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TECHNICAL MEMORANDUM

Date: September 3, 2013
To: Eric Mendenhall
Ted Hill
From: Jennifer Lundberg
Jim Dougherty, Gray & Osborne, Inc.
Doug Welch, Gray & Osborne, Inc.
Subject: Zoning Conditional Use
cc:
Project Number: 216-2564-013
Project Name: City of Sumner Wastewater Treatment Plant

The City of Sumner requests a Zoning Conditional Use permit for the expansion of the Sumner Wastewater Treatment Plant (WWTP) because the proposed development is located in low density residential 12,000 (LDR-12). Major utility facilities within LDR-12 require application for a conditional use permit prior to expansion (18.12.040(F)). The WWTP serves the cities of Sumner and Bonney Lake as well as a portion of unincorporated Pierce County. The WWTP is located at the confluence of the White and Puyallup rivers and has undergone several upgrades since its construction in 1955. The National Pollutant Discharge Elimination Permit (NPDES) for the Sumner Wastewater Treatment Plant (WWTP) requires the City to initiate planning for facility expansion when 85% of plant capacity is exceeded for three consecutive months, which occurred during the period from November 2009 through January 2010. During the period since the last upgrade, Total Suspended Solids and BOD loadings have increased more rapidly than anticipated in the 1999 Facilities Plan. Consequently, the City of Sumner is proposing to expand the WWTP to accommodate the increased flows and loadings associated with the revised flow and load trends and population growth and expansion of its service area.

The City is currently reviewing two design layouts with budgetary considerations determining the ultimate design selection. Alternative B is the preferred design. The planned expansion will increase the capacity of the existing WWTP to a maximum month design flow of either 5.41 MGD (Phase 2A) or 6.10 MGD (Phase 2B). The components for both design layouts are similar and most elements are accommodated within the existing facility. Many project elements include modification of existing structures, usually internally, to upgrade facility operations. For example, replacement of the headwords pumps is a maintenance item because the vaults were sized for the new pumps during Phase 1. Table 1 provides a list of the project elements including which elements are included in Alternative A and/or B. The table also identifies which project elements are required as part of compliance with the NPDES permit through the planning period (Phase 2A of 2034 or Phase 2B of 2043).

Table 1 Project Elements

Element	Map ID#	New Construction?	Included in Alternative A	Included in Alternative B	Within the facility?	NPDES required?
Secondary Clarifier No. 3	6	Yes	Yes	Yes	Off site	Yes
Primary Clarifier No. 3		No	Remains decommissioned	Repurpose existing structure	On site	Yes
Aeration Basin No. 3	4	Yes	Yes	Yes	On site	Yes
Solids Storage Building	18	Yes	Yes	Yes	On site	Yes
Equipment Storage Building eastside	19	Yes	Yes	Yes	On site	Yes
Centrate Storage Tank and Pump	8	Yes	Yes (New 30k gal tank Map ID 15)	Repurpose existing gravity thickener	On site	Yes
Solids Handling Building Truck Canopy	11	Expansion	Yes	Yes	On site	Yes
Grit Handling Building	17	Yes	In Equipment Building #3 (Map ID 5)	Yes	On site	Yes
Primary Sludge Gravity Thickener	16	Yes	No – use existing (Map ID 8)	New (16)	On site	Yes
Odor Control System No. 2	17	Yes	No – Existing (Map ID 14)	Yes (17)	On site	Yes
RV Dump Station	n/a	Yes	Yes	Yes	On site	No
Solids Transfer Station	n/a	Existing	Yes	Yes	On site	No
Recycling Center and paving	n/a	Relocation	Yes	Yes	On site	No

The Sumner Comprehensive Plan is the communities guide for development and use of the land within the city limits. Zoning specifically restricts what developments are allowed in various areas around the city and reflect the desired character and goals of the community. Allowable uses requiring a conditional use permit is identified in SMC18.12.040. This includes “major utility facilities” such as the WWTP. Criteria to grant a conditional use for zoning restrictions is located in SMC 18.48.050

- A. *The proposed use will not be materially detrimental to the public welfare or injurious to the property or improvements in the vicinity of the proposed use or in the district in which the subject property is situated.*

The City of Sumner developed a WWTP Facility Plan 2004 and subsequently updated it for issuance in August 2013 to efficiently and effectively meet the needs of the community for wastewater treatment. The City must also meet the requirements of the WWTP’s National Pollutant Discharge Elimination System (NPDES) Permit and to protect water quality and aquatic habitat in the White and Puyallup Rivers through 2034 (Alternative A) or 2043 (Alternative B). As part of the long-term planning, the previous WWTP upgrade project under Phase 1 was designed with the Phase 2 expansion of the facility in mind. This will allow for the expansion to occur with the minimum level of ground disturbance and disruption to neighboring properties during construction. Once construction is complete, there will be no significant increase in traffic or other environmental disturbances associated with operation of the Sumner WWTP.

Construction of the Secondary Clarifier No. 3 will occur largely on undeveloped property currently owned by the Washington State Department of Fish & Wildlife (WDFW; parcel 42500001241) to the east of the two existing secondary clarifiers. This site was chosen to take advantage of grade, hydraulics and proximity for efficient WWTP operation. Alternate locations for the third Secondary Clarifier would require extra piping, ground disturbance and likely would require additional pumping and energy expenditures to function properly.

The City of Sumner and the WDFW are currently developing a land exchange that would deed the WDFW parcel (42500001281) to the City in exchange for a 2.07 acre portion of City-owned parcel 42500001320, which is the adjacent property to the east. The City is planning to provide a conservation easement (instrument to be determined) for the portion of the new clarifier parcel (parcel 42500001281) not occupied by the new infrastructure. This will preserve existing habitat on both the majority of the clarifier parcel and the City parcel being traded to WDFW, while allowing the WWTP to expand to accommodate population growth and planned expansion of the service area, which includes the Cities of Sumner and Bonney Lake as well as portions of unincorporated Pierce County. The access easement will also be relocated outside of the plant operations area thus providing better access to the shoreline and Puyallup River Trail. The result is a net increase in shoreline protection for public access and ecological function. This furthers the goals and purposes of the residential development zone.

B. The proposed use shall meet or exceed the performance standards that are required in the district it will occupy.

The Sumner WWTP, including the proposed expansion, will meet the performance standards outlined in SMC 18.12.080, including exterior mechanical devices, air conditioners, heating, cooling, ventilating equipment, swimming pool pumps and heaters, and all other mechanical devices shall be screened from surrounding properties and shall be operated so that they do not disturb the peace, quiet, and comfort of neighboring residents.

- **Exterior Mechanical Devices:** The Sumner WWTP site is currently screened from neighboring residential properties to the east, as the City has acquired several properties adjacent to the WWTP for this purpose and to provide additional space for future expansions. While buildings have been removed, landscape on these sites has largely been left intact. The proposed WWTP expansion mainly involves improvements to existing structures on the WWTP site that will have little, if any, impact on the adjacent properties once construction is complete.

All noise producing mechanical devices are located in noise reducing structures and/or have mufflers to minimize noise.

The proposed land exchange with WDFW will provide additional screening for facility elements including structures.

- **Required Landscaping:** The majority of the clarifier parcel and the entire parcel immediately to the east will be maintained in their current natural condition to provide riparian habitat and recreational opportunities consistent with the existing Puyallup to the existing secondary clarifiers. Disturbed areas will be replanted with native vegetation per the Habitat Management Plan (attached). The City of Sumner and the WDFW are currently developing a land exchange that would deed the WDFW parcel 42500001281 to the City in exchange for a 2.07 acre portion of the City-owned parcel 4250001320 immediately to the east. The City is planning to provide a conservation easement for the portion of the new clarifier parcel 42500001281 not occupied by the new infrastructure. This will preserve existing habitat on both the majority of the clarifier parcel and the City parcel being traded to WDFW, while allowing the WWTP to expand to accommodate population growth and planned expansion of the service area, which includes the Cities of Sumner and Bonney Lake.
- **Outdoor Storage of Vehicles:** No new outdoor vehicle parking is proposed as part of the WWTP expansion. As part of the proposal, one covered area for vehicle and equipment storage is proposed immediately south of the new Equipment Storage Building at the east end of the central portion of the WWTP site.
- **Detached Accessory Structures:** This performance standard is primarily for accessory buildings, etc., associated with residential structures and does not directly apply to the

Sumner WWTP. However, it should be noted that none of the new structures proposed under the WWTP expansion will be located closer than 3 feet to the rear or interior sides of property lines (see Site Plan).

- **Setbacks from Alleys:** Does not apply, as there are no alleys in the vicinity of the WWTP.
- **Yard Projections:** Does not apply to the WWTP expansion.
- **Residential Antennas:** Does not apply.
- **Swimming Pools:** Does not apply.
- **Building Height Exceptions:** All new structures associated with the WWTP expansion will be single-story buildings. However, due to the height of equipment such as dump trucks, some structures will exceed the 16 foot height criteria. Buildings exceeding 16 feet above ground level include Equipment Storage Building (Map ID 19) will be 20 feet and Solids Transfer Station will be 20 feet tall when the roof is added.
- **Fences:** Exceptions to the standards set forth in this subsection include public facilities and minor and major utility facilities. Chain-link fencing currently surrounds the Sumner WWTP and will not change significantly as a part of this project.
- **School and Church Height Exceptions:** Does not apply.
- **Expansion of Existing Uses, Existing Automotive and Motorized Vehicle Sales, etc.:** Does not apply.
- **Manufactured Homes:** Does not apply.
- **A Minimum of 50 Percent of the Area of Front and Street SideYards Shall Be Landscaped:** Does not apply. The WWTP expansion will be landscaped per Sumner code requirements and the Habitat Management Plan as appropriate.

C. *The proposed development shall be compatible generally with the surrounding land uses in terms of traffic and pedestrian circulation, building and site design.*

The proposed Sumner WWTP expansion project is designed to be compatible with the Comprehensive Facility Plan¹ and to provide wastewater treatment capacity improvements to serve the Cities of Sumner

¹ City of Sumner Wastewater Treatment Facility, Final Comprehensive Facility Plan, Addendum No. 2, August, 2013.

and Bonney Lake through 2034 (Alternative A) or 2043 (Alternative B). Alternative A would expand capacity to 5.41 mgd and Alternative B would expand capacity to 6.10 mgd. While much of the new infrastructure required for the expansion will be installed within existing structures (largely constructed under the Phase 1 expansion), the Phase 2 expansion will include new construction as listed in Table 1. The most visible new structure will be the third secondary clarifier to the east of the two existing clarifiers. This will be fenced and contained within the floodwall.

The proposed project does not impact existing traffic circulation as the facility has end-of-road access and any increases in truck traffic will be minimal and limited to regular business hours that would not impact adjacent residential neighborhoods. The proposed land exchange for property to construction Secondary Clarifier No. 3 detailed previously will improve pedestrian circulation and access to the shoreline by providing additional land for conservation, including park features. Additionally, the proposed land exchange will result in improved pedestrian circulation by removing the public access through the middle of the WWTP and to a corridor that will provide screened access to the shoreline and Puyallup River Trail.

Construction of the proposed improvements will temporarily increase traffic into and out of the WWTP site for a period of approximately 2 years. Once construction is complete, traffic and pedestrian circulation at the WWTP and in the surrounding neighborhood to the east will not be significantly different than it is today. Over the course of the planning period, the number of sludge hauling trips out of the WWTP site and through the Low-Density Residential District will gradually double as the loadings to the WWTP increase in response to population growth and expansion of the service area. These additional truck trips can be timed to avoid peak traffic periods to minimize any potential impacts to the adjacent Low-Density Residential District to the east.

D. The proposed use shall be in keeping with the goals and policies of the Sumner Comprehensive Plan.

The various elements of the Sumner Comprehensive Plan were reviewed with the proposed WWTP expansion in mind. The proposed WWTP improvements are consistent with goals and policies of several plan elements including:

- *Economic Development Element, Goal 2, provide the necessary infrastructure, protections against incompatible uses, support facilities, and services to attract and maintain a high-quality manufacturing and industrial center and to make the City a desirable place to live, work, and do business.* The proposed WWTP expansion will provide adequate wastewater treatment and disposal for the Cities of Sumner and Bonney Lake and portions of unincorporated Pierce County within the service area through 2034 (Alternative A) or 2043 (Alternative B). The proposed WWTP expansion will be confined to the existing WWTP site, for the most part, to protect adjacent natural amenities, including the riparian corridors along the White and Puyallup Rivers and vital open spaces for the enjoyment of workers in the area as well as the entire community.
- The proposed project is also consistent with *Economic Development Element, Goal 3, assure that adequate public facilities and public services are available to support industrial and*

commercial development; as it implements the City of Sumner Wastewater Treatment Facility, Final Comprehensive Facilities Plan Addendum 2 (Gray & Osborne, Inc., August 2013) to provide adequate wastewater treatment and disposal through the planning period and as required for compliance of the facility NPDES permit.

- The proposed WWTP expansion is consistent with *Goal 1.8 of the Capital Facilities and Public Services Element, to provide effective, efficient, and quality capital facilities and public services at the level necessary to support a growing community.* In accordance with Policy 1.8, implementation of the proposed WWTP expansion will provide a wastewater treatment plant adequate to meet the demands of the community through the planning period.
- The proposed WWTP expansion implements *Environment Element Goal 1, practice environmental stewardship by protecting, enhancing, and promoting the natural environment in and around the City of Sumner* by providing secondary treatment and disposal of wastewater for the service area. Specifically, the project will implement *Policy 1.4, to protect surface water quality and quantity from significant degradation.*
- The WWTP expansion is also consistent with *Environmental Element Goal 2.2, to minimize the potential for loss of life and damage to public and private investments resulting from flooding along the White (Stuck) and Puyallup Rivers,* as the amount of fill within the 100-year floodplain will be minimized and the proposed improvements will be protected from flooding to at least the 100-year flood elevation with some portions protected for a 500-year event. It should be noted that all infrastructure on the WWTP site is protected by the surrounding floodwall installed during the Phase 1 WWTP upgrade. The floodwall is intended to protect water quality during flood events by minimizing the potential for floodwaters inundating the WWTP.
- The City requested a land exchange with WDFW to provide the site for the proposed third secondary clarifier. The City is proposing to exchange a 2.07 acre riparian parcel (42500001320) along the Puyallup River Trail for the WDFW-owned parcel 42500001281 where Secondary Clarifier No. 3 will be located. In addition to this land exchange, the City will provide a conservation easement to WDFW for the portion of the clarifier parcel that will not be occupied by City infrastructure. WDFW will manage both properties for wildlife, water quality, and recreational uses associated with the Puyallup River Trail, resulting in a net increase in land managed for shoreline protection, public access, and recreation.

Additionally, the public access corridor through the WWTP will be relocated to a screened access near the toe of the SR 410 off ramp. This will provide additional safety for pedestrian access and connect to the existing Puyallup River Trail through parcel 42500001320 for added recreational opportunities.

The proposed land exchange with WDFW will be consistent with *Parks and Open Space Element Goal 2, to preserve, protect, and enhance significant open space; specifically, Policy 2.7, to retain City-owned lands, including excess rights-of-way, for open-space purposes. Unnecessary lands which are surplus should be provided with open-space compensation as part of the land sale,* as the City will provide WDFW a conservation easement to use and maintain the portion of the clarifier parcel not occupied by the clarifier in open space for wildlife habitat and recreational purposes.

- The proposed Sumner WWTP expansion is consistent with the goals, policies, and objectives of the *Shoreline Master Program Element* of the *City's Comprehensive Plan*, in that it will provide effective, efficient, and quality capital facilities and public services at the level necessary to support a growing community. The WWTP expansion will provide adequate wastewater treatment and disposal for the Cities of Sumner and Bonney Lake and portions of unincorporated Pierce County to accommodate population growth and expansion of the service area through 2034 (Alternative A) or 2043 (Alternative B). The proposed WWTP expansion is consistent with the *Shoreline Master Program Element-Economic Development Element*, in that it provides wastewater treatment and disposal that maintains compliance with the City's NPDES Permit for this facility to protect water quality in both the White and Puyallup Rivers. The WWTP is located adjacent to these streams, which serve as the receiving water for the facility's effluent, which is treated to secondary standards prior to discharge to the White River. Adequate treatment of wastewater allows recreational use of these Waters of the State in the immediate vicinity of the Sumner WWTP. The project is consistent with the *Shoreline Master Program Element- Public Access Element*, in that the WWTP expansion design will preserve access to the adjacent shoreline areas around the plant. Vegetation between the WWTP and shoreline areas will be maintained to provide a visual buffer between the WWTP and users of the Puyallup River Trail, which should enhance recreational experiences on the trail. Exchange of adjacent riparian parcels between WDFW and the City to facilitate WWTP expansion construction will extend WDFW's use, management, and protection of the Puyallup River shoreline in the project area and upstream. The City intends to grant a conservation easement to WDFW for the portion of the parcel not occupied by the new clarifier to preserve vegetation, wildlife habitat, and recreational uses on the site in perpetuity.
- The proposed WWTP expansion project is consistent with the *Shoreline Master Program Element-Flood Hazard Management section* of the *Sumner Comprehensive Plan*. The City recently installed a floodwall around the Sumner WWTP, providing protection to this critical facility from at least the 100-year flood. New infrastructure associated with the WWTP expansion will be elevated above the 100-year flood elevation in addition to being protected by this floodwall. The proposed Secondary Clarifier No. 3 will be protected to the 500-year flood elevation and incorporated into the flood protection structures associated with the other two secondary clarifiers. There will be no visible difference between the new clarifier floodwall protection and the existing clarifiers floodwalls.

E. All measures have been taken to minimize the possible adverse impacts which the proposed use may have on the area in which it is located.

The purpose of the facility expansion is to serve the local community with the critical service of wastewater management. In order to continue to serve the community for wastewater treatment and to meet water quality standards of the NPDES permit, this expansion is required. A component of the facility development and planning is to minimize adverse impacts on the local community through management of noise, odor, and screening to minimize visual impacts.

Most of the proposed WWTP expansion improvements will be installed in existing buildings and structures, which will result in little, if any, encroachment into the 100-year floodplain and no

encroachment into the floodway of the Puyallup and White Rivers. Facility structures are protected by a floodwall installed by the City during the Phase 1 WWTP upgrade project. The proposed Secondary Clarifier No. 3 will be installed on a parcel currently owned by WDFW (parcel 42500001281). The City and WDFW are negotiating a land exchange that would provide the City with the site for the new clarifier in exchange for a 2.07 acre riparian parcel (42500001320) along the Puyallup River immediately adjacent to the east. The City intends to provide WDFW with a conservation easement for the portion of the clarifier parcel (42500001281) not occupied by WWTP infrastructure, which should preserve vegetation, wildlife habitat, and recreational access via the Puyallup River Trail.

As part of the long-term management of the facility, the City has been acquiring residential structures west of SR 410 to provide additional screening for the nearby residential properties and the surrounding community. While not part of this project, this process is ongoing and demonstrates the Cities desire to minimize adverse impacts on residential properties.

Construction BMPs for the control of sedimentation and erosion will be implemented during construction. A construction traffic management plan will be developed to minimize impacts of construction machinery and vehicles on the Low-Density Residential District to the east of the Sumner WWTP.