

Edl, Michele

From: Todd.Crutcher@deq.idaho.gov
Sent: Wednesday, March 17, 2010 11:03 AM
To: Edl, Michele
Cc: Carol.Mueller@deq.idaho.gov; Barbara.Mallard@deq.idaho.gov; Jess.Byrne@deq.idaho.gov
Subject: RE: Geotech Report
Attachments: Riversend Sub Geotech.PDF

Michele,
Attached is the Geotech Report for this project that we had in our files.

Todd

R. Todd Crutcher P.E.
Staff Engineer
Idaho Department of Environmental Quality
Boise Regional Office
Voice: (208) 373-0551
Fax: (208) 373-0287
Todd.Crutcher@deq.idaho.gov

From: Carol Mueller
Sent: Wednesday, March 17, 2010 9:58 AM
To: Steve Ogle; Todd Crutcher
Subject: FW: Geotech Report

*I thought I'd forward this to both of you to see if you know anything about the issue.
Thanks Guys!
Carol*

From: Jess Byrne
Sent: Tuesday, March 16, 2010 12:52 PM
To: Carol Mueller; Barbara Mallard
Subject: FW: Geotech Report

Would each of you mind check with your groups to see if we have this information? It is for someone at IDWR so we don't need to do a PRR for it.

Thanks,
Jess

From: Edl, Michele [<mailto:Michele.Edl@idwr.idaho.gov>]
Sent: Tuesday, March 16, 2010 12:23 PM
To: Jess Byrne
Subject: RE: Geotech Report

I am interested in viewing the geotech report that should have been submitted to your agency on behalf of the Rivers End subdivision on Eagle Island. I have Howell Kiser Development Corp as the developer. The subdivision backbone has been in place several years and I believe that it is nearing complete build out. The water rights process I hope to complete was delayed by SRBA adjudication. It has been in the queue since 2002 so the geotech report for this subdivision might be of that vintage. I have a ground water to surface water interconnection problem to solve and I believe that the geo tech report will provide me needed information.

Thanks for responding so quickly

Michele Edl
Water Rights Section
IDWR
Boise ID
287-4946

From: Jess.Byrne@deq.idaho.gov [mailto:Jess.Byrne@deq.idaho.gov]
Sent: Tuesday, March 16, 2010 12:11 PM
To: Edl, Michele
Subject: Geotech Report

Michele,

Please provide a description of the report you are looking for and I'll check with folks here!

Thanks,
Jess

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JAN 28 2004
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Geotechnical Engineering
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Technical Services Office
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December 30, 2003
Page 1 of 6
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RECEIVED
JAN 28 2004
DEPT. OF ENVIRONMENTAL QUALITY
TECHNICAL SERVICE
Re: Geotechnical Report
Proposed Bridge Project
Rivers End Subdivision - II
Boise, Idaho

Mr. Jim Kiser
619 Queens Guard Way
Boise, Idaho 83709

Re: Geotechnical Report
Proposed Bridge Project
Rivers End Subdivision - II
Boise, Idaho

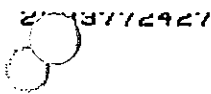
Dear Mr. Kiser:

As per your authorization, on November 21, 2003 this engineer observed the excavation of a single test pit on the referenced project. The test pit was located approximately 15 feet south of a stake placed in the planned location of the south abutment of the proposed pedestrian bridge. It is noted that groundwater was encountered in the test pit at approximately four feet below the existing ground surface. The inflow of water and collapsing of the test pit walls prevented deeper excavation.

Based on the observed conditions, the site is acceptable, from a geotechnical perspective, for construction of the proposed bridge structure. The bridge can be constructed using standard construction methods with conventional spread foundations. The structural engineer, Mr. George Anderson, with JUB Engineering was contacted and informed that the foundation may be designed based upon bearing pressures of up to 4000 psf on the native soils or structural fill extending to the native soils. Recommendations for placement and inspection of structural fill are included within this report.

We appreciate this opportunity to be of service. Should you have any questions or require additional information, please contact our office at your convenience.

Respectfully submitted;
PROFESSIONAL ENGINEER
REGISTERED
6305
JAN 28 2004
BOISE, IDAHO
Bob J. Arnold, PE
Project Geotechnical Consultant



Bob J. Arnold, PE

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Preliminary Subsurface Investigation

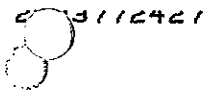
RESEARCH & BACKGROUND

As per your request, on November 21, 2003, this engineer observed the excavation of one test pit, near the proposed southern bridge abutment. No access to the north side of the channel was available to the wheel-mounted excavator that performed this excavation.

The purpose of this investigation was an evaluation of the onsite soil conditions, observe the groundwater's elevation, and evaluate the soil's engineering properties. This engineer was retained to provide construction recommendations to the project developer and project structural engineer. The project's structural engineer specifically requested an allowable foundation bearing pressure and recommendations for structural fill placement.

FIELD INSPECTION

The test pit was excavated with a wheel-mounted, excavator equipped with thirty-inch bucket. Representative samples were obtained from the spoil piles and walls of the test pits. The samples were field classified by this engineer, labeled according to test pit number and depth, bagged in plastic storage bags, and transported to the laboratory for additional testing. Sieve analysis (ASTM Test Method C136-93), Moisture Content (ASTM Test Method 2216-92) and Liquid Limit, Plastic Limit and Plasticity Index (ASTM Test Method D 4318-93) testing were performed on selected samples. Tests were performed in general accordance with the cited ASTM test methods.



Bob J. Arnold, PE

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OBSERVED CONDITIONS

The test pit was located on south bank of the Boise River in the north end of Phase II of Rivers End Subdivision. At the time of excavation, the area was used as pastureland for horses. The surface was covered with thin pasture grass. The soils profile was observed as follows:

DEPTH	SOILS DESCRIPTION	Sample Type	# 4	# 10	# 40	# 200	M	PI	LL
0.0 - 2.0	Overburden Soils Black, Moist, Loose Silty SAND or sandy SILT with organic materials present in the upper 2-4 inches.	Bag 1.5	99	87	59	32.5	18.5	VNP	VNP
2.0 - 4.0	Tan to Light Brown, Moist to West, Loose SAND	Bag 3.0	97	82	45	9.9	10.5	VNP	VNP
4.0- - 6.0	Tan to Brown with White, West to Saturated, dense, Pitrun Type Sand and Gravel Mixture. Wetter and cleaner with depth. (Sampled fines only!!)	Bag 5.5	95	82	53	5.9		VNP	VNP
4.5	Contact with groundwater.								
6.0	Bottom Of Excavation Greater depth not possible due to sloughing soils								

Similar soils conditions are anticipated on the north side of the channel except that the property owner indicated that the upper two soils strata have been washed away. Therefore, on the north side of the bridge, the foundation soils will consist of the Pitrun type sand and gravel mixture described above. This pitrun type soils were observed on the surface of the north bank. A gravel pit is present on the adjacent property to the west and indicates the pitrun materials begin at the surface.

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FOUNDATION DISCUSSION AND RECOMMENDATIONS

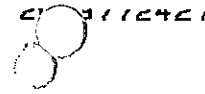
For the design of bridge foundations, bearing pressures of up to 4000 psf are allowed. Such foundations are to be founded on either the native pitrun type sand and gravels or structural fill extending to these materials. Any fill placed must meet the requirements of structural fill provided within this report. The native pitrun type soils were observed at 4.0 feet below the surface on the south bank and at the surface on the north bank. The sands and silts present above the pitrun must be over-excavated on the south bank. Foundations should be founded at least thirty inches below the adjacent grade to protect against frost actions.

FOUNDATION EXCAVATION

After the foundation area has been excavated to design grade it is recommended that a geotechnical engineer from this firm inspect the subgrade soils to confirm that conditions are similar to those documented within this report and used for design. This inspection should verify that foundations are being constructed atop the native pitrun or a top structural fill extending to the pitrun. Any non-compacted fill, sands and silt soils and all traces of organic materials must be completely removed. If over excavation and placement of structural fill is utilized, the proper control of the placement and compaction of the existing subgrade and new structural fills must be verified by inplace moisture / density testing and inspection.

All shallow excavations less than three feet deep may be constructed with side slopes approaching vertical. Below this depth, it is recommended that slopes not exceed a vertical to horizontal ratio of one to one. The ability of the materials on site to maintain a vertical or near vertical excavation when standing open without support over any extended period can be expected to be quite variable. Proper care must be taken to protect personnel and equipment. It should be anticipated that materials below the water groundwater elevation may slough suddenly, without warning.

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December 30, 2003

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This information is provided for planning purposes. It is our opinion that maintaining safe working conditions is the responsibility of the contractor. Jobsite conditions such as soil moisture content, weather condition, earth movements and equipment type and operation can all affect slope stability. All excavations should be sloped or braced as required by applicable local, state, and federal requirements.

STRUCTURAL FILL

Imported structural fill shall be a clean, granular material with **100 percent passing a four-inch sieve and less than seven percent passing a #200 sieve**. All structural fill should be placed in uniform, thin horizontal lifts; moisture conditioned as necessary and compacted to a minimum relative compaction of 95% based on the ASTM Test Method D1557. Compaction of structural fill and the native subgrade surface must be verified by inplace density testing and construction observations. Field nuclear moisture - density testing shall be performed on at least every foot of compacted fill height or every 500 square feet of surface area. A qualified engineer or his representative should monitor fill placement to ensure the work is performed in accordance with these recommendations.

DEWATERING

It can be anticipated that dewatering for foundation construction and placement of structural fill will be required.

SETTLEMENT

Potential settlements have been calculated based on a foundation load of 40 kips and a bearing pressure of 4000 psf. Based upon these values, predicted settlements are acceptable. Should loads greater than those assumed be indicated, re-evaluation of potential settlement is recommended.

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GENERAL COMMENTS

When the plans and specifications are more complete, or if significant changes are made in the character or location of the proposed structure, a consultation should be arranged to review them with respect to the prevailing soil conditions. At that time, it may be necessary to submit supplementary recommendations. It is recommended that the services of a qualified materials testing and inspection firm be engaged to test and evaluate the soils in the footing excavations prior to concreting in order to determine that the soils meet the compaction requirements. Monitoring and testing should also be performed to verify that suitable materials are used for structural fills and that they are properly placed and compacted.

It is warranted that the findings, recommendations, specifications, or professional advice contained herein, have been promulgated after being prepared in accordance with generally accepted professional engineering, geologic, and hydrogeologic practice in the fields of foundation engineering, soil mechanics, and engineering geology. No other warranties are implied or expressed.