Executive Summary

Normal Neighborhood Reimbursement District

Offsite Infrastructure Construction Cost Estimate and Apportionment of Costs

City of Ashland, Oregon

INTRODUCTION:
As part of the development of the Normal Neighborhood Plan, certain offsite street and utility improvements/upgrades are needed. The City is proposing to develop said improvements in participation with properties in the Normal Neighborhood. The offsite improvements addressed by this study are:

1. Street and utility improvements/upgrades to East Main Street from Walker Avenue to Clay Street.
2. Improvements to the Normal Avenue railroad crossing at the south end of the neighborhood.

OBJECTIVE:
The objective of this study is to:

1. Determine the cost to make said improvements noted above.
2. Determine an equitable method for all parties to participate in construction of said improvements.

In addition, estimated construction costs were prepared for street and utility improvements/upgrades to East Main Street from Clay Street to Tolman Creek Road as a separate analysis.

BACKGROUND:
The "Normal Neighborhood" is located in the eastern area of Ashland, bounded roughly by East Main Street on the north, the Siskiyou Railroad on the south, Ashland Middle School on the west, and Wingspread Mobile Home Park, Creek Drive, and Clay Street on the east. The neighborhood consists of 34 lots with a total of 472 potential dwelling units under the scenario being considered in the Normal Neighborhood Plan. Under the existing Comprehensive Plan the area would accommodate approximately 550 dwelling units. It is anticipated that the costs of improvements be apportioned to new dwelling units only (i.e. with issuance of a building permit through an advanced financing district), not the existing 23 homes in the project area. The potential dwelling unit count was provided by the City Planning Department Staff.

Street and utility improvement costs to upgrade East Main Street to current City of Ashland standards were estimated based on current improvement costs. The costs were for improvements from Walker Avenue to Clay Street being approximately 3500 feet long or 0.66 miles. East Main Street in this area typically consist of approximately 31 feet wide asphaltic concrete pavement roadway with two travel lanes and two bike lanes. The street right of way is 60 feet.

The proposed street improvements have a couple of different cross-sections. The roadway width would be 48.5 feet wide from the face of curb on the south side to the face of curb on the north side. There would be two travel lanes, one center turn lane, and two six foot (6') wide bicycle lanes on each side. There is not a sidewalk proposed on the north side, only a three foot (3') wide shoulder. The variations in the street cross-section had to do with the sidewalk area on the south side. Most of the sidewalk areas will consist of a six foot (6') wide concrete sidewalk separated from the curb with a seven foot (7') wide planter/bio swale area. There are some areas because of deep cuts or fills, the sidewalk area was narrowed to eliminate the planter/bio swale thereby lessening the cost for construction of retaining walls, etc. In these sections, a six foot (6') wide concrete sidewalk is proposed next to the curb, with a retaining wall. These improvements will fit within the existing 60 foot wide right of way in most cases. Some right of way will need to be acquired to accommodate the required centerline radius for this street classification as well as to provide for a safe driving environment. The cost of right of way acquisition has been included in the construction cost estimate. Some slope and utility easements will be required on both sides of the new street, and those have also been calculated and included in the construction cost estimate.

Also included in the construction cost estimate for East Main Street were sanitary sewer, storm sewer, waterlines, and power line relocation.

The improvements to East Main Street noted above were analyzed two ways. Overhead power lines are located on both sides of the street. PP&L lines are on the north side and City of Ashland power lines are on the south side. Option 1 was to relocate the power lines outside of the street improvements but leaving them overhead. Option 2 was to remove the overhead power lines and place them underground. Although Option 2 is more expensive, it is common practice and a requirement in many cases to move overhead power lines underground when making major street improvements, especially when most of the right of way will be taken up by the streets and sidewalks, as is the case here. Costs were primarily based on current ODOT prices and calculated using a standard ODOT construction cost estimating form/spreadsheet.

In addition to preparing a construction cost estimate for improvements to East Main Street from Walker Avenue to Clay Street, a separate construction cost estimate was prepared for extending the same improvements from Clay Street to Tolman Creek Road, approximately 1000 feet further east. The costs were separated into two options like those noted above. Option 1 was to relocate the power lines outside of the street improvements but leaving them overhead. Option 2 was to remove the overhead power lines and place them underground.

The Normal Avenue rail crossing improvement costs were estimated by RH2 Engineers, earlier in the process. Normal Avenue is proposed to be realigned with a new at grade signalized railroad crossing. The new realigned section of road would be approximately 720 feet long and consist of two travel lanes, two bicycle lanes, and six foot (6') wide sidewalks on both sides. The improvements will require acquisition of right of way which is included in the construction cost estimate.

The City will participate in the cost of improvements to the following extent:

1. 50% SDC Participation for:
    a. Street Construction,
    b. Sanitary Sewer Construction, and
    c. Storm Sewer Construction
2. 0% Participation for:

a. Right of Way Acquisition
b. Power Relocation
c. Waterline Construction

Also included in the construction cost estimates are Engineering, and Contingencies estimated at 62% of the construction cost.

As discussed earlier, the construction cost estimates are based on spring, 2015 costs. Adjustments to future cost estimates should be inflated based on the applicable Construction Cost Index rates for this area. These usually range between 2-3% per year.

CONCLUSION (Summary of Findings):
The estimated construction cost estimates for each option and the apportionment of costs of same are noted below.

Option 1 – Improvements/upgrades to East Main Street from Walker Avenue to Clay Street, and the Normal Avenue Railroad Crossing (Relocating Power Lines Overhead)

Construction Cost	
City Share of Construction Cost (SDC):	$2,284,059.00
Normal Neighborhood Share of Cost:	$3,502,959.00
Total Construction Cost:	**$5,787,018.00**
Normal Neighborhood Cost Apportionment	
Number of Lots:	34
Total Number of Potential Dwelling Units:	472
Neighborhood Share of Cost Per Dwelling Unit:	**$7,421.52**

Option 2 – Improvements/upgrades to East Main Street from Walker Avenue to Clay Street, and the Normal Avenue Railroad Crossing (Place Power Lines Underground)

Construction Cost	
City Share of Construction Cost (SDC):	$2,887,788.50
Normal Neighborhood Share of Cost:	$4,106,688.50
Total Construction Cost:	**$6,994,477.00**
Normal Neighborhood Cost Apportionment	
Number of Lots:	34
Total Number of Potential Dwelling Units:	472
Neighborhood Share of Cost Per Dwelling Unit:	**$8,700.61**

Improvements/upgrades to East Main Street from Clay Street to Tolman Creek Road – The estimated construction cost estimate for this section of street is as follows,

Option 1 - Relocating Power Lines Overhead – Construction Cost Estimate -	$1,489,482
Option 2 - Place Power Lines Underground – Construction Cost Estimate -	$1,606,272

Total Construction Cost Estimate Summary – The following is a summary of all estimated construction costs per option.

Option 1 - Relocate Power Lines Overhead

East Main Street from Walker Avenue to Clay Street:	$4,470,765
East Main Street from Clay Street to Tolman Creek Road:	$1,489,482
Subtotal:	**$5,960,247**
Normal Avenue Railroad Crossing:	$1,316,253
Total Cost Option 1:	**$7,276,500**

Option 2 - Place Power Lines Underground

East Main Street from Walker Avenue to Clay Street:	$5,678,224
East Main Street from Clay Street to Tolman Creek Road:	$1,606,272
Subtotal:	**$7,284,496**
Normal Avenue Railroad Crossing:	$1,316,253
Total Cost Option 2:	**$8,600,749**

RECOMMENDATIONS:

It is our recommendation that Option 2 be utilized for this project. Even though the price is higher, it will be more difficult and unsightly to reposition the overhead power lines. I believe that safe could be compromised because the proposed street cross-section puts the curb very close to the right-of-way line and therefore the power lines, which is potentially dangerous for drivers. Also, maintenance will be much better if the power is underground.

Furthermore, Land Use ordinance 18.4.6.090 requires electric, communication, and related utilities to be placed underground except where existing physical constraints, such as geologic conditions, streams, or existing development conditions make underground placement impractical. In the Case of doing substantial work on East Main Street it seems that under-grounding them is practical.

Attached Exhibits:

- Reimbursement District – Potential Units Per Lot
- Apportionment of Costs – Option 1
- Apportionment of Costs – Option 2
- Construction Cost Estimate – East Main Street – Walker Ave. to Clay Street, Normal Avenue RR Crossing – Options 1 and 2
- Construction Cost Estimate – East Main Street –Clay Street to Tolman Creek Road – Options 1 and 2
- Normal Neighborhood Plan Draft – February 2015
- Normal Neighborhood Plan Street Network Plan
- Normal Neighborhood Plan Potential Unit Count 3/2014

REGISTERED PROFESSIONAL ENGINEER 10419 OREGON DEC 14, 1979 JOHN HARDEY

RENEWAL: 6-30-15

CITY OF ASHLAND
NORMAL NEIGHBORHOOD
REIMBURSEMENT DISTRICT -POTENTIAL UNITS PER LOT

Prepared by: Hardey Engineering & Associates, Inc.

Date: 26-Mar-15 Rev: 9-Apr-15

Number	Map Number	Tax Lot Number	No. of Potential Units
1	39 1E 10	1300	4
2	39 1E 10	1400	0
3	39 1E 10	1500	4
4	39 1E 10	1700	50
5	39 1E 10	1800	1
6	39 1E 10	1900	0
7	39 1E 10	2000	0
8	39 1E 10	2100	0
9	39 1E 10	2200	1
10	39 1E 10	2300	3
11	39 1E 10	2400	1
12	39 1E 10	2500	49
13	39 1E 10	2600	30
14	39 1E 10	2800	3
15	39 1E 10	2900	5
16	39 1E 10	3000	5
17	39 1E 10	3100	7
18	39 1E 10	3200	4
19	39 1E 10	3300	7
20	39 1E 10	3400	4
21	39 1E 10DA	3100	14
22	39 1E 10DA	3300	30
23	39 1E 10DA	3400	0
24	39 1E 10DA	3500	32
25	39 1E 10DA	3600	15
26	39 1E 10DD	700	27
27	39 1E 10DD	800	2
28	39 1E 10DD	1000	15
29	39 1E 10DD	1100	40
30	39 1E 11C	3600	0
31	39 1E 11C	3601	36
32	39 1E 11C	3602	33
33	39 1E 11CB	3600	50
34	39 1E 11CB	3700	0
		TOTAL UNITS:	**472**

CITY OF ASHLAND - NORMAL NEIGHBORHOOD REIMBURSEMENT DISTRICT
Apportionment of Costs - East Main Street - Walker Ave. to Clay St. - Option 1 (Relocate Power)

City Participation

50% SDC For:	Street Construction
	Sanitary Sewer
	Storm Sewer
0% SDC For:	Right of Way Acquisition
	Power Relocation
	Waterline

East Main Total Cost:	$4,470,765.00
Less Right of Way Costs:	($319,100.00)
Less Power Relocation Costs:	($265,000.00)
Less Waterline Costs:	($324,400.00)
Adjusted Total:	$3,562,265.00
Less 50% SDC Participation:	$1,781,132.50
City Share (SDC):	$1,781,132.50
Reimbursement Share:	$2,689,632.50
Normal Ave. Railroad Crossing - Total Cost:	$1,316,253.00
Less Right of Way Costs:	($310,400.00)
Adjusted Total:	$1,005,853.00
Less 50% SDC Participation:	$502,926.50
City Share (SDC):	$502,926.50
Reimbursement Share:	$813,326.50

Combined Costs - East Main and Normal Ave. RR Crossing

City Share - East Main:	$1,781,132.50
City Share - Normal RR Xing:	$502,926.50
Total:	**$2,284,059.00**
Reimbursement Share - East Main:	$2,689,632.50
Reimbursement Share - Normal RR Xing:	$813,326.50
Total:	**$3,502,959.00**

Assessment Per Lot - Option 1

Date: 26-Mar-15 Rev: 9-Apr-15

Number	Map Number	Tax Lot Number	No. of Potential Dwelling Units	Reimbursement Share Per Lot
1	39 1E 10	1300	4	$29,686.09
2	39 1E 10	1400	0	$0.00
3	39 1E 10	1500	4	$29,686.09
4	39 1E 10	1700	50	$371,076.17
5	39 1E 10	1800	1	$7,421.52
6	39 1E 10	1900	0	$0.00
7	39 1E 10	2000	0	$0.00
8	39 1E 10	2100	0	$0.00
9	39 1E 10	2200	1	$7,421.52
10	39 1E 10	2300	3	$22,264.57
11	39 1E 10	2400	1	$7,421.52
12	39 1E 10	2500	49	$363,654.64
13	39 1E 10	2600	30	$222,645.70
14	39 1E 10	2800	3	$22,264.57
15	39 1E 10	2900	5	$37,107.62
16	39 1E 10	3000	5	$37,107.62
17	39 1E 10	3100	7	$51,950.66
18	39 1E 10	3200	4	$29,686.09
19	39 1E 10	3300	7	$51,950.66
20	39 1E 10	3400	4	$29,686.09
21	39 1E 10DA	3100	14	$103,901.33
22	39 1E 10DA	3300	30	$222,645.70
23	39 1E 10DA	3400	0	$0.00
24	39 1E 10DA	3500	32	$237,488.75
25	39 1E 10DA	3600	15	$111,322.85
26	39 1E 10DD	700	27	$200,381.13
27	39 1E 10DD	800	2	$14,843.05
28	39 1E 10DD	1000	15	$111,322.85
29	39 1E 10DD	1100	40	$296,860.93
30	39 1E 11C	3600	0	$0.00
31	39 1E 11C	3601	36	$267,174.84
32	39 1E 11C	3602	33	$244,910.27
33	39 1E 11CB	3600	50	$371,076.17
34	39 1E 11CB	3700	0	$0.00
		TOTAL UNITS:	**472**	**$3,502,959.00**
		COST PER UNIT:	**$7,421.52**	

CITY OF ASHLAND - NORMAL NEIGHBORHOOD REIMBURSEMENT DISTRICT
Apportionment of Costs - East Main Street - Walker Ave. to Clay St. - Option 2 (Underground Power)

City Participation

50% SDC For:	Street Construction
	Sanitary Sewer
	Storm Sewer
0% SDC For:	Right of Way Acquisition
	Power Relocation
	Waterline

East Main Total Cost:	$5,678,224.00
Less Right of Way Costs:	($319,100.00)
Less Power Relocation Costs:	($265,000.00)
Less Waterline Costs:	($324,400.00)
Adjusted Total:	$4,769,724.00
Less 50% SDC Participation:	$2,384,862.00
City Share (SDC):	$2,384,862.00
Reimbursement Share:	$3,293,362.00
Normal Ave. Railroad Crossing - Total Cost:	$1,316,253.00
Less Right of Way Costs:	($310,400.00)
Adjusted Total:	$1,005,853.00
Less 50% SDC Participation:	$502,926.50
City Share (SDC):	$502,926.50
Reimbursement Share:	$813,326.50

Combined Costs - East Main and Normal Ave. RR Crossing

City Share - East Main:	$2,384,862.00
City Share - Normal RR Xing:	$502,926.50
Total:	**$2,887,788.50**
Reimbursement Share - East Main:	$3,293,362.00
Reimbursement Share - Normal RR Xing:	$813,326.50
Total:	**$4,106,688.50**

Assessment Per Lot - Option 2

Date: 26-Mar-15 Rev: 9-Apr-15

Number	Map Number	Tax Lot Number	No. of Potential Dwelling Units	Reimbursement Share Per Lot
1	39 1E 10	1300	4	$34,802.44
2	39 1E 10	1400	0	$0.00
3	39 1E 10	1500	4	$34,802.44
4	39 1E 10	1700	50	$435,030.56
5	39 1E 10	1800	1	$8,700.61
6	39 1E 10	1900	0	$0.00
7	39 1E 10	2000	0	$0.00
8	39 1E 10	2100	0	$0.00
9	39 1E 10	2200	1	$8,700.61
10	39 1E 10	2300	3	$26,101.83
11	39 1E 10	2400	1	$8,700.61
12	39 1E 10	2500	49	$426,329.95
13	39 1E 10	2600	30	$261,018.34
14	39 1E 10	2800	3	$26,101.83
15	39 1E 10	2900	5	$43,503.06
16	39 1E 10	3000	5	$43,503.06
17	39 1E 10	3100	7	$60,904.28
18	39 1E 10	3200	4	$34,802.44
19	39 1E 10	3300	7	$60,904.28
20	39 1E 10	3400	4	$34,802.44
21	39 1E 10DA	3100	14	$121,808.56
22	39 1E 10DA	3300	30	$261,018.34
23	39 1E 10DA	3400	0	$0.00
24	39 1E 10DA	3500	32	$278,419.56
25	39 1E 10DA	3600	15	$130,509.17
26	39 1E 10DD	700	27	$234,916.50
27	39 1E 10DD	800	2	$17,401.22
28	39 1E 10DD	1000	15	$130,509.17
29	39 1E 10DD	1100	40	$348,024.45
30	39 1E 11C	3600	0	$0.00
31	39 1E 11C	3601	36	$313,222.00
32	39 1E 11C	3602	33	$287,120.17
33	39 1E 11CB	3600	50	$435,030.56
34	39 1E 11CB	3700	0	$0.00
		TOTAL UNITS:	**472**	**$4,106,688.50**
		COST PER UNIT:	**$8,700.61**	

OPTION 1

CONSTRUCTION COST ESTIMATE

FORM PREPARED BY HARDEY ENGINEERING & ASSOC. INC.

OPTION NO. 1 (RELOCATE POWER)

PROJECT NAME: East Main St., Walker Ave. to Clay St.

KIND OF WORK	LENGTH		ESTIMATE PREPARER	
ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
MOBILIZATION AND TRAFFIC CONTROL				
MOBILIZATION	LS		10.00%	$213,961
TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC	LS		5.00%	$101,886
EROSION AND SEDIMENT CONTROL				
EROSION CONTROL	LS		1.00%	$19,784
ROADWORK				
CONSTRUCTION SURVEY WORK	LS		2.00%	$39,568
REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS		$20,000	$20,000
REMOVAL OF CURBS	FOOT		$6	$0
REMOVAL OF GUARDRAIL	FOOT		$4	$0
REMOVAL OF PIPES	FOOT	490	$12	$5,880
REMOVAL OF SURFACINGS	SQYD	100	$10	$1,000
REMOVAL OF WALKS AND DRIVEWAYS	SQYD	390	$10	$3,900
CLEARING AND GRUBBING	ACRE	4.5	$5,060	$22,770
GENERAL EXCAVATION	CUYD	6000	$15	$90,000
EMBANKMENT IN PLACE	CUYD		$11	$0
12 INCH SUBGRADE STABILIZATION	SQYD		$13	$0
24 INCH SUBGRADE STABILIZATION	SQYD	7000	$24	$168,000
12 INCH SURFACING STABILIZATION	SQYD		$20	$0
24 INCH SURFACING STABILIZATION	SQYD		$31	$0
WATERING	MGAL		$18	$0
SUBGRADE GEOTEXTILE	SQYD	8500	$1	$8,500
LOOSE RIPRAP, CLASS 100	CUYD	60	$45	$2,700
DRAINAGE AND SEWERS				
36 INCH CULVERT PIPE, 5 FT DEPTH	FOOT	140	$85	$11,900
12 INCH STORM SEWER PIPE, 5 FT DEPTH	FOOT	760	$46	$34,960
18 INCH STORM SEWER PIPE, 5 FT DEPTH	FOOT	690	$50	$34,500
24 INCH STORM SEWER PIPE, 5 FT DEPTH	FOOT	990	$62	$61,380
36 INCH STORM SEWER PIPE, 10 FT DEPTH	FOOT		$80	$0
48 INCH STORM SEWER PIPE, 10 FT DEPTH	FOOT		$180	$0
CONCRETE STORM SEWER MANHOLES	EACH	10	$2,800	$28,000
CONCRETE INLETS, TYPE CG-2	EACH	20	$1,250	$25,000
12' x 4' STRUCTURAL PLATE ARCH	FOOT	160	$500	$80,000
MSE HEAD & END WALLS	SQFT	800	$15	$12,000
IRRIGATION STRUCTURE	EACH	2	$3,000	$6,000
UTILITY PIPE SLEEVES	LIN FT		$30	$0
8" SANITARY SEWER PIPE, 5' DEPTH	LIN FT	2600	$35	$91,000
48" SANITARY MANHOLES	EACH	15	$2,500	$37,500
4" SERVICE LATERALS	LIN FT	300	$15	$4,500
12" MINUS RIVER RUN ROCK	C.Y.	100	$40	$4,000
BRIDGES				
BRIDGES	EACH			$0
TEMP BRIDGE	EACH			$0
BRIDGE REMOVAL	EACH			$0

CONSTRUCTION COST ESTIMATE

FORM PREPARED BY HARDEY ENGINEERING & ASSOC. INC.

OPTION NO. 1 (RELOCATE POWER)

PROJECT NAME: East Main St., Walker Ave. to Clay St.

KIND OF WORK	**LENGTH**		**ESTIMATE PREPARER**	
ITEM	**UNIT**	AMOUNT	**UNIT COST**	**TOTAL**
END PANELS	EACH			$0
BASES				
COLD PLANE PAVEMENT REMOVAL, 0 - 2 INCH DEEP	SQYD		$4	$0
COLD PLANE PAVEMENT REMOVAL, 2 INCH DEEP	SQYD		$3	$0
AGGREGATE BASE	TON	4900	$18	$88,200
AGGREGATE SHOULDERS	TON	240	$17	$4,080
WEARING SURFACES				
ASPHALT IN TACK COAT	TON		$420	$0
LEVEL 2, 1/2 INCH DENSE MHMAC	TON		$75	$0
LEVEL 3, 1/2 INCH DENSE MHMAC	TON	2800	$85	$238,000
ASPHALT WALKS	SQYD		$4	$0
CRACK SEALING	FOOT		$18	$0
EXTRA FOR ASPHALT APPROACHES	EACH	12	$500	$6,000
REINFORCED CONCRETE PAVEMENT	SQYD		$110	$0
REINFORCED CONCRETE DRIVEWAYS	SQYD		$110	$0
ASPHALT DRIVEWAY APPROACH	SQFT	1500	$4	$6,000
CONCRETE CURBS	FOOT		$18	$0
CURB AND GUTTER CONCRETE CURBS	FOOT	7000	$12	$84,000
CONCRETE WALKS	SQFT	17200	$5.0	$86,000
CONCRETE DRIVEWAY APRONS	SQFT	3900	$8	$31,200
PAVEMENT CUTTING	LIN FT	6400	$4	$25,600
PERMANENT TRAFFIC CONTROL AND GUIDANCE DEVICES				
GUARDRAIL, TYPE 2A	FOOT		$20	$0
GUARDRAIL, TYPE 3	FOOT		$50	$0
GUARDRAIL, TYPE 4	FOOT		$60	$0
GUARDRAIL ANCHORS, TYPE 1	EACH		$680	$0
GUARDRAIL END PIECES, TYPE B	EACH		$85	$0
GUARDRAIL TRANSITION	EACH		$2,250	$0
GUARDRAIL TERMINALS, NON-FLARED	EACH		$2,550	$0
GUARDRAIL TERMINALS, FLARED	EACH		$2,250	$0
ADJUSTING GUARDRAIL	FOOT		$5	$0
CONCRETE BARRIER	FOOT		$51	$0
CONCRETE BARRIER, TALL	FOOT		$60	$0
DELINEATORS, TYPE 1	EACH		$37	$0
MILEPOST MARKER POSTS	EACH		$63	$0
PAVEMENT LEGEND, TYPE D: ARROWS	EACH	8	$260.00	$2,080
PAVEMENT LEGEND, TYPE D: "SCHOOL CROSSING"	EACH	1	$650.00	$650
PAVEMENT LEGEND, TYPE D: RAILROAD CROSSING MARKINGS	EACH		$650.00	$0
PAVEMENT LEGEND, TYPE D: BICYCLE LANE SYMBOLS	EACH	25	$138.00	$3,450
PAVEMENT LEGEND, TYPE D: "BIKE RAILROAD"	EACH		$200.00	$0
PAVEMENT LINE, TYPE D	SQFT		$7.00	$0
MONO-DIRECTIONAL CRYSTAL TYPE I MARKERS	EACH		$3.60	$0
BI-DIRECTIONAL YELLOW TYPE I MARKERS	EACH		$3.60	$0
BI-DIRECTIONAL YELLOW TYPE I MARKERS, RECESSED	EACH		$8	$0
PAINTED PERMANENT PAVEMENT STRIPING	FOOT	14000	$0.15	$2,100
THERMOPLASTIC, PROFILE, 90 MIL, EXTRUDED	FOOT		$2.00	$0

CONSTRUCTION COST ESTIMATE

FORM PREPARED BY HARDEY ENGINEERING & ASSOC. INC.

OPTION NO. 1 (RELOCATE POWER)

PROJECT NAME: East Main St., Walker Ave. to Clay St.

KIND OF WORK	**LENGTH**		**ESTIMATE PREPARER**	
ITEM	**UNIT**	AMOUNT	**UNIT COST**	**TOTAL**
RUMBLE STRIPS	MILE		$1,700	$0
PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS				
PERMANENT SIGNS	LS		1.00%	$18,875
INTERPRETIVE PANELS AND DÉCORATIVE HARDSCAPE FEATURES	LS		$32,000	$0
LOOP DETECTORS INSTALLATION	EACH		$1,000	$0
TRAFFIC SIGNAL INSTALLATION	EACH		$125,000	$0
INTERCONNECT SYSTEM	LS			$0
STREET LIGHTS SINGLE - INCLUDING CONECTIONS, WIRING, CONDUIT	EACH	8	$9,000	$72,000
STREET LIGHTS MULTIPLE - INCLUDING CONECTIONS, WIRING, CONDUIT	EACH		$14,000	$0
ILLUMINATION				$0
RIGHT-OF-WAY DEVELOPMENT AND CONTROL				
PERMANENT SEEDING, MIX NO. 1	ACRE	3	$5,000	$15,000
SINGLE MAILBOX SUPPORTS	EACH		$250	$0
MULTIPLE MAILBOX SUPPORTS	EACH	5	$300	$1,500
ENVIRONMENTAL MITIGATION SITES		1	$0	$0
FENCING	LIN FT	3430	$25	$85,750
LANDSCAPING	LS	1	$65,000	$65,000
WATER SUPPLY SYSTEMS		1	$0	$0
16" DIP WITH CLASS - B BACKFILL	FOOT	3360	$85	$285,600
FIRE HYDRANT ASSEMBLY	EACH	6	$4,000	$24,000
16" GATE VALVE	EACH	3	$3,000	$9,000
8" GATE VALVE	EACH	4	$1,200	$4,800
CONNECT TO CITY WATER SYSTEM (WALKER)	LS	1	$1,000	$1,000
RELOCATE POWER TRANSMISSION LINE (CITY)	LS	1	$65,000	$65,000
RELOCATE POWER TRANSMISSION LINE (PP&L)	LS	1	$200,000	$200,000
CONSTRUCTION SUBTOTAL				**$2,553,574**
For Projects Developed by Consultants:				
AC BONUS Or STATISTICAL BONUS			5.0%	$11,900
CONSULTANT PRELIMINARY ENGINEERING*			**25.0%**	**$641,368**
CONSULTANT CONSTRUCTION ENGINEERING			**17.0%**	**$434,108**
CONTINGENCIES			**20.0%**	$510,715
PUBLIC INVOLVEMENT/ANNOUNCEMENTS				$0
BID SUBTOTAL				**$4,151,665**
RIGHT OF WAY ESTIMATE (process only, add cost of land)	FILES	24	$7,500	$180,000
RIGHT OF WAY ACQUISITION	LS	1	$28,000	$28,000
EASEMENTS	LS	1	$111,100	$111,100
				$4,470,765

PRELIMINARY ENGINEER'S ESTIMATE

NORMAL AVE. RAILROAD CROSSING

AGENCY: CITY OF ASHLAND

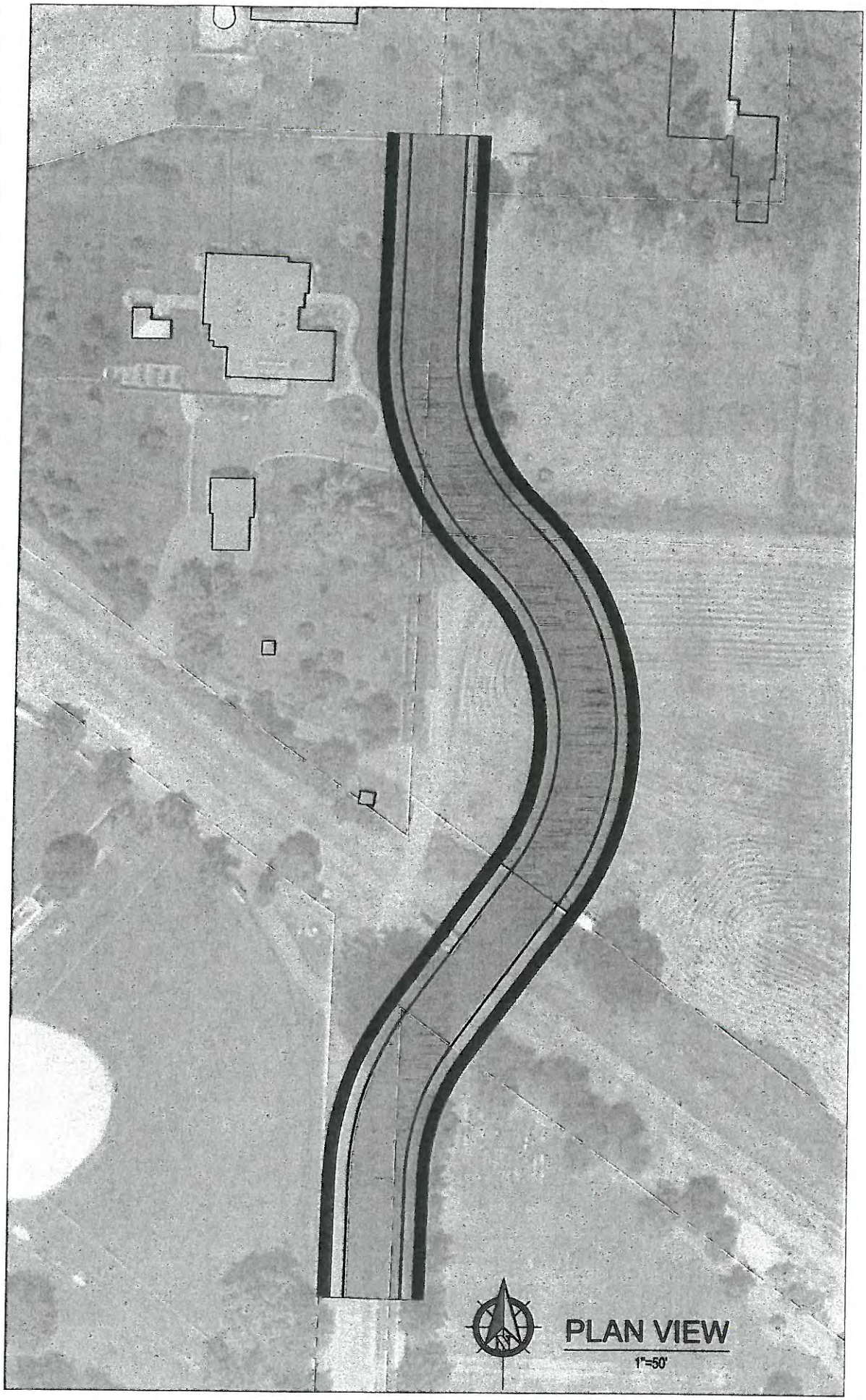
KIND OF WORK: STREET IMPROVEMENTS

LENGTH:

ESTIMATOR:

DATE: 10/9/14

ITEM #	SPEC #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
	200	**TEMPORARY FEATURES AND APPURTENANCES**				
	210	MOBILIZATION	LS	1	10%	$69,500
	225	TEMPORARY WORK ZONE TRAFFIC CONTROL, COMPLETE	LS	1	$3,000	$3,000
	280	EROSION AND SEDIMENT CONTROL	LS	1	$1,500	$1,500
	300	**ROADWORK**				
	305	CONSTRUCTION SURVEY WORK	LS	1	$10,000	$10,000
	310	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1	$5,000	$5,000
	350	SUBGRADE GEOTEXTILE	SY	4000	$2	$8,000
	600	**BASES**				
	641	SUBBASE	TN	1400	$15	$21,000
	641	3/4 INCH - 0 AGGREGATE BASE (4" DEPTH)	TN	560	$24	$13,440
	641	4 INCH - 0 AGGREGATE BASE (6" DEPTH)	TN	820	$16	$13,120
	700	**WEARING SURFACES**				
	744	LEVEL 2, 1/2 INCH DENSE MHMAC	TON	585	$110	$64,350
	759	CONCRETE CURBS	LF	1440	$25	$36,000
	759	CONCRETE WALKS	SF	8650	$6	$51,900
	N/A	RAILROAD CONSTRUCTION	LS	1	$400,000	$400,000
		CONSTRUCTION SUBTOTAL				**$696,810.00**
		ROW ACQUISITION (PRIVATE)	SF	28000	$10	$280,000
		ROW ACQUISITION (CITY)	SF	3800	$8	$30,400
		RAILROAD PERMITTING	LS	1	$100,000	$100,000
		CONTINGENCY (30%)	LS	1	$209,043	$209,043
		TOTAL				**$1,316,253.00**


PLAN VIEW
1"=50'

OPTION 2

CONSTRUCTION COST ESTIMATE

FORM PREPARED BY HARDEY ENGINEERING & ASSOC. INC.

OPTION NO. 2 (UNDERGROUND POWER)

PROJECT NAME: East Main St., Walker Ave. to Clay St.

KIND OF WORK	LENGTH		ESTIMATE PREPARER	
ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
MOBILIZATION AND TRAFFIC CONTROL				
MOBILIZATION	LS		10.00%	$254,447
TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC	LS		5.00%	$121,165
EROSION AND SEDIMENT CONTROL				
EROSION CONTROL	LS		1.00%	$23,527
ROADWORK				
CONSTRUCTION SURVEY WORK	LS		2.00%	$47,055
REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS		$20,000	$20,000
REMOVAL OF CURBS	FOOT		$6	$0
REMOVAL OF GUARDRAIL	FOOT		$4	$0
REMOVAL OF PIPES	FOOT	490	$12	$5,880
REMOVAL OF SURFACINGS	SQYD	100	$10	$1,000
REMOVAL OF WALKS AND DRIVEWAYS	SQYD	390	$10	$3,900
CLEARING AND GRUBBING	ACRE	4.5	$5,060	$22,770
GENERAL EXCAVATION	CUYD	6000	$15	$90,000
EMBANKMENT IN PLACE	CUYD		$11	$0
12 INCH SUBGRADE STABILIZATION	SQYD		$13	$0
24 INCH SUBGRADE STABILIZATION	SQYD	7000	$24	$168,000
12 INCH SURFACING STABILIZATION	SQYD		$20	$0
24 INCH SURFACING STABILIZATION	SQYD		$31	$0
WATERING	MGAL		$18	$0
SUBGRADE GEOTEXTILE	SQYD	8500	$1	$8,500
LOOSE RIPRAP, CLASS 100	CUYD	60	$45	$2,700
DRAINAGE AND SEWERS				
36 INCH CULVERT PIPE, 5 FT DEPTH	FOOT	140	$85	$11,900
12 INCH STORM SEWER PIPE, 5 FT DEPTH	FOOT	760	$46	$34,960
18 INCH STORM SEWER PIPE, 5 FT DEPTH	FOOT	690	$50	$34,500
24 INCH STORM SEWER PIPE, 5 FT DEPTH	FOOT	990	$62	$61,380
36 INCH STORM SEWER PIPE, 10 FT DEPTH	FOOT		$80	$0
48 INCH STORM SEWER PIPE, 10 FT DEPTH	FOOT		$180	$0
CONCRETE STORM SEWER MANHOLES	EACH	10	$2,800	$28,000
CONCRETE INLETS, TYPE CG-2	EACH	20	$1,250	$25,000
12' x 4' STRUCTURAL PLATE ARCH	FOOT	160	$500	$80,000
MSE HEAD & END WALLS	SQFT	800	$15	$12,000
IRRIGATION STRUCTURE	EACH	2	$3,000	$6,000
UTILITY PIPE SLEEVES	LIN FT		$30	$0
8" SANITARY SEWER PIPE, 5' DEPTH	LIN FT	2600	$35	$91,000
48" SANITARY MANHOLES	EACH	15	$2,500	$37,500
4" SERVICE LATERALS	LIN FT	300	$15	$4,500
12" MINUS RIVER RUN ROCK	C.Y.	100	$40	$4,000
BRIDGES				
BRIDGES	EACH			$0
TEMP BRIDGE	EACH			$0
BRIDGE REMOVAL	EACH			$0

CONSTRUCTION COST ESTIMATE

FORM PREPARED BY HARDEY ENGINEERING & ASSOC. INC.

OPTION NO. 2 (UNDERGROUND POWER)

PROJECT NAME: East Main St., Walker Ave. to Clay St.

KIND OF WORK	LENGTH		ESTIMATE PREPARER	
ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
END PANELS	EACH			$0
BASES				
COLD PLANE PAVEMENT REMOVAL, 0 - 2 INCH DEEP	SQYD		$4	$0
COLD PLANE PAVEMENT REMOVAL, 2 INCH DEEP	SQYD		$3	$0
AGGREGATE BASE	TON	4900	$18	$88,200
AGGREGATE SHOULDERS	TON	240	$17	$4,080
WEARING SURFACES				
ASPHALT IN TACK COAT	TON		$420	$0
LEVEL 2, 1/2 INCH DENSE MHMAC	TON		$75	$0
LEVEL 3, 1/2 INCH DENSE MHMAC	TON	2800	$85	$238,000
ASPHALT WALKS	SQYD		$4	$0
CRACK SEALING	FOOT		$18	$0
EXTRA FOR ASPHALT APPROACHES	EACH	12	$500	$6,000
REINFORCED CONCRETE PAVEMENT	SQYD		$110	$0
REINFORCED CONCRETE DRIVEWAYS	SQYD		$110	$0
ASPHALT DRIVEWAY APPROACH	SQFT	1500	$4	$6,000
CONCRETE CURBS	FOOT		$18	$0
CURB AND GUTTER CONCRETE CURBS	FOOT	7000	$12	$84,000
CONCRETE WALKS	SQFT	17200	$5.0	$86,000
CONCRETE DRIVEWAY APRONS	SQFT	3900	$8	$31,200
PAVEMENT CUTTING	LIN FT	6400	$4	$25,600
PERMANENT TRAFFIC CONTROL AND GUIDANCE DEVICES				
GUARDRAIL, TYPE 2A	FOOT		$20	$0
GUARDRAIL, TYPE 3	FOOT		$50	$0
GUARDRAIL, TYPE 4	FOOT		$60	$0
GUARDRAIL ANCHORS, TYPE 1	EACH		$680	$0
GUARDRAIL END PIECES, TYPE B	EACH		$85	$0
GUARDRAIL TRANSITION	EACH		$2,250	$0
GUARDRAIL TERMINALS, NON-FLARED	EACH		$2,550	$0
GUARDRAIL TERMINALS, FLARED	EACH		$2,250	$0
ADJUSTING GUARDRAIL	FOOT		$5	$0
CONCRETE BARRIER	FOOT		$51	$0
CONCRETE BARRIER, TALL	FOOT		$60	$0
DELINEATORS, TYPE 1	EACH		$37	$0
MILEPOST MARKER POSTS	EACH		$63	$0
PAVEMENT LEGEND, TYPE D: ARROWS	EACH	8	$260.00	$2,080
PAVEMENT LEGEND, TYPE D: "SCHOOL CROSSING"	EACH	1	$650.00	$650
PAVEMENT LEGEND, TYPE D: RAILROAD CROSSING MARKINGS	EACH		$650.00	$0
PAVEMENT LEGEND, TYPE D: BICYCLE LANE SYMBOLS	EACH	25	$138.00	$3,450
PAVEMENT LEGEND, TYPE D: "BIKE RAILROAD"	EACH		$200.00	$0
PAVEMENT LINE, TYPE D	SQFT		$7.00	$0
MONO-DIRECTIONAL CRYSTAL TYPE I MARKERS	EACH		$3.60	$0
BI-DIRECTIONAL YELLOW TYPE I MARKERS	EACH		$3.60	$0
BI-DIRECTIONAL YELLOW TYPE I MARKERS, RECESSED	EACH		$8	$0
PAINTED PERMANENT PAVEMENT STRIPING	FOOT	14000	$0.15	$2,100
THERMOPLASTIC, PROFILE, 90 MIL, EXTRUDED	FOOT		$2.00	$0

CONSTRUCTION COST ESTIMATE

FORM PREPARED BY HARDEY ENGINEERING & ASSOC. INC.

OPTION NO. 2 (UNDERGROUND POWER)

PROJECT NAME: East Main St., Walker Ave. to Clay St.

KIND OF WORK	**LENGTH**		**ESTIMATE PREPARER**	
ITEM	**UNIT**	**AMOUNT**	**UNIT COST**	**TOTAL**
RUMBLE STRIPS	MILE		$1,700	$0
PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS				
PERMANENT SIGNS	LS		1.00%	$22,225
INTERPRETIVE PANELS AND DÉCORATIVE HARDSCAPE FEATURES	LS		$32,000	$0
LOOP DETECTORS INSTALLATION	EACH		$1,000	$0
TRAFFIC SIGNAL INSTALLATION	EACH		$125,000	$0
INTERCONNECT SYSTEM	LS			$0
STREET LIGHTS SINGLE - INCLUDING CONECTIONS, WIRING, CONDUIT	EACH	12	$9,000	$108,000
STREET LIGHTS MULTIPLE - INCLUDING CONECTIONS, WIRING, CONDUIT	EACH		$14,000	$0
ILLUMINATION				$0
RIGHT-OF-WAY DEVELOPMENT AND CONTROL				
PERMANENT SEEDING, MIX NO. 1	ACRE	3	$5,000	$15,000
SINGLE MAILBOX SUPPORTS	EACH		$250	$0
MULTIPLE MAILBOX SUPPORTS	EACH	5	$300	$1,500
ENVIRONMENTAL MITIGATION SITES		1	$0	$0
FENCING	LIN FT	3430	$25	$85,750
LANDSCAPING	LS	1	$65,000	$65,000
WATER SUPPLY SYSTEMS		1	$0	$0
16" DIP WITH CLASS - B BACKFILL	FOOT	3360	$85	$285,600
FIRE HYDRANT ASSEMBLY	EACH	6	$4,000	$24,000
16" GATE VALVE	EACH	3	$3,000	$9,000
8" GATE VALVE	EACH	4	$1,200	$4,800
CONNECT TO CITY WATER SYSTEM (WALKER)	LS	1	$1,000	$1,000
UNDERGROUND POWER TRANSMISSION LINE (CITY)	LS	1	$400,000	$400,000
UNDERGROUND POWER TRANSMISSION LINE (PP&L)	LS	1	$500,000	$500,000
CONSTRUCTION SUBTOTAL				**$3,298,919**
For Projects Developed by Consultants:				
AC BONUS Or STATISTICAL BONUS			5.0%	$11,900
CONSULTANT PRELIMINARY ENGINEERING*			**25.0%**	**$827,705**
CONSULTANT CONSTRUCTION ENGINEERING			**17.0%**	**$560,816**
CONTINGENCIES			**20.0%**	$659,784
PUBLIC INVOLVEMENT/ANNOUNCEMENTS				$0
BID SUBTOTAL				**$5,359,124**
RIGHT OF WAY ESTIMATE (process only, add cost of land)	FILES	24	$7,500	$180,000
RIGHT OF WAY ACQUISITION	LS	1	$28,000	$28,000
EASEMENTS	LS	1	$111,100	$111,100
				$5,678,224

PRELIMINARY ENGINEER'S ESTIMATE

NORMAL AVE. RAILROAD CROSSING

AGENCY: CITY OF ASHLAND

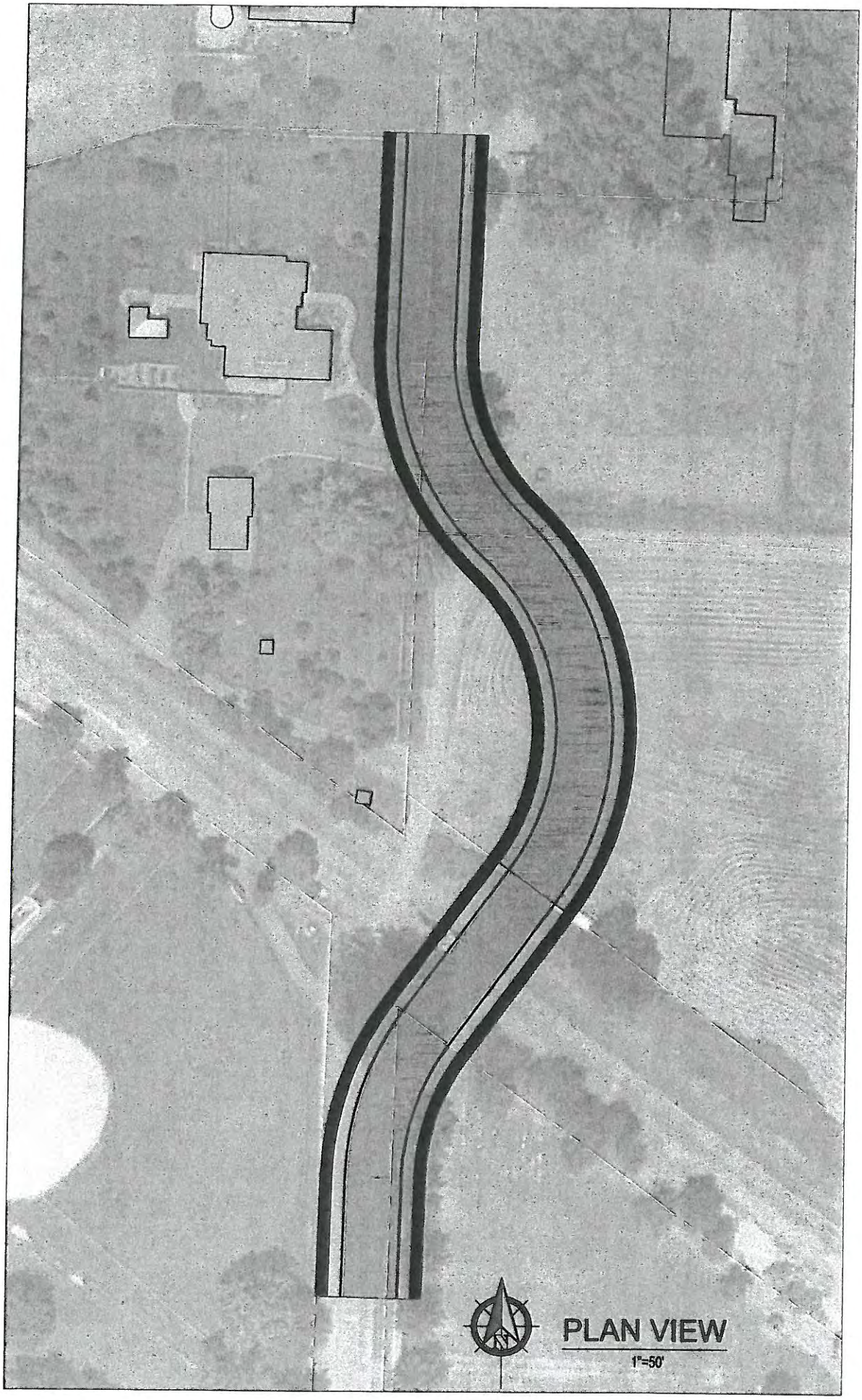
KIND OF WORK: STREET IMPROVEMENTS

LENGTH:

ESTIMATOR:

DATE: 10/9/14

ITEM #	SPEC #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
	200	**TEMPORARY FEATURES AND APPURTENANCES**				
	210	MOBILIZATION	LS	1	10%	$69,500
	225	TEMPORARY WORK ZONE TRAFFIC CONTROL, COMPLETE	LS	1	$3,000	$3,000
	280	EROSION AND SEDIMENT CONTROL	LS	1	$1,500	$1,500
	300	**ROADWORK**				
	305	CONSTRUCTION SURVEY WORK	LS	1	$10,000	$10,000
	310	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1	$5,000	$5,000
	350	SUBGRADE GEOTEXTILE	SY	4000	$2	$8,000
	600	**BASES**				
	641	SUBBASE	TN	1400	$15	$21,000
	641	3/4 INCH - 0 AGGREGATE BASE (4" DEPTH)	TN	560	$24	$13,440
	641	4 INCH - 0 AGGREGATE BASE (6" DEPTH)	TN	820	$16	$13,120
	700	**WEARING SURFACES**				
	744	LEVEL 2, 1/2 INCH DENSE MHMAC	TON	585	$110	$64,350
	759	CONCRETE CURBS	LF	1440	$25	$36,000
	759	CONCRETE WALKS	SF	8650	$6	$51,900
	N/A	RAILROAD CONSTRUCTION	LS	1	$400,000	$400,000
		CONSTRUCTION SUBTOTAL				**$696,810.00**
		ROW ACQUISITION (PRIVATE)	SF	28000	$10	$280,000
		ROW ACQUISITION (CITY)	SF	3800	$8	$30,400
		RAILROAD PERMITTING	LS	1	$100,000	$100,000
		CONTINGENCY (30%)	LS	1	$209,043	$209,043
		TOTAL				**$1,316,253.00**


PLAN VIEW
1"=50'

OPTION 1

CONSTRUCTION COST ESTIMATE

FORM PREPARED BY HARDEY ENGINEERING & ASSOC. INC.

OPTION NO. 1 (RELOCATE POWER)

PROJECT NAME: East Main St.-Clay St. to Tolman Creek Rd

KIND OF WORK	LENGTH		ESTIMATE PREPARER	
ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
MOBILIZATION AND TRAFFIC CONTROL				
MOBILIZATION	LS		10.00%	$65,665
TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC	LS		5.00%	$31,269
EROSION AND SEDIMENT CONTROL				
EROSION CONTROL	LS		1.00%	$6,072
ROADWORK				
CONSTRUCTION SURVEY WORK	LS		2.00%	$12,143
REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	10,000	$1	$10,000
REMOVAL OF CURBS	FOOT	100	$6	$600
REMOVAL OF GUARDRAIL	FOOT	200	$4	$800
REMOVAL OF PIPES	FOOT	100	$12	$1,200
REMOVAL OF SURFACINGS	SQYD	50	$10	$500
REMOVAL OF WALKS AND DRIVEWAYS	SQYD	150	$10	$1,500
CLEARING AND GRUBBING	ACRE	0.7	$5,060	$3,542
GENERAL EXCAVATION	CUYD	3000	$15	$45,000
EMBANKMENT IN PLACE	CUYD		$11	$0
12 INCH SUBGRADE STABILIZATION	SQYD		$13	$0
24 INCH SUBGRADE STABILIZATION	SQYD	200	$24	$4,800
12 INCH SURFACING STABILIZATION	SQYD		$20	$0
24 INCH SURFACING STABILIZATION	SQYD		$31	$0
WATERING	MGAL		$18	$0
SUBGRADE GEOTEXTILE	SQYD	3500	$1	$3,500
LOOSE RIPRAP, CLASS 100	CUYD	10	$45	$450
DRAINAGE AND SEWERS				
36 INCH CULVERT PIPE, 5 FT DEPTH	FOOT	80	$85	$6,800
12 INCH STORM SEWER PIPE, 5 FT DEPTH	FOOT	300	$46	$13,800
18 INCH STORM SEWER PIPE, 5 FT DEPTH	FOOT	650	$50	$32,500
24 INCH STORM SEWER PIPE, 5 FT DEPTH	FOOT	990	$62	$61,380
36 INCH STORM SEWER PIPE, 10 FT DEPTH	FOOT		$80	$0
48 INCH STORM SEWER PIPE, 10 FT DEPTH	FOOT		$180	$0
CONCRETE STORM SEWER MANHOLES	EACH	3	$2,800	$8,400
CONCRETE INLETS, TYPE CG-2	EACH	8	$1,250	$10,000
12' x 4' STRUCTURAL PLATE ARCH	FOOT		$500	$0
MSE HEAD & END WALLS	SQFT	200	$15	$3,000
IRRIGATION STRUCTURE	EACH		$3,000	$0
UTILITY PIPE SLEEVES	LIN FT		$30	$0
8" SANITARY SEWER PIPE, 5' DEPTH	LIN FT		$35	$0
48" SANITARY MANHOLES	EACH		$2,500	$0
4" SERVICE LATERALS	LIN FT		$15	$0
12" MINUS RIVER RUN ROCK	C.Y.		$40	$0
MAJOR ADJUSTMENT OF MANHOLES	EACH	6	$700	$4,200
BRIDGES				
BRIDGES	EACH			$0
TEMP BRIDGE	EACH			$0
BRIDGE REMOVAL	EACH			$0

CONSTRUCTION COST ESTIMATE

FORM PREPARED BY HARDEY ENGINEERING & ASSOC. INC.

OPTION NO. 1 (RELOCATE POWER)

PROJECT NAME: East Main St.-Clay St. to Tolman Creek Rd

KIND OF WORK	LENGTH		ESTIMATE PREPARER	
ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
END PANELS	EACH			$0
BASES				
COLD PLANE PAVEMENT REMOVAL, 0 - 2 INCH DEEP	SQYD	1000	$4	$4,000
COLD PLANE PAVEMENT REMOVAL, 2 INCH DEEP	SQYD		$3	$0
AGGREGATE BASE	TON	1200	$18	$21,600
AGGREGATE SHOULDERS	TON	150	$17	$2,550
WEARING SURFACES				
ASPHALT IN TACK COAT	TON		$420	$0
LEVEL 2, 1/2 INCH DENSE MHMAC	TON		$75	$0
LEVEL 3, 1/2 INCH DENSE MHMAC	TON	720	$85	$61,200
ASPHALT WALKS	SQYD		$4	$0
CRACK SEALING	FOOT		$18	$0
EXTRA FOR ASPHALT APPROACHES	EACH	4	$500	$2,000
REINFORCED CONCRETE PAVEMENT	SQYD		$110	$0
REINFORCED CONCRETE DRIVEWAYS	SQYD		$110	$0
ASPHALT DRIVEWAY APPROACH	SQFT		$4	$0
CONCRETE CURBS	FOOT		$18	$0
CURB AND GUTTER CONCRETE CURBS	FOOT	1600	$12	$19,200
CONCRETE WALKS	SQFT	9300	$5	$46,500
CONCRETE DRIVEWAYS	SQFT	420	$8	$3,360
PAVEMENT CUTTING	LIN FT	1600	$4	$6,400
PERMANENT TRAFFIC CONTROL AND GUIDANCE DEVICES				
GUARDRAIL, TYPE 2A	FOOT	300	$20	$6,000
GUARDRAIL, TYPE 3	FOOT		$50	$0
GUARDRAIL, TYPE 4	FOOT		$60	$0
GUARDRAIL ANCHORS, TYPE 1	EACH	1	$680	$680
GUARDRAIL END PIECES, TYPE B	EACH	1	$85	$85
GUARDRAIL TRANSITION	EACH	1	$2,250	$2,250
GUARDRAIL TERMINALS, NON-FLARED	EACH		$2,550	$0
GUARDRAIL TERMINALS, FLARED	EACH		$2,250	$0
ADJUSTING GUARDRAIL	FOOT		$5	$0
CONCRETE BARRIER	FOOT		$51	$0
CONCRETE BARRIER, TALL	FOOT		$60	$0
DELINEATORS, TYPE 1	EACH		$37	$0
MILEPOST MARKER POSTS	EACH		$63	$0
PAVEMENT LEGEND, TYPE D: ARROWS	EACH	6	$260	$1,560
PAVEMENT LEGEND, TYPE D: "SCHOOL CROSSING"	EACH		$650	$0
PAVEMENT LEGEND, TYPE D: RAILROAD CROSSING MARKINGS	EACH		$650	$0
PAVEMENT LEGEND, TYPE D: BICYCLE LANE SYMBOLS	EACH	6	$138	$828
PAVEMENT LEGEND, TYPE D: "BIKE RAILROAD"	EACH		$200	$0
PAVEMENT LINE, TYPE D	SQFT		$7.00	$0
MONO-DIRECTIONAL CRYSTAL TYPE I MARKERS	EACH		$3.60	$0
BI-DIRECTIONAL YELLOW TYPE I MARKERS	EACH		$3.60	$0
BI-DIRECTIONAL YELLOW TYPE I MARKERS, RECESSED	EACH		$8	$0
PAINTED PERMANENT PAVEMENT STRIPING	FOOT	3800	$0.15	$570
THERMOPLASTIC, PROFILE, 90 MIL, EXTRUDED	FOOT		$2	$0

CONSTRUCTION COST ESTIMATE

FORM PREPARED BY HARDEY ENGINEERING & ASSOC. INC.

OPTION NO. 1 (RELOCATE POWER)

PROJECT NAME: East Main St.-Clay St. to Tolman Creek Rd

KIND OF WORK	**LENGTH**		**ESTIMATE PREPARER**	
ITEM	**UNIT**	AMOUNT	**UNIT COST**	**TOTAL**
RUMBLE STRIPS	MILE		$1,700	$0
PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS				
PERMANENT SIGNS	LS		1.00%	$5,744
INTERPRETIVE PANELS AND DÉCORATIVE HARDSCAPE FEATURES	LS		$32,000	$0
LOOP DETECTORS INSTALLATION	EACH		$1,000	$0
TRAFFIC SIGNAL INSTALLATION	EACH		$125,000	$0
INTERCONNECT SYSTEM	LS			$0
STREET LIGHTS SINGLE - INCLUDING CONECTIONS, WIRING, CONDUIT	EACH	3	$9,000	$27,000
STREET LIGHTS MULTIPLE - INCLUDING CONECTIONS, WIRING, CONDUIT	EACH		$14,000	$0
ILLUMINATION				$0
RIGHT-OF-WAY DEVELOPMENT AND CONTROL				
PERMANENT SEEDING, MIX NO. 1	ACRE	0.70	$5,000	$3,500
SINGLE MAILBOX SUPPORTS	EACH		$250	$0
MULTIPLE MAILBOX SUPPORTS	EACH	1	$300	$300
ENVIRONMENTAL MITIGATION SITES		1	$0	$0
FENCING	LIN FT	900	$25	$22,500
LANDSCAPING	LS	1	$34,470	$34,470
WATER SUPPLY SYSTEMS				
16" DIP WITH CLASS - B BACKFILL	FOOT	900	$85	$76,500
FIRE HYDRANT ASSEMBLY	EACH	1	$4,000	$4,000
16" GATE VALVE	EACH	1	$3,000	$3,000
8" GATE VALVE	EACH	2	$1,200	$2,400
CONNECT TO CITY WATER SYSTEM (WALKER)	LS	2	$1,000	$2,000
RELOCATE POWER TRANSMISSION LINE (CITY)	LS	1	$35,000	$35,000
RELOCATE POWER TRANSMISSION LINE (PP&L)	LS	1	$100,000	$100,000
CONSTRUCTION SUBTOTAL				**$822,319**
For Projects Developed by Consultants:				
AC BONUS Or STATISTICAL BONUS			5.0%	$3,060
CONSULTANT PRELIMINARY ENGINEERING*			**25.0%**	**$206,345**
CONSULTANT CONSTRUCTION ENGINEERING			**17.0%**	**$139,794**
CONTINGENCIES			**20.0%**	**$164,464**
PUBLIC INVOLVEMENT/ANNOUNCEMENTS				$0
BID SUBTOTAL				**$1,335,982**
RIGHT OF WAY ESTIMATE (process only, add cost of land)	FILES	7	$7,500	$52,500
RIGHT OF WAY ACQUISITION	LS	1	$25,000	$25,000
EASEMENTS	LS	1	$76,000	$76,000
TOTAL				**$1,489,482**

OPTION 2

CONSTRUCTION COST ESTIMATE

FORM PREPARED BY HARDEY ENGINEERING & ASSOC. INC.

OPTION NO. 2 (UNDERGROUND POWER)

PROJECT NAME: East Main St.-Clay St. to Tolman Creek Rd.

KIND OF WORK	LENGTH		ESTIMATE PREPARER	
ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
MOBILIZATION AND TRAFFIC CONTROL				
MOBILIZATION	LS		10.00%	$72,219
TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC	LS		5.00%	$34,390
EROSION AND SEDIMENT CONTROL				
EROSION CONTROL	LS		1.00%	$6,678
ROADWORK				
CONSTRUCTION SURVEY WORK	LS		2.00%	$13,355
REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	10,000	$1	$10,000
REMOVAL OF CURBS	FOOT	100	$6	$600
REMOVAL OF GUARDRAIL	FOOT	200	$4	$800
REMOVAL OF PIPES	FOOT	100	$12	$1,200
REMOVAL OF SURFACINGS	SQYD	50	$10	$500
REMOVAL OF WALKS AND DRIVEWAYS	SQYD	150	$10	$1,500
CLEARING AND GRUBBING	ACRE	0.7	$5,060	$3,542
GENERAL EXCAVATION	CUYD	3000	$15	$45,000
EMBANKMENT IN PLACE	CUYD		$11	$0
12 INCH SUBGRADE STABILIZATION	SQYD		$13	$0
24 INCH SUBGRADE STABILIZATION	SQYD	200	$24	$4,800
12 INCH SURFACING STABILIZATION	SQYD		$20	$0
24 INCH SURFACING STABILIZATION	SQYD		$31	$0
WATERING	MGAL		$18	$0
SUBGRADE GEOTEXTILE	SQYD	3500	$1	$3,500
LOOSE RIPRAP, CLASS 100	CUYD	10	$45	$450
DRAINAGE AND SEWERS				
36 INCH CULVERT PIPE, 5 FT DEPTH	FOOT	80	$85	$6,800
12 INCH STORM SEWER PIPE, 5 FT DEPTH	FOOT	300	$46	$13,800
18 INCH STORM SEWER PIPE, 5 FT DEPTH	FOOT	650	$50	$32,500
24 INCH STORM SEWER PIPE, 5 FT DEPTH	FOOT	990	$62	$61,380
36 INCH STORM SEWER PIPE, 10 FT DEPTH	FOOT		$80	$0
48 INCH STORM SEWER PIPE, 10 FT DEPTH	FOOT		$180	$0
CONCRETE STORM SEWER MANHOLES	EACH	3	$2,800	$8,400
CONCRETE INLETS, TYPE CG-2	EACH	8	$1,250	$10,000
12' x 4' STRUCTURAL PLATE ARCH	FOOT		$500	$0
MSE HEAD & END WALLS	SQFT	200	$15	$3,000
IRRIGATION STRUCTURE	EACH		$3,000	$0
UTILITY PIPE SLEEVES	LIN FT		$30	$0
8" SANITARY SEWER PIPE, 5' DEPTH	LIN FT		$35	$0
48" SANITARY MANHOLES	EACH		$2,500	$0
4" SERVICE LATERALS	LIN FT		$15	$0
12" MINUS RIVER RUN ROCK	C.Y.		$40	$0
MAJOR ADJUSTMENT OF MANHOLES	EACH	6	$700	$4,200
BRIDGES				
BRIDGES	EACH			$0
TEMP BRIDGE	EACH			$0
BRIDGE REMOVAL	EACH			$0

CONSTRUCTION COST ESTIMATE

FORM PREPARED BY HARDEY ENGINEERING & ASSOC. INC.

OPTION NO. 2 (UNDERGROUND POWER)

PROJECT NAME: East Main St.-Clay St. to Tolman Creek Rd.

KIND OF WORK	**LENGTH**		**ESTIMATE PREPARER**	
ITEM	**UNIT**	AMOUNT	**UNIT COST**	**TOTAL**
END PANELS	EACH			$0
BASES				
COLD PLANE PAVEMENT REMOVAL, 0 - 2 INCH DEEP	SQYD	1000	$4	$4,000
COLD PLANE PAVEMENT REMOVAL, 2 INCH DEEP	SQYD		$3	$0
AGGREGATE BASE	TON	1200	$18	$21,600
AGGREGATE SHOULDERS	TON	150	$17	$2,550
WEARING SURFACES				
ASPHALT IN TACK COAT	TON		$420	$0
LEVEL 2, 1/2 INCH DENSE MHMAC	TON		$75	$0
LEVEL 3, 1/2 INCH DENSE MHMAC	TON	720	$85	$61,200
ASPHALT WALKS	SQYD		$4	$0
CRACK SEALING	FOOT		$18	$0
EXTRA FOR ASPHALT APPROACHES	EACH	4	$500	$2,000
REINFORCED CONCRETE PAVEMENT	SQYD		$110	$0
REINFORCED CONCRETE DRIVEWAYS	SQYD		$110	$0
ASPHALT DRIVEWAY APPROACH	SQFT		$4	$0
CONCRETE CURBS	FOOT		$18	$0
CURB AND GUTTER CONCRETE CURBS	FOOT	1600	$12	$19,200
CONCRETE WALKS	SQFT	9300	$5	$46,500
CONCRETE DRIVEWAYS	SQFT	420	$8	$3,360
PAVEMENT CUTTING	LIN FT	1600	$4	$6,400
PERMANENT TRAFFIC CONTROL AND GUIDANCE DEVICES				
GUARDRAIL, TYPE 2A	FOOT	300	$20	$6,000
GUARDRAIL, TYPE 3	FOOT		$50	$0
GUARDRAIL, TYPE 4	FOOT		$60	$0
GUARDRAIL ANCHORS, TYPE 1	EACH	1	$680	$680
GUARDRAIL END PIECES, TYPE B	EACH	1	$85	$85
GUARDRAIL TRANSITION	EACH	1	$2,250	$2,250
GUARDRAIL TERMINALS, NON-FLARED	EACH		$2,550	$0
GUARDRAIL TERMINALS, FLARED	EACH		$2,250	$0
ADJUSTING GUARDRAIL	FOOT		$5	$0
CONCRETE BARRIER	FOOT		$51	$0
CONCRETE BARRIER, TALL	FOOT		$60	$0
DELINEATORS, TYPE 1	EACH		$37	$0
MILEPOST MARKER POSTS	EACH		$63	$0
PAVEMENT LEGEND, TYPE D: ARROWS	EACH	6	$260	$1,560
PAVEMENT LEGEND, TYPE D: "SCHOOL CROSSING"	EACH		$650	$0
PAVEMENT LEGEND, TYPE D: RAILROAD CROSSING MARKINGS	EACH		$650	$0
PAVEMENT LEGEND, TYPE D: BICYCLE LANE SYMBOLS	EACH	6	$138	$828
PAVEMENT LEGEND, TYPE D: "BIKE RAILROAD"	EACH		$200	$0
PAVEMENT LINE, TYPE D	SQFT		$7.00	$0
MONO-DIRECTIONAL CRYSTAL TYPE I MARKERS	EACH		$3.60	$0
BI-DIRECTIONAL YELLOW TYPE I MARKERS	EACH		$3.60	$0
BI-DIRECTIONAL YELLOW TYPE I MARKERS, RECESSED	EACH		$8	$0
PAINTED PERMANENT PAVEMENT STRIPING	FOOT	3800	$0.15	$570
THERMOPLASTIC, PROFILE, 90 MIL, EXTRUDED	FOOT		$2	$0

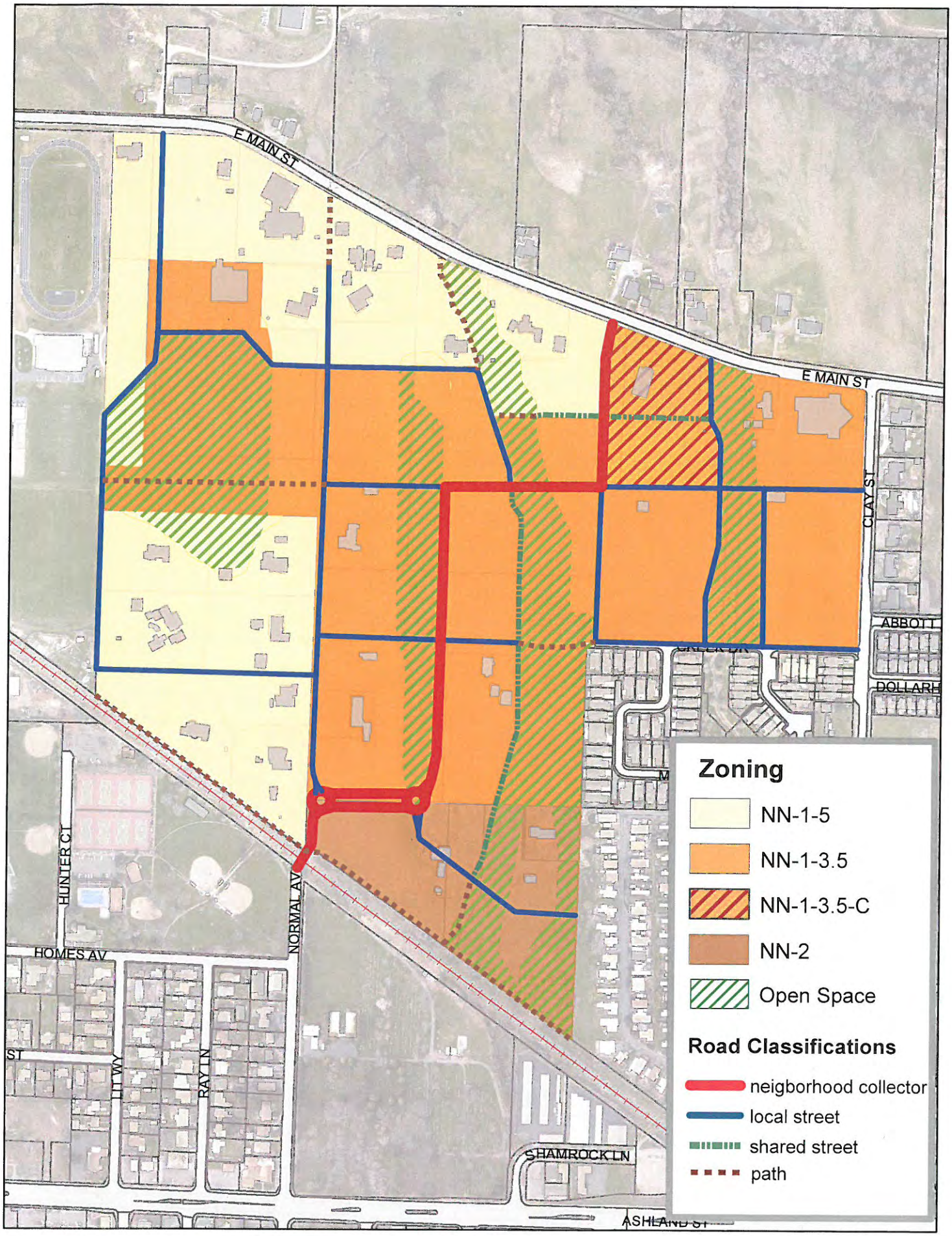
CONSTRUCTION COST ESTIMATE

FORM PREPARED BY HARDEY ENGINEERING & ASSOC. INC.

OPTION NO. 2 (UNDERGROUND POWER)

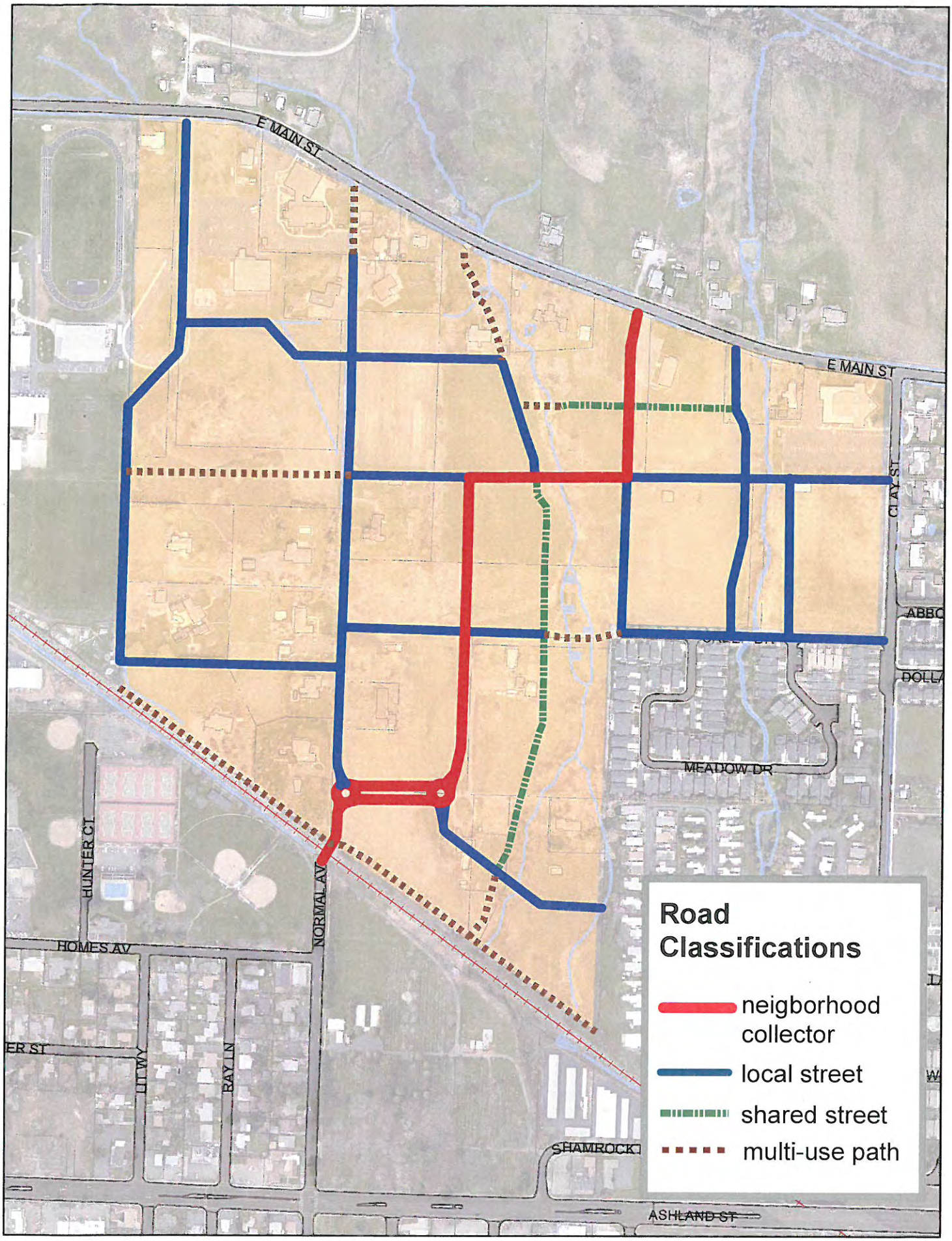
PROJECT NAME: East Main St.-Clay St. to Tolman Creek Rd.

KIND OF WORK	**LENGTH**		**ESTIMATE PREPARER**	
ITEM	**UNIT**	AMOUNT	**UNIT COST**	**TOTAL**
RUMBLE STRIPS	MILE		$1,700	$0
PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS				
PERMANENT SIGNS	LS		1.00%	$6,344
INTERPRETIVE PANELS AND DÉCORATIVE HARDSCAPE FEATURES	LS		$32,000	$0
LOOP DETECTORS INSTALLATION	EACH		$1,000	$0
TRAFFIC SIGNAL INSTALLATION	EACH		$125,000	$0
INTERCONNECT SYSTEM	LS			$0
STREET LIGHTS SINGLE - INCLUDING CONECTIONS, WIRING, CONDUIT	EACH	3	$9,000	$27,000
STREET LIGHTS MULTIPLE - INCLUDING CONECTIONS, WIRING, CONDUIT	EACH		$14,000	$0
ILLUMINATION				$0
RIGHT-OF-WAY DEVELOPMENT AND CONTROL				
PERMANENT SEEDING, MIX NO. 1	ACRE	0.70	$5,000	$3,500
SINGLE MAILBOX SUPPORTS	EACH		$250	$0
MULTIPLE MAILBOX SUPPORTS	EACH	1	$300	$300
ENVIRONMENTAL MITIGATION SITES			$0	$0
FENCING	LIN FT	900	$25	$22,500
LANDSCAPING	LS	1	$34,470	$34,470
WATER SUPPLY SYSTEMS				
16" DIP WITH CLASS - B BACKFILL	FOOT	900	$85	$76,500
FIRE HYDRANT ASSEMBLY	EACH	1	$4,000	$4,000
16" GATE VALVE	EACH	1	$3,000	$3,000
8" GATE VALVE	EACH	2	$1,200	$2,400
CONNECT TO CITY WATER SYSTEM	EACH	2	$1,000	$2,000
UNDERGROUND POWER TRANSMISSION LINE (CITY)	LS	1	$95,000	$95,000
UNDERGROUND POWER TRANSMISSION LINE (PP&L)	LS	1	$100,000	$100,000
CONSTRUCTION SUBTOTAL				**$894,412**
For Projects Developed by Consultants:				
AC BONUS Or STATISTICAL BONUS			5.0%	$3,060
CONSULTANT PRELIMINARY ENGINEERING*			**25.0%**	**$224,368**
CONSULTANT CONSTRUCTION ENGINEERING			**17.0%**	**$152,050**
CONTINGENCIES			**20.0%**	**$178,882**
PUBLIC INVOLVEMENT/ANNOUNCEMENTS				$0
BID SUBTOTAL				**$1,452,772**
RIGHT OF WAY ESTIMATE (process only, add cost of land)	FILES	7	$7,500	$52,500
RIGHT OF WAY ACQUISITION	LS	1	$25,000	$25,000
EASEMENTS	LS	1	$76,000	$76,000
TOTAL				**$1,606,272**



Normal Neighborhood Plan
Draft - February 2015

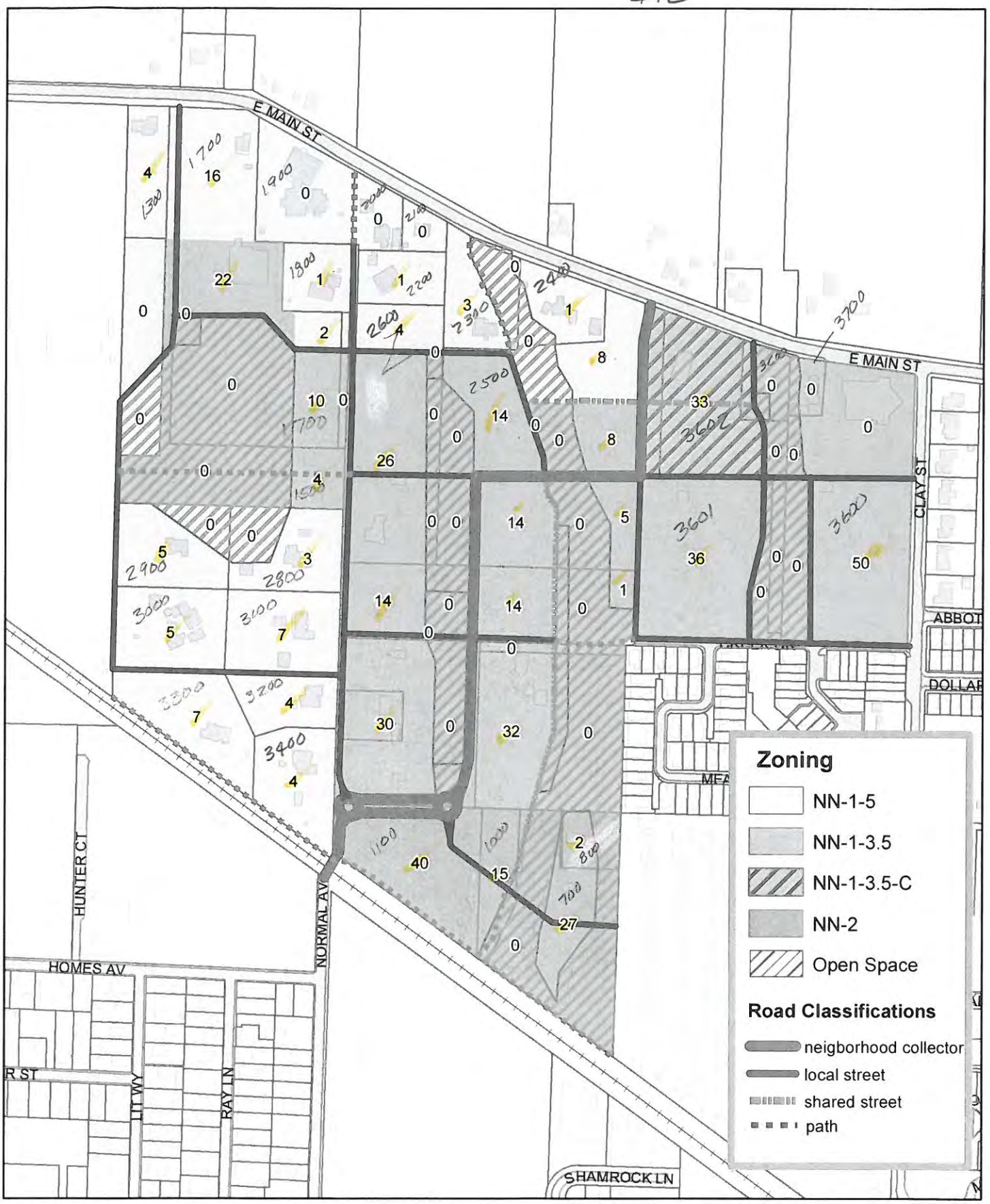
0 200 400 800 Feet



Normal Neighborhood Plan
Street Network Map

0 200 400 800 Feet

472

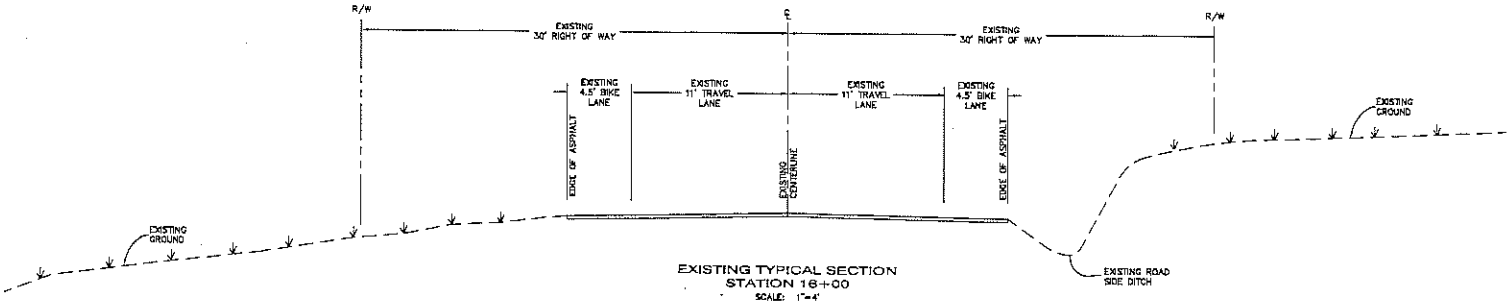


Normal Neighborhood Working Plan
Estimated Future Dwelling Unit Potential
Total - 472

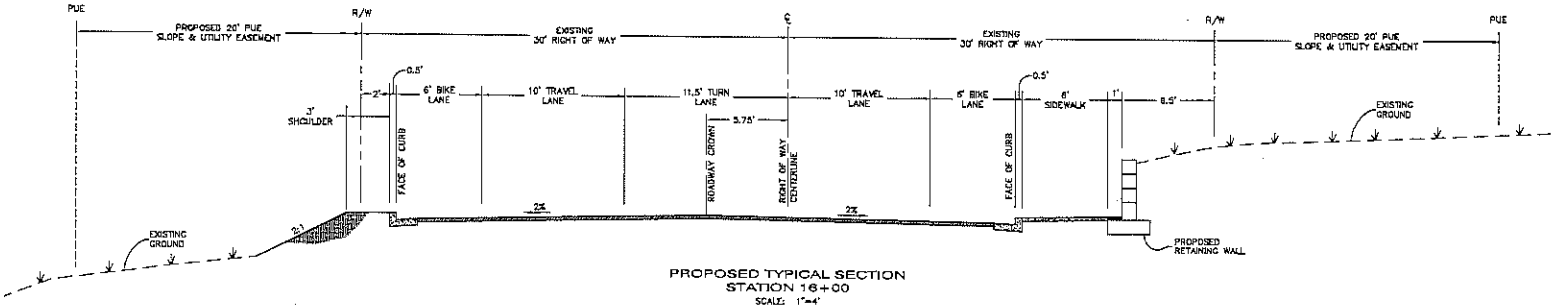
February 27, 2015

0 200 400 800 Feet

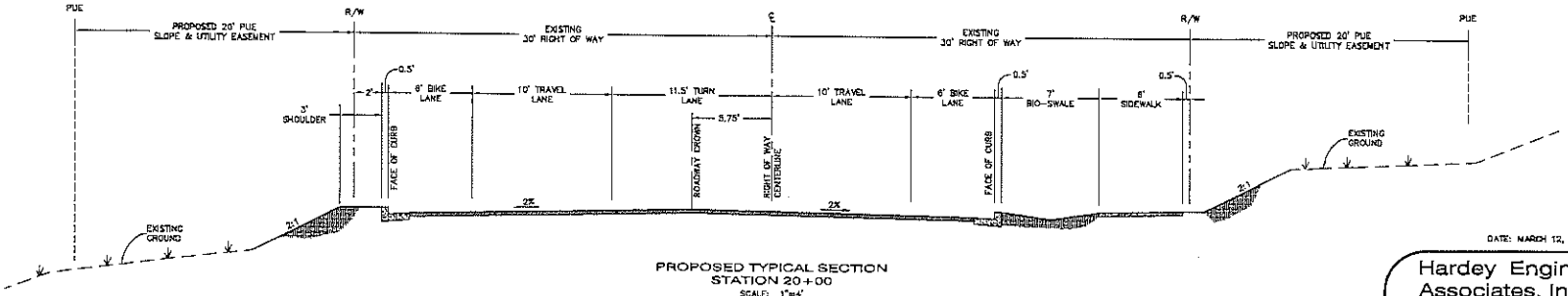
NORMAL NEIGHBORHOOD REIMBURSEMENT DISTRICT
EAST MAIN STREET - CROSS SECTIONS



EXISTING TYPICAL SECTION
STATION 16+00
SCALE: 1"=4'



PROPOSED TYPICAL SECTION
STATION 16+00
SCALE: 1"=4'



PROPOSED TYPICAL SECTION
STATION 20+00
SCALE: 1"=4'

DATE: MARCH 12, 2015

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Hardey Engineering & Associates, Inc.
HEA
ENGINEERING INTEGRITY
P.O. BOX 1625
MEDFORD, OREGON 97501-0063
VOICE: 541-772-6880
FAX: 541-772-9573
EMAIL: info@hea-inc.com