Seaside School District No.10
2016 Bond Program

REQUEST FOR PROPOSALS
Construction Manager/General Contractor (CM/GC) Services
Seaside School District 2016 Bond Program

APRIL 10, 2017

Refer all questions to:
Mitali Kulkarni
Project Manager
DAY CPM Services
12425 Beaverdam Road, Suite 201
Beaverton, OR 97006
Email: mitali@daycpm.com

Submit the proposal to:
Justine Hill
Business Manager, Seaside School District
1801 S Franklin St, Seaside, Oregon 97138
Email: JHill@seaside.k12.or.us

A MANDATORY PRE-PROPOSAL MEETING AND SITE TOUR has been scheduled for April 17, 2017 at 1:30pm. at Seaside School District office, 1801 S Franklin St, Seaside, Oregon 97138. CM/GC must attend the mandatory pre-proposal meeting.

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1.0 SCOPE OF WORK

The Seaside School District School Board approved an exemption from competitive bidding pursuant to ORS 279C.335 in order to utilize the Construction Manager/General Contractor ("CM/GC") alternative contracting method and to procure the services an experience CM/GC through a competitive request for proposals ("RFP") process. Accordingly, this procurement is subject to ORS 279C.337 and OAR 137-0490690.

1.1 General: Overview & Project Background

The Seaside School District serves 1,550 students across South Clatsop County through four schools. Three of the four schools are at or near sea level and under significant threat in event of a tsunami.

A committee of staff and community members spent 2015-16 studying the district's existing school facility needs, projected enrollment growth and bond measure options and costs.

As part of the bond measure approved in the November 2016 election cycle the following projects are planned:

- Close three obsolete buildings in the tsunami inundation zones
- Combine two elementary schools at an existing location. Expand the existing location to accommodate the new population
- Develop a new state-of-art campus to include a new middle school and new high school.

The Seaside School District is soliciting Requests for Proposals (RFPs) from experienced Construction Manager/General Contractor (CM/GC) capable of completing the proposed Bond Projects.

The CM/GC is being selected early in the project to best serve the Seaside School District's project in consideration of the following factors:

1. Provide the Seaside School District and its design team with unique expertise and experience that will assist to select the most economical and timely construction solutions.

2. Ensure that existing operations of the Seaside School District are maintained throughout construction with minimal disruption to ongoing operations of adjacent facilities.

3. Implement procedures to aggressively manage the construction costs, schedule, and phasing requirements, and minimize hazards related to the development of the site in and around wetland facilities.

4. Develop project procedures to manage the high risks and critical need for effective partnering and collaborative decision-making processes to ensure that jobsite safety is not compromised and that impacts on subcontractors are minimized, while performing significant work around a functioning School.

5. The need for contractor expertise to develop means and methods strategies of work-around site logistics solutions to re-constructing the facility and adding new buildings while

maintaining other adjacent ongoing operations. Construction work will need to be carefully staged and coordinated to ensure safety of the public at all times.

6. Provide support and guidance based on their experience and expertise in deep foundation systems and coastal environment project work to ensure cost effective constructability.

7. Provide procurement and implementation strategies (as appropriate) for complex phasing of the Project to leverage early bid package(s), while allowing time for additional design solutions for later bid packages and coordination of work activities in and around sensitive environmental conditions.

8. The Project's budget limitations and the need to identify cost-effective solutions through constructability reviews, value engineering and collaboration with stakeholders to meet budget constraints.

The Seaside School District seeks a CM/GC who can best provide the services needed to achieve the above goals.

The services requested of the CM/GC shall be provided in two phases:

1 Preconstruction Services: Consultation with the School District and its design team during the planning and design of the project.
2 Construction Services: Management and completion of the construction work within the negotiated GMP (guaranteed maximum price) and project schedule.

1.2 Project Description

The preliminary project program documents by DOWA-IBI Architects are provided in Appendix E. Proposers may obtain electronic copies of RFP Documents at no charge from the Oregon Procurement Information Network (ORPIN) http://orpin.oregon.gov/open.dll/welcome. This contract is a public work subject to payment of prevailing wages pursuant to ORS 279C.800 to 279C.870.

1.3 Project Organization

The School District has retained DAY CPM, an Otak Division to provide Project Management oversight services on behalf of the Owner. The firm of DOWA-IBI Architects, has been selected by the Seaside School District to provide all the design services for this Project.

1.4 Construction Budget

The School District has budgeted approximately $82 million for the total construction budget of all work necessary on the 2016 Bond Project. The construction budget includes, but it not limited to: pre-construction services, all construction work necessary, and a construction contingency. This will be the basis of the Guaranteed Maximum Price, GMP. All savings to the GMP will revert back to the District.

1.5 Construction Schedule

The requirement is that the project be substantially complete prior to the beginning of the fall term of 2020. Refer to SECTION 2.5. It will be important for any firm proposing to understand this schedule must be attainable.

1.6 Mandatory Pre-Proposal Meeting and Site Tour

A MANDATORY pre-proposal meeting will be held to answer questions from prospective proposers on ***April 17, 2017 at 1:30 PM PST*** prevailing local time at Seaside School District Office, 1801 S Franklin, Seaside, OR. The meeting will allow proposers the opportunity to gain information about the construction site and a better understanding of the work, and the unique aspects of the project.

2.0 PROPOSAL PROCESS

2.1 General

2.1.1 Evaluation of Proposals

Proposals will be evaluated by an evaluation committee comprised of School District representatives, Owner representative DAY CPM, an Otak Division, members of the design team, and technically-oriented members-at-large. The evaluation will be in accordance with Section 5, Evaluation of Proposals, and may include requests by the team for additional information and interviews to determine and clarify the experience and responsibility of the proposer. The evaluation team will make a recommendation to the Seaside School District Board who will make the final decision to select the CM/GC.

2.1.2 Obligation to Award

The issuance of this RFP, and the receipt and evaluation of proposals does not obligate the School District to award a contract. The School District will not pay any costs incurred in responding to this RFP. The School District may cancel this procurement without liability at any time prior to the School District's execution of a contract. The District may reject a bid that does not comply with prescribed RFP and public contracting procedures and requirements, including the requirement to demonstrate the bidder's responsibility under ORS 279C.375 (3)(b), and that the contracting agency may reject for good cause all bids after finding that doing so is in the public interest;

2.1.3 Proposal Opening.

Proposals will be publicly opening immediately after the closing deadline at the same location at which proposals are submitted.

2.1.4 Commencement of Work

The successful proposer may commence work only after the School District delivers a fully executed preconstruction contract to that proposer.

2.2 Changes, Requests for Clarification, or Protest to the RFP

2.2.1 The School District reserves the right to make changes to the RFP. Changes will be made by written addendum which will be issued to all prospective proposers on the School District's list of RFP holders who attended the mandatory pre-proposal meeting.

2.2.2 Prospective proposers may request or suggest any change or clarification to the RFP by submitting a written request. The request shall specify the provision of the RFP in question and contain an explanation for the requested change.

Prospective Proposers may protest the procurement process or the solicitation document ("RFP Protest") by filing a written protest. To be considered, a protest must contain a detailed statement of the legal and factual grounds for the protest, a description of the resulting prejudice to the prospective Proposer, and states the relief sought by prospective Proposer.

2.2.3 A request for clarification or Protest must be must be submitted in writing or via email not later than 5:00 p.m. PST on May 1st, 2017. Requests or Protests must be filed with:

Mitali Kulkarni
Project Manager
DAY CPM Services
12425 Beaverdam Road, Suite 201
Beaverton, OR 97006
Email: mitali@daycpm.com

2.2.4 The evaluation team will evaluate all requests or protests submitted Protests will resolve in writing. The evaluation team will make any changes to the process or to the solicitation documents by written addendum which will be issued to all prospective proposers on the School District's list of RFP holders who attended the mandatory pre-proposal meeting.

2.2.5 An issue that could have been, but is not, raised pursuant to a request for clarification or protest is not a ground for a Protest of Award.

2.2.6 Any change to the solicitation documents will be by written addendum. Written addenda will be provided to all Proposers who attend the preproposal conference. No statement, change, or comment by any District representative will binding on the District unless issued as a written addendum.

2.3 Public Disclosure of Proposals

2.3.1 The District is subject to the Oregon Public Records Law (ORS 192.410 to 192.505), which requires the District to disclose all records generated or received in the transaction of District business, except as expressly exempted in ORS 192.501, 192.502, or other applicable law. Examples of such exemptions are: trade secrets (ORS 192.501 (2)) and confidential information (ORS 192.502(4)).

2.3.2 Pursuant to ORS 279C.410, proposals will not be available for public inspection until the Notice of Intent to Award is issued. Thereafter, the District will not disclose records submitted by a Proposer that are exempt from disclosure under the Oregon Public Records Law, subject to the following procedures and limitations:

The Proposer shall mark all proposal pages containing the records it has determined as confidential under Oregon Public Records Law and shall segregate those pages in the following manner:
Such pages shall be clearly marked "Confidential" on each page of the confidential document.

Proposer shall separate confidential pages from its other proposal pages by providing the confidential pages to the District in a separate envelope or package.
In its proposal, Proposer shall cite the specific statutory exemption in Oregon Records Law exempting such pages from disclosure.

2.3.3 Proposers may not mark an entire proposal confidential. Should a proposal be submitted in this manner, the District will hold no portion of the proposal as confidential.

2.3.4 Notwithstanding the above procedures, the District reserves the right to disclose information that the District determines, in its sole discretion, is not exempt from disclosure or that the District is directed to disclose by the Clatsop County District Attorney or a court of competent jurisdiction pursuant to the Public Records Law. Prior to disclosing such information, the District will make reasonable attempts to notify the Proposer of the pending disclosure.

2.4 Submission of Proposals

2.4.1 Requirements

Each proposer's submission in response to this RFP must:

2.4.1.1 Include one original (marked as such), 7 copies and one PDF copy on a USB flash drive file no larger than 10MB;

2.4.1.2 Include the completed and executed Proposal form (Appendix A of this RFP) as the first page of the original submission and each copy;

2.4.1.3 Be submitted in a sealed envelope that is plainly marked "Proposal to Provide CM/GC Services – Seaside School District 2016 Bond Project" and bears the proposer's name, address, telephone number, and email address; and website.

2.4.1.4 Be delivered to the following addressee by 4:00 PM PST on May 9, 2017
Seaside School District
RE: RFP – Construction Manager/General Contractor Services
Seaside School District Office,
1801 S Franklin, Seaside, OR

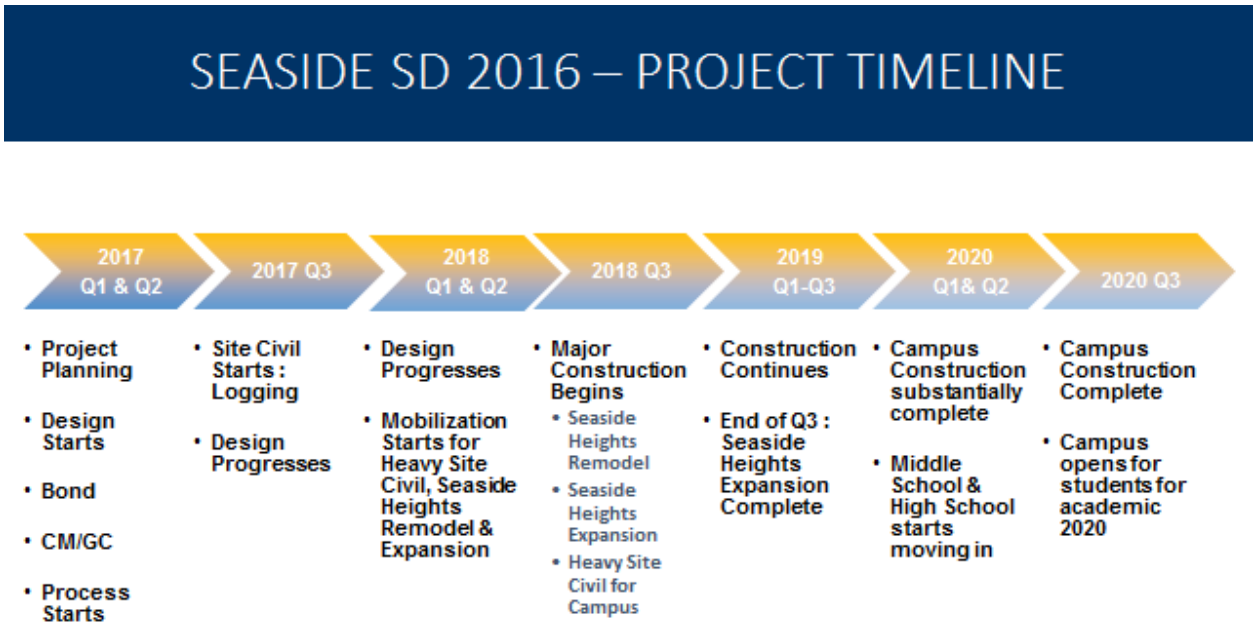
The School District, at its option, may decline to consider late submissions.

2.4.1.5 Amendment or Withdrawal of Proposal

A proposer may amend or withdraw its proposal any time prior to the time and date established for submission of proposals.

2.5 Project Schedule: Draft

The overall project schedule is presented below:



2.5.1 Milestones

Projected significant milestones for this procurement are as follows:

RFP issue date	April 10, 2017
Mandatory pre-proposal meeting at 1:30 p.m.	April 17, 2017
Deadline for proposer questions/protest of RFP	May 1, 2017
RFP Addenda issuance	May 2, 2017
Proposals due at 4:00 PM	May 9, 2017
Shortlisted firms identified	May 16, 2017
Proposer interviews	May 23, 2017
Notice of Intent to Award Protest of Award Board approval of Selection	May 24, 2017 May 31, 2017 June 2017
Beginning of services	June 2017

2.5.2 Period of Irrevocability

Proposals shall be offers that are irrevocable for a period of sixty (60) calendar days after the time and date proposals are due. Proposals shall contain the name, address and telephone number of an individual or individuals with authority to bind the company during the period in which the proposal will be evaluated.

2.6 General Services Overview CM/GC SCOPE OF CM/GC SERVICES

The Seaside School District is seeking a CM/GC firm to participate in design development and

construction document development phases as a member of a team with the Program & Project Manager-PM (DAY CPM, an Otak Division), Architect and Engineering team (DOWA-IBI Architects), and other Project consultants, and agencies to provide preconstruction services and to manage and coordinate the subcontractor bidding procurement and the construction process.

The selected CM/GC will be a partner to the Owner in this process. The CM/GC will work collaboratively to achieve the project goals.
During preconstruction, the CM/GC shall actively participate as a member of the Project team with the Owner and the Architect during the Design Development and Construction Documents Phases prior to construction. The CM/GC shall be responsible for providing necessary consulting expertise to the Owner to ensure that the program scope is maximized and the construction budget and the Project schedule are met.

The CM/GC will work collaboratively and proactively with the Owner and Architect to proceed with planning, design and development of the work in a manner which supports the Owner's efforts to keep costs within the Owner's budget. The CM/GC shall provide Construction Management (CM) services throughout the Project, from the preconstruction period through construction and shall closely coordinate such work with the Owner, PM and Architect. The CM/GC's CM services shall include but not be limited to:

1) Assistance in identifying safe work practices and requirements for construction;
2) Assessing and recommending site logistics requirements;
3) Recommending phasing, sequencing of work and construction scheduling;
4) Providing cost-estimating including GMP development and subcontractor procurement
5) Determining and reconciling constructability issues and performing formal constructability analysis reviews of the design documents prior to subcontract bidding;
6) Assessing alternative construction options for cost savings;
7) Identifying products for Value Engineering (VE) and engineering systems for life cycle cost, design considerations, and recommending all work necessary to support their implementation;
8) Participating in Owner's Design Development and Construction Documents Phases coordination reviews;
9) Critical Path scheduling and site logistics planning;
10) Project approach
11) Experience working in coastal environments
12) Community Engagement and Corporate Equity Outreach (MWESB)
13) Permit procurement assistance and agency coordination.

The CM/GC shall provide full general contracting services for construction of the Project in accordance with the requirements of the Contract Documents and except to the extent work is specifically indicated in the Contract Documents to be the responsibility of others.

The CM/GC firm must be skilled in all aspects typical to a general contractor and construction manager, including, but not limited to: developing Critical Path Method (CPM) schedules, preparing construction estimates, performing value engineering and life-cycle cost studies, analyzing alternative designs, studying labor conditions, understanding construction methods and techniques, understanding local climate conditions and requirements for weather protection during construction, performing constructability reviews, sequencing of work, and coordinating and communicating the activities of the team throughout the design and construction phases to all

members of the Project delivery team.

In addition, the CM/GC must be familiar with the local labor and subcontracting market and be capable of working with subcontractors to generate viable pricing alternatives.

The CM/GC firm will coordinate and manage the construction process as a collaborative member of a team with the Owner, PM, A/E, and other Project consultants and governmental agencies. The CM/GC must also be familiar with sustainable construction techniques and processes and employ those techniques and processes throughout the term of the Project.

Community engagement and working with local/regional trade partners, relationship contracting have been identified as important aspects of the project that go beyond the standard technical aspects. The selected CM/GC will have demonstrated ability to work with all community stakeholders in collaboration with the Owner and their representatives. A draft outline of the community engagement plan is available in the appendices (Appendix E).

3.0 PROPOSAL SUBMISSION

3.1 Preparation

Proposals shall be prepared simply and economically, providing a straightforward format. Sealed written proposals must be received no later than the date and time and at the location specified on the cover of this solicitation.

All cost incurred by the Proposer in preparation of the proposals to this solicitation, including presentation to the school district and/or participation in the interview shall borne solely by the Proposer; the school district shall not be liable for any of these costs. At no time the school district will provide reimbursement for the submission of a proposal unless so stated herein.

3.2 Format

Proposals shall conform to the following format:

Proposers are encouraged to use creativity and to provide complete information in their written proposals.

However, except as provided otherwise below, a proposal response to section 3.2.2 shall be in a font size no smaller than 10 points and shall not exceed 40 8.5 x 11 inches single-sided pages or 20 double-sided pages, including pictures or diagrams. Resumes required by section 3.2.2.2, section dividers and proposal form are excluded from the page limit. If a proposer exceeds the page limit in responding to section 3.2.2, the School District will consider the information on the first 40 pages, and may decline to consider information beyond the 40th page.

3.2.1 Proposal Form

The proposal form is included as Appendix A of this RFP. It shall be completed, executed and included as the first page of the proposal.

3.2.2 Required Submissions

Proposals shall contain the following information, provided in the order listed below. Concise and direct responses are encouraged.

3.2.2.1 Cover Letter

By submitting a proposal, the Proposer is accepting the General Instructions and Conditions of this Request for Proposal, the stated insurance coverage and limitations, and the standard contract provisions of the contract. Any exceptions to the requirements or requests for the waivers must be included in the proposal Cover Letter or they will not be considered.

a. The Cover Letter must include the following:

1. RFP number and Project title
2. Full Legal name of the proposing business entity
3. Statement of whether the proposing business entity is in an Oregon licensed contractor
4. Structure of type of business entity
5. Name(s) of the person(s) authorized to represent the Proposer in any negotiations
6. Name(s) of the person(s) authorized to sign any contract that may result
7. Contact person's name, mailing address, phone, fax numbers and email addresses
8. Statement that no redactions are requested, if applicable

A legal representative of the Proposer, authorized to bind the Proposer in contractual matters must sign the Cover Letter.

3.2.2.2 Project Approach and Understanding

In detail, describe the overall plan to manage the project, including the following as a minimum:

a. Describe your proposed **Preconstruction Services Plan** that defines each preconstruction service you intend to provide including what type of new technologies you intend to use to provide these services but not limited to:

   1. Investigation of existing conditions to ensure construction documents reflect the actual site conditions;
   2. Design and Construction Document coordination review and comments verifying their implementation. Describe your firm's approach when working as a project team member during design.
   3. Design and target cost validation, budgeting; cost estimating and tracking and reconciliation with second parties. How do you manage price volatility and market conditions when providing cost estimates during the design phase without being unreasonably conservative;
   4. Constructability issues including assistance identifying safe work practices and requirements for construction;
   5. Value Engineering and alternative construction options, products and engineering systems for cost savings and life cycle cost design considerations;
   6. Schedule, change recommendations and advice of long-lead procurement packages;
   7. Recommended phasing and sequencing of work to maximize construction site efficiencies;
   8. Assessment and recommended site logistics requirements;
   9. Subcontract Plan preparation and procurement planning.
   10. Cost estimating methodology, and systems utilized to adhere to requirements for detailed accounting & tracking of costs in accordance with the project budget.

11. Closeout Management Plan utilizing cloud based solutions.

Address the person(s) responsible for each service, a description of the deliverable(s) that will be provided to the Owner and design team upon completion of each service and the action you intend to take or intend for the design team to take based on the information contained in each deliverable.

Briefly identify three or more examples of similar projects that demonstrate the range of Preconstruction Services your firm has provided on previous public or private sector CM/GC projects or private sector projects with a guaranteed maximum price (GMP). Provide concise description of the proposer's ability to satisfy the requirements of this RFP.

b. To clearly show an understanding of the scope and complexity of the work, identify key issues and/or potential constraints and risks anticipated for the project, including areas of design, construction, and management. Describe the plan for addressing these issues and maintaining the progress of the work.

c. Describe the work sequencing and phasing process that will be employed to ensure that existing adjacent operations are maintained throughout construction operations. With the understanding that a team effort by the School District, the design team, and the selected proposer will be required to develop an approach to the design and construction sequencing and phasing; include a discussion of the process employed by your firm to develop sequencing, phasing and a site logistics plans, that minimize disruptions to existing adjacent facilities and local neighborhood community.

d. Describe your firm's approach toward managing fast track projects with critical timelines which have completion dates that cannot be moved. Identify two or more similar projects that illustrate how your firm approached these logistical challenges and how you were able to meet the clients program and schedule objectives.

e. Describe the plan to establish and maintain good relationships and foster open and productive communications with the School District, DAY CPM, the design team, and the public, including communication of current and upcoming construction activities.

f. (intentionally left blank) Other supplemental information that your firm may want to provide not specifically listed it items a-e.

3.2.2.3 Proposed Personnel and Organization

a. Provide a project organization chart showing the proposed key staff for this project in the following areas (at a minimum):
   - Company executive with responsibility for the project and the authority to bind the company

- Project manager
- Construction management and supervisory staff
- Estimating and preconstruction
- Safety
- Quality control

Describe the duties and responsibilities for all key staff positions.

b. Indicate the approximate percentage of each week that each person shown on the organization chart is anticipated to be working on the project and their primary work location during the design and construction phases of the work.

c. Include resumes for all key individuals shown on the chart. Resumes shall include education, work history, length of tenure with the proposing company, and specific project experience in the role proposed for this project. Each project experience example shall include the title, description, construction cost, dates and durations for the project and the name, company name, position title, and telephone number for the client representative that was responsible for the project. Resumes do not count towards the proposal page limit and shall be included in an appendix to the proposal

d. Provide an organizational chart of the company. Include all wholly owned subsidiary companies and define their relationship in providing personnel or equipment for the project.

3.2.2.4 Cost Management

a. Describe how the proposer will approach cost estimating, target value design and value engineering.

b. Describe the plan for managing and tracking the cost for the work. Include descriptions of cost tracking tools and summary reports.

c. Describe the approach for establishing and maintaining a contingency fund to ensure that the project budget is not exceeded.

d. Describe the proposed method of documenting the line item components of the Guaranteed Maximum Price (GMP) and the method of determining whether project changes are inside or outside the scope of the GMP.

e. Describe past performance on other CM/GC contracts within the past seven (7) years. For each project, list the project name, client name, completion date, contract GMP, dollar amount of change orders, and client contact person including phone number.

f. Describe your approach to Lean Construction methodology that could eliminate waste and reduce costs on this project.

3.2.2.5 Schedule, Quality Control, and Safety

a. Describe approach to managing the preconstruction & construction schedule. Include a description of the elements of this project that are likely to put the schedule at risk and how they would be proactively managed.
Include descriptions of schedule tracking tools and summary reports.

b. Describe expectations for labor and materials availability on this project. Describe how anticipated challenges with availability of labor or materials could be mitigated. Explain the plan to generate sufficient subcontractor and/or material supplier competition in the bidding to minimize project costs.

c. Discuss opportunities and challenges that you see to complete the project in as efficient of manner as possible. Describe how the opportunities will benefit the District and describe how the foreseeable challenges will be addressed by your firm.

d. Describe your firms proposed quality control plan and how it will be implemented.

e. Describe your firms proposed general safety program, including training, hazard identification, and audit/inspection. Include specific information on subcontractor and employee accountability for safety, formal disciplinary program, and Company EMR (Experience Modification rating) safety record for the last three years.

3.2.2.6 Local Conditions/MWESBE Utilization and Community Partnership

a. Describe your firm's knowledge and understanding with the labor market and local building conditions in the Oregon Coastal region with any specific knowledge and/or experience in the Clatsop County/ City of Seaside.

b. Demonstration of experience with local MWESB firms including a list of State of Oregon certified businesses that your firm has partnered or subcontracted within the last three (3) years, identify any MWESB firms that are part of your proposed team, and any innovative/successful measures your firm has undertaken to increase diverse business participation on projects in the State of Oregon. Highlight firms you have utilized that have coastal experience and expertise. Describe your approach to subcontractor and supplier procurement/selection process, and promoting participation in the project on the part of minorities, women, and emerging small business enterprises. Also, describe your approach for local material suppliers, venders, and building trades. A local business is defined as a business that has an existing significant place of business located within the electoral and taxing boundaries of the Seaside School District.

b. Describe how your firm will assist the District in developing and implementing a strategy to engage with local coastal community and utilize MWESB firms.

3.2.2.7 Contract Formats

a. The sample draft contract and general conditions to the contract presented in Appendices B and C will be the basis of the agreements for services provided by the selected proposer on the project. During contract negotiations following selection of the highest ranked Proposer, Agency will entertain suggestions on refinement of the CM/GC Agreement and its Exhibits only when:

   1. The general work scope remains the same;

   2. The proposed does violate or change any mandatory administrative rule or Public Contracting Code provisions, and

   3. The field of competition does not change as a result of material changes to the requirements stated in the RFP.

   The intent of these provisions is to avoid any unfair competitive advantage or disadvantage in the procurement process. Alternative approaches to structuring the GMP may be contemplated and allowable under these negotiations. The Agency intends to complete negotiations and enter into a contract within seven (7) days of the Notice of Intent to Award issuance, in accordance with ORS 279C.375, the right to extend that time at its sole discretion. An amendment to the initial CM/GC Agreement will be issued at the end of the end of Phase I Preconstruction and at the start of Phase II to execute the GMP agreement.

b. The sample negotiated construction agreement included in Appendix B will be used as the contract between the School District and selected proposer.

c. The sample general conditions to the contract included in Appendix C will be used as the general conditions between the School District and selected proposer.

3.2.2.8 Deviations from the RFP

Identify specifically where and how the proposal deviates from the requirements of this RFP.

3.2.3 Fee Proposal (Refer to: Appendix F - Fee and Price Proposal)

3.2.3.1 Present a proposed fee for providing the CM/GC services in two parts: This section is scored but is not included in the page count. Provide Fee and Price proposal in appendix to your firm's proposal.

a. Preconstruction Services: Identify an estimated total cost and proposed hourly billing rates for services to be provided during the design phase of the project, prior to establishment of the negotiated Guaranteed Maximum Price (GMP). Identify activities, labor hours associated with each activity, proposed billing rates per hour for each person/position, and an estimate of expenses. This

estimated cost will be the basis of negotiation of a not-to-exceed price for the preconstruction services contract with the School District. This price will be the maximum amount due the CM/GC if the CM/GC's services are terminated or the project does not proceed to construction for any reason, and if all the services had been provided prior to cancellation. (Note: Pre-construction Services will not be scored as part of the evaluation review)

b. Construction Services:

Fixed Fee, Bonds and Insurance: Identify the fixed fee, and Bonds and Insurance, as a percentage of the Guaranteed Maximum Price (GMP) for which the proposer's firm would contract to perform the required services. Identify what costs the proposer will include in the fixed fee (Refer to Appendix F). Identify all proposed project staff that would be included as part of the fixed fee. At a minimum, the Fixed fee, bonds and insurance shall include: Corporate Overhead and Profit; costs for Performance and Payment bonds; Commercial General Liability/Auto Insurance; Builders Risk insurance. Refer to Appendix F to fill out Fee and Price Proposal form and provide break out these costs as separate % of the GMP or Cost Of Work as described in Appendix F.

General Conditions: Identify and estimate the cost of expenses, other than direct construction labor and material costs, which will be included in the reimbursable cost of work as part of the General Conditions. Refer to the Cost Responsibility matrix in Appendix F, as a guideline for developing detailed cost breakdown of costs. Provide detailed breakdown estimate of General Conditions.

Self-performed Work: Identify what portions of the work that the proposer anticipates to self-perform. CM/GC shall be required to publicly announce any work for those items which it intends to bid in the publicly advertised invitation to bid. Sealed bids will be delivered 24 hours before the appointed bid time to Owner, and publicly opened by the Owner for any work which the CM/GC intends to provide a bid to self-perform.

Fees proposed in this Section 3.2.3 are subject to final negotiations upon issuance of notice of intent to award concluding this RFP process.

4.0 EVALUATION OF PROPOSALS

4.1 General

Proposers for the CM/GC services will be evaluated and rated based on their written proposal and interviews. Submittal requirements for the proposal are detailed in section 3. It is the School District's intent to select a single CM/GC contractor for this solicitation.

4.2 Competitive Range

An evaluation team will determine which proposals are within the competitive range in accordance with the evaluation criteria set forth below. Only those proposals determined within the competitive range will be considered for Interviews and award. Interview of Finalist shall be based on criteria and scoring of sections: 3.2.2.1- 3.2.3.1 as noted below in section 5.4.

4.3 Interviews

The evaluation team will interview a short list of finalists of two or more proposers to assist them with their evaluation and final selection of a CM/GC. Interviewed proposers should be prepared to respond to questions related specifically to their proposals and other pertinent matters regarding the RFP.

Should your firm be invited to interview, questions will be directed to the proposed key Project staff. At a minimum, the corporate executive dedicated to the Project, the project manager, the project superintendent, project field engineer, project estimator, and the key individuals responsible for preconstruction services shall be in attendance.

In addition to presenting qualifications, experience, and the project team's approach to the Project, the interviewees will be expected to respond to questions from the panel regarding the firm's proposal as well as additional questions that might be posed in correspondence directed to the most qualified proposers after this solicitation is closed. The length and format for the interview will be provided to the short-listed firms.

4.4 Evaluation Criteria

The School District evaluation team will consider information provided in the written proposal and interviews, according to the following criteria, to rank the proposers in order of suitability to meet the School District's needs. Maximum available points for both written proposals and interviews will be 150 and the maximum points available for each evaluation criteria are listed in parentheses after the criteria.

1 3.2.2.2 Project approach and understanding: (40 points maximum)

2 3.2.2.3 Proposed personal and project organization (25 points maximum)

3 3.2.2.4 Cost management (20 points maximum)

4 3.2.2.5 Schedule, quality control and safety plans (20 points maximum)

5 3.2.2.6 Local Conditions/MWESBE Utilization and Community Engagement (25points maximum)

6 3.2.3.1 Fee Proposal: Preconstruction and Construction services (20 points maximum)

7 Interview of short listed Finalist (100 points)

After evaluation by the team, the team will recommend to the Seaside School District Board that the top-ranked proposer be invited to work with the School District and that negotiations progress to finalize the contract. If the School District is unable to successfully negotiate with the top-ranked proposer, the School District reserves the right, at its sole discretion, to terminate negotiations and begin new negotiations with the next highest-ranked proposer.

The School District reserves the right to waive informalities or to reject any and all proposals.

4.5 Award of Contract.

If the District awards a contract pursuant to this RFP it will award a contract to the responsible Proposer whose proposal the District determines in writing is the most advantageous to the District based upon the evaluation process and criteria described in this RFP, applicable preferences, and the outcome of any negotiations authorized by this RFP.

4.6 Notice of Intent to Award.

Upon selection of the highest-ranked proposer, the District shall notify Proposers of its Intent to Award by sending written notification to all contractors that submitted proposals.

4.7 Protest of Contract Award

1. A Proposer may protest the Intent to Award, provided:

a) The Proposer is adversely affected because the Proposer would be eligible to be awarded the contract in the event that the protest is successful; and

b) The reason for the protest is:

i) All higher-ranked proposals are non-responsive;

ii) The District has failed to conduct the evaluation of proposals in accordance with the criteria or processes described in the solicitation materials;

iii) The District has abused its discretion in rejecting the protestor's proposal as non-responsive or;

iv) The District's evaluation of proposals or the District's subsequent determination of Award is otherwise in violation of Seaside School District Contracting Rules or the Public Contracting Code.

2. A protest of award:

a. Must be in writing;

b. Must be physically received at the address below no later than 5:00 p.m. on the 7th

calendar day from the date of the Notice of Intent to Award.

c. Must be titled and address as follows:

RFP FOR CONSTRUCTION MANAGER/GENERAL CONTRACTOR SERVICES PROTEST OF AWARD:

Seaside School District
Attention: Justine Hill
1801 S. Franklin Street
Seaside, Oregon 97138

d. Must specify the grounds for the protest including the specific citation of law, rule, regulation, or procedure upon which the protest is based. The judgment used in scoring by individual evaluators is not a ground for protest of award. An issue that could have been raised by request for change, clarification or protest of the solicitation pursuant to Section 2.2 of this RFP is not a ground for protest of award.

3. Protests not filed within the time or in format specified, or which fail to cite the specific law, rule, regulation, or procedure upon which the protest is based shall be rejected.

4. The District Superintendent or the Superintendent's designee, shall have the authority to settle or resolve a written Protest of Award submitted in accordance with the requirements of this RFP. The Superintendent of the District, or such person's designee, shall issue a written decision on the protest in a timely manner.

END OF RFP

PROPOSAL FORM – APPENDIX A

CONSTRUCTION MANAGER/GENERAL CONTRACTOR (CM/GC) SERVICES

Seaside School District – 2016 Bond Project

The undersigned proposer submits this proposal in response to the Seaside School District's Request for Proposals (RFP) dated May 9th, 2017, for the contract named above. The proposer warrants that proposer has carefully reviewed the RFP and that this proposal represents proposer's full response to the requirements described in the RFP. The proposer further warrants that if this proposal is accepted, the proposer will contract with the Seaside School District, agrees to all terms and conditions found in the attached contract, and will provide all necessary labor, materials, equipment, and other means required to complete the work in accordance with the requirements of the RFP and contract documents.

No proposal will be considered unless the proposer is licensed with the State of Oregon Construction Contractors Board, pursuant to ORS 701.055 (1), prior to submitting a proposal. The proposer hereby acknowledges the requirement to carry or indicates the ability to obtain the insurance required by the contract documents. Indicate in the affirmative by initialing here:

The proposer hereby acknowledges receipt of Addendum Nos. _____to this RFP.

The Proposer is ____/is not____ a "resident proposer" as defined in ORS 279A.120.

The Proposer certifies that it will comply with ORS 279C.800 to 279C.870 (payment of prevailing wages) if awarded the contract.

The Proposer certifies that the Proposer has not discriminated and will not discriminate against a disadvantage business enterprise, a women-owned business, a minority-owned business, an emerging small business, or a business owned by a service-disabled veteran in awarding a subcontract.

Name of Proposer: Business Address: Telephone Number: Fax Number: Email Address:

_____

_____

_____

Authorized Signature:

Printed/Typed Name:

Title:

Date:

State of Oregon Construction Contractors Board License No:_____. The District will reject a proposal from any contractor not licensed with the CCB.

Note: Complete and execute this form and include as the first page of the proposal.

Seaside School District – 2016 Bond Projects
Construction Manager/General Contractor (CM/GC) Services RFP

APPENDIX D

Seaside School District (SSD) Local and Diverse Community Engagement Program (CEP)

April 6, 2017

Draft for Review

BACKGROUND:

Including the communities of Seaside, Gearhart and Cannon Beach, the SSD 2017 GO Bond Project provides $99.7M of community investment for capital construction to build a new middle school and high school on higher land, safely outside the tsunami inundation zone, combine two elementary schools at Seaside Heights Elementary School, and improve associated facilities across the district. This exceptional investment also provides a special opportunity to intentionally encourage and promote local and diverse community elements with the performance of the bond work. With development and implementation of this program, project leadership seeks to intentionally connect and benefit local and diverse firms (target firms), workforce, students, community and other stakeholders to SSD 2016 bond while optimizing civic impact and achieving project value. The below provides a framework for expanded community building through the current design and construction processes.

This program seeks to optimize community impact connected to bond work completion.

Holistic Solutions through Intentional Actions.

Draft VISION:

SSD Community Engagement Program shall positively impact all community stakeholders while modeling successful actions for others, fostering community pride, and establishing SSD as a vital community resource.

Draft MISSION:

SSD Community Engagement Program effectively activates Students, Teachers, Community, Area Businesses (especially local / historically underutilized) and other Stakeholders to optimize project bond spends for continual progress towards district and community goals setting up current and next generation success.

GUIDING PRINCIPLES:

1. Transparent
2. Accessible
3. Fosters community pride
4. Forward thinking
5. Sustainable - rooted to place and environment
6. Educational, inclusive and collaborative

VALUE PROPOSITION:

The SSD Local & Diverse Community Engagement Program provides exceptional opportunity to positively impact community and create sustainable successes while leveraging existing resources and enabling new partnerships both internal and external to SSD. In addition to enhancing the district student focused mission, the program extends benefit across stakeholder sectors transforming the bond work into a real-time, beacon of hope for excellence, equity, and success while complimenting other project goals.

GOALS:

1) Local, Diverse and Emerging Business:
   Identify and enhance opportunities for Local & Underutilized businesses on all subcontract bond work while increasing access, readiness, pool and capacity for future opportunities.
2) Student/Career Technical Education (CTE) and Beyond, including STE(A)M:
   Leverage bond opportunity to enhance, support and/or implement SSD student

engagement program(s) that encompass CTE, STEAM (Science, Technology, Engineering, Arts, Math) and other local trades, including hospitality and culinary.

3) Local, Diverse and Apprenticeship Workforce:
   Enhance apprenticeship opportunities for Local and Diverse Workforce for construction trades hours on all bond work. This shall include outreach and other apprenticeship program development.

4) Social and Environmental Impact:
   Enhance support and/or develop programs and experiences that promote active engagement of local interests and resources, focusing on environmental and social impact, while creating identifiable, lasting outcomes.

5) Mentor-Protégé of Firms
   Implement a Mentor-Protégé program for local and target firms increased access, readiness, and capacity for future opportunities.

6) Mentoring of Students
   Support and/or implement a Mentoring program targeting SSD students for career opportunity development through the bond period, including expansion of trades, culinary, hospitality, arts and other localized industries.

7) Partnerships:
   Facilitate and activate several new & existing key partners for regular engagement with a SSD community partnership program, focusing on connecting community members with area businesses, agencies and organizations for relationship development.

METRICS & DESTINATION POINTS:

A SSD program team shall participate in development, review, and encouragement. Participants shall include key executive / project management representatives and stakeholders, including staff and/or community leaders / representatives. Program team shall meet periodically for review, adjustment and reporting of outcomes.

APPENDIX E

Seaside School District

New School Area Program - Elementary School

Elementary School - March 2017

Administration/Counseling	Total (New and Existing)			Existing Heights Building			New Addition		
Room	**Qty.**	**SF/Room**	**SF Total**	**Qty.**	**SF/Room**	**SF Total**	**Qty.**	**SF/Room**	**SF Total**
Reception/Lobby	**1**	**613**	**613**	*1*	*613*	*613*	0	0	0
Principal	**1**	**256**	**256**	*1*	*256*	*256*	0	0	0
Additional Administrators	**3**	**120**	**360**	*0*	*0*	*0*	3	120	360
Counselor Office	**1**	**90**	**90**	*1*	*90*	*90*	0	0	0
Existing Conference Room	**1**	**138**	**138**	*1*	*138*	*138*	0	0	0
Additional Conference Room	**1**	**200**	**200**	*0*	*0*	*0*	1	200	200
Staff Room	**1**	**632**	**632**	*1*	*632*	*632*	0	0	0
Quiet Room	**1**	**50**	**50**	*0*	*0*	*0*	1	50	50
Nurse Office	**1**	**100**	**100**	*1*	*100*	*100*	0	0	0
Health Room	**1**	**233**	**233**	*1*	*233*	*233*	0	0	0
Health Toilet	**1**	**21**	**21**	*2*	*21*	*21*	0	0	0
Staff Toilets	**2**	**20**	**40**	*2*	*20*	*40*	0	0	0
Supply Storage	**1**	**127**	**127**	*1*	*127*	*127*	0	0	0
Volunteer Room	**1**	**100**	**100**	*0*	*0*	*0*	1	100	100
Workroom	**1**	**350**	**350**	*0*	*0*	*0*	1	350	350
Total			**3,310**			*2,250*			1,060

Academic	Total (New and Existing)			Existing Heights Building			New Addition		
Room	**Qty.**	**SF/Room**	**SF Total**	**Qty.**	**SF/Room**	**SF Total**	**Qty.**	**SF/Room**	**SF Total**
Classrooms	**25**	**varies**	**23,769**	*14*	*varies*	*13,869*	11	900	9,900
Kindergarten	**6**	**varies**	**5,946**	*3*	*982*	*2,946*	3	1,000	3,000
KG Toilet/Workroom/Storage	**3**	**varies**	**350**	*1*	*50*	*50*	2	150	300
Computer Classroom	**1**	**varies**	**1,004**	*1*	*1,004*	*1,004*	0	1,000	0
Small Group Rooms	**4**	**150**	**600**	*0*	*0*	*0*	4	150	600
Music Room	**1**	**1,200**	**1,108**	*1*	*1,108*	*1,108*	0	0	0
Art/Science Room (kiln and stove)	**1**	**871**	**871**	*1*	*871*	*871*	0	0	0
Flex Space / Commons (1 per 6 general classrooms)	**4**	**varies**	**3,668**	*3*	*1,056*	*3,168*	1	500	500
Special Projects	**1**	**0**	**871**	*1*	*871*	*871*	0	0	0
Sensory Room	**1**	**100**	**100**	***0***	***0***	***0***	**1**	**100**	**100**
Total			**38,287**			*23,887*			14,400

Seaside School District

New School Area Program - Elementary School

Elementary School - March 2017

Special Programs	Total (New and Existing)			Existing Heights Building			New Addition		
Room	**Qty.**	**SF/Room**	**SF Total**	**Qty.**	**SF/Room**	**SF Total**	**Qty.**	**SF/Room**	**SF Total**
Resource Room	**2**	**750**	**1,500**	*1*	*984*	*984*	2	750	1,500
ELD Classroom	**1**	**794**	**794**	*1*	*794*	*794*	0	0	0
Developmental Classroom	**2**	**966**	**1,932**	*2*	*966*	*1,932*	0	0	0
Special Needs Toilet	**1**	**150**	**150**	*0*	*0*	*0*	1	150	150
Speech Classroom	**2**	**varies**	**944**	*1*	*794*	*794*	1	150	150
Behavior Classroom	**1**	**950**	**950**	*0*	*0*	*0*	1	950	950
Early Intervention Classroom	**1**	**950**	**950**	*0*	*0*	*0*	1	950	950
Title Classroom	**2**	**750**	**1,500**	*1*	*0*	*0*	2	750	1,500
Total			**8,720**			*4,504*			5,200

Library	Total (New and Existing)			Existing Heights Building			New Addition		
Room	**Qty.**	**SF/Room**	**SF Total**	**Qty.**	**SF/Room**	**SF Total**	**Qty.**	**SF/Room**	**SF Total**
Reading Room and Circulation	**1**	**3,800**	**3,800**	*1*	*3,800*	*3,800*	0	0	0
Workroom/Office/Storage	**1**	**300**	**300**	*0*	*0*	*0*	1	300	300
Computer Lab	**1**	**200**	**200**	*0*	*0*	*0*	1	200	200
Textbook Storage	**1**	**400**	**400**	*0*	*0*	*0*	1	400	400
Technology Office / Storage	**1**	**150**	**150**	*0*	*0*	*0*	1	150	150
Total			**4,850**			*3,800*			1,050

Seaside School District

New School Area Program - Elementary School

Elementary School - March 2017

Physical Education	Total (New and Existing)			Existing Heights Building			New Addition		
Room	**Qty.**	**SF/Room**	**SF Total**	**Qty.**	**SF/Room**	**SF Total**	**Qty.**	**SF/Room**	**SF Total**
Gym	**1**	**7,560**	**7,560**	*1*	*7,560*	*7,560*	0	0	0
PE Storage	**1**	**230**	**230**	*1*	*230*	*230*	0	0	0
Recess Storage	**1**	**254**	**254**	*1*	*254*	*254*	0	0	0
Staff Offices	**1**	**90**	**90**	*1*	*90*	*90*	0	0	0
Staff Toilet	**1**	**43**	**43**	*1*	*43*	*43*	0	0	0
Boys Locker Room (with Shower)	**1**	**441**	**441**	*1*	*441*	*441*	0	0	0
Boys Toilet	**1**	**81**	**81**	*1*	*81*	*81*	0	0	0
Girls Locker Room (with Shower)	**1**	**320**	**320**	*1*	*320*	*320*	0	0	0
Girls Toilet	**1**	**81**	**81**	*1*	*81*	*81*	0	0	0
Laundry	**1**	**85**	**85**	*1*	*85*	*85*	0	0	0
Covered Play (1/2 program)	**1**	**1,824**	**1,824**	*1*	*1,824*	*1,824*	0	0	0
Total			**11,009**			*11,009*			0

Food Service/Commons	Total (New and Existing)			Existing Heights Building			New Addition		
Room	**Qty.**	**SF/Room**	**SF Total**	**Qty.**	**SF/Room**	**SF Total**	**Qty.**	**SF/Room**	**SF Total**
Cafeteria (3 lunches)	**1**	**4,000**	**4,000**	*1*	*3,221*	*3,221*	1	779	779
Table/Chair Storage	**1**	**136**	**136**	*1*	*136*	*136*	0	0	0
Kitchen	**1**	**1,001**	**1,001**	*1*	*1,001*	*1,001*	0	0	0
Kitchen Toilet	**1**	**45**	**45**	*1*	*45*	*45*	0	0	0
Storage	**1**	**182**	**182**	*1*	*182*	*182*	0	0	0
Total			**5,364**			*4,585*			779

Seaside School District

New School Area Program - Elementary School

Elementary School - March 2017

Building Support	Total (New and Existing)			Existing Heights Building			New Addition		
Room	**Qty.**	**SF/Room**	**SF Total**	**Qty.**	**SF/Room**	**SF Total**	**Qty.**	**SF/Room**	**SF Total**
Custodial Office	**1**	**210**	**210**	*1*	*210*	*210*	0	0	0
Custodial Storage	**1**	**252**	**252**	*1*	*252*	*252*	0	0	0
Building/Instructional Storage	**2**	**329**	**658**	*2*	*329*	*658*	0	0	0
Custodial Rooms	**4**	**varies**	**232**	*2*	*66*	*132*	2	50	100
Mechanical Equipment Room	**1**	**652**	**652**	*1*	*652*	*652*	0	0	0
Electrical Equipment Room	**1**	**350**	**350**	*1*	*140*	*140*	1	210	210
Electrical Secondary Equipment Rooms	**2**	**100**	**200**	*0*	*0*	*0*	2	100	200
MDF Room	**1**	**200**	**200**	*1*	*200*	*200*	0	0	0
IDF Rooms	**3**	**100**	**300**	*0*	*0*	*0*	3	100	300
Staff Toilets	**4**	**varies**	**236**	*2*	*58*	*116*	2	60	120
Student/Public Toilets	**10**	**varies**	**2,136**	*4*	*159*	*636*	6	250	1,500
Total			**5,426**			*2,996*			2,430

Elementary School Summary	Total (New and Existing)			Existing Heights Building			New Addition		
Administration/Counseling			**3,310**			*2,250*			1,060
Academic			**38,287**			*23,887*			14,400
Special Programs			**8,720**			*4,504*			5,200
Library			**4,850**			*3,800*			1,050
Physical Education			**11,009**			*11,009*			0
Food Service/Commons			**5,364**			*4,585*			779
Building Support			**5,426**			*2,996*			2,430
Net Square Footage			**76,966**			*53,031*			24,919
Net SF x 25%									6,230
Net SF X 26% (existing)						*13,788*			
Total Gross Square Footage			**97,968**			*66,819*			**31,149**
over / under									**4,817**

Seaside School District

New School Area Program - Middle School / High School

Middle School - March 2017

Academic	Areas		
Room	**Qty.**	**SF/Room**	**SF Total**
Classrooms	10	900	9,000
Science Labs	3	1,100	3,300
Science Prep	1	300	300
Flex Space / Commons	1	500	500
Art Room	0	1,100	0
Computer Classroom	1	1,000	1,000
Small Group Room	2	150	300
Total			**14,400**

Special Programs	Areas		
Room	**Qty.**	**SF/Room**	**SF Total**
Resource Room	2	900	1,800
Conference	1	100	100
ELD Classroom	1	900	900
Lifeskills Classroom	1	900	900
Speech / OT Office	1	200	200
Total			**3,900**

Seaside School District

New School Area Program - Middle School / High School

PE/Athletics	Areas		
Room	**Qty.**	**SF/Room**	**SF Total**
Gym	1	6,000	6,000
Locker Rooms	2	750	1,500
PE/Athletics Storage	1	400	400
Staff Offices	2	100	200
Covered Play (1/2 Program)	0	2,000	0
Total			**8,100**

Middle School Grades Summary	Areas		
Academic			14,400
Special Programs			3,900
PE/Athletics			8,100
Net Square Footage			**26,400**
Net SF x 25% =			**6,600**
Total Gross Square Footage			**33,000**

Seaside School District

New School Area Program - Middle School / High School

High School - March 2017

Academic	Areas		
Room	**Qty.**	**SF/Room**	**SF Total**
Classrooms	14	900	12,600
Science Labs	3	1,200	3,600
Science Prep	2	250	500
Science Storage	1	200	200
Art	1	1,600	1,600
Kiln Room	1	200	200
Art Storage	1	200	200
Woodshop/CTE	1	3,000	3,000
Culinary Lab	1	1,300	1,300
Culinary Arts Classroom	1	800	800
Student Production Room	1	400	400
CTE Classroom	1	1,200	1,200
Technology Classroom	1	1,000	1,000
Maker Space	1	850	850
Flex Space / Commons	2	500	1,000
Total			**28,450**

Seaside School District

New School Area Program - Middle School / High School

Special Programs	Areas		
Room	**Qty.**	**SF/Room**	**SF Total**
Resource Room	2	750	1,500
Resource Office	2	175	350
Lifeskills Center	1	1,600	1,600
Special Programs Office/Testing	**2**	**100**	**200**
Alternative Education Center	1	950	950
Mental Health	1	200	200
Speech	1	200	200
Total			**5,000**

PE/Athletics	Areas		
Room	**Qty.**	**SF/Room**	**SF Total**
Gym	1	12,000	12,000
Gym Fitness Loop	1	2,400	2,400
Auxiliary Gym	1	8,000	8,000
Locker Rooms	2	1,200	2,400
PE/Athletics Storage	1	650	650
Team Room (Shared)	2	300	600
Team Room (large)	2	500	1,000
Training Room	1	425	425
Concession	1	150	150
Staff Offices	2	100	200
Weight Room	1	2,600	2,600
Fitness/Wrestling Room	1	**4,300**	**4,300**
Staff Lockers/Toilets/Showers	1	250	250
Total			**34,975**

Seaside School District

New School Area Program - Middle School / High School

High School (Continued)

High School Grades Summary	Areas		
Academic			28,450
Special Programs			5,000
PE/Athletics			34,975
Net Square Footage			**68,425**
Net SF x 25% =			**17,106**
Total Gross Square Footage			**85,531**

Seaside School District

New School Area Program - Middle School / High School

High School / Middle School - Shared Components

Administration/Counseling	**Areas**		
Room	**Qty.**	**SF/Room**	**SF Total**
Reception/Lobby	1	750	750
Principal	**1**	**200**	**200**
Vice Principals/Administration	**3**	**175**	**525**
Counselor	3	150	450
Bookkeeper	1	150	150
AD Office	1	200	200
Conference Room	2	400	800
Small Conference Room	**1**	**100**	**100**
Registrar	**1**	**100**	**100**
Staff Room	1	700	700
Quiet Room	1	125	125
Nurse Office	1	100	100
Exam Room	1	150	150
Health Room	1	100	100
Health Toilet	1	100	100

Seaside School District

New School Area Program - Middle School / High School

Health Clinic	**1**	**600**	**600**
Specialist Offices	3	150	450
SRO Office	1	150	150
Staff Toilets	2	60	120
Supply Storage	1	100	100
Volunteer Room / Parent Resource Room	2	100	200
Clothing Room/Food Pantry	**1**	**500**	**500**
Workroom	1	400	400
Records Storage Room	1	120	120
Career Center	1	625	625
Total			**7,815**

Library	**Areas**		
Room	**Qty.**	**SF/Room**	**SF Total**
Reading Room	1	3,750	3,750
Community Room	1	1,000	1,000
Workroom	**1**	**300**	**300**
Office	**1**	**150**	**150**
Textbook Storage	1	750	750
Production Studio	1	150	150
Computer Lab	1	1,000	1,000
Technology Office / Storage	1	200	200
Total			**7,300**

Seaside School District

New School Area Program - Middle School / High School

High School / Middle School - Shared Components (Continued)

Academic/Misc. Shared Spaces	Areas		
Room	**Qty.**	**SF/Room**	**SF Total**
Band Room	1	2,000	2,000
Choir Classroom	1	1,600	1,600
Practice Rooms	**3**	**150**	**450**
Ensemble Room	**1**	**350**	**350**
Music Storage	**1**	**200**	**200**
Instrument Storage	1	350	350
Offices	2	100	200
Total			**5,150**

Food Service/Commons	Areas		
Room	**Qty.**	**SF/Room**	**SF Total**
Cafeteria (assume 3 lunches)	1	5,000	5,000
Table/Chair Storage	1	500	500
Student Store	1	300	300
Snack Store	1	300	300
Kitchen (includes Servery)	1	5,000	5,000
Total			**11,100**

Seaside School District

New School Area Program - Middle School / High School

Building Support	Areas		
Room	**Qty.**	**SF/Room**	**SF Total**
Custodial Office	1	100	100
Custodial Storage/Workroom/Receiving	1	1,400	1,400
Building/Instructional Storage	1	800	800
Custodial Rooms	6	50	300
Mechanical Equipment Room	1	1,000	1,000
Electrical Equipment Room	1	600	600
Electrical Secondary Equipment Room	2	100	200
MDF Room	1	400	400
IDF Rooms	3	100	300
Staff Toilets	6	60	360
Student/Public Toilets	8	250	2,000
Total			**7,460**

Seaside School District

New School Area Program - Middle School / High School

High School / Middle School - Shared Components (Continued)

School District Offices	Areas		
Room	**Qty.**	**SF/Room**	**SF Total**
Offices	4	120	480
Cubicles/Workstations	4	90	360
Small Conference Room	1	120	120
Large Conference Room	1	250	250
Waiting/Reception	1	200	200
Workroom/Library/Storage	1	150	150
Total			**1,560**

Shared Components Summary	Areas		
Administration/Counseling			7,815
Library			7,300
Academic/Misc. Shared			5,150
Food Service/Commons			11,100
Building Support			7,460
School District Offices			1,560
Net Square Footage			40,385
Net SF x 25% =			**10,096**
Total Gross Square Footage			**50,481**

Middle School / High School Summary	Areas		
Middle School Grades			33,000
High School Grades			85,531
Shared Components			50,481
Total Gross Square Footage			**169,013**
Target Square Footage			

EXISTING SSD PROPERTY

WEYHAUSER PROPERTY

POTENTIAL UGB EXPANSION

TREES TO REMAIN

Channel (PLS Survey)

EXISTING SEASIDE HEIGHTS SCHOOL

OHW (surveyed)

48.76 acres

LIKELY AREA OF TREES TO BE REMOVED ON CURRENT SSD PROPERTY

2·17·17

SCALE 1 INCH 100 FEET

100 0 100 200

County: Clatsop
Watershed: Necanicum
FPA District: Astoria
Elevation:

Weyerhaeuser

	Degrees	Minutes	Seconds
Latitude	45	59	13.232
Longitude	123	54	2.258

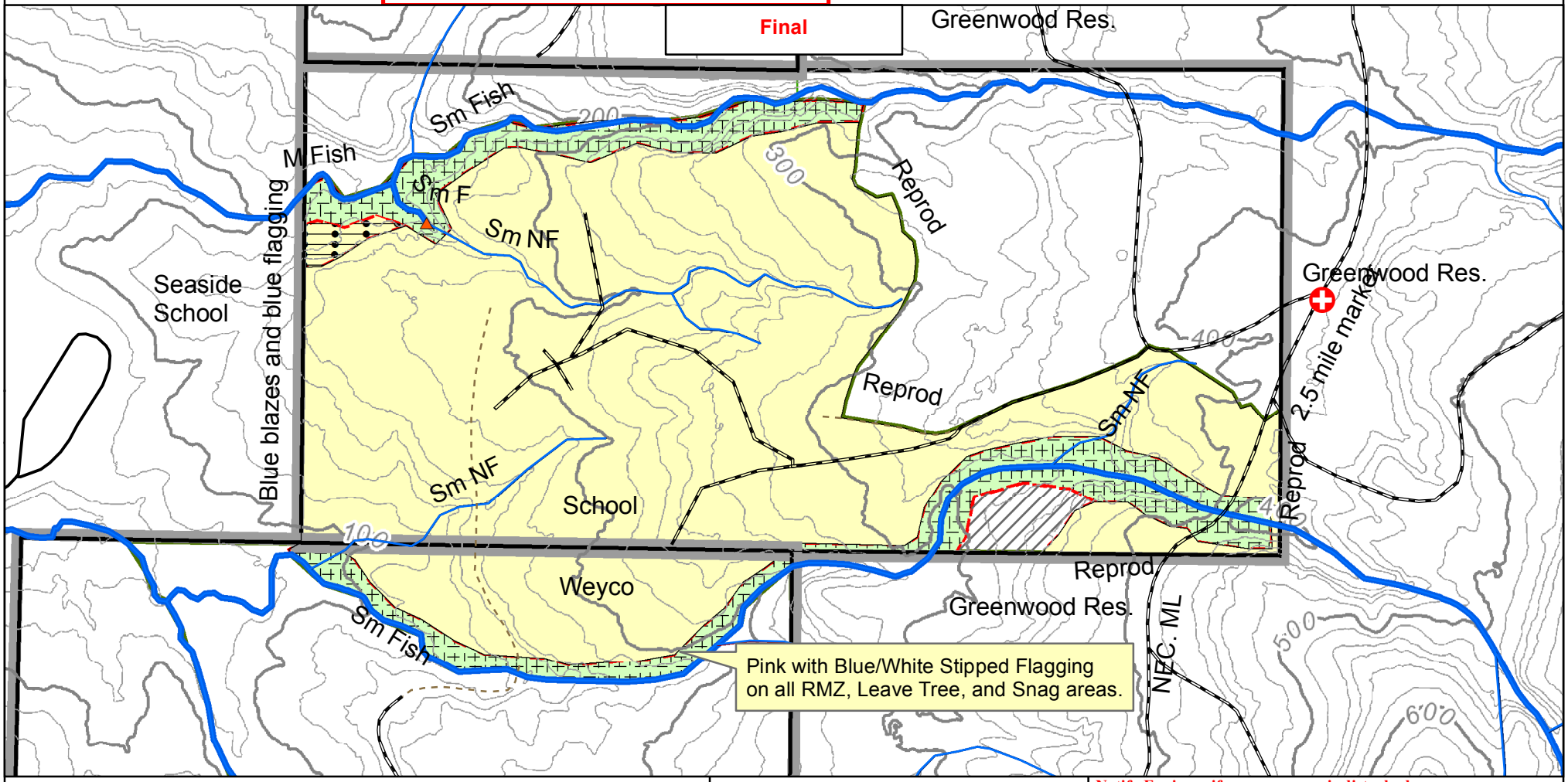
Emergency Route

From Seaside travel south on hwy 101 for 1 mile to Beerman Creek Rd. Turn east on this road and travel 1 mile to gate. Proceed through gate, go 1/2 mile to jct, take north turn onto Nec ML.

Vernonia
Clearcut Harvest Setting Map
Seaside
22-6N-10W

Setting: X7899
R/W#: X6555
HPU: 55524N
Harv.Yr.: 2017
FPA:

Final



Corner
Culvert
Lat/Long Pt.
Road Block
Gate
Landing
Loggers Choice
Wildlife Tree
Water System

End of Fish
Stream
Small/Medium/ Large
Fish/Non-Fish
Intermittent
Domestic Use Stream Segment
Domestic/Municipal Water Line

Bridge
Rock Pit
Tail Tree
Spoil Area
Overhead Utility
Underground Utility

Weyerhaeuser Ownership

Soils
Op Rating Soil ID Rut Depth

Engineered Roads
New Construction
M – M Maintenance
R – R Reconstruction
L – L Loggers Choice
T – T Temporary
X – X Abandon

Existing Roads
Street/Highway
Paved
Gravel
Dirt
Undriveable

Acres		FPA Acres	
Unit Boundary	58.5		-
LTA	.5		
RMA	8.6	Cable	0
Unstable Slope	0	Shovel	0
Non-Forested	1.1		
Existing R/W	0		
New R/W	0	Net Harvestable	48.4

Notify Engineer if survey corner is disturbed

Harvest Acres - 48.4 total (42.4 School, 6 Weyco)
1,307 MBF (Weyco reserved timber)
27 MBF/Acre
RMA Acres - 8.6
Leave Tree Acres - .5
Snag Area Acres - 1.1

Creator: SAPP
Printed DATE: 03/15/2017

0 400
1 inch = 400 feet
Contour Interval 20 feet

3.7.17

[DRAFT]

- ESH MAPPING

Draft Stream Mapping

2015 ESH

Study Area

School District Property 23.8 AC±

stream continues offsite

offsite stream (approximate)

Fish Use (ODFW)

10,078 sf

Channell (PLS Survey)

EXISTING SCHOOL BUILDING

T.L. 900

3,608 sf

T.L. 2100

stream continues offsite

3,262 sf

2015 ESH

Fish Use (ODFW)

2010/2015 ESH

Total Resource Acreage
16,948 SF± (0.39 acres±)

N

0 125 250 500

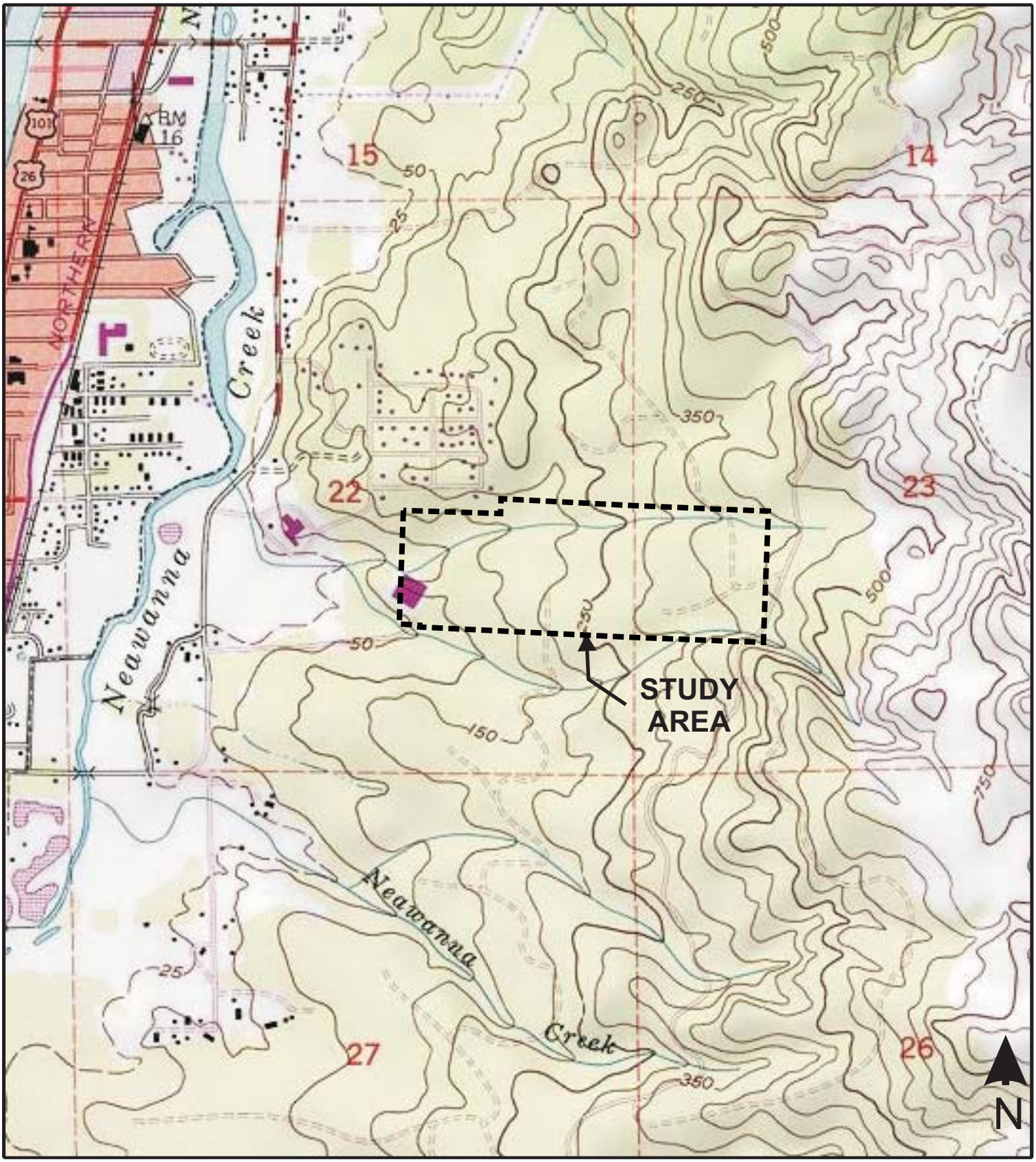
1"=250'

Environmental Science & Assessment, LLC

107 SE Washington St., Suite 249
Portland, OR 97214
Phone: 503.478.0424
FAX: 503.478.0422
www.esapdx.com

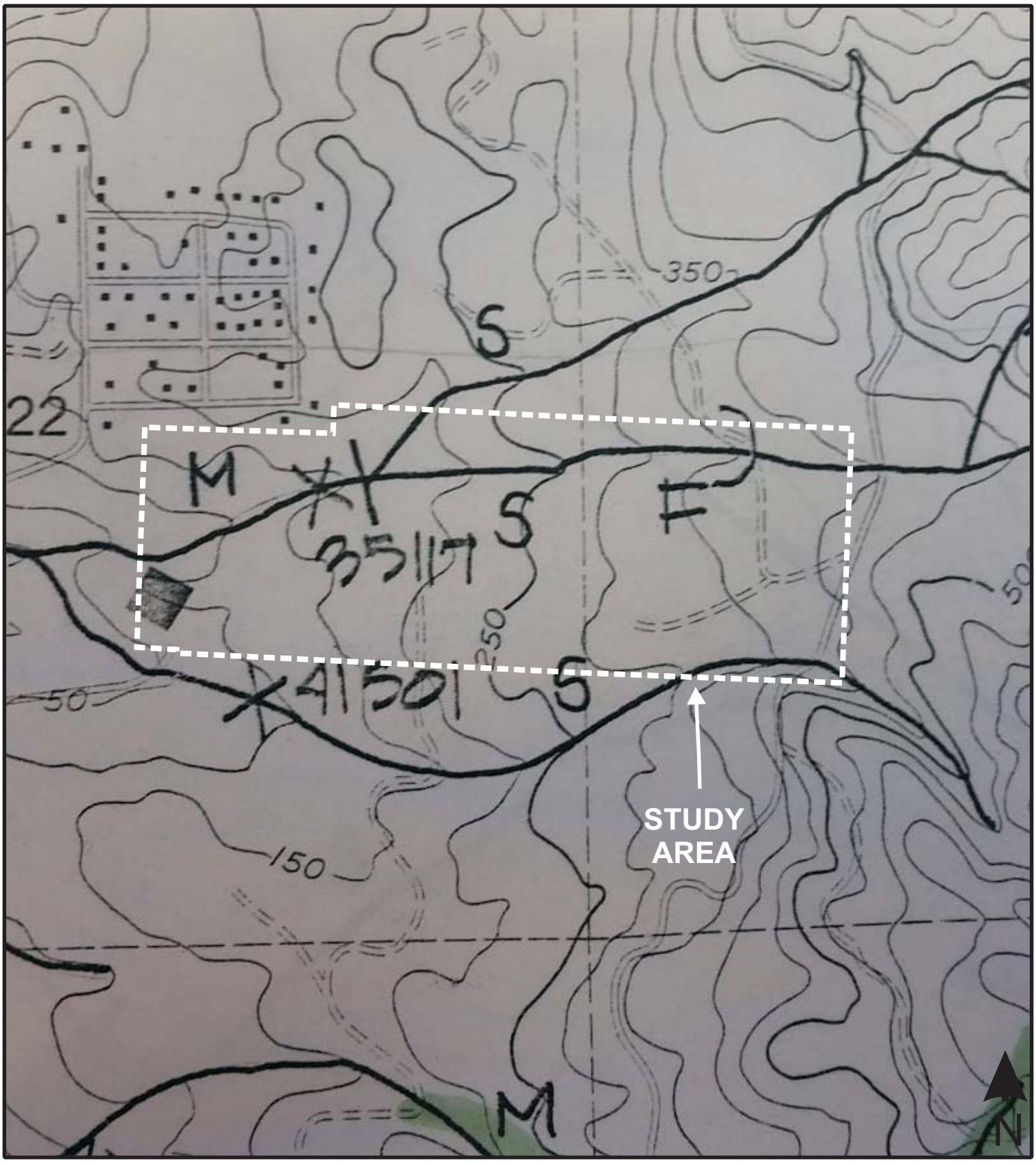
Wetland / Waterway Map
Seaside School District
Seaside, Oregon

Base Map Source:	Westlake Consultants
Modified By:	KR
Date:	7/13
Job:	12011
Rev:	00/00



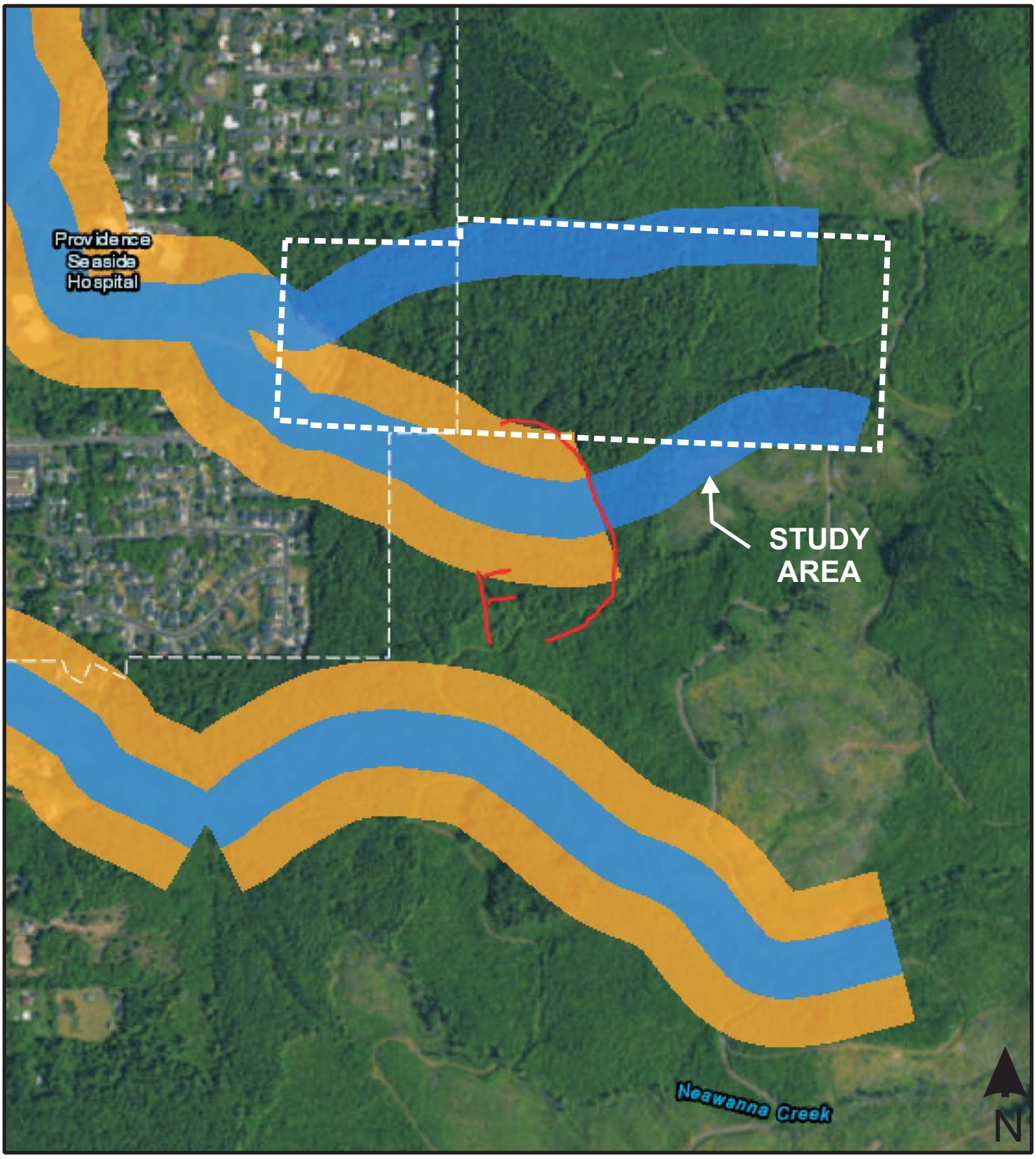
Source: Printed from TOPO! 2000 National Geographic Holdings

Environmental Science & Assessment, LLC	Vicinity Map Seaside Heights Elementary Seaside, Oregon	Figure 1 Approx. Scale: 1in. = xxxx ft.



Source:

Environmental Science & Assessment, LLC e s & a	Coho Fish Use Map Seaside Heights Elementary Seaside, Oregon	Figure 7 Approx. Scale: 1in. = xxxx ft.



Source:

Environmental Science & Assessment, LLC	Coho ESH Map Seaside Heights Elementary Seaside, Oregon	Figure 8 Approx. Scale: 1in. = xxxx ft.

Source: earth.google.com

Imagery Date: 03/30/2016

Environmental Science & Assessment, LLC esa	Aerial Photograph Seaside Heights Elementary Seaside, Oregon	Not to Scale

GEODESIGN INC

April 9, 2012

Seaside Administrative School District 10
c/o Miller Nash LLP
3400 US Bancorp Tower
111 SW Fifth Avenue
Portland, OR 97204

Attention: Ms. Kelly Hossaini

Update to Preliminary Geological Assessment
Weyerhaeuser Property Seaside School Site
Seaside, Oregon
GeoDesign Project: SeasideSD-1-01

INTRODUCTION

GeoDesign, Inc. is pleased to present this report that updates our preliminary geological assessment of the potential development area east of Sunrise Heights Elementary School in Seaside, Oregon. The potential development area is located on Weyerhaeuser property to the east of Seaside School District property. We previously prepared a preliminary geologic assessment[1] dated April 7, 2009 that focused on the northernmost parcel of the Weyerhaeuser property. Additionally, we prepared a follow up memorandum[2] on June 9th, 2010 that documented site access and development considerations of this parcel. The approximate location of this parcel is shown on Figure 1.

Both of our previous reports were prepared before light detection and ranging (LiDAR) topographic data was available for the site. The incorporation of LiDAR data has greatly improved our ability to define existing ground conditions and landslide features. We have prepared the following updated preliminary geologic assessment for the area east of the Sunrise Heights Elementary School using LiDAR data in combination with observations from our previous geologic reconnaissance for the site.

[1] GeoDesign, Inc., *Report of Preliminary Geological Assessment; Weyerhaeuser Property Site Study; Seaside, Oregon;* dated April 7, 2009. GeoDesign Project: Providence-38-01.
[2] GeoDesign, Inc.; Memorandum of *Providence Hospital and Seaside School Potential Site One Access and Development Considerations;* dated June 7, 2010. GeoDesign Project: Providence-38-02.

BACKGROUND

We understand that the Oregon Department of Geology and Mineral Industries (DOGAMI) has conducted a study that identified Cannon Beach Elementary School, Gearhart Elementary School, Broadway Middle School, and Seaside High School as having high potential for collapse during an earthquake. DOGAMI also identified these facilities as being located within the primary tsunami inundation zone. The October 27, 2008 letter from the Seaside School District reports that DOGAMI strongly recommends that the Seaside School District relocate its schools in the tsunami inundation zone to property that is:

- relatively flat,
- geologically stable, and
- at least 80 to 100 feet in elevation above mean sea level (MSL).

Property satisfying these site criteria is not available within the urban growth boundaries for the cities of Cannon Beach, Gearhart, and Seaside. The only property that is adjacent to the urban growth boundary and potentially meets these criteria is located east of Seaside and is owned by the Weyerhaeuser Corporation. Based on our previous investigation, a majority of the Weyerhaeuser property is shown as containing landslide topography (Schlicker and others, 1972). These areas are designated as Geologic Hazard Areas as defined in Section 4.140 of the City of Seaside Zoning Ordinance.

During our previous assessment of the Weyerhaeuser property, we identified a number of parcels that met the three criteria specified in the October 27th letter. We conducted a focused field review of the northernmost potentially developable parcels based on recommendations from representatives of the Seaside School District and Providence Health System. During this focused review, we identified an incised stream drainage crossing the northernmost parcel that was not defined by the existing topographic data or accurately mapped during our preliminary field reconnaissance. We also observed widespread areas of potentially unstable slopes adjacent to the incised drainages adjacent to this parcel. We concluded that there were approximately 50 acres within this northernmost parcel that meet the siting criteria.

SCOPE OF WORK

We have completed the following scope of work in developing and updating geologic assessment:

- Prepared LiDAR-generated topographic contours and slope gradient maps for the site.
- Evaluated LiDAR imagery and identified better estimates of the extents of landslide features and potentially unstable slopes.
- Created a new estimated buildable area map based on the topographic contours and identified landslide features.
- Prepared an updated preliminary geologic assessment for the area east of the Sunrise Heights Elementary School that incorporates our LiDAR evaluation and provides preliminary setback recommendations from geologic hazards at the site.

DATA REVIEW AND UPDATED ANALYSIS

GEOLOGIC SETTING

The site is located on the eastern edge of the Northern Oregon Coastal Plain that resides on the western flank of the Coast Range physiographic province. The Northern Oregon Coastal Plain is composed of a series of marine terraces flanked by ocean beaches to the west and Coast Range uplands to the east. The marine terraces represent wave-cut platforms formed on Tertiary marine sedimentary and volcanic bedrock by Pleistocene sea level fluctuations. The terraces were subsequently covered by near-shore and terrestrial deposits and soils. The marine terraces have been tectonically uplifted and faulted to their present position and deeply weathered and incised by coastal streams.

The site covers several near-surface geologic units consisting of Tertiary marine sedimentary bedrock, volcanic flows, and Quaternary terrace deposits and alluvium (Schlicker and others, 1972; Niem and Niem, 1985). During the early Miocene (15 million to 20 million years before present), the Astoria Formation was deposited in a marine sedimentary basin located near the mouth of the ancient Columbia River. The Astoria Formation consists of a thick assemblage of marine shelf deposits that include mudstones, siltstones, and sandstones. The Astoria Formation identified by Niem and Niem (1985) in the project area is dominated by siltstone and mudstone units.

During the middle Miocene (approximately 14.5 million years before present), basalt lava of the Columbia River Basalt Group (CRBG) flowed down the ancient Columbia River drainage valley and entered the eastern edge of the marine sedimentary basin. The Frenchman Springs unit of the CRBG flowed onto and intruded into the soft, unconsolidated marine sediments of the Astoria Formation forming subaerial lava flows and intrusive sills and dikes within the sediments. Contact of the ocean water and flowing lava formed breccias, pillow palagonite lava complexes, and hyaloclastites that overlie or intrude sedimentary rock of the Astoria Formation.

The Coast Range was uplifted and deeply eroded forming an unconformity during the late Miocene to Pliocene time (approximately 11 million to 2 million years ago). Pleistocene (2 million to 10,000 years before present) sea level fluctuations coupled with slow Coast Range uplift formed multiple wave-cut terraces into the CRBG basalts and Astoria Formation. The terraces were subsequently covered by near-shore beach and terrestrial deposits, primarily colluvial soil. Westerly-flowing streams have incised the terraces, forming isolated benches separated by deep ravines. Stream incision and erosion has resulted in active landslides and unstable slopes located on the steep side banks of these stream drainages. Additionally, uplift and erosion has resulted in instability of steep slopes underlain by weak bedrock units and thick soil deposits. The combination of bedrock type, stream erosion, and slope instability has formed the current topography on the site.

GEOLOGIC HAZARDS

Geologic hazard mapping (Schlicker and others, 1972) indicates that a majority of the site contains landslide topography. In addition, slopes south and east of the site are mapped as having potential for rapidly moving landslides (Hofmeister and others, 2002). We conducted an

aerial photograph analysis and field reconnaissance of the site to verify the presence of slope instability. Our findings were summarized in our previous report dated April 7th, 2009. An additional detailed field reconnaissance of the site was conducted on June 4th, 2010.

Goal 7 of Oregon's Statewide Planning Goals and Guidelines requires that local governments do not site essential facilities and special occupancy structures such as hospitals and schools within identified hazard areas. Subsequent to adoption of Goal 7, hazardous areas associated with rapidly moving landslides and tsunamis have been mapped by DOGAMI (Hofmeister and others, 2002; Priest, 1995).

UPDATED GEOGRAPHIC INFORMATION SYSTEM (GIS) ANALYSIS AND EVALUATION

We developed an updated GIS base map for the site utilizing publically available bare earth LiDAR available from DOGAMI. We developed an updated slope gradient, topographic contours, and shaded relief maps from the LiDAR data to help delineate areas of landslide scarps and potentially unstable slopes in the immediate vicinity of the northernmost parcel considered suitable for the development project.

Our previous analysis utilized 10-meter resolution photogrammetric topographic data obtained from the U.S. Geological Survey. The photogrammetric topography provides a highly smoothed version of the actual ground topography. Accordingly, our previous slope gradient map was only utilized to delineate broad areas of relatively flat ground. However, the incorporation of LiDAR data has greatly improved our ability to define existing ground conditions, unstable slopes, and landslide features within the buildable area.

Figure 2 shows that the updated estimated buildable area within the northernmost parcel that is relatively flat and geologically stable, and avoids the steep slopes adjacent to incised streams. This area lies almost entirely above an elevation of 80 feet MSL which is the tsunami inundation upper limit as shown on Figure 2. We have further subdivided the updated buildable area into two separate areas (Areas 1 and 2) that are separated by a solid red line as shown in Figure 2. Additionally, a potential buildable area confined to a steep drainage separates Area 1 and Area 2 and is outlined on Figure 2 with a dashed red line.

Figure 3 shows landslide head scarps and areas of potentially unstable slopes identified using the LiDAR data and partially verified during previous field reconnaissance. LiDAR hillshade images and topographic contours were both used to identify landslide head scarps. A LiDAR-generated slope gradient map is shown with topographic contour and landslide head scarps on Figure 4. We updated the buildable area for development shown on Figures 2 through 4 by including a buffer adjacent to incised stream drainages, unstable slopes, and landslide headscarps. The buildable area was setback approximately 75 feet from identified landslide head scarps and 50 feet from the extent of potentially unstable slopes.

The southwestern portion of Area 1 contains several small and discontinuous areas that we identified as potentially unstable slopes. These potentially unstable slope areas are located within or adjacent to a series of small, southwesterly flowing drainages that contain slopes having a gradient greater than 40 percent (Figures 3 and 4). Area 2 does not contain any areas identified as unstable slopes, but is separated from Area 1 by an incised drainage with unstable

slopes and identified landslide head scarps. Figure 2 shows Areas 1 and 2. This drainage could only be considered potentially buildable from a geotechnical perspective by properly filling the drainage and controlling nearby surface and groundwater conditions. It would also be geotechnically feasible to construct a bridge or culvert crossing to connect the south side of Area 2 with the north side of Area 1.

CONCLUSIONS AND SITE DEVELOPMENT RECOMMENDATIONS

Utilizing the LiDAR topographic data has allowed us to refine the estimated buildable area as shown on Figure 2. We have mapped landslide head scarps and areas of potentially unstable slopes (Figure 3), and defined the boundary of the buildable area by assigning buffers from these features. Specifically, we established a 75 foot buffer from landslide head scarps, and a 50 foot buffer from potentially unstable slopes. These buffer distances could possibly be reduced further as a result of more thorough field explorations and through engineering design and construction mitigation.

Figure 4 shows that slopes within Areas 1 and 2 are mostly in the range of 0 to 20 percent, and that these relatively flat areas are separated by somewhat linear slopes ranging from 20 to 40 percent. These steeper slopes generally are no more than 10 to 20 feet high, and reflect the stepped topography of the site area. A series of small, southwesterly directed drainage areas located within the southwestern corner of the buildable area have relatively steep slopes exceeding 40 percent, and contain areas of potentially unstable slopes (Figure 3). Development of this part of the site will likely require a more detailed geotechnical exploration program and engineering evaluation, as well as more significant cuts and/or fills for mass grading. Accordingly, when considering economic, aesthetic, and environmental factors, it may be beneficial to avoid siting buildings or other structures in the steep slope areas identified at the SW corner of the estimated buildable Area.

The updated estimated buildable area (Areas 1 and 2) includes approximately 45.33 acres within the Weyerhaeuser-owned parcel. Area 1 contains approximately 40.81 acres within Weyerhaeuser property and Area 2 contains 4.52 acres. Approximately 4.67 acres within Area 1 is within property currently owned by the Seaside School District. The total estimated buildable area (Areas 1 and 2) shown on Figure 2 is 50 acres.

♦ ♦ ♦

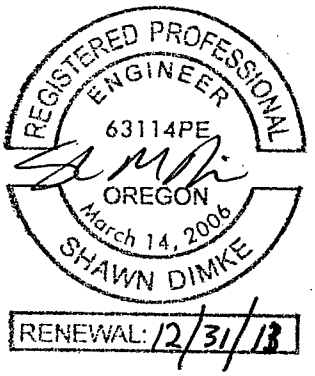
We appreciate the opportunity to be of continued service to you. Please call if you have questions concerning this report or if we can provide additional services.

Sincerely,

GeoDesign, Inc.

Shawn M. Dimke, P.E., G.E.
Associate Engineer

Stephen P. Palmer, Ph.D., C.E.G.
Principal Engineering Geologist



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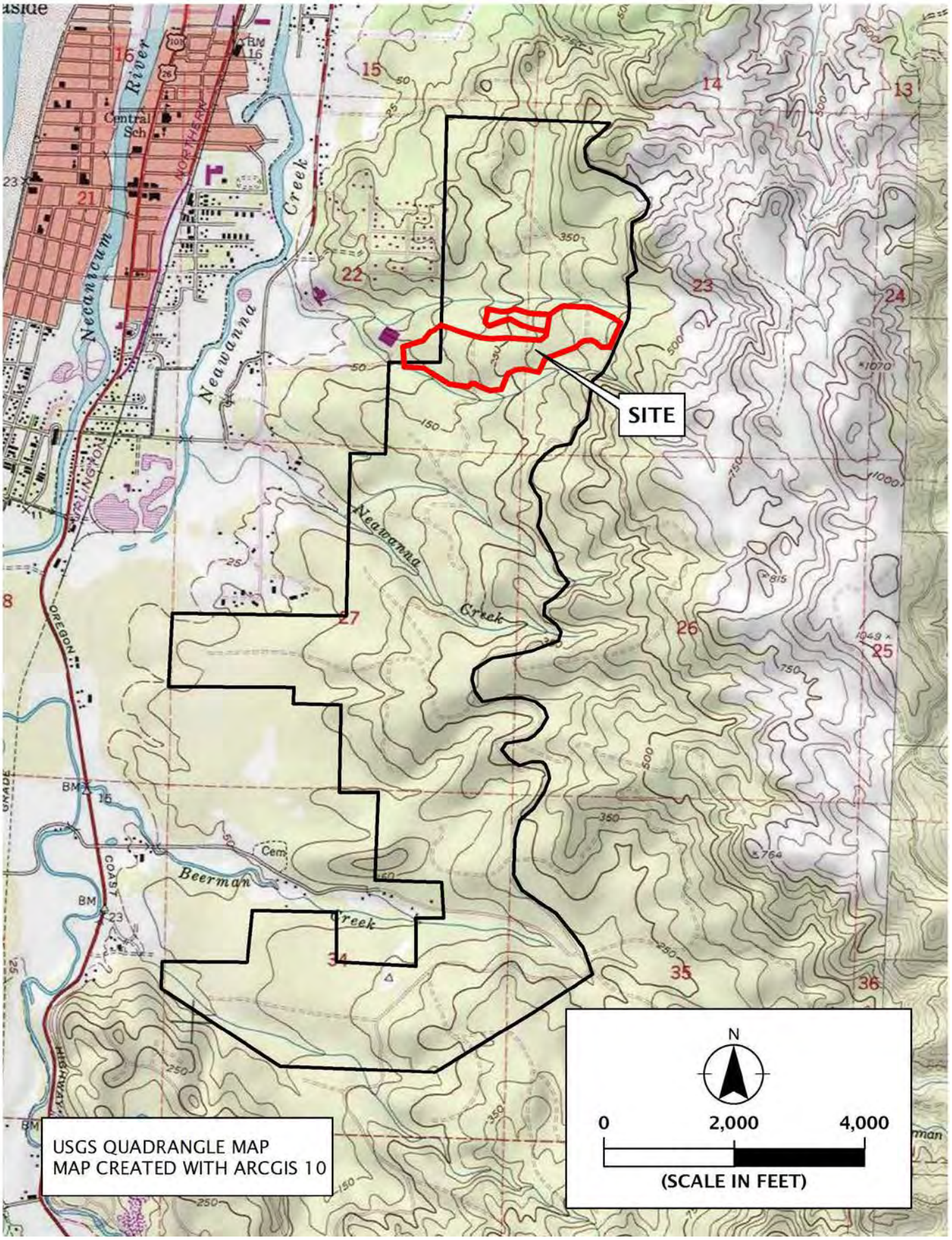
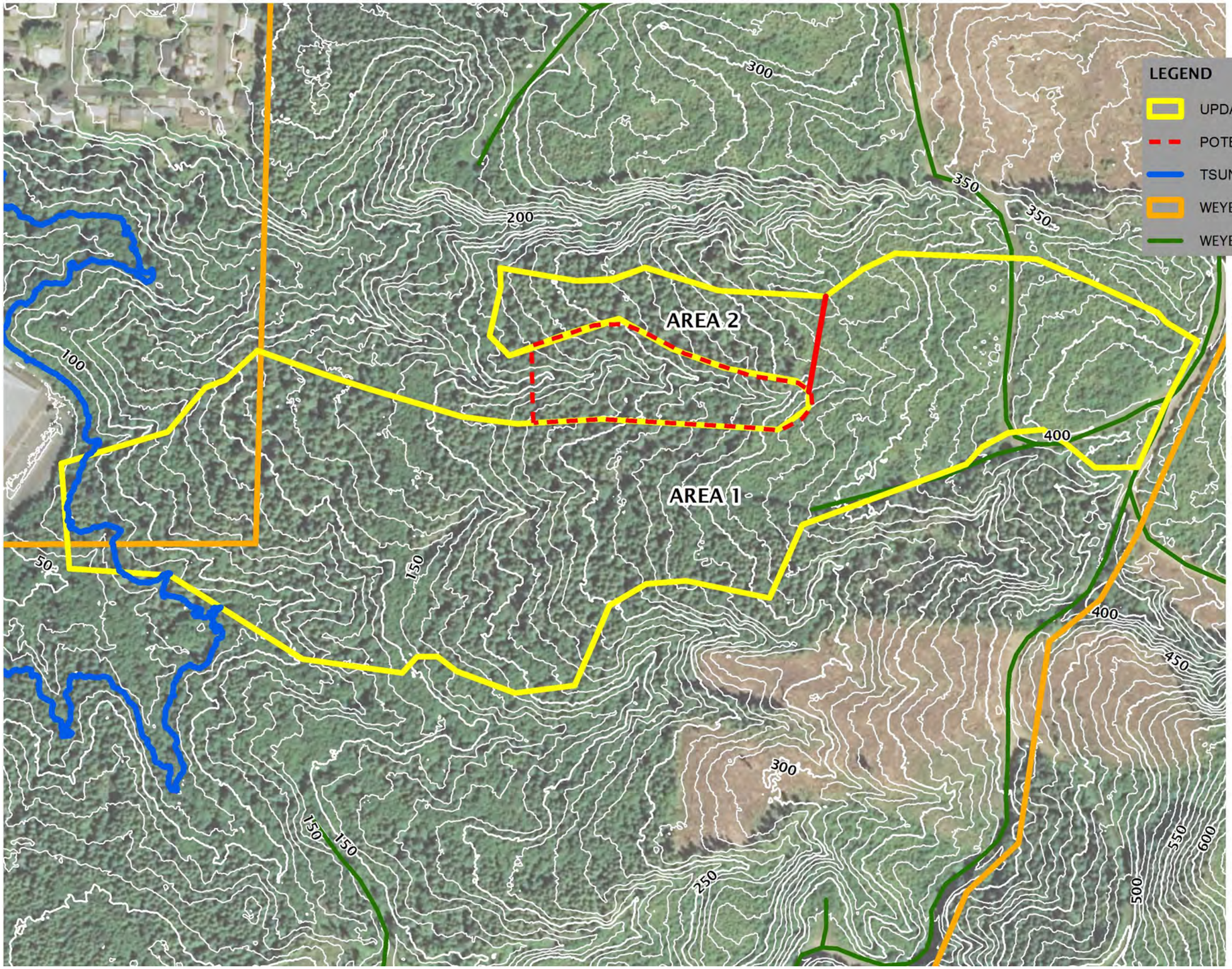
One copy submitted (via email only)
Document ID: SeasideSD-1-01-040912-geolr.doc

FIGURES



GEODESIGN INC 15575 SW Sequoia Parkway - Suite 100 Portland OR 97224 Off 503.968.8787 Fax 503.968.3068	SEASIDESD-1-01	**VICINITY MAP**	
	APRIL 2012	WEYERHAEUSER PROPERTY SEASIDE SCHOOL SITE SEASIDE, OR	**FIGURE 1**

SeasideSD-1-01-F1.doc Print Date: 4/9/12



TOTAL BUILDABLE AREA WITHIN WEYERHAEUSER PROPERTY: 45.33 ACRES

AREA 1: 40.81 ACRES (WITHIN WEYERHAEUSER PROPERTY)

AREA 2: 4.52 ACRES

BUILDABLE AREA OUTSIDE WEYERHAEUSER PROPERTY: 4.67 ACRES

NOTES:

SLOPE, HILLSHADE, AND CONTOURS DERIVED FROM BARE EARTH LIDAR FROM DOGAMI (2009).

SITE MAP

WEYERHAEUSER PROPERTY SEASIDE SCHOOL SITE
SEASIDE, OR

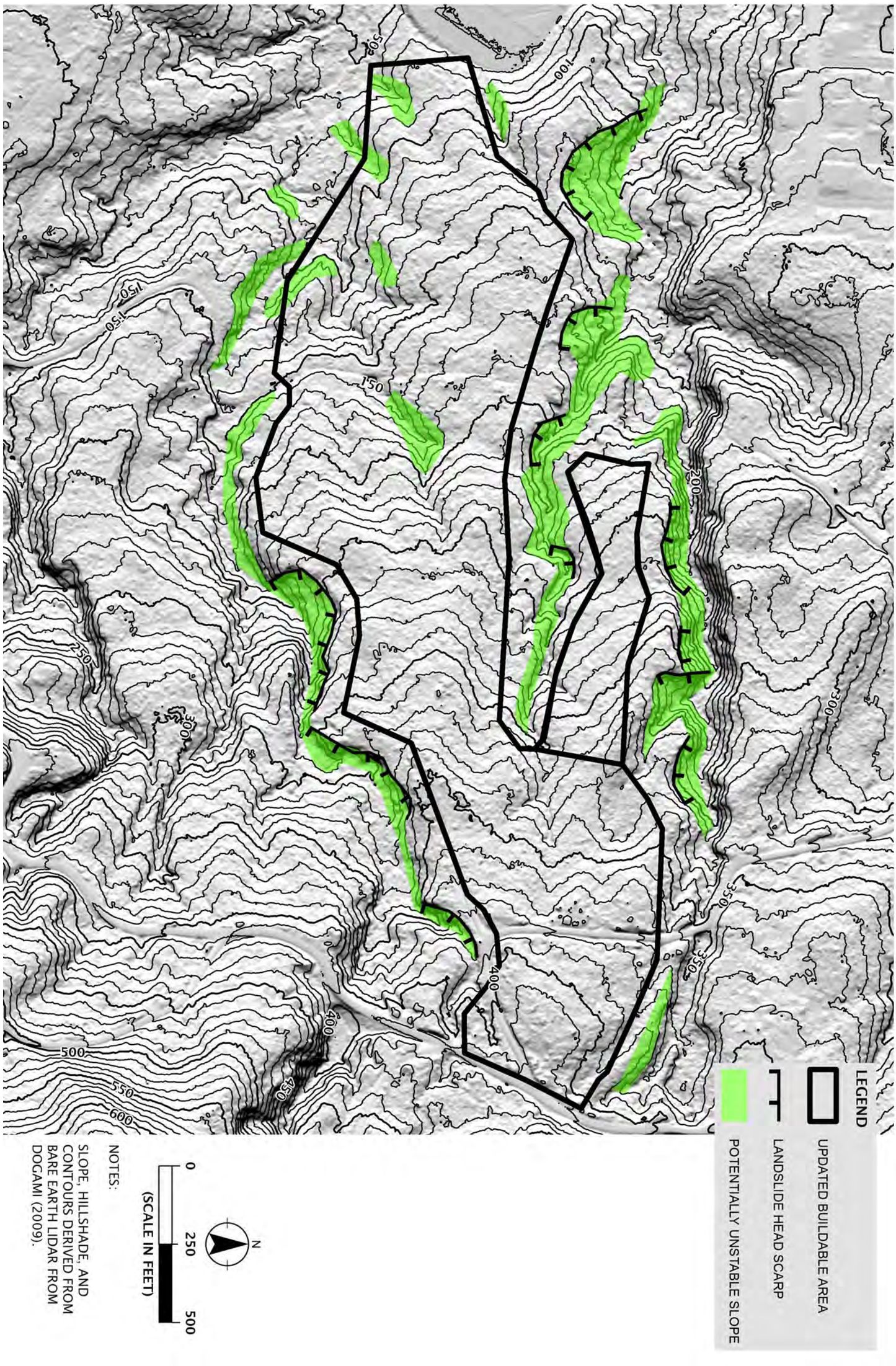
FIGURE 2

SEASIDESD-1-01

APRIL 2012

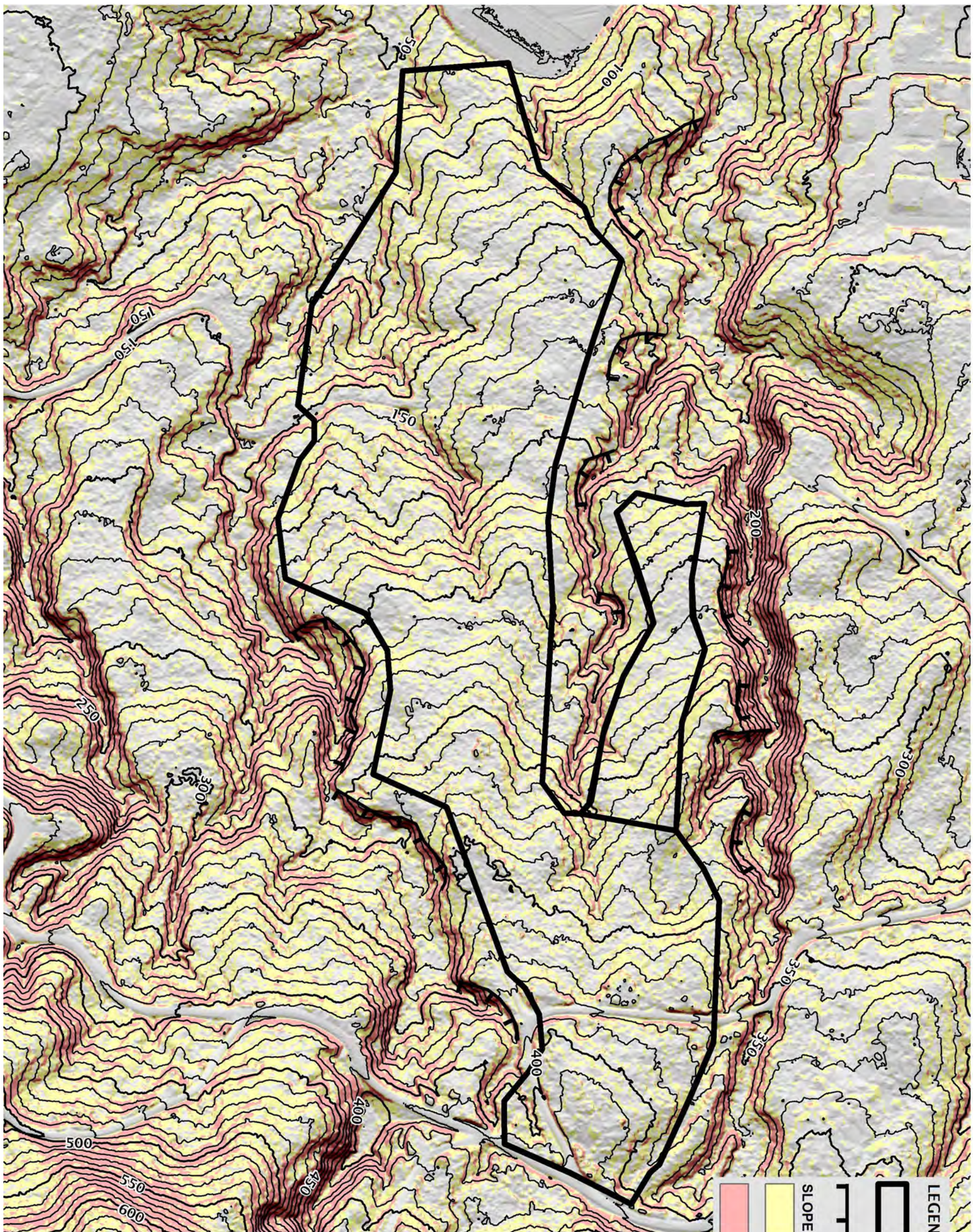
GEODESIGN INC
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

SeasideSD-1-01-F2.doc Print Date: 4/9/12



GEODESIGN INC
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

SEASIDESD-1-01	**LANDSLIDES AND UNSTABLE SLOPES**	
APRIL 2012	WEYERHAEUSER PROPERTY SEASIDE SCHOOL SITE SEASIDE, OR	**FIGURE 3**



GEODESIGN INC
15575 SW Sequoia Parkway - Suite 100
Portland OR 97224
Off 503.968.8787 Fax 503.968.3068

SEASIDESD-1-01	**SLOPE GRADIENT MAP**	
APRIL 2012	WEYERHAEUSER PROPERTY SEASIDE SCHOOL SITE SEASIDE, OR	**FIGURE 4**

GRI Geotechnical & Environmental Consultants
9725 SW Beaverton Hillsdale Hwy, Ste 140
Beaverton, Oregon 97005-3364
PHONE 503/641/3478 FAX 503/644/8034

June 27, 2007

4566 GEOTECHNICAL RPT

Murray, Smith & Associates, Inc.
121 SW Salmon Street, Suite 900
Portland, OR 97204

DRAFT

Attention: Tom Boland, PE

SUBJECT: Geotechnical Investigation and Site-Specific Seismic Hazard Study
Proposed 4-MG Reservoir for City of Seaside
Seaside, Oregon

At your request, GRI has conducted a geotechnical investigation and site-specific seismic hazard study for the above-referenced reservoir located south of the existing Peterson Point reservoir in Seaside, Oregon. The general location of the proposed reservoir is shown on the Vicinity Map, Figure 1. The purpose of this investigation was to evaluate subsurface materials and conditions at the site and develop geotechnical recommendations for design and construction of the steel reservoir. The investigation included review of available pertinent information for the site and vicinity, a site reconnaissance, subsurface explorations, laboratory testing, and engineering and seismic analyses. This report documents the work accomplished and provides our conclusions and recommendations for founding the proposed reservoir on the site.

Our study also included review of subsurface information obtained by GRI from a boring drilled immediately south of the Peterson Point Reservoir, adjacent to the shooting range in October 2006. In addition, we reviewed geotechnical information developed by Fujitani Hilts & Associates, Inc. and Foundation Engineering for the dam at Peterson Point Reservoir. The information was provided in reports entitled, "Geologic Reconnaissance, South Fork Necanicum River Basin, Seaside, Oregon" dated December 10, 1992, and "Seaside Raw Water Alternative," dated September 23, 1993, respectively.

PROJECT DESCRIPTION

The proposed location and configuration of the 4-MG steel tank reservoir is shown on the Site Plan, Figure 2. The conceptual site plan by MSA, the project civil engineer, indicates the reservoir will have an outside diameter of 155 ft and overall height of about 32 ft. The reservoir will have a finish floor at elevation 175 ft and an overflow at elevation 205 ft. The existing ground surface ranges from about elevation 183 to 209 ft, which will require a maximum cut height of about 35 ft to construct the reservoir. The metal tank will be constructed on a ring foundation and will be underlain by asphaltic-concrete pavement over compacted crushed rock to provide a uniform surface for the metal bottom of the tank. A permanent cut slope will be excavated on the north and northeast sides of the reservoir, and a 15-ft-wide access road will surround the reservoir. A new access road to the tank will be constructed south from the existing water treatment plant access road.

SITE DESCRIPTION

Topography and Surface Conditions

The reservoir site is located south of the existing Peterson Point reservoir and southwest of the existing water treatment plant. The area of the existing tank is heavily wooded and slopes down to the south. As shown by the topographic information on Figure 2, the existing ground surface within the planned reservoir footprint slopes downward to the south from about elevation 209 to 183 ft. At the north edge of the tank site is an existing north-facing cut slope that separates the wooded area from Peterson Point Reservoir, the existing shooting range, and water treatment plant access road to the north. A near-vertical cut of an active quarry is present south of the site. West of the proposed tank location is a heavily wooded ravine that drains the Peterson Point Reservoir outfall. The area east of the proposed tank site is heavily wooded and slopes into a drainage to the southeast which drains into the quarry.

General Geology

The site is mantled with a thin (5 ft) layer of clayey silt (decomposed sedimentary rock) that is underlain by siltstone of the Astoria Formation, a regionally extensive, fine-grained sedimentary rock (Niem and Niem, 1985). The siltstone is underlain by Columbia River Basalt. The uppermost portion of the Astoria Formation is predominately decomposed to the consistency of clayey silt soil. At the site, the Columbia River Basalt forms a domed intrusion that has uplifted and folded the overlying Astoria Formation, which is dipping approximately to the northeast. Geologic mapping of the area indicates that domed intrusions of Columbia River Basalt have caused localized folding of the overlying sedimentary rock.

The site is located on the west slopes of the Coast Range. The western margin of the range is bordered by the Cascadia Subduction Zone, a megathrust fault comprised of the broad, eastward-dipping zone of contact between the upper portion of the subducting slabs of the Gorda, Juan de Fuca, and Explorer plates and the over-riding North American Plate.

SITE RECONNAISSANCE

A reconnaissance of the site and surrounding area was conducted by geotechnical engineers, registered geologists, and a certified engineering geologist from GRI in March and April 2007. GRI personnel also met MSA and City of Seaside representatives on visits to the site. The following description of the site is a summary of the observations made during several site visits.

The proposed tank reservoir site slopes gently the south and is heavily wooded with coniferous trees. The ground surface is uneven due to stumps and logs related to past logging. North of the site, the area of the existing shooting range and fill site appear to have been graded down and then filled. Siltstone bedding is exposed in the 1H:1V cut-slope that separates the shooting range area from the wooded site. Bedding measurements on the siltstone indicate the unit slopes down at 10° to 75° to the north to northeast. Northeast of the tank site, south of the existing water treatment plant, the ground slopes up to about elevation 220 ft toward a pond that we understand was created during the construction of Peterson Point Reservoir. To the southeast, the ground slopes downward toward a shallow drainage that was not flowing water during our site visit; however, vegetation indicates the presence of wet ground. Northwest of the tank site, the ground slopes steeply down to the heavily vegetated drainage of the Peterson Point Reservoir outfall. Localized slumps were observed in the oversteepened sidewalls of the drainage ravine. The access road to the Peterson Point Reservoir and water treatment plant follows the drainage, and the

existing pump station is located just northeast of the drainage, along the road. Outcrops of relatively hard basalt were observed along the road cut, down the road from the pump station.

South of the tank site is an existing road that connects to the Teevin & Fisher Quarry located approximately 200 ft south and downslope of the road and tank site. Siltstone crops out at the ground surface between the road and the quarry at about elevation 170 ft. The quarry is presently active, and the quarry walls are 100-ft-high near-vertical cuts into the basalt. The basalt is overlain by sedimentary rock, which is observed to be uplifted and folded. Obvious indications of slope instability were not observed in the quarry walls.

SUBSURFACE CONDITIONS

General

Subsurface materials and conditions at the proposed reservoir site were investigated between March 22 and April 23, 2007, with four test pits, designated TP-1 through TP-4, and three borings, designated B-1 through B-3. The test pits were excavated to depths of about 9 to 13 ft, and the borings were advanced to depths of 33 to 65 ft at the locations shown on Figure 2. The field and laboratory testing programs completed for this study are discussed in detail in Appendix A. Logs of the test pits are provided on Figure 1A; logs of the borings are provided on Figures 2A through 4A. The terms used to describe the materials encountered in the explorations are defined in Tables 1A and 2A.

For the purpose of discussion, the materials disclosed by the explorations have been grouped into the following units based on their physical characteristics and engineering properties. Listed as they were encountered from the ground surface downward, the units are:

1. **FILL**
2. **Clayey SILT (Decomposed Siltstone)**
3. **SILTSTONE**
4. **BASALT**

1. FILL. Concrete and asphalt debris and cobbles in a matrix of brown silt was encountered in test pit TP-4 from the ground surface to the bottom of the test pit at 12 ft. This fill is located at the approximate location of the proposed reservoir access road.

2. Clayey SILT (Decomposed Siltstone). Decomposed siltstone with the consistency of medium stiff to very stiff, clayey silt was encountered at the ground surface in test pits TP-1 through TP-3 and in borings B-1 through B-3. The silt is underlain by moderately to slightly weathered siltstone at depths of 3 to 5 ft. The decomposed siltstone consists of brown mottled gray and red silt with a variable clay content ranging from trace clay to clayey, and trace to some fine-grained sand. Standard penetration test N-values of 6 to 26 blows/ft and Torvane shear strength values ranging from of 0.4 to 0.5 tsf indicate the relative consistency of the clayey silt is medium stiff to very stiff. The natural moisture content of the clayey silt ranges from about 35 to 63%.

3. SILTSTONE. Test pits TP-1 through TP-3 and borings B-1 through B-3 encountered extremely soft to medium hard (R0 to R3), brown to gray siltstone below the decomposed siltstone at depths of 3 to 5 ft. The siltstone extended to the bottom of boring B-1 at a depth of 60 ft. The siltstone is moderately to slightly weathered, and the degree of weathering decreases with depth. The siltstone is thinly laminated

with interbedded layers of sandstone generally less than 1 in. thick, and is cross bedded. Core recovery ranged from 24 to 100%. The Rock Quality Designation (RQD) of core samples of the siltstone ranged from 0 to 60% and were typically 20 to 45%. GRI collected several measurements of siltstone bedding in test pits TP-1 through TP-3 to evaluate the orientation of the rock. Bedding in test pits TP-2 and TP-3 slopes down to the northeast at approximately 10° to 45°. Bedding in test pit TP-2 slopes down to the south at approximately 50°.

During excavation of the test pits, GRI observed a fold in the east side of the excavation for test pit TP-3, which documented near-vertical siltstone bedding in the test pit sidewalls. The orientation of the fold (top-to-the-north sense of overturning) is consistent with a tectonic origin rather than past slope instability.

3. BASALT. Borings B-2 and B-3 encountered hard (R4), dark gray basalt below the siltstone at depths of 48.5 and 28.5 ft, respectively. The basalt extended to the bottom of the borings at depths of 33 to 65 ft. The basalt is typically slightly weathered and has close to very close joints. Core recovery ranged from 95 to 100%. The RQD of core samples of the hard basalt ranged from 32 to 72%.

Groundwater

A standpipe was installed in boring B-2, and groundwater levels were subsequently measured at approximately elevation 166.5 and 170.5 ft on April 20 and May 11, 2007, respectively. Groundwater was observed at approximately elevation 171 ft in boring B-1 following drilling. Localized seeps (likely related to shallow perched groundwater) are present at the ground surface southeast of the site.

Inclinometer

In April 2007, GRI installed an inclinometer casing in the borehole of boring B-3 at the approximate location shown on Figure 2. An inclinometer casing consists of a plastic pipe with a pair of orthogonal slots, or grooves, that permit a calibrated instrument to be lowered to the bottom of the casing. When the ground surrounding the casing moves, the casing distorts above the zone of movement, and the orientation of the casing changes. The orientation of the casing is determined by lowering the calibrated instrument to the bottom of the casing and reading the instrument at 2-ft intervals as it is withdrawn. The zone and rate of movement can be determined by comparing the results of successive sets of readings. The inclinometer was installed southwest of the proposed tank footprint to provide long-term monitoring of the site with respect to the existing quarry located south of the site.

CONCLUSIONS AND RECOMMENDATIONS

General

The subsurface explorations made for this investigation indicate the reservoir site is mantled with up to 5 ft of medium stiff to very stiff, clayey silt underlain by siltstone that becomes less weathered and harder with depth. The siltstone appears to generally slope down to the northeast across the site. Our experience indicates the weathering, hardness, and structure of the rock can vary significantly over relatively short horizontal and vertical distances, due primarily to folding of the sedimentary rock by the underlying basalt intrusion and the finely laminated bedding of the sedimentary rock. The local groundwater level is anticipated to be relatively close the bottom of the proposed excavation and perched groundwater conditions may occur in the surficial soils during periods of prolonged or intense precipitation. Infiltration of precipitation may also result in seepage from more permeable zones in the sedimentary rock within the depth of the planned excavation and permanent cut slope.

In our opinion, geotechnical considerations associated with the project include the potential for localized slope instability across the planned reservoir excavation, which could approach 35 ft in height, due to localized folding within the siltstone and variable weathering. Slope instability associated with the local siltstone has occurred to the northwest of the site, associated with the earthen dam at Peterson Point Reservoir. Due to the proximity of the site to the Cascadia Subduction Zone, there is the potential for substantial ground accelerations during a design earthquake. The tank will be established in siltstone, which will provide satisfactory foundation support with relatively small total and differential settlements.

The near-vertical walls of the existing Teevin & Fisher Quarry are approximately 200 ft south of the tank site. It is our understanding the quarry will not be excavated farther north toward the tank site. The inclinometer installed on the tank site, about 100 ft north of the quarry, is intended to monitor the long-term stability of the site relative to the quarry.

Our conclusions and recommendations for design and construction of the reservoir are provided below.

Seismic Considerations

We understand the project will be designed using the American Water Works Association document AWWA D100-05, "Welded Carbon Steel Tanks for Water Storage," and the 2006 International Building Code (IBC) with 2007 Oregon Structural Specialty Code (OSSC) modifications, which are based on the same document for seismic evaluation, ASCE 7-05. Based on the subsurface conditions disclosed by our recent borings, the site would be classified as AWWA and IBC Site Class C. The 0.2 and 1.0 spectral response accelerations (S_S, S_1) for the site are approximately 1.36 and 0.70 g, respectively. The peak ground acceleration for the site is 0.36 g.

According to the OSSC, the reservoir is considered an essential facility. For this reason, GRI completed a site-specific seismic study for this project. Details regarding the site-specific seismic hazard study are provided in Appendix B. For the purpose of this study, we used a damping ratio of 5% to characterize the planned reservoir.

The site is located within 10 km of the Cascadia Subduction Zone (CSZ), the active plate boundary along which the oceanic tectonic plate is being subducted beneath the western edge of the North American continent, as a megathrust fault. While there have not been any interplate earthquakes on the CSZ in the 170-year historical record of the Pacific Northwest, geological studies show that great interplate megathrust earthquakes on the CSZ have occurred repeatedly in the past 7,000 years (Atwater and others, 1995; Clague and others, 1997; Goldfinger, 2003; and Kelsey and others, 2005). Due to the proximity of the site to this active plate margin and the comparative lack of seismic hazard at the site associated with other earthquake sources, the subduction zone earthquake is the design earthquake for this site.

Based on the results of our geotechnical investigation, site response for the project was evaluated assuming bedrock at the foundation level of the structure. Details regarding the site-specific seismic hazard study are provided in Appendix B. The results of our seismic study indicate the response spectrum developed using the 2002 U.S. Geological Survey (USGS) probabilistic seismic hazard study is most appropriate for the conditions at this site. Based on review of the USGS study and comparison with the 2006 IBC normalized spectrum for Site Class C, we recommend using the IBC design spectrum for seismic design. To calculate the response spectrum at a damping ratio of 0.5% for sloshing, multiply the IBC design spectrum for Site Class C by a factor of 1.5.

Due to the proximity of the site to Peterson Point Reservoir, the risk of earthquake-induced seiche at the site was evaluated. The reservoir elevation is 195 ft, and the proposed tank floor elevation is 175 ft. Based on preliminary estimates of earthquake-induced seiche at the site, we estimated that a 5-ft seiche could overtop the reservoir banks and inundate the existing access road and proposed tank access road. To mitigate the risks of inundation, we recommend locating the tank access road south of the tank.

Due to the geometry of the subduction zone, there is minimal risk of fault rupture at the site. Based on the findings of our investigation, it is our opinion the risk of liquefaction and liquefaction-induced lateral spreading, settlement, and subsidence is absent. Based on the site topography, it is our opinion the risk of earthquake-induced slope instability is low. Based on the elevation of the site and review of the Oregon Department of Geology and Mineral Industries (DOGAMI) tsunami hazard map for the area, the risk of damage by tsunamis is absent.

Site Preparation

The fine-grained soils that mantle the site are sensitive to moisture content and are easily disturbed and softened by construction activity during wet conditions. Site preparation and earthwork should be accomplished during the dry, summer months. In our experience, the moisture content of the upper approximate 2 to 3 ft of the silt and clay soils will decrease during warm, dry weather. However, the moisture content of the soil below this depth tends to remain relatively unchanged and well above the optimum moisture content for compaction. As a result, the contractor must employ working procedures that prevent disturbance and softening of the subgrade soils. For this reason, excavation within the final 3 to 4 ft of any silt subgrade should be accomplished with a track-hoe equipped with a smooth-edged bucket. We anticipate the localized seeps may be encountered within the excavation. It will be necessary to construct granular haul roads and work pads to provide access during wet ground conditions to minimize subgrade disturbance during construction. In general, a minimum 18- to 24-in. thickness of relatively clean, fragmental rock having a maximum size of 4 to 6 in. would be required to support heavy construction traffic and protect the silt and siltstone subgrade during wet ground conditions. If the subgrade is particularly soft, it may be prudent to place a geotextile fabric (AMOCO 2002, or equivalent) on the subgrade as a separation membrane prior to placing and compacting the granular work pad.

Excavation

The excavation to construct the reservoir and install a subdrainage system will range from about 10 to 35 ft deep. Temporary excavation slopes should be no steeper than about 1H:1V, and permanent cut slopes should be no steeper than 2H:1V. Due to the moisture-sensitive nature of the soil and the potential presence of seeps in the excavation, the excavation should be conducted during the dry, summer months. Final grading should provide for positive drainage of surface water away from the reservoir and exposed slopes to minimize erosion. Temporary excavation slopes should be covered with plastic sheeting to reduce erosion during wet weather. In addition, excavation spoils and construction materials should not be stockpiled within 15 ft of the top of cut slopes. It should be emphasized that these recommendations are intended to reduce the risk of a slope failure to an acceptable level. However, implementation of these recommended cut slopes does not preclude the possibility of blocks of soil or siltstone moving into the excavation. Loosened material left on the cut slopes after excavation may also tend to move into the excavation during construction. To further limit the risk of excavation failure, the excavation slopes should be monitored daily for indications of sloughing, cracking, or seepage.

Based on our observations at the site and our experience in the site vicinity, we anticipate the groundwater level will occur below the bottom of the excavation. However, localized, perched water may develop within the excavation during the normally wet, winter and spring months, and localized seeps may occur in the cut slope. A ditch should be installed at the top of the cut slopes to direct surface runoff away from the excavation. We also recommend construction of a shallow trench drain at the toe of the cut slope. The trench drain should have a minimum width of 1½ ft and a minimum depth of 2 ft. The trench should be backfilled with drain rock of ¾- to 1½-in. gradation. The trench should be drained with a perforated drain pipe placed near the bottom of the trench and sloped to drain by gravity. The trench should be lined with non-woven geotextile fabric to separate the drain rock from the fine-grained siltstone material. In addition, it may be necessary to install a drainage blanket on the permanent cut slopes to minimize erosion and local instability. The geotechnical engineer will examine the permanent excavation slope as it is made and recommend appropriate drainage and erosion measures based on the actual conditions disclosed by the work.

In our opinion, there is some risk that the excavation slope could experience instability following construction. Although the overall properties and orientation of the siltstone appear favorable, local folding and alteration of the rock may not become evident until the excavation is made, or local instability occurs. Instability of the cut slope is most likely to occur during the wet winter and spring months following prolonged and/or intense rainfall. Remedial measures would most likely include removal of slide debris and construction of a buttress fill of fragmental rock. For this reason, we recommend annual evaluation of the cut slope by an experienced geotechnical engineer or engineering geologist.

It should be anticipated that seepage will occur on the excavation slopes, and seepage may emerge at the bottom of the excavation. For this reason, it will be necessary to provide a permanent drainage system around and beneath the tank.

Tank Support and Settlement

Foundation support for the tank walls can be provided by a concrete ring-type spread footing. The subsurface explorations indicate the materials present below the proposed floor of the reservoir consist of medium soft to medium hard (R1 to R3) siltstone. In this regard, we anticipate that variably weathered, generally competent siltstone will be exposed at subgrade level over the reservoir footprint. As discussed previously, it should be anticipated that the relative hardness and degree of weathering of the underlying siltstone exposed beneath the tank footprint may vary widely and some overexcavation to remove soft, unsuitable materials may be necessary.

Footings established in soft (R1) and medium hard (R3) siltstone can be designed to impose an allowable soil bearing pressure of 2,500 and 4,000 psf, respectively. The values apply to the total of dead load plus frequently and/or permanently applied live loads and can be increased by one-third for the total of all loads; dead, live, and wind or seismic. Footings should have a minimum width of 24 in. and should be established a minimum of 18 in. below the lowest adjacent finished grade. The allowable bearing pressure is a net value and applies to the structural loads. Total settlement of footings designed in accordance with the above recommendations should be less than ½ in. Additional settlement due to the water load is estimated to be less than ½ in. We estimate the majority of the settlement will be elastic and will occur as the load is applied. Settlements induced by the perimeter wall and column loads and water storage load will be cumulative.

Lateral loads (seismic, soil, etc.) can be resisted partially or completely by frictional forces developed between the base of footings and the tank bottom and underlying crushed rock. The total frictional resistance between the tank and the underlying material is the normal force times the coefficient of friction between the crushed rock and the base of the footing and tank. We recommend a value of 0.60 for the coefficient of friction between mass concrete cast directly on siltstone, and 0.45 for the coefficient of friction between mass concrete cast directly on angular structural fill. We recommend a value of 0.40 for the coefficient of friction between steel and asphaltic concrete (AC) and a value of 0.35 for the coefficient of friction between steel and angular, granular structural fill. If additional lateral resistance is required, passive earth pressure against the perimeter footing can be computed on the basis of an equivalent fluid having a unit weight of 225 pcf for limiting lateral deflections of 1/4 to 1/2 in. This passive earth pressure assumes the backfill for the footings and walls is placed as granular structural fill and does not slope down away from the tank.

Floor and Subdrainage

In our opinion, an underslab drainage system should be installed to dissipate hydrostatic pressures that may develop due to potential leakage from the reservoir and/or seepage from the bottom of the excavation. The subslab drainage system should include a minimum 12-in.-thick drainage blanket consisting of crushed rock with a maximum size of 1 1/2 in. and less than 2% passing the No. 200 sieve (washed analysis), together with rigid 4-in.-diameter perforated drainage pipes designed for the imposed loads from the reservoir or construction traffic, whichever is greater. Drainage pipes for a circular tank typically extend radially outward from the center of the tank. In this regard, the drain pipes should be placed with a center-to-center spacing of about 25 ft at the perimeter of the tank. The drainage blanket may be capped with 2 to 3 in. of relatively clean, 3/4-in.-minus crushed rock to facilitate compaction of the drainage blanket and placement of the AC working surface.

Pavement Design

A paved service road will provide access to the reservoir site. Based on our experience with similar projects and subgrade soil conditions, a section consisting of a 3-in. thickness of AC over an 8-in. thickness of CRB has performed well for pavement subject to automobile and occasional truck traffic.

The recommended thicknesses assume firm subgrade conditions and construction during the dry season. If wet-weather pavement construction is considered, it will likely be necessary to increase the thickness of the granular base course. Crushed rock of 1 1/2- or 3/4-in.-minus gradation is suitable for the CRB.

Properly installed drainage is an essential aspect of pavement design. All paved areas should be provided with positive drainage to remove surface water and water within the base course.

We recommend all workmanship and materials conform to the applicable specifications used by Oregon Department of Transportation (ODOT). Prior to paving, the base course should be proof rolled with a fully loaded dump truck. Soft areas identified by proof rolling should be overexcavated and backfilled with structural fill.

Design Review and Construction-Phase Services

We welcome the opportunity to review and discuss construction plans and specifications for this project as they are being developed. In addition, GRI should be retained to review all geotechnical-related portions

of the plans and specifications to evaluate whether they are in conformance with the recommendations provided in our report. Additionally, to observe compliance with the intent of our recommendations, design concepts, and the plans and specifications, we are of the opinion that all construction operations dealing with earthwork and foundations should be observed by a GRI representative. Our construction-phase services will allow for timely design changes if site conditions are encountered that are different from those described in this report. If we do not have the opportunity to confirm our interpretations, assumptions, and analyses during construction, we cannot be responsible for the application of our recommendations to subsurface conditions that are different from those described in this report.

LIMITATIONS

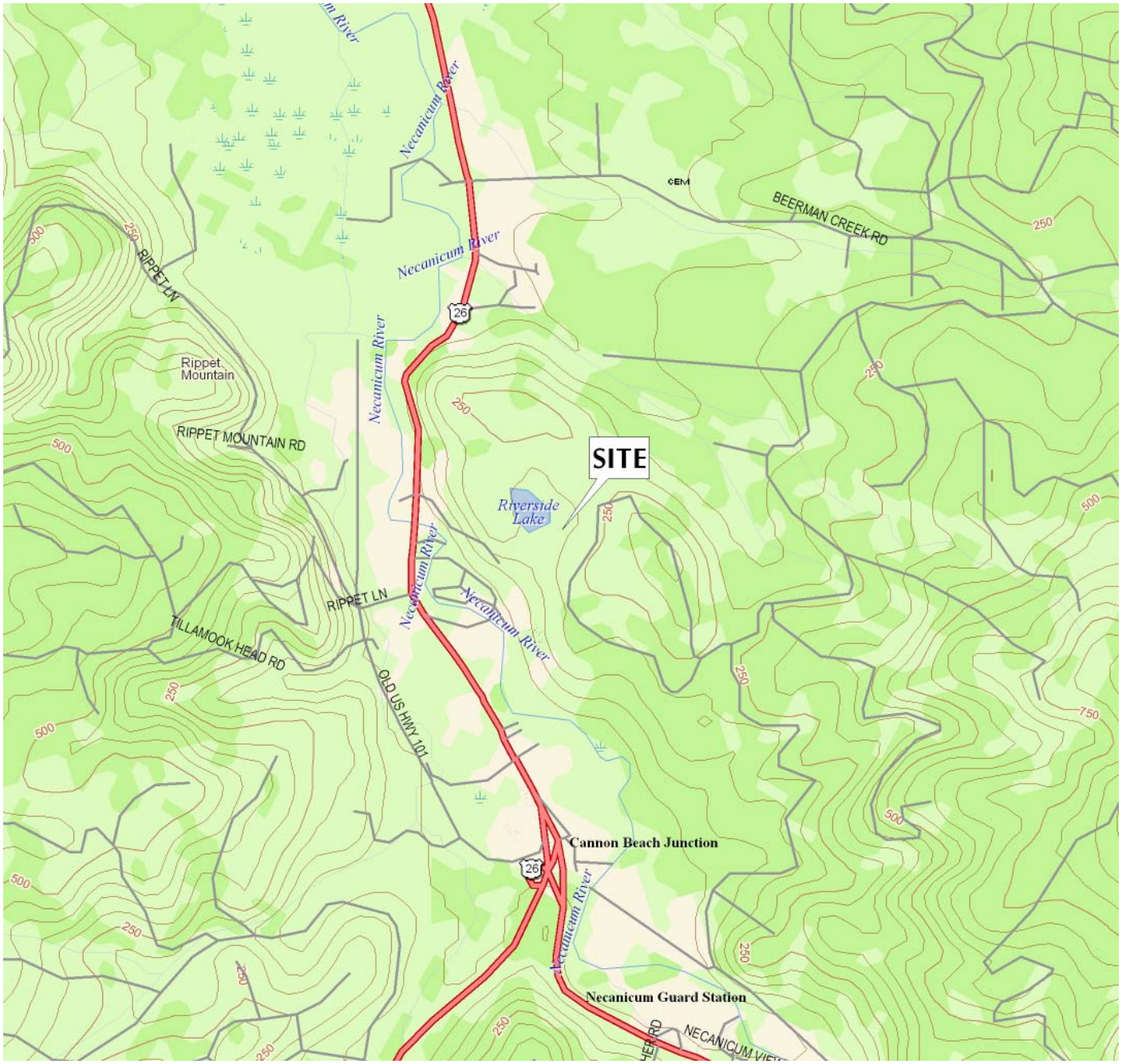
This report has been prepared to aid the project team in the evaluation of this site and design of this project. The scope is limited to the specific project and location described herein, and our description of the project represents our understanding of the significant aspects of the project relevant to earthwork and design and construction of the reservoir foundations. In the event that any changes in the design and location of the reservoir as outlined in this report are planned, we should be given the opportunity to review the changes and to modify or reaffirm the conclusions and recommendations of this report in writing.

The conclusions and recommendations submitted in this report are based on the data obtained from the test pits and borings made at the locations indicated on Figure 2 and from other sources of information discussed in this report. In the performance of subsurface investigations, specific information is obtained at specific locations at specific times. However, it is acknowledged that variations in soil and rock conditions may exist between exploration locations. This report does not reflect any variations that may occur between these explorations. The nature and extent of variation may not become evident until construction. If, during construction, subsurface conditions different from those encountered in the explorations are observed or encountered, we should be advised at once so that we can observe and review these conditions and reconsider our recommendations where necessary.

Submitted for GRI,

Dwight J. Hardin, PE
Principal

Tova R. Peltz, PE, RG
Project Engineer/Geologist



DELORME 3-D TOPOQUADS, OREGON
TILLAMOOK HEAD, OREG. (1ca) 2004

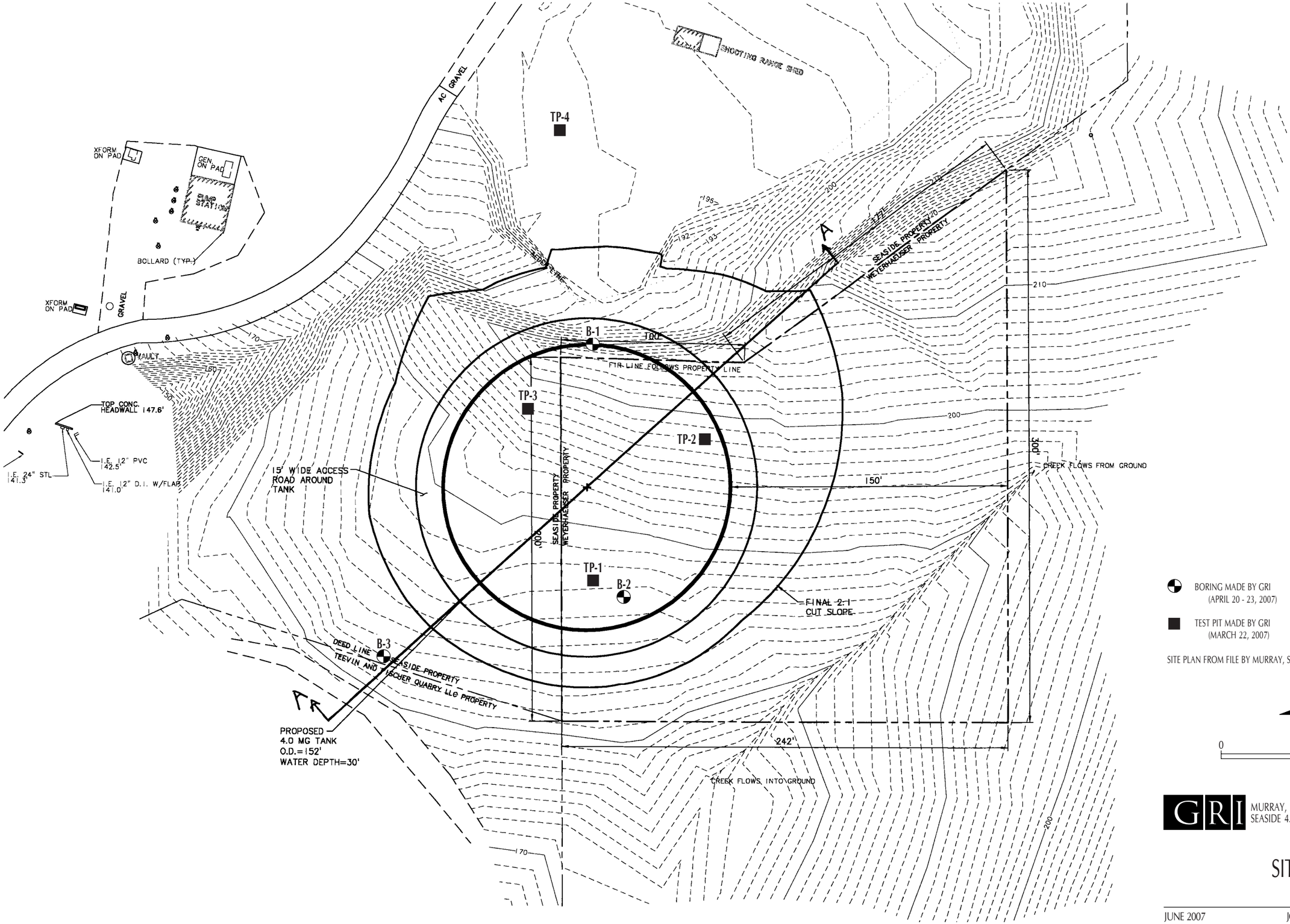
North

0 1/2 1 MILE

GRI MURRAY, SMITH & ASSOCIATES, INC.
SEASIDE 4.0-MG RESERVOIR

VICINITY MAP

JUNE 2007 JOB NO. 4566 FIG. 1



BORING MADE BY GRI
(APRIL 20 - 23, 2007)

TEST PIT MADE BY GRI
(MARCH 22, 2007)

SITE PLAN FROM FILE BY MURRAY, SMITH & ASSOCIATES, INC., DATED APRIL 10, 2007

North

0 50 100 FT

GRI MURRAY, SMITH & ASSOCIATES, INC.
SEASIDE 4.0-MG RESERVOIR

SITE PLAN

JUNE 2007 JOB NO. 4566 FIG. 2

APPENDIX A

Field Explorations and Laboratory Testing

APPENDIX A

FIELD EXPLORATIONS AND LABORATORY TESTING

FIELD EXPLORATIONS

General

Subsurface materials and conditions at the site were evaluated between March 22 and April 23, 2007, with four test pits, designated TP-1 through TP-4, and three borings, designated B-1 through B-3. The approximate locations of the explorations are shown on Figure 2. The test pits were excavated using a Kobelco trackhoe provided by Clean Sweep of Seaside, Oregon. The borings were drilled using mud-rotary, hollow-stem auger, and HQ coring techniques using a track-mounted drill rig provided and operated by Boart Longyear of Tualatin, Oregon. The explorations were observed and documented by a geotechnical engineer provided by our firm.

The test pits were excavated to depths of 9 to 13 ft. Grab samples were obtained from the test pits at various intervals. The borings were advanced to depths of 33 to 65 ft using hollow-stem auger, mud-rotary, and coring methods. Disturbed samples were obtained from the borings at 2.5- to 5-ft intervals of depth. Disturbed samples were obtained using a standard split-spoon sampler. At the time of sampling, the Standard Penetration Test was conducted. This test consists of driving a standard split-spoon sampler into the soil a distance of 18 in. using a 140-lb hammer dropped 30 in. The number of blows required to drive the sampler the last 12 in. is known as the Standard Penetration Resistance, or N-value. The N-value provides a measure of the relative density of granular soils and the relative consistency of cohesive soils. The soil samples obtained in the split-spoon sampler were carefully examined in the field, and representative portions were saved in airtight jars for further examination and physical testing in our laboratory.

Wireline drilling techniques were used to obtain core samples of the bedrock in all three borings below depths of 6.5 to 11.5 ft. All core samples were placed in core boxes and returned to our laboratory for further examination and testing.

Logs of the test pits are provided on Figure 1A. Logs of the borings are provided on Figures 2A through 4A. The logs presents a descriptive summary of the various types of materials encountered in the test pits and borings and note the depth at which the materials and/or characteristics of the materials change. To the right of the descriptive summary, the numbers and types of samples taken during the drilling operation are indicated. Farther to the right, N-values are shown graphically, along with the natural moisture contents and Torvane shear strength values. The terms used to describe the materials encountered in the explorations are defined in Tables 1A and 2A.

Inclinometer

In April 2007, GRI installed inclinometer casing in boring B-3 at the approximate location shown on Figure 2. An inclinometer casing consists of a plastic pipe with a pair of orthogonal slots, or grooves, that permit a calibrated instrument probe to be lowered to the bottom of the casing. When the ground surrounding the casing moves, the casing distorts above the zone of movement, and the orientation of the casing changes. The orientation of the casing is determined by lowering the calibrated instrument to the

bottom of the casing and reading the instrument at 2-ft intervals as it is withdrawn. The zone and rate of movement can be determined by comparing the results of successive sets of readings.

LABORATORY TESTING

General

The samples obtained from the borings were examined in our laboratory where the physical characteristics of the samples were noted, and the field classifications were modified where necessary. At the time of classification, the natural moisture content of each sample was determined. Additional testing included determinations of Torvane shear strength and undisturbed unit weight.

Natural Moisture Content

Natural moisture content determinations were made in conformance with ASTM D 2216. The results are summarized on Figures 2A through 4A.

Torvane Shear Strength

The approximate undrained shear strength of a representative sample of fine-grained soils exposed in the sidewalls of test pit TP-1 was determined using the Torvane shear device, see Figure 1A. The Torvane is a hand-held apparatus with vanes that are inserted into the soil. The torque required to fail the soil in shear around the vanes is measured using a calibrated spring.

Undisturbed Unit Weight

The unit weight, or density, of cored rock samples was determined in the laboratory. A summary of the unit weight determinations is provided in the following table.

SUMMARY OF UNIT WEIGHT DETERMINATIONS

Boring	Run	Approximate Depth, ft	Total Unit Weight, pcf	Rock Type
B-1	2	14.5	126	SILTSTONE
	3	16.5	125	SILTSTONE
	6	30.5	126	SILTSTONE
	10	52.0	123	SILTSTONE
B-2	1	14.0	117	SILTSTONE
	9	54.0	172	BASALT
B-3	1	30.0	160	BASALT

Table 1A

GUIDELINES FOR CLASSIFICATION OF SOIL

Description of Relative Density for Granular Soil

Relative Density	Standard Penetration Resistance (N-values) blows per foot
very loose	0 - 4
loose	4 - 10
medium dense	10 - 30
dense	30 - 50
very dense	over 50

Description of Consistency for Fine-Grained (Cohesive) Soils

Consistency	Standard Penetration Resistance (N-values) blows per foot	Torvane Undrained Shear Strength, tsf
very soft	2	less than 0.125
soft	2 - 4	0.125 - 0.25
medium stiff	4 - 8	0.25 - 0.50
stiff	8 - 15	0.50 - 1.0
very stiff	15 - 30	1.0 - 2.0
hard	over 30	over 2.0

Sandy silt materials that exhibit general properties of granular soils are given relative density description.

Grain-Size Classification

Boulders
12 - 36 in.

Cobbles
3 - 12 in.

Gravel
1/4 - 3/4 in. (fine)
3/4 - 3 in. (coarse)

Sand
No. 200 - No. 40 sieve (fine)
No. 40 - No. 10 sieve (medium)
No. 10 - No. 4 sieve (coarse)

Silt/Clay - pass No. 200 sieve

Modifier for Subclassification

Adjective	Percentage of Other Material In Total Sample
clean	0 - 2
trace	2 - 10
some	10 - 30
sandy, silty, clayey, etc.	30 - 50

GRI

Table 2A

GUIDELINES FOR CLASSIFICATION OF ROCK

RELATIVE ROCK WEATHERING SCALE:

Term	Field Identification
Fresh	Crystals are bright. Discontinuities may show some minor surface staining. No discoloration in rock fabric.
Slightly Weathered	Rock mass is generally fresh. Discontinuities are stained and may contain clay. Some discoloration in rock fabric. Decomposition extends up to 1 in. into rock.
Moderately Weathered	Rock mass is decomposed 50% or less. Significant portions of rock show discoloration and weathering effects. Crystals are dull and show visible chemical alteration. Discontinuities are stained and may contain secondary mineral deposits.
Predominantly Decomposed	Rock mass is more than 50% decomposed. Rock can be excavated with geologist's pick. All discontinuities exhibit secondary mineralization. Complete discoloration of rock fabric. Surface of core is friable and usually pitted due to washing out of highly altered minerals by drilling water.
Decomposed	Rock mass is completely decomposed. Original rock "fabric" may be evident. May be reduced to soil with hand pressure.

RELATIVE ROCK HARDNESS SCALE:

Term	Hardness Designation	Field Identification	Approximate Unconfined Compressive Strength
Extremely Soft	R0	Can be indented with difficulty by thumbnail. May be moldable or friable with finger pressure.	< 100 psi
Very Soft	R1	Crumbles under firm blows with point of a geology pick. Can be peeled by a pocket knife and scratched with fingernail.	100 - 1,000 psi
Soft	R2	Can be peeled by a pocket knife with difficulty. Cannot be scratched with fingernail. Shallow indentation made by firm blow of geology pick.	1,000 - 4,000 psi
Medium Hard	R3	Can be scratched by knife or pick. Specimen can be fractured with a single firm blow of hammer/geology pick.	4,000 - 8,000 psi
Hard	R4	Can be scratched with knife or pick only with difficulty. Several hard hammer blows required to fracture specimen.	8,000 - 16,000 psi
Very Hard	R5	Cannot be scratched by knife or sharp pick. Specimen requires many blows of hammer to fracture or chip. Hammer rebounds after impact.	> 16,000 psi

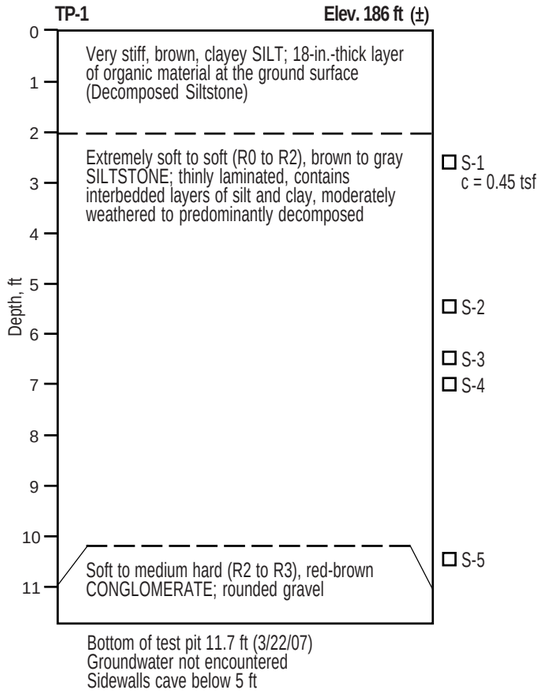
RQD AND ROCK QUALITY:

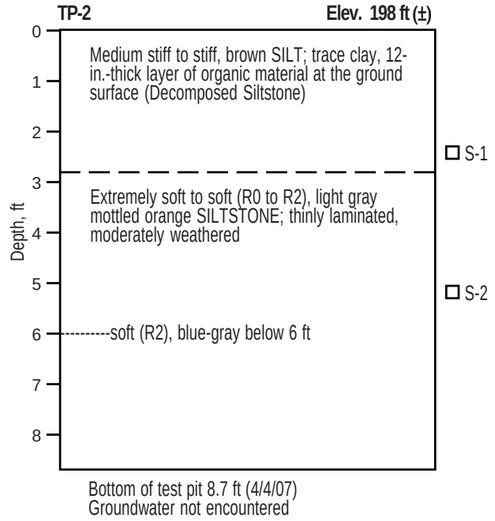
Relation of RQD and Rock Quality

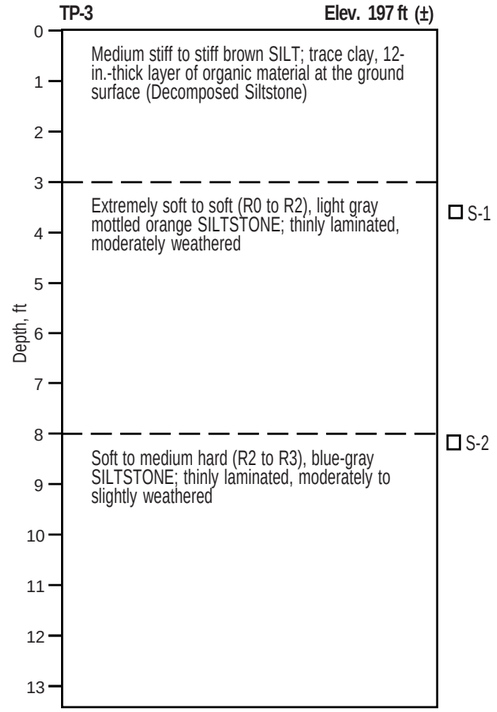
RQD (Rock Quality Designation), %	Description of Rock Quality
0 - 25	Very Poor
25 - 50	Poor
50 - 75	Fair
75 - 90	Good
90 - 100	Excellent

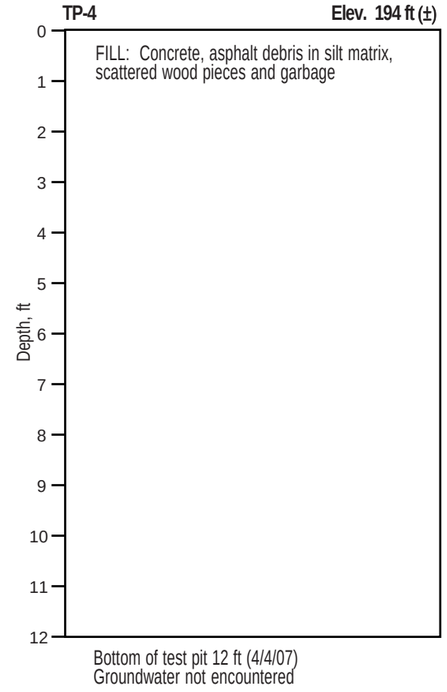
Terminology for Planar Surface

Bedding	Joints and Fractures	Spacing
Laminated	Very Close	< 2 in.
Thin	Close	2 in. – 12 in.
Medium	Moderately Close	12 in. – 36 in.
Thick	Wide	36 in. – 10 ft
Massive	Very Wide	> 10 ft









LEGEND

□ = GRAB SAMPLE

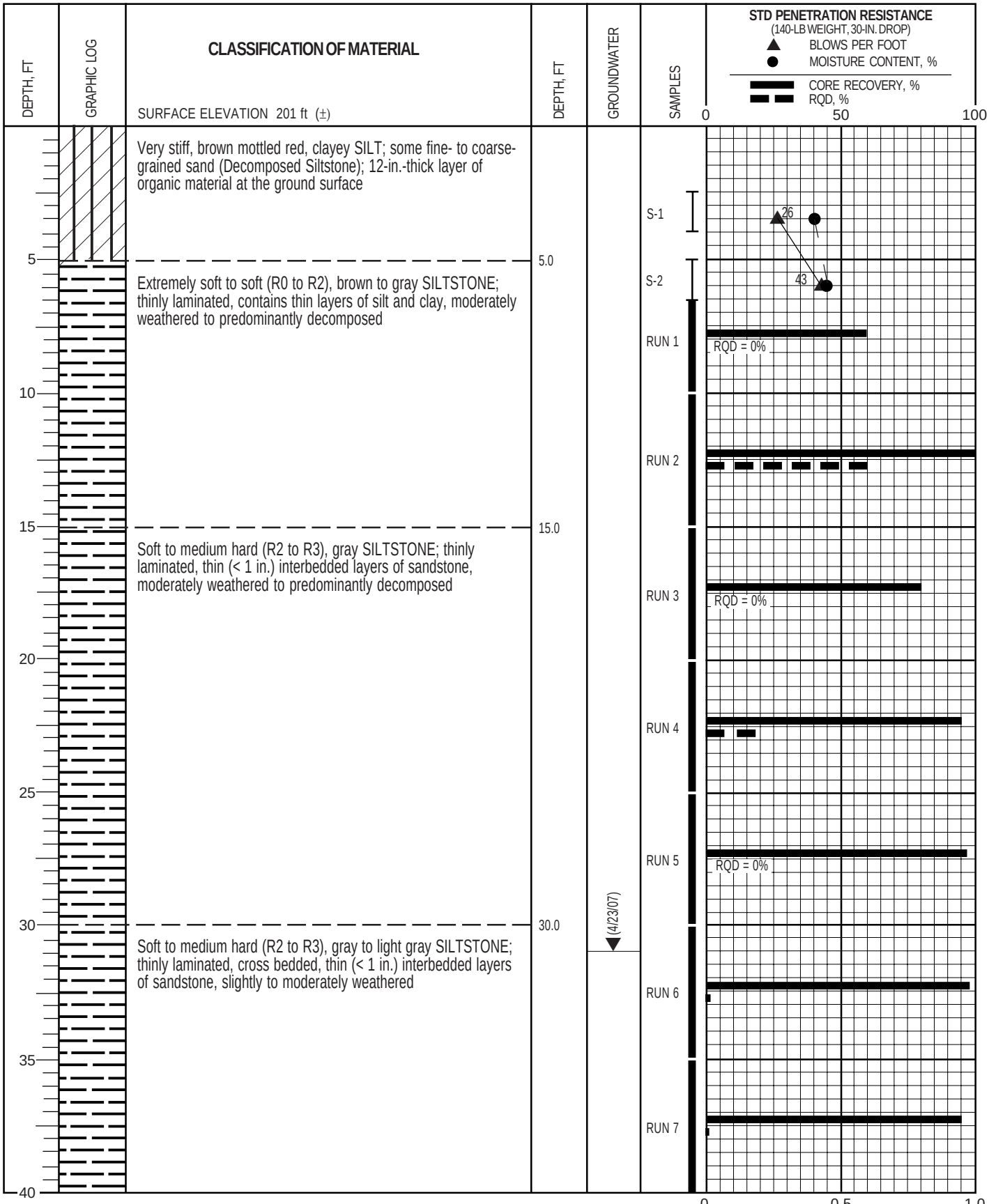
c = TORVANE SHEAR STRENGTH

GROUND SURFACE ELEVATIONS FROM SITE PLAN, FIGURE 2

GRI

TEST PIT LOGS

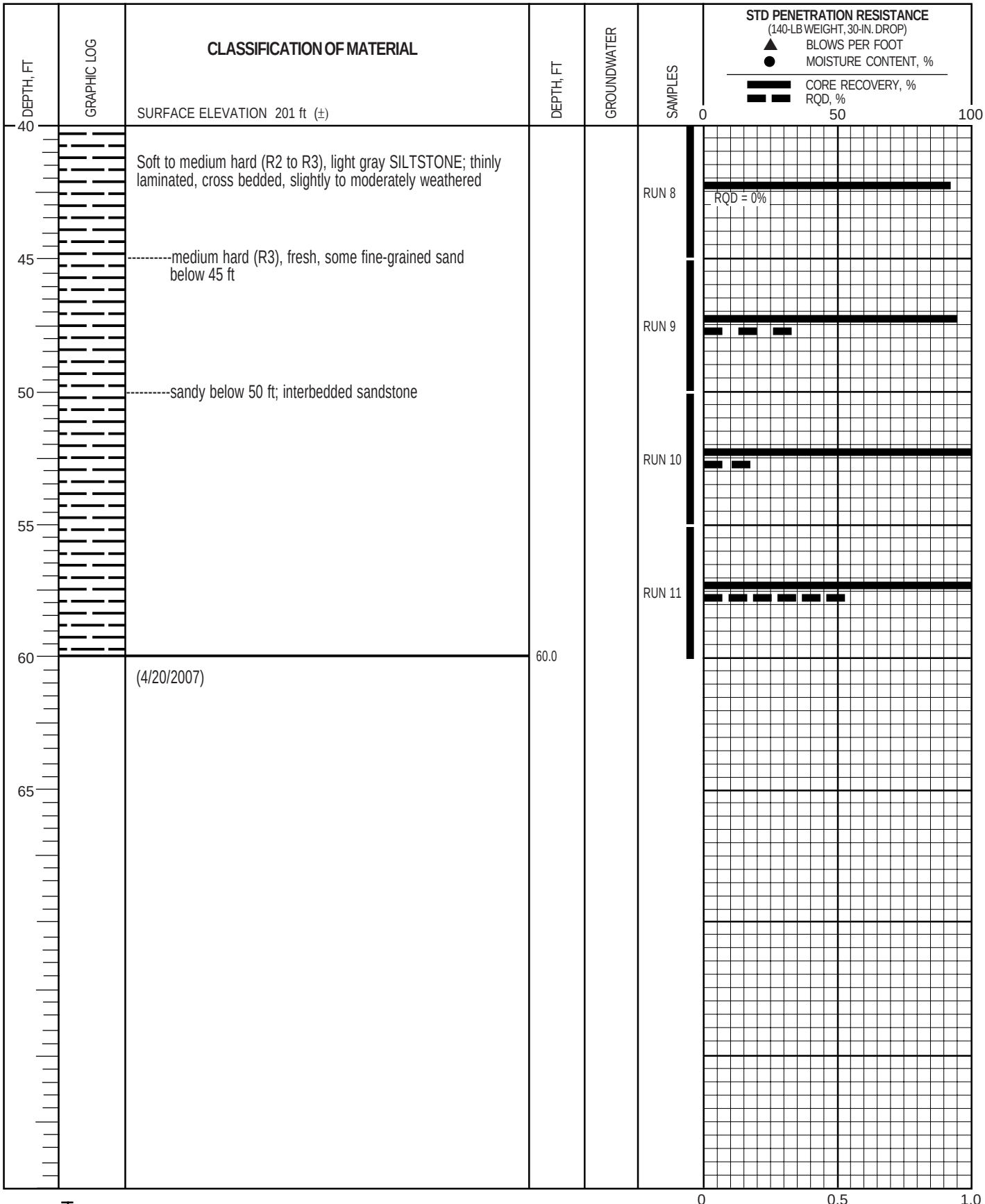
JUNE 2007 JOB NO. 4566 FIG. 1A



GRI

BORING B-1

JUNE 2007 JOB. NO. 4566 FIG. 2A



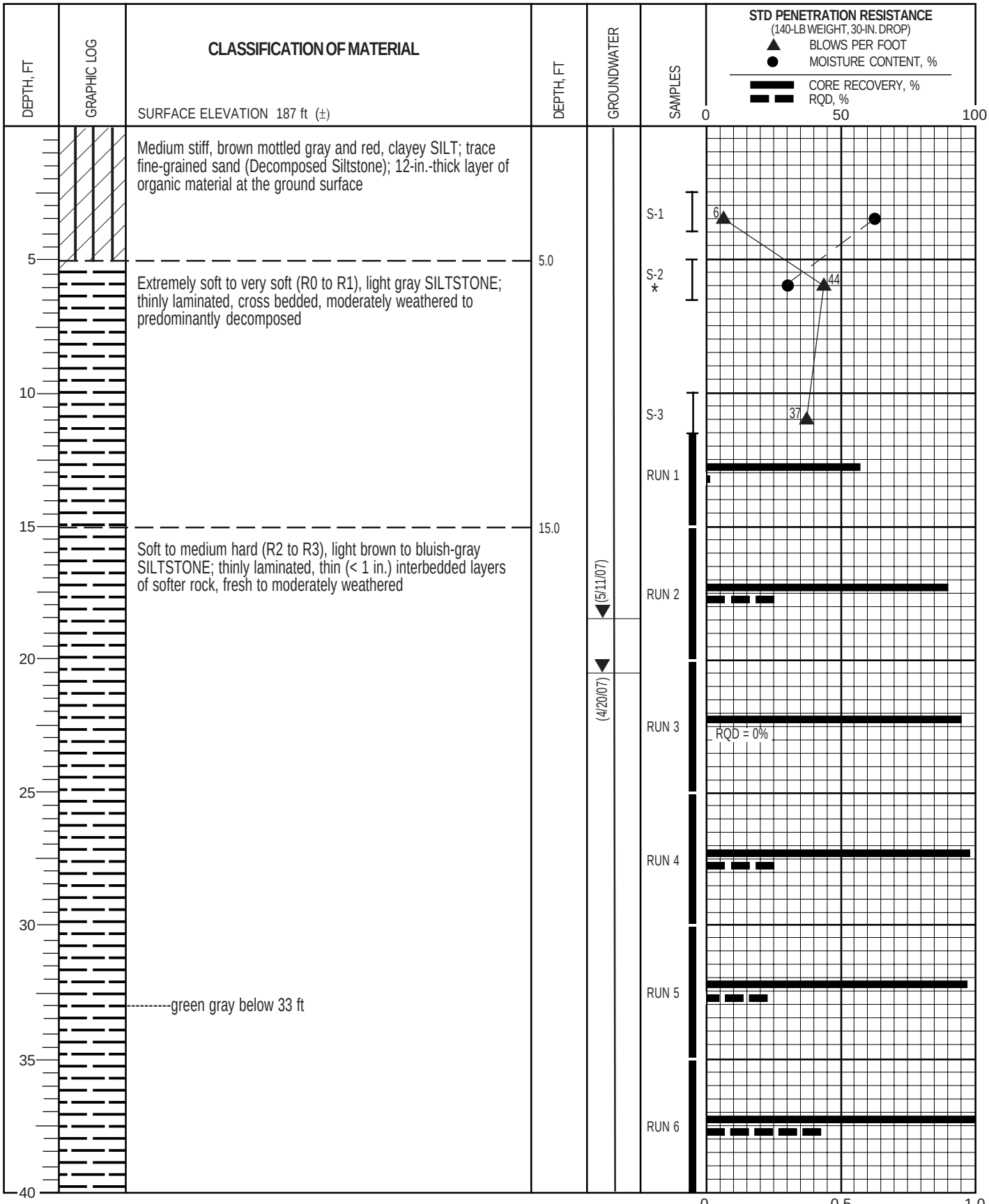
I 2-IN.-OD SPLIT-SPOON SAMPLER
II 3-IN.-OD THIN-WALLED SAMPLER
G GRAB SAMPLE OF DRILL CUTTINGS
HQ CORE RUN
SLOTTED PVC PIPE
Water Level (date)

◆ TORVANE SHEAR STRENGTH, TSF
■ UNDRAINED SHEAR STRENGTH, TSF
* NO RECOVERY
Liquid Limit
Moisture Content
Plastic Limit

GRI

BORING B-1 (cont.)

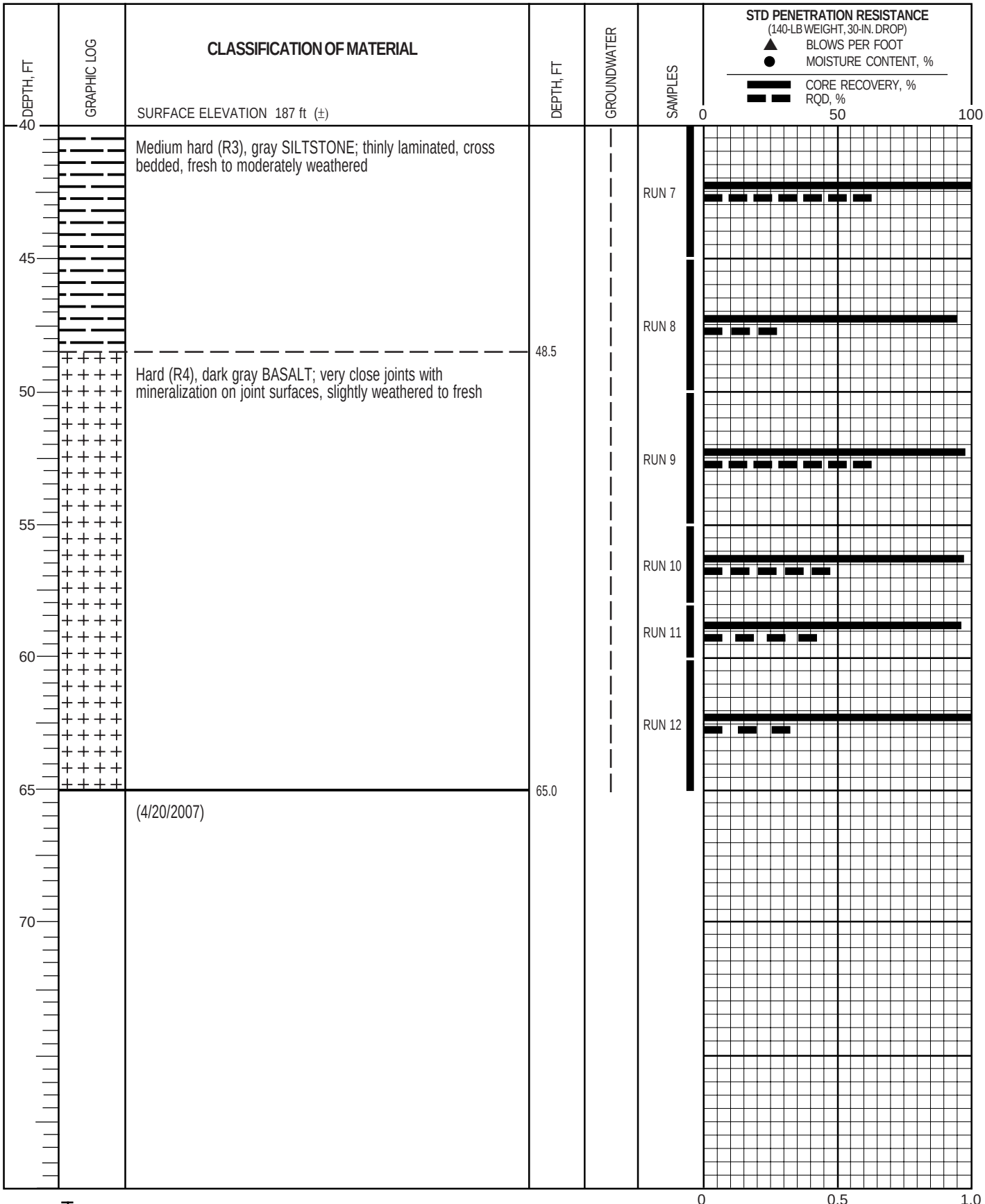
JUNE 2007 JOB. NO. 4566 FIG. 2A



GRI

BORING B-2

JUNE 2007 JOB. NO. 4566 FIG. 3A



I 2-IN.-OD SPLIT-SPOON SAMPLER

II 3-IN.-OD THIN-WALLED SAMPLER

G GRAB SAMPLE OF DRILL CUTTINGS

HQ CORE RUN

SLOTTED PVC PIPE

Water Level (date)

◆ TORVANE SHEAR STRENGTH, TSF

■ UNDRAINED SHEAR STRENGTH, TSF

* NO RECOVERY

Liquid Limit

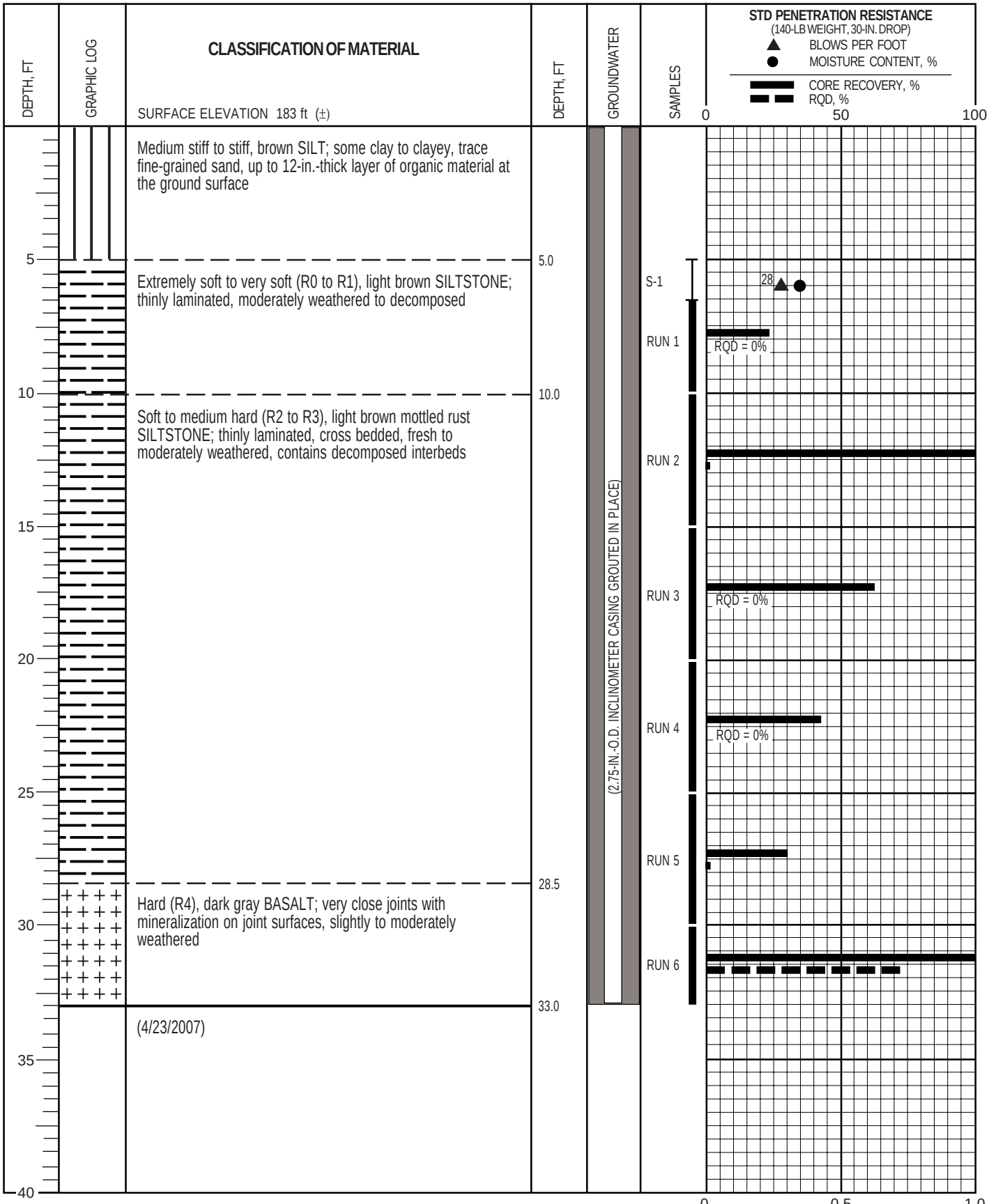
Moisture Content

Plastic Limit

GRI

BORING B-2 (cont.)

JUNE 2007 JOB. NO. 4566 FIG. 3A



GRI

BORING B-3

JUNE 2007 JOB. NO. 4566 FIG. 4A

APPENDIX B

Site-Specific Seismic Hazard Study

APPENDIX B

SITE-SPECIFIC SEISMIC HAZARD STUDY

General

GRI has completed a site-specific seismic hazard study for the proposed City of Seaside 4-MG reservoir to be constructed at the general location shown on Figure 1. The purpose of our study was to evaluate the potential seismic hazards associated with regional and local seismicity. Our work was based on the potential for regional and local seismic activity, as described in the existing scientific literature, and on the subsurface conditions at the site as disclosed by our geotechnical explorations made for this project. Specifically, our work included the following tasks:

1) A detailed review of the literature, including published papers, maps, open-file reports, seismic histories and catalogs, works in progress, and other sources of information regarding the tectonic setting, regional and local geology, and historical seismic activity that might have a significant effect on the site.

2) Compilation, examination, and evaluation of existing subsurface data gathered at and in the vicinity of the site, including classification and laboratory analyses of soil samples. This information was used to prepare a generalized subsurface profile for the site.

3) Identification of the potential seismic events (earthquakes) appropriate for the site and characterization of those events in terms of a series of generalized design events.

4) Office studies, based on the generalized subsurface profile and the design earthquake, resulting in conclusions and recommendations concerning:

   a) specific seismic events that may have a significant effect on the site,

   b) the potential for seismic energy amplification at the site, and

   c) site-specific acceleration response spectrum for a design earthquake.

This appendix describes the work accomplished and summarizes our conclusions.

Geologic Setting

The general area occupied by the project site is mantled by siltstone of the Astoria Formation, a regionally extensive, fine-grained sedimentary rock (Niem and Niem, 1985), see Figures 2B and 3B. Locally, this sedimentary rock consists of siltstone with interbedded sandstone and conglomerate layers. Locally, these sedimentary rocks have been intruded by a basalt dome of the Columbia River Basalts (Niem and Niem, 1985). The site lies on the western flank of the Coast Range, near the mouth of the Necanicum River. The site lies approximately 10 km from the surface expression of the Cascadia Subduction Zone (CSZ), an active plate boundary along which remnants of the Farallon Plate (the Gorda, Juan de Fuca and Explorer plates) are being subducted beneath the western edge of the North American continent. The configuration of these plates and the location, extent, and geometry of the surface expression of the subduction zone are

shown schematically on the Tectonic Setting Summary, Figure 1B(a). The subduction zone is a broad, eastward-dipping zone of contact between the upper portion of the subducting slabs of the Gorda, Juan de Fuca, and Explorer plates and the over-riding North American Plate, as shown schematically on Figure 1B(b). Offshore of the coastline is a complex pattern of strike-slip faults oblique to the plate margin.

Because of the proximity of the site to the CSZ, interplate, megathrust earthquakes on the subduction zone are the primary source of seismic activity contributing to the potential for the occurrence of damaging earthquakes at the site. Wong (2005) hypothesizes that due to subduction zone geometry, geophysical conditions, and local geology, Oregon may not be subject to intraslab earthquakes. In addition, there are no mapped local crustal faults considered active within 25 km of the site.

Subsurface Conditions

The general area occupied by the subject site is immediately underlain by siltstone of the Astoria Formation. This siltstone is underlain at a depth of about 30 to more than 60 ft by basalt. In our experience, the upper 5 ft of siltstone is decomposed into clayey silt with the consistency of stiff soil. Below 5 ft, the siltstone generally becomes less weathered with depth. The siltstone is also thinly laminated and locally folded, which causes the weathering to be variable from place to place. Based on materials and conditions disclosed by our borings and the planned reservoir floor elevation of 175 ft., we have assumed the reservoir will be supported on rock.

Seismicity

Three distinctly different sources of seismic activity are typically associated with the regional tectonics and geology of the site and contribute to the potential for occurrence of damaging earthquakes in the Pacific Northwest. Based on the tectonic setting and historical seismicity, the region is subject to earthquakes from: 1) megathrust earthquakes along the interplate portion of the CSZ, 2) deeper intraslab earthquakes on the subducted portion of the CSZ, and 3) shallow local crustal faults. Each of these sources is considered capable of producing damaging earthquakes in the Pacific Northwest. However, Wong (2005) notes the historic absence of intraslab earthquakes along the central CSZ and suggests they will not occur along the Oregon Coast. In addition, due to the lack of Holocene-active local faults within 25 km of the site, our evaluation includes one primary seismic source: the megathrust CSZ.

There have not been any interplate earthquakes on the CSZ in the 170-year historical record of the Pacific Northwest; however, geological studies show that great interplate megathrust earthquakes on the CSZ have occurred repeatedly in the past 7,000 years (Atwater and others, 1995; Clague and others, 1997; Goldfinger, 2003; and Kelsey and others, 2005), and geodetic studies (Hyndman and Wang, 1995; Savage and others, 2000) indicate rate of strain accumulation consistent with the assumption that the CSZ is locked beneath offshore northern California, Oregon, Washington, and southern British Columbia (Fluck and others, 1997; Wang and others, 2001). Numerous geological and geophysical studies suggest the CSZ may be segmented (Hughes and Carr, 1980; Weaver and Michaelson, 1985; Guffanti and Weaver, 1988; Goldfinger, 1994; Kelsey and others, 1994; Mitchell and others, 1994; Personius, 1995; Nelson and Personius, 1996; Witter, 1999), but the most recent studies suggest that for the last great earthquake in 1700, most of the subduction zone ruptured in a single M_w 9 earthquake (Satake and others, 1996; Atwater and Hemphill-Haley, 1997; Clague and others., 2000). Published estimates of the probable maximum size of subduction zone events range from moment magnitude M_w 8.3 to >9.0. Numerous detailed studies of coastal subsidence, tsunamis, and turbidites yield a wide range of recurrence intervals, but the

most complete records (>4,000 years) indicate average intervals of 350 to 600 years between great earthquakes on the CSZ (Adams, 1990; Atwater and Hemphill-Haley, 1997; Witter, 1999; Clague, et al., 2000; Goldfinger and others, 2003; Kelsey and others, 2002; Kelsey and others, 2005; Witter and others, 1997). We have chosen to represent the subduction zone event by a design earthquake of M_W 9.0 at a focal depth of 15 km and an epicentral distance of 100 km. This corresponds to a sudden rupture of the whole length of the Juan de Fuca-North American plate interface, placed at the closest approach of the interface, due west of Seaside. It should be noted that this choice of a design earthquake is based primarily on an estimate of the capability of the subduction zone to produce a large earthquake, not on a probabilistic analysis of a demonstrated seismic history. Based on the attenuation relationship published by Youngs and others (1997), a subduction zone event of this size and location would result in a peak horizontal bedrock acceleration of approximately 0.30 g at the site. The design earthquake is characterized by three important properties: size, location relative to the subject site, and the peak horizontal bedrock accelerations produced by the event. In this study, size is expressed in moment magnitude (M_W); location is expressed as epicentral or focal distance measured radially from the subject site in kilometers; and peak horizontal bedrock accelerations are expressed in gravities (1 g = 32.2 ft/sec^2 = 980.6 cm/sec^2).

Probabilistic Considerations and Code Spectra

While three different types of earthquake sources exist in the Pacific Northwest, the likelihood of each type of earthquake occurring is not equal. The probability of an earthquake of a specific magnitude occurring at a given location is commonly expressed by its return period, i.e., the average length of time between successive occurrences of an earthquake of that size or larger at that location. These expected earthquake recurrences are expressed as a probability of exceedance during a specified time period (50 years, for example), or design life. Historically, building codes have required structural design for ground acceleration associated with an earthquake that has a 10% probability of exceedance in 50 years, which corresponds to an earthquake recurrence interval of 475 years. The IBC re-evaluated this design level and identified the new design spectrum by using two-thirds of the Maximum Considered Earthquake (MCE) ground motion. The MCE earthquake is defined as an earthquake with a 2% probability of exceedance in 50 years (return period of about 2,500 years), except where subject to deterministic limitations (Leyendecker, et al., 2000). Using the MCE is intended to reduce the risk of building collapse in regions where the 2,500-year recurrence interval earthquake is significantly larger than the previous 475-year recurrence interval design earthquake. The IBC design response spectrum is two-thirds of the MCE response spectrum, which adjusts the design spectrum to a more traditional "life safety" level. In some regions (like California), this 2/3 adjusted spectrum is similar to the previous 475-year recurrence interval earthquake, in other regions, like the Oregon coast, this is a larger design response spectrum than in the previous code.

The ground motion parameters for the 2006 IBC were based on the 2002 U.S. Geological Survey (USGS) probabilistic mapping project. The USGS mapping identifies the likelihood of movement for all identified seismic sources (i.e., local crustal, subcrustal, and subduction zone earthquakes) and probabilistically determines a single acceleration response spectrum curve. The IBC design methodology uses two spectral response coefficients, S_S and S_1, corresponding to periods of 0.2 and 0.1 seconds to develop the design earthquake. The S_S and S_1 coefficients for the site are 1.36 and 0.70 g, respectively.

Estimated Site Response

The effect of an earthquake on the site is related to the seismic energy delivered by the earthquake and to the thickness and material characteristics of soil overlying bedrock at the site. Based on subsurface explorations at the site by GRI, the site is generally underlain by up to 5 ft of decomposed rock, with the consistency of hard soil, overlying soft to medium hard siltstone. Estimation of the properties of these materials are based on our subsurface explorations, laboratory studies, and shear wave velocities measured nearby, available from the Oregon Department of Geology and Mineral Industries (DOGAMI). Based on these subsurface conditions, the site is defined as IBC Site Class C, or a soft rock site.

Because the tank reservoir will be support on rock, estimation of site amplification is not appropriate using conventional site response models. For the purpose of this reservoir design, site response is best estimated using the response spectrum on rock from the 2002 probabilistic seismic hazard mapping study by the USGS.

Conclusions

The USGS seismic hazard mapping study was used in the development of the 2006 IBC design spectra. The USGS response spectra were developed on bedrock using probabilistic methods. The IBC design spectra are defined by these hard rock spectra, which are then modified for site classification.

Because the tank foundation will be support on rock, we recommend using the IBC design spectrum for Site Class C (soft rock), at a damping ratio of 5%. To calculate the response spectrum at a damping ratio of 0.5%, multiply the IBC design spectrum for Site Class C by a factor of 1.5.

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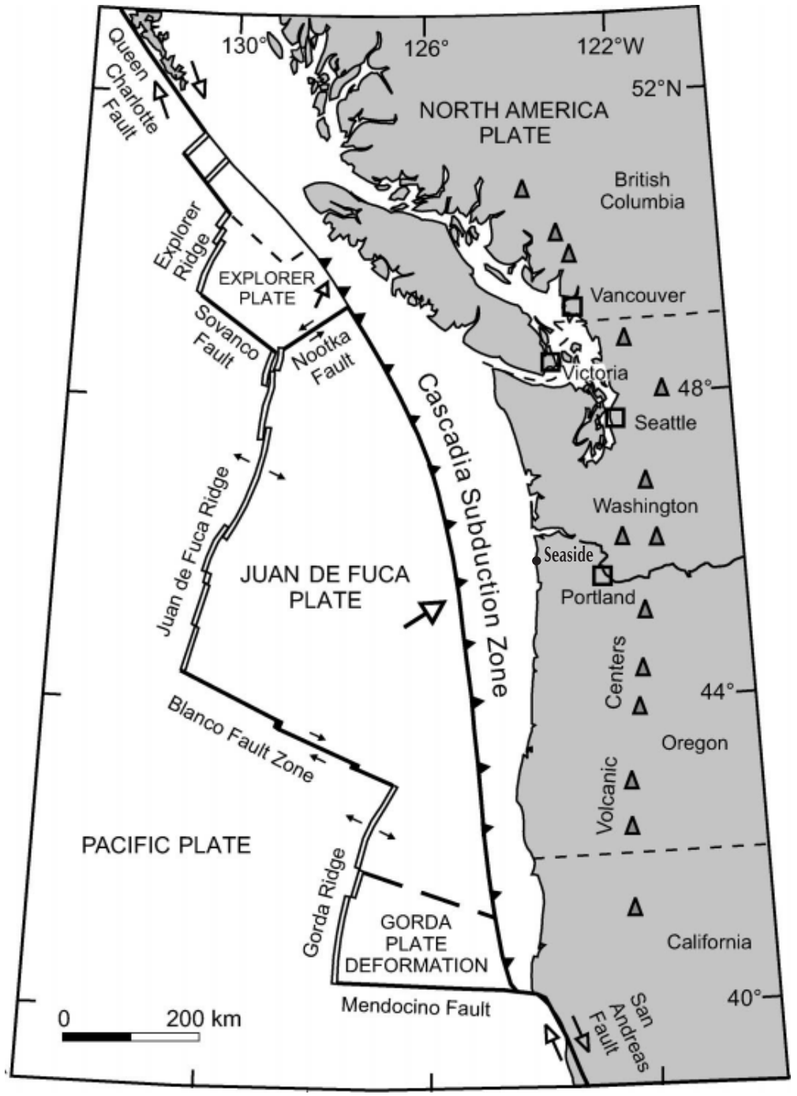
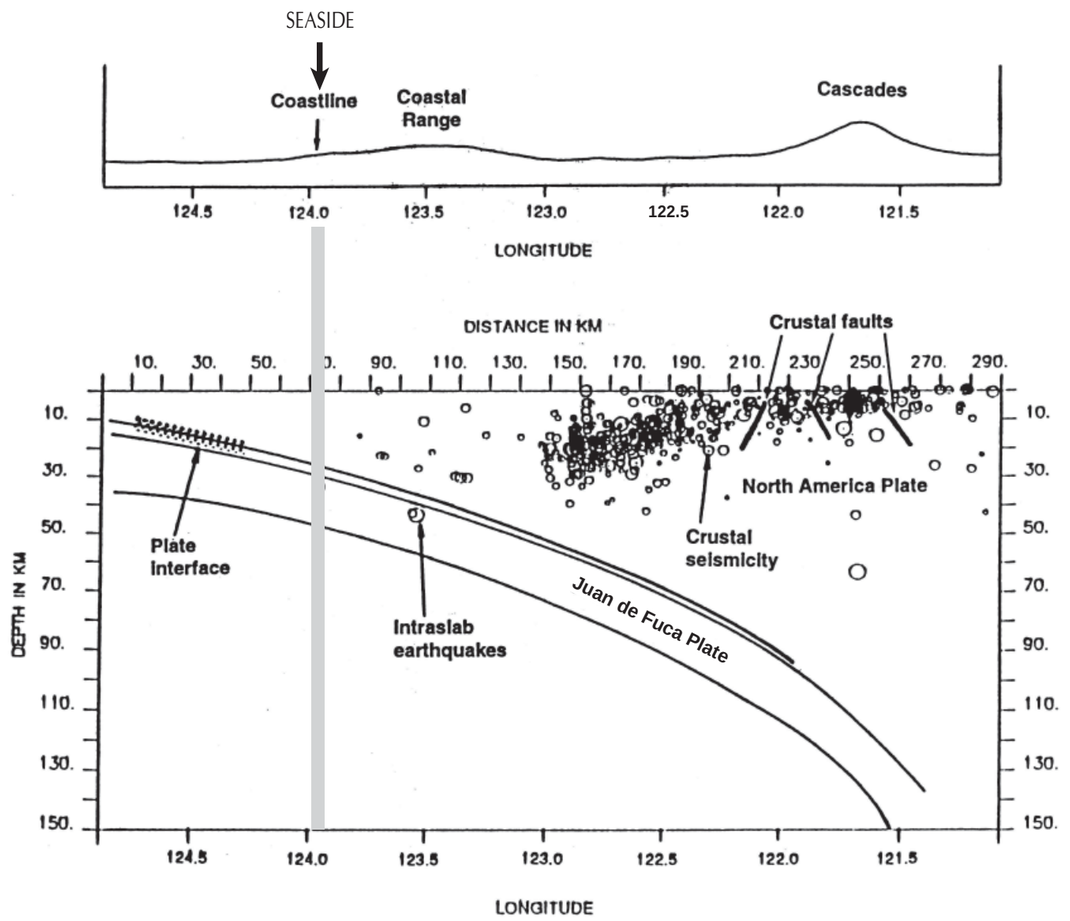


A) TECTONIC MAP OF PACIFIC NORTHWEST, SHOWING ORIENTATION AND EXTENT OF CASCADIA SUBDUCTION ZONE (MODIFIED FROM DRAGERT AND OTHERS, 1994)

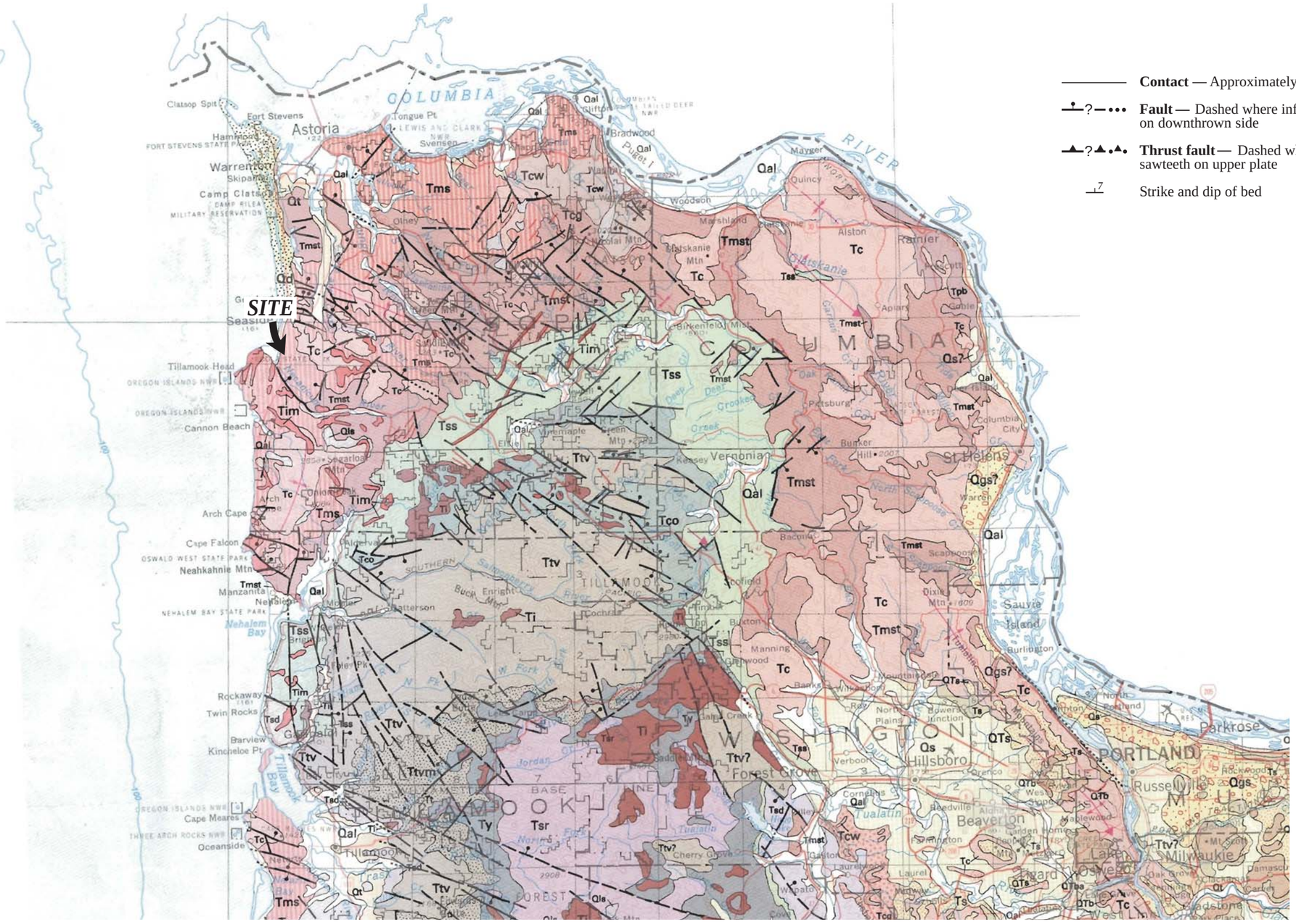


B) EAST-WEST CROSS-SECTION THROUGH WESTERN OREGON AT THE LATITUDE OF HILLSBORO, SHOWING THE SEISMIC SOURCES CONSIDERED IN THE SITE-SPECIFIC SEISMIC HAZARD STUDY (MODIFIED FROM GEOMATRIX, 1995)

GRI

TECTONIC SETTING SUMMARY

JUNE 2007 JOB NO. 4566 FIG. 1B



Contact — Approximately located

Fault — Dashed where inferred; dotted where concealed; queried where doubtful; ball and bar on downthrown side

Thrust fault — Dashed where inferred; dotted where concealed; queried where doubtful; sawteeth on upper plate

Strike and dip of bed

BASE MAP FROM: WALKER, G.W., AND MACLEOD, N.S., 1991, GEOLOGIC MAP OF OREGON: U.S. GEOLOGICAL SURVEY

ADDITIONAL FAULT LOCATIONS FROM YEATS AND OTHERS, 1991, TECTONICS OF THE WILLAMETTE VALLEY, OREGON: USGS OPEN-FILE REPORT 91-441-P.

North

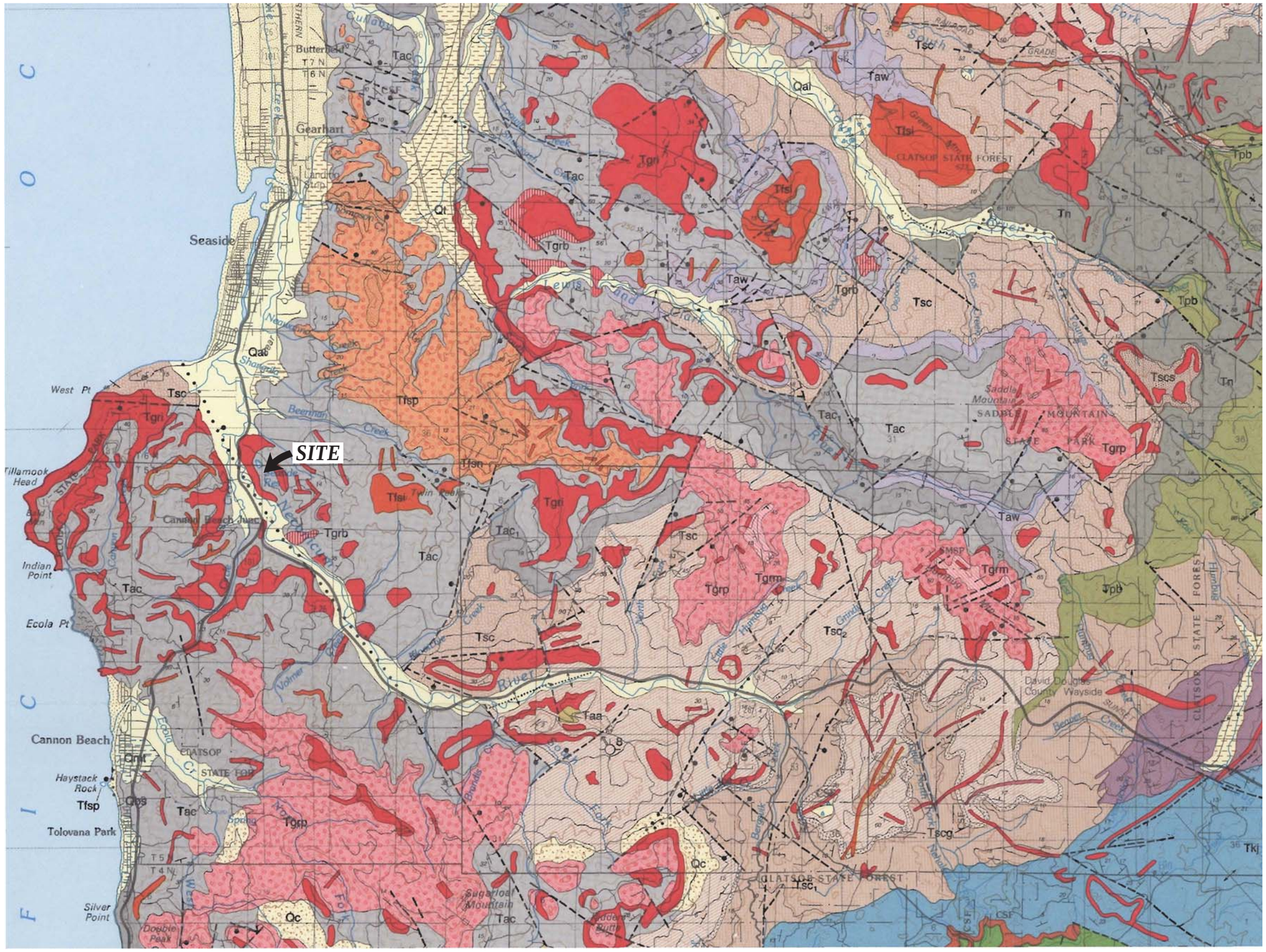
0 10 20 MILES

0 10 20 KILOMETERS

GRI

REGIONAL GEOLOGIC MAP

JUNE 2007 JOB NO. 4566 FIG. 2B



EXPLANATION

Qal	QUATERNARY ALLUVIUM (HOLOCENE)
Tfsi	INTRUSIVE FRENCHMAN SPRINGS MEMBER BASALT (MIDDLE MIOCENE)
Tgrp, Tgri, Tgrb	GRANDE RONDE BASALT (MIDDLE MIOCENE)
Tac	ASTORIA FORMATION, CANNON BEACH MEMBER (MIDDLE TO LOWER MIOCENE)
Tsc	SMUGGLER COVE FORMATION (LOWER MIOCENE TO UPPER EOCENE)

FROM: NIEM, A.R., AND NIEM, W.A., 1985, OIL AND GAS INVESTIGATION OF THE ASTORIA BASIN, CLATSOP AND NORTHERN MOST TILLAMOOK COUNTIES, NORTHWEST OREGON: OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES, OIL AND GAS INVESTIGATION SERIES, OGI-14.

North

0 2 4 MILES

0 2 4 KILOMETERS

GRI

LOCAL GEOLOGIC MAP

JUNE 2007 JOB NO. 4566 FIG. 3B

(Fee / Price Proposal) for CM/GC SERVICES

Seaside School District Bond Project

GENERAL
This Fee/Price Proposal is provided as an Appendix to the Request For Proposal (Appendix F).

SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK

1. In submitting its Fee/Price Proposal, Proposer acknowledges that it will provide, for the duration of the Project, the full complement of staff designated in its written response to the Request for Proposal.

2. Proposer acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the Work, and that it has investigated and satisfied itself to the general and local conditions which may affect the Work or its cost.

3. Proposer acknowledges that it has satisfied itself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site and supporting RFP documentation.

4. Proposer acknowledges that adjacent schools, businesses and public agencies will be conducting normal operations during the work week. Proposer should anticipate normal pedestrian and traffic congestion inherent for this area.

5. Proposer acknowledges that its Fee/Price Proposal is based upon a schedule as set forth in the RFP and assumptions which incorporate the conditions set forth above, and in the reference documents included with this package. All components of the RFP solicitation, whether attached hereto, or by RFP addendum or referenced only, are incorporated by reference and hereby made a part of this request.

6. Owner assumes no responsibility for any conclusions or interpretations made by Proposer based on the information made available by Owner. Questions received less than seven calendar days before the time for submission of RFP & Fee/ Price Proposal may not be answered.

PREPARATION OF FEE PROPOSALS

1. Each Proposer is required to submit the proposal amounts on the Fee/Price Proposal Form included in this request. The first amount shall be for the "General Conditions," the second amount shall be for the "CM/GC Fee," the third amount shall be for the "Bonds, Insurance and Builder's Risk", and the fourth amount shall be for the "Pre-construction Services". The Pre-Construction Services shall include services as outlined in the RFP and supporting documents and include, but not be limited to: 1) Provide a minimum of 5 formalized construction cost estimates 3), 2) Constructability reviews and Value Engineering utilizing best practices in Target Value Design, 3) Meeting attendance 4) Schedules, 5) General correspondence and consultations, 6) Site Logistics and Procurement planning, 7) Other requirements as outlined in the RFP documents. The terms "CM/GC's Fee", "General Conditions" and "Pre-Construction Services" are defined in the Cost Responsibility Matrix included herein. Proposer shall comply with the following instructions in preparing its Fee Proposal.

2. State the CM/GC's Fee as a percentage, and multiply it by the Total Estimated Cost of Work (ECOW) to determine a single dollar amount for the CM/GC's Fee. The dollar amount for the CM/GC's Fee will be added to the dollar amounts for General Conditions, Bonds and Insurance and for Pre-construction Services, to determine a single amount which shall be the Proposer's Total Fee/Price Proposal.

Proposer's initials: _____

3. In completing the attached Fee/Price Proposal Form, the Proposer must enter

- Part I: A dollar amount for the General Conditions,
- Part II: A percentage and a dollar amount for the CM/GC's Fee,
- Part III: A percentage and a dollar amount for the Bonds and Insurance,
- Part IV: A dollar amount for staff Member Classifications, Hourly Rates and Estimated Hours, and
- A Not-To-Exceed total dollar amount for Pre-Construction Services.

The Owner reserves the right to reject any or all Fee Proposals and to waive as an informality any non-material irregularities in the Fee Proposal Forms received.

4. The Proposer's business name, address, other contact information, Contractor's Registration Number, and Federal EIN shall be provided on the Fee Proposal Form in the space provided.

5. Fee Proposals must be (1) submitted on the Fee/Price Proposal Form , furnished by Owner or as a copy of this form, and (2) manually signed in **BLUE** ink by an authorized representative of the Proposer. **The person signing the Fee Proposal Form must initial each page** of the Fee/Price Proposal Form.

6. Proposers shall submit Fee/Price Proposals in the format provided on the Fee Proposal Form. Only the amounts and information required on the Fee Proposal Form furnished by the Owner will be considered as the Fee Proposal. All non-shaded blank spaces must be filled in.

7. Receipt of all addenda must be acknowledged by identifying the addendum number in the space provided in the Fee Proposal Form.

8. The proposal shall include all taxes imposed by law in the State of Oregon.

9. Proposal scoring:

For **Part 1 General Conditions Fee Maximum 5 points**: The General Conditions Fee will be scored based upon its deviation from the median cost proposed by the field of proposers.

Example scoring criteria for General Conditions

Proposer	Fees	Highest Ranking Fee	Score
	Total Proposal all parts scored	Median fee/ proposer fee	Maximum points x %
1	$ 4,100,000	100%	5.0
2	$ 4,500,000	91%	4.6
3	$ 3,000,000	73%	3.7
4	$ 2,500,000	61%	3.0
5	$ 4,800,000	85%	4.3

APPENDIX F

For **Parts 2 and 3 CM/GC Fee, Bonds and Insurance Maximum 15 points,** scoring shall be based on a formula that divides the highest ranking proposer with the lowest overall fee as follows:

Example scoring criteria for Fees, Bonds and Insurance

Proposer	Fees	Highest Ranking Fee	Score
	Total Proposal all parts scored	Low fee/ proposer fee	Maximum points x %
1	$ 1,850,000	100%	15.0
2	$ 4,500,000	41%	6.2
3	$ 3,000,000	62%	9.3
4	$ 2,500,000	74%	11.1
5	$ 4,800,000	39%	5.8

SUBMISSION AND WITHDRAWAL OF PROPOSALS

1. Fee/Price Proposals shall be submitted along with the RFP response to the assigned SSD contact noted in the RFP.

2. Receipt of Fee/Price Proposals and proposal modifications by facsimile, e-mail, telephone, or orally will not be considered.

3. A Proposer may withdraw its Fee/Price Proposal by submitting a written request to the assigned SSD contact noted in the RFP before the proposal submittal deadline.

LATE SUBMISSIONS

1. Any Fee/Price Proposal or request to withdraw a Fee/Price Proposal that is received after the deadline set forth herein will not be considered.

2. The only acceptable evidence to establish the time of receipt at the office designated in this request is the time/date stamped or printed by Owner on the RFP Proposal envelope or package or other documentary evidence of receipt maintained by Owner.

NOTE: It is the Proposer's responsibility to ensure its materials are delivered to the above-noted address by the closing day and time. The Owner will assume no responsibility for mail, courier or delivery times.

FINAL SELECTION

Final selection of a CM/GC for Contract negotiations will be made consistent with the requirements set forth in the Request for Proposals.

Proposer's initials: _____

FEE/PRICE PROPOSAL FORM

Seaside School District Bond Project

The undersigned submits the following Proposal.

PROPOSAL ITEMS I-IV AND SUMMARY:
Pursuant to and in compliance with the Request for Fee/Price Proposals and **Cost Responsibility Matrix,** the undersigned certifies to have carefully examined the RFP Documents, conditions affecting the Work and is familiar with the site. The undersigned further proposes to furnish all labor, materials, equipment and services necessary to complete the Work for the following costs:

Description of Proposal Item: Part I ***General Conditions***		Maximum "NTE"	**Proposal Amount**
Total General Conditions Proposal: Refer to Summary Cost Responsibility Matrix		Maximum "NTE"	**$ _____**
Total: General Conditions			**$ _____**

Note: ***Proposer shall provide a separate detailed manpower loading document and include as an attachment with this proposal submission, outlining proposed staffing including hourly rates for both General Conditions staffing for construction as well as Pre-construction Services staffing.***

Description of Proposal Item: Part II ***CM/GC Fee***	**Percentage**	**Total Estimated Cost of Work "ECOW"**	**Proposal Amount**
Insert Percent Fee and multiply by **the Total Estimated Cost of Work (ECOW)** to determine CM/GC Fee Proposal Amount	_____%	$74,000,000*	$ _____
			(enter the amount in the box directly above in the box immediately below)
CM/GC Fee		**Total Proposal:**	**$ _____**

Proposer's initials: _____

APPENDIX F

FEE/PRICE PROPOSAL FORM

Description of Proposal Item: Part III ***Bonds and Insurance***	**Percentage**	**Estimated GMP**	**Proposal Amount**
Insert Percent Fee and multiply by **the Guaranteed Maximum Price (GMP)** to determine CM/GC Bonds, and Insurance Amounts			
GL Liability Insurance	_____%	$82,000,000*	$ _____
Performance Bond and Payment Bond	_____%	$82,000,000*	$ _____
Builder's Risk Insurance	_____%	$82,000,000*	$ _____
			(enter the total of the boxes directly above in the box immediately below)
TOTAL Bonds, and Insurance		**Total Proposal:**	**$ _____**
**** These numbers are for RFP evaluation only.***			

Proposer's initials: _____

FEE/PRICE PROPOSAL FORM

Description of Proposal Item: Part IV ***Pre-Construction Services***	**Proposal Amount**
Staff Member Classification ___ Hourly Rate x Estimated Hours = Total per Staff Member Classification _____ $_____ x _____ = $_____ _____ $_____ x _____ = $_____ _____ $_____ x _____ = $_____ _____ $_____ x _____ = $_____ _____ $_____ x _____ = $_____ _____ $_____ x _____ = $_____	
TOTAL *Pre-Construction Services* Proposal (Not To Exceed)	$_____

Summary of all Proposal Items:	**Proposal Amount TOTALS:**
Description of Proposal Item: Part I: *General Conditions*	$_____
Description of Proposal Item: Part II: *CM/GC Fee*	$_____
Description of Proposal Item: Part III: *Bonds and Insurance*	$_____
TOTAL PROPOSAL ALL PARTS SCORED	$
Description of Proposal Item: Part IV: *Pre-Construction Services (NTE)* (Pre-Construction services is not part of scored section of Fee/Price Proposal and will be negotiated upon successful award with the Highest ranked Proposer)	$_____

Proposer's initials: _____

CONTRACT AND BOND:

For the purposes of calculating the costs of bonds, taxes and insurance, the proposer shall assume a GMP as referenced in the Request for Proposal, and related RFP documents.

If a GMP is agreed to between Owner and Proposer, a Guaranteed Maximum Price (GMP) will be established by Owner and CM/GC consisting of a negotiated GMP, through a contract amendment. Refer Appendices B and C. The undersigned agrees to execute a contract for the above Work for the GMP using the Construction Agreement and General Conditions in Appendices B and C of the RFP referenced hereto, and to furnish bonds and evidence of insurance as required by the Contract Documents.

FEE/PRICE PROPOSAL FORM

Proposer's Business Name:			
Type of Business: _____ (Insert above Sole Proprietorship, General or Limited Partnership, Limited Liability Company, Corporation, or Other – and if Other describe the entity) State of Incorporation or of other business entity formation: _____			
Business Address:	City:	State:	Zip Code:
Business Telephone Number:	Business Fax Number:	Business E-mail Address:	
State of Oregon numbers for the following:			
Contractor Registration No.:	Oregon Registry Number:	EIN No.:	
Receipt is hereby acknowledged of Addenda No(s).: _____ (initials)			

REPRESENTATIVE AUTHORIZED TO SIGN FOR PROPOSER:

"I certify (or declare) under penalty of perjury under the laws of the State of Oregon that the foregoing is true and correct":	
Signature:	Date:
Print Name and Title	Location or Place Executed: (City, State)

NOTE: This Summary Matrix of Cost Allocation is a general guide provided for convenience that summarizes some of the costs associated with various CM/GC cost categories. **Proposer shall provide proposed staffing including hourly rates for both General Conditions staffing for construction as well as Pre-construction Services staffing.**

	GMP						
Description of Section	**Percent Fee Percentage**	**Precon Services**	**General Conditions Work Cost**	**Direct Cost of the Work**	**Change Orders**	**GMP Contingency**	**Owner Cost**
Pre-construction Services including but not limited to:							
Services outlined in the RFP and supporting documents		X					
Value Engineering and Cost Estimating		X					
Schedule and logistics planning		X					
Constructibility reviews		X					
BIM management plan support and coordination w / A/E		X					
Subcontractor planning and procurement development		X					
All Precon Services leading up to finalization of a GMP		X					
Meetings during planning and design phase through implementation documents		X					
Construction Management services							
Key Personnel including but not limited to:							
Senior Project Manager / Project Director			X				
Project Executive (for project specific time only)			X				
Project Manager			X				
Superintendence/Coordination			X				
Project Engineer(s)			X				
Field Engineer(s)			X				
MEP & CxA Coordinator(s)			X				
Project Coordinator(s)			X				
BIM Coordinator			X				
Project Administrative support and project assistance			X				
Intern(s)			X				
Scheduler during construction			X				
Labor burden and Payroll taxes and fringes			X				
Cost Engineer / Jobsite Accounting			X				
Project Document control coordinator			X				
Other costs for the CM/GC's key personnel as identified in the CM/GC Contract			X				
Meetings and Tours			X				
Planning and Layout coordination			X				
Costs associated with managing & coordinating MWESB programs			X				
Coordination for obtaining approvals			X				
Partnering Session after GMP for Construction phase			X				
Schedule and PMIS software			X				
Information technology "IT" and Electronic documentation			X				
Development and implementation of BIM management plan			X				
package			X				
Development of Warranties and Bonds Manuals			X				
Operating Instructions and Facilities Training			X				
Subcontracting process costs			X				
Coordinate and obtain permits			X				
Trade permit application forms and arranging for inspections			X				
Coordinate obtaining the permits			X				
Commissioning Coordination by CM/GC			X				
Traffic control plan and site logistics planning			X				
Construction Contingency (Coordination of Construction Documents and Work)						X	
Items covered by Percent Fee Percentage: SeeFee/Price Proposal	X						
Performance & Payment Bond, Insurance, and Builder Risk	X						
Delivery of Bonds & evidence of Insurance	X						
Payment and Performance Bond (premium cost above initial amount)	X						
Acceptance of Bonds & Insurance	X						
Premium adjustment for bonds	X						

	GMP						
Description of Section	**Percent Fee Percentage**	**Precon Services**	**General Conditions Work Cost**	**Direct Cost of the Work**	**Change Orders**	**GMP Contingency**	**Owner Cost**
Contractor's home office Overhead and Profit							
Principal in Charge	X						
Corporate Accounting	X						
CM/GC personnel Computers / software	X						
Corporate Software	X						
Corporate Safety office and safety program	X						
Main Office Administration	X						
IT Network Charges	X						
Corporate IT Director and IT support	X						
Legal	X						
Main Office Payroll processing costs	X						
Main Office Fringe/ Bonus Costs	X						
Overhead and profit	X						
Percent fee on changes	X						
Changes in Laws					X		
Underground Facilities not shown or indicated					X		
Authorized changes in the Work					X		
Allowance reduction					X		
Changes to subcontractor costs				X	X	X	
Actual cost of building permit							X
Coordination of Owner contracts							X
Owner Consultants							X
Soils Report, Geotechnical Engineering							X
Historic Preservation Owner Consultant							X
Owner's Responsbilities							X
Architect's Responsibilities							X
Independent testing laboratory & Special Inspections							X
3rd party Envelope Commissioning Agent							X
3rd party Commissioning Agent: (MEP)							X
Actual costs of other permits				X			
Negotiated Support Services CM/GC "incidental pick up work"				X			
Subcontract work				X			
Self-Performance by CM/GC				X			
Bid Package Allowances				X			
Bid Document Reproduction Costs				X			
Advertising for Subcontract Bid Packages				X			
Subcontractor Bonding / Subguard				X			
Copies of documents & blueprints				X			
Reference Points				X			
Builders Risk Insurance Deductible				X			
Survey and layout labor				X			
Licensed Survey				X			
Services, Materials, and Equipment				X			
Patent fees and royalties				X			
Actual cost of trade permits				X			
of the Work				X			
Removal of debris during performance of work				X			
Site Safety and protection				X			
Safety equpment, first aid supplies				X			
Temporary provisions				X			
Safety representative and site safety staff				X			
Extended equipment warranties				X			
Delegation of professional design services				X			
Cutting, fitting, and patching				X			
Actual rental costs				X			
Transportation, loading, unloading, assembly, dismantling, and removal				X			
Royalty payments and fees				X			
Allowances				X			
Tests and inspection by contractor				X			
Uncovering work				X			
Correction or removal of defective work not due to CM/GC negligence				X			
All sections of Division 01 Specs except as noted below or within documents			X				
Key Personnel: Refer to list above			X				

	GMP						
Description of Section	**Percent Fee Percentage**	**Precon Services**	**General Conditions Work Cost**	**Direct Cost of the Work**	**Change Orders**	**GMP Contingency**	**Owner Cost**
Additional copies of the Contract Documents, blue printing and reprographics				X			
Project Photographs				X			
Additional staging space				X			
Insurance and bond for stored materials				X			
General cleaning / housekeeping				X			
Cleaning required for specific trades				X			
Final cleaning				X			
Street sweeping				X			
Protect building products				X			
Security barriers				X			
Construction waste / recycling program				X			
Restoration of Project site related to removal of temporary facilities				X			
Pick up truck rental, fuel and maintenance				X			
Contruction wages and benefits for trade labor				X			
Material & Equipment Related to Craft Labor & Site Logistics				X			
Rental-Contractor Owned equip (less than $2000 will be purchased)				X			
Small Tools and equipment rental				X			
Flatbed Truck Rental/operations				X			
Flatbed Truck Fuel/maintenance				X			
Generator fuel				X			
Provide and maintain construction lighting				X			
Temporary heat (equipment and materials)				X			
Temporary heat (fuel)				X			
Use of Owner's HVAC system for construction				X			
Water temporary piping				X			
Drinking water				X			
Weather Protection				X			
Parking and Shuttles				X			
Toilet and handwashing facilities				X			
Mobile communications				X			
Cranes and Hoisting and material handling				X			
CM/GC's field office and Co-Location office during construction				X			
Field office supplies and consumables				X			
Postage and Handling / FedEx				X			
Project Signage				X			
Field office furniture & equipment				X			
Temporary facilities & enclosures				X			
Temporary site fences and barricades				X			
Dewatering				X			
Noise Barriers				X			

CM/GC - GUIDING PRINCIPLES DOCUMENT

Collaborative Project Delivery (CPD) (BEST PRACTICES DESIGN AND CONSTRUCTION - RELATIONSHIP CONTRACTING)

PROJECT NAME: "Seaside Construction Bond Project"

The name of the project delivery process being utilized is based upon the expansion of the Construction Manager/General Contractor CM/GC method of procurement, but with initially eight (8) distinct enhancements. **The enhancements are:**

1. Owner providing on-site management and formation of the CPD core group which includes stakeholders from the Owner, CM/GC and A/E
2. First tier subcontractors being on the team before contract documents are developed.
3. Key first tier subcontractors may be selected as part of the CM/GC solicitation process.
4. Integrated document development with design team and key trade subcontractors.
5. Optimized building information modeling "BIM" and iterative cost modeling providing "real time" feedback to the CPD team
6. Utilization of "Target Value Design" principles for development of expected cost and alignment of design
7. Last Planning scheduling and Pull planning

PROJECT STATEMENT

Collaborative Project Delivery puts the interest of the project above all others. Members of the project team are challenged to:

1. Take ownership of the project
2. Continuously improve the services, disciplines, and project delivery
3. Exceed the energy and water conservation goals of the project for sustainability
4. Deliver the project using the Building Information Model to its cost effective capacity
5. Challenge each other to drive innovation & find cost savings and schedule improvements to bring the project in at the best value to the American taxpayer
6. Employ open book, transparent processes

CPD Delivery is a deeply collaborative process that uses best available technology, but goes beyond merely the application of digital tools, such as Building Information Modeling. Essential Principles are set forth as necessary assumptions in this teaming process. Unless all parties are deeply committed to these principles, CPD Delivery will not succeed. Workflow begins with building an Integrated Team and concluding with an integrated closeout for operations and maintenance. Review of the process sections reveals fundamental changes in participants, timing and intensity. Moreover, the processes are dynamic, flexible and iterative.

APPENDIX G

DEFINITION

CPD Delivery is a deeply collaborative process that enhances the integration of people, systems and processes, and harness the innovation and talents of all project team members, to eliminate waste and optimize project outcomes and efficiency, through all phases of planning, design, procurement, construction and operations. In CM/GC project delivery this is particularly important on projects of great complexity like the Seaside School District Construction project.

ESSENTIAL PRINCIPLES

CPD Delivery is built on collaboration. As a result, it can only be successful if the participants share and apply common values and goals.

1. **Mutual respect:** Owner, architect, consultants, contractor, subcontractors and suppliers understand the value of collaboration and are committed to working as a team in the best interests of the project. To harness the collective capabilities of the integrated team, all key participants should be involved as early as possible with multiple disciplines and interests represented.
2. **Mutual Benefit:** All members will benefit from a CPD Delivery. CPD Delivery will use innovative business models to support, rather than discourage, collaboration and efficiency.
3. **Early Goal Definition:** Project goals are developed early and agreed upon by all participants. Insight of each participant is valued in a culture that promotes and drives innovation and outstanding performance.
4. **Enhanced Communication:** Focus on team performance is based on communication among all participants that is open, straightforward and honest. Responsibilities are clearly defined in a no-blame culture leading to identification and resolution of problems, not determination of liability.
5. **Appropriate Technology:** CPD delivery will rely on cutting edge technologies. Technologies should be specified at project initiation, to maximize functionality, generality and interoperability.
6. **High Performance:** Integrated projects will lead to optimized design solutions, higher performance buildings, and sustainable design.
7. **Leadership:** Although each participant is committed to achieving project goals, leadership should be taken by the person or organization most capable with regard to specific work and services. Often, the design professionals and contractors lead in areas of their traditional competence with support from the entire team; however specific roles are necessarily determined on a task at hand basis. Roles are clearly defined, without creating artificial barriers that chill open communication and risk taking. Formation of the core group consisting of stakeholders from the Owner, Design team and CM/GC to streamline decision making and problem resolution process.

BUSINESS MODEL

The business model for the CPD Delivery services will be further defined with the Owner (SSD), Design Team and the Construction Manager/ General Contractor (CM/GC). Further services will be defined for the delivery of the project once the CM/GC, and Design Team have been selected. Refer to CPD Flow chart and schedule attachments for decision making work flow process and program schedule and milestones.

APPENDIX G

DIFFERENCES BETWEEN CPD DELIVERY VERSUS TRADITIONAL PROJECT DELIVERY METHODS

In this CPD project the project flow from conceptualization through implementation and closeout differs significantly from a non-integrated project. Conventional terminology, such as schematic design, design development and construction drawings, creates workflow boundaries that do not align with a collaborative process.

In general, CPD Delivery will result in greater intensity with increased team involvement in the early phases of design. The ultimate design product will have been created through a highly collaborative process of initial understanding of goals, determination of a best solution, and a continuum of iterative design understanding.

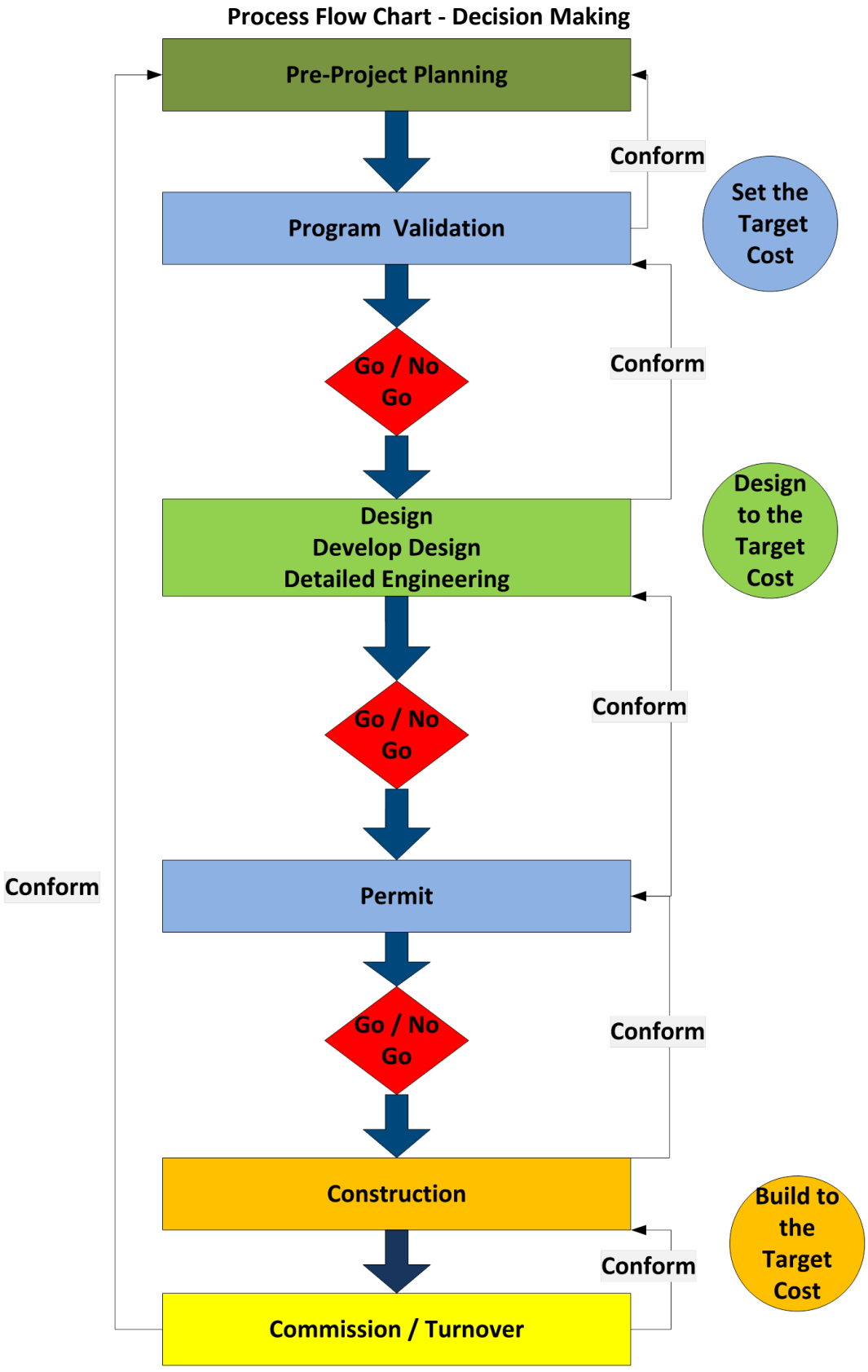
In general, CPD Delivery will result in greater intensity with increased team involvement in the early phases of design. The ultimate design product will have been created through a highly collaborative process of initial understanding of goals, determination of a best solution, and a continuum of iterative design understanding.

CRITERIA DESIGN

Begins to determine WHAT is to be built and the project begins to take shape.

1. Involve all key stakeholders including Owner, CM/GC, Designer, and key trade subcontractors, and engineers in the process.
2. Identify key technologies, such as Building Information Modeling, and begin to capture key parameters.
3. Cost structure is developed using “Target Value Design” principles.
4. Performance goals are developed, including metrics for determining team performance.
5. Preliminary schedule is developed.
6. Design decisions are made on a “best for project” basis.
7. Scope is fixed, price is fixed and Target Cost is established, owner signs off on what will be built allowing the team to evolve and optimize the design.
8. Further develop preliminary schedule – schedule is better informed due to collaborative approach and commitments to schedule are more firm.

APPENDIX G


Process Flow Chart - Decision Making
Pre-Project Planning
Conform
Set the Target Cost
Program Validation
Go / No Go
Conform
Design to the Target Cost
Design
Develop Design
Detailed Engineering
Go / No Go
Conform
Conform
Permit
Go / No Go
Conform
Construction
Build to the Target Cost
Conform
Commission / Turnover

APPENDIX G

DETAILED DESIGN

Concludes the WHAT phase of the project.

During this phase, all of the key design decisions are finalized.

1. The design intent is fully, unambiguously defined, coordinated and validated.
2. The detailed design phase period is longer and more intense than traditional design development because more is accomplished.
3. All major building systems are defined, including furnishings, fixtures and equipment.
4. By the end of design all building elements are coordinated and fully engineered. The team will collaborate to resolve any inconsistencies or conflicts.
5. Each group that is contributing to BIM will be responsible for their piece of the model. A successful BIM effort includes:
   - 5.1 Models and tools must be interoperable to support checking for inconsistencies/conflicts.
   - 5.2 Protocols must be developed to control data interchange.
   - 5.3 Third parties may administer the central models or other collaborative information store(s).
   - 5.4 In the mechanical disciplines, control of the model will transfer from prime design professional to the subcontractor after the detailed design phase.
   - 5.5 Specifications for the building become prescriptive since the objects in the model are representations of the real object.
6. Subcontractor and vendor insight is integrated into design and used for coordination and conflict resolution.
7. Quality levels should be established.

IMPLEMENTATION DOCUMENTS

Documenting HOW it will be implemented.

Some of the traditional shop drawing process is merged into the design as contractors; subcontractors and suppliers document how systems and structure will be created.

1. At the beginning of Implementation Documents (ID) the entire building and systems are fully defined and coordinated and therefore, the construction document phase is significantly shortened.
2. The goal of the ID phase is to document how the design intent will be implemented, not to change or develop it.
3. Using a Building Information Model, the “shop drawing” phase that typically occurs later in the process may be substantially reduced or eliminated. Subcontractors and vendors will augment the design model in lieu of preparing separate shop drawings, or will create a synchronized model for fabrication or installation purposes.
4. Prefabrication of some systems can commence because the model is sufficiently fixed (object sizes and positions are frozen) to allow prefabrication to begin.

5. The specification provides narrative documentation of the design intent wherever necessary.
6. Implementation Documents visualize the project for participants who aren't involved in the development of the model.
7. Implementation Documents include information for
    7.1 Procurement
    7.2 Assembly
    7.3 Layout
    7.4 Detailed schedule
    7.5 Procedural information (testing, commissioning)

BIDDING

Complete bidding of remaining contracts.

The project assumes early involvement of key subcontractors and vendors. With this understanding:

1. Project definition during criteria and detailed design allows early commitment for procurement of long lead, custom, or prefabricated items.
2. Key participants prices will already be defined. Bidding and negotiation will primarily occur with parties that were not included in the integrated team.
3. The integrated model provides an opportunity to bid and verify certain quantity estimates.

CONSTRUCTION

The benefits of the CPD Delivery model are realized.

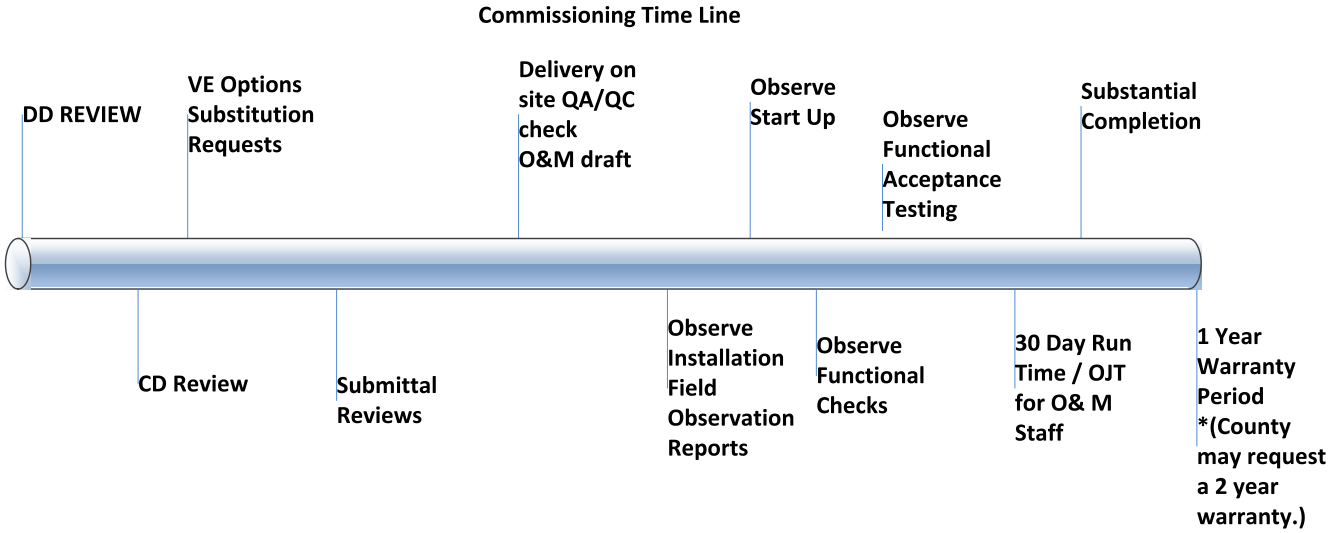
For architects, construction has traditionally been considered the final stage of design where issues are addressed and solutions achieved to actual real-life problems. But in CPD Delivery, this "final design stage" is completed during Detailed Design phase. Thus, construction administration will be primarily a quality control and cost monitoring function. Because of the higher intensity of preceding phases, CPD Delivery construction will have:

1. Less on-site construction administration effort because conflicts have been resolved virtually during the design and implementation phase.
2. Fewer RFIs because contractor, subcontractor and vendors have been involved in developing the design intent and construction documentation for their respective portions of the design. The model maybe used to augment, manage or enhance the RFI process.
3. Less office construction administration effort is required because submittals have already been integrated into the model.
4. Better understanding of design intent because consistent information and documentation will be available to all participants.
5. More pre-fabrication because the design was developed earlier and in collaboration with the fabricator.
6. Less waste because more material is factory generated.

7. An adjusted model based on “as built / exact build conditions.
8. A possible schedule tied to the model to allow visualization of deviations from planned sequences and durations.
9. Warranty operation and maintenance information has been added into the model.
10. Some elements of current construction administration will remain similar to current practice with traditional relationship based contracting.
    - Quality control, inspection and testing.
    - Change orders, particularly for owner directed changes, must be formally negotiated and documented.
    - Scheduling and progress will be subject to periodic review.
    - Responsibility for means and methods remains with the Contractor.

PROJECT CLOSEOUT AND MEASUREMENT AND VERIFICATION PHASES

Work scopes for project closeout and measurement and verification phases are to be determined jointly with the CPD core group: (OWNER and the CM/GC and A/E). Refer to BIM management plan and Commissioning plan for detailed description of closeout deliverables.



BEST PRACTICES “white paper” acknowledgements: Collaborative Best Practices Design and Construction is taken from ‘A Working Definition, AGC BEST PRACTICES source documents and Lean Construction Institute “LCI” source documents