

**Ronald Wastewater District - Sanitary Sewer Rehabilitation
Project Summary: 2008 CIP (Contract # 09-B)**

Neighborhoods: Echo Lake, Richmond Beach, Richmond Highlands

Permits: City of Shoreline Right-of-Way Permit

Project Areas: N 185th St between Meridian Ave N and 1st Ave NE
NW 194th Pl between Richmond Beach Dr NW and 25th Ave NW
NE 167th St between Whitman Ave N and Aurora Ave N

Condition Assessment: Through the District's ongoing maintenance, TV inspection personnel assess the entire system once every six to eight years, noting the various types and severity of defects in the sewer mainlines. Pipe segments in the 2008 CIP were selected for replacement due to significant roots throughout pipe runs, broken/cracked pipes, bellies, pulled joints, and evidence of infiltration and inflow (I/I).

Cost/Construction:

Engineer's Estimate: \$515,480 (w/o tax)

Contractor's Bid Price: \$418,105 (w/o tax)

Change Orders: N/A

Final Construction Cost: \$403,871.76 (w/o tax)

Cost per lineal foot main line: \$214.03 per LF

Engineer: Scott Christensen, P.E., Kristen Orndorff, CHS Engineers, LLC

Inspector: David Jensen, CHS Engineers

Contractor: Landis & Landis Construction, LLC

Replacement/Rehabilitation:

8" Concrete Sanitary Sewer Pipeburst with 8" HDPE: 1,887 LF

Manholes Replaced (48"): 2

Manholes Rehabilitated (Frame, Cover and Neck): 5

Cleanouts Installed: 27

Side Sewers Replaced (4" HDPE): 18

Side Sewer Stubs Replaced (6" HDPE): 13

Side Sewers Replaced (6" HDPE): 1

Private Replacement/Participation:

Number of private side sewers in project: 34

Number of property owners that signed up (signed ROE): 21

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House #	Street	ROE	Old Material	New Material	Replacement		Size	Notes
					Side Sewer	Stub (to edge of R/W)		
18505	Meridian Court N	Y	ABS/Conc	HDPE/PVC	x		6", 4"	SS replaced
18512	Meridian Court N	Y	ABS/Conc	HDPE/PVC	x		6", 4"	SS replaced
18530	Meridian Ave N	Y	ABS/Conc				6", 4"	4" ABS SS connected with 18510 and 18504. Joint SS partly replaced
18510	Meridian Court N		ABS/Conc	HDPE	x		6", 4"	SS connected with 18530 and 18504
18504	Meridian Court N	Y	ABS/Conc	HDPE	x		6", 4"	SS connected with 18530 and 18510
2122	N 185 th St	Y	Conc	HDPE	x		4"	Roof/foundation drains connected. SS replaced
2128	N 185 th St	Y	Conc	HDPE	x		4"	SS replaced
2137	N 185 th St	Y	Conc	HDPE	x		4"	SS replaced
2134	N 185 th St	Y	PVC	HDPE		x	4"	Stub connected to ex. 4" PVC
2140	N 185 th St	Y	Conc	HDPE	x		4"	SS replaced
2146	N 185 th St	Y	Conc	HDPE	x		4"	SS replaced
2152	N 185 th St	Y	Unknown	HDPE	x		4"	SS replaced
2156	N 185 th St	Y	Unknown	HDPE	x		4"	SS replaced
2310	N 185 th St		PVC	HDPE		x	6"	Two (2) 6" PVC SS's connected. Stub replaced with 6" HDPE
2312	N 185 th St							
2308	N 185 th St		PVC	HDPE		x	4"	Stub connected to ex. 4" PVC
2322	N 185 th St	Y	Conc	HDPE	x		4"	SS replaced
2330	N 185 th St	Y	Conc	HDPE	x		4"	Part replaced inside of ex. 6" Conc
2336	N 185 th St		PVC	HDPE			6"	SS connected with 2334. Joint SS replaced on DS property then transition to ex. 6" PVC

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House #	Street	ROE	Old Material	New Material	Replacement		Size	Notes
					Side Sewer	Stub (to edge of R/W)		
2334	N 185 th St	Y	Conc	HDPE	x		6", 4"	SS replaced
2338	N 185 th St	Y	Conc	HDPE	x		4"	SS replaced
2340	N 185 th St		Conc	HDPE		x	4"	Stub connected to ex. 4" Conc
18515	N 185 th St	Y	ABS/Conc	HDPE	x		4"	Part replaced then connected to ex. 4" Conc
18509	N 185 th St	Y	ABS/Conc	HDPE		x, x	4"	Two (2) separate 4" stubs connected to ex. 4" ABS
2520	NW 194 th Pl	Y	ABS	HDPE	x		4"	Part replaced then connected to ex. 4" ABS
2523	NW 194 th Pl		ABS/Conc	HDPE		x	4"	Stub connected to ex. 4" PVC
2526	NW 194 th Pl	Y	Unknown	HDPE	x		4"	SS replaced
2527	NW 194 th Pl		Unknown	HDPE		x	4"	Stub connected to ex. 4" PVC
2534	NW 194 th Pl		Conc	HDPE		x	4"	Stub connected to ex. 4" Conc
2533	NW 194 th Pl		Unknown	HDPE		x	4"	Stub connected to unknown ex. pipe
2537	NW 194 th Pl	Y	Conc	HDPE	x		4"	SS replaced
16706	Whitman Ave N		ABS/PVC	PVC		x	4"	Stub connected to ex. 4" ABS
16549	Aurora Ave N		Conc/PVC	PVC		x	6"	Stub connected to ex. 6" PVC
16707	Aurora Ave N		Clay	PVC	x		4"	SS replaced with 4" PVC