The City of Tillamook Facility Plan for the wastewater system was prepared in August 2005. Chapter 4 of this report deals with the sanitary sewer conveyance system. As part of this study the conveyance system was evaluated as to its condition and capacity.

This grant application requests funding for the following wastewater projects in the City of Tillamook:

1. Improve the capacity of the Northside Interceptor
2. Improve the capacity of 4th Street Interceptor
3. Replace the Front Street Pump Station
4. Improve the STEP system reliability
5. Replace the manhole at 1st Street and Stilwell Avenue
6. Rehabilitate deteriorated sewer reaches in the western portion of the City

These projects are described as follows:

It was noted in the Facility Plan that the Northside Interceptor, which begins at 1st Street and Stilwell Avenue, runs in 1st Street westerly to Cedar, then turns south in Cedar to 4th Street, surcharges during high flow events. This is not surprising, given the age of this system (built in 1920) and the fact that it now serves the area north of the Harquarten Slough which it was not designed to serve. Sewage into basements at 1st Street and Stilwell area has occurred. The Northside Interceptor therefore needs additional capacity to function properly. It is recommended to line this 8” diameter sewer with cured in place pipe technology (trenchless) so that disruption is minimized. This will increase the capacity of this interceptor by creating a smooth flow line for the rehabilitated sewer and will reduce infiltration into this interceptor. All building laterals can be reconnected to the newly lined sewer by internal methods. It is expected that this will increase the capacity of the Northside Interceptor by over 25%. An additional advantage to lining this sewer is to protect the sewer from the corrosive effects of hydrogen sulfide and industrial chemicals on the sewer.

The Northside Interceptor discharges to the 4th Street Interceptor which conveys the sewage to the Wastewater Treatment Plant. This 18” diameter interceptor is listed in the Facility Plan as also surcharging during high flow events, and is in need of having increased capacity. It is therefore recommended that the 4th Street Interceptor also be lined using the cured in place pipe technology to similarly improve its condition, reduce infiltration into this sewer and increase its capacity. All building laterals can be reconnected to the newly lined sewer by internal methods. The lining of the 4th Street Interceptor is expected to increase its capacity in the neighborhood of 25%.

The Front Street Pump Station is listed in the Facilities Plan as being in adequate condition. However City personnel have re-reviewed its condition and it is in need of replacement. The metal walls of the station drywell have corroded and are in poor condition. The electrical controls are located in the drywell below grade, and this is an undesirable situation. The wetwell
top and access hatch top to the drywell are below the 100 year flood stage and have been inundated in the past during high rainfall events. Access into the station is difficult and dangerous. Therefore it is proposed to replace this station with an above-grade pumping station utilizing the existing wetwell-raising of the wetwell walls approximately 4 feet will permit the new station to be above the 100 year flood elevation. All electrical controls, pumps, valves and piping for the new station would be above grade and easily accessible for maintenance, plus would not be subject to damage by flooding in the future. The two new pumps would be constant speed units with a capacity of 200 gpm at approximately 25 feet TDH. The existing wetwell will be epoxy coated to protect it from corrosion due to the STEP system discharges which are recommend for the future condition.

The condition of the STEP (Septic Tank Effluent Pumped) system which serves all of the area north of the Hoquarten Slough-on both sides of Highway 101-is called out in the Facility Plan as requiring remedial work concerning grease problems, and recommends a routine maintenance program concerning this. However all of that work, although ongoing, is on private property. For the purposes of this grant application, the City staff has real concerns as to the maintenance of the public force main sewers serving the STEP system. These sewers are located in rights-of-way or easements and have inadequate facilities for isolating the line in case of line breaks. In addition the existing cleanout or flushing connections and air release valves need to be upgraded. Also new interties between the two existing force mains need to be installed so that the system has better redundancy in case of a pipeline break -either because of a line failure or being inadvertently cut by a construction equipment.

The reduction of line pressure by discharging the two STEP force mains at the rebuilt Front Street Pump Station wetwell instead of discharging to the manhole up the hill at 1st Street and Stilwell Avenue (as is now the case) is included. This will reduce the stress on the pipeline due to the lower pressure it would have to handle if the vertical rise of the force mains is reduced. This will extend the useful life of the force mains. The rebuilt pump station will have adequate capacity to handle this additional flow.

The existing manhole at 1st Street and Stilwell Avenue is the discharge manhole for the STEP system force mains. Over the years, the hydrogen sulfide released from the force mains has corroded this manhole. This manhole is to be replaced to restore its integrity.

The Facilities Plan indicated reaches of the sanitary sewer system which were in need of rehabilitation due to root infestation, broken pipes, infiltration and/or mis-aligned joints. The television inspection reports were again reviewed for these sewer reaches and they were prioritized as to the severity of the problems indicated. The worst sewer reaches were included in this grant application for rehabilitation using pipe bursting techniques. Sewer lateral pipes serving adjacent property will be reconnected within the right-of-way limits and the manholes on each end of these sewer reaches rehabilitated as necessary.
The locations of these projects are shown on the attached Exhibit 1 (projects number 1 through 5) and Exhibit 2 (project number 6) and their costs are as indicated in the attached spreadsheet. Construction and project costs are based on costs indicated by contractors for similar work and/or on the professional opinion of the Engineer of Record. Contingency costs are included in the estimate as are other grant-mandated expenses.