and Cleanup	Stormwater	11/4/2019
May	Spill Prevention, Control, and Cleanup	Stormwater	11/4/2019
OREY	Spill Prevention, Control, and Cleanup	Stormwater	11/4/2019
QUAL	Spill Prevention, Control, and Cleanup	Stormwater	11/4/2019
WRIGHT	Spill Prevention, Control, and Cleanup	Stormwater	11/4/2019
YOUNG	Spill Prevention, Control, and Cleanup	Stormwater	11/4/2019
ATWOOD	Spill Prevention, Control, and Cleanup	Stormwater	11/5/2019
Babich	Spill Prevention, Control, and Cleanup	Stormwater	11/5/2019
CARTWRIGHT	Spill Prevention, Control, and Cleanup	Stormwater	11/5/2019
JOHNSON	Spill Prevention, Control, and Cleanup	Stormwater	11/5/2019
LACASSE	Spill Prevention, Control, and Cleanup	Stormwater	11/5/2019
MCMAHON	Spill Prevention, Control, and Cleanup	Stormwater	11/5/2019
NEISWONGER	Spill Prevention, Control, and Cleanup	Stormwater	11/5/2019
Peterson	Spill Prevention, Control, and Cleanup	Stormwater	11/5/2019
PRINCE	Spill Prevention, Control, and Cleanup	Stormwater	11/5/2019
SCARBROUGH	Spill Prevention, Control, and Cleanup	Stormwater	11/5/2019
Wolckenhauer	Spill Prevention, Control, and Cleanup	Stormwater	11/5/2019
Zarate	Spill Prevention, Control, and Cleanup	Stormwater	11/5/2019
ELPI-TRAINOR	Spill Prevention, Control, and Cleanup	Stormwater	11/6/2019
HOPKINS	Spill Prevention, Control, and Cleanup	Stormwater	11/6/2019
WOODS	Spill Prevention, Control, and Cleanup	Stormwater	11/6/2019
Ziebol	Spill Prevention, Control, and Cleanup	Stormwater	11/6/2019
FINDLEY	Spill Prevention, Control, and Cleanup	Stormwater	11/7/2019
HOWELL	Spill Prevention, Control, and Cleanup	Stormwater	11/7/2019
RITTER	Spill Prevention, Control, and Cleanup	Stormwater	11/7/2019
VAUGHAN	Spill Prevention, Control, and Cleanup	Stormwater	11/7/2019
VODERBERG	Spill Prevention, Control, and Cleanup	Stormwater	11/7/2019
BURNSON	Spill Prevention, Control, and Cleanup	Stormwater	11/8/2019
RADER	Spill Prevention, Control, and Cleanup	Stormwater	11/8/2019
STANTON	Spill Prevention, Control, and Cleanup	Stormwater	11/8/2019
WINTER	Spill Prevention, Control, and Cleanup	Stormwater	11/8/2019
FORE	Spill Prevention, Control, and Cleanup	Stormwater	11/12/2019
LESSAR	Spill Prevention, Control, and Cleanup	Stormwater	11/12/2019
MICCOLIS	Spill Prevention, Control, and Cleanup	Stormwater	11/12/2019
NEWBERG	Spill Prevention, Control, and Cleanup	Stormwater	11/12/2019
UTLEY	Spill Prevention, Control, and Cleanup	Stormwater	11/12/2019
Crowell	Spill Prevention, Control, and Cleanup	Stormwater	11/13/2019
PRENTICE	Spill Prevention, Control, and Cleanup	Stormwater	11/13/2019

Last Name	Assignment Name	Assignment Type	Completion Date
D'Angona	Spill Prevention, Control, and Cleanup	Stormwater	11/14/2019
MAC GEORGE	Spill Prevention, Control, and Cleanup	Stormwater	11/14/2019
ALLEY	Spill Prevention, Control, and Cleanup	Stormwater	11/15/2019
BAER	Spill Prevention, Control, and Cleanup	Stormwater	11/15/2019
Olson	Spill Prevention, Control, and Cleanup	Stormwater	11/15/2019
Paulson	Spill Prevention, Control, and Cleanup	Stormwater	11/15/2019
ALEXANDER	Spill Prevention, Control, and Cleanup	Stormwater	11/18/2019
Helgeson	Spill Prevention, Control, and Cleanup	Stormwater	11/18/2019
LIBOLT	Spill Prevention, Control, and Cleanup	Stormwater	11/18/2019
CHAMBERLAIN	Spill Prevention, Control, and Cleanup	Stormwater	11/19/2019
WOOD	Spill Prevention, Control, and Cleanup	Stormwater	11/19/2019
HICKS	Spill Prevention, Control, and Cleanup	Stormwater	11/20/2019
PATTERSON	Spill Prevention, Control, and Cleanup	Stormwater	11/22/2019
GARDNER	Spill Prevention, Control, and Cleanup	Stormwater	11/25/2019
ARMER	Spill Prevention, Control, and Cleanup	Stormwater	11/26/2019
BRADLEY	Spill Prevention, Control, and Cleanup	Stormwater	11/26/2019
BROWN	Spill Prevention, Control, and Cleanup	Stormwater	11/26/2019
CRABTREE	Spill Prevention, Control, and Cleanup	Stormwater	11/26/2019
FUGATE	Spill Prevention, Control, and Cleanup	Stormwater	11/26/2019
JONES	Spill Prevention, Control, and Cleanup	Stormwater	11/26/2019
NEWTON	Spill Prevention, Control, and Cleanup	Stormwater	11/26/2019
ROGERS	Spill Prevention, Control, and Cleanup	Stormwater	11/26/2019
SMITH	Spill Prevention, Control, and Cleanup	Stormwater	11/26/2019
VOLKMAN	Spill Prevention, Control, and Cleanup	Stormwater	11/26/2019
BYRD	Spill Prevention, Control, and Cleanup	Stormwater	12/2/2019
COMBS	Spill Prevention, Control, and Cleanup	Stormwater	12/2/2019
GILBERT	Spill Prevention, Control, and Cleanup	Stormwater	12/2/2019
MALINOWSKI	Spill Prevention, Control, and Cleanup	Stormwater	12/2/2019
BORGOGNONI	Spill Prevention, Control, and Cleanup	Stormwater	12/3/2019
Mcconnell	Spill Prevention, Control, and Cleanup	Stormwater	12/3/2019
MILLIGAN	Spill Prevention, Control, and Cleanup	Stormwater	12/3/2019
MUNSON	Spill Prevention, Control, and Cleanup	Stormwater	12/3/2019
Walker	Spill Prevention, Control, and Cleanup	Stormwater	12/3/2019
Combs	Spill Prevention, Control, and Cleanup	Stormwater	12/4/2019
CASHWELL	Spill Prevention, Control, and Cleanup	Stormwater	12/5/2019
SCHMIDT	Spill Prevention, Control, and Cleanup	Stormwater	12/5/2019
WALDROP	Spill Prevention, Control, and Cleanup	Stormwater	12/5/2019
HALL	Spill Prevention, Control, and Cleanup	Stormwater	12/6/2019
OLIVER	Spill Prevention, Control, and Cleanup	Stormwater	12/6/2019
LINDSEY	Spill Prevention, Control, and Cleanup	Stormwater	12/10/2019
Adams	Spill Prevention, Control, and Cleanup	Stormwater	12/11/2019
BUHMANN	Spill Prevention, Control, and Cleanup	Stormwater	12/11/2019
WHITMAN	Spill Prevention, Control, and Cleanup	Stormwater	12/13/2019
WINTER	Spill Prevention, Control, and Cleanup	Stormwater	12/13/2019
HEFNER	Spill Prevention, Control, and Cleanup	Stormwater	12/17/2019
BUYSTEDT	Spill Prevention, Control, and Cleanup	Stormwater	12/19/2019
ROGERS	Spill Prevention, Control, and Cleanup	Stormwater	12/20/2019
MICCOLIS	Spill Prevention, Control, and Cleanup	Stormwater	12/23/2019
BARNARD	Spill Prevention, Control, and Cleanup	Stormwater	12/24/2019
RICHARDSON	Spill Prevention, Control, and Cleanup	Stormwater	12/24/2019
Suing	Spill Prevention, Control, and Cleanup	Stormwater	12/24/2019
HAUCK	Spill Prevention, Control, and Cleanup	Stormwater	12/27/2019

Last Name	Assignment Name	Assignment Type	Completion Date
MOSHER	Spill Prevention, Control, and Cleanup	Stormwater	12/27/2019
Farnsworth	Spill Prevention, Control, and Cleanup	Stormwater	12/30/2019
KOOK	Spill Prevention, Control, and Cleanup	Stormwater	12/30/2019
BLAKE	Spill Prevention, Control, and Cleanup	Stormwater	12/31/2019
EDWARDS	Spill Prevention, Control, and Cleanup	Stormwater	12/31/2019
VOLKMAN	Spill Prevention, Control, and Cleanup	Stormwater	1/2/2020
MICKEY	Spill Prevention, Control, and Cleanup	Stormwater	1/6/2020
JONES	Spill Prevention, Control, and Cleanup	Stormwater	1/7/2020
MORRISON	Spill Prevention, Control, and Cleanup	Stormwater	1/7/2020
WILLIS	Spill Prevention, Control, and Cleanup	Stormwater	1/7/2020
HOLMGREN	Spill Prevention, Control, and Cleanup	Stormwater	1/8/2020
ROUNDS	Spill Prevention, Control, and Cleanup	Stormwater	1/8/2020
WRIGHT	Spill Prevention, Control, and Cleanup	Stormwater	1/8/2020
EDDE	Spill Prevention, Control, and Cleanup	Stormwater	1/10/2020
HINTON	Spill Prevention, Control, and Cleanup	Stormwater	1/13/2020
NICHOLS	Spill Prevention, Control, and Cleanup	Stormwater	1/13/2020
PETITMERMET	Spill Prevention, Control, and Cleanup	Stormwater	1/13/2020
PACKEBUSH	Spill Prevention, Control, and Cleanup	Stormwater	1/14/2020
KIRKPATRICK	Spill Prevention, Control, and Cleanup	Stormwater	1/15/2020
THOMASSON	Spill Prevention, Control, and Cleanup	Stormwater	1/15/2020
ARMENTA	Spill Prevention, Control, and Cleanup	Stormwater	1/16/2020
GILLETTE	Spill Prevention, Control, and Cleanup	Stormwater	1/16/2020
HRUBY	Spill Prevention, Control, and Cleanup	Stormwater	1/21/2020
STENSLAND	Spill Prevention, Control, and Cleanup	Stormwater	1/21/2020
DOLLARHYDE	Spill Prevention, Control, and Cleanup	Stormwater	1/22/2020
MASTRUD	Spill Prevention, Control, and Cleanup	Stormwater	1/23/2020
DONATO	Spill Prevention, Control, and Cleanup	Stormwater	1/24/2020
HULBERT	Spill Prevention, Control, and Cleanup	Stormwater	1/24/2020
Nickel	Spill Prevention, Control, and Cleanup	Stormwater	1/27/2020
CARLSON	Spill Prevention, Control, and Cleanup	Stormwater	1/29/2020
DANIELE	Spill Prevention, Control, and Cleanup	Stormwater	1/30/2020
DAVENPORT	Spill Prevention, Control, and Cleanup	Stormwater	1/30/2020
ABBAS	Spill Prevention, Control, and Cleanup	Stormwater	1/31/2020
HOWE	Spill Prevention, Control, and Cleanup	Stormwater	1/31/2020
MINGUS	Spill Prevention, Control, and Cleanup	Stormwater	1/31/2020
BUETTNER	Spill Prevention, Control, and Cleanup	Stormwater	2/3/2020
HANSEN	Spill Prevention, Control, and Cleanup	Stormwater	2/4/2020
PRICE	Spill Prevention, Control, and Cleanup	Stormwater	2/4/2020
BECK	Spill Prevention, Control, and Cleanup	Stormwater	2/5/2020
MCATEER	Spill Prevention, Control, and Cleanup	Stormwater	2/5/2020
PACKEBUSH	Spill Prevention, Control, and Cleanup	Stormwater	2/5/2020
WIMPARI	Spill Prevention, Control, and Cleanup	Stormwater	2/6/2020
Bonahoom	Spill Prevention, Control, and Cleanup	Stormwater	2/7/2020
Timineri	Spill Prevention, Control, and Cleanup	Stormwater	2/7/2020
BORREGO	Spill Prevention, Control, and Cleanup	Stormwater	2/10/2020
DENNING	Spill Prevention, Control, and Cleanup	Stormwater	2/10/2020
MOULDER	Spill Prevention, Control, and Cleanup	Stormwater	2/10/2020
RILEY	Spill Prevention, Control, and Cleanup	Stormwater	2/10/2020
BLACKWELDER	Spill Prevention, Control, and Cleanup	Stormwater	2/11/2020
JENNESS	Spill Prevention, Control, and Cleanup	Stormwater	2/11/2020
BRICK	Spill Prevention, Control, and Cleanup	Stormwater	2/12/2020
SOMERS	Spill Prevention, Control, and Cleanup	Stormwater	2/14/2020

Last Name	Assignment Name	Assignment Type	Completion Date
SOMERS	Spill Prevention, Control, and Cleanup	Stormwater	3/2/2020
WALSWORTH	Spill Prevention, Control, and Cleanup	Stormwater	3/2/2020
PARENT	Spill Prevention, Control, and Cleanup	Stormwater	3/3/2020
ALBECK	Spill Prevention, Control, and Cleanup	Stormwater	3/9/2020
FINNEY	Spill Prevention, Control, and Cleanup	Stormwater	3/9/2020
GARDNER	Spill Prevention, Control, and Cleanup	Stormwater	3/10/2020
JUDD	Spill Prevention, Control, and Cleanup	Stormwater	3/18/2020
KLOTZ	Spill Prevention, Control, and Cleanup	Stormwater	3/24/2020
WALLING	Spill Prevention, Control, and Cleanup	Stormwater	3/25/2020
LARSON	Spill Prevention, Control, and Cleanup	Stormwater	4/3/2020
LEATH	Spill Prevention, Control, and Cleanup	Stormwater	4/6/2020
FONSECA	Spill Prevention, Control, and Cleanup	Stormwater	4/15/2020
MCQUILLEN	Spill Prevention, Control, and Cleanup	Stormwater	4/22/2020
RICHMOND	Spill Prevention, Control, and Cleanup	Stormwater	4/22/2020
BUCHANAN	Street Sweeping	Stormwater	9/3/2019
EDDE	Street Sweeping	Stormwater	9/4/2019
HALL	Street Sweeping	Stormwater	9/4/2019
DANIEL	Street Sweeping	Stormwater	9/5/2019
Holmgren	Street Sweeping	Stormwater	9/5/2019
PRINCE	Street Sweeping	Stormwater	9/5/2019
WALDROP	Street Sweeping	Stormwater	9/5/2019
LESSAR	Street Sweeping	Stormwater	9/6/2019
VOLKMAN	Street Sweeping	Stormwater	9/6/2019
Wolckenhauer	Street Sweeping	Stormwater	9/6/2019
Adams	Street Sweeping	Stormwater	9/10/2019
Olson	Street Sweeping	Stormwater	9/10/2019
SCARBROUGH	Street Sweeping	Stormwater	9/18/2019
NEWTON	Street Sweeping	Stormwater	9/24/2019
QUAL	Street Sweeping	Stormwater	9/25/2019
Paulson	Street Sweeping	Stormwater	9/26/2019
SCHMIDT	Street Sweeping	Stormwater	9/26/2019
KIRKPATRICK	Street Sweeping	Stormwater	9/27/2019
NEISWONGER	Street Sweeping	Stormwater	10/1/2019
LINDSEY	Street Sweeping	Stormwater	10/2/2019
BLAKE	Street Sweeping	Stormwater	10/3/2019
HOWELL	Street Sweeping	Stormwater	10/4/2019
Peterson	Street Sweeping	Stormwater	10/4/2019
BYRD	Street Sweeping	Stormwater	10/7/2019
CARTWRIGHT	Street Sweeping	Stormwater	10/7/2019
COMBS	Street Sweeping	Stormwater	10/7/2019
MALINOWSKI	Street Sweeping	Stormwater	10/21/2019
MUNSON	Street Sweeping	Stormwater	10/23/2019
OLIVER	Street Sweeping	Stormwater	10/24/2019
Combs	Street Sweeping	Stormwater	10/31/2019
RADER	Street Sweeping	Stormwater	11/8/2019
VOLKMAN	Street Sweeping	Stormwater	11/15/2019
ARMER	Street Sweeping	Stormwater	11/26/2019
FUGATE	Street Sweeping	Stormwater	11/26/2019
SMITH	Street Sweeping	Stormwater	11/26/2019
THOMASSON	Street Sweeping	Stormwater	12/16/2019
MORRISON	Street Sweeping	Stormwater	12/18/2019
GARDNER	Street Sweeping	Stormwater	12/19/2019

Last Name	Assignment Name	Assignment Type	Completion Date
WIMPARI	Street Sweeping	Stormwater	1/6/2020
JONES	Street Sweeping	Stormwater	1/7/2020
JACKSON	Street Sweeping	Stormwater	2/3/2020
ARMER	Utility Road Repair & Maintenance	Stormwater	7/1/2019
BLACKWELDER	Utility Road Repair & Maintenance	Stormwater	7/1/2019
NEISWONGER	Utility Road Repair & Maintenance	Stormwater	7/1/2019
OLIVER	Utility Road Repair & Maintenance	Stormwater	7/1/2019
PARENT	Utility Road Repair & Maintenance	Stormwater	7/2/2019
BLACKWELDER	Utility Road Repair & Maintenance	Stormwater	7/3/2019
MASTRUD	Utility Road Repair & Maintenance	Stormwater	7/3/2019
BECK	Utility Road Repair & Maintenance	Stormwater	7/5/2019
BUHMANN	Utility Road Repair & Maintenance	Stormwater	7/5/2019
MOSHER	Utility Road Repair & Maintenance	Stormwater	7/5/2019
NICHOLS	Utility Road Repair & Maintenance	Stormwater	7/5/2019
MALINOWSKI	Utility Road Repair & Maintenance	Stormwater	7/9/2019
GARDNER	Utility Road Repair & Maintenance	Stormwater	7/10/2019
ROUNDS	Utility Road Repair & Maintenance	Stormwater	8/2/2019
ROUNDS	Utility Road Repair & Maintenance	Stormwater	8/2/2019
DAVENPORT	Utility Road Repair & Maintenance	Stormwater	8/5/2019
GARDNER	Utility Road Repair & Maintenance	Stormwater	8/7/2019
DAVENPORT	Utility Road Repair & Maintenance	Stormwater	8/12/2019
HALL	Utility Road Repair & Maintenance	Stormwater	8/22/2019
SWANN	Utility Road Repair & Maintenance	Stormwater	8/30/2019
SWANN	Utility Road Repair & Maintenance	Stormwater	8/30/2019
DANIEL	Utility Road Repair & Maintenance	Stormwater	9/5/2019
JACKSON	Utility Road Repair & Maintenance	Stormwater	9/5/2019
FINNEY	Utility Road Repair & Maintenance	Stormwater	9/16/2019
UTLEY	Utility Road Repair & Maintenance	Stormwater	9/30/2019
LINDSEY	Utility Road Repair & Maintenance	Stormwater	10/2/2019
JACKSON	Utility Road Repair & Maintenance	Stormwater	11/26/2019
JONES	Utility Road Repair & Maintenance	Stormwater	11/26/2019
SMITH	Utility Road Repair & Maintenance	Stormwater	11/26/2019
MORRISON	Utility Road Repair & Maintenance	Stormwater	12/10/2019
THOMASSON	Utility Road Repair & Maintenance	Stormwater	12/16/2019
BYRD	Utility Road Repair & Maintenance	Stormwater	3/2/2020
CHAMBERLAIN	Utility Road Repair & Maintenance	Stormwater	3/2/2020
LESSAR	Utility Road Repair & Maintenance	Stormwater	3/2/2020
NEISWONGER	Utility Road Repair & Maintenance	Stormwater	3/2/2020
QUAL	Utility Road Repair & Maintenance	Stormwater	3/3/2020
Peterson	Utility Road Repair & Maintenance	Stormwater	3/5/2020
FUGATE	Utility Road Repair & Maintenance	Stormwater	3/9/2020
Wolckenhauer	Utility Road Repair & Maintenance	Stormwater	3/10/2020
Holmgren	Utility Road Repair & Maintenance	Stormwater	3/11/2020
Farnsworth	Utility Road Repair & Maintenance	Stormwater	3/16/2020
MUNSON	Utility Road Repair & Maintenance	Stormwater	3/16/2020
HALL	Utility Road Repair & Maintenance	Stormwater	3/17/2020
Olson	Utility Road Repair & Maintenance	Stormwater	3/17/2020
RADER	Utility Road Repair & Maintenance	Stormwater	3/17/2020
BUCHANAN	Utility Road Repair & Maintenance	Stormwater	3/19/2020
WINTER	Utility Road Repair & Maintenance	Stormwater	3/20/2020
COMBS	Utility Road Repair & Maintenance	Stormwater	3/25/2020
BUHMANN	Utility Road Repair & Maintenance	Stormwater	3/31/2020

Last Name	Assignment Name	Assignment Type	Completion Date
PRINCE	Utility Road Repair & Maintenance	Stormwater	3/31/2020
VOLKMAN	Utility Road Repair & Maintenance	Stormwater	4/1/2020
BLAKE	Utility Road Repair & Maintenance	Stormwater	4/2/2020
Combs	Utility Road Repair & Maintenance	Stormwater	4/2/2020
Adams	Utility Road Repair & Maintenance	Stormwater	4/10/2020
BORREGO	Utility Road Repair & Maintenance	Stormwater	4/10/2020
NICHOLS	Utility Road Repair & Maintenance	Stormwater	4/10/2020
SCHMIDT	Utility Road Repair & Maintenance	Stormwater	4/10/2020
CARTWRIGHT	Utility Road Repair & Maintenance	Stormwater	4/13/2020
MALINOWSKI	Utility Road Repair & Maintenance	Stormwater	4/28/2020
HOLMGREN	Utility Road Repair & Maintenance	Stormwater	4/29/2020
SCARBROUGH	Utility Road Repair & Maintenance	Stormwater	4/29/2020
Paulson	Utility Road Repair & Maintenance	Stormwater	5/5/2020
PETITMERMET	Utility Road Repair & Maintenance	Stormwater	5/11/2020
LARSON	Utility Road Repair & Maintenance	Stormwater	5/18/2020
EDDE	Utility Road Repair & Maintenance	Stormwater	5/25/2020
BECK	Utility Road Repair & Maintenance	Stormwater	5/26/2020
WALDROP	Utility Road Repair & Maintenance	Stormwater	5/26/2020
NEWTON	Utility Road Repair & Maintenance	Stormwater	6/8/2020
JONES	Utility Road Repair & Maintenance	Stormwater	6/16/2020
BARNARD	Utility Road Repair & Maintenance	Stormwater	6/19/2020
WIMPARI	Utility Road Repair & Maintenance	Stormwater	6/23/2020
BRADLEY	Vehicle and Equipment Washing	Stormwater	11/26/2019
ROGERS	Vehicle and Equipment Washing	Stormwater	11/26/2019
BAER	Vehicle and Equipment Washing	Stormwater	1/2/2020
BORGOGNONI	Vehicle and Equipment Washing	Stormwater	1/2/2020
BUCHANAN	Vehicle and Equipment Washing	Stormwater	1/2/2020
BYRD	Vehicle and Equipment Washing	Stormwater	1/2/2020
CRABTREE	Vehicle and Equipment Washing	Stormwater	1/2/2020
Crowell	Vehicle and Equipment Washing	Stormwater	1/2/2020
GARDNER	Vehicle and Equipment Washing	Stormwater	1/2/2020
HALL	Vehicle and Equipment Washing	Stormwater	1/2/2020
HOPKINS	Vehicle and Equipment Washing	Stormwater	1/2/2020
JOHNSON	Vehicle and Equipment Washing	Stormwater	1/2/2020
LESSAR	Vehicle and Equipment Washing	Stormwater	1/2/2020
MILLIGAN	Vehicle and Equipment Washing	Stormwater	1/2/2020
Olson	Vehicle and Equipment Washing	Stormwater	1/2/2020
PATTERSON	Vehicle and Equipment Washing	Stormwater	1/2/2020
Paulson	Vehicle and Equipment Washing	Stormwater	1/2/2020
SCARBROUGH	Vehicle and Equipment Washing	Stormwater	1/2/2020
VOLKMAN	Vehicle and Equipment Washing	Stormwater	1/2/2020
WOOD	Vehicle and Equipment Washing	Stormwater	1/2/2020
YOUNG	Vehicle and Equipment Washing	Stormwater	1/2/2020
Ziebol	Vehicle and Equipment Washing	Stormwater	1/2/2020
FOLLOSE	Vehicle and Equipment Washing	Stormwater	1/3/2020
MCMAHON	Vehicle and Equipment Washing	Stormwater	1/3/2020
PRENTICE	Vehicle and Equipment Washing	Stormwater	1/3/2020
BLAKE	Vehicle and Equipment Washing	Stormwater	1/6/2020
CHAMBERLAIN	Vehicle and Equipment Washing	Stormwater	1/6/2020
FINDLEY	Vehicle and Equipment Washing	Stormwater	1/6/2020
FORE	Vehicle and Equipment Washing	Stormwater	1/6/2020
LINDSEY	Vehicle and Equipment Washing	Stormwater	1/6/2020

Last Name	Assignment Name	Assignment Type	Completion Date
MUNSON	Vehicle and Equipment Washing	Stormwater	1/6/2020
QUAL	Vehicle and Equipment Washing	Stormwater	1/6/2020
RADER	Vehicle and Equipment Washing	Stormwater	1/6/2020
STANTON	Vehicle and Equipment Washing	Stormwater	1/6/2020
UTLEY	Vehicle and Equipment Washing	Stormwater	1/6/2020
CARTWRIGHT	Vehicle and Equipment Washing	Stormwater	1/7/2020
JONES	Vehicle and Equipment Washing	Stormwater	1/7/2020
MORRISON	Vehicle and Equipment Washing	Stormwater	1/7/2020
Wolckenhauer	Vehicle and Equipment Washing	Stormwater	1/7/2020
WINTER	Vehicle and Equipment Washing	Stormwater	1/8/2020
Farnsworth	Vehicle and Equipment Washing	Stormwater	1/9/2020
MAC GEORGE	Vehicle and Equipment Washing	Stormwater	1/9/2020
Mcconnell	Vehicle and Equipment Washing	Stormwater	1/9/2020
Peterson	Vehicle and Equipment Washing	Stormwater	1/9/2020
BUHMANN	Vehicle and Equipment Washing	Stormwater	1/10/2020
VAUGHAN	Vehicle and Equipment Washing	Stormwater	1/10/2020
NICHOLS	Vehicle and Equipment Washing	Stormwater	1/13/2020
PETITMERMET	Vehicle and Equipment Washing	Stormwater	1/13/2020
PACKEBUSH	Vehicle and Equipment Washing	Stormwater	1/14/2020
Walker	Vehicle and Equipment Washing	Stormwater	1/14/2020
KIRKPATRICK	Vehicle and Equipment Washing	Stormwater	1/15/2020
LUCERO	Vehicle and Equipment Washing	Stormwater	1/15/2020
NEWTON	Vehicle and Equipment Washing	Stormwater	1/15/2020
THOMASSON	Vehicle and Equipment Washing	Stormwater	1/15/2020
WALDROP	Vehicle and Equipment Washing	Stormwater	1/15/2020
Babich	Vehicle and Equipment Washing	Stormwater	1/16/2020
GILLETTE	Vehicle and Equipment Washing	Stormwater	1/16/2020
Combs	Vehicle and Equipment Washing	Stormwater	1/17/2020
PRINCE	Vehicle and Equipment Washing	Stormwater	1/17/2020
Adams	Vehicle and Equipment Washing	Stormwater	1/24/2020
ROUNDS	Vehicle and Equipment Washing	Stormwater	1/24/2020
SCHMIDT	Vehicle and Equipment Washing	Stormwater	1/24/2020
Holmgren	Vehicle and Equipment Washing	Stormwater	1/27/2020
HICKS	Vehicle and Equipment Washing	Stormwater	1/30/2020
HOLMGREN	Vehicle and Equipment Washing	Stormwater	2/4/2020
OLIVER	Vehicle and Equipment Washing	Stormwater	2/4/2020
NEISWONGER	Vehicle and Equipment Washing	Stormwater	2/5/2020
ROGERS	Vehicle and Equipment Washing	Stormwater	2/7/2020
BORREGO	Vehicle and Equipment Washing	Stormwater	2/11/2020
WIMPARI	Vehicle and Equipment Washing	Stormwater	2/21/2020
HAUCK	Vehicle and Equipment Washing	Stormwater	2/26/2020
COMBS	Vehicle and Equipment Washing	Stormwater	3/2/2020
RICHARDSON	Vehicle and Equipment Washing	Stormwater	3/2/2020
BRICK	Vehicle and Equipment Washing	Stormwater	3/3/2020
MASTRUD	Vehicle and Equipment Washing	Stormwater	3/3/2020
PARENT	Vehicle and Equipment Washing	Stormwater	3/4/2020
FUGATE	Vehicle and Equipment Washing	Stormwater	3/9/2020
Timineri	Vehicle and Equipment Washing	Stormwater	3/12/2020
BECK	Vehicle and Equipment Washing	Stormwater	3/13/2020
LIBOLT	Vehicle and Equipment Washing	Stormwater	3/16/2020
JUDD	Vehicle and Equipment Washing	Stormwater	3/18/2020
BLACKWELDER	Vehicle and Equipment Washing	Stormwater	3/19/2020

Last Name	Assignment Name	Assignment Type	Completion Date
EDWARDS	Vehicle and Equipment Washing	Stormwater	3/19/2020
GARDNER	Vehicle and Equipment Washing	Stormwater	3/23/2020
KLOTZ	Vehicle and Equipment Washing	Stormwater	3/24/2020
MOSHER	Vehicle and Equipment Washing	Stormwater	3/24/2020
MOULDER	Vehicle and Equipment Washing	Stormwater	3/24/2020
SOMERS	Vehicle and Equipment Washing	Stormwater	3/24/2020
CARLSON	Vehicle and Equipment Washing	Stormwater	3/27/2020
SOMERS	Vehicle and Equipment Washing	Stormwater	3/27/2020
DAVENPORT	Vehicle and Equipment Washing	Stormwater	4/1/2020
RILEY	Vehicle and Equipment Washing	Stormwater	4/1/2020
EDDE	Vehicle and Equipment Washing	Stormwater	4/2/2020
LARSON	Vehicle and Equipment Washing	Stormwater	4/3/2020
MINGUS	Vehicle and Equipment Washing	Stormwater	4/3/2020
ARMENTA	Vehicle and Equipment Washing	Stormwater	4/6/2020
LEATH	Vehicle and Equipment Washing	Stormwater	4/8/2020
MICKEY	Vehicle and Equipment Washing	Stormwater	4/9/2020
WALSWORTH	Vehicle and Equipment Washing	Stormwater	4/14/2020
FONSECA	Vehicle and Equipment Washing	Stormwater	4/15/2020
Suing	Vehicle and Equipment Washing	Stormwater	4/15/2020
RICHMOND	Vehicle and Equipment Washing	Stormwater	4/22/2020
MALINOWSKI	Vehicle and Equipment Washing	Stormwater	4/28/2020
BARNARD	Vehicle and Equipment Washing	Stormwater	4/29/2020
SWANN	Winter Road Care	Stormwater	8/30/2019
NEISWONGER	Winter Road Care	Stormwater	10/1/2019
PRINCE	Winter Road Care	Stormwater	10/1/2019
QUAL	Winter Road Care	Stormwater	10/1/2019
Adams	Winter Road Care	Stormwater	10/2/2019
BUCHANAN	Winter Road Care	Stormwater	10/2/2019
LINDSEY	Winter Road Care	Stormwater	10/2/2019
OLIVER	Winter Road Care	Stormwater	10/2/2019
SCHMIDT	Winter Road Care	Stormwater	10/2/2019
BLAKE	Winter Road Care	Stormwater	10/3/2019
Wolckenhauer	Winter Road Care	Stormwater	10/3/2019
Peterson	Winter Road Care	Stormwater	10/4/2019
BYRD	Winter Road Care	Stormwater	10/7/2019
CARTWRIGHT	Winter Road Care	Stormwater	10/7/2019
COMBS	Winter Road Care	Stormwater	10/7/2019
WALDROP	Winter Road Care	Stormwater	10/7/2019
HALL	Winter Road Care	Stormwater	10/9/2019
Holmgren	Winter Road Care	Stormwater	10/10/2019
NEWTON	Winter Road Care	Stormwater	10/10/2019
LESSAR	Winter Road Care	Stormwater	10/15/2019
MALINOWSKI	Winter Road Care	Stormwater	10/21/2019
SCARBROUGH	Winter Road Care	Stormwater	10/22/2019
MUNSON	Winter Road Care	Stormwater	10/23/2019
EDDE	Winter Road Care	Stormwater	10/28/2019
Combs	Winter Road Care	Stormwater	10/31/2019
RADER	Winter Road Care	Stormwater	11/8/2019
Olson	Winter Road Care	Stormwater	11/15/2019
Paulson	Winter Road Care	Stormwater	11/15/2019
VOLKMAN	Winter Road Care	Stormwater	11/15/2019
ARMER	Winter Road Care	Stormwater	11/26/2019

Last Name	Assignment Name	Assignment Type	Completion Date
FUGATE	Winter Road Care	Stormwater	11/26/2019
SMITH	Winter Road Care	Stormwater	11/26/2019
VOLKMAN	Winter Road Care	Stormwater	11/26/2019
KIRKPATRICK	Winter Road Care	Stormwater	12/6/2019
MORRISON	Winter Road Care	Stormwater	12/18/2019
JONES	Winter Road Care	Stormwater	1/7/2020
THOMASSON	Winter Road Care	Stormwater	1/15/2020
WIMPARI	Winter Road Care	Stormwater	1/22/2020
GARDNER	Winter Road Care	Stormwater	2/3/2020
JACKSON	Winter Road Care	Stormwater	2/3/2020

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Appendix G.4

Example Inspection Form

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City of Bend

Corporation Yard Inspection

Date	June 18, 2020	Inspector	Buchanan/Rossi
Time	3:19 PM	Site Name	15th Street
Weather Conditions	Sunny	Photos Taken?	Yes

Evidence of Non-Stormwater Discharges:

	Yes/No	*Location/Description*
Spills	No	
Leaky Equipment	No	
Washing outside of the designated areas	No	
Catch grate staining	No	
Other residual materials	Yes	Old cracked battery sitting on the ground near shop door.

General House Keeping:

	Yes/No	*Location/Description*
Catch Basins are marked with a pollution prevention message	Yes	
Spill kits are onsite & stocked	Yes	
Spill trailers is onsite & stocked	Yes	
Stock-piles are contained/ erosion controlled	Yes	

Stormwater Facilities:

Facility Type	*ID #`s*	*Maintenance Needed?*	*Notes*
Catch Basins*	DCB009141	No	
	DCB010446	No	
	DCB010460	No	
	DCB010646	No	
	DCB017874	No	
	DCB017904	No	
Rain Garden/ Bio retention*	DSWL00193	No	
	DSWL00038	Yes	Grass needs cut and there was some sediment built up near the outlet.

**Condition rating is based on City of Bend, Clean Water Works Inspection fact sheets.*

Maintenance / Corrective Actions Due By: 6/26/2020

Notes:

An email was sent on 6/17/2020 to the appropriate staff requesting corrections.



Swale vegetation needs cut and pipe outlet cleared.



Site map needs updated.



Move/dispose of old battery.

Appendix H

Monitoring

Appendix H.1

FY2019-20 Field Monitoring Notebook











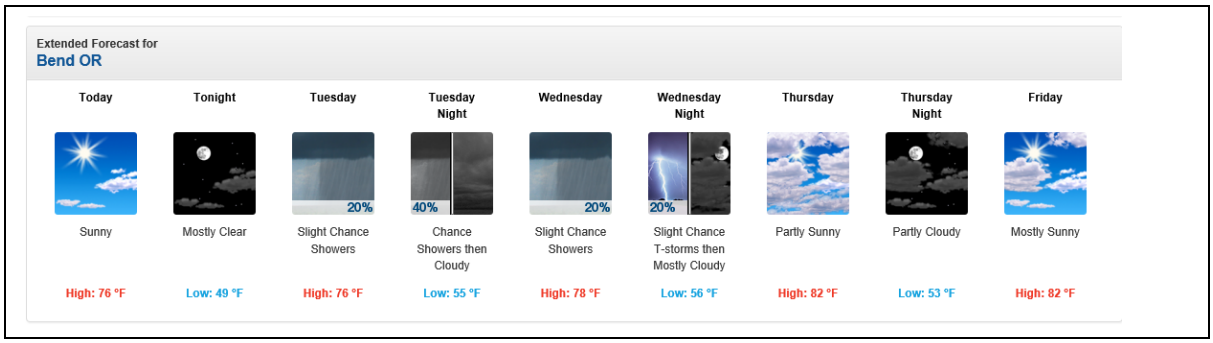
UTILITY DEPARTMENT

FY2019-2020
City of Bend, Stormwater Field Monitoring Notebook

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 7/8/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .03”
Qualifying rain event: No

% Chance of Precipitation: 40
Storm Duration: 12hrs
Storm Type: Showers

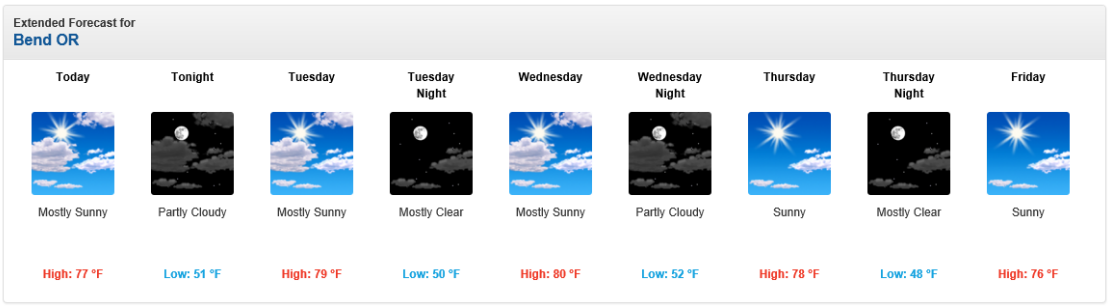
Forecast (12 Hours Out)

Forecast (8 Hours Out)

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 7/15/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: NA
Qualifying rain event: No

% Chance of Precipitation: NA
Storm Duration: NA
Storm Type: Sunny

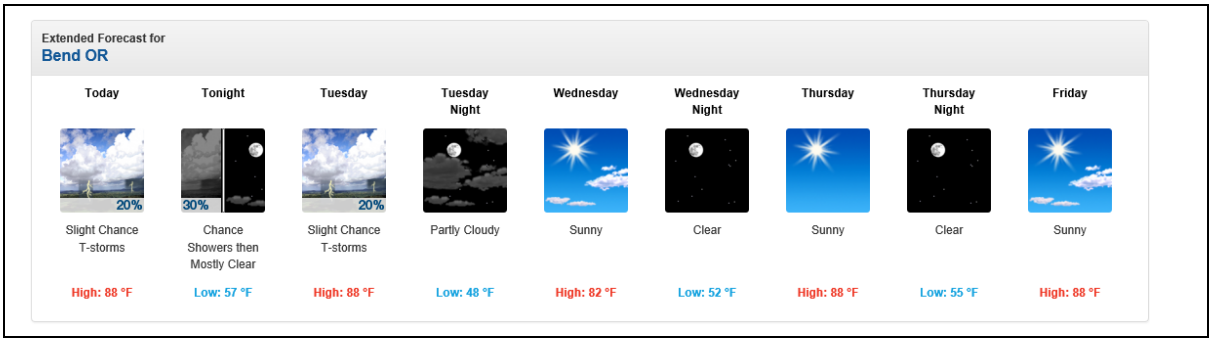
Forecast (12 Hours Out)

Forecast (8 Hours Out)

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 7/22/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .02”
Qualifying rain event: No

% Chance of Precipitation: 20
Storm Duration: 6 Hr
Storm Type: T-Storms

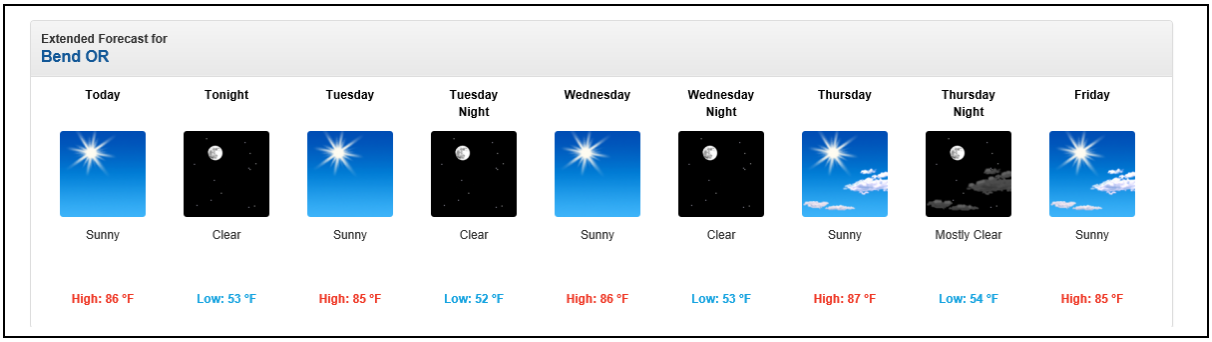
Forecast (12 Hours Out)

Forecast (8 Hours Out)

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 7/29/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: NA
Qualifying rain event: NO

% Chance of Precipitation: NA
Storm Duration: NA
Storm Type: Sunny

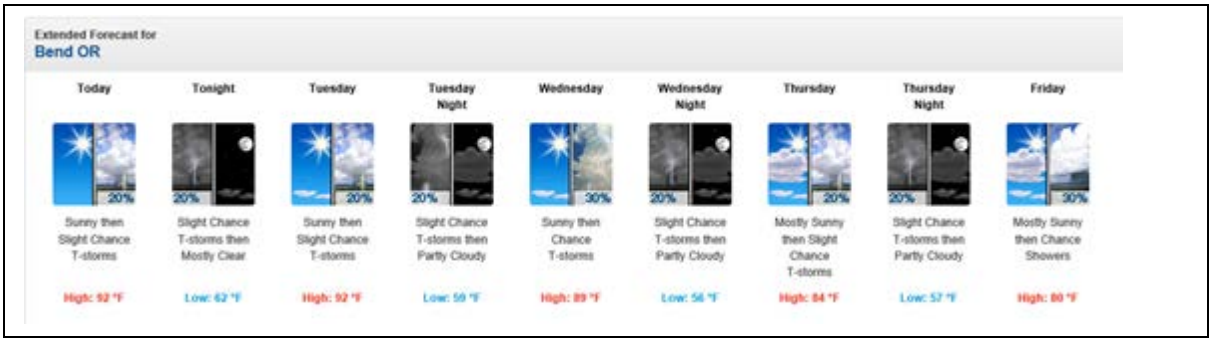
Forecast (12 Hours Out)

Forecast (8 Hours Out)

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 8/5/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .03
Qualifying rain event: No

% Chance of Precipitation: 30%
Storm Duration: 8 Hrs.
Storm Type: T-Storms

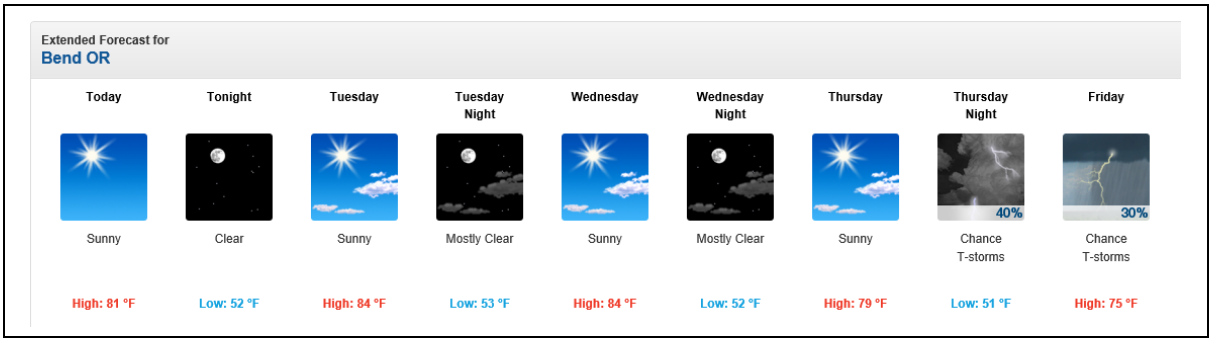
Forecast (12 Hours Out)

Forecast (8 Hours Out)

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 8/12/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .03”
Qualifying rain event: No

% Chance of Precipitation: 40
Storm Duration: 11 hrs.
Storm Type: T-Storms

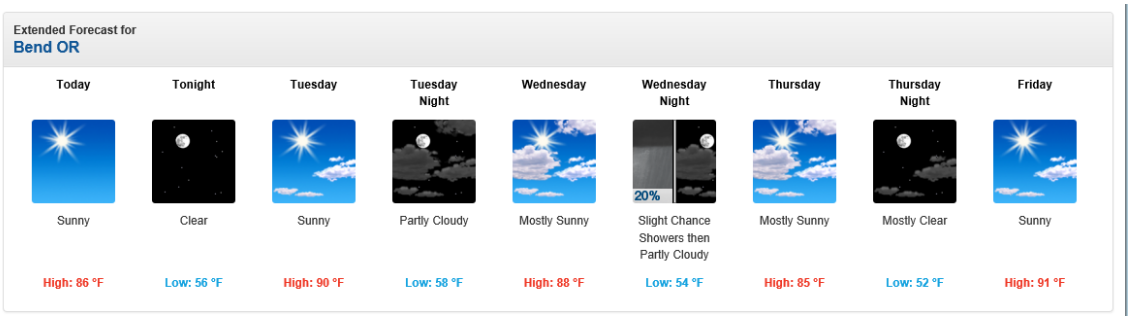
Forecast (12 Hours Out)

Forecast (8 Hours Out)

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 8/19/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .01”
Qualifying rain event: No

% Chance of Precipitation: 20%
Storm Duration: 6 Hrs.
Storm Type: Rain

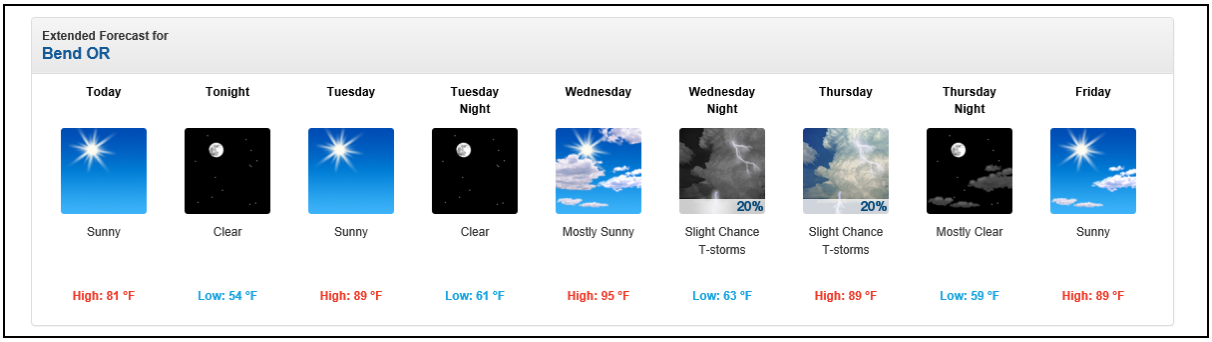
Forecast (12 Hours Out)

Forecast (8 Hours Out)

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 8/26/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .06”
Qualifying rain event: No

% Chance of Precipitation: 20%
Storm Duration: 11 Hrs.
Storm Type: T Storms

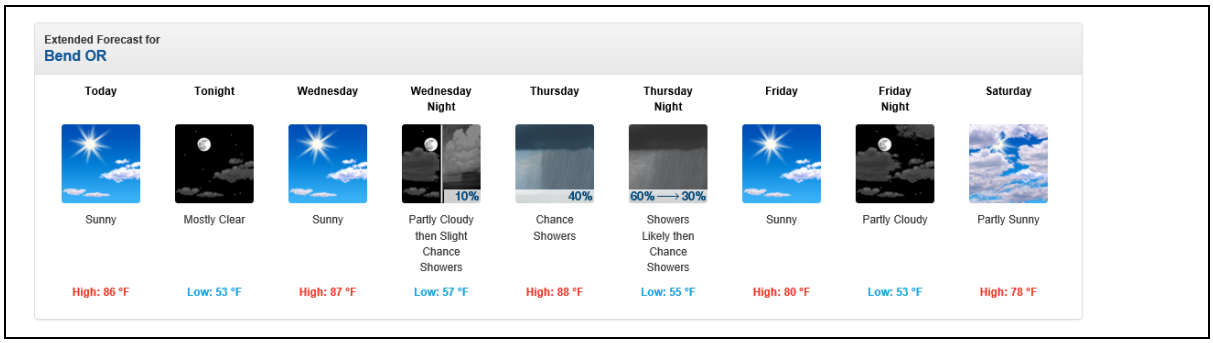
Forecast (12 Hours Out)

Forecast (8 Hours Out)

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

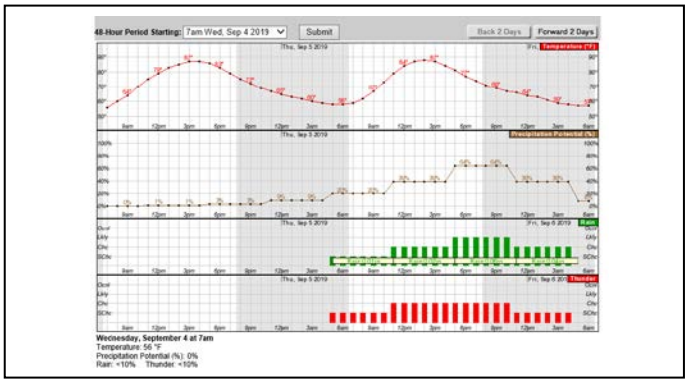
Weekly Forecast Source: NOAA **Forecast Read Date**: 9/3/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .08”
Qualifying rain event: No

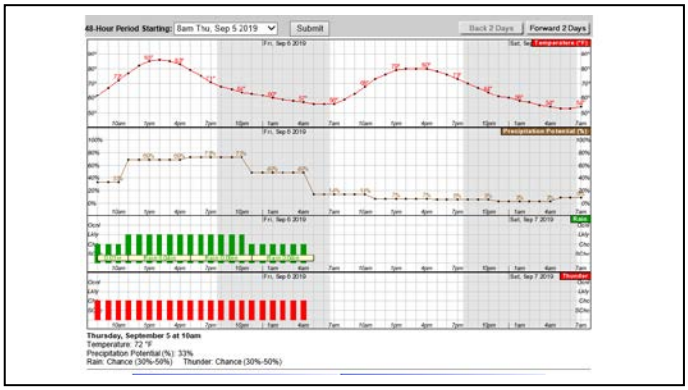
% Chance of Precipitation: 60%
Storm Duration: 6 hrs.
Storm Type: Rain

Forecast (20 Hours Out)



Antecedent Dry Period: Yes
Estimated Rainfall Total: .06
% Chance of Precipitation: 64%
Storm Duration: 6 Hrs.
Storm Type: T-Storms

Forecast (3 Hours Out)

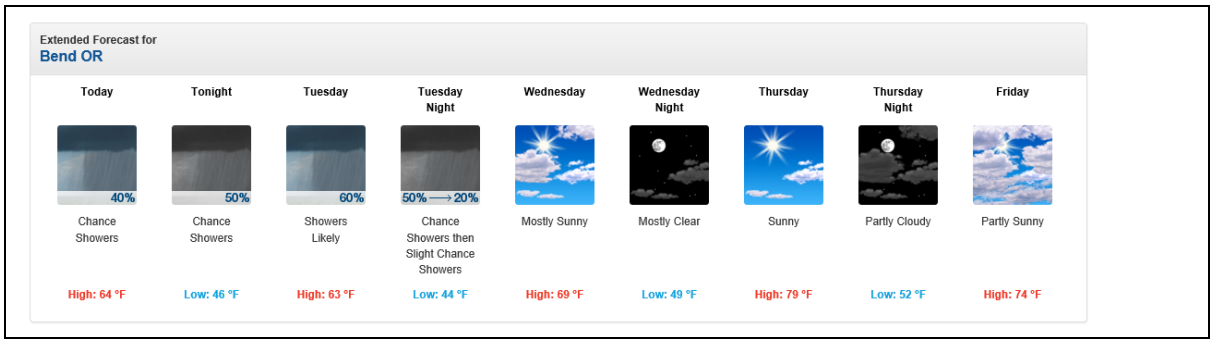


Antecedent Dry Period: Yes
Estimated Rainfall Total: .13
% Chance of Precipitation: 73%
Storm Duration: 12 Hrs.
Storm Type: T-Storms
Qualifying rain event: **No**

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

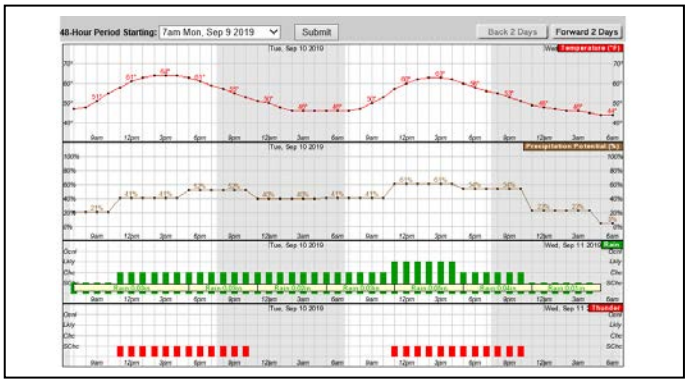
Weekly Forecast Source: NOAA **Forecast Read Date**: 9/9/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .05”
Qualifying rain event: No

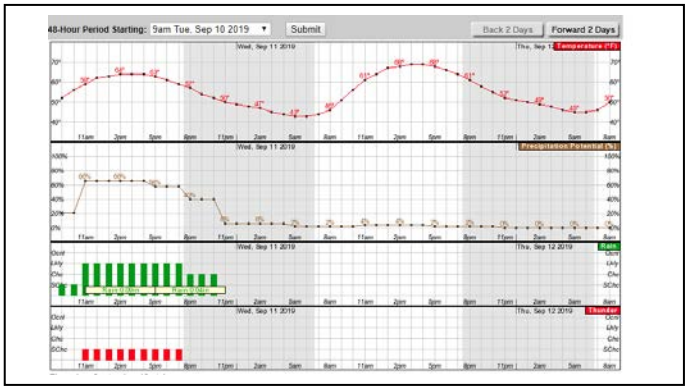
% Chance of Precipitation: 61%
Storm Duration: 6 Hrs.
Storm Type: Rain/T Storms

Forecast (6 Hours Out)



Date 9/9/2019
Antecedent Dry Period: See
Estimated Rainfall Total: Above
% Chance of Precipitation:
Storm Duration:
Storm Type:

Forecast (2 Hours Out)

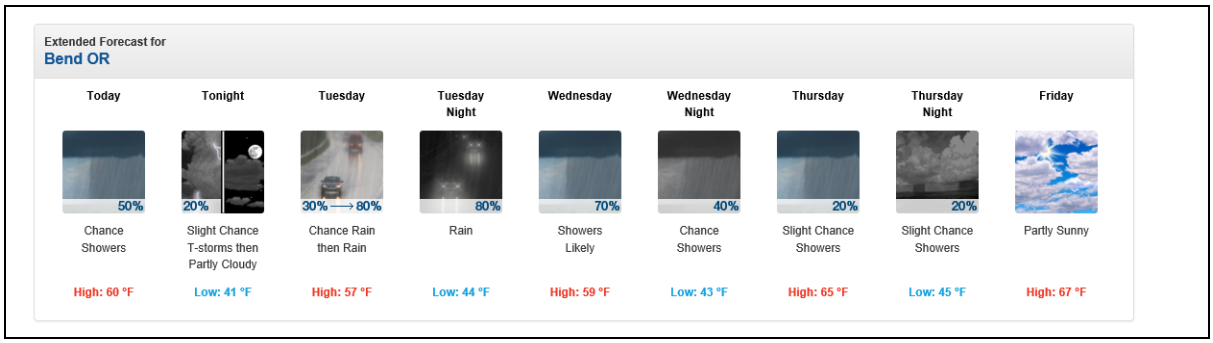


Date 9/10/2019
Antecedent Dry Period: Yes
Estimated Rainfall Total: 0.09”
% Chance of Precipitation: 66%
Storm Duration: 8 Hrs.
Storm Type: Rain T Storms
Qualifying rain event: **No**

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

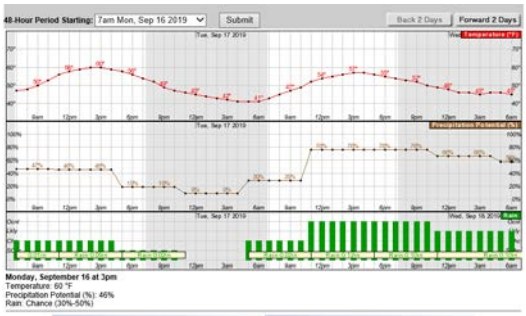
Weekly Forecast Source: NOAA **Forecast Read Date**: 9/16/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .25”
Qualifying rain event: Yes

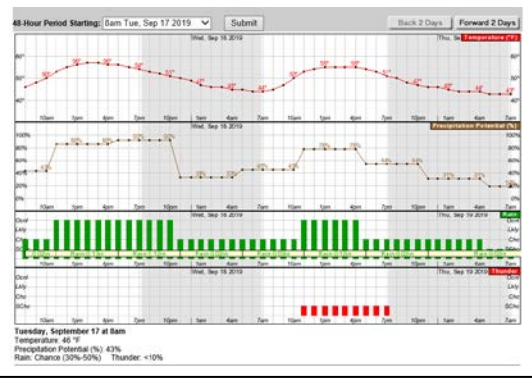
% Chance of Precipitation: 80%
Storm Duration: 12 hrs.
Storm Type: Rain

Forecast (6 Hours Out)



Date See
Antecedent Dry Period: Above
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:

Forecast (2 Hours Out)



Date 9/17/2019
Antecedent Dry Period: Yes
Estimated Rainfall Total: .25
% Chance of Precipitation: 86%
Storm Duration: 12 Hrs.
Storm Type: Rain
Qualifying rain event: **Yes**

UTILITY DEPARTMENT

COB UIC Sampler Deployment #1

Sampler Deployed By: David & Sean
Sampler Deployment Date: 9/17/2019

Sites Deployed:	☒ Airport	☒ Boyd	☒ Brooks	☒ Empire	☒ Ladera	☒ Century	☒ Blank
Time:	7:21	8:40	8:00 FD	7:07	7:38	8:12	NA

FD = Indicates Field Duplicate Location

Sample Deployment Notes:

Attempted to deploy samplers on 8/16/2019 but there was active stormwater flow at some of the monitoring location, so Staff called off monitoring for lack of an antecedent dry period. The rain subsided overnight and samplers where deployed on 9/17/2019. One sampler was deployed at Ladera location, that sampler was replaced with a clean sampler.

COB UIC Sampler Collection

Sampler Collected by: David/Doug
Sample Bucket Collection Date: 9/17/2019

Sites Collected:	☒ Airport	☒ Boyd	☒ Brooks	☒ Empire	☒ Ladera	☒ Century	☒ Blank
Time:	8:29	7:30	9:07	7:45	8:45	9:28	9:47

NS = No sample/sample container did not fill.

Sample Collection Notes:

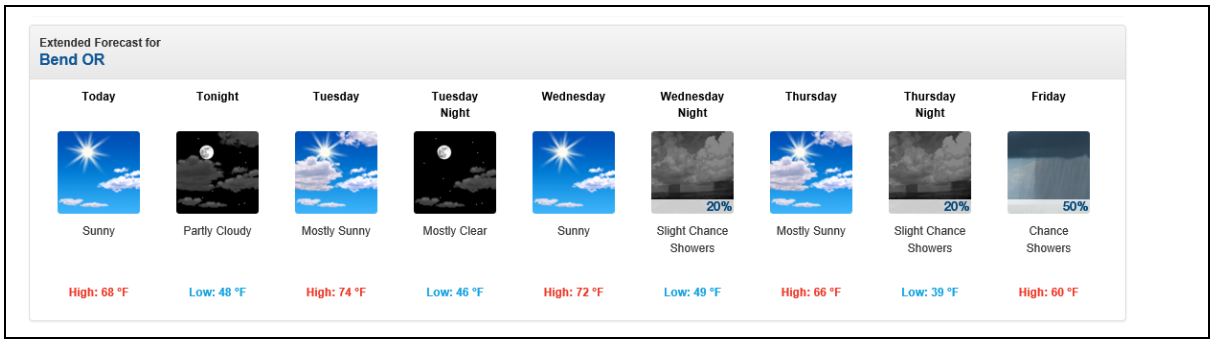
Checked samples into fridge #2 overnight. The ladder samples where accidently left on the counter overnight, samples where packed and shipped to ESC on 9/18/2019.

Sample Aliquot ☒ Field ☐ Lab

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 9/23/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: NA
Qualifying rain event: No

% Chance of Precipitation: 50%
Storm Duration: TBD
Storm Type: Showers

Forecast (6 Hours Out)

Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:

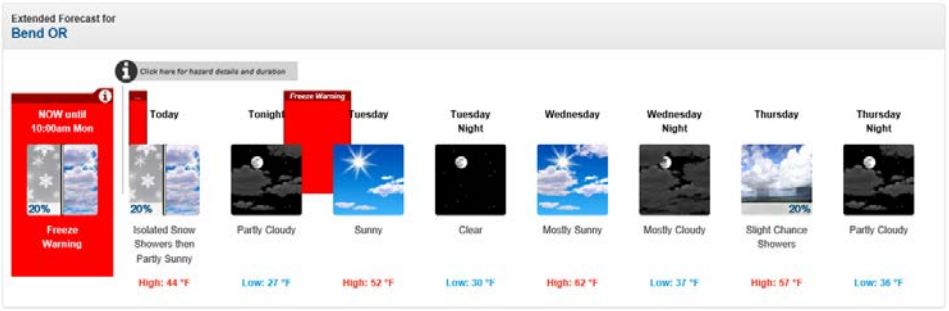
Forecast (2 Hours Out)

Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:
Qualifying rain event:

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 9/30/2019



Antecedent Dry Period: No
Estimated Rainfall Total: .01”
Qualifying rain event: No

% Chance of Precipitation: 20%
Storm Duration: 2hrs
Storm Type: Rain/Snow

Forecast (6 Hours Out)

Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:

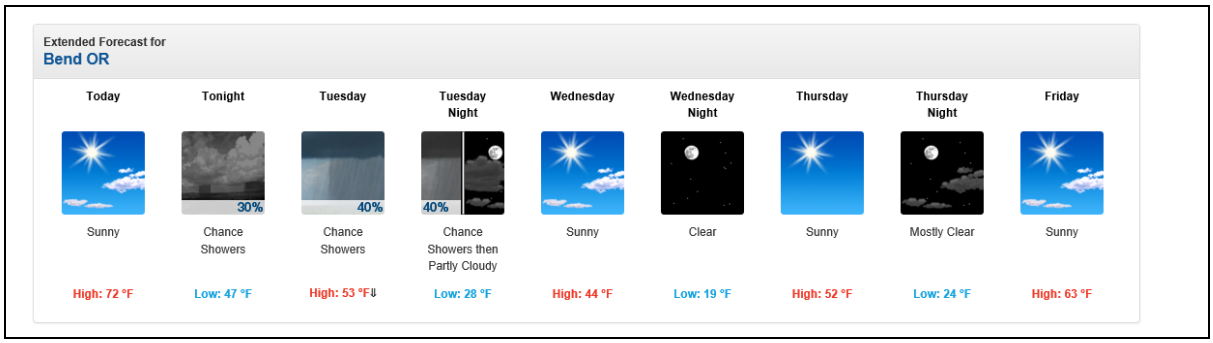
Forecast (2 Hours Out)

Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:
Qualifying rain event:

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 10/7/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .05
Qualifying rain event: No

% Chance of Precipitation: 40%
Storm Duration: 24 hrs.
Storm Type: Rain

Forecast (6 Hours Out)

Date _____
Antecedent Dry Period: _____
Estimated Rainfall Total: _____
% Chance of Precipitation: _____
Storm Duration: _____
Storm Type: _____

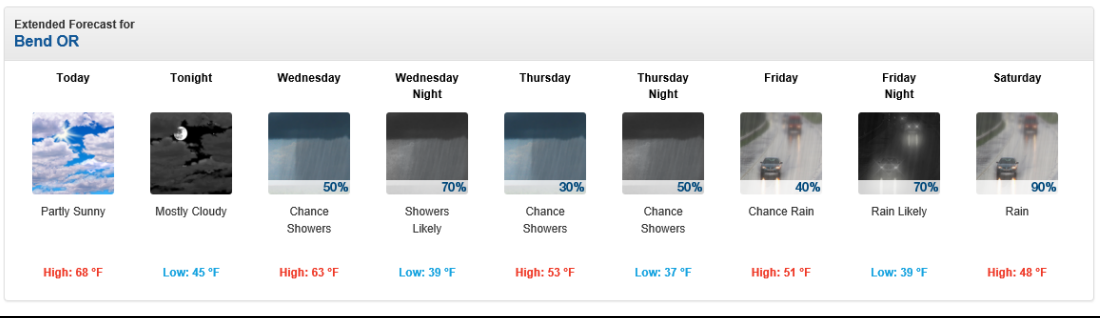
Forecast (2 Hours Out)

Date _____
Antecedent Dry Period: _____
Estimated Rainfall Total: _____
% Chance of Precipitation: _____
Storm Duration: _____
Storm Type: _____
Qualifying rain event: _____

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

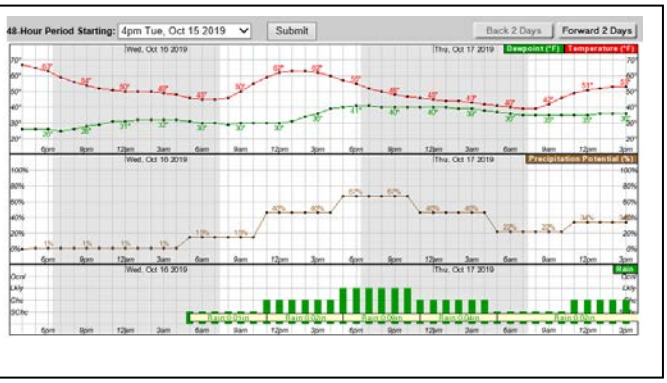
Weekly Forecast Source: NOAA **Forecast Read Date**: 10/15/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .09
Qualifying rain event: No

% Chance of Precipitation: 67%
Storm Duration: 6 hrs.
Storm Type: Rain

Forecast (1 Hours Out)



Date 10/15/2019
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:

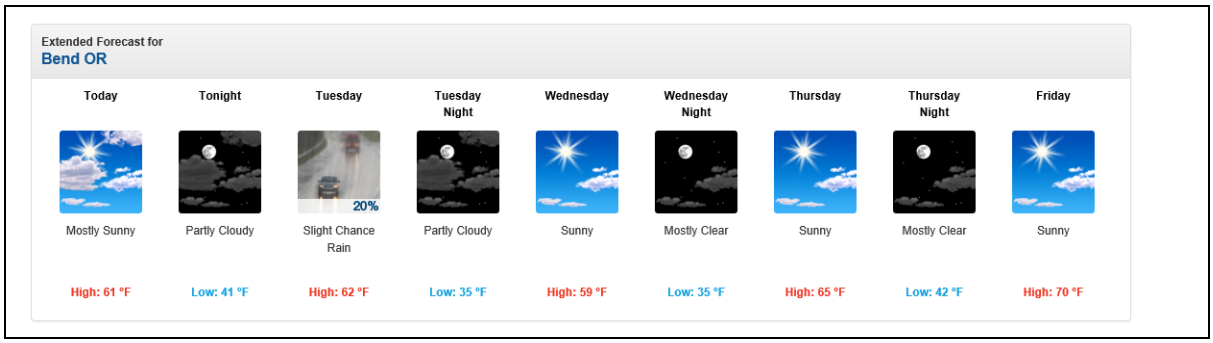
Forecast (2 Hours Out)

Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:
Qualifying rain event:

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

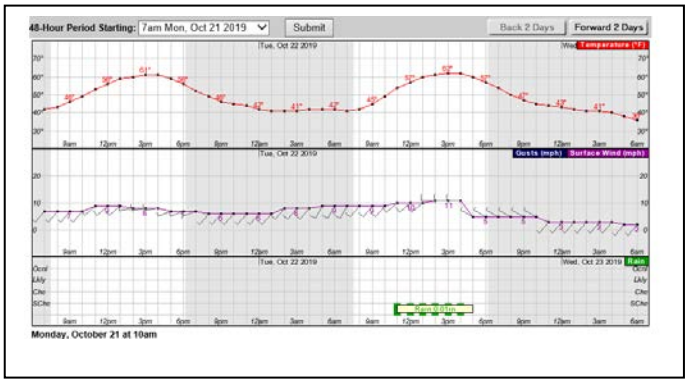
Weekly Forecast Source: NOAA **Forecast Read Date**: 10/21/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: 0.01”
Qualifying rain event: No

% Chance of Precipitation: 20%
Storm Duration: 6 hrs.
Storm Type: Slight Chance Rain

Forecast (24 Hours Out)



Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:

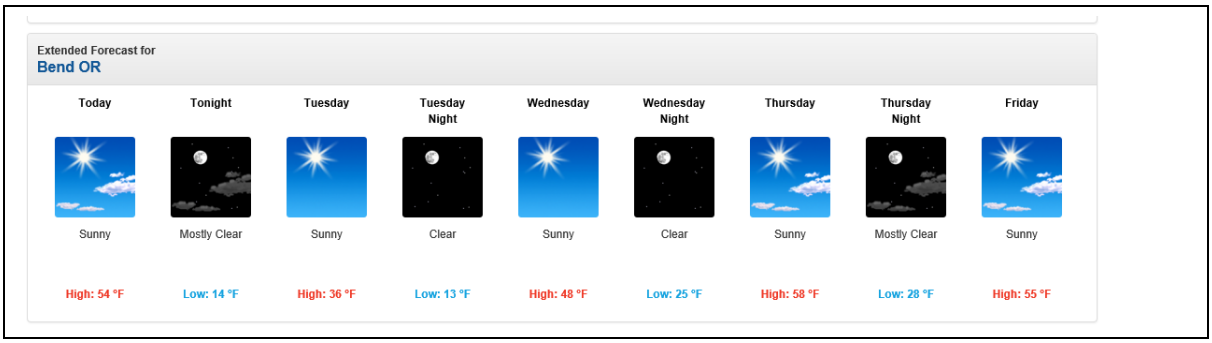
Forecast (2 Hours Out)

Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:
Qualifying rain event:

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 10/28/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: NA
Qualifying rain event: No

% Chance of Precipitation: NA
Storm Duration: NA
Storm Type: Sunny/Cold

Forecast (24 Hours Out)

Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:

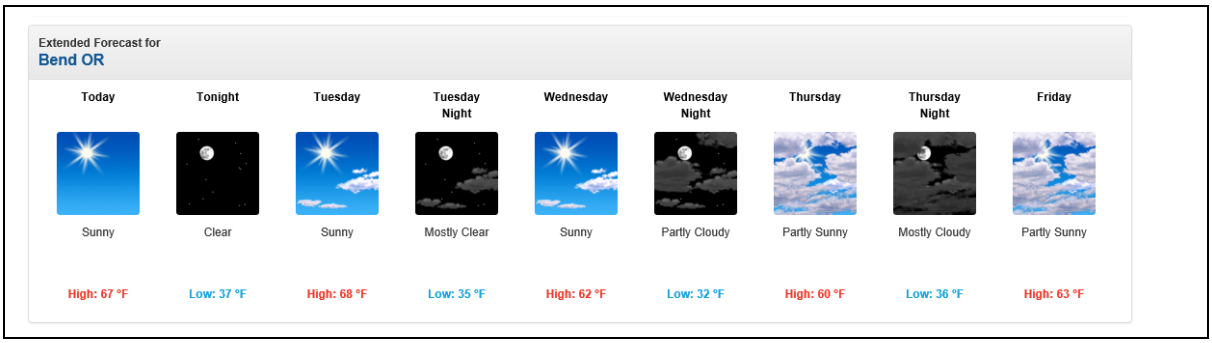
Forecast (2 Hours Out)

Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:
Qualifying rain event:

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 11/4/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: Na
Qualifying rain event: No

% Chance of Precipitation: Na
Storm Duration: Na
Storm Type: Sunny

Forecast (24 Hours Out)

Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:

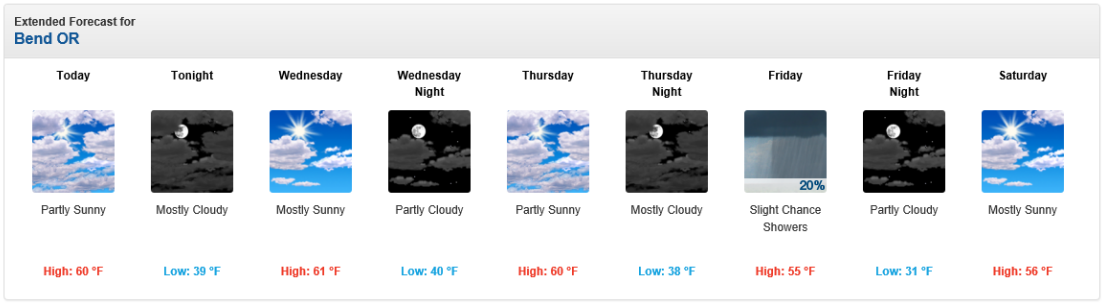
Forecast (2 Hours Out)

Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:
Qualifying rain event:

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 11/12/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .02”
Qualifying rain event: No

% Chance of Precipitation: 20%
Storm Duration: 12hrs
Storm Type: Showers

Forecast (24 Hours Out)

Date _____
Antecedent Dry Period: _____
Estimated Rainfall Total: _____
% Chance of Precipitation: _____
Storm Duration: _____
Storm Type: _____

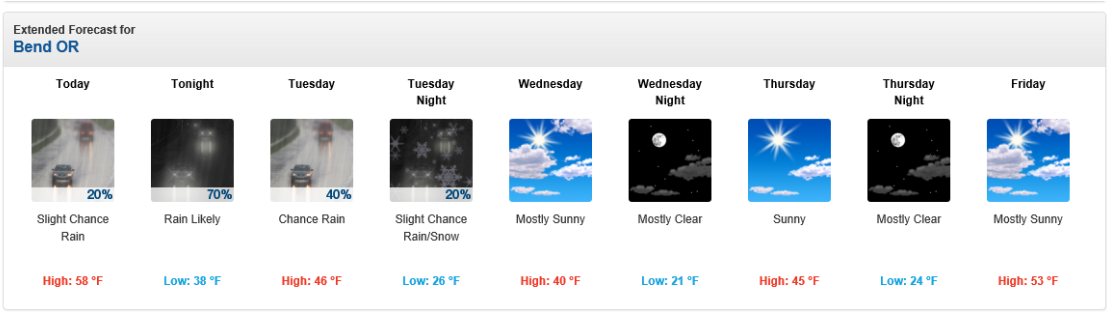
Forecast (2 Hours Out)

Date _____
Antecedent Dry Period: _____
Estimated Rainfall Total: _____
% Chance of Precipitation: _____
Storm Duration: _____
Storm Type: _____
Qualifying rain event: _____

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

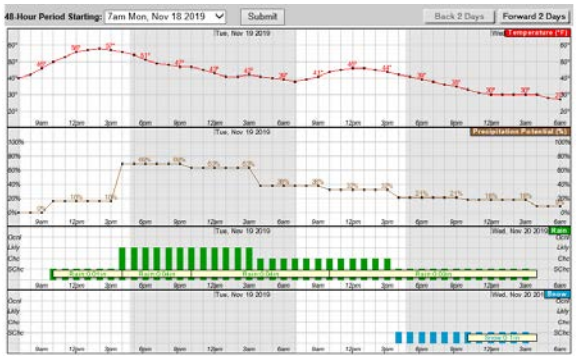
Weekly Forecast Source: NOAA **Forecast Read Date**: 11/18/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .08”
Qualifying rain event: No

% Chance of Precipitation: 70%
Storm Duration: 23 Hrs.
Storm Type: Rain

Forecast (24 Hours Out)



Date 11/18/2019
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:

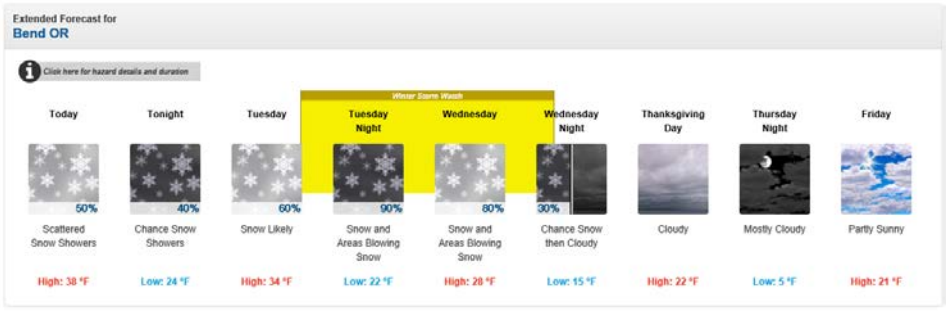
Forecast (2 Hours Out)

Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:
Qualifying rain event:

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

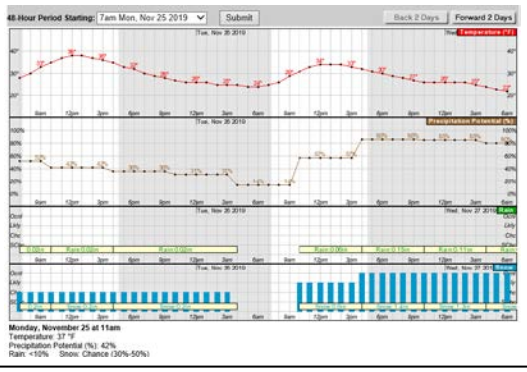
Weekly Forecast Source: NOAA **Forecast Read Date**: 11/25/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: NA
Qualifying rain event: No

% Chance of Precipitation: 90%
Storm Duration: 48 Hrs.
Storm Type: Snow

Forecast (24 Hours Out)



Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:

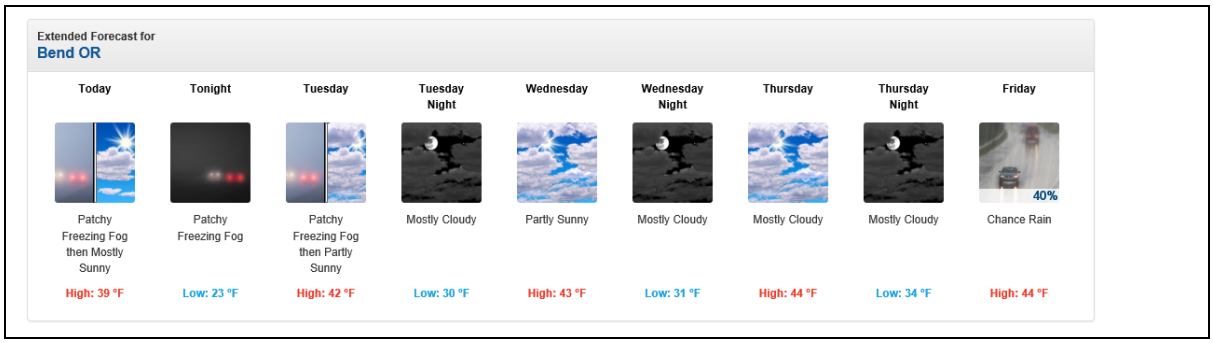
Forecast (2 Hours Out)

Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:
Qualifying rain event:

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 12/2/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: TBD
Qualifying rain event: No

% Chance of Precipitation: 40%
Storm Duration: Na
Storm Type: Rain

Forecast (24 Hours Out)

Date _____
Antecedent Dry Period: _____
Estimated Rainfall Total: _____
% Chance of Precipitation: _____
Storm Duration: _____
Storm Type: _____

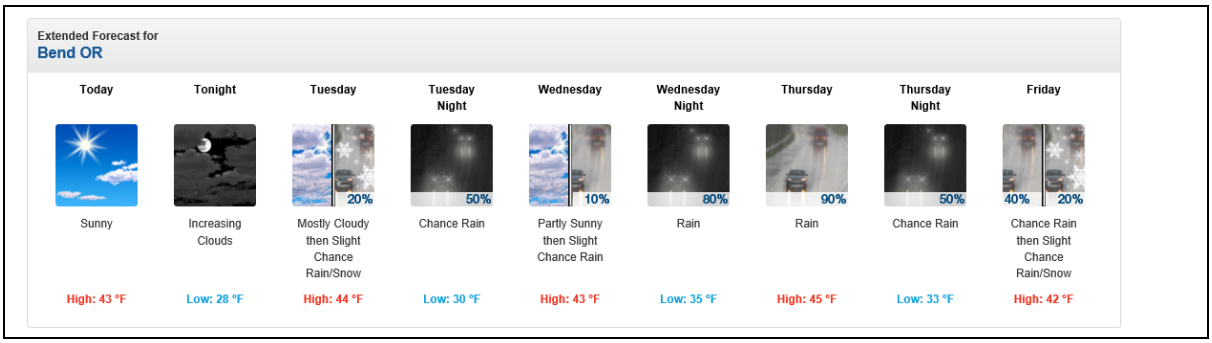
Forecast (2 Hours Out)

Date _____
Antecedent Dry Period: _____
Estimated Rainfall Total: _____
% Chance of Precipitation: _____
Storm Duration: _____
Storm Type: _____
Qualifying rain event: _____

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

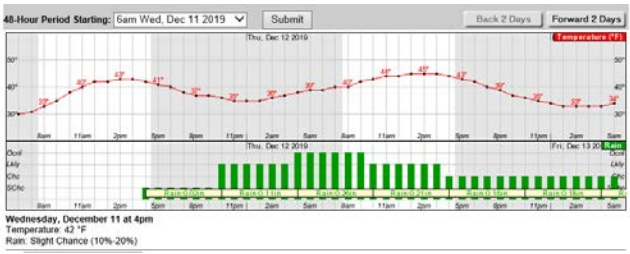
Weekly Forecast Source: NOAA **Forecast Read Date**: 12/9/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .57”
Qualifying rain event: Yes

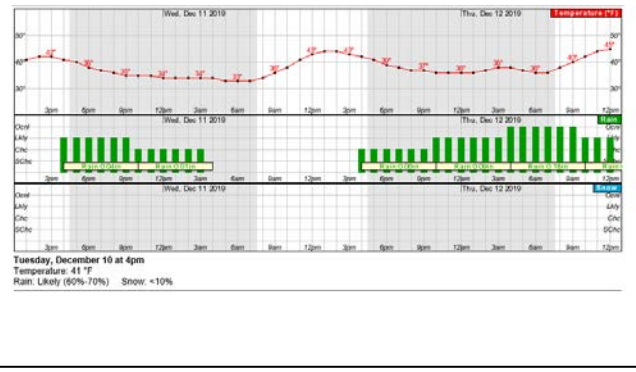
% Chance of Precipitation: 90%
Storm Duration: 20 Hrs.
Storm Type: Rain

Forecast (24 Hours Out)



Date
Antecedent Dry Period:
Estimated Rainfall Total:
% Chance of Precipitation:
Storm Duration:
Storm Type:

Forecast (12 Hours Out)



Date 12/10/2019
Antecedent Dry Period: Yes
Estimated Rainfall Total: 0.5”
% Chance of Precipitation: 80%
Storm Duration: 48 Hrs.
Storm Type: Rain
Qualifying rain event: **Yes**

UTILITY DEPARTMENT

COB UIC Sampler Deployment #2

Sampler Deployed By: David / Nick
Sampler Deployment Date: 12/11/2019

Sites Deployed:	☒ Airport	☒ Boyd	☒ Brooks	☒ Empire	☐ Ladera	☒ Century	☐ Blank
Time:	11:29	11:00	12:10	11:30 FD	13:54	14:49	

FD = Indicates Field Duplicate Location

Sample Deployment Notes:

There was a small amount runoff at Simpson/Century due to snow melt at the time of deployment.

The Ladera drywell had a strong sewage smell, staff collected an additional sample for fecal testing.

COB UIC Sampler Collection

Sampler Collected by: David / Nick
Sample Bucket Collection Date: 12/12/2019

Sites Collected:	☒ Airport	☒ Boyd	☒ Brooks	☒ Empire	☒ Ladera	☒ Century	☒ Blank
Time:							

NS = No sample/sample container did not fill.

Sample Collection Notes:

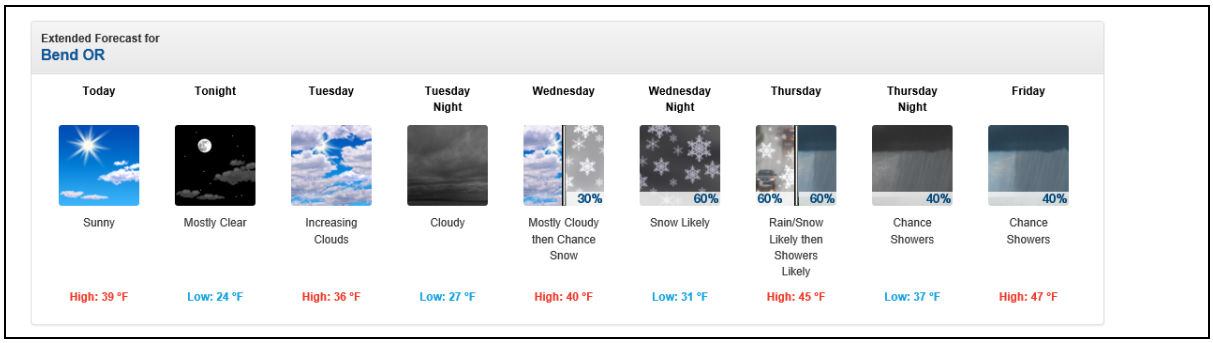
The fecal sample was outside the hold time, so city staff collected a new sample from the catch basin.

Sample Aliquot ☐ Field ☒ Lab

UTILITY DEPARTMENT

Forecast Reviewed By: Buchanan

Weekly Forecast Source: NOAA **Forecast Read Date**: 12/19/2019



Antecedent Dry Period: Yes
Estimated Rainfall Total: .28
Qualifying rain event: No

% Chance of Precipitation: 60
Storm Duration: 72 Hrs.
Storm Type: Rain/Snow

Forecast (24 Hours Out)

Date _____
Antecedent Dry Period: _____
Estimated Rainfall Total: _____
% Chance of Precipitation: _____
Storm Duration: _____
Storm Type: _____

Forecast (12 Hours Out)

Date _____
Antecedent Dry Period: _____
Estimated Rainfall Total: _____
% Chance of Precipitation: _____
Storm Duration: _____
Storm Type: _____
Qualifying rain event: _____

Appendix H.2

Monitoring Results and Lab Reports

Stormwater/UIC Monitoring Data for 7/1/2019 to 6/30/2020

TABLE 1 – Action Levels for Pollutants	
Monitoring Parameter	**Action Level at Injection Point (µg/L)**
Benzo(a)pyrene	2
Pentachlorophenol	10
Di(2-ethylhexyl)phthalate	300
Lead (Total)	500
Zinc (Total)	50,000
Copper (Total)	1,300

Sample Event Summary

Sample Location	1. 09/18/2019 Lab # C9I1802	2. 12/12/2019 Lab # C9L1205						
1. Airport	x	x						
2. Century Drive	x	x						
3. Boyd Acres	x	x						
4. Empire Ave	x	x						
5. Brookswood	x	x						
6. Ladera Rd	x	x						
7. Dup	x(Brookswood)	x(Empire)						
8. Field Blank	x	x						

Analytical Data For Each Sample Event

Date Sampled	Sample Location	UIC Number	COB Sample #	*Benzo(a)pyrene	*Pentachlorophenol	*Bis2-(ethylhexyl)phthalate	*Lead	*Zinc	*Copper
Units				ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Analytical Method				8270C	8270C	8270C	SM 3125	SM 3125	SM 3125
Reporting Limit (RDL)				1.00	10.0	3.00	0.200	20.0	0.200
Method Detection Limit Limit (MDL)				0.340	0.313	0.709	0.008	0.060	0.012
Effluent Discharge Action Level at Injection Point (ug/l)				2.00	10.0	300	500	50,000	1300
1. C9I1802-09/18/2019	1. Airport	DDW009628	C9I1802-01	ND	ND	ND	0.808	1130	8.40
Samplers:	2. Century Drive	DDW003323	C9I1802-02	ND	ND	ND	0.811	191	11.9
Dave Buchanan	3. Boyd Acres	DDW003354	C9I1802-03	ND	ND	ND	0.686	151	5.02
Nick Jenness	4. Empire Ave	DDW008884	C9I1802-04	ND	ND	ND	0.993	247	20.4
	5. Brookswood	**DDW003312**	**C9I1802-05**	**ND**	**ND**	**ND**	**0.754**	**203**	**20.0**
	6. Ladera Rd	DDW003252	C9I1803-06	ND	ND	ND	0.435	197	4.68
	7. Duplicate (Brookswood)	**DDW009628**	C9I1802-07	**ND**	**ND**	**ND**	**0.646**	**187**	**20.20**
	8. Field Blank	-	C9I1802-08	ND	ND	ND	ND	75.1	ND

*Analysis performed by ESC/Pace Analytical (8270D) and City of Bend Water Quality Laboratory(SM3125)
**ND = Not Detected to RDL

Date Sampled	Sample Location	UIC Number	COB Sample #	*Benzo(a)pyrene	*Pentachlorophenol	*Bis2-(ethylhexyl)phthalate	*Lead	*Zinc	*Copper
Units				ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Analytical Method				EPA 8270C	EPA 8270C	EPA 8270C	SM 3125	SM 3125	SM 3125
Reporting Limit (RDL)				1.00	10.0	3.00	0.200	20.0	0.200
Method Detection Limit Limit (MDL)				0.340	0.313	0.709	0.008	3.00	0.012
Effluent Discharge Action Level at Injection Point (ug/l)				2.00	10.0	300	500	50,000	1300
1. C9L1205-12/12/2019	1. Airport	DDW009628	C9L1205-01	ND	ND	ND	1.07	2930	10.6
Samplers:	2. Century Drive	DDW003323	C9L1205-02	ND	ND	ND	1.14	222	14.5
Jeff Buystedt	3. Boyd Acres	DDW003354	C9L1205-03	ND	ND	ND	0.620	286	5.79
Nick Jenness	**4. Empire Ave**	**DDW008884**	**C9L1205-04**	**ND**	**ND**	**ND**	**0.779**	**299**	**19.3**
	5. Brookswood	DDW003312	C9L1205-05	ND	ND	ND	1.07	400	26.0
	6. Ladera Rd	DDW003252	C9L1205-06	ND	ND	ND	9.49	289	11.8
	7. Duplicate (Empire)	**DDW008884**	**C9L1205-07**	**ND**	**ND**	**ND**	**1.13**	**346**	**23.5**
	8. Field Blank	-	C9L1205-08	ND	ND	ND	ND	191	ND

*Analysis performed by ESC/Pace Analytical (8270D) and City of Bend Water Quality Laboratory(SM3125)
Pace Analytical Reported a 10x dilution for Ladera
**ND = Not Detected to RDL

CITY OF BEND

City of Bend Water Quality Lab
22395 McGrath Road
Mailing: 62975 Boyd Acres Road
Bend, OR 97701
541.317.3017 Phone
541.322.6345 Fax

ANALYTICAL DATA REPORT

October 25, 2019

City of Bend - Stormwater Division

Project:	Stormwater Monitoring 2019-20
Samples Received:	September 19, 2019
Work Order:	C9I1802
Contact:	Dave Buchanan
	62975 NE Boyd Acres Rd.
	Bend, OR 97701

The results in this report apply to the samples analyzed in accordance with the chain of custody document and are reported as rounded values. This analytical data report shall not be reproduced, except in its entirety, without written approval of the laboratory. If you have any questions concerning this report, please feel free to contact me at (541) 388-5585.

Report reviewed by,



Stefan D'Angona

Analytical Chemist

Company Name/Address:
City of Bend- WRF
62975 Boyd Acres Rd.
Bend, OR 97701

Billing Information:
City of Bend
62975 Boyd Acres Rd
Bend, OR 97701

Report to: **Jeff Buystedt**

Email To: **jbuystedt@bendoregon.gov**

Project Description: Stormwater Analysis

City/State Collected: **Bend OR**

Phone: **541-420-6892**
Fax:

Client Project #

Lab Project #
C9I1802

Collected by (print): Dave Buchanan

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ____ Y ✓

Rush? (Lab MUST Be Notified)
____ Same Day 200%
____ Next Day 100%
____ Two Day 50%
____ Three Day 25%

Date Results Needed

Email? ___No ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

UTILITY DEPARTMENT
Water Quality Laboratory
22395 McGrath Rd Bend, Or 97701
Phone: 541-317-3017

L #

Table #

Acctnum:
Template:
Prelogin:
TSR:
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	SM 3125 Pb, Cu, Zn	SM 3125 Optional Parameters								Rem./Contaminant	Sample # (lab only)
Century-C9I1802-02	Grab			9/18/19	9:28	1	X	X									
Brookswood-C9I1802-05	Grab			9/18/19	9:07	1	X	X									
Boyd Acres-C9I1802-03	Grab			9/18/19	7:30	1	X	X									
Ladera-C9I1802-06	Grab			9/18/19	8:45	1	X	X	*	Sample was left at room temperature overnight.							
Dup. Brooks-C9I1802-07	Grab			9/18/19	9:07	1	X	X									
Field Blank-C9I1802-08	Grab			9/18/19	9:47	1	X	X									
Empire-C9I1802-04	Grab			9/18/19	7:45	1	X	X									
Airport-C9I1802-01	Grab			9/18/19	8:24	1	X	X									

* Matrix: **BS** - Biosolids **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water
SW - Stormwater

~~Stormwater~~ Remarks:

pH _____ Temp _____

Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____	Condition: (lab use only)
Fridge #2	9/18/19	10:23	Fridge #2		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	COC Seal Intact: ___Y ___N ___NA
Fridge #2	9/19/19	09:45			
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	pH Checked: NCF:

CITY OF BEND

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541.317.3017 Phone
541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Case Narrative

All samples were received within the correct temperature range, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all method detection limit (MDL) and reporting limit values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed below in this case narrative, a non-conformance form, or properly qualified within the sample results and defined in the Flags and Definitions section of this report.

Sample C9I1802-06 (Ladera) was noted on the COC as being left at room temperature overnight. Sample analyzed per client request.

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Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Sample Summary

Sample ID	Laboratory ID	Matrix	Analysis	Date/Time Sampled	Date/Time Received
DDW009618-Airport UIC	C9I1802-01	Water	Aluminum Total SM 3125	18-Sep-19 08:24	19-Sep-19 09:49
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		
DDW003323-Century	C9I1802-02	Water	Aluminum Total SM 3125	18-Sep-19 09:28	19-Sep-19 09:49
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		

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541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Sample Summary

Sample ID	Laboratory ID	Matrix	Analysis	Date/Time Sampled	Date/Time Received
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		
DDW003355-Boyd Acres Complex	C9I1802-03	Water	Aluminum Total SM 3125	18-Sep-19 07:30	19-Sep-19 09:49
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		

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Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Sample Summary

Sample ID	Laboratory ID	Matrix	Analysis	Date/Time Sampled	Date/Time Received
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		
DDW008884-Empire	C9I1802-04	Water	Aluminum Total SM 3125	18-Sep-19 07:45	19-Sep-19 09:49
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		

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Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Sample Summary

Sample ID	Laboratory ID	Matrix	Analysis	Date/Time Sampled	Date/Time Received
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		
DDW003312-Brookswood	C9I1802-05	Water	Aluminum Total SM 3125	18-Sep-19 09:07	19-Sep-19 09:49
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		
DDW003238-Ladera	C9I1802-06	Water	Aluminum Total SM 3125	18-Sep-19 08:45	19-Sep-19 09:49
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		

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Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Sample Summary

Sample ID	Laboratory ID	Matrix	Analysis	Date/Time Sampled	Date/Time Received
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		
(Field Duplicate) Brookswood	C9I1802-07	Water	Aluminum Total SM 3125	18-Sep-19 09:07	19-Sep-19 09:49
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		

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CITY OF BEND

City of Bend Water Quality Lab
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Mailing: 62975 Boyd Acres Road
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541.317.3017 Phone
541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Sample Summary

Sample ID	Laboratory ID	Matrix	Analysis	Date/Time Sampled	Date/Time Received
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		
Field Blank	C9I1802-08	Water	Aluminum Total SM 3125	18-Sep-19 09:47	19-Sep-19 09:49
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		

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Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Sample Summary

Sample ID	Laboratory ID	Matrix	Analysis	Date/Time Sampled	Date/Time Received
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		

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541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

DDW009618-Airport UIC

C9I1802-01 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**108**	10.0	1.69	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Antimony	**0.717**	0.100	0.0104	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Arsenic	**1.18**	0.100	0.0571	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Barium	**9.24**	0.200	0.117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Beryllium	ND	0.100	0.0136	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Cadmium	0.0830 J	0.100	0.0111	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Calcium	**4580**	100	5.61	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Chromium	**1.74**	0.200	0.0976	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Cobalt	**0.231**	0.200	0.0132	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Copper	**8.40**	0.200	0.0750	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Iron	**111**	10.0	0.876	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Lead	**0.808**	0.200	0.0117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Magnesium	**2710**	100	5.21	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Manganese	**7.13**	0.200	0.0204	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Mercury	ND	0.0200	0.00960	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Molybdenum	**0.612**	0.500	0.116	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Nickel	**0.532**	0.200	0.0214	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Phosphorus	**111**	100	6.59	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Potassium	**1350**	100	6.13	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Selenium	0.0437 J	0.100	0.0315	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Silver	ND	0.200	0.0544	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Sodium	**5880**	100	22.2	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Thallium	ND	0.100	0.00680	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Tin	ND	1.00	0.259	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Titanium	**5.68**	0.200	0.0848	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Vanadium	**6.77**	0.500	0.156	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Zinc	**1130**	20.0	7.80	ug/L	20	19I3009	09-Oct-19	14-Oct-19	SM 3125	

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Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

DDW003323-Century

C9I1802-02 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**297**	10.0	1.69	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Antimony	**0.959**	0.100	0.0104	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Arsenic	**0.766**	0.100	0.0571	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Barium	**19.1**	0.200	0.117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Beryllium	0.0203 J	0.100	0.0136	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Cadmium	0.0380 J	0.100	0.0111	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Calcium	**9210**	100	5.61	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Chromium	**7.08**	0.200	0.0976	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Cobalt	**0.603**	0.200	0.0132	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Copper	**11.9**	0.200	0.0750	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Iron	**382**	10.0	0.876	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Lead	**0.811**	0.200	0.0117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Magnesium	**2410**	100	5.21	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Manganese	**43.4**	0.200	0.0204	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Mercury	ND	0.0200	0.00960	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Molybdenum	**1.90**	0.500	0.116	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Nickel	**2.31**	0.200	0.0214	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Phosphorus	60.8 J	100	6.59	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Potassium	**3020**	100	6.13	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Selenium	0.0344 J	0.100	0.0315	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Silver	ND	0.200	0.0544	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Sodium	**2640**	100	22.2	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Thallium	0.0187 J	0.100	0.00680	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Tin	ND	1.00	0.259	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Titanium	**13.6**	0.200	0.0848	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Vanadium	**2.78**	0.500	0.156	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Zinc	**191**	1.00	0.390	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	

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CITY OF BEND

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Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

DDW003355-Boyd Acres Complex

C9I1802-03 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**318**	10.0	1.69	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Antimony	**0.240**	0.100	0.0104	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Arsenic	**0.271**	0.100	0.0571	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Barium	**8.74**	0.200	0.117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Beryllium	ND	0.100	0.0136	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Cadmium	0.0220 J	0.100	0.0111	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Calcium	**3150**	100	5.61	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Chromium	**1.75**	0.200	0.0976	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Cobalt	**0.721**	0.200	0.0132	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Copper	**5.02**	0.200	0.0750	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Iron	**875**	10.0	0.876	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Lead	**0.686**	0.200	0.0117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Magnesium	**634**	100	5.21	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Manganese	**34.6**	0.200	0.0204	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Mercury	ND	0.0200	0.00960	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Molybdenum	**0.666**	0.500	0.116	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Nickel	**1.36**	0.200	0.0214	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Phosphorus	66.3 J	100	6.59	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Potassium	**669**	100	6.13	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Selenium	ND	0.100	0.0315	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Silver	ND	0.200	0.0544	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Sodium	**2530**	100	22.2	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Thallium	0.00740 J	0.100	0.00680	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Tin	ND	1.00	0.259	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Titanium	**10.2**	0.200	0.0848	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Vanadium	**2.78**	0.500	0.156	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Zinc	**151**	1.00	0.390	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	

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CITY OF BEND

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Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

DDW008884-Empire

C9I1802-04 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**518**	10.0	1.69	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Antimony	**1.63**	0.100	0.0104	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Arsenic	**0.656**	0.100	0.0571	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Barium	**26.1**	0.200	0.117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Beryllium	0.0448 J	0.100	0.0136	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Cadmium	0.0837 J	0.100	0.0111	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Calcium	**7410**	100	5.61	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Chromium	**2.61**	0.200	0.0976	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Cobalt	**1.96**	0.200	0.0132	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Copper	**20.4**	0.200	0.0750	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Iron	**903**	10.0	0.876	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Lead	**0.993**	0.200	0.0117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Magnesium	**3940**	100	5.21	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Manganese	**114**	0.200	0.0204	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Mercury	ND	0.0200	0.00960	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Molybdenum	**3.98**	0.500	0.116	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Nickel	**6.36**	0.200	0.0214	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Phosphorus	**169**	100	6.59	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Potassium	**2800**	100	6.13	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Selenium	**0.109**	0.100	0.0315	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Silver	ND	0.200	0.0544	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Sodium	**3870**	100	22.2	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Thallium	0.00910 J	0.100	0.00680	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Tin	0.329 J	1.00	0.259	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Titanium	**22.6**	0.200	0.0848	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Vanadium	**8.31**	0.500	0.156	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Zinc	**247**	20.0	7.80	ug/L	20	19I3009	09-Oct-19	14-Oct-19	SM 3125	

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Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

DDW003312-Brookswood

C9I1802-05 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**271**	10.0	1.69	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Antimony	**1.32**	0.100	0.0104	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Arsenic	**0.664**	0.100	0.0571	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Barium	**24.1**	0.200	0.117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Beryllium	0.0173 J	0.100	0.0136	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Cadmium	0.0520 J	0.100	0.0111	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Calcium	**9770**	100	5.61	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Chromium	**2.46**	0.200	0.0976	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Cobalt	**1.23**	0.200	0.0132	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Copper	**20.0**	0.200	0.0750	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Iron	**656**	10.0	0.876	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Lead	**0.754**	0.200	0.0117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Magnesium	**7400**	100	5.21	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Manganese	**115**	0.200	0.0204	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Mercury	ND	0.0200	0.00960	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Molybdenum	**4.05**	0.500	0.116	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Nickel	**5.04**	0.200	0.0214	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Phosphorus	**153**	100	6.59	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Potassium	**2350**	100	6.13	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Selenium	0.0577 J	0.100	0.0315	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Silver	ND	0.200	0.0544	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Sodium	**3810**	100	22.2	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Thallium	0.00720 J	0.100	0.00680	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Tin	ND	1.00	0.259	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Titanium	**12.0**	0.200	0.0848	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Vanadium	**4.26**	0.500	0.156	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Zinc	**203**	20.0	7.80	ug/L	20	19I3009	09-Oct-19	14-Oct-19	SM 3125	

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City of Bend Water Quality Lab
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Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

DDW003238-Ladera

C9I1802-06 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**94.3**	10.0	1.69	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Antimony	**0.362**	0.100	0.0104	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Arsenic	**0.882**	0.100	0.0571	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Barium	**20.5**	0.200	0.117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Beryllium	ND	0.100	0.0136	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Cadmium	0.0361 J	0.100	0.0111	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Calcium	**11000**	100	5.61	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Chromium	**2.32**	0.200	0.0976	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Cobalt	**0.532**	0.200	0.0132	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Copper	**4.68**	0.200	0.0750	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Iron	**868**	10.0	0.876	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Lead	**0.435**	0.200	0.0117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Magnesium	**1890**	100	5.21	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Manganese	**89.5**	0.200	0.0204	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Mercury	ND	0.0200	0.00960	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Molybdenum	**0.603**	0.500	0.116	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Nickel	**1.46**	0.200	0.0214	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Phosphorus	**221**	100	6.59	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Potassium	**2360**	100	6.13	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Selenium	0.0422 J	0.100	0.0315	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Silver	ND	0.200	0.0544	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Sodium	**3950**	100	22.2	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Thallium	ND	0.100	0.00680	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Tin	ND	1.00	0.259	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Titanium	**5.14**	0.200	0.0848	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Vanadium	**3.33**	0.500	0.156	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Zinc	**197**	1.00	0.390	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	

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CITY OF BEND

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Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

(Field Duplicate) Brookswood

C9I1802-07 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**352**	10.0	1.69	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Antimony	**1.32**	0.100	0.0104	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Arsenic	**0.630**	0.100	0.0571	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Barium	**24.0**	0.200	0.117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Beryllium	0.0191 J	0.100	0.0136	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Cadmium	0.0523 J	0.100	0.0111	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Calcium	**9470**	100	5.61	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Chromium	**2.25**	0.200	0.0976	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Cobalt	**1.20**	0.200	0.0132	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Copper	**20.2**	0.200	0.0750	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Iron	**751**	10.0	0.876	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Lead	**0.646**	0.200	0.0117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Magnesium	**7270**	100	5.21	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Manganese	**115**	0.200	0.0204	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Mercury	ND	0.0200	0.00960	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Molybdenum	**4.15**	0.500	0.116	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Nickel	**5.02**	0.200	0.0214	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Phosphorus	**158**	100	6.59	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Potassium	**2270**	100	6.13	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Selenium	0.0821 J	0.100	0.0315	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Silver	ND	0.200	0.0544	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Sodium	**3760**	100	22.2	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Thallium	0.00680 J	0.100	0.00680	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Tin	0.312 J	1.00	0.259	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Titanium	**17.3**	0.200	0.0848	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Vanadium	**4.52**	0.500	0.156	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Zinc	**187**	1.00	0.390	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	

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Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Field Blank

C9I1802-08 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**29.0**	10.0	1.69	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Antimony	ND	0.100	0.0104	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Arsenic	ND	0.100	0.0571	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Barium	**0.203**	0.200	0.117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Beryllium	ND	0.100	0.0136	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Cadmium	ND	0.100	0.0111	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Calcium	41.2 J	100	5.61	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Chromium	**2.33**	0.200	0.0976	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Cobalt	0.0419 J	0.200	0.0132	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Copper	0.121 J	0.200	0.0750	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Iron	4.65 J	10.0	0.876	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Lead	0.0408 J	0.200	0.0117	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Magnesium	6.94 J	100	5.21	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Manganese	0.0526 J	0.200	0.0204	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Mercury	ND	0.0200	0.00960	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Molybdenum	0.155 J	0.500	0.116	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Nickel	0.0402 J	0.200	0.0214	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Phosphorus	ND	100	6.59	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Potassium	13.5 J	100	6.13	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Selenium	ND	0.100	0.0315	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Silver	ND	0.200	0.0544	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Sodium	**338**	100	22.2	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Thallium	ND	0.100	0.00680	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Tin	ND	1.00	0.259	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Titanium	0.153 J	0.200	0.0848	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	J
Vanadium	ND	0.500	0.156	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	
Zinc	**75.1**	1.00	0.390	ug/L	1	19I3009	09-Oct-19	14-Oct-19	SM 3125	

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Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Metals by Method SM 3125 - Quality Control

City of Bend Water Quality Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch 19I3009 - EPA 200.8										
Blank (19I3009-BLK1)				Prepared: 09-Oct-19 Analyzed: 14-Oct-19						
Aluminum	ND	10.0	ug/L							
Antimony	ND	0.100	"							
Arsenic	ND	0.100	"							
Barium	ND	0.200	"							
Beryllium	ND	0.100	"							
Cadmium	ND	0.100	"							
Calcium	ND	100	"							
Chromium	ND	0.200	"							
Cobalt	ND	0.200	"							
Copper	ND	0.200	"							
Iron	ND	10.0	"							
Lead	ND	0.200	"							
Magnesium	ND	100	"							
Manganese	ND	0.200	"							
Mercury	ND	0.0200	"							
Molybdenum	ND	0.500	"							
Nickel	ND	0.200	"							
Phosphorus	ND	100	"							
Potassium	ND	100	"							
Selenium	ND	0.100	"							
Silver	ND	0.200	"							
Sodium	ND	100	"							
Thallium	ND	0.100	"							
Tin	ND	1.00	"							
Titanium	ND	0.200	"							
Vanadium	ND	0.500	"							
Zinc	0.571	1.00	"							J

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Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Metals by Method SM 3125 - Quality Control

City of Bend Water Quality Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch 19I3009 - EPA 200.8										
LCS (19I3009-BS1)				Prepared: 09-Oct-19 Analyzed: 14-Oct-19						
Aluminum	95.0	10.0	ug/L	100		95.0	70-130			
Antimony	4.94	0.100	"	5.00		98.7	70-130			
Arsenic	4.96	0.100	"	5.00		99.2	70-130			
Barium	9.99	0.200	"	10.0		99.9	70-130			
Beryllium	4.86	0.100	"	5.00		97.1	70-130			
Cadmium	5.03	0.100	"	5.00		101	70-130			
Calcium	962	100	"	1000		96.2	70-130			
Chromium	9.87	0.200	"	10.0		98.7	70-130			
Cobalt	9.99	0.200	"	10.0		99.9	70-130			
Copper	9.82	0.200	"	10.0		98.2	70-130			
Iron	103	10.0	"	100		103	70-130			
Lead	9.79	0.200	"	10.0		97.9	70-130			
Magnesium	1020	100	"	1000		102	70-130			
Manganese	9.73	0.200	"	10.0		97.3	70-130			
Mercury	0.103	0.0200	"	0.100		103	70-130			
Molybdenum	9.56	0.500	"	10.0		95.6	70-130			
Nickel	9.93	0.200	"	10.0		99.3	70-130			
Phosphorus	940	100	"	1000		94.0	70-130			
Potassium	1020	100	"	1000		102	70-130			
Selenium	5.05	0.100	"	5.00		101	70-130			
Silver	10.3	0.200	"	10.0		103	70-130			
Sodium	1010	100	"	1000		101	70-130			
Thallium	4.76	0.100	"	5.00		95.2	70-130			
Tin	9.92	1.00	"	10.0		99.2	70-130			
Titanium	9.93	0.200	"	10.0		99.3	70-130			
Vanadium	9.70	0.500	"	10.0		97.0	70-130			
Zinc	10.5	1.00	"	10.0		105	70-130			

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Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Metals by Method SM 3125 - Quality Control

City of Bend Water Quality Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch 19I3009 - EPA 200.8										
Matrix Spike (19I3009-MS1)	**Source: C9I1802-01**			Prepared: 09-Oct-19 Analyzed: 14-Oct-19						
Aluminum	218	10.0	ug/L	100	108	110	75-125			
Antimony	5.59	0.100	"	5.00	0.717	97.4	75-125			
Arsenic	6.18	0.100	"	5.00	1.18	100	75-125			
Barium	19.6	0.200	"	10.0	9.24	103	75-125			
Beryllium	4.94	0.100	"	5.00	ND	98.8	75-125			
Cadmium	5.02	0.100	"	5.00	0.0830	98.8	75-125			
Calcium	5580	100	"	1000	4580	99.8	75-125			
Chromium	11.8	0.200	"	10.0	1.74	101	75-125			
Cobalt	10.1	0.200	"	10.0	0.231	99.0	75-125			
Copper	18.3	0.200	"	10.0	8.40	99.3	75-125			
Iron	229	10.0	"	100	111	117	75-125			
Lead	10.4	0.200	"	10.0	0.808	96.4	75-125			
Magnesium	3720	100	"	1000	2710	101	75-125			
Manganese	17.0	0.200	"	10.0	7.13	98.6	75-125			
Mercury	0.0194	0.0200	"	0.100	ND	19.4	75-125			A-01, J
Molybdenum	9.94	0.500	"	10.0	0.612	93.3	75-125			
Nickel	10.6	0.200	"	10.0	0.532	101	75-125			
Phosphorus	1040	100	"	1000	111	92.8	75-125			
Potassium	2340	100	"	1000	1350	98.5	75-125			
Selenium	5.02	0.100	"	5.00	0.0437	99.5	75-125			
Silver	10.2	0.200	"	10.0	ND	102	75-125			
Sodium	7000	100	"	1000	5880	112	75-125			
Thallium	4.72	0.100	"	5.00	ND	94.3	75-125			
Tin	9.88	1.00	"	10.0	ND	98.8	75-125			
Titanium	16.5	0.200	"	10.0	5.68	108	75-125			
Vanadium	16.7	0.500	"	10.0	6.77	99.4	75-125			
Zinc	1170	20.0	"	10.0	1130	368	75-125			QM-4X

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Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Metals by Method SM 3125 - Quality Control

City of Bend Water Quality Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch 19I3009 - EPA 200.8										
Matrix Spike Dup (19I3009-MSD1)	**Source: C9I1802-01**			Prepared: 09-Oct-19 Analyzed: 14-Oct-19						
Aluminum	201	10.0	ug/L	100	108	93.0	75-125	8.19	20	
Antimony	5.58	0.100	"	5.00	0.717	97.2	75-125	0.206	20	
Arsenic	6.15	0.100	"	5.00	1.18	99.4	75-125	0.542	20	
Barium	19.3	0.200	"	10.0	9.24	101	75-125	1.38	20	
Beryllium	4.98	0.100	"	5.00	ND	99.5	75-125	0.706	20	
Cadmium	4.99	0.100	"	5.00	0.0830	98.2	75-125	0.603	20	
Calcium	5530	100	"	1000	4580	94.9	75-125	0.870	20	
Chromium	11.7	0.200	"	10.0	1.74	99.6	75-125	1.23	20	
Cobalt	10.0	0.200	"	10.0	0.231	97.8	75-125	1.16	20	
Copper	18.0	0.200	"	10.0	8.40	95.9	75-125	1.86	20	
Iron	215	10.0	"	100	111	104	75-125	6.13	20	
Lead	10.4	0.200	"	10.0	0.808	95.5	75-125	0.847	20	
Magnesium	3700	100	"	1000	2710	99.2	75-125	0.464	20	
Manganese	16.7	0.200	"	10.0	7.13	95.2	75-125	1.98	20	
Mercury	0.0145	0.0200	"	0.100	ND	14.5	75-125	28.9	20	A-01, J
Molybdenum	10.0	0.500	"	10.0	0.612	94.2	75-125	0.912	20	
Nickel	10.4	0.200	"	10.0	0.532	98.8	75-125	2.26	20	
Phosphorus	1040	100	"	1000	111	93.2	75-125	0.400	20	
Potassium	2320	100	"	1000	1350	97.0	75-125	0.634	20	
Selenium	4.94	0.100	"	5.00	0.0437	98.0	75-125	1.50	20	
Silver	10.2	0.200	"	10.0	ND	102	75-125	0.200	20	
Sodium	6890	100	"	1000	5880	101	75-125	1.59	20	
Thallium	4.74	0.100	"	5.00	ND	94.7	75-125	0.436	20	
Tin	9.80	1.00	"	10.0	ND	98.0	75-125	0.769	20	
Titanium	15.4	0.200	"	10.0	5.68	97.0	75-125	6.73	20	
Vanadium	16.6	0.500	"	10.0	6.77	97.9	75-125	0.916	20	
Zinc	1140	20.0	"	10.0	1130	118	75-125	2.16	20	QM-4X

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CITY OF BEND

City of Bend Water Quality Lab
22395 McGrath Road
Mailing: 62975 Boyd Acres Road
Bend, OR 97701
541.317.3017 Phone
541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Flags and Definitions

QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
A-01a	LOD/LOQ runs. Ignore Spike Flags.
A-01	Hg was mis-spiked in MS/MSD. Spiked correctly in LCS and passed QC limits. Hg is not a target compound. Report
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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City of Bend Water Quality Lab
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Client:	City of Bend - Stormwater Division	Work Order:	C9I1802
Project:	Stormwater Monitoring 2019-20	Reported:	25-Oct-19 11:40
Project Number:	[none]		

Sub-contract Data

National Center for Testing & Innovation

ANALYTICAL REPORT

October 02, 2019

City of Bend Water Department

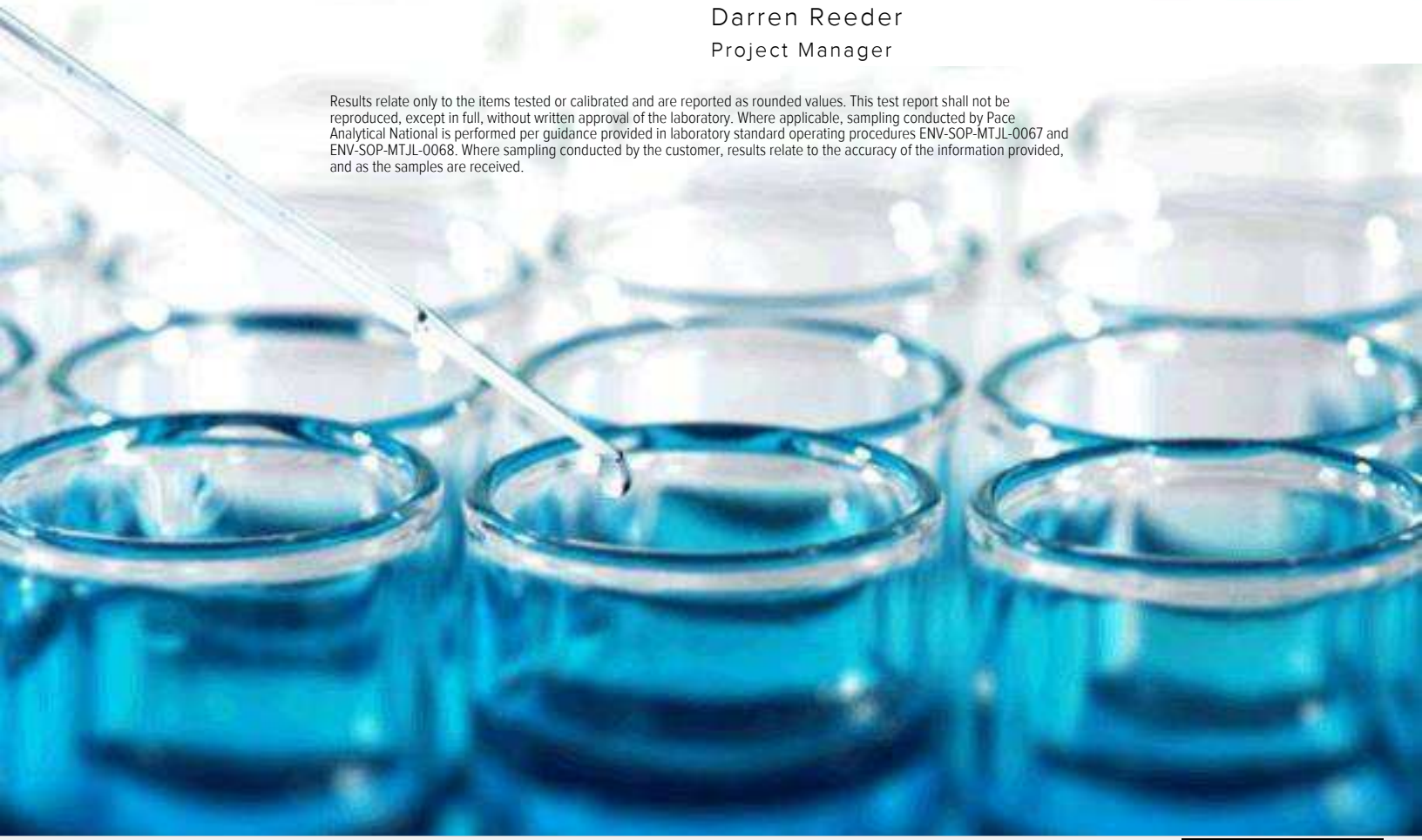
Sample Delivery Group:	L1141732
Samples Received:	09/20/2019
Project Number:	C9I1802
Description:	Stormwater Analysis

Report To: Jeff Buystedt
62975 Boyd Acres Rd
Bend, OR 97701

Entire Report Reviewed By:

Darren Reeder
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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CENTURY-C9I1802-02 L1141732-01 GW

Collected by: Dave Buchanan | Collected date/time: 09/18/19 09:28 | Received date/time: 09/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270 D	WG1350632	1	09/24/19 15:41	09/26/19 01:29	AO	Mt. Juliet, TN

BROOKSWOOD--C9I1802-05 L1141732-02 GW

Collected by: Dave Buchanan | Collected date/time: 09/18/19 09:07 | Received date/time: 09/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270 D	WG1350632	1	09/24/19 15:41	09/26/19 01:51	AO	Mt. Juliet, TN

BOYD ACRES-C9I1802-03 L1141732-03 GW

Collected by: Dave Buchanan | Collected date/time: 09/18/19 07:30 | Received date/time: 09/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270 D	WG1350632	1	09/24/19 15:41	09/26/19 01:07	AO	Mt. Juliet, TN

LADERA-C9I1802-06 L1141732-04 GW

Collected by: Dave Buchanan | Collected date/time: 09/18/19 08:45 | Received date/time: 09/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270 D	WG1350632	1	09/24/19 15:41	09/25/19 19:35	AO	Mt. Juliet, TN

DUP. BROOKS-C9I1802-07 L1141732-05 GW

Collected by: Dave Buchanan | Collected date/time: 09/18/19 09:07 | Received date/time: 09/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270 D	WG1350632	1	09/24/19 15:41	09/26/19 16:02	AO	Mt. Juliet, TN

FIELD BLANK-C9I1802-08 L1141732-06 GW

Collected by: Dave Buchanan | Collected date/time: 09/18/19 09:47 | Received date/time: 09/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270 D	WG1350632	1	09/24/19 15:41	09/25/19 19:57	AO	Mt. Juliet, TN

EMPIRE-C9I1802-04 L1141732-07 GW

Collected by: Dave Buchanan | Collected date/time: 09/18/19 07:45 | Received date/time: 09/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270 D	WG1350632	1	09/24/19 15:41	09/26/19 16:24	AO	Mt. Juliet, TN

AIRPORT-C9I1802-01 L1141732-08 GW

Collected by: Dave Buchanan | Collected date/time: 09/18/19 08:29 | Received date/time: 09/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270 D	WG1350632	1	09/24/19 15:41	09/25/19 20:19	AO	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Darren Reeder
Project Manager

Semi Volatile Organic Compounds (GC/MS) by Method 8270 D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Benzo(a)anthracene	U		0.0975	1.00	1	09/26/2019 01:29	WG1350632
Bis(2-ethylhexyl)phthalate	1.80	J	0.709	3.00	1	09/26/2019 01:29	WG1350632
Pentachlorophenol	U		0.313	10.0	1	09/26/2019 01:29	WG1350632
(S) 2-Fluorophenol	*9.35*	J2		*10.0-120*		*09/26/2019 01:29*	WG1350632
(S) Phenol-d5	*10.3*			*10.0-120*		*09/26/2019 01:29*	WG1350632
(S) Nitrobenzene-d5	*16.8*			*10.0-127*		*09/26/2019 01:29*	WG1350632
(S) 2-Fluorobiphenyl	*41.3*			*10.0-130*		*09/26/2019 01:29*	WG1350632
(S) 2,4,6-Tribromophenol	*66.0*			*10.0-155*		*09/26/2019 01:29*	WG1350632
(S) p-Terphenyl-d14	*77.5*			*10.0-128*		*09/26/2019 01:29*	WG1350632

Sample Narrative:

L1141732-01 WG1350632: Duplicate analysis was performed.

Semi Volatile Organic Compounds (GC/MS) by Method 8270 D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Benzo(a)anthracene	U		0.0975	1.00	1	09/26/2019 01:51	WG1350632
Bis(2-ethylhexyl)phthalate	1.58	J	0.709	3.00	1	09/26/2019 01:51	WG1350632
Pentachlorophenol	U		0.313	10.0	1	09/26/2019 01:51	WG1350632
(S) 2-Fluorophenol	*8.15*	J2		*10.0-120*		*09/26/2019 01:51*	WG1350632
(S) Phenol-d5	*9.05*	J2		*10.0-120*		*09/26/2019 01:51*	WG1350632
(S) Nitrobenzene-d5	*8.07*	J2		*10.0-127*		*09/26/2019 01:51*	WG1350632
(S) 2-Fluorobiphenyl	*20.4*			*10.0-130*		*09/26/2019 01:51*	WG1350632
(S) 2,4,6-Tribromophenol	*66.5*			*10.0-155*		*09/26/2019 01:51*	WG1350632
(S) p-Terphenyl-d14	*74.3*			*10.0-128*		*09/26/2019 01:51*	WG1350632

Sample Narrative:

L1141732-02 WG1350632: Duplicate analysis was performed.

Semi Volatile Organic Compounds (GC/MS) by Method 8270 D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Benzo(a)anthracene	U		0.0975	1.00	1	09/26/2019 01:07	WG1350632
Bis(2-ethylhexyl)phthalate	U		0.709	3.00	1	09/26/2019 01:07	WG1350632
Pentachlorophenol	U		0.313	10.0	1	09/26/2019 01:07	WG1350632
(S) 2-Fluorophenol	*9.55*	J2		*10.0-120*		*09/26/2019 01:07*	WG1350632
(S) Phenol-d5	*8.55*	J2		*10.0-120*		*09/26/2019 01:07*	WG1350632
(S) Nitrobenzene-d5	*31.0*			*10.0-127*		*09/26/2019 01:07*	WG1350632
(S) 2-Fluorobiphenyl	*46.5*			*10.0-130*		*09/26/2019 01:07*	WG1350632
(S) 2,4,6-Tribromophenol	*60.0*			*10.0-155*		*09/26/2019 01:07*	WG1350632
(S) p-Terphenyl-d14	*73.3*			*10.0-128*		*09/26/2019 01:07*	WG1350632

Sample Narrative:

L1141732-03 WG1350632: Duplicate analysis was performed.

Semi Volatile Organic Compounds (GC/MS) by Method 8270 D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Benzo(a)anthracene	U		0.0975	1.00	1	09/25/2019 19:35	WG1350632
Bis(2-ethylhexyl)phthalate	U		0.709	3.00	1	09/25/2019 19:35	WG1350632
Pentachlorophenol	U		0.313	10.0	1	09/25/2019 19:35	WG1350632
(S) 2-Fluorophenol	*3.91*	J2		*10.0-120*		*09/25/2019 19:35*	WG1350632
(S) Phenol-d5	*5.09*	J2		*10.0-120*		*09/25/2019 19:35*	WG1350632
(S) Nitrobenzene-d5	*8.47*	J2		*10.0-127*		*09/25/2019 19:35*	WG1350632
(S) 2-Fluorobiphenyl	*20.9*			*10.0-130*		*09/25/2019 19:35*	WG1350632
(S) 2,4,6-Tribromophenol	*44.3*			*10.0-155*		*09/25/2019 19:35*	WG1350632
(S) p-Terphenyl-d14	*75.6*			*10.0-128*		*09/25/2019 19:35*	WG1350632

Sample Narrative:

L1141732-04 WG1350632: Duplicate analysis was performed.

Semi Volatile Organic Compounds (GC/MS) by Method 8270 D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Benzo(a)anthracene	U		0.0975	1.00	1	09/26/2019 16:02	WG1350632
Bis(2-ethylhexyl)phthalate	1.24	J	0.709	3.00	1	09/26/2019 16:02	WG1350632
Pentachlorophenol	U		0.313	10.0	1	09/26/2019 16:02	WG1350632
(S) 2-Fluorophenol	*7.64*	J2		*10.0-120*		*09/26/2019 16:02*	WG1350632
(S) Phenol-d5	*8.68*	J2		*10.0-120*		*09/26/2019 16:02*	WG1350632
(S) Nitrobenzene-d5	*9.62*	J2		*10.0-127*		*09/26/2019 16:02*	WG1350632
(S) 2-Fluorobiphenyl	*28.0*			*10.0-130*		*09/26/2019 16:02*	WG1350632
(S) 2,4,6-Tribromophenol	*63.7*			*10.0-155*		*09/26/2019 16:02*	WG1350632
(S) p-Terphenyl-d14	*68.7*			*10.0-128*		*09/26/2019 16:02*	WG1350632

Sample Narrative:

L1141732-05 WG1350632: Duplicate analysis was performed.

Semi Volatile Organic Compounds (GC/MS) by Method 8270 D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Benzo(a)anthracene	U		0.0975	1.00	1	09/25/2019 19:57	WG1350632
Bis(2-ethylhexyl)phthalate	U		0.709	3.00	1	09/25/2019 19:57	WG1350632
Pentachlorophenol	U		0.313	10.0	1	09/25/2019 19:57	WG1350632
(S) 2-Fluorophenol	*7.00*	J2		*10.0-120*		*09/25/2019 19:57*	WG1350632
(S) Phenol-d5	*5.95*	J2		*10.0-120*		*09/25/2019 19:57*	WG1350632
(S) Nitrobenzene-d5	*7.12*	J2		*10.0-127*		*09/25/2019 19:57*	WG1350632
(S) 2-Fluorobiphenyl	*6.51*	J2		*10.0-130*		*09/25/2019 19:57*	WG1350632
(S) 2,4,6-Tribromophenol	*16.7*			*10.0-155*		*09/25/2019 19:57*	WG1350632
(S) p-Terphenyl-d14	*68.1*			*10.0-128*		*09/25/2019 19:57*	WG1350632

Sample Narrative:

L1141732-06 WG1350632: Duplicate analysis was performed.

Semi Volatile Organic Compounds (GC/MS) by Method 8270 D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Benzo(a)anthracene	U		0.0975	1.00	1	09/26/2019 16:24	WG1350632
Bis(2-ethylhexyl)phthalate	2.41	J	0.709	3.00	1	09/26/2019 16:24	WG1350632
Pentachlorophenol	U		0.313	10.0	1	09/26/2019 16:24	WG1350632
(S) 2-Fluorophenol	*3.91*	J2		*10.0-120*		*09/26/2019 16:24*	WG1350632
(S) Phenol-d5	*7.36*	J2		*10.0-120*		*09/26/2019 16:24*	WG1350632
(S) Nitrobenzene-d5	*5.53*	J2		*10.0-127*		*09/26/2019 16:24*	WG1350632
(S) 2-Fluorobiphenyl	*31.4*			*10.0-130*		*09/26/2019 16:24*	WG1350632
(S) 2,4,6-Tribromophenol	*69.2*			*10.0-155*		*09/26/2019 16:24*	WG1350632
(S) p-Terphenyl-d14	*77.5*			*10.0-128*		*09/26/2019 16:24*	WG1350632

Sample Narrative:

L1141732-07 WG1350632: Insufficient sample volume for additional analysis

Semi Volatile Organic Compounds (GC/MS) by Method 8270 D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Benzo(a)anthracene	U		0.0975	1.00	1	09/25/2019 20:19	WG1350632
Bis(2-ethylhexyl)phthalate	U		0.709	3.00	1	09/25/2019 20:19	WG1350632
Pentachlorophenol	U		0.313	10.0	1	09/25/2019 20:19	WG1350632
(S) 2-Fluorophenol	*8.08*	J2		*10.0-120*		*09/25/2019 20:19*	WG1350632
(S) Phenol-d5	*6.43*	J2		*10.0-120*		*09/25/2019 20:19*	WG1350632
(S) Nitrobenzene-d5	*16.0*			*10.0-127*		*09/25/2019 20:19*	WG1350632
(S) 2-Fluorobiphenyl	*23.4*			*10.0-130*		*09/25/2019 20:19*	WG1350632
(S) 2,4,6-Tribromophenol	*36.1*			*10.0-155*		*09/25/2019 20:19*	WG1350632
(S) p-Terphenyl-d14	*71.6*			*10.0-128*		*09/25/2019 20:19*	WG1350632

Sample Narrative:

L1141732-08 WG1350632: Duplicate analysis was performed.

Method Blank (MB)

(MB) R3454846-2 09/25/19 16:14

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzo(a)anthracene	U		0.0975	1.00
Bis(2-ethylhexyl)phthalate	U		0.709	3.00
Pentachlorophenol	U		0.313	10.0
(S) Nitrobenzene-d5	*3.32*	J2		*10.0-127*
(S) 2-Fluorobiphenyl	*5.69*	J2		*10.0-130*
(S) p-Terphenyl-d14	*72.3*			*10.0-128*
(S) Phenol-d5	*4.33*	J2		*10.0-120*
(S) 2-Fluorophenol	*4.96*	J2		*10.0-120*
(S) 2,4,6-Tribromophenol	*11.5*			*10.0-155*

Laboratory Control Sample (LCS)

(LCS) R3454846-1 09/25/19 15:52

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzo(a)anthracene	50.0	42.6	85.2	47.0-120	
Bis(2-ethylhexyl)phthalate	50.0	40.4	80.8	43.0-122	
Pentachlorophenol	50.0	24.6	49.2	23.0-120	
(S) Nitrobenzene-d5			*10.6*	*10.0-127*	
(S) 2-Fluorobiphenyl			*39.5*	*10.0-130*	
(S) p-Terphenyl-d14			*78.7*	*10.0-128*	
(S) Phenol-d5			*9.85*	*10.0-120*	J2
(S) 2-Fluorophenol			*10.1*	*10.0-120*	
(S) 2,4,6-Tribromophenol			*64.0*	*10.0-155*	

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Company Name/Address:
City of Bend- Laboratory
62975 Boyd Acres Rd.
Bend, OR 97701

Billing Information:
City of Bend Laboratory
62975 Boyd Acres Rd
Bend, OR 97701

Report to: **Jeff Buystedt**

Email To: **jbuystedt@bendoregon.gov**

Project Description: Stormwater Analysis

City/State Collected: **Bend OR**

Phone: **541-420-6892**
Fax:

Client Project # C9I1802

Lab Project # C9I1802

Collected by (print): Dave Buchanan

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ____ Y ✓

Rush? (Lab MUST Be Notified)
____ Same Day 200%
____ Next Day 100%
____ Two Day 50%
____ Three Day 25%

Date Results Needed

Email? ___No ✓Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	EPA 8270AP2 Pentachlorophenol 100 ml thiosulfate	EPA 8270AP2 Benzo(A)pyrene 100 ml Thiosulfate	EPA 8270AP2 Diphthalate 100 ml Thiosulfate	Rem./Contaminant	Sample # (lab only)
Century-C9I1802-02	Grab			9/18/19	9:28	2	X	X	X		01
Brookswood-C9I1802-05	Grab			9/18/19	9:07	2	X	X	X		02
Boyd Acres-C9I1802-03	Grab			9/18/19	7:30	2	X	X	X		03
Ladera-C9I1802-06	Grab			9/18/19	8:45	2	X	X	X	* Sample was left out at Room temperature overnight,	04
Dup. Brooks-C9I1802-07	Grab			9/18/19	9:07	2	X	X	X		05
Field Blank-C9I1802-08	Grab			9/18/19	9:47	2	X	X	X		06
Empire-C9I1802-04	Grab			9/18/19	7:45	2	X	X	X		07
Airport-C9I1802-01	Grab			9/18/19	8:29	2	X	X	X		08

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

ESC LABORATORIES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 114132

Table #

Acctnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via: **Fedex**

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other Stormwater

Remarks: ***Lowest Levels of detectionis required**

pH _____ Temp _____

Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	9/18/19	10:23	Fridge #2
Fridge #2	9/19/19	8:40	FedEx
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			[signature]

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 2.6-2-2.4 °C Bottles Received: 16

Date: 9/20 Time: 0845

Condition: (lab use only) OK

RAD SCREEN: <0.5 mR/hr

COC Seal Intact: X Y ___N ___NA

pH Checked: NCF:

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client:	Bendwatol	1141732
Cooler Received/Opened On: 9/20/19 Temperature:	2.4	
Received By: RAFAH ABDLRAHMAN		
Signature:		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?		/	
COC Signed / Accurate?		/	
Bottles arrive intact?		/	
Correct bottles used?		/	
Sufficient volume sent?		/	
If Applicable			
VOA Zero headspace?		.	
Preservation Correct / Checked?			

CITY OF BEND

City of Bend Water Quality Lab
22395 McGrath Road
Mailing: 62975 Boyd Acres Road
Bend, OR 97701
541.317.3017 Phone
541.322.6345 Fax

ANALYTICAL DATA REPORT

January 07, 2020

City of Bend - Stormwater Division

Project:	Stormwater Monitoring 2019-20
Samples Received:	December 12, 2019
Work Order:	C9L1205
Contact:	Dave Buchanan
	62975 NE Boyd Acres Rd.
	Bend, OR 97701

The results in this report apply to the samples analyzed in accordance with the chain of custody document and are reported as rounded values. This analytical data report shall not be reproduced, except in its entirety, without written approval of the laboratory. If you have any questions concerning this report, please feel free to contact me at (541) 388-5585.

Report reviewed by,



Stefan D'Angona

Analytical Chemist

Company Name/Address:
City of Bend- WRF
62975 Boyd Acres Rd.
Bend, OR 97701

Billing Information:
City of Bend
62975 Boyd Acres Rd
Bend, OR 97701

Report to: **Jeff Buystedt**

Email To: **jbuystedt@bendoregon.gov**

Project Description: Stormwater Analysis

City/State Collected: **Bend OR**

Phone: **541-420-6892**
Fax:

Client Project #

Lab Project # 19L1205

Collected by (print): Dave Buchanan

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N____ Y ✓

Rush? (Lab MUST Be Notified)
____ Same Day 200%
____ Next Day 100%
____ Two Day 50%
____ Three Day 25%

Date Results Needed

Email? ___No ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

UTILITY DEPARTMENT
Water Quality Laboratory
22395 McGrath Rd Bend, Or 97701
Phone: 541-317-3017

L# 19L1205
Table #
Acctnum:
Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	SM 3125 Pb, Cu, Zn	SM 3125 Optional Parameters	EPA 625 PAH's Di(2-ethylhexyl), Benzo(A)pyrene 8270 PCB 12-12-19							Rem./Contaminant	Sample # (lab only)
Century-	Grab	SW	N/A	12/12/19	9:05	3	X	X	X								02
Brookswood	Grab		N/A	12/12/19	9:10	3	X	X	X								05
Boyd Acres	Grab		N/A	12/12/19	9:14	3	X	X	X								03
Empire	Grab		N/A	12/12/19	9:24	3	X	X	X								04
DUP-Empire	Grab		N/A	12/12/19	9:24	3	X	X	X								07
Airport	Grab		N/A	12/12/19	9:30	3	X	X	X								01
Ladera	Grab		N/A	12/12/19	9:56	3	X	X	X								06
Field Blank	Grab		N/A	12/12/19	9:41	3	X	X	X								08

* Matrix: BS - Biosolids GW - Groundwater WW - WasteWater DW - Drinking Water
SW - Stormwater
SW

Remarks:

pH _____ Temp 4.8

Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12-12-19	1002	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: °C Bottles Received:

Date: Time:

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

CITY OF BEND

City of Bend Water Quality Lab
22395 McGrath Road
Mailing: 62975 Boyd Acres Road
Bend, OR 97701
541.317.3017 Phone
541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Case Narrative

All samples were received within the correct temperature range, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all method detection limit (MDL) and reporting limit values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed below in this case narrative, a non-conformance form, or properly qualified within the sample results and defined in the Flags and Definitions section of this report.

C9L1205-07RE1 is the same sample as C9L1205-07. This is due to the subcontract lab needing a second run in order to achieve valid results for the target compounds. Due to limitations with our LIMS system these results are listed separately in the report.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CITY OF BEND

City of Bend Water Quality Lab
22395 McGrath Road
Mailing: 62975 Boyd Acres Road
Bend, OR 97701
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541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Sample Summary

Sample ID	Laboratory ID	Matrix	Analysis	Date/Time Sampled	Date/Time Received
DDW009618-Airport UIC	C9L1205-01	Water	Semi Volatile Organic Compounds (GC/MS)	12-Dec-19 08:38	12-Dec-19 10:02
			Aluminum Total SM 3125		
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		
DDW003323-Century	C9L1205-02	Water	Semi Volatile Organic Compounds (GC/MS)	12-Dec-19 09:25	12-Dec-19 10:02
			Aluminum Total SM 3125		
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		

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541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Sample Summary

Sample ID	Laboratory ID	Matrix	Analysis	Date/Time Sampled	Date/Time Received
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		
DDW003355-Boyd Acres Complex	C9L1205-03	Water	Semi Volatile Organic Compounds (GC/MS)	12-Dec-19 08:14	12-Dec-19 10:02
			Aluminum Total SM 3125		
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		

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CITY OF BEND

City of Bend Water Quality Lab
22395 McGrath Road
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Bend, OR 97701
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541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Sample Summary

Sample ID	Laboratory ID	Matrix	Analysis	Date/Time Sampled	Date/Time Received
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		
DDW008884-Empire	C9L1205-04	Water	Semi Volatile Organic Compounds (GC/MS)	12-Dec-19 08:24	12-Dec-19 10:02
			Aluminum Total SM 3125		
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		

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CITY OF BEND

City of Bend Water Quality Lab
22395 McGrath Road
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Bend, OR 97701
541.317.3017 Phone
541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Sample Summary

Sample ID	Laboratory ID	Matrix	Analysis	Date/Time Sampled	Date/Time Received
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		
DDW003312-Brookswood	C9L1205-05	Water	Semi Volatile Organic Compounds (GC/MS)	12-Dec-19 09:10	12-Dec-19 10:02
			Aluminum Total SM 3125		
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CITY OF BEND

City of Bend Water Quality Lab
22395 McGrath Road
Mailing: 62975 Boyd Acres Road
Bend, OR 97701
541.317.3017 Phone
541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Sample Summary

Sample ID	Laboratory ID	Matrix	Analysis	Date/Time Sampled	Date/Time Received
			Vanadium Total SM 3125		
			Zinc Total SM 3125		
DDW003238-Ladera	C9L1205-06	Water	Semi Volatile Organic Compounds (GC/MS)	12-Dec-19 08:56	12-Dec-19 10:02
			Aluminum Total SM 3125		
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		
(Field Duplicate) Empire	C9L1205-07	Water	Semi Volatile Organic Compounds (GC/MS)	12-Dec-19 08:24	12-Dec-19 10:02
			Aluminum Total SM 3125		
			Antimony Total SM 3125		

CITY OF BEND

City of Bend Water Quality Lab
22395 McGrath Road
Mailing: 62975 Boyd Acres Road
Bend, OR 97701
541.317.3017 Phone
541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Sample Summary

Sample ID	Laboratory ID	Matrix	Analysis	Date/Time Sampled	Date/Time Received
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		
	C9L1205-07RE1		Semi Volatile Organic Compounds (GC/MS)		
Field Blank	C9L1205-08	Water		12-Dec-19 09:41	12-Dec-19 10:02
			Aluminum Total SM 3125		
			Antimony Total SM 3125		
			Arsenic Total SM 3125		
			Barium Total SM 3125		
			Beryllium Total SM 3125		
			Cadmium Total SM 3125		
			Calcium Total SM 3125		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CITY OF BEND

City of Bend Water Quality Lab
22395 McGrath Road
Mailing: 62975 Boyd Acres Road
Bend, OR 97701
541.317.3017 Phone
541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Sample Summary

Sample ID	Laboratory ID	Matrix	Analysis	Date/Time Sampled	Date/Time Received
			Chromium Total SM 3125		
			Cobalt Total SM 3125		
			Copper Total SM 3125		
			Iron Total SM 3125		
			Lead Total SM 3125		
			Magnesium Total SM 3125		
			Manganese Total SM 3125		
			Mercury Total SM 3125		
			Molybdenum Total SM 3125		
			Nickel Total SM 3125		
			Phosphorus Total SM 3125		
			Potassium Total SM 3125		
			Selenium Total SM 3125		
			Silver Total SM 3125		
			Sodium Total SM 3125		
			Thallium Total SM 3125		
			Tin Total SM 3125		
			Titanium Total SM 3125		
			Vanadium Total SM 3125		
			Zinc Total SM 3125		

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CITY OF BEND

City of Bend Water Quality Lab
22395 McGrath Road
Mailing: 62975 Boyd Acres Road
Bend, OR 97701
541.317.3017 Phone
541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

DDW009618-Airport UIC

C9L1205-01 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**199**	10.0	1.69	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Antimony	**1.05**	0.100	0.0104	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Arsenic	**0.470**	0.100	0.0571	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Barium	**19.6**	0.200	0.117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Beryllium	ND	0.100	0.0136	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Cadmium	**0.123**	0.100	0.0111	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Calcium	**5170**	100	5.61	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Chromium	**2.12**	0.200	0.0976	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Cobalt	**0.203**	0.200	0.0132	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Copper	**10.6**	0.200	0.0750	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Iron	**184**	10.0	0.876	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Lead	**1.07**	0.200	0.0117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Magnesium	**1980**	100	5.21	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Manganese	**16.1**	0.200	0.0204	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Mercury	ND	0.0200	0.00960	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Molybdenum	**0.524**	0.500	0.116	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Nickel	**1.08**	0.200	0.0214	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Phosphorus	88.9 J	100	6.59	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Potassium	**1520**	100	6.13	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Selenium	0.0860 J	0.100	0.0315	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Silver	ND	0.200	0.0544	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Sodium	**3030**	100	22.2	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Thallium	0.0142 J	0.100	0.00680	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Tin	0.284 J	1.00	0.259	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Titanium	**11.5**	0.200	0.0848	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Vanadium	**2.18**	0.500	0.156	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Zinc	**2930**	20.0	7.80	ug/L	20	19L1607	16-Dec-19	26-Dec-19	SM 3125	

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

DDW009618-Airport UIC

C9L1205-01 (Water)

ESC LAB SCIENCES

8270 D

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Benzo(a)anthracene	ND	1.00	0.0975	ug/l	1	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Bis(2-ethylhexyl)phthalate	ND	3.00	0.709	ug/l	1	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Pentachlorophenol	ND	10.0	0.313	ug/l	1	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Surrogate: 2,4,6-Tribromophenol		*64.5 %*			*10-155*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorobiphenyl		*67.3 %*			*10-130*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorophenol		*45.6 %*			*10-120*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Nitrobenzene-d5		*61.7 %*			*10-127*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Phenol-d5		*28.2 %*			*10-120*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: p-Terphenyl-d14		*68.8 %*			*10-128*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

DDW003323-Century

C9L1205-02 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**2430**	50.0	8.47	ug/L	5	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Antimony	**1.52**	0.100	0.0104	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Arsenic	**1.25**	0.100	0.0571	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Barium	**39.2**	0.200	0.117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Beryllium	0.0555 J	0.100	0.0136	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Cadmium	0.0340 J	0.100	0.0111	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Calcium	**18100**	100	5.61	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Chromium	**2.67**	0.200	0.0976	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Cobalt	**1.16**	0.200	0.0132	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Copper	**14.5**	0.200	0.0750	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Iron	**1640**	10.0	0.876	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Lead	**1.14**	0.200	0.0117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Magnesium	**9150**	100	5.21	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Manganese	**58.0**	0.200	0.0204	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Mercury	ND	0.0200	0.00960	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Molybdenum	**2.34**	0.500	0.116	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Nickel	**3.49**	0.200	0.0214	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Phosphorus	**200**	100	6.59	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Potassium	**1960**	100	6.13	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Selenium	0.0341 J	0.100	0.0315	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Silver	ND	0.200	0.0544	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Sodium	**4930**	100	22.2	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Thallium	0.0111 J	0.100	0.00680	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Tin	0.614 J	1.00	0.259	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Titanium	**109**	0.200	0.0848	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Vanadium	**4.33**	0.500	0.156	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Zinc	**222**	5.00	1.95	ug/L	5	19L1607	16-Dec-19	26-Dec-19	SM 3125	

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

DDW003323-Century

C9L1205-02 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
ESC LAB SCIENCES										
8270 D										
Benzo(a)anthracene	ND	1.11	0.108	ug/l	1.11	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Bis(2-ethylhexyl)phthalate	ND	3.33	0.787	ug/l	1.11	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Pentachlorophenol	ND	11.1	0.347	ug/l	1.11	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Surrogate: 2,4,6-Tribromophenol		*71.6 %*			*10-155*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorobiphenyl		*65.3 %*			*10-130*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorophenol		*45 %*			*10-120*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Nitrobenzene-d5		*63.1 %*			*10-127*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Phenol-d5		*28.3 %*			*10-120*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: p-Terphenyl-d14		*68.4 %*			*10-128*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

DDW003355-Boyd Acres Complex

C9L1205-03 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**781**	10.0	1.69	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Antimony	**0.234**	0.100	0.0104	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Arsenic	**0.601**	0.100	0.0571	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Barium	**14.6**	0.200	0.117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Beryllium	0.0184 J	0.100	0.0136	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Cadmium	0.0421 J	0.100	0.0111	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Calcium	**5670**	100	5.61	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Chromium	**1.97**	0.200	0.0976	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Cobalt	**0.897**	0.200	0.0132	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Copper	**5.79**	0.200	0.0750	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Iron	**1090**	10.0	0.876	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Lead	**0.620**	0.200	0.0117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Magnesium	**2520**	100	5.21	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Manganese	**48.0**	0.200	0.0204	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Mercury	ND	0.0200	0.00960	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Molybdenum	0.477 J	0.500	0.116	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Nickel	**1.83**	0.200	0.0214	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Phosphorus	**139**	100	6.59	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Potassium	**1240**	100	6.13	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Selenium	ND	0.100	0.0315	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Silver	ND	0.200	0.0544	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Sodium	**6430**	100	22.2	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Thallium	ND	0.100	0.00680	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Tin	0.326 J	1.00	0.259	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Titanium	**39.9**	0.200	0.0848	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Vanadium	**4.46**	0.500	0.156	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Zinc	**286**	5.00	1.95	ug/L	5	19L1607	16-Dec-19	26-Dec-19	SM 3125	

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

DDW003355-Boyd Acres Complex

C9L1205-03 (Water)

ESC LAB SCIENCES

8270 D

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Benzo(a)anthracene	ND	1.00	0.0975	ug/l	1	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Bis(2-ethylhexyl)phthalate	1.21 J	3.00	0.709	ug/l	1	WG139700	16-Dec-19	16-Dec-19	8270 D	Ja
Pentachlorophenol	ND	10.0	0.313	ug/l	1	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Surrogate: 2,4,6-Tribromophenol		*73.7 %*		*10-155*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorobiphenyl		*70.4 %*		*10-130*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorophenol		*46.1 %*		*10-120*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Nitrobenzene-d5		*63.4 %*		*10-127*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Phenol-d5		*30.4 %*		*10-120*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: p-Terphenyl-d14		*74.9 %*		*10-128*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

DDW008884-Empire

C9L1205-04 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**1690**	10.0	1.69	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Antimony	**1.77**	0.100	0.0104	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Arsenic	**6.17**	0.100	0.0571	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Barium	**152**	0.200	0.117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Beryllium	0.0488 J	0.100	0.0136	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Cadmium	**0.246**	0.100	0.0111	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Calcium	**62000**	20000	1120	ug/L	200	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Chromium	**2.92**	0.200	0.0976	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Cobalt	**7.03**	0.200	0.0132	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Copper	**19.3**	0.200	0.0750	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Iron	**3820**	2000	175	ug/L	200	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Lead	**0.779**	0.200	0.0117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Magnesium	**227000**	20000	1040	ug/L	200	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Manganese	**511**	40.0	4.08	ug/L	200	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Mercury	ND	0.0200	0.00960	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Molybdenum	**10.6**	0.500	0.116	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Nickel	**14.4**	0.200	0.0214	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Phosphorus	**541**	100	6.59	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Potassium	**8310**	100	6.13	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Selenium	**0.151**	0.100	0.0315	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Silver	ND	0.200	0.0544	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Sodium	**18700**	100	22.2	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Thallium	0.00980 J	0.100	0.00680	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Tin	0.471 J	1.00	0.259	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Titanium	**114**	0.200	0.0848	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Vanadium	**5.21**	0.500	0.156	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Zinc	**299**	200	78.0	ug/L	200	19L1607	16-Dec-19	26-Dec-19	SM 3125	

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City of Bend Water Quality Lab
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Mailing: 62975 Boyd Acres Road
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541.317.3017 Phone
541.322.6345 Fax

Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

DDW008884-Empire

C9L1205-04 (Water)

ESC LAB SCIENCES

8270 D

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Benzo(a)anthracene	ND	1.00	0.0975	ug/l	1	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Bis(2-ethylhexyl)phthalate	1.21 J	3.00	0.709	ug/l	1	WG139700	16-Dec-19	16-Dec-19	8270 D	Ja
Pentachlorophenol	ND	10.0	0.313	ug/l	1	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Surrogate: 2,4,6-Tribromophenol		*78.4 %*		*10-155*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorobiphenyl		*60.4 %*		*10-130*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorophenol		*31.6 %*		*10-120*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Nitrobenzene-d5		*54.1 %*		*10-127*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Phenol-d5		*22.3 %*		*10-120*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: p-Terphenyl-d14		*77.1 %*		*10-128*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

DDW003312-Brookswood

C9L1205-05 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**2490**	10.0	1.69	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Antimony	**2.06**	0.100	0.0104	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Arsenic	**3.70**	0.100	0.0571	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Barium	**147**	0.200	0.117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Beryllium	0.0684 J	0.100	0.0136	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Cadmium	**0.228**	0.100	0.0111	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Calcium	**52400**	10000	561	ug/L	100	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Chromium	**3.33**	0.200	0.0976	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Cobalt	**5.88**	0.200	0.0132	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Copper	**26.0**	0.200	0.0750	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Iron	**2480**	1000	87.6	ug/L	100	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Lead	**1.07**	0.200	0.0117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Magnesium	**146000**	10000	521	ug/L	100	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Manganese	**482**	20.0	2.04	ug/L	100	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Mercury	ND	0.0200	0.00960	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Molybdenum	**4.18**	0.500	0.116	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Nickel	**11.4**	0.200	0.0214	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Phosphorus	**694**	100	6.59	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Potassium	**5500**	100	6.13	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Selenium	**0.115**	0.100	0.0315	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Silver	ND	0.200	0.0544	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Sodium	**12100**	100	22.2	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Thallium	0.0140 J	0.100	0.00680	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Tin	0.708 J	1.00	0.259	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Titanium	**124**	0.200	0.0848	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Vanadium	**4.99**	0.500	0.156	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Zinc	**400**	100	39.0	ug/L	100	19L1607	16-Dec-19	26-Dec-19	SM 3125	

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

DDW003312-Brookswood

C9L1205-05 (Water)

ESC LAB SCIENCES

8270 D

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Benzo(a)anthracene	ND	1.25	0.122	ug/l	1.25	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Bis(2-ethylhexyl)phthalate	ND	3.75	0.886	ug/l	1.25	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Pentachlorophenol	ND	12.5	0.391	ug/l	1.25	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Surrogate: 2,4,6-Tribromophenol		*75.6 %*			*10-155*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorobiphenyl		*69.9 %*			*10-130*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorophenol		*43.2 %*			*10-120*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Nitrobenzene-d5		*62.2 %*			*10-127*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Phenol-d5		*27.2 %*			*10-120*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: p-Terphenyl-d14		*80.8 %*			*10-128*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

DDW003238-Ladera

C9L1205-06 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**1840**	10.0	1.69	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Antimony	**1.22**	0.100	0.0104	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Arsenic	**1.23**	0.100	0.0571	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Barium	**114**	0.200	0.117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Beryllium	0.0912 J	0.100	0.0136	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Cadmium	**0.118**	0.100	0.0111	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Calcium	**43600**	500	28.1	ug/L	5	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Chromium	**4.46**	0.200	0.0976	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Cobalt	**2.58**	0.200	0.0132	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Copper	**11.8**	0.200	0.0750	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Iron	**4280**	50.0	4.38	ug/L	5	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Lead	**9.49**	0.200	0.0117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Magnesium	**14400**	100	5.21	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Manganese	**330**	1.00	0.102	ug/L	5	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Mercury	ND	0.0200	0.00960	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Molybdenum	**1.21**	0.500	0.116	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Nickel	**10.4**	0.200	0.0214	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Phosphorus	**1550**	100	6.59	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Potassium	**10100**	100	6.13	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Selenium	**0.109**	0.100	0.0315	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Silver	ND	0.200	0.0544	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Sodium	**28500**	100	22.2	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Thallium	0.00850 J	0.100	0.00680	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Tin	0.542 J	1.00	0.259	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Titanium	**90.3**	0.200	0.0848	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Vanadium	**5.47**	0.500	0.156	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Zinc	**289**	5.00	1.95	ug/L	5	19L1607	16-Dec-19	26-Dec-19	SM 3125	

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

DDW003238-Ladera

C9L1205-06 (Water)

ESC LAB SCIENCES

8270 D

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Benzo(a)anthracene	ND	10.0	0.975	ug/l	10	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Bis(2-ethylhexyl)phthalate	ND	30.0	7.09	ug/l	10	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Pentachlorophenol	ND	100	3.13	ug/l	10	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Surrogate: 2,4,6-Tribromophenol		*74 %*		*10-155*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorobiphenyl		*71.5 %*		*10-130*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorophenol		*47.1 %*		*10-120*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Nitrobenzene-d5		*78.2 %*		*10-127*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Phenol-d5		*34.9 %*		*10-120*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: p-Terphenyl-d14		*69 %*		*10-128*		*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

(Field Duplicate) Empire

C9L1205-07 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**1960**	10.0	1.69	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Antimony	**1.80**	0.100	0.0104	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Arsenic	**6.06**	0.100	0.0571	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Barium	**158**	0.200	0.117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Beryllium	0.0609 J	0.100	0.0136	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Cadmium	**0.245**	0.100	0.0111	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Calcium	**62000**	20000	1120	ug/L	200	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Chromium	**3.96**	0.200	0.0976	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Cobalt	**7.23**	0.200	0.0132	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Copper	**23.5**	0.200	0.0750	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Iron	**4290**	2000	175	ug/L	200	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Lead	**1.13**	0.200	0.0117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Magnesium	**226000**	20000	1040	ug/L	200	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Manganese	**523**	40.0	4.08	ug/L	200	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Mercury	ND	0.0200	0.00960	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Molybdenum	**10.4**	0.500	0.116	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Nickel	**14.2**	0.200	0.0214	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Phosphorus	**646**	100	6.59	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Potassium	**8210**	100	6.13	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Selenium	**0.156**	0.100	0.0315	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Silver	ND	0.200	0.0544	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Sodium	**18300**	100	22.2	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Thallium	0.00880 J	0.100	0.00680	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Tin	0.553 J	1.00	0.259	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Titanium	**147**	0.200	0.0848	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Vanadium	**6.41**	0.500	0.156	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Zinc	**346**	200	78.0	ug/L	200	19L1607	16-Dec-19	26-Dec-19	SM 3125	

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

(Field Duplicate) Empire

C9L1205-07 (Water)

ESC LAB SCIENCES

8270 D

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Pentachlorophenol	ND	11.1	0.347	ug/l	1.11	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Surrogate: 2,4,6-Tribromophenol		*73.4 %*			*10-155*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorobiphenyl		*71.9 %*			*10-130*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorophenol		*43.2 %*			*10-120*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Nitrobenzene-d5		*69.5 %*			*10-127*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Phenol-d5		*27.9 %*			*10-120*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: p-Terphenyl-d14		*81.6 %*			*10-128*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	

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Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

(Field Duplicate) Empire

C9L1205-07RE1 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
ESC LAB SCIENCES										
8270 D										
Benzo(a)anthracene	ND	11.1	1.08	ug/l	11.1	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Bis(2-ethylhexyl)phthalate	ND	33.3	7.87	ug/l	11.1	WG139700	16-Dec-19	16-Dec-19	8270 D	U
Surrogate: 2,4,6-Tribromophenol		*83.3 %*			*10-155*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorobiphenyl		*74.2 %*			*10-130*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: 2-Fluorophenol		*42 %*			*10-120*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Nitrobenzene-d5		*73.4 %*			*10-127*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: Phenol-d5		*27.3 %*			*10-120*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	
Surrogate: p-Terphenyl-d14		*78.1 %*			*10-128*	*WG139703*	*16-Dec-19*	*16-Dec-19*	*8270 D*	

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Field Blank

C9L1205-08 (Water)

City of Bend Water Quality Laboratory

Metals by Method SM 3125

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
Aluminum	**25.5**	10.0	1.69	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Antimony	0.0114 J	0.100	0.0104	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Arsenic	ND	0.100	0.0571	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Barium	**0.230**	0.200	0.117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Beryllium	ND	0.100	0.0136	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Cadmium	ND	0.100	0.0111	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Calcium	54.6 J	100	5.61	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Chromium	**2.14**	0.200	0.0976	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Cobalt	ND	0.200	0.0132	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Copper	0.161 J	0.200	0.0750	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Iron	7.39 J	10.0	0.876	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Lead	0.0207 J	0.200	0.0117	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Magnesium	8.42 J	100	5.21	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Manganese	0.0939 J	0.200	0.0204	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Mercury	ND	0.0200	0.00960	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Molybdenum	0.215 J	0.500	0.116	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Nickel	0.0812 J	0.200	0.0214	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Phosphorus	ND	100	6.59	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Potassium	15.6 J	100	6.13	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Selenium	ND	0.100	0.0315	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Silver	ND	0.200	0.0544	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Sodium	**351**	100	22.2	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Thallium	0.0170 J	0.100	0.00680	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	J
Tin	ND	1.00	0.259	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Titanium	**0.223**	0.200	0.0848	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Vanadium	ND	0.500	0.156	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	
Zinc	**191**	1.00	0.390	ug/L	1	19L1607	16-Dec-19	26-Dec-19	SM 3125	

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Field Blank

C9L1205-08 (Water)

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Flags
ESC LAB SCIENCES										
8270 D										
Benzo(a)anthracene	ND	1.00	0.0975	ug/l	1	WG139744	17-Dec-19	18-Dec-19	8270 D	U
Bis(2-ethylhexyl)phthalate	ND	3.00	0.709	ug/l	1	WG139744	17-Dec-19	18-Dec-19	8270 D	U
Pentachlorophenol	ND	10.0	0.313	ug/l	1	WG139744	17-Dec-19	18-Dec-19	8270 D	U
Surrogate: 2,4,6-Tribromophenol		*65.4 %*			*10-155*	*WG139744*	*17-Dec-19*	*18-Dec-19*	*8270 D*	
Surrogate: 2-Fluorobiphenyl		*62.7 %*			*10-130*	*WG139744*	*17-Dec-19*	*18-Dec-19*	*8270 D*	
Surrogate: 2-Fluorophenol		*30.4 %*			*10-120*	*WG139744*	*17-Dec-19*	*18-Dec-19*	*8270 D*	
Surrogate: Nitrobenzene-d5		*56.5 %*			*10-127*	*WG139744*	*17-Dec-19*	*18-Dec-19*	*8270 D*	
Surrogate: Phenol-d5		*19 %*			*10-120*	*WG139744*	*17-Dec-19*	*18-Dec-19*	*8270 D*	
Surrogate: p-Terphenyl-d14		*63.5 %*			*10-128*	*WG139744*	*17-Dec-19*	*18-Dec-19*	*8270 D*	

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Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Metals by Method SM 3125 - Quality Control

City of Bend Water Quality Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch 19L1607 - EPA 200.8										
Blank (19L1607-BLK1)				Prepared: 16-Dec-19 Analyzed: 26-Dec-19						
Aluminum	ND	10.0	ug/L							
Antimony	ND	0.100	"							
Arsenic	ND	0.100	"							
Barium	ND	0.200	"							
Beryllium	ND	0.100	"							
Cadmium	ND	0.100	"							
Calcium	ND	100	"							
Chromium	ND	0.200	"							
Cobalt	ND	0.200	"							
Copper	ND	0.200	"							
Iron	ND	10.0	"							
Lead	ND	0.200	"							
Magnesium	ND	100	"							
Manganese	ND	0.200	"							
Mercury	ND	0.0200	"							
Molybdenum	ND	0.500	"							
Nickel	ND	0.200	"							
Phosphorus	ND	100	"							
Potassium	ND	100	"							
Selenium	ND	0.100	"							
Silver	ND	0.200	"							
Sodium	ND	100	"							
Thallium	ND	0.100	"							
Tin	ND	1.00	"							
Titanium	ND	0.200	"							
Vanadium	ND	0.500	"							
Zinc	0.622	1.00	"							J

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Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Metals by Method SM 3125 - Quality Control

City of Bend Water Quality Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch 19L1607 - EPA 200.8										
LCS (19L1607-BS1)				Prepared: 16-Dec-19 Analyzed: 26-Dec-19						
Aluminum	95.3	10.0	ug/L	100		95.3	70-130			
Antimony	4.95	0.100	"	5.00		99.0	70-130			
Arsenic	4.90	0.100	"	5.00		98.1	70-130			
Barium	9.85	0.200	"	10.0		98.5	70-130			
Beryllium	4.97	0.100	"	5.00		99.4	70-130			
Cadmium	4.94	0.100	"	5.00		98.7	70-130			
Calcium	938	100	"	1000		93.8	70-130			
Chromium	9.72	0.200	"	10.0		97.2	70-130			
Cobalt	9.79	0.200	"	10.0		97.9	70-130			
Copper	9.85	0.200	"	10.0		98.5	70-130			
Iron	104	10.0	"	100		104	70-130			
Lead	9.63	0.200	"	10.0		96.3	70-130			
Magnesium	1020	100	"	1000		102	70-130			
Manganese	9.59	0.200	"	10.0		95.9	70-130			
Mercury	0.0710	0.0200	"	0.100		71.0	70-130			
Molybdenum	9.80	0.500	"	10.0		98.0	70-130			
Nickel	9.91	0.200	"	10.0		99.1	70-130			
Phosphorus	957	100	"	1000		95.7	70-130			
Potassium	1000	100	"	1000		100	70-130			
Selenium	4.94	0.100	"	5.00		98.8	70-130			
Silver	10.4	0.200	"	10.0		104	70-130			
Sodium	1030	100	"	1000		103	70-130			
Thallium	4.75	0.100	"	5.00		94.9	70-130			
Tin	9.74	1.00	"	10.0		97.4	70-130			
Titanium	9.89	0.200	"	10.0		98.9	70-130			
Vanadium	9.58	0.500	"	10.0		95.8	70-130			
Zinc	10.3	1.00	"	10.0		103	70-130			

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Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Metals by Method SM 3125 - Quality Control

City of Bend Water Quality Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch 19L1607 - EPA 200.8										
Matrix Spike (19L1607-MS1)		**Source: C9L1205-04**		Prepared: 16-Dec-19 Analyzed: 26-Dec-19						
Aluminum	1960	10.0	ug/L	100	1690	277	75-125			QM-4X
Antimony	6.61	0.100	"	5.00	1.77	96.9	75-125			
Arsenic	11.1	0.100	"	5.00	6.17	98.4	75-125			
Barium	165	0.200	"	10.0	152	134	75-125			QM-4X
Beryllium	6.53	0.100	"	5.00	0.0488	130	75-125			QM-05
Cadmium	5.18	0.100	"	5.00	0.246	98.7	75-125			
Calcium	61500	20000	"	1000	62000	NR	75-125			QM-4X
Chromium	12.7	0.200	"	10.0	2.92	97.3	75-125			
Cobalt	16.4	0.200	"	10.0	7.03	93.9	75-125			
Copper	28.7	0.200	"	10.0	19.3	93.8	75-125			
Iron	4020	2000	"	100	3820	201	75-125			QM-4X
Lead	9.48	0.200	"	10.0	0.779	87.0	75-125			
Magnesium	226000	20000	"	1000	227000	NR	75-125			QM-4X
Manganese	507	40.0	"	10.0	511	NR	75-125			QM-4X
Mercury	0.0677	0.0200	"	0.100	ND	67.7	75-125			QM-05
Molybdenum	21.3	0.500	"	10.0	10.6	107	75-125			
Nickel	23.0	0.200	"	10.0	14.4	86.1	75-125			
Phosphorus	1580	100	"	1000	541	104	75-125			
Potassium	9350	100	"	1000	8310	105	75-125			
Selenium	4.97	0.100	"	5.00	0.151	96.4	75-125			
Silver	10.2	0.200	"	10.0	ND	102	75-125			
Sodium	19800	100	"	1000	18700	106	75-125			
Thallium	4.39	0.100	"	5.00	0.00980	87.5	75-125			
Tin	9.67	1.00	"	10.0	0.471	91.9	75-125			
Titanium	130	0.200	"	10.0	114	164	75-125			QM-4X
Vanadium	15.5	0.500	"	10.0	5.21	103	75-125			
Zinc	295	200	"	10.0	299	NR	75-125			QM-4X

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Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Metals by Method SM 3125 - Quality Control

City of Bend Water Quality Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch 19L1607 - EPA 200.8										
Matrix Spike Dup (19L1607-MSD1)		**Source: C9L1205-04**		Prepared: 16-Dec-19 Analyzed: 26-Dec-19						
Aluminum	2050	10.0	ug/L	100	1690	367	75-125	4.51	20	QM-4X
Antimony	6.57	0.100	"	5.00	1.77	96.0	75-125	0.653	20	
Arsenic	11.1	0.100	"	5.00	6.17	98.6	75-125	0.103	20	
Barium	165	0.200	"	10.0	152	132	75-125	0.117	20	QM-4X
Beryllium	7.27	0.100	"	5.00	0.0488	144	75-125	10.7	20	QM-05
Cadmium	5.15	0.100	"	5.00	0.246	98.0	75-125	0.624	20	
Calcium	67000	100	"	1000	62000	498	75-125	8.47	20	QM-4X
Chromium	12.8	0.200	"	10.0	2.92	99.1	75-125	1.37	20	
Cobalt	16.5	0.200	"	10.0	7.03	94.8	75-125	0.568	20	
Copper	28.8	0.200	"	10.0	19.3	94.9	75-125	0.377	20	
Iron	4100	2000	"	100	3820	279	75-125	1.92	20	QM-4X
Lead	9.48	0.200	"	10.0	0.779	87.0	75-125	0.0285	20	
Magnesium	227000	20000	"	1000	227000	NR	75-125	0.592	20	QM-4X
Manganese	525	40.0	"	10.0	511	143	75-125	3.52	20	QM-4X
Mercury	0.0643	0.0200	"	0.100	ND	64.3	75-125	5.15	20	QM-05
Molybdenum	21.4	0.500	"	10.0	10.6	108	75-125	0.249	20	
Nickel	23.1	0.200	"	10.0	14.4	87.4	75-125	0.586	20	
Phosphorus	1590	100	"	1000	541	105	75-125	0.528	20	
Potassium	9370	100	"	1000	8310	107	75-125	0.203	20	
Selenium	5.05	0.100	"	5.00	0.151	98.0	75-125	1.60	20	
Silver	10.4	0.200	"	10.0	ND	104	75-125	1.34	20	
Sodium	19800	100	"	1000	18700	114	75-125	0.403	20	
Thallium	4.40	0.100	"	5.00	0.00980	87.9	75-125	0.387	20	
Tin	9.76	1.00	"	10.0	0.471	92.9	75-125	0.937	20	
Titanium	136	0.200	"	10.0	114	222	75-125	4.30	20	QM-4X
Vanadium	15.7	0.500	"	10.0	5.21	105	75-125	1.35	20	
Zinc	299	200	"	10.0	299	NR	75-125	1.38	20	QM-4X

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Project Number:	[none]		

8270 D - Quality Control

ESC LAB SCIENCES

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch WG1397003 - 3510C										
LCS (R3482942-1)				Prepared & Analyzed: 16-Dec-19						
Benzo(a)anthracene	38.5	1.00	ug/l	50.0		77.0	47.0-120			
Bis(2-ethylhexyl)phthalate	39.2	3.00	"	50.0		78.4	43.0-122			
Pentachlorophenol	44.4	10.0	"	50.0		88.8	23.0-120			
Surrogate: 2,4,6-Tribromophenol	*15.3*		"	*20.0*		*76.5*	*10.0-155*			
Surrogate: 2-Fluorobiphenyl	*7.77*		"	*10.0*		*77.7*	*10.0-130*			
Surrogate: 2-Fluorophenol	*10.4*		"	*20.0*		*52.0*	*10.0-120*			
Surrogate: Nitrobenzene-d5	*6.19*		"	*10.0*		*61.9*	*10.0-127*			
Surrogate: Phenol-d5	*6.51*		"	*20.0*		*32.6*	*10.0-120*			
Surrogate: p-Terphenyl-d14	*8.26*		"	*10.0*		*82.6*	*10.0-128*			
LCSD (R3482942-2)		**Source: R3482942-1**		Prepared & Analyzed: 16-Dec-19						
Benzo(a)anthracene	37.8	1.00	ug/l	50.0		75.6	47.0-120	1.83	20	
Bis(2-ethylhexyl)phthalate	40.5	3.00	"	50.0		81.0	43.0-122	3.26	20	
Pentachlorophenol	43.4	10.0	"	50.0		86.8	23.0-120	2.28	25	
Surrogate: 2,4,6-Tribromophenol	*15.1*		"	*20.0*		*75.5*	*10.0-155*			
Surrogate: 2-Fluorobiphenyl	*7.50*		"	*10.0*		*75.0*	*10.0-130*			
Surrogate: 2-Fluorophenol	*10.1*		"	*20.0*		*50.5*	*10.0-120*			
Surrogate: Nitrobenzene-d5	*6.01*		"	*10.0*		*60.1*	*10.0-127*			
Surrogate: Phenol-d5	*6.31*		"	*20.0*		*31.6*	*10.0-120*			
Surrogate: p-Terphenyl-d14	*7.87*		"	*10.0*		*78.7*	*10.0-128*			
BLANK (R3482942-3)				Prepared & Analyzed: 16-Dec-19						
Benzo(a)anthracene	ND	1.00	ug/l				-			U
Bis(2-ethylhexyl)phthalate	ND	3.00	"				-			U
Pentachlorophenol	ND	10.0	"				-			U
Surrogate: 2,4,6-Tribromophenol	*14.3*		"	*20.0*		*71.5*	*10.0-155*			
Surrogate: 2-Fluorobiphenyl	*7.14*		"	*10.0*		*71.4*	*10.0-130*			
Surrogate: 2-Fluorophenol	*9.90*		"	*20.0*		*49.5*	*10.0-120*			
Surrogate: Nitrobenzene-d5	*6.76*		"	*10.0*		*67.6*	*10.0-127*			
Surrogate: Phenol-d5	*6.45*		"	*20.0*		*32.3*	*10.0-120*			
Surrogate: p-Terphenyl-d14	*7.56*		"	*10.0*		*75.6*	*10.0-128*			

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Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

8270 D - Quality Control

ESC LAB SCIENCES

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch WG1397442 - 3510C										
LCS (R3483486-1)				Prepared & Analyzed: 17-Dec-19						
Benzo(a)anthracene	31.3	1.00	ug/l	50.0		62.6	47.0-120			
Bis(2-ethylhexyl)phthalate	31.9	3.00	"	50.0		63.8	43.0-122			
Pentachlorophenol	35.4	10.0	"	50.0		70.8	23.0-120			
Surrogate: 2,4,6-Tribromophenol	*13.3*		*"*	*20.0*		*66.5*	*10.0-155*			
Surrogate: 2-Fluorobiphenyl	*6.12*		*"*	*10.0*		*61.2*	*10.0-130*			
Surrogate: 2-Fluorophenol	*6.40*		*"*	*20.0*		*32.0*	*10.0-120*			
Surrogate: Nitrobenzene-d5	*4.57*		*"*	*10.0*		*45.7*	*10.0-127*			
Surrogate: Phenol-d5	*3.86*		*"*	*20.0*		*19.3*	*10.0-120*			
Surrogate: p-Terphenyl-d14	*6.68*		*"*	*10.0*		*66.8*	*10.0-128*			
LCSD (R3483486-2)		**Source: R3483486-1**		Prepared & Analyzed: 17-Dec-19						
Benzo(a)anthracene	31.8	1.00	ug/l	50.0		63.6	47.0-120	1.58	20	
Bis(2-ethylhexyl)phthalate	31.5	3.00	"	50.0		63.0	43.0-122	1.26	20	
Pentachlorophenol	35.5	10.0	"	50.0		71.0	23.0-120	0.282	25	
Surrogate: 2,4,6-Tribromophenol	*13.4*		*"*	*20.0*		*67.0*	*10.0-155*			
Surrogate: 2-Fluorobiphenyl	*6.13*		*"*	*10.0*		*61.3*	*10.0-130*			
Surrogate: 2-Fluorophenol	*5.71*		*"*	*20.0*		*28.5*	*10.0-120*			
Surrogate: Nitrobenzene-d5	*4.56*		*"*	*10.0*		*45.6*	*10.0-127*			
Surrogate: Phenol-d5	*3.52*		*"*	*20.0*		*17.6*	*10.0-120*			
Surrogate: p-Terphenyl-d14	*6.57*		*"*	*10.0*		*65.7*	*10.0-128*			
BLANK (R3483486-3)				Prepared & Analyzed: 17-Dec-19						
Benzo(a)anthracene	ND	1.00	ug/l				-			U
Bis(2-ethylhexyl)phthalate	ND	3.00	"				-			U
Pentachlorophenol	ND	10.0	"				-			U
Surrogate: 2,4,6-Tribromophenol	*12.6*		*"*	*20.0*		*63.0*	*10.0-155*			
Surrogate: 2-Fluorobiphenyl	*6.35*		*"*	*10.0*		*63.5*	*10.0-130*			
Surrogate: 2-Fluorophenol	*6.24*		*"*	*20.0*		*31.2*	*10.0-120*			
Surrogate: Nitrobenzene-d5	*5.84*		*"*	*10.0*		*58.4*	*10.0-127*			
Surrogate: Phenol-d5	*3.93*		*"*	*20.0*		*19.7*	*10.0-120*			
Surrogate: p-Terphenyl-d14	*6.59*		*"*	*10.0*		*65.9*	*10.0-128*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CITY OF BEND

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Client:	City of Bend - Stormwater Division	Work Order:	C9L1205
Project:	Stormwater Monitoring 2019-20	Reported:	07-Jan-20 13:37
Project Number:	[none]		

Flags and Definitions

U	Not detected at the Reporting Limit (or MDL where applicable).
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
Ja	The identification of the analyte is acceptable; the reported value is an estimate.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Appendix I

UNDERGROUND INJECTION CONTROLS AND DRINKING WATER PROTECTION AREA INVESTIGATION, DELINEATION AND MANAGEMENT

Appendix I.1

UIC Database Example

UIC Database Example (Full electronic version available upon request)

COB FacilityID	DEQDepthDi	DEQLat	DEQLong	DEQMainten	DEQMixedWa	DEQHasPlug	DEQRemarks	DEQStatus	DEQTestVol	DEQTypeCod	DEQWithin2	DEQWithin5	DEQWithinE	DEQ_UICNum	DEQYearCon	DEQTreatme	DEQTreat_1	DEQTreat_2	DEQTreat_3	DEQInstall	DEQWasteTy	DEQWellNum	DEQImpervS	DEQDistanc	DEQDista_1	DEQDepthTo	LastUpdate
DDW007026	11.4x 4	44.09066000	-121.31219000	3	NO	NO		AC	3000	5D2	NO	YES	NO	10025	1/1/1900	3	0	0	0	1997	1	2	0	370	1100	0	10/3/2019
DDW007027	11.1x 4	44.09047000	-121.31354000	3	NO	NO		AC	5000	5D2	NO	NO	NO	10025	1/1/1900	3	0	0	0	1997	1	3	0	660	725	0	10/3/2019
DDW003115	ODOT	44.07992000	-121.30509000	3	NO	NO		AN	Unknown	5D2	NO	NO	NO	10025	6/23/1985	3	0	0	0	1985	1	92	0	2269	300	0	10/28/2019
DDW003461	14x 4	44.09839000	-121.30911000	3	NO	NO		AC	Unknown	5D2	NO	YES	NO	10025	1/1/2002	3	0	0	0	2002	1	675	0	473	825	0	10/3/2019
DDW007033	7x 4	44.08241000	-121.30591000	3	NO	NO		AC	Unknown	5D2	NO	NO	NO	10025	6/23/1998	3	0	0	0	1998	1	707	0	1426	600	0	10/3/2019
DDW003087	16x 4	44.09380000	-121.31172000	3	NO	NO		AC	Unknown	5D2	NO	YES	NO	10025	6/23/1986	1	0	0	0	1986	1	958	0	285	975	0	10/3/2019
DDW008230	14x 4	44.09464000	-121.30486000	3	NO	NO		AC	Unknown	5D2	NO	NO	NO	10025	1/1/1996	3	0	0	0	1996	1	1253	0	1120	1350	0	10/3/2019
DDW008231	14x 4	44.09464000	-121.30501000	3	NO	NO		AC	Unknown	5D2	NO	NO	NO	10025	1/1/1996	3	39	0	0	1996	1	1254	0	1086	1350	0	10/3/2019
DDW008233	14x 4	44.09622000	-121.30582000	3	NO	NO		AC	Unknown	5D2	NO	NO	NO	10025	1/1/1995	3	0	0	0	1995	1	1255	0	735	775	0	10/3/2019
DDW008232	14x 4	44.09557000	-121.30576000	3	NO	NO		AC	Unknown	5D2	NO	NO	NO	10025	1/1/1995	3	0	0	0	1995	1	1256	0	775	1000	0	10/3/2019
DDW003201	14x 4	44.08939000	-121.31172000	3	NO	NO		AC	Unknown	5D2	NO	YES	NO	10025	6/23/1956	1	0	0	0	1956	1	1396	0	275	950	0	10/3/2019
DDW008260	17x 4	44.09089000	-121.31008000	3	NO	NO		AC	Unknown	5D2	NO	YES	NO	10025	1/1/2000	3	0	0	0	2000	1	1425	0	208	1600	0	10/3/2019
DDW008261	15x 4	44.09055000	-121.31090000	3	NO	NO		AC	Unknown	5D2	NO	YES	NO	10025	1/1/2000	3	0	0	0	2000	1	1426	0	207	1350	0	10/3/2019
DDW008268	14x 4	44.09153000	-121.31622000	3	NO	NO		AC	Unknown	5D2	NO	NO	NO	10025	1/1/2001	1	3	0	0	2001	1	1427	0	1385	400	0	10/3/2019
DDW008267	11x 4	44.09169000	-121.31563000	3	NO	NO		AC	Unknown	5D2	NO	NO	NO	10025	1/1/2001	3	0	0	0	2001	1	1428	0	1221	450	0	10/3/2019
DDW008266	10.75x 4	44.09134000	-121.31452000	3	NO	NO		AC	8000	5D2	NO	NO	NO	10025	1/1/2001	3	0	0	0	2003	1	1430	0	1021	700	0	10/3/2019
DDW001549	14x 4	44.07914000	-121.30511000	3	NO	NO		AC	Unknown	5D2	NO	NO	NO	10025	6/23/1985	1	0	0	0	1985	1	1466	0	2553	160	0	10/3/2019
DDW001828	12.8x 4	44.09336000	-121.30474000	3	NO	NO		AC	10046	5D2	NO	NO	NO	10025	1/1/1995	3	0	0	0	2007	1	1752	0	1182	1350	0	10/3/2019
DDW003267	14x 4	44.08744000	-121.30891000	3	NO	NO		AC	Unknown	5D2	NO	NO	NO	10025	6/23/1998	1	0	0	0	1998	1	1806	0	880	825	0	10/3/2019
DDW003322	17x 4	44.08719000	-121.30885000	3	NO	NO		AC	Unknown	5D2	NO	NO	NO	10025	6/23/1998	1	0	0	0	1998	1	1807	0	872	750	0	10/3/2019
DDW001920	12.5x 4	44.09865000	-121.30433000	3	NO	NO		AC	3434	5D2	NO	NO	NO	10025	1/1/1995	3	0	0	0	2007	1	1884	0	1096	225	0	10/3/2019
DDW001954	11x 4	44.09841000	-121.30704000	3	NO	NO		AC	Unknown	5D2	NO	NO	NO	10025	1/1/1995	3	0	0	0	1995	1	1885	0	638	350	0	10/3/2019
DDW001420	11.3x 4	44.09786000	-121.31277000	3	NO	NO		AC	12230	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	1894	0	82	750	0	10/3/2019
DDW001417	11.5x 4	44.09776000	-121.31281000	3	NO	NO		AC	25664	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	1895	0	65	775	0	10/3/2019
DDW001418	11.3x 4	44.09778000	-121.31296000	3	NO	NO		AC	25664	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	1896	0	24	775	0	10/3/2019
DDW001419	11.7x 4	44.09803000	-121.31304000	3	NO	NO		AC	41963	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	1897	0	91	700	0	10/3/2019
DDW001425	11.2x 4	44.09731000	-121.31330000	3	NO	NO		AC	19740	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	1898	0	180	975	0	10/3/2019
DDW001383	11.5x 4	44.09618000	-121.31310000	3	NO	NO		AC	31304	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	1899	0	242	800	0	10/3/2019
DDW001389	11.6x 4	44.09661000	-121.31179000	3	NO	NO		AC	25664	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2006	1	1900	0	541	1200	0	10/3/2019
DDW001387	11.4x 4	44.09656000	-121.31165000	3	NO	NO		AC	25664	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2006	1	1901	0	577	1200	0	10/3/2019
DDW001388	10.4x 4	44.09670000	-121.31165000	3	NO	NO		AC	17690	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2006	1	1902	0	539	1200	0	10/3/2019
DDW001386	11.4x 4	44.09642000	-121.31165000	3	NO	NO		AC	9769	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2006	1	1903	0	597	1200	0	10/3/2019
DDW001392	11.3x 4	44.09620000	-121.31254000	3	NO	NO		AC	14586	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	1904	0	379	925	0	10/3/2019
DDW001393	11.3x 4	44.09619000	-121.31269000	3	NO	NO		AC	16606	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	1905	0	342	900	0	10/3/2019
DDW001390	11.4x 4	44.09620000	-121.31217000	3	NO	NO		AC	11130	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	1906	0	469	1050	0	10/3/2019
DDW001280	12.6x 4	44.09184000	-121.31160000	3	NO	NO		AC	2760	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	1938	0	448	1300	0	10/3/2019
DDW009656	13.7x 4	44.09152000	-121.31306000	3	NO	NO		AC	20000	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2005	1	1939	0	711	1000	0	10/3/2019
DDW001282	12.7x 4	44.09176000	-121.31142000	3	NO	NO		AC	5807	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	1940	0	472	1350	0	10/3/2019
DDW009659	13.9x 4	44.09171000	-121.31343000	3	NO	NO		AC	18425	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2005	1	1941	0	728	900	0	10/3/2019
DDW001281	12.9x 4	44.09166000	-121.31153000	3	NO	NO		AC	5147	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2006	1	1942	0	511	1350	0	10/3/2019
DDW009658	13x 4	44.09153000	-121.31158000	3	NO	NO		AC	16345	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2005	1	1943	0	560	1350	0	10/3/2019
DDW009657	13x 4	44.09152000	-121.31181000	3	NO	NO		AC	16270	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2005	1	1944	0	570	1300	0	10/3/2019
DDW009650	13.6x 4	44.09185000	-121.31327000	3	NO	NO		AC	16485	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2005	1	1945	0	662	900	0	10/3/2019
DDW001279	12.1x 4	44.09242000	-121.31208000	3	NO	NO		AC	19571	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	1946	0	295	1050	0	10/3/2019
DDW001278	12.11x 4	44.09286000	-121.31205000	3	NO	NO		AC	20223	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	1947	0	189	975	0	10/3/2019
DDW001942	13x 4	44.10073000	-121.31058000	3	NO	NO		AC	2947	5D2	NO	YES	NO	10025	1/1/1900	3	0	0	0	2007	1	2141	0	568	250	0	10/3/2019
DDW001943	13x 4	44.10087000	-121.31063000	3	NO	NO		AC	12118	5D2	NO	YES	NO	10025	1/1/1900	3	0	0	0	2007	1	2142	0	593	190	0	10/3/2019
DDW001945	13x 4	44.10100000	-121.31077000	3	NO	NO		AC	19905	5D2	NO	YES	NO	10025	1/1/1900	3	0	0	0	2007	1	2143	0	602	150	0	10/3/2019
DDW001944	13x 4	44.10099000	-121.31063000	3	NO	NO		AC	19905	5D2	NO	YES	NO	10025	1/1/1900	3	0	0	0	2007	1	2144	0	623	150	0	10/3/2019
DDW001938	12x 4	44.10095000	-121.30969000	3	NO	NO		AC	15633	5D2	NO	YES	NO	10025	1/1/1900	3	0	0	0	2007	1	2145	0	550	100	0	10/3/2019
DDW001937	13x 4	44.10080000	-121.30950000	3	NO	NO		AC	16510	5D2	NO	YES	NO	10025	1/1/1900	3	0	0	0	2007	1	2146	0	480	140	0	10/3/2019
DDW001939	13.3x 4	44.10081000	-121.30965000	3	NO	NO		AC	16510	5D2	NO	YES	NO	10025	1/1/1900	3	0	0	0	2007	1	2147	0	511	150	0	10/3/2019
DDW001382	11.2x 4	44.09579000	-121.31323000	3	NO	NO		AC	4884	5D2	NO	YES	NO	10025	6/23/1986	1	0	0	0	2006	1	2219	0	174	700	0	10/3/2019
DDW001823	13x 4	44.09543000	-121.30879000	3	NO	NO		AC	12278	5D2	NO	YES	NO	10025	7/1/2004	1	0	0	0	2003	1	2227	0	248	1450	0	10/3/2019
DDW001820	13.5x 4	44.09465000	-121.31217000	3	NO	NO		AC	18930	5D2	NO	YES	NO	10025	7/1/2004	3	0	0	0	2007	1	2228	0	352	850	0	10/3/2019
DDW001821	13.5x 4	44.09465000	-121.31192000	3	NO	NO		AC	11590	5D2	NO	YES	NO	10025	7/1/2004	3	0	0	0	2007	1	2229	0	286	925	0	10/3/2019
DDW001819	13.4x 4	44.09465000	-121.31121000	3	NO	NO		AC	10716	5D2	NO	YES	NO	10025	7/1/2004	3	0	0	0	2007	1	2230	0	104	1100	0	10/3/2019
DDW001870	12.9x 4	44.09511000	-121.30932000	3	NO	NO		AC	11015	5D2	NO	YES	NO	10025	7/1/2004	3	0	0	0	2003	1	2231	0	194	1650	0	10/3/2019
DDW001817	12.8x 4	44.09476000	-121.30932000	3	NO	NO		AC	70555	5D2	NO	YES	NO	10025	7/1/2004	3	0	0	0	2003	1	2232	0	308	1600	0	10/3/2019
DDW001816	12.8x 4	44.09476000	-121.30916000	3	NO	NO		AC	overflow	5D2	NO	YES	NO	10025	7/1/2004	3	0	0	0	2003	1	2233	0	324	1650	0	10/3/2019
DDW001815	11.7x 4	44.09476000	-121.30902000	3	NO	NO		AC	10651	5D2	NO	YES	NO	10025	7/1/2004	3	0	0	0	2004	1	2234	0	343	1650	0	10/3/2019
DDW001869	11.7x 4	44.09476000	-121.30886000	3	NO	NO		AC	10651	5D2	NO	YES	NO	10025	7/1/2004	3	0	0	0	2007	1	2235	0	367	1650	0	10/3/2019
DDW001814	15x 4	44.09465000	-121.30913000	3	NO	NO		AC	12420	5D2	NO	YES	NO	10025	7/1/2004	3	0	0	0	2007	1	2236	0	366	1650	0	10/3/2019
DDW001933	14x 4	44.10046000	-121.30857000	3	NO	NO		AC	Unknown	5D2	NO	YES	NO	10025	1/1/1993	1	0	0	0	1993	1	2427	0	214	160	0	10/3/2019
DDW001934	13x 4	44.10090000	-121.30856000	3	NO	NO		AC	22806	5D2	NO	YES	NO	10025	1/1/1993	1	0	0	0	2007	1	2428	0	353	70	0	10/3/2019
DDW002065	11x 4	44.09919000	-121.31001000	3	NO	NO		AC	7776	5D2	NO	YES	NO	10025	1/1/1993	3	0	0	0	2000	1	2429	0	143	625	0	10/3/2019
DDW007023	14x 4	44.08609000	-121.30642000	3	NO	NO		AC	Unknown	5D2	NO	NO	YES	10025	6/23/1998	1	0	0	0	1998	1	2456	0	561	800	0	10/3/2019
DDW001672	13.8x 4	44.09825000	-121.31436000	3	NO	NO		AC	56104	5D2	NO	YES	NO	10025	7/1/2006	3	39	0	0	2007	1	2602	0	198	800	0	10/3/2019
DDW001739	13.5x 4	44.09835000	-121.31416000	3	NO	NO		AC	21700	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2007	1	2603	0	144	725	0	10/3/2019
DDW001674	13.8x 4	44.09825000	-121.31453000	3	NO	NO		AC	56104	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2007	1	2604	0	244	825	0	10/3/2019
DDW001675	13.8x 4	44.09834000	-121.31463000	3	NO	NO		AC	23723	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2007	1	2605	0	268	825	0	10/3/2019
DDW001673	13.8x 4	44.09835000	-121.31446000	3	NO	NO		AC	56104	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2007	1	2606	0	224	775	0	10/3/2019
DDW001428	11.5x 4	44.09813000	-121.31356000	3	NO	NO		AC	4641	5D2	NO	YES	NO	10025	6/23/1986	3	0	0	0	2006	1	2607	0	74	700	0	10/3/2019
DDW001052	13.5x 4	44.09295000	-121.30891000	3	NO	NO		AC	9640	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2006	1	2623	0	651	1750	0	10/3/2019
DDW001064	13.5x 4	44.09251000	-121.30891000	3	NO	NO		AC	16300	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2006	1	2624	0	680	1800	0	10/3/2019
DDW001065	13.5x 4	44.09263000	-121.30892000	3	NO	NO		AC	17150	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2006	1	2625	0	668	1800	0	10/3/2019
DDW001063	13.5x 4	44.09146000	-121.30893000	3	NO	NO		AC	16860	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2626	0	356	1950	0	10/3/2019
DDW001057	13.5x 4	44.09247000	-121.31077000	3	NO	NO		AC	20360	5D2	NO	YES	NO	10025	6/23/1986	3	0	0	0	1986	1	2627	0	269	1350	0	10/3/2019
DDW001283	13.6x 4	44.09227000	-121.31090000	3	NO	NO		AC	21634	5D2	NO	YES	NO	10025	6/23/1986	1	0	0	0	2006	1	2628	0	314	1350	0	10/3/2019
DDW001822	13.5x 4	44.09455000	-121.31233000	3	NO	NO		AC	11780	5D2	NO	YES	NO	10025	6/23/1986	1	0	0	0	2007	1	2629	0	398	800	0	10/3/2019
DDW001429	11.3x 4	44.09623000	-121.31351000	3	NO	NO		AC	8378	5D2	NO	YES	NO	10025	6/23/1986	1	0	0	0	2006	1	2734	0	177	700	0	10/3/2019
DDW001422	11.3x 4	44.09817000	-121.31165000	3	NO	NO		AC	10513	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2735	0	395	650	0	10/3/2019
DDW001421	10.2x 4	44.09786000	-121.31221000	3	NO	NO		AC	16179	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2736	0	223	750	0	10/3/2019
DDW001416	11.8x 4	44.09751000	-121.31281000	3	NO	NO		AC	15276	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2737	0	118	875	0	10/3/2019
DDW001423	11.3x 4	44.09781000	-121.31165000	3	NO	NO		AC	21355	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2738	0	369	775	0	10/3/2019
DDW001424	11.6x 4	44.09742000	-121.31165000	3	NO	NO		AC	18640	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2739	0	393	925	0	10/3/2019
DDW001427	11.3x 4	44.09697000	-121.31259000	3	NO	NO		AC	15274	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2740	0	319	1050	0	10/3/2019
DDW001426	11.8x 4	44.09690000	-121.31281000	3	NO	NO		AC	17496	5D2	NO	YES	NO	10025	7/1/2006	2	0	0	0	2006	1	2741	0	326	1000	0	10/3/2019
DDW001430	12x 4	44.09680000	-121.31075000	3	NO	NO		AC	5542	5D2	NO	NO	NO	10025	1/1/2002	3	0	0	0	2003	1	2742	0	527	1200	0	10/3/2019
DDW001676	13.9x 4	44.09825000	-121.31480000	3	NO	NO		AC	26940	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2007	1	2830	0	315	825	0	10/3/2019

COB	FacilityID	DEQDepthDi	DEQLat	DEQLong	DEQMainten	DEQMixedWa	DEQHasPlug	DEQRemarks	DEQStatus	DEQTestVol	DEQTypeCod	DEQWithin2	DEQWithin5	DEQWithinE	DEQ_UICNum	DEQYearCon	DEQTreatme	DEQTreat_1	DEQTreat_2	DEQTreat_3	DEQInstall	DEQWasteTy	DEQWellNum	DEQImpervS	DEQDistanc	DEQDista_1	DEQDepthTo	LastUpdate
DDW001066	13.5x 4	44.09269000	-121.30993000	3	NO	NO			AC	13710	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2889	0	407	1550	0	10/3/2019
DDW001053	13.5x 4	44.09281000	-121.30975000	3	NO	NO			AC	23440	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2890	0	439	1550	0	10/3/2019
DDW001054	13.5x 4	44.09281000	-121.30993000	3	NO	NO			AC	13710	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2891	0	394	1550	0	10/3/2019
DDW001055	13.5x 4	44.09292000	-121.31046000	3	NO	NO			AC	14610	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2892	0	249	1400	0	10/3/2019
DDW001062	13.5x 4	44.09172000	-121.30980000	3	NO	NO			AC	16070	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2893	0	435	1700	0	10/3/2019
DDW001061	13.5x 4	44.09207000	-121.30986000	3	NO	NO			AC	17080	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2006	1	2894	0	538	1650	0	10/3/2019
DDW001059	13.5x 4	44.09244000	-121.31013000	3	NO	NO			AC	19310	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2895	0	401	1500	0	10/3/2019
DDW001058	13.5x 4	44.09239000	-121.31027000	3	NO	NO			AC	19310	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2896	0	383	1500	0	10/3/2019
DDW001060	13.5x 4	44.09229000	-121.31002000	3	NO	NO			AC	16890	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2897	0	455	1550	0	10/3/2019
DDW001941	13x 4	44.10067000	-121.31183000	3	NO	NO			AC	19846	5D2	NO	YES	NO	10025	1/1/1988	3	0	0	0	2007	1	2901	0	362	170	0	10/3/2019
DDW001940	7x 4	44.10055000	-121.31024000	3	NO	NO			AC	1328	5D2	NO	YES	NO	10025	1/1/1988	3	0	0	0	2000	1	2902	0	512	275	0	10/3/2019
DDW001936	12.9x 4	44.10077000	-121.30879000	3	NO	NO			AC	2778	5D2	NO	YES	NO	10025	1/1/1993	1	0	0	0	2007	1	2903	0	340	130	0	10/3/2019
DDW001932	13x 4	44.10068000	-121.30921000	3	NO	NO			AC	13272	5D2	NO	YES	NO	10025	1/1/1993	3	0	0	0	2007	1	2904	0	392	170	0	10/3/2019
DDW001935	12.8x 4	44.10102000	-121.30880000	3	NO	NO			AC	11787	5D2	NO	YES	NO	10025	1/1/1993	1	0	0	0	2007	1	2905	0	418	40	0	10/3/2019
DDW001385	11.4x 4	44.09617000	-121.31100000	3	NO	NO			AC	14040	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2934	0	404	1300	0	10/3/2019
DDW001384	11.6x 4	44.09599000	-121.31117000	3	NO	NO			AC	18655	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	2935	0	413	1250	0	10/3/2019
DDW001056	13.5x 4	44.09301000	-121.31116000	3	NO	NO			AC	6600	5D2	NO	YES	NO	10025	6/23/1986	3	0	0	0	1986	1	2936	0	61	1200	0	10/3/2019
DDW009505	14x 4	44.09241000	-121.31336000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2006	1	3	0	0	2006	1	3236	0	569	775	0	10/3/2019
DDW009504	15x 4	44.09295000	-121.31330000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2006	3	0	0	0	2006	1	3237	0	503	675	0	10/3/2019
DDW009503	15x 4	44.09309000	-121.31315000	3	NO	NO			AC	Unknown	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	3599	0	462	700	0	10/3/2019
DDW009502	15x 4	44.09299000	-121.31308000	3	NO	NO			AC	Unknown	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	3600	0	444	725	0	10/3/2019
DDW009501	16x 4	44.09297000	-121.31270000	3	NO	NO			AC	Unknown	5D2	NO	YES	NO	10025	7/1/2006	3	0	0	0	2006	1	3601	0	345	825	0	10/3/2019
DDW008262	10.75x 4	44.09189000	-121.31442000	3	NO	NO			AC	5900	5D2	NO	NO	NO	10025	1/1/2001	3	0	0	0	2003	1	3778	0	902	650	0	10/3/2019
DDW008265	6.6x 4	44.09204000	-121.31447000	3	NO	NO			AC	3610	5D2	NO	NO	NO	10025	1/1/2001	3	0	0	0	2003	1	3779	0	890	600	0	10/3/2019
DDW008264	7x 4	44.09219000	-121.31405000	3	NO	NO			AC	2960	5D2	NO	NO	NO	10025	1/1/2001	3	0	0	0	2003	1	3780	0	768	650	0	10/3/2019
DDW008263	7x 4	44.09269500	-121.31415400	3	NO	NO			AC	3610	5D2	NO	NO	NO	10025	1/1/2001	3	0	0	0	2003	1	3781	0	738	450	0	10/3/2019
DDW008236	11.2x 4	44.09820000	-121.30873000	3	NO	NO			AC	5351	5D2	NO	NO	NO	10025	1/1/2001	1	0	0	0	2002	1	3862	0	594	750	0	10/3/2019
DDW008224	17x 4	44.09127000	-121.30865000	3	NO	NO			AC	Unknown	5D2	NO	YES	NO	10025	6/13/1980	3	0	0	0	1980	1	4081	0	333	2000	0	10/3/2019
DDW008228	11x 4	44.09847000	-121.30565000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	1/1/1995	3	0	0	0	1995	1	4089	0	842	140	0	10/3/2019
DDW008225	14x 4	44.09729000	-121.30355000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	1/1/1995	3	0	0	0	1995	1	4090	0	1398	525	0	10/3/2019
DDW008227	11.2x 4	44.10110000	-121.30567000	3	NO	NO			AC	5610	5D2	NO	NO	NO	10025	1/1/1995	1	3	0	0	2000	1	4095	0	745	625	0	10/3/2019
DDW007028	11.9x 4	44.09001000	-121.31527000	3	NO	NO			AC	2000	5D2	NO	NO	NO	10025	1/1/1900	3	0	0	0	1995	1	4133	0	1092	250	0	10/3/2019
DDW008245	11.5x 4	44.09679000	-121.30778000	3	NO	NO			AC	7106	5D2	NO	YES	NO	10025	1/1/1900	3	0	0	0	2002	1	4139	0	331	900	0	10/3/2019
DDW008234	10.9x 4	44.09667000	-121.30856000	3	NO	NO			AC	7562	5D2	NO	YES	NO	10025	1/1/2001	1	0	0	0	2002	1	4216	0	205	1100	0	10/3/2019
DDW009507	13x 4	44.09486000	-121.30879000	3	NO	NO			AC	21620	5D2	NO	YES	NO	10025	7/1/2004	1	0	0	0	2003	1	4217	0	354	1600	0	10/3/2019
DDW009508	13.9x 4	44.09497000	-121.30879000	3	NO	NO			AC	17410	5D2	NO	YES	NO	10025	7/1/2004	1	0	0	0	2003	1	4218	0	325	1600	0	10/3/2019
DDW008250	11.2x 4	44.09817000	-121.31033000	3	NO	NO			AC	12136	5D2	NO	YES	NO	10025	1/1/2002	3	0	0	0	2003	1	4450	0	367	825	0	10/3/2019
DDW008249	11.2x 4	44.09826000	-121.31047000	3	NO	NO			AC	12136	5D2	NO	YES	NO	10025	1/1/2002	3	0	0	0	2003	1	4451	0	333	775	0	10/3/2019
DDW008243	15x 4	44.09760000	-121.30889000	3	NO	NO			AC	17042	5D2	NO	NO	NO	10025	1/1/2002	3	0	0	0	2002	1	4554	0	543	900	0	10/3/2019
DDW008241	10.7x 4	44.09692000	-121.30891000	3	NO	NO			AC	17580	5D2	NO	YES	NO	10025	1/1/2002	3	0	0	0	2002	1	4555	0	293	1100	0	10/3/2019
DDW008240	10.7x 4	44.09702000	-121.30891000	3	NO	NO			AC	17580	5D2	NO	YES	NO	10025	1/1/2002	3	0	0	0	2002	1	4556	0	333	1050	0	10/3/2019
DDW008242	11.2x 4	44.09689000	-121.30964000	3	NO	NO			AC	3581	5D2	NO	YES	NO	10025	1/1/2002	3	0	0	0	2002	1	4557	0	346	1250	0	10/3/2019
DDW008244	9.9x 4	44.09690000	-121.30840000	3	NO	NO			AC	10917	5D2	NO	YES	NO	10025	1/1/2002	3	0	0	0	2002	1	4558	0	291	975	0	10/3/2019
DDW008229	11.5x 4	44.09829000	-121.30890000	3	NO	NO			AC	12666	5D2	NO	NO	NO	10025	1/1/2002	3	0	0	0	2002	1	4606	0	541	800	0	10/3/2019
DDW008248	16x 4	44.09758000	-121.30785000	3	NO	NO			AC	11734	5D2	NO	NO	NO	10025	1/1/2002	3	0	0	0	2002	1	4608	0	570	700	0	10/3/2019
DDW008247	15x 4	44.09768000	-121.30785000	3	NO	NO			AC	11734	5D2	NO	NO	NO	10025	1/1/2002	3	0	0	0	2002	1	4609	0	607	675	0	10/3/2019
DDW008238	12.3x 4	44.10031000	-121.30878000	3	NO	NO			AC	6240	5D2	NO	YES	NO	10025	1/1/1993	1	0	0	0	2000	1	4617	0	221	250	0	10/3/2019
DDW008237	14x 4	44.09954000	-121.30863000	3	NO	NO			AC	Unknown	5D2	NO	YES	NO	10025	1/1/1993	3	0	0	0	1993	1	4618	0	226	450	0	10/3/2019
DDW008255	11x 4	44.09918000	-121.31017000	3	NO	NO			AC	7776	5D2	NO	YES	NO	10025	1/1/1993	3	0	0	0	2000	1	4619	0	100	575	0	10/3/2019
DDW008257	14x 4	44.10037000	-121.31013000	3	NO	NO			AC	7500	5D2	NO	YES	NO	10025	1/1/1993	3	0	0	0	1999	1	4620	0	452	350	0	10/3/2019
DDW008256	14x 4	44.10037000	-121.30998000	3	NO	NO			AC	6208	5D2	NO	YES	NO	10025	1/1/1993	3	0	0	0	1999	1	4621	0	464	325	0	10/3/2019
DDW009510	12.8x 4	44.09557000	-121.30929000	3	NO	NO			AC	9515	5D2	NO	YES	NO	10025	7/1/2004	3	0	0	0	2003	1	4929	0	112	1500	0	10/3/2019
DDW009511	14x 4	44.09581000	-121.30884000	3	NO	NO			AC	16720	5D2	NO	YES	NO	10025	7/1/2004	3	0	0	0	2003	1	4930	0	109	1350	0	10/3/2019
DDW008251	11.5x 4	44.09796000	-121.31093000	3	NO	NO			AC	6717	5D2	NO	YES	NO	10025	1/1/2002	3	0	0	0	2003	1	4986	0	450	800	0	10/3/2019
DDW009512	12.9x 4	44.09600000	-121.30879000	3	NO	NO			AC	12278	5D2	NO	YES	NO	10025	7/1/2004	1	0	0	0	2003	1	4987	0	47	1300	0	10/3/2019
DDW007291	11.1x 4	44.07503000	-121.31145000	3	NO	NO			AC	2000	5D2	NO	NO	NO	10025	6/23/1985	3	0	0	0	1994	1	93	0	4469	475	0	10/3/2019
DDW003411	13x 4	44.07372000	-121.32895000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/15/1986	3	0	0	0	1986	1	123	0	6388	3000	0	10/3/2019
DDW007038	10.9x 4	44.08143000	-121.32064000	3	NO	NO			AC	7290	5D2	NO	NO	NO	10025	6/23/1998	3	0	0	0	1996	1	585	0	4004	500	0	10/3/2019
DDW003412	11x 4	44.07939000	-121.32229000	3	NO	NO			AC	8000	5D2	NO	NO	NO	10025	7/15/1986	3	0	0	0	1986	1	586	0	4858	1100	0	10/3/2019
DDW003413	12x 4	44.08068000	-121.32212000	3	NO	NO			AC	8000	5D2	NO	NO	NO	10025	7/15/1986	3	0	0	0	1996	1	587	0	4464	975	0	10/3/2019
DDW003423	15x 4	44.08284000	-121.32220000	3	NO	NO			AC	Unknown	5D2	NO	NO	YES	10025	1/1/1994	3	0	0	0	1994	1	588	0	3913	850	0	10/28/2019
DDW003415	15x 4	44.08266000	-121.32213000	3	NO	NO			AC	Unknown	5D2	NO	NO	YES	10025	1/1/1994	3	0	0	0	1994	1	589	0	3944	800	0	10/3/2019
DDW008332	15x 4	44.08407000	-121.32439000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	1/1/1992	3	0	0	0	1992	1	618	0	4106	1550	0	10/3/2019
DDW009446	16x 4	44.08881000	-121.31936000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2005	1	649	0	2210	875	0	10/3/2019
DDW009447	18x 4	44.08882000	-121.31811000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2005	1	650	0	1889	625	0	10/3/2019
DDW003446	13.1x 4	44.08818000	-121.32000000	3	NO	NO			AC	6490	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2004	1	695	0	2428	1150	0	10/3/2019
DDW003465	15x 4	44.08512000	-121.32450000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	1/1/1994	3	0	0	0	1994	1	717	0	3943	1750	0	10/3/2019
DDW003463	12x 4	44.08644000	-121.32402000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	1/1/1995	3	39	0	0	1995	1	731	0	3632	2000	0	10/3/2019
DDW009448	16x 4	44.08916000	-121.31812000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2005	1	886	0	1867	550	0	10/3/2019
DDW009449	17x 4	44.08952000	-121.31824000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2005	1	887	0	1881	475	0	10/3/2019
DDW009450	17x 4	44.08983000	-121.31825000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2005	1	888	0	1876	400	0	10/3/2019
DDW003441	20x 4	44.08826000	-121.31783000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2005	1	889	0	1877	675	0	10/3/2019
DDW008275	11.4x 4	44.08672000	-121.32536000	3	NO	NO			AC	7526	5D2	NO	NO	NO	10025	1/1/2000	3	0	0	0	2002	1	1433	0	3931	2300	0	10/3/2019
DDW009453	16x 4	44.08800000	-121.31787000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2005	1	1455	0	1919	725	0	10/3/2019
DDW009457	16x 4	44.08574000	-121.31592000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2005	1	1456	0	2003	775	0	10/3/2019
DDW009458	17x 4	44.08585000	-121.31586000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2005	1	1457	0	1960	725	0	10/3/2019
DDW009456	17x 4	44.08609000	-121.31594000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2005	1	1458	0	1910	700	0	10/3/2019
DDW009454	16x 4	44.08708000	-121.31713000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2005	1	1459	0	1907	725	0	10/3/2019
DDW009455	17x 4	44.08661000	-121.31655000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2005	1	1460	0	1890	700	0	10/3/2019
DDW003038	13x 4	44.08995000	-121.32918000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	6/23/1998	3	0	0	0	1998	1	1738	0	4222	1000	0	10/3/2019
DDW003438	12x 4	44.08827000	-121.32663000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	8/1/2007	3	0	0	0	2007	1	1821	0	4126	1700	0	10/3/2019
DDW002068	11x 4	44.08537000	-121.32172000	3	NO	NO			AC	7500	5D2	NO	NO	NO	10025	8/1/2007	3	0	0	0	1998	1	2412	0	3260	1300	0	10/3/2019
DDW008064	12x 4	44.08514000	-121.32388000	3	NO	NO			AC	6724	5D2	NO	NO	NO	10025	1/1/1995	3	0	0	0	2001	1	2438	0	3794	1650	0	10/3/2019
DDW003448	16x 4	44.08596000	-121.31736000	3	NO	NO			AC	Unknown	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2005	1	2444	0	2205	1000	0	10/3/2019
DDW009472	13.5x 4	44.08737000	-121.32287000	3	NO	NO			AC	7880	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2003	1	3664	0	3236	1900	0	10/3/2019
DDW009470	13.5x 4	44.08875000	-121.32391000	3	NO	NO			AC	6736	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2003	1	3665	0	3393	1850	0	10/3/2019
DDW009441	13.2x 4	44.08861000	-121.32211000	3	NO	NO			AC	8760	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2004	1	3666	0	2934	1500	0	10/3/2019
DDW009440	12.9x 4	44.08872000	-121.32294000	3	NO	NO			AC	8813	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2004	1	3667	0	3144	1650	0	10/3/2019
DDW009439	13.5x 4	44.08882000	-121.32403000	3	NO	NO			AC	8323	5D2	NO	NO	NO	10025	7/1/2005	3	0	0	0	2003	1	3686	0	3422	1800	0	10/3/2019
DDW008274	11.6x 4	44.08689000	-121.32571000	3	NO	NO			AC	7405	5D2	NO	NO	NO	10025	1/1/2000	3	0	0	0	2002	1	3843	0	3999	2300	0	10/3/2019

Appendix D

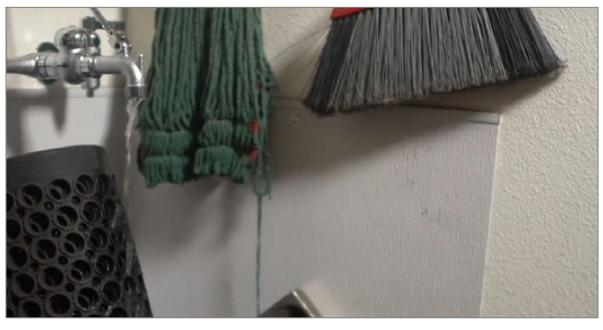
Illicit Discharge Controls

Appendix D.1

Restaurant BMP Outreach

KEEP BEND OUR LITTLE SLICE OF HEAVEN

CLEAN HOOD FILTERS AND FLOOR MATS INSIDE



Don’t dump wash water outside - always use a utility sink or floor drain. Remember, *Only Rain in the Storm Drain.*

SCRAPE DISHES, POTS AND PANS



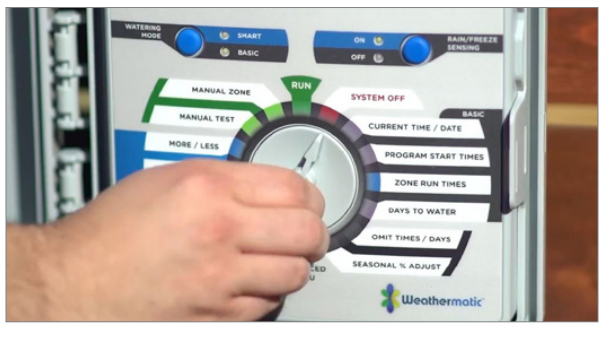
Scrape food and grease into trash. Pre-rinse only after scraping - using low flow pre-rinse spray valves. Dispose of food in compost bin or trash can.

CONSERVE DRINKING WATER



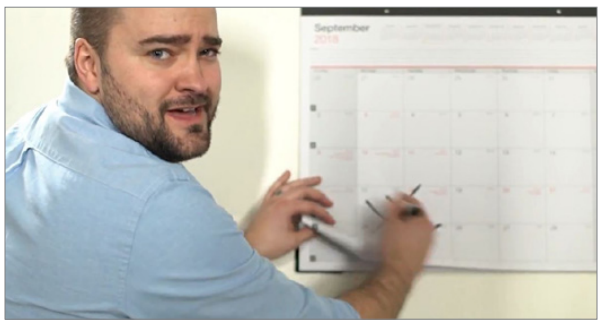
Many restaurants only serve water to customers upon request. If this is your restaurant, bravo!

KNOW YOUR IRRIGATION CONTROLS



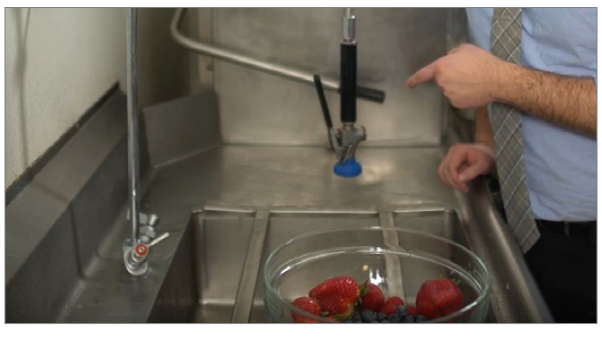
Keep sprinkler spray off sidewalks and streets. Know how to turn off your irrigation sprinklers in case of leaks.

MAINTAIN GREASE TRAP/ INTERCEPTOR



Keep grease traps/interceptors maintained and on a regular cleaning schedule.

WASH VEGGIES AND FRUITS IN A BOWL



Use low-flow pre-rinse spray valve to rinse veggies and fruit, when necessary, or use a basin or large bowl.

CLEAN AROUND OUTSIDE TRASH BINS DAILY



Soak up spills. Always secure lids and sweep around outside trash bins. Keep spills and trash out of the storm drain.

POUR OIL INTO SECURE CONTAINERS WITH LIDS



Never pour oil down any drain. Use only secure, covered, tip-resistant bins. Close covers and clean up spills. NEVER wash spills into the storm drain.

KEEP FAUCETS OFF WHEN NOT IN USE



Turn off faucets when not in use!

WATCH THE FOOD SERVICE TRAINING VIDEO ONLINE AT BENDOREGON.GOV/TRAININGVIDEO

BEND UTILITY DEPARTMENT

CLEAN WATER WORKS — We work for clean water

bendoregon.gov/cleanwaterworks

WaterWiseTips.org

Accommodation Information for People with Disabilities
To obtain this information in an alternate format such as Braille, large print, electronic formats, etc. please contact Utility Staff at: Utilities@bendoregon.gov or 541-317-3000 ext 2; Relay Users Dial 7-1-1, and fax: 541-317-3046

Appendix D.2

City Business Advocate Blog "Confused About Bend's Plastic Bag Ban?"

Archived Posts

▶ 2019

▶ 2018

▶ 2017

City Blog

Confused About Bend's Plastic Bag Ban? Here's What you Need to Know

Return to Blog

BH by
Ben Hemson

07/01/2019 10:55 AM

UPDATED: 07/01/2019

What happens when you have a state law that covers the same thing as a recently adopted local ordinance? A little confusion. Read on for more information on complying with the new statewide plastic bag ban and the fate of Bend's local ban.

Late last year the Bend City Council approved a plastic bag ban for retailers, requiring a phase out of non-reusable plastic bags and a charge to customers of 10 cents per bag, in part to offset the higher cost of paper bags (this money would be kept by retailers). However, a statewide bag ban was approved by the legislature in mid-June that largely overrides locally adopted plastic bag bans, requires a fee of five cents for customers receiving a paper bag, and applies to a broader range of businesses including restaurants providing takeout.

At their last meeting on June 19th, City Councilors said they were willing to repeal the local bag ban and let the state law govern things going forward. A final vote on this won't happen until July 17th at the next Council meeting. **In the meantime, my advice to retailers is to continue providing the bags you already do and hold off on implementing a customer fee until January 1, 2020.**

Enforcement of either ban is not scheduled to take effect until January 1 as well, you won't have to worry about a potential fine for providing a plastic bag or for not charging a fee until then.

Bag Ban Highlights

	Bend Ban*	Statewide Ban
Impacted Businesses	Large Retailers	Retailers & Restaurants Providing Takeout Bags
Fee Charged by Retailers	10 cents	5 cents
Planned Enforcement Date	July 1-Phase In January 1, 2020-Enforcement of Rules	January 1, 2020

*May be repealed on July 17th, 2019

You can expect an update from me after the Council vote on a repeal of the local ordinance. The Oregon Department of Environmental Quality will handle the outreach and enforcement of the statewide bag ban. However, if you have questions, feedback, or are just plain confused, please reach out at bhemson@bendoregon.gov or by phone at 541-388-5529.

BH **by Ben Hemson**

You may also like:

There' Still Time to Apply for the SCORE Small Business Championship Contest!
Bend-Redmond Repeats as #1 in Milken Institute List of Best Performing Small Cities
Want a Career in Tech? Check out the Bend Apprenti Program!
Winter is Here! Here's What You Need To Know Before The Snow Starts Falling
EDCO Rolls Out 2018 Calendar of Events

Public Comments

Express your thoughts ...

Appendix D.3

Illicit Discharge Follow-up Database

FY2018-19 IDDE Database

Date Reported	Reported By	Contact	Type	Description	Location	Date/Time Noticed	Reported To	Followed up By	Date followed up	Status	Actions Taken/ Comments	MS4 / WPCF	Educ. Info. Provided	Enforcement Taken	Date Followed up with Reporter	lat	long
7/16/2018	Public	Bend Garbage	Spill	Bend Garbage Company called in a hydraulic oil spill. A garbage truck broke a hydraulic line, leaking 1-2 gallons of oil into a catch basin on the sought end of Mirror-pond parking lot.	Mirror Pond Parking lot	7:00 AM	David Buchanan	David Buchanan & Travis Sommers.	7:20 AM	Closed	City of Bend crews responded to a spill in the mirror pond parking lot. When crews arrived, the Garbage Company had already placed a drip pan under the leak and was using granular absorbent to soak up the spilled material. Waste absorbent was being swept-up and placed into a dumpster. City staff used a sluge-juge and found a 1/2" of oil in the drywell catch basin insert, It did not look like any oil reached the drywell. A vactor truck was used to clean the insert and the surrounding parking area.	WPCF	None	None	7:20 AM	44.058738	-121.315922
7/31/2018	City of Bend	Wendy Edde	Spill	Contractor has a pallet of a cement powder material stored in the ROW. Some of the bags where ripped open and spilling cement onto the roadway and catch basin.	11 NW Lava Ave Rd	7/30/2108 4:30PM	David Buchanan	David Buchanan	7/31/18 10:00 AM	Closed	City staff called the contractor Charles Ermisch 541-330-6037 and requested the pallet of material be removed and the spilled material cleaned up.	WPCF	Verbal	none	7/31/2018	44.051752	-121.314365
7/31/2018	City of Bend	Wendy Edde	Staining on Catch Basin	Staff noticed some staining around the catch basin in the parking lot.	1307 NE 1st St, Bend	7/30/2108 4:30PM	David Buchanan	David Buchanan	7/31/18 10:00 AM	Closed	Left message on 7/31/2018, did not revive a call back. It was hard to tell how fresh the staining was.	Private UIC	Verbal	Let message on voice mail		44.063222	-121.306003
8/10/2018	City	Dan Denning	Paint	A guy was washing paint out into the gutter.	644 NE Greenwood Ave	8/10/2018 12:20PM	David Buchanan	David Buchanan	8/13/18 10:00 AM	Closed	City staff stopped and talked with the insurance company that owned the building. The front desk staff did not know the name of the painting contractor and the person with that information was no available. They took a business card and said the owner will call with that information. City staff did not see any obvious signs of staining in the parking lot, street or curb line.	Private UIC/ODOT	Left with IDDE Manaul at front desk	Warning	8/10/218	44.06005	-121.29611
8/13/2018	Public/ Via DEQ	Krista Ratliff	Mop Water	A concerned citizen called DEQ to report that a janitor from a downtown restaurant was dumping mop water into the Alley. DEQ is going to forward contact information.	916 NW Wall St	8/13/2018	David Buchanan	David Buchanan	8/22/18 1:00 PM	Closed	City of Bend staff contacted the person who made the initial report and attempted to better identify what business was responsible for the dumping. Unfortunately, the reporter could not provide enough detail to identify the business responsible. City staff contacted the surrounding restaurants via email and provided a link to a new educational video the City developed for restaurants.	WPCF	Email/ Vidoe Link	None	8/14/2018	44.058995	-121.313913
8/23/2018	Public	Krista Ratliff	Paint	While visiting the property the reporter noticed some white staining on the catch basin grate. Looked like the Hotel was doing some remodeling.	1626 NW Wall St	8/23/18 8:30 AM	David Buchanan	David Buchanan	8/23/2018 10:30am	Closed	City staff inspected the site and found staining on the drywell in the parking lot. The Hotel receptionist contacted the Maintenance Engineer (Will) and He spoke with City staff about the issue. Will is going to find the sub-contractor who was responsible and will contact City staff. City staff provided an Illicit Discharge door hanger and a Paint Disposal fact sheet.	Private UIC	Yes IDDE door hanger and Paint Disposal fact sheet	Verbal Warning	8/23/2018 11:00am	44.066444	-121.308293
9/18/2018	City of Bend	David Buchanan	Sediment	Contractor installing a new fiber optic line broke an irrigation line and flooded the trench. Eventually the water filled the trench and spilled into the ROW. The line was leaking water for some time before the contractor was able to shut it off.	1500 SW CHANDLER AVE	9/18/18 10:45 AM	David B & Sean M	David B & Sean M	9/18/18 10:45 AM	Closed	City staff stopped and talked with a laborer on site. He explained that they are installing a fiber optic line and accidently hit an unmarked water line. The laborer was not sure what type of water line was damaged. He also said it took an hour for them to find the valve to shut off the water. City staff observed standing water in the trench and sediment-laden water in the street and adjacent catch basin. City staff left a business card and requested the Forman call the City. Later City staff spoke with the contractor and they are going to clean the street and catch basins.	WPCF	None	Verbal Warning	9/18/18 10:45 AM	44.042009	-121.332577
9/20/2018	City of Bend	David Buchanan	Spill	City staff noticed a bag of spilled granular material possibly fertilizer at the intersection of Eighth and Penn.	1528 NE 8TH ST	9/20/2018 7:00am	David Buchanan	Ian & Doug	9/20/2018 7:15am	Closed	City stormwater crews responded to the spill and dry swept the area, removing as much as the material as possible.	WPCF	None	NA	9/20/2018 7:15am	44.065604	-121.293659
9/21/2018	Public	Chris 503-260-5350	Spill	Several quart oil containers ate placed in street new the address provided, some material is leaking onto the ground near a storm drain.	61054 Sprincrest Dr	9/21/2018 3:20pm	David Buchanan	David Buchanan	9/25/2018 8:30am	Closed	City staff spoke with the homeowner. The homeowner said they had placed the oil containers by the curb for recycling. The garbage company did not pick-up the oil and one of the containers had cracked spilling some oil onto the street. The homeowner placed kitty litter on the spill but had not picked up the oil contains of sept up the kitty litter. City staff asked for permission to place oil containers in the trash can. No oil was observed in the catch basin. City crews left and IDDE door hanger.	WPCF	IDDE Door Hanger	Verbal Warning	9/25/2018 10:30am	44.017585	-121.336538
10/16/2018	City of Bend	David Buchanan	Stockpile in ROW	City staff noticed mutual stockpiles in the right-of-way (one gravel and the other sand) along with a pallet of pavers. The material was being used to install a new driveway on Powers Rd.	19895 Powers Rd	10/16/18 7:00 AM	David Buchanan	David B & Sean M	10/16/18 1:00 PM	Closed	City staff spoke with both the homeowner and the contractor. Contractor committed to removing the material by 10/17/2018 and dry sweep the street.	WPCF	IDDE Door Hanger	Verbal Warning	10/16/18 1:00 PM	44.028446	-121.32799

Date Reported	Reported By	Contact	Type	Description	Location	Date/Time Noticed	Reported To	Followed up By	Date followed up	Status	Actions Taken/ Comments	MS4 / WPCF	Educ. Info. Provided	Enforcement Taken	Date Followed up with Reporter	lat	long
10/26/2018	Public	Wayne Schatz 541-480-0560	Wash Water	Material from Atlas Cider is washed out the back door and into the onsite drywell. The caller reported that this activity has plugged the drywell.	900 SE Wilson Ave.	10/26/2018 12:15pm	Sean Mulderig	David Buchanan / Christina Davenport	Ongoing	Closed	The Caller requested that the City wait to inspect the site until the next time they are washing material into the drywell. The neighboring business owner said that He would watch the area and call the City when they are actively washing. City IPP department was notified and they have scheduled a site inspection for the week of 11/5. As of 6/6/2019 the neighboring business has not called back to remport any aditationl wash down.	WPCF				44.045023	-121.292079
10/30/2018	City of Bend	Sean Mulderig	Paint	City staff noticed some paint staining on the ground in front of a hangar at the Bend Airport. Site is very close to the City's UIC monitoring location.	63132 Powell Butte	10/30/2018 11:00am	Sean Mulderig	David Buchanan / Gary Judd	11/1/2018 3:30PM	Closed	The airport manager contacted the hanger owner and requested they sweep up the material.	WPCF	Verbal	Verbal Warning	11/2/2018 8:00am	44.087767	-121.202804
11/2/2018	Public	Wendy Edde	Food Cart Waste	Are you aware that Brother Jon's outside in the alley putting all the nasty dirt and grime directly on to our streets/alleys and in our drains!!? Apparently he likes to do this at 3am, every 2 weeks. Not only is it a violation of noise ordinance, which I took up with police, but really nasty stuff draining own the alley which many businesses/restaurants use to enter their establishments thus dragging all that grime inside our businesses. I can't tell you what a mess this creates on carpets etc. Is there anything we can do about this? It can't be legal to operate a mobile business like this on our streets with no proper way of disposing of waste? He was doing it next to parking lot spraying all the cars too! You wouldn't believe the nasty stuff that goes off the mats and trash cans he was cleaning right there in the parking lot double park zone. Smells too."	Not Clear	Ongoing?	Wendy Edde	Ben Hemson		Closed	Complaint was forwarded to City of Bend Business Coordinator who meets the Bend Downtown Association regularly.						
12/11/2018	City of Bend	Brandon	Vehicale Leak	Leaking car parked over catch basin. Car had a glass container under it, then it was moved up closer to the catch basin.	20592 NE Sierra Dr	12/11/18 10:00 AM	David Buchanan\	David Buchanan	12/11/18 1:00 PM	Closed	City staff inspected under the vehicle, around the catch basin and inside the drywell. Staff could not see any evidence of leeks or spill on the ground or in the catch basin sump.	WPCF	Na	NA	12/14/18 12:00 AM	44.092636	-121.294312
12/18/2018	Public CRS 82467	Mike E,	Pumping Flood Water	called to let us know that the Expressway Market on 15th & Reed Market is setting up to pump water from parking lot into street.	1450 SE Reed Market Rd\	12/18/18 10:00 AM	David Buchanan\	David Buchanan	12/18/18 12:45 PM	Closed	City staff stopped by the site at 12:45 today and found a small trash pump setup with a 2.5" discharge hose running east up the on-site curb line. Looked like they had been pumping water over a small rise and let it run down onto the driveway approach. Any water pump that direction would be collected in the trench drain; I could not find any evidence of water being pumped into the City right of way.	Private Surface Facilitiy	Na	Na	12/18/18 1:55 PM	44.037085	-121.284558
1/23/2019	Public	Jessica Zuniga <zunijezm@gma	Litter	Neighbor is dumping cigarette litter from truck onto the street in front of home.	20320 Sonata Way	1/23/19 11:45 AM	David Buchanan	David Buchanan	1/23/19 2:00 PM	Closed	City staff stopped by the site and found a empty cigarette package and a small amount of cigarette litter.	WPCF	Yes IDDE door har	Warning	1/23/19 3:00 PM	44.031499	-121.30687
1/30/2019	Public	Fredrick MOORE Fredrick.MOO	Source Contol	Received a report that the neighboring brewery was using a portable pump, to pump out a manhole into a swale.	495 NE BELLEVUE DR	1/30/19 2:10 PM	Wendy Edde	David Buchanan	1/30/19 3:00 PM	Closed	City of Bend Stormwater and IPP staff met onsite with the Head Brewer. The Head Brewer explained, the stormwater sump pump had failed and is in need of repair. The system is designed to remove stormwater from the loading dock and discharges into the adjacent vegetated swale. The Head Brewery used a trash pump to draw down the wet well and elevate a safety hazard, standing water in the loading dock. City staff explained the issue was not with pumping stormwater into the swale, but a source control issue with the spent grain trailer leaking into the stormwater system. City staff recommend covering the spent grain trailer, collecting any leakage in a containment device/tote and hauling the waste offsite as needed. City of Bend IPP staff will schedule a follow-up inspection to verify that corrections have been made and the spent grain trailer is being properly managed.	Private Surface Facilitiy	Yes, Verbal	Verbal Warning	1/31/2019 13:25	44.055185	-121.259917

Date Reported	Reported By	Contact	Type	Description	Location	Date/Time Noticed	Reported To	Followed up By	Date followed up	Status	Actions Taken/ Comments	MS4 / WPCF	Educ. Info. Provided	Enforcement Taken	Date Followed up with Reporter	lat	long
2/5/2019	Pbulic	Rick Cuningham 541-390-3697	Leaky Car	Nighbor is parking car on gravel infiltraion area, and leaking oil onto the ground. City Staff contacted the reporter on 2/6/2019 at 10am, notifying Him that I had spoken with his neighbor and that the car has been moved. During our conversation, He admitted the real issue is not with the leaking car but that the overall premises of the stormwater fee. He requested to talk with someone in charge of implanting the fee. I recommended he talk to either my Supervisor or the Billing Supervisor but he did not take their contact information. He told, He`s been working with Lisa in the billing department. I thanked him for the report and let Him know that we follow-up on all Illicit discharge repots.	20870 WEST VIEW DR	Ongoing?	Wendy Edde	David Buchanan	2/5/19 2:00 PM	Closed	City staff inspected the site and took photos of an SUV parked overtop the gravel infiltration gallery, no obvious oil stains where seen under the SUV. Staff left an IDDE flyer on the door. On 2/6/19 City staff talked with the homeowner and they have moved the vehicle. Homeowner said City Crews told her she could park in the area. The homeowner installed the large rocks after a neighbor backed into their fence.	WPCF	hanger and Paint Di	Verbal Warning	2/6/2019 10:00	44.032988	-121.280252
2/19/2016	Public	Unknown	Sediment	Sediment in the roadway along Galveston Ave.	1009 NW GALVESTON AVE		Klye Thomas	David Buchanan	2/19/19 1:15 PM	Closed	City of Bend stormwater staff inspected the site and found a small 18" tall loose soil berm was placed along the curb and was spilling into the roadway in a couple sections. City staff talked with the Contractor, who is going to work to remove the soil. Until the soil is removed, the contractor is going to keep the curb line clean and swept daily. There was visible sediment in the adjacent catch basin, but it was not clear if it was a sediment was a result of the construction. City staff will make Operations staff aware of the sediment, so the line can be cleaned.	NPDES	Verbal	Verbal		44.056542	-121.32754
4/4/2019	City	Stormwater Field Crews	Garden Hose	Field crews noticed a garden hose dischraging into the curb line in Norhtwest crossing. The hose was coming out a small pump station looking structure beside the hose.	2617 NW Crossing Dr.	4/3/2019 2:15PM	David Buchanan	David Buchanan	4/3/2019 2:30PM	Closed	City staff spoke with the neighboring property owner who confirmed the building has a sump pump in the crawl space and the water being pumped into the street is groundwater. The neighbor also provided the contact name and phone number for the property management company responsibly and noted that the homeowner is often gone for extended periods of time. City staff talked with the property manager on 4/4/2019 and He confirmed they have a sump pump in the crawl space that drains into the vault we saw yesterday. That vault collects the site runoff and discharges it to a rock infiltration swale. The pump in the vault is normally only used as an overflow when the swale cannot keep up with the flow. The sump pump froze this winter and needs replaced, and the pipe between the vault and swale is plugged. They are working with a contractor to make the needed repairs. The property manager noted that they are pumping 1,000s of gallons of water from under the home, and they believe the water is coming underground form the surrounding properties.	WPCF	NA	Na	4/3//2019 2:45PM	44.058183	-121.351932
4/4/2019	Public	Jim Oberlander 360-561-8939 / Bark & Bath 541-429-3830. Lisa Bark and Bath 541-639-9755.	Wash Water	Mobile dog wash trailer was discharging soapy water into the street.	2417 NW LOLO Dr	4/3/2013 3:12PM	Wendy Edde	David Buchanan	4/8/19 12:00 AM	Closed	City staff spoke with the Business Owner and she said the trailer was new and the valve was leaking slightly. She has already fixed the valve and is/will be dumping the gray water tank at an RV disposal site.	WPCF	Verbal	No	4/8/2019 11:20AM	44.06103	-121.349766
4/8/2019	Pbulic	COLLEEN LUETHJE	Oil Leak	Neighbor just towed a car and oil is pouring into the storm drain.	2206 NE SHEPPARD	4/8/19 8:00 AM	CSR 85754	David Buchanan	4/8/2019 18:30AM	Closed	City staff inspected the roadway/catch basins and could not find any oil spills in this area. There was a slight stained on the pavement approx. 1' x 10' that was slightly discolored. No visible sheen, it may have been some leaked fuel but whatever it was has since evaporated and or dissipated.	WPCF	NA	NA	4/8/2019 11:00AM	44.072423	-121.283692
4/18/2019	City of Bend	Travis / Ian	Oil Leak	An RV is parked in the roadway and the owner is doing repairs work to the vehicle. There are some oil stains on the ground under the RV. Stormwater crews are scheduled to repair a clasped pipe in the area and the vehicle is parked overtop the pipe.	2nd and Hawthorn	4/18/19 7:00 AM	David Buchanan	David Buchanan	4/18/19 7:30 AM	Closed	City staff inspected the area and found a recreational vehicle with the front axle up in the air on jack stands. A drip pan was being used under the RV but some transmission fluid had leaked onto the roadway. It appears that the owner is living in the RV. City staff contacted the RV owner informing them of the water quality issues, the Owner assured City staff that they will be gone/towed by Monday.	WPCF				44.058174	-121.303878

Date Reported	Reported By	Contact	Type	Description	Location	Date/Time Noticed	Reported To	Followed up By	Date followed up	Status	Actions Taken/ Comments	MS4 / WPCF	Educ. Info. Provided	Enforcement Taken	Date Followed up with Reporter	lat	long
4/18/2019	Public via DEQ	Orin	SSO	Private sample manhole plugged spilling sewage intot the roadway and stormwater system.	1820 NW MONTEREY PINES DR	4/18/19 2:49 PM	Orin	Paul	4/18/19 3:15 AM	Closed	City collection staff responeded and cleaned up the spilled materail using a Vactor truck. It was estimated the 40-100 of sewage was spilled into the stormwater system.	WPCF	NA	NA	Oring will complete the required documentation.	44.06285	-121.34017
4/23/2019	Public	John 541-280-9390	Vehicale Leak	Car parked in roadway is leaking oil.	61385 Brosterhous Rd	4/23/19 12:00 PM	David Buchanan	David Buchanan	4/23/19 3:00 PM	Closed	City staff inspected the site and found several oil stains on the pavement. Staff left and IDDE door hanger and business card on the vehicle. City staff Recived a second call on this, that the truck is still leaking.	WPCF	Yes	Education.		44.029428	-121.299401
5/9/2019	City of Bend	Lissa Curry	Process Water Dumping	A City employee reported seeing Big Lots dumping wastewater from a floor clenaer into a chatch bains.	2600 NE Hwy 20	4/8/19 2:00 PM	Wendy Edde	David Buchanan	5/10/19 9:30 AM	Closed	City Staff spoke with the Store Manager Ron, The store contracts with Total Cleaning Solutions, to clean the floors several times a week. Ron said that He has noticed the contractor sometime dumps the floor cleaning machine in the front parking lot instead of the mop sink at the rear of the store. City staff provided a copy of the BMP manual and an illicit discharge notice door hanger. Ron is going to contact the floor cleaning contractor and make sure they use the mop sink for now on.	Private WPCF	Yes	Verbal Warning	5/10/19 10:10 AM	44.057467	-121.265761
5/16/2019	City of Bend	Jay R. Harris (5416397131) jayboskis@msn.com	Carpet Cleaning	A City employee reported a carpet cleaner discharging wash water into City street and catch basin	3010 NW Colonial Dr	5/16/19 11am	Sean Mulderig	Sean Mulderig	5/16/19 11:30am	Closed	City Staff spoke with the Buiness Owner about not discharging carpet cleaning wash water to street; he claims that his tank overflowed/malfunctioned and that's why he had water flowing down street; City Staff explained to him why that is not an allowed discharge and that the catch basin and drywell will need to be vactored out; he said that he can do it with his own vacuum; City staff emailed the Business Owner the carpet cleaning fact sheet and an Illicit discharge outreach piece.	WPCF	Yes	Verbal Warning	5/16/19 12pm	44.080463	-121.322785
5/20/2019	City of Bend	BATALLION CHIEF HOOD (541)419-7912	Vehicle Fire	City of Bend Fire Deparmtne called in a vehicle fire that resulted in runoff entering the strom drain system/.	63195 JAMISON ST	5/20/19 8:00 PM	On Call Number	David Buchanan	5/20/2019 9:15am	Closed	City staff inspected the drywells near the address provided but could not locate any signs of a vehicle fire. Need to adiatnial information to figure out what drywell was impacted, might have been onstie.	WPCF	NA	Permitted Discharge			
5/21/2019	City of Bend	Sean Mulderig	Paint	City of Bend Stormwater staff noticed a 5 gallon paint container sitting next to a catch bain on Brinson Blvd.	20750 BRINSON BLVD	5/21/19 10:00 AM	David Buchanan	David Buchanan	5/21/19 12:40 PM	Closed	City staff inspected the site and found a 5 gallon bucket filled with misilations track, and two rusted out pails. There was no sign that anything had been dumped into the catch basin. Looked like the adjooingin property was cleaning up a vacent piece of land and place the garbage next to the Catch Basin. City staff removed the garbage and placed it in the dumpster.	WPCF	NA	Na	5/21/2019 12:40PM	44.08375	-121.284095
5/23/2019	Public	Scott Nyden 541-390-4656	Landscaping Material	An adjoining buisiness owner called the City to report that High Destert Mulch is traking mud and barkdust into 2nd.	303 SE 2nd Streeet	5/22/19 10:00 AM	David Buchanan	David Buchanan	5/24/19 1:30 AM	Closed	City of Bend staff inspected the area on 5/24/2019 and noticed material is still getting tracked into the Roadway. City staff talked with the office workers who contacted Nathan (the Owner) on the phone. City staff spoke with Nathen about the tracking issue, Nathen said He has contracted with a sweeping company to sweep daily, but said the sweeper has been unable to sweep due to all the rain. City staff discussed adding some open graded rock near the entrance to help reduce tracking, but Nathen was not interested in adding any rocking to His parking area. Nathan said he will get the street cleaned up. City left a business card and an IDDE door hanger.	WPCF	Yes	Verbal Warning	5/24/2019 2:00PM	44.046546	-121.304009

Date Reported	Reported By	Contact	Type	Description	Location	Date/Time Noticed	Reported To	Followed up By	Date followed up	Status	Actions Taken/ Comments	MS4 / WPCF	Educ. Info. Provided	Enforcement Taken	Date Followed up with Reporter	lat	long
6/5/2019	COB	Chad Towell & Ben Hemson	Restaurant Range Hood Cleaning	Received a report from a City Engineering Inspector that a Catch Bain on franklin Ave was full of grease.	801 NW Wall St.	6/5/2019 8:00AM	David Buchanan	David Buchanan	6/5/2019 9:00AM	Closed	City Staff inspected the site and found a catch basin full of a grayish brown substance. While on site the Bend Downtowners Operation Manager stopped by and noted he saw someone washing down a range hood last night in the same area, but did not see any identifying names on the vehicle. City staff contacted the adjacent restaurant owner but they stated it wasn't them, they did note that there hood needs cleaned. There are multiple restaurants in this area but none where currently open. City stormwater crews cleaned the catch basin with a vactor truck. City staff spoke with the owner of Drake, who indicated they had Absolute Fire Protection clean there range hood on 6/5, City of Bend staff sent written warninig, explaining the code violation and provieded educational resoucres.	MS4, City Map is not correct and staff could not locate the disposal type.	Yes, IDDE Manual	Written warning	6/5/2019 9:30AM	44.058076	-121.314952
6/11/2019	Public	Tom Frainey 503-347-0302	Sewage Spill	Onsite sewage blockage on private property spilled into roadway and storm drain.	1781 NE Wichita Way	6/11/19 10:19 AM	Sean Mulderig	David Buchanan	6/11/19 12:30 PM	Closed	City staff inspected the area and found evidence that sewage from an overflowing clean-out had flowed down the curb line and into a City owned catch basin/drill hole. Collection staff applied chlorine and cleaned the area using a vactor truck.	WPCF	NA	NA	6/11/19 2:30 PM	44.067501	-121.263185

Appendix D.4

Water Wise Irrigation Tracking Database

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	WaterWise Program: Water Waste Prevention Tracking Sheet																	
2	**Date**	**ID #**	**WUA**	**Meter**	**Source**	**Status**	**Location Name**	**Acct Number**	**Address**	**Neighborh**	**Acct. Contact**	**Contact E-mail**	**Contact Phone**	**Type**	**Purveyor**	**Problem**	**Description**	**Notes/Actions**
44	7/12/2018	42			Utility Staff	Open	Elk Investment Lic	449725-467330	20720 High Desert Lane	Boyd Acres	Kirk Reynolds		541-771-5052	Pro Managed/Commercial	COB	Dry Flow	City Staff followed up in the morning, said water was still leaking and running down High Desert as of 7/12.	Contacted property management company and spoke with Klrk Reynolds of Elk Investments. Kirk was cooperative and called the landscaper, repairs are scheduled for this afternoon.
60	8/16/2018	58			Utility Staff	Open	Spa W	492695-068500	125 NW Wall	Old Bend	Rebbeca Abrahm				COB	Dry Flow	COB Streets paint crew reported excessive overspray to street from Spa W. while attempting to paint traffic lane.	After several phone messages was able to set up a Sprinkler Inspection with Rebbeca for 9a 8/21/18
62	8/22/2018	60			WWP	Open	Reed Market Business Park	922235-254940	1310 SE Reed Market Rd.	Larkspur	Rob@ Property Systems		(541) 382-4112	Pro Managed/Commercial	COB	Dry Flow	Observed excessive overspray and runoff onto ROW and Reed Market Rd.	Contacted property manager with concerns, aske if sprinklers could be checked for alignment. Also noted was seasonal adjust could be ramped down as we continue towards lower demand
66	9/17/2018	64			Utility Staff	Open	Hunters Highland HOA	417475-425270	NE 27th & Jill Ct	Mountain View	Jennifer H @ Crystal Springs CM	jenniferh@crystallakecm.com		Pro Managed/HOA-PM	COB	Dry Flow	Observed excessive irrigation , water to roadway, and significant dry flow to street drain	Email to Jennifer to inform her of situation. Because of excess clock was turned off - updated Jennifer clock was off.
73	9/24/2018	71			Utility Staff	Open	Escena Apartments	1008615-687350	20730 Empire Ave	Boyd Acres			(541) 514-5467	Pro Managed/MFR	COB	Dry Flow	Staff observed over spray and run off into Empire Ave.	Spoke with onsite manager, explained concerns, cautioned about potential ice event from sprinklers. Left door hanger, contact info, and photo of overspray event. She will pass info to primary site manager.
74	9/26/2018	72			Utility Staff	Open	Taco Bell	26785-27150	1104 NE 3rd St	Orchard			(208) 888-6428	Pro Managed/Commercial	COB	Dry Flow	Staff observed run-off, pooling water into 3rd St.	Spoke with shift manager, she will pass info to landscape vendor. Left door hanger, how to fix information. Gave heads up on avoiding icing from irrigation.
75	9/26/2018	73			Utility Staff	Open	Growing Tree	26905-27280	1080 NE 4th	Orchard			(541) 388-3733	Pro Managed/Commercial	COB	Dry Flow	Staff observed overspray, run-off making way into center of intersection.	Spoke with executive director regarding concerns, left guide, how to fix sheet. Gave heads up about avoiding an icing event from irrigation overspray.
76	9/27/2018	74			Utility Staff	Open	Elite Electric	1006075-476080	20657 NE Brinson Blvd,	Boyd Acres			(541) 330-9750	Pro Managed/Commercial	COB	Dry Flow	Staff observed overspray, run-off making way into center. Non turf landscape with overhead irrigation. Sprinklers out of alignment or better nozzle could be selected, small area easy fix.	Spoke with office manager regarding concerns. Left door hanger, fix it sheet, and SS guide.
78	10/2/2018	76			Utility Staff	Open	18Th St Partners Llc	1027425-71848(	63040 18Th St	Boyd Acres			(541) 330-1183	Pro Managed/Commercial	COB	Dry Flow	Observed overspray and run-off creating dry flow along 18th St. ROW. Brand new landscape (Springtime). Grow in schedule currently running.	Met with construction superintendent to convey concerns. Recognize challenges of sprinkler efficiency in narrow, irregular areas, but - emphasize no water on the street. Asked for a final check and adjustment of sprinklers before project is complete.
85	10/16/2018	83			Utility Staff	Open	Wendy's	859685-70080	1609 NE 3rd	Orchard			(509) 326-6333	Pro Managed/Commercial	COB	Dry Flow	Observed overspray and run off along NE 3rd St.	Left door hanger and explained concerns to shift manger. Asked if he could turn off controller until blow out takes place.
88	10/16/2018	86			Utility Staff	Open	Element 1 Corp	853735-467200	63050 NE Plateau	Boyd Acres			(541) 330-0025	Pro Managed/Commercial	COB	Dry Flow	Observed overspray and icing along 18th St. sidewalk.	Stopped in and left door hanger with front desk. Suggested turning irrigation off to avoid icing incident.
89	10/18/2018	87			Utility Staff	Open	Long Board Louies	709695-74800	1254 Galveston	River West				Pro Managed/Commercial	COB	Dry Flow	Observed overspray, broken head, and icing along Galveston.	Spoke with manager about runoff and icing in cool temps. He turned irrigation off.
90	10/18/2018	88			Utility Staff	Open	Abby's Pizza	201095-27540	1115 NE 3rd	Orchard				Pro Managed/Commercial	COB	Dry Flow	Observed overspray onto and over sidewalk onto 3rd St.	Left door hanger indicating icy conditions and suggesting turn off/blow out.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
2	**Date**	**ID #**	**WUA**	**Meter**	**Source**	**Status**	**Location Name**	**Acct Number**	**Address**	**Neighborh**	**Acct. Contact**	**Contact E-mail**	**Contact Phone**	**Type**	**Purveyor**	**Problem**	**Description**	**Notes/Actions**
91	10/18/2018	89			Utility Staff	Open	Studio Hair	318995-30410	1224 Galveston	River West				Pro Managed/Commercial	COB	Dry Flow	Observed over spray and runoff on to sidewalk and Galveston	Left door hanger indicating icy conditions and suggesting turn off/blow out.
92	10/18/2018	90			Utility Staff	Open		399995-35710	713 Harmon	River West	Mark Fox			SFR	COB	Dry Flow	Observed runoff and overspray on sidewalk and into street on Harmon Blvd	Left door hanger indicating icy conditions and suggesting turn off/blow out.
93	10/18/2018	91			Utility Staff	Open	Dairy Queen	828125-286300	20405 Empire	Boyd Acres	Wenatchee Ventures			Pro Managed/Commercial	COB	Dry Flow	Observed Runoff onto Empire and into intersection	Left door hanger indicating icy conditions and suggesting turn off/blow out.
94	10/18/2018	92			Utility Staff	Open	Sugarloaf Mountain Mote	374325-4407730	62980 N. Hwy 97 Bld. A	Boyd Acres	Ron Lafranchi			Pro Managed/Commercial	COB	Dry Flow	Observed runoff onto sidewalk and 97	Called motel spoke with front desk, said she would talk with manager about turning off irrigation. Are intending to blow out soon.
95	10/16/2018	93			Utility Staff	Open	River canyon Estates	n/a	Brookswood and Hollygrape	Southwest Bend	Kevin- Fieldstone Management			Pro Managed/HOA-PM	Avion	Dry Flow		Spoke with HOA manager, explained about the liability of ice on the roadway, she confirmed it is their common area and will pass along to landscaper to resolve.
97	10/22/2018	95			Utility Staff	Open	Double Tree Inn	1018035-422140,1018035-422150	300 NW Franklin	River West	(541) 317-9292			Pro Managed/Commercial	COB	Dry Flow	Observed irrigation overspray onto sidewalk along Franklin.	Spoke with front desk about concerns. Staff was under impression area was maintained by COB. Asked her to double check irrigation, was likely their controller. System could be turned off until blown out.
98	10/23/2018	96			Utility Staff	Open	Cube Smart Storage	1019665-599750	2705 Ne 4th	Orchard	(503) 399-1090		(503) 399-1090	Pro Managed/Commercial	COB	Dry Flow	Observed irrigation overspray onto sidewalk along NE 4th	Spoke with rental office, was also aware of overspray. Sent e-mail to general contractor. Asked if irrigation system could be checked and adjusted to no overspray.
99	10/23/2018	97			Utility Staff	Open	Central Oregon Council on Aging	749065-79930	373 NE Greenwood Ave.	Orchard	Susan M. Rotella Executive Director	srotella@councilonaging.org	(541) 678-5483 x108	Pro Managed/Commercial	COB	Dry Flow	Observed overspray and runoff along Greenwood to 3rd. Non compliant for hours and days	Spoke with office, were aware sprinklers were running much more than needed. Will contact landscape vendor to turn off clock.
103	11/6/2018	101			Utility Staff	Closed	Springtime Building	219465-386490	622990 Plateau	Boyd Acres	Joe Davies	jdavies@springtimeirrigation.com		Pro Managed/Commercial	COB	Dry Flow	Icy sidewalks due to irrigation runoff	Sent email, Joe responded said he would shut off

WaterWise Program: 2019 Water Waste Prevention Tracking Sheet

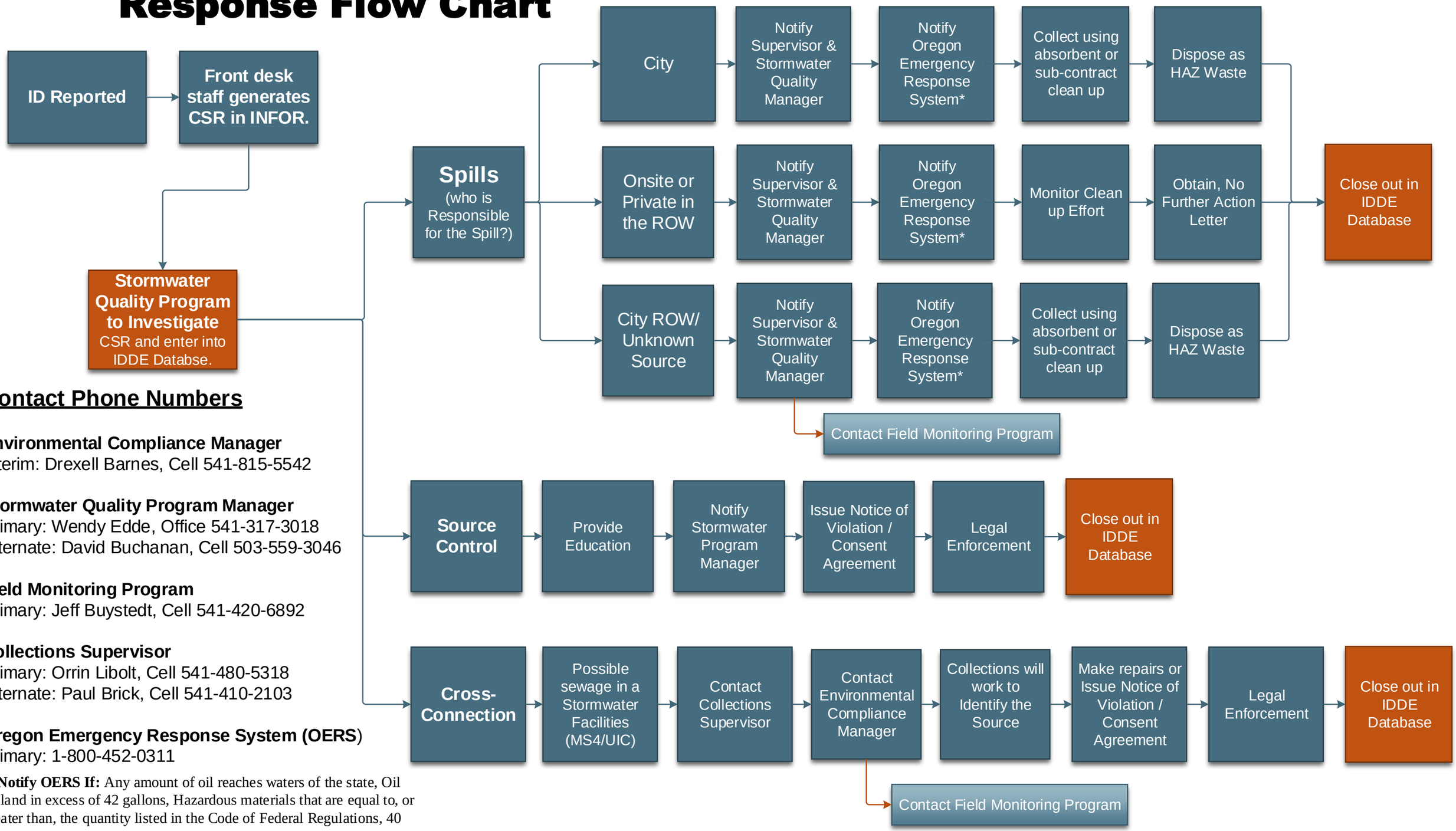
Date	ID #	Meter	Source	Status	Location Name	Acct Number	Address	Neighborhood	Acct. Contact	Contact E-mail	Contact Phone	Management Type	Purveyor	Dry	Description	Notes/Actions	Results
4/8/2019	01	Irrigation	Utility Staff	Closed	Hunters Highland HOA	417475-425270	NE 27th & Jill Ct	Mountain View	Jennifer H @ Crystal Springs CM	jenniferh@crystallakecm.com		Pro Managed/HOA-PM	COB	Dry Flow/Street Strip	Observed excessive irrigation , water to roadway, and significant dry flow to street drain	Same issue as last year - in need of adjustment/repair Contacted Jennifer - Landscapers are on it. Sent WUA showing conservation potential for the area.	4/21/2019 Met landscape vendor onsite, explain concerns. System adjustments made. Will close and continue monitor
4/9/2019	02	Other	Front Desk	Open	Broken Top frontage along Mt Washington between Skyliner and Simpson		Broken Top frontage along Mt Washington between Skyliner and Simpson	Century West	J Davies @ Springtime	jdavies@springtimeirrigation.com		Pro Managed/HOA-PM	Other	Equipment	Broken heads, system running, geyser. Valve may have been stuck on.	Found contrl valve and turned off flow control. Contacted Joe to let hikm know about situation. Repairs to be made asap	
4/16/2019	03	Commercial	Utility Staff	Closed	Empire Car Wash	561155-235430	20425 Empire Ave	Boyd Acres			541-318-8039	Pro Managed/Commercial	COB	Dry Flow/Street Strip	Staff observed overspray and run-off. Along Empire.	Visited with shift manager, door hanger, fixes, WaterSmart offered. Part of AMA will remain open	4/21/19 General manager took wash crew out and "adjusted every sprinkler" Will close for now
4/17/2019	04	Commercial	Utility Staff	Open	Element One Corp	853735-467200	63050 Plateau Dr	Boyd Acres	Compass Commercial Prop Mngt.		541-330-0025	Pro Managed/Commercial	COB	Dry Flow/Street Strip	Staff observed overspray and run-off. Along Empire.	Site of ice acident last fall (Car that fliped along Empire) . Running at peak season already. Contacted Property Manager, she will contact vendor.	
4/29/2019	05	Commercial	Utility Staff	Closed	Hooker Creek	243355-67170	63101 Nels Anderson Rd.	Boyd Acres			541-389-4677	Pro Managed/Commercial	COB	N.C. Hrs.	Irrigation running mid day.	Contacted office with concerfn, they will relay message to landscaper	
5/8/2019	06	MFR	Front Desk	Open	Burning Tree Village	69105-71330	1700 NE Wells Acres Rd	Mountain View			541-408-4444	Other Self Mngd.	COB	Equipment	Brokens sprinkler rotating full 360 degrees and into street causing traffic safety issue.	Mike to flag sprinkler and contact account holder. Called into front desk by Andrew Carrol 541-408-4444.	
5/8/2019	07	Commercial	Utility Staff	Closed	Chase Bank	39595-40770	450 Nw Franklin	Old Bend				Pro Managed/Commercial	COB	Equipment	Observed irrigation mainline break - lots of water headed down Franklin	Tried to isolate - problem up stream of DCV. Lwt manager know of break	Break was repaired
5/10/2019	08	Commercial	Utility Staff	Pend-Mike	Headwaters Wellness	458085-296870	106 NW Wall / 740 W Colorado Avenue	Old Farm	Plus Property Mgmt		541-389-2486	Pro Managed/Commercial	COB	Dry Flow/Street Strip	Pooled water along curbline where it is every year. Flagged each pop-up along the pooled area and placed door hanger inside facility waiting room.	This is called in every year and has been reported by COB staff in the past. Plus Property Management	
5/14/2019	09	Commercial	Utility Staff	Closed	Drink Tanks	939035-308190	62910 Peerless Ct.	Boyd Acres	Tim Coleman	tim@drinktanks.com		Pro Managed/Commercial	COB	Dry Flow/Street Strip	Observed overspray and runoff to Brinson Blvd.	Stoped in to visit with Tim. Pointed out that the irrigation system was in need of adjustment, was also running at peak season run times.	Tim will adjust the clock downward as per instructions from last season. Tim will contact landscapers to check system and adjust.
5/20/2019	10	Commercial	Utility Staff	Closed	Courtney LLC	268815-284810	2698 Courtney Dr.	Mountain View	Ron	ron@fratcommercial.com	541-323-6465	Pro Managed/Commercial	COB	Excessive	Observed excessive irrigation, overspray, and runoff. Ruts in lawn, torn turf - soggy!	Contacted Ron (Prop Manager), was thankful for notice. Followed up with WUA - conservation potential of $1250/season. Ron was excited about potential savings.	
5/20/2019	11	Commercial	Front Desk	Open	Sherwin Williams	673395-267220	20515 Cooley Rd.	Boyd Acres			541-312-8546	Pro Managed/Commercial	COB	Equipment	Staff received call off irrigation remaining on for 72 plus hours.	Feld inspection, store manager had called landscaper - no response as of 5/20/19. Found lateral valve stuck on, turned off flow control and flaged box. Let manager knowlatterasl valve had been turned off and was marked	
5/22/2019	12	Commercial	Utility Staff	Open	Cascade Village Mall	Multiple LOC ID	63455 N Hwy 97	Boyd Acres			(541)-388-1495	Pro Managed/Commercial	COB	N.C. Hrs.	Staff observed daytime irrigation in parking islands near Trader Joes	Visit to Cascade Village main office, explained concerns, she stated landscape vendors had been working on nozzles adjustments. She will follow up wih vendors.	
5/22/2019	13	Commercial	Utility Staff	Open	Arco Ne 3rd	667395-27110	304 NE Greenwood	Orchard				Pro Managed/Commercial	COB	Dry Flow/Street Strip	Staff observed overspray and run-off into Ne 3rd St	Visit with store manager, educational materials, quick fix sheet. Current schedule is 700% of plant water need. Manager styated frustrations with landscape vendor. Asked to have landscaper adjust	Stated site would be checked again for improvements
5/22/2019	14	Commercial	Utility Staff	Closed	Taco Bell Ne 3rd	26785-27150	1104 Ne 3rd St	Orchard				Pro Managed/Commercial	COB	Dry Flow/Street Strip	Staff observed overspray and run-off into Ne 3rd St	Visit with shift manager, explained concerns, asked to have sprinklers adjusted away from sidewalk and 3rd street. WUA shows irrigation at 200% for 2018 season.	Receptive, but not in charge. Will pass information upward
5/23/2019	15	Commercial	Utility Staff	Open	Lithia Honda	725415-313900	2225 Ne Hwy 20	Larkspur			(541) 382-2921	Pro Managed/Commercial	COB	Equipment	Streets staff observed sprinkler directed to roadway at intersection Purcell and Hwy 20	Made field inspection, found mis directed sprinkler, correct6ed problem. Offered to return and work with landscape vendor to help identify fixes that would help reduce dry flows that occour at this site.	Will send WUA to identify potential conservation savings
5/23/2019	16	Commercial	Utility Staff	Open	Verizon Store Frontage	453555-64520	1120 Se 3rd Str	Old Farm			(541) 848-4042	Pro Managed/Commercial	COB	Equipment	Streets staff observed broken irrigation equipment in street frontage along 3rd	Field inspection, found and flagged broken head, other leaks. Contact has been put in to property manager. Sprinklers along roadway are low, obstructed, tilted, broken seals - needs complete tune-up. Offered to workmwith landscaper for improvement.	Will send WUA to identify potential conservation savings
5/23/2019	17	Commercial	Utility Staff	Closed	Jennies	906575-618690	932 Ne 3rd	Orchard			(773) 472-8558	Pro Managed/Commercial	COB	Dry Flow/Street Strip	Observed overspray and run off into 3rd street, then to the street drain. Originates from small planter running micro-sprays.	Stoped in explained concern to manager. Together we repositioned spray sticks, discuused simple changes as to not water the parking lot and street.	
6/3/2019	18	SFR	Utility Staff	Open	Donna Weston	890555-262480	2731 Nw Three Sisters Dr										
6/3/2019	19	SFR	Front Desk	Open			21226 Darby Court				(541) 388-0001	SFR	Avion	Excessive	Bob Soderberg called to see if anything could be done about excessive irrigation from back neighbors yard. Is pooling collecting, anerobic in yard of 21277 Darnel	Made site inspection. Was able to conduct quick inspection on property irrigation flows come from. Found multiple start times in several programs that were unnoticed. Found broken sprinkler buried in grass that could be a lot of the source. Replaced sprinkler and reset clock.	
6/4/2019	20	Commercial	Utility Staff	Open	Arco Ne 3rd	667395-27110	304 NE Greenwood	Orchard				Pro Managed/Commercial	COB	Dry Flow/Street Strip	No change in overspray and run off into 3rd st.	Left door hanger, expressed importance in resolvin overspray problem. Landscape Vendor is First Class Landscape. Visited with team member of First Class Landscape, again expressed concerns. Offered to meet irrigation tech there laster same day or other time of convienience. Goal is to go through system and identify fixable problems.	Stated site would be checked again for improvements
6/4/2019	21	Commercial	Utility Staff	Closed	Taco Bell Ne 3rd	26785-27150	1104 Ne 3rd St	Orchard				Pro Managed/Commercial	COB	Dry Flow/Street Strip	No change in overspray and run off into 3rd st.	Visit with store manager, explained concerns, offered to go through and check system along with landscape crew. Landscapers visit site on Mondays. Manager stated LS would be in contact.	Stated site would be checked again for improvements
6/4/2019	22	Commercial	Utility Staff	Pend-Doug	Empire Car Wash	561155-235430	20425 Empire Ave	Boyd Acres		rlane47439@gmail.com	541-318-8039	Pro Managed/Commercial	COB	Dry Flow/Street Strip	No change in overspray and run off into Empire. Dry flow still reaching storm drain 200 ft to the east.	Visited with shift manager, thanked for attempt at adjusting sprinklers but problem remains. Offered to evaluate system, demonstrate what COB is looking for.	Stated site would be checked again for improvements
6/4/2019	23	Commercial	WWP	Open		353425-70480	339 Nw Century Dr	Century West	Dave Mcgee	mcgeeteam@gmail.com	(541) 848-7767	Pro Managed/Commercial	COB	Excessive	Excessive irrigation, runoff, dry flow 150 ft into Century Dr.	Was able to reach Dave M. explain concerns. Sent a screen shot by email of watersmart current use period - 6000 gals/cycle. Will follow with WUA to show potential savings. Offerd quick inspection to help.	Dave will work with landscaper. Doug to follow with WUA
6/10/2019	24	SFR	Front Desk	Open		893465-409700	3350 Ne Manchester Dr.	Mountain View	Ann Ottesen	aeottesen@gmail.com	(503) 784-8387		COB	Excessive	Nieghbor called (Rebbeca Knapp) to say neighbor is leaving hose running to water tree, causing flooding to her yard.	Contacted customer by email, chart showing watering event, and invitation to WaterSmart. Explained she could set an alert to help avoid such an event. Contacted Rebekah to reassure we were on it.	

Date	ID #	Meter	Source	Status	Location Name	Acct Number	Address	Neighborhood	Acct. Contact	Contact E-mail	Contact Phone	Management Type	Purveyor	Dry	Description	Notes/Actions	Results
6/17/2019	25	MFR	Utility Staff	Open	Escena Apartments	1008615-687330	20760 Ne Empire	Boyd Acres	Jennifer Fraizer	Management@EscenaBendLiving.com	(541) 514-9907	Pro Managed/Commercial	COB	Dry Flow/Street Strip	Observer overspray and run-off along Empire	Contacted manager, explained concerns. Ironically Jennifer had the same concerns. Immediate email to landscape vendor. Sprinklers to be adusted off of hard surfaces.	
6/19/2019	26	Commercial	Utility Staff	Open	Wendy's	859685-70080	1609 Ne 3rd St	Orchard			(509) 326-6333	Pro Managed/Commercial	COB	Dry Flow/Street Strip	Observed overspray, run off, mis alligned sprinklers flowing and spraying directly to 3rd St.	Shift manager outside getting ready to open. Irrigation running - was able to show specifically what concerns were. Will shedule for repair. Stated I would check back in and sprinkler spraying 20 feet int roadway must be delt with immediately	
6/24/2019	27	Commercial	Utility Staff	Pend-Doug		65775-69430	104 Nw Franklin	Old Bend	Katey Kelly		(541) 408-3220	Pro Managed/Commercial	COB	Dry Flow/Street Strip	Observed overspray and run-off into Franklin Avre	Contacted owner, she explained she was having difficulty with the controller. Will meet her on site to check it out and identify solutions.	Site inspection revealed hidden start times (12) System was put in by customers and has many issues. Set clock to single program, 3 starts for cycle soak. Sending recomandations to address largest problems first.
6/24/2019	28	SFR	Utility Staff	Open	Wendy's	859685-70080	1609 Ne 3rd St	Orchard			(509) 326-6333	Pro Managed/Commercial	COB	Equipment	Observed overspray, run off, mis alligned sprinklers continuing to flowi and spray directly to 3rd St.	Nothing resolved from 6/19. Was able to catch owner, outside to show irrigation wast. Seems to be the right contact- will have landscpers address issues. TBA	Waiting for landscpe crew to address issues
6/25/2019	29	Commercial	Utility Staff	Open		853735-467200	63050 Plateau Dr	Boyd Acres				Pro Managed/Commercial	COB	Dry Flow/Street Strip	Observed overspray and runoff floweing across Empire Ave.	Utility work, landscape remove and replace resulting in poor installation of replacemnt sprinklers. Sprinklers are above grade, tilted, and out of allignment.	Contacted property manager by email - waiting for response

Appendix D.5

IDDE and SSO Flow Charts

Illicit Discharge (ID) Response Flow Chart



Contact Phone Numbers

Environmental Compliance Manager
Interim: Drexell Barnes, Cell 541-815-5542

Stormwater Quality Program Manager
Primary: Wendy Edde, Office 541-317-3018
Alternate: David Buchanan, Cell 503-559-3046

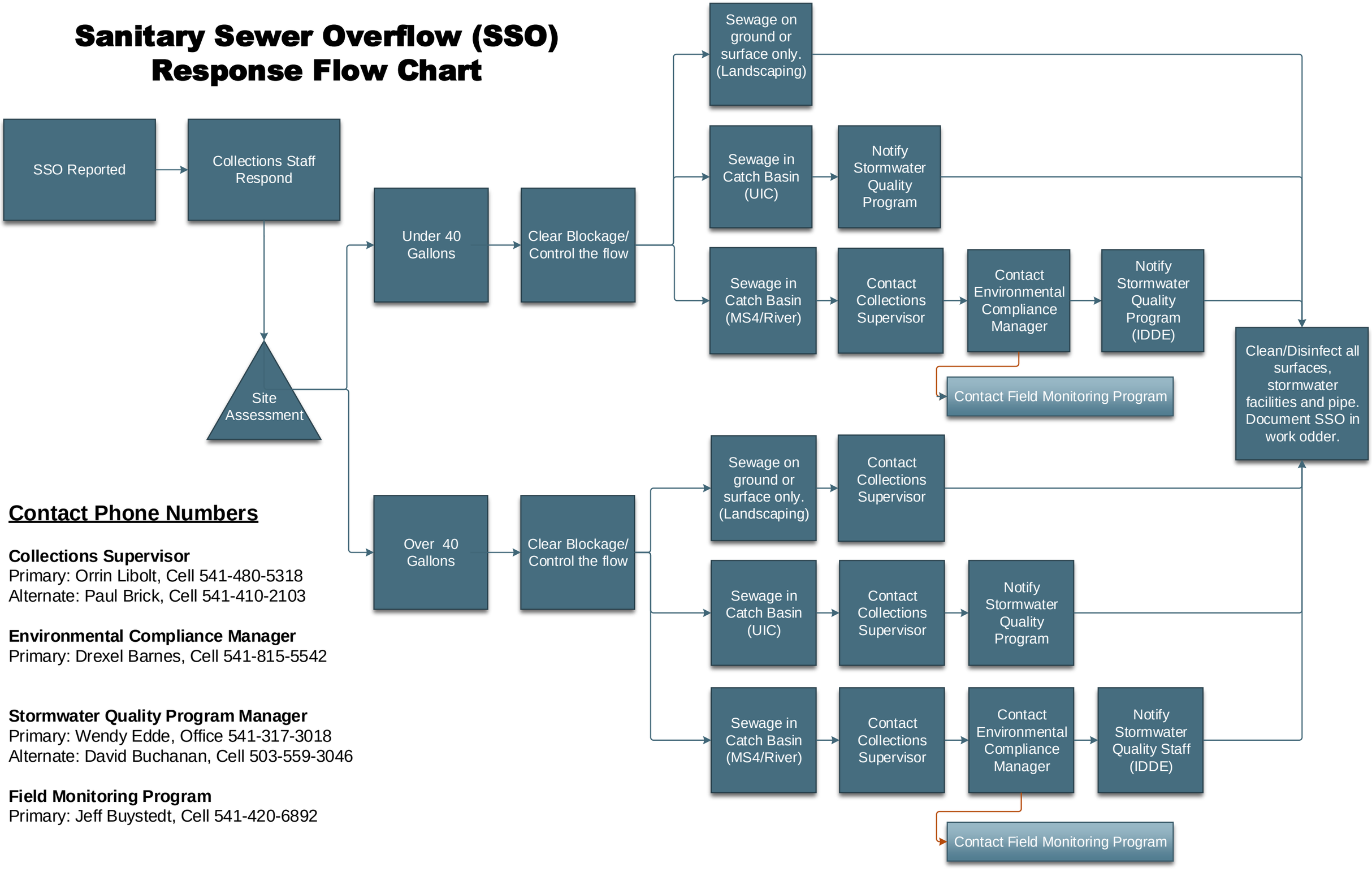
Field Monitoring Program
Primary: Jeff Buystedt, Cell 541-420-6892

Collections Supervisor
Primary: Orrin Libolt, Cell 541-480-5318
Alternate: Paul Brick, Cell 541-410-2103

Oregon Emergency Response System (OERS)
Primary: 1-800-452-0311

*** Notify OERS If:** Any amount of oil reaches waters of the state, Oil on land in excess of 42 gallons, Hazardous materials that are equal to, or greater than, the quantity listed in the Code of Federal Regulations, 40 CFR Part 302 and amendments adopted before July 1, 2002.

Sanitary Sewer Overflow (SSO) Response Flow Chart



Contact Phone Numbers

Collections Supervisor
Primary: Orrin Libolt, Cell 541-480-5318
Alternate: Paul Brick, Cell 541-410-2103

Environmental Compliance Manager
Primary: Drexel Barnes, Cell 541-815-5542

Stormwater Quality Program Manager
Primary: Wendy Edde, Office 541-317-3018
Alternate: David Buchanan, Cell 503-559-3046

Field Monitoring Program
Primary: Jeff Buystedt, Cell 541-420-6892