



Oregon

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RE: 2015-00041; Willamette Water Supply System 401 Water Quality Certification

The Department of Environmental Quality (DEQ) has reviewed the U.S. Army Corps of Engineers (USACE) Permit application #2015-00041, pursuant to a request for a Clean Water Act Section 401 Water Quality Certification (WQC) received on October 12, 2017. DEQ's 401 WQC public comment opportunity was circulated with the USACE public notice, and DEQ received one water quality comment. This comment was considered in making this final certification decision.

According to the application, the Tualatin Valley Water District (TVWD) and the City of Hillsboro ("the Applicant") propose to impact the Willamette River in order to provide a seismically resilient water supply and increase available water supply to meet population growth projections for the City of Hillsboro and Tualatin Valley Water District service areas. The project is located in the Willamette River, the Tualatin River, and multiple wetlands and tributaries to the Willamette River and Tualatin River, in the Cities of Wilsonville, Sherwood, Beaverton, Tigard, Tualatin, and Hillsboro in Clackamas and Washington Counties, Oregon.

Project Description: The project involves seismically upgrading a raw water intake structure, constructing a new water treatment plant, constructing new reservoir facilities, and installing water transmission lines. Raw water withdrawal from the Willamette River will be pumped through two transmission lines to two water treatment plants: the existing Willamette River Water Treatment Plant and a proposed new water treatment plant to be constructed as part of this project. The new water treatment plant and new reservoir facilities will serve both TVWD and the City of Hillsboro. In addition to serving TVWD and the City of Hillsboro, the transmission lines will tie into the City of Beaverton's and Joint Water Commission's transmission systems to provide emergency access between the systems.

This project will provide for up to 150 million gallons per day (mgd) of water withdrawal from the Willamette River. The capacity of the raw water facilities will be increased from 70 mgd to 150 mgd. The new water treatment plant will be constructed in phases to a capacity of 120 mgd. The new reservoir facilities will contain two above-ground water storage tanks, with a combined storage capacity of 30 million gallons.

Raw Water Facilities

The upgrade to the existing raw water facilities includes replacing the fish screens with larger fish screens, and modifying or replacing up to all of the 10-H piles that protect the fish screens. Sixteen, 4-foot diameter concrete tangent piles, approximately thirty-seven 10-foot diameter piles and a jet grout block above the ordinary high water line near the intake pipe will be constructed for seismic stabilization of the bank. The fish screens will be replaced using a barge mounted crane to maneuver the screens and divers to unbolt the old screens and bolt on the new screens. The H-piles will either be 1) modified by divers who will cut the piles and attach them to brackets or 2) removed by a vibratory hammer and replaced with either steel H-piles or wood piles that have not been treated with preservatives or pesticides using vibratory and impact hammers. About sixteen, 4-foot diameter tangent piles will be built into the bank above the intake screen to form a pile wall to stabilize the area; one of these piles is anticipated to be below the ordinary high water elevation. An auger will drill the shafts, then steel casing will be installed and concrete pumped in to backfill the shaft. Existing access roads to the intake will be upgraded using geotextile fabric and crushed rock.

Additionally, the raw water pump station will be upgraded, increasing the total impervious surface area of 2.86 acres by an additional 1.36 acres. All of this new impervious surface area will be in uplands.

Water Treatment Plant

The new water treatment plant will be on a site of about 20 acres, of which 10.05 acres will be impervious surface. To construct the water treatment plant, 1.18 acres of wetlands will be filled.

Reservoir Facilities

The new reservoir facilities will be constructed in uplands, with an impervious surface area of 3.56 acres.

Water Transmission Lines

The water transmission lines will convey water from the pump station, to the new water treatment plant, to the new reservoir facilities on South Copper Mountain to the connections with existing City of Hillsboro and TVWD water supplies. The transmission lines will be installed using trench excavation and trenchless construction (i.e., jack and bore, pipe ramming, shielded tunneling and microtunneling). See Table 1, which includes a list of waterbodies which the transmission lines will cross. To provide construction access, numerous ditches will also be temporarily impacted by adding 1 foot of crushed rock fill over geotextile fabric for equipment access and/or for placing the waterline beneath the ditch.

Some of the water transmission lines have already been installed; the installation of these transmission lines are not part of this certification:

- PLM_2.0, the Kinsman Road Partnership Project. The City of Wilsonville received a 401 water quality certification for the Kinsman Road Extension (USACE No. 2014-00134) on January 16, 2015. The waterline construction was completed prior to the installation of this roadway.
- PLM_3.0, the 124th Avenue Partnership Project has already been certified. Washington County received a 401 water quality certification for The SW 124th Avenue Extension (USACE No. 2014-462) on October 28, 2015. As stated in the project description of the 401 water quality certification, "Construction will include...installation of a section of waterline for the Willamette Water Supply Program beneath the new roadway".

Mitigation

The project would permanently impact 0.86 acres of wetlands for the new water treatment plant near the City of Sherwood, and 13 square feet of the Willamette River for the tangent pipe wall installed as part of the intake upgrade. No other permanent wetland or waterway impacts are associated with the project. The project would temporarily impact 4.51 acres of wetland, 0.28 acre of non-wetland waters and 1.58 acres of roadside ditches. A portion of the temporary wetland impacts (0.47 acres) will occur to forested wetlands; however, vegetation type will be permanently converted from forested to emergent wetland vegetation. Mitigation will be provided by purchasing 1.33 wetland mitigation bank credits, which is intended to offset permanent wetland impacts and the permanent conversion of forested wetland to emergent wetland condition.

Table 1 Impacts to Waterways

Impact	Impact Duration	Location	Water	Tributary to
Intake	Permanent for the water withdrawal and intake fill; temporary for the intake installation	Wilsonville	Willamette River at RM 39	Columbia River
Water Transmission Line Crossing	Avoided due to trenchless installation	Roy Rogers Rd	Tualatin River	Willamette River
		Arrowhead Creek Lane	Arrowhead Creek	Coffee Lake Creek
		South Hillsboro	Butternut Creek	Tualatin River
		Cornelius Pass Rd	Reedville Creek	Rock Creek (LLID 1229444454907)
		Millikan Way	Beaverton Creek	Rock Creek (LLID 1229444454907)
		Beef Bend Rd #2	Unnamed drainage	Tualatin River at RM 20.0
		Bridge north of Bull Mountain Rd	Unnamed perennial creek	Unnamed tributary to the Tualatin River at RM. 20.1

	Avoided due to installation under the roadway located above the creek	SW Ridder Road	Tapman Creek	Coffee Lake Creek
		Tualatin-Sherwood Road	Rock Creek	Tualatin River
Water Transmission Line Crossing	Temporary due to open trench method of installation	Industrial Way/Ore-Pac Ave.	Coffee Lake Creek	Willamette River
		Roy Rogers Rd.	Chicken Creek	Tualatin River
		Grabhorn Rd.	McKernan Creek	Tualatin River
		Cornelius Pass Rd.	Beaverton Creek	Rock Creek (LLID 1229444454907)
		Cornelius Pass Rd.	Rock Creek	Tualatin River
		SW 124 th Ave/Tualatin-Sherwood Rd intersection	Water detention pond in-line with tributary to Hedges Creek	Hedges Creek
		Beef Bend Rd #1	Unnamed tributary to Tualatin River	Tualatin River
		Roy Rogers Rd	Agricultural drainage	Unnamed tributary to the Tualatin River at RM. 20.1
		Scholls Ferry Rd near Vandermost Rd	Unnamed tributary to Tualatin River	Tualatin River
			Unnamed tributary to Tualatin River	Tualatin River
		Grabhorn Rd	Unnamed seasonal tributary to McKernan Creek	McKernan Creek
		At Tanabe Property	Unnamed seasonal drainage	McKernan Creek
		Clark Hill Rd	Unnamed swale/drainage through pasture wetland	McKernan Creek
		Rosedale Rd	Unnamed seasonal drainage	Tualatin River at RM 34.1
		Cornelius Pass Rd	Unnamed tributary to Butternut Creek	Butternut Creek

Status of Affected Waters of the State: The Section 303(d) list of impaired water bodies and EPA-approved Total Maximum Daily Loads (TMDLs), based on Oregon's 2012 Integrated Report, are listed in Table 2 below. Reedville Creek, Arrowhead Creek, Tapman Creek, McKernan Creek, did not have specific listings. Coffee Lake Creek had insufficient data to determine impairments. Numerous ditches and wetlands will be temporarily impacted by adding 1 foot of crushed rock fill over geotextile fabric for equipment access and/or for placing the waterline beneath the ditch, these ditches are within the basins of the waterbodies listed in Table 2 below.

Table 2: Status of Water bodies

Waterbody	303-d listings (year-round unless otherwise indicated)	EPA-approved TMDLs (year-round unless otherwise indicated)	Impairments (not requiring a TMDL)
Willamette River	aldrin, biological criteria, DDE 4,4, DDT 4,4, dieldrin, iron, PCBs, lead, chlorophyll a (summer), mercury	dioxin (2,3,7,8-TCDD), temperature, <i>E. Coli</i> (fall/winter/spring)	none listed
Tualatin River	ammonia, biological criteria, copper, iron, lead, mercury, zinc	chlorophyll a, dissolved oxygen, phosphorus (Jun 1–Sept 30), temperature (summer), <i>E. Coli</i>	none listed
Rock Creek (LLID 1229444454907)	arsenic, dissolved oxygen (Jan 1–May 15 for spawning), iron, lead	ammonia (Jun 1–Sept 30), chlorophyll a (summer), dissolved oxygen, <i>E. Coli</i> , phosphorus (Jun 1–Sept 30), temperature (summer)	biological criteria
Beaverton Creek (LLID 1229133455196)	arsenic, iron, lead	phosphorus (Jun 1–Sept 30), dissolved oxygen, <i>E. Coli</i> , temperature (summer)	biological criteria
Butternut Creek	none listed	phosphorus (Jun 1–Sept 30), fecal coliform, temperature (summer), dissolved oxygen (May 1–Oct 31)	biological criteria
Chicken Creek	dissolved oxygen (Jan 1–May 15 for spawning), iron, lead	ammonia (Jun –Sept 30), dissolved oxygen, <i>E. Coli</i> , phosphorus (Jun 1–Sept 30)	none listed
Hedges Creek	none listed	phosphorus (Jun 1–Sept 30), temperature (summer), <i>E. Coli</i> , dissolved oxygen (May 1–Oct 31)	biological criteria
Rock Creek (LLID 1228322453862)	none listed	none listed	biological criteria

Certification Decision: Based on the information provided by the Applicant and the USACE, DEQ is reasonably assured that implementation of the project will be consistent with applicable provisions of Sections 301, 302, 303, 306, and 307 of the federal Clean Water Act, state water quality standards set forth in Oregon Administrative Rules Chapter 340 Division 41, and other appropriate requirements of state law, provided the following conditions are strictly adhered to by the Applicant.

401 WQC GENERAL CONDITIONS

- 1) **Responsible parties:** This 401 WQC applies to the Applicant. The Applicant is responsible for the work of its contractors and sub-contractors, as well as any other entity that performs work related to this WQC.
- 2) **Work Authorized:** Work authorized by this 401 WQC is limited to the work described in the Joint Permit Application signed on March 28, 2017 and additional application materials (hereafter "the permit application materials"), unless otherwise authorized by DEQ. If the project is operated in a manner not consistent with the project description contained in the permit application materials, the Applicant is not in compliance with this 401 WQC and may be subject to enforcement.
- 3) **Duration of Certificate:** This 401 WQC for impacts to waters, including dredge and fill activities, is valid for ten years from the date of issuance of the USACE 404 permit. A new or modified 401 WQC must be requested prior to any modification of the USACE 404 permit for project changes or project activities not consistent with the scope of the Work Authorized as defined in General Condition 2 (above). Post-construction stormwater facilities must be maintained for the life of the facility.
- 4) A copy of this 401 WQC letter must be kept on the job site and readily available for reference by the Applicant and its contractors, as well as by DEQ, USACE, National Marine Fisheries Service (NMFS), Oregon Department of Fish and Wildlife (ODFW), and other appropriate state and local government inspectors.
- 5) **Modification:** Any approved modifications to this 401 WQC will incur a Tier 1 fee of \$985 at a minimum. Complex modifications may be charged a higher fee.
- 6) The Applicant must notify DEQ of any change in ownership or control of this project and obtain DEQ review and approval before undertaking any change to the project that might affect water quality.
- 7) DEQ may modify or revoke this 401 WQC, in accordance with OAR 340-048-0050, if the project changes or project activities are having an adverse impact on state water quality or beneficial uses, or if the Applicant is otherwise in violation of the conditions of this certification.
- 8) The Applicant and its contractors must allow DEQ access to the project site, staging areas, and mitigation sites to monitor compliance with these 401 WQC conditions, including
 - a. Access to any records, logs, and reports that must be kept under the conditions of this 401 WQC;
 - b. To inspect best management practices (BMPs), monitoring or operational equipment or methods;
 - c. To collect samples or monitor any discharge of pollutants.
- 9) Failure of any person or entity to comply with this Order may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce its terms.

CONSTRUCTION SPECIFIC CONDITIONS

- 10) **Erosion Control:** During construction, erosion control measures must be implemented to prevent or control movement of soil into waters of the state. The Applicant is required to develop and implement an effective erosion and sediment control plan. **Any project that disturbs more than one acre is required to obtain an NPDES 1200-C or 1200-CN construction stormwater general permit from DEQ or DEQ agent, as applicable.** In addition, the Applicant must do the following, unless otherwise authorized by DEQ in writing:
- a. Maintain an adequate supply of materials necessary to control erosion at the project construction site.
 - b. Deploy compost berms, impervious materials, or other effective methods during rain events or when stockpiles are not moved or reshaped for more than 48 hours. Erosion of stockpiles is prohibited.
 - c. Inspect erosion control measures daily and maintain erosion control measures as often as necessary to ensure the continued effectiveness of measures. Erosion control measures must remain in place until all exposed soil is stabilized.
 - i. If monitoring or inspection shows that the erosion and sediment controls are ineffective, the Applicant must mobilize immediately to make repairs, install replacements, or install additional controls as necessary.
 - ii. If sediment has reached 1/3 of the exposed height of a sediment or erosion control, the Applicant must remove the sediment to its original contour.
 - d. Use removable pads or mats to prevent soil compaction at all construction access points through, and staging areas in, riparian or wetland areas to prevent soil compaction, unless otherwise authorized by DEQ.
 - e. Flag or fence off wetlands not specifically authorized to be impacted to protect from disturbance and/or erosion.
 - f. Place dredged or other excavated material on upland areas with stable slopes to prevent materials from eroding back into waterways or wetlands.
 - g. Place clean aggregate at all construction entrances, and utilize other BMPs, including, but not limited to truck or wheel washes, when earth moving equipment is leaving the site and traveling on paved surfaces. The tracking of sediment off site by vehicles is prohibited.
 - h. This certification *does not* authorize the placement of BMPs into waters of the state unless specifically outlined in the application and authorized by DEQ.
- 11) **Deleterious waste materials:** The Applicant is prohibited from placing biologically harmful materials and construction debris including, but not limited to petroleum products, chemicals, cement cured less than 24 hours, welding slag and grindings, concrete saw cutting by-products, sandblasted materials, chipped paint, tires, wire, steel posts, asphalt and waste concrete where such materials could enter waters of the state, including wetlands (wetlands are waters of the state). The Applicant must do the following:
- a. Cure concrete, cement, or grout for at least 24 hours prior to any contact with flowing waters;
 - b. Use only clean fill, free of waste and polluted substances;

- c. Employ all practicable controls to prevent discharges of spills of deleterious materials to surface or ground water;
- d. Maintain at the project construction site, and deploy as necessary, an adequate supply of materials needed to contain deleterious materials during a weather event;
- e. Remove all foreign materials, refuse, and waste from the project area; and
- f. Employ general good housekeeping practices at all times.

12) **Spill Prevention:** The Applicant must fuel, operate, maintain and store vehicles and equipment, and must store construction materials, in areas that will not disturb habitat either directly or result in potential discharges. In addition, the following specific requirements apply:

- a. Vehicle staging, cleaning, maintenance, refueling, and fuel storage must take place in a vehicle staging area placed 150 feet or more from any waters of the state. An exception to this distance may be authorized upon written approval by DEQ if all practicable prevention measures are employed and this distance is not possible because of any of the following site conditions:
 - i. Physical constraints that make this distance not feasible (e.g., steep slopes, rock outcroppings);
 - ii. Natural resource features would be degraded as a result of this setback; or
 - iii. Equal or greater spill containment and effect avoidance is provided even if staging area is less than 150 feet of any waters of the state.
- b. If staging areas are within 150 feet of any waters of the state, as allowed under subsection (a)(iii) of this condition, full containment of potential contaminants must be provided to prevent soil and water contamination, as appropriate.
- c. All vehicles operated within 150 feet of any waters of the state must be inspected daily for fluid leaks before leaving the vehicle staging area. Any leaks detected in the vehicle staging area must be repaired before the vehicle resumes operation.
- d. Before operations begin and as often as necessary during operation, equipment must be steam cleaned (or undergo an approved equivalent cleaning) until all visible external oil, grease, mud, and other visible contaminants are removed if the equipment will be used below the bank of a waterbody.
- e. All stationary power equipment (e.g., generators, cranes, stationary drilling equipment) operated within 150 feet of any waters of the state must be covered by an absorbent mat to prevent leaks, unless other suitable containment is provided to prevent potential spills from entering any waters of the state.
- f. An adequate supply of materials (such as straw matting/bales, geotextiles, booms, diapers, and other absorbent materials) needed to contain spills must be maintained at the project construction site and deployed as necessary.
- g. All equipment operated in state waters must use bio-degradable hydraulic fluid.
- h. Implement BMPs to prevent spills of drilling fluid, including controlling the operating pressure, maintaining the necessary distance below the ground surface during drilling and using a drill casing, if needed.
- i. A maintenance log documenting equipment maintenance inspections and actions must be kept on-site and available upon request.

13) **Transmission Pipelines:**

- a. Provide a minimum of two pipe diameters depth of cover for transmission pipelines below active stream channels, or deep enough to avoid active scour as indicated by a subsequent site-specific analysis.
 - b. Unless infeasible, set transmission pipelines under active stream channels at a depth to allow medium rooting vegetation along the stream banks.
 - c. Include anti-seep collars or equivalent technology to prevent draining the wetlands, for utility lines through wetlands.
- 14) **Hydrostatic Testing Water:** Discharges of hydrostatic testing water must be less than the bankfull discharge of the receiving stream and must not cause water quality criteria to be exceeded. Prior to discharge to waters of the state, hydrostatic testing water must be tested for pH, chlorine, and turbidity.
- 15) **Dewatering of Transmission Pipelines:** Discharges from dewatering the transmission pipelines, must be less than the bankfull discharge of the receiving stream and must not cause water quality criteria to be exceeded. Prior to discharge to waters of the state, water from the dewatering of transmission pipelines must be tested for residual chlorine.
- 16) **Spill & Incident Reporting:**
 - a. In the event that petroleum products, chemicals, or any other deleterious materials are discharged into state waters, or onto land with a potential to enter state waters, the Applicant must promptly report the discharge to the Oregon Emergency Response System (OERS, 1-800-452-0311). The Applicant must immediately begin containment and complete cleanup as soon as possible.
 - b. If the project operations cause a water quality problem which results in distressed or dying fish, the Applicant must immediately do the following: cease operations; take appropriate corrective measures to prevent further environmental damage; collect fish specimens and water samples; and notify DEQ, ODFW and other appropriate regulatory agencies.
- 17) **Vegetation Protection and Restoration:**
 - a. The Applicant must protect riparian, wetland, and shoreline vegetation in the authorized project area (as defined in the permit application materials) from disturbance through one or more of the following:
 - i. Minimization of project and impact footprint;
 - ii. Designation of staging areas and access points in open, upland areas;
 - iii. Fencing and other barriers demarcating construction areas; and
 - iv. Use of alternative equipment (e.g., spider hoe or crane).
 - b. Replant impacted riparian, wetland, and shoreline vegetation, providing medium (or deeper) rooting vegetation along stream banks, unless infeasible.
 - c. If authorized work results in riparian, wetland, or shoreline vegetative disturbance and the disturbance has not been accounted for in planned mitigation actions, the Applicant must successfully reestablish vegetation to a degree of function equivalent to or better than before the disturbance. The standard for success is

80% cover for native plant species. The vegetation must be reestablished by the completion of authorized work and include the following:

- i. Restoring damaged streambanks to a natural slope, pattern, and profile suitable for establishment of permanent woody vegetation, unless precluded by pre-project conditions (e.g., a natural rock wall).
- ii. Replanting or reseeding each area requiring revegetation before the end of the first planting season following construction.
- iii. Planting disturbed areas with native plants and trees in all cases except where the use of non-native plant materials may be essential for erosion control.
- iv. Using invasive species to reestablish vegetation is prohibited.
- v. Herbicides, pesticides and fertilizers must be applied per manufacturer's instructions, and only if necessary for vegetation establishment. If chemical treatment is necessary, the Applicant is responsible for ensuring that pesticide application laws, including with the 2300-A pesticide NPDES general permit are met. Please review the information on the following website for more information:
www.deq.state.or.us/wq/wqpermit/pesticides.htm.

Additionally:

1. Unless otherwise approved in writing by DEQ, applying surface fertilizer within stormwater treatment facilities or within 50 feet of any stream channel is prohibited;
 2. Other than spot application to cut stems, no herbicides are allowed within stormwater treatment facilities or within 150 feet of waters of the state. Mechanical, hand, or other methods may be used to control weeds and unwanted vegetation within stormwater treatment facilities or within 150 feet of waters of the state; and
 3. No pesticides may be used within stormwater treatment facilities or within 150 feet of waters of the state.
- vi. Install wildlife-friendly fencing as necessary to prevent access to revegetated sites by livestock or unauthorized persons.
 - vii. Minimize soil compaction, especially in areas that are designated to be replanted. If soils are compacted, decompact staging areas and work construction areas prior to replanting. Leave topsoil when possible. Chip materials from clear and grub operation and spread on soil surface, unless cleared areas contained invasive species.
- 18) Provide a minimum 50-foot buffer zone to protect existing riparian areas and wetlands, wherever feasible. Impacts to buffer areas will be restored, where possible, according to the project's Conceptual Post-Construction Site Restoration Plan.
- 19) **Notification to DEQ:** The Applicant must provide pre-construction notification to DEQ one week prior to the start of construction. Contact information can be found at the end of the certification.

SPECIFIC CONDITIONS FOR IN-STREAM WORK

- 20) **Fish protection/ Oregon Department of Fish and Wildlife timing:** The Applicant must perform in-water work only within the ODFW preferred time window as specified in the *Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources*, or as authorized otherwise under a Department of State Lands removal/fill permit. Exceptions to the timing window must be recommended by ODFW and/or the NMFS as appropriate.

Aquatic life movements: Any activity that may disrupt the movement of aquatic life living in the water body, including those species that normally migrate through the area, is prohibited. The Applicant must provide unobstructed fish passage at all times during any authorized activity unless one of the following conditions occurs and the method is approved by ODFW; (1) The ability to completely block fish movement will be limited in duration to no more than ten days and will only be allowed when water quality conditions preclude the likelihood that salmonids will use the area, and (2) upstream fish movement will be required in locations where blocking upstream movement, even for short durations, will unduly stress salmonids using the area. Exceptions must be reviewed and recommended by Oregon Department of Fish Wildlife and/or NMFS as appropriate.

- 21) **Isolation of in-water work areas:** The Applicant must isolate in-water work areas from the active flowing stream, unless otherwise authorized as part of the approved application, or authorized by DEQ. The Applicant is referred to DEQ's *Oregon Sediment and Erosion Control Manual*, April 2005, for isolation techniques (see <http://www.deq.state.or.us/wq/stormwater/docs/escmanual/appxd.pdf>). During open-trench construction, use cofferdams, sheet piles, or diversion pipes, as appropriate.

- 22) **Cessation of Work:** The Applicant must cease project operations under high flow conditions that will result in inundation of the project area. Only efforts to avoid or minimize turbidity or other resource damage as a result of inundation of the exposed project area are allowed during high flow conditions.

- 23) **Turbidity:** The Applicant must implement best management practices (BMPs) to minimize turbidity during in-water work. Any activity that causes turbidity to exceed 10% above natural stream turbidities is prohibited except as specifically provided below:

a. **Monitoring:** Turbidity monitoring must be conducted and recorded as described below. Monitoring must occur at two hour intervals each day during daylight hours when in-water work is being conducted. A properly calibrated turbidimeter is required.

- i. **Representative Background Point:** The Applicant must take and record a turbidity measurement every two hours during in-water work at an undisturbed area 100 feet upcurrent from the in-water disturbance, in order to establish background turbidity levels. The background turbidity, location, date, and time must be recorded immediately prior to monitoring downcurrent at the compliance point described below.
- ii. **Compliance Point:** The Applicant must monitor every two hours, 100 feet downcurrent from the disturbance, at approximately mid-depth of the waterbody and within any visible plume. The turbidity, location, date, and time must be recorded for each measurement.

- b. **Compliance:** The Applicant must compare turbidity monitoring results from the compliance points to the representative background levels taken during each two-hour monitoring interval. Pursuant to OAR 340-041-0036, short term exceedances are allowed as follows:

MONITORING WITH A TURBIDIMETER EVERY 2 HOURS	
TURBIDITY LEVEL	Restrictions to Duration of Activity
0 to 4 NTU above background	No Restrictions
5 to 29 NTU above background	Work may continue for a maximum of 4 Hours. If turbidity remains 5-29 NTU above background, stop work and modify BMPs. Work may resume when NTU is 0-5 above background.
30 to 49 NTU above background	Work may continue for a maximum of 2 Hours. If turbidity remains 30-49 NTU above background, stop work and modify BMPs. Work may resume when NTU is 0-5 above background.
50 NTU or more above background	Stop work immediately and inform DEQ

- c. **Reporting:** The Applicant must record all turbidity monitoring required by subsections (a) and (b) above in daily logs. The daily logs must include calibration documentation; background NTUs; compliance point NTUs; comparison of the points in NTUs; location; date; and time for each reading. Additionally, a narrative must be prepared discussing all exceedances with subsequent monitoring, actions taken, and the effectiveness of the actions. The Applicant must make available copies of daily logs for turbidity monitoring to DEQ, USACE, NMFS, USFWS, and ODFW upon request. An example turbidity log is attached to this certification.
- d. **BMPs to Minimize In-stream Turbidity:** The Applicants must implement the following BMPs, unless accepted in writing by DEQ:
- Sequence/Phasing of work – The Applicant must schedule work activities so as to minimize in-water disturbance and duration of in-water disturbances;
 - Bucket control - All in-stream digging passes by excavation machinery and placement of fill in-stream using a bucket must be completed so as to minimize turbidity. All practicable techniques such as employing an experienced equipment operator, not dumping partial or full buckets of material back into the wetted stream, adjusting the volume, speed, or both of the load, or using a closed-lipped environmental bucket must be implemented;
 - The Applicant must limit the number and location of stream crossing events. Establish temporary crossing sites as necessary at the least sensitive areas and amend these crossing sites with clean gravel or other

- temporary methods as appropriate, so as to discharge sediments to the waterbody;
- iv. Machinery may not be driven into the flowing channel, unless authorized in writing by DEQ;
- v. Excavated material must be placed so that it is isolated from the water's edge or wetlands, and not placed where it could re-enter waters of the state uncontrolled; and
- vi. Containment measures such as silt curtains, geotextile fabric, and silt fences must be implemented and properly maintained in order to minimize in-stream sediment suspension and resulting turbidity.

SPECIFIC CONDITIONS FOR PILING REMOVAL

- 24) **Piling Removal:** The Applicant will use vibratory extraction for pile removal wherever feasible. If not feasible, pile cutoff methods may be used as an alternative removal method. The Applicant must implement the following measures to reduce the incidence of sediment disturbance and contaminant mobilization:
- a. Use an adequately trained equipment and crane operator;
 - b. Install a floating surface boom for capture and containment of debris and floatable pollutants;
 - c. Vibrate each pile to break the skin friction bond between pile and sediment, to avoid pulling out a large block of soil and possibly breaking off the pile in the process;
 - i. Remove each pile slowly;
 - ii. Do not allow extraction equipment (e.g., bucket, steel cable, vibratory hammer) to enter the water; and,
 - iii. Once loose, immediately transfer the piling along the most direct route to a contained, dry storage site.
 - d. If vibratory extraction or pulling is not feasible due to slope stability or pile breakage, pile cutoff may be used. When pile cutting is performed, the Applicant or its contractors must
 - i. Time work to occur at lowest water possible;
 - ii. Use a pneumatic underwater chainsaw; and,
 - iii. In areas that are tidally influenced or prone to scour, cut the pile at least two feet below the sediment surface.
 - e. **Pile Handling and Disposal**
 - i. No treated wood debris may fall into waters of the state. If any treated wood debris enters waters of the state, it must be removed immediately and disposed of properly;
 - ii. The Applicant or its contractors must immediately place removed pilings into a contained, dry storage site;
 - iii. Treated wood pile(s) may not be left in the water or stacked on the streambank; and
 - iv. The Applicant or its contractors must dispose of all treated wood debris removed during a project at an upland facility in accordance with all applicable state and federal requirements.

SPECIFIC CONDITIONS FOR POST CONSTRUCTION STORMWATER MANAGEMENT

- 25) **Post Construction Stormwater Management:** The Applicant must implement and comply with the terms of the approved post-construction stormwater management plan, which describes best management practices (BMPs) to prevent or treat pollution in stormwater anticipated to be generated by the project, in order to comply with state water quality standards. Two bioretention ponds will be provided at the raw water facilities site to provide stormwater treatment. A bioretention pond at the water treatment plant and a bioretention pond at the reservoir facilities will provide stormwater treatment at these locations. **Clean Water Services has jurisdiction of the stormwater treatment at the water treatment plant and the reservoir facilities; stormwater review for these facilities is deferred to Clean Water Services.**

The Applicant must implement BMPs as proposed in the stormwater management plan, including operation and maintenance, dated April 2017. If proposed stormwater facilities change due to site conditions, the Applicant must notify DEQ, and receive approval in writing.

Within 30 days of project completion, the Applicant must submit a copy of the 'As-Builts' or red-lined construction drawings showing all stormwater management facilities.

- 26) **Stormwater Management & System Maintenance:** The Applicant is required to implement effective operation and maintenance practices for the lifetime of the proposed facility. These include but are not limited to
- a. Maintenance techniques and frequency for each system component must follow appropriate recommendations in accepted manuals.
 - b. Long-term operation and maintenance of stormwater treatment facilities will be the responsibility of the Applicant, unless and until an agreement transferring that responsibility to another entity is submitted to DEQ.
- 27) **Corrective Action May Be Required:** The Department retains the authority to require corrective action in the event the stormwater management facilities are not built or performing as described in the plan.

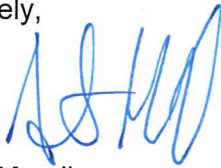
SPECIFIC CONDITIONS FOR TEMPERATURE IMPACTS

- 28) The Applicant must address the temperature impacts of Willamette River water withdrawal to the satisfaction of DEQ prior to increasing withdrawal. The Applicant may do this in stages, documenting offsets to temperature impacts incrementally, as withdrawal increases. To demonstrate that temperature is adequately addressed, the Applicant must do all of the following, prior to increasing withdrawal:
- a. At least six months prior to desired increase, submit a plan to DEQ that quantifies how temperature impacts will be offset. The Applicant has expressed its intent to offset temperature impacts through water quality trading per OAR 340-039-0017(2). Therefore, the plan submittal must meet the requirements of a Water Quality Trading Plan in OAR 340-039-0025. Should the Applicant choose to pursue offsetting temperature impacts through other means a sufficient plan must be submitted to DEQ.

- b. Update and revise the Water Quality Trading Plan as necessary to meet water quality standards and receive approval from DEQ.
- c. Implement the Water Quality Trading Plan as approved by DEQ.

If the Applicant is dissatisfied with the conditions contained in this certification, a contested case hearing may be requested in accordance with OAR 340-048-0045. Such request must be made in writing to the DEQ Office of Compliance and Enforcement at the Lloyd 700 Building, 700 NE Multnomah St #600, Portland, OR 97232 within 20 days of the mailing of this certification. The DEQ hereby certifies this project with the above conditions in accordance with the Clean Water Act and state rules. If you have any questions, please contact Sara Christensen at christensen.sara@deq.state.or.us, or by phone at 541-633-2007.

Sincerely,



Steve Mrazik
Water Quality Manager
Northwest Region

2015-41_WillametteWaterSupply_401WQC.docm

cc: Michael Ladouceur, USACE
Jaimee Davis, USACE
Anita Huffman, DSL
Annie Birnie, NOAA Fisheries
Ethan Rosenthal, David Evans and Associates, Inc.
Niki Iverson, City of Hillsboro
Jill Chomycia, Willamette Water Supply
Wade Peerman, ODEQ