

# Appendix C – Data Needs Guidance

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## C.1 – Topography

### Data Description

Topography is a crucial factor to consider in siting stormwater BMPs. Steep slopes in particular can eliminate the use of many BMPs and reduce the effectiveness of others. Some BMPs can only be utilized on essentially level terrain (e.g., sedimentation basins, detention and wet ponds, and constructed wetlands). In addition, steep slopes in combination with erosion-prone soils can contribute to high rates of erosion and sedimentation when soils are disturbed, as during new construction activities.

### Sources of Information

Slope maps and contour maps (down to 2-foot intervals) can be produced from digital elevation models (DEMs) and/or 7.5 minute, U.S. Geologic Survey (USGS) topographic quadrangles. In cases where contour maps and slope maps have not yet been developed, they could be produced for the entire watershed in a fairly short time with GIS either through the IDEQ (208/373-0550) or Idaho Department of Lands (208/334-0277). If resources were not immediately available to produce these products, 7.5 minute, U.S. Geologic Survey (USGS) topographic quadrangles could be used. These maps have a contour interval of 20 feet, with 10 feet supplemental intervals in flatter areas.

USGS maps may not be accurate enough for sites with complicated drainage and/or steeper slopes. If slope and drainage are important, contours should be generated through a survey of the site, or aerial photography.

## C.2 – SOIL TYPES

### Description

Of primary concern are highly erodible soils, hydric (wetland) soils, soil depth, and the infiltrative capacity of soils. Highly erodible soils can create a wide range of problems for many types of development and construction. Problems include water quality degradation, fish and wildlife habitat impairment, instability for structures, and aesthetic impairment. Many restrictions exist limiting construction in wetland areas, and many stormwater BMPs are ineffective or impossible to implement in saturated soils. Soil infiltration capacity largely determines the effectiveness of

stormwater BMPs (e.g., infiltration trenches and ponds). In glaciated terrain, soil depth can also be widely variable, and soils tend to be relatively underdeveloped and shallow.

### **Sources of Information**

The USDA Natural Resource Conservation Service (NRCS) (formerly the Soil Conservation Service—SCS) has published soil surveys for many Idaho counties. These surveys are readily available from a local NRCS or Soil and Water Conservation District field office. The soil surveys contain general soil maps, soil descriptions, soil properties, and soil classifications. In addition, NRCS may publish a list of hydric soils in select, surveyed counties and include where hydric soils are most likely to occur, and whether all major components of a soil unit are hydric. Consult the local NRCS office for a list of highly erodible soils, including slope ratings.

NRCS also maintains a more-detailed soil database (SSURGO) than the generalized soil survey. “Soils erosion sensitivity” maps can be developed from this database if it has been digitized. In other cases, the U.S. Forest Service has developed “soil severity” ratings for soils in recently burned areas of a National Forest. For specific sites, soil borings and tests may be necessary to determine soil types and depth, especially in transitional landscape areas.

## **C.3 – Land Use and Land Ownership**

### **Description**

Land use information and zoning is essential to know before determining BMP placement. Often this information will already be known for a site where a stormwater BMP is being considered, since BMPs often accompany other development. Zoning requirements determine whether permits can be obtained to build structural BMPs. Land ownership is important to know when considering the implementation of BMPs to ensure all legal considerations are taken into account, access issues are resolved, and maintenance of BMPs is arranged. Availability of land for placement of large structural BMPs, e.g., detention facilities, must also be ascertained in some local situations. Consult the local permitting authority.

### **Sources of Information**

Current and projected land use data and restrictions can be obtained from the municipality or county. To ensure proper compliance with current planning department regulations, the local planning departments should

also be contacted. A county assessor's office generally has ownership records for specific sites, and the IDEQ (208/373-0115) has generalized ownership maps from various large-scale land owners (e.g., U.S. Forest Service, private timber, large agricultural operations, and others).

## **C.4 – CRITICAL AREAS AND VEGETATION**

### **Description**

Critical areas include wetlands, protected and endangered species habitat areas, and floodplains. Ground cover and vegetation can be an indication of critical areas, and can influence the ability to construct and implement stormwater BMPs.

### **Sources of Information**

Wetlands have been mapped for the National Wetlands Inventory, and these maps are available at a local NRCS field office. The NRCS also has site-specific information or wetland delineations for some specific sites in particular counties, as do the local municipalities, and the Health District offices. Protected and endangered species information is available from the U.S. Fish and Wildlife Service or Idaho Fish and Game Department. Floodplain information can be obtained from the NRCS, cities, and counties. Ground cover and vegetation can be identified for large areas from aerial photos, or detailed vegetation surveys can be conducted for specific sites.

## **C.5 – Culturally Significant Sites**

### **Description**

Culturally significant sites include Native American tribal sites, archaeological digs, and historic buildings and areas designated in the National Historic Register built since the arrival of European descendants. Cultural sites must be identified and protected during construction, and if cultural relics are found during construction, construction must cease immediately until the relics can be protected, and the extent of the archaeological find and its significance can be determined.

### **Sources of Information**

- The state archaeologist office (208/334-3847) is a good source of information regarding archaeological sites.
- The Historic Preservation Office (208/334-3861) is an excellent

source of information for historical structures and sites.

## **C.6 - UTILITIES AND INFRASTRUCTURE**

### **Description**

Utilities and infrastructure that can influence construction of BMPs include wastewater, water, gas, electricity, telephone, and transportation (roads, railroads, airports). At the least, utilities must be located before digging. Construction near infrastructure must be coordinated with future infrastructure development plans and easements.

### **Sources of Information**

- Local building/public works/planning department
- Local sewer and water districts
- Domestic water suppliers
- Local transportation provider
- Idaho Transportation Department (208) 334-8000
- Utility company: Idaho Power (800) 672-4455
- Utility locator services
- Telephone Company

## **C.7 – Water Resources**

### **Description**

The following water resources greatly influence the ability to construct and implement BMPs: hydrography of tributaries and lakes/reservoirs, groundwater levels/water table depth, well locations, irrigation diversions and canals.

### **Sources of Information**

- IDEQ or US Geological Survey 7.5 minute quadrangles for hydrography
- Idaho Department of Water Resources (208/327-7900) for groundwater/water table or location nearest monitoring wells or test holes, well locations; and irrigation diversions and canals.
- Irrigation Districts for irrigation diversions and canals

## **C.8 - BOUNDARIES**

### **Description**

Watershed boundaries should be ascertained to determine which immediate receiving water body will be affected by the BMPs under consideration, and to be aware of and work in coordination with other activities within the watershed. Political, irrigation district, water district, and sewer district boundaries should be known for legal reasons, and to coordinate BMP activities with the neighboring entities.

### **Sources of Information**

All boundaries listed exist on IDEQ's Geographical Information System (208/373-0119), or contact the individual districts, sewer district, or water district.

## **C.9 – Other Flood Reduction and Water Quality Improvement Projects**

### **Description**

Other water quality related projects could be “leveraged” to obtain greater water quality benefits than stand-alone stormwater BMPs. Coordination of adjacent projects would likely yield greater water quality benefits.

### **Sources of Information**

- Flood control districts
- Water quality: IDEQ (208/373-0502)