



City of Bend Master Plan

Existing Problem Area Identification

January 2007

Overview:

An important aspect of the City of Bend Stormwater Master Plan (SMP) is to identify drainage areas, estimate runoff quantities, and select appropriate Best Management Practices (BMPs) throughout the City. This evaluation involves evaluation of stormwater problem areas to help determine where existing drainage and water quality treatment systems are inadequate (e.g., flooded streets or property, erosion, or lack of water quality treatment).

Where capacity or treatment is determined to be inadequate, fixes will be recommended. Conceptual designs and preliminary cost estimates will be recommended for several of the worst drainage problems. Because of different slopes, soils, subsurface geology, rainfall patterns, and development density, it is anticipated that several different approaches will be required to address the various existing stormwater problems.

Identification of Problem Areas:

As part of the SMP project, a workshop with City of Bend engineering and maintenance staff was held to identify, specifically locate, and discuss the major stormwater problem areas in the City. Most of the problems identified are flooding related, although water quality was noted as an issue that sometimes contributes to the flooding problems.

After listing and mapping all the problem areas, a process for prioritizing the problems was discussed and implemented. Ten high priority sites were selected for field visits with the goal of developing conceptual solutions and planning level cost estimates for 5 sites. Sites were also evaluated based on whether they could be completed within the next couple years. It was recognized that it may not be feasible to complete some of the larger projects, such as new or upgraded piping systems, for some time.

Five Highest Priority Existing Problem Sites:

A summary of the five problem areas that were determined to represent the highest priorities are described below. The location of each area is followed by a brief description of the problem and the results of prioritization evaluation.

1. **Westside Village Shopping Center and Bend Fire Station** – Simpson and 14th – NE Corner:
An older commercial development, this area sits over shallow pink tuff where infiltration does not appear to work. In addition, catch basins are located away from the curb, allowing water to bypass existing drywells. A cascading effect starts with flows from Safeway, added flows from Ray's Foods, flooding of the fire station, added flows from a storage facility, resulting in large volumes of water flowing into and through Nosler's manufacturing plant.

Prioritization:

Fire Life Safety – High; Property Damage – High; Visibility – High; Priority Number 1.

2. Franklin Underpass

A low spot surrounded by a large amount of paving, this area floods readily during storms. Dry wells are unable to keep up with the volume and results in flooding during many storm events.

Prioritization:

Fire Life Safety – High; Property Damage – Low; Visibility – High; Priority Number 2.

3. 3rd St. Underpass

Similar to Franklin St., 3rd Street is a low spot surrounded by a large impervious area, and floods easily during many storm events.

Prioritization:

Fire Life Safety – High; Property Damage – Low; Visibility – High; Priority Number 3.

4. Archie Briggs Road–

Archie Briggs Road near the Deschutes River has a very steep slope that collects water from an even steeper hillside. The roadway in the lower areas is damaged from the large amount of water coming through the area. Stormwater blocks one of the lanes of traffic and then leaves the uncurbed roadway and drains into residential property.

Prioritization:

Fire Life Safety – High; Property Damage – Medium; Visibility – Medium; Priority Number 4.

5. Fairview Heights on Awbrey Butte:

Stormwater from both public and private properties combine to create this problem area. A large part of Awbrey Butte drains to culverts and through residential sites prior to draining to the golf course below. At one point along the route stormwater leaves the channel and enters peoples' homes. Easements are located throughout the development, and on the golf course. However, they don't line up well and water tends to go straight, detouring around some of the easements.

Prioritization:

Fire Life Safety – Low; Property Damage – High; Visibility – High; Other – High Liability; Priority Number 5.

Next Steps:

As part of the SMP project, these five priority problem areas are being evaluated to identify appropriate ways to alleviate the flooding and stormwater problems. Conceptual solutions and planning level cost estimates will be developed that will enable the City to fund the projects through the capital improvement budget process. Once funding is set, the City will initiate final design and construction of the fixes.

Need More Information?

- Visit the City of Bend Stormwater web page at www.ci.bend.or.us/depts/public_works/stormwater_division.html
- Contact Ollie Fick (317.3016) or Wendy Edde (317.3018) at Bend Public Works.