

**EXHIBIT C**  
**Sole Source Aquifer Checklist**

**PROJECT NAME:**

Sounder Yard and Shops Facility Project (*now known as the Sounder Maintenance Base Project*)

**NAME OF SOLE SOURCE AQUIFER OR SOURCE AREA:**

Central Pierce County Sole Source Aquifer

**1. Location of project:**

The Sounder Maintenance Base Project site is located at Sound Transit's Century Yard, which is east of Lakeview Avenue SW between 100th Street SW and Steilacoom Boulevard SW in Lakewood, Washington in Pierce County (Figure 1). The site is located in Range 02E, Township 19N, Section 01. The property includes Pierce County Assessor tax parcel numbers 0219011133 (portion), 0220364108 as well as two additional parcels to be acquired by Sound Transit, 0220368018 and 0220368019. The project site is located in the Central Pierce County Aquifer Area (Figure 2).

**2. Project description.**

The Sounder Maintenance Base Project includes both a maintenance base for Sound Transit Sounder maintenance and repair operations and train yard facility elements. Sound Transit is proposing the construction of a new, approximately 60,000 square-foot footprint and 50-foot high, maintenance building with maintenance shops, bays, storage areas and offices as well as employee welfare facilities. The shops would include a total of six bays and a total of ten repair positions. Two of the work positions would include work pits up to 19 feet deep, requiring excavation to approximately 21 feet in depth. A larger parking lot with up to 60-spaces would be located adjacent to the building and the existing north access road from Steilacoom Boulevard SW would be reconfigured into a paved loading dock access drive. The primary access to the site would be from a gated driveway from 39<sup>th</sup> Avenue SW.

Train yard elements would include a new switching track located off the existing shop lead track to facilitate the movement of train cars into repair positions in the maintenance building. The construction of a retaining wall may be needed to create a level site for the track. Additionally, the project would include construction of a new wheel truing facility on a new spur track located to the south of the train and engine (T&E) building currently under construction. The new spur track off the shop lead track would provide access to the wheel truing facility. The building would be approximately 200 feet long by 40 feet wide and 35 feet high. It would include work areas around the perimeter of the building and an 8-foot-deep pit to allow the wheel truing machine to be mounted to the wheels from below. Construction excavation would extend up to approximately 10 feet deep for the wheel truing pits and approximately 21 feet deep for the work pits in the maintenance base building.

To facilitate the train yard elements, utility relocations would be required. The existing transformer, currently located in the middle of the site, would be relocated to a site south of the T&E building to make space for the new shop lead track and switching track. The work may require the relocation of the existing Puget Sound Energy power line to the eastern property boundary. The relocation of the power line would be coordinated with the utility, and the work would be performed by the utility company contractors at the beginning of the construction period to make room for the new switching track and construction equipment.

Additional minor communication utility relocations may also be required, including existing bundled fiber optic lines which would be coordinated with the fiber optic utility providers.

Figure 3 illustrates the proposed project elements evaluated in the Sounder Yard and Shops Facility Project SEPA Environmental Checklist (March 2016) as well as the updated design evaluated in the Sounder Yard and Shops Facility Project SEPA Addendum (December, 2017).

**3. Is there any increase of impervious surface? If so, what is the area?**

Yes, the proposed project would increase impervious surface at the site to approximately 73 percent of the site. The total area is approximately 199,800 square feet of compacted gravel, pavement, concrete, and rooftops.

**4. Describe how storm water is currently treated on the site?**

Currently, stormwater runoff on the project site is managed through pre-treatment prior to infiltration. The characteristics of the native soil on site are not adequate to provide treatment of stormwater runoff; therefore, basic water quality/infiltration ditches provide pre-treatment of precipitation before infiltration into subsurface soil.

**5. How will storm water be treated on this site during construction and after the project is complete?**

During construction, a Construction Stormwater Management Pollution Prevention Plan, including pollution prevention Best Management Practices (BMPs) such as spill reporting and cleanup and temporary erosion and sediment control BMPs, will be developed and implemented to avoid or minimize potential impacts to water resources addressed below in Question 12.

Post-construction, stormwater from project improvements will be collected and treated using BMPs approved by Washington Department of Ecology prior to infiltration.

**6. Are there any underground storage tanks present or to be installed? Include details of such tanks.**

No.

**7. Will there be any liquid or solid waste generated? If so how will it be disposed of?**

Solid waste generated on site would include garbage and refuse generated in a workplace of approximately 45 employees, as well as the waste produced by the maintenance and repair work taking place at the facility. The latter would require the use of diesel fuel, lubricants, cleaning solvents, and similar chemical compounds. These materials would be collected and stored in a new hazardous materials storage facility in the northeast corner of the site prior to appropriate off-site disposal.

All waste resulting from operations and maintenance would follow all proper handling and disposal or recycling procedures for regulated materials.

**8. What is the depth of excavation?**

The maximum depth of excavation would extend up to approximately 21 feet below the surface for construction of two of the work pits in the maintenance base building. The construction of the work pit at the wheel truing facility would require excavation to approximately 10 feet. The wheel truing facility would be located on a high point on the site (about 5 feet elevation difference compared to the eastern property fence line), so excavation of the approximately 10-foot pit in the wheel truing facility is unlikely to encounter the groundwater table. Other general site disturbance during construction would be associated with minor excavation activities.

**9. Are there any wells in the area that may provide direct routes for contaminants to access the aquifer and how close are they to the project?**

A search of the State of Washington Department of Ecology GIS spatial datasets provided the well reports for wellheads located at or near the project site. Several wellheads were located within the project site (tax parcel number 0219011133) adjacent to the existing Burlington Northern Santa Fe (BNSF) train tracks. Wellheads at this location have recorded well depths between 30 feet to 75 feet and are either abandoned or resource protection wells (for the collection of subsurface information).

Nearby wellheads located outside of the project site (at tax parcel 0220364102) are between 80 feet and 100 feet away from the project site boundary and over 150 feet from the proposed improvements. These wellheads are also either abandoned or resource protection wells.

While wells may provide direct routes for contaminants to access the aquifer, this is not expected to occur as a result of the proposed project work due to the distance existing wellheads are from planned construction activities.

**10. Are there any hazardous waste sites in the project area....especially if the waste site has an underground plume with monitoring wells that may be disturbed? Include details.**

A hazardous material investigation of the project area was conducted by GeoEngineers in June 2011, including a search of Environmental Data Resources (EDR) records. The investigation concluded that there were ten potential properties of concern that were

identified in the EDR public records search. These potential properties of concern did not include the project site and as such none would be disturbed for construction of the project. A subsurface soil investigation of the project site documented in a report published in 2015 concluded that there were lube-oil range hydrocarbons present at concentrations greater than Model Toxics Control Act (MTCA) Method A Unrestricted Land Use (ULU) clean up levels, which is consistent with the historic rail use on the property. Petroleum hydrocarbons, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs) and organochlorine pesticides were either not detected or detected at concentrations less than the MTCA Method A ULU and industrial land use (ILU) cleanup levels or Method B and C criteria.

**11. Are there any deep pilings that may provide access to the aquifer?**

No.

**12. Are Best Management Practices planned to address any possible risks or concerns?**

BMPs would be implemented during construction to avoid or minimize possible environmental risks. The contractor would implement temporary erosion and sediment control plans, construction stormwater pollution prevention plans, contaminated media management plans, and lead and asbestos abatement programs, as necessary.

Given the lube-oil range hydrocarbons present at the site, any required remediation would be consistent with applicable regulations including the proper disposal of any contaminated soils disturbed prior construction. Other hazardous or contaminated materials encountered would follow proper handling and disposal procedures in accordance with state and federal regulations.

Construction BMPs would include but not limited to: designated construction entrances, silt fencing, sediment traps, dust suppression, application of seeding or mulching for soil stabilization, as well as other techniques in accordance with the NPDES Construction Stormwater General Permit requirements.

**13. Is there any other information that could be helpful in determining if this project may have an affect on the aquifer?**

A geotechnical report, prepared by GeoEngineers titled *Sounder Yard and Shop Facilities, Lakewood, Washington* (September 5, 2014) reported groundwater was encountered during drilling at depths ranging from 15 to 30 feet below the surface, but vary by season, precipitation, and other factors. The maximum depth of excavation, however, would be approximately 21 feet in depth. As such, construction activities associated with the work pits in the maintenance base building may extend into the aquifer.

The location of the required deep excavation would be on the southeastern corner of the maintenance building, which is located on the two additional parcels to be acquired by Sound Transit (parcels 0220368018 and 0220368019). Prior to acquisition of these

parcels, Sound Transit conducted a Phase I Environmental Site Assessment to determine potential extent of contamination risks associated with the parcels and nearby sites. One parcel, had previously been used by a towing company and findings of the Phase I ESA indicated some contamination on the parcel. A Phase II Environmental Site Assessment was performed to determine the extent of contamination and findings indicated that the contamination was limited to surface soils. With the information, Sound Transit has committed to cleaning up the site prior to the start of construction, thus removing contaminated soils and minimizing risks to mobilizing contamination from surface soils during the deep excavation construction work.

In addition, because the deep excavation could extend into the aquifer, Sound Transit plans to conduct some subsurface geotechnical investigation to better understand groundwater conditions. Piezometers will be installed to collect water data over a period of a year to determine seasonal fluctuations in the groundwater level and to determine if perched water conditions may exist. In addition, a pumping test would be conducted to determine soil permeability at the depths to be excavated and the drawdown characteristics of the aquifer. The findings of these geotechnical investigations will be provided to the design-build contractor. The contractor will be directed to determine the most appropriate construction methods to use to avoid contamination of the aquifer as well as mobilization of contamination. For example, should excavation be required that extend into the groundwater, dewatering would be employed, but additional precautions would also be used to localize the draw down effects on the aquifer during construction dewatering.

Additionally, project construction stormwater will be managed through Washington State Department of Ecology-approved pre-treatment BMPs prior to infiltration onsite. Other potential impacts would be avoided or minimized through the implementation of appropriate BMPs; therefore, the Sole Source Aquifer would not be expected to be impacted by the proposed project.

**14. Does this Project include any improvements that may be beneficial to the aquifer, such as improvements to the wastewater treatment plan?**

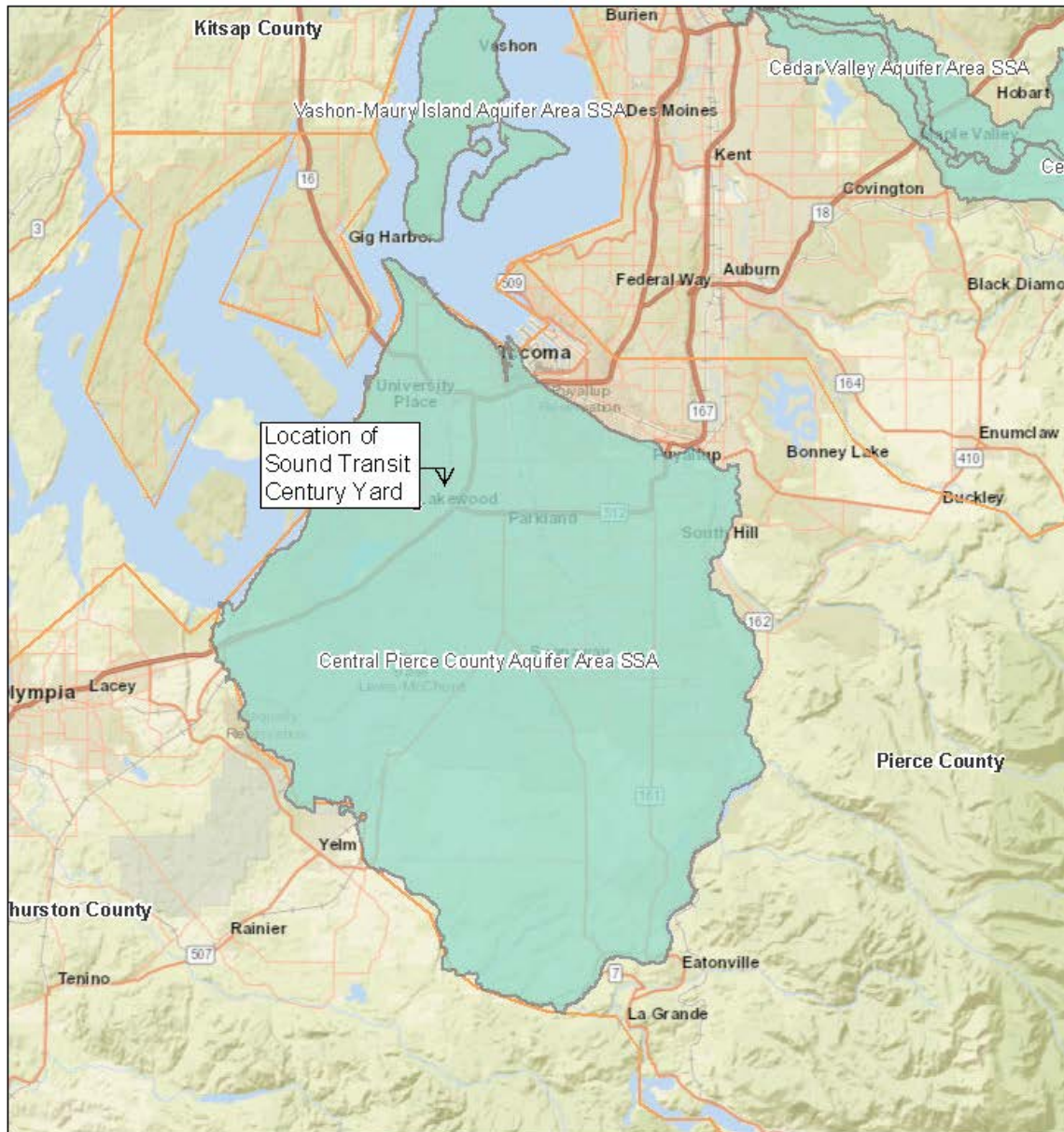
The existing maintenance facility includes a sanitary connection to the City of Lakewood sanitary sewer system, and the proposed Sounder Maintenance Base Project will also include a connection. The project also proposes to construct a new pre-treatment facility to manage stormwater runoff per the Department of Ecology Stormwater Management Manual requirements. This new facility would treat project stormwater runoff. Changes or improvements to the existing stormwater collection, conveyance and treatment system is not anticipated.

**The EPA Sole Source Aquifer Program may request additional information if impacts to the aquifer are questionable after this information is submitted for review.**

**Figure 1. Project Vicinity Map**



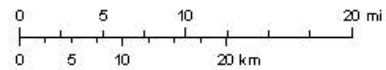
**Figure 2. Central Pierce County Aquifer Area**



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- Sole Source Aquifers - Labels
- SSA
- USA\_Counties\_Generalized
- USA\_Counties\_Generalized



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCA, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Service and data: US EPA Office of Environmental Information (OEI). Data: US Census Bureau | US Census Bureau, EPA American Indian Environmental Office (AIEO), EPA Office of Environmental Information (OEI) | Web App Builder for ArcGIS

**Figure 3. Proposed Site Layout and Configuration**

