CONTRACT SPECIFICATIONS

Pacific Northwest University Water and Sewer Extensions

Yakima County Public Services
Project No. U6 3279
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* * * * *
BID DOCUMENTS
CERTIFICATE

I hereby certify that the attached documents, plans and specifications conform to originals which are on file in the office of the County Engineer of Yakima County, Washington.

Gary N. Ekstedt, P.E.
County Engineer
INSTRUCTIONS TO BIDDERS

DELIVERY OF PROPOSALS

Sealed bids will be received at the following location before the specified time:

Office of the Board of County Commissioners of Yakima County, Room 232, Yakima County Courthouse, Yakima, Washington 98901 until 2:00 p.m. of the bid opening date.

Each proposal, or bid shall be completely sealed in a separate package, addressed to the Engineer of Yakima County with the name of the improvements for which the bid is submitted plainly written on the outside of the package.

No oral, telephonic, facsimile, or telegraphic Bids or modifications shall be accepted.

DATE OF OPENING BIDS

The bid opening date for this project shall be August 17, 2007.

The bids shall be publicly opened and read after 2:00 p.m. on that date at the following location:

Yakima County Road Engineer's Office, fourth floor, Yakima County Courthouse, 128 N. 2nd Street, Yakima, Washington 98901.

RIGHT TO REJECT BIDS:

The right is reserved to reject any and all proposals, to accept the proposal or proposals deemed best for the County or to advertise for new proposals when in the opinion of the Board the best interest of the County shall be promoted thereby.

PROPOSAL GUARANTY:

A certified check, cashiers check, cash or bid bond made payable to the Treasurer of the County of Yakima for an amount equal to at least five percent (5%) of the total amount bid must accompany each bid as evidence of good faith and as a guarantee that if awarded the Contract the bidder shall execute the Contract and give Bond as required.

FORM FURNISHED:

Each bid must be made on the form attached to these Specifications.

CONTACT:

For information regarding this project, please contact Joe Stump in the Public Services Department at (509) 574-2300.

YAKIMA COUNTY IS AN EQUAL OPPORTUNITY EMPLOYER
PROPOSAL

This certifies that the undersigned has examined the location of the noted project:

U6 3279 – PNWU WATER AND SEWER EXTENSION

And that the Plans, Specifications and Contract governing the work embraced in these improvements, and the method by which payment will be made for said work, is understood. The undersigned hereby proposes to undertake and complete the work embraced in these improvements, or as much as can be completed with the money available, in accordance with the said Plans, Specifications, and Contract, and the following schedule of rates and prices:

**NOTE:** Unit Prices for all items, all extensions, and total amount of bid shall be shown. No oral, telephonic, facsimile, or telegraphic Bids or modifications shall be considered or accepted.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Approx Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Total Item Amount</th>
</tr>
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<tbody>
<tr>
<td></td>
<td><strong>PREPARATION</strong></td>
<td></td>
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</tr>
<tr>
<td>1</td>
<td>Mobilization</td>
<td>1</td>
<td>L.S.</td>
<td>$</td>
<td>$</td>
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<tr>
<td>2</td>
<td>Trench Safety System</td>
<td>1</td>
<td>LS</td>
<td>$</td>
<td>$</td>
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<tr>
<td>3</td>
<td>Clearing and Grubbing</td>
<td>1</td>
<td>L.S.</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td><strong>SANITARY SEWER</strong></td>
<td></td>
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</tr>
<tr>
<td>4</td>
<td>PVC Sanitary Sewer Pipe 10 In. Diam.</td>
<td>1,398</td>
<td>LF</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>5</td>
<td>Manhole 48 In. Diam.</td>
<td>4</td>
<td>EA</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>6</td>
<td>Adjust Manhole</td>
<td>4</td>
<td>EA</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>7</td>
<td>Connection to Existing Manhole</td>
<td>1</td>
<td>EA</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>8</td>
<td>Testing Sewer Pipe</td>
<td>1,698</td>
<td>LF</td>
<td>$</td>
<td>$</td>
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<td></td>
<td><strong>WATER</strong></td>
<td></td>
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</tr>
<tr>
<td>9</td>
<td>DI Pipe for Water Main 12 In. Diam.</td>
<td>4,294</td>
<td>LF</td>
<td>$</td>
<td>$</td>
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<tr>
<td>10</td>
<td>DI Pipe for Water Main 8 In. Diam.</td>
<td>490</td>
<td>LF</td>
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<tr>
<td>11</td>
<td>DI Pipe for Water Main 6 In. Diam.</td>
<td>85</td>
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<td>12</td>
<td>Butterfly Valve 12 In.</td>
<td>5</td>
<td>EACH</td>
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<td>13</td>
<td>Tapping Sleeve and Valve Assembly 12 In.</td>
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<td>EACH</td>
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<tr>
<td>14</td>
<td>Gate Valve 8 In.</td>
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<td>15</td>
<td>Gate Valve 4 In.</td>
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<td>16</td>
<td>Hydrant Assembly</td>
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<td>EACH</td>
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<td>17</td>
<td>Blowoff Assembly</td>
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<td>EACH</td>
<td>$</td>
<td>$</td>
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<tr>
<td>Item Description</td>
<td>Quantity</td>
<td>Unit</td>
<td>Unit Cost</td>
<td>Total Cost</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>----------</td>
<td>------</td>
<td>-----------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Comb. Air Release/Air Vacuum Valve Assembly 1 In.</td>
<td>1</td>
<td>EACH</td>
<td>$</td>
<td>$</td>
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</tr>
<tr>
<td><strong>ROAD REMOVAL AND REPAIR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concrete Walk, Curb, and Asphalt Removal and Replacement</td>
<td>1</td>
<td>LS</td>
<td>$</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td><strong>EROSION CONTROL AND PLANTING</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seeding and Fertilizing</td>
<td>0.2</td>
<td>ACRE</td>
<td>$</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td><strong>TRAFFIC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Temporary Traffic Control</td>
<td>1</td>
<td>LS</td>
<td>$</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td><strong>OTHER ITEMS</strong></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Soil Residual Herbicide</td>
<td>360</td>
<td>SQ-YD</td>
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<td>$</td>
<td></td>
</tr>
<tr>
<td>Crushed Surfacing Top Course</td>
<td>95</td>
<td>TONS</td>
<td>$</td>
<td>$</td>
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<tr>
<td>Crushed Surfacing Base Course</td>
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<td>TONS</td>
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<td>$</td>
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<tr>
<td>Dewatering</td>
<td>21</td>
<td>DAYS</td>
<td>$</td>
<td>$</td>
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</tbody>
</table>

**Subtotal**  
Washington State Sales Tax @ 7.9%  
**BID TOTAL**
PROPOSAL – Continued

The bidder is hereby advised that by signature of this proposal he/she is deemed to have acknowledged all requirements and signed all certificates contained herein.

A proposal guaranty in an amount of five percent (5%) of the total bid, based upon the approximate estimate of quantities at the above prices and in the form as indicated below, is attached hereto:

CASH [ ] IN THE AMOUNT OF ______________________

CASHIER’S CHECK [ ] ______________________________DOLLARS

CERTIFIED CHECK [ ] ($_________) PAYABLE TO THE COUNTY TREASURER

PROPOSAL BOND [ ] IN THE AMOUNT OF 5 PERCENT (5%) OF THE BID

Bidder acknowledges receipt of the following Addendums:

No. Date

The undersigned has telephoned the Office of the Yakima County Engineer for verification of the number of Addendums issued.

SIGNATURE OF AUTHORIZED OFFICIAL(S)

Title: _______________________________________

Firm Name: ___________________________________

Address: ______________________________________

Phone No.: ________________________________

Washington Registration No.: __________________

Federal ID Tax No.: ___________________________

UBI No.: _____________________________________

E-Mail: _______________________________________

Signed and sworn (or affirmed) before me on __________________________

Date_____________________________________

__________________

NOTARY PUBLIC

My appointment expires_____________________

(Seal and Stamp)

NOTE: (1) This proposal is not transferable and any alteration of the firm’s name entered hereon without prior permission from the County Engineer shall be cause for considering the proposal irregular and subsequent rejection of the bid.

(2) Please refer to Section 1-02.6 of the Standard Specifications, re: “Preparation of Proposal”

(3) Should it be necessary to modify this proposal either in writing or by electronic means, please make reference to the following proposal number in your communications U6 3279.
LETTER OF RESPONSIBILITY

TO:
BOARD OF COUNTY COMMISSIONERS OF YAKIMA COUNTY, WASHINGTON
(Party awarding principal contract)

Dear Sirs:

I hereby maintain that I am a responsible bidder as contemplated by the policies of the State of Washington (Chapter 157, Laws of Washington of 1937).

a. My permanent place of business is ____________________________, which I have maintained for _________ years.

b. I have adequate plant equipment to do expeditiously and properly the work contemplated for Yakima County, Washington.

DESCRIPTION OF WORK:

U6 3279 – PNWU Water & Sewer Extension

I have the following equipment available for this work:

________________________________________________________________________

________________________________________________________________________

c. I have adequate funds to promptly meet obligations incident to this work.
Bank reference: __________________________________________________________

________________________________________________________________________

d. I have had experience in this class of work, having constructed the following improvements.

I hereby certify that the above is a true and accurate statement.

Very truly yours,

________________________________________________________________________

Contractor

NOTE: This sheet need not be submitted, unless so requested by the Engineer subsequent to opening of bid. This “letter of responsibility” shall not be construed to be a request for Prequalification of bidder.
DEFINITION OF TERMS

In interpreting these specifications, the following definitions shall prevail:


SECRETARY OF TRANSPORTATION: Secretary of Transportation of the State of Washington.

BOARD: The Board of County Commissioners of Yakima County.

ENGINEER: County, or construction engineer, or his duly authorized assistants by whom all explanations and directions necessary for the satisfactory prosecution and completion of the work described in these specifications will be given.

CONTRACTOR: The person, firm, co-partnership, or corporation, or any lawful agent of such person, firm, partnership or corporation constituting one of the principals to the contract and undertaking to perform the work herein specified.

CONTRACT: The Agreement between the Contractor and the County of Yakima acting through the Board of County Commissioners. The contract shall include the accepted "Proposal", "Plans", "Specifications" and "Contract Bond", also any and all supplemental agreements which reasonably could be required to complete the construction of the work in a substantial and acceptable manner.

PROPOSAL: The written offer, or copy thereof of the bidder to perform the work proposed.

PLANS: The officially approved drawings, or reproductions thereof attached to this contract.

SPECIFICATIONS: The directions, provisions and requirements contained herein, together with all written agreements made, or to be made pertaining to the method and manner of performing the work, or to the quantities and qualities of materials to be furnished under the contract.

CONTRACT BOND: The approved form of security furnished by the Contractor and his surety as a guarantee of good faith on the part of the Contractor to execute the work in accordance with the terms of the contract.

LABORATORY: The laboratories of the Department of Transportation, or other laboratories designated by the engineer.

AMOUNT OF THE CONTRACT: For the purpose of awarding the contract and determining the amount of the bond, the lump sum bid, or the summation of the products of the approximate quantities shown on the plans or otherwise stated by the unit prices will be considered the total amount of the bid and the full amount of the contract price.
NON-COLLUSION DECLARATION

I, by signing the proposal, hereby declare, under penalty of perjury under the laws of the United States that the following statements are true and correct:

1. That the undersigned person(s), firm, association or corporation has (have) not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the project for which this proposal is submitted.

2. That by signing the signature page of this proposal, I am deemed to have signed and have agreed to the provisions of this declaration.
CONTRACT

THIS AGREEMENT, made and entered into between Yakima County acting under and by virtue of Titles 36 and 39 RCW, hereinafter called the "COUNTY" and ____________________________, hereinafter called the "CONTRACTOR".

That in consideration of the terms and conditions contained herein and attached and made a part of this agreement, the parties hereto covenant and agree as follows:

I. The CONTRACTOR shall do all work and furnish all tools, materials and equipment for U6.3279 – PNWU Water & Sewer Extension and shall perform any changes in the work in accordance with the Contract Documents. "Contract Documents" are this Contract, the attached Plans and Specifications and the current edition of the Standard Specifications of the Washington State Department of Transportation and American Public Works Association which are by this reference incorporated herein and made a part hereof. In using said Standard Specifications and Amendments thereto, “Secretary of Transportation”, “Engineer” and like terms used therein will be construed to mean Yakima County Engineer and “State” or “Thurston County” shall mean Yakima County.

II. The CONTRACTOR shall provide and bear the expense of all equipment, material and labor of any sort whatsoever that may be required for the transfer of materials and for constructing and completing the work provided for in the Contract Documents except those items mentioned therein to be furnished by Yakima County.

III. The COUNTY hereby promises and agrees to pay the CONTRACTOR according to the attached Specifications and the schedule of unit or itemized prices at the time and in the manner and upon the conditions provided for in the Contract Documents.

IV. The CONTRACTOR for itself, and for its heirs, executors, administrators, successors and assigns does hereby agree to the full performance of all the covenants heretofore contained upon the part of the CONTRACTOR.

V. It is further provided that no liability shall attach to the COUNTY by reason of entering into this Contract, except as expressly provided herein.

IN WITNESS WHEREOF, the CONTRACTOR has executed this instrument, on the date indicated below and Yakima County has caused this instrument to be executed in the name of said COUNTY by and through the Board of Yakima County Commissioners on the date indicated below.

Executed by the CONTRACTOR _________. 20____.

BOARD OF YAKIMA COUNTY COMMISSIONERS

__________________________
Chair

__________________________
Commissioner

__________________________
Commissioner

ATTEST: Clerk of the Board

__________________________
Christina Steiner

Approved as to form:

__________________________
Deputy Prosecuting Attorney
PERFORMANCE BOND
(RCW 39.08)

KNOW ALL MEN BY THESE PRESENTS, That ______________________, as “PRINCIPAL”, and ______________________, a corporation authorized to do business in the State of Washington, as “SURETY”, are jointly and severally held and bound unto Yakima County, Washington in the penal sum ______________________ Dollars ($____________________) for the payment of which by these presents we jointly and severally bind ourselves, our heirs, executors, administrators, assigns, and successors.

THE CONDITION of this bond is such that WHEREAS, on ____________, 20____, the PRINCIPAL executed a certain Contract with the County, by the terms of which PRINCIPAL agrees to furnish all material and labor and will undertake and complete the construction of for U6 3279 – Water and Sewer Extension according to the maps, plans and specifications made a part of said Contract, which Contract is attached hereto and by this reference is incorporated herein and made a part hereof. FURTHER, the SURETY agrees to be bound by the laws of the State of Washington and subjected to the jurisdiction of the State of Washington.

NOW, THEREFORE, if the PRINCIPAL shall faithfully perform all the provisions of such contract and pay all laborers, mechanics, subcontractors and materialmen, and all persons who supply such persons or subcontractors with provisions or supplies for the carrying on of such work, then this obligation to be void, otherwise to remain in full force and effect.

Dated this _____ day of __________, 20____.

PRINCIPAL

By: ______________________

Title: ______________________

SURETY

By: ______________________

Attorney-in-Fact

Approved as to form:

Deputy Prosecuting Attorney

Name of Local Office of Agent

Address of Local Office Agent

BOND NUMBER

YAKIMA COUNTY CONTRACT NUMBER
AMENDMENTS
AMENDMENTS TO THE STANDARD SPECIFICATIONS

U6 3279 – PNWU WATER & SEWER EXTENSIONS

YAKIMA COUNTY, WASHINGTON

INTRODUCTION

The following Amendments and Special Provisions shall be used in conjunction with the 2006 Standard Specifications for Road, Bridge, and Municipal Construction.

AMENDMENTS TO THE STANDARD SPECIFICATIONS

The following Amendments to the Standard Specifications are made a part of this contract and supersede any conflicting provisions of the Standard Specifications. For informational purposes, the date following each Amendment title indicates the implementation date of the Amendment or the latest date of revision.

Each Amendment contains all current revisions to the applicable section of the Standard Specifications and may include references which do not apply to this particular project.

SECTION 1-04, SCOPE OF THE WORK

April 3, 2006

1-04.6 Variation in Estimated Quantities

The third paragraph beginning with “If the adjusted final quantity of any items”, is revised to read:

If the adjusted final quantity of any item does not vary from the quantity shown in the proposal by more than 25%, then the Contractor and the Contracting Agency agree that all work under that item will be performed at the original contract unit price.

SECTION 1-06, CONTROL OF MATERIAL

April 3, 2006

1-06.1 Approval of Materials Prior To Use

The second sentence in the first paragraph is revised to read:

The Contractor shall use the Qualified Product List (QPL), the Aggregate Source Approval (ASA) Database, or the Request for Approval of Material (RAM) form.

Number 1 under the second paragraph is revised to read:

1. Shall be new, unless the Special Provisions or Standard Specifications permit otherwise;
1-06.1(1) Qualified Products List (QPL)
This section is supplemented with the following:

The current QPL can be accessed on-line at www.wsdot.wa.gov/biz/mats/QPL/QPL.cfm

The following new sub-section is inserted to follow 1-06.1(2).

1-06.1(3) Aggregate Source Approval (ASA) Database
The ASA is a database containing the results of WSDOT preliminary testing of aggregate
sources. This database is used by the Contracting Agency to indicate the approval status
of these aggregate sources for applications that require preliminary testing as defined in
the contract. The ASA ‘Aggregate Source Approval Report’ identifies the currently
approved applications for each aggregate source listed. The acceptance and use of these
aggregates is contingent upon additional job sampling and/or documentation.

Aggregates approved for applications on the ASA ‘Aggregate Source Approval Report’
not conforming to the specifications, not fulfilling the acceptance requirements, or
improperly handled or installed, shall be replaced at the Contractor’s expense.

For questions regarding the approval status of an aggregate source, contact the WSDOT
Regional Materials Engineer for the Region the source is located in. The Contracting
Agency reserves the right to make revisions to the ASA database at anytime.

If there is a conflict between the ASA database and the contract, then the contract shall
take precedence over the ASA database in accordance with Section 1-04.2. The ASA
database can be accessed on-line at www.wsdot.wa.gov/biz/mats/ASA

1-06.2(2)D Quality Level Analysis
Item 9 under the first paragraph is revised to read:

9. Determine the Composite Pay Factor (CPF) for each lot.

\[
CPF = \frac{f_1(PF_1) + f_2(PF_2) + \ldots + f_i(PF_i)}{\sum f_i}
\]

where: \(f = \text{price adjustment factor listed in these} \)
\nSpecifications for the applicable material

\(j = \text{number of constituents being evaluated}\)
SECTION 1-07, LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC
April 2, 2007

1-07.9(1) General
The fifth paragraph is revised to read:

If employing labor in a class not listed in the contract provisions on state funded projects only, the Contractor shall request a determination of the correct wage and benefits rate for that class and locality from the Industrial Statistician, Washington State Department of Labor and Industries (State L&I), and provide a copy of those determinations to the Engineer.

The fifth paragraph is supplemented with the following new paragraph:

If employing labor in a class not listed in the contract provisions on federally funded projects, the Contractor shall request a determination of the correct wage and benefits for that class and locality from the U. S. Secretary of Labor through the project engineer’s office. Generally, the Contractor initiates the request by preparing Standard Form 1444 Request for Authorization of Additional Classification and Rate, available at http://www.wdol.gov/docs/sfl444.pdf, and submitting it to the Project Engineers’ office for further action.

1-07.10 Worker’s Benefits
The fourth paragraph is revised to read:

The Public Works Contract Division of the Washington State Department of Labor and Industries will provide the Contractor with applicable industrial insurance and medical aid classification and premium rates. After receipt of Revenue Release from the Washington State Department of Revenue, the contracting agency will verify through the Department of Labor and Industries that the Contractor is current with respect to the payments of industrial insurance and medical aid premiums.

1-07.15 Temporary Water Pollution/Erosion Control
The first paragraph is revised to read:

In an effort to prevent, control, and stop water pollution and erosion within the project, thereby protecting the work, nearby land, streams, and other bodies of water, the Contractor shall perform all work in strict accordance with all Federal, State, and local laws and regulations governing waters of the State, as well as permits acquired for the project.

1-07.17 Utilities and Similar Facilities
This section is revised to read:

The Contractor shall protect all private and public utilities from damage resulting from the Work. Among others, these utilities include: telephone, telegraph, and power lines;
pipelines, sewer and water lines; railroad tracks and equipment; and highway lighting
and signing systems. All costs required to protect public and private utilities shall be at
the Contractor’s expense, except as provided otherwise in this section.

Chapter 19.122 of the Revised Code of Washington (RCW) relates to underground
utilities. In accordance with this RCW, the Contractor shall call the One-Number
Locator Service for field location of utilities. If no locator service is available for the
area, notice shall be provided individually to those owners of utilities known to, or
suspected of, having underground facilities within the area of the proposed excavation.

This section is supplemented with the following two new sub-sections:

1-07.17(1) Utility Construction, Removal or Relocation by the Contractor
If the Work requires removing or relocating a utility, the contract will assign the task to
the Contractor or the utility owner. When the task is assigned to the Contractor it shall
be performed in accordance with the Plans and Special Provisions. New utility
construction shall be performed according to the appropriate contract requirements.

To ease or streamline the Work for its own convenience, the Contractor may desire to ask
utility owners to move, remove, or alter their equipment in ways other than those listed
in the Plans or Special Provisions. The Contractor shall make the arrangements and pay
all costs that arise from work performed by the utility owner at the Contractor’s request.
Two weeks prior to implementing any such utility work, the Contractor shall submit
plans and details to the Engineer for approval describing the scope and schedule of all
work performed at the Contractors request by the utility owner.

In some cases, the Plans or special provisions may not show all underground facilities.
If the Work requires these to be moved or protected, the Engineer will assign the task to
others or issue a written change order requiring the Contractor to do so as provided in
Section 1-04.4.

1-07.17(2) Utility Construction, Removal or Relocation by Others
Any authorized agent of the Contracting Agency or utility owners may enter the highway
right-of-way to repair, rearrange, alter, or connect their equipment. The Contractor shall
cooperate with such efforts and shall avoid creating delays or hindrances to those doing
the work. As needed, the Contractor shall arrange to coordinate work schedules.

If the contract provides notice that utilities will be adjusted, relocated, replaced, or
constructed by others during the prosecution of the work, the Special Provisions will
establish the utility owners anticipated completion. The Contractor shall carry out the
Work in a way that will minimize interference and delay for all forces involved. Any
costs incurred prior to the utility owners anticipated completion (or if no completion is
specified, within a reasonable period of time) that results from the coordination and
prosecution of the Work regarding utility adjustment, relocation, replacement, or
construction shall be at the Contractor’s expense as provided in Section 1-05.14.
When others delay the Work through late removal or relocation of any utility or similar facility, the Contractor shall adhere to the requirements of Section 1-04.5. The Contracting Agency will either suspend Work according to Section 1-08.6, or order the Contractor to coordinate the Work with the work of the utility owner in accordance with Section 1-04.4. When ordered to coordinate the Work with the work of the utility owner, the Contractor shall prosecute the Work in a way that will minimize interference and delay for all forces involved.

SECTION 1-08, PROSECUTION AND PROGRESS
December 4, 2006

1-08.1 Subcontracting
The eighth paragraph (beginning with - On all projects funded with both Contracting Agency funds and Federal assistance ...) is supplemented with the following:

The Contractor has the option of submitting actual MBE/WBE or DBE payment data, on Federally assisted, Federally assisted and Contracting agency funded, and Contracting Agency funded only contracts to the contracting agency on a monthly basis using the Contract Monitoring and Tracking System (CMATS) through the BizWeb application located at http://www.omwbe.wa.gov/bizwebatwashington. Use of CMATS will become a requirement for all contractors effective January 7, 2008.

1-08.3 Progress Schedule
Section 1-08.3 and all subsections are deleted in their entirety and replaced with the following:

1-08.3 Progress Schedule

1-08.3(1) General Requirements
The Contractor shall submit Type A or Type B Progress Schedules and Schedule Updates to the Engineer for approval. Schedules shall show work that complies with all time and order of work requirements in the contract. Scheduling terms and practices shall conform to the standards established in Construction Planning and Scheduling, Second Edition, published by the Associated General Contractors of America. Except for Weekly Look-Ahead Schedules, all schedules shall meet these General Requirements, and provide the following information:

1. Include all activities necessary to physically complete the project.
2. Show the planned order of work activities in a logical sequence.
3. Show durations of work activities in working days as defined in Section 1-08.5.
4. Show activities in durations that are reasonable for the intended work.
5. Define activity durations in sufficient detail to evaluate the progress of individual activities on a daily basis.

6. Show the physical completion of all work within the authorized contract time.

The Contracting Agency allocates its resources to a contract based on the total time allowed in the contract. The Contracting Agency may accept a Progress Schedule indicating an early physical completion date but cannot guarantee the Contracting Agency's resources will be available to meet an accelerated schedule. No additional compensation will be allowed if the Contractor is not able to meet their accelerated schedule due to the unavailability of Contracting Agency's resources or for other reasons beyond the Contracting Agency's control.

If the Engineer determines that the Progress Schedule or any necessary Schedule Update does not provide the required information, then the schedule will be returned to the Contractor for correction and resubmittal.

The Engineer's approval of any schedule shall not transfer any of the Contractor's responsibilities to the Contracting Agency. The Contractor alone shall remain responsible for adjusting forces, equipment, and work schedules to ensure completion of the work within the time(s) specified in the contract.

1-08.3(2) Progress Schedule Types
Type A Progress Schedules are required on all projects that do not contain the bid item for Type B Progress Schedule. Type B Progress Schedules are required on all projects that contain the bid item for Type B Progress Schedule. Weekly Look-Ahead Schedules and Schedule Updates are required on all projects.

1-08.3(2)A Type A Progress Schedule
The Contractor shall submit five copies of a Type A Progress Schedule no later than 10 days after the date the contract is executed, or some other mutually agreed upon submittal time. The schedule may be a critical path method (CPM) schedule, bar chart, or other standard schedule format. Regardless of which format used, the schedule shall identify the critical path. The Engineer will evaluate the Type A Progress Schedule and approve or return the schedule for corrections within 15 calendar days of receiving the submittal.

1-08.3(2)B Type B Progress Schedule
The Contractor shall submit a preliminary Type B Progress Schedule no later than five calendar days after the date the contract is executed. The preliminary Type B Progress Schedule shall comply with all of these requirements and the requirements of Section 1-08.3(1), except that it may be limited to only those activities occurring within the first 60 working days of the project.
The Contractor shall submit five copies of a Type B Progress Schedule no later than 30 calendar days after the date the contract is executed. The schedule shall be a critical path method (CPM) schedule developed by the Precedence Diagramming Method (PDM). Restraints may be utilized, but may not serve to change the logic of the network or the critical path. The schedule shall display at least the following information:

- Contract Number and Title
- Construction Start Date
- Critical Path
- Activity Description
- Milestone Description
- Activity Duration
- Predecessor Activities
- Successor Activities
- Early Start (ES) and Early Finish (EF) for each activity
- Late Start (LS) and Late Finish (LF) for each activity
- Total Float (TF) and Free Float (FF) for each activity
- Physical Completion Date
- Data Date

The Engineer will evaluate the Type B Progress Schedule and approve or return the schedule for corrections within 15 calendar days of receiving the submittal.

1-08.3(2)C Vacant

1-08.3(2)D Weekly Look-Ahead Schedule
Each week that work will be performed, the Contractor shall submit a Weekly Look-Ahead Schedule showing the Contractor’s and all subcontractors’ proposed work activities for the next two weeks. The Weekly Look-Ahead Schedule shall include the description, duration and sequence of work, along with the planned hours of work. This schedule may be a network schedule, bar chart, or other standard schedule format. The Weekly Look-Ahead Schedule shall be submitted to the Engineer by the midpoint of the week preceding the scheduled work or some other mutually agreed upon submittal time.

1-08.3(3) Schedule Updates
The Engineer may request a Schedule Update when any of the following events occur:

1. The project has experienced a change that affects the critical path.
2. The sequence of work is changed from that in the approved schedule.
3. The project is significantly delayed.
4. Upon receiving an extension of contract time.

The Contractor shall submit five copies of a Type A or Type B Schedule Update within 15 calendar days of receiving a written request, or when an update is required by any other provision of the contract. A "significant" delay in time is defined as 10 working days or 10 percent of the original contract time, whichever is greater.

In addition to the other requirements of this Section, Schedule Updates shall reflect the following information:

1. The actual duration and sequence of as-constructed work activities, including changed work.

2. Approved time extensions.

3. Any construction delays or other conditions that affect the progress of the work.

4. Any modifications to the as-planned sequence or duration of remaining activities.

5. The physical completion of all remaining work in the remaining contract time.

Unresolved requests for time extensions shall be reflected in the Schedule Update by assuming no time extension will be granted, and by showing the effects to follow-on activities necessary to physically complete the project within the currently authorized time for completion.

1-08.3(4) Measurement
No specific unit of measurement shall apply to the lump sum item for Type B Progress Schedule.

1-08.3(5) Payment
Payment will be made in accordance with Section 1-04.1, for the following bid item when it is included in the proposal:

"Type B Progress Schedule", lump sum.

The Lump Sum price shall be full pay for all costs for furnishing the Type B Progress Schedule and preliminary Type B Progress Schedule.

Payment of 80 percent of the lump sum price will be made upon approval of the Progress Schedule.
Payment will be increased to 100 percent of the lump sum price upon completion of 80 percent of the original total contract award amount.

All costs for providing Type A Progress Schedules and Weekly Look-Ahead Schedules are considered incidental to other items of work in the contract.

No payment will be made for Schedule Updates that are required due to the Contractors operations. Schedule Updates required by events that are attributed to the actions of the Contracting Agency will be paid for in accordance with Section 1-09.4.

1-08.4 Prosecution of Work
The first sentence is revised to read:

The Contractor shall begin work within 21 calendar days from the date of execution of the contract by the Contracting Agency, unless otherwise approved in writing.

1-08.5 Time for Completion
This section is revised to read:

The Contractor shall complete all physical contract work within the number of “working days” stated in the Contract Provisions or as extended by the Engineer in accordance with Section 1-08.8. Every day will be counted as a “working day” unless it is a nonworking day or an Engineer determined unworkable day. A nonworking day is defined as a Saturday, a Sunday, a whole or half day on which the contract specifically prohibits work on the critical path of the Contractor’s approved progress schedule, or one of these holidays: January 1, the third Monday of January, the third Monday of February, Memorial Day, July 4, Labor Day, November 11, Thanksgiving Day, the day after Thanksgiving, and Christmas Day. When any of these holidays fall on a Sunday, the following Monday shall be counted a nonworking day. When the holiday falls on a Saturday, the preceding Friday shall be counted a nonworking day. The days between December 25 and January 1 will be classified as nonworking days.

An unworkable day is defined as a half or whole day the Engineer declares to be unworkable because of weather or conditions caused by the weather that prevents satisfactory and timely performance of the work shown on the critical path of the Contractor’s approved progress schedule. Other conditions beyond the control of the Contractor may qualify for an extension of time in accordance with Section 1-08.8.

Contract time shall begin on the first working day following the 21st calendar day after the date the Contracting Agency executes the contract. If the Contractor starts work on the project at an earlier date, then contract time shall begin on the first working day when onsite work begins. The contract provisions may specify another starting date for contract time, in which case, time will begin on the starting date specified.
Each working day shall be charged to the contract as it occurs, until the contract work is physically complete. If substantial completion has been granted and all the authorized working days have been used, charging of working days will cease. Each week the Engineer will provide the Contractor a statement that shows the number of working days: (1) charged to the contract the week before; (2) specified for the physical completion of the contract; and (3) remaining for the physical completion of the contract. The statement will also show the nonworking days and any half or whole day the Engineer declares as unworkable. Within 10 calendar days after the date of each statement, the Contractor shall file a written protest of any alleged discrepancies in it. To be considered by the Engineer, the protest shall be in sufficient detail to enable the Engineer to ascertain the basis and amount of time disputed. By not filing such detailed protest in that period, the Contractor shall be deemed as having accepted the statement as correct.

The Engineer will give the Contractor written notice of the physical completion date for all work the contract requires. That date shall constitute the physical completion date of the contract, but shall not imply the Secretary’s acceptance of the work or the contract.

The Engineer will give the Contractor written notice of the completion date of the contract after all the Contractor’s obligations under the contract have been performed by the Contractor. The following events must occur before the Completion Date can be established:

1. The physical work on the project must be complete; and

2. The Contractor must furnish all documentation required by the contract and required by law, to allow the Contracting Agency to process final acceptance of the contract. The following documents must be received by the Project Engineer prior to establishing a completion date:
   a. Certified Payrolls (Federal-aid Projects)
   b. Material Acceptance Certification Documents
   d. FHWA 47 (Federal-aid Projects)
   e. Final Contract Voucher Certification

1-08.8 Extensions of Time
Section 1-08.8 is revised to read:

The Contractor shall submit any requests for time extensions to the Engineer in writing no later than 10 working days after the delay occurs. The requests for time extension shall be limited to the effect on the critical path of the Contractor’s approved schedule attributable to the change or event giving rise to the request.
To be considered by the Engineer, the request shall be in sufficient detail (as determined
by the Engineer) to enable the Engineer to ascertain the basis and amount of the time
requested. The request shall include an updated schedule that supports the request and
demonstrates that the change or event: (1) had a specific impact on the critical path, and
except in cases of concurrent delay, was the sole cause of such impact, and (2) could not
have been avoided by resequencing of the work or by using other reasonable
alternatives. If a request combined with previous extension requests, equals 20 percent
or more of the original contract time then the Contractor’s letter of request must bear
consent of Surety. In evaluating any request, the Engineer will consider how well the
Contractor used the time from contract execution up to the point of the delay and the
effect the delay has on any completion times included in the special provisions. The
Engineer will evaluate and respond within 15 calendar days of receiving the request.

The authorized time for physical completion will be extended for a period equal to the
time the Engineer determines the work was delayed because of:

1. Adverse weather causing the time requested to be unworkable, provided that
   the Engineer had not already declared the time to be unworkable and the
   Contractor has filed a written protest according to Section 1-08.5.

2. Any action, neglect, or default of the Contracting Agency, its officers, or
   employees, or of any other contractor employed by the Contracting Agency.

3. Fire or other casualty for which the Contractor is not responsible.

4. Strikes.

5. Any other conditions for which these Specifications permit time extensions
   such as:
   
a. In Section 1-04.4 if a change increases the time to do any of the work
      including unchanged work.

b. In Section 1-04.5 if increased time is part of a protest that is found to
   be a valid protest.

c. In Section 1-04.7 if a changed condition is determined to exist that
   caused a delay in completing the contract.

d. In Section 1-05.3 if the Contracting Agency does not approve properly
   prepared and acceptable drawings within 30 calendar days.

e. In Section 1-07.13 if the performance of the work is delayed as a
   result of damage by others.
f. In Section 1-07.17 if the removal or the relocation of any utility by forces other than the Contractor caused a delay.

g. In Section 1-07.24 if a delay results from all the right of way necessary for the construction not being purchased and the special provisions does not make specific provisions regarding unpurchased right of way.

h. In Section 1-08.6 if the performance of the work is suspended, delayed, or interrupted for an unreasonable period of time that proves to be the responsibility of the Contracting Agency.

i. In Section 1-09.11 if a dispute or claim also involves a delay in completing the contract and the dispute or claim proves to be valid.

j. In Section 1-09.6 for work performed on a force account basis.

6. If the actual quantity of work performed for a bid item was more than the original plan quantity and increased the duration of a critical activity. Extensions of time will be limited to only that quantity exceeding the original plan quantity.

7. Exceptional causes not specifically identified in items 1 through 6, provided the request letter proves the Contractor had no control over the cause of the delay and could have done nothing to avoid or shorten it.

Working days added to the contract by time extensions, when time has overran, shall only apply to days on which liquidated damages or direct engineering have been charged, such as the following:

If substantial completion has been granted prior to all of the authorized working days being used, then the number of days in the time extension will eliminate an equal number of days on which direct engineering charges have accrued. If the substantial completion date is established after all of the authorized working days have been used, then the number of days in the time extension will eliminate an equal number of days on which liquidated damages or direct engineering charges have accrued.

The Engineer will not allow a time extension for any cause listed above if it resulted from the Contractor’s default, collusion, action or inaction, or failure to comply with the contract.

The Contracting Agency considers the time specified in the special provisions as sufficient to do all the work. For this reason, the Contracting Agency will not grant a time extension for:

- Failure to obtain all materials and workers unless the failure was the result of exceptional causes as provided above in subsection 7;
• Changes, protests, increased quantities, or changed conditions (Section 1-04) that do not delay the completion of the contract or prove to be an invalid or inappropriate time extension request;

• Delays caused by nonapproval of drawings or plans as provided in Section 1-05.3;

• Rejection of faulty or inappropriate equipment as provided in Section 1-05.9;

• Correction of thickness deficiency as provided in Section 5-05.5(1)B.

The Engineer will determine whether the time extension should be granted, the reasons for the extension, and the duration of the extension, if any. Such determination will be final as provided in Section 1-05.1.

SECTION 1-09, MEASUREMENT AND PAYMENT
December 4, 2006

1-09.6 Force Account
The last paragraph under “3. For Equipment” is revised to read:

Copies of the AGC/WSDOT Equipment Rental Agreement will be maintained on the Contracting Agency’s web site at www.wsdot.wa.gov.

1-09.9(1) Retainage
The fourth paragraph is revised to read:

Release of the retainage will be made 60 days following the Completion Date (pursuant to RCW 39.12, and RCW 60.28) provided the following conditions are met:

1. On contracts totaling more than $20,000, a release has been obtained from the Washington State Department of Revenue.

2. Affidavits of Wages Paid for the Contractor and all Subcontractors are on file with the Contracting Agency (RCW 39.12.040).

3. A certificate of Payment of Contributions Penalties and Interest on Public Works Contract is received from the Washington State Employment Security Department.

4. Washington State Department of Labor and Industries (per section 1-07.10) shows the Contractor is current with payments of industrial insurance and medical aid premiums.
5. All claims, as provided by law, filed against the retainage have been resolved. In the event claims are filed and provided the conditions of 1, 2, 3 and 4 are met, the Contractor will be paid such retained percentage less an amount sufficient to pay any such claims together with a sum determined by the Contracting Agency sufficient to pay the cost of foreclosing on claims and to cover attorney’s fees.

SECTION 2-02, REMOVAL OF STRUCTURES AND OBSTRUCTIONS
April 2, 2007-02.3(3)

Removal of Pavement, Sidewalks, Curbs, and Gutters
Item 3. is revised to read:

3. Make a vertical full depth saw cut between any existing pavement, sidewalk, curb, or gutter that is to remain and the portion to be removed. For portland cement concrete pavement removal, a second vertical full depth relief saw cut offset 12 inches to 18 inches from and parallel to the initial saw cut is also required, unless the Engineer approves otherwise.

SECTION 2-09, STRUCTURE EXCAVATION
April 2, 2007

2-09.3(1)E Backfilling
Paragraphs three through nine including the Controlled Density Fill (CDF) chart are deleted and replaced with the following:

Alternative Sources. When material from structure excavation is unsuitable for use as backfill, the Engineer may:

1. require the Contractor to use other material covered by the contract if such substitution involves work that does not differ materially from what would otherwise have been required;

2. require the Contractor to substitute selected material in accordance with Section 2-03.3(10);

3. require the Contractor to use Controlled Density Fill (CDF) also known as Controlled Low Strength Material (CLSM), or;

4. require the Contractor to obtain material elsewhere. Material obtained elsewhere will be paid for in accordance with Section 1-04.4.

Controlled Density Fill (CDF) or Controlled Low-Strength Material (CLSM). CDF is a self compacting, cementitious, flowable material requiring no subsequent vibration
or tamping to achieve consolidation. The Contractor shall provide a mix design in writing to the Engineer on WSDOT Form 350-040 and utilize ACI 229 as a guide to develop the CDF mix design. No CDF shall be placed until the Engineer has reviewed the mix design. CDF shall be designed to have a minimum 28-day strength of 50 psi and a maximum 28-day strength not to exceed 300 psi. The CDF consistency shall be flowable (approximate slump 3 to 10 inches).

The following testing methods shall be used by the Contractor to develop the CDF mix design:

- 28 day compressive strength - ASTM D 4832,
- Unit weight, yield, and air content – ASTM D 6023,
- Test for slump shall be in accordance with WSDOT FOP for AASHTO T 119.

The water/cement ratio shall be calculated on the total weight of cementitious material. The following are considered cementitious materials: Portland cement, fly ash, ground granulated blast furnace slag and microsilica fume.

Admixtures used in CDF shall meet the requirements of Section 9-23.6, Admixtures for Concrete, and foaming agents, if used, shall meet the requirements of ASTM C 869. Admixtures shall be used in accordance with the manufacturer’s recommendations and non-chloride accelerating admixtures may be used to accelerate the hardening of CDF.

CDF shall meet the requirements of Section 6-02.3(5)C and shall be accepted based on a Certificate of Compliance. The producer shall provide a Certificate of Compliance for each truckload of CDF in accordance with Section 6-02.3(5)B.

Item 1 of the first paragraph under Compaction is revised to read:

1. Backfill supporting roadbed, roadway embankments, or structures, including backfill providing lateral support for noise barrier wall foundations, luminaire poles, traffic signal standards, and roadside and overhead sign structure foundations — placed in horizontal layers no more than 6 inches thick with each layer compacted to 95 percent of the maximum density determined by the Compaction Control Test, Section 2-03.3(14)D.

2-09.3(3)B Excavation Using Open Pits — Extra Excavation

This section is revised to read:

The Contractor may dig open pits or perform extra excavation without shoring or cofferdams, if:

1. Footings can be placed in dry material away from running water.

2. The integrity of the completed structure and its surroundings is not reduced.
3. Worker safety is ensured as required by law.

4. The excavation does not disturb the existing pavement or any other adjacent structural elements.

If a slide occurs in an open pit, the Contractor shall remove the slide material. If the slide disturbs an area over which a highway will be built, the Contractor shall backfill and compact the site to the original ground line as approved by the Engineer. If the slide damages an existing facility such as a roadway or structure, the Contractor shall repair the damage caused by the slide. The Contractor shall pay all costs related to removing slide material and restoring the slide area, including the repair of any pavement or structural elements damaged by the slide.

The Contractor shall drain or pump any water from the pit, taking care not to stir up or soften the bottom. If equipment in the pit or inadequate water removal makes the foundation material unstable, the Contractor shall, at no expense to the Contracting Agency, remove and replace it with material the Engineer approves.

When the Engineer believes ground water flow may impair a concrete footing, the Contractor shall place under it a layer of gravel at least 6 inches thick. Before placing the gravel, the Contractor shall excavate to whatever grade the Engineer requires. This provision shall not apply to the building of concrete seals.

The Contractor may omit forms when the earthen sides of a footing excavation will stand vertically. In this case, the Contractor may excavate to the neat line dimensions of the footing and pour concrete against the undisturbed earth. If the hole is larger than neat line dimensions, the Contractor shall bear the cost of the extra concrete.

For open temporary cuts, the following requirements shall be met:

1. No vehicular or construction traffic, or construction surcharge loads will be allowed within a distance of 5-feet from the top of the cut.

2. Exposed soil along the slope shall be protected from surface erosion.

3. Construction activities shall be scheduled so that the length of time the temporary cut is left open is reduced to the extent practical.

4. Surface water shall be diverted away from the excavation.

**Submittals and Design Requirements.** The Contractor shall submit working drawings and calculations showing the geometry and construction sequencing of the proposed excavation slopes. The Contractor shall not begin excavation operations until receiving the Engineer's approval of the excavation submittal.
The excavation stability design shall be conducted in accordance with the WSDOT Geotechnical Design Manual (M46-03). The stability of the excavation slopes shall be designed for site specific conditions which shall be shown and described in the working drawings. Examples of such items that shall be shown on the excavation submittal and supported by calculations include, but are not limited to, the following:

1. Excavation geometry and controlling cross sections showing adjacent existing foundations, utilities, site constraints, and any surcharge loading conditions that could affect the stability of the slope;

2. A summary clearly describing subsurface soil and groundwater conditions, sequencing considerations, and governing assumptions;

3. Any supplemental subsurface explorations made to meet the requirements for geotechnical design of excavation slopes, in accordance with the WSDOT Geotechnical Design Manual;

4. Supporting geotechnical calculations used to design the excavation, the soil and material properties selected for design, and the justification for the selection for those properties, in accordance with the WSDOT Geotechnical Design Manual;

5. Safety factors, or load and resistance factors used, and justification for their selection, in accordance with the WSDOT Geotechnical Design Manual, and referenced AASHTO design manuals;

6. Location and weight of construction equipment adjacent to the excavation top, and location of adjacent traffic; and,

7. A monitoring plan to evaluate the excavation performance throughout its design life.

2-09.3(3)D Shoring and Cofferdams

Paragraphs one through seven are revised to read:

Definitions. Structural shoring is defined as a shoring system that is installed prior to excavation. Structural shoring shall provide lateral support of soils and limit lateral movement of soils supporting structures, roadways, utilities, railroads, etc., such that these items are not damaged as a result of the lateral movement of the supporting soils.

Structural shoring systems includes driven cantilever sheet piles, sheet piles with tiebacks, sheet pile cofferdams with wale rings or struts, prestressed spud piles, cantilever soldier piles with lagging, soldier piles with lagging and tiebacks, and multiple tier tieback systems.
Trench boxes, sliding trench shields, jacked shores, shoring systems that are installed after excavation, and soldier pile, sheet pile, or similar shoring walls installed in front of a pre-excavated slope, are not allowed as structural shoring.

A cofferdam is any watertight enclosure, sealed at the bottom and designed for the dewatering operation, that surrounds the excavated area of a structure. The Contractor shall use steel sheet pile or interlocking steel pile cofferdams in all excavation that is under water or affected by ground water.

**Submittals and Design Requirements.** The Contractor shall submit working drawings and calculations showing the proposed methods and construction details of structural shoring or cofferdams in accordance with Sections 6-01.9 and 6-02.3(16). The Contractor shall not begin construction of structural shoring or cofferdams, nor begin excavation operations, until approval of the structural shoring submittal has been given by the Project Engineer.

Structural shoring and cofferdams shall be designed for conditions stated in this Section using methods shown in Division I Section 5 of the AASHTO Standard Specifications for Highway Bridges Seventeenth Edition - 2002 for allowable stress design, or the AASHTO LRFD Bridge Design Specifications, Third Edition, 2004 and current interims for load and resistance factor design. The USS Steel Sheet Piling Design Manuals, published by United States Steel, may be used for shoring walls that do not support other structures and that are 15 feet in height or less. Allowable stresses for materials shall not exceed stresses and conditions allowed by Section 6-02.3(17)B. The shoring design shall also be in compliance with the WSDOT Geotechnical Design Manual (M46-03). In the case of conflict or discrepancy between manuals, the Geotechnical Design Manual shall govern.

For open temporary cuts associated with a shoring system, the requirements for open temporary cuts specified in Section 2-09.3(3)B shall be met.

The structural shoring system shall be designed for site specific conditions which shall be shown and described in the working drawings. The structural shoring system design shall include the design of the slopes for stability above and below the shoring system. Except as otherwise noted, the design height of all structural shoring in design calculations and working drawings shall be for the depth of excavation as required by the Plans, plus an additional 2 feet to account for the possibility of overexcavation. If the Contractor provides written documentation to the satisfaction of the Engineer that the soil conditions at the site are not likely to require overexcavation, the Engineer may waive the requirement for two feet of overexcavation design height.

Examples of such items that shall be shown on the structural shoring submittal and supported by calculations include, but are not limited to, the following:

1. Heights; soil slopes; soil benches; and controlling cross sections showing adjacent existing foundations, utilities, site constraints, and any surcharge
loading conditions that could affect the stability of the shoring system, including any slopes above or below the shoring.

2. A summary clearly describing performance objectives, subsurface soil and groundwater conditions, sequencing considerations, and governing assumptions.

3. Any supplemental subsurface explorations made to meet the requirements for geotechnical design of excavation slopes, shoring walls, and other means of ground support, in accordance with the WSDOT Geotechnical Design Manual.

4. Supporting geotechnical calculations used to design the shoring system, including the stability evaluation of the shoring system in its completed form as well as intermediate shoring system construction stages, the soil and material properties selected for design, and the justification for the selection for those properties, in accordance with the WSDOT Geotechnical Design Manual.

5. Safety factors, or load and resistance factors used, and justification for their selection.

6. Location and weight of construction equipment adjacent to the excavation; location of adjacent traffic; and structural shoring system material properties, spacing, size, connection details, weld sizes, and embedment depths.

7. Structural shoring installation and construction sequence, procedure, length of time for procedure and time between operations; proof load testing procedure if any; deadman anchor design and geometry; no load zones; grouting material and strengths; and a list of all assumptions.

8. Methods and materials to be used to fill voids behind lagging, when soldier piles with lagging are used as structural shoring.

9. A monitoring/testing plan to evaluate the performance of the excavation/shoring system throughout its design life, and

10. An estimate of expected displacements or vibrations, threshold limits that would trigger remedial actions, and a list of potential remedial actions should thresholds be exceeded. Thresholds shall be established to prevent damage to adjacent facilities, as well as degradation of the soil properties due to deformation.

SECTION 8-01, EROSION CONTROL AND WATER POLLUTION CONTROL
December 4, 2006
8-01.3(1) General
The eighth paragraph, beginning with "In western Washington, erodible soil", is deleted and replaced with the following:

Erodible soil not being worked, whether at final grade or not, shall be covered within the following time period, using an approved soil covering practice, unless authorized otherwise by the Engineer:

In western Washington (west of the Cascade Mountain crest):

October 1 through April 30                  2 days maximum
May 1 to September 30                      7 days maximum

In eastern Washington (east of the Cascade Mountain crest):

October 1 through June 30              5 days maximum
July 1 through September 30             10 days maximum

8-01.3(1)B Erosion and Sediment Control (ESC) Lead
This section is revised to read:

The Contractor shall identify the ESC Lead at the preconstruction discussions and in the TESC plan. The ESC Lead shall have, for the life of the contract, a current Certificate of Training in Construction Site Erosion and Sediment Control from a course approved by the Washington State Department of Ecology. The ESC Lead shall be listed on the Emergency Contact List required under Section 1-05.13(1).

The ESC Lead shall implement the Temporary Erosion and Sediment Control (TESC) plan. Implementation shall include, but is not limited to:

1. Installing and maintaining all temporary erosion and sediment control Best Management Practices (BMPs) included in the TESC plan to assure continued performance of their intended function. Damaged or inadequate TESC BMPs shall be corrected immediately.

2. Updating the TESC plan to reflect current field conditions.

When a TESC plan is included in the contract plans, the Contractor shall inspect all on-site erosion and sediment control BMPs at least once every calendar week and within 24 hours of runoff events in which stormwater discharges from the site. Inspections of temporarily stabilized, inactive sites may be reduced to once every calendar month. The Erosion and Sediment Control Inspection Form (Form Number 220-030 EF) shall be completed for each inspection and a copy shall be submitted to the Engineer no later than the end of the next working day following the inspection.

8-01.3(2)E Tacking Agent and Soil Binders
The third paragraph, (PAM) is revised to read:
Soil Binding Using Polyacrylamide (PAM)
The PAM shall be applied on bare soil completely dissolved and mixed in water or applied as a dry powder. Dissolved PAM shall be applied at a rate of not more than 2/3 pound per 1,000 gallons of water per acre. A minimum of 200 pounds per acre of cellulose fiber mulch treated with a non-toxic dye shall be applied with the dissolved PAM. Dry powder applications may be at a rate of 5 pounds per acre using a hand-held fertilizer spreader or a tractor-mounted spreader.

8-01.3(2)F Dates for Application of Final Seed, Fertilizer, and Mulch
The second paragraph under East of the summit of the Cascade Range, beginning with “The Contractor will be responsible”, is deleted.

8-01.3(9)A Silt Fence
The fifth paragraph is revised to read:

Posts shall be either wood or steel. Wood posts shall have minimum dimensions of 1 1/4 inches by 1 1/4 inches by the minimum length shown in the Plans. Steel posts shall have a minimum weight of 0.90 lbs/ft

8-01.4 Measurement
This section is supplemented with the following:

Coir log will be measured by the linear foot along the ground line of the completed installation.

8-01.5 Payment
The following bid item is inserted after “Compost Sock”, per linear foot:

“Coir Log”, per linear foot

This section is supplemented with the following:

"Mowing", per acre.

SECTION 9-05, DRAINAGE STRUCTURES, CULVERTS, AND CONDUITS
April 2, 2007
9-05.1(1) Concrete Drain Pipe
This section is revised to read:

Concrete drain pipe shall meet the requirements of ASTM C 118, heavy duty drainage pipe.

9-05.1(6) Corrugated Polyethylene Drainage Tubing Drain Pipe
This section including title is revised to read:
9-05.1(6) Corrugated Polyethylene Drain Pipe (up to 10-inch)
Corrugated polyethylene drain pipe shall meet the requirements of AASHTO M 252 type C (corrugated both inside and outside) or type S (corrugated outer wall and smooth inner liner). The maximum size pipe shall be 10 inches in diameter.

9-05.2(3) Perforated Bituminized Fiber Underdrain Pipe
This section including title is revised to read:

9-05.2(3) Vacant

9-05.1(7) Corrugated Polyethylene Drain Pipe
This section including title is revised to read:

9-05.1(7) Corrugated Polyethylene Drain Pipe (12-inch through 60-inch)
Corrugated polyethylene drain pipe, 12-inch through 60-inch diameter maximum, shall meet the minimum requirements of AASHTO M 294 Type S or 12-inch through 24 inch diameter maximum shall meet the minimum requirements of AASHTO M 294 Type C.

9-05.2(7) Perforated Corrugated Polyethylene Drainage Tubing Underdrain Pipe
This section including title is revised to read:

9-05.2(7) Perforated Corrugated Polyethylene Underdrain Pipe (Up to 10-inch)
Perforated corrugated polyethylene underdrain pipe shall meet the requirements of AASHTO M252, Type CP or Type SP. Type CP shall be Type C pipe with Class 2 perforations and Type SP shall be Type S pipe with either Class 1 or Class 2 perforations. Additionally, Class 2 perforations shall be uniformly spaced along the length and circumference of the pipe. The maximum size pipe shall be 10-inch diameter.

9-05.2(8) Perforated Corrugated Polyethylene Underdrain Pipe
This section including title is revised to read:

9-05.2(8) Perforated Corrugated Polyethylene Underdrain Pipe (12-inch through 60-inch)
Perforated corrugated polyethylene underdrain pipe, 12-inch through 60-inch diameter maximum, shall meet the requirements of AASHTO M 294 Type CP or Type SP. Type CP shall be Type C pipe with Class 2 perforations and Type SP shall be Type S pipe with either Class 1 or Class 2 perforations. Additionally, Class 2 perforations shall be uniformly spaced along the length and circumference of the pipe.

9-05.3(1)A End Design and Joints
The second paragraph is revised to read:
The plane of the ends of the pipes shall be perpendicular to their longitudinal axes.
9-05.4(3) Protective Treatment
In Treatment 1 and 2, the reference to 9-05.4(6) is revised to read 9-05.4(5).

9-05.12(1) Solid Wall PVC Culvert Pipe, Solid Wall PVC Storm Sewer Pipe, and Solid Wall PVC Sanitary Sewer Pipe
The first paragraph is revised to read:

Solid wall PVC culvert pipe, solid wall PVC storm sewer pipe, and solid wall PVC sanitary sewer pipe and fittings shall be solid wall construction and shall conform to the following requirements:

For pipe sizes up to 15 inches: ASTM D 3034 SDR 35

For pipe sizes from 18 to 48 inches: ASTM F 679 using a minimum pipe stiffness of 115 psi in accordance with Table 1.

9-05.12(2) Profile Wall PVC Culvert Pipe, Profile Wall PVC Storm Sewer Pipe, and Profile Wall PVC Sanitary Sewer Pipe
The first paragraph is revised to read:

Profile wall PVC culvert pipe and profile wall PVC storm sewer pipe shall meet the requirements of ASTM F 794 Series 46, or ASTM F 1803. Profile wall PVC sanitary sewer pipe shall meet the requirements of ASTM F 794 Series 46, or ASTM F 1803. The maximum pipe diameter shall be as specified in the Qualified Products List.

The fifth paragraph is revised to read:

Fittings for profile wall PVC pipe shall meet the requirements of ASTM F 794 Series 46, or ASTM F 1803.

9-05.15 Metal Castings
This section is revised to read:

For all metal castings the producing foundry shall provide certification stating the country of origin, the material meets the required ASTM or AASHTO specification noted in the subsections below. The producing foundry shall detail all test results from physical testing to determine compliance to the specifications. The test reports shall include physical properties of the material from each heat and shall include tensile, yield, and elongation as specified in the appropriate ASTM or AASHTO specification. For AASHTO M 306, Section 8, Certification is deleted and replaced with the above certification and testing requirements.

Metal castings for drainage structures shall not be dipped, painted, welded, plugged, or repaired. Porosity in metal castings for drainage structures shall be considered a workmanship defect subject to rejection by the Engineer. Metal castings made from gray iron or ductile iron shall conform to the requirements of AASHTO M 306, and metal
castings made from cast steel shall conform to the requirements of Section 9-06.8. All metal castings shall meet the proof load testing requirements of AASHTO M 306.

9-05.15(1) Manhole Ring and Cover
This section is revised to read:

Castings for manhole rings shall be gray iron or ductile iron and covers shall be ductile iron.

All covers shall be interchangeable within the dimensions shown in the Standard Plans. All mating surfaces shall be machine finished to ensure a nonrocking fit.

The inside vertical recessed face of the ring and the vertical outside edge of the cover shall be machined or manufactured to the following tolerances:

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Ring</td>
<td>+3/32 inch to -3/32 inch</td>
</tr>
<tr>
<td>Cover</td>
<td>+3/32 inch to -3/32 inch</td>
</tr>
</tbody>
</table>

All manhole rings and covers shall be identified by the name or symbol of the producing foundry and country of casting origin. This identification shall be in a plainly visible location when the ring and cover are installed. Ductile iron shall be identified by the following, “DUC” or “DI.” The producing foundry and material identification shall be adjacent to each other and shall be minimum ½ inch to maximum 1 inch high letters, recessed to be flush with the adjacent surfaces.

9-05.15(2) Metal Frame, Grate and Solid Metal Cover for Catch Basins or Inlets
The first and second paragraphs are revised to read:

Castings for metal frames for catch basins and inlets shall be cast steel, gray iron, or ductile iron, and as shown in the Standard Plans.

Castings for grates and solid metal covers for catch basins and inlets shall be cast steel or ductile iron and as shown in the Standard Plans. Additionally, leveling pads are allowed on grates and solid metal covers with a height not to exceed 1/8 inch. The producing foundry’s name and material designation shall be embossed on the top of the grate. The material shall be identified by the following: “CS” for cast steel or “DUC” or “DI” for ductile iron and shall be located near the producing foundry’s name.

9-05.15(3) Cast Metal Inlets
The first sentence is revised to read:

The castings for cast metal inlets shall be cast steel or ductile iron, and as shown in the Standard Plans.

9-05.19 Corrugated Polyethylene Culvert Pipe
The first paragraph is revised to read:
Corrugated polyethylene culvert pipe shall meet the requirements of AASHTO M 294 Type S or D for pipe 12-inch to 60-inch diameter with silt-tight joints.

SECTION 9-14, EROSION CONTROL AND ROADSIDE PLANTING
April 2, 2007

9-14.2 Seed
This section is revised to read:

Grasses, legumes, or cover crop seed of the type specified shall conform to the standards for “Certified” grade seed or better as outlined by the State of Washington Department of Agriculture “Rules for Seed Certification,” latest edition. Seed shall be furnished in standard containers on which shall be shown the following information:

(1) Common and botanical names of seed,
(2) Lot number,
(3) Net weight,
(4) Pure live seed

All seed installers and vendors must have a business license issued by the Washington State Department of Licensing with a “seed dealer” endorsement. Upon request, the contractor shall furnish the Engineer with copies of the applicable licenses and endorsements.

Upon request, the Contractor shall furnish to the Engineer duplicate copies of a statement signed by the vendor certifying that each lot of seed has been tested by a recognized seed testing laboratory within six months before the date of delivery on the project. Seed which has become wet, moldy, or otherwise damaged in transit or storage will not be accepted.

9-14.4(1) Straw
This section is revised to read:

All straw material shall be in an air dried condition free of noxious weeds and other materials detrimental to plant life. Straw mulch so provided shall be suitable for spreading with mulch blower equipment.

9-14.4(3) Bark or Wood Chips
This section is supplemented with the following:

Sawdust shall not be used as mulch.

9-14.4(4) Sawdust
This section including title is revised to read:
9-14.4(4) Vacant

9-14.4(8) Compost
This section is revised to read:

Compost products shall be the result of the biological degradation and transformation of plant-derived materials under controlled conditions designed to promote aerobic decomposition. Compost shall be stable with regard to oxygen consumption and carbon dioxide generation. Compost shall be mature with regard to its suitability for serving as a soil amendment or an erosion control BMP as defined below. The compost shall have a moisture content that has no visible free water or dust produced when handling the material.

Compost production and quality shall comply with Chapter 173-350 WAC.

Compost products shall meet the following physical criteria:

1. Compost material shall be tested in accordance with Testing Methods for the Examination of Compost and Composting (TMECC) Test Method 02.02-B, "Sample Sieving for Aggregate Size Classification".

   Fine Compost shall meet the following:

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<thead>
<tr>
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<th>Min.</th>
<th>Max.</th>
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<tbody>
<tr>
<td>Percent passing 2&quot;</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Percent passing 1&quot;</td>
<td>99%</td>
<td>100%</td>
</tr>
<tr>
<td>Percent passing 5/8&quot;</td>
<td>90%</td>
<td>100%</td>
</tr>
<tr>
<td>Percent passing ¼&quot;</td>
<td>75%</td>
<td>100%</td>
</tr>
<tr>
<td>Maximum particle length of 6 inches</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   Coarse Compost shall meet the following:

<table>
<thead>
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<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent passing 3&quot;</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Percent passing 1&quot;</td>
<td>90%</td>
<td>100%</td>
</tr>
<tr>
<td>Percent passing ¼&quot;</td>
<td>70%</td>
<td>100%</td>
</tr>
<tr>
<td>Percent passing ¼&quot;</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>Maximum particle length of 6 inches</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. The pH shall be between 6.0 and 8.5 when tested in accordance with TMECC 04.11-A, “1:5 Slurry pH”.

3. Manufactured inert material (plastic, concrete, ceramics, metal, etc.) shall be less than 1.0 percent by weight as determined by TMECC 03.08-A "percent dry weight basis".

5. Soluble salt contents shall be less than 4.0mmhos/cm tested in accordance with TMECC 04.10-A, “1:5 Slurry Method, Mass Basis”.

6. Maturity shall be greater than 80% in accordance with TMECC 05.05-A, “Germination and Vigor”.

7. Stability shall be 7 or below in accordance with TMECC 05.08-B, Carbon Dioxide Evolution Rate.”

8. The compost product must originate a minimum of 65 percent by volume from recycled plant waste as defined in WAC 173-350 as “Type 1 Feedstocks.” A maximum of 35 percent by volume of other approved organic waste and/or biosolids may be substituted for recycled plant waste. The supplier shall provide written verification of feedstock sources.

9. The Engineer may also evaluate compost for maturity using the Solvita Compost Maturity Test. Fine Compost shall score a number 6 or above on the Solvita Compost Maturity Test. Coarse Compost shall score a 5 or above on the Solvita Compost Maturity Test.

The compost supplier will test all compost products within 90 calendar days prior to application. Samples will be taken using the Seal of Testing Assurance (STA) sample collection protocol. (The sample collection protocol can be obtained from the U.S. Composting Council, 4250 Veterans Memorial Highway, Suite 275, Holbrook, NY 11741

Phone: 631-737-4931, www.compostingcouncil.org). The sample shall be sent to an independent STA Program approved lab. The compost supplier will pay for the test. A copy of the approved independent STA Program laboratory test report shall be submitted to the Contracting Agency prior to initial application of the compost. Seven days prior to application, the Contractor shall submit a sample of each type compost to be used on the project to the Engineer.

Compost not conforming to the above requirements or taken from a source other than those tested and accepted shall be immediately removed from the project and replaced at no cost to the Contracting Agency.

The Contractor shall either select a compost supplier from the Qualified Products List, or submit the following information to the Engineer for approval:

1. A Request for Approval of Material Source.
2. A copy of the Solid Waste Handling Permit issued to the supplier by the Jurisdictional Health Department as per WAC 173-350 (Minimum Functional Standards for Solid Waste Handling).

3. The supplier shall verify in writing, and provide lab analyses that the material complies with the processes, testing, and standards specified in WAC 173-350 and these specifications. An independent STA Program certified laboratory shall perform the analysis.

4. A list of the feedstock by percentage present in the final compost product.

5. A copy of the producer’s Seal of Testing Assurance certification as issued by the U.S. Composting Council.

Acceptance will be based upon a satisfactory Test Report from an independent STA program certified laboratory and the sample(s) submitted to the Engineer.

9-14.5(2) Erosion Control Blanket

Footnote 1 is revised to read:

1 UV stability shall be 80% strength retained min., after 500 hours in a xenon arc device as per ASTM D4355.

9-14.5(5) Wattles

This section is revised to read:

Wattles shall consist of cylinders of biodegradable plant material such as straw, coir, compost, or wood shavings encased within biodegradable or photodegradable netting. Wattles shall be at least 5 inches in diameter, unless otherwise specified. Encasing material shall be clean, evenly woven, and free of encrusted concrete or other contaminating materials such as preservatives. Encasing material shall be free from cuts, tears, or weak places and shall have a lifespan greater than 6 months.

Compost filler shall meet the material requirements as specified in Section 9-14.4(8), and shall be Coarse Compost.

9-14.5(6) Compost Sock

This section is revised to read:

Biodegradable fabric for compost sock and compost wattle shall be clean, evenly woven, and free of encrusted concrete or other contaminating materials and shall be free from cuts, tears, broken or missing yarns and thin, open, or weak places. Fabric for compost sock shall consist of extra heavy weight biodegradable fiber which has not been treated with any type of preservative. Compost for compost socks shall meet the material requirements as specified in Section 9-14.4(8), and shall be Coarse Compost.
Wood stakes for compost sock and wattles shall be made from Douglas-fir, hemlock, or pine species. Wood stakes shall be 2 inch by 2 inch nominal dimension and 36 inches in length, unless otherwise indicated in the Plans.

Section 9-14.5 is supplemented with the following new section.

9-14.5(7) Coir Log
Coir log: Logs shall be made of 100% durable coconut (coir) fiber uniformly compacted within an outer netting. Log segments shall have a maximum length of 20 feet, with a minimum diameter as shown in the Plans. Logs shall have a density of 7 lbs/cf or greater.

Coir logs shall be manufactured with a woven wrapping netting made of bristle coir twine with minimum strength of 80 lbs tensile strength. The netting shall have nominal 2 inch by 2 inch openings.

Stakes shall conform to the requirements of Section 9-09. Cedar wood stakes shall have a notch to secure the rope ties. Rope ties shall be one-quarter inch diameter commercially available hemp rope.

9-14.6(1) Description
This section is revised to read:

Bareroot plants are grown in the ground and harvested without soil or growing medium around their roots.

Container plants are grown in pots or flats that prevent root growth beyond the sides and bottom of the container.

Balled and burlapped plants are grown in the ground and harvested with soil around a core of undisturbed roots. This rootball is wrapped in burlap and tied or placed in a wire basket or other supportive structure.

Cuttings are live plant material without a previously developed root system. Source plants for cuttings shall be dormant when cuttings are taken. All cuts shall be made with a sharp instrument. Written permission shall be obtained from property owners and provided to the Engineer before cuttings are collected. The Contractor shall collect cuttings in accordance with applicable sensitive area ordinances. For cuttings, the requirement to be nursery grown or held in nursery conditions does not apply. Cuttings include the following forms:

A. Live branch cuttings shall have flexible top growth with terminal buds and may have side branches. The rooting end shall be cut at an approximate 45 degree angle.

B. Live stake cuttings shall have a straight top cut immediately above a bud. The lower, rooting end shall be cut at an approximate 45 degree angle. Live stakes
are cut from one to two year old wood. Live stake cuttings shall be cut and installed with the bark intact with no branches or stems attached, and be ½ to 1 ½ inch in diameter.

C. Live pole cuttings shall have a minimum 2inch diameter and no more than three branches which shall be pruned back to the first bud from the main stem.

D. Rhizomes shall be a prostrate or subterranean stem, usually rooting at the nodes and becoming erect at the apex. Rhizomes shall have a minimum of two growth points.

E. Tubers shall be a thickened and short subterranean branch having numerous buds or eyes.

9-14.6(2) Quality

This section is revised to read:

All plant material furnished shall meet the grades established by the latest edition of the American Standard for Nursery Stock, (ASNS) ANSI Z60.1 shall conform to the size and acceptable conditions as listed in the contract, and shall be free of all foreign plant material.

All plant material shall comply with State and Federal laws with respect to inspection for plant diseases and insect infestation.

All plant material shall be purchased from a nursery licensed to sell plants in Washington State.

Live woody or herbaceous plant material, except cuttings, rhizomes, and tubers, shall be vigorous, well formed, with well developed fibrous root systems, free from dead branches, and from damage caused by an absence or an excess of heat or moisture, insects, disease, mechanical or other causes detrimental to good plant development. Evergreen plants shall be well foliated and of good color. Deciduous trees that have solitary leaders shall have only the lateral branches thinned by pruning. All conifer trees shall have only one leader (growing apex) and one terminal bud, and shall not be sheared or shaped. Trees having a damaged or missing leader, multiple leaders, or Y-crotches shall be rejected.

Root balls of plant materials shall be solidly held together by a fibrous root system and shall be composed only of the soil in which the plant has been actually growing. Balled and burlapped rootballs shall be securely wrapped with jute burlap or other packing material not injurious to the plant life. Root balls shall be free of weed or foreign plant growth.

Plant materials shall be nursery grown stock. Plant material, with the exception of cuttings, gathered from native stands shall be held under nursery conditions for a
minimum of one full growing season, shall be free of all foreign plant material, and meet
all of the requirements of these Specifications, the Plans, and the Special Provisions.

Container grown plants must be plants transplanted into a container and grown in that
container sufficiently long for new fibrous roots to have developed so that the root mass
will retain its shape and hold together when removed from the container, without having
roots that circle the pot. Plant material which is root bound, as determined by the
Engineer, shall be rejected. Container plants shall be free of weed or foreign plant
growth.

Container sizes for plant material of a larger grade than provided for in the container
grown specifications of the ASNS shall be determined by the volume of the root ball
specified in the ASNS for the same size plant material.

All bare root plant materials shall have a heavy fibrous root system and must be dormant
at the time of planting.

Average height to spread proportions and branching shall be in accordance with the
applicable sections, illustrations, and accompanying notes of the ASNS.

Plants specified or identified as “Street Tree Grade” shall be trees with straight trunks,
full and symmetrical branching, central leader, and be developed, grown, and propagated
with a full branching crown. A “Street Tree Grade” designation requires the highest
grade of nursery shade or ornamental tree production which shall be supplied.

Trees with improperly pruned, broken, or damaged branches, trunk, or root structure
shall be rejected. In all cases, whether supplied balled and burlapped or in a container,
the root crown (top of root structure) of the tree shall be at the top of the finish soil level.
Trees supplied and delivered in a nursery fabric bag will not be accepted.

Plants, which have been determined by the Engineer to have suffered damage as the
result of girdling of the roots, stem, or a major branch; have deformities of the stem or
major branches; have a lack of symmetry; have dead or defoliated tops or branches; or
have any defect, injury, or condition which renders the plant unsuitable for its intended
use, shall be rejected.

Plants that are grafted shall have roots of the same genus as the specified plant.

9-14.6(3) Handling and Shipping
The last sentence in the sixth paragraph is deleted.

9-14.6(6) Substitution of Plants
The second paragraph is revised to read:

Container or balled and burlapped plant material may be substituted for bare root plant
material. Container grown plant material may be substituted for balled and burlapped
plant materials. When substitution is allowed, use current ASNS standards to determine
the correct rootball volume (container or balled and burlapped) of the substituted
material that corresponds to that of the specified material. These substitutions shall be
approved by the Engineer and be at no cost to the Contracting Agency.

6 9-14.6(7) Temporary Storage
7 The third paragraph is revised to read:
8
9 Cuttings shall continually be shaded and protected from wind. Cuttings must be
10 protected from drying at all times and shall be heeled into moist soil or other insulating
11 material or placed in water if not installed within 8 hours of cutting. Cuttings to be stored
12 for later installation shall be bundled, laid horizontally, and completely buried under
13 6 inches of water, moist soil or placed in cold storage at a temperature of 34 F and 90%
14 humidity. Cuttings that are not planted within 24 hours of cutting shall be soaked in
15 water for 24 hours prior to planting. Cuttings taken when the temperature is higher than
16 50°F shall not be stored for later use. Cuttings that already have developed roots shall not
17 be used.
18
19 The fourth paragraph is deleted.
SPECIAL PROVISIONS
SPECIAL PROVISIONS

U6 3279 - PNWU WATER & SEWER EXTENSION

YAKIMA COUNTY, WASHINGTON

The following special provisions are part of this contract and supersede any conflicting provisions of the 2006 Standard Specifications for Road, Bridge, and Municipal Construction and the Amendments thereto.

DIVISION 1
GENERAL REQUIREMENTS

DESCRIPTION OF WORK

The work to be performed under this contract consists of the installation of approximately 1,380-ft. of 10" PVC sewer main and 1,350-ft. of 12" DI water main. The sewer main work will include four new manholes and connection to one existing manhole which will require modification. The water main work will include a 12" hot tap on an existing 12" DI main, four fire hydrants, one air relief assembly, one blow-off assembly, and valves and fittings. Dewatering of the excavations will be required for installation of most of the piping. Other construction activities will be occurring in the same area. Coordination with other contractors will be required. It is anticipated that the proposed grading indicating on the plans will be completed prior to installation of this work.

1-01 DEFINITIONS AND TERMS

1-01.3 Definitions
(October 1, 2005 APWA GSP)

This Section is supplemented with the following:

All references in the Standard Specifications to the terms “State”, “Department of Transportation”, “Washington State Transportation Commission”, “Commission”, “Secretary of Transportation”, “Secretary”, “Headquarters”, and “State Treasurer” shall be revised to read “Contracting Agency”.

All references to “State Materials Laboratory” shall be revised to read “Contracting Agency designated location”.

The venue of all causes of action arising from the advertisement, award, execution, and performance of the contract shall be in the Superior Court of the County where the Contracting Agency’s headquarters are located.
Additive
A supplemental unit of work or group of bid items, identified separately in the proposal, which may, at the discretion of the Contracting Agency, be awarded in addition to the base bid.

Alternate
One of two or more units of work or groups of bid items, identified separately in the proposal, from which the Contracting Agency may make a choice between different methods or material of construction for performing the same work.

Contract Documents
See definition for “Contract”.
Contract Time The period of time established by the terms and conditions of the contract within which the work must be physically completed.

Dates
Bid Opening Date
The date on which the Contracting Agency publicly opens and reads the bids.

Award Date
The date of the formal decision of the Contracting Agency to accept the lowest responsible and responsive bidder for the work.

Contract Execution Date
The date the Contracting Agency officially binds the agency to the contract.

Notice to Proceed Date
The date stated in the Notice to Proceed on which the contract time begins.

Substantial Completion Date
The day the Engineer determines the Contracting Agency has full and unrestricted use and benefit of the facilities, both from the operational and safety standpoint, and only minor incidental work, replacement of temporary substitute facilities, or correction or repair remains for the physical completion of the total contract.

Contract Completion Date
The date by which the work is contractually required to be physically completed. The Contract Completion Date will be stated in the Notice to Proceed. Revisions of this date will be authorized in writing by the Engineer whenever there is an extension to the contract time.

Physical Completion Date
The day all of the work is physically completed on the project. All documentation required by the contract and required by law does not necessarily need to be furnished by the Contractor by this date.

Completion Date
The day all the work specified in the contract is completed and all the obligations of the Contractor under the contract are fulfilled by the Contractor. All documentation required
by the contract and required by law must be furnished by the Contractor before
establishment of this date.

**Final Acceptance Date**
The date on which the Contracting Agency accepts the work as complete.

**Notice of Award**
The written notice from the Contracting Agency to the successful bidder signifying the
Contracting Agency's acceptance of the bid.

**Notice to Proceed**
The written notice from the Contracting Agency or Engineer to the Contractor authorizing
and directing the Contractor to proceed with the work and establishing the date on which
the contract time begins.

**Traffic**
Both vehicular and non-vehicular traffic, such as pedestrians, bicyclists, wheelchairs, and
equestrian traffic.

**1-02 BID PROCEDURES AND CONDITIONS**

**1-02.1 Prequalification of Bidders**
Delete this Section and replace it with the following:

**1-02.1 Qualifications of Bidder**
Bidders shall be qualified by experience, financing, equipment, and organization to do
the work called for in the Contract Documents. The Contracting Agency reserves the
right to take whatever action it deems necessary to ascertain the ability of the bidder
to perform the work satisfactorily.

**1-02.2 Plans and Specifications**
Delete this section and replace with the following:

Information as to where Bid Documents can be obtained or reviewed will be found in
the Call for Bids (Advertisement for Bids) for the work.

After the award of the contract, plans and specifications will be issued to the
Contractor at no cost as outlined below:

<table>
<thead>
<tr>
<th>To Prime Contractor</th>
<th>No of sets</th>
<th>Basis of Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Plans (11 x 17)</td>
<td>4</td>
<td>Furnished automatically upon award</td>
</tr>
<tr>
<td>Large Plans (22 x 34)</td>
<td>0</td>
<td>Furnished only upon request</td>
</tr>
</tbody>
</table>
Additional plans and Contract Provisions may be purchased by the Contractor by payment of the cost as stated in the Call for Bids.

1-02.7 Bid Deposit

October 1, 2005 APWA GSP

Supplement this section with the following:

Bid bonds shall contain the following:
1. Contracting Agency-assigned number for the project;
2. Name of the project;
3. The Contracting Agency named as obligee;
4. The amount of the bid bond stated either as a dollar figure or as a percentage which represents five percent of the maximum bid amount that could be awarded;
5. Signature of the bidder’s officer empowered to sign official statements. The signature of the person authorized to submit the bid should agree with the signature on the bond, and the title of the person must accompany the said signature;
6. The signature of the surety’s officer empowered to sign the bond and the power of attorney.

If so stated in the Contract Provisions, bidder must use the bond form included in the Contract Provisions.

1-02.9 Delivery of Proposal

(October 1, 2005 APWA GSP)

Revise the first paragraph to read:

Each proposal shall be submitted in a sealed envelope, with the Project Name and Project Number as stated in the Advertisement for Bids clearly marked on the outside of the envelope, or as otherwise stated in the Bid Documents, to ensure proper handling and delivery.

1-02.13 Irregular Proposals

(October 1, 2005 APWA GSP)

Revise item 1 to read:

1. A proposal will be considered irregular and will be rejected if:
   a. The bidder is not prequalified when so required;
   b. The authorized proposal form furnished by the Contracting Agency is not used or is altered;
   c. The completed proposal form contains any unauthorized additions, deletions, alternate bids, or conditions;
d. The bidder adds provisions reserving the right to reject or accept the award, or enter into the contract;

e. A price per unit cannot be determined from the bid proposal;

f. The proposal form is not properly executed;

g. The bidder fails to submit or properly complete a subcontractor list, if applicable, as required in Section 1 02.6.

h. The bidder fails to submit or properly complete a Disadvantaged, Minority or Women’s Business Enterprise Certification, if applicable, as required in Section 1-02.6; or

i. The bid proposal does not constitute a definite and unqualified offer to meet the material terms of the bid invitation.

1-02.14 Disqualification of Bidders

(October 1, 2005 APWA GSP)

Revise this section to read:

A bidder may be deemed not responsible and the proposal rejected if:

1. More than one proposal is submitted for the same project from a bidder under the same or different names;

2. Evidence of collusion exists with any other bidder or potential bidder. Participants in collusion will be restricted from submitting further bids;

3. The bidder, in the opinion of the Contracting Agency, is not qualified for the work or to the full extent of the bid, or to the extent that the bid exceeds the authorized prequalification amount as may have been determined by a prequalification of the bidder;

4. An unsatisfactory performance record exists based on past or current Contracting Agency work or for work done for others, as judged from the standpoint of conduct of the work; workmanship; progress; affirmative action; equal employment opportunity practices; or Disadvantaged Business Enterprise, Minority Business Enterprise, or Women’s Business Enterprise utilization;

5. There is uncompleted work (Contracting Agency or otherwise) which might hinder or prevent the prompt completion of the work bid upon;

6. The bidder failed to settle bills for labor or materials on past or current contracts;

7. The bidder has failed to complete a written public contract or has been convicted of a crime arising from a previous public contract;

8. The bidder is unable, financially or otherwise, to perform the work;

9. A bidder is not authorized to do business in the State of Washington (not registered in accordance with RCW 18.27);

10. There are any other reasons deemed proper by the Contracting Agency.

1-03 AWARD AND EXECUTION OF CONTRACT
1-03.1 Consideration of Bids
(January 23, 2006 APWA GSP)

Revise the first paragraph to read:

After opening and reading proposals, the Contracting Agency will check them for correctness of extensions of the prices per unit and the total price. If a discrepancy exists between the price per unit and the extended amount of any bid item, the price per unit will control. If a minimum bid amount has been established for any item and the bidder's unit or lump sum price is less than the minimum specified amount, the Contracting Agency will unilaterally revise the unit or lump sum price, to the minimum specified amount and recalculate the extension. The total of extensions, corrected where necessary, including sales taxes where applicable and such additives and/or alternates as selected by the Contracting Agency, will be used by the Contracting Agency for award purposes and to fix the Awarded Contract Price amount and the amount of the contract bond.

1-03.3 Execution of Contract
(October 1, 2005 APWA GSP)

Revise this section to read:

Copies of the Contract Provisions, including the unsigned Form of Contract, will be available for signature by the successful bidder on the first business day following award. The number of copies to be executed by the Contractor will be determined by the Contracting Agency.

Within _10_ calendar days after the award date, the successful bidder shall return the signed Contracting Agency-prepared contract, an insurance certification as required by Section 1-07.18, and a satisfactory bond as required by law and Section 1-03.4. Before execution of the contract by the Contracting Agency, the successful bidder shall provide any pre-award information the Contracting Agency may require under Section 1-02.15.

Until the Contracting Agency executes a contract, no proposal shall bind the Contracting Agency nor shall any work begin within the project limits or within Contracting Agency-furnished sites. The Contractor shall bear all risks for any work begun outside such areas and for any materials ordered before the contract is executed by the Contracting Agency.

If the bidder experiences circumstances beyond their control that prevents return of the contract documents within _the_ calendar days after the award date stated above, the Contracting Agency may grant up to a maximum of _10_ additional calendar days for return of the documents, provided the Contracting Agency deems the circumstances warrant it.
1-03.4 Contract Bond

(October 1, 2005 APWA GSP)

Revise the first paragraph to read:

The successful bidder shall provide an executed contract bond for the full contract amount. This contract bond shall:

1. Be on a Contracting Agency-furnished form;
2. Be signed by an approved surety (or sureties) that:
   a. Is registered with the Washington State Insurance Commissioner, and
   b. Appears on the current Authorized Insurance List in the State of Washington published by the Office of the Insurance Commissioner,
3. Be conditioned upon the faithful performance of the contract by the Contractor within the prescribed time;
4. Guarantee that the surety shall indemnify, defend, and protect the Contracting Agency against any claim of direct or indirect loss resulting from the failure:
   a. Of the Contractor (or any of the employees, subcontractors, or lower tier subcontractors of the Contractor) to faithfully perform the contract, or
   b. Of the Contractor (or the subcontractors or lower tier subcontractors of the Contractor) to pay all laborers, mechanics, subcontractors, lower tier subcontractors, material person, or any other person who provides supplies or provisions for carrying out the work;
5. Be accompanied by a power of attorney for the Surety's officer empowered to sign the bond; and
6. Be signed by an officer of the Contractor empowered to sign official statements (sole proprietor or partner). If the Contractor is a corporation, the bond must be signed by the president or vice-president, unless accompanied by written proof of the authority of the individual signing the bond to bind the corporation (i.e., corporate resolution, power of attorney or a letter to such effect by the president or vice-president).

1-04 SCOPE OF THE WORK

1-04.3 Vacant

Delete this section and replace with the following:

1-04.3 Record Drawings

Both the Yakima County and Terrace Heights Sewer require record drawings (red lined) of the work performed. The contractor is required to provide record drawings (red lined) to the Engineer at the completion of the project or within 30 days of completion.
1-05 CONTROL OF WORK

1-05.4 Conformity with Deviations from Plans and Stakes

Replace the first paragraph with the following:

The Contractor as part of this contract shall include all surveying for line and grade of the water and sewer piping and manholes. Survey shall include all infrastructure associated with this project and conform to the Standard Specifications. The surveyor retained shall be licensed in the State of Washington as a Professional Land Surveyor.

1-05.6 Inspection of Work and Materials

Revise the first paragraph to read as follows:

The Engineer may inspect all work and materials of the water main for conformity with contract terms. Terrace Heights Sewer District shall require full time inspection of the sewer pipe installation during pipe laying and backfill to assure conformity with contract terms. To ensure the Engineer’s safety and access during these inspections, the Contractor shall provide any equipment needed, such as walkways, railings, ladders, and platforms.

1-05.14 Cooperation With Other Contractors

(March 13, 1995)
Section 1-05.14 is supplemented with the following:

Other Contracts Or Other Work

It is anticipated that the following work adjacent to or within the limits of this project will be performed by others during the course of this project and will require coordination of the work:

1. Pacific Northwest University has contracted to have earthwork done on the site including placing fill for the future university and parking areas.

2. Pacific Northwest University has contracted with KDA Construction to construct the building.

Add the following new section:

1-05.17 Oral Agreements

(October 1, 2005 AWPA GSP)

No oral agreement or conversation with any officer, agent, or employee of the Contracting Agency, either before or after execution of the contract, shall affect or modify any of the terms or obligations contained in any of the documents comprising the
contract. Such oral agreement or conversation shall be considered as unofficial information and in no way binding upon the Contracting Agency, unless subsequently put in writing and signed by the Contracting Agency.

1-06 CONTROL OF MATERIAL

1-06.1 Source of Supply and Quality of Materials

Section 1-06.1 of the Standard Specifications shall be supplemented with the following:

The Contractor shall submit to the County for review shop, catalog, and other appropriate drawings and descriptive information prior to fabrication or ordering of all materials specified. Information shall be submitted in sufficient time to allow the County not less than 10 regular working days for review. The minimum number of copies of such information to be submitted shall be four.

When the submittals have been reviewed by the County, two sets will be returned to the Contractor. If major changes or corrections are necessary, the submittals will be returned to the contractor with such changes or corrections indicated, and the Contractor shall correct and resubmit in the same manner and quantity as specified for the original submittals.

No manufactured items or materials shall be installed until the submittals have been approved and appropriately stamped by the County.

1-06.2(2) Statistical Evaluation of Materials for Acceptance

Section 1-06.2(2) of the Standard Specifications is deleted.

1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

1-07.2 State Taxes

Section 1-07.2 is supplemented with the following:

Retail sales tax to be collected from the County on the Contract amount shall be stated separately in the space provided, as applicable, and shall not be included in the unit or lump sum prices stated in the Proposal. The amount of retail sales tax stated will not be considered as a competitive bid item and will not be included in determining the lowest priced Proposal and will be considered to be an estimate only. Any other federal, state, and local sales, use, or other taxes as required by federal, state, or local laws shall be included in the unit prices, lump sum price, or other prices stated in the Proposal.
1-07.6 Permits And Licenses

Section 1-07.6 is supplemented with the following:

In addition to the expenses that may be incurred by the Contractor for procuring permits and licenses, as specified herein, the Contractor shall be required to submit payment to the Department of Labor and Industries for processing of "Statement of Intent to Pay Prevailing Wages" and "Affidavit of Wages Paid". All costs incurred by the Contractor shall be included in his various Unit Bid Prices, and no further Payment shall be made.

1-07.17 Utilities and Similar Facilities

Section 1-07.17 is supplemented with the following:

Locations and dimensions shown in the Plans for existing facilities are in accordance with available information obtained without uncovering, measuring, or other verification.

The Contractor is alerted to the existence of Chapter 19.122 RCW, a law relating to underground utilities. Any cost to the Contractor incurred as a result of this law shall be at the Contractor's expense.

The following addresses and telephone numbers of utility companies known or suspected of having facilities within the project limits are supplied for the Contractor's convenience:

Cascade Natural Gas Corporation
401 N. 1st Street
Yakima, WA 98901
(509) 457-8175

Terrace Heights Sewer District
Norm Alderson
2812 Terrace Heights Drive, Suite 2
Yakima, WA 98901
(509) 453-8702

Qwest Communications
Blake Davis
8 S. 2nd Ave., Room 304
Yakima, Washington 98902
(509) 575-7183

Roza Irrigation District
1250 Brooks Road Wapato
(509) 453-6066

Charter Communications
1-07.18 Public Liability and Property Damage Insurance

Delete this section in its entirety, and replace it with the following:

1-07.18 Insurance

(May 10, 2006 APWA GSP)

1-07.18(1) General Requirements

A. The Contractor shall obtain the insurance described in this section from insurers approved by the State Insurance Commissioner pursuant to RCW Title 48. The insurance must be provided by an insurer with a rating of A-: VII or higher in the A.M. Best’s Key Rating Guide, which is licensed to do business in the state of Washington (or issued as a surplus line by a Washington Surplus lines broker). The Contracting Agency reserves the right to approve or reject the insurance provided, based on the insurer (including financial condition), terms and coverage, the Certificate of Insurance, and/or endorsements.

B. The Contractor shall keep this insurance in force during the term of the contract and for thirty (30) days after the Physical Completion date, unless otherwise indicated (see C. below).

C. If any insurance policy is written on a claims made form, its retroactive date, and that of all subsequent renewals, shall be no later than the effective date of this Contract. The policy shall state that coverage is claims made, and state the retroactive date. Claims-made form coverage shall be maintained by the Contractor for a minimum of 36 months following the Final Completion or earlier termination of this contract, and the Contractor shall annually provide the Contracting Agency with proof of renewal. If renewal of the claims made form of coverage becomes unavailable, or economically prohibitive, the Contractor shall purchase an extended reporting period (“tail”) or execute another form of guarantee acceptable to the Contracting Agency to assure financial responsibility for liability for services performed.

D. The insurance policies shall contain a “cross liability” provision.
E. The Contractor's and all subcontractors' insurance coverage shall be primary and non-contributory insurance as respects the Contracting Agency's insurance, self-insurance, or insurance pool coverage.

F. All insurance policies and Certificates of Insurance shall include a requirement providing for a minimum of 30 days prior written notice to the Contracting Agency of any cancellation in any insurance policy.

G. Upon request, the Contractor shall forward to the Contracting Agency a full and certified copy of the insurance policy(s).

H. The Contractor shall not begin work under the contract until the required insurance has been obtained and approved by the Contracting Agency.

I. Failure on the part of the Contractor to maintain the insurance as required shall constitute a material breach of contract, upon which the Contracting Agency may, after giving five business days notice to the Contractor to correct the breach, immediately terminate the contract or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the Contracting Agency on demand, or at the sole discretion of the Contracting Agency, offset against funds due the Contractor from the Contracting Agency.

J. All costs for insurance shall be incidental to and included in the unit or lump sum prices of the contract and no additional payment will be made.

1-07.18(2) Additional Insured

All insurance policies, with the exception of Professional Liability and Workers Compensation, shall name the following listed entities as additional insured(s):

Yakima County and its officers, elected officials, employees, agents, and volunteers.

The above-listed entities shall be additional insured(s) for the full available limits of liability maintained by the Contractor, whether primary, excess, contingent or otherwise, irrespective of whether such limits maintained by the Contractor are greater than those required by this Contract, and irrespective of whether the Certificate of Insurance provided by the Contractor pursuant to 1-07.18(3) describes limits lower than those maintained by the Contractor.

1-07.18(3) Subcontractors

Contractor shall ensure that each subcontractor of every tier obtains and maintains at a minimum the insurance coverages listed in 1-07.18(5)A and 1-07.18(5)B. Upon request of the Contracting Agency, the Contractor shall provide evidence of such insurance.
1-07.18(4) Evidence of Insurance

The Contractor shall deliver to the Contracting Agency a Certificate(s) of Insurance and endorsements for each policy of insurance meeting the requirements set forth herein when the Contractor delivers the signed Contract for the work. The certificate and endorsements must conform to the following requirements:

1. An ACORD certificate or a form determined by the Contracting Agency to be equivalent.

2. Copies of all endorsements naming Contracting Agency and all other entities listed in 1-07.18(2) as Additional Insured(s), showing the policy number. The Contractor may submit a copy of any blanket additional insured clause from its policies instead of a separate endorsement. A statement of additional insured status on an ACORD Certificate of Insurance shall not satisfy this requirement.

3. Any other amendatory endorsements to show the coverage required herein.

1-07.18(5) Coverages and Limits

The insurance shall provide the minimum coverages and limits set forth below. Providing coverage in these stated minimum limits shall not be construed to relieve the Contractor from liability in excess of such limits. All deductibles and self-insured retentions must be disclosed and are subject to approval by the Contracting Agency. The cost of any claim payments falling within the deductible shall be the responsibility of the Contractor.

1-07.18(5)A Commercial General Liability

A policy of Commercial General Liability Insurance, including:

- Per project aggregate
- Premises/Operations Liability
- Products/Completed Operations – for a period of one year following final acceptance of the work.
- Personal/Advertising Injury
- Contractual Liability
- Independent Contractors Liability
- Stop Gap / Employers’ Liability
- Explosion, Collapse, or Underground Property Damage (XCU)
- Blasting (only required when the Contractor’s work under this Contract includes exposures to which this specified coverage responds)

Such policy must provide the following minimum limits:

- $1,000,000 Each Occurrence
- $2,000,000 General Aggregate
- $1,000,000 Products & Completed Operations Aggregate
- $1,000,000 Personal & Advertising Injury, each offence
Stop Gap / Employers' Liability

$1,000,000 Each Accident
$1,000,000 Disease - Policy Limit
$1,000,000 Disease - Each Employee

1-07.18(5)B Automobile Liability

Automobile Liability for owned, non-owned, hired, and leased vehicles, with an MCS 90 endorsement and a CA 9948 endorsement attached if "pollutants" are to be transported. Such policy(ies) must provide the following minimum limit:

$1,000,000 combined single limit

1-07.18(5)C Workers' Compensation

The Contractor shall comply with Workers' Compensation coverage as required by the Industrial Insurance laws of the state of Washington.

1-07.28 Trench Safety System (New Section)

Contractor shall provide a Trench Safety System meeting the requirements of the Washington Industrial Safety and Health Act, Chapter 49.17 for all trenches in excess of four (4) feet in depth.

The duty of the engineer to conduct construction review of the work does not include review or approval of the adequacy of the Contractor's Trench Safety System, safety program, safety supervisor, or any safety measures taken in, on, or near the construction site. The Contractor shall be solely and completely responsible for complying with trench safety.

Payment for the bid item Trench Safety System, per lump sum, will be made in accordance with Section 1-04.1. Payment for the Trench Safety System, as required by Chapter 39.04.180 RCW, shall not be construed as acceptance or approval of the Contractor's Trench Safety System.

SECTION 1-08, PROSECUTION AND PROGRESS

1-08 Prosecution and Progress

Add the following new section:

1-08.0 Preliminary Matters
(May 25, 2006 APWA GSP)

Add the following new section:

1-08.0(1) Preconstruction Conference
Prior to the Contractor beginning the work, a preconstruction conference will be held between the Contractor, the Engineer and such other interested parties as may be invited. The purpose of the preconstruction conference will be:

1. To review the initial progress schedule;
2. To establish a working understanding among the various parties associated or affected by the work;
3. To establish and review procedures for progress payment, notifications, approvals, submittals, etc.;
4. To establish normal working hours for the work;
5. To review safety standards and traffic control; and
6. To discuss such other related items as may be pertinent to the work.

The Contractor shall prepare and submit at the preconstruction meeting the following:

1. A breakdown of all lump sum items;
2. A preliminary schedule of working drawing submittals; and
3. A list of material sources for approval if applicable.

1-08.4 Notice to Proceed and Prosecution of the Work

(October 1, 2005 APWA GSP)

Revise this section to read:

Notice to Proceed will be given after the contract has been executed and the contract bond and evidence of insurance have been approved and filed by the Contracting Agency. The Contractor shall not commence with the work until the Notice to Proceed has been given by the Engineer. The Contractor shall commence construction activities on the project site within ten days of the Notice to Proceed Date, unless otherwise approved in writing. The Contractor shall diligently pursue the work to the physical completion date within the time specified in the contract. Voluntary shutdown or slowing of operations by the Contractor shall not relieve the Contractor of the responsibility to complete the work within the time(s) specified in the contract.

1-08.5 Time For Completion

(March 13, 1995)

Section 1-08.5 is supplemented with the following:

The project shall be physically completed in 30 working days.

1-08.5 Time For Completion

(October 1, 2005 APWA GSP)

Revise the fourth and fifth paragraphs to read:
Contract time shall begin on the first working day following the Notice to Proceed Date. The contract provisions may specify another starting date for contract time, in which case, time will begin on the starting date specified.

Each working day shall be charged to the contract as it occurs, beginning on the day after the Notice to Proceed Date, unless otherwise provided in the Contract Provisions, until the contract work is physically complete. If substantial completion has been granted and all the authorized working days have been used, charging of working days will cease. Each week the Engineer will provide the Contractor a statement that shows the number of working days: (1) charged to the contract the week before; (2) specified for the physical completion of the contract; and (3) remaining for the physical completion of the contract. The statement will also show the nonworking days and any partial or whole day the Engineer declares as unworkable. Within 10 calendar days after the date of each statement, the Contractor shall file a written protest of any alleged discrepancies in it. To be considered by the Engineer, the protest shall be in sufficient detail to enable the Engineer to ascertain the basis and amount of time disputed. By not filing such detailed protest in that period, the Contractor shall be deemed as having accepted the statement as correct. If the Contractor elects to work 10 hours a day and 4 days a week (a 4-10 schedule) and the fifth day of the week in which a 4-10 shift is worked would ordinarily be charged as a working day then the fifth day of that week will be charged as a working day whether or not the Contractor works on that day.

Revise the seventh paragraph to read:

The Engineer will give the Contractor written notice of the completion date of the contract after all the Contractor’s obligations under the contract have been performed by the Contractor. The following events must occur before the Completion Date can be established:

1. The physical work on the project must be complete; and
2. The Contractor must furnish all documentation required by the contract and required by law, to allow the Contracting Agency to process final acceptance of the contract. The following documents must be received by the Project Engineer prior to establishing a completion date:
   a. Certified Payrolls (Federal-aid Projects)
   b. Material Acceptance Certification Documents
   d. FHWA 47 (Federal-aid Projects)
   e. Final Contract Voucher Certification
   f. Property owner releases per Section 1-07.24

SECTION 1-09 MEASUREMENT AND PAYMENT

1-09.13(3) Claims $250,000 or Less
Delete this Section and replace it with the following:

The Contractor and the Contracting Agency mutually agree that those claims that total $250,000 or less, submitted in accordance with Section 1-09.11 and not resolved by nonbinding ADR processes, shall be resolved through litigation unless the parties mutually agree in writing to resolve the claim through binding arbitration.

1-09.13(3)A Administration of Arbitration
(October 1, 2005 APWA GSP)

Revise the third paragraph to read:

The Contracting Agency and the Contractor mutually agree to be bound by the decision of the arbitrator, and judgment upon the award rendered by the arbitrator may be entered in the Superior Court of the county in which the Contracting Agency’s headquarters are located. The decision of the arbitrator and the specific basis for the decision shall be in writing. The arbitrator shall use the contract as a basis for decisions.

1-10 TEMPORARY TRAFFIC CONTROL

1-10.2(2) Traffic Control Plans (TCP’s)

Section 1-10.2(2) is supplemented with the following:

Site specific traffic control plans will be required for all operations located in County Road Right-of-Way. The Contractor shall submit to the Engineer for review and approval individual site specific traffic control plans two (2) weeks prior to implementation.

DIVISION 2
EARTHWORK

2-01 CLEARING, GRUBBING, AND ROADSIDE CLEANUP

2-01.3(2) Grubbing

Add to item 2 the following sub items:

f. Contractor shall separate usable top soil from grubbed material and stockpile for placement back over backfilled excavations.

g. As possible, the grubbing shall stay within the easement boundaries shown on the drawings. Any areas grubbed or disturbed outside of the easement areas
will be restored at the Contractor’s expense. The grubbed areas shall be large enough to accomplish the work required as shown on the plans.

DIVISION 4
BALLAST AND CRUSHED SURFACING

4-04 BALLAST AND CRUSHED SURFACING

4-04.4 Measurement

Add the following:

Measurement for crushed surfacing shall include crushed surfacing used to construct the access road over the sewer line and shall not include bedding material for the water line. Bedding material for the water line shall be paid in accordance with Section 7-09.5.

DIVISION 7
DRAINAGE STRUCTURES, STORM SEWERS, SANITARY SEWERS, WATER MAINS AND CONDUITS

7-05 MANHOLES, INLETS, CATCH BASINS AND DRYWELLS

7.05.3(3) Connections to Existing Manholes

Revise the last sentence of the second paragraph as follows:

The Contractor shall plug, with an inflatable test plug, the downstream end of the new sewer main until acceptance of the new line so that water used for testing and flushing shall not be allowed to enter the sewer.

7.05.4 Measurement

Add the following:

Connections to existing manholes will be measured per each.

7.05.5 Payment

Add the following:

"Connection to Existing Manhole", per each.
The unit contract price per each for “Connection to Existing Manhole” shall be full pay for labor, equipment and materials to make the connection, including but not
limited to, excavating, removing existing sewer stub, enlarging manhole opening and channel for new sewer pipe, installing pipe in manhole, and backfill.

7-08 GENERAL PIPE INSTALLATION REQUIREMENTS

7-08.2 Materials

Add the following:

Sewer Main Pipe Zone Bedding shall be 3/8” washed pea gravel with the following gradation:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing</th>
</tr>
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<tbody>
<tr>
<td>1/2” Square</td>
<td>100</td>
</tr>
<tr>
<td>3/8” Square</td>
<td>85 - 100</td>
</tr>
<tr>
<td>US No. 4</td>
<td>10 - 30</td>
</tr>
<tr>
<td>US No. 8</td>
<td>0 - 10</td>
</tr>
<tr>
<td>US No. 10</td>
<td>0 - 5</td>
</tr>
</tbody>
</table>

7-08.3(1)A Trenches

Add the following sentence to the end of the tenth paragraph:

Dewatering shall meet the requirements of Section 8-01.3(1)C.

7-08.3(2)B Pipe Laying - General

Delete the first sentence in the second paragraph and replace with the following:

All pipe laid in the trench to the specified line and grade shall be inserted to the stab line only, so as not to over compress the joints.

7-08.3(2)E Rubber Gasketed Joints

Replace the word “HOME” with “To the Stab Line” in the last three paragraphs.

7-08.3(2)J Detectable Marking Tape (New Section)

Detectable 2” wide, Safety Green, 5 mil marking tape with 50 gauge aluminum foil core shall be placed 24” below finished grade directly above sewer pipe.

7-08.3(3) Backfilling

Delete paragraph two in its entirety.
Change the first sentence of the third paragraph to read as follows:

Pipe zone backfill shall be placed in loose layers and hand compacted.

Change in the fourth sentence of the fourth paragraph the reference of 85% compaction to 95% compaction.

7-08.3(4) Ballasted Access Road (New Section)

Construct ballasted access road to the limits shown on the plans in accordance with Section 4-04. Soil residual herbicide shall be placed over compacted subgrade in accordance with Section 5-04.3(5)D. Hydrosedging of disturbed area shall be in accordance with Section 8-01.

7-09 WATER MAINS

7-09.2 Materials

Add the following paragraph:

Gravel backfill for pipe zone bedding shall meet the requirements of Section 9-03.12(3), except that crushed granular material used for bedding material shall be crushed surfacing top course meeting the requirements of Section 9-03.9(3).

The reference to Blow off Assemblies shall be revised to read as follows:

Blow off Assemblies 9-30.5(7)

7-09.3(5) Grade and Alignment

Add the following sentence to the end of the first paragraph:

The water line shall be laid so as to have a continual upward slope to the air release in all directions. No bellies or low points will be allowed.

The first sentence of the third paragraph shall be replaced with the following:

The depth of trenching for water mains shall be such as to give a minimum cover of 48" over the top of the pipe unless otherwise shown in the plans.

7-09.3(7)A Dewatering of Trench

Add the following sentence to the end of the first paragraph:

Dewatering shall meet the requirements of Section 8-01.3(1)C.
7-09.3(9) Bedding the Pipe

Replace paragraph with the following:

Pipe zone bedding shall be placed to the depths shown on Yakima County Standard Plan W-3.

Pipe bedding below the pipe shall be graded and compacted to form a continuous and uniform bearing for the pipe at every point between bell holes, except that the grade may be disturbed for the removal of lifting tackle. Pipe bedding below the pipe shall be compacted in a single lift to a minimum of 85 percent and a maximum of 95 percent of maximum density prior to laying the pipe.

Pipe bedding from the bottom of the pipe to six-inches above the pipe shall be placed in even lifts on each side of the pipe and compacted to a minimum of 95 percent of maximum density by approved hand-held tools, so as to provide firm and uniform support for the full length of the pipe, valves, and fittings. Care shall be taken to prevent damage to the pipe or its protective coating. Limit compacted lift thickness to six-inches.

7-09.3(10) Backfilling Trenches

Add the following paragraph:

Materials excavated from the trench may be used for trench backfill, except that organic material, frozen lumps, asphalt or concrete pavement, or rocks larger than eight-inches in the greatest dimension shall not be used; and except that materials determined by the Engineer to be unsuitable for backfill at the time of excavation shall be removed and replaced with imported backfill material. Bedding Material shall be used for imported backfill material, except that Bank Run Gravel for Trench Backfill meeting the requirements of Section 9-03.19 may be used in un-traveled areas.

7-09.3(11) Compaction of Backfill

Replace the first paragraph with the following:

Trench backfill shall be compacted to at least 85 percent of maximum density in trenches in un-traveled areas, and to at least 95 percent of maximum density in trenches located in streets, roadway shoulders, driveways, or sidewalks, as specified in Section 2-03.3(14)D.

7-09.3(19)A Connections to Existing Mains

Delete the second paragraph and replace with the following:
The connection to the existing water main shall be made by hot tap. The Contractor is responsible for testing the saddle after installing on the main before making the hot tap. No tap shall take place thru any valve not designated as a tapping valve. Seven day’s notice must be given to the Engineer prior to scheduling the tap. Immediately following the hot tap and backfill, the street shall be temporarily repaired using cold mix asphalt.

Delete the third paragraph in its entirety.

Add the following:

Repair of the roadway shall be in accordance with Yakima County Roadway Section RR-2, except that CDF fill shall be used to replace the crushed surfacing top course and the commercial concrete shown under the asphalt concrete pavement.

7-09.3(20) Detectable Marking Tape

Change the first sentence to read as follows:

Detectable marking tape shall be installed over all water lines, including service lines.

7-09.3(23) Hydrostatic Pressure Test

Change the first sentence to read as follows:

Water main appurtenances and service connections to the meter setter shall be tested in sections of convenient length under a hydrostatic pressure equal to 200 psi.

Add the following sentences to the end of the first paragraph:

No pressure test shall take place thru a fire hydrant. All pressure tests must take place from a service or a blow off connection.

7-09.3(24) Disinfection of Water Mains

Add the following paragraphs:

New sections of the water main must be separated from the existing system until a satisfactory flushing, disinfection, and bacteriological sampling has been completed. Disinfection will not be permitted against a closed valve unless a temporary plate is installed between the valve and the new section of the water main. Some new sections of the water main will require a piece of connection pipe to be installed between the new water main and the existing system after satisfactory bacteriological sample results are obtained. Before making any final connections, the interiors of all pipe and
fittings used to make the final connection must be disinfected by swabbing or spraying with a chlorine solution.

Disinfection shall be in accordance with AWWA C651 and these Special Provisions. As a minimum, after final flushing and before the new water main is placed in service, two consecutive sets of acceptable samples shall be collected from the new main. Each set shall include as a minimum of one sample from every 1,200-ft of the new water main, plus one sample from the end of the line, and at least one sample from each branch. The first set of samples shall be collected at least 24-hours after flushing, and the second set of samples shall be collected at least 24-hours after the first set of samples.

When dry calcium hypochlorite is used for disinfection of the pipe, the Contractor shall fill the pipe in such a manor as to prevent the calcium hypochlorite from being washed to the end of the pipe.

7-09.3(25) Tracer Wire (New Section)

The Contractor shall install a tracer wire, in addition to the detectable marking tape, over all water lines. The tracer wire shall be 14 gauge copper wire with blue coded UF insulation. The tracer wire shall be attached to the center of the pipe at a minimum of six-ft intervals and at bends with duct tape. Copper of brass split bolt connectors shall be used as connectors for splices. Bare wire contact points shall be provided at valve boxes and air release and blow off assemblies.

7-09.4 Measurement

Add the following:

No unit of measurement shall apply to the lump sum price for removing and replacing the concrete walk, curb and asphalt pavement to make the hot tap to the existing water line.

7-09.5 Payment

Add the following:

“Concrete Walk, Curb and Asphalt Removal and Replacement”, per lump sum.

The lump sum price for “Concrete Walk, Curb and Asphalt Removal and Replacement” shall be full pay for labor, equipment and materials to remove and replace the existing sidewalk, curb and asphalt concrete pavement to make the hot tap to the existing water line in 33rd Street.
7-12 VALVES FOR WATER MAINS

7-12.2 Materials

The first paragraph in Section 7-12.2 of the Standard Specifications shall be supplemented with the following:

Valve Stem Extensions 9-30.3(6)
Debris Cap (New Section) 9-30.3(10)

7-17 SANITARY SEWERS

7-17.3 Construction Requirements

Add the following:

Sanitary sewers shall be constructed in accordance with the Terrace Heights Sewer District’s standards and these Special Provisions.

7-17.5 Payment

Add to the unit price per linear foot the inclusion of trenching and all other items necessary for a complete installation.

7-17.3(2)H Television Inspection

Replace the first paragraph with the following:

The sewer will be television inspected and all cost associated with such inspection shall be born by the Contractor. Inspection records including the video will be turned over to the Terrace Heights Sewer District within three day’s of the inspection. The television inspection shall take place immediately following flushing of the line using a flush ball. If not immediately after flushing then the Contractor shall flow water through the pipe prior to TV inspection.

DIVISION 8
MISCELLANEOUS CONSTRUCTION

8-01 EROSION CONTROL AND WATER POLLUTION CONTROL

8-01.3 Construction Requirements

8-01.3(1)C Water Management
Add the following sentence to the end of the first paragraph:

This project shall require the building of treatment/retention ponds for dewatering of excavations. The ponds must be of suitable size to contain the pumped ground water prior to discharging. The estimated ground water elevation is indicated on the plans. The contractor is responsible for sizing of pumps and ponds.

8-01.4 Measurement

Add the following paragraphs:

Dewatering will be measured per day. A day of dewatering is to be a minimum of 5 hours of pumping water from an open trench during the placement of water and sewer pipe.

Seeding and fertilizing will be measured based on the width of the easement area over the sewer line minus the width of the ballasted access road. Seeding and fertilizing areas disturbed outside the easement area will not be included in the measurement.

8-01.5 Payment

Add the following sentence:

“Dewatering”, per day.
The unit contract price per day for “Dewatering” shall be full pay for all labor, equipment and materials necessary for dewatering the water and sewer line trenches, including but not limited to, building treatment/retention ponds, pumping, and removal and restoration of treatment/retention ponds back to existing site conditions, including hydroseeding of disturbed area.

DIVISION 9
MATERIALS

9-12 MASONRY UNITS

9-12.4 Pre-Cast Concrete Manholes

Revise the last sentence of the third paragraph to read as follows:

Pre-cast concrete units shall be manufactured with knockouts or cutouts and standard nonskid steps installed.

9-14 EROSION CONTROL AND ROADSIDE PLANTING
9-14.2 Seed

Add the following:

Seed used for the hydrosed mix shall be 28.34% Basin Wildry, 28.33% Alkar Tall Wheatgrass, 28.33% Sodar Streambank Wheatgrass, and 15% Covar Sheep Fescue, all by weight.

9-30 WATER DISTRIBUTION MATERIALS

9-30.2(6) Restrained Joints

Add the following sentence to the end of the first paragraph:

Joint restraint devices used on mechanical joints shall allow full joint deflection capabilities of the joint after installation, and shall be as manufactured by The Ford Meter Box Co., or equal.

Add the following sentence to the end of the second paragraph:

Joint restraint devices for PVC pipe shall meet the requirements of UNI-B-13-92.

9-30.3(1) Gate Valves (3-inches to 16-inches)

Replace the second sentence of the first paragraph with the following:

Valves larger than ten-inches in size shall be butterfly valves. Gate valves shall be as manufactured by Clown Corporation, M&H Valve Co., or approved equal.

9-30.3(3) Butterfly Valves

Add the following sentence to the end of the first paragraph:

Butterfly valves shall be as manufactured by Pratt, Mueller, American Darling, M&H Valve Co., or approved equal.

9-30.3(4) Valve Boxes

Add the following sentence to the end of the first paragraph:

Valve box top sections shall be 18-inches in height and shall be Rich Model 940-B, or equal.

9-30.3(10) Debris Cap (New Section)
Debris cap shall prevent dirt and debris from entering the top of valve box. The debris cap shall have a blue locking handle and shall be Model DC625 as manufactured by SW Services, Inc. Phoenix, Arizona, or equal.

9-30.5 Hydrants

Add the following sentence to the end of the first paragraph:

Fire hydrants shall be Mueller Super Centurion 250 Model A-423, M & H 929, Clow Medallion, or approved equal.

9-30.5(2) Hydrant Dimensions

Replace the last two sentences of the first paragraph with the following:

Fire hydrants shall have a main valve opening size of 5-1/4 inches, a 1-1/4 inch pentagon operating nut, one 4-1/2 inch N.S.T. steamer port with storz coupling and two 2-1/2 inch N.S.T. hose connections.

Add the following sentence to the end of the second paragraph:

Fire hydrants shall be painted with one coat of high visibility yellow paint after installation.

9-30.5(7) Blow-Off Hydrants (New Section)

Blow-off hydrants shall be suitable for direct burial and shall be of a non-freezing, self draining type. Blow-off hydrants shall have a bronze 2-1/2 inch N.S.T. outlet. All working parts shall be of bronze-to-bronze design, and shall be serviceable from above grade with no digging. Blow-off hydrants shall be as Manufactured by Kupferle Foundry Co., St. Louis, MO, or approved equal.
GEOTECHNICAL REPORT
REPORT OF GEOTECHNICAL INVESTIGATION

TO

PACIFIC NORTHWEST UNIVERSITY OF HEALTH SCIENCES
111 SOUTH 33RD STREET, SUITE 104
YAKIMA, WASHINGTON

PACIFIC NORTHWEST UNIVERSITY SITE
SOUTH 3RD STREET, TERRACE HEIGHTS
YAKIMA, WASHINGTON
GNN PROJECT NO. 206-587

GN NORTHERN, INC.
CONSULTING GEOTECHNICAL ENGINEERS
YAKIMA, WASHINGTON
248-9798

MARCH 2006
March 10, 2006

Pacific Northwest University of Health Sciences
111 South 33rd Street, Suite 104
Yakima, WA 98901

Attn: Mr. Tim Morris

cc: Gary Wetch, Loofburrow Architects
    Eric Herzog, Huibregtse Louman Associates, Inc.

Reference: GNN Project No. 206-587

Subject: Report of Geotechnical Investigation for Pacific Northwest University Site,
Terrace Heights Yakima, Washington

Gentlemen:

At your request, we have completed a geotechnical investigation for the subject project in
Terrace Heights Yakima, Washington.

Based on the findings of our subsurface study, we conclude the proposed site is suitable for the
intended construction provided that our preliminary geotechnical recommendations presented in
this report are followed during the design and construction phases of the project.

This report describes in detail the results of our investigation, summarizes our findings, and
presents our recommendations. It is important that we provide consultation during design, and
field testing services during construction to review and monitor the implementation of the
geotechnical recommendations.

If you have any questions regarding this report, please contact us at 509-248-9798.

Respectfully submitted,

Imran Magsi, P.E.
Senior Geotechnical Engineer

Enclosures: In three (3) copies
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APPENDIX

• ASFE Information Sheet
• Vicinity Map
• 1996 & 2004 Aerial Photographs
• Approximate Test Pit Location Plan
• Test Pit Logs
• Vicinity Monitoring Well Logs
• Laboratory Test Data
• Key Chart for Soil Classification
1.0 PURPOSE AND SCOPE OF STUDY
This report presents the results of a subsurface study for the proposed site of the Pacific Northwest University in Terrace Heights Yakima, Washington (Figure 1). The subsurface study was conducted for the purpose of developing recommendations for site grading and the design of building footings and floor slabs. A proposal request for geotechnical investigation was received from Eric Herzog of Huibregtse Louman Associates on January 26, 2006. Authorization to proceed was received from Gary Wetch of Loofburrow Architect. The geotechnical study was conducted in accordance with our proposal dated January 30, 2006.

A field exploration program consisting of eight (8) test pits was performed to obtain information on subsurface conditions. The test pits were located on Parcels A, B, C and E as shown on Figure 2 in the Appendix.

Samples obtained during the field activities were tested in our laboratory to determine physical and engineering characteristics of the native soils. Results of the field exploration and laboratory tests were analyzed to develop recommendations for the design and construction. The results of our field exploration and laboratory testing are presented in the Appendix.

2.0 PROPOSED CONSTRUCTION
A site grading plan and building layout plan was not available at the time of this report preparation. Information regarding the type of construction and structural loads were not available. We assumed the proposed approximate 40-acre development will comprise of several buildings, paved parking, access roads and underground and aboveground utilities.

3.0 FIELD EXPLORATION
Eight (8) test pits were excavated at the site on February 24, 2006 using a backhoe. The test pits were located in the field by GN Northern’s representative. The approximate locations of the test holes are shown on Figure 2.
The soils observed during our field exploration were classified according to the Unified Soil Classification System (USCS), utilizing the field classification procedures as outlined in ASTM D2488.

 Depths referred to in this report are relative to the existing ground surface elevation at the time of our field investigation. The surface and subsurface conditions described in this report are as observed at the site at the time of our field investigation.

4.0 LABORATORY TESTING

Samples obtained during the field exploration were taken to our laboratory, where they were observed and visually classified in accordance with ASTM D2487, which is based on the Unified Soil Classification System. Representative samples were selected for testing to determine the engineering and physical properties of the soils in general accordance with ASTM procedures. Laboratory tests performed included:

<table>
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<tr>
<th>Test</th>
<th>To Determine</th>
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<tbody>
<tr>
<td>Particle Size Distribution</td>
<td>Soil classification based on proportion of sand, silt, and clay-sized particles</td>
</tr>
<tr>
<td>Natural Moisture Content</td>
<td>In-situ soil moisture content at the time sample was collected</td>
</tr>
<tr>
<td>Moisture-Density Relationship</td>
<td>Maximum dry density and optimum moisture content for compaction of on-site soils</td>
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</table>

Results of laboratory tests are included in the Appendix attached to the end of the report.

5.0 SITE CONDITIONS

The proposed Pacific Northwest University is located in the center of an undeveloped lot at the southwest corner of Terrace Heights Drive and 33rd Street in Yakima, Washington. The proposed project site is relatively flat, with surface undulations of a few feet throughout the site. It is currently undeveloped, overgrown with grasses, low shrubs and a few small trees. Grasses are tall and dense in some places. A narrow strip along the western edge of the property is lined by tall trees and dense brush, surrounding what appears to be a drainage channel or small stream.
A high-pressure gas pipeline crosses the site near its western boundary. In most areas, this pipeline is clearly delineated with markers rising above the ground surface. Prior to commencing our exploration activities on the site, gas pipeline personnel requested to be present in order to determine whether the pipeline would be affected. Similar requests should be expected prior to construction. No other utilities or utility marks were observed crossing the subject site, but underground telephone, power, and water may be present along 33rd Street on the east end of the site.

Geology
The site is situated within the Columbia River Plateau physiographic province and near the eastern foothills of the Cascade Range. The Cascade Range and adjacent highlands are primarily composed of basalt, andesite, granodiorite, and some continental sedimentary terrain of Cretaceous and Jurassic age. The Columbia Plateau is comprised of a series of flood basalts which cover most of central and eastern Washington. The basalt flows of the Columbia Basalt Group are thought to be Miocene in age, forming an extensive volcanic plateau (Camp, et. al, 1982). Alluvial deposits of sand and gravel overlie the older rock formations.

Seismic Considerations
The project site is Site Class C as defined by the International Building Code (IBC, 2003). Site Class C corresponds to dense soils and soft rock. Based on the Mapped Spectral Response Acceleration provided in the IBC, $S_s$ for the site is 0.48 and $S_I$ is 0.16. The corresponding Site Coefficient values for $F_0$ and $F_Y$ are 1.2 and 2.2, respectively.

6.0 SUBSURFACE CONDITIONS
Subsurface conditions were relatively uniform across the site, with a layer of sandy silt (ML) overlying dense gravel and cobbles (GP) encountered in all test pits. The sandy silt layer is typically 1 to 2 feet in thickness, and contains increasing amounts of gravel near its bottom. In test pit TP-5, near the western edge of Parcel A, approximately 4 feet of this silty material was encountered, containing very little gravel. In most test pits, this silt layer contains quantities of roots and organic debris, up to a depth of about 2 feet beneath the ground surface. The silt is
generally slightly moist and stiff, its density increasing with depth and with the quantity of gravel included in the layer.

The gravel layer was encountered in all eight test pits across the site, appearing at depths between 1 and 4 feet BGS. This layer typically contains quantities of sand, and also quantities of silt which appears to decrease with depth. In two test pits near the eastern edge of the site (TP-2 and TP-3), this layer contains reddish-brown material between approximately 4 and 6 feet BGS. The layer also contains cobbles of varying size, and commonly includes small boulders, generally 12 to 15 inches in diameter. The gravel is smooth and rounded to sub rounded, with relatively small amounts of sand, consistent with river gravels. Aerial photographs of the site clearly show that a stream or river channel once crossed the site. The gravel is generally very dense, and ranges from slightly moist to wet. In all of the test pits, caving and sloughing of the gravel was observed, making excavation difficult. Caving from the gravel surface was observed in all of the excavations, and caving from the surface was noted in some. Due to the lack of significant amounts of void-filling sands, and the rounded particles present, any excavations completed at the site should be expected to cave and slough readily.

Detailed test pit logs are included in the appendix to this report.

**Groundwater**

Groundwater was encountered in 7 of the 8 test pits completed at the time of our field explorations on February 24, 2006. Groundwater depths ranged from 5 feet BGS to 8.5 feet below existing ground surface (BGS). Groundwater was not encountered in test pit TP-8, which reached a depth of 10 feet BGS. Well drilling logs on file with the Department of Ecology were reviewed for a number of wells in the site vicinity. Groundwater depth reported on those logs ranged from 3 foot to 12 feet BGS. Aerial photographs of the site appear to show a former stream channel crossing the site. Variations in soils due to this feature may also impact groundwater, with coarse, gravelly channel deposits allowing water to move more readily, and silty overbank deposits, which also lie at slightly higher elevations, being less permeable.
Groundwater beneath the site should be expected to rise above its current level through the irrigation season, reaching its highest point in late summer to early fall. Water will fluctuate rapidly through the coarse gravels encountered at the site, and should be anticipated in construction excavations. We believe deep utility trenches will encounter groundwater, and it is possible that groundwater levels could reach footing excavation depths during the high water season. Numerous factors contribute to groundwater fluctuations, and evaluation of such factors is beyond the scope of this report.

GN Northern and R&R Drilling installed monitoring wells on a nearby site in August 2005 (well logs are attached in the appendix). The proposed university site appears to be slightly lower in elevation to the nearby site. Groundwater measurements in August showed a clear southeasterly flow direction, with water about 9.5 feet below the surface on average. The shallowest depth was 8.83 feet and the deepest was 10.49 feet. A gradient of about 1 foot vertical per 500 feet horizontal at that time; water table élévation was about 1028 feet.

It should be noted that water is shallower at this time of year than it was in August. However, July/August should see higher water table due to irrigation, and it should be near its seasonal low right now. Anticipate that in the next few months, water levels at the site will continue to rise.

7.0 CONCLUSIONS
We conclude that the site is geotechnically suitable for the proposed development provided that our geotechnical recommendations are followed during the design and construction phases of the project. We further conclude that a conventional spread footing with slab-on-grade floor construction is appropriate for the proposed buildings. Proper subgrade preparation is a key element for foundation and slab placement. Specific recommendations regarding subgrade preparation are presented in this report.

Near surface fine-grained silty soil encountered at the site is considered moisture and disturbance sensitive due to their silt content and will therefore become unstable if exposed to excessive moisture and/or disturbance during inclement weather conditions. The near surface soils are
susceptible to erosion in the presence of flowing water. Aerial photographs of the site appear to show a former stream channel crossing the site. Civil site design shall consider measures to control offsite flow of surface runoff to minimize soil erosion.

Sloughing and caving of the gravel and cobbles from excavations sidewalls and collapsing of the silt in open holes was noted in all the test holes; severe excavation bank stability problems will occur due to the non-cohesive granular nature of the native soils. Deeper excavation may require external support such as shoring or bracing in conjunction with more elaborate dewatering methods to provide excavation bank and bottom stability.

The findings and recommendations presented in this geotechnical report are preliminary as they are based upon subsurface data obtained from a limited number of test pits spread across the site. Parcel F along the western edge of the property is lined by tall trees and dense brush, surrounding what appears to be a drainage channel or small stream; due to access restrictions we were unable to perform any subsurface soil sampling or testing within Parcel F. Furthermore no site plan, building layout plan, building construction type and structural loads were available at the time of this report preparation. We recommend that, after a site building layout plan is developed, additional geotechnical investigations shall be performed at the building sites to better define subsurface conditions and confirm the recommendations presented herein.

8.0 PRELIMINARY GEOTECHNICAL RECOMMENDATIONS
The following geotechnical recommendations are based on our current understanding of the proposed project. Conditions imposed by the proposed development have been evaluated on the basis of the assumed building pad elevation. Recommendations presented in this report are predicted upon site preparation and foundation and floor slab construction monitored by a representative of our geotechnical engineer. We recommend that we be engaged to review the project plans in order to provide revised, augmented, or additional geotechnical recommendations as required.
Site Preparation

Any existing buried utilities located within the proposed development areas shall be removed, relocated or abandoned as necessary in accordance with all local, state and federal regulations.

All vegetation, topsoil, organic material, and debris shall be removed from the development areas. Site preparation shall include the removal of the surface vegetation and soils with significant organic content which may exist on the site at the time of development. Based on the surface conditions at the time of our subsurface exploration, surficial stripping on the order of 12 to 18 inches should be expected to adequately remove soils with organic content. Additional stripping or undercutting may be required to clear filled depressions or swales not evident from site appearance. Monitoring by a representative of our geotechnical engineer at the time of site clearing activities may allow reduction in the required quantity of stripping depending upon the encountered depth of organic material (roots) and the organic content of the soils.

Following the site clearing and stripping, the stripped subgrade within the building and pavement areas as well as areas to serve as the subgrade for placement of structural gravel fill shall be proofrolled with heavy rubber-tired construction equipment, such as a fully loaded tandem-axle dump truck, to detect soft or yielding soils which shall be removed to a stable subgrade. The subgrade shall then be scarified, adjusted in moisture content, and recompacted to a minimum of 95 percent of the maximum dry density as determined by ASTM D1557 in order to achieve a firm and non-yielding condition. Low areas and excavations may then be raised to the planned finished grade with compacted structural fill. Weak subgrade areas shall be overexcavated to minimum 12 inches depth and repaired with compacted structural fill. Subgrade preparation and selection, placement, and compaction of structural fill shall be performed under engineering controlled conditions directed by the geotechnical engineer.

Suitability of Native Soils

The native gravel with cobbles and sand is a suitable bearing stratum for supporting the foundations. The fine sandy silt soil is compressible and moisture sensitive and shall be removed from footing excavations and replaced with native or imported structural fill. The sandy silt soil is not suitable for use as structural fill but it can be used as general fill. The sandy silt when
moist, beyond optimum conditions, will have a tendency to rut. Proper compaction and moisture conditioning is required in areas where the silty sand will remain beneath slab and parking areas.

**Structural Fill and Compaction Requirements**

We recommend that all fill or backfill beneath structures and in embankments, utility trenches and adjacent to structures be approved by our geotechnical engineer, placed in uniform lifts and compacted to at least 95 percent of the maximum dry density as determined by ASTM D1557.

The suitability of soil for use as structural fill will depend on the soil gradation and moisture content. As the amount of fines increase, soil becomes more sensitive to small changes in moisture content and adequate compaction becomes more difficult to achieve. The native granular soil is generally suitable for use as structural fill provided it is moisture conditioned for compaction and free of debris, organic material and particles greater than 4 inches in nominal dimension.

Structural fill shall be placed in uniform horizontal layers. The thickness of the loose, non-compacted lifts of structural fill should not exceed 8 inches for heavy equipment compactors and 4 inches for hand-directed power tampers. The fill material shall be brought to the specified moisture range before compaction. Material that is too dry shall be adequately conditioned. Material that is too wet for compaction shall be allowed to dry before compaction or be removed. If the top surface of a preceding layer is too dry, the surface shall be scarified by disking and moisture conditioned prior to placement of the next layer of fill material. Fill shall be placed such that the distribution of material is uniform throughout and is free from lenses, pockets, streaks, frozen soil or layers of materials differing substantially from surrounding material. No fill shall be placed on a frozen surface.

The moisture content shall be maintained within the limits to prevent dilatancy and bulking. We recommend that the in-place moisture content of fine-grained sandy silt soil shall be within +/-1 percent and that of gravel soil shall be within +/-4 percent of the laboratory optimum moisture content.
Imported structural fill shall be a well-graded crushed aggregate material meeting the following grading requirements:

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<tr>
<th>Grading Specifications</th>
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<tr>
<td>Sieve Size</td>
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**Site Dewatering**

Groundwater was encountered at depths ranging from 5 feet to 8.5 feet BGS during our field exploration in February; it may rise above its current level through the irrigation season, reaching its highest point in late summer to early fall. Utility excavations and foundation excavation (depending on the footing subgrade elevation) will encounter groundwater; dewatering of the excavation will be required. We recommend groundwater levels be maintained 2 feet below the bottom of excavations and that the contractor be made responsible for dewatering system installation and maintenance.

The dewatering system shall consist of the digging of a shallow sump within the excavation. We recommend that the sump be excavated to a minimum depth of four (4) feet below the bottom of the excavation. A perforated drum should then be placed in the sump excavation. Pea gravel, washed rock or crushed rock should then be packed around the perforated drum and the sump excavation. A high capacity trash pump should be placed in this sump and the water should be pumped out of the excavation to a suitable outlet. The pumped water should be filtered through hay bales or filter fabric before it is introduced into the drainage outlet. We recommend that the foundation subgrade be excavated to the final subgrade elevation subsequent to the initiation of site dewatering.
Temporary Excavations and Permanent Slopes

Temporary and permanent slope stability is a function of: presence and abundance of groundwater, type and density of soil units, depth of cut, surcharge loading adjacent to the excavation and the length of time the excavation remains open. It is difficult under the variable circumstances to pre-establish a safe and “maintenance free” temporary cut slope angle. Therefore, it should be the responsibility of the contractor to maintain safe temporary slope configurations since the contractor is at the job site, able to observe the nature and condition of the cut slopes and be able to monitor the subsurface materials and groundwater conditions encountered. Unsupported vertical slopes or cuts deeper than 4 feet are not recommended if worker access is necessary. The cuts should be adequately sloped, shored or supported to prevent injury to personnel from caving and sloughing. The excavation should conform to applicable federal, state and local regulations.

It is our opinion that the soils encountered across the site are classified as Type C soils according to OSHA soil classification. For excavation planning purposes, we recommend that temporary, unsupported, open cut slopes shall be no steeper than 1.5 horizontal to 1.0 vertical (1.5H:1V). Where unstable soil or seepage zones are encountered, flatter slopes may be required. We recommend that exposed cut slopes be protected with waterproof covering during periods of wet weather to reduce sloughing and erosions.

We recommend that all permanent slopes constructed in native and structural fill soils shall be designed at a 2 horizontal to 1 vertical (2H:1V) inclination or flatter. However, the stability of cuts shall be evaluated and established by the geotechnical engineer-of-record considering the depth of the cut, subsurface soil profile and proposed construction where the cut will be placed.

Excavations for underground utilities construction will encounter bank stability problems due to cohesionless deposits of river gravel/cobbles at the site. Pre-bid test pits could assist in evaluating the most economical means of site excavations. Relatively flat slopes or temporary bracing may be needed. Conventional trench box shoring is also an option for the project.
Utility Trenching and Backfilling

Utilities shall be placed on bedding material which meets the manufacturer’s specifications. Placement of bedding material is particularly critical where maintenance of precise grades is essential.

All utility subgrade shall be firm and non-yielding and free of all soils that are loose, disturbed or pumping. Such soils shall be removed and replaced if necessary. If water is encountered in the excavations, it shall be removed prior to fill placement. Alternatively, quarry spalls or pea gravel could be used for backfill below the water level.

Native soils are considered suitable for utility trench backfill provided they can be adequately compacted. However, native soils contain large size gravel and cobbles that can damage buried utilities if placed directly on the materials or if the material is placed directly on the utilities. Therefore, we recommend that a minimum of 4 inches of bedding material be placed above and below all utilities that are supported on gravelly and cobbly soils or in general accordance with the utility manufacturer’s recommendations and local building ordinances. Backfilling for the remainder of the trenches shall be completed utilizing common fill or select granular fill, depending on the soil moisture and weather conditions. Compaction of the backfill material shall be accomplished with soils within +/-2 percent of their optimum moisture content in order to achieve the minimum specified compaction levels set forth above and project specifications. However, initial lift thickness could be increased to levels recommended by the manufacturer to protect utilities from damage by compacting equipment. Alternatively, backfill placed within the first 12 inches above utility lines should be compacted to only 90 percent of the maximum dry density (ASTM D 1557), such that the utility lines are not damaged during compaction. In addition, rock fragments greater than 1 inch in maximum dimension shall be excluded from this first lift. The remainder of the utility excavations shall be backfilled and compacted to 95 percent of the maximum dry density.

Due to granular subsurface soil conditions we recommend that excavations for underground utilities shall either be sloped or externally supported with temporary shoring to provide excavation bank and bottom stability.
Foundations

The design and construction criteria presented below should be observed for a spread footing foundation system. The construction details should be considered when preparing the construction documents.

a. Footings shall bear on undisturbed native gravel or structural fill extending to the dense native gravel. Prior to placing the footings, the native gravel unit shall be compacted to a non-yielding state. Footings resting on compacted native gravel unit can be proportioned for an allowable bearing pressure of 3,000 psf. The allowable bearing pressure may be increased by one-third for short-term seismic or wind loading conditions.

To limit differential settlement considering the difference in stiffness between dense native gravel strata and compacted structural fill, we recommend that the thickness of structural fill be equal beneath the footings. Any loose, disturbed fill should be removed and replaced with compacted structural fill. A representative of our geotechnical engineer should evaluate the native subgrade soils for disturbance and placement of structural gravel fill.

b. In our opinion, foundation constructed in accordance with the recommendations of this report will settle approximately 3/4 inch, with differential settlement less than half that magnitude.

c. Minimum spread footing width for isolated pads should be controlled either by applicable building codes or by the allowable bearing pressures cited above in item (a), whichever is more restrictive.

d. All exterior footings should be placed at least 24 inches below the lowest adjacent exterior finished grade for frost protection, in accordance with local building standards. All footings must be protected against weather damage both during and after construction and must be supported by suitable bearing material(s) as recommended in this report.

e. Lateral loads on foundations due to wind or seismic loading will be resisted by friction at the base of foundations and passive earth pressure against buried portions. We recommend a
passive equivalent earth pressure in compacted granular backfill of 300 pounds per cubic foot. In calculating this value we have assumed the backfill around the structure is compacted structural fill. The above-recommended lateral foundation resistance value includes a factor of safety of 1.5.

f. We recommend a coefficient of friction of 0.35 be used between cast-in-place concrete (footing base) and granular soil beneath the footing base. An appropriate factor of safety should be used to calculate sliding resistance at the base of footing.

g. Gravel should be compacted with a smooth vibratory compactor.

h. A representative of our geotechnical engineer-of-record must observe all footing excavations prior to concrete form placement and verify and approve foundation bearing subgrade.

**Perimeter Footing Subdrain.**

We recommend that a perimeter subdrain shall be installed to prevent groundwater from seeping into the areas adjacent to and beneath the building and from potentially causing wet conditions for the slab-on-grade floor. The perimeter subdrain should consist of a 4 inch (minimum) diameter, perforated or slotted plastic pipe bedded in pea gravel or washed rock (3/8 inch to No. 8 sieve size), tight joints, sloped to drain 4 inches/100 feet. Perforated pipe holes (3/16 inches to ¼ inch diameter) shall be in the lower half of the pipe with lower quarter segment unperforated for water flow. Alternatively, drainage sand and gravel mixture meeting the following grading specifications may be used as bedding material:

<table>
<thead>
<tr>
<th>Sieve size</th>
<th>% Passing by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ½&quot;</td>
<td>100</td>
</tr>
<tr>
<td>¾&quot;</td>
<td>90-100</td>
</tr>
<tr>
<td>¼&quot;</td>
<td>75-100</td>
</tr>
<tr>
<td>No. 8</td>
<td>65-90</td>
</tr>
<tr>
<td>No. 30</td>
<td>20-65</td>
</tr>
<tr>
<td>No. 50</td>
<td>5-20</td>
</tr>
<tr>
<td>No. 100</td>
<td>0-2</td>
</tr>
</tbody>
</table>
We recommend that waterproofing or subdrainage measures be installed to protect the mechanical pits against groundwater infiltration. Subdrains shall be installed either beneath or directly adjacent to mechanical pit floor. Subdrain inverts should be located a minimum of 12 inches below the bottom of floor slabs to prevent hydrostatic pressure on the outside of walls or on the bottom of floor slabs. Subdrain water may be drained away by gravity, if possible or connected to a sump.

**Floor Slab Support**

We recommend placing a minimum 6 inches of crushed gravel (3/4 inch or 5/8 inch) beneath the building floor slabs. The crushed rock should be compacted to at least 95 percent of the maximum dry density as determined by ASTM D1557 method. Prior to placing the crushed rock, the native subgrade shall be compacted to 95 percent of the maximum dry density as determined by ASTM D 1557 method using a vibratory roller and proof rolling with a smooth drum roller.

A vapor barrier such as a polyethylene liner (30-mil plastic sheet) shall be used in areas where the prevention of moisture migration through the slab is essential (particularly where adhesives are used to anchor carpet or tile to a slab). We recommend that the floor slabs shall be installed as early as possible to allow for maximum curing time.

Adhesives for floor coverings shall be carefully selected and specified in view of recent changes in manufacture of such products. Newer floor adhesives are water-based and may not perform as intended if slab water vapor pressures exceed about 3 psf. We recommend slab moisture vapor test shall be performed to determine the moisture vapor emission rate (ASTM E 1907 or ASTM F1869) using the Calcium Chloride Moisture Test Kit when the building has been properly conditioned.

**Surface Drainage Considerations**

We recommend that all surface water such as that coming from roof downspouts and catch basins as well as all subsurface water coming from footing subdrains be collected in tight drain lines and carried to a suitable discharge point, such as a storm drain system. Surface water and
downspout water should not discharge into a perforated or slotted subdrain, nor should such water discharge onto the ground surface adjacent to the building. Where perforated or slotted drainpipe discharges into a tigline, we recommend that an impervious concrete collar or dam be placed along the first 2 feet of the tigline in such a manner as to force all water into the tigline. Cleanouts should be provided at convenient locations along all drain lines.

With respect to surface water drainage, we recommend that the final exterior grades should promote free and positive surface drainage from the building areas at all times. Water must not be allowed to pond or to collect adjacent to foundations or within the immediate building area. We recommend that a gradient of at least 3% for a minimum 10 feet from the building perimeter be provided except in paved locations. In paved locations a minimum gradient of 1% should be provided unless provisions are included for collection and disposal of surface water adjacent to the structure.

9.0 CONTINUING SERVICES

Two additional elements of geotechnical engineering services are important to the successful completion of this project.

Consultation with GN Northern during the design phase. This is essential to ensure that our findings are appropriately incorporated in the final design considerations related to the project and any changes in the design concept consider geotechnical aspects.

Testing and monitoring during construction. GN Northern, Inc. may be retained during construction to provide both the soil compaction testing and concrete control testing inspection services.
10.0 LIMITATIONS

This report has been prepared in accordance with generally accepted soil and foundation engineering practices in this area for use by the client for design purposes. The findings and preliminary recommendations submitted in this report are based upon a limited data obtained from eight (8) test pits completed at the site. The nature and extent of subsurface variations across the site may not be apparent in the test pits and may not represent the condition beneath the existing footings. Also, subsurface conditions may differ at other locations and may change at these locations with the lapse of time. If during construction, fill, soil, rock, or water conditions appear to be different from those described herein, we should be advised immediately.

If there is a substantial lapse of time between the submission of this report and the start of construction operations at the site, it is recommended that this report be reviewed to determine the applicability of the conclusions and recommendations considering the changed conditions or time lapse.

The scope of our services did not include any environmental assessment or evaluation regarding the presence or absence of hazardous or toxic materials in the soils, surface water on or below the site.

Scott Tomren
Project Scientist

Imran G. Magsi, P.E.
Senior Geotechnical Engineer
APPENDIX
IMPORTANT INFORMATION
ABOUT YOUR
GEOTECHNICAL ENGINEERING REPORT

More construction problems are caused by site subsurface conditions than any other factor. As troublesome as subsurface problems can be, their frequency and extent have been lessened considerably in recent years, due in large measure to programs and publications of ASFE/The Association of Engineering Firms Practicing in the Geosciences.

The following suggestions and observations are offered to help you reduce the geotechnical-related delays, cost-overruns and other costly headaches that can occur during a construction project.

A GEOTECHNICAL ENGINEERING REPORT IS BASED ON A UNIQUE SET OF PROJECT-SPECIFIC FACTORS

A geotechnical engineering report is based on a subsurface exploration plan designed to incorporate a unique set of project-specific factors. These typically include: the general nature of the structure involved, its size and configuration; the location of the structure on the site and its orientation; physical concomitants such as access roads, parking lots, and underground utilities, and the level of additional risk which the client assumed by virtue of limitations imposed upon the exploratory program. To help avoid costly problems, consult the geotechnical engineer to determine how any factors which change subsequent to the date of the report may affect its recommendations.

Unless your consulting geotechnical engineer indicates otherwise, your geotechnical engineering report should not be used:

- When the nature of the proposed structure is changed, for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one;
- When the size or configuration of the proposed structure is altered;
- When the location or orientation of the proposed structure is modified;
- When there is a change of ownership, or
- For application to an adjacent site.

Geotechnical engineers cannot accept responsibility for problems which may develop if they are not consulted after factors considered in their report’s development have changed.

MOST GEOTECHNICAL “FINDINGS” ARE PROFESSIONAL ESTIMATES

Site exploration identifies actual subsurface conditions only at those points where samples are taken, when they are taken. Data derived through sampling and subsequent laboratory testing are extrapolated by geotechnical engineers who then render an opinion about overall subsurface conditions, their likely reaction to proposed construction activity, and appropriate foundation design. Even under optimal circumstances actual conditions may differ from those inferred to exist, because no geotechnical engineer no matter how qualified, and no subsurface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than a report indicates. Actual conditions in areas not sampled may differ from predictions. Nothing can be done to prevent the unanticipated, but steps can be taken to help minimize their impact. For this reason, most experienced owners retain their geotechnical consultants through the construction stage, to identify variances, conduct additional tests which may be needed, and to recommend solutions to problems encountered on site.

SUBSURFACE CONDITIONS CAN CHANGE

Subsurface conditions may be modified by constantly changing natural forces. Because a geotechnical engineering report is based on conditions which existed at the time of subsurface exploration, construction decisions should not be based on a geotechnical engineering report whose adequacy may have been affected by time. Speak with the geotechnical consultant to learn if additional tests are advisable before construction starts.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes or groundwater fluctuations may also affect subsurface conditions and thus the continuing adequacy of a geotechnical report. The geotechnical engineer should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

ASFE
THE ASSOCIATION OF ENGINEERING FIRMS PRACTICING IN THE GEOSCIENCES
GEOTECHNICAL SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND PERSONS

Geotechnical engineers reports are prepared to meet the specific needs of specific individuals. A report prepared for a consulting civil engineer may not be adequate for a construction contractor, or even some other consulting civil engineer. Unless indicated otherwise, this report was prepared expressly for the client involved and expressly for purposes indicated by the client. Use by any other persons for any purpose, or by the client for a different purpose, may result in problems. No individual other than the client should apply this report for its intended purpose without first conferring with the geotechnical engineer. No person should apply this report for any purpose other than that originally contemplated without first conferring with the geotechnical engineer.

A GEOTECHNICAL ENGINEERING REPORT IS SUBJECT TO MISINTERPRETATION

Costly problems can occur when other design professionals develop their plans based on misinterpretations of a geotechnical engineering report. To help avoid these problems, the geotechnical engineer should be retained to work with other appropriate design professionals to explain relevant geotechnical findings and to review the adequacy of their plans and specifications relative to geotechnical issues.

BORING LOGS SHOULD NOT BE SEPARATED FROM THE ENGINEERING REPORT

Final boring logs are developed by geotechnical engineers based upon their interpretation of field logs (assembled by site personnel) and laboratory evaluation of field samples. Only final boring logs customarily are included in geotechnical engineering reports. These logs should not under any circumstances be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process. Although photographic reproduction eliminates this problem, it does nothing to minimize the possibility of contractors misinterpreting the logs during bid preparation. When this occurs, delays, disputes and unanticipated costs are the all-too-frequent result.

To minimize the likelihood of boring log misinterpretation, give contractors ready access to the complete geotechnical engineering report prepared or authorized for their use. Those who do not provide such access may proceed under the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes which aggravate them to disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY

Because geotechnical engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. The situation has resulted in wholly unwarranted claims being lodged against geotechnical consultants. To help prevent this problem, geotechnical engineers have developed model clauses for use in written transmittals. These are not exculpatory clauses designed to foist geotechnical engineers' liabilities onto someone else. Rather, they are definitive clauses which identify where geotechnical engineers' responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your geotechnical engineering report, and you are encouraged to read them closely. Your geotechnical engineer will be pleased to give full and frank answers to your question.

OTHER STEPS YOU CAN TAKE TO REDUCE RISK

Your consulting geotechnical engineer will be pleased to discuss other techniques which can be employed to mitigate risk. In addition, ASFE has developed a variety of materials which may be beneficial. Contact ASFE for a complimentary copy of its publications directory.

ASFE
THE ASSOCIATION OF ENGINEERING FIRMS PRACTICING IN THE GEOSCIENCES
1996 & 2004 ARIAL PHOTOGRAPHS
APPROXIMATE TEST PIT LOCATION PLAN
October 4, 2005

Site Plan

EXHIBIT A

Appoximate Test Pit Location Plan

GN Northern, Inc.
Job No. 206-587

Pacific Northwest University
Yakima, Washington

Date: 3-9-06
Prepared By: RL
Reviewed By: IM
Figure 2
TEST PITS LOGS
# TEST PIT TP-1

**Project:** Pacific Northwest University  
**Project No:** 206-587  
**Client:** Huibregtse Louman Associates  

**Exc. Date:** February 24, 2006  
**Exc. Depth:** 11  
**Logged By:** ST  
**Water Level:** 8.5  
**Location:** Parcel A, 694701mE 5164191mN

<table>
<thead>
<tr>
<th>Description</th>
<th>Soil Type</th>
<th>Graphic Log</th>
<th>Depth</th>
<th>Water Samples</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass and topsoil, 2-3 inches</td>
<td>TP</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sandy silt with gravel and some organics, brown, moist, hard</td>
<td>ML</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravel and cobbles with sand and trace silt, grey-brown, moist, very dense</td>
<td>GP</td>
<td></td>
<td>2</td>
<td></td>
<td>Some caving and sloughing from 1' BGS</td>
</tr>
<tr>
<td>Gravel and cobbles with small boulders and sand, grey, wet, very dense</td>
<td>GP</td>
<td></td>
<td>8</td>
<td></td>
<td>Continuous caving from 6 feet BGS</td>
</tr>
</tbody>
</table>

Test pit completed at depth of 11 feet BGS
### TEST PIT TP-2

**Project:** Pacific Northwest University  
**Project No:** 206-587  
**Client:** Huibregtse Louman Associates  
**Exc. Date:** February 24, 2006  
**Exc. Depth:** 9  
**Logged By:** ST  
**Water Level:** 7.5  
**Location:** Parcel A, 694796mE 5164304mN

<table>
<thead>
<tr>
<th>Description</th>
<th>Soil Type</th>
<th>Graphic Log</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass and topsoil, 2-3 inches</td>
<td>TP</td>
<td></td>
</tr>
<tr>
<td>Sandy silt with some organics, brown, moist, stiff to very stiff</td>
<td>ML</td>
<td></td>
</tr>
<tr>
<td>Same as above, with gravel. Hard</td>
<td>ML</td>
<td></td>
</tr>
<tr>
<td>Gravel and cobbles with sand and trace silt, grey-brown, slightly moist,</td>
<td>GP</td>
<td>2</td>
</tr>
<tr>
<td>very dense</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravel and cobbles with sand, light brown, moist, very dense</td>
<td>GP</td>
<td>4</td>
</tr>
<tr>
<td>Same as above with small boulders</td>
<td>GP</td>
<td>6</td>
</tr>
<tr>
<td>Test pit completed at depth of 9 feet BGS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Gravels caving from 7 feet BGS

---

*Northern, Inc.*
# TEST PIT TP-3

**Project:** Pacific Northwest University  
**Project No:** 206-587  
**Client:** Hulbregtse Louman Associates

<table>
<thead>
<tr>
<th>Description</th>
<th>Soil Type</th>
<th>Graphic Log</th>
<th>Depth Water</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass and topsoil, 1-2 inches</td>
<td>TP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sandy silt with gravel and organics, brown, moist, hard</td>
<td>ML</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravel with sand, grey-brown, slightly moist, very dense</td>
<td>GP</td>
<td></td>
<td></td>
<td>Roots to 2 feet BGS</td>
</tr>
<tr>
<td>Same as above with cobbles</td>
<td>GP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravel and cobbles with sand, reddish brown, moist, very dense</td>
<td>GP</td>
<td></td>
<td></td>
<td>Gravels caving from surface</td>
</tr>
</tbody>
</table>

Test pit completed at depth of 7.5 feet BGS

---

*Northern, Inc.*
**TEST PIT TP-4**

Project: Pacific Northwest University  
Project No: 206-587  
Client: Hulbregtse Louman Associates

<table>
<thead>
<tr>
<th>Description</th>
<th>Soil Type</th>
<th>Graphic Log</th>
<th>Depth</th>
<th>Water</th>
<th>Samples</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass and topsoil, 3 inches</td>
<td>TP</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sandy silt with gravel, brown, slightly moist,</td>
<td>ML</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stiff to hard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravel and cobbles with sand, grey-brown, very</td>
<td>GP</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dense</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Same as above with small boulders</td>
<td>GP</td>
<td></td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test pit completed at depth of 9 feet BGS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Gravels caving from 6 feet BGS

---

*Northern, Inc.*
<table>
<thead>
<tr>
<th>Description</th>
<th>Soil Type</th>
<th>Graphic Log</th>
<th>Depth</th>
<th>Water</th>
<th>Samples</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass and topsoil, 3 inches</td>
<td>TP</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sandy silt with organics, dark brown, slightly moist, stiff,</td>
<td>ML</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>non-plastic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sandy silt, light brown, slightly moist, stiff, non-plastic</td>
<td>ML</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravel with sand and silt, brown, slightly moist, very dense</td>
<td>GP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gravels caving from 4 feet BGS, undermining silt &amp; collapsing hole</td>
</tr>
</tbody>
</table>

Test pit completed at depth of 9 feet BGS
<table>
<thead>
<tr>
<th>Description</th>
<th>Soil Type</th>
<th>Graphic Log</th>
<th>Depth</th>
<th>Water</th>
<th>Samples</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass and topsoil, 2 inches</td>
<td>TP</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Sandy silt with gravel, brown, slightly moist, hard</td>
<td>ML</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravel with sand, grey-brown, slightly moist, very dense</td>
<td>GP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Continuous caving from 1.5 feet BGS</td>
</tr>
<tr>
<td>Same as above with small cobbles</td>
<td>GP</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Test pit completed at depth of 7.5 feet BGS
# TEST PIT TP-7

**Project:** Pacific Northwest University  
**Project No:** 206-587  
**Client:** Hulbregtse Louman Associates

**Exc. Date:** February 24, 2006  
**Exc. Depth:** 8  
**Location:** Parcel E, 694803mE 5163837mN  
**Water Level:** 7.5  
**Logged By:** ST

<table>
<thead>
<tr>
<th>Description</th>
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<th>Graphic Log</th>
<th>Depth</th>
<th>Water</th>
<th>Samples</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass and topsoil, 1-2 inches</td>
<td>TP</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sandy silt with gravel, dark brown, slightly moist, firm to stiff</td>
<td>ML</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravel and cobbles with sand and silt, grey-brown, slightly moist, very dense</td>
<td>GP</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>Continuous caving from 1 foot BGS</td>
</tr>
<tr>
<td>Same as above with small boulders</td>
<td>GP</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test pit completed at depth of 8 feet BGS</td>
<td></td>
<td></td>
<td>8</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Test Pit**

**Northern, Inc.**
### TEST PIT TP-8

**Project:** Pacific Northwest University  
**Project No:** 206-587  
**Client:** Huibregtse Louman Associates  
**Exc. Date:** February 24, 2006  
**Logged By:** ST  
**Exc. Depth:** 10  
**Water Level:** NE  
**Location:** Parcel B, 694577mE 5164139mN

<table>
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<tr>
<th>Description</th>
<th>Soil Type</th>
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<th>Water</th>
<th>Samples</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass and topsoil, 1-2 inches</td>
<td>TP</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sandy silt with gravel, dark brown, slightly moist, stiff</td>
<td>ML</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravel and cobbles with sand and silt, grey-brown, slightly moist, very dense</td>
<td>GP</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>Gravels caving from 1 to 7 feet BGS, undermining surface</td>
</tr>
<tr>
<td>Same as above with small boulders</td>
<td>GP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Test pit completed at depth of 10 feet BGS

---

*Northern, Inc.*
VICINITY MONITORING WELL LOGS
<table>
<thead>
<tr>
<th>Material Description</th>
<th>Depth FT</th>
<th>Symbol</th>
<th>USCS</th>
<th>Samples</th>
<th>Ground Water</th>
<th>Depth FT</th>
<th>SPT Density Value, N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandy silt with cobbles, brown, dry, hard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravel and cobbles with sand and silt, grey, dry to wet, very dense</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

End of Boring at (feet BGS): 15

Date Completed: August 11, 2005
Driller: R&R Drilling
Drilling Method: CDEK
Logged by: ST

Surface Elevation: 88.88
Groundwater Depth: 10.49
Well Location: Southern Property Boundary

Northern, Inc.
Monitoring Well MW-3
Material Description

Sandy silt with cobbles, brown, dry, hard

Gravel and cobbles with sand and trace silt, grey, dry to wet, very dense

End of Boring at (feet BGS): 15

Date Completed: August 11, 2005
Driller: R&R Drilling
Drilling Method: ODEX
Logged by: ST

Surface Elevation: 98.94
Groundwater Depth: 8.83
Well Location: Northwest Corner of Site

Northern, Inc.
Monitoring Well MW-2
<table>
<thead>
<tr>
<th>Material Description</th>
<th>Depth, FT</th>
<th>USCS</th>
<th>Samples</th>
<th>Ground Water Depth</th>
<th>SPT Density Value, N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandy silt with gravel, light brown, dry, hard</td>
<td>0</td>
<td>ML</td>
<td>1</td>
<td>5</td>
<td>0 to 10 20 30 40 50</td>
</tr>
<tr>
<td>Gravel with sand and silt, grey-brown, dry to slightly moist, very dense</td>
<td>5</td>
<td>GP</td>
<td>2</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Same as above with cobbles and small boulders</td>
<td>10</td>
<td></td>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Gravel with sand and trace silt, grey, very dense</td>
<td>15</td>
<td>GP</td>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>End of boring at (feet BGS): 15</td>
<td>20</td>
<td></td>
<td></td>
<td>15</td>
<td></td>
</tr>
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Date Completed: August 11, 2005
Driller: R&R Drilling
Drilling Method: CDEEX
Logged by: ST

Surface Elevation: 98.54
Groundwater Depth: 9.2
Well Location: Northeast Corner of Site

Northern, Inc.
Monitoring Well MW-1
LABORATORY TEST DATA
Client: Pacific Northwest University
e/o Huibregtse Louman Associates  
Yakima, Washington 98902

Date: March 7, 2006

Job Number: 205-517
Work Order: 26240
Sample No.: 260095

Project: Pacific Northwest University, Terrace Heights, Yakima, WA

Material Description: Sandy Silt (ML)  
Date & Time Sampled: February 24, 2006

Date Received: February 24, 2006

Sample Location & Depth: Test Pit TP-5, 3-4 feet BGS

Weather: Clear  
Sampled By: S. Tomren

Date Tested: March 7, 2006

---

### Moisture-Density Test Results

<table>
<thead>
<tr>
<th>Test Standard</th>
<th>ASTM D1557</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure</td>
<td>A</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>Assumed</td>
</tr>
<tr>
<td>Tested:</td>
<td>2.6</td>
</tr>
<tr>
<td>Rammer Type:</td>
<td>Manual</td>
</tr>
<tr>
<td>Preparation Method:</td>
<td>Dry</td>
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<tr>
<td>Sieve Data:</td>
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<table>
<thead>
<tr>
<th>Screen Size</th>
<th>% Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>-</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>-</td>
</tr>
<tr>
<td>No. 4</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Density Data:</th>
<th>Tested</th>
<th>Corrected (ASTM D4718)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum density, pcf</td>
<td>108.0</td>
<td></td>
</tr>
</tbody>
</table>

Optimum moisture, percent 16.5

---

**MOISTURE DENSITY CURVE**

- Data Points
- Maximum Density
- 100% Saturation
- MD Curve

---

Approved By: Imran Magis, PE
Client: Pacific Northwest University

c/o Huibregtse Louman Associates
Yakima, Washington 98902

Date: March 7, 2006

Job Number: 206-587

Work Order: 26240

Sample No.: 260095

Project: Pacific Northwest University Site, Terrace Heights, Yakima, WA

Material Description: Sandy Silt (ML)

Date & Time Sampled: February 24, 2006

Date Received: February 24, 2006

Sample Location & Depth: Test Pit TP-5, 3-4 feet BGS

Weather: Clear

Sampled By: S. Tomren

Date Tested: March 7, 2006

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing</th>
<th>Spec Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 4</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>No. 10</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>No. 20</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>No. 40</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td>No. 80</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>No. 200</td>
<td>56.0</td>
<td></td>
</tr>
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</table>

Testing Results:

In Conformance with Plans and Specifications: N/A

Out of Conformance with Plans and Specifications: 

Approved By: Imran Masri, P.E.
Client: Pacific Northwest University  
c/o Huibregtse Louman Associates  
Yakima, Washington 98902  

Date: March 7, 2006  
Job Number: 206-587  
Work Order: 26240  
Sample No.: 260096  

Project: Pacific Northwest University Site, Terrace Heights, Yakima, WA  

Material Description: Gravel with Sand (GP)  
Weather: Clear  

Date & Time Sampled: February 24, 2006  
Sampled By: S. Tomren  

Date Received: February 24, 2006  
Date Tested: March 7, 2006  
Sample Location & Depth: Test Pit TP-4, 4 feet BGS  

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing</th>
<th>Spec Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5&quot;</td>
<td>100</td>
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<tr>
<td>4&quot;</td>
<td>93</td>
<td></td>
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<tr>
<td>3&quot;</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>2&quot;</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>1-1/2&quot;</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>1&quot;</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>No.4</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>No. 10</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>No. 20</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>No. 40</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>No. 80</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>No. 200</td>
<td>1.4</td>
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</tr>
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</table>

Testing Results:  

In Conformance with Plans and Specifications: N/A  
Out of Conformance with Plans and Specifications:  

Approved By: [Signature]  
Imran Majid, PE
KEY CHART FOR SOIL CLASSIFICATION
## Key Chart

### Relative Density or Consistency Versus SPT N-Value

<table>
<thead>
<tr>
<th>Density</th>
<th>Field Test</th>
<th>Consistency</th>
<th>N (Blows/ft)</th>
<th>Field Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Loose</td>
<td>Easily penetrated with 1/4-inch reinforcing rod pushed by hand</td>
<td>Very Soft</td>
<td>0 - 2</td>
<td>Easily penetrated several inches by thumb</td>
</tr>
<tr>
<td>Loose</td>
<td>Difficult to penetrate with 1/4-inch reinforcing rod pushed by hand</td>
<td>Soft</td>
<td>2 - 4</td>
<td>Easily penetrated one inch by thumb</td>
</tr>
<tr>
<td>Medium-Dense</td>
<td>Easily penetrated with 1/4-inch rod driven with a 5-lb hammer</td>
<td>Medium-Stiff</td>
<td>4 - 8</td>
<td>Penetrated over 1/4-inch by thumb with moderate effort</td>
</tr>
<tr>
<td>Dense</td>
<td>Difficult to penetrate with 1/4-inch rod driven with a 5-lb hammer</td>
<td>Stiff</td>
<td>8 - 15</td>
<td>Indented about 1/4-inch by thumb but penetrated with great effort</td>
</tr>
<tr>
<td>Very Dense</td>
<td>Penetrated only a few inches with 1/4-inch rod driven with a 5-lb hammer</td>
<td>Very Stiff</td>
<td>15 - 30</td>
<td>Readily indented by thumb</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hard</td>
<td>&gt; 30</td>
<td>Indented with difficulty by thumbnail</td>
</tr>
</tbody>
</table>

### USCS Soil Classification

<table>
<thead>
<tr>
<th>Major Divisions</th>
<th>Group Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gravel and Gravelly Soils</td>
<td>GW Well-graded Gravel</td>
</tr>
<tr>
<td>Gravel (with little or no fines)</td>
<td>GM Silty Gravel</td>
</tr>
<tr>
<td>Gravel (with &gt;12% fines)</td>
<td>GC Clayey Gravel</td>
</tr>
<tr>
<td>Sand and Sandy Soils</td>
<td>SW Well-graded Sand</td>
</tr>
<tr>
<td>Sand (with little or no fines)</td>
<td>SP Poorly graded Sand</td>
</tr>
<tr>
<td>Sand (with &gt;12% fines)</td>
<td>SM Silty Sand</td>
</tr>
<tr>
<td>Silt and Clay Liquid Limit &lt; 50</td>
<td>SC Clayey Sand</td>
</tr>
<tr>
<td>Fine-Grained Soils</td>
<td></td>
</tr>
<tr>
<td>Silt and Clay Liquid Limit &gt; 50</td>
<td>ML Silt</td>
</tr>
<tr>
<td>Highly Organic Soils</td>
<td>CL Lean Clay</td>
</tr>
<tr>
<td></td>
<td>OR Organic Silt and Clay (low plasticity)</td>
</tr>
<tr>
<td></td>
<td>MH Inorganic Silt</td>
</tr>
<tr>
<td></td>
<td>CH Inorganic Clay</td>
</tr>
<tr>
<td></td>
<td>CH Organic Clay and Silt (med. to high plasticity)</td>
</tr>
<tr>
<td></td>
<td>PT Peat</td>
</tr>
<tr>
<td></td>
<td>Top Soil</td>
</tr>
</tbody>
</table>

### Log Symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>2&quot; OD Split Spoon (SPT)</td>
</tr>
<tr>
<td>SN</td>
<td>Non-Standard Split Spoon</td>
</tr>
<tr>
<td>ST</td>
<td>Shelby Tube</td>
</tr>
<tr>
<td>CR</td>
<td>Core Run</td>
</tr>
<tr>
<td>BG</td>
<td>Bag Sample</td>
</tr>
<tr>
<td>TV</td>
<td>Torvane Reading</td>
</tr>
<tr>
<td>PP</td>
<td>Penetrometer Reading</td>
</tr>
<tr>
<td>NR</td>
<td>No Recovery</td>
</tr>
<tr>
<td>GW</td>
<td>Groundwater Table</td>
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</tbody>
</table>

### Modifiers

<table>
<thead>
<tr>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trace</td>
<td>&lt;5%</td>
</tr>
<tr>
<td>Little</td>
<td>5% - 12%</td>
</tr>
<tr>
<td>Some</td>
<td>&gt;12%</td>
</tr>
</tbody>
</table>

### Moisture Content

<table>
<thead>
<tr>
<th>Description</th>
<th>Field Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry</td>
<td>Absence of moisture, dusty, dry to the touch</td>
</tr>
<tr>
<td>Moist</td>
<td>Damp but not visible water</td>
</tr>
<tr>
<td>Wet</td>
<td>Visible free water</td>
</tr>
</tbody>
</table>

### Major Divisions with Grain Size

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Grain Size (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot;</td>
<td>3&quot; 3/4&quot; 4 10 40 200</td>
</tr>
</tbody>
</table>

### Conditions

Conditions shown on boring and test pit logs represent our observations at the time and location of the fieldwork, modifications based on lab test, analysis, and geological and engineering judgment. These conditions may not exist at other times and locations, even in close proximity thereof. This information was gathered as part of our investigation, and we are not responsible for any use or interpretation of the information by others.
STATE PREVAILING WAGE RATES
YAKIMA COUNTY

Effective 03-03-07

<table>
<thead>
<tr>
<th>Classification</th>
<th>PREVAILING WAGE</th>
<th>Time Code</th>
<th>Holiday Code</th>
<th>Note Code</th>
</tr>
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<tbody>
<tr>
<td>ASBESTOS ABATEMENT WORKERS</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>JOURNEY LEVEL</td>
<td>$27.81</td>
<td>1M</td>
<td>5D</td>
<td></td>
</tr>
<tr>
<td>BOILERMANKERS</td>
<td></td>
<td></td>
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<tr>
<td>JOURNEY LEVEL</td>
<td>$47.47</td>
<td>1C</td>
<td>5N</td>
<td></td>
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<tr>
<td>BRICK AND MARBLE MASONS</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>JOURNEY LEVEL</td>
<td>$35.37</td>
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<td>5A</td>
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</tr>
<tr>
<td>CABINET MAKERS (IN SHOP)</td>
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<tr>
<td>JOURNEY LEVEL</td>
<td>$19.24</td>
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<tr>
<td>CARPENTERS</td>
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<tr>
<td>ACOUTICAL WORKER</td>
<td>$32.70</td>
<td>1M</td>
<td>5D</td>
<td></td>
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<tr>
<td>BRIDGE, DOCK AND WARP CARPENTERS</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CARPENTER</td>
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<tr>
<td>CINGUMATED MATERIAL</td>
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<tr>
<td>DRYWALL APPLICATOR</td>
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<td>5D</td>
<td></td>
</tr>
<tr>
<td>FLOOR FINISHER</td>
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<td>1M</td>
<td>5D</td>
<td></td>
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<td>FLOOR LAYER</td>
<td>$32.70</td>
<td>1M</td>
<td>5D</td>
<td></td>
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<td>FLOOR SANDER</td>
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<td>5D</td>
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<td>MILLWRIGHT</td>
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<td>PILEDRIVERS, DRIVING, PULLING, PLACING COLLARS AND WELDING</td>
<td>$40.99</td>
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<td>5D</td>
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<td>SAWFILER</td>
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<td>1M</td>
<td>5D</td>
<td></td>
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<tr>
<td>SHINGLER</td>
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<td>5D</td>
<td></td>
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<tr>
<td>STATIONARY POWER SAW OPERATOR</td>
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<td>5D</td>
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<tr>
<td>STATIONARY WOODWORKING TOOLS</td>
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<td>1M</td>
<td>5D</td>
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</tr>
<tr>
<td>CEMENT MASONS</td>
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<td>1N</td>
<td>5D</td>
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<td>JOURNEY LEVEL</td>
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<tr>
<td>DIVERS &amp; TENDERS</td>
<td>$85.75</td>
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<tr>
<td>DIVER</td>
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<tr>
<td>DIVER TENDER</td>
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</tr>
<tr>
<td>DREDGE WORKERS</td>
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<td></td>
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</tr>
<tr>
<td>ASSISTANT ENGINEER</td>
<td>$42.02</td>
<td>1T</td>
<td>5D</td>
<td></td>
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<tr>
<td>ASSISTANT MATE (DECKHAND)</td>
<td>$41.51</td>
<td>1T</td>
<td>5D</td>
<td></td>
</tr>
<tr>
<td>BOATMEN</td>
<td>$42.02</td>
<td>1T</td>
<td>5D</td>
<td></td>
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<tr>
<td>ENGINEER WELDER</td>
<td>$42.07</td>
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<td>5D</td>
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</tr>
<tr>
<td>LEVERMAN, HYDRAULIC</td>
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<td>MAINTENANCE</td>
<td>$41.51</td>
<td>1T</td>
<td>5D</td>
<td></td>
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<tr>
<td>MTAES</td>
<td>$42.02</td>
<td>1T</td>
<td>5D</td>
<td></td>
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<tr>
<td>OILER</td>
<td>$41.64</td>
<td>1T</td>
<td>5D</td>
<td></td>
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<tr>
<td>DRYWALL TAPERS</td>
<td>$29.44</td>
<td>1P</td>
<td>5A</td>
<td></td>
</tr>
<tr>
<td>JOURNEY LEVEL</td>
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</tr>
<tr>
<td>ELECTRICIANS - INSIDE</td>
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<td>BACKHOE, EXCAVATOR, SHOVEL (3 YD &amp; UNDER)</td>
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<td>BACKHOE, EXCAVATOR, SHOVEL (OVER 3 YD &amp; UNDER 6 YD)</td>
<td>$42.84</td>
<td>1M</td>
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<td>BACKHOE, EXCAVATOR, SHOVEL (6 YD AND OVER WITH)</td>
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<td>BACKHOES, (75 HP &amp; UNDER)</td>
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<td>BARRIER MACHINE (ZIPPER)</td>
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<td>BATCH PLANT OPERATOR, CONCRETE</td>
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<td>BELT LOADERS (ELEVATING TYPE )</td>
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<td>BOBCAT (SKID STEER)</td>
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<td>BROOMS</td>
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<td>BUMP CUTTER</td>
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<td>CONCRETE FINISH MACHINE - LASER SCREED</td>
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<td>CONCRETE PUMPS</td>
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<td>CONCRETE PUMP-TRUCK MOUNT WITH BOOM ATTACHMENT</td>
<td>$42.35</td>
<td>1M</td>
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<td>8L</td>
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<td>CONVEYORS</td>
<td>$41.93</td>
<td>1M</td>
<td>5D</td>
<td>8L</td>
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<tr>
<td>CRANES, THRU 19 TONS, WITH ATTACHMENTS</td>
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<td>1M</td>
<td>5D</td>
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<td>CRANES, 20 - 44 TONS, WITH ATTACHMENTS</td>
<td>$42.35</td>
<td>1M</td>
<td>5D</td>
<td>8L</td>
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<td>CRANES, 45 TONS - 99 TONS, UNDER 150 FT OF BOOM (INCLUDING JIB WITH ATTACHMENTS)</td>
<td>$42.84</td>
<td>1M</td>
<td>5D</td>
<td>8L</td>
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<td>CRANES, 100 TONS - 199 TONS, OR 150 FT OF BOOM (INCLUDING JIB WITH ATTACHMENTS)</td>
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<td>1M</td>
<td>5D</td>
<td>8L</td>
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<td>CRANES, 200 TONS TO 300 TONS, OR 250 FT OF BOOM (INCLUDING JIB WITH ATTACHMENTS)</td>
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<td>1M</td>
<td>5D</td>
<td>8L</td>
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<tr>
<td>Classification</td>
<td>PREVAILING WAGE</td>
<td>Over Time Code</td>
<td>Over Holiday Code</td>
<td>Over Note Code</td>
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<tr>
<td>-------------------------------------------------------------------------------</td>
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<tr>
<td>WITH ATTACHMENTS)</td>
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<tr>
<td>CRANES, A-FRAME, 10 TON AND UNDER</td>
<td>$39.57</td>
<td>1M</td>
<td>5D</td>
<td>8L</td>
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<tr>
<td>CRANES, A-FRAME, OVER 10 TON</td>
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<td>1M</td>
<td>5D</td>
<td>8L</td>
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<td>CRANES, OVER 300 TONS, OR 30' OF BOOM INCLUDING JIB WITH ATTACHMENTS</td>
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<td>1M</td>
<td>5D</td>
<td>8L</td>
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<td>CRANES, OVERHEAD, BRIDGE TYPE (20 - 44 TONS)</td>
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<td>1M</td>
<td>5D</td>
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<td>CRANES, OVERHEAD, BRIDGE TYPE (45 - 99 TONS)</td>
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<td>5D</td>
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<td>CRANES, OVERHEAD, BRIDGE TYPE (100 TONS &amp; OVER)</td>
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<td>5D</td>
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<td>CRANES, TOWER CRANE UP TO 175' IN HEIGHT, BASE TO BOOM</td>
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<td>CRANES, TOWER CRANE OVER 175' IN HEIGHT, BASE TO BOOM</td>
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<td>1M</td>
<td>5D</td>
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<td>CRUSHERS</td>
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<td>DECK ENGINEER/DECK WINCHES (POWER)</td>
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<td>DERRICK, BUILDING</td>
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<td>DOZERS, D-9 &amp; UNDER</td>
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<td>5D</td>
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<td>DRILL OILERS - AUGER TYPE, TRUCK OR CRANE MOUNT</td>
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<td>5D</td>
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<tr>
<td>ELEVATOR AND MANLIFT, PERMANENT AND SHAFT-TYPE</td>
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<td>EQUIPMENT SERVICE ENGINEER (OILER)</td>
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<td>FINISHING MACHINE/BIDWELL GAMACO AND SIMILAR EQUIP</td>
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<td>FORK LIFTS, (3000 LBS AND OVER)</td>
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<td>FORK LIFTS, (UNDER 3000 LBS)</td>
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<td>GRADECHECKER AND STAKEMAN</td>
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<td>GUARDRAIL PUNCH</td>
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<td>HOISTS, OUTSIDE (ELEVATORS AND MANLIFTS), AIR TUGGERS</td>
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<td>HORIZONTAL/DIRECTIONAL DRILL LOCATOR</td>
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<td>HYDRAULIFTS/BOOM TRUCKS (10 TON &amp; UNDER)</td>
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<td>5D</td>
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<td>HYDRAULIFTS/BOOM TRUCKS (OVER 10 TON)</td>
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<td>LOADERS, OVERHEAD (6 YD UP TO 8 YD)</td>
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<td>MECHANICS, ALL</td>
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<td>MIXERS, ASPHALT PLANT</td>
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<td>OIL DISTRIBUTORS, BLOWER DISTRIBUTION AND MULCH SEEDING OPERATOR</td>
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<td>PAVEMENT BREAKER</td>
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<td>PILEDRIVER (OTHER THAN CRANE MOUNT)</td>
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<td>PLANT OILER (ASPHALT, CRUSHER)</td>
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<td>POSTHOLE DIGGER, MECHANICAL</td>
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<td>POWER PLANT</td>
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<td>PUMPS, WATER</td>
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<td>QUAD 9, D-10, AND HD-41</td>
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<td>REMOTE CONTROL OPERATOR ON RUBBER TIRED EARTH MOVING EQUIP</td>
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<td>RIGGER AND BELLMAN</td>
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<td>8L</td>
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<td>ROLLAGON</td>
<td>$42.84</td>
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<tr>
<td>ROLLER, OTHER THAN PLANT ROAD MIX</td>
<td>$39.57</td>
<td>1M</td>
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<td>ROLLERS, PLANTMIX OR MULTILIFT MATERIALS</td>
<td>$41.93</td>
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<tr>
<td>ROTO-MILL, ROTO-GRINDER</td>
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<td>1M</td>
<td>5D</td>
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<tr>
<td>SAWS, CONCRETE</td>
<td>$41.93</td>
<td>1M</td>
<td>5D</td>
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<td>SCRAPERS - SELF PROPELLED, HARD TAIL END DUMP, ARTICULATING</td>
<td>$42.35</td>
<td>1M</td>
<td>5D</td>
<td>8L</td>
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<td>SCRAPERS - SELF PROPELLED, HARD TAIL END DUMP, ARTICULATING (UNDER 45 YD)</td>
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<td>Classification</td>
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<td>Note Code</td>
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<td>OFF-ROAD EQUIPMENT (45 YD AND OVER)</td>
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<td>SCRAPPERS, CONCRETE AND CARRY ALL</td>
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<td>SCREAM MAN</td>
<td>$39.57</td>
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<td>SHOTCRETE GUNITE</td>
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<td>SLIPFORM PAVERS</td>
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<td>SPREADER, TOPSIDE OPERATOR - BLAW KNOX</td>
<td>$42.35</td>
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<td>SUBGRADE TRIMMER</td>
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<td>TOWER BUCKET ELEVATORS</td>
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<td>TRANSFER MATERIAL SERVICE MACHINE</td>
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<td>TRANSPORTERS, ALL TRACK OR TRUCK TYPE</td>
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<td>5D</td>
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<td>TRENCHING MACHINES</td>
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<td>TRUCK CRANE OILER/DRIVER (UNDER 100 TON)</td>
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<td>TRUCK CRANE OILER/DRIVER (100 TON &amp; OVER)</td>
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<tr>
<td>TRUCK MOUNT PORTABLE CONVEYER</td>
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<td>YO YO PAY DOZER</td>
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<tr>
<td>POWER LINE CLEARANCE TREE TRIMMERS</td>
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<tr>
<td>JOURNEY LEVEL IN CHARGE</td>
<td>$35.62</td>
<td>4A</td>
<td>5A</td>
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<td>SPRAY PERSON</td>
<td>$33.82</td>
<td>4A</td>
<td>5A</td>
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<td>TREE EQUIPMENT OPERATOR</td>
<td>$34.27</td>
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<td>5A</td>
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<td>TREE TRIMMER</td>
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<td>SOLAR CONTROLS FOR WINDOWS</td>
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<td>CHAIN PERSON</td>
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<td>INSTRUMENT PERSON</td>
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<td>TELECOMMUNICATION TECHNICIANS JOURNEY LEVEL</td>
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<td>CABLE SPlicer</td>
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<td>INSTALLER (REPAIRER)</td>
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<td>$27.82</td>
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<td>SPECIAL APPARATUS INSTALLER I</td>
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<td>SPECIAL APPARATUS INSTALLER II</td>
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<td>TELEPHONE EQUIPMENT OPERATOR (LIGHT)</td>
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<td>TREE TRIMMER</td>
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<td>TERRAZZO WORKERS &amp; TILE SETTERS</td>
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<tr>
<td>JOURNEY LEVEL</td>
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<tr>
<td>Classification</td>
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<tr>
<td>TILE, MARBLE &amp; TERRAZZO FINISHERS</td>
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<td>FINISHER</td>
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<td>TRUCK DRIVERS</td>
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<td>ASPHALT MIX</td>
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<td>DUMP TRUCK</td>
<td>$30.93</td>
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<td>6I</td>
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<tr>
<td>DUMP TRUCK &amp; TRAILER</td>
<td>$30.93</td>
<td>2G</td>
<td>6I</td>
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<td>OTHER TRUCKS</td>
<td>$30.93</td>
<td>2G</td>
<td>6I</td>
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<td>TRANSIT MIXER</td>
<td>$30.93</td>
<td>2G</td>
<td>6I</td>
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<td>WELL DRILLERS &amp; IRRIGATION PUMP INSTALLERS</td>
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<td>IRRIGATION PUMP INSTALLER</td>
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<td>OILER</td>
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<td>WELL DRILLER</td>
<td>$17.68</td>
<td>1</td>
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OVERTIME CODES

OVERTIME CALCULATIONS ARE BASED ON THE HOURLY RATE ACTUALLY PAID TO THE WORKER. ON PUBLIC WORKS PROJECTS, THE HOURLY RATE MUST BE NOT LESS THAN THE PREVAILING RATE OF WAGE MINUS THE HOURLY RATE OF THE COST OF FRINGE BENEFITS ACTUALLY PROVIDED FOR THE WORKER.

1. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

A. ALL HOURS WORKED ON SATURDAYS, SUNDAYS AND HOLIDAYS SHALL ALSO BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

B. ALL HOURS WORKED ON SATURDAYS SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

C. THE FIRST TWO (2) HOURS AFTER EIGHT (8) REGULAR HOURS MONDAY THROUGH FRIDAY AND THE FIRST TEN (10) HOURS ON SATURDAY SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL OTHER OVERTIME HOURS WORKED SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

D. THE FIRST TWO (2) HOURS BEFORE OR AFTER A FIVE - EIGHT (8) HOUR WORKSHEET DAY OR A FOUR - TEN (10) HOUR WORKSHEET DAY AND THE FIRST EIGHT (8) HOURS WORKED THE NEXT DAY AFTER EITHER WORKSHEET SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL ADDITIONAL HOURS WORKED AND ALL WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

E. THE FIRST TWO (2) HOURS AFTER EIGHT (8) REGULAR HOURS MONDAY THROUGH FRIDAY AND THE FIRST EIGHT (8) HOURS ON SATURDAY SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL OTHER OVERTIME HOURS WORKED, EXCEPT LABOR DAY, SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

F. THE FIRST TWO (2) HOURS AFTER EIGHT (8) REGULAR HOURS MONDAY THROUGH FRIDAY AND THE FIRST TEN (10) HOURS ON SATURDAY SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL OTHER OVERTIME HOURS WORKED, EXCEPT LABOR DAY, SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT THREE TIMES THE HOURLY RATE OF WAGE.

G. THE FIRST TEN (10) HOURS WORKED ON SATURDAYS AND THE FIRST TEN (10) HOURS WORKED ON A FIFTH CALENDAR WEEKDAY IN A FOUR - TEN HOUR SCHEDULE, SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED IN EXCESS OF TEN (10) HOURS PER DAY MONDAY THROUGH SATURDAY AND ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

H. ALL HOURS WORKED ON SATURDAYS (EXCEPT MAKEUP DAYS IF WORK IS LOST DUE TO INCLEMENT WEATHER CONDITIONS OR EQUIPMENT BREAKDOWN) SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED MONDAY THROUGH SATURDAY OVER TWELVE (12) HOURS AND ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

J. THE FIRST TWO (2) HOURS AFTER EIGHT (8) REGULAR HOURS MONDAY THROUGH FRIDAY AND THE FIRST TEN (10) HOURS ON SATURDAY SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED OVER TEN (10) HOURS MONDAY THROUGH SATURDAY, SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

K. ALL HOURS WORKED ON SATURDAYS AND SUNDAYS SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

L. ALL HOURS WORKED IN EXCESS OF TEN (10) HOURS PER DAY MONDAY THROUGH SATURDAY AND ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

M. ALL HOURS WORKED ON SATURDAYS (EXCEPT MAKEUP DAYS IF WORK IS LOST DUE TO INCLEMENT WEATHER CONDITIONS) SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

N. ALL HOURS WORKED ON SATURDAYS (EXCEPT MAKEUP DAYS) SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

O. THE FIRST TEN (10) HOURS WORKED ON SATURDAY SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SUNDAYS, HOLIDAYS AND AFTER TWELVE (12) HOURS, MONDAY THROUGH FRIDAY, AND AFTER TEN (10) HOURS ON SATURDAY SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

P. ALL HOURS WORKED ON SATURDAYS (EXCEPT MAKEUP DAYS IF CIRCUMSTANCES WARRANT) AND SUNDAYS SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.
THE FIRST TWO (2) HOURS AFTER EIGHT (8) REGULAR HOURS MONDAY THROUGH FRIDAY AND UP TO TEN (10) HOURS WORKED ON SATURDAYS SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED IN EXCESS OF TEN (10) HOURS PER DAY MONDAY THROUGH SATURDAY AND ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS (EXCEPT CHRISTMAS DAY) SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON CHRISTMAS DAY SHALL BE PAID AT TWO AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT TWO TIMES THE HOURLY RATE OF WAGE.

THE FIRST TWO (2) HOURS AFTER EIGHT (8) REGULAR HOURS MONDAY THROUGH FRIDAY AND THE FIRST EIGHT (8) HOURS ON SATURDAY SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL OTHER OVERTIME HOURS WORKED, EXCEPT LABOR DAY, SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON LABOR DAY SHALL BE PAID AT THREE TIMES THE HOURLY RATE OF WAGE.

ALL HOURS WORKED ON SATURDAYS, EXCEPT MAKE-UP DAYS, SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED AFTER 6:00PM SATURDAY TO 6:00AM MONDAY AND ON HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

ALL HOURS WORKED ON SATURDAYS SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS (EXCEPT LABOR DAY) SHALL BE PAID AT TWO TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON LABOR DAY SHALL BE PAID AT THREE TIMES THE HOURLY RATE OF WAGE.

ALL HOURS WORKED ON SATURDAYS, SUNDAYS AND HOLIDAYS (EXCEPT THANKSGIVING DAY AND CHRISTMAS DAY) SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON THANKSGIVING DAY AND CHRISTMAS DAY SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

ALL HOURS WORKED ON SATURDAYS AND SUNDAYS (EXCEPT MAKE-UP DAYS DUE TO CONDITIONS BEYOND THE CONTROL OF THE EMPLOYER) SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.


ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

THE FIRST SIX (6) HOURS ON SUNDAY SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED IN EXCESS OF SIX (6) HOURS ON SUNDAY AND ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT TWO TIMES THE HOURLY RATE OF WAGE.

ALL HOURS WORKED ON HOLIDAYS SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

ALL HOURS WORKED ON SUNDAYS SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON HOLIDAYS SHALL BE PAID AT TWO TIMES THE HOURLY RATE OF WAGE.

ALL HOURS WORKED ON SATURDAYS AND SUNDAYS SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. THE FIRST EIGHT (8) HOURS WORKED ON HOLIDAYS SHALL BE PAID AT STRAIGHT TIME IN ADDITION TO THE HOLIDAY PAY. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS ON HOLIDAYS SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

ALL HOURS WORKED ON SATURDAYS OR HOLIDAYS (EXCEPT LABOR DAY) SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SUNDAYS OR ON LABOR DAY SHALL BE PAID AT TWO TIMES THE HOURLY RATE OF WAGE.

THE FIRST EIGHT (8) HOURS WORKED ON HOLIDAYS SHALL BE PAID AT THE STRAIGHT HOURLY RATE OF WAGE IN ADDITION TO THE HOLIDAY PAY. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS ON HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

ALL HOURS WORKED ON SUNDAY SHALL BE PAID AT TWO TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON PAID HOLIDAYS SHALL BE PAID AT TWO AND ONE-HALF TIMES THE HOURLY RATE OF WAGE INCLUDING HOLIDAY PAY.

ALL HOURS WORKED ON SUNDAY SHALL BE PAID AT TWO TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON HOLIDAYS SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
BENEFIT CODE KEY - EFFECTIVE 03-03-07

2. ALL HOURS WORKED ON SATURDAYS AND HOLIDAYS (EXCEPT LABOR DAY) SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SUNDAYS AND ON LABOR DAY SHALL BE PAID AT TWO TIMES THE HOURLY RATE OF WAGE.

J. ALL HOURS WORKED ON SUNDAYS SHALL BE PAID AT TWO TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON PAID HOLIDAYS SHALL BE PAID AT TWO AND ONE-HALF TIMES THE HOURLY RATE OF WAGE, INCLUDING THE HOLIDAY PAY. ALL HOURS WORKED ON UNPAID HOLIDAYS SHALL BE PAID AT TWO TIMES THE HOURLY RATE OF WAGE.

K. ALL HOURS WORKED ON HOLIDAYS SHALL BE PAID AT TWO TIMES THE HOURLY RATE OF WAGE IN ADDITION TO THE HOLIDAY PAY.

M. ALL HOURS WORKED ON SATURDAYS, SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

O. ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

P. THE FIRST EIGHT (8) HOURS ON SATURDAY SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS ON SATURDAY AND ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT TWO TIMES THE HOURLY RATE OF WAGE.

4A. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SATURDAYS, SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

HOLIDAY CODES

5. A. HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, FRIDAY AFTER THANKSGIVING DAY, AND CHRISTMAS DAY (7).

B. HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, FRIDAY AFTER THANKSGIVING DAY, THE DAY BEFORE CHRISTMAS, AND CHRISTMAS DAY (8).

C. HOLIDAYS: NEW YEAR'S DAY, PRESIDENTS' DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, THE FRIDAY AFTER THANKSGIVING DAY, AND CHRISTMAS DAY (8).

D. HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, THE FRIDAY AND SATURDAY AFTER THANKSGIVING DAY, AND CHRISTMAS DAY (8).

E. HOLIDAYS: NEW YEAR'S DAY, PRESIDENTS' DAY, MEMORIAL DAY, INDEPENDENCE DAY, PRESIDENTIAL ELECTION DAY, THANKSGIVING DAY, THE FRIDAY AFTER THANKSGIVING DAY, AND CHRISTMAS DAY (8).


G. HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, THE LAST WORK DAY BEFORE CHRISTMAS, AND CHRISTMAS DAY (7).


I. HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY (6).

J. HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, THANKSGIVING DAY, FRIDAY AFTER THANKSGIVING DAY, CHRISTMAS EVE DAY, AND CHRISTMAS DAY (7).

N. HOLIDAYS: NEW YEAR'S DAY, PRESIDENTS' DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, VETERANS' DAY, THANKSGIVING DAY, THE FRIDAY AFTER THANKSGIVING DAY, AND CHRISTMAS DAY (9).

P. HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, FRIDAY AND SATURDAY AFTER THANKSGIVING DAY, THE DAY BEFORE CHRISTMAS, AND CHRISTMAS DAY (9).

Q. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY (6).

R. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, DAY AFTER THANKSGIVING DAY, ONE-HALF DAY BEFORE CHRISTMAS DAY, AND CHRISTMAS DAY. (7 1/2).
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5. S. PAID HOLIDAYS: NEW YEAR'S DAY, PRESIDENTS' DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY (7).


V. PAID HOLIDAYS: SIX (6) PAID HOLIDAYS.

W. PAID HOLIDAYS: NINE (9) PAID HOLIDAYS.

X. HOLIDAYS: AFTER 520 HOURS - NEW YEAR'S DAY, THANKSGIVING DAY AND CHRISTMAS DAY. AFTER 2080 HOURS - NEW YEAR'S DAY, WASHINGTON'S BIRTHDAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, CHRISTMAS DAY AND A FLOATING HOLIDAY (8).

Y. HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, PRESIDENTIAL ELECTION DAY, THANKSGIVING DAY, THE FRIDAY FOLLOWING THANKSGIVING DAY, AND CHRISTMAS DAY (8).

Z. HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, VETERANS DAY, THANKSGIVING DAY, THE FRIDAY AFTER THANKSGIVING DAY, AND CHRISTMAS DAY (8).


B. PAID HOLIDAYS: NEW YEAR'S EVE DAY, NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, THE FRIDAY AFTER THANKSGIVING DAY, CHRISTMAS EVE'S DAY, AND CHRISTMAS DAY (9).


I. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, FRIDAY AFTER THANKSGIVING DAY, AND CHRISTMAS DAY (7).

L. HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, THE FRIDAY AFTER THANKSGIVING DAY, THE LAST WORKING DAY BEFORE CHRISTMAS DAY, AND CHRISTMAS DAY. (8)

Q. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, VETERANS DAY, THANKSGIVING DAY, THE DAY AFTER THANKSGIVING DAY AND CHRISTMAS DAY (8). UNPAID HOLIDAY: PRESIDENTS' DAY.


V. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, THE DAY AFTER THANKSGIVING DAY, CHRISTMAS EVE'S DAY, CHRISTMAS DAY, AND ONE DAY OF THE EMPLOYEE'S CHOICE (9).

W. PAID HOLIDAYS: NEW YEAR'S DAY, DAY BEFORE NEW YEAR'S DAY, PRESIDENTS DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, DAY AFTER THANKSGIVING DAY, CHRISTMAS DAY, DAY BEFORE OR AFTER CHRISTMAS DAY (10).

X. PAID HOLIDAYS: NEW YEAR'S DAY, DAY BEFORE OR AFTER NEW YEAR'S DAY, PRESIDENTS DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, CHRISTMAS DAY, DAY BEFORE OR AFTER CHRISTMAS DAY, EMPLOYEE'S BIRTHDAY (11).
8. A. THE STANDBY RATE OF PAY FOR DIVERS SHALL BE ONE-HALF TIMES THE DIVERS RATE OF PAY. IN ADDITION TO THE HOURLY WAGE AND FRINGE BENEFITS, THE FOLLOWING DEPTH PREMIUMS APPLY TO DEPTHS OF FIFTY FEET OR MORE:
   OVER 50' TO 100' - $1.00 PER FOOT FOR EACH FOOT OVER 50 FEET
   OVER 100' TO 175' - $2.25 PER FOOT FOR EACH FOOT OVER 100 FEET
   OVER 175' TO 250' - $5.50 PER FOOT FOR EACH FOOT OVER 175 FEET
   OVER 250' - DIVERS MAY NAME THEIR OWN PRICE, PROVIDED IT IS NO LESS THAN THE SCALE LISTED FOR 250 FEET

C. THE STANDBY RATE OF PAY FOR DIVERS SHALL BE ONE-HALF TIMES THE DIVERS RATE OF PAY. IN ADDITION TO THE HOURLY WAGE AND FRINGE BENEFITS, THE FOLLOWING DEPTH PREMIUMS APPLY TO DEPTHS OF FIFTY FEET OR MORE:
   OVER 50' TO 100' - $1.00 PER FOOT FOR EACH FOOT OVER 50 FEET
   OVER 100' TO 150' - $1.50 PER FOOT FOR EACH FOOT OVER 100 FEET
   OVER 150' TO 200' - $2.00 PER FOOT FOR EACH FOOT OVER 150 FEET
   OVER 200' - DIVERS MAY NAME THEIR OWN PRICE

D. WORKERS WORKING WITH SUPPLIED AIR ON HAZMAT PROJECTS RECEIVE AN ADDITIONAL $1.00 PER HOUR.

L. WORKERS ON HAZMAT PROJECTS RECEIVE ADDITIONAL HOURLY PREMIUMS AS FOLLOWS - LEVEL A: $0.75, LEVEL B: $0.50, AND LEVEL C: $0.25.

M. WORKERS ON HAZMAT PROJECTS RECEIVE ADDITIONAL HOURLY PREMIUMS AS FOLLOWS: LEVELS A & B: $1.00, LEVELS C & D: $0.50.

N. WORKERS ON HAZMAT PROJECTS RECEIVE ADDITIONAL HOURLY PREMIUMS AS FOLLOWS - LEVEL A: $1.00, LEVEL B: $0.75, LEVEL C: $0.50, AND LEVEL D: $0.25.
GENERAL NOTES

1. ALL WATER LINE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE YAKIMA COUNTY WATER AND SEWER DEPARTMENT SPECIFICATIONS. THE CONTRACTOR SHALL MAINTAIN A RECORD OF ALL WATER PIPE AND THE LOCATION OF ALL WATER LINE CONSTRUCTION WORK. ALL WATER PIPE SHALL BE MARKED WITH APPROPRIATE MARKS IN ACCORDANCE WITH THE WATER DEPARTMENT SPECIFICATIONS.

2. PRIOR TO ENSURING THE LOCATION AND DEPTH OF UTILITIES AND ANY OTHER UNDERGROUND ERECTIONS, CALL TWO BUSINESS DAYS BEFORE YOU DIG AT 1-800-424-1060.

3. PRIOR TO ENSURING THE LOCATION AND DEPTH OF UTILITIES AND ANY OTHER UNDERGROUND ERECTIONS, CALL TWO BUSINESS DAYS BEFORE YOU DIG AT 1-800-424-1060.

4. PRIOR TO ENSURING THE LOCATION AND DEPTH OF UTILITIES AND ANY OTHER UNDERGROUND ERECTIONS, CALL TWO BUSINESS DAYS BEFORE YOU DIG AT 1-800-424-1060.

5. PRIOR TO ENSURING THE LOCATION AND DEPTH OF UTILITIES AND ANY OTHER UNDERGROUND ERECTIONS, CALL TWO BUSINESS DAYS BEFORE YOU DIG AT 1-800-424-1060.

6. PRIOR TO ENSURING THE LOCATION AND DEPTH OF UTILITIES AND ANY OTHER UNDERGROUND ERECTIONS, CALL TWO BUSINESS DAYS BEFORE YOU DIG AT 1-800-424-1060.

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