

**Oregon Department of Transportation**

Delivery & Operations Division/

Engineering & Technical Services

7163 ­‑ Geotechnical Engineering,

Engineering Geology & Hazmat Section

4040 Fairview Industrial Dr SE, MS 6

Salem, Oregon 97302

Phone: (503) 986-3377

Fax: (XXX) XXX-XXXX

FILE CODE:

**DATE: Wednesday, November 22, 2023**

**TO:** Susan C. Ortiz, P.E., G.E.

State Geotechnical Engineer

**FROM: Curran Mohney Phone: (503) 508-3628**

**Engineering Geology Program Lead**

Oregon Department of Transportation

**SUBJECT: Proposed Revision to Geotechnical Design Manual**

**To Section Number** 4.1.1

**Problem Statement:**

Current GDM Section 4.1.1 references the older AASHTO 1988 Manual on Subsurface Investigations for the base level of investigation.

[Provide a copy of the section being revised]

4.1.1 Established Investigation Criteria

Professional experience and judgment are the basis of any field investigation program. This chapter is not

intended to provide a prescriptive approach to field investigation, however; there are some established base

levels of investigation for transportation facilities that must be mandated to assure consistency and quality

throughout the agency, and to address a common level of risk acceptance.

•These baselines were based on Federal guidance and the AASHTO Manual on Subsurface

Investigations, 1988. ODOT has adopted the baseline requirements for

subsurface investigations from the AASHTO Manual.

•However, due to the more variable conditions found in Oregon, ODOT’s practice is slightly more

rigorous with respect to exploration spacing and sampling. ODOT variance from AASHTO guidelines

is outlined in Section 3.5 (Subsurface Exploration Requirements) and Section 3.6 (Subsurface

Exploration Methods). LRFD Bridge Design Specifications, Section 10 provides an additional

resource for subsurface investigations, supplementary to the AASHTO guidelines.

The most important component of subsurface investigation is the personnel who carry out the field

activities, interpret the information, and present the results in a clear manner to those responsible for the

final geotechnical design and construction of the project. The quality of information produced from a

subsurface investigation can vary substantially depending on the experience and competence of the

personnel charged with its conduct. Radically different interpretations and conclusions can result from

substandard investigation programs. Subsurface investigation is an investment in the success of a project

with returns that are many times the cost of the investigation. The return on investment is realized during

final design and construction, and later, during operation.

**Proposal:**

GDM Section 4.1.1 should be revised to reflect adoption the updated 2022 2nd edition of the AASHTO Manual on Subsurface Investigations.

[Provide a copy of the proposed revised language here]

4.1.1 Established Investigation Criteria

Professional experience and judgment are the basis of any field investigation program. This chapter is not

intended to provide a prescriptive approach to field investigation, however; there are some established base

levels of investigation for transportation facilities that must be mandated to assure consistency and quality

throughout the agency, and to address a common level of risk acceptance.

•These baselines were based on Federal guidance and the AASHTO Manual on Subsurface

Investigations, 2nd Edition, 19882022. ODOT has adopted the baseline requirements for

subsurface investigations from the AASHTO Manual.

•However, due to the more variable conditions found in Oregon, ODOT’s practice is slightly more

rigorous with respect to exploration spacing and sampling. ODOT variance from AASHTO guidelines

is outlined in Section 3.5 (Subsurface Exploration Requirements) and Section 3.6 (Subsurface

Exploration Methods). LRFD Bridge Design Specifications, Section 10 provides an additional

resource for subsurface investigations, supplementary to the AASHTO guidelines.

The most important component of subsurface investigation is the personnel who carry out the field

activities, interpret the information, and present the results in a clear manner to those responsible for the

final geotechnical design and construction of the project. The quality of information produced from a

subsurface investigation can vary substantially depending on the experience and competence of the

personnel charged with its conduct. Radically different interpretations and conclusions can result from

substandard investigation programs. Subsurface investigation is an investment in the success of a project

with returns that are many times the cost of the investigation. The return on investment is realized during

final design and construction, and later, during operation.

**Analysis / Research / Other Supporting Data:**

None

Attached:



**Geotechnical Engineering, Engineering Geology & HazMat Section Response:**

Accepted for consideration as submitted

Accepted for consideration as noted

Proposal tabled, see Remarks

Proposal not accepted, see Remarks

**Remarks:**

[Enter Remarks here]



Click to enter Technical Resource name. Click or tap here to enter reviewer’s name.

Click to enter Technical Resource title. Click or tap here to enter reviewer’s title.