

Section 11: Preliminary Cost Estimates

Cost estimates have been provided for both the LSL and Roundabout concepts. The estimates provided are project cost estimates, and include construction costs, contingencies, engineering, and ROW/Easement costs.

While temporary grading permits likely will not be paid for, permanent easement may require a fee to compensate the owner for loss of usable property. The fees can vary significantly so contingencies should be set to deal with this unknown.

During the EPE Study, a \$5,000,000 budget of City funding was discussed on the project cost. The LSL concept currently has a projected total project costs above \$6,000,000, where the roundabout concept has a projected total project cost above \$7,000,000. However, not all of these projected costs have to occur at one time, or at all. Possible options to move forward with this project by building in phases would look something like this:

1. Build alley improvements and side street parking improvements - \$525,000– Project #1
2. Build Auburn Road street project - \$4,040,000 – Project #2
3. Construct streetscape improvements - \$1,600,000 – Project #3

* Cost estimated include engineering, and ROW/easements estimates

These projects do not require one project to be built immediately after the previous one. Additional funding can, and already is, being pursued. Additional funding opportunities include:

1. Turnback monies from MDOT – this would be negotiated prior to be acceptable to take on the roadway control from MDOT. Potentially, this turnback money from MDOT to the City could be at an estimated value of approximately \$300,000.
2. Transportation Alternative Program (TAP Grant) – funds from this grant can be used for streetscape projects. TAP Grant money the City could be eligible for is at an estimated value of approximately \$500,000.
3. Safety Grant – funds from this grant are to improve high crash intersections. Safety Grant money the City could be eligible for is at an estimated value of approximately \$200,000.
4. Create Corridor Improvement Authority (CIA) or TIFA to assist in paying for improvements especially side street parking and additional sidewalk costs.

If additional funding is not obtained, or does not cover all the remaining project costs in excess of \$5,000,000, then removal of certain project items from the scope of work can be considered. Potential reduction items from the original scope of work include:

1. Reduction in side street improvements.
 - a. Side street improvements are being proposed for the purpose of providing additional parking along the corridor wherever possible. If certain parking spaces are found to be desired instead of required, elimination of these side street improvements could be applicable.

2. Reduction in alley improvements.
 - a. Alley improvements are being proposed to accommodate the expected increase in traffic that will result in businesses having solely rear-access. If the City feels certain alleys do not require improvements, then elimination of certain alley improvements could be applicable.
3. Reduction in paving inside the right-of-way.
 - a. Current design proposes placement of concrete sidewalk from back-of-curb to right-of-way (with the exception of intermediate planters) in order to accommodate the expected increase in pedestrian traffic to the corridor. For current day purposes, the limits of proposed sidewalk construction could be greatly reduced in front of properties that lack businesses and replaced with grass in order to add additional cost savings to the project. Future land developers could be made responsible for the sidewalk improvements in front of their property.
4. Reduction of landscaping/furnishing items
 - a. The current estimate is reflective of what the end-result of the corridor will be years from now. This includes multiple benches, bike racks, litter and recycle receptacles, phone charging stations, etc. The quantity of many of these items could be reduced drastically to better accommodate current conditions and bring down project cost.

Refer to the following detailed cost estimates of these project items to better convey some of these options and how they affect total project cost.



OPINION OF PROBABLE PROJECT COST

ORCHARD, HILTZ & McCLIMENT, INC.

34000 Plymouth Road, Livonia, Michigan, 48150

Telephone: (734) 522-6711 FAX: (734) 522-6427

PROJECT: Auburn Road Corridor Improvements - LSL
 LOCATION: Auburn Road - Rochester Hills
 WORK: Full-depth HMA pavt reconstruction, storm sewer, alley improvements,
 sidewalk, lighting, pavement markings, and signing from Culbertson to Hessel

DATE: November 17, 2017
 PROJECT #: 0190-17-0010
 ESTIMATOR: AP/KR/SH
 CHECKED BY: TJ/ML
 CURRENT ENR:

ITEM CODE	DESCRIPTION	UNIT	TOTAL	UNIT PRICE	COST
CATEGORY 1 - ROAD IMPROVEMENTS					
1500001	Mobilization, Max 10%	LSUM	1	\$ 300,000.00	\$ 300,000.00
2020002	Tree, Rem, 19 inch to 36 inch	Ea	5	\$ 1,000.00	\$ 5,000.00
2020003	Tree, Rem, 37 inch or Larger	Ea	1	\$ 1,250.00	\$ 1,250.00
2030011	Dr Structure, Rem	Ea	5	\$ 500.00	\$ 2,500.00
2030015	Sewer, Rem, Less than 24 inch	Ft	400	\$ 30.00	\$ 12,000.00
2040020	Curb and Gutter, Rem	Ft	1305	\$ 10.00	\$ 13,050.00
2040025	Fence, Rem	Ft	100	\$ 10.00	\$ 1,000.00
2040035	Guardrail, Rem	Ft	50	\$ 10.00	\$ 500.00
2040050	Pavt, Rem	Syd	2240	\$ 10.00	\$ 22,400.00
2040055	Sidewalk, Rem	Syd	2700	\$ 7.50	\$ 20,250.00
2050010	Embankment, CIP	Cyd	750	\$ 20.00	\$ 15,000.00
2050016	Excavation, Earth	Cyd	9225	\$ 20.00	\$ 184,500.00
2050031	Non Haz Contaminated Material Handling and Disposal, LM	Cyd	1000	\$ 30.00	\$ 30,000.00
2050041	Subgrade Undercutting, Type II	Cyd	2000	\$ 40.00	\$ 80,000.00
2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	62	\$ 100.00	\$ 6,200.00
2080036	Erosion Control, Silt Fence	Ft	2500	\$ 1.00	\$ 2,500.00
2090001	Project Cleanup	LSUM	1	\$ 5,000.00	\$ 5,000.00
3020016	Aggregate Base, 6 inch	Syd	9380	\$ 8.00	\$ 75,040.00
3020020	Aggregate Base, 8 inch	Syd	12420	\$ 10.00	\$ 124,200.00
3020028	Aggregate Base, 11 inch	Syd	3790	\$ 12.00	\$ 45,480.00
3060020	Maintenance Gravel	Ton	1000	\$ 25.00	\$ 25,000.00
3087011	Geotextile Fabric	Syd	1000	\$ 4.00	\$ 4,000.00
4020987	Sewer, CI IV, 12 inch, Tr Det B	Ft	1948	\$ 50.00	\$ 97,400.00
4020988	Sewer, CI IV, 15 inch, Tr Det B	Ft	153	\$ 55.00	\$ 8,415.00
4020989	Sewer, CI IV, 18 inch, Tr Det B	Ft	589	\$ 60.00	\$ 35,340.00
4020993	Sewer, CI IV, 24 inch, Tr Det B	Ft	455	\$ 65.00	\$ 29,575.00
4020995	Sewer, CI IV, 36 inch, Tr Det B	Ft	47	\$ 70.00	\$ 3,290.00
4030006	Dr Structure Cover, Adj, Case 2	Ea	10	\$ 500.00	\$ 5,000.00
4030010	Dr Structure Cover, Type B	Ea	11	\$ 550.00	\$ 6,050.00
4030040	Dr Structure Cover, Type G	Ea	10	\$ 650.00	\$ 6,500.00
4030050	Dr Structure Cover, Type K	Ea	32	\$ 650.00	\$ 20,800.00
4030200	Dr Structure, 24 inch dia	Ea	20	\$ 1,000.00	\$ 20,000.00
4030210	Dr Structure, 48 inch dia	Ea	21	\$ 1,500.00	\$ 31,500.00
4030220	Dr Structure, 60 inch dia	Ea	1	\$ 2,500.00	\$ 2,500.00
4030231	Dr Structure, 84 inch dia	Ea	1	\$ 5,000.00	\$ 5,000.00
4030232	Dr Structure, Add Depth of 84 inch dia, 8 foot to 15 foot	Ft	5	\$ 300.00	\$ 1,500.00
4030240	Dr Structure, Add Depth of 24 inch dia, 8 foot to 15 foot	Ft	10	\$ 100.00	\$ 1,000.00
4030250	Dr Structure, Add Depth of 48 inch dia, 8 foot to 15 foot	Ft	10	\$ 150.00	\$ 1,500.00
4030260	Dr Structure, Add Depth of 60 inch dia, 8 foot to 15 foot	Ft	5	\$ 200.00	\$ 1,000.00
4030280	Dr Structure, Adj, Add Depth	Ft	50	\$ 225.00	\$ 11,250.00
4030312	Dr Structure, Tap, 12 inch	Ea	5	\$ 400.00	\$ 2,000.00
4030336	Dr Structure, Tap, 36 inch	Ea	1	\$ 700.00	\$ 700.00
4037050	San Structure Cover, Adj, Case 2	Ea	10	\$ 500.00	\$ 5,000.00
4037050	Storm Water Treatment System	Ea	1	\$ 50,000.00	\$ 50,000.00
4037050	Wtr Structure Cover, Adj, Case 2	Ea	10	\$ 500.00	\$ 5,000.00

ITEM CODE	DESCRIPTION	UNIT	TOTAL	UNIT PRICE	COST
5010005	HMA Surface, Rem	Syd	19576	\$ 4.00	\$ 78,304.00
5010025	Hand Patching	Ton	100	\$ 125.00	\$ 12,500.00
5010045	HMA, 3E3	Ton	2049	\$ 70.00	\$ 143,430.00
5010051	HMA, 4E3	Ton	921	\$ 75.00	\$ 69,075.00
5010057	HMA, 5E3	Ton	691	\$ 80.00	\$ 55,280.00
5010061	HMA Approach	Ton	2807	\$ 100.00	\$ 280,700.00
8020038	Curb and Gutter, Conc, Det F4	Ft	6490	\$ 20.00	\$ 129,800.00
8030010	Detectable Warning Surface	Ft	580	\$ 40.00	\$ 23,200.00
8030036	Sidewalk Ramp, Conc, 6 inch	Sft	4350	\$ 7.50	\$ 32,625.00
8030046	Sidewalk, Conc, 4 inch	Sft	80065	\$ 5.00	\$ 400,325.00
8080063	Fence Gate, 16 foot, for 72 inch Chain Link Fence	Ea	2	\$ 5,000.00	\$ 10,000.00
8080065	Fence Gate, 16 foot, for 96 inch Chain Link Fence	Ea	1	\$ 10,000.00	\$ 10,000.00
8100403	Sign, Type III, Rem	Ea	50	\$ 10.00	\$ 500.00
8100404	Sign, Type IIIA	Sft	300	\$ 15.00	\$ 4,500.00
8100405	Sign, Type IIIB	Sft	300	\$ 15.00	\$ 4,500.00
8110024	Pavt Mrkg, Ovly Cold Plastic, 6 inch, Crosswalk	Ft	1200	\$ 4.00	\$ 4,800.00
8110063	Pavt Mrkg, Ovly Cold Plastic, Lt Turn Arrow Sym	Ea	16	\$ 250.00	\$ 4,000.00
8110068	Pavt Mrkg, Ovly Cold Plastic, Only	Ea	16	\$ 250.00	\$ 4,000.00
8110077	Pavt Mrkg, Ovly Cold Plastic, Thru and Rt Turn Arrow Sym	Ea	16	\$ 250.00	\$ 4,000.00
8110091	Pavt Mrkg, Polyurea, 4 inch, White	Ft	5600	\$ 0.50	\$ 2,800.00
8110092	Pavt Mrkg, Polyurea, 4 inch, Yellow	Ft	800	\$ 0.50	\$ 400.00
8110114	Pavt Mrkg, Polyurea, 24 inch, Stop Bar	Ft	200	\$ 10.00	\$ 2,000.00
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	50	\$ 85.00	\$ 4,250.00
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	50	\$ 1.00	\$ 50.00
8120100	Dust Palliative, Applied	Ton	15	\$ 500.00	\$ 7,500.00
8120140	Lighted Arrow, Type C, Furn	Ea	4	\$ 500.00	\$ 2,000.00
8120141	Lighted Arrow, Type C, Oper	Ea	4	\$ 1.00	\$ 4.00
8120170	Minor Traf Devices	LSUM	1	\$ 40,000.00	\$ 40,000.00
8120250	Plastic Drum, High Intensity, Furn	Ea	400	\$ 30.00	\$ 12,000.00
8120251	Plastic Drum, High Intensity, Oper	Ea	400	\$ 1.00	\$ 400.00
8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	1200	\$ 5.00	\$ 6,000.00
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	1200	\$ 1.00	\$ 1,200.00
8120370	Traf Regulator Control	LSUM	1	\$ 20,000.00	\$ 20,000.00
8167011	Turf Establishment, Performance	Syd	6000	\$ 5.00	\$ 30,000.00
8210001	Monument Box	Ea	5	\$ 500.00	\$ 2,500.00
8210005	Monument Box Adjust	Ea	5	\$ 500.00	\$ 2,500.00
8210010	Monument Preservation	Ea	5	\$ 500.00	\$ 2,500.00
8230421	Water Shutoff, Adj, Case 1	Ea	10	\$ 250.00	\$ 2,500.00
8230422	Water Shutoff, Adj, Case 2	Ea	15	\$ 250.00	\$ 3,750.00
8230431	Gate Box, Adj, Case 1	Ea	15	\$ 500.00	\$ 7,500.00
8230432	Gate Box, Adj, Case 2	Ea	10	\$ 500.00	\$ 5,000.00
8507051	Private Site Improvements	LSUM	1	\$ 100,000.00	\$ 100,000.00
SUBTOTAL FOR CATEGORY 1 - ROADWAY IMPROVEMENTS					\$ 2,860,000.00
CATEGORY 2 -SIDE STREET EXTENSIONS					
2040020	Curb and Gutter, Rem	Ft	1030	\$ 10.00	\$ 10,300.00
3020020	Aggregate Base, 8 inch	Syd	4150	\$ 8.00	\$ 33,200.00
5010005	HMA Surface, Rem	Syd	1479	\$ 4.00	\$ 5,916.00
5010045	HMA, 3E3	Ton	288	\$ 70.00	\$ 20,160.00
5010051	HMA, 4E3	Ton	230	\$ 75.00	\$ 17,250.00
5010057	HMA, 5E3	Ton	173	\$ 80.00	\$ 13,840.00
5010061	HMA Approach	Ton	511	\$ 100.00	\$ 51,100.00
8020038	Curb and Gutter, Conc, Det F4	Ft	1120	\$ 20.00	\$ 22,400.00
SUBTOTAL FOR CATEGORY 2 - SIDE STREET EXTENSIONS					\$ 180,000.00

ITEM CODE	DESCRIPTION	UNIT	TOTAL	UNIT PRICE	COST
CATEGORY 3 - ALLEY IMPROVEMENTS					
8507051	North - Emmons to Longview	LSUM	1	\$ 50,000.00	\$ 50,000.00
8507051	North - Harrison to Eastern	LSUM	1	\$ 50,000.00	\$ 50,000.00
8507051	North - Longview to Harrison	LSUM	1	\$ 50,000.00	\$ 50,000.00
8507051	South - Culbertson to Emmons	LSUM	1	\$ 50,000.00	\$ 50,000.00
8507051	South - Longview to Harrison	LSUM	1	\$ 50,000.00	\$ 50,000.00
SUBTOTAL FOR CATEGORY 3 - ALLEY IMPROVEMENTS					\$ 250,000.00
CATEGORY 4 - LANDSCAPE SUMMARY					
8267010	Ornamental Plantings	Sft	14000	\$ 5.00	\$ 70,000.00
8267050	Deciduous Tree, 3" Caliper, Median	Ea	9	\$ 525.00	\$ 4,725.00
8267050	Deciduous Tree, 3" Caliper, Tree Lawn	Ea	67	\$ 525.00	\$ 35,175.00
8267050	Lighting	Ea	70	\$ 10,000.00	\$ 700,000.00
8357001	Irrigation Sleeves	Ft	2600	\$ 15.00	\$ 39,000.00
8357010	Irrigation	Sft	13773	\$ 2.00	\$ 27,546.00
8357021	Double Shredded Hardwood Bark Mulch, 4" depth	Cyd	170	\$ 50.00	\$ 8,500.00
8357021	Planting Mix, 6" depth	Cyd	255	\$ 50.00	\$ 12,750.00
8357050	Bench, 6 feet	Ea	14	\$ 2,500.00	\$ 35,000.00
8357050	Bike Rack	Ea	7	\$ 1,500.00	\$ 10,500.00
8357050	Gateway Features	Ea	2	\$ 15,000.00	\$ 30,000.00
8357050	Litter Receptacle	Ea	14	\$ 2,000.00	\$ 28,000.00
8357050	Phone Charging Station with Area Light	Ea	7	\$ 2,000.00	\$ 14,000.00
8357050	Recycle Receptacle	Ea	14	\$ 2,000.00	\$ 28,000.00
8507010	Brick Pavers	Sft	11200	\$ 14.00	\$ 156,800.00
SUBTOTAL FOR CATEGORY 4 - LANDSCAPE SUMMARY					\$ 1,200,000.00
SUBTOTAL FOR CATEGORY 1 - ROADWAY IMPROVEMENTS					\$ 2,860,000.00
SUBTOTAL FOR CATEGORY 2 - SIDE STREET EXTENSIONS					\$ 180,000.00
SUBTOTAL FOR CATEGORY 3 - ALLEY IMPROVEMENTS					\$ 250,000.00
SUBTOTAL FOR CATEGORY 4 - LANDSCAPE SUMMARY					\$ 1,200,000.00
SUBTOTAL ALL CATEGORIES					\$ 4,490,000.00
CONTINGENCY (10%)					\$ 449,000.00
TOTAL OPINION OF PROBABLE CONSTRUCTION COST					\$ 4,939,000.00
FRANCHISE UTILITY RELOCATIONS					\$ 200,000.00
ROW ACQUISITION					\$ -
DESIGN/CONSTRUCTION SERVICES (22%)					\$ 1,087,000.00
TOTAL OPINION OF PROBABLE PROJECT COST					\$ 6,226,000.00
VALUE ENGINEERING IDEAS:					
REDUCE CONCRETE SIDEWALK IN ROW					\$ (250,000.00)
REDUCE SCOPE OF STREETScape					\$ (100,000.00)
SUBSTITUTE CONCRETE SIDEWALK FOR BRICK PAVERS					\$ (150,000.00)
TOTAL OPINION OF VALUE ENGINEERING ITEMS					\$ (500,000.00)
POTENTIAL OUTSIDE FUNDING:					
MDOT TURNBACK MONIES					\$ (300,000.00)
TRANSPORTATION ALTERNATIVE PROGRAM (TAP GRANT)					\$ (500,000.00)
SAFETY GRANT					\$ (200,000.00)
TOTAL OPINION OF OUTSIDE FUNDING					\$ (1,000,000.00)
POSSIBLE CITY COST					\$ 4,726,000.00



OPINION OF PROBABLE PROJECT COST

ORCHARD, HILTZ & McCLIMENT, INC.

34000 Plymouth Road, Livonia, Michigan, 48150

Telephone: (734) 522-6711 FAX: (734) 522-6427

PROJECT: Auburn Road Corridor Improvements - Roundabout
 LOCATION: Auburn Road - Rochester Hills
 WORK: Full-depth HMA pavt reconstruction, storm sewer, alley improvements,
 sidewalk, lighting, pavement markings, and signing from Culbertson to Hessel

DATE: November 17, 2017
 PROJECT #: 0190-17-0010
 ESTIMATOR: AP/KR/SH
 CHECKED BY: TJ/ML
 CURRENT ENR:

ITEM CODE	DESCRIPTION	UNIT	TOTAL	UNIT PRICE	COST
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1500001	Mobilization, Max 10%	LSUM	1	\$ 300,000.00	\$ 300,000.00
2020002	Tree, Rem, 19 inch to 36 inch	Ea	5	\$ 1,000.00	\$ 5,000.00
2020003	Tree, Rem, 37 inch or Larger	Ea	1	\$ 1,250.00	\$ 1,250.00
2030011	Dr Structure, Rem	Ea	5	\$ 500.00	\$ 2,500.00
2030015	Sewer, Rem, Less than 24 inch	Ft	400	\$ 30.00	\$ 12,000.00
2040020	Curb and Gutter, Rem	Ft	1305	\$ 10.00	\$ 13,050.00
2040025	Fence, Rem	Ft	100	\$ 10.00	\$ 1,000.00
2040035	Guardrail, Rem	Ft	50	\$ 10.00	\$ 500.00
2040050	Pavt, Rem	Syd	2240	\$ 10.00	\$ 22,400.00
2040055	Sidewalk, Rem	Syd	2700	\$ 7.50	\$ 20,250.00
2050010	Embankment, CIP	Cyd	750	\$ 20.00	\$ 15,000.00
2050016	Excavation, Earth	Cyd	9225	\$ 20.00	\$ 184,500.00
2050031	Non Haz Contaminated Material Handling and Disposal, LM	Cyd	1000	\$ 30.00	\$ 30,000.00
2050041	Subgrade Undercutting, Type II	Cyd	2000	\$ 40.00	\$ 80,000.00
2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	62	\$ 100.00	\$ 6,200.00
2080036	Erosion Control, Silt Fence	Ft	2500	\$ 1.00	\$ 2,500.00
2090001	Project Cleanup	LSUM	1	\$ 5,000.00	\$ 5,000.00
3020016	Aggregate Base, 6 inch	Syd	10310	\$ 8.00	\$ 82,480.00
3020020	Aggregate Base, 8 inch	Syd	16980	\$ 10.00	\$ 169,800.00
3020028	Aggregate Base, 11 inch	Syd	3400	\$ 12.00	\$ 40,800.00
3060020	Maintenance Gravel	Ton	1000	\$ 25.00	\$ 25,000.00
3087011	Geotextile Fabric	Syd	1000	\$ 4.00	\$ 4,000.00
4020987	Sewer, CI IV, 12 inch, Tr Det B	Ft	1948	\$ 50.00	\$ 97,400.00
4020988	Sewer, CI IV, 15 inch, Tr Det B	Ft	153	\$ 55.00	\$ 8,415.00
4020989	Sewer, CI IV, 18 inch, Tr Det B	Ft	589	\$ 60.00	\$ 35,340.00
4020993	Sewer, CI IV, 24 inch, Tr Det B	Ft	455	\$ 65.00	\$ 29,575.00
4020995	Sewer, CI IV, 36 inch, Tr Det B	Ft	47	\$ 70.00	\$ 3,290.00
4030006	Dr Structure Cover, Adj, Case 2	Ea	10	\$ 500.00	\$ 5,000.00
4030010	Dr Structure Cover, Type B	Ea	11	\$ 550.00	\$ 6,050.00
4030040	Dr Structure Cover, Type G	Ea	10	\$ 650.00	\$ 6,500.00
4030050	Dr Structure Cover, Type K	Ea	32	\$ 650.00	\$ 20,800.00
4030200	Dr Structure, 24 inch dia	Ea	20	\$ 1,000.00	\$ 20,000.00
4030210	Dr Structure, 48 inch dia	Ea	21	\$ 1,500.00	\$ 31,500.00
4030220	Dr Structure, 60 inch dia	Ea	1	\$ 2,500.00	\$ 2,500.00
4030231	Dr Structure, 84 inch dia	Ea	1	\$ 5,000.00	\$ 5,000.00
4030232	Dr Structure, Add Depth of 84 inch dia, 8 foot to 15 foot	Ft	5	\$ 300.00	\$ 1,500.00
4030240	Dr Structure, Add Depth of 24 inch dia, 8 foot to 15 foot	Ft	10	\$ 100.00	\$ 1,000.00
4030250	Dr Structure, Add Depth of 48 inch dia, 8 foot to 15 foot	Ft	10	\$ 150.00	\$ 1,500.00
4030260	Dr Structure, Add Depth of 60 inch dia, 8 foot to 15 foot	Ft	5	\$ 200.00	\$ 1,000.00
4030280	Dr Structure, Adj, Add Depth	Ft	50	\$ 225.00	\$ 11,250.00
4030312	Dr Structure, Tap, 12 inch	Ea	5	\$ 400.00	\$ 2,000.00
4030336	Dr Structure, Tap, 36 inch	Ea	1	\$ 700.00	\$ 700.00
4037050	San Structure Cover, Adj, Case 2	Ea	10	\$ 500.00	\$ 5,000.00
4037050	Storm Water Treatment System	Ea	1	\$ 50,000.00	\$ 50,000.00
4037050	Wtr Structure Cover, Adj, Case 2	Ea	10	\$ 500.00	\$ 5,000.00

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5010005	HMA Surface, Rem	Syd	19576	\$ 4.00	\$ 78,304.00
5010025	Hand Patching	Ton	100	\$ 125.00	\$ 12,500.00
5010045	HMA, 3E3	Ton	1738	\$ 70.00	\$ 121,660.00
5010051	HMA, 4E3	Ton	780	\$ 75.00	\$ 58,500.00
5010057	HMA, 5E3	Ton	585	\$ 80.00	\$ 46,800.00
5010061	HMA Approach	Ton	3129	\$ 90.00	\$ 281,610.00
8020038	Curb and Gutter, Conc, Det F4	Ft	10730	\$ 20.00	\$ 214,600.00
8027001	Curb and Gutter, Conc, Det D3, Modified	Ft	415	\$ 20.00	\$ 8,300.00
8030010	Detectable Warning Surface	Ft	940	\$ 40.00	\$ 37,600.00
8030036	Sidewalk Ramp, Conc, 6 inch	Sft	7050	\$ 7.50	\$ 52,875.00
8030046	Sidewalk, Conc, 4 inch	Sft	81305	\$ 5.00	\$ 406,525.00
8080063	Fence Gate, 16 foot, for 72 inch Chain Link Fence	Ea	2	\$ 5,000.00	\$ 10,000.00
8080065	Fence Gate, 16 foot, for 96 inch Chain Link Fence	Ea	1	\$ 10,000.00	\$ 10,000.00
8100403	Sign, Type III, Rem	Ea	50	\$ 10.00	\$ 500.00
8100404	Sign, Type IIIA	Sft	300	\$ 15.00	\$ 4,500.00
8100405	Sign, Type IIIB	Sft	300	\$ 15.00	\$ 4,500.00
8107051	Culbertson Signal Removal	LSUM	1	\$ 10,000.00	\$ 10,000.00
8110024	Pavt Mrkg, Ovly Cold Plastic, 6 inch, Crosswalk	Ft	1200	\$ 4.00	\$ 4,800.00
8110063	Pavt Mrkg, Ovly Cold Plastic, Lt Turn Arrow Sym	Ea	16	\$ 250.00	\$ 4,000.00
8110068	Pavt Mrkg, Ovly Cold Plastic, Only	Ea	16	\$ 250.00	\$ 4,000.00
8110077	Pavt Mrkg, Ovly Cold Plastic, Thru and Rt Turn Arrow Sym	Ea	16	\$ 250.00	\$ 4,000.00
8110091	Pavt Mrkg, Polyurea, 4 inch, White	Ft	5000	\$ 0.50	\$ 2,500.00
8110092	Pavt Mrkg, Polyurea, 4 inch, Yellow	Ft	200	\$ 0.50	\$ 100.00
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	50	\$ 85.00	\$ 4,250.00
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	50	\$ 1.00	\$ 50.00
8120100	Dust Palliative, Applied	Ton	15	\$ 500.00	\$ 7,500.00
8120140	Lighted Arrow, Type C, Furn	Ea	4	\$ 500.00	\$ 2,000.00
8120141	Lighted Arrow, Type C, Oper	Ea	4	\$ 1.00	\$ 4.00
8120170	Minor Traf Devices	LSUM	1	\$ 40,000.00	\$ 40,000.00
8120250	Plastic Drum, High Intensity, Furn	Ea	400	\$ 30.00	\$ 12,000.00
8120251	Plastic Drum, High Intensity, Oper	Ea	400	\$ 1.00	\$ 400.00
8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	1200	\$ 5.00	\$ 6,000.00
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	1200	\$ 1.00	\$ 1,200.00
8120370	Traf Regulator Control	LSUM	1	\$ 20,000.00	\$ 20,000.00
8167011	Turf Establishment, Performance	Syd	6000	\$ 5.00	\$ 30,000.00
8210001	Monument Box	Ea	5	\$ 500.00	\$ 2,500.00
8210005	Monument Box Adjust	Ea	5	\$ 500.00	\$ 2,500.00
8210010	Monument Preservation	Ea	5	\$ 500.00	\$ 2,500.00
8230421	Water Shutoff, Adj, Case 1	Ea	10	\$ 250.00	\$ 2,500.00
8230422	Water Shutoff, Adj, Case 2	Ea	15	\$ 250.00	\$ 3,750.00
8230431	Gate Box, Adj, Case 1	Ea	15	\$ 500.00	\$ 7,500.00
8230432	Gate Box, Adj, Case 2	Ea	10	\$ 500.00	\$ 5,000.00
8507051	Private Site Improvements	LSUM	1	\$ 100,000.00	\$ 100,000.00
SUBTOTAL FOR CATEGORY 1 - ROADWAY IMPROVEMENTS					\$ 3,010,000.00
CATEGORY 2 -SIDE STREET EXTENSIONS					
2040020	Curb and Gutter, Rem	Ft	1740	\$ 10.00	\$ 17,400.00
2050010	Embankment, CIP	Cyd	250	\$ 20.00	\$ 5,000.00
2050016	Excavation, Earth	Cyd	2720	\$ 20.00	\$ 54,400.00
3020020	Aggregate Base, 8 inch	Syd	13020	\$ 8.00	\$ 104,160.00
5010005	HMA Surface, Rem	Syd	4643	\$ 4.00	\$ 18,572.00
5010045	HMA, 3E3	Ton	424	\$ 70.00	\$ 29,680.00
5010051	HMA, 4E3	Ton	340	\$ 75.00	\$ 25,500.00
5010057	HMA, 5E3	Ton	255	\$ 80.00	\$ 20,400.00
5010061	HMA Approach	Ton	683	\$ 90.00	\$ 61,470.00
8010007	Driveway, Nonreinf Conc, 8 inch	Syd	150	\$ 55.00	\$ 8,250.00
8020038	Curb and Gutter, Conc, Det F4	Ft	2030	\$ 20.00	\$ 40,600.00
SUBTOTAL FOR CATEGORY 2 - SIDE STREET EXTENSIONS					\$ 390,000.00

ITEM CODE	DESCRIPTION	UNIT	TOTAL	UNIT PRICE	COST
CATEGORY 3 - ALLEY IMPROVEMENTS					
8507051	North - Emmons to Longview	LSUM	1	\$ 50,000.00	\$ 50,000.00
8507051	North - Harrison to Longview	LSUM	1	\$ 50,000.00	\$ 50,000.00
8507051	North - Longview to Harrison	LSUM	1	\$ 50,000.00	\$ 50,000.00
8507051	South - Culbertson to Emmons	LSUM	1	\$ 50,000.00	\$ 50,000.00
8507051	South - Longview to Harrison	LSUM	1	\$ 50,000.00	\$ 50,000.00
SUBTOTAL FOR CATEGORY 3 - ALLEY IMPROVEMENTS					\$ 250,000.00
CATEGORY 4 - LANDSCAPE SUMMARY					
8267010	Ornamental Plantings	Sft	24251	\$ 5.00	\$ 121,255.00
8267050	Deciduous Tree, 3" Caliper, Median	Ea	57	\$ 525.00	\$ 29,925.00
8267050	Deciduous Tree, 3" Caliper, Tree Lawn	Ea	66	\$ 525.00	\$ 34,650.00
8267050	Lighting	Ea	82	\$ 10,000.00	\$ 820,000.00
8357001	Irrigation Sleeves	Ft	3100	\$ 15.00	\$ 46,500.00
8357010	Irrigation	Sft	24300	\$ 2.00	\$ 48,600.00
8357021	Double Shredded Hardwood Bark Mulch, 4" depth	Cyd	300	\$ 50.00	\$ 15,000.00
8357021	Planting Mix, 6" depth	Cyd	450	\$ 50.00	\$ 22,500.00
8357050	Bench, 6 feet	Ea	14	\$ 2,500.00	\$ 35,000.00
8357050	Bike Rack	Ea	7	\$ 1,500.00	\$ 10,500.00
8357050	Gateway Features	Ea	2	\$ 15,000.00	\$ 30,000.00
8357050	Litter Receptacle	Ea	14	\$ 2,000.00	\$ 28,000.00
8357050	Phone Charging Station with Area Light	Ea	7	\$ 2,000.00	\$ 14,000.00
8357050	Recycle Receptacle	Ea	14	\$ 2,000.00	\$ 28,000.00
8507010	Brick Pavers	Sft	9700	\$ 14.00	\$ 135,800.00
SUBTOTAL FOR CATEGORY 4 - LANDSCAPE SUMMARY					\$ 1,420,000.00
SUBTOTAL FOR CATEGORY 1 - ROADWAY IMPROVEMENTS					\$ 3,010,000.00
SUBTOTAL FOR CATEGORY 2 - SIDE STREET EXTENSIONS					\$ 390,000.00
SUBTOTAL FOR CATEGORY 3 - ALLEY IMPROVEMENTS					\$ 250,000.00
SUBTOTAL FOR CATEGORY 4 - LANDSCAPE SUMMARY					\$ 1,420,000.00
SUBTOTAL ALL CATEGORIES					\$ 5,070,000.00
CONTINGENCY (10%)					\$ 507,000.00
TOTAL OPINION OF PROBABLE CONSTRUCTION COST					\$ 5,577,000.00
FRANCHISE UTILITY RELOCATIONS					\$ 200,000.00
ROW ACQUISITION					\$ 20,000.00
DESIGN/CONSTRUCTION SERVICES (22%)					\$ 1,227,000.00
TOTAL OPINION OF PROBABLE PROJECT COST					\$ 7,024,000.00
VALUE ENGINEERING IDEAS:					
REDUCE CONCRETE SIDEWALK IN ROW					\$ (250,000.00)
REDUCE SCOPE OF STREETScape					\$ (100,000.00)
SUBSTITUTE CONCRETE SIDEWALK FOR BRICK PAVERS					\$ (150,000.00)
TOTAL OPINION OF VALUE ENGINEERING ITEMS					\$ (500,000.00)
POTENTIAL OUTSIDE FUNDING:					
MDOT TURNBACK MONIES					\$ (300,000.00)
TRANSPORTATION ALTERNATIVE PROGRAM (TAP GRANT)					\$ (500,000.00)
SAFETY GRANT					\$ (200,000.00)
TOTAL OPINION OF OUTSIDE FUNDING					\$ (1,000,000.00)
POSSIBLE CITY COST					\$ 5,524,000.00

Section 12: Maintenance of Traffic

Summary

The Maintenance of Traffic Plan (MOT) concept is based on the reconstruction of Auburn Road from Culbertson Avenue to Dequindre Road. It is being explored if the limits for the east end of the project end at Hessel Ave. with the remaining block between Hessel and Dequindre being completed as part of the RCOC's Dequindre Road Reconstruction. The east end reconstruction limit will continue to be coordinated the city and RCOC.

The Auburn Road project will include full reconstruction, meaning, a full-depth removal and replacement of the existing roadway. Proposed work includes the placement of HMA (asphalt) pavement, concrete curb, sewer placement, sidewalk upgrades, sidewalk ramp replacement, pavement markings, permanent signing, and miscellaneous improvements. Traffic signals will not be upgraded with this project; however, some temporary work may be required to facilitate traffic during construction.

Since this project is a relatively short project, one half of a mile long, the projects construction will be split into two halves and can be completed in one full construction season. Traffic will be severely impacted during construction, which will lead to impacts to local businesses. Meetings with the business owners during design, ample construction signing and good communication along with maintaining access all will be very important during construction. One additional coordination issue as mentioned above is the RCOC planned construction of Dequindre Road north and south of Auburn Road during the 2019 construction season.

This project is anticipated to require a pre-phase of construction prior to the main road reconstruction. The early phase of construction will focus on the replacement of parking that will be lost along the building frontages once road construction starts. This will include adding permanent side street parking in areas along the project route, where needed, to replace the parking lost in front of the buildings. Work will also be concentrated on the alleys and rear parking areas identified for improvements. Potential temporary alternate parking areas will need to be explored for businesses. Constant communication with all affected businesses will be required to avoid issues during construction.

After this initial work is complete, Phase 1 of the project will commence. One-way traffic is anticipated to be maintained during construction. Either EB or WB traffic can be selected. EB traffic is thought to be favored as entering traffic will come in from Rochester Road thoroughfare, unaffected by the anticipated 2019 Dequindre Road Reconstruction Project. Exiting traffic from the area will need to leave through Dequindre Road. To facilitate road construction, any planned median islands and curb bump-outs will not be constructed during this first phase to provide more room for traffic. These islands and bump-outs will be built in a later phase.

After Phase 1 is complete, one-way EB traffic will be shifted to the newly constructed section of road, and construction will focus on the remaining half of road.

The first Phase of construction is anticipated to be the north half of the road. This is the side where the proposed mainline storm sewer system will be built allowing the proposed storm sewer system to function in Phase 2. After pavement removal and excavation, the sewer, aggregate base, curb and gutter and HMA pavement through the leveling course will be constructed on the selected half.

Sidewalk placement, especially in areas adjacent to accessing business front doors, will require close coordination with the business with work possibly being done in off business hours. Temporary walkways will need to be constructed in order to maintain front door access, with the potential of access being lost for several days during placement of the concrete sidewalk. Sidewalk upgrades at ramps will be included and are anticipated to be done as each phase progresses. Removal of sidewalk should be limited so pedestrian access can be maintained and impacts are minimized.

Night work does not look to be an option due to the close proximity of residential housing to the project site.

Access to the numerous commercial drives will be lost once construction starts on that side of the road. Access to the businesses will be maintained through the improved alleys during the road work. The proposed pavement section in the reconstruct portion is anticipated to be 17 inches deep. When excavating to subgrade, neither vehicle nor pedestrian access will be able to cross perpendicular to the work zone. Every other side street on the side of construction will be closed. Once the closed side street approaches are constructed, the previously constructed side street approaches will be opened and the remaining approaches will be closed.

00

Emergency vehicles traveling down Auburn Road may be delayed while waiting for traffic to clear during certain peak hours.

There are no public bus routes in the corridor that would be affected.

There is one school on Auburn Road (Ruether Middle School) at Culbertson Ave. Coordination with the local schools and school systems will be required as sidewalks will need to be replaced around the school and the work zone will be in close proximity.

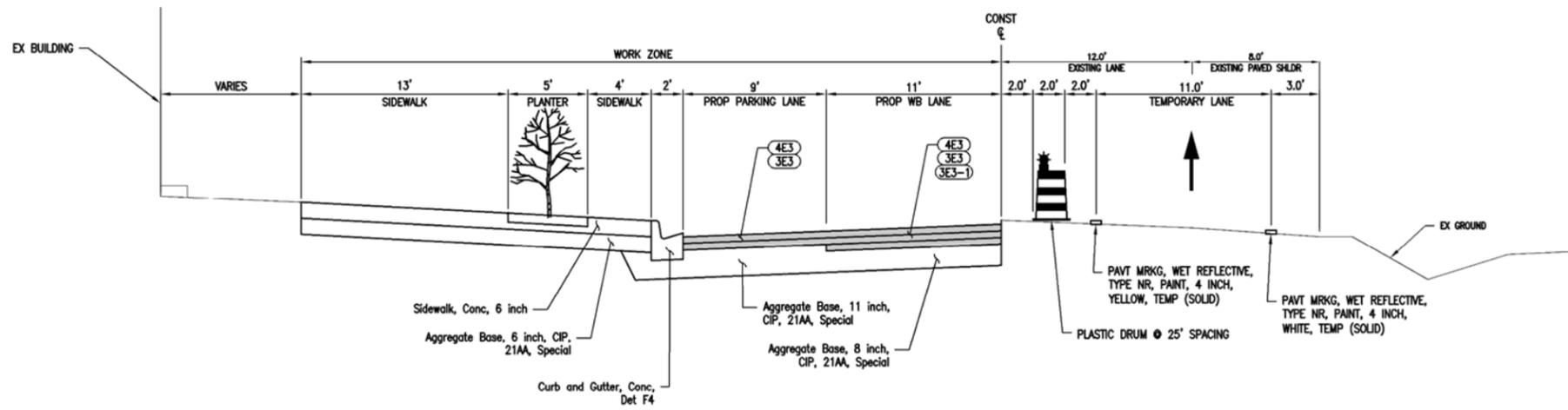
A reduced speed limit during construction will be investigated. 25-30 mph would be an adequate speed limit through the work zone which would be a reduction from the 40 mph speed limits which exists throughout the project limits.

Sequence of Construction of Major Items of work

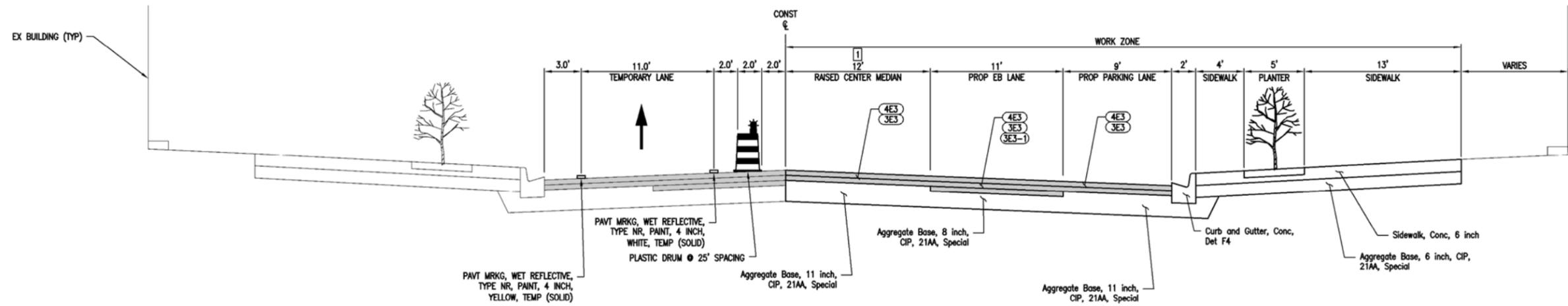
1. Place construction warning signs along Auburn Road and all side streets.
2. Place erosion control devices
3. Construct additional parking areas on side streets on both sides of Auburn Road. Construct sewers system and drainage upgrades in alleys as required. Pave alleys and make parking improvements in private lots as required to mitigate lost parking areas.
4. Shift EB traffic to the southerly lane. Detour WB traffic, east of Culbertson.
5. Remove existing pavement, sidewalks on north have of the road.
6. Place underground storm improvements on north half of the project.
7. Place proposed pavement section and concrete curb and gutter (excluding raised median islands and bump-outs) on north half of the project.
8. Pave HMA through levelling course on north side of the road.
9. Place street lights or coordinate with DTE on placement of north side street lighting.
10. Place sidewalk and decorative features (excluding plantings) on north side.
11. Once complete, place temp striping for continued EB travel on newly place pavement.
12. Shift EB traffic to northerly lane. Continue to detour WB traffic, east of Culbertson.
13. Remove existing pavement, sidewalks on south have of the road.
14. Place underground storm improvements on south half of the project.
15. Place proposed pavement section and concrete curb and gutter (including raised median islands) on south half of the project. During this phase, construct curb and gutter bump-outs along the south half of the road.
16. Pave HMA through levelling course on south half of the road.
17. Place street lights or coordinate with DTE on placement of south side street lighting.
18. Place permanent signing, restoration and plantings.
19. Place sidewalk and decorative features (excluding plantings) on south side.

20. Shift EB traffic to southerly thru lane. Construct concrete curb and gutter for bump-outs along the north half of the project.
21. Place final lift of HMA over entire road.
22. Place permanent pavement markings.
23. End of project.

The following typical sections highlight the staging concept described above.



PHASE 1



PHASE 2

1 DO NOT CONSTRUCT RAISED CENTER MEDIAN THIS PHASE. INSTEAD, CONSTRUCT TEMPORARY PAVEMENT FOR LATER STAGING PURPOSES.

DRAWING PATH: P:\0166_0200\0190\10010_Auburn_Road_EPE_Study\Drawings\Civil\Stage\MOT_Typicals.dwg Nov 15, 2017 - 4:31pm

DATE	PROJ NUMBER	ENG	PROJ LEAD	CAD	COUNTY	CITY/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
01/18/2010	019A-17-010	ML	RO	JP	OAKLAND	CITY OF ROCHESTER HILLS	1" = 10'	IND 13	NAVD 1988

CITY OF ROCHESTER HILLS
AUBURN ROAD CORRIDOR IMPROVEMENTS
MAINTAINING TRAFFIC - TYPICAL SECTIONS

REVISIONS:

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Section 13: Landscape Summary

Summary

In developing the landscape vision for Auburn Road, several key factors have been taken into account. These factors include creating a sense of place and community identity, developing a design that enhances the walkability and safety for pedestrians, and enhancing the aesthetic value to make Auburn Road corridor an enjoyable place to be; thus enhancing the economic vitality of the area.

“There’s no “there” there.” – Gertrude Stein, Everybody’s Autobiography. This quote by Gertrude Stein is significant, in that it reflects human nature’s desire to live in, and experiences environments that evoke a sense of belonging. Designing Auburn Road’s landscape to create a sense of place, a heart for the surrounding community and an established identity also has a direct effect on elements of enhanced safety, walkability and aesthetic values of the design.

For the Auburn Road corridor, two gateway features are proposed at the bookends of the project, indicating a sense of arrival and an identity. These gateway features demarcate the entrance to the community, and establishes a uniqueness to the corridor that differentiates this area from the surrounding Auburn Road context.

Creating a boulevard along the roadway, while providing opportunities for green infrastructure and plantings allows for the introduction of a plant palette that will enhance the appeal of the corridor. This plant palette can include a combination of low-growing shrubs, perennials, ornamental grasses and groundcover. It can provide opportunities for 4 seasons of interest and soften the look of the roadway. This, paired with the introduction of street trees in the median and flanking either side of the roadway will create a rhythm to the design, and provide a human-scale sense of enclosure.

In the roundabout option, the median is carried through the corridor in a consistent and seamless fashion. This unified look allows for more plantings and street trees, emphasizes a human scale environment and increases the aesthetic value of the area.

In the LSL design option, development of the left turn storage lanes at the intersections result in shorter, individual median islands along the corridor. Regardless of the discontinuous medians, opportunities for plantings and trees still exist for this design option.

The introduction of streetlights opens up opportunities for pedestrians to experience the corridor in evening hours. Streetlights also help to increase the safety and walkability of the streetscape at night, as well as reinforce a human-scale environment. Light poles can also be utilized to enhance the aesthetics of the corridor by equipping them with banner arms and allowing signage and plantings to be hung from them. These banners could be interchangeable for different events, seasons or simply demarcate the arrival to the Auburn Road Corridor. The hanging baskets could be filled with annuals, bringing an additional pop of color on a vertical scale. The light poles themselves, along with other site furnishings, can be unified in design vernacular so the overall streetscape is developed to have one cohesive look.

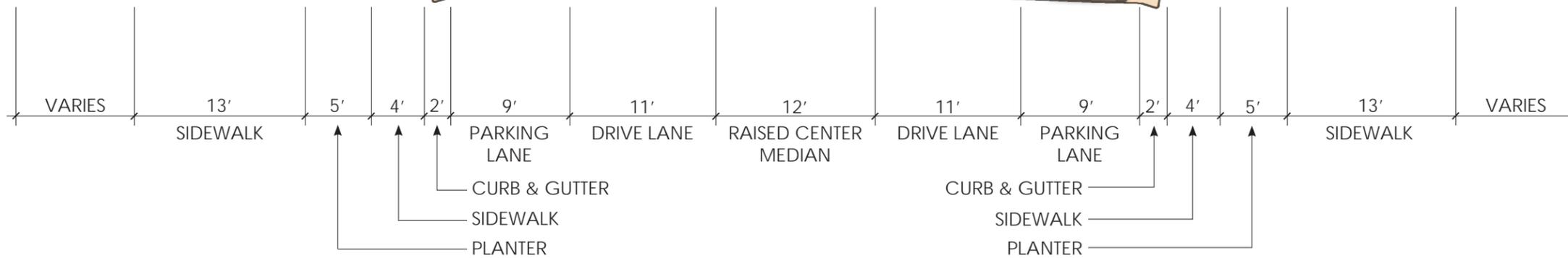
Site furnishings are a key component in developing a streetscape that has a sense of place. Pedestrians are encouraged to shop and walk in these areas, but providing items such as benches, bike racks, litter and recycle receptacles and phone charging stations perceptually conveys to those in the space that they are invited to sit, relax, eat, bike and enjoy the vitality and energy within the corridor.

Walkability and safety is a key component in the development of a functional corridor environment. Items such as lighting, the proper width of sidewalks, and changing in pavement materials from concrete to a

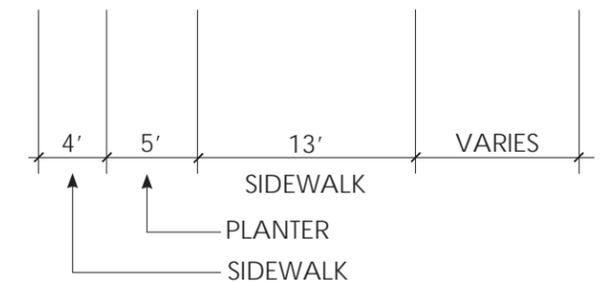
brick ribbon along the back of curb are all elements that help to make pedestrians feel safe in streetscape environments. In addition to these items, providing landscape between the sidewalks and streets, as well as providing on-street parking creates a buffer between the pedestrian zone and the moving vehicles in the street.

The following typical section renderings highlight the ideas in mind for the corridor.

PROPOSED AUBURN ROAD TYPICAL #2
SECTION



BEHIND-THE-CURB DRAINAGE
SECTION



AUBURN ROAD EPE STUDY

SECTION RENDERINGS | ROCHESTER HILLS, MICHIGAN



Section 14: MDOT Coordination

Currently, Old M-59 (Auburn Rd) is owned and maintained by the Michigan Department of Transportation (MDOT). Discussions between the City of Rochester Hills and MDOT have been in progress regarding transfer of ownership of the roadway from MDOT to the City. There are some benefits to the City taking ownership as listed below.

The future speed limit is critical to the success of this project. The project aims to lower the speed limit from 40 mph to 25 mph. How this is done is dependent on ownership of the road after project completion. If MDOT continues to own the road, the speed limit set may have to be verified via a speed study by the State Police. If the City owns the road, the speed limit can be set by the City.

In addition to the speed limit issue, many design aspects of the project are dictated by the design speed of the road. Sight distance is an important aspect which effects on street parking. If MDOT continues to own the road, the project would require a review through MDOT's Permit process. If the City decides to move forward into design of this project through MDOT's Permit process, various design elements could be challenged. In addition, a maintenance agreement would have to be signed between the City and MDOT requiring the City to maintain all improved areas including parking areas.

If ownership is transferred to the City of Rochester Hills, all regulatory signs should have Traffic Control Orders (TCO) issued for legal enforcement.

Below is a list of Pro's and Con's of accepting ownership of the roadway from MDOT:

City Ownership of Auburn Road

Pro's

1. Increased level of service provided to community
2. MDOT permitting no longer required for this stretch of road
3. Increased Act 51 funding
4. Increased Metro Act Funds
5. Ability to better control improvements in the corridor

Con's

1. Greater demand on City staff and equipment
2. Increased liability for City
3. Increased funding for traffic signal at Dequindre
4. Increased funding for traffic signal at Culbertson
5. Increased permitting reviews for City staff
6. Cost and time to go through road transfer process
7. More infrastructure to maintain

The following correspondence highlights the discussions between the City of Rochester Hills and MDOT concerning the "Turnback" or transferring of the road from MDOT to the City.



innovative *by* nature

Bryan K. Barnett
Mayor

October 24, 2017

City Council

Stephanie Morita
District 1

James Kubicina
District 2

Susan M. Bowyer, Ph.D.
District 3

Thomas W. Wiggins
District 4

Kevin S. Brown
At-Large

Dale A. Hetrick
At-Large

Mark A. Tisdell
At-Large

Ms. Sandra Montes, P.E.
Michigan Department of Transportation
Oakland Transportation Service Center
800 Vanguard
Pontiac, MI 48341

Dear Ms. Montes:

Thank you for meeting with City staff to discuss the Auburn Road corridor jurisdiction and an Auburn Road reconstruction proposal between Culbertson Avenue and Dequindre Road.

The Auburn Road reconstruction project is in the early stages of development. The City commenced a review of the Auburn Road corridor in 2016 with a consultant team consisting of LSL Planning, MKSK, OHM Advisors, and the Chesapeake Group.

The consultant team focused on a section of Auburn Road between Culbertson Avenue and Dequindre Road for redevelopment. Goals of the redevelopment plan include improving pedestrian safety and accommodations, better defining the existing parking for adjacent businesses, incorporating additional landscaping items, repaving and rebuilding traffic calming elements for Auburn Road, and encouraging new development opportunities.

The Auburn Road corridor plan was adopted in January 2017. The Rochester Hills City Council then elected to proceed with contracting OHM Advisors to perform Early Preliminary Engineering (EPE) for a potential Auburn Road (Culbertson Avenue to Dequindre Road) reconstruction project. OHM is finalizing the EPE report but a question of jurisdictional transfer of Auburn Road ownership has been raised that may affect how the next step of preliminary engineering design is handled.

We discussed four road ownership alternatives at our October 6, 2017 meeting. These include:

- 1) No change in jurisdiction and design the reconstruction project with an MDOT permit review.
- 2) Rochester Hills assumes jurisdiction of approximately one half mile of Auburn Road between Culbertson Avenue and Dequindre Road (MDOT retains control of the westerly leg of Auburn Road/Culbertson Avenue and the intersection).

3) Rochester Hills assumes jurisdiction of approximately 2-miles of Auburn Road between Rochester and Dequindre Roads (MDOT retains control of approximately 4-miles of Auburn Road west of Rochester Road and the intersection of Rochester/Auburn Road).

4) Rochester Hills takes ownership of Auburn Road between the westerly and easterly corporate limits (approximately 6 miles).

It is our hope to achieve a mutually beneficial arrangement between the MDOT and Rochester Hills that will provide Rochester Hills the flexibility to control design elements of the proposed Auburn Road project while also providing the MDOT an opportunity to release itself from a long-term responsibility of owning and maintaining a section of Auburn Road.

The City's preference is Option 2, jurisdiction transfer of Auburn Road between Culbertson Avenue and Dequindre Road. We are, however, also willing to consider and further discuss the other options. Please reply and let me know what options are acceptable to the MDOT and whether any other incentives are available, financial or any other level of support.

Please call me at 248.841.2486 or e-mail davis@rochesterhills.org if you would like to review this matter in greater detail. In the meantime, we will look forward to your reply regarding the MDOT's position or conditions regarding the options for transferring the jurisdiction of Auburn Road.

Sincerely,



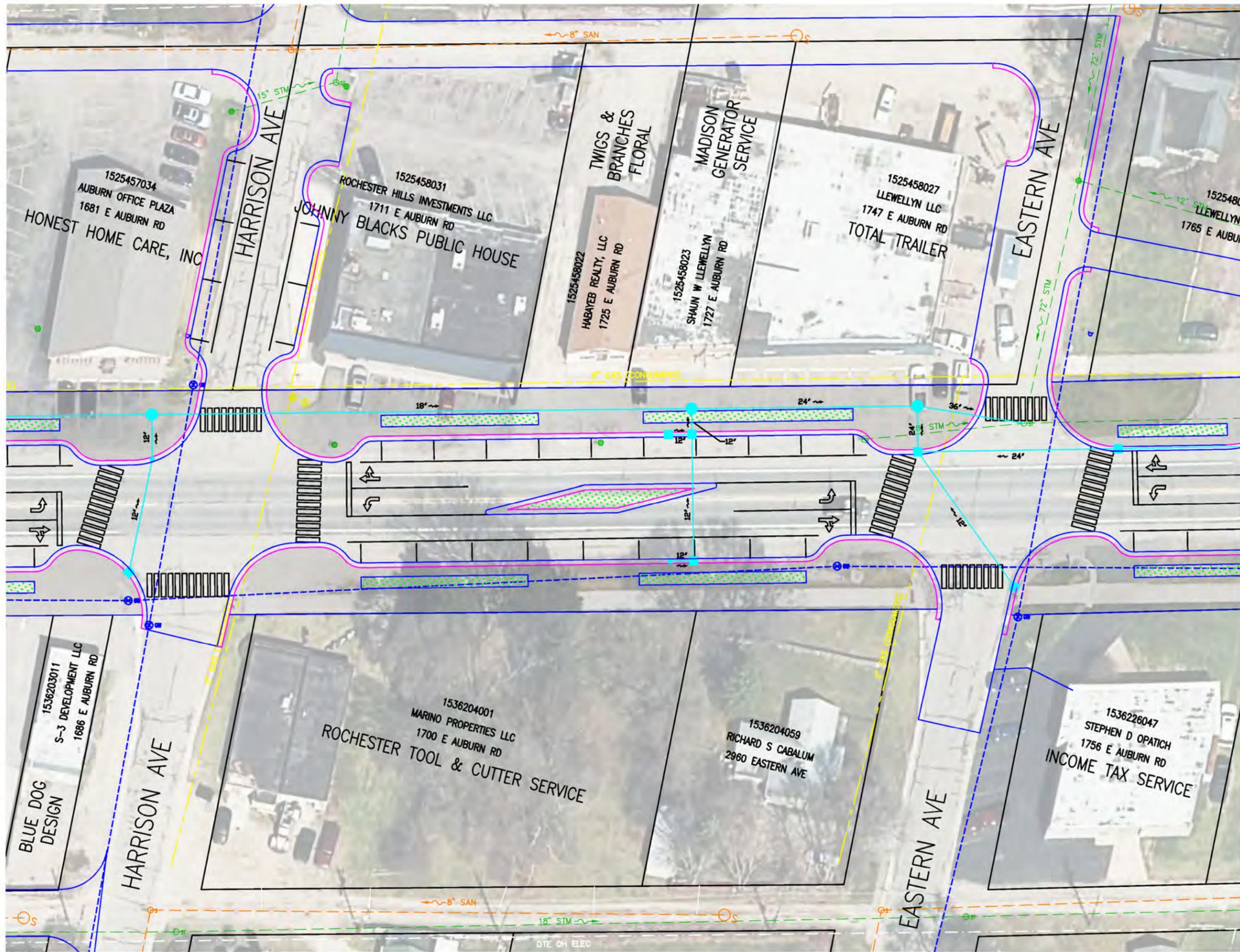
Paul M. Davis, P.E.
Deputy Director/City Engineer

c: Bryan K. Barnett, Mayor
Allan E. Schneck, P.E., Director; DPS
Paul G. Shumejko, P.E., PTOE, Transportation Engineer; DPS
Sara Roediger, AICP, Director; Planning & Economic Development
Kristen Kapelanski, AICP, Manager; Planning & Economic Development
Mark Loch, P.E.
Rhett Gronewelt, P.E.

I:\Eng\PUBL\E16015 Auburn Rd Olde Towne Traffic Study\2017.October24.Montes.docx

Section 15: Base Map and Preliminary Design

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DRAFT
CONCEPT
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OHM
ARCHITECTS ENGINEERS PLANNERS
3400 Plymouth Road
Livonia, MI 48150
P (734) 522-6711 | F (734) 522-6427
OHM-ADVISORS.COM

AUBURN RD



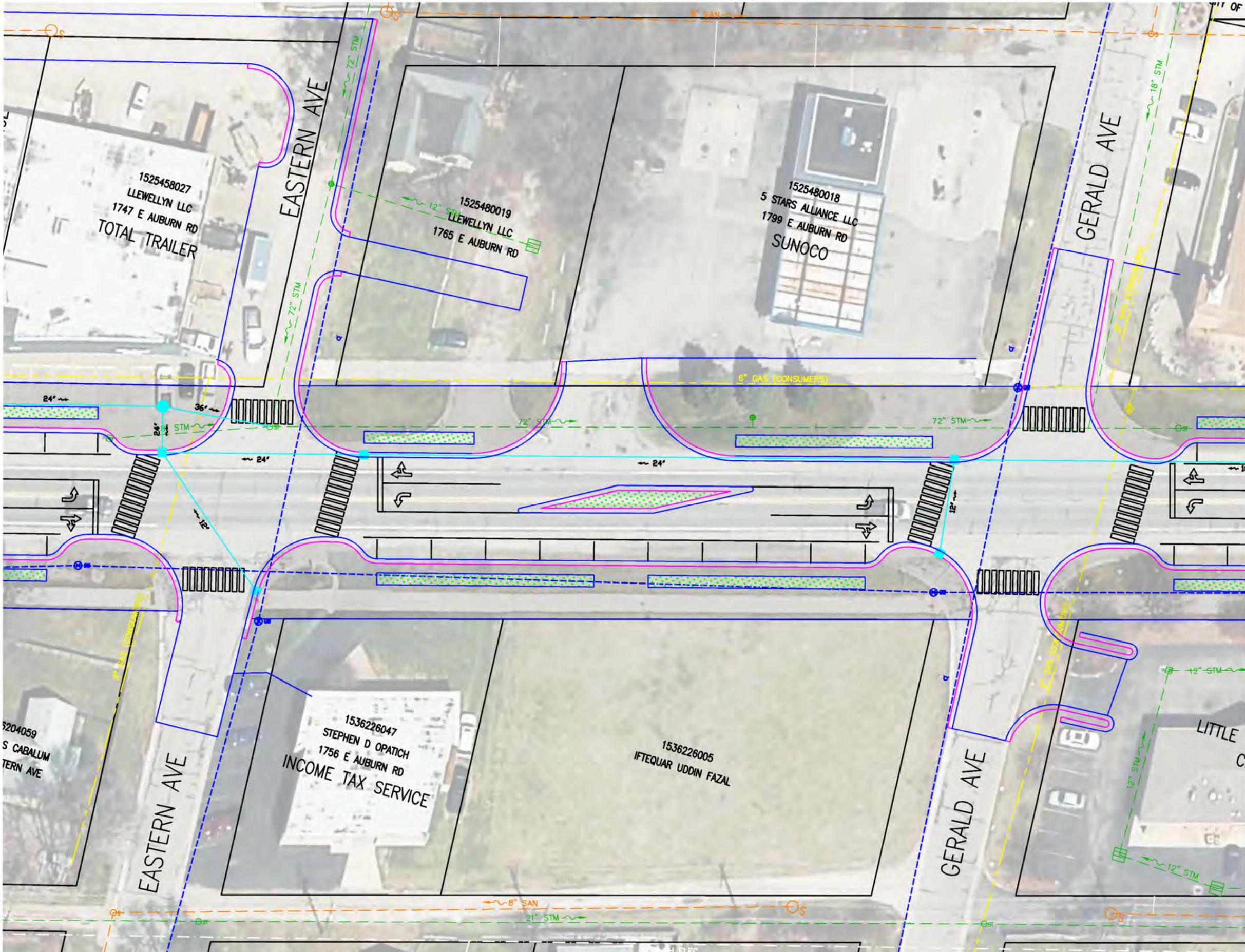
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DATE	PROJ NUMBER	ENG	PROJ LEAD	CAD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
01/17/2012	019-17-010	ML	RO	JP	OWAUND	CITY OF ROCHESTERHILLS	N	V	NAVD 1985
CITY OF ROCHESTER HILLS AUBURN ROAD CORRIDOR IMPROVEMENTS LSL CONSTRUCTION SHEET - HARRISON TO EASTERN									

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NO.	DATE	DESCRIPTION

DATE	PROJ NUMBER	ENG	INL	PROJ LEAD	CAD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM

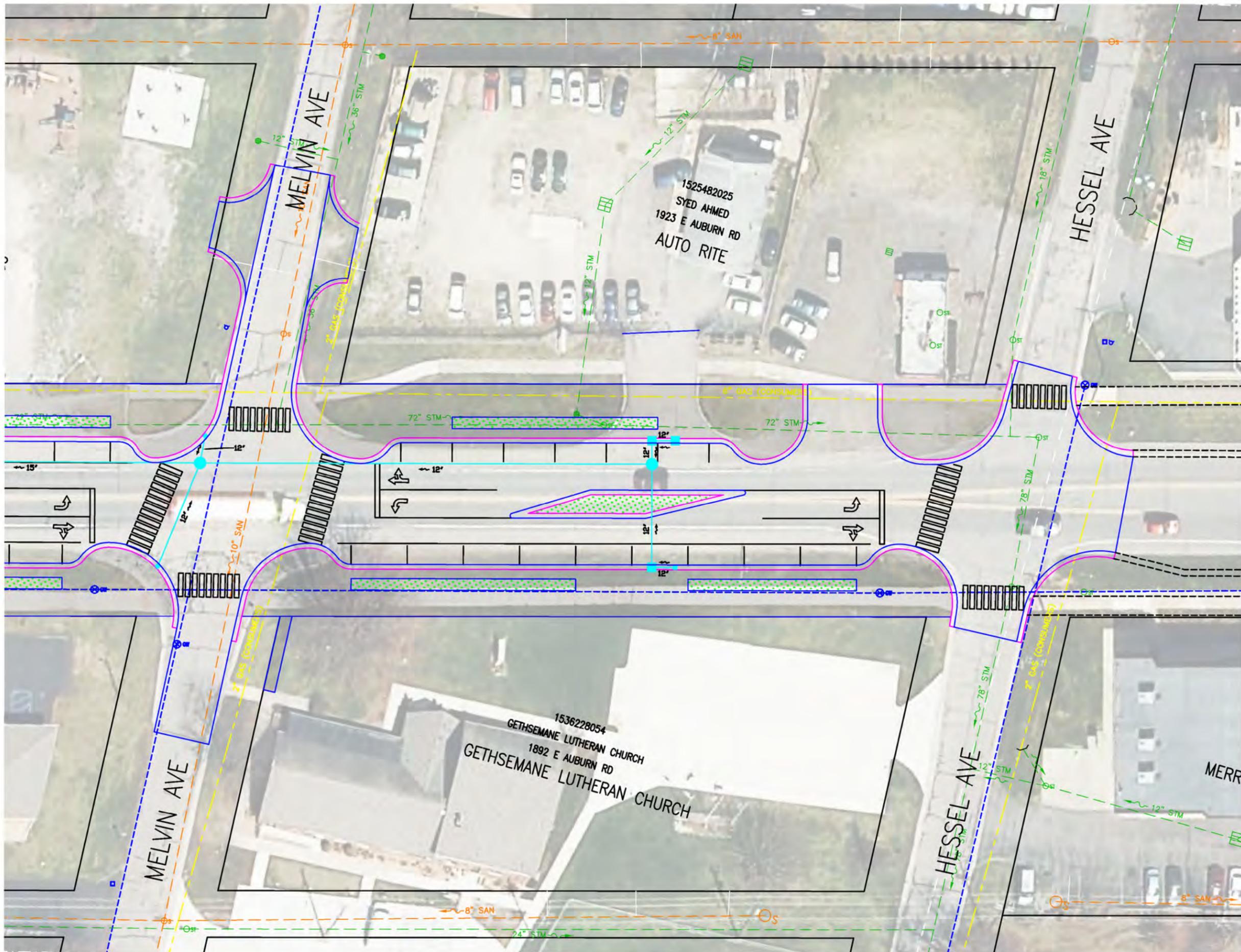
CITY OF ROCHESTER HILLS
AUBURN ROAD CORRIDOR IMPROVEMENTS
LSL CONSTRUCTION SHEET - EASTERN TO GERALD



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AUBURN RD



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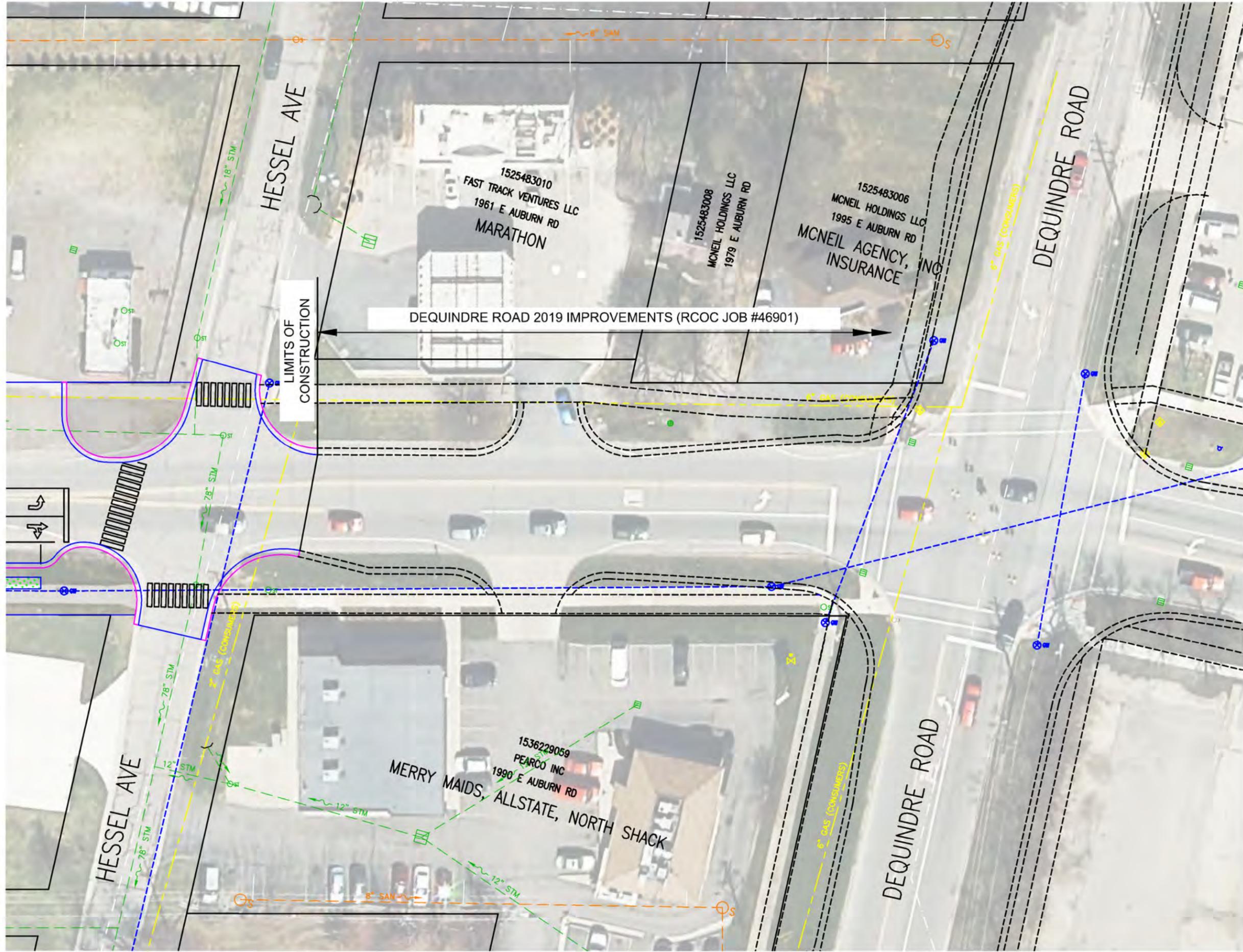
NO.	DATE	DESCRIPTION

DATE	PROJ NUMBER	ENG	PROJ LEAD	CAD	COUNTY	CITY/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM

CITY OF ROCHESTER HILLS
AUBURN ROAD CORRIDOR IMPROVEMENTS
LSL CONSTRUCTION SHEET - MELVIN TO HESSEL

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HESSEL AVE

DEQUINDRE ROAD

AUBURN RD

LIMITS OF CONSTRUCTION

DEQUINDRE ROAD 2019 IMPROVEMENTS (RCOC JOB #46901)

1525483010
FAST TRACK VENTURES LLC
1961 E AUBURN RD
MARATHON

1525483008
MCNEIL HOLDINGS LLC
1979 E AUBURN RD

1525483006
MCNEIL HOLDINGS LLC
1995 E AUBURN RD
MCNEIL AGENCY, INC
INSURANCE

1536229059
PEARCO INC
1990 E AUBURN RD
MERRY MAIDS, ALLSTATE, NORTH SHACK

DRAFT
CONCEPT
NOT APPROVED



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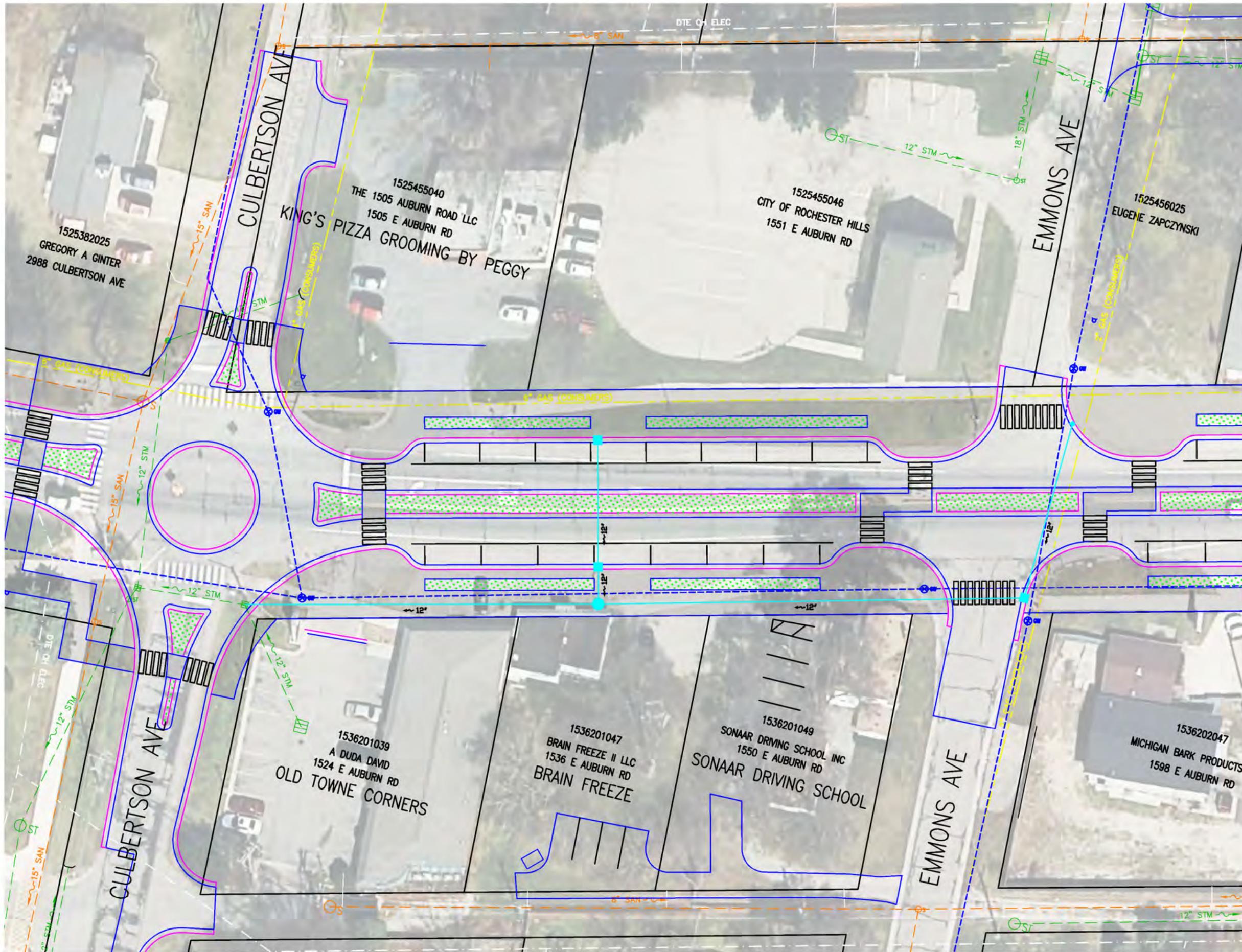
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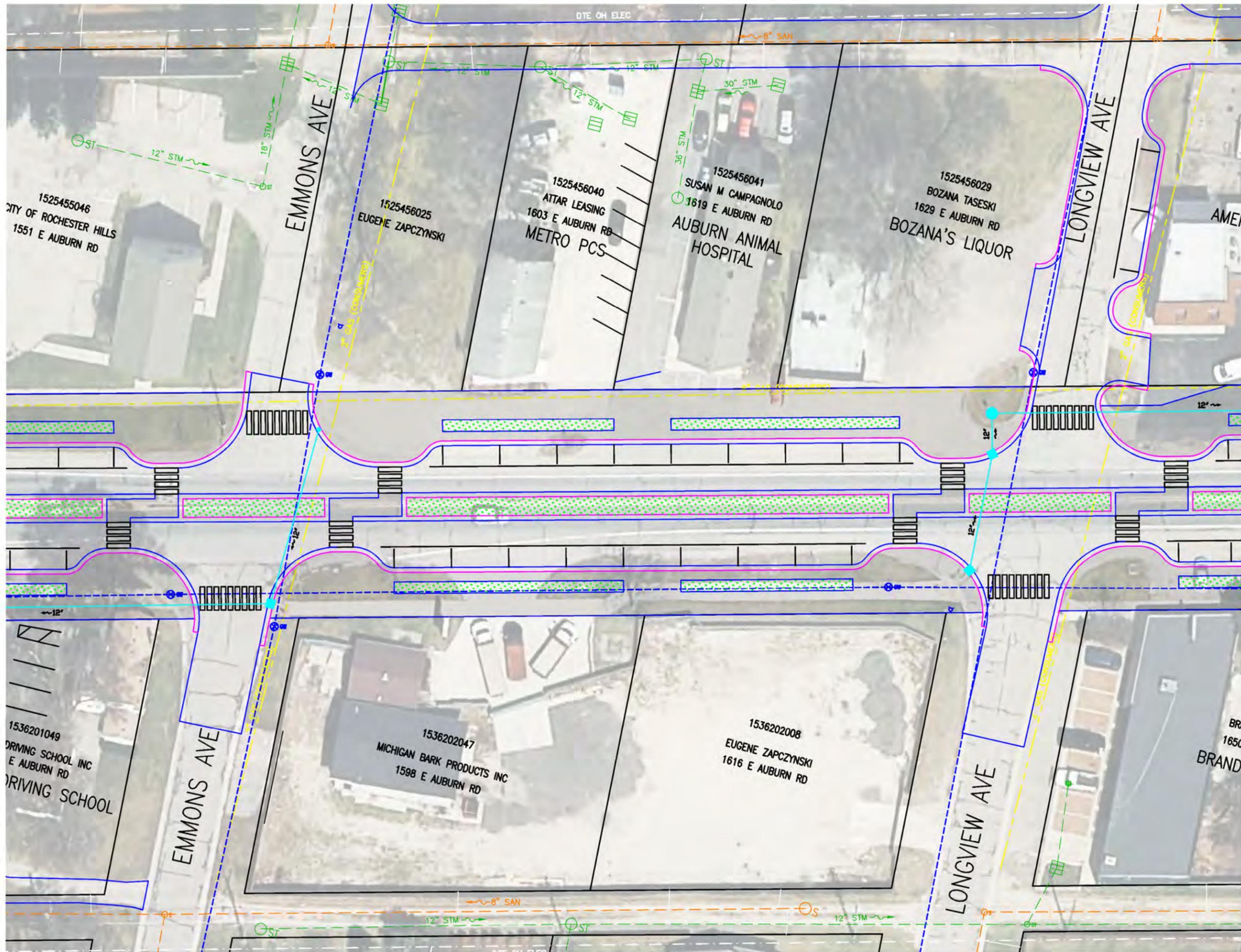
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09/17/2010	111	IL	RG	IP	OKLAHOMA	CITY OF ROCHESTER HILLS	1" = 100'	NAD 83	NAVD 1988
CITY OF ROCHESTER HILLS AUBURN ROAD CORRIDOR IMPROVEMENTS ROUNDABOUT CONSTRUCTION SHEET - CULBERTSON TO EMMONS									
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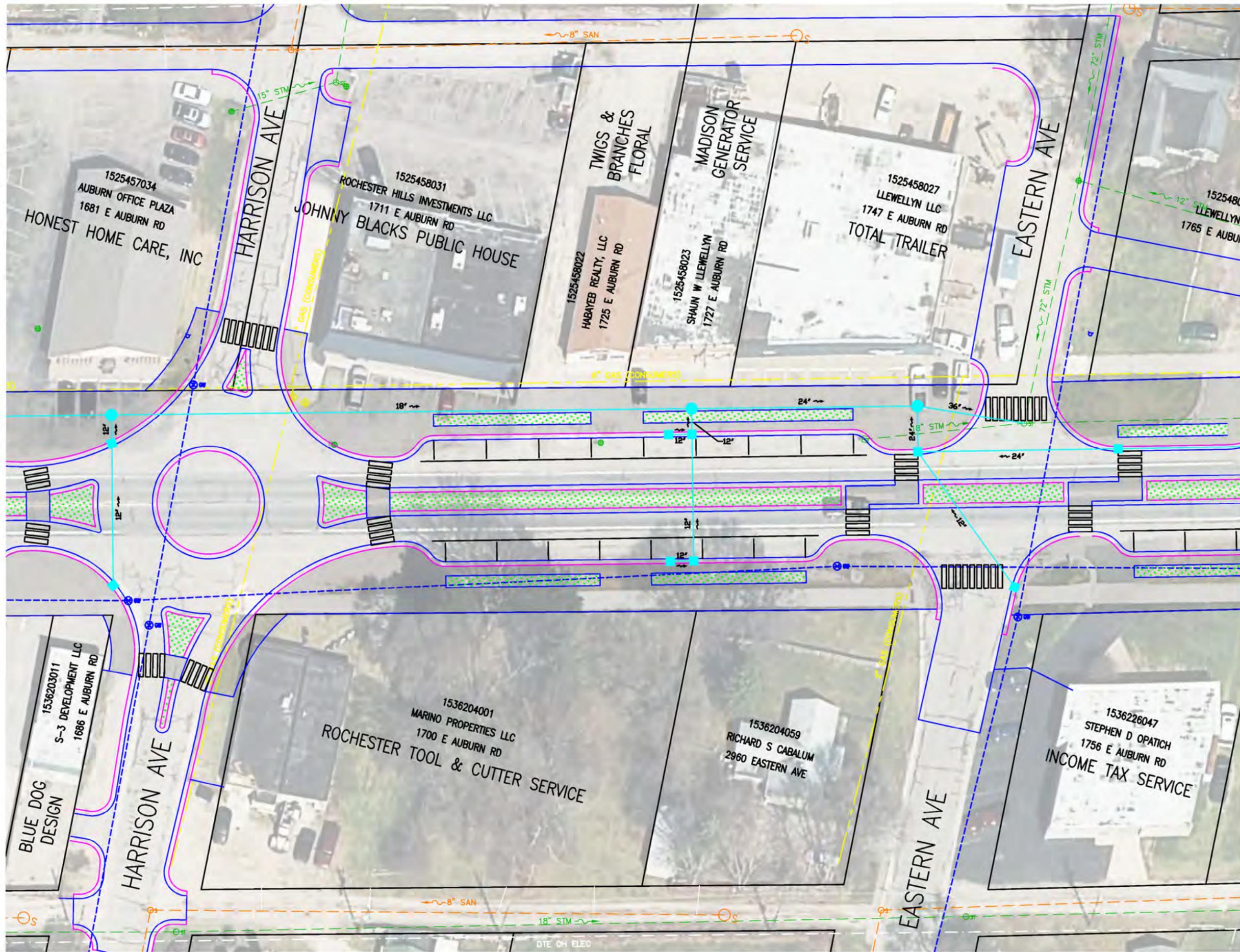
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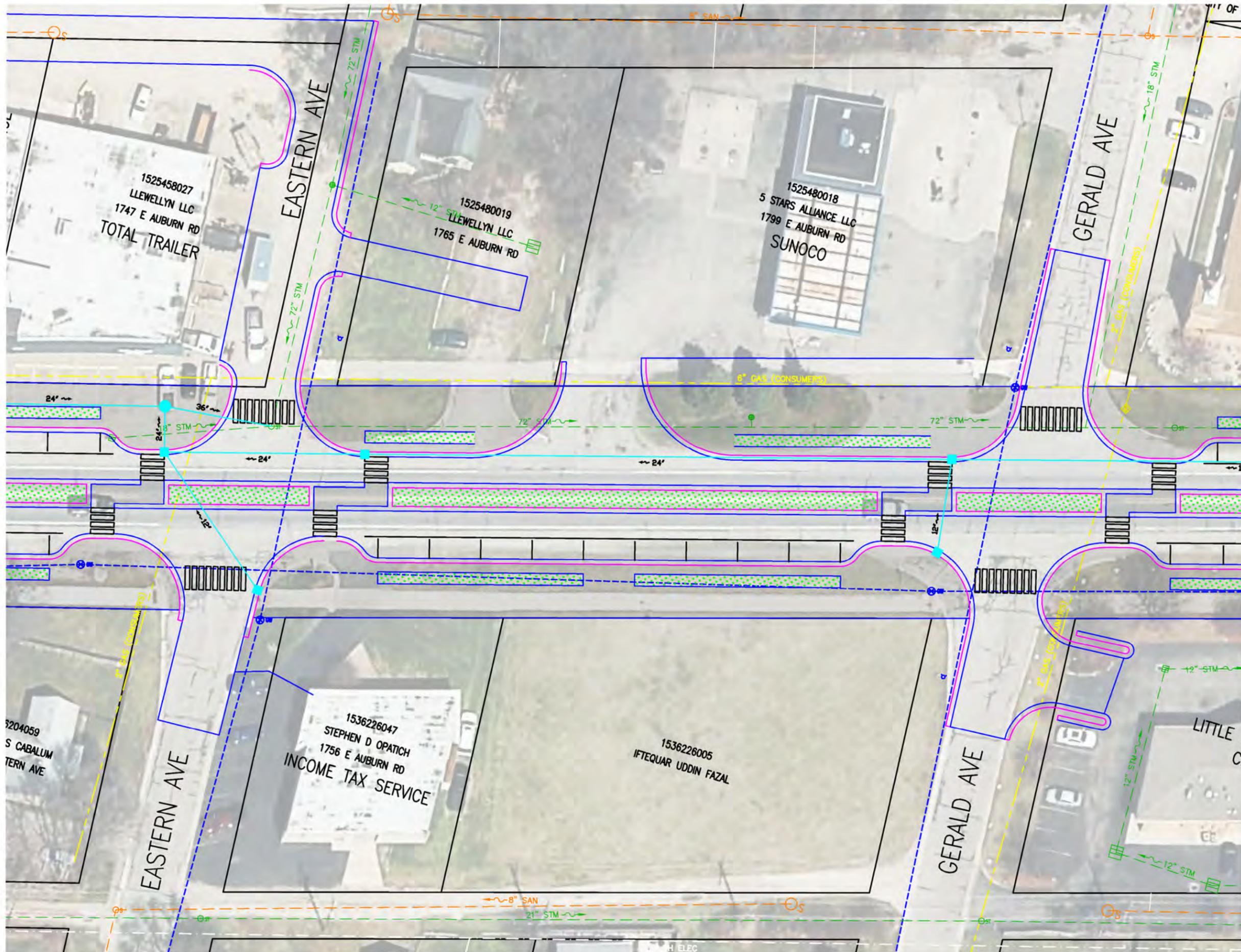
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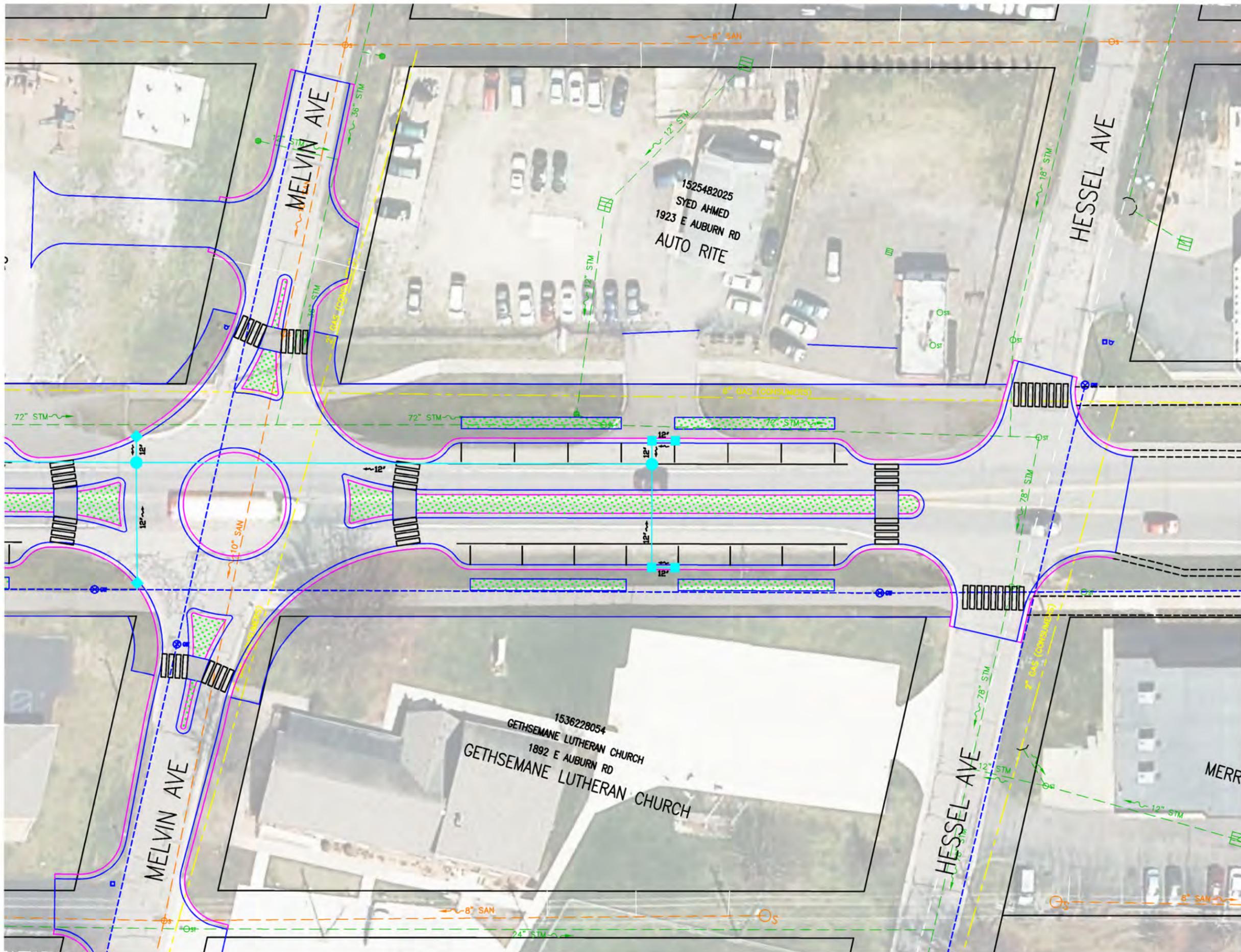
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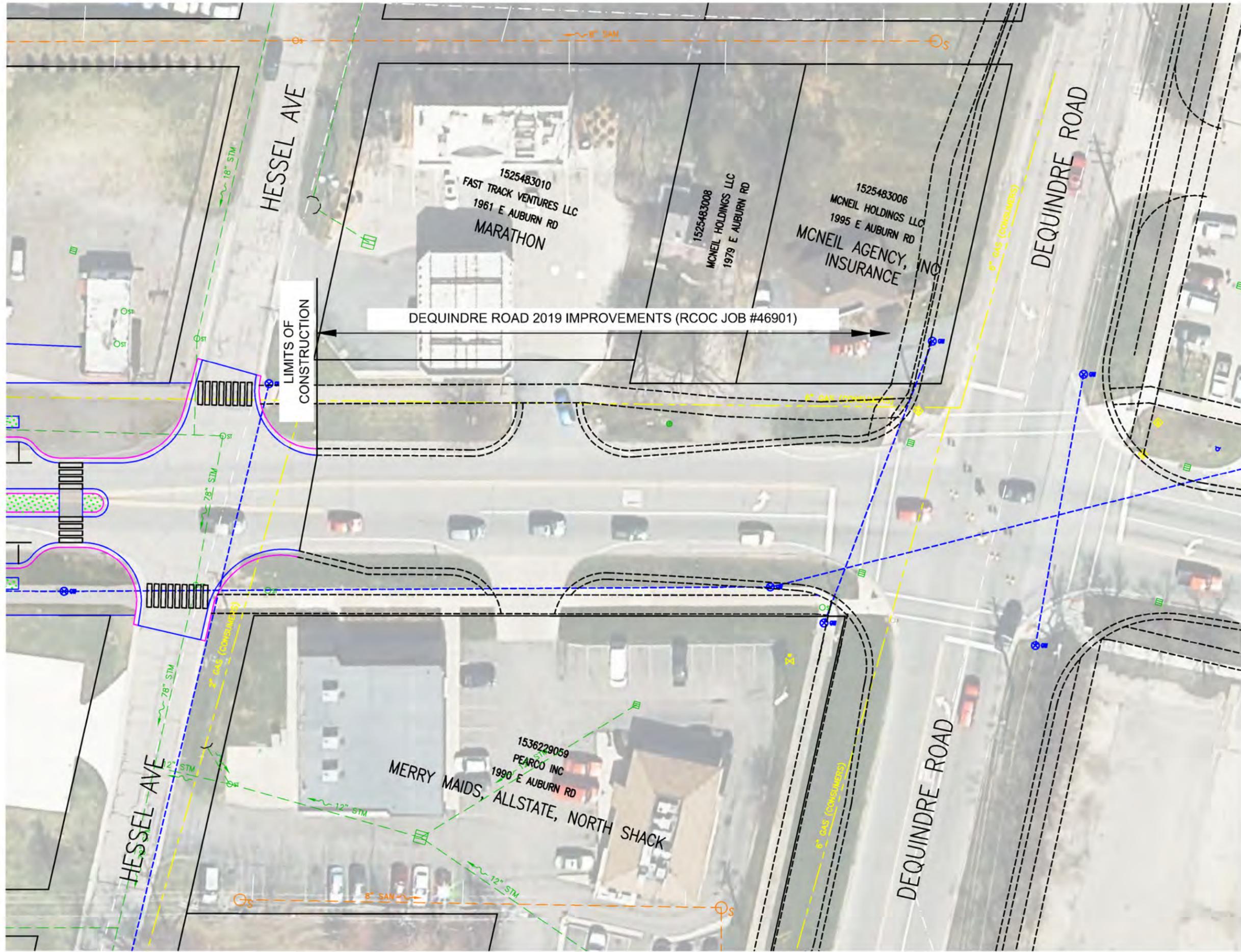
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HESSEL AVE

DEQUINDRE ROAD

AUBURN RD

HESSEL AVE

DEQUINDRE ROAD

1525483010
FAST TRACK VENTURES LLC
1961 E AUBURN RD
MARATHON

1525483008
MCNEIL HOLDINGS LLC
1979 E AUBURN RD

1525483006
MCNEIL HOLDINGS LLC
1995 E AUBURN RD
MCNEIL AGENCY, INC
INSURANCE

1536229059
PEARCO INC
1990 E AUBURN RD
MERRY MAIDS, ALLSTATE, NORTH SHACK

LIMITS OF CONSTRUCTION

DEQUINDRE ROAD 2019 IMPROVEMENTS (RCOC JOB #46901)

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Section 16: Project Meeting Minutes



City of Rochester Hills Auburn Rd EPE Study Progress Meeting #1 Minutes

Date: July 27, 2017

Time: 2:00 pm

Location: Rochester Hills City Hall

Attendees: See attached signing sheet

Meeting Purpose: Summarize existing information gathered and discuss potential impacts to the area based on future development.

General Information

1. Project includes the development of a downtown min-boulevard section that includes the addition of dedicated left turn lanes at most side street approaches, on-street parallel parking, pedestrian crossings, storm sewer upgrades, and aesthetic improvements.

Progress Meeting

1. Wetland Impacts
 - a. There are thought to be no wetlands located in the project limits.
2. Historical Properties
 - a. #1304 Auburn Rd – City stated this is no longer a historic property. This leaves only one City designated historical property (1425 Auburn Rd) which is located west of Culbertson Ave. and outside of this project limit.
3. Traffic
 - a. According to SEMCOG, traffic volumes are as follows:
 - i. EB Auburn W of Dequindre – 6135 AADT (2015)
 - ii. WB Auburn W of Dequindre – 5660 AADT (2015)
 - b. City of Rochester Hills to send additional information on traffic information to OHM.
 - c. OHM has investigated additional information on crash data since the meeting. Results of this investigation shows a total of 154 crashes in the past 5 years (excluding 2017). One (1) crash was fatal. 3 crashes were incapacitating (Type A). 9 crashes were visible injury (Type B). 21 crashes were no visible injury (Type C). 120 crashes were no injury. More investigation will be required to identify causes. New geometrics most likely will solve any existing problem in this corridor.
4. Contamination
 - a. No Sanborn Maps have been identified for this segment of roadway. OHM will continue to investigate. City of Rochester Hills to send OHM records of previous land uses of properties along Auburn Rd to assist.
 - b. OHM to check LUST site Data base

5. Project Geometrics

- a. Currently this segment of roadway is owned by MDOT. If MDOT maintains ownership, using a minimum 0.4% longitudinal slope is adequate as it meets MDOT standards. However, if City of Rochester Hills takes ownership of the roadway, their standards dictate a minimum of 1.0% longitudinal slope. Using a minimum slope of 1% may lead to excessive cuts and fills which may cause more issues with door sills and utility impacts. OHM will investigate this to check the feasibility. Since future ownership of the roadway is still undetermined, if it look detrimental to use the minimum 1% criteria, OHM will continue design using MDOT standards until directed otherwise.
- b. It appears OHM does not have to most recent design files from LSL (includes proposed improvements up to the Culbertson Ave intersection). OHM to follow up with LSL on this.
- c. Currently, design shows access to the north side Harrison Ave being closed off. It is the City of Rochester Hill's desire to maintain access to this road. OHM will revise the proposed geometrics to allow access to Harrison Ave from Auburn Rd.
- d. OHM to take into account the work at Culbertson that is ongoing. OHM plans to survey this are once complete.
- e. Using a best fit "mathematical" profile (doesn't exactly match existing profile), some finish floor elevations remain lower than the proposed back of curb. Some options were discussed to address this issue. These options were:
 - i. Determine the age of the existing water main that runs along the south side of Auburn Rd. If this water main is old (City to investigate), then we will propose replacing the water main at a greater depth, allowing the lowering of the roadway profile while still maintaining a minimum 6' cover while having proposed top of curb elevation lower than all existing finish floor elevations.
 - ii. Look into different curb types that provide shorter curb heights (mountable curbs/4" F4 curb height/etc).
 - iii. Look into increasing the slope of the parking lane. Since this lane isn't a travel lane, greater cross slopes are allowed (up to 8%). The City expressed that 8% was too steep. A maximum allowed cross slope for the parking lane wasn't determined. ADA spots would have to be no more than 2%.
 - iv. If existing water main remains and the above options still result in some finish floor elevations being lower than the proposed top of curb elevation, the designers will investigate "behind-the-curb" drainage collection ideas.
- f. The City expressed concern about the maintenance requirement for the proposed boulevard medians. OHM will investigate aesthetically pleasing - low maintenance options and present to the City for discussion.
- g. The biggest issue that has to be resolved may be the closure of driveways off of Auburn Road. Several problems are presented:
 - i. If road stays an MDOT road, City may have no right to close these driveways if owners object.
 - ii. All businesses would have to agree to the driveway closures. Once several properties object, the whole plan starts to fall apart.
 - iii. Access to maintained parking areas from alleys will need to be discussed and planned for. Alley work may be required to satisfy business owners. If an acceptable alternate route (alleys) is available, this concept may have better chance of being accepted.

- iv. Some properties will have enough room in front of their building to still maintain some parking outside of the public ROW. These new parking areas may need to be part of the project and this cost may not have been included in the estimate.
- 6. Drainage
 - a. There is an existing 72" county storm sewer that proposed drainage will utilize to outlet into. This will require a permit. This will be shown on Base Plan.
 - b. OHM will obtain depths of this sewer and verify drainage from the entire half mile section can drain into this pipe via gravity flow.
 - c. Green Infrastructure was discussed.
 - i. Median storage of water runoff was discussed, but was not favored due to the downtown look being sought.
 - ii. Permeable pavers for the parking lane. OHM to provide examples and concept costs,
- 7. Maintenance of Traffic
 - a. The current Maintenance of Traffic plan presented by OHM showed two-way traffic being maintained in both stages of constructions. While very conceptual, constructing the project while maintaining two-way traffic seems feasible. Temporary parking will be required, especially in Phase 1. The location of the temporary parking lot will be moved from where shown in the exhibit to a property owned by the City (NW corner of the Emmons & Auburn intersection).
- 8. Potential Utility Impacts
 - a. OHM will continue investigating potential utility impacts in the area and present these areas of concern at the next meeting.
 - b. OHM will set up a Utility Meeting in the near future with all parties in the project area.
- 9. Street Lighting
 - a. As of now, there is no proposed street lighting. It needs to be decided who will own the future street lights (City or DTE). Acorn style post top lights are envisioned. Both the City and OHM will investigate lighting options and cost.
- 10. Project Funding
 - a. Several possibilities exist. A TIFA or CIA District could be developed. The city could apply for an Enhancement (TAP) Grant. If the roadway stays a MDOT owned roadway, some TAP funds are help for MDOT projects only. This roadway could possibly receive these funds.
- 11. Miscellaneous Items:
 - a. City would like a Project Schedule developed which includes design and construction items.
 - b. Plot cleanup items
 - i. Better aerial image will be used
 - ii. Some Buildings shown in LSL geometric plans are now gone. OHM to verify.
 - iii. OHM will provide another roll plot with individual property lines displayed, all known underground utilities shown, potential utility conflicts highlighted, business names, and ownership of alleyways shown. A more thorough design will be prepared to discuss more in-depth issues.
- 12. Next Meeting Date:
 - a. The week of Sept 4-8, prior to Public Meeting.
 - b. OHM will have all deliverables prepared for the City by Friday, September 15th.



City of Rochester Hills Auburn Rd EPE Study Progress Meeting #2 Minutes

Date: August 11, 2017

Time: 10:00 am

Location: Conference Call

Attendees: Allan Schneck, Paul Davis, Sara Roediger, Kristen Kapelanski, Pamela Valentik, Mark Loch, Rhett Gronevelt, Sarah Huddas, Kevin Reschke

Meeting Purpose: Summarize existing information gathered and discuss potential impacts to the area based on future development.

General Information

1. Project includes the development of a downtown min-boulevard section that includes the addition of dedicated left turn lanes at most side street approaches, on-street parallel parking, pedestrian crossings, storm sewer upgrades, and aesthetic improvements.

Progress Meeting

1. Update on Upcoming Meeting with Business Owners:
 - a. Has date been set?
 - i. No definitive date has been set yet. A tentative date of September 25 is being held, but this is dependent upon review of the deliverables OHM has prepared.
 - b. Has format been decided?
 - i. City of Rochester Hills is now leaning towards an invite-only meeting to individual blocks as opposed to an open-house style in order to have a more intimate discussion with individual property owners.
 - c. OHM's involvement in meeting?
 - i. This is TBD, but OHM should plan on attending in order to help answer specific questions in regards to design from the owners.
 - d. Meeting exhibit discussion
 - i. For the meetings with owners, OHM will plan on preparing multiple exhibits:
 - Current aerial we are using today, continually updating it based on design changes/comments from the City in the coming weeks.
 - Existing/Proposed parking alternatives per block. Each block will have its own exhibit that shows current existing parking, Proposed Alternative "A", Proposed Alternative "B", etc.
 - Landscaping alternatives. Exhibits for different median treatment options will be displayed.

2. Parking Discussion

- a. Discuss options for parking & access
 - i. Currently, there is no final concept. OHM to continue investigating multiple alternatives that will ultimately get property owners on board with the proposed plan.
 - ii. Ideally, the City would prefer to keep on-street parallel parking only. In a situation where Owners disagree, then the less-desirable options (in order) would be to offer side street parallel parking, alley upgrades to provide rear-access, a communal parking lot on one of the properties, and ultimately direct access into the property from Auburn.
- b. Land locked properties with no access except alleys – Will any driveway off Auburn be acceptable if property owners refuse to vacate?
 - i. Direct access from Auburn Rd into “land-locked” properties will eliminate multiple on-street parking spots and would be detrimental to the down-town atmosphere the City is going for. This option should only be considered if absolutely necessary.
- c. Zoning District Changes
 - i. The City plans to rezone this segment of Auburn Rd as a Flexible Business (FB) zoning district.
- d. Is it the City’s intent to build a permanent parking lot in the NW corner of Emmons & Auburn?
 - i. The City is open to the idea of it being a possible proposed parking alternative.

3. Alley Discussion

- a. LSL Study proposes many alley/parking improvements. How much of that is the City thinking occurs with this project?
 - i. This is unknown at this time. There is concern over legal ownership of some alleys. The City will investigate further on ownership of the alleys so we know what legally can be proposed. OHM will also dig deeper into this since this is a critical item potentially needed to alleviate parking issues.

4. Project Cost

- a. Items not originally included in LSL/OHM Study Cost estimate (ie water main, street lighting, alley work, landscaping)
 - i. The City is aware of the missing pay items from the conceptual cost estimate from the LSL/OHM study and understands that it is not an accurate representation of future proposed work.
 - ii. OHM to continue refining estimate as we go further into design.

5. Technical Discussion

- a. Discussion on road profile which is tied to maintaining existing water main
 - i. Paul to investigate age of water main and determine whether this should be replaced/lowered with this project or not.
- b. Finalize minimum road slope criteria
 - i. The profile of the road will ultimately be determined by its constraints (existing finish-floor elevations, multiple side street intersections, existing water main cover, etc). Design profile to have as steep of a longitudinal slope as possible while adhering to MDOT minimum allowable slopes.
- c. Drainage discussion where door sills are lower than road
 - i. If applicable, OHM will continue investigating options. There are options that can address this issue.

- d. Storm water Treatment options (ie Porous pavers in parking lanes) – cost & effectiveness would be dependent upon soils. Does the City have any soils information in this area?
 - i. The soil properties of this area are unknown. OHM to provide the City a soil boring location map for the City to obtain some soil borings.
 - ii. The City expressed they are more in favor of porous pavement over porous pavers.
- 6. Landscaping
 - a. Low maintenance/irrigation
 - i. The City expressed they were expecting median options to require irrigation. If there are other alternatives that provide equal aesthetics and don't require irrigation, the City would consider those alternatives. However, there is concern that landscaping options that don't require irrigation will have periods of "poor-aesthetics" and not equally match landscape options that have irrigation. OHM to continue investigating, keeping in mind the importance of year-round aesthetics.
- 7. Funding
 - a. OHM to organize some funding options that they expect are reasonable to obtain for the City to review.
- 8. Next Meeting Date:
 - a. Friday, August 25th at 10:00am.
 - b. OHM and the City will have bi-weekly progress meetings every Friday morning for the foreseeable future to review progress and receive comments to build on.



City of Rochester Hills Auburn Rd EPE Study Progress Meeting #3 Minutes

Date: Friday, August 25, 2017

Time: 10 am – 11 am

Location: Phone Conference Call – (844) 572-5683 Ext. 2452617

Meeting Purpose: To continue discussion on key items involving the Auburn Road Corridor Improvement plan between Culbertson and Dequindre in preparation for City's upcoming property owner meeting(s) in September and to continue to complete EPE Study.

City opened meeting with discussion on desired schedule. In CIP/budget sessions with Council they are anxious to see project move quickly (2018 vs 2019). OHM to prepare overall project schedule to outline critical steps and timeline.

1. Alley Discussion

a. Update on alley ownership

- i. From OHM's research, all plat records and online ROW information support our understanding on which alleys are private and which are public, as reflected on sketches. Title work was not initiated.
- ii. Rochester Hills provided OHM with plat records. OHM to review documentation. Rochester Hills (Paul) to meet with their attorney do the same.

2. Technical Discussion

- a. Water main was discussed to be about 30 years old. Any significant break history? It is assumed the water main will stay in place with the new road project.
 - i. Because of the age of the water main and the history of its condition, replacing the water main with this project does not justify the cost and



- effort to do so. The City and OHM agree to leave the water main alone and to generally design the road around it.
- ii. City provided OHM water and sewer service information. Will be added to plans. Eventually, consider curb stop locations relative to final surfaces and potential relocations/replacements.
- b. Behind curb options to deal with drainage where doorsills are lower than road.
 - i. As of now, OHM does not see this as being a problem. CBs/Inlets to be used and possible green infrastructure installations. OHM to continue investigating.
 - c. Other Stormwater Treatment options (ie. Porous pavers in parking lanes) – cost & effectiveness would be dependent upon soils.
 - i. OHM to continue investigating cost and feasibility. It appears from a preliminary investigation that soils in this area may provide adequate vertical drainage in order for these porous pavers/pavements to be practical.
 - ii. OHM to send over prepare unit cost pricing summary's for various options to the City
 - d. Local Soil Types along Auburn Road. Get TEC going on soil borings?
 - i. OHM to send a soil-boring map to Paul to review in the coming days. Paul to forward on to TEC and obtain borings. .
 - ii. Soil-boring results will help affirm GSI feasibility.
3. Alternate Road Concept (Roundabouts) – Since last meeting, OHM suggested considering roundabout installations to accommodate turning movements instead of center lefts, thus allowing a more continuous median. While this option provides benefits with traffic calming and aesthetics, there are concerns with its cost and ROW acquisition needs. The "mini" roundabouts are designed to accommodate truck turning, but they do require tracking on center island. The City would like OHM to continue investigating, and provide them with summary of Pros and Cons of the concept to better assist in the City



making a decision. In addition, OHM will provide the City with list of installed examples of smaller diameter “mini” roundabouts. Feasibility of this concept may also be dependent upon ownership of the road (MDOT or Rochester Hills).

4. Parking Discussion on a parcel by parcel review

The City/OHM reviewed the preliminary exhibits for parking/access options through the corridor. Specific considerations/constraints/options were discussed on a parcel by parcel basis. OHM to refine the exhibits based on the discussion and further evaluation of each parcel and deliver to the City for their review. The exhibits will illustrate the “preferred alternative” for parking/parcel access for each block of the project to aid the City in discussions with property owners.

5. Next Steps

a. Future meetings between OHM/City

- i. Next progress meeting on Friday, September 8th at 10:00 am.
- ii. Prior to next meeting, OHM will send the City a proposed soil boring map, finalized parking exhibits per block, permeable parking options/cost, alternative roundabout pro/con summary & median options.
- iii. Current meeting date with owners is tentatively scheduled for Monday, September 25th. (may be several smaller meetings) OHM to be available to attend.

b. EPE Study schedule

- i. OHM to send a project schedule to the City in the coming days.
- ii. Final EPE submittal to the City expected to be end of October.



City of Rochester Hills Auburn Rd EPE Study Progress Meeting #4 - Minutes

Date: Friday, September 8, 2017

Time: 10 am – 11 am

Location: Phone Conference Call – (844) 572-5683 Ext. 2452617

Meeting Purpose: To continue discussion on key items involving the Auburn Road Corridor Improvement plan between Culbertson and Dequindre in preparation for City's upcoming business meeting in September and to continue to complete EPE Study.

1. Alley Ownership Update

- i. Drawings reflect current research on ownership. For now, it will be assumed City would have rights to improve "Private" Alleys, but not confirmed. City of Rochester Hills to continue investigating with their attorneys.

2. Sight Distance Discussion

- a. Impacts on parking based on AASHTO criteria
 - i. Discussed that for lower DS (25-30), City will likely need to take ownership. With City ownership, speeds established by City. Following AASHTO, 25 or 30 DS will impact some parking. City could consider exceptions to AASHTO in "downtown" area.
 - ii. For now, OHM to propose geometrics that provide adequate sight distance at side street approaches, assuming 25 mph DS. They may come at the cost of some on-street parking spaces.
 - iii. Roundabout option, with its design features that calm traffic, this becomes less of a concern due to the slower effects the roundabouts would have on traffic speed.



3. Alternate Road Concept – Mini Roundabouts

a. City thoughts whether to explore this concept further

- i. City met with the Mayor prior to the meeting and the concept of roundabouts was generally well received. As design investigation continues, mini roundabouts provide a lot of “pros” that are worth investigating. Some of these being traffic calming characteristics, improved sight distance, more green space, and improved side street access onto Auburn Rd. OHM to continue exploring this option in comparison to the original LSL concept.
- ii. The concept of mini roundabouts along Auburn Rd was never previously considered and therefore will require public input.
- iii. Optimal placement of these mini roundabouts would be at the end of the corridor streets (Culbertson, & Melvin Ave), and one or two in middle. Current thought is at Harrison. OHM to update proposed geometrics accordingly for this option.
- iv. If the mini roundabout option is desired, cutting off access to Auburn Road from the remaining side streets (non-roundabout streets) may be worth revisiting. This would provide additional parking on the side streets while promoting the roundabouts as access points onto and off of Auburn Rd.

b. Permeable Pavers

- i. OHM to send over cost comparison of permeable pavers and other options to other parking lane pavement options (such as HMA, stamped conc, etc.) and the impacts they have on overall design.

4. Landscaping

a. Review OHM exhibit

- i. There was no concern with the current landscaping shown on the proposed typical exhibit. The lane widths will be revised to match the Typical Section.



5. Proposed Typical Section

- i. The City would like to see the parking lane width reduced from 10 ft to 9 ft (10.5 ft measured to face of curb).
- ii. Reduce the width of the sidewalk behind the back of curb from 6 ft to 4 ft. (subject to ADA, where applicable)
- iii. Add these remaining leftover widths to the outside sidewalk to make as wide as possible to accommodate bicyclists/pedestrians/potential outdoor seating.

6. OHM Project Schedule(s)

- i. Update project schedule to include meeting with MDOT & Rochester Hills in early October to discuss road turn-back.
- ii. Add October 23rd meeting with Mayor/Council to discuss road jurisdiction / pros & cons on all design alternatives.

7. OHM Preferred Option Exhibit Overview

- i. Did not have time to discuss this during this meeting. Hard copies of the exhibit were left with the City to comment on and send back to OHM.

8. Exhibits Required for City Meeting

- i. Proposed Landscape Section of the roadway geometrics
- ii. Roll plot of the LSL geometry* overlaid on top of an existing aerial
- iii. Roll plot of the mini roundabout geometry overlaid on top of an existing aerial.
- iv. Full-size plan sets of existing, proposed LSL geometry*, & proposed mini roundabout geometry for each block.
- v. Project schedule of major milestones shown as they pertain to owners.



*LSL geometry – refers to the LSL design concept with the geometry altered to adhere to current design standards and preferred City options.

9. Next Steps

a. Outstanding Items

- i. Pro's and Con's list update – OHM to provide feedback
- ii. Future meetings between OHM/City – Next scheduled meeting is for Thursday, September 21st at 9 am.
- iii. City meeting with the Owners scheduled for 8am, 9am, 10am, 1pm, 2pm, & 3pm on Monday, September 25th.
- iv. City meeting with Council/Mayor scheduled for October 23rd.
- v. City to schedule meeting with MDOT ASAP to discuss road turn-back prior to City's meeting with Council/Mayor on October 23rd.
- vi. Receive comments on parking exhibits (per block) from the City.
- vii. City & OHM to begin an outline of questions to ask Owners at the September 25th meetings.



City of Rochester Hills Auburn Rd EPE Study Progress Meeting #5 – Meeting Minutes

Date: Thursday, September 21, 2017

Time: 9:00 AM – 10:00 AM

Location: Rochester Hills City Hall

Meeting Purpose: To continue discussion on key items involving the Auburn Road Corridor Improvement plan between Culbertson and Dequindre in preparation for City's upcoming property owner/business meeting on Monday, September 25th as well as an MDOT coordination meeting on Tuesday, September 26th.

1. PROPERTY OWNER/BUSINESS MEETING

- a. Monday, September 25th starting at 8:00 am and going all day Meeting with property owners every hour.
- b. The City is preparing an agenda of topics to discuss on Monday with attendees.
- c. There is a particular desire to talk to the landlocked properties within the design limits, to see what their thoughts are on the proposed alternate access to their properties.
- d. Put "Draft: Concept not approved" on all proposed design exhibits.
- e. Ask about the road closures incorporated in the LSL concept and see what they think.
- f. Document e-mail addresses of the property owners/business owners and express that e-mail blasts will be done to keep them up-to-date on progress of the project.
- g. Gauge the reaction of the property/business owners on the roundabout design.
- h. Ask business owners how loading and unloading is done at their business. Include where this is done, what time of day, how many times a week/month and how long it takes.
- i. Material/exhibits at this public meeting will not be passed out unless someone insists. More verbal discussion than passing out exhibits.
- j. Add in quantities for proposed parking numbers to the proposed LSL and Roundabout concepts.
- k. Roundabout option would not have road closures, just the LSL version.
- l. Ask the business owners if they are currently planning to make any improvements to their properties in the next five years.
- m. Ask business owners, if this project goes forward, would they improve anything?



2. MDOT MEETING

- a. Tuesday, September 26th is the scheduled meeting with MDOT and Rochester Hills team.
- b. OHM to create draft of agenda for meeting, to include:
 - i. Determining if the design(s) we have proposed are viable under MDOT's jurisdiction. If not, discussion starts about possible jurisdiction hand-over to Rochester Hills. If they are open to it, ask what conditions they would have for a change of jurisdiction.
 - ii. Ask MDOT if lowering the speed limit to 25 MPH is viable under their jurisdiction.
 - iii. Confirm with MDOT their ROW limits.
 - iv. Ask MDOT for information on driveway permits within the corridor.
 - v. What funding can MDOT help obtain for the project?
- c. Rhett Gronevelt and Mark Loch will attend on behalf of OHM.

3. DESIGN & FUNDING DISCUSSION

- a. The Mayor would like to consider closing the roads in the design, as LSL had indicated.
- b. Discuss with the Mayor and Council the following topics:
 - i. Roundabout design
 - ii. MDOT jurisdiction
 - iii. Closing of the roads
 - iv. Alley Improvements
 - v. Possibility of having a public work session on the design
 1. Determine how this event should be facilitated and organized.
- c. The October closed session meeting is now off the table. Work with the Mayor and City Council to get thoughts and consensus on roundabouts and other design feedback.
- d. For either option, discuss elimination of driveways while also accommodating business uses to facilitate alternative parking and access.
- e. Access to each property is same in both designs.
- f. Gas station needs to be on board with closing one drive.
- g. Promise some improvements in the public ROW for the development of properties, but on private property have discussions with business owners to determine if they are looking for something additional for the improvements to be made.
- h. Michigan Bark Products, possibly access in the back as secondary option.
- i. Who pays for things like restriping on private property because of the project? The City would work with property owners but have to figure out funding.



- j. Tiger Grant. Consider applying for this grant, but note that it requires a project to be at minimum a 5 million dollar cost. Might be targeted to more rural areas but worth investigating this funding source.
- k. Mayor liked the idea of road closures to incorporate place-making opportunities, like plazas or pedestrian corridors. However, Rochester Hills would have to close the road but retain ownership in order to maintain public use.
- l. Roundabouts: Sidewalk corner clips, but otherwise buildable, might just need easements for sidewalks.

4. FIRE & EMERGENCY ACCESS

- a. For the roundabout option, fire/emergency vehicle access may not be viable.
- b. Fire Dept. will not like roundabout. Have a meeting with them to discuss the idea and investigate it from their perspective. Include Mayor, City Council, etc.
- c. Could make mountable curbs for roundabout option to allow for easier emergency vehicle access. This would limit landscaping opportunities.

5. EXHIBITS & ITEMS NEEDED FOR PUBLIC MEETING

- a. 2 Full size sets of the existing conditions exhibits
- b. 2 Full size sets of the proposed design exhibits (LSL & Roundabout Concepts)
- c. 1 Full size print of the typical cross section (with median tree)
- d. 1 Full size print of the roundabout idea board
- e. 1 half size set of the existing exhibits
- f. 1 half size set of the proposed design exhibits (LSL & Roundabout Concepts)
- g. 1 Roll Plot of the LSL concept
- h. 1 Roll Plot of the roundabout concept



**City of Rochester Hills
Auburn Rd EPE Study
Meeting with Business Owners
Meeting Minutes**

Date: Monday, September 25th, 2017

Time: All Day

Location: City of Rochester Hills DPW

Meeting Purpose: To coordinate with business owners on the concepts developed for the Auburn Road Corridor Improvement plan between Culbertson and Dequindre to gather feedback and get insight on business owners perspectives of the two concepts.

- **1505 E. AUBURN ROAD, GARY KORLESKI – BUILDING OWNER**
 - a. Contact Information:
 - i. Phone: 248.882.8931
 - ii. E-Mail: kglorleski@aol.com
 - b. Likes roundabout concept. He's fine with closing driveway on Auburn Road. Only conflict he sees with parking for his tenants is on Fridays and Saturdays – busiest days for grooming and pizza business. Has other buildings in Auburn Hills and saw them use TIF monies to finance building improvements. “Great idea. Where does he sign?”
 - c. Owner, Kings Pizza building (1505) fully supports the plan and driveway closure. “Where do I sign?”

- **1524 E. AUBURN ROAD, OLD TOWNE CORNERS – DAVID DUDA, OWNER**
 - a. Dave Duda, Property owner Brandon Electric (1650) and Old Towne Corners (1524), Overall was pleased with the plan, didn't necessarily love the driveway closures, but will not impair progress, thinks investment in the area is a good thing, but he'll believe it when he sees it, as he's been very involved in the past and nothing came of it. Interested in being part of a business group if one forms.
 - b. Front parking spots were designated on his site plan when constructed building. Concerned about parking for his 5 tenants if he loses front spots but really wants to see this happen so he won't get in the way of progress. He stated parking is max'd out. He also mention there are some minor drainage issues in parking area, but was not specific. If redesigning access to parking lot, make sure florist can still get daily truck deliveries.
 - c. Cynthia, Old Towne Florist, tenant in Old Town Corners (1524) concerned about closing of driveway, need to improve access to alley, preferably all the way through to Emmons. Concerned about visibility along corridor with existing trees



and signage. Mentioned existing problem of parents using parking lot as a drop off and pick up place for students at school.

- **1524 E. AUBURN ROAD, OLD TOWNE FLORIST – CYNTHIA, BUSINESS OWNER/TENANT & REPRESENTING OTHER TENANTS AT MEETING.**
 - a. Business is open to public and does have regular customer traffic. 4 employees working at busiest time. She's the largest employer in the plaza. Daily deliveries via semi-truck, usually 8am and 5pm. Nobody else in the plaza gets deliveries. Cool to roundabout concept as concerned about business visibility being located at the roundabout. Would like to see the alley opened up and appropriately used for travel as now she sees kids smoke and hang out in the alley. Her requests were to address trees on school property - too high and blocks visibility of business, and would like a lower, monument sign. Overall, glad to see plan moving forward.

- **1619 E. AUBURN, AUBURN ANIMAL HOSPITAL – SUE, BUILDING/BUSINESS OWNER**
 - a. Hours of operation are 8:30am – 7pm. Has 3 exam rooms so at any time, will have 6 customers in parking lot. Asked about handicapped parking spots. Concern would be to have close parking for customers carrying/bringing in large pets and for safety of pets getting in/out of car. Has 6 employees. Deliveries are typically one large truck a week. Likes the roundabouts design concept with a 25 mph speed limit. Uses the alley to access parking now. Would like it cleaned up. Has been there 15 years, no plans for her property at this time. She is warm to the idea of a business association.
 - b. Owner, Auburn Animal Hospital (1619). Liked the plan, was fine with the driveway closure. Interested in being part of a business group if one forms.

- **1629 E. AUBURN – BOZANA TAESKI, BUILDING/BUSINESS OWNER**
 - a. She was very happy with the plan. Glad to see the road fixed. Immediate plans are to sell property therefore not concerned about losing parking in front and driveway access on Auburn Road. Would like to see street lights along Auburn Road.
 - b. Bozana Taseski, owner Bozana's Liquor (1629). Supportive of plan and closing of driveway. Looking to sell!



- **1650 E. AUBURN ROAD, BRANDON ELECTRIC – DAVID DUDA, BUILDING/BUSINESS OWNER**
 - a. Does not really maintain hours of operation for the public. Deliveries are minimal. Neutral to the roundabout concept. Would like to see “something pretty” in the middle of them – something green.
 - b. He’s is acceptable to the idea of a business association as he’s starting to pull away from the business itself. Already has long-term plan to sell business to employee. Will probably sell properties within next 10 years.
 - c. Dave Duda, Property owner Brandon Electric (1650) and Old Towne Corners (1524), Overall was pleased with the plan, didn’t necessarily love the driveway closures, but will not impair progress, thinks investment in the area is a good thing, but he’ll believe it when he sees it, as he’s been very involved in the past and nothing came of it. Interested in being part of a business group if one forms.

- **1663 E. AUBURN, A&S HEATING & COOLING/AMERICAN GRILL – DWAYNE ZYSEK, BUILDING/BUSINESS OWNER**
 - a. Contact Information: Dwayne1663@sbcglobal.net
 - b. All his buildings at this property are connected. Corner unit is currently vacant. Has residential tenant on 2nd floor of corner unit? Hours of operation are seasonal and visits per day is random and seasonal but minimal overall. Has 3 overhead doors facing Auburn Road where he receives bulk of his deliveries because alley is in poor condition (overgrown trees). Small deliveries occur in rear. Deliveries occur Monday – Friday, 8am to 5pm. At first, not pleased with closing of driveways on Auburn Road but said he’d be ok with it if access off of Longview allowed for easy back up for trucks near overhead doors, or money was available to help him relocate overhead doors to rear of property and cleanup of alley to allow for deliveries in the rear. He would like to see parking added on Longview. As for the alleys, he says they are in poor condition. He plows them for his block. Initially stated he hated roundabouts but after review, chose that design as his preferred option. No plans to relocate/sell property. Is planning to do some façade improvements including new awnings, stone facing, etc. Was interested to hear more about a business association. House behind him is a rental property.

- **1673 E. AUBURN, AQUARIUM SHINE – DWAYNE ZYSEK**
 - a. Phil owns the property. Aquarium Shine is the tenant. Aquarium Shine does not open to the public and maintain hours of operation. Uses the building for office/warehouse space. Has an agreement to access property via A&S and parks company trucks in gated lot at A&S.



- b. Dwayne Zysek, owner A&S Heat & Cooling. Initially hesitant about closing of access in front, and anti-roundabout, but through discussion came around to concepts, would like parallel parking adjacent to Longview.
- **1681 E. AUBURN, HONEST HOME CARE – NELISH PATEL, BUSINESS OWNER/BUILDING OWNER**
 - a. Property has 4 businesses operating in building. Hours of operation vary by business but limited visits by the public – estimated about 4 visitors a day. Honest Home Care occasionally has visits from elderly patients and wants to make sure adequate parking options for customers. Total of 9 employees reporting to the building every day. Cool to the idea of roundabouts. He doesn't really see congestion that demonstrates need for roundabouts. Would like to see street lighting. Parking on Harrison MAY be nice but concern about its impact on attractiveness of the building (i.e. parked cars, landscaping) and people parking next to his building at night. No immediate plans with the building. NOTE: His parking lot would require reconfiguration with driveway being closed therefore may want to have a follow up conversation with him.
 - b. Property Owner, Honest Home Health Care (1681). Overall liked the plan, was hesitant of roundabouts due to safety, but after discussion agreed it resulted in a better plan. Was OK with driveway closure, wanted more parking, would like it along Harrison Ave. abutting the property.
- **1711 E. AUBURN, JOHNNY BLACK'S PUBLIC HOUSE – MATT MOORE, BUILDING/BUSINESS OWNER**
 - a. Very concerned about the elimination of large number of parking spaces. At busiest time, can have up to 30 employees working. Right now has arrangement that employees park at Shawn Llewellyn's properties.
 - b. Matt Moore, owner Johnny Blacks Public House (1711) emphasized the need for additional parking in the area. Both he and Sean were interested in expanding parking areas into the space behind their businesses. And felt they had full control and could potentially restrict the use of the alley behind their properties.
- **1725 E. AUBURN, LINENS & BEYOND – (CHAD?), BUILDING/BUSINESS OWNER**
 - a. Appointment only operations, 9-5. Has 2-4 employees working for the company. Has three company trucks that make deliveries from this location.
 - b. Chad, owner Linens & Beyond (1725 labeled incorrectly on the maps as Twigs and Branches) is interested in knocking down the building and redeveloping the site in the future. He would move the remainder of his linen business to another existing location. He noted that if the building were to remain where it was, the



drive aisle adjacent to the building and currently used to access the site off of Auburn would become dead space.

- **1756 E. AUBURN, INCOME TAX SERVICE BUSINESS (STEVE OWNS) & TRAILER REPAIR, SHAWN LLEWELLYN OWNS**
 - a. Owns multiple properties on Auburn Road
 - b. Business seasonal, January – April is busy season. Current parking situation works well. He is ok with closing driveway off Auburn Road. Feels the alleys are in bad condition. Kids use alleys to party and race motorbikes. As for rental buildings, concerned about parking for tenants at 1700 E. Auburn Road and tattoo business.
 - c. Shawn Llewellyn, Trailer Repair, currently looking for other sites for his business but concerned of timing of when we start project and he's ability to relocate in advance. Regularly sees 30-50 ft. trucks/trailers. His concern with roundabouts is trucks ability to travel through/around them. With loss of parking in front, definitely needs parking developed in rear. Was concerned about costs/process for engineering and underground work thus is looking for city to pay for/waive any fees.
 - d. Steve Opatich, owner Income Tax Service (1756) and other properties with Sean, also wishes to help implement the vision of the corridor. He was concerned with the driveway closure off Auburn. He needed to think more about the side road access. He noted he did not like alleys to be used as main access points for businesses and did not like the use or operation of alleys in general.
 - e. Sean Llewellyn, owner Total Trailer (1747), plus many other nearby properties (1672, 1686, 1700, 1727) Overall supports the investment in the area and wants to help develop the buildings as envisioned in the plan. Described how the use of Eastern and the alley adjacent to his property by the public would seriously compromise the operation of his business. He currently uses that space to pull vehicles and trailers into his site to be serviced and to park vehicles and trailers as well. Long term recognized that the trailer business may need to be located elsewhere as area redevelops. Was waiting to develop properties until the road plan was finalized.

- **1826 E. AUBURN, STATE FARM INSURANCE– KEN MAZZOLA, BUSINESS OWNER**
 - a. Been there since 1991. “Refreshing to finally see something happen along the corridor.” Business has changed a lot since the internet so visitor traffic is light. Has two employees and they park in rear. Concerned about losing driveway on Auburn Road but as long as people could access parking from Gerald and Melvin he'd be fine. Not a fan of parallel parking.



- b. Ken Mazzola, State Farm Insurance, tenant in Little Ceasars shopping center (1820) hesitant about parallel parking & closing of driveway but was supportive of plan.

- **1892 E. AUBURN, GETHSEMANE CHURCH – EILEEN**
 - a. Property isn't really effected by plan. Sees traffic cut through side streets to gain access to Auburn and/or Dequindre. Concerned about roundabout by school and parent pick up traffic.
 - b. Eileen, Gethsemane Lutheran Mission Church (1892) Not many changes to the church site, but was concerned about any reduction in parking to existing businesses and very concerned about roundabout at Culbertson because of the school back ups during drop off and pick up.

- **1979 & 1995 E. AUBURN, MCNEIL HOLDINGS – DAVE COIN, OWNER**
 - a. Northwest corner of Dequindre and Auburn, concerned about Dequindre Rd improvements and potential taking of his building.

- **1990 E. AUBURN AND 1970 E. AUBURN, NORTH SHACK – CATHY, BUSINESS OWNER**
 - a. Concern about timing of Dequindre and Auburn road projects both occurring in 2019. Felt Dequindre project would impact her more. Busy time is 4-8 pm. 1-2 semi-truck deliveries a day that come via Dequindre. Biggest issue is people cutting through her parking lot off of Hessel to Dequindre or off of Auburn to Dequindre. Cool to warm to the idea of roundabouts. No plans with properties at this time. No need for funding but may participate in a business association. Tenants in her building are 9-5 operations. No issues. Would like to see more street lighting – had a couple employees on bikes hit by cars.
 - b. Owner, Pearco: Molly Maids, North Shack (1990). Supports the project, not looking forward to construction season. Biggest problem is people using parking lot as a cut through. Liked the roundabout option. Interested in being part of a business group if one forms.

- **2960 EASTERN AVE, HOME OWNER – RICHARD CABALUM**
 - a. Richard rents the home to tenants. May sell property at some point in time. Questions revolved more around selling for commercial redevelopment, not residential. Was warm to roundabouts but concerned about pedestrian safety. Asked about allowing a drive in business on the property and request to put Eastern Ave driveway in middle of property, not near alleys/rear of property.
 - b. Richard Cabalum, owner home (2960) currently being rented. Long term would like to redevelop the site. Mentioned drive-thru uses.



City of Rochester Hills Auburn Rd EPE Study Progress Meeting #6 – Meeting Minutes

Date: Friday, October 13, 2017

Time: 8:30 am – 10 am

Location: Phone Conference Call – (844) 572-5683 Ext. 2452617

Meeting Purpose: To continue discussion on key items involving the Auburn Road Corridor Improvement plan between Culbertson and Dequindre in preparation for City's upcoming business meeting in September and to continue to complete EPE Study.

1. Revised Design Plot – LSL Option – OHM presented the revised plan of the geometrics which focused in on which alleys had to be improved based on where rear access was required. Side street work was also modified
 - i. Alleys – Five alley sections were shown being improved. Alleys cost were based on a 20' wide alley, with 4" HMA over 8" of aggregate base.
 - ii. Side Street Parking – Segments of side streets were shown being improved based on the adjacent work (ie. side street parking added) Side street improvement costs were based, with 4" HMA over 8" of aggregate base. The City indicated that 6" HMA was preferred. The City also requested placing side street parking on the west side of Emmons.
 - iii. Side Streets limits

2. Project Costs Discussion – OHM present two estimates, one for the LSL concept and the other for the roundabout. OHM cautioned the City that this is a draft estimate and further modifications are expected. The City asked why there was such a difference between the LSL Study cost and the cost now. OHM explained that the Study cost did not include alley costs and landscaping cost.
 - i. Road - \$3.4 million (\$3.65 for roundabout)



- ii. The early draft estimated cost for Landscaping is about \$1.1 million (\$1.1 million also presented for the roundabout option, however this number will most likely increase due to more available space for plantings with the longer median island). A potential funding source of the Landscaping is out of the Forestry/Tree Fund.
- iii. Alley \$250,000 shown for the five alley ways. The City indicated that the alley between Emmons and Longview on the south side should be improved.
- iv. Private Property Work \$200,000 shown for this work.
- v. Lighting \$250,000 shown for this work as is part of the landscaping subtotal. The City would prefer one style of light, most likely the lower style 16' acorn style. OHM estimate the spacing of these lights at 120' but final photo-metrics will be required to set final spacing. The City also indicated that they would like to have outlets on each light pole, for Holiday decorations and such.
- vi. OHM discussed other costs not included in the estimate that were mentioned in the LSL report. This includes entrance features, alley walls or planting to shield the alley from private residences.

3. Next Steps

- i. Additional Business Meetings for those missed – City will continue to reach out to business that have not seen the new plans.
 - 1. Need to talk to gas station owner about the closure of one of their driveways.
 - 2. Need to talk to driving school and Metro PCS.
- ii. Council Meeting – preparations continue for the Dec. 4th meeting with council. The ownership issue with the north alley must be explored further as this may be an issue that causes problems with the project moving forward.



- iii. EPE Report Conclusion – The City would like OHM to come up with a preferred option without the City influence. OHM stated that the roundabout may be the
- iv. Response back to MDOT on Turnback - Paul Davis will contact MDOT as a follow-up prior to the Dec. 4 council meeting. The City was also looking to see what language may be on the driveway permit that would allow them to close these driveways.
- v. Design Proposal/Schedule – OHM discussed the future design schedule and the impact the Dec 4 meeting may have. The largest concern is the potential for needing to perform a winter survey if in some construction work is desired in 2018.
- vi. Next OHM/City meeting scheduled for Thursday, Nov. 9 at 8:30 am where OHM's Draft EPE Report will be discussed. Another meeting be held just prior to the council meeting on Dec. 4th.
- vii. OHM suggested setting up a meeting with Vince Ranger, who runs the TAP Grant Program for MDOT. This meeting will occur after the Dec. 4 council meeting, but should be set up in advance.
- viii. The City indicated that they spoke with the owner of Brain Freeze. This owner was not happy with losing their parking in front of the business.
 - 1. Owner felt she already had a sidewalk, and didn't need more.
 - 2. Owner wanted to know who was going to pay for the parking updates
 - 3. The Owner asked if it was possible to put parking on the same side so people don't have to cross the street.
 - 4. City asked if it was possible to enlarge parking lot to more than what is existing.
 - 5. Potential for a shared dumpster enclosure to increase space.
- ix. As part of the report and for the Dec. 4 council meeting, OHM will develop a list pro's and con's for the roundabout option vs. the LSL option. Also,



OHM should prepare answers to the below questions as we prepare for the Dec. 4th council meeting.

1. The City asked which design will hold up better for traffic capacity in a 20 year projected future?
 2. The City asked if the roundabout will flow/function effectively next to the school?
 3. The Roundabout option will require some easements. Should we specify at this time where those easement locations are, and how much easement is needed?
 4. Make sure we can explain in detail the difference in costs between the OHM estimate developed for the LSL study vs the OHM estimate developed for the design.
- x. Sarah likes idea of plaza space next to Johnny Blacks.



City of Rochester Hills Auburn Rd EPE Study Progress Meeting #7 – Meeting Minutes

Date: Thursday, November 9, 2017

Time: 8:30 am – 10 am

Location: Phone Conference Call – (844) 572-5683 Ext. 2452617

Meeting Purpose: To continue discussion on key items involving the Auburn Road Corridor Improvement plan between Culbertson and Dequindre in preparation for City's upcoming business meeting in September and to continue to complete EPE Study.

1. Discussion on what's new since last meeting
 - i. MDOT Turnback – MDOT cost to contribute to the turnback is thought to be in the range of \$300,000. Revise the report accordingly.
 - ii. Additional Meetings with Businesses – City met with several more businesses. These include Sonar Drawing, Little Ceasars, Chads Bistro, Bible Truth Church, Sunoco, and metro PCS. To date no discussion have been held with Aqua Shine, Auto Rite, and Marathon.

2. Review OHM EPE Draft Study
 - i. Comments include concerns over the vary speed limit in corridor throughout the City which is thought to vary from 35 mph to 50 mph.
 - ii. Alan questioned whether a Tiger Grant may be possible. OHM thought, based on their experience with this grant, that this is not significant of the project to win this award.
 - iii. Alan asked about industry pilot projects that could contribute dollars.



- iv. Paul indication that the City attorney and council member attorney thought there may be several possibilities. These include:
 - 1. Covert Act
 - 2. McNitt Act
- 3. Project Costs Discussion
 - i. The City (Sara) thought that the less expensive option may be the way to go due to the high cost of the project. Paul suggest breaking the project into several projects, not by length, but by improvements. It may be possible to build light, landscaping and sidewalk in the future and not with this job if money becomes short.
 - ii. Tree fund available, but the city is not sure t what extent.
- 4. Next Steps
 - i. Council Meeting on Dec. 4. OHM to start Power Point slides for City to review.
 - ii. EPE Report Conclusion – make changes and have back to City by Friday, Nov. 17.
 - iii. Next meeting is on Monday, Nov. 20 at 10 am. OHM to set up meeting request.
 - iv. OHM to prepare Executive Summary for inclusion in final draft.

Section 17: Recommendations

Upon studying various aspects of the Early Preliminary Engineering (EPE) Study for Auburn Road, between Culbertson Avenue and Dequindre Road, two options were considered. The first option is the original concept, the LSL option, which allows for some median plantings, but allows for left turns at all side streets off of Auburn Road. The second option, an option that places three roundabouts in the corridor provides more area for landscaping, but does not provide access to all side streets for left turn traffic off Auburn Road.

Both options are viable, however each option presents some different characteristics. Below, OHM tried to quantify these characteristics.

LSL Option

Pro's

1. Provides better vehicular access to all side streets for direct left turning traffic to and from Auburn Road
2. Is less expensive than other option
3. Requires no identifiable permanent easements/ROW along Auburn Road to construction

Con's

1. Less opportunity for landscape median as compared to the Roundabout Option.
2. Traffic calming is less significant as compared to the Roundabout Option.
3. Pedestrians must cross three lanes of traffic under non-signalized conditions

Roundabout Option

Pro's

1. Provides more opportunities for landscape medians/islands as compared to other option
2. Provides increased level of traffic calming, compared to other option
3. Continuous median provides a refuge island for pedestrians, making these crossings safer than other option as pedestrians only need to cross one lane of traffic at a time
4. Is safer by eliminating direct left turns which are most often the traffic movement most associated with vehicle and pedestrian accidents
5. Provides the corridor with a "Uniqueness"
6. Provides opportunities for U-Turns along the corridor whereas the other options does not

Con's

1. Does not provide direct left turn access to all side streets for turning traffic to and from Auburn Road. Indirect turns are accomplished via the roundabout.
2. Is more expensive than other option
3. Requires permanent sidewalk easements to construct
4. Can handle large trucks, but may be considered awkward to negotiate
5. Some motorists are unfamiliar with navigating roundabouts and therefore makes them uncomfortable traveling them. This may be less of an issue in this community.

To derive at a recommended opinion, OHM rated a number of factors thought to be important for both options. Ratings were developed and then weighted. Below are the average scores from 5 engineers who independently reviewed and scored each factor. The higher the number, the more important the factor was to the rater.

Weighted Scores for Alternatives				
Auburn Road			LSL Option	Roundabout Option
			P/T	P/T
Sector:	Culbertson to Dequindre			
		Aesthetics	5.62	7.02
		Access Management	5.85	6.16
		Engineering Difficulty	3.38	2.54
		Fire & EMS Response	6.56	4.92
		Project Cost	4.32	3.84
		Right-Of-Way Impacts	5.80	4.54
		Safety - Pedestrians	7.00	8.60
		Safety - Vehicles	7.06	8.82
		Traffic Flow	6.26	7.48
		Total Weighted Score	51.85	53.92

Through the scoring, OHM recommends the Roundabout Option. Although recommending this option, the scoring complements our feelings, that both options are good options with only slight differences. One item that we feel really sets the Roundabout Option apart is the unique visual aspect a series of roundabouts will bring to this area. This corridor will be very identifiable in the region while providing a number of benefits.