



Avenues Neighborhood
Water and Sewer Improvements



Presentation to Bethel City Council
in relation to Loan Resolution #18-18
November 27, 2018

All costs and dates in this presentation are estimates.

Supporting Documents are available on Planning Department website (www.cityofbethel.org):

- Letter of Conditions from USDA-RD (Sept. 10, 2018)
- Preliminary Engineering Report (August 2018)
- Environmental Report (June 2018)



Avenues Neighborhood Water and Sewer Improvements



Bethel City Council Previous Notification & Approval:

- IM #17-05 on Sep. 26, 2017 > Problem of Water and Sewer trucks not meeting weight requirements & prospective solutions.
- AM #18-10 on Feb. 13, 2018 > Direct Admin. to prepare and submit USDA-RD grant/loan application for \$5,753,098.
 - Small construction project & 8 water trucks/7 sewer trucks (pre-PER)
- AM #18-52 on Jul. 10, 2018 > Direct Admin. to prepare and submit USDA-RD grant/loan application for \$13,461,920.
 - Amount from PER, which was later revised in August 2018.



Avenues Neighborhood Water and Sewer Improvements



Why Pipe the Avenues?

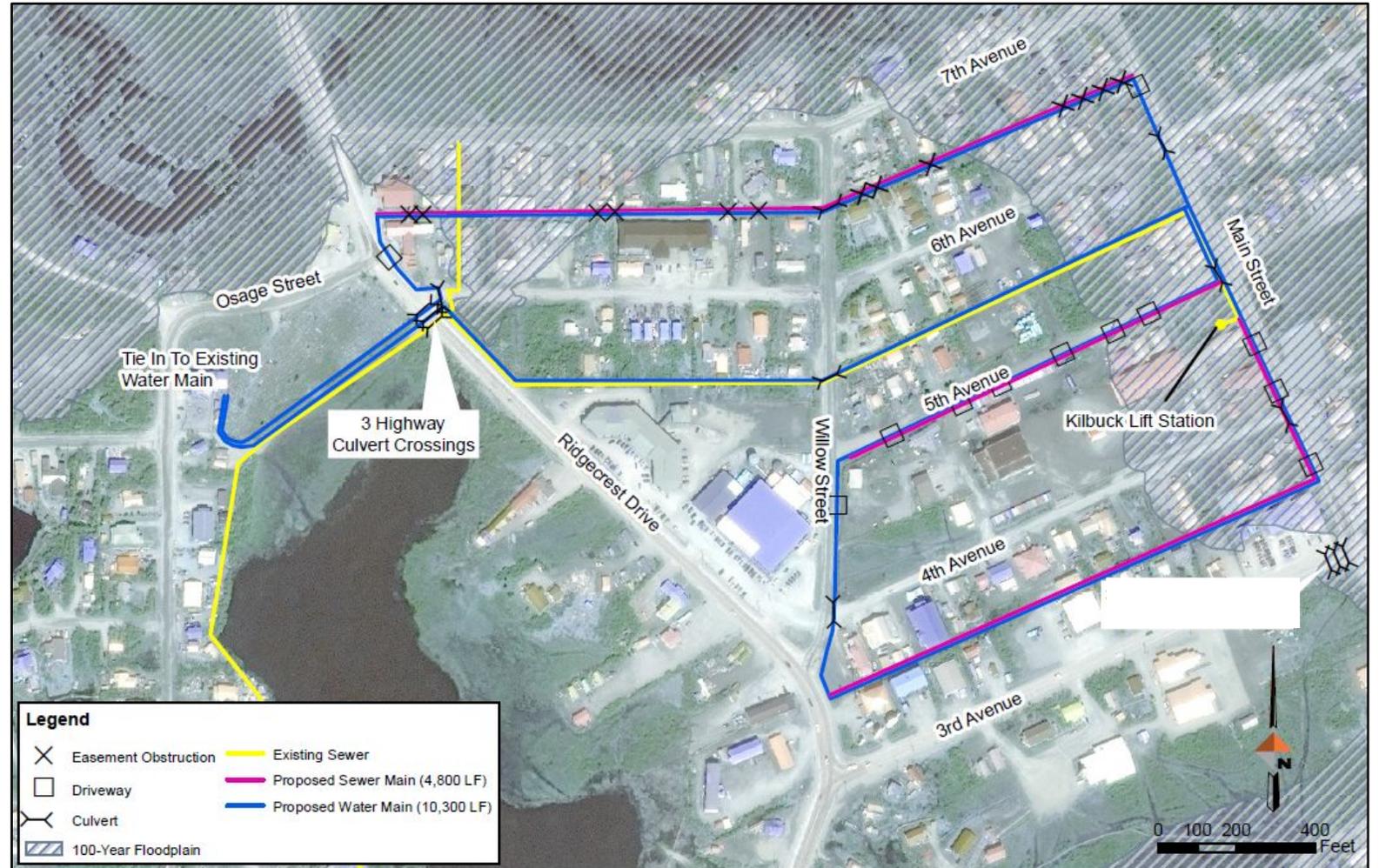
- High-density neighborhood
- Closest to existing pipe infrastructure:
 - Youth Center for water
 - Kilbuck Lift Station and Tundra Center for sewer
- Water construction project required for City to use USDA-RD Grant/Loan to buy water trucks.
- Life cycle cost of piped water and sewer is cheaper than for hauled water and sewer for the Avenues.



Avenues Neighborhood Water and Sewer Improvements

Area Boundary

3rd, 4th, 5th, 6th, 7th
Aves, Ridgecrest Dr.
to Main St.





Avenues Neighborhood Water and Sewer Improvements



Alternatives from Preliminary Engineering Report

Alternative 1

- No Build
- No USDA-RD Funding
- Purchase 6 water trucks on lease plan.
- Impact:
Trucks: All

Alternative 2 – Phase 1

- Construct 40% of piping
- Purchase 6 water trucks.
- USDA-RD Funding
- Impact:
Trucks: All
Pipes: 45 homes

Alternative 3

- Construct W&S piping
- Purchase 6 water trucks.
- USDA-RD Funding
- Impact:
Trucks: All
Pipes: 112 homes



Avenues Neighborhood Water and Sewer Improvements



Alternatives Compared

	Alternative 1	Alternative 2 Phase 1	Alternative 3
Construction Cost	\$1,525,000	\$6,323,264	\$13,627,000
Project Life	25	25	25
Annual Oper. & Maint. Cost	\$1,630,000	\$1,160,000	\$460,000
Present worth of Annual O&M	\$38,700,000	\$27,600,000	\$10,900,000



Avenues Neighborhood Water and Sewer Improvements



Alternative 1 – No Build; order 6 new water trucks

- No construction.
- No USDA-RD grant/loan.
- Six new water trucks, compliant on highways at full capacity.
- May use Community Leasing to purchase the 6 trucks.



Avenues Neighborhood Water and Sewer Improvements



Alternative 1 – Purchase Water Trucks With Lease

Water Truck Funding Options	Alternative 1 No-Build/Status Quo	Year 1	Year 2 +	Total Cost Over Term
Total Cost	1,475,706			
Down Payment	664,067	664,067		
Annual Pmt. 10-yr.	99,491		99,491	1,658,973
Annual Pmt. 7-yr.	134,548		134,548	1,605,902
Annual Pmt. 5-yr.	181,569		181,569	1,571,911



Avenues Neighborhood
Water and Sewer Improvements



Alternative 2, Phase 1 – Partial Build 45 Homes

- Run pipes in 6th & 7th Ave. backyards; Ridgecrest to Willow
- Run pipes in 4th & 5th Ave. backyards; Ridgecrest to Willow
- Run temporary pipe along Willow
- Buy 6 new water trucks, compliant on highways at full capacity.

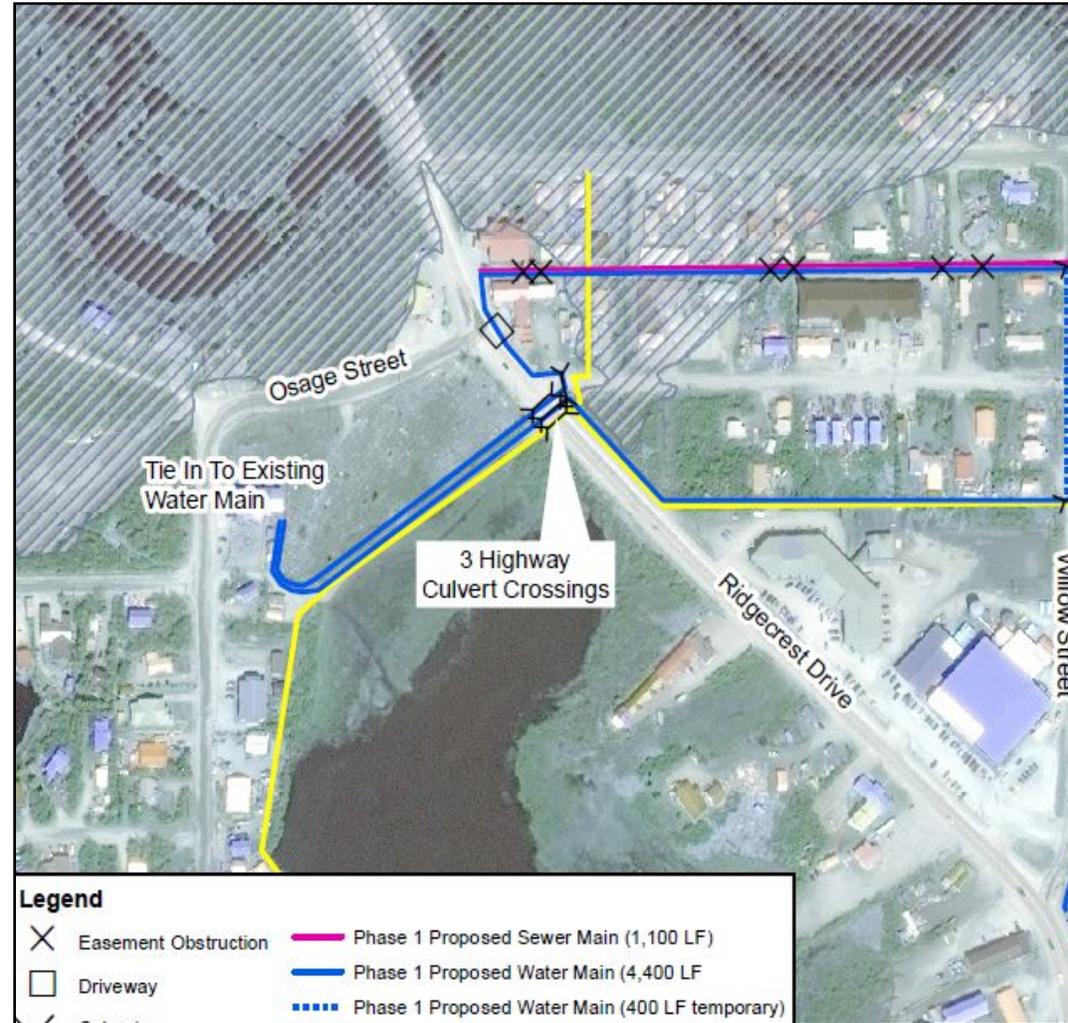


Avenues Neighborhood Water and Sewer Improvements



Alternative 2, Phase 1 Area Boundary

5th & 6th Ave backyards
4th & 5th Ave backyards
Ridgecrest Drive to
Willow Street



Temporary
Pipe



Avenues Neighborhood
Water and Sewer Improvements



Alternative 2, Phase 1

USDA-RD Funding Estimates (45 homes)

Engineer Fees \$664,000

Construction \$3,233,843

Water Trucks \$1,500,000

Interest (Interim) \$170,702

Taxes, bonds, insurance \$89,415

Contingency \$664,652

Total \$6,323,264

Note: Figures are estimates from PER; not official USDA-RD figures.



Avenues Neighborhood Water and Sewer Improvements



USDA-RD Funding Alternative 2, Phase 1 (45 homes)

City Contribution \$142,415

RD Loan \$3,842,312

RD Grant \$2,338,448

Total \$6,323,264

} 63%
} 37%

City Budget (road crossing) \$420,000

Ridgecrest Drive* – (\$210,000) part of project

3rd Avenue – (\$210,000) not part of project

- Reimbursable from Grant/Loan, if approved.

Note: Figures are estimates from PER; not official USDA-RD figures.



Avenues Neighborhood Water and Sewer Improvements

USDA-RD Funding Requirements - Alternative 2, Phase 1

Year 1		Notes
City Cash Contribution*	142,514	One-time payment
Loan Payment	168,985	Annual payment
Debt Service Reserve	168,985	Budgeted, but not spent
Short-lived Sewer Asset Reserve	376,120	Budgeted annually, used as needed, cumulative
Short-lived Waer Asset Reserve	301,507	Budgeted annually, used as needed, cumulative
Total	1,158,111	
Year 2		
Loan Payment	168,985	Annual payment
Debt Service Reserve	168,985	Budgeted, but not spent
Short-lived Sewer Asset Reserve	376,120	Budgeted annually, used as needed, cumulative
Short-lived Waer Asset Reserve	301,507	Budgeted annually, used as needed, cumulative
Total	1,015,597	

* Water truck down pmt. of \$225,000 counts as cash contribution; Figures are estimates, not from USDA-RD.



Avenues Neighborhood Water and Sewer Improvements



Alternative 3 – Complete Build-out 112 Homes

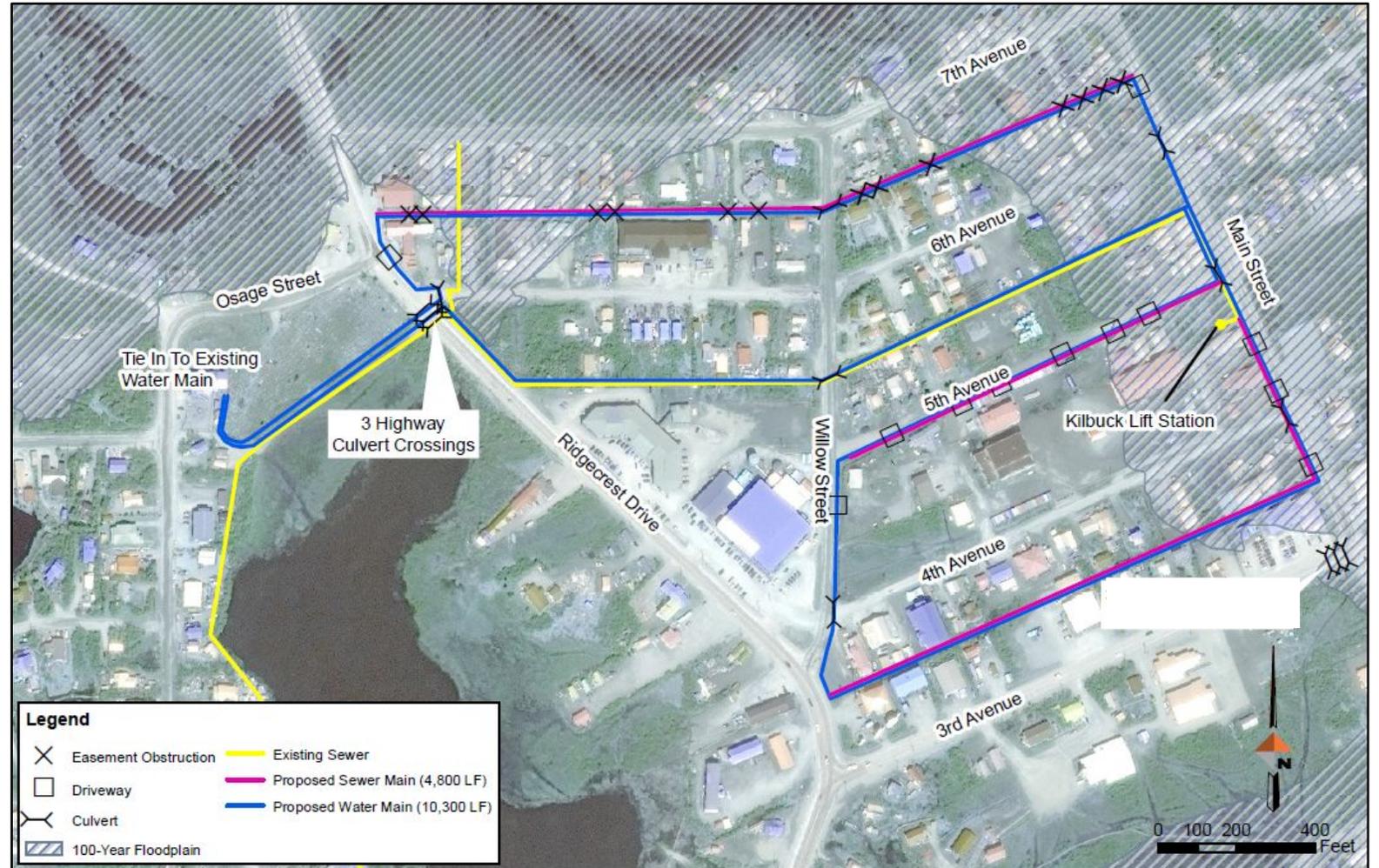
- Run water from Youth Center across highway to Avenues.
- Tie into existing sewer line using Kilbuck Lift Station.
- Above-ground insulated HDPE water & sewer pipe.
- Pipe installed on sleepers, spaced every 10 ft.
- Many easements exist, additional ones to be obtained by Engineer.
- Kilbuck Lift Station to be improved.



Avenues Neighborhood Water and Sewer Improvements

Area Boundary

3rd, 4th, 5th, 6th, 7th
Aves, Ridgecrest Dr.
to Main St.





Avenues Neighborhood
Water and Sewer Improvements



USDA-RD Funding Alternative 3 (all)

Engineer Fees	\$1,712,000
Construction (W&S mains)	\$5,171,630
Construction (W&S service lines)	\$2,800,000
Water Trucks*	\$1,500,000
Interest (Interim)	\$500,000
Taxes, bonds, insurance	\$230,370
Contingency	<u>\$1,713,000</u>
Total	\$13,627,000

* \$225,000 water truck down payment due by Dec. 18, 2018.



Avenues Neighborhood Water and Sewer Improvements

USDA-RD Funding Alternative 3 (all)

City Contribution	\$306,000	
RD Loan	\$8,250,000] 63%
RD Grant	<u>\$5,021,000</u>	
Total	\$13,627,000	37%

FY 2018 City Budget (road crossing) \$420,000

Ridgecrest Drive* – (\$210,000) part of project

3rd Avenue – (\$210,000) not part of project

* Reimbursable from Grant/Loan, if project approved by Council.



Avenues Neighborhood Water and Sewer Improvements

USDA-RD Funding Requirements - Alternative 3

Year 1		Notes
City Cash Contribution *	306,000	One-time payment
Loan Payment	362,836	Annual payment
Debt Service Reserve	362,836	Budgeted, but not spent
Short-lived Sewer Asset Reserve	376,120	Budgeted annually, used as needed, cumulative
Short-lived Water Asset Reserve	301,507	Budgeted annually, used as needed, cumulative
Total	1,709,299	
Year 2		
Loan Payment	362,836	Annual payment
Debt Service Reserve	362,836	Budgeted, but not spent
Short-lived Sewer Asset Reserve	376,120	Budgeted annually, used as needed, cumulative
Short-lived Water Asset Reserve	301,507	Budgeted annually, used as needed, cumulative
Total	1,403,299	

* City water truck down payment of \$225,000 counts as part of cash contribution.



Avenues Neighborhood Water and Sewer Improvements



Timeline

Alternative 2, Phase 1 and Alternative 3

Date Event

- Dec 18, 2018 Order 6 water trucks (down payment=\$225,000)
- Aug 2019 Design, easements, & construction bid docs
- Sep 2019 Contractor hired
- Oct 2020 Construction substantially complete
- Dec 2020 Construction complete/services turned on



Avenues Neighborhood Water and Sewer Improvements



Completed:

- USDA-RD Application
 - Funds secured for project
- Preliminary Engineering Report
- Environmental Assessment
- DOWL Engineer on Contract

To be Completed:

- Approve Budget Mod. of \$225,000 for truck down pmt.
- Documents & requirements in Letter of Conditions
- Contractor RFB
- Hire Contractor
- Construct W&S project



Avenues Neighborhood Water and Sewer Improvements



USDA-RD Grant/Loan Parameters

- Funding charged in order:
Local, Other Funding, Loan, Grant
- Reimbursement-based
- Engineer required for design & project management
- City may obtain permission to purchase trucks prior to all documents submitted under condition that City complete all requirements.



Avenues Neighborhood
Water and Sewer Improvements



Water and Sewer Enterprise Fund
Repayment & Reserves

Source Type Amount

FY 2017 City Audit C&C \$2,030,354

FY 2017 City Audit Revenues \$1,770,707

FY 2018 Unaudited Caselle Rprt. C&C \$4,341,088

FY 2018 Estimated Revenues \$1,823,828

C&C – Cash and Cash Equivalents



Avenues Neighborhood
Water and Sewer Improvements



Loan Payoff Idea

Accumulate water and sewer short-lived asset reserves until amount is sufficient to pay off USDA-RD loan—once loan paid, City has no further reserve requirement.

Estimates:

Alternative 3 15 years (\$8,421,963 in SLA to pay \$8,250,000)

Alternative 2, Ph. 1 8 years (\$4,042,879 in SLA to pay \$3,842,302)

SLA = Short-lived Assets

Alternative 2 - Phase 1

Assumes annual water and sewer 3% rate increase and 2.1% inflation

Homes =

112

Year	1	2	3	4	5	6	7	8	9	10
City Contribution	142,514	0	0	0	0	0	0	0	0	0
USDA-RD Loan Pmt.	168,985	168,985	168,985	168,985	168,985	168,985	168,985	168,985	168,985	168,985
Cash to USDA	311,499	168,985	168,985	168,985	168,985	168,985	168,985	168,985	168,985	168,985
Sewer SLA	376,120	376,120	376,120	376,120	376,120	376,120	376,120	376,120	376,120	376,120
Water SLA	301,507	301,507	301,507	301,507	301,507	301,507	301,507	301,507	301,507	301,507
Cash Put Aside	677,627	677,627	677,627	677,627	677,627	677,627	677,627	677,627	677,627	677,627
O&M	1,630,000	1,664,230	1,699,179	1,734,862	1,771,294	1,808,491	1,846,469	1,885,245	1,924,835	1,965,257
Sewer SLA to be spent	80,000	81,680	83,395	85,147	86,935	88,760	90,624	92,527	94,470	96,454
Water SLA to be spent	80,000	81,680	83,395	85,147	86,935	88,760	90,624	92,527	94,470	96,454
Revenue Sewer	70,000	72,100	74,263	76,491	78,786	81,149	83,584	86,091	88,674	91,334
Revenue Water	250,000	257,500	265,225	273,182	281,377	289,819	298,513	307,468	316,693	326,193
Net	-2,139,126	-2,017,882	-2,039,512	-2,061,508	-2,083,874	-2,106,615	-2,129,736	-2,153,243	-2,177,140	-2,201,433
Sewer SLA cumulative	296,120	590,560	883,285	1,174,258	1,463,443	1,750,803	2,036,299	2,319,892	2,601,541	2,881,207
Water SLA cumulative	221,507	441,334	659,446	875,806	1,090,378	1,303,125	1,514,008	1,722,988	1,930,024	2,135,077
	517,627	1,031,894	1,542,730	2,050,064	2,553,822	3,053,928	3,550,307	4,042,879	4,531,565	5,016,284

Alternative 3

Assumes annual water and sewer 3% rate increase and 2.1% inflation

Homes = 112

Year	1	2	3	4	5	6	7	8	9	10
City Contribution	306,000	0	0	0	0	0	0	0	0	0
USDA-RD Loan Pmt.	362,836	362,836	362,836	362,836	362,836	362,836	362,836	362,836	362,836	362,836
Cash to USDA	668,836	362,836	362,836	362,836	362,836	362,836	362,836	362,836	362,836	362,836
Sewer SLA	376,120	376,120	376,120	376,120	376,120	376,120	376,120	376,120	376,120	376,120
Water SLA	301,507	301,507	301,507	301,507	301,507	301,507	301,507	301,507	301,507	301,507
Cash Put Aside	677,627	677,627	677,627	677,627	677,627	677,627	677,627	677,627	677,627	677,627
O&M	460,000	469,660	479,523	489,593	499,874	510,372	521,089	532,032	543,205	554,612
Sewer SLA to be spent	80,000	81,680	83,395	85,147	86,935	88,760	90,624	92,527	94,470	96,454
Water SLA to be spent	80,000	81,680	83,395	85,147	86,935	88,760	90,624	92,527	94,470	96,454
Revenue Sewer	70,000	72,100	74,263	76,491	78,786	81,149	83,584	86,091	88,674	91,334
Revenue Water	250,000	257,500	265,225	273,182	281,377	289,819	298,513	307,468	316,693	326,193
Net	-1,326,463	-1,017,163	-1,013,707	-1,010,090	-1,006,305	-1,002,346	-998,207	-993,881	-989,361	-984,639
Sewer SLA cumulative	296,120	590,560	883,285	1,174,258	1,463,443	1,750,803	2,036,299	2,319,892	2,601,541	2,881,207
Water SLA cumulative	221,507	515,947	808,672	1,099,645	1,388,830	1,676,190	1,961,686	2,245,279	2,526,928	2,806,594
	517,627	1,106,507	1,691,956	2,273,903	2,852,274	3,426,993	3,997,985	4,565,170	5,128,469	5,687,801