



City of Seattle

Gregory J. Nickels, Mayor

**Department of Planning and Development**

Diane M. Sugimura, Director

**CITY OF SEATTLE  
ANALYSIS AND DECISION OF THE DIRECTOR  
OF THE DEPARTMENT OF PLANNING AND DEVELOPMENT**

**Application Numbers:** 3006040  
**Applicant Name:** Seattle Public Utilities (Jim Johnson)  
**Addresses of Proposal:** 698 South Riverside Drive

**SUMMARY OF PROPOSED ACTION**

Shoreline Substantial Development Application to allow a stormwater pump station and water quality facility above and below ground in an environmentally critical area. Project includes 2,350 cu. yds. of grading. Existing structures to be demolished. Determination of Non-Significance prepared by the City of Seattle, Seattle Public Utilities (SPU).

The following approvals are required:

**Shoreline Substantial Development Permit** - to allow construction in the UI Shoreline Environment. (Seattle Municipal Code 23.60.030)

**Shoreline Use Approval** – to allow a utility service use in the UI shoreline environment. (Seattle Municipal Code 23.60.850A)

**SEPA - Conditioning pursuant to Seattle’s SEPA policies.**  
(Seattle Municipal Code 25.05.600) Environmental documents prepared by SPU.

**SEPA DETERMINATION:**       Exempt     DNS     MDNS     EIS  
    DNS with conditions\*  
    DNS involving non-exempt grading or demolition or  
   involving another agency with jurisdiction\*

\*Determination of Non-Significance (DNS) issued by Seattle Public Utilities (SPU) on March 27, 2008.

## **BACKGROUND DATA**

### Site Location

The proposed project is located in the South Park neighborhood of the City of Seattle, King County, Washington in the southwest quarter of Section 29, Township 24N, Range 4E. The project location is at the intersection of 7<sup>th</sup> Avenue South and South Riverside Drive.

### Site Use and Adjacent Properties

The project site consists of a portion of the 7<sup>th</sup> Avenue South right-of-way and two private parcels (636 and 640 South Riverside Drive) along the Duwamish River that the City of Seattle recently acquired.

The 7<sup>th</sup> Avenue South right-of-way is a dead end at the Duwamish River, which is currently used by neighboring properties as private storage (via a street use permit administered by the Seattle Department of Transportation). The existing stormwater discharge is located within the 7<sup>th</sup> Avenue South right-of-way.

The two subject parcels consist of a commercial metal fabrication shop and storage yard on one parcel (640 South Riverside Drive) and a single family residence on the second parcel (636 South Riverside Drive). A fixed dock supported by pilings, with a ramp and floating dock, are located along the Duwamish River shoreline in front of 636 South Riverside Drive.

Properties adjacent to the project site are owned by a private construction contractor. The property adjacent to the southeast of the 7<sup>th</sup> Avenue South right-of-way is the contractor's office. The property adjacent to the southwest of 636 South Riverside Drive is the contractor's storage yard. Other properties in the area are used for industrial purposes.

### Proposal

Stormwater discharge to the Duwamish River at 7<sup>th</sup> Avenue South currently is not treated. Under high tides, the Duwamish River flows into the existing 72" discharge pipe, backing up the system and causing storm flows or runoff to back up rather than drain to the river. The proposed development would construct a pump station and water quality facility for the South Park area of Seattle on recently-acquired City property. The pump station would enable the existing drainage system to drain under all tidal and storm conditions up to a 25-year storm. The water quality facility would provide water quality treatment to all flows from the 7<sup>th</sup> Avenue South drainage basin, up to 11 cubic feet per second (cfs); flows over 11 cfs would bypass the water quality facility and flow to the river untreated, as they do now. The water quality facility would reduce polluted water flowing to the Duwamish River. The proposed pump station and water quality facility would allow future expansion of the stormwater collection system to occur without increasing flooding at the downstream end of the basin.

Specific elements of this project are as follows:

- Demolish two existing structures located at 636 and 640 South Riverside Drive and removal of associated underground utilities.
- Construct a below-grade stormwater pump station, approximately 30 feet x 25 feet and approximately 30 feet deep.

- Construct a buried pre-cast vault adjacent to the new pump station approximately 11 feet x 16 feet and approximately 16 feet deep, to divert flows to the new pump station.
- Modify and replace a tideflex valve located within the existing buried vault and raise the existing top slab elevation, within 7<sup>th</sup> Avenue South right-of-way.
- Construct an above-grade water quality facility, approximately 50 feet by 100 feet and approximately 18 feet high with a 3.5-foot high railing, for a total height of approximately 21.5 feet.
- Relocate existing overhead utility lines and 2 poles in front of 636 and 640 South Riverside Drive to the south side of South Riverside Drive.
- Construct a security fence around the new facilities located at 636 and 640 South Riverside Drive and within 7<sup>th</sup> Avenue South.

The project also incorporates several improvements to the shoreline environment. These include: replacing trees removed at a ratio of 2/1 (location to be coordinated with the City arborist) and installing landscaping and a bench for public access within the 7<sup>th</sup> Avenue South street right-of-way.

#### Public Notice and Comment Period

Public notice of the Land Use Application was given on March 12, 2009. The public comment period ended on April 10, 2009. The Land Use Application file is available at the Public Resource Center located at 700 Fifth Ave, Suite 2000 (<http://www.seattle.gov/dpd/PRC/LocationHours/default.asp>).

#### **ANALYSIS – SHORELINE USE APPROVAL**

Seattle Municipal Code (SMC) 23.60.850A allows a utility service use in the Urban Industrial (UI) environment, subject to the development standards.

Seattle Public Utilities (SPU) proposes to construct a pump station and water quality facility in the South Park area of Seattle along the Duwamish River. The project is subject to the Shoreline Management Act of 1971 (Chapter 90.58 RCW) and the Seattle Municipal Code (SMC) shoreline master program (SMC 23.60). The project is consistent with shoreline policies that foster and accommodate reasonable use of the shoreline. SPU plans to improve the operation of an existing stormwater outfall by allowing discharge during a greater range of tidal and storm conditions and by installing a new water quality facility to clean up stormwater before it is discharged to the river.

The proposed facility would be located entirely within the 200-foot shoreline environment. The facility is considered a "utility service use whose operations require a shoreline location" (SMC 23.60.840E.3); the proposed facility is permitted outright on waterfront lots in the UI Shoreline Environment and on upland lots (SMC 23.60.850A).

Both the land use and shoreline designations envision industrial development. The proposed utility use would be consistent with the surrounding uses in its utilitarian purpose, design, and building materials (primarily steel and concrete). The following table summarizes the project and compares it to the applicable UI development standards (SMC 23.60.870).

<i>Subchapter III General Provision Part 4 Development Standards Applicable to Specific Uses</i>	<i>Development Standards</i>	<i>South Park Pump Station and Water Quality Facility</i>
SMC 23.60.192 Standards for utility lines.	Locate utility lines within existing corridors, as practical.	No new utility lines proposed.
SMC 23.60.194 Standards for intakes and outfalls.	Install new intakes and outfalls so not visible at MLLW; design/construct to prevent fish entry.	No new outfall proposed; new tidegate valve will open only when discharging and thus precludes fish entry.

<i>Subchapter XV Urban Industrial Environment Part 2 Development Standards (SMC 23.60.870)</i>	<i>Development Standards</i>	<i>South Park Pump Station and Water Quality Facility</i>
<p>SMC 23.60.872  Height in the UI Environment</p>	<p>35 feet  80 feet for water-related, water-dependent plus 4 feet for railing.</p>	<p>18 feet  21.5 feet with railing.</p>
<p>SMC 23.60.874  Lot coverage in the UI Environment</p>	<p>100% of upland lot  100% of waterfront lot.</p>	<p>Approximately 42%</p>
<p>SMC 23.60.876  View corridors in the UI Environment.</p>	<p>No view corridor for upland lot abutting UI waterfront lot.   Development of waterfront does not require view corridor if use is water-related or water-dependent</p>	<p>Use is water-dependent.   Equipment at end of ROW blocks water view.   Pump station extends nearly to centerline of 7<sup>th</sup> Avenue South (80' wide ROW).   Tidegate vault and diversion structures located within ROW approximately 2 feet above grade for flood protection.</p>
<p>SMC 23.60.878  Setbacks in the UI Environment</p>	<p>No Shoreline setback for water-dependent use.</p>	<p>Shoreline setbacks range from approximately 0 to 25 feet.</p>
<p>SMC 23.60.880  Development standards specific to water-related uses on water-front lots in the UI Environment</p>	<p>Design to encourage efficient use of shoreline; potential setbacks from water's edge; joint use of piers etc.</p>	<p>Project avoids the water's edge, with one corner coming close where the shoreline is further landward; all development, including sheet pile wall, will be landward of the MHHW (9 feet).</p>
<p>SMC 23.60.880  Regulated public access in the UI Environment.</p>	<p>Public access required for publicly owned or leased waterfront land.</p>	<p>Public access improvements (i.e., bench and landscaping) provided within the 7<sup>th</sup> Avenue South ROW.</p>

## **DECISION – SHORELINE USE APPROVAL**

The proposed action is **CONDITIONALLY GRANTED.**

### **ANALYSIS - SHORELINE SUBSTANTIAL DEVELOPMENT PERMIT**

SMC Section 23.60.030 provides criteria for review of shoreline substantial development permits. Specifically, the section states that a substantial development permit shall be issued only when the proposed development is consistent with:

- A. *The policies and procedures of Chapter 90.58 RCW;*
- B. *The regulations of this Chapter; and*
- C. *The provisions of Chapter 173-27 WAC.*

Chapter 90.58 of the Revised Code of Washington (RCW) codifies the State's policies with respect to managing shorelines and fostering reasonable and appropriate shoreline uses. Specifically, the Act contemplates protection against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life. The Act further provides definitions and concepts and delegates responsibility for implementation to specific state and local governmental entities. Local governments are given primary responsibility for initiating and administering the regulatory program of the Act. The State Department of Ecology (DOE), on the other hand, is given responsibility for insuring compliance among local governments with the policy of the State and provisions of the Act. Pursuant to the requirements of the Act, the City of Seattle has adopted a local shoreline master program that has been approved by the DOE. The City of Seattle Shoreline Master Program (SSMP) is codified in SMC Chapter 23.60.

In evaluating applications for shoreline substantial development permits, the Director must determine that a proposed use meets the criteria set forth in SSMP 23.60.030. Specifically, development standards of the shoreline environment and underlying zone must be considered and a determination must be made whether any special permit requirements or conditions are necessary to preserve or enhance the shoreline area. In order to obtain a shoreline substantial development permit, an applicant must demonstrate that the proposal is consistent with the shoreline policies established in SSMP Section 23.60.004. Additionally, the applicant must further demonstrate that the proposal meets the criteria and development standards for the specific shoreline environment in which the site is located, any applicable special approval criteria, general shoreline master program development standards, and the development standards for specific uses.

#### **Shoreline Policies (RCW 90.58 and SSMP 23.60.004)**

The Shoreline Goals and Policies which are part of the Seattle Comprehensive Plan's Land Use Element and the purpose and location criteria for each shoreline environment designation contained in SMC 23.60.220 must be considered in making all discretionary decisions in the shoreline district.

The goals for shoreline use include long-term over short-term benefits, the integration and location of compatible uses within segments of the shoreline, and the location of all non-water dependent uses upland to optimize shoreline use and access. The goals also include providing for the optimum amount of public access – both physical and visual – to the shoreline of Seattle and the preservation and enhancement of views of the shoreline and water from upland areas where appropriate.

#### Development Standards for All Environments (23.60.152 SMC)

These general standards apply to all uses in the shoreline environment. They require the design and construction of all uses be conducted in an environmentally sound manner, consistent with the Shoreline Management Program and with best management practices for the specific use or activity. All shoreline development and uses must in part:

- 1) Minimize any increase in surface runoff and control, treat and release surface water runoff so that receiving water quality and shore properties and features are not adversely affected;
- 2) Utilize permeable surfacing where practicable to minimize surface water accumulation and runoff;
- 3) Control erosion during project construction and operation;
- 4) Be located, designed, constructed, and managed to avoid disturbance, minimize adverse impacts and protect fish and wildlife habitat conservation areas, including but not limited to, spawning, nesting, rearing and habitat areas, commercial and recreational shellfish areas, kelp and eel grass beds, and migratory routes. Where avoidance of adverse impacts is not practicable, project mitigation measures relating to the type, quantity and extend of mitigation to the protection of species and habitat functions may be approved by the Director in consultation with state resource management agencies and federally recognized tribes.
- 5) All shoreline developments and uses shall be located, designed, constructed and managed to minimize interference with or adverse impacts to beneficial natural shoreline processes such as water circulation, littoral drift, sand movement, erosion and accretion.
- 6) All shoreline development and uses shall be designed, constructed and managed in a manner that minimizes adverse impacts to surrounding land and water uses and is compatible with the affected area;
- 7) All development activities shall be located and designed to minimize or prevent the need for shoreline defense and stabilization measures and flood protection works such as bulkheads, other bank stabilization landfills, levees, dikes, groins, jetties, or substantial site regrades.

#### Short-term Impacts

The following temporary or construction-related impacts are expected: construction material and equipment pose some potential danger of erosion and stormwater contamination. The contamination and erosion could lead to both water quality and aquatic habitat damage. In order to be prepared to provide a fast and effective response to spills or other actions which cause new contaminants to be introduced into the aquatic environment, it is necessary to condition the project to require that prior to commencing construction an emergency containment plan and procedures be developed and all necessary equipment be stocked on the site.

Procedures for Administration of the Shoreline Management Act (WAC 173-27)

Pursuant to the language and intent of RCW 90.58, WAC 173-27 establishes basic rules for the permit system to be adopted by local government. It provides the framework for permits to be administered by local governments including time requirements for permits, revisions to permits, notice of application, formats for permits, and provisions for review by the State DOE. Because DOE has approved the Seattle Shoreline Master Program, consistency with the criteria and procedures prescribed by SMC Chapter 23.60 is also considered consistency with the WAC 173-27 and RCW 90.58.

Summary

The proposed development will be consistent with the policies and procedures of RCW 90.58, WAC 173-27, and Chapter 23.60 SMC also known as the Seattle Shoreline Master Program (SSMP). As conditioned, the development will have no adverse effect on the shoreline, the near shore environment, and the waters of Puget Sound.

**DECISION - SHORELINE SUBSTANTIAL DEVELOPMENT PERMIT**

The proposed action is **CONDITIONALLY GRANTED.**

**ANALYSIS – STATE ENVIRONMENTAL POLICY ACT (SEPA)**

The initial disclosure of the potential impacts from this project was made in the environmental checklist and threshold determination of non-significance (DNS) prepared by SPU and published March 27, 2008. The information in the checklist, plans, supplemental information submitted by the applicant (SPU), and the experience of the Department with the review of similar projects, form the basis for this analysis and decision.

SMC 25.05.660 allows for conditioning of a project to “mitigate the environmental impact” based upon “mitigation measures ... related to specific, adverse environmental impacts clearly identified in an environmental document on the proposal.” In addition, the City may also rely on the analysis and mitigation program from other federal, state or local agencies if the City finds that said analysis and mitigation provides “adequate analysis of and mitigation for the specific adverse environmental impacts of the project action..., the City as lead agency shall not impose additional mitigation...”

The SEPA Overview Policy (SMC 25.05.665) establishes the relationship between codes, policies, and environmental review. Specific policies for specific elements of the environment, certain neighborhood plans, and other policies explicitly referenced may serve as the basis for exercising substantive SEPA authority. The Overview Policy states in part: *“where City regulations have been adopted to address an environmental impact, it shall be presumed that such regulations are adequate to achieve sufficient mitigation”* (subject to some limitations).

Under certain limitations/circumstances (SMC 25.05.665 D 1-7) mitigation can be considered. Thus, a more detailed discussion of some of the impacts is presented below.

### Short - Term Impacts

The following temporary or construction-related impacts are expected:

- decreased air quality due to suspended particulates from construction activities and hydrocarbon emissions from construction vehicles and equipment;
- increased dust caused by construction activities; potential soil erosion and potential disturbance to subsurface soils during grading, excavation, and general site work;
- increased traffic and demand for parking from construction equipment and personnel;
- conflicts with normal pedestrian and vehicular movement adjacent to the site;
- increased noise; and
- consumption of renewable and non-renewable resources.

Several adopted City codes and/or ordinances provide mitigation for some of the identified impacts. Specifically these are: Stormwater, Grading and Drainage Control Code (grading, site excavation and soil erosion); Street Use Ordinance (watering streets to suppress dust, removal of debris, and obstruction of the pedestrian right-of-way); and the Noise Ordinance (construction noise). The Environmentally Critical Areas (ECA) ordinance and Director's Rules (DR) 33-2006 and 3-94 regulate development and construction techniques in designated ECAs. Compliance with these applicable codes and ordinances will reduce or eliminate most of the short-term impacts to the environment. Other impacts may not be adequately mitigated by existing ordinances, as discussed below.

### Air Quality

Greenhouse gas emissions associated with development come from multiple sources; the extraction, processing, transportation, construction and disposal of materials and landscape disturbance (Embodied Emissions); energy demand created by the development after it is completed (Energy Emissions); and transportation demands created by the development after it is completed (Transportation Emissions). Short-term impacts generated from the embodied emissions result in increases in carbon dioxide and other green house gases thereby impacting air quality and contributing to climate change and global warming. While these impacts are adverse they are not expected to be significant due to the relatively minor contribution of greenhouse gas emissions from this specific project. The other types of emissions are considered under the use-related impacts discussed later in this document. No SEPA conditioning is necessary to mitigate air quality impacts pursuant to SEPA policy SMC 25.05.675A.

The proposal will only involve temporary construction-related air emissions. These will include dust generated by construction activities and exhaust from construction equipment. Emissions will consist primarily of soil particles, carbon monoxide and hydrocarbons. Odors could be temporarily emitted where existing sewer pipes or vaults are opened during construction. A King County Greenhouse Gas Emissions worksheet is attached to the environmental checklist.

During dry weather, construction-related dust emissions from the project will be minimized through dust control measures such as watering construction areas to wet bare soils and cleaning roadways around construction areas. Construction equipment-related emissions will be reduced by requiring proper maintenance of equipment, using electrically powered equipment where practical, and avoiding prolonged idling of vehicles and equipment.

Puget Sound Clean Air Agency (PSCAA) regulations require control of fugitive dust to protect air quality. Compliance with PSCAA regulations will mitigate the potential adverse short term impacts to air associated with new construction. As discussed in the Shoreline analysis above, Best Management Practices (BMPs) to address air quality issues during construction are incorporated into the project and will be required as conditions of approval of the Shoreline Permit. Therefore no further mitigation pursuant to SEPA policies in SMC 25.05.675A is warranted.

### Construction Impacts

SMC 25.05.675B provides policies for the limitation of construction related impacts. In addition, there are several City codes that provide authority to evaluate and address impacts of the project, including the City's ECA ordinance, the Stormwater, Grading and Drainage Control Code and the City's Shoreline Code. The Stormwater, Grading and Drainage Control Code provides extensive conditioning authority and prescriptive construction methodology to assure safe construction techniques are used. As discussed above, Best Management Practices (BMPs) to address construction impacts are incorporated into the project and will be required as conditions of approval of the Shoreline Permit. Therefore, no further mitigation pursuant to SEPA policies in SMC 25.05.675B is warranted.

### Noise

The SEPA checklist indicates that Construction noise will typically consist of engine noise, reverse gear warning systems, and mechanical and scraping noises associated with the use of heavy construction equipment such as bulldozer, graders, scrapers and loaders. Construction noise levels will vary depending on the specific equipment used for particular activities. Based on previous construction projects, typical noise levels can be expected to range from about 70 to 90 dBA measured at a distance of 50 feet from the source. Materials hauling activities and workers' vehicles will add slightly to traffic noise on roads used to access the site during project construction. The Seattle Noise Ordinance permits increase in permissible sound levels associated with construction and equipment between the hours of 7:00 AM and 10:00 PM on weekdays and 9:00 AM and 10:00 PM on weekends. Nearby properties are developed with industrial uses consistent with the zoning and, because of the types of routine activities in the vicinity, the limitations stipulated in the Noise Ordinance (SMC 25.08) are sufficient to mitigate noise impacts. No further noise mitigation is warranted.

Construction activities outside the above-stated restrictions may be authorized by the Land Use Planner when necessitated by unforeseen construction, safety, or street-use related situations. Requests for extended construction hours or weekend days, beyond the code limitations, must be submitted to the Land Use Planner at least three (3) days in advance of the requested dates in order to allow DPD to evaluate the request.

The following measures will be required to control noise impacts during construction:

- Mufflers on all gas powered equipment.
- Provide electricity from the power grid and encourage the use of electric or hydraulic tools whenever practicable.
- Notify residents and businesses near active construction areas of upcoming noisy construction activities.
- Provide a 24 hour construction hotline to promptly respond to questions and complaints.

### Long-term Impacts

Long-term or use-related impacts from the proposal, although slight, are also anticipated as a result of approval of this proposal including: a minor increase in traffic and in parking demand for maintenance at the pump station and water quality facility; increases in carbon dioxide and other greenhouse gas emissions; and increased light and glare.

### Greenhouse Gas Emissions and Other Impacts

Emissions from the generation of greenhouse gases due to the increased energy and transportation demands may be adverse but are not expected to be significant due to the relatively minor contribution of emissions from this specific project. The other impacts such as, but not limited to, increased ambient noise, and increased demand on public services and utilities are mitigated by codes and are not sufficiently adverse to warrant further mitigation by condition.

### Archeological/Historic/Cultural Resources

Because a portion of the proposed site is located within the identified U.S. Government Meander Line, the potential exists for discovery of previously unknown archeological significant resources. DR 2-98 provides clarification of the SEPA Historic Preservation Policy for potential archeologically significant sites (SMC 25.05.675H) and requirements for archeological assessments. A cultural resources survey was prepared for the project site indicating that no cultural materials were identified during pedestrian survey or sub-surface investigation, although the likelihood of archaeological deposits is moderate to high. The cultural resources report concluded that the project would have no effects on historic resources. The cultural resources report also recommended preparation of an Unanticipated Discovery Plan to address potential discovery of archaeological resources during demolition and subsurface disturbances. However, since compliance with DR 2-98 requires monitoring and notification similar to what would be found in an “Unanticipated Discovery Plan”, the plan is not necessary (see item 8, **Conditions-SEPA** below).

Because of the potential for encountering archaeological deposits, excavation will be monitored by a professional archaeologist, pursuant to DR 2-98. If artifacts are uncovered during excavation, work will be stopped pending notification of and consultation with the Washington Department of Archaeology and Historic Preservation, the City of Seattle Historic Preservation Program, the King County Historic Preservation Program and, if Native American archaeological resources are encountered, concerned Tribes.

### Water Quality

The only work waterward of the mean higher high water line (9 feet) of the Duwamish River, will be the possible location of erosion control fencing in the dry above the mean high water line (8 feet). A crane arm will be used to install tieback anchors to stabilize a steel wall. This arm will extend out approximately 15-20 feet into the Duwamish River, approximately 10 feet above the water. There is the potential for debris (including petroleum products) to enter the water, so care will have to be taken to prevent this from occurring. In addition to the requirements set forth by SMC 23.60.152, recommendations to protect the water quality of the Duwamish River shall also be followed as conditioned below pursuant to the authority found in SMC 25.05.675S.

Earth

A geotechnical report including recommendations for construction was submitted with this application and was reviewed by the Department's geotechnical engineer. The site is located on the shore of the Duwamish River. The topography is generally level at an elevation of about 12 feet (NAVD88). Review of a geologic map of the area indicates that the surficial deposits of the surrounding area are mainly recent alluvium sand deposits (Troost et al, 2005) Prior to the straightening of the Duwamish River for navigation, the river meandered across the Duwamish River valley and deposited river sediment (alluvium) under moderate to low energy (flow) conditions. These sediments generally are an interbedded unit of sand and some silt with organics. Because the soils were not overridden by glacial ice during the last glaciation, they tend to be relatively loose or soft.

Soil borings indicate that the subsurface consists of fill underlain by alluvial deposits. The alluvial deposits are likely underlain by glacially overridden soils, although the borings performed in the project area did not encounter this soil unit. The depth to glacially overridden soils at the First Avenue Bridge and South Park Bridge is approximately 100 feet and 70 feet, respectively. These bridges are located approximately ½-mile northwest and southeast of the project site. Subsurface soils are classified for correlation with engineering properties and groundwater conditions and are described below in the order encountered below the surface.

Fill soils were encountered in all the borings to a depth of about 2.5 to 5 feet below ground surface. The fill generally consists of silty sand and sand. The fill observed is very loose to medium dense. Moisture contents ranged between 11 and 19 percent. In general, the fill exhibits variable engineering properties, but can be generally characterized as having low to moderate strength, medium to high permeability, moderate to high compressibility, and moderate to medium moisture sensitivity.

Soil encountered below the fill is often called the Duwamish Sand, and includes sand, sand with silt, silty sand, low plasticity silt, and silt with organics. These soils were deposited by flowing water of the Duwamish River after the end of the most recent glacial period. The soft silt and organic layers were observed to be very soft to medium stiff, with high moisture contents due to the organic content of the soil. This unit can be expected to have low strength, moderate to high compressibility, low to moderate permeability, and high moisture sensitivity.

The alluvium sand layers were observed to be very loose to very dense, with density generally increasing with depth. This unit can be expected to have low to moderate strength, low to moderate compressibility, high permeability, and low to moderate moisture sensitivity.

The groundwater table at the time of drilling was 7 feet below the ground surface. The groundwater table has been monitored on an hourly basis since November 14, 2006. The tide fluctuations in Puget Sound and daily rainfall totals for the same period of time also have been noted since the monitoring well is relatively close to the banks of the Duwamish River and the groundwater table is closely tied to the rise and fall of the tide. The groundwater table within the proposed excavation area will be most influenced by tidal fluctuations as the distance to the river decreases.

Site preparation will involve excavating approximately 2,250 cubic yards of material and placing up to approximately 2,350 cubic yards of material; the amount of imported fill will be reduced if some of the excavated material can be used.

Temporary erosion and sedimentation control measures will be employed throughout project construction. Typical measures that could be used are filter fabric fences, hay bales, covering soil stockpiles and exposed soils, and use of settling tanks or other means to prevent sediment from leaving the site.

Additional Best Management Practices (BMPs) and other measures could include the following:

- Designate personnel to inspect and maintain temporary erosion and sediment control measures;
- Store materials away from surface waters;
- Refuel construction equipment and vehicles away from surface waters whenever practicable;
- Maintain spill containment and clean up material at the construction site;
- Contain equipment, materials and vehicle wash water associated with construction and keep it from draining into surface waters;
- Dispose of spoils at an approved disposal site.
- Use appropriate means to minimize tracking of sediment onto public roadways by construction vehicles;
- Restore disturbed areas by repaving or replanting as soon as practical after construction is completed.

Temporary erosion and sediment control measures will be identified in the project's construction plans and specifications. Appropriate erosion and sediment control measures will be installed prior to clearing, grading or excavation activities.

To protect existing structures, a maximum vibration limit will be specified to ensure that structures are not compromised. Vibration in the immediate area of construction will be monitored during construction to ensure that it does not exceed allowable limits. A pre-construction and post-construction photo survey will also be used to evaluate construction induced vibration.

### Traffic and Transportation

The proposal will not require any new roads or streets. Construction activities will temporarily occupy the northwest/southeast and east/west bound lanes of South Riverside Drive at the South Park Pump Station. After construction is complete, these streets will be repaved in accordance with City of Seattle requirements. All affected streets are public.

The project will generate one or two vehicle trips per week for maintenance activities. It is estimated that over the course of the approximately two year construction period, construction could generate approximately 240 (round-trip) truck trips to remove excavated material, 240 truck trips to import fill material, 70 truck trips to remove existing demolished or deconstructed structures, and 300 truck trips to import building materials such as steel and concrete. Construction workers also would contribute approximately 25 trips per week or 2,600 trips over the two year construction period.

Transportation impact mitigation could include the following during construction:

- Use flaggers if necessary to manage traffic during construction.
- Develop a traffic control plan describing detour routes, lane closures, sidewalk closures, signage, flagging, hauling routes, etc. for approval by the City of Seattle prior to start of construction.
- To the extent practicable, schedule construction traffic to avoid peak commuter hours. Try to minimize weekday truck traffic during rush hours.
- Require construction vehicles to follow major arterial routes to the maximum extent practicable.

### Parking

The completed project will not change the available parking along nearby streets or rights-of-way. Several parking spots (4 maximum) will be provided onsite for SPU employees. Construction parking is anticipated to be reasonably accommodated in the vicinity along adjacent streets or rights-of-way.

### Conclusion

In conclusion, the project will improve the quality of stormwater discharged to the Duwamish River and the proposed utility service use (pump station and water quality facility) will be consistent with the provisions set forth by 90.58 RCW, 173-27 WAC, and the provisions of Chapter 23.60 SMC, also known as the Seattle Shoreline Master Program (SSMP).

## **CONDITIONS – SHORELINE AND SPECIAL USE APPROVAL**

### Prior to Construction

1. Prior to commencing construction an emergency containment plan and procedures shall be developed and include the requirement that all necessary equipment for toxic spill clean-up be stocked on the site. A sufficient number of personnel that will be present during construction shall be trained in the proper implementation of this plan.
2. Prior to commencement of work the owner(s) and/or responsible party(s) shall notify in writing all contractors and sub-contractors of the general requirements of the Seattle Shoreline Master Program (SSMP 23.60.152), including the requirements set forth in conditions of the MUP.

### During Construction

The following condition(s) to be enforced during construction shall be posted at the site in a location on the property line that is visible and accessible to the public and to construction personnel from the street right-of-way. If more than one street abuts the site, conditions shall be posted at each street. The conditions will be affixed to placards prepared by DPD. The placards will be issued along with the Master Use Permit set of plans. The placards shall be laminated with clear plastic or other waterproofing material and shall remain posted on-site for the duration of the construction.

3. No debris, construction material, and/or toxic material shall directly or indirectly enter the Duwamish River during the proposed construction work.
4. Appropriate best management practices (BMPs) shall be employed to prevent debris, construction material and/or toxic material from entering the Duwamish River directly or via the stormwater during the proposed work. BMPs shall include the installation of a silt fence to contain any sediment laden runoff from the site.
5. Best Management Practices shall include the following:
  - Designate personnel to inspect and maintain temporary erosion and sediment control measures;
  - Store materials away from surface waters;
  - Refuel construction equipment and vehicles away from surface waters whenever practicable;
  - Maintain spill containment and clean up material at the construction site;
  - Contain equipment, materials and vehicle wash water associated with construction and keep it from draining into surface waters;
  - Dispose of spoils at an approved disposal site.
  - Use appropriate means to minimize tracking of sediment onto public roadways by construction vehicles;
  - Restore disturbed areas by repaving or replanting as soon as practical after construction is completed.

## **CONDITIONS – SEPA**

### *During Construction*

The following condition(s) to be enforced during construction shall be posted at the site in a location on the property line that is visible and accessible to the public and to construction personnel from the street right-of-way. If more than one street abuts the site, conditions shall be posted at each street. The conditions will be affixed to placards prepared by DPD. The placards shall be issued along with the building permit set of plans. The placards shall be laminated with clear plastic or other waterproofing material and shall remain posted on-site for the duration of the construction.

6. All construction activities are subject to the limitations of the Noise Ordinance. Non-noisy activities, such as site security, monitoring, weather protection shall not be limited by this condition.

Noise Ordinance variances for construction activities may be authorized when necessitated by unforeseen construction, safety, or street-use related situations. Requests for extended construction hours or weekend days must be submitted to the Noise Abatement Coordinators — David George [david.george@seattle.gov](mailto:david.george@seattle.gov) (206) 684-7843 or Jeff Stalter [jeff.stalter@seattle.gov](mailto:jeff.stalter@seattle.gov) (206) 615-1760 — at least three (3) working days in advance of the requested dates in order to allow DPD to evaluate the request.  
([http://www.seattle.gov/dclu/codes/noise\\_ord.pdf](http://www.seattle.gov/dclu/codes/noise_ord.pdf))

