Wastewater Treatment Plant Facilities Plan Update

Newberg City Council Meeting July 16, 2007
Wastewater Treatment Plant Facilities Plan Update

- Last WWTP Facilities Plan dated 1985
- Current WWTP dates from 1987
- Various minor improvements and upgrades of the plant have occurred over the last 20 years
- No extensive evaluation and forecast of future requirements has occurred.
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The WWTP is a Class IV oxidation ditch type, activated sludge plant with Class A in-vessel biosolids composting.
Wastewater Treatment Plant
Facilities Plan Update

- Goals of the Facilities Plan Update
  - Meeting existing and predicted regulatory requirements to protect the environment
  - Prepare for community growth
  - Ensure the maintenance of the City’s valuable community investment
Wastewater Treatment Plant Facilities Plan Update

- The WWTP Facilities Plan Update recommends a phased repair renovation and expansion program.
  - **Phase 1** to meet existing capacity shortfalls and required repairs
  - **Phase 2** designed to meet population demands through 2025
  - **Phase 3** maximizing the existing site in order to meet 2040 population estimates
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Facilities Plan Update

Population

Year

10,000
20,000
30,000
40,000
50,000
60,000

2000
2005
2010
2015
2020
2025
2030
2035

Existing Capacity (17,900)
Phase 1 Construction (2012)
Phase 2 Construction (2015)
Build-Out Capacity (55,000)

High Growth
Medium Growth
Low Growth

3/24/2009
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Phase 1 Construction deals with -

- **Wastewater Quantity** - The plant lacks sufficient capacity to convey current peak flows. (Expand IPS, Headworks, Disinfection, De-chlorination, Repairs, etc)

- **Wastewater Quality** - Improvements are needed for reliably treating wastewater effluent to meet discharge requirements to the Willamette River. (2 Oxidation Ditches, Repair Existing Ditches, & 1 Secondary Clarifier)

- **Biosolids/Composting** - The consistency of the WWTP to provide Class A compost. The moisture content of the sawdust and feed solids are too high for the Composter. (Sawdust Dryer, Building Repairs, etc)
Phase 1-

- Estimated construction costs are $31.4 million
- Plus the cost to purchase Baker Rock Property
- Design should begin as soon as funding can be obtained with work to be online by 2012.
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**Phase 2 Improvements deal with -**

- **Wastewater Quantity** - Additional support facilities to meet 2025 needs. (Headworks Odor Control, Ultra-Violet Disinfection, etc)

- **Wastewater Quality** - Expansion of the oxidation ditches and secondary clarifiers to meet NPDES requirements. (1 Oxidation Ditch, and 1 Secondary Clarifier, etc)

- **Biosolids/ Composting** - Improved sludge dewatering system and expanded composting. (Centrifuge Dewatering, Aerated Static Piles, etc)
Estimated construction costs are $23.6 million. Design could and probably should be done in conjunction with Phase 1 design work. The construction could be bid as an option item with the Phase 1 project.
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Phase 3 Improvements deal with -

- Wastewater Quantity, Quality and Biosolids/Composting - This represents the probable maximum potential of the Wynooski Site using existing technologies. The site would support a total of 8 Oxidation Ditches, 10 Secondary Clarifiers, adequate Biosolids/Composting and the ancillary facilities. This would support a Newberg population of 54,000 to 80,000.
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- Phase 3-

- Estimated construction costs were not prepared as part of this Plan update as the construction would be 18 years in the future.

- Permit treatment requirements and future technologies can not be reliably forecast.
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Impacts of Infiltration/ Inflow -

- Infiltration/Inflow from rainwater and high ground water levels in the sewer system increase the quantity of wastewater to be treated.
- Any I/I elimination program will not reduce the need for the Phase 1 project, and will only allow the possible temporary delay of the Phase 2 work.
- Phase 3 (Site Build-out) will be most impacted by an aggressive I/I program causing a delay as to when the Wynooski site is maximized.
Recommended Manpower -

- **Phase 1 (2007-2015)** - There is a need for 3 additional FTE’s for wastewater operations (Sr. Lab Tech/Environmental Specialist, an Operator II and a Utility Worker).

- **Phase 2 (2015-2025)** - 3 additional FTE’s for wastewater operations (Plant Mechanic, Sr. Lab Environmental Tech, and an Operator II).

- **Phase 3 (2025-2040)** - 3 additional FTE’s for wastewater operations (Operator I, a Utility Worker and an Environmental Tech.).
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Now What? -

- Council adopts the plan.
- City revises Wastewater SDC’s & Sewer Rates.
- Staff negotiates with Baker Rock on property purchase & provides results for Council action.
- City budgets at least Phase 1 design.
- City budgets increasing Operations Div. FTE’s
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Additional Questions?