

Attachment 1

NW CORNELL ROAD AT 107TH AVE SANITARY SEWER REIMBURSEMENT DISTRICT PROJECT NO. 6974

PRELIMINARY ENGINEERING REPORT

February 8, 2021

Historical Background

During the summer 2018, Washington County (County) began coordination of a Cornell Road Improvement (102nd-113th Avenue) Project with Clean Water Services (District). Properties fronting NW Cornell Road between NW 107th Avenue and NW 113th Avenue do not have public sanitary sewer service and are served by onsite septic systems. District staff determined that a coordinated project to construct a local sanitary sewer in cooperation with the County roadway project would minimize costs and disruption to the neighborhood and provide an opportunity to decommission aging septic systems.

In September 2018, a neighborhood meeting was held with potentially benefitting property owners to explain the sanitary sewer project and how the Local Improvement District (LID) or Reimbursement District (RD) program could enable favorable financing to assist the owners with their share of the improvement costs. County representatives had already met with property owners to share information about the pending roadway project.

While roadway design continued, work commenced to integrate a sanitary sewer design into the roadway project to minimize utility and roadway disruptions that would result from constructing a sewer as a subsequent project. Additionally, this time afforded District staff the opportunity to streamline the RD and LID programs and simplify the financing program for the owners. A new RD Ordinance adopted February 2, 2021, will govern the cost sharing, cost distribution, financial incentives, and project cost reimbursement from the owners to the District.

Nature of the Service Facilities

The RD boundary and existing and proposed public sanitary sewer infrastructure are depicted in Exhibit A. Two separate phases of construction are necessary to complete the construction. Phase 1 will extend an 8-inch diameter sewer main from a manhole located near the southeast corner of 1090 NW 113th Avenue southward across two properties to the Cornell Road right-of-way. Although part of the overall RD project, this portion of sewer is considered off-site and is proposed to be constructed at District cost. Construction involves crossing an unnamed tributary of Cedar Mill Creek and installation of approximately 339 linear feet (lf) of 8-inch main by horizontal directional drill to the Cornell Road right-of-way. This portion will be constructed by District crews during the spring 2021. This portion crosses an undeveloped, county-owned parcel. The County granted a sanitary sewer easement to the District in exchange for District services to restore the nearby water quality facility being utilized for stormwater management for the county roadway project. This agreement is documented in an Intergovernmental Agreement adopted by Minute Order 20-49 on July 28, 2020.

Phase 2 will extend the 8-inch sewer approximately 1,300 lf eastward in the Cornell Road right-of-way from 11215 NW Cornell Road to a point 150 feet west of the the intersection with 107th Avenue. Two 8-inch mains will be constructed crossing Cornell to the south for future sewer extensions on NW 110th Avenue and behind lots on the west side of NW109th Avenue. The District contracted sewer design services with the consultant preparing the roadway widening plans for the County. The construction work will be bid in conjunction with the County roadway project. The District will pay construction and construction management costs in accordance with a separate County/District Intergovernmental Agreement adopted by Minute Order 20-48 on July 28, 2020.

The cost of this portion of the project will be reimbursed by the benefiting property owners through a Reimbursement District governed by Ordinance 43. Together, Phases 1 and 2 include approximately 1800 lf of sewer, six manholes, and 13 service laterals. The other two properties will be provided with 8-inch sewer main stubs to which they can either connect or extend depending upon their future development plans.

Twenty-two lots and three side streets comprise the frontage of Cornell Road between 113th Avenue and 107th Avenue. Three lots are publicly owned without sanitary facilities. Three lots near 107th Avenue and one lot at 112th Avenue are currently served by existing sewers running to the south. The RD boundary is comprised of the other 15 lots which constitute 9.29 acres. The area is part of the Cedar Mill Community Plan. Lots on the north side of Cornell Road are zoned R-6 and lots on the south side of the road are zoned R-5. Most lots in the RD are sufficient in size to subdivide or partition.

Estimated Total Project Cost

Phase 1 off-site costs are estimated to be \$302,799. Phase 2 costs for the portion in the Cornell Road right-of-way are \$738,785 for a total estimated project cost of \$1,041,584.

Estimated off-site Phase 1 costs include \$109,175 in design, environmental permitting, construction engineering and inspection, \$29,241 in easement and land costs, and \$164,383 for construction. Estimated Phase 2 costs include \$205,285 in design, construction engineering, and inspection, and \$533,500 for construction. There is no Phase 2 land cost because the sewer will be constructed in existing right-of-way or area being purchased as right-of-way by the County for the Cornell Road widening project. All costs in this report are estimated. Upon completion of the project, the final Engineering Report including reimbursement charges, District cost share, and incentives will reflect actual project costs.

District Cost Share and Connection Incentives

The entire project cost has been distributed among the benefiting owners at \$608.05/frontage foot as shown in Exhibit B. Phase 1 of the project is considered off-site and the District will pay those costs. Exhibit B documents the off-site cost and the amount credited to each owner at \$176.77/frontage foot. The work involves extraordinary costs for environmental permitting, costs to manage stream flows during construction, corridor restoration costs, and easement costs to efficiently access the site. Although the off-site sewer crosses the west edge of benefited lot 1N134AC02900 (11165 NW Cornell), the sewer does not fulfill the requirement to serve all properties uphill of the subject tax lot and therefore is determined to not directly benefit the lot. Upon development of the property, the developer will need to construct a new sewer line along the north side of the property to serve the uphill lot to the east.

District-incurred project engineering and administration costs of \$120,285 (\$70.22/foot) associated with Phase 2 of the project are eligible for early connection incentive discounts. With the adoption of Ordinance 43, early connection incentives are now offered on RD projects for any owner who connects to the sewer within one year of substantial completion or commits to making installment payments within a year for a vacant lot without sanitary facilities.

Owner Cost Apportionment

The benefited lots in this RD are varied in nature and include undeveloped lots, underdeveloped large lots, narrow lots with a single home on the front or back of the property, and mid-size lots containing a single residential structure in the middle of the lot. No simple cost distribution methodology results in reimbursement charges that are equitable to all benefited lots. A hybrid methodology acknowledging lot size, shape and development status is proposed.

A modified front footage proration of the reimburseable amount is proposed to allocate costs to the benefiting properties. The front footage basis, rather than area basis, helps offset higher plumbing costs to serve a structure sitting at the back of a deep and narrow lot. Front footages for 14 of the 15 lots range from 78 feet to 203 feet. With total reimburseable costs estimated to be \$738,785, this amounts to \$431.28 per linear foot of frontage with resulting reimbursement charges ranging from \$32,777 to \$87,550.

One flag-shaped lot, (TLID 1N134DA00900, 10960 NW Cornell) has only 10 feet of Cornell Road frontage. This lot will have very high plumbing costs with the structure sitting nearly 350 linear feet from the Cornell Road right-of-way. For equity purposes, staff recommends a minimum RD charge for this lot equal to 50 linear feet frontage. The estimated reimbursement charge is \$21,564, rather than \$4,313 for 10 feet of frontage.

Six lots have frontage under 100 linear feet and will have reimbursement charges ranging from \$32,777 to \$38,815. Eight lots have frontage ranging from 111 feet to 203 feet with estimated reimbursement charges ranging from \$47,872 to \$87,550. The three largest could be partitioned and additional structures developed on newly created lots. Densification on the other five lots would require removal of the existing structure to create separate buildable lots. Deferral of a portion of the reimbursement charge for lots with more than 100 linear feet of Cornell Road frontage creates an equitable and affordable cost for connection of a single home. Staff recommends that connection of an existing structure on any lot having more than 100 feet frontage be immediately responsible for the cost of 100 feet of frontage with the balance deferred until partitioning or subdividing occurs or additional connections are made from the lot. The estimated reimbursement charge to connect the existing house is \$43,128.

Connection Incentives

RD Ordinance 43 provides a financial incentive for connecting to the sewer system within one year of sewer availability. The amount of the incentive is the engineering and administrative portion of the project cost allocated to the eligible lot. No financial incentives exist for Phase 1 because all costs are already absorbed by the District due to the off-site designation. Phase 2 engineering and administrative costs are estimated to be \$120,285 (\$70.22/foot) or 16.3% of the reimbursement charge. Properties with greater than 100 feet of frontage who connect within the first year and take advantage of the deferral of the reimbursement charge balance will be granted the incentive in the same percentage as the amount of the reimbursement charge paid or financed. The balance would not be eligible for the early connection incentive when paid. Alternately, should a property owner eligible for partial deferral choose to pay or finance the entirety of the reimbursement charge upon connection within the first year, the entire early connection incentive will be awarded. Exhibit B lists both the total estimated eligible incentive amount and the incentive amount if the partial deferral is exercised.

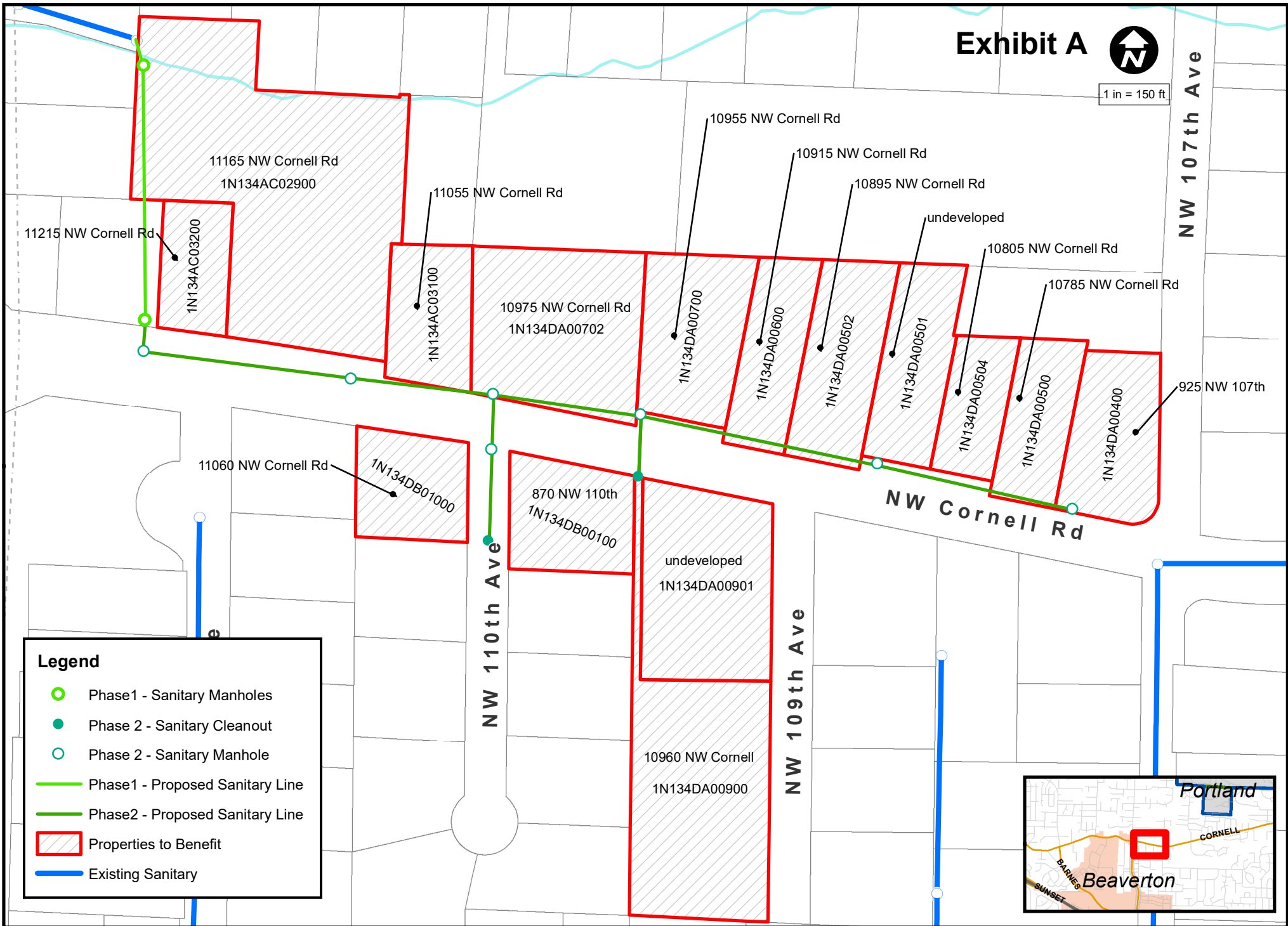
Two of the 15 lots in the RD are undeveloped and generate no wastewater. The early connection incentive will be awarded for these two lots if payment of the reimbursement charge or signing of an installment agreement to make full payment within ten years occurs within one year of sewer availability.

The interest rate for deferral of reimbursement charges for this project was established at 0.92% representing the most recent Oregon Bond Index Rate. An additional 2% will be added at the commencement of an installment financing agreement.

Exhibit A



1 in = 150 ft



Legend

- Phase 1 - Sanitary Manholes
- Phase 2 - Sanitary Cleanout
- Phase 2 - Sanitary Manhole
- Phase 1 - Proposed Sanitary Line
- Phase 2 - Proposed Sanitary Line
- ▨ Properties to Benefit
- Existing Sanitary

**Exhibit B
NW Cornell RD Sanitary Sewer RD**

	Total Project Costs	Phase 1- Offsite Costs	Phase 2 - Cornell ROW (Owner share)	Potential Early Connection Incentive	Assessed Costs After Connection Incentive
Construction	\$ 697,883	\$ 164,383	\$ 533,500		\$ 533,500
Engineering & Admin	\$ 179,337	\$ 59,052	\$ 120,285	\$ 120,285	\$ -
Permitting & Survey	\$ 135,123	\$ 50,123	\$ 85,000		\$ 85,000
Easements & Land	\$ 29,241	\$ 29,241	\$ -		\$ -
TOTAL	\$ 1,041,584	\$ 302,799	\$ 738,785	\$ 120,285	\$ 618,500

A	B	C	D	E	F	G	H	I	J	K	L	M
Owner	Taxlot #	Address	Frontage Length (feet)	Percent Share of Project Cost	Owner Share of Project Cost	Credit for Offsite Cost	Reimbursement Charge after off-site credit	Charge for Initial Connection (deferral applied)	Incentive credit if partial deferral used	Cost of initial connection if completed in Year 1	Amount of Reimbursement Charge deferred	Total Eligible Incentive
					D x W	D x X	F - G	D x Y for D<100 100 x Y for D>100	D x Z for D<100 100 x Z for D>100	I - J	H - I	D x Z
1 Miller	1N134AC02900	11165 NW Cornell Rd	186	10.86%	\$ 113,097	\$ (32,878)	\$ 80,218	\$ 43,128	\$ (7,022)	\$ 36,106	\$ 37,090	\$ 13,061
2 Herreid	1N134AC03200	11215 NW Cornell Rd	84	4.90%	\$ 51,076	\$ (14,848)	\$ 36,228	\$ 36,228	\$ (5,898)	\$ 30,329	\$ -	\$ 5,898
3 Ditrapani	1N134AC03100	11055 NW Cornell Rd	114	6.65%	\$ 69,317	\$ (20,151)	\$ 49,166	\$ 43,128	\$ (7,022)	\$ 36,106	\$ 6,038	\$ 8,005
4 Focht	1N134DA00702	10975 NW Cornell Rd	203	11.85%	\$ 123,433	\$ (35,883)	\$ 87,550	\$ 43,128	\$ (7,022)	\$ 36,106	\$ 44,422	\$ 14,254
5 Beovich	1N134DA00700	10955 NW Cornell Rd	111	6.48%	\$ 67,493	\$ (19,621)	\$ 47,872	\$ 43,128	\$ (7,022)	\$ 36,106	\$ 4,744	\$ 7,794
6 Ly	1N134DA00600	10915 NW Cornell Rd	76	4.44%	\$ 46,212	\$ (13,434)	\$ 32,777	\$ 32,777	\$ (5,337)	\$ 27,441	\$ -	\$ 5,337
7 Shears	1N134DA00502	10895 NW Cornell Rd	84	4.90%	\$ 51,076	\$ (14,848)	\$ 36,228	\$ 36,228	\$ (5,898)	\$ 30,329	\$ -	\$ 5,898
8 Nguyen	1N134DA00501	undeveloped	82	4.79%	\$ 49,860	\$ (14,495)	\$ 35,365	\$ 35,365	\$ (5,758)	\$ 29,607	\$ -	\$ 5,758
9 Simas	1N134DA00504	10805 NW Cornell Rd	78	4.55%	\$ 47,428	\$ (13,788)	\$ 33,640	\$ 33,640	\$ (5,477)	\$ 28,163	\$ -	\$ 5,477
10 Lopez	1N134DA00500	10785 NW Cornell Rd	90	5.25%	\$ 54,724	\$ (15,909)	\$ 38,815	\$ 38,815	\$ (6,320)	\$ 32,496	\$ -	\$ 6,320
11 Mordini	1N134DA00900	10960 NW Cornell Rd	50	2.92%	\$ 30,402	\$ (8,838)	\$ 21,564	\$ 21,564	\$ (3,511)	\$ 18,053	\$ -	\$ 3,511
12 Neyman	1N134DB00100	870 NW 110th Ave	153	8.93%	\$ 93,031	\$ (27,045)	\$ 65,986	\$ 43,128	\$ (7,022)	\$ 36,106	\$ 22,858	\$ 10,743
13 Grycko	1N134DB01000	11060 NW Cornell Rd	137	8.00%	\$ 83,302	\$ (24,217)	\$ 59,086	\$ 43,128	\$ (7,022)	\$ 36,106	\$ 15,957	\$ 9,620
14 Ismaili	1N134DA00400	925 NW 107th Ave	105	6.13%	\$ 63,845	\$ (18,560)	\$ 45,285	\$ 43,128	\$ (7,022)	\$ 36,106	\$ 2,156	\$ 7,373
15 Mordini	1N134DA00901	undeveloped	160	9.34%	\$ 97,287	\$ (28,282)	\$ 69,005	\$ 43,128	\$ (7,022)	\$ 36,106	\$ 25,877	\$ 11,235
TOTALS			1,713	100%	\$ 1,041,584	\$ (302,799)	\$ 738,785	\$ 579,642	\$ (94,374)	\$ 485,268	\$ 159,143	\$ 120,285

W	Project Cost/Front Foot	\$608.05
X	Offsite Credit/Front Foot	(\$176.77)
Y	Cost/Front Foot	\$431.28
Z	Incentive/Foot	(\$70.22)

Actual frontage 10 feet.Charged frontage 50 feet.