Conveyance System Improvement

Program Update

Status Report

November 2016

King County
Department of Natural Resources and Parks
Wastewater Treatment Division

CSI Program Update Process

COMPLETED → Update Planning Assumptions

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COMPLETED → Complete Regional Conveyance System Needs Assessment

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Develop Conceptual Projects and Planning Level Cost Estimates

↓

We Are Here → Conceptual Project Prioritization

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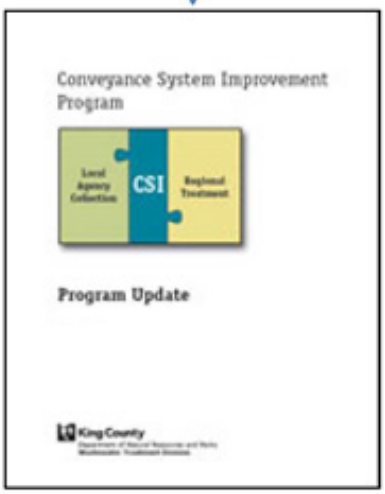
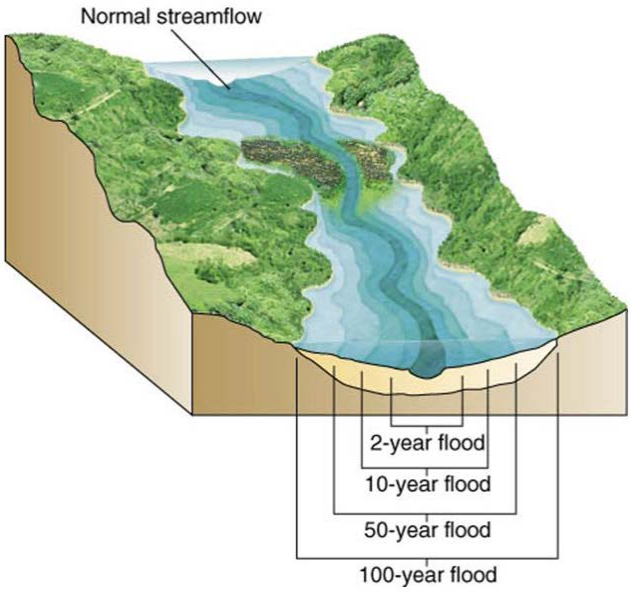
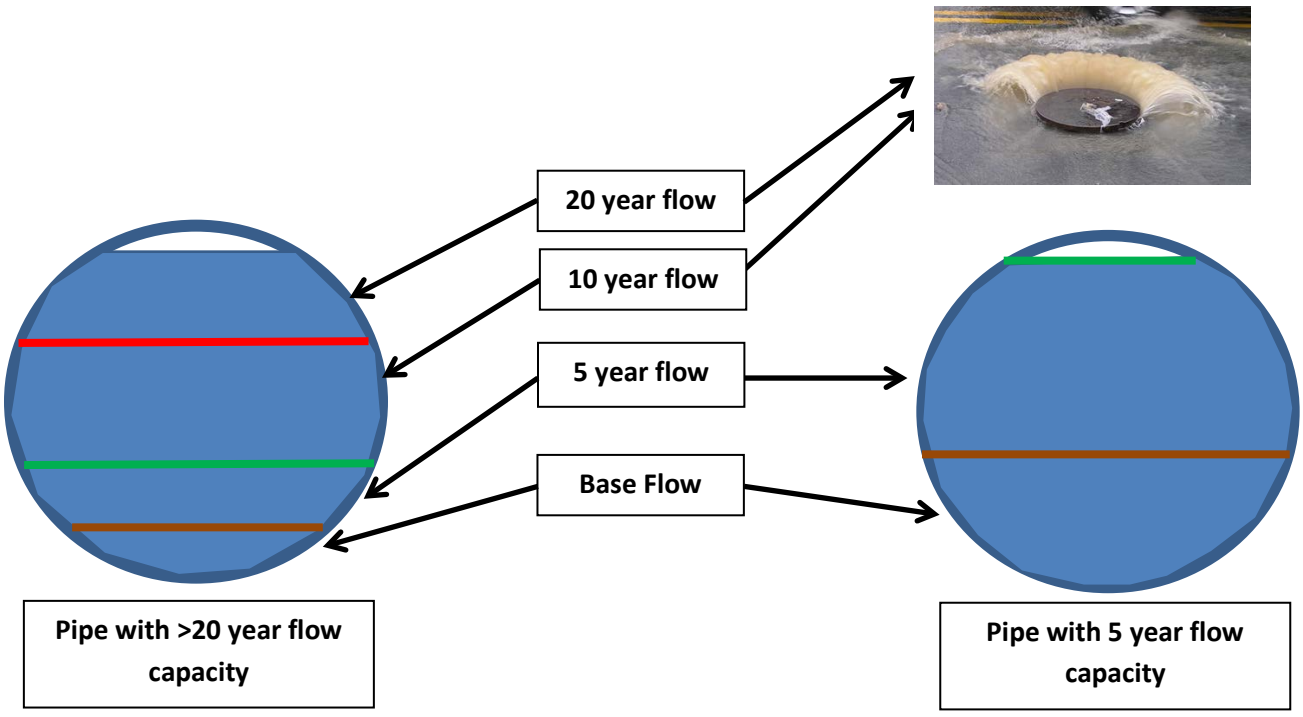


Flow Recurrence Intervals in Years

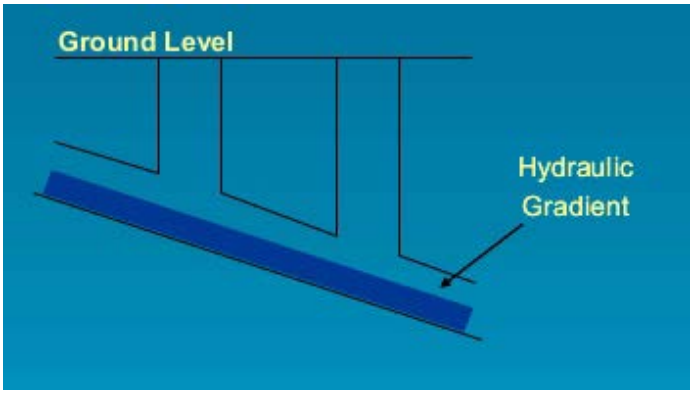
Recurrence Intervals and Probabilities of Occurrences		
Recurrence Interval in Years	**Probability of Occurrence in Any Given Year**	**Percent Chance of Occurrence in Any Given Year**
2	1 in 2	50
5	1 in 5	20
10	1 in 10	10
20	1 in 20	5
50	1 in 50	2
100	1 in 100	1



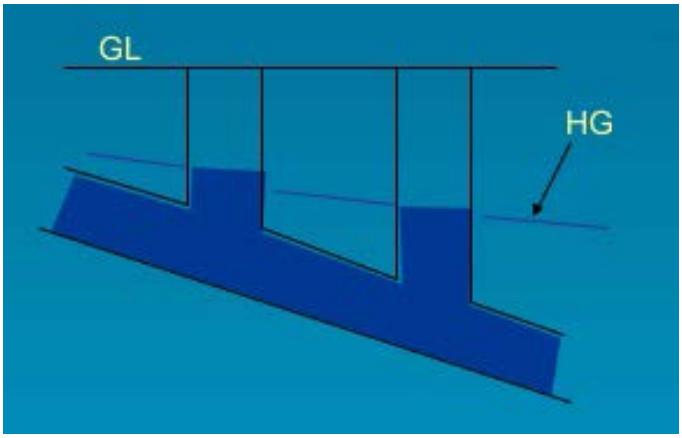
Pipe Flow Recurrence Intervals in Years and Level of Service



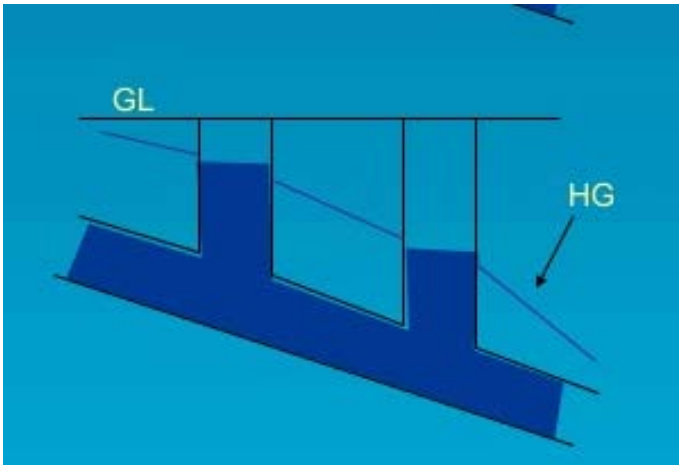
Surcharge Pipe Conditions



No Surcharge



Surcharge Example 1



Surcharge Example 2

2007 CSI Project Prioritization Results

Table 5-3. Results of Application of Prioritization Criteria to Planned Conveyance Projects

I/I Project [1]	Project Name	Exceedance Year/Level of Service (LOS)/Sewered Growth				Prioritization Criteria						Coincident Benefit Comments
		Year Exceeded	Estimated LOS in 2000	Sewered Area Growth [2] (2000 to 2010)	Population Growth [2] (2000 to 2010)	Risk of Overflow vs. Surcharge	Public Health and Water Quality Impacts	Risk of Non-Compliance Relative to Overflow Risk	O&M Issues	Community and Local Agency Concerns	Coincident Benefits	
Hidden Lake Planning Basin												
	Boeing Creek Storage Expansion	Before 2000	2–5 years [3]	2%	4%	Medium	Medium	Medium	No	None identified	No	None identified
	Richmond Beach Storage	Before 2000	5–10 years [3]	3%	5%	Medium	Medium	Medium	No	None identified	No	None identified
Northeast Lake Washington Planning Basin												
	North Mercer and Enatai Interceptor Parallels	Before 2000	2–5 years [4]	1%	8%	High	High	High	No	Increased zoning density in Mercer Island Central Business District	No	None identified
	Bellevue Influent Trunk Parallel	Before 2000	2–5 years [5]	2%	27%	High	High	High	No	Increased zoning density in Bellevue Central Business District	Yes	Needed to convey peak flows to upgraded pump station
	Factoria Pump Station and Trunk Diversion	Before 2000	5–10 years	10%	7%	Medium	Medium	Medium	No	None identified	No	None identified
	Medina Storage	2009	>20 years			Low	Low	Low	No	None identified	No	None identified
	Juanita Bay Pump Station Force Main Upgrade	2020	>20 years			Low	Low	Low	Yes	None identified	No	None identified
North Green River Planning Basin												
Yes	South Renton Interceptor Parallel	2011	>20 years			Medium	Medium	Medium	No	None identified	No	None identified
North Lake Sammamish Planning Basin												
	Lake Hills Trunk Replacement	Before 2000	2–5 years	2%	13%	High	High	High	No	None identified	No	None identified
	Northwest Lake Sammamish Interceptor Parallel	Before 2000	2–5 years	2%	17%	High	High	High	No	Increased zoning density in Redmond Central Business District	Yes	Multiple transportation projects along alignment
North Lake Washington Planning Basin												
	York Pump Station Modifications	2016 [6]	N/A [6]			Low	Low	Low	No	None identified	Yes	Coincident benefit of Brightwater conveyance
	[CSI] Swamp Creek – Section 1B Parallel	2017	>20 years			Low	Low	Low	No	Increased zoning density throughout service Area	No	None identified
	Lower North Creek Interceptor Parallel	2024	>20 years			Low	Low	Low	No	Increased zoning density throughout service Area	No	None identified
	Upper North Creek Parallel	2029	>20 years			Low	Low	Low	No	Increased zoning density throughout service Area	No	None identified
Northwest Lake Washington Planning Basin												
	[CSI] Thornton Creek Interceptor Parallels	Before 2000	5–10 years	1%	7%	High	High	High	No	None identified	No	None identified
Southeast Lake Washington Planning Area												
	Coal Creek Siphon and Trunk Parallel	Before 2000	2–5 years	22%	21%	High	High	High	No	None identified	No	None identified
South Green River Planning Basin, Kent Planning Zone												
	Garrison Creek Trunk Parallel	2018	>20 years			Low	Low	Low	No	None identified	No	None identified
	ULID #1 Contract #4 Parallel	2021	>20 years			Low	Low	Low	No	None identified	No	None identified
	Auburn Interceptor – Section 3 Parallel Pipe Storage	2028	>20 years			Low	Low	Low	No	None identified	No	None identified

Table Key and Notes

Key

Planning Basin

High Priority Projects (7 total)

Medium Priority Projects (6 total)

Lower Priority Projects (20 total)

Notes

(1) Implementation of the Regional I/I Control Program includes development of two or three initial I/I reduction projects from four possible project sites identified by the county and component agencies. Implementation will occur between 2007 and 2011. The I/I reduction projects are intended to eliminate the need for planned conveyance system improvements. Therefore, the conveyance system improvement projects associated with the identified I/I reduction projects have been given lower priority to allow adequate time to develop the initial I/I reduction projects and determine if I/I reduction successfully eliminated the need for the identified conveyance projects.

(2) Population and sewered area growth calculated for high and medium priority projects only.

(3) After the Hidden Lake Pump Station Replacement and Sewer Improvement Project is complete, the level of service (LOS) is estimated to be 10 to 20 years.

(4) The current capacity restricted point is the east channel siphon and just downstream in the Enatai Trunk. In addition, it was discovered that the Mercer Trunk is restricted after the trunk sustained damage from utility work in late December 2006.

(5) The Bellevue Influent Trunk should be upgraded so that peak capacity in the Bellevue Pump Station upgrade can be used.

(6) The York Pump Station Modification Project involves valving work to enable peak flows to be diverted from the Eastside Interceptor north to the Brightwater System.

I/I Project [1]	Project Name	Exceedance Year/Level of Service (LOS)/Sewered Growth				Prioritization Criteria						Coincident Benefit Comments	Table Key and Notes
		Year Exceeded	Estimated LOS in 2000	Sewered Area Growth [2] (2000 to 2010)	Population Growth [2] (2000 to 2010)	Risk of Overflow vs. Surcharge	Public Health and Water Quality Impacts	Risk of Non-Compliance Relative to Overflow Risk	O&M Issues	Community and Local Agency Concerns	Coincident Benefits		
South Green River Basin, Auburn Planning Zone													Key Planning Basin High Priority Projects (7 total) Medium Priority Projects (6 total) Lower Priority Projects (20 total)
	Algona Pacific Trunk Stage 1 [7]	Before 2000	10–20 years	19%	40%	Medium	Medium	Medium	No	None identified	No	None identified	
	Algona Pacific Trunk Stage 2	2027	>20 years			Low	Low	Low	No	None identified	No	None identified	
	Lakeland Hills Pump Station Replacement	2040	>20 years			Low	Low	Low	No	None identified	No	None identified	
South Green River Basin, Soos Planning Zone													
	[CSI] Soos Alternative 3A(3) – Pump Station B with Conveyance	N/A [8]	N/A			Low	Low	Low	No	None identified	No	None identified	
	[CSI] Soos Alternative 3A(3) – Pump Station D with Conveyance [9]	Before 2000	10-20 years			Low	Low	Low	No	None identified	No	None identified	
	[CSI] Soos Alternative 3A(3) – Pump Station H with Conveyance [9]	Before 2000	2–5 years			Low	Low	Low	No	None identified	No	None identified	
South Lake Sammamish Planning Basin [10]													
	Heathfield/Sunset Pump Station Replacement and Force Main Upgrade	Before 2000	5–10 years	64%	58%	High	High	High	Yes	None identified	No	None identified	
	[CSI] Sammamish Plateau Diversion	Before 2000	5–10 years	80%	76%	High	High	High	N/A	None identified	Yes	City of Sammamish has phased East Lake Sammamish Pkwy plans for potential road alignment; King County Parks has plans for potential Trail Alignment	
	[CSI] Sammamish Plateau Storage	Before 2000	5–10 years	80%	76%	Medium	Medium	Medium	N/A	None identified	No	None identified	
Yes	[CSI] Issaquah Storage	Before 2000	5–10 years			High	High	High	N/A	None identified	Yes	Sammamish State Park plan under way: opportunity to coordinate with both the city and the state; may be able to phase storage	
Yes	Eastgate Parallel Pipe Storage	Before 2000	5–10 years			High	High	High	N/A	None identified	No	None identified	
	Issaquah Creek Highlands Storage	2009	>20 years			High	High	High	No	None identified	Yes	City of Issaquah	
Yes	Issaquah Interceptor Section 2 Parallel	2011	>20 years			Medium	Medium	Medium	No	None identified	No	None identified	
South Lake Washington Planning Basin													
Yes	Bryn Mawr Storage	2005	>20 years			Medium	Medium	Medium	No	None identified	No	None identified	

(7) At this point in predesign of the Kent Auburn Conveyance Project, it appears that the Algona Pacific Trunk projects will be incorporated into that project. If so, the Algona Pacific projects will be removed from the planned projects list.

(8) Soos Pump Station B is planned to serve an area that currently does not have county conveyance service.

(9) Initially, Soos Pump Stations D and H were planned to serve existing customers and planned growth for the Black Diamond and Soos Creek Service areas. The Black Diamond Storage Project will delay the need for the pump stations and conveyance lines for 10 to 20 years.

(10) The South Lake Sammamish Planning Basin has seven projects that are all capable of contributing to increased level of service to downstream capacity constraints. The proposed prioritization accounts for the phasing of projects to address capacity constraints over time by including O&M issues along with coincident benefits in the decisions on the preferred course of action.

Draft Initial Data for 2017 CSI Project Prioritization

Project Name	Sewered Area Growth (2010 to 2030)	Sewered Population Growth (2010 to 2030)	Pk 20-yr Flow 2010 *mgd*	Pk 20-yr Flow 2030 *mgd*	Pk 20-yr Flow Increase (2010 to 2030)	Level of Service 2010	Level of Service 2030	Emergency Overflow (y/n)	O&M Issues (y/n)	Community and Local Agency Concerns (y/n)	Coincident Benefits (y/n)	Comments
Hidden Lake Planning Area												
North Creek Trunk Storage and Replacement	30.8%	24.0%	23.6	29.4	24.9%	2.8	0.7	N	Y			
Swamp Creek Trunk Extension Replacement	38.5%	39.6%	15.3	20.3	32.8%	7.4	0.2	N	N			
Richmond Beach Pump Station Upgrade								Y	Y			
Richmond Beach Force Main Parallel								N	UNK[1]			
Richmond Beach - Edmonds Interceptor Parallel								N	N			
Boeing Creek Trunk Replacement and Parallel								N	N			
Hidden Lake Pump Station Upgrade								Y	N			
Hidden Lake Force Main Replacement								N	UNK[1]			
Northwest Lake Washington Planning Area												
Thornton Creek Trunk Replacement and Diversion								N	N			
North Lake City Trunk Replacement, Realignment, and Rehabilitation	0.3%	18.6%	42.1	47.8	13.5%	12.1	6.5	N	Y			
Northeast Lake Washington Planning Area												
Medina Trunk Replacement	1.9%	16.6%	6.4	7.3	14.1%	6.7	3.7	Y	N			
Medina Siphon Replacement								N	UNK[1]			
Factoria Trunk Diversion								N	N			
Lake Hills Interceptor Replacement								Y	Y			
North Mercer Pump Station Upgrade								Y	N			
Kirkland Pump Station Upgrade								Y	N			
Medina Pump Station Upgrade								Y	Y			
Yarrow Bay Pump Station Replacement								Y	Y			
Sweyolocken Pump Station Upgrade								Y	TBD			
Eastside Interceptor Section 8 Storage								N	N			
South Lake Sammamish Planning Area												
Sammamish Plateau Diversion								Y	N/A			
Eastgate Trunk Replacement								N	Y			
Issaquah Interceptor Section 2 Replacement								N	N			
Issaquah Highlands Storage								N	N/A			
South Lake Washington Planning Area												
Eastside Interceptor Section 1 Replacement								Y	N			
Bryn Mawr Trunk Storage								Y	N			
Cedar River Interceptor Section 2 Replacement								N	N			
Cedar River Interceptor Section 1 Replacement								N	N			
North Green River Planning Area												
Tukwila Freeway Crossing Replacement								N	N			
Tukwila Interceptor Replacement								N	N			

Project Name	Sewered Area Growth (2010 to 2030)	Sewered Population Growth (2010 to 2030)	Pk 20-yr Flow 2010 *mgd*	Pk 20-yr Flow 2030 *mgd*	Pk 20-yr Flow Increase (2010 to 2030)	Level of Service 2010	Level of Service 2030	Emergency Overflow (y/n)	O&M Issues (y/n)	Community and Local Agency Concerns (y/n)	Coincident Benefits (y/n)	Comments
South Renton Trunk Replacement								N	N			
Rainier Vista Interceptor South Replacement								N	N			
North Soos Creek Trunk Replacement								N	N			
South Green River – Kent												
Garrison Creek Interceptor Replacement, Realignment, and Diversion								**N**	Y			
Auburn Interceptor Sections 1, 2, and 3 Replacement								**N**	Y			
South 227th Interceptor Replacement								**N**	N			
West Hill Trunk Diversion								**Y**	N			
South Green River – Soos Creek												
Black Diamond Pump Station Upgrade								N	Y			
Black Diamond Trunk Storage and Replacement								N	N			

Notes:
1. UNK = Unknown

Concept for Prioritization Based on Level of Service

High Priority = 2010 LOS < 5 or 2030 LOS < 1

Medium Priority = LOS <10 in 2010 or between 1 and 5 in 2030

Low Priority = LOS >10 in 2010 or >5 in 2030

Concepts for Prioritization Based on Overflow Scenario

Project Name	Emergency Overflow (y/n)	Comments
North Creek Trunk Storage and Replacement	N	
Swamp Creek Trunk Extension Replacement	N	
Richmond Beach Pump Station Upgrade	Y	Overflow to Puget Sound
Richmond Beach Force Main Parallel	N	
Richmond Beach - Edmonds Interceptor Parallel	N	
Boeing Creek Trunk Replacement and Parallel	N	
Hidden Lake Pump Station Upgrade	Y	Overflow to Puget Sound
Hidden Lake Force Main Replacement	N	
Thornton Creek Trunk Replacement and Diversion	N	
North Lake City Trunk Replacement, Realignment, and Rehabilitation	N	
Medina Trunk Replacement	N	
Medina Siphon Replacement	Y	Overflow to Lake Washington
Factoria Trunk Diversion	N	
Lake Hills Interceptor Replacement	N	
North Mercer Pump Station Upgrade	Y	Overflow to Lake Washington
Kirkland Pump Station Upgrade	Y	Overflow to Lake Washington
Medina Pump Station Upgrade	Y	Overflow to Lake Washington
Yarrow Bay Pump Station Replacement	Y	Overflow to Lake Washington
Sweyolocken Pump Station Upgrade	Y	Overflow to Mercer Slough
Eastside Interceptor Section 8 Storage	N	
Sammamish Plateau Diversion	Y	Overflow to Lake Sammamish
Eastgate Trunk Replacement	N	
Issaquah Interceptor Section 2 Replacement	N	
Issaquah Highlands Storage	N	
Eastside Interceptor Section 1 Replacement	Y	Overflow to Lake Washington
Bryn Mawr Trunk Storage	Y	Overflow to Lake Washington
Cedar River Interceptor Section 2 Replacement	N	
Cedar River Interceptor Section 1 Replacement	N	
Tukwila Freeway Crossing Replacement	N	
Tukwila Interceptor Replacement	N	
South Renton Trunk Replacement	N	
Rainier Vista Interceptor South Replacement	N	
North Soos Creek Trunk Replacement	N	

Project Name	Emergency Overflow (y/n)	Comments
Garrison Creek Interceptor Replacement, Realignment, and Diversion	N	
Auburn Interceptor Sections 1, 2, and 3 Replacement	N	
South 227th Interceptor Replacement	N	
West Hill Trunk Diversion	Y	Overflow to Green River
Black Diamond Pump Station Upgrade	N	
Black Diamond Trunk Storage and Replacement	N	

Summary of Facility Condition Data for CSI Project Prioritization

Project Name	O&M Issues (y/n)	O/M Comments
North Creek Trunk Storage and Replacement	Yes	North Creek Trunk Trunk is RCP. Condition rated as a 4- showing serious signs of corrosion, sedimentation, root intrusion, or infiltration in 2013. Some pipe sections installed in 1978, others in 1991, and 2014.
Swamp Creek Trunk Extension Replacement	No	Medina Trunk is RCP. Condition rated as a 3- showing moderate signs of corrosion, sedimentation, root intrusion, or infiltration in 2004. Pipe installed in 1983.
Richmond Beach Pump Station Upgrade	Yes	Full assessment of Richmond Beach Pump Station done in 2014. Assessment found numerous maintenance needs.
Richmond Beach Force Main Parallel	Unknown	Constructed in 1991. No inspections have been completed as the force main is a single pressure pipe that cannot be taken out of service.
Richmond Beach - Edmonds Interceptor Parallel	No	Richmond Beach Interceptor is ductile iron and RCP. Condition rated as 2– structurally sound yet showing signs of corrosion sedimentation, root intrusion, of infiltration in 2009. Pipe installed in 1991.
Boeing Creek Trunk Replacement and Parallel	No	Boeing Creek Trunk is PVC. Condition rated as 2–structurally sound yet showing signs of corrosion sedimentation, root intrusion, of infiltration in 2009. Pipe installed in 1963.
Hidden Lake Pump Station Upgrade	No	Hidden Lake Pump Station very good condition. Station commissioned in 2010.
Hidden Lake Force Main Replacement	Unknown	Hidden Lake Force Main is cast iron. No access to inspect.
Thornton Creek Trunk Replacement and Diversion	No	Thornton Creek Interceptor is RCP. Condition rated as 2– structurally sound yet showing signs of corrosion

Project Name	O&M Issues (y/n)	O/M Comments
		sedimentation, root intrusion, of infiltration in 2012. Pipe installed in 1965.
North Lake City Trunk Replacement, Realignment, and Rehabilitation (2 Phases)	Yes	North Lake City Trunk is RCP. Condition rated as a 4- showing serious signs of corrosion, sedimentation, root intrusion, or infiltration in 2007. Pipe installed in 1949.
Medina Trunk Replacement	No	Medina Trunk is RCP. Condition rated as a 3- showing moderate signs of corrosion, sedimentation, root intrusion, or infiltration in 2011. Pipe installed in 1960.
Medina Siphon Replacement	Unknown	No access to inspect Medina Siphon.
Factoria Trunk Diversion	No	Factoria Trunk is RCP. Condition rated as a 3- showing moderate signs of corrosion, sedimentation, root intrusion, or infiltration in 2012. Pipe installed in 1964.
Lake Hills Interceptor Replacement	Yes	Lake Hills Interceptor is RCP. Condition rated as a 4- showing serious signs of corrosion, sedimentation, root intrusion, or infiltration in 2005. Pipe installed in 1964.
North Mercer Pump Station Upgrade	No	Expected end of life for station is 2033. Raw sewage pumps(3) rebuilt 2003. Raw sewage pump #1 recently rebuilt. Pumps require special impellers to meet capacity and impellers are costly and difficult to acquire. New MCC's in early 2000.
Kirkland Pump Station Upgrade	No	New station commissioned in 2014.
Medina Pump Station Upgrade	Yes	Expected end of life for station is 2020. Medina Pump Station considered to have defects and in need of updated equipment.
Yarrow Bay Pump Station Replacement	Yes	Expected end of life for station is 2033. Some operation challenges exist. Raw sewage pump discharge piping is deteriorating. Pumps require custom impellers that are expensive and difficult

Project Name	O&M Issues (y/n)	O/M Comments
		to attain.
Sweyolocken Pump Station Upgrade	No	Pump station rebuilt in 2004. No significant defects or equipment replacement needs.
Eastside Interceptor Section 8 Storage	No	Eastside Interceptor Section 8, 9, and 10 are RCP. ESI 11 is concrete cylinder pipe. Condition of each section rated as a 4- showing serious signs of corrosion, sedimentation, root intrusion, or infiltration in 2013-14. Pipe installed in 1965. It is assumed that the ESI will be rehabilitated in place rather than replaced.
Sammamish Plateau Diversion	N/A	No current conveyance pipe. Project will install new pipe.
Eastgate Trunk Replacement	Yes	Eastgate Trunk is RCP. Condition found as 5-showing severe signs of corrosion, sedimentation, root intrusion, or infiltration in 2005. Pipe installed in 1964.
Issaquah Interceptor Section 2 Replacement	No	Issaquah Interceptor Section 2 is RCP. Condition rated as a 3- showing moderate signs of corrosion, sedimentation, root intrusion, or infiltration in 2008. Pipe installed in 1968.
Issaquah Highlands Storage	N/A	Storage project would not result in upgrading pipe conveyance
Eastside Interceptor Section 1 Replacement	No	Eastside Interceptor Section 1 is RCP. Condition rated as a 4- showing serious signs of corrosion, sedimentation, root intrusion, or infiltration in 2014. Pipe installed in 1963. It is assumed that the ESI will be rehabilitated in place rather than replaced.
Bryn Mawr Trunk Storage	No	Bryn Mawr Trunk is RCP. Condition rated as a as 2– structurally sound yet showing signs of corrosion sedimentation, root intrusion, of infiltration in 2010. Pipe installed in 1962.

Project Name	O&M Issues (y/n)	O/M Comments
Cedar River Interceptor Section 2 Replacement	No	Cedar River Interceptor Section 2 is RCP. Condition rated as a 1- no serious signs of corrosion, sedimentation, root intrusion, or infiltration. Date of inspection is 2009. Pipe installed in 1963.
Cedar River Interceptor Section 1 Replacement	No	Cedar River Interceptor Section 1 is RCP. Condition rated as a 1- no serious signs of corrosion, sedimentation, root intrusion, or infiltration. Date of inspection is 2009. Pipe installed in 1963.
Tukwila Freeway Crossing Replacement	No	Tukwila Freeway Crossing is RCP. Condition rated as a 3- showing moderate signs of corrosion, sedimentation, root intrusion, or infiltration in 2013. Pipe installed in 1964.
Tukwila Interceptor Replacement	No	Tukwila Interceptor is RCP. Condition rated as a 3- showing moderate signs of corrosion, sedimentation, root intrusion, or infiltration in 2013. Interceptor installed in 1968.
South Renton Trunk Replacement	No	South Renton Trunk is RCP. Condition rated as a 3- showing moderate signs of corrosion, sedimentation, root intrusion, or infiltration in 2012. Pipe installed in 1969.
Rainier Vista Interceptor South Replacement	No	Rainier Vista Interceptor is lined RCP. Condition rated as a 3- showing moderate signs of corrosion, sedimentation, root intrusion, or infiltration in 2009. Pipe installed in 1975.
North Soos Creek Trunk Replacement	No	North Soos Creek Trunk is RCP. Condition rated as a 3- showing moderate signs of corrosion, sedimentation, root intrusion, or infiltration in 2012. Trunk installed in 1969.
Garrison Creek Interceptor Replacement, Realignment, and Diversion	Yes	Garrison Creek Interceptor is RCP. Some sections found as 5 showing severe signs of corrosion, sedimentation, root intrusion, or infiltration. Some sections found as a 2 structurally sound yet

Project Name	O&M Issues (y/n)	O/M Comments
		showing signs of corrosion sedimentation, root intrusion, or infiltration. Last inspected in 2012.
Auburn Interceptor Sections 1, 2, and 3 Replacement	Yes	Auburn Interceptor Sections 1, 2, and 3 are RCP. Condition rated as a 4- showing serious signs of corrosion, sedimentation, root intrusion, or infiltration in 2011. Pipe installed in 1976.
South 227th Interceptor Replacement	No	South 277th Interceptor is PVC. Condition rated as a 2 structurally sound yet showing signs of corrosion sedimentation, root intrusion, or infiltration in 2004. Pipe installed in 1998.
West Hill Trunk Diversion	No	ULID #1 – Contract #4 is RCP. Condition rated as 2– structurally sound yet showing signs of corrosion sedimentation, root intrusion, of infiltration in 2012. Pipe installed in 1969. ULID 250 – Kent is RCP. Condition rated as a 2 structurally sound yet showing signs of corrosion sedimentation, root intrusion, or infiltration in 2010. Pipe installed in 1969.
Black Diamond Pump Station Upgrade	Yes	Black Diamond Pump Station is in need of maintenance. Suction and discharge piping for raw sewage pipes is deteriorating. New raw sewage pumps and motors installed in 2010.
Black Diamond Trunk Storage and Replacement (2 Phases)	No	Black Diamond Trunk condition rated as a 3- showing moderate signs of corrosion, sedimentation, root intrusion, or infiltration in 2012. Pipe installed in 1992.

2007 CSI Program Update: How Prioritization Criteria Were Applied to Planned Conveyance Projects

Comments and Application	Rating Scale/ Application Guidelines
Criterion: Design facilities to meet the 20-year peak flow expected by 2050	
This criterion implements the RWSP design standard.	**This criterion was applied equally to all projects.** **Project design and construction may be phased over time if technically feasible and/or financially beneficial. Candidate projects will likely be in high growth areas where there are significant differences in projected 20-year peak flow volumes from decade to decade. Phasing of projects typically increases their total cost, but reduces their impact to rates and capacity charge.**
Criterion: Determine risk of overflow vs. peak capacity	
Higher priority will be given to projects that address capacity limitations in areas that are prone to overflow than to those that address capacity limitations in facilities that can continue to safely convey flows in a surcharged condition.[a]	**High, Medium, or Low:** • **High = Less than 5-year LOS in 2000 or less than 10-year LOS and significant growth by 2010** • **Medium = Greater than 5-year LOS in 2000 with minimal growth. Greater then 10-year LOS in 2000 with moderate to high growth causing the LOS to decrease to 5-year LOS** • **Low = Greater than 10-year LOS in 2010**
Criterion: Estimated risk of public health and water quality impacts	
This criterion relates to the immediate threats to water quality and human health from overflows.	**High, Medium, or Low:** • **High = Risk of overflow directly to a water body or identified backups into structures** • **Medium = Where there is the potential to isolate and prevent the overflows to an urban drainage system from getting to a water body** • **Low = Risk to public health occurs only if there is a Low risk of overflow (criterion above)**
Criterion: Determine risks of regulatory non-compliance	

Comments and Application	Rating Scale/ Application Guidelines
Any overflows are a violation of WTD's NPDES permits.	**High, Medium, or Low (same as for overflow criterion):** • **High = Less than 5-year LOS in 2000 or less than 10-year LOS and significant growth by 2010** • **Medium = Greater than 5-year LOS in 2000 with minimal growth. Greater then 10-year LOS in 2000 with moderate to high growth causing a decrease to a 5-year LOS** • **Low = Greater than 10-year LOS in 2010**
Criterion: Identify O&M issues	
Two Categories: • **Coordinate with existing Asset Management capital program** • **Identify and coordinate with planned Asset Management capital replacement and/or repair projects[b]**	**Yes or No.** **Identified O&M issues can influence priority of either Major Capital or Asset Management capital projects. O&M assessments are an ongoing WTD function. The inspection of force mains, pressure sewers, and siphons will provide additional information for prioritization over time.**
Criterion: Identify community and local agency concerns	
Coordinate with local agencies to identify any concerns and incorporate them into prioritization process.[c]	**Yes or No.** **WTD staff met with local agencies and reviewed identified needs and planned projects with agency representatives. Information about local conditions, such as development activity that affects capacity demand, was incorporated.**
Criterion: Evaluate coincident benefits	
Coincident benefits can be applied in three distinct areas: • **Partnering with transportation or other capital projects in the vicinity of WTD projects** • **Ensuring that capital work by other jurisdictions does not prevent WTD from doing work in recently improved corridors/sites** • **Integrating the project into other wastewater facilities that depend on the project to fully function**	**Yes or No.** **WTD staff reviewed local agency and host city capital improvement plans and schedules to identify when and where local projects are scheduled to occur near capital conveyance project areas. WTD staff met with local jurisdiction representatives to review WTD's proposed project schedule. Potential coincident benefits were noted where project areas matched and project timing for local projects and regional conveyance projects were within 3 years or less.**
Criterion: Identify financing benefits	
Financing benefits will be explored during predesign after project scopes and final budgets are established. At that point, all portions of the project that qualify for grant and/or low-interest loans can be identified.	**Equal across all projects.** **Financing concerns will be considered during the predesign or design phases and may influence project scheduling at that time.**

Comments and Application	Rating Scale/ Application Guidelines

[a] The overflow risk criteria are applied to needs or capacity constraints. In some cases, more than one project address the needs.
[b] O&M issues can be applied to either capacity needs or projects.
[c] Community and agency concerns and input can be applied to either capacity needs or projects.