

## Memorandum

**To:** Patrick Brama, City of Ramsey

**From:** Jim Stremel, Project Manager, WSB & Associates

**Date:** December 2, 2016

**Re:** Yolite Street Improvements – Feasibility & Engineer Estimate

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Provided below is a brief feasibility with information and assumptions used to estimate the cost of constructing Yolite Street between Veterans Drive and Sunwood Drive NW. The total cost of street, storm sewer, watermain, and sanitary sewer improvements was estimated to be \$394,900.

### Existing Conditions

There is currently no roadway that connects Veterans Drive and Sunwood Drive NW in the proposed project area and no buildings exist on the adjacent sites. At each of the adjacent roadways, there are existing entry points into the site. Based on available aerial mapping, the width was measured to be 36' face-to-face.

It was assumed that storm sewer, watermain, and sanitary sewer do not exist within the proposed roadway corridor, but that stubs for these utilities are available at the entry point from Sunwood Drive NW.

No subsurface soil information was available for the preparation of this report. A conservative assumption that silty/clayey sands are located onsite was used.

### Proposed Improvements

The proposed street section for Yolite Street was assumed to be a 275-foot long, 36-foot wide (face-to-face) urban street section between Veterans Drive and Sunwood Drive NW. The proposed street section will consist of 1.5 inches of bituminous wearing course, 2 inches of bituminous base course, 8 inches of Class 5 aggregate base, and 12 inches of select granular borrow over an acceptable, compacted subgrade. It was assumed that the future site uses would not generate a significant amount of truck traffic.

A geotechnical study was not provided by the City and so it was conservatively assumed that a 12 inch sand section will be added to the City standard detail for an urban street. Concrete curb and gutter will be installed on both sides of the street and will tie into the existing curb and gutter at Veterans Drive and Sunwood Drive NW at each end. A 6-foot wide 6" concrete walk is proposed on both the east and the west side of Yolite Street.

Streetscape improvements, in accordance with the Ramsey COR design standards, are proposed for the 6-foot wide boulevards between the proposed curb and concrete walk. These improvements include deciduous trees, two types of lighting units, irrigation systems, and benches for pedestrians.

Due to the short section of roadway proposed, it was assumed that the electrical and irrigation components needed for control and operation will be part of a larger system within the development and was not included with this scope of work.

To serve the proposed development, sanitary sewer was assumed to be required along the majority of Yolite Street and connect to an existing sanitary stub from the main on Sunwood Drive NW. One manhole with a new casting will be installed where the new sewer dead ends. A chimney seal is proposed to prevent inflow and infiltration. Eight inch service stubs were included in each direction from the manhole (capped at end) for future property owners to connect.

The proposed water main work includes looping the existing water main between Veterans Drive and Sunwood Drive NW with 8" ductile iron pipe. The proposed service to the west was assumed to be an 8-inch pipe (large lot) and the site to the east a 6-inch along with a gate valve for each service stub. A hydrant was also included along Yolite Street.

Proposed storm sewer installation includes two catch basins located at a low point in the new street and reinforced concrete pipe to connect these new structures to existing storm sewer on Sunwood Drive NW. It is also suggested that perforated PVC drain tile be placed behind the curb at the new structures if a sand subbase is installed. The storm sewer pipe was sized only for runoff within the street; a larger pipe may be required to convey runoff from the adjacent sites. The estimate also did not include costs for permanent stormwater management.

### **Cost Estimates**

A detailed opinion of cost for the project area can be found attached to this memorandum. The opinions of cost incorporate estimated 2017 construction costs and include a 10% construction contingency factor. Indirect costs are projected at 25% of the construction cost and include engineering, legal, financing, and administrative costs.

<b>Summary of Estimated Project Costs</b>	
	<b>Total</b>
Surface Improvements	\$186,800
Streetscape Improvements	\$93,600
Sanitary Improvements	\$37,800
Water Main Improvements	\$52,000
Storm Improvements	\$24,700
<b>TOTAL</b>	<b>\$394,900</b>

It was assumed that the project as estimated will be bid and constructed as a stand-alone project. If the project is constructed in conjunction with other site improvements, costs may be less due to economy of scale. Information pertaining to project funding or construction schedules were not provided by the City.

# Opinion of Probable Cost

*WSB Project:* Yolite Street Improvements  
*Project Location:* City of Ramsey  
*City Project No.:*  
*WSB Project No:* 01973-270

*Design By:* KJG  
*Checked By:* JLS  
  
*Date:* 12/1/2016

Item No.	MN/DOT Specification No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
<b>A. SURFACE IMPROVEMENTS</b>						
1	2021.501	MOBILIZATION	LUMP SUM	1	\$10,500.00	\$10,500.00
2	2104.501	REMOVE CURB AND GUTTER	LIN FT	20	\$6.00	\$120.00
3	2104.500	REMOVE CONCRETE PAVEMENT	SQ YD	20	\$15.00	\$300.00
4	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	20	\$15.00	\$300.00
5	2104.509	REMOVE POST	EACH	6	\$70.00	\$420.00
6	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	40	\$5.00	\$200.00
7	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	40	\$4.00	\$160.00
8	2105.501	COMMON EXCAVATION (P)	CU YD	760	\$20.00	\$15,200.00
9	2105.507	SUBGRADE EXCAVATION	CU YD	420	\$20.00	\$8,400.00
10	2105.522	SELECT GRANULAR BORROW (CV)	CU YD	420	\$20.00	\$8,400.00
11	2112.501	SUBGRADE PREPARATION	ROAD STA	3	\$300.00	\$900.00
12	2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	15	\$100.00	\$1,500.00
13	2211.501	AGGREGATE BASE CLASS 5	TON	820	\$16.00	\$13,120.00
14	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	60	\$4.00	\$240.00
15	2360.501	TYPE SP 9.5 WEARING COURSE MIX (2,B)	TON	90	\$75.00	\$6,750.00
16	2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (2,B)	TON	120	\$75.00	\$9,000.00
17	2521.501	6" CONCRETE WALK	SQ FT	3,380	\$10.00	\$33,800.00
18	2531.501	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	570	\$14.00	\$7,980.00
19	2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	100	\$75.00	\$7,500.00
20	2531.618	TRUNCATED DOMES	SQ FT	32	\$45.00	\$1,440.00
21	2563.601	TRAFFIC CONTROL	LUMP SUM	1	\$2,000.00	\$2,000.00
22	2564.537	INSTALL SIGN	EACH	4	\$150.00	\$600.00
23	2573.502	SILT FENCE, TYPE MS	LIN FT	300	\$3.50	\$1,050.00
24	2573.533	SEDIMENT CONTROL LOG TYPE WOOD FIBER	LIN FT	300	\$4.00	\$1,200.00
25	2574.525	COMMON TOPSOIL BORROW	CU YD	20	\$30.00	\$600.00
26	2575.505	SODDING TYPE LAWN	SQ YD	190	\$8.00	\$1,520.00
27	2582.502	12" SOLID LINE WHITE-EPOXY	LIN FT	32	\$7.00	\$224.00
28	2582.502	4" BROKEN LINE YELLOW - EPOXY	LIN FT	280	\$2.50	\$700.00
29	2582.503	CROSSWALK MARKING - EPOXY	SQ FT	80	\$10.00	\$800.00
30	2573.530	STORM DRAIN INLET PROTECTION	EACH	6	\$150.00	\$900.00
<b>CONSTRUCTION TOTAL</b>						<b>\$135,820.00</b>
<b>CONTINGENCY TOTAL (10%)</b>						<b>\$13,582.00</b>
<b>SUBTOTAL TOTAL</b>						<b>\$149,402.00</b>
<b>INDIRECT COST TOTAL (25%)</b>						<b>\$37,350.50</b>
<b>TOTAL - SURFACE IMPROVEMENTS (RECONSTRUCTION)</b>						<b>\$186,800.00</b>

# Opinion of Probable Cost

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*WSB Project No:* 01973-270

*Design By:* KJG  
*Checked By:* JLS  
  
*Date:* 12/1/2016

Item No.	MN/DOT Specification No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
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## B. STREETScape IMPROVEMENTS

31	2101.502	PARK BENCH	EACH	2	\$2,000.00	\$4,000.00
32	2504.601	IRRIGATION SYSTEM	LUMP SUM	1	\$8,000.00	\$8,000.00
33	2545.511	LIGHTING UNIT TYPE SPECIAL (14')	EACH	3	\$6,000.00	\$18,000.00
34	2545.511	LIGHTING UNIT TYPE SPECIAL (24')	EACH	2	\$9,000.00	\$18,000.00
35	2545.523	2" NON-METALLIC CONDUIT	LIN FT	660	\$3.00	\$1,980.00
36	2545.531	UNDERGROUND WIRE 1 COND NO 6	LIN FT	660	\$7.00	\$4,620.00
37	2571.502	DECIDUOUS TREE 2.5" CAL B&B	EACH	16	\$600.00	\$9,600.00
38	2574.525	COMMON TOPSOIL BORROW	CU YD	30	\$30.00	\$900.00
39	2575.505	SODDING TYPE LAWN	SQ YD	370	\$8.00	\$2,960.00

<b>CONSTRUCTION TOTAL</b>	<b>\$68,060.00</b>
<b>CONTINGENCY TOTAL (10%)</b>	<b>\$6,806.00</b>
<b>SUBTOTAL TOTAL</b>	<b>\$74,866.00</b>
<b>INDIRECT COST TOTAL (25%)</b>	<b>\$18,716.50</b>
<b>TOTAL - STREETScape IMPROVEMENTS</b>	<b>\$93,600.00</b>

## C. SANITARY SEWER IMPROVEMENTS

40	2104.501	REMOVE SEWER PIPE (SANITARY)	LIN FT	10	\$100.00	\$1,000.00
41	2503.602	8"X8" PVC WYE	EACH	2	\$700.00	\$1,400.00
42	2503.603	8" PVC PIPE SEWER - SDR 35	LIN FT	270	\$60.00	\$16,200.00
43	2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	1	\$2,500.00	\$2,500.00
44	2503.603	TELEVISION SANITARY SEWER	LIN FT	210	\$2.50	\$525.00
45	2506.602	CHIMNEY SEALS	EACH	1	\$300.00	\$300.00
46	2506.516	CASTING ASSEMBLY	EACH	1	\$750.00	\$750.00
47	2506.603	CONST. 48" DIA SAN SEWER MANHOLE	LIN FT	12	\$400.00	\$4,800.00

<b>CONSTRUCTION TOTAL</b>	<b>\$27,480.00</b>
<b>CONTINGENCY TOTAL (10%)</b>	<b>\$2,748.00</b>
<b>SUBTOTAL TOTAL</b>	<b>\$30,228.00</b>
<b>INDIRECT COST TOTAL (25%)</b>	<b>\$7,557.00</b>
<b>TOTAL - SANITARY SEWER IMPROVEMENTS</b>	<b>\$37,800.00</b>

# Opinion of Probable Cost

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*Project Location:* City of Ramsey  
*City Project No.:*  
*WSB Project No:* 01973-270

*Design By:* KJG  
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## D. WATER MAIN IMPROVEMENTS

48	2104.501	REMOVE WATER MAIN	LIN FT	10	\$15.00	\$150.00
49	2503.511	6" DUCTILE IRON PIPE SEWER	LIN FT	30	\$50.00	\$1,500.00
50	2503.511	8" DUCTILE IRON PIPE SEWER	LIN FT	300	\$60.00	\$18,000.00
51	2504.602	CONNECT TO EXISTING WATER MAIN	EACH	2	\$1,200.00	\$2,400.00
52	2504.602	INSTALL HYDRANT & VALVE	EACH	1	\$4,500.00	\$4,500.00
53	2504.602	8" GATE VALVE AND BOX	EACH	2	\$2,000.00	\$4,000.00
54	2504.604	4" POLYSTYRENE INSULATION	SQ YD	30	\$35.00	\$1,050.00
55	2504.608	DUCTILE IRON FITTINGS	POUND	887	\$7.00	\$6,209.00

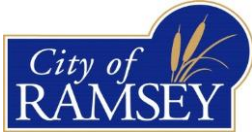
<b>CONSTRUCTION TOTAL</b>	<b>\$37,810.00</b>
<b>CONTINGENCY TOTAL (10%)</b>	<b>\$3,781.00</b>
<b>SUBTOTAL TOTAL</b>	<b>\$41,591.00</b>
<b>INDIRECT COST TOTAL (25%)</b>	<b>\$10,397.75</b>
<b>TOTAL - WATER MAIN IMPROVEMENTS</b>	<b>\$52,000.00</b>

## E. DRAINAGE IMPROVEMENTS

56	2502.541	6" PERF PVC PIPE DRAIN	LIN FT	210	\$16.00	\$3,360.00
57	2503.541	15" RC PIPE SEWER CLASS V	LIN FT	180	\$40.00	\$7,200.00
58	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	1	\$1,500.00	\$1,500.00
59	2506.501	CONST DRAINAGE STRUCTURE DES 48-4020	LIN FT	12	\$350.00	\$4,200.00
60	2506.516	CASTING ASSEMBLY	EACH	2	\$850.00	\$1,700.00

<b>CONSTRUCTION TOTAL</b>	<b>\$17,960.00</b>
<b>CONTINGENCY TOTAL (10%)</b>	<b>\$1,796.00</b>
<b>SUBTOTAL TOTAL</b>	<b>\$19,756.00</b>
<b>INDIRECT COST TOTAL (25%)</b>	<b>\$4,939.00</b>
<b>TOTAL - DRAINAGE IMPROVEMENTS</b>	<b>\$24,700.00</b>

**Street and Utility Project Total     \$394,900.00**



**COST ESTIMATE**

**YOLITE STREET IMPROVEMENTS**

TOTAL CONSTRUCTION		102,124.00
Engineering, Legal, Administration	31%	31,658.44
<b>TOTAL PROJECT COST</b>		<b>133,782.44</b>

**YOLITE STREET IMPROVEMENTS**

No.	ITEM	UNIT	QTY	PRICE	EXTENSION
1 2021.501	MOBILIZATION	LS	1	10,500.00	10,500.00
4 2104.501	REMOVE CONCRETE CURB AND GUTTER	LIN FT	20	6.00	120.00
8 2104.503	REMOVE CONCRETE PAVEMENT	SQ YD	20	15.00	300.00
9 2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	20	15.00	300.00
2104.509	REMOVE POST	EACH	6	70.00	420.00
14 2104.511	SAWING CONCRETE PAVEMENT	LIN FT	40	5.00	200.00
14 2104.511	SAWING BITUMINOUS PAVEMENT	LIN FT	40	4.00	160.00
18 2105.501	COMMON EXCAVATION (P)	CY	760	20.00	15,200.00
2105.507	SUBGRADE EXCAVATION	CY	0	20.00	0.00
20 2105.522	SELECT GRANULAR BORROW	CY	0	20.00	0.00
22 2112.501	SUBGRADE PREPARATION	STA	3	300.00	900.00
2123.610	STREET SWEEPER (WITH PICKUP BROOM)	hour	15	100.00	1,500.00
23 2211.501	4" AGGREGATE BASE, CLASS 5 MODIFIED	TON	820	16.00	13,120.00
25 2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	60	4.00	240.00
26 2360.501	1.5" WEARING COURSE LV4WE45030B	TON	90	75.00	6,750.00
27 2360.502	2" NON-WEARING COURSE LV3NW35030BR	TON	120	75.00	9,000.00
56 2521.501	CONCRETE SIDEWALK 4" THICK	SQ FT	1,690	10.00	16,900.00
57 2531.501	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	570	14.00	7,980.00
59 2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	100	75.00	7,500.00
60 2531.532	F & I PEDESTRIAN RAMP	EACH			0.00
61 2531.618	F & I TRUNCATED DOMES	SQ FT	32	45.00	1,440.00
63 2563.601	TRAFFIC CONTROL	LS	1	2,000.00	2,000.00
64 2564.537	INSTALL SIGN	EACH	4	150.00	600.00
67 2573.502	SILT FENCE, HEAVY DUTY	LIN FT	300	3.50	1,050.00
68 2573.530	INLET PROTECTION	EACH	1	1,200.00	1,200.00
2574.525	COMMON TOPSOIL BORROW	CY	20	30.00	600.00
69 2575.505	SODDING TYPE LAWN SOD	SY	190	8.00	1,520.00
71 2582.502	12" SOLID LINE WHITE - EPOXY	LIN FT	32	7.00	224.00
72 2582.502	4" BROKEN LINE YELLOW - EPOXY	LIN FT	280	2.50	700.00
2582.503	CROSSWALK MARKING EPOXY	SQ FT	80	10.00	800.00
73 2573.53	STORM DRAIN INLET PROTECTION	EACH	6	150.00	900.00
<b>TOTAL</b>					<u>102,124.00</u>

**YOLITE STREET IMPROVEMENTS**

No.	ITEM	UNIT	QTY	PRICE	EXTENSION
B. Streetscape Improvements					
33	2545.511 Lighting Unit Type Special (14')	EACH	3	6,000.00	18,000.00
35	2545.523 2" Non Metallic Conduit	LIN FT	650	3.00	1,950.00
36	2545.531 Underground Wore 1 Cond no 6	LIN FT	690	7.00	4,830.00
38	2574.525 Common Topsoil Borrow	CU YD	30	30.00	900.00
39	2575.505 SODDING TYPE LAWN	SQ YD	370	8.00	2,960.00
CONSTRUCTION TOTAL					28,640.00
CONTINGENCY 10%					2,864.00
SUBTOTAL					31,504.00
INDIRECT COSTS 25%					7,876.00
TOTAL - STREETScape IMPROVEMENTS					39,380.00

**Summary of Estimated Project Costs**

Surface Improvements	\$134,000
Streetscape Improvements	\$39,380
Sanitary Improvements	\$37,800
Watermain Improvements	\$52,000
Storm Sewer Improvements	\$21,700
<b>Total</b>	<b>\$284,880</b>