Bull Run Filtration Projects
Land Use Applications

Multnomah County: Filtration Facility - Erosion and Sediment Control Application Narrative

Applicant | Owner:	Bonita Oswald, CAPM City of Portland | Portland Water Bureau 1120 SW 5th Avenue, Room 405, Portland, OR 97204
Representative:	Winterbrook Planning | 610 SW Alder Street, Suite 810 Portland, Oregon 97205
Contact:	Tim Brooks, ASLA, Winterbrook Planning Jesse Winterowd, AICP, PMP, Winterbrook Planning
Site Address:	SE Carpenter Lane (across from 35319 SE Carpenter Lane). Gresham, OR
Map & Tax Lot Numbers:	1S4E22D -00400, 1S4E22D -00100
Property ID:	R994220980, R994220820
Proposal:	Construction of a drinking water filtration facility and communications tower.
Land Use Review:	Erosion and Sediment Control Permit

Multnomah County
Land Use Planning Division
Plan Approved

Contents

Introduction

Ground disturbing activity in this project supports the development of a proposed 135 mgd drinking water filtration facility and a communications tower, located on a 94-acre site in Multnomah County. The filtration facility project is necessary to comply with U.S. Environmental Protection Agency (EPA) and Oregon Health Authority (OHA) drinking water requirements.

The filtration facility and pipelines project applications, with supporting narratives and appendices, are submitted under Case #T3-2022-16220, and were approved on 11/29/2023.

In response to the conditions of approval in the Hearings Officer's Decision, the Portland Water Bureau is submitting a Final Design Review Plan that addresses the modifications outlined in Condition 8. In addition to making these modifications, the Water Bureau has continued to consider modifications that may better align with community concerns and state requirements. Thus, the Water Bureau proposes retaining additional soils on site by spreading this material across the southeastern portion of the Filtration Facility site. Retaining additional soil onsite is supported by the State's Clean Fill requirements, preserves more topsoil on the site, and reduces construction traffic impacts to neighbors. It is estimated that increasing the elevation by up to five feet will reduce truck-and-trailer trips by almost 20,000 one-way trips to and from the Filtration Facility. Updated Filtration Facility drawings are included in this ESC set to reflect this retention of soils, which maintains the site's gentle grades and rolling landforms and continues the Water Bureau's commitment to be as responsive as possible to neighbor concerns.

Attachments

- **Completeness Response Memo- FF Site**
- **Geotechnical Memo: Steep Slopes- FF Site**

The following attachments are also submitted as technical appendices under Case #T3-2022-16220, are particularly relevant to and support the findings and conclusions in this section:

- **Facility Stormwater Report** (Appendix H.1)
- **Preliminary Facility Geotechnical Report** (Appendix I.1.a)

39.6225 Erosion and Sediment Control Permit

(A) An application for an Erosion and Sediment Control permit shall include two copies of each of the following:

(1) A scaled site plan showing the following, both existing and proposed:

(a) Property lines;

(b) Buildings, structures, driveways, roads and right-of-way boundaries;

(c) Location of wells, utility lines, site drainage measures, stormwater disposal, sanitary tanks and drainfields (primary and reserve);

(d) Trees and vegetation proposed for removal and planting and an outline of wooded areas;

(e) Water bodies;

(f) Boundaries of ground disturbing activities;

(g) Location and height of unsupported finished slopes;

(h) Location for wash out and cleanup of concrete equipment;

(i) Storage location and proposed handling and disposal methods for potential sources of non-erosion pollution including pesticides, fertilizers, petrochemicals, solid waste, construction chemicals, and wastewaters;

(j) Ground topography contours (contour intervals no greater than 10 feet); and

(k) Erosion and sediment control measures.

Findings: This ESC application package contains all of the above elements:

- A scaled site plan is included in this application.
- Property lines are shown on 00-LU-504, 00-LU-505, 00-LU-506, 00-LU-507 and 00-LU-508.
- Buildings, structures, driveways, roads and right-of-way boundaries are shown on 00-LU-504, 00-LU-505, 00-LU-506 and 00-LU-507.
- Location of wells, utility lines, site drainage measures, stormwater disposal, sanitary tanks and drainfields (primary and reserve) are shown on 00-LU-505, 00-LU-506, 00-LU-507, 00-LU-507 and 00-LU-508.
- Trees and vegetation proposed for removal and planting and an outline of wooded areas are shown on 00-LU-504, 00-LU-505, 00-LU-507 and 00-LU-508.
- Water bodies are shown on 00-LU-504, 00-LU-505, 00-LU-507 and 00-LU-508.
- Boundaries of ground disturbing activities are shown on 00-LU-506.
- There are no unsupported finished slopes, as shown on 00-LU-506.
- The location for wash out and cleanup of concrete equipment are shown on 00-LU-505.

- Material and waste staging areas are shown on 00-LU-505. Erosion control measures to protect material and waste storage areas will comply with the erosion control construction details on 00-LU-509 through 00-LU-513. Material storage and handling details are found in notes 14, 15, 17, 20, and 24 on 00-LU-501.
- Ground topography contours (contour intervals no greater than 5 feet) are shown on 00-LU-504, 00-LU-505 and 00-LU-507.
- Erosion and sediment control measures are shown on 00-LU-505, 00-LU-506 and 00-LU-507.

(2) Calculations of the total area of proposed ground disturbance (square feet), volume of proposed cut (cubic yards) and fill (cubic yards), total volume of fill that has been deposited on the site over the 20 year period preceding the date of application, and existing and proposed slopes in areas to be disturbed (percent slope). Such calculations are not required for fill physically supporting and/or protecting a structure or access road for essential and public facilities subject to earthquake or tsunami building code requirements of the Oregon Structural Specialty Code. For purposes of this subsection, the term "site" shall mean either a single lot of record or contiguous lots of record under same ownership, whichever results in the largest land area;

Findings:

The Multnomah County definition of fill follows.

Fill *– The deposit (noun or verb) of any earth materials by motorized means for any purpose, including, but not limited to, stockpiling, storage, dumping, raising elevation or topography, and tracking materials such as mud onto a road surface with vehicle tires. Work conducted by hand without the use of motorized equipment is not filling. For the purposes of this code, fill does not include materials included in a design by a registered professional engineer to physically support and/or protect a structure or access road for essential and public facilities subject to earthquake or tsunami building code requirements of the Oregon Structural Specialty Code."* (MCC 39.2000).

For purposes of this application, we use the terms "regulated fill" and "structural fill". Regulated fill meets the MCC definition of "Fill" above. As noted throughout the application, no regulated fill is proposed to be brought to the project site.

The total volume of cut proposed is 419,234 cubic yards. No regulated fill is proposed to be brought to or deposited on the site for this development. There has been no documented fill deposited on the site over the 20-year period preceding the date of the application. The proposal includes 381,001 cubic yards of material that will be moved within the site; this application and materials address erosion control related to this ground disturbance on the site. Existing and proposed slopes are shown on 00-LU-502, 00-LU-504, 00-LU-506. The total area of ground disturbance is 3,615,480 SF, or 83 acres, shown on 00-LU-501.

(3) A written description of the ground disturbing activity and any associated development, including:

(a) Specific timelines for all phases of work;

(b) With respect to fill:

(i) Description of fill materials, compaction methods, and density specifications (with calculations). The planning director may require additional studies or information or work regarding fill materials and compaction.

(ii) Statement of the total daily number of fill haul truck trips, loaded haul truck weight, and haul truck travel route(s) to be used from any fill source(s) to the fill deposit site.

(c) A description of the use that the ground disturbing activity will support or help facilitate.

Findings: Proposed ground disturbing activity involved is clearing, mass grading, utility construction, vertical construction, and final stabilization.

- Specific timelines for all phases of work are found on 00-LU-501 of the plan set. Construction Activity will consist of:
    A) Clearing- September, 2023
    B) Mass Grading- April, 2024
    C) Utility Construction- June, 2024
    D) Vertical Construction-June, 2025
    E) Offsite Public Roadway Improvements- June, 2026
    F) Final Stabilization- June, 2027

  Project Timeline: Beginning Date: June 2023,

  Completion Date: September 2027

- No regulated fill will be hauled to and deposited on the site; the project site is not a fill deposit site.
- Ground disturbing activity in this project supports the development of a proposed 135 mgd drinking water filtration facility and a communications tower, located on a 94-acre site in Multnomah County. The filtration facility project is necessary to comply with U.S. Environmental Protection Agency (EPA) and Oregon Health Authority (OHA) drinking water requirements.

(4) Surcharges to sanitary drainfields have been reviewed by the City of Portland Sanitarian or other agencies authorized to review waste disposal systems; and

(5) Any new discharges into public right-of ways have complied with the governing agencies discharge review process;

Findings: This application proposes no new discharges to sanitary drainfields or new discharges into public right of ways.

(6) Written findings, together with any supplemental plans, maps, reports, or other information necessary to demonstrate compliance of the proposal with all applicable provisions of the Multnomah County code including Erosion and Sediment Control permit standards in subsection (B). Necessary reports, certifications, or plans may pertain to: engineering, soil characteristics, stormwater drainage control, stream protection, erosion and sediment control, and replanting.

Findings: Findings demonstrating compliance of the proposal with all applicable provisions of Multnomah County Code are provided in this document, as well as notes in 00-LU-501, notes on all ESC plans, and details in 00-LU-509-513. A geotechnical summary statement and stormwater report for the filtration facility have been submitted with the main land use application for the project (see Appendix I.1. and Appendix H.1) and are attached. A completeness response memo and geotechnical memo addressing steep slopes are attached.

(7) Approval of any new stormwater surcharges to sanitary drainfields by the City of Portland Sanitarian and any other agency having authority over the matter; and

(8) Approval of any new stormwater discharges into public right-of-ways by each governing agency having authority over the matter.

Findings: This application proposes no new discharges to sanitary drainfields or new discharges into public right of ways.

(B) An Erosion and Sediment Control (ESC) permit shall not be issued unless the application for such permit establishes compliance with MCC 39.6210 and satisfaction of the following standards:

(1) The total cumulative deposit of fill, excluding agricultural fill pursuant to an Agricultural Fill permit, on the site for the 20-year period preceding the date of the ESC permit application, and including the fill proposed in the ESC permit application, shall not exceed 5,000 cubic yards. Fill physically supporting and/or protecting a structure or access road for essential and public facilities subject to earthquake or tsunami building code requirements of the Oregon Structural Specialty Code is not included in this 5,000 cubic yard calculation. For purposes of this section, the term "site" shall mean either a single lot of record or contiguous lots of record under same ownership, whichever results in the largest land area.

Findings: This application proposes no regulated fill to be deposited on the site. There is no documentation of fill deposited on site for the 20-year period preceding the date of this ESC permit application. Calculations showing total cuts and fill are found on 00-LU-501.

(2) Fill shall be composed of earth materials only.

(3) Cut and fill slopes shall not exceed 33 percent grade (3 Horizontal; 1 Vertical) unless a Certified Engineering Geologist or Geotechnical Engineer certifies in writing that a grade in excess of 33 percent is safe (including, but not limited to, not endangering or disturbing adjoining property), and suitable for the proposed development.

(4) Unsupported finished cuts and fills greater than 1 foot in height and less than or equal to 4 feet in height at any point shall meet a setback from any property line of a distance at least twice the height of the cut or fill unless a Certified Engineering Geologist or Geotechnical

Engineer certifies in writing that the cuts or fill will not endanger or disturb adjoining property. All unsupported finished cuts and fills greater than 4 feet in height at any point shall require a Certified Engineering Geologist or Geotechnical Engineer to certify in writing that the cuts and fills will not endanger or disturb adjoining property.

Findings No regulated fill will be brought to the site. 00-LU-506 shows the grading plan and proposed cut areas and proposed fill areas. The attached geotechnical memo addresses grades exceeding 33% and slopes greater than 4 feet in height. Grades exceeding 33% have been certified, the attached geotechnical memo addresses steep slopes and Geotech certifications are found in Appendix I.1.a. There are no unsupported finish slopes on site (Note 1, 00-LU-505)

(5) Fills shall not encroach on any water body unless an Oregon licensed Professional Engineer certifies that the altered portion of the water body will continue to provide equal or greater flood carrying capacity for a storm of 10-year design frequency.

Findings: A 100' buffer around Johnson Creek is identified on 00-LU-504, 505 and 507. No fill is proposed within water bodies.

(6) Fill generated by dredging may be deposited on Sauvie Island only to assist in flood control or to improve a farm's soils or productivity, except that it may not be deposited in any SEC overlay, WRG overlay, or designated wetland.

(7) On sites within the Tualatin River drainage basin, erosion, sediment and stormwater drainage control measures shall satisfy the requirements of OAR 340-041-0345(4) and shall be designed to perform as prescribed in the most recent edition of the City of Portland Erosion and Sediment Control Manual and the City of Portland Stormwater Management Manual. Ground disturbing activities within the Tualatin Basin shall provide a 100-foot undisturbed buffer from the top of the bank of a stream, or the ordinary high watermark (line of vegetation) of a water body, or within 100 feet of a wetland: unless a mitigation plan consistent with OAR 340-041-0345(4) is approved for alterations within the buffer area.

Findings: No fill generated by dredging is proposed for this project. This site is not within the Tualatin River Drainage Basin.

(8) Ground disturbing activity shall be done in a manner which will minimize soil erosion, stabilize the soil as quickly as practicable, and expose the smallest practical area at any one time during construction.

Findings: Proposed ground disturbing activity shall be done in a manner which will minimize soil erosion, stabilize the soil as quickly as practicable, and expose the smallest practical area at any one time during construction by measures described on 00-LU-501 including:

- Sequencing clearing and grading to the maximum extent practical to prevent exposed inactive areas from becoming a source of erosion to the maximum extent possible. (Note 5, 00-LU-501)
- Applying temporary and/or permanent soil stabilization measures immediately on all disturbed areas as grading progresses. (Note 13, 00-LU-501). Soil stabilization measures shown on 00-LU-

502 through 00-LU-508 include establishing vegetation, permanent erosion control blankets, grassy swales, stilling basins, planters with underdrains, sediment fences, and straw waddles.

- Temporarily stabilizing soils with blown straw and a tackifier, loose straw, or an adequate covering of compost mulch at the end of the shift before holidays and weekends, if needed. The registrant is responsible for ensuring that soils are stable during rain events at all times of the year as needed based on weather conditions (Note 25, 00-LU-501).
- Stabilizing or covering soil stockpiles at the end of each workday as needed based on weather conditions to prevent discharges to surface waters or conveyance systems leading to surface waters (Note 26, 00-LU-501).
- Temporarily stabilizing portions of the site where construction activities cease for 14 days with a covering of blown straw and a tackifier, loose straw, or an adequate covering of compost mulch and applying temporary seeding until work resumes on that portion of the site (Note 33, 00-LU-501)
- Not removing temporary sediment control practices until permanent vegetation or other cover of exposed areas is established. Once construction is complete and the site is stabilized, all temporary erosion controls and retained soils will be removed and disposed of properly, unless needed for long term use following termination of permit coverage. (Note 34, 00-LU-501)
- Removing trapped sediment from the sediment fence before it reaches one third of the above ground height and before fence removal. Sediment will be removed to an approved disposal site. (Note 27, 00-LU-501) Removing trapped sediment from other sediment barriers such as biobags before it reaches two inches depth above ground height and before bmp removal. Sediment will be removed to an approved disposal site. (Note 28, 00-LU-501)
- Cleaning Catch Basins before retention capacity has been reduced by fifty percent. Removing trapped sediments from sediment basins and sediment traps before design capacity has been reduced by fifty percent and at the completion of project. Sediment will be removed to an approved disposal site. (Note 29, 00-LU-501)
- Initiating temporary stabilization measures discussed in Note 25, final vegetation cover, or permanent stabilization measures immediately whenever any land disturbing activities have permanently ceased or will be temporarily inactive on any portion of the site for 14 or more calendar days. The day activities cease, and the location of the land disturbing activities will be documented in the visual monitoring report. The installation of stabilization measures will be completed as soon as practicable, and no later than seven calendar days after stabilization has been initiated (Note 38, 00-LU-501)

(9) Development plans shall minimize cut or fill operations and ensure conformity with topography so as to create the least erosion potential and adequately accommodate the volume and velocity of surface runoff.

Findings: The site layout was configured to minimize cut and fill while allowing water to flow by gravity to the site, through the process, and on to Portland Water Bureau's distribution system. This configuration takes advantage of the existing topography by locating the inlet facilities with the highest water surface at locations where the existing elevation is higher and aligning the treatment process basins so the direction of the water flow follows the fall of the existing grade. The overflow basin, to which all other process basins drain, is located in the southwest corner of the site, where the existing

elevation is lowest. The location and compact arrangement of the facilities minimizes erosion potential by keeping roadways to a minimum and preserving adequate space for vegetation and stormwater management facilities including planters, swales, ponds, and flow spreaders. Details of these facilities are provided in the Stormwater Report (see Appendix H.1). Proposed slopes and cut and fill are shown in 00-LU-506. An energy dissipator in the form of a flow spreader is proposed to spread flows, reduce release water velocity and avoid point discharge. (Note 37, 00-LU-501). Flow spreader details are found on 00-LU-514.

(10) Temporary vegetation and/or mulching shall be used to protect exposed critical areas during development.

Findings: Temporary stabilization will be provided for that portion of the site where construction activities cease for 14 days with a covering of blown straw and a tackifier, loose straw, or an adequate covering of compost mulch until work resumes on that portion of the site. (Note 33, 00-LU-501). Temporary stabilization measures are discussed in Note 25; final vegetation cover, or permanent stabilization measures will be initiated immediately whenever any land disturbing activities have permanently ceased or will be temporarily inactive on any portion of the site for 14 or more calendar days. The day activities cease, and the location of the land disturbing activities will be documented in the visual monitoring report. The installation of stabilization measures will be completed as soon as practicable, and no later than seven calendar days after stabilization has been initiated (Note 38, 00-LU-501) Permanent plantings and any required erosion control and drainage measures will be installed as soon as practical in compliance with Note 38. (Note 36, 00-LU-501). Temporary sediment control practices will not be removed until permanent vegetation or other cover of exposed areas is established (Note 34, 00-LU-501).

(11) Whenever feasible, natural vegetation shall be retained, protected, and supplemented;

(a) A 100-foot undisturbed buffer of natural vegetation shall be retained from the top of the bank of a stream, or from the ordinary high watermark (line of vegetation) of a water body, or within 100 feet of a wetland;

(b) The buffer required in subsection (11)(a) may only be disturbed upon the approval of a mitigation plan which utilizes erosion, sediment and stormwater control measures designed to perform as effectively as those prescribed in the most recent edition of the City of Portland Erosion and Sediment Control Manual and the City of Portland Stormwater Management Manual and which is consistent with attaining equivalent surface water quality standards as those established for the Tualatin River drainage basin in OAR 340-0410345(4).

Findings: Drawings 00-LU-502 and 504 of the plan set shows trees to be removed, existing trees are retained when feasible. Drawing 00-LU-505 show protected trees and tree protection fencing. Tree protection measures are detailed on 00-LU-510. All vegetation outside of the right of way or easement will be protected. A Landscape Plan with supplementary planting is shown on 00-LU-508. A 100-foot buffer around Johnson Creek is shown on 00-LU-504, 505 and 507. The 100-foot buffer will not be disturbed (Note 8, 00-LU-501).

(12) Permanent plantings and any required structural erosion control and drainage measures shall be installed as soon as practical.

Findings: Temporary and/or permanent soil stabilization measures will be applied immediately on all disturbed areas as grading progresses. (Note 13, 00-LU-501). Temporary sediment control practices will not be removed until permanent vegetation or other cover of exposed areas is established. (Note 34, 00-LU-501) The Landscape Plan is shown on 00-LU-508. Disturbance areas not receiving pavement or gravel shall be restored with grass seeding. The proposed vegetative seed mix is sterile wheat grass-Regreen, Quickguard, or an approved equal at a rate of 50 lbs./acre, or Hordeum Vulgare Var. Poco Poco Barley at a rate of 60 lbs./acre (Note 7, 00-LU-501).

Permanent plantings and any required erosion control and drainage measures shall be installed as soon as practical in compliance with Note 38. (Note 36, 00-LU-501). Temporary stabilization measures discussed in Note 25, final vegetation cover, or permanent stabilization measures will be initiated immediately whenever any land disturbing activities have permanently ceased or will be temporarily inactive on any portion of the site for 14 or more calendar days. The day activities cease, and the location of the land disturbing activities will be documented in the visual monitoring report. The installation of stabilization measures will be completed as soon as practicable, and no later than seven calendar days after stabilization has been initiated (Note 38, 00-LU-501)

(13) Provisions shall be made to effectively accommodate increased runoff caused by altered soil and surface conditions during and after development. The rate of surface water runoff shall be structurally retarded where necessary

Findings: Both peak flow rates and total stormwater volume will be controlled to minimize erosion at outlets and downstream channels and streambanks through stormwater controls shown on the Stormwater Plan on 00-LU-507.

Measures to effectively accommodate increased runoff caused by altered soil and surface conditions include temporary drainage ditches, temporary storm ponds and a temporary flow spreader shown on 00-LU-505. An energy dissipator in the form of a flow spreader is proposed to spread flows, reduce release water velocity and avoid point discharge. (Note 37, 00-LU-501). Flow spreader details are found on 00-LU-514. Drainage ditches, detention ponds, storm pipes, underdrain storm pipes, water quality swales, stormwater planters, flow control maintenance holes, stormwater basins, an outfall flow spreader, a stilling basin and swales/ditches are shown on 00-LU-507. Details of these measures are found on 00-LU-509, 511, 512, and 514. Steep slope areas where construction activities are not occurring will be delineated by a sediment fence to prevent disturbance. (Note 18, 00-LU-501)

Temporary sediment control practices will not be removed until permanent vegetation or other cover of exposed areas is established. Once construction is complete and the site is stabilized, all temporary erosion controls and retained soils will be removed and disposed of properly, unless needed for long term use following termination of permit coverage (Note 34 00-LU-501).

(14) Sediment in the runoff water shall be trapped by use of debris basins, silt traps, or other measures until the disturbed area is stabilized.

Findings: Silt fences, straw wattles, drainage ditches and drainage ponds, water quality swales, stormwater planters, and swales will trap sediment in stormwater runoff as shown on 00-LU-503, 505, 507 of the plan set. Details for these measures are shown on 00-LU-509, 511, and 513 of the plan set.

Perimeter sediment control will be installed, including storm drain inlet protection as well as all sediment basins, traps, and barriers (as shown on 00-LU-502, 503, 505, and 507) prior to land disturbance (Note 9, 00-LU-501). Sediment will be controlled along the site perimeter and at all operational internal storm drain inlets (00-LU-502, 503, 505, 507) at all times during construction.

(15) Provisions shall be made to prevent surface water from damaging the cut face of excavations or the sloping surface of fills by installation of temporary or permanent drainage across or above such areas, or by other suitable stabilization measures such as mulching or seeding.

Findings: Temporary and/or permanent soil stabilization measures will be applied immediately on all disturbed areas as grading progresses, per details on 00-LU-508, 509, and 513 (Note 13, 00-LU-501).

> *(16) All drainage measures shall be designed to prevent erosion and adequately carry existing and potential surface runoff to suitable drainageways such as storm drains, natural water bodies, drainage swales, or an approved drywell system.*

Findings: The location and compact arrangement of the facilities minimizes erosion potential by keeping roadways to a minimum and preserving adequate space for vegetation and stormwater management facilities including planters, swales, ponds, and a flow spreader.

Measures to prevent erosion and adequately carry existing and potential surface runoff to suitable drainageways include temporary drainage ditches, temporary storm ponds, and a temporary flow spreader shown on 00-LU-505, and drainage ditches, detention ponds, storm pipes, underdrain storm pipes, water quality swales, stormwater planters, flow control maintenance holes, stormwater basins, outfall flow spreaders, a stilling basin and swales/ditches shown on 00-LU-507. Details of these measures are found on 00-LU-509, 511, 512, 514, and 514.

A dewatering plan will be prepared and submitted by the contractor for accumulated water from precipitation and uncontaminated groundwater seepage in excavations. dewatering systems will be required to filter the discharge through at least two sediment barriers including a filter bag and sediment fence. Dewatering systems will be required to limit discharge quantity to meet stormwater predevelopment rates. (Note 22, 00-LU-501).

> *(17) Where drainage swales are used to divert surface waters, they shall be vegetated or protected as required to minimize potential erosion.*

Findings: Drainage swales and ditches shown on 00-LU-505 and 507 are detailed in 00-LU-513; details show vegetation designed to minimize potential erosion. The proposed vegetative seed mix is sterile wheat grass-Regreen, Quickguard, or an approved equal at a rate of 50 lbs./acre, or Hordeum Vulgare Var. Poco Poco Barley at a rate of 60 lbs./acre (Note 7, 00-LU-501).

> *(18) Erosion and sediment control measures must be utilized such that no visible or measurable erosion or sediment shall exit the site, enter the public right-of-way or be deposited into any*

water body or storm drainage system. Control measures which may be required include, but are not limited to:

(a) Energy absorbing devices to reduce runoff water velocity;

(b) Sedimentation controls such as sediment or debris basins. Any trapped materials shall be removed to an approved disposal site on an approved schedule;

(c) Dispersal of water runoff from developed areas over large undisturbed areas.

Findings: Perimeter sediment control will be installed, including storm drain inlet protection as well as all sediment basins, traps, and barriers (as shown on 00-LU-502, 503, 505, and 507) prior to land disturbance (Note 9, 00-LU-501). Sediment will be controlled along the site perimeter and at all operational internal storm drain inlets (00-LU-502, 503, 505, 507) at all times during construction.

Measures to prevent erosion and adequately carry existing and potential surface runoff to suitable drainageways include temporary drainage ditches and temporary storm ponds shown on 00-LU-505, and drainage ditches, detention ponds, storm pipes, underdrain storm pipes, water quality swales, stormwater planters, flow control maintenance holes, stormwater basins, an outfall flow spreader, a stilling basin and swales/ditches shown on 00-LU-507. Details of these measures are found on 00-LU-509, 511, 512, 514, and 514. We have designed temporary erosion control best management practices appropriately for the design storm for each temporary drainage basin.

An energy dissipater in the form of a flow spreader is proposed to spread flows, reduce release water velocity, and avoid point discharge. (Note 37, 00-LU-501). Flow spreader details are found on 00-LU-514.

Trapped sediment will be removed from sediment fences before it reaches one third of the above ground fence height and before fence removal and removed to an approved disposal site. (Note 27, 00-LU-501).

Tracking of sediment onto public or private roads will be prevented using construction entrances (00-LU-505,), graveled (or paved) exits and parking areas, gravel on all unpaved roads located onsite or exit tire washes (00-LU-505). (Note 16, 17 00-LU-501)

Dust control will be addressed by water spraying and covering of soil piles to mitigate wind-blown soil (Note 23, 00-LU-501).

No intentional washing of sediment into storm sewers or drainage ways is proposed. Vacuuming or dry sweeping and material pickup will be used to cleanup released sediments. (Note 31, 00-LU-501). Temporary stabilization will be provided for that portion of the site where construction activities cease for 14 days with a covering of blown straw and a tackifier, loose straw, or an adequate covering of compost mulch until work resumes on that portion of the site. (Note 33, 00-LU-501) Temporary sediment control practices will not be removed until permanent vegetation or other cover of exposed areas is established once construction is complete and the site is stabilized (Note 34, 00-LU-501).

Erosion and sediment control will not enter the public right of way or be deposited into any water body. No visible or measurable erosion or sediment can enter the roadway or be deposited in waterbodies when working in the public right of way (Note 35, 00-LU-501)

(19) Disposed spoil material or stockpiled topsoil shall be prevented from eroding into water bodies by applying mulch or other protective covering; or by location at a sufficient distance from water bodies or by other sediment reduction measures.

Findings: Clearing and grading will be sequenced to the maximum extent practical to prevent exposed inactive areas from becoming a source of erosion. (Note 5 00-LU-501) Material and waste staging areas are established as shown on 00-LU-505. (Note 14 00-LU-501).

Soils will be temporarily stabilized with blown straw and a tackifier, loose straw, or an adequate covering of compost mulch at the end of the shift before holidays and weekends, if needed. The contractor is responsible for ensuring that soils are stable during rain events at all times of the year (Note 25, 00-LU-501.) As needed based on weather conditions, at the end of each workday soil stockpiles will be stabilized or covered, or other best management practices will be implemented to prevent discharges to surface waters or conveyance systems leading to surface waters (Note 26, 00-LU-50). Material and waste storage areas outside of rights-of-way will be established by the contractor and erosion control measures to protect material and soil staging areas will comply with the erosion control construction details on 00-LU-509 and 513, Material will not be stockpiled within the right-of-way.

A 100' buffer around Johnson Creek is identified on 00-LU-504, 505 and 507 (Note 8, 00-LU-501)

(20) Such non-erosion pollution associated with construction such as pesticides, fertilizers, petrochemicals, solid wastes, construction chemicals, or wastewaters shall be prevented from leaving the construction site through proper handling, disposal, continuous site monitoring and clean-up activities.

Findings: Material and waste staging areas will be established as shown on 00-LU-505. Waste container lids will be kept closed when not in use and closed at the end of the business day for those containers that are actively used throughout the day. (Note 15 00-LU-501) Prohibited discharges will be prevented from leaving the construction site through the use of concrete wash-outs (Note 17 00-LU-501). Contractor best management practices including secondary containment will be used to prevent or minimize stormwater exposure to pollutants from spills; vehicle and equipment fueling, maintenance, and storage; other cleaning and maintenance activities; and waste handling activities. These pollutants include fuel, hydraulic fluid, and other oils from vehicles and machinery, as well as debris, fertilizer, pesticides and herbicides, paints, solvents, curing compounds and adhesives from construction operations. A written spill prevention plan will be prepared and submitted by the contractor addressing response procedures, employee training on spill prevention and proper disposal procedures, spill kits in all vehicles, regular maintenance schedule for vehicles and machinery, material delivery and storage controls, training and signage, and covered storage areas for waste and supplies. (Note 20, 00-LU-501)

(21) Ground disturbing activities within a water body shall use instream best management practices prescribed in the most recent edition of the City of Portland Erosion and Sediment Control Manual.

Findings: No ground disturbing activities within a water body are proposed. A natural buffer of 100 feet will be maintained around Johnson Creek as shown 00-LU-504, 505 and 507 (Note 8, 00-LU-501).

(22) The total daily number of fill haul truck trips shall not cause a transportation impact (as defined in the Multnomah County Road Rules) to the transportation system or fill haul truck travel routes.

Findings: No regulated fill is proposed to be deposited on the site for this project. No fill haul truck trips are proposed.

(23) Fill trucks shall be constructed, loaded, covered, or otherwise managed to prevent any of their load from dropping, sifting, leaking, or otherwise escaping from the vehicle. No fill shall be tracked or discharged in any manner onto any public right-of-way.

Findings: No regulated fill is proposed to be deposited on the site for this project. No fill haul truck trips are proposed. Tire washes will be provided at the construction entrance off of SE Carpenter Lane at the facility entrance (see Sheet 00-LU-505) and at the construction entrance on the SE Exit Road (See Sheet 00-LU-505) to prevent tracking of sediment onto public roads. Public roads will be swept daily. Private farm roads utilized during construction will be improved with gravel prior to land disturbing activities. These BMPS must be in place prior to land disturbing activities (Note 16, 00-LU-505).

(24) No compensation, monetary or otherwise, shall be received by the property owner for the receipt or placement of fill.

Findings: No regulated fill is proposed to be deposited on the site for this project. PWB will not receive compensation for structural fill used in this project.