PRELIMINARY ENGINEERING STUDY FOR UTILITIY EXTENSIONS

FOUR AREAS ADJACENT TO THE CITY OF LIVINGSTON

PRELIMINARY

August, 2003

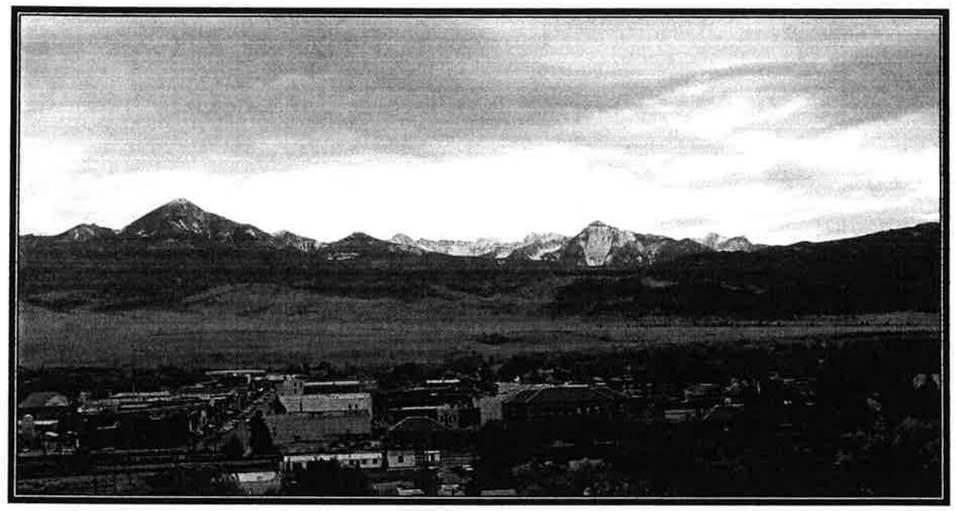

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TABLE OF CONTENTS

TABLE OF FIGURES

PRELIMINARY ENGINEERING STUDY
For
ANNEXATION INTO THE CITY OF LIVINGSTON

I. Introduction and Purpose

This preliminary engineering study will investigate the requirements and costs associated with providing city water and sewer services to property owners that are located adjacent to the City of Livingston.

In many instances homes were constructed on lots that do not meet the current minimum size or configuration necessary to safely provide on site water and sewer systems. In several locations city water was provided and individual onsite sewage disposal was constructed when the subdivisions were approved. Over the years several onsite sewage treatment systems have failed and have been replaced at considerable cost to the individual home owners. During this same time municipal sewer mains have been extended and in some locations are within 500 feet of the affected property. When onsite sewage treatment systems fail the property owner is required to obtain a permit to repair or replace the failed system. Since most of the systems were installed many years ago under different regulations, replacement of these systems under current State and County regulations is impossible without a variance. Because of this the Park County Health Department is forced to grant variances to the regulations rather than force residents from their homes.

Because onsite sewage treatment systems generally fail one system at a time it becomes economically impossible for a single homeowner to install several hundred feet of sewer main and manholes. The City of Livingston has decided to investigate those locations adjacent to the City that have had relatively high density development or have the potential for high density development and determine the requirements and costs associated with providing City water and sewer services to those areas.

II. Areas to be Studied

The City of Livingston looked at development and the direction that the City is most likely to grow. The largest obstacle to development in the City of Livingston is the Yellowstone River which borders the City on the south side. Another obstacle is the hill to the north of the City.

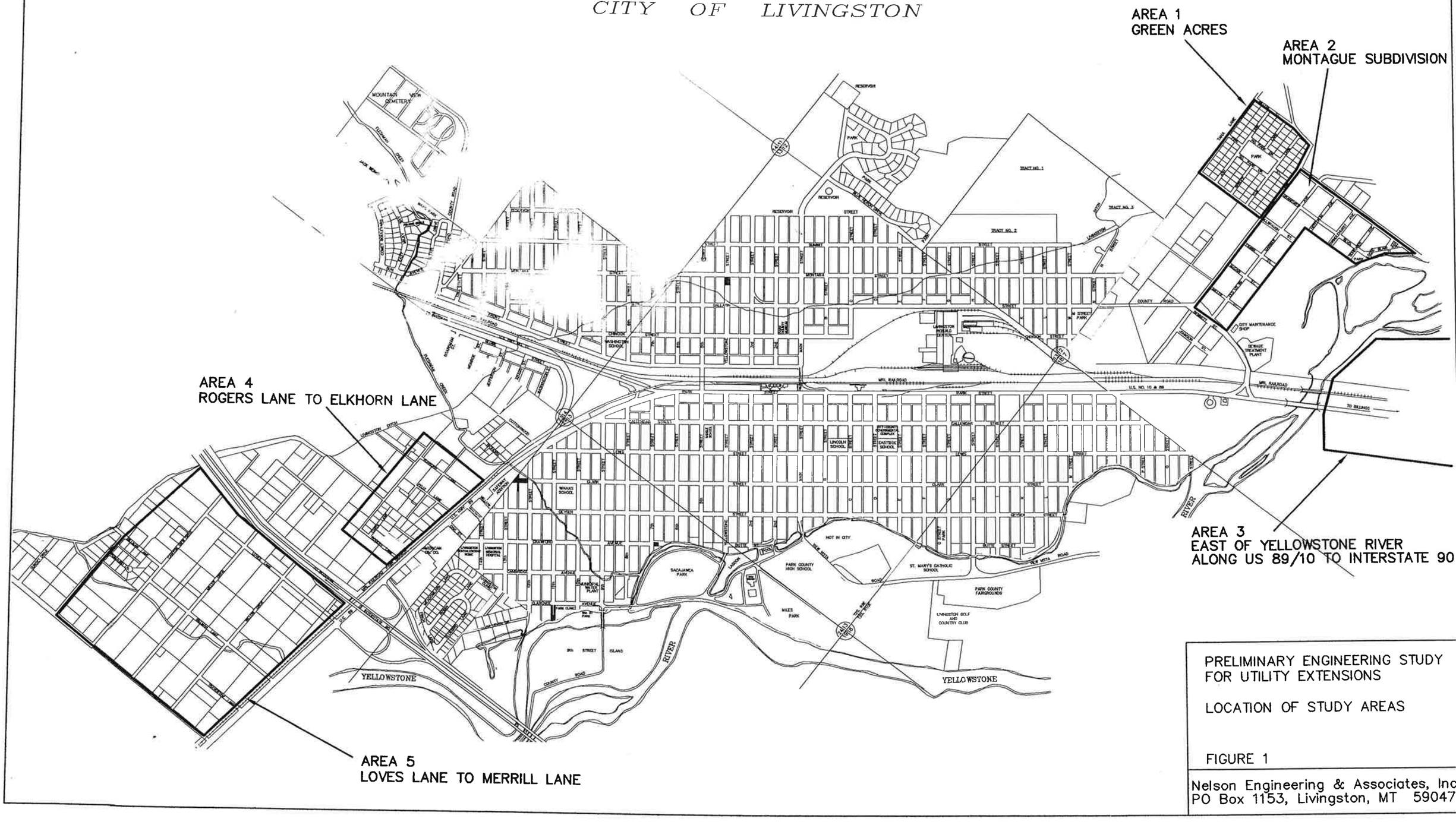
Areas where development has taken place and utilities will most likely be extended are to the north east along Garnier Ave., east across the river along US 89 & 10, utilizing the existing bridge, north west between US 10 and Interstate 90, and south along US 89.

In particular this study will look at:

Area 1 - Green Acres Subdivision.
Area 2 - Montague Subdivision
Area 3 - East along Highway 89/10 between the Yellowstone River bridge and the east interchange with Interstate 90
Area 4 - West of Park Street between Yellowstone Gateway Mall and Interstate 90
Area 5 - South of Interstate 90 along U. S. 89 to Shamrock Lane.

See Figure 1 for location of these four areas.

CITY OF LIVINGSTON



PRELIMINARY ENGINEERING STUDY
FOR UTILITY EXTENSIONS

LOCATION OF STUDY AREAS

FIGURE 1

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III. Area 1 - Green Acres Subdivision

A. Existing Systems

The Green Acres subdivision was designed and constructed to have city water and individual on-site septic systems. At the time this subdivision was approved, cess pools, seepage pits and deep drainfields were permitted and many houses were constructed with this type of wastewater treatment. Because of this type of treatment system many homes were constructed with full basements and septic systems that receive wastewater from eight feet in depth or more. Over the years these types of treatment systems were no longer allowed and when failed systems are replaced many require the construction of a pumped system with a pressure dosed drainfield.

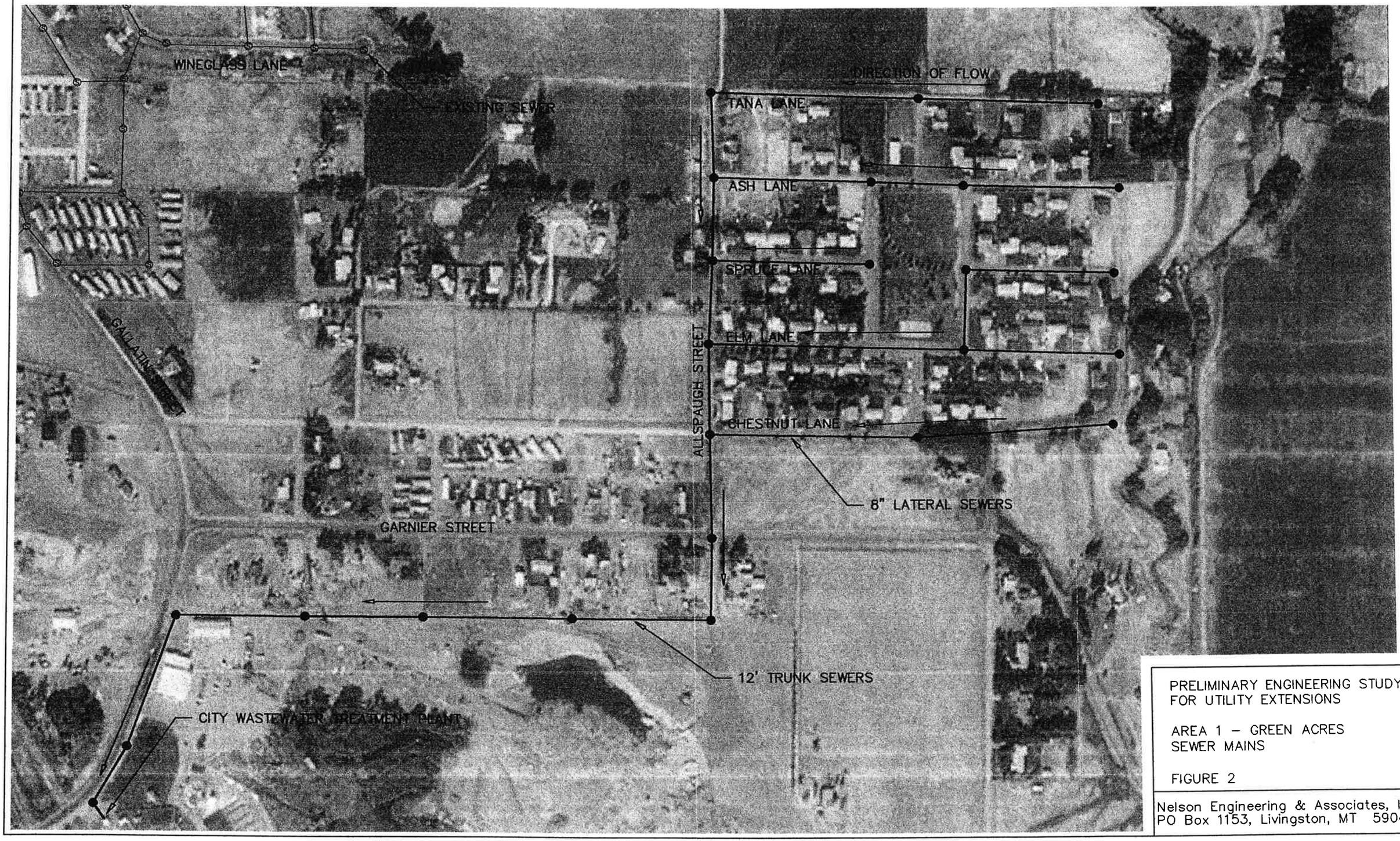
B. Recommended Improvements

Improvements to the Green Acres Subdivision are shown on Figure 2 – Sewer Mains, and on Figure 3 – Water Mains.

The recommended sewer mains consist of a new 12" PVC trunk sewer main that extends from the City wastewater treatment plant to Allspaugh Street on city owned property. This 12" sewer main will also be utilized by the Montague Subdivision. A new 12" trunk sewer main then extends up Allspaugh Street to its end. This 12" main will be utilized into the future for continued growth north and west of Green Acres. Sewer services will be connected to new 8" lateral sewers that extend west to east up each street as shown. Service wyes will be installed and 4" service lines will be extended to each residence. After sewer construction the existing paved streets will be patched with hot mix asphaltic concrete, gravel streets will be resurfaced with gravel.

The recommended water main improvements consist of a single new 8" water main that will loop the existing Green Acres water mains back to the City system through the Mountain View Estates subdivision from a stubbed water main located in Wineglass Lane.

A cost estimate for water and sewer is included and is broken down into parts as described.



PRELIMINARY ENGINEERING STUDY
FOR UTILITY EXTENSIONS

AREA 1 – GREEN ACRES
SEWER MAINS

FIGURE 2

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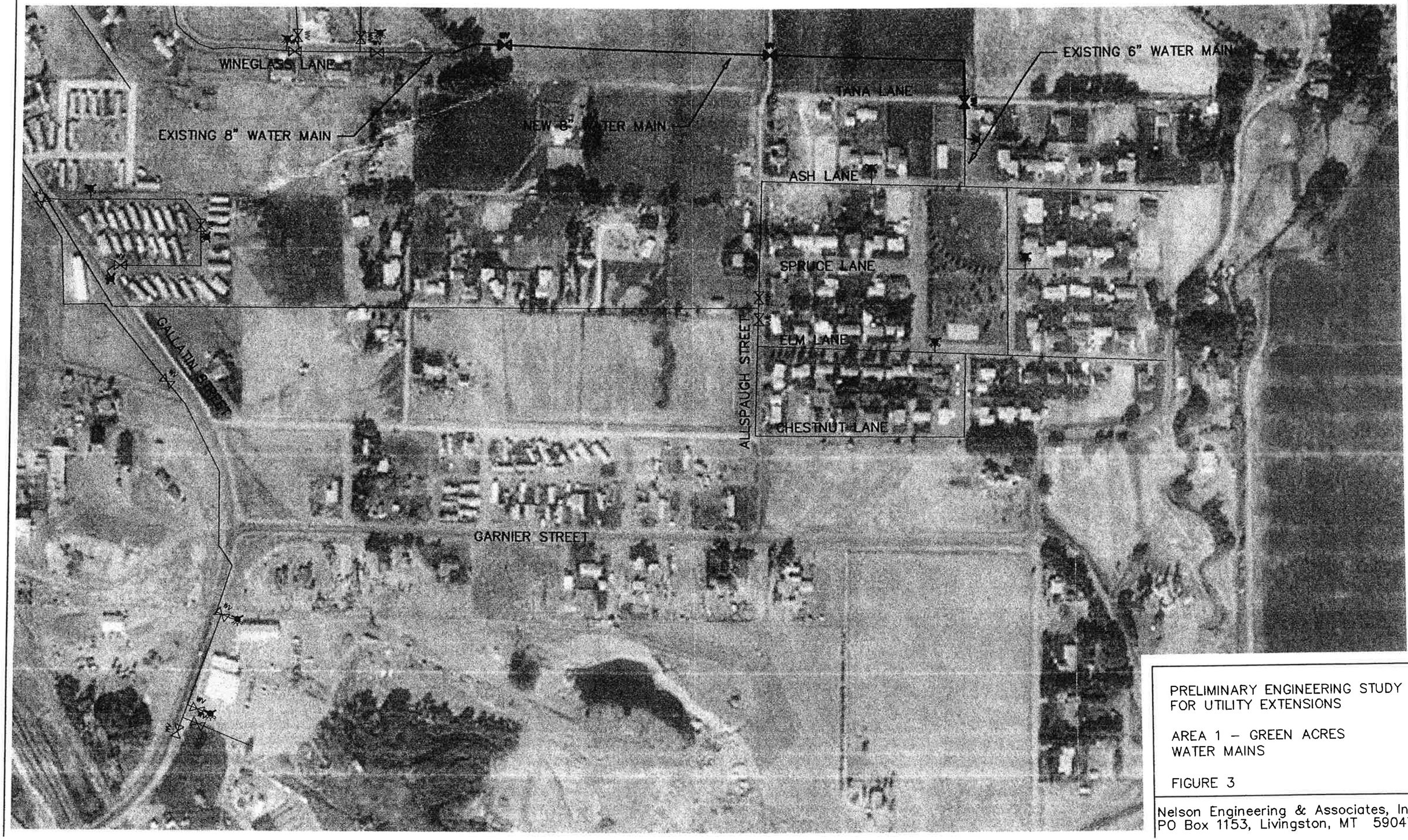

PRELIMINARY ENGINEERING STUDY
FOR UTILITY EXTENSIONS

AREA 1 – GREEN ACRES
WATER MAINS

FIGURE 3

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PRELIMINARY ENGINEERING STUDY FOR UTILITY EXTENSIONS **7/25/2003**

COST ESTIMATE FOR
AREA 1 - GREEN ACRES SEWER AND WATER MAIN PROJECT

12" TRUNK SEWER MAIN						
12" SEWER MAIN	4,408	LF	$ 44	FT	$	193,952.00
MANHOLES	13	EA	$ 3,000	EA	$	39,000.00
NEW SERVICE CONI	5	EA	$ 500	EA	$	2,500.00
TOTAL					$	235,452.00
8" LATERAL SEWER MAIN						
8" SEWER MAIN	6,706	LF	$ 34	FT	$	228,004.00
MANHOLES	13	EA	$ 3,000	EA	$	39,000.00
NEW SERVICE CONI	118	EA	$ 500	EA	$	59,000.00
TOTAL					$	326,004.00
8" WATER MAIN						
8" WATER MAIN	2,000	LF	$ 37	FT	$	74,000.00
WATER VALVES	3	EA	$ 1,100	EA	$	3,300.00
TOTAL					$	77,300.00
SURFACE REPAIR						
PAVEMENT REPAIR	5,827	LF	$ 25.00	LF	$	145,675.00
GRAVEL REPAIR	3,722	LF	$ 5.00	LF	$	18,610.00
TOTAL					$	164,285.00
TOTAL ESTIMATED CONSTRUCTION COST					$	803,041.00
ENGINEERING						
AT 15% OF Construction cost					$	120,456.15
TOTAL ESTIMATED PROJECT COST					$	923,497.15

IV. Area 2 - Montague Subdivision

A. Existing Systems

The Montague Subdivision is located east of the City of Livingston and south of Green Acres. It lies on both sides of Garnier Ave. (Old U.S. Highway 89) between Bennett Street and Seaman Street. This subdivision was originally subdivided into city sized lots and has been developed into a trailer court which shares water and septic systems and single family homes that are located on multiple lots with either individual wells and septic systems or shared water systems and individual septic systems. As with Green Acres over the years several of these systems have failed and been replaced.

B. Recommended Improvements

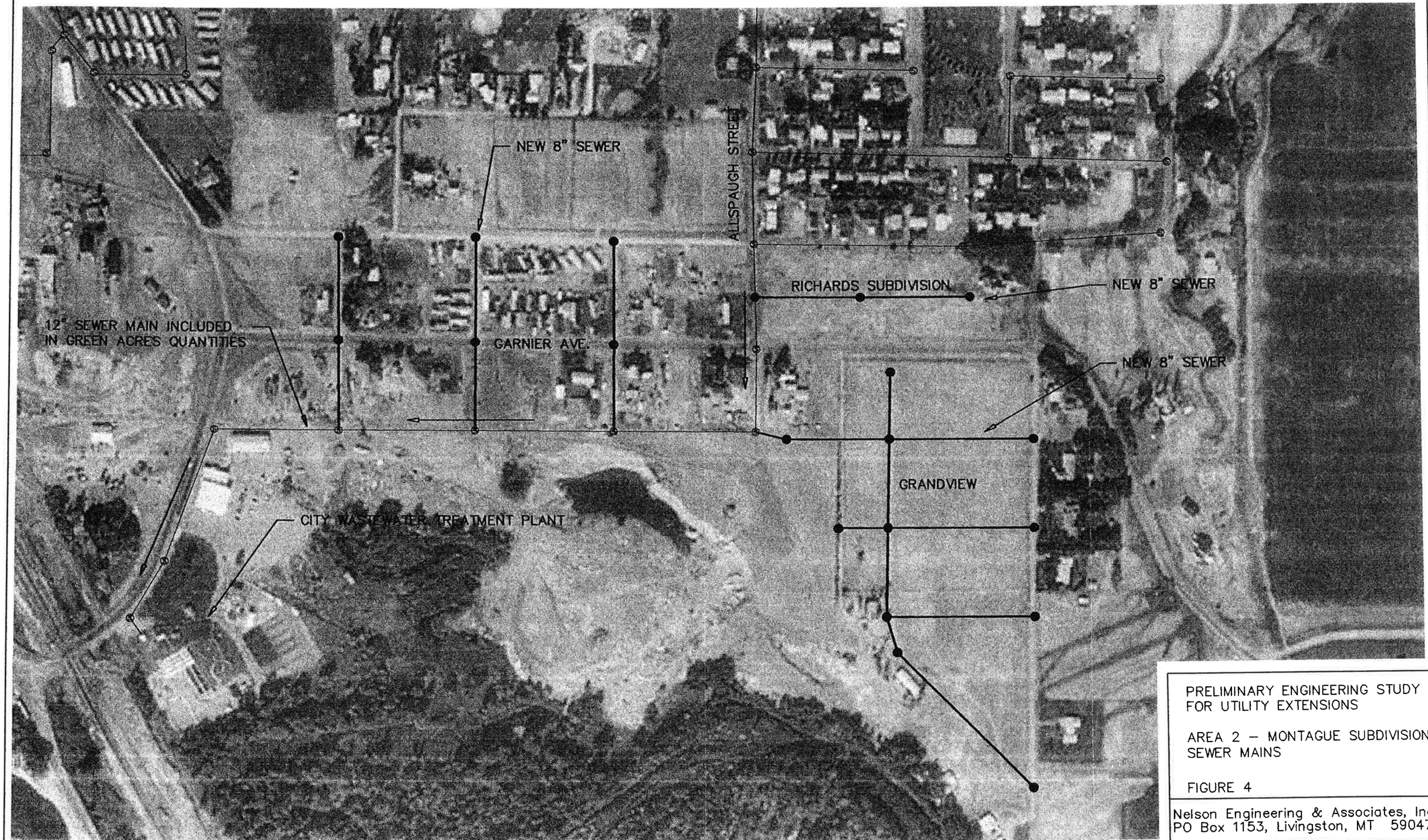
Improvements to the Montague Subdivision are shown on Figure 4 – Sewer Mains, and on Figure 5 – Water Mains.

The recommended sewer improvements will utilize the 12" main trunk sewer from the wastewater treatment plant that was part of the Green Acres Improvements section of this report. Sewer mains of 8" diameter will be used to convey sewage from the blocks on both sides of Garnier Ave. to the 12" trunk sewer. The property to the north of Garnier shown on the map as Richards Subdivision will use existing platted alleys for an 8" sewer main to the 12" trunk sewer in Allspaugh Street. The rest of the Montague Subdivision shown as Grandview will have a network of 8" mains and manholes.

The recommended water system improvements show new 6" water mains that would connect from the existing water mains in Gallatin Street, run up Garnier Street and Chestnut Lane to Green Acres. The main in Garnier would continue to Seaman Street go north on Seaman then west on Chestnut and connect to the Green Acres water main at Pine Street. The Grandview area would have a network of 6" mains located in Grandview Blvd and Seaman Street with 6" mains in each cross street. Valves and hydrants will be needed approximately as shown.

As with Green Acres street repair will be required and will consist of patching the existing asphalt streets and resurfacing the gravel streets.

Cost estimates for construction and engineering are included.



PRELIMINARY ENGINEERING STUDY
FOR UTILITY EXTENSIONS

AREA 2 – MONTAGUE SUBDIVISION
SEWER MAINS

FIGURE 4

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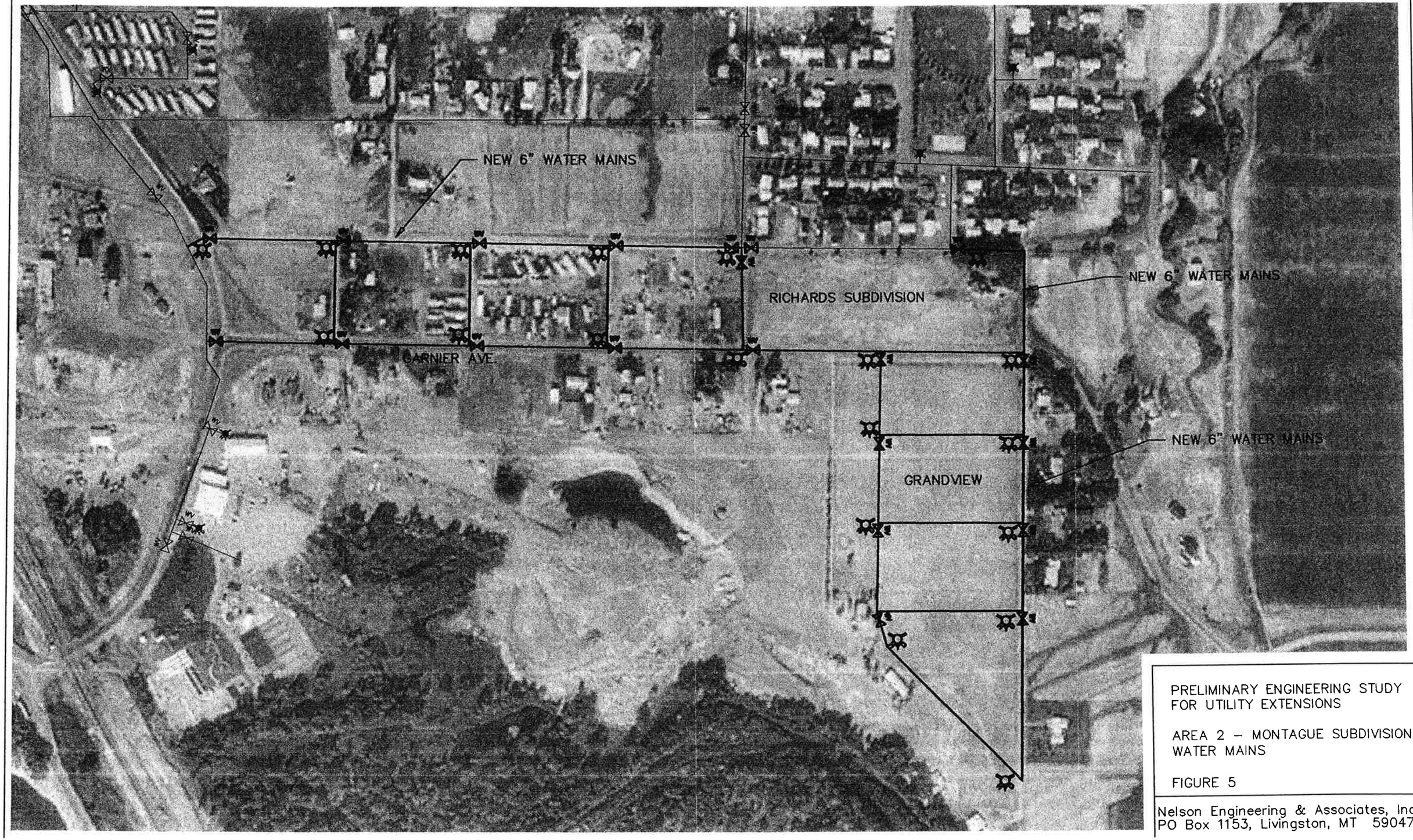

PRELIMINARY ENGINEERING STUDY
FOR UTILITY EXTENSIONS

AREA 2 – MONTAGUE SUBDIVISION
WATER MAINS

FIGURE 5

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PRELIMINARY ENGINEERING STUDY FOR UTILITY EXTENSIONS **8/3/2003**

COST ESTIMATE FOR
AREA 2 - MONTAGUE SEWER AND WATER MAIN PROJECT

GARNIER AVE.

SEWER MAINS					
8" SEWER MAIN	1,942 LF	$	34 FT	$	66,028.00
MANHOLES	6 EA	$	3,000 EA	$	18,000.00
PAVEMENT REPAIR	114 LF	$	25.00 LF	$	2,850.00
GRAVEL REPAIR	1,828 LF	$	5.00 LF	$	9,140.00
TOTAL				$	96,018.00
WATER MAINS					
6" WATER MAIN	5,059 LF	$	32 FT	$	161,888.00
WATER VALVES	10 EA	$	1,000 EA	$	10,000.00
FIRE HYDR.	10 EA	$	3,000 EA	$	30,000.00
PAVEMENT REPAIR	2,600 LF	$	25.00 LF	$	65,000.00
GRAVEL REPAIR	2,400 LF	$	5.00 LF	$	12,000.00
TOTAL				$	278,888.00

RICHARDS SUBDIVISION

SEWER MAINS					
8" SEWER MAIN	710 LF	$	34 FT	$	24,140.00
MANHOLES	2 EA	$	3,000 EA	$	6,000.00
PAVEMENT REPAIR	38 LF	$	25.00 LF	$	950.00
TOTAL				$	31,090.00
WATER MAINS					
6" WATER MAIN	1,028 LF	$	32 FT	$	32,896.00
WATER VALVES	3 EA	$	1,000 EA	$	3,000.00
FIRE HYDR.	3 EA	$	3,000 EA	$	9,000.00
PAVEMENT REPAIR	1,200 LF	$	25.00 LF	$	30,000.00
GRAVEL REPAIR	328 LF	$	5.00 LF	$	1,640.00
TOTAL				$	76,536.00

GRANDVIEW SUBDIVISION

SEWER MAINS					
8" SEWER MAIN	710 LF	$	34 FT	$	24,140.00
MANHOLES	2 EA	$	3,000 EA	$	6,000.00
PAVEMENT REPAIR	38 LF	$	25.00 LF	$	950.00
TOTAL				$	31,090.00
WATER MAINS					
6" WATER MAIN	5,044 LF	$	32 FT	$	161,408.00

WATER VALVES	8 EA	$	750 EA	$	6,000.00
FIRE HYDR.	7 EA	$	3,000 EA	$	21,000.00
PAVEMENT REPAIR	150 LF	$	25.00 LF	$	3,750.00
GRAVEL REPAIR	5,000 LF	$	5.00 LF	$	25,000.00
TOTAL				$	217,158.00

TOTAL ESTIMATED CONSTRUCTION COST	$	730,780.00
ENGINEERING		
AT 15% OF CONSTRUCTION COST	$	109,617.00
TOTAL ESTIMATED PROJECT COST	$	840,397.00

V. Area 3 – East Highway 89/10

A. Existing Systems

This area is located east of the City of Livingston and the Yellowstone River. The developed areas are on both sides of Highway 89/10. All of the development in this area is on individual wells and septic systems.

B. Improvements

Improvements to Area 3 are shown on Figure 6 – Sewer Mains, and on Figure 7 – Water Mains.

The sewer improvements will consist of a gravity sewer system as shown. A sewage pump station will be required and will pump sewage collected from the entire area to the City's wastewater treatment plant. The 4" force main will be connected to the Highway 89/10 bridge to cross the Yellowstone River. Due to the length and diameter of the force main it will be necessary to take steps to ensure that sewage stored in the main will not become septic before it is pumped into the treatment plant. This problem will be exacerbated prior to additional development in this area. Due to the scale of the drawing individual manholes are not shown.

The water system improvements show a new 14" water main that would connect to the City's water system near the east end of town. The water main will also use the existing highway bridge to cross the Yellowstone River. It will then extend east along Highway 89/10 to the east exit from Interstate 90. At some point along its length it will be necessary to cross the Highway and the railroad tracks to provide water to development on the north side. To provide fire protection for this area, large diameter water mains are needed. Large diameter water mains will make it difficult to maintain a chlorine residual during times of low flows or before additional development takes place. To assist with this problem a new water source with pressure tank and/or storage tank will allow water to be produced and treated close to the point of use. A storage tank in the area will provide fire flow rates and can reduce the required size of the main from the existing city system.

Street repair will be required and will consist of patching the existing asphalt streets and resurfacing the gravel streets.

Cost estimates for construction and engineering are included.

PRELIMINARY ENGINEERING STUDY
FOR UTILITY EXTENSIONS

AREA 3 – EAST HIGHWAY 89/10
SEWER MAINS & PUMP STATION

FIGURE 6

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NEW 12" WATER
AREA OF DEVELOPMENT
12" WATER MAIN CONSTRUCTED
IN A PREVIOUS PROJECT
US HWY 89/10
NEW 14" WATER MAIN

PRELIMINARY ENGINEERING STUDY FOR UTILITY EXTENSIONS **8/4/2003**

COST ESTIMATE FOR
AREA 3 - EAST HIGHWAY 89/10

SEWER SYSTEM						
4" FORCE MAIN	10,360	LF	$	30 FT	$	310,800.00
8" SEWER MAIN	11,636	LF	$	34 FT	$	395,624.00
MANHOLES	35	EA	$	3,000 EA	$	105,000.00
SEW PUMP STA.	1	EA	$	225,000 EA	$	225,000.00
RIVER CROSSING	1	EA	$	60,000 EA	$	60,000.00
RR CROSSING	2	EA	$	30,000 EA	$	60,000.00
PAVEMENT REPAIR	500	LF	$	25.00 LF	$	12,500.00
GRAVEL REPAIR	5,000	LF	$	5.00 LF	$	25,000.00
TOTAL					$	1,193,924.00
WATER SYSTEM						
14" WATER MAIN	7,677	LF	$	65 FT	$	499,005.00
14" VALVES	10	EA	$	1,600 EA	$	16,000.00
12" WATER MAIN	6,447	LF	$	50 LF	$	322,350.00
12" VALVES	8	EA	$	1,400 EA	$	11,200.00
12" TO WELL	741	LF	$	50 LF	$	37,050.00
12" VALVES	2	EA	$	1,400 EA	$	2,800.00
12" TO TANK	9,200	LF	$	50 LF	$	460,000.00
12" VALVES	12	EA	$	1,400 EA	$	16,800.00
FIRE HYDRANTS	30	EA	$	3,000 EA	$	90,000.00
RR CROSSING	1	EA	$	30,000 EA	$	30,000.00
WELL	1	EA	$	30,000 EA	$	30,000.00
TANK 1MG	1	EA	$	750,000 EA	$	750,000.00
PAVEMENT REPAIR	250	LF	$	25.00 LF	$	6,250.00
GRAVEL REPAIR	15,000	LF	$	5.00 LF	$	75,000.00
TOTAL					$	2,265,205.00

TOTAL ESTIMATED CONSTRUCTION COST $ 3,459,129.00

ENGINEERING
AT 15% OF CONSTRUCTION COST $ 518,869.35

TOTAL ESTIMATED PROJECT COST $ 3,977,998.35

VI. Area 4 – Rogers Lane to Elkhorn Lane

A. Existing Systems

This area is located west of the City of Livingston and Park Street, south of Highway 10 and north of Interstate 90. A small portion of this area uses city water or sewer or both. Those areas are shown on Figures 8 and 9. The majority of the development in this area is on individual wells and septic systems.

B. Improvements

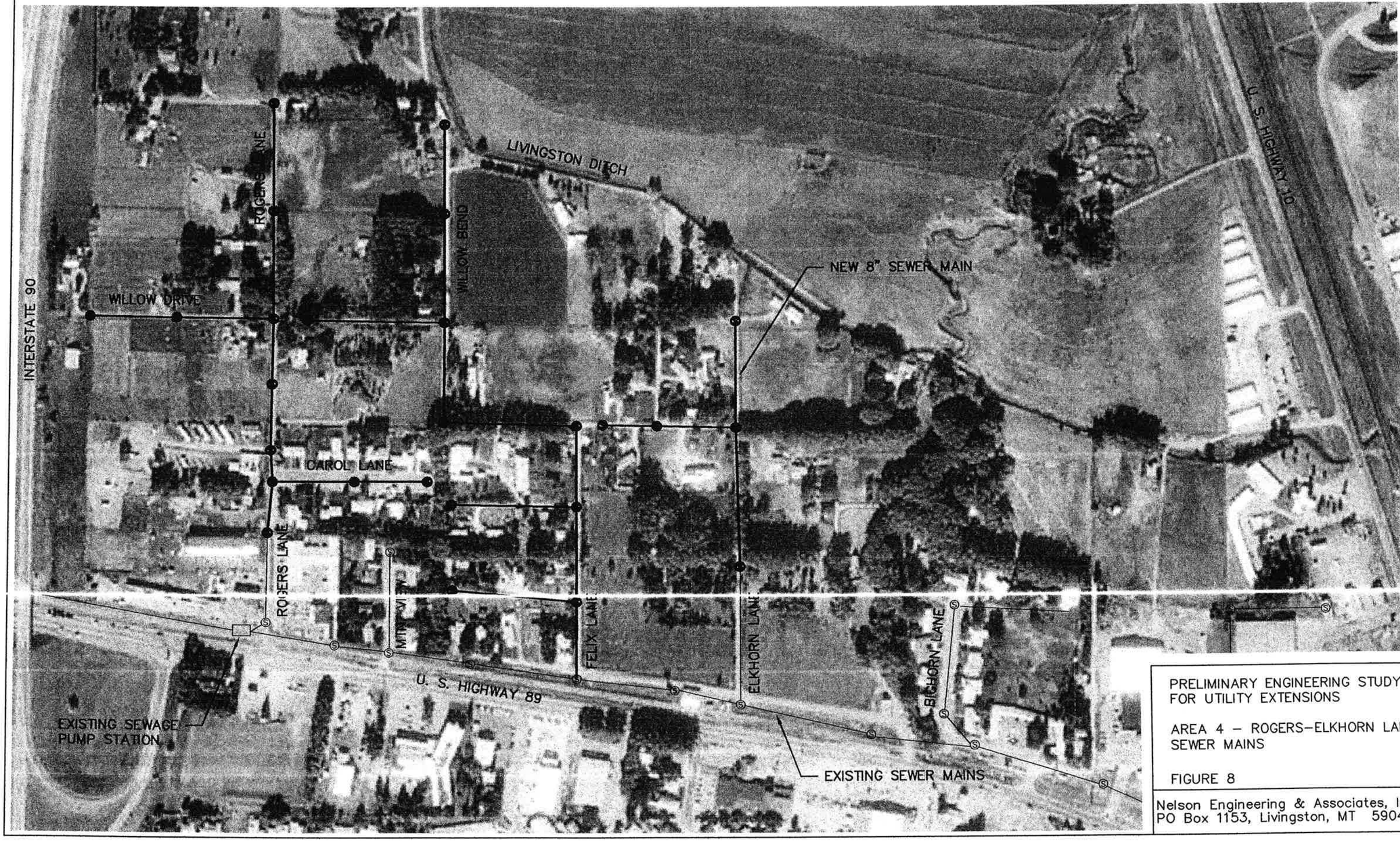
Improvements to Area 4 are shown on Figure 8 – Sewer Mains, and on Figure 9 – Water Mains.

The sewer improvements will consist of three gravity sewer systems as shown. The first is shown in Rogers Lane. It connects to an existing sewer main in Rogers Lane and extends to the end. The second main connects to the trunk sewer along Highway 89 and extends up Felix Lane then to Willow Bend and extends to the end. The third main connects to an existing sewer in Elkhorn Lane and extends to its end. All new sewer mains are 8" diameter and are shown with manholes.

The water system improvements show a network that connects to existing water mains located in Rogers Lane, Felix Lane and Elkhorn Lane. It also connects to the existing 12" water main located along Highway 89 south of Rogers Lane. This main will provide loops for mains running north and south from Rogers Lane.

Street repair will be required and will consist of patching the existing asphalt streets and resurfacing the gravel streets.

Cost estimates for construction and engineering are included.



PRELIMINARY ENGINEERING STUDY
FOR UTILITY EXTENSIONS

AREA 4 – ROGERS–ELKHORN LANE
SEWER MAINS

FIGURE 8

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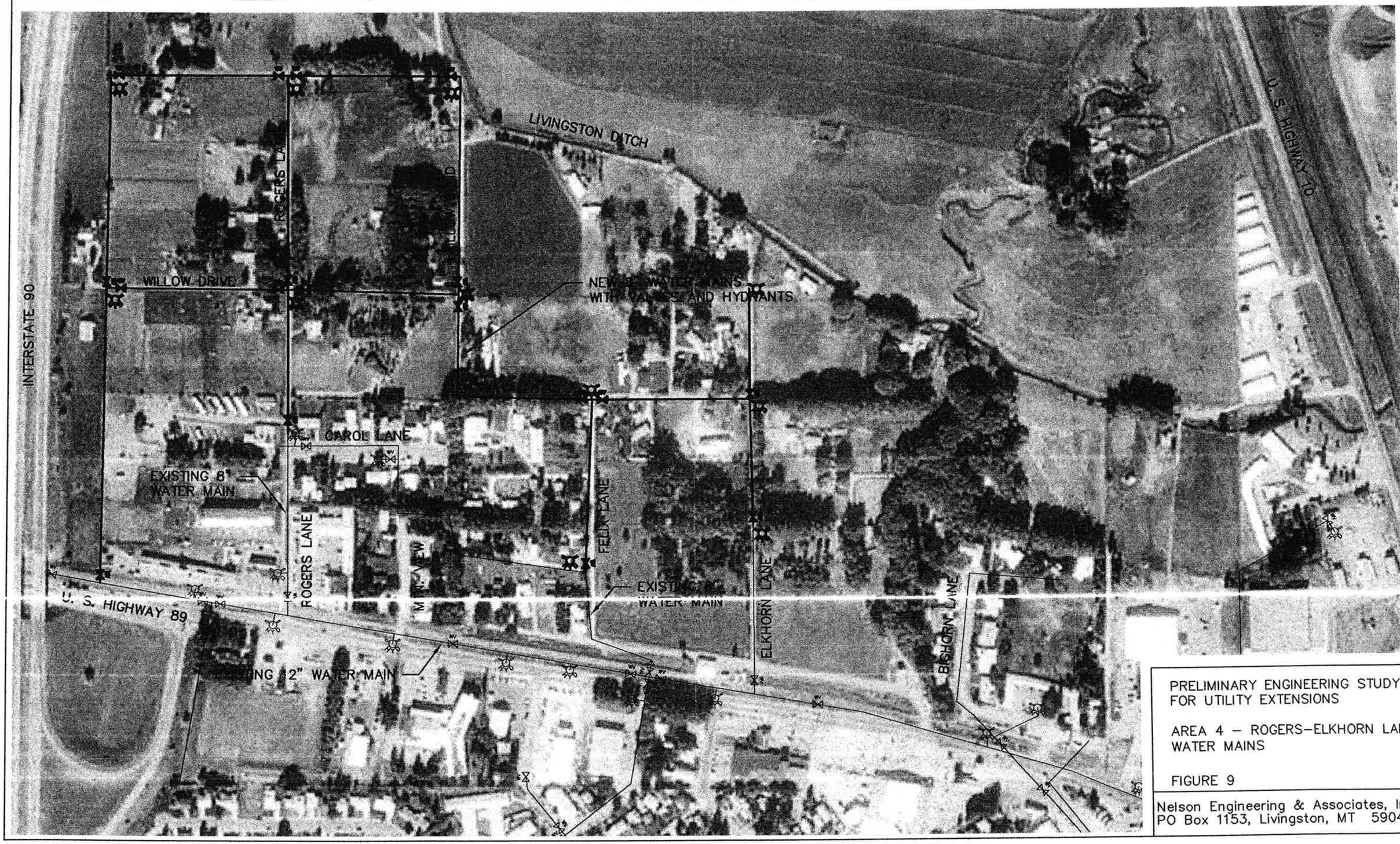

PRELIMINARY ENGINEERING STUDY
FOR UTILITY EXTENSIONS

AREA 4 – ROGERS–ELKHORN LANE
WATER MAINS

FIGURE 9

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PRELIMINARY ENGINEERING STUDY FOR UTILITY EXTENSIONS **8/3/2003**

COST ESTIMATE FOR
AREA 4 - ROGERS LANE TO ELKHORN LANE

ELKHORN LANE

SEWER MAINS

8" SEWER MAIN	1,312 LF	$	34 FT	$	44,608.00
MANHOLES	5 EA	$	3,000 EA	$	15,000.00
PAVEMENT REPAIR	981 LF	$	25.00 LF	$	24,525.00
GRAVEL REPAIR	331 LF	$	5.00 LF	$	1,655.00
TOTAL				$	85,788.00

WATER MAINS

8" WATER MAIN	1,352 LF	$	37 FT	$	50,024.00
WATER VALVES	3 EA	$	1,100 EA	$	3,300.00
HYDRANTS	3 EA	$	3,000 EA	$	9,000.00
PAVEMENT REPAIR	981 LF	$	25.00 LF	$	24,525.00
GRAVEL REPAIR	371 LF	$	5.00 LF	$	1,855.00
TOTAL				$	88,704.00

FELIX LANE

SEWER MAINS

8" SEWER MAIN	2,195 LF	$	34 FT	$	74,630.00
MANHOLES	6 EA	$	3,000 EA	$	18,000.00
PAVEMENT REPAIR	1,352 LF	$	25.00 LF	$	33,800.00
GRAVEL REPAIR	843 LF	$	5.00 LF	$	4,215.00
TOTAL				$	130,645.00

WATER MAINS

8" WATER MAIN	1,068 LF	$	37 FT	$	39,516.00
WATER VALVES	2 EA	$	1,100 EA	$	2,200.00
HYDRANTS	2 EA	$	3,000 EA	$	6,000.00
PAVEMENT REPAIR	1,068 LF	$	25.00 LF	$	26,700.00
GRAVEL REPAIR	0 LF	$	5.00 LF	$	-
TOTAL				$	74,416.00

WILLOW BEND

SEWER MAINS

8" SEWER MAIN	1,508 LF	$	34 FT	$	51,272.00
MANHOLES	4 EA	$	3,000 EA	$	12,000.00
PAVEMENT REPAIR	809 LF	$	25.00 LF	$	20,225.00
GRAVEL REPAIR	699 LF	$	5.00 LF	$	3,495.00
TOTAL				$	86,992.00

WATER MAINS						
8" WATER MAIN	2,299	LF	$	37 FT	$	85,063.00
WATER VALVES	5	EA	$	1,100 EA	$	5,500.00
HYDRANTS	2	EA	$	3,000 EA	$	6,000.00
PAVEMENT REPAIR	988	LF	$	25.00 LF	$	24,700.00
GRAVEL REPAIR	1,311	LF	$	5.00 LF	$	6,555.00
TOTAL					$	127,818.00
ROGERS LANE						
SEWER MAINS						
8" SEWER MAIN	2,130	LF	$	34 FT	$	72,420.00
MANHOLES	9	EA	$	3,000 EA	$	27,000.00
PAVEMENT REPAIR	2,130	LF	$	25.00 LF	$	53,250.00
GRAVEL REPAIR	0	LF	$	5.00 LF	$	-
TOTAL					$	152,670.00
WATER MAINS						
8" WATER MAIN	4,261	LF	$	37 FT	$	157,657.00
WATER VALVES	8	EA	$	1,100 EA	$	8,800.00
HYDRANTS	4	EA	$	3,000 EA	$	12,000.00
PAVEMENT REPAIR	2,488	LF	$	25.00 LF	$	62,200.00
GRAVEL REPAIR	1,395	LF	$	5.00 LF	$	6,975.00
TOTAL					$	247,632.00
CAROL LANE						
SEWER MAINS						
8" SEWER MAIN	530	LF	$	34 FT	$	18,020.00
MANHOLES	2	EA	$	3,000 EA	$	6,000.00
PAVEMENT REPAIR	530	LF	$	25.00 LF	$	13,250.00
GRAVEL REPAIR	0	LF	$	5.00 LF	$	-
TOTAL					$	37,270.00
TOTAL ESTIMATED CONSTRUCTION COST					$	1,031,935.00
ENGINEERING						
AT 15% OF CONSTRUCTION COST					$	154,790.25
TOTAL ESTIMATED PROJECT COST					$	1,186,725.25

VII. Area 5 – Loves Lane to Merrill Lane

A. Existing Systems

This area is located south of the City of Livingston and Interstate 90 and both east and west of Highway 89. A portion of this area uses city water and sewer and consists of the commercial development near the exit from Interstate 90. All of the residential development in this area is on individual wells and septic systems.

Sewer service to this area is provided by an existing 10" sewer main that runs parallel to Highway 89 under Interstate 90. It ends on the west side of the highway between Albertsons and the Town Pump. From this main 8" sewer mains extend west up Loves Lane to the back of the Albertsons lot and between Albertsons and Town Pump to the back of the Town Pump lot.

Water service to this area is provided by a 12" water main that also runs parallel to Highway 89 under Interstate 90. This water main extends across Billman Creek and ends at one of the City's production wells on Billman Lane. From this main 8" water mains extend west up Loves Lane to the back of the Albertsons lot and between Albertsons and Town Pump to the back of the Town Pump lot.

B. Improvements

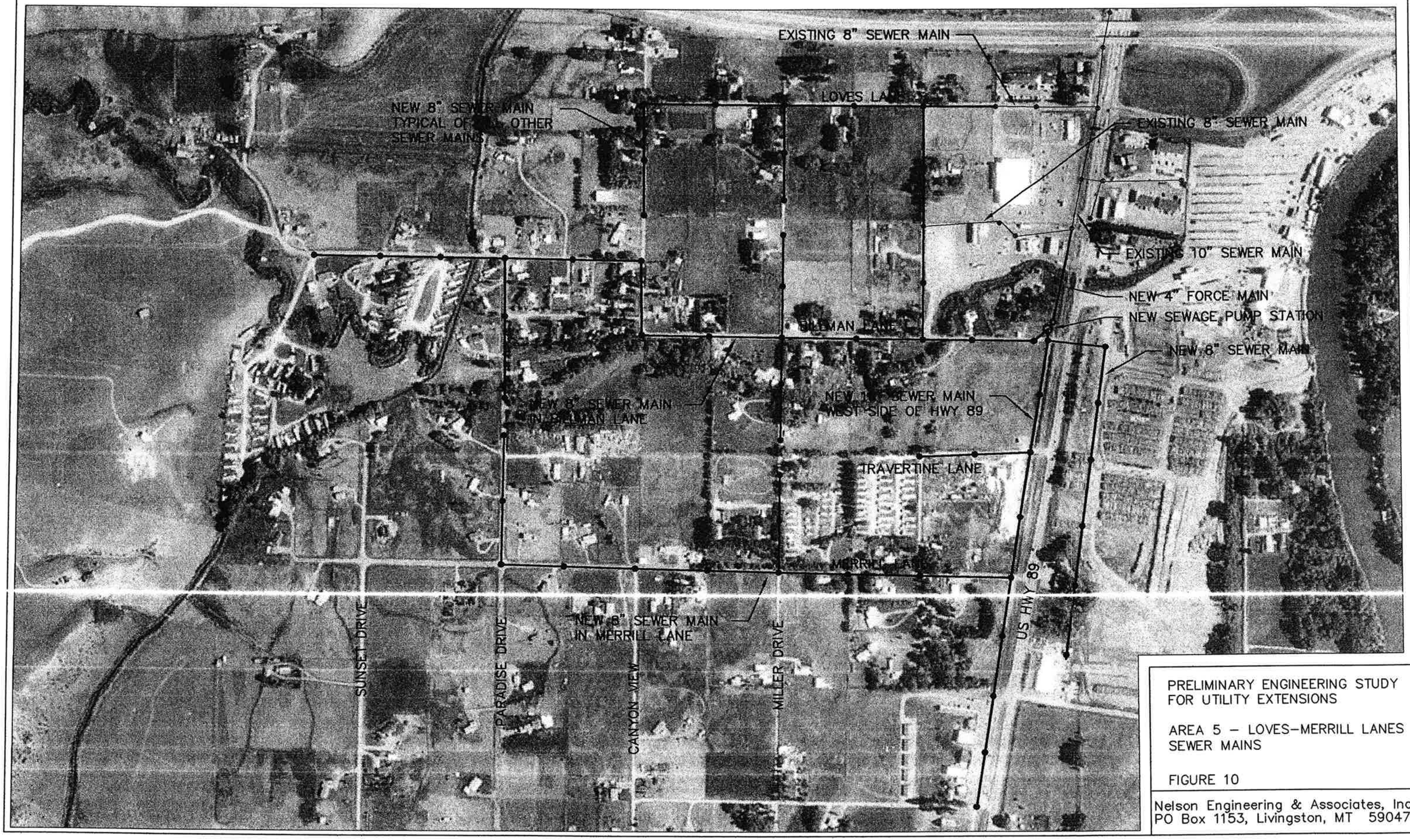
Improvements to Area 5 are shown on Figure 10 – Sewer Mains, and on Figure 11 – Water Mains.

The sewer improvements will consist of a new 10" sewer main that will extend up Highway 89 to the Sleeping Giant Trade Center and Guthrie Lane. Four sewer mains are shown that will extend west from the existing 8" main in Loves Lane, and connect to the new 10" main up Billman Lane, Travertine Lane and Merrill Lane. All new sewer mains extending west are 8" diameter and are shown with manholes. The sewer system in this area will require a pump station to move sewage across Billman Creek, and to get enough grade.

The water system improvements show a network that connects to the existing 12" water main located along Highway 89 in Billman Lane. The new 12" main will extend south along Highway 89 and is shown going past the Sleeping Giant Trade Center. From this 12" water main, new 8" water mains will extend west up Loves Lane, Billman Lane, Travertine Lane, and Merrill Lane. Water mains will also be constructed running north and south in Willow Drive, Miller Drive, Canyon View, and Paradise Drive.

Street repair will be required and will consist of patching the existing asphalt streets and resurfacing the gravel streets.

Cost estimates for construction and engineering are included.

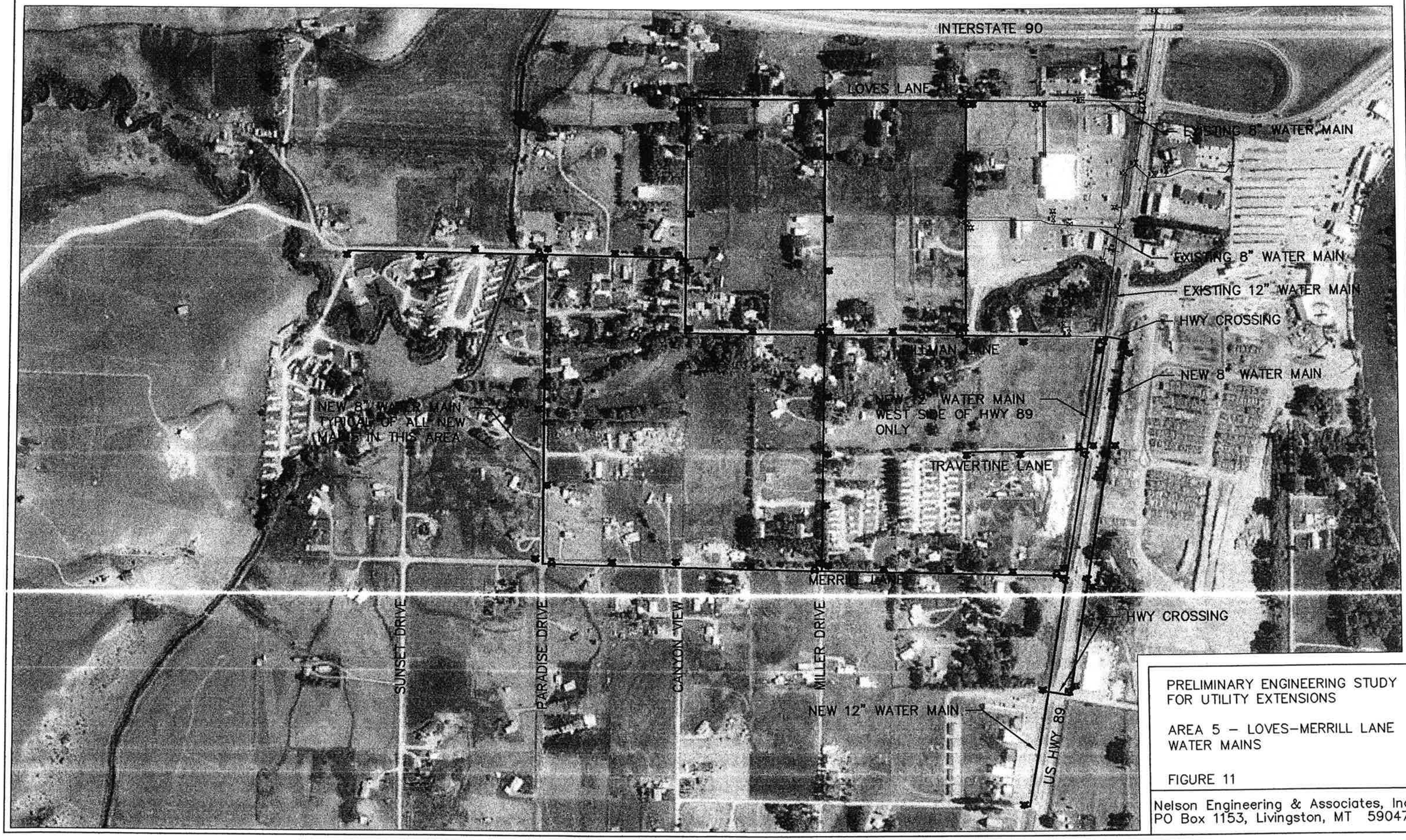


PRELIMINARY ENGINEERING STUDY
FOR UTILITY EXTENSIONS

AREA 5 – LOVES–MERRILL LANES
SEWER MAINS

FIGURE 10

Nelson Engineering & Associates, Inc.
PO Box 1153, Livingston, MT 59047



PRELIMINARY ENGINEERING STUDY
FOR UTILITY EXTENSIONS

AREA 5 – LOVES–MERRILL LANE
WATER MAINS

FIGURE 11

Nelson Engineering & Associates, Inc
PO Box 1153, Livingston, MT 59047

PRELIMINARY ENGINEERING STUDY FOR UTILITY EXTENSIONS **8/3/2003**

COST ESTIMATE FOR
AREA 5 - LOVES LANE TO MERRILL LANE

LOVES LANE

SEWER MAINS

8" SEWER MAIN	3,878 LF	$	34 FT	$	131,852.00
MANHOLES	12 EA	$	3,000 EA	$	36,000.00
PAVEMENT REPAIR	2,643 LF	$	25.00 LF	$	66,075.00
GRAVEL REPAIR	1,235 LF	$	5.00 LF	$	6,175.00
TOTAL				$	240,102.00

WATER MAINS

8" WATER MAIN	3,968 LF	$	37 FT	$	146,816.00
WATER VALVES	3 EA	$	1,100 EA	$	3,300.00
HYDRANTS	6 EA	$	3,000 EA	$	18,000.00
PAVEMENT REPAIR	2,626 LF	$	25.00 LF	$	65,650.00
GRAVEL REPAIR	1,342 LF	$	5.00 LF	$	6,710.00
TOTAL				$	240,476.00

BILLMAN LANE

SEWER MAINS

8" SEWER MAIN	7,270 LF	$	34 FT	$	247,180.00
MANHOLES	19 EA	$	3,000 EA	$	57,000.00
PAVEMENT REPAIR	5,332 LF	$	25.00 LF	$	133,300.00
GRAVEL REPAIR	1,938 LF	$	5.00 LF	$	9,690.00
TOTAL				$	447,170.00

WATER MAINS

8" WATER MAIN	7,647 LF	$	37 FT	$	282,939.00
WATER VALVES	9 EA	$	1,100 EA	$	9,900.00
HYDRANTS	13 EA	$	3,000 EA	$	39,000.00
PAVEMENT REPAIR	5,927 LF	$	25.00 LF	$	148,175.00
GRAVEL REPAIR	1,720 LF	$	5.00 LF	$	8,600.00
TOTAL				$	488,614.00

TRAVERTINE LANE

SEWER MAINS

8" SEWER MAIN	633 LF	$	34 FT	$	21,522.00
MANHOLES	3 EA	$	3,000 EA	$	9,000.00
PAVEMENT REPAIR	0 LF	$	25.00 LF	$	-
GRAVEL REPAIR	633 LF	$	5.00 LF	$	3,165.00
TOTAL				$	33,687.00

WATER MAINS						
8" WATER MAIN	687	LF	$	37 FT	$	25,419.00
WATER VALVES	1	EA	$	1,100 EA	$	1,100.00
HYDRANTS	2	EA	$	3,000 EA	$	6,000.00
PAVEMENT REPAIR	0	LF	$	25.00 LF	$	-
GRAVEL REPAIR	687	LF	$	5.00 LF	$	3,435.00
TOTAL					$	35,954.00

MERRILL LANE						
SEWER MAINS						
8" SEWER MAIN	4,198	LF	$	34 FT	$	142,732.00
MANHOLES	12	EA	$	3,000 EA	$	36,000.00
PAVEMENT REPAIR	3,635	LF	$	25.00 LF	$	90,875.00
GRAVEL REPAIR	563	LF	$	5.00 LF	$	2,815.00
TOTAL					$	272,422.00

WATER MAINS						
8" WATER MAIN	4,497	LF	$	37 FT	$	166,389.00
WATER VALVES	5	EA	$	1,100 EA	$	5,500.00
HYDRANTS	13	EA	$	3,000 EA	$	39,000.00
PAVEMENT REPAIR	3,819	LF	$	25.00 LF	$	95,475.00
GRAVEL REPAIR	678	LF	$	5.00 LF	$	3,390.00
TOTAL					$	309,754.00

WEST OF HYW 89						
SEWER MAINS						
10" SEWER MAIN	2,722	LF	$	39 FT	$	106,158.00
MANHOLES	9	EA	$	3,000 EA	$	27,000.00
PAVEMENT REPAIR	100	LF	$	25.00 LF	$	2,500.00
GRAVEL REPAIR	500	LF	$	5.00 LF	$	2,500.00
TOTAL					$	138,158.00

WATER MAINS						
12" WATER MAIN	2,726	LF	$	50 FT	$	136,300.00
WATER VALVES	4	EA	$	1,400 EA	$	5,600.00
HYDRANTS	9	EA	$	3,000 EA	$	27,000.00
PAVEMENT REPAIR	500	LF	$	25.00 LF	$	12,500.00
GRAVEL REPAIR	1,500	LF	$	5.00 LF	$	7,500.00
TOTAL					$	188,900.00

EAST OF HYW 89

SEWER MAINS					
8" SEWER MAIN	2,151 LF	$	34 FT	$	73,134.00
MANHOLES	7 EA	$	3,000 EA	$	21,000.00
PAVEMENT REPAIR	120 LF	$	25.00 LF	$	3,000.00
GRAVEL REPAIR	500 LF	$	5.00 LF	$	2,500.00
TOTAL				$	99,634.00
WATER MAINS					
8" WATER MAIN	2,308 LF	$	37 FT	$	85,396.00
WATER VALVES	6 EA	$	1,100 EA	$	6,600.00
HYDRANTS	7 EA	$	3,000 EA	$	21,000.00
HIGHWAY CROSS	2 EA	$	25,000 EA	$	50,000.00
PAVEMENT REPAIR	500 LF	$	25.00 LF	$	12,500.00
GRAVEL REPAIR	1,500 LF	$	5.00 LF	$	7,500.00
TOTAL				$	182,996.00
SEWAGE PUMP STATION					
PUMP STATION	1 EA	$	106,500.00 EA	$	106,500.00
GENERATOR	1 EA	$	31,700.00 EA	$	31,700.00
FORCEMAIN	525 LF	$	30.00 EA	$	15,750.00
TOTAL				$	153,950.00

TOTAL ESTIMATED CONSTRUCTION COST	$	2,831,817.00
ENGINEERING		
AT 15% OF CONSTRUCTION COST	$	424,772.55
TOTAL ESTIMATED PROJECT COST	$	3,256,589.55