



Branch Engineering, Inc.

Corporate Headquarters

(541) 746-0637
310 5th Street
Springfield, OR 97477

Salem Engineering Office

(503) 779-2577
4310 Cherry Avenue NE
Salem, OR 97303

www.BranchEngineering.com

Principals

M. Lane Branch, PE
Damien Gilbert, PE
Renee D. Clough, PE, PLS
Rene' Fabricant, PE, SE
Ronald J. Derrick, PE, GE

September 21, 2011

City of Florence
250 Hwy 101 N.
Florence, Oregon 97439

**RE: SUBSURFACE GEOTECHNICAL INVESTIGATION
Siuslaw River Bridge Interpretive Wayside
Bay Street
Florence, Oregon
ODOT 13228
BEI Project No. 11-001B**

On July 26, 2011 a geotechnical engineer from Branch Engineering, Inc. (BEI) visited the subject site located between the Siuslaw River and Bay Street between the Waterfront Restaurant and the coffee roasters to assess the shallow subsurface conditions with respect to the proposed construction of a raised wood deck on the east side of the site. The site consists of alluvial sand deposits from the Siuslaw River. Several large rip-rap boulders, old wood pilings, and various oxidized pieces of scrap metal are visible on the surface, as well as majority of the site being covered by tall grasses and berry thicket.

Two dynamic cone penetrometer borings were advanced at the approximately 112 and 125 feet south of the south curb on Bay Street and about 25 feet on to the site from the east property line. A dynamic cone penetrometer is an approximately 1-inch diameter segmented steel sounding rod that is driven into the soil using a designated weight dropped from a designated height; the blow counts are recorded and calibration software is used to assess the relative resistance of various soil types. Each boring was advanced and logged by an experienced geotechnical engineer, and those summary logs are attached. DP-1 was the southern most boring and encountered consistently dense sand at 7-feet below the ground surface. DP-2 at approximately the same surface elevation encountered the similarly dense sand at 6-feet below the surface. No ground water was encountered in either of the borings and the tide was low at the time of our site work, the moisture content of the sand increased at about 5 feet. The upper 5- to 6-feet of sand is generally loose with an occasional rock that causes an anomolus increase in the cone resistance, and is unsuitable for support of structural foundations due to the potential for settlement to occur. Suitable bearing material is expected to be 7- to 8-feet below the current surface grade and have an allowable bearing capacity of 2,000 psf, a passive lateral pressure of 250 psf, and a coefficient of friction of 0.40. We anticipate that the deck foundation will consist of either driven or drilled piles that extend to at least 8-feet below the current ground surface.

We recommend that the installation of piles be observed by a geotechnical engineer or suitable representative to document consistent subsurface conditions.

If you have any questions regarding this letter-report please contact the undersigned.

Sincerely,
Branch Engineering Inc.



Expires 12/31/2011

Ronald J. Derrick, P.E., G.E.
Principal Geotechnical Engineer