



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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November 6, 2017

**Electronic Copy**

Mr. Greg Andrina  
Puget Sound Energy  
PO Box 98034  
PSE-09N  
Bellevue, WA 98009

**Re: Ecology Comments on Proposed Geotechnical Borings**

- **Site Name:** Columbia Square Properties
- **Site Address:** 320 N Columbia Street, Olympia, WA 98501
- **Facility/Site No.:** 91682829
- **Cleanup Site No.:** 6851
- **VCP Project No.:** SW0984

Dear Mr. Andrina:

The Washington State Department of Ecology (Ecology) received your request for technical consultant regarding your independent cleanup of the Columbia Square Properties facility (Site) via GeoEngineers, Inc.'s (GeoEngineers) Memorandum entitled, *Proposed Geotechnical Investigation – 320 Columbia Street, Olympia, Washington*, dated October 9, 2017. The memorandum was received via email by Ecology after hours on October 9, 2017, and thus was officially received by Ecology on October 10, 2017.

This letter provides our comments. We are providing these comments under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW, Chapter 18.104 RCW, the Washington Well Construction Act, and Chapter 70.105 RCW, the Hazardous Waste Management Act. Details and limitations regarding technical consultations by Ecology for independent actions are discussed in WAC 173-340-515(5).

The Site, including the Property Specific No Further Action status (Site Further Action) and associated environmental covenant, is described in Ecology's opinion letter, *RE: No Further Action at a Property associated with a Site*, dated September 15, 2015. Furthermore, Site details and data are discussed in the reports referenced in that opinion letter. The Property is located at 320 N Columbia Street, Olympia, Washington and is identified as Thurston County tax parcel No. 78500200100 (Property).

In the memorandum dated October 9, 2017, GeoEngineers detailed two proposed geotechnical borings to be advanced at the Site. Advancement of these geotechnical borings (LAI-1 and LAI-2) is being overseen by a consultant and drilling company retained by The Rants Group (the current Property Owner). The purpose of the geotechnical borings is to evaluate soils for the pile design of a future on-Property structure, as defined in WAC 173-160-410. GeoEngineers' memorandum is sufficient notification to Ecology of planned activities as required by the environmental covenant.

Ecology has the following comments regarding the proposed geotechnical borings:

- 1) The two proposed geotechnical borings, LAI-1 and LAI-2, are proposed in the southwest and northeast quadrants of the Site, respectively. GeoEngineers' figure with the proposed boring locations is presented as **Enclosure A**.
  - a. Historical Site contamination includes gasoline, diesel, and lube oil range petroleum hydrocarbons, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), benzene, lead, and mercury.
  - b. Though not a Site contaminant of concern (COC), arsenic has been observed in Site groundwater at concentrations exceeding MTCA Method A cleanup level. Concentrations of arsenic in soil have been less than the MTCA Method A cleanup level.
  - c. Both proposed boring locations, per GeoEngineers' Figure 3 from their Cleanup Action Report (dated January 4, 2013), appear to be in areas where contamination is likely limited to a zone between approximately 6 to approximately 10.5 feet below ground surface. Though the deepest contamination identified on-Property is present at depths of 20.5 feet bgs, GeoEngineers reported that neither boring is in an area of the deepest contamination observed at the Site. The depth of contamination estimate is based on six feet of clean structural fill underlain by an estimated 4-14.5 foot thick zone of in place contaminated soils.
- 2) Per section 2b of the environmental covenant, any activity on the Property that will compromise the integrity of the cap, which includes drilling, shall report said damage within 48 hours of the discovery of any damage and shall promptly repair the damage and submit a report documenting this work to Ecology within thirty days of completing the repairs.
  - a. As GeoEngineers' memorandum proposing the drilling was provided to Ecology in advance, the 48 hour reporting requirement for cap damage is waived by Ecology for this occurrence.
  - b. Once the drilling and cap repair is complete, reporting should be submitted to Ecology within 30 days.
- 3) Based on the proposal, it appears that the hollow stem auger flights would be sufficient to act as a temporary casing for the mud rotary drilling equipment down to approximately 20 feet bgs. However, Ecology recommends revising the memorandum to specify the following:
  - a. Provide the estimated thickness of the bentonite plug to be used to seal off contamination above 20 feet and prevent cross-contamination between the shallow aquifer and deeper aquifer.

- b. Please clarify how the bentonite plug will be placed and how it will be hydrated.
  - c. Please clarify if the auger flight will be lifted before placing the bentonite plug and if then the auger flights will be re-advanced to a depth of 20 feet bgs.
  - d. Please clarify the anticipated auger flight diameter to be used to act as the casing for the mud rotary drilling.
  - e. Please provide a figure showing a cross-sectional view of the proposed geotechnical boring methodology described in the text.
- 4) Artesian aquifer conditions are known to occur beneath Olympia. GeoEngineers reported during the 2012 excavation in their *Cleanup Action Report* (dated January 4, 2013; see p. 4) the decommissioning of an unregistered water supply well at the Property which appears to have exhibited artesian flow.
- a. Seals to prevent connections between aquifers should be installed consistent with WAC 173-160-450.
  - b. Because of the potential for artesian conditions, Ecology recommends any decommissioning of the geotechnical soil borings be consistent with WAC 173-160-381(4) and (5) as well as requirements identified in WAC 173-160-460(2)(e).
  - c. Please clarify how sealing material will be delivered for decommissioning of each borehole, in order to demonstrate compliance with WAC 173-160-460(2)(e).
  - d. Please clarify in the memorandum what contingencies are to be taken should artesian flow occur on the outside of the auger flights.
  - e. John Pearch of Ecology's Southwest Regional Office Water Resources program provided additional comments in an email dated October 18, 2017. That correspondence is included as **Enclosure B**.
  - f. Ensure that any artesian flow does not escape the wellhead. If any discharges are expected, contact of the Southwest Regional Office of Ecology's Water Quality Program at 360-407-6269. Discharges must conform to Chapter 90.48 RCW and associated regulation.
- 5) Per RCW 18.104.050, please provide the geotechnical boring logs to Ecology's Southwest Regional Office - Water Resources within 30 days of completion of the boreholes.
- 6) As a reminder, please review the limitations for use of drilling materials as listed in WAC 173-160-442.
- 7) Based on concentrations of Site COCs, as identified by GeoEngineers in previous reports (e.g., *Data Summary Report*, dated October 25, 2011), it is unlikely that any contaminant concentrations in investigation derived waste (IDW) generated would designate as dangerous waste.
- a. During the 2012 excavation, contaminated soils were disposed of at a Subtitle D landfill.
  - b. Despite the historical disposal results, Ecology concurs with GeoEngineers' proposal to characterize all IDW generated by the drilling and staging any IDW on-Property before determining the appropriate disposal requirements. This is prudent in case of an unexpected situation.
  - c. The pH of bentonite grout or cement laden water may result in designation of a dangerous waste based on corrosivity (see WAC 173-303-090). A complete characterization of IDW should include pH.

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- 8) GeoEngineers proposes to place IDW into 55-gallon drums. Ecology recommends verifying the anticipated volume of IDW to be generated as larger containers (e.g., roll off bin for soil or larger capacity tank for water) may be more appropriate.
- 9) Ecology acknowledges that no proposal has been made to modify the covenant in order to complete the geotechnical borings. As no modifications are to be made, no public comment period as described in section 1e of the environmental covenant is required. All proposed geotechnical investigation activities are anticipated to be completed in a manner consistent with the environmental covenant.
- 10) Ecology recommends observing the condition of Site monitoring wells at the time of drilling the geotechnical borings. The purpose of this is to repair any potential monitoring well damage and satisfy the requirements of section 2d of the environmental covenant.
- 11) Ecology would like to be made aware of the exact dates of drilling and requests an opportunity to observe a portion of the drilling activities. This is especially true for the mud rotary portion of the drilling.

If you have any questions about these comments, please contact me by phone at 360-407-6265 or at [tmul461@ecy.wa.gov](mailto:tmul461@ecy.wa.gov).

Sincerely,



Tim Mullin, LG  
SWRO Toxics Cleanup Program

TCM: kb

By Certified Mail: [91 7199 9991 7037 0277 7996]

Enclosures (2): A – Figure with proposed boring locations  
B – Email correspondence

cc: Nick Rohrbach, GeoEngineers, Inc.  
Stephen C. Woodward, GeoEngineers, Inc.  
Patrick Rants, The Rants Group  
Sara Brallier, Thurston County Health Department  
Gerald Tousley, Thurston County Health Department  
Nick Acklam, Ecology  
Stephanie Bussell, Ecology  
John Pearch, Ecology  
Carol Serdar, Ecology

## **Enclosure A**

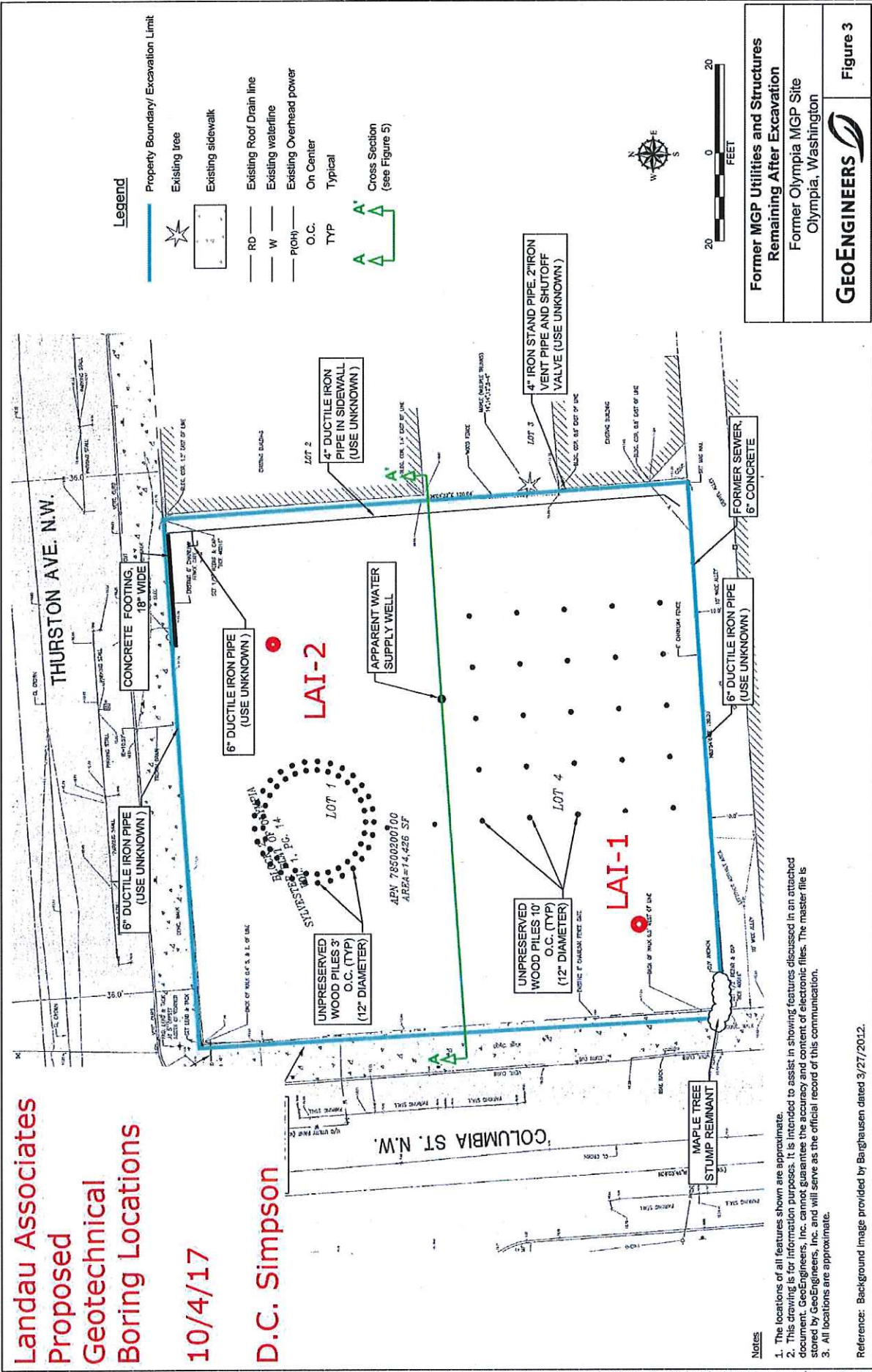
### **Figure**



**Landau Associates  
Proposed  
Geotechnical  
Boring Locations**

**10/4/17**

**D.C. Simpson**



**Former MGP Utilities and Structures  
Remaining After Excavation**  
Former Olympia MGP Site  
Olympia, Washington

**GEOENGINEERS**

**Figure 3**

- Notes**
1. The locations of all features shown are approximate.
  2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
  3. All locations are approximate.

Reference: Background image provided by Banghousen dated 3/27/2012.



**Enclosure B**

**Email Correspondence**



**From:** [Pearch, John \(ECY\)](#)  
**To:** [swoodward@geoengineers.com](mailto:swoodward@geoengineers.com)  
**Cc:** [Mullin, Tim \(ECY\)](#); [Malone, Scott \(ECY\)](#); [Acklam, Nicholas \(ECY\)](#)  
**Subject:** FW: SW0984: 320 Columbia Street Property, Olympia, Wa -- plans for proposed geotechnical borings  
**Date:** Wednesday, October 18, 2017 10:34:02 AM  
**Attachments:** [Memo Columbia Street Property Geotech Borings.pdf](#)

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Steve,

Tim asked for me to comment on the proposal at the Columbia Street property.

As far as the decommissioning of geotechnical soil borings below the static water level, they must be decommissioned by pressure grout according to WAC 173-160-460(2)(e):

(e) Geotechnical soil borings, or boring, shall be decommissioned by sealing from bottom to land surface with bentonite, bentonite slurry, neat cement grout, or neat cement. Sealing material placed below the static water level shall be piped directly to the point of application or placed by means of a dump bailer or pumped through a tremie tube. If bentonite slurry, neat cement grout or neat cement is used to seal below the water level in the well, the material shall be placed from the bottom up by methods that avoid segregation or dilution of the material. When used to place bentonite slurry, neat cement or neat cement grout, the discharge end of the tremie tube shall be submerged in the bentonite slurry, neat cement or neat cement grout to avoid breaking the seal while filling the annular space. Provided the material does not dilute or segregate and the resulting seal is free of voids, sealing material may be hand poured above the static water level.

Since the site is relatively close to saltwater, most bentonite manufactures have suggested to use neat cement, since bentonite may not swell when chlorides exceed 1500 mg/L. Neat cement is also much heavier than bentonite slurry and has been successful in effectively sealing off artesian aquifers.

Bentonite chips are often ineffective in flowing artesian conditions, as the uphole velocity of the water flow is higher than the rate they sink at.

To prevent any discharges to Budd Bay, I would advise that you have a larger capacity to contain all the volume of water and cuttings flowing up from the artesian aquifer.

As far as drilling with a Hollow Stem Auger or Mud Rotary, as long as you can successfully decommission the entire boring (from bottom to land surface), using two separate drilling equipment to maintain confining units sounds like a good plan.

Let me know if you have any other questions.

***John Pearch, LHG***

Hydrogeologist and Well Construction Coordinator  
Southwest Regional Office - Water Resources Program  
Department of Ecology  
PO Box 47775 Olympia, WA 98504-7775  
Phone: 360-407-0297  
Fax: 360-407-6305  
Email: [JOPE461@ecy.wa.gov](mailto:JOPE461@ecy.wa.gov)

**From:** Mullin, Tim (ECY)  
**Sent:** Tuesday, October 10, 2017 2:16 PM  
**To:** Pearch, John (ECY) <JOPE461@ECY.WA.GOV>  
**Subject:** SW0984: 320 Columbia Street Property, Olympia, Wa -- plans for proposed geotechnical borings

Hi John,

Does water resources prefer to comment on drilling workplans (such as the attached)? I am drafting a memo to provide Ecology's comments regarding the attached memo as this is a contaminated Site. Short response time requested.

Please let me know if you have any thoughts.

<http://ecyaptcp/isis/SiteDocuments/Index/6851>

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<b>FSID</b>	<b>Facility Site Name</b>	<b>Facility Site Address</b>
91682829	<u>COLUMBIA SQUARE PROPERTIES</u>	320 N Columbia Olympia, 98501 Thurston

Thank you,  
Tim

**From:** Steve C. Woodward [<mailto:swoodward@geoengineers.com>]  
**Sent:** Monday, October 09, 2017 6:26 PM  
**To:** Mullin, Tim (ECY) <TMUL461@ECY.WA.GOV>  
**Cc:** Andrina, Greg J <[Greg.Andrina@pse.com](mailto:Greg.Andrina@pse.com)>; Pat Rants <[pat@rants-group.com](mailto:pat@rants-group.com)>; Calvin McCaughan ([CMcCaughan@landauinc.com](mailto:CMcCaughan@landauinc.com)) <[CMcCaughan@landauinc.com](mailto:CMcCaughan@landauinc.com)>; Daniel Simpson ([DSimpson@landauinc.com](mailto:DSimpson@landauinc.com)) <[DSimpson@landauinc.com](mailto:DSimpson@landauinc.com)>; Nick Rohrbach <[nrohrbach@geoengineers.com](mailto:nrohrbach@geoengineers.com)>  
**Subject:** 320 Columbia Street Property, Olympia, Wa -- plans for proposed geotechnical borings

Hi Tim,

Attached is a brief memo describing plans for two proposed geotechnical borings at the referenced former MGP property, which we discussed last week. We appreciate your help and hope you can find time to review this relatively soon because drilling is tentatively scheduled to occur in approximately two weeks. Please let us know if you have questions. Thank you! Steve

**Steve C. Woodward**  
**Principal Geologist | GeoEngineers, Inc.**

**Telephone:** 206.239.3235  
**Fax:** 425.861.6050  
**Mobile:** 206.617.2763  
**Email:** [swoodward@geoengineers.com](mailto:swoodward@geoengineers.com)

8410 154th Avenue NE  
Redmond, WA 98052  
[www.geoengineers.com](http://www.geoengineers.com)

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**Confidentiality:** This message is confidential and intended solely for use of the individual or entity to whom it is addressed. If you are not the person for whom this message is intended, please delete it and notify me immediately, and please do not copy or send this message to anyone else.

## **Radcliff, Eugene (ECY)**

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**From:** Pearch, John (ECY)  
**Sent:** Friday, February 22, 2013 1:45 PM  
**To:** Radcliff, Eugene (ECY)  
**Cc:** Lum, Bill (ECY); Gallagher, Mike (ECY); Sara Brallier; pboysen@ci.olympia.wa.us; Donna Buxton  
**Subject:** FW: Olympia Artesian located at Tax Parcel 78500200100 (320 COLUMBIA ST NW)  
**Attachments:** Notice Of Intent to Decommission a Well AE20660.pdf

Gene,

I understand you are telecommuting today. The driller called and said that the artesian well on the PSE property could not be decommissioned yesterday since the well had been hit by a car, and the well not be accessed, since the well was bent. They plan to go out to repair the casing extension next week and to fully decommission the well. However, in the mean time, cars are parking on the property and could potentially hit the well again. Do you have a contact with PSE so we can see about getting the property fenced off before the weekend? Nick Rohrbach of GeoEngineers is not available either until next week.

Thanks for your help on this matter.

John

### ***John Pearch, L.H.G. (#1410)***

Hydrogeologist and Well Drilling Coordinator  
Southwest Regional Office - Water Resources Program  
Department of Ecology  
PO Box 47775 Olympia, WA 98504-7775  
Phone: 360-407-0297  
Fax: 360-407-6305  
Email: JOPE461@ecy.wa.gov

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**From:** Pearch, John (ECY)  
**Sent:** Thursday, February 14, 2013 3:47 PM  
**To:** Jim Nice  
**Cc:** 'Sara Brallier'; Lum, Bill (ECY); Gallagher, Mike (ECY); Rockett, Derek (ECY); Cornett, Deborah (ECY); 'pboysen@ci.olympia.wa.us'; Gallagher, Mike (ECY)  
**Subject:** FW: Olympia Artesian located at Tax Parcel 78500200100 (320 COLUMBIA ST NW)

Jim,

Your decommissioning artesian sealing plan is acceptable. In addition, all cement-laden water (tailings) during decommissioning must be properly disposed of onsite or hauled offsite to a proper disposal site. The City of Olympia Inspector Pat Boysen 360-753-8274 would also like to be contacted before you start

decommissioning the well. Also, please contact Ecology's Water Quality Program (Debra Cornett 360-407-7269) if any discharges are expected to occur to Budd Bay Inlet. Discharges must conform to RCW 90.48 (Clean Water Act) and any additional requirements set by the Water Quality Program.

I will try and be out there next week to inspect this decommissioning.

Thank you.

**John Pearch, L.H.G. (#1410)**

Hydrogeologist and Well Drilling Coordinator  
Southwest Regional Office - Water Resources Program  
Department of Ecology  
PO Box 47775 Olympia, WA 98504-7775  
Phone: 360-407-0297  
Fax: 360-407-6305  
Email: [JOPE461@ecy.wa.gov](mailto:JOPE461@ecy.wa.gov)

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**From:** Jim Nice [<mailto:JNice@cascadedrilling.com>]  
**Sent:** Wednesday, February 13, 2013 5:58 PM  
**To:** Sara Brallier  
**Cc:** Pearch, John (ECY)  
**Subject:** RE: Olympia Artesian located at Tax Parcel 78500200100 (320 COLUMBIA ST NW)

Sara,

Attached you will find the Notice of Intent to Decommission a Water Well.

I only have one driller with a Water License available for next week. I plan to have a crew onsite Thursday 2/21 and Friday 2/22 to complete this project. I will let you know if anything changes.

Let me know if you have any questions or concerns. Thanks,

**James T Nice**  
**WA Senior Operations Manager**  
**Cascade Drilling L.P.**  
P.O. Box 1184  
Woodinville, WA. 98072  
Off: 425-485-8908  
Cell: 206-396-2813  
[jnice@cascadedrilling.com](mailto:jnice@cascadedrilling.com)  
[www.cascadedrilling.com](http://www.cascadedrilling.com)

**From:** Sara Brallier [<mailto:Brallis@co.thurston.wa.us>]  
**Sent:** Wednesday, February 13, 2013 2:58 PM  
**To:** Jim Nice  
**Cc:** John Pearch  
**Subject:** RE: Olympia Artesian located at Tax Parcel 78500200100 (320 COLUMBIA ST NW)

Thanks for the notice. Thurston County requires a copy of the NOI issued by DOE to be sent to us 72 hours (3 business days) prior to drilling (in this case decommissioning) for tracking purposes. This email correspondence will suffice for the 72 hour notice. All I need now is a copy of the NOI. The NOI can either be sent to me by email or FAX. Typically not by mail since it is usually is too slow to meet driller's scheduling needs. Once you are ready to drill, you notify us by phone 24 hrs prior to drilling to give us a chance to schedule a site visit and observe the decommissioning (or drilling) while the driller is on site. If any questions feel free to call or email.

My contact information is as follows:  
Sara Brallier  
email: [brallis@co.thurston.wa.us](mailto:brallis@co.thurston.wa.us)  
Direct Line: 360-867-2629  
FAX Line: 360-867-2660

If you ever get called again to decommission other artesian wells within downtown Olympia, give us a call. We have collected quite a bit of information over the years that may be of help to you. Although, as mentioned to John in an earlier email, we have probably only cataloged about 60% of the wells. Those not found are most likely those you came across: existed at one time in the distant past then just cut off, capped and covered by a building (or parking lot) without being properly decommissioned, which is what we are dealing with now as the old buildings are torn down and new ones constructed in its place. We are just glad the public and drillers like you are consequence enough to want to do the right thing and make sure it is properly decommissioned before moving forward.

Sara Brallier  
Thurston County Public Health  
Environmental Health Division  
2000 Lakeridge Dr SW  
Olympia, WA 98502-6045  
(360) 867-2629  
7:30 - 5:00 M-Th  
7:30 - 4:00 Every other Friday  
>>> Jim Nice <[JNice@cascadedrilling.com](mailto:JNice@cascadedrilling.com)> 2/13/2013 2:12 PM >>>

John,

Our plan is to extend the 2" well casing to 6' to 8' above ground surface to get the casing 3' to 4' above the static water level. We will put a sewer 'Y' on top of the 2" riser to divert the water into a 275 gallon tank. We will insert a 1" tremmie pipe to the bottom of the well (148' BGS) and pump Portland Cement Grout until the water starts to change color. At this point we will stop, remove the trimmie pipe, cap the well, clean our tools and pumps, inspect the well for leaks and secure the site for the night.

In the morning we will remove the 2" extensions from the top of the well and verify that the well is not flowing. If the well is not flowing we will tag the bottom of the Portland Cement Grout and finish sealing the well. We will dig down and cut and cap the 2", 2' to 3' below ground surface.

In the unlikely event that the well is flowing we will replace the 2" extensions and continue to fill the casing with Portland Cement Grout.

We would like to do this as soon as possible. Let me know if you have any questions.

Thanks,

**James T Nice**  
**WA Senior Operations Manager**  
**Cascade Drilling L.P.**  
P.O. Box 1184  
Woodinville, WA. 98072  
Off: 425-485-8908  
Cell: 206-396-2813  
[jnice@cascaedrilling.com](mailto:jnice@cascaedrilling.com)  
[www.cascaedrilling.com](http://www.cascaedrilling.com)

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**From:** Pearch, John (ECY) [<mailto:JOPE461@ECY.WA.GOV>]  
**Sent:** Tuesday, February 12, 2013 9:38 AM  
**To:** Sara Braller  
**Cc:** Lum, Bill (ECY); Gallagher, Mike (ECY); Jim Nice  
**Subject:** FW: Olympia Artesian located at Tax Parcel 78500200100 (320 COLUMBIA ST NW)

Sara,

I think the artesian well in question (in subject heading) was never found because it was below grade which was recently extended to be above grade during some recent grading work by the contractor (not sure who this contractor was). The 2" casing is capped and now visible in the middle of the property. I am waiting to hear from Cascade Drilling for their Artesian Seal Plan for decommissioning the well.

I have cc'ed Jim Nice of Cascade Drilling in this email.

Talk to you soon.

John

**John Pearch, L.H.G. (#1410)**  
Hydrogeologist and Well Drilling Coordinator  
Southwest Regional Office - Water Resources Program  
Department of Ecology  
PO Box 47775 Olympia, WA 98504-7775  
Phone: 360-407-0297  
Fax: 360-407-6305  
Email: [JOPE461@ecy.wa.gov](mailto:JOPE461@ecy.wa.gov)

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**From:** Sara Brallier [mailto:Brallis@co.thurston.wa.us]

**Sent:** Tuesday, February 12, 2013 9:25 AM

**To:** Pearch, John (ECY)

**Subject:** Olympia Artesian located at Tax Parcel 78500200100 (320 COLUMBIA ST NW)

Attached is a copy of the site map created in 1994 as part of the survey to document artesian wells in downtown Olympia. The closest artesian well we found at the time was Well #20, located at 301 North Capital (TP 78500200700), inside the northwest corner of the building. I have attached the field notes for Well #20 for reference and an aerial map of the block. We probably only found 60% of the artesian wells at the time the survey was conducted in 1994. According to Phil, there was an office building there for many years and the well could have been located inside the building. It was just not found again until the recent grading activity was started for the new building.

Sara Brallier  
Thurston County Public Health  
Environmental Health Division  
2000 Lakeridge Dr SW  
Olympia, WA 98502-6045  
(360) 867-2629  
7:30 - 5:00 M-Th  
7:30 - 4:00 Every other Friday