



Appendix I
Issue Briefs

Pierce County Public Works and Utilities – Sewer Utility
Unified Sewer Plan Update



Appendix I - Issue Briefs

Each of the issue papers presented in this appendix appeared in the November, 2001 Unified Sewer Plan document and summarized key questions and conclusions for sewerage planning within Pierce County and for the Pierce County Wastewater Utility.

The conclusions reached influenced the chosen alternative of the Unified Sewer Plan, - centralized wastewater treatment at the Chambers Creek Regional Wastewater Treatment Plant. As summaries, these issue briefs articulated questions or concerns, set out the law and arguments that bear on the questions posed, and describe the conclusion reached.

Issue 1 - Endangered Species Act – Puget Sound Chinook Salmon and Bull and Steelhead Trout

Description of the Issue

Puget Sound Chinook salmon, Bull and Steelhead trout are currently listed as threatened species under the federal Endangered Species Act (ESA). The designation of a threatened species places limitations on uses and activities which may result in a take (the harming, harassing, or killing of the designated species).

Treated wastewater discharged to surface water and the construction of sewerage facilities, that involves grading, land clearing, and excavation, could possibly be subject to a takings lawsuit under ESA and the imposition of damages and other legal sanctions.

Background

The operation and maintenance of wastewater treatment plants are subject to the limitations imposed by the Endangered Species Act (ESA). Failure to comply with ESA could leave the County open to civil lawsuits and may create an uncertain regulatory environment.

On March 16, 1999, the National Marine Fisheries under the authority of the Endangered Species Act declared the Puget Sound Chinook salmon a threatened species. On November 1, 1999, the U.S. Department of Fish and Wildlife also designated the Bull Trout as an endangered species. On May 7, 2001 Steelhead Trout were also listed. All three fish species are found within the Unified Sewer Plan established sewer service basins. Chinook salmon are found within the Puyallup, White and Carbon Rivers and their tributaries, bull and steelhead trout are found within the mainstreams. All species are found in the waters of Puget Sound.

The habitat for all species is generally similar, but bull and steelhead trout have been found to be particularly sensitive to increases in water temperature and reductions in water quality. Under ESA local governments are required to avoid "taking" listed species.

"Taking" includes injury to the species itself and also to its habitat. Guidance for compliance with the "no take" obligation regarding the Chinook salmon was provided by the National Marine Fisheries Service in draft regulations published for the conservation of Puget Sound Chinook on January 3, 2000. Bull and steelhead trout received full protection under Section 9 of the Endangered Species Act concurrent with their listings. The federal listing agency is responsible for developing a recovery plan for listed species.

For the Puget Sound Chinook, leaders in the Puget Sound took a different path. They believed that involving local involvement in the development of the plan would increase the commitment to implement it and restore our salmon runs." ⁽¹⁾ After agency review and public comment, the Recovery Plan was adopted by the National Marine Fisheries Service on January 19, 2007. The recovery plan includes a wide range of actions, some that can be taken by sewerage agencies to improve habitat for listed species.

⁽¹⁾ *DRAFT PUGET SOUND SALMON RECOVERY PLAN*
Volume 1, June 30, 2005 - Revised December 2005
Submitted by the Shared Strategy Development Committee

Criteria

- 50 CFR Part 17, *Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for Bull Trout in the Coterminous United States; Final Rule*
- 50 CFR Part 223, *Endangered and Threatened Species; Proposed Rule Governing Take of Seven Threatened Evolutionary Significant Units (ESUs); Final Rule*
- 16 USC Chapter 35, *Endangered Species Act*
- *Puget Sound Salmon Recovery Plan, National Marine Fisheries Service, January 19, 2007*

Conclusion

The Wastewater Utility continues to operate in compliance with the ESA. Water quality standards have been identified for the wastewater facility and compliance is closely monitored. Future construction projects will require review for possible impacts to the listed species.

In the case of projects requiring federal permits or approvals such as those from the Army Corps of Engineers or if the project includes any federal funding, a formal consultation process will be necessary with the federal listing agency. Through the consultation process, a determination will be made as to how to reduce or eliminate impacts. That could range from restricting the timing of construction or changing the proposed project parameters.

Issue 2 – On-Site Community Sewer System Maintenance

Description of the Issue

Based upon RCW 36.94, the Pierce County Wastewater Utility is no longer authorized to assume maintenance responsibility for failed community on-site systems. In 1998 all on-site system maintenance responsibilities were reassigned to the Tacoma-Pierce County Health Department through an On-site Sewer System Maintenance Program. Pierce County no longer assumes, service, maintenance, or operational responsibilities for any new community systems.

Background

Between 1969 and 1984 Pierce County maintained over 100 community systems. Connection of these systems to sanitary sewers began in 1984. Of these 100 systems there are two that remain under Pierce County's maintenance and operation control;

- Cypress Green in American Lake Gardens
- Etloh - Panoramic View on Fox Island.

The Cypress Green facility will be connected to the sewer system once the City of Lakewood extends an interceptor line to serve the Tillicum and the American Lake Gardens areas of the City. Plans are to maintain the Etloh on-site system indefinitely, as Pierce County has no Urban Growth Area or sanitary sewers in the Kitsap drainage basin with which to make a sewer connection.

Pierce County assumed the Cascadia Sewer Service Area with a new community system when the City of Orting declined to provide sewer services to the development. Pierce County will operate and maintain this community system until a planned Membrane Bioreactor treatment facility comes on line.

Criteria

- RCW 36.94 Sewerage, Water and Drainage Systems

Conclusion

Community on-site systems are permitted and monitored by either the Tacoma-Pierce County Health Department, Washington Department of Health, or Washington Department of Ecology. Legislation in 1998 established a Maintenance Program for all on-site systems that includes making both individual and community systems the responsibility of the homeowners, homeowners association, and the Tacoma-Pierce County Health Department. Pierce County no longer assumes, service, maintenance, or operational responsibilities for any new community on-site systems.

Issue 3 - Water Reuse and Reclamation

Description of the Issue

Several planning projects are forthcoming which will provide the baseline information required to analyze wastewater reuse opportunities. A meaningful investigation of reuse opportunities needs to occur in advance of these studies.

Background

Reclaimed water is wastewater that has gone through additional treatment to a Class A, B, C, or D criteria and may be reused in a variety of applications instead of being directly discharged into a receiving water body.

In Washington State, reclaimed water is considered a water resource. In 1997, Water Pollution Control (RCW 90.48) was amended to require consideration of reclaimed water uses in plans for wastewater treatment facilities and engineering reports.

In August 1998 the State Departments of Ecology and Health issued *Guidance for the Consideration of Reclaimed Water within Wastewater Planning Documents* under RCW 90.48.112 & WAC 173-240.

The guidance document states that Ecology will not approve general sewer plans (the term includes sewerage general plans) until the Department of Health has compared water plans with the proposed sewerage plan for reuse potential and water system capacity issues and the sewerage plan contains information and analysis as follows:

- Identify existing and future candidates, and uses for reclaimed water
- Discuss the general layout of a reclaimed water distribution system for the uses identified.
- Meeting Class A, B, C, and D reclaimed water standards.
- Identify the most likely candidates for actual construction and implementation.

In 1994, Tacoma Public Utilities conducted a *Water Reuse Feasibility Study*, an investigation of wastewater reuse opportunities at wastewater treatment plants within or adjacent to their water service area. The report identified two potential reuse markets for reclaimed wastewater from the Chambers Creek Regional WWTP, industrial and irrigation.

Potential application sites within two miles of the WWTP included 505 acres of parks, cemeteries, and golf courses. Two pipeline projects were described to transfer wastewater to the sites.

In 1997, Tacoma Public Utilities released the *Stone Consolidated Conservation and Water Reuse Assessment* (now called Abitibi Consolidated Paper Mill). The assessment concluded that while treated wastewater was a viable source of industrial water, the cost of providing the reclaimed water was not cost-effective. The report also stated that the unit cost of reclamation facilities and operations would be less costly for Tacoma Water to pay for, than the cost of the next new water supply.

Since these investigations were conducted, the *Chambers Creek Properties Master Site Plan, 1997* has been adopted. This plan identifies wastewater reclamation, water ponds, and on-site irrigation as key components for the 930 acre Chambers Creek Properties and as a method under which mine reclamation could be augmented.

On-site irrigation opportunities for the use of reclaimed water within the Chambers Creek Properties are currently being reviewed. Irrigation for the Chambers Bay Golf Course, the North, and Central Meadows open space areas, and the Environmental Services Building and grounds area are all potential reclaimed water recipients.

The amount of treated wastewater used for irrigation and water features has not been determined. The Chambers Creek Regional WWTP currently uses approximately one million gallons per day (MGD) of

treated wastewater for process uses in and around the facility. Prior to identifying the amount of treated wastewater available for reuse, a water budget for implementation of the Master Site Plan must be developed.

In 1998, the Legislature passed ESHB 2514, establishing funds and criteria for watershed assessments and plans. The Tacoma-Pierce County Health Department applied for grant funds to conduct an assessment of the Chambers Creek - Clover Creek Basin (watershed). The assessment included information crucial to identifying reuse opportunities within the basin.

Minimum requirements of the assessment:

- An estimate of the surface and ground water present in the watershed,
- An estimate of the water represented by claims in the water rights claims registry, water use permits, certificated rights, existing minimum instream flow rules, federally reserved rights, and any other rights to water;
- An estimate of the surface and ground water actually being used in the management area;
- An estimate of the water needed in the future for use in the management area;
- Identification of the location of areas where aquifers are known to recharge surface water bodies and areas known to provide for the recharge of aquifers from the surface, and
- An estimate of the surface and ground water available for further appropriation taking into account minimum instream flows necessary for fish.

Water reclamation and reuse remains a component part of the Unified Sewer Plan in the following policies:

- Continue to work towards water reclamation and reuse opportunities in *the Chambers Creek Properties Master Site Plan*.
- Cooperate with water purveyors neighboring Pierce County-owned wastewater treatment plants.
- Investigate the economic feasibility of off-site reuse of treated wastewater from the Chambers Creek Regional WWTP after adoption of the Unified Sewer Plan and after the opportunities for use of reclaimed wastewater per the Master Site Plan are known.

Criteria

- RCW 90.48.112 *Plan Evaluation – Consideration of Reclaimed Water*
- RCW 90.46.010 *Definitions*
- *Chambers Creek Properties Master Site Plan Update, February 2007.*
- *Guidance for Consideration within Wastewater Planning Document under 90.48.112 RCW & WAC 173.240, Departments of Ecology and Health, August 1998*

Conclusion

Much of the information needed to produce a reasonable analysis of opportunities for use of reclaimed water is not yet available. New objectives currently under review by the Sewer Utility will more accurately define reclaimed water production and usage not only on the Chambers Creek Properties, but also to the surrounding community.

Issue 4 - Demand Management

Description of the Issue

Demand Management is cited as a way to promote objectives such as general water quality improvement, water reclamation, and reuse and groundwater recharge.

Background

Demand Management is a program of activities and policies which result in a reduction in the amount and/or strength of wastewater generated and thereby delay the need for additional wastewater treatment and transmission capacity.

The current Demand Management activities of the Pierce County Wastewater Utility include:

- Water conservation through advocacy for the Plumbing Code requirements of low flow fixtures
- Participation in water conservation education
- Aggressive program for the elimination of Inflow and Infiltration
- Enforcement of the Industrial Pretreatment Program

Conclusion

Demand management is a financial consideration. General policies can be established in a sewage general plan on which to base a demand management strategy.

The Unified Sewer Plan includes a demand management analysis at a broad planning level. Implementation of current demand management techniques assumes a 10% reduction in wastewater flows.

Additional reduction in the amount of flow discharged may be achieved with water reuse. The Pierce County Wastewater Utility is assessing the feasibility of off-site reuse of treated wastewater from the Chambers Creek Regional WWTP for use at both the Chambers Creek Properties and other off-site locations.

Issue 5 - Puget Sound as Receiving Water and Water Quality Goals

Description of the Issue

Each river, stream, storm, and sanitary sewer outfall which empties to the Sound brings with it nutrients and pollutants which become mixed before being moved out to the ocean. As the population around the Puget Sound Basin continues to grow, there will be a corresponding increase in the amount of discharge (from all sources). There is concern that increased discharges from the Chambers Creek Regional WWTP may have a cumulative impact on the health of the Sound. Future wastewater discharges may have to meet stricter water quality standards.

Background

The Puget Sound is a complex estuary system. Daily movement of the water within the Sound is driven primarily by the tides, with net outward movement being driven by freshwater which enters the system.

The Federal Clean Water Act, the Washington Water Pollution Control Act, the State Surface Water Quality Standards, and the Shoreline Management Act together combine to protect Puget Sound water quality. The Surface Water Quality Standards were developed as a way to protect the beneficial uses of surface water. The standards include water body classifications, narrative criteria for the protection of beneficial uses, numerical quality criteria, mixing zone criteria for wastewater outfalls and other designations.

The National Pollutant Discharge Elimination System (NPDES) permit program regulates discharges by wastewater treatment plants. These permit programs were developed to operate under State law as part of the Federal Clean Water Act's NPDES program and are issued by the Department of Ecology. Each NPDES permit issued reflects the water quality surrounding the discharge point and the ability of the discharge to be dispersed or "mixed" and carried away by the currents.

Section 303(d) of the Federal Clean Water Act requires that states identify surface waters which do not meet or are not expected to meet water quality standards even after technology-based or other required controls are in place. These water bodies are then priority ranked and a total maximum daily load (TMDL) for each pollutant and water body segment on the list. The TMDL is the total mass loading of a given pollutant, including a margin of safety that will ensure that the water body will meet water quality standards.

TMDLs are widely used on freshwater bodies, but at this time have not been identified for the Puget Sound. Currently the Department of Ecology is conducting a study to determine the South Sound Basin's ability to assimilate nutrients and ultimately set pollutant loading limits. Results of the South Puget Sound Model Nutrient Study have not yet been released

Criteria

- Federal Clean Water Act
- RCW 90.48 - *Water Pollution Control Act*
- WAC 173-201A - *State Surface Water Quality Standards*
- WAC 173-220 - *National Pollution Discharge Elimination System*

Conclusion

It is expected that there will continue to be a gradual increase in water quality standards over time. Population growth within Pierce County and the greater Puget Sound area will increase the demand for wastewater treatment and result in the increased volume of effluent being discharged to Puget Sound. The location of the Chambers Creek Regional WWTP is such that adequate mixing will continue to occur under future projections. Not enough data exists at this time to determine the effect of cumulative impact of increased nutrients and pollutants on the South Sound.

Issue 6 - Ground Water Quality and Sewerage Facilities

Description of the Issue

Groundwater serves as the primary source of drinking water for Pierce County. Protection of this resource is vital. Impacts to groundwater recharge, groundwater migration and groundwater contamination all require careful consideration in the design and installation of sewerage facilities.

Background

Each drainage basin within the County is comprised of a complex groundwater system made up of layers of permeable and impermeable soils and rock. Groundwater which is trapped between these layers is commonly referred to as an aquifer. Recharge of these aquifers generally occurs through infiltration of precipitation, stormwater through dry wells, wastewater from septic tanks and through surface water bodies, such as lakes and rivers. Regional recharge for most of Pierce County occurs in the Cascade Mountains and the Cascade foothills.

Contamination of the aquifers (groundwater) can occur through a number of sources, including failing septic systems. Documented water quality problems starting in 1939 in the Chambers Creek – Clover Creek Basin were attributed to high number of failing septic systems. From the early 1970's to 1990's Pierce County was under a Compliance Order to build a treatment plant and operate a sewer system to address the groundwater problem. In 1997, the Department of Ecology issued a Notice of Compliance which stated that Pierce County had satisfied the conditions of the standing Compliance Order (See DOE Compliance Order for additional information). The connection of septic systems to sanitary sewers is estimated to remove 220 gallons per residence per day from groundwater, which may otherwise have contributed to groundwater recharge.

Migration of groundwater may occur when ground water levels are above the elevation of the sewer line. Over time, especially in older systems, ground water infiltrates into the sewer lines through cracks in joints or at manholes. Infiltration is low during the summer and higher during the rainy months. Pierce County maintains an Infiltration and Inflow (I&I) Program which works to eliminate these sources.

The opposite of infiltration or exfiltration occurs when untreated wastewater leaves sewer pipelines through same joints or cracks which allow groundwater to enter. Within the Pierce County system this occurs less often due to the relative young age of the pipes, high rainfall and low groundwater levels.

Criteria

- Coordinated Water System Plan, 1996
- Chambers Creek Water Quality Management Plan, 1974

Conclusion

Sanitary sewers within urban areas continue to be the most effective way to control groundwater pollution due to overly dense septic systems. The variability in the geology/soils makes it difficult to determine on a large scale, if groundwater migration is an impact of the installation of underground facilities. The impact is a matter of research and project-specific environmental analysis.

Issue 7 - Department of Ecology Compliance Order

Description of the Issue

Pierce County is subject to a Department of Ecology Compliance Order for the Chambers Creek - Clover Creek Drainage Basin. The order, considered satisfied in June 1977, requires continued connection of urban density development in the drainage basin to sanitary sewers. Continuing to show all of the Chambers Creek - Clover Creek basin as future service area may conflict with the Pierce County Comprehensive Plan's designation of "rural" areas within the basin.

Background

Groundwater problems attributed to a high number of failing on-site sewer systems within the urban areas of the Chambers Creek Basin were addressed through the construction of the Chambers Creek Regional Wastewater Treatment Plant. The Pierce County Comprehensive Plan designates parts of the sewer service basin as rural. Within rural areas sanitary sewers are not permitted except to service a binding sewer agreement or to remedy ground water contamination by replacing septic systems and community on-site sewer systems.

Sanitary sewer service can only be provided if a property lies within the DOE approved service area of a sewer utility. The State of Washington requires that future service areas be identified in a sewerage general plan. This includes areas where the sewer utility could be called upon to connect a failed on-site sewer system.

Criteria

- Department of Ecology Administrative Order No. DE 74-57 and Amendments
- *Comprehensive Plan for Pierce County Washington, 1994*
- RCW 36.94.020

Conclusion

Pierce County will continue to satisfy the DOE Compliance Order as long as the Wastewater Utility continues to permit connection of property with failing on-site sewer systems to sanitary sewers in the Chambers Creek - Clover Creek basin. Because the *Pierce County Comprehensive Plan* allows for sanitary sewers in "rural" areas where there are explicitly defined circumstances, showing a "rural" area as future service area subject to the limits imposed by the Comprehensive Plan is consistent with the Comprehensive Plan.

Issue 8 - Compatibility of Sewerage Facilities with Neighboring Uses

Description of the Issue

Compatibility of sewerage facilities with surrounding areas has increasingly become an issue as urban areas become more densely developed. People object to odors, noise, industrial appearance, and how a facility physically reinforces the land use objectives for the areas in which they are located. These concerns can mean the difference between costly contested permits and timely permits for structures and good public relations.

Background

The Chambers Creek Regional WWTP is screened from public view by large vegetated hillsides and berms, the Tacoma Central WWTP is located in an industrial area, and the Sumner WWTP is separated from residential and agricultural areas by the Puyallup River, the White River and by SR-410. Some above ground pump station structures have been designed with similar height and bulk as the surrounding zones. An example is the Town of Steilacoom's Pump Station, which reflects the Town's historic character.

Compatibility with surrounding zones also involves the control of sound and odor sources. By necessity, pump stations occur in residential, commercial, and industrial areas along major pipeline routes. Each station is different, but generally employs submersible pumps and control panels, below ground with generators and telemetry poles above ground. In addition, odor control devices are placed throughout the system as needed

As existing facilities expand and new facilities are constructed, the need to mitigate adverse effects of their presence increases. Mitigation measures include:

- Disturbed areas are restored (repaved or planted as appropriate) after installation is completed.
- Wherever possible, pipelines and pump stations are installed in the existing rights-of-way, where vegetation does not need to be removed.
- Pump stations are designed to have no greater height and bulk as other primary structures in the zone they are located
- Landscaping of pump stations, when needed, are located outside of security fencing and is designed to screen the station from surrounding land uses.

Criteria

- Unified Sewer Plan Alternatives Final EIS, 1999
- Comprehensive Plan for cities and towns within Pierce County
- *Chambers Creek Properties Master Site Plan, 1997*

Conclusion

With mitigation measures identified at the time of site-specific environmental review, much of the impact of sewerage facilities has been avoided.

Issue 9 - Existing Rural Service Areas

Description of the Issue

The Pierce County Comprehensive Plan directs that sanitary sewers be provided exclusively to urban areas. Generally, sewerage facilities are not permitted outside of designated urban growth areas except to serve rural properties with binding sewer agreements or failed on-site sewer systems that in the judgment of the local health department threaten groundwater quality.

Portions of the Pierce County Wastewater Utility service area, designated pursuant to Chapter 36.94 RCW, were classified “rural” pursuant to Chapter 36.70A RCW when the Comprehensive Plan was adopted. Are these rural areas consistent with the Pierce County Comprehensive Plan and State Growth Management Act for sewer services.

Background

According to RCW 36.94, the County Wastewater Utility cannot connect existing buildings to sanitary sewers to replace a failed on-site sewer system if the property is not within the service area shown in the sewerage general plan.

The existing Pierce County Wastewater Utility sewer service area, which pre-dates the Comprehensive Plan, contains several areas that were subsequently designated rural by the County Comprehensive Plan:

North Clover Creek – Collins Area (Rural Separator - RSep - Designation)

The area falls within the Chambers Creek-Clover Creek Drainage Basin covered by a Department of Ecology (DOE) compliance order. The area contains a total of 2,131 parcels designated rural, of which 349 parcels are connected to sanitary sewers. Binding sewer agreements cover 234 parcels, 202 parcels (95%) are already connected to the County sewer system. Thirty-six percent (36%) of the parcels in the North Clover Creek – Collins service area are ½ acre in size or less. They are generally located near 112th Street East, Golden Given and Canyon Road.

South Spanaway/Elk Plain Area (Rural Reserve – RR - Designation)

This area also falls within the area of the DOE compliance order. As Rural Reserve, it is an area to be added to the Comprehensive Urban Growth Area (CUGA) when more land needs to be designated urban. The area contains 3,452 parcels, of which 737 parcels are connected to sanitary sewers. Binding sewer agreements cover 298 parcels, 293 parcels (98%) are already connected to the County sewer system. Sixty-two percent (62%) of the parcels in the South Spanaway/Elk Plain area are ½ acre in size or less.

Summit-Waller Area (Rural Separator – RSep - Designation)

The service area in Summit-Waller consists of parcels associated with existing connections only. The entire Summit-Waller area is outside of the County’s sewer service area.

The Comprehensive Plan for Pierce County regulates the manner in which sewer connections in rural areas can occur as follows:

- Where sanitary sewer service will remedy ground water contamination and other health problems by replacing on-site sewer (septic) systems,
- Where a formal binding agreement to service an approved planned development was made prior to the establishment of an Urban Growth Area (e.g., Where there is a binding sewer agreement.), and
- Where current connections exist. (Current connections paid for treatment and conveyance system capacity that obligates the sewer utility to continue to provide service as long as the property owner or resident abides by the sewer regulations.)

Interceptors constructed within and through areas designated rural cannot be made available for individual connections except as provided for in the County Comprehensive Plan.

Existing service areas that have been subsequently designated rural have been maintained in a manner consistent with the comprehensive plan since the plan was adopted in 1994. Wastewater Utility policies and operating procedures reinforce the policies in the comprehensive plan.

No connections have been permitted in the rural service area unless the connecting property was covered by a binding sewer agreement or the Tacoma-Pierce County Health Department required the connection. The Wastewater Utility can legally continue sewer service to existing connections in areas designated rural only if the areas are retained in the Utility's adopted service area.

Criteria

- RCW 36.70A Growth Management Act
- RCW 36.94 Sewerage Water and Drainage Systems
- WAC 395-195-050
- *Comprehensive Plan for Pierce County Washington, 1994* , LU-UGA Objective 2, 2.b
- *Pierce County County-Wide Planning Policies, 3.4.2a*
- *Pierce County Coordinated Water System Plan, 1996*

Conclusion

Consistent with the Growth Management Act, the County Comprehensive Plan permits certain properties to be connected to sanitary sewers in rural areas in limited instances. However, in order to comply with State sewerage laws, these connections can only occur if the applicable rural land is contained within the adopted sewer service area. Therefore, maintaining the designation of existing sewer service areas in rural areas is consistent with the comprehensive plan. Preserving existing sewer service areas subsequently designated rural on the land use map is a prerequisite to maintaining the County's ability to connect failed on-site sewer systems in these areas and continuing service to existing connections.

Issue 10 - Local Collection Facilities Planning

Description of the Issue

It is preferable to make local sewerage facilities available concurrent with development so the densities sought within the Urban Growth Area can be realized and the number of on-site sewer systems in the Chambers-Clover Creek Basin can be minimized.

The scope of work for the Unified Sewer Plan focused on the interceptor network of gravity pipelines 15 inches or greater in diameter, force mains over six inches in diameter and associated pump stations. This is the infrastructure that had to be identified in order to evaluate the service area and treatment plant for the Unified Sewer Plan.

Background

Sewerage general plans are required by the Revised Code of Washington (RCW) 36.94.010 to include the general location and description of trunk and interceptor sewers, pump stations, monitoring and control facilities, local service areas and a general description of the collection system to serve those areas, a description of on-site sanitary sewerage system inspection services and maintenance services, and other facilities and services necessary to provide a functional and implementable plan. RCW 36.94.010(3)(c) allows, but does not require, sewerage general plans to specify local facilities and services.

These collection facilities: the interceptors, trunks, and major force mains, are the backbone of the conveyance system that transports wastewater from local service areas to the wastewater treatment plant.

Future conveyance system sizing and location corridors in the Unified Sewer Plan are the products of sewer system modeling. Sub basins were delineated and existing facilities were either digitized or adjusted for the County's geographic information system. The Environmental Impact Statement was based on this conveyance system sizing.

The interceptor (conveyance) system has to be in place, in order to plan for local collection facilities.. During actual facility design, an interceptor may be moved several blocks in one direction or another to reflect actual site conditions, environmental constraints, traffic, change in technology, and cost-effectiveness factors. Such adjustments can significantly affect the design and location of local collection facilities.

The Unified Sewer Plan sets out the conveyance system improvements that can be incorporated in the Capital Facilities Element of the County Comprehensive Plan. The timing of sanitary sewer capital improvements occurs in the context of annual amendments to the Capital Facilities Element of the County Comprehensive Plan. The Capital Facilities Element includes conveyance facilities set out in the sewerage general plan and ULID projects. Typically, local collection system improvements are not part of the Capital Facilities Element, except for ULID projects. Local collection system improvements occur as developer constructed extensions or ULID projects.

Within Urban Growth Areas, residential construction with on-site sewer systems is permitted when sanitary sewer facilities are outside of 300 feet of a building site. County-Wide Planning Policies, local comprehensive plans, development regulations, and Tacoma-Pierce County Board of Health regulations contain provisions for on-site sewer system use.

The plans and regulations advocate the ultimate connection to sanitary sewers of all development in the Urban Growth Area while providing for new development on temporary or interim on-site sewer systems. The Comprehensive Plan for Pierce County Washington contains policies in the Land Use Element that permit interim on-site septic systems for new development where sanitary sewers are not available. Dry

line sewer facilities are included to make future connection to sanitary sewers less costly when subdivisions are designed to permit future infill at urban densities.¹

Sewerage general plans implement broader policies, such as those in State law and regulations, County-Wide Planning Policies, the County Comprehensive Plan, city comprehensive plans and Health Department regulations. If a change in the broad public policy regarding on-site sewer systems in urban areas is desired, the Pierce County County-Wide Planning Policies and individual comprehensive plans and implementing development regulations will have to be amended. It is not within the purview of a sewerage general plan to resolve such policy questions.

Criteria

- RCW 36.94, Sewerage, Water and Drainage Systems
- RCW 70.118, On-Site Sewage Disposal Systems
- *Pierce County County-Wide Planning Policies, Urban Growth Areas, 2.4.3,b*
- Pierce County Code, Title 19A. Comprehensive Plan for Pierce County Washington, Land Use Element, Urban Growth Areas, Objective 4.

Conclusion

Local collection system planning will continue but not be added to Pierce County’s Wastewater Utility sewerage general plan. The adopted conveyance system was achieved with the input of the Department of Ecology and complies with State law. The purpose of the Unified Sewer Plan is to provide a long-term vision of major collection and treatment facilities.

¹ Dry sewer facilities are permanent public and/or private sewerage facilities designed and constructed in accordance with the County Wastewater Utility standards and specifications for future connection into the Wastewater Utility sewer system.