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# Wastewater Treatment System Rehabilitation Project

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*An overview*

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The City of Shelton, WA / January 2010

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# Before



# After



## **SHELTON WASTEWATER TREATMENT IMPROVMENTS PROJECT**

Enabled by extensive grant-funding, loans and the support of partnerships with the US Department of Agriculture Rural Development, the Washington State Department of Corrections, Washington State Patrol, Washington Department of Ecology, and the Washington Public Works Board, Shelton is beginning to break ground on upgrades for the city wastewater treatment plant.

The total cost of the project is \$42 million. This includes land purchase, design, permitting and construction. Stellar J has been selected as the contractor for this project and will start the 500 days of construction the end of January 2010. This means the project will be completed in the Spring of 2012. The main benefits of this project for Oakland Bay will be the decrease in shellfish “closure area” and improved treatment for continued required permitted effluent discharge.

The upgrades will improve the level of treatment possible at the facility as well as allow for some additional growth. The specific upgrades are included here:

### **LIST OF UPGRADES AND CHANGES - BENEFITS**

1. New headworks/influent structures, to provide fine screening and improved grit removal.
  - Allows for production of Class A Biosolids,
  - Promotes wider usage of the final biosolids product,
  - Better protection of the environment at application areas.
2. A more energy efficient aeration system to upgrade the existing oxidation ditch mixing and oxygen transfer for treatment of the increased loading.
  - Saves energy cost,
  - Better treatment during winter high flow conditions,
  - Greater reliability and protection for Oakland Bay.
3. Provide improved denitrification to reduce the current level of total nitrogen in the discharge and for process control with the increased loading.
  - Removes nitrogen that could promote algae production in Oakland Bay and reduced oxygen levels,
  - Greater protection of water quality for Oakland Bay.
  - Supports Puget Sound Recovery
4. Additional solids removal by adding a third clarifier with continued series operation for one clarifier under all flow conditions.
  - Improved reliability,

- Improved final treatment effluent quality,
  - Increases plant capacity supporting local economy.
5. Effluent storage during slack tidal conditions
    - Prevents “pooling” of effluent at outfall during slack tide events,
    - Results in 1000’s of feet of commercial shellfish harvesting area being reopened,
    - Supports world famous shellfish industry.
  6. Ultraviolet disinfection installation replacing the chlorination process.
    - Eliminates risk of chlorine residual at discharge in Oakland Bay,
    - Promotes protection of aquatic species.
  7. Larger laboratory for running samples from both treatment plants and for the additional parameters that will be required.
    - Centralized sampling for WWTP and SWRP
    - Less cost to public
    - Better testing control
  8. Office space to replace areas that are used for expansion and for control/monitoring instrumentation.
    - Centralized control system WWTP, SWRP, and Pump Stations
    - Remote monitoring and control of entire wastewater utility
    - Promotes efficient use of manpower
    - Improved response and correction time
    - Less cost to public
  9. Additional facilities to treat sludge to Class A Biosolids. Provide adequate processing for handling dewatered sludge from wastewater treatment facilities throughout Mason County and Tribes.
    - Supports regional biosolids challenges
    - Supports better water quality for Oakland Bay and Hood Canal from upland biosolids disposal,
    - Less cost to public for “shared” facility.
    - Beneficial uses for the public (current Class B has limited uses)

**For more information about the project please contact:**

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