

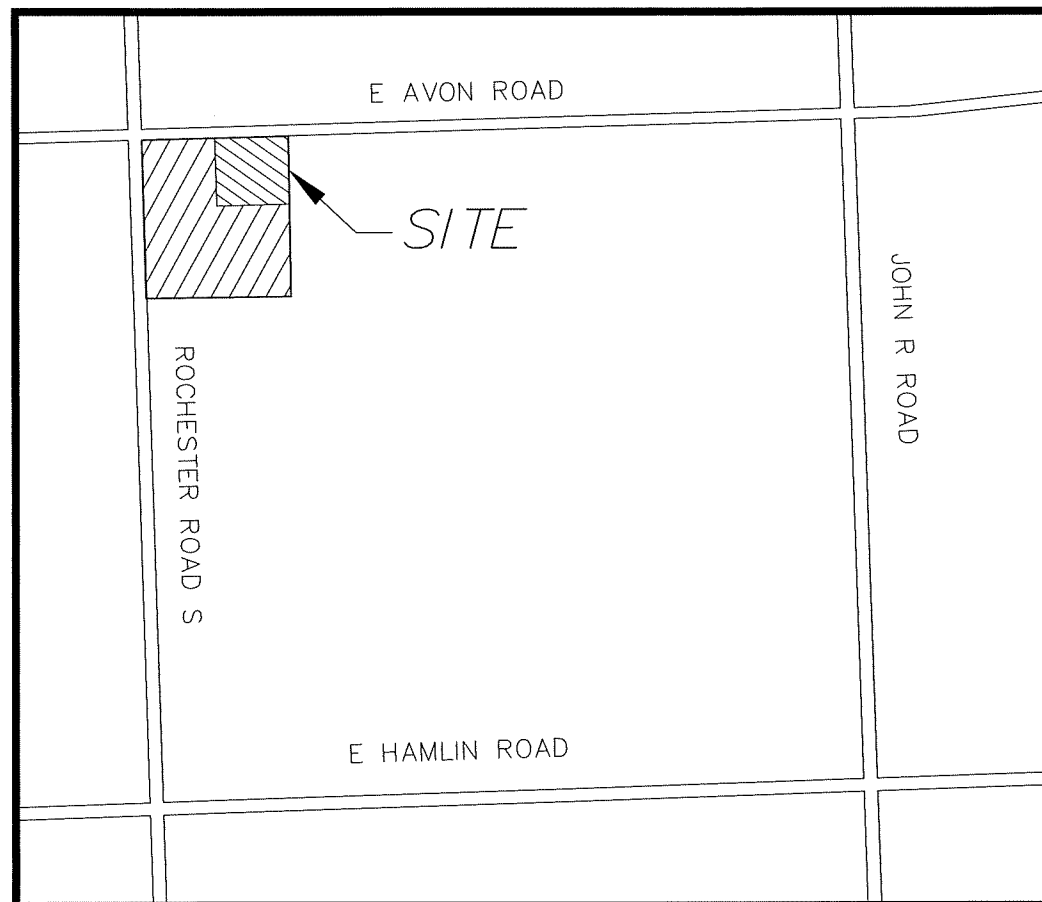
PROPRIETOR
 LEADER DOGS FOR THE BLIND
 1039 S. ROCHESTER ROAD
 ROCHESTER HILLS, MI 48307
 (248) 218-6332 p
 ATTN: CHRIS BEARUP

CIVIL ENGINEER :
 GIFFELS WEBSTER
 1025 E. MAPLE ROAD, SUITE 100
 BIRMINGHAM, MI 48009
 (586) 781-8950 p
 (586) 781-8951 f
 ATTN: ANDY WAKELAND, PE

LANDSCAPE ARCHITECT :
 GIFFELS WEBSTER
 1025 E. MAPLE ROAD, SUITE 100
 BIRMINGHAM, MI 48009
 (586) 781-8950 p
 (586) 781-8951 f
 ATTN: MARK HANSEN, BLA, RLA

LEADER DOGS FOR THE BLIND PARKING LOT ADDITION PERMIT PLANS

1039 S. ROCHESTER ROAD
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN
 SECTION 23, T-3-N, R-11-E



(1" = 500')

LEADER DOGS FOR THE BLIND, BASED IN ROCHESTER HILLS, MICHIGAN, LOCATED AT THE SOUTHEAST CORNER OF ROCHESTER ROAD AND AVON ROAD, IS PROPOSING AN ADDITIONAL PARKING LOT BE ADDED TO THEIR PROPERTY.



SHEET INDEX

- 01 COVER
- 02 TOPOGRAPHIC SURVEY
- 03 SCHEDULE OF STRUCTURES & TREE LIST
- 04 DEMOLITION PLAN
- 05 SITE PLAN
- 06 GRADING PLAN
- 07 LANDSCAPE PLAN
- 08 LANDSCAPE DETAILS

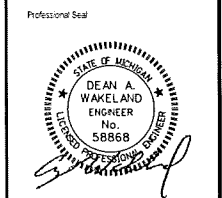
1 OF 1 PHOTOMETRIC PLAN

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 Surveyors
 Planners
 Landscape Architects

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 www.giffelswebster.com

Executive:	MP
Manager:	AW
Designer:	AW
Quality Control:	MP
Section:	23
	T-3-N R-11-E



DATE	ISSUE
04/23/2018	CONCEPT
05/22/2018	SITE PLAN SUBMITTAL
08/15/2018	SITE PLAN REVISIONS PER ROCHESTER HILLS COMMENTS
09/20/2018	SITE PLAN RESUBMITTAL

Developed For
LEADER DOGS FOR THE BLIND
 1039 S. ROCHESTER ROAD
 ROCHESTER HILLS, MI 48307
 (248) 218-6332

COVER

LEADER DOGS FOR THE BLIND PARKING LOT ADDITION

CITY OF ROCHESTER HILLS
 OAKLAND COUNTY
 MICHIGAN

Date:	04.23.2018
Scale:	1" = 500'
Sheet:	01
Project:	19458

CITY FILE # 90-262.4 SECTION 23
 NOT TO BE USED AS
 CONSTRUCTION DRAWINGS

LEGAL DESCRIPTION

PER NOWAK & FRAUS ENGINEERS PLANS DATED 05-05-14

PART OF SECTION 23, TOWNSHIP 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS:

LOTS 1 THROUGH 15, INCLUSIVE, "OAKLAND VIEW SUBDIVISION".

LEGEND - EXISTING

- | | | | | | | | |
|--|---|---|--|--|--|---|--|
| <ul style="list-style-type: none"> — E/ PAVEMENT — CURB — E/ GRAVEL — CL ROAD — COMB. MH — E/ WALK — RAILROAD — E/ BRICK — MISC. LINE — FENCE — GUARD RAIL — WALL — BLDG. LINE — OVERHEAD WRES — RAILING — OVERHANG LINE — STORM MH — T/ BANK — B/ BANK — CL DITCH/STREAM — SHRUB LINE — TREE LINE | <ul style="list-style-type: none"> ○ SAN. CLEAN OUT △ SAN. RISER □ SAN. PUMP STATION ○ COMB. MH ○ GATE VALVE ○ HYDRANT ○ WATER VALVE ○ WATER METER ○ POST INDICATOR VALVE ○ WELL HEAD ○ FDC CONNECTION □ IRRIGATION CONTROL BOX ○ STORM MH ○ CATCH BASIN ○ BEEHIVE CB ○ CULVERT E.S. ○ ROOF/DOWN SPOUT | <ul style="list-style-type: none"> △ GAS RISER △ GAS VALVE △ GAS MH △ TELE. RISER △ TELE. MH △ TELE. CROSS BOX △ CABLE RISER ○ PAY PHONE ○ MANHOLE ○ SIGN ○ PROT. POST/GUARD POST ○ GUY ○ DECIDUOUS TREE ○ CONIFEROUS TREE ○ DEAD TREE ○ UTILITY FLAG | <ul style="list-style-type: none"> ● SURVEY CONTROL POINT ● FOUND IRON ● F. CUT CROSS ● SECTION COR ● FENCE POST ● BENCHMARK ● FOUND PIPE ● FOUND MON. ● ASPH. ● CONC. ● A.C. ● G.P. ● C.L.F. ● D.L. ● F.F. ● O.H. | <ul style="list-style-type: none"> — WATER EDGE — METLAND LINE — STORM LINE — SAN. LINE — WATER LINE — GAS LINE — UG. ELEC. LINE — UG. TELE. LINE — UG. CABLE TV LINE — PAINT STRIPE — COMBED SENER — PLD. LINE — STEAM LINE — ELECTRIC OVERHEAD — TEL. | <ul style="list-style-type: none"> ○ OVERFLOW/OUTLET STRUCTURE ○ STORM CLEAN OUT ○ ROUND CB ○ LIGHT POLE ○ UTILITY POLE ○ ELEC. TRANS. ○ AIR CONDITIONER ○ ELEC. MH ○ ELEC. METER ○ ELEC. RISER ○ TRAFFIC CONTROL BOX ○ STEAM MH ○ PUBLIC LIGHTING MH | <ul style="list-style-type: none"> ★ BLDG. CORNER (FIELD LOCATED) ○ HANDICAP PARKING ○ METLAND FLAG ○ BUSH/SHRUB ○ PARKING METER ○ RESIDENTIAL MAILBOX ○ U.S. MAILBOX ○ EXISTING ELEVATION ○ SOIL BORING ○ MONITORING WELL ○ LAWN IRRIG. HEAD ○ CENTERLINE R.R. TRACK | <ul style="list-style-type: none"> F.I. FOUND IRON S.I. SET IRON F.I.P. FOUND IRON PIPE M. MEASURED R. RECORD F.M. FOUND MONUMENT S.H. SET NAIL C.M.P. CORRUGATED METAL PIPE R.C.P. REINFORCED CONCRETE PIPE G.L. GROUND LIGHT |
|--|---|---|--|--|--|---|--|

BENCH MARK DATA

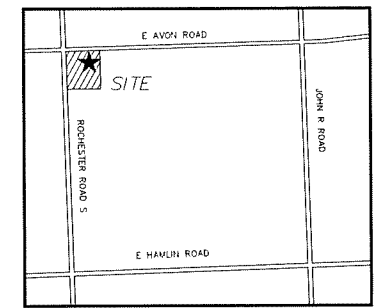
HQVD29 DATUM

SITE BENCH MARK NO. 1
SET MAG NAIL IN THE SOUTH FACE OF A UTILITY POLE ON THE SOUTH SIDE OF AVON ROAD, 250 FEET WEST OF RAHNER ROAD.
ELEV. 832.43'

SITE BENCH MARK NO. 2
ARROW ON HYDRANT (1990) 210 FEET SOUTH OF AVON ROAD ON THE WEST SIDE OF RAHNER ROAD.
ELEV. 825.43'

SITE BENCH MARK NO. 3
TOP NUT ON HYDRANT AT THE SOUTHWEST CORNER OF AVON ROAD AND RAHNER ROAD.
ELEV. 834.27'

SITE BENCH MARK NO. 4
TOP NUT ON HYDRANT (1980) APPROXIMATELY 75 FEET SOUTH OF E AVON ROAD AND 375 FEET EAST OF ROCHESTER ROAD.
ELEV. 839.09'



LOCATION MAP
(1" = 2000')

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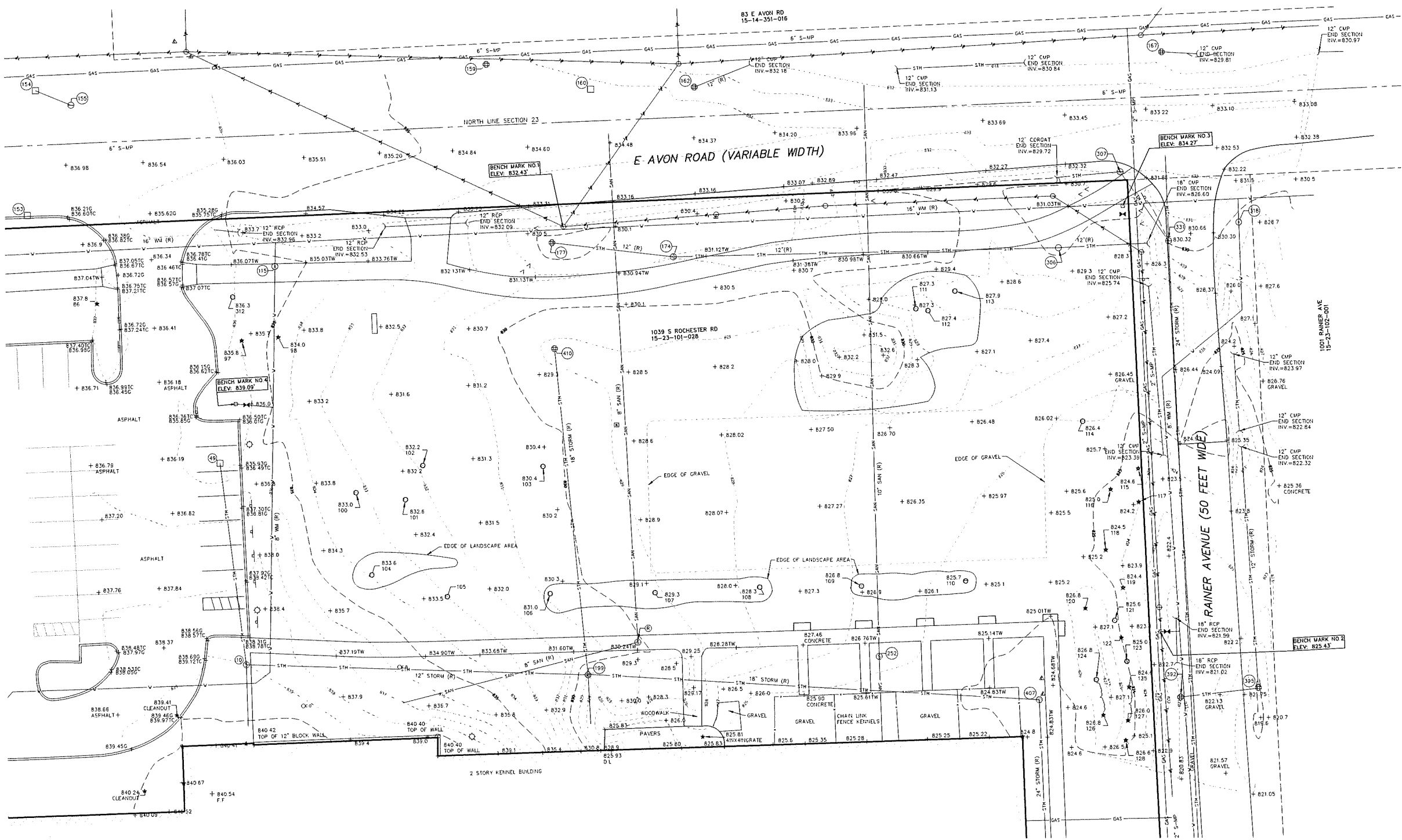
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ROCHESTER HILLS, MI 48307
(248) 218-6332

TOPOGRAPHIC SURVEY

LEADER DOGS FOR THE BLIND PARKING LOT ADDITION

CITY OF ROCHESTER HILLS
OAKLAND COUNTY
MICHIGAN

Date:	04.23.2018
Scale:	1" = 20'
Sheet:	02
Project:	19458



0 20' 40'

SCALE: 1" = 20'

CITY FILE # 90-262.4 SECTION 23
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SCHEDULE OF STRUCTURES

STRUCTURE	TYPE	SIZE OF PIPE	RIM	DROP	INVERT	DIRECTION	COMMENTS
10	STORM MANHOLE	6"	839.02	-3.80	835.42	SOUTH	
		15"	839.02	-8.00	831.02	EAST	
		12"	839.02	-7.88	831.04	NORTH	
49	CATCH BASIN	12"	835.50	-4.03	831.47	SOUTH	
115	GATEVALVE		835.74	-9.25	826.49	NORTH & SOUTH	MEASURED TO TOP OF PIPE
153	CATCH BASIN		836.46	0.80	837.26		FULL OF DEBRIS, NO PIPES VISIBLE, MEASURED TO TOP OF DEBRIS
154	CATCH BASIN	12"	836.79	-2.70	834.09	SOUTHEAST	
155	STORM MANHOLE		836.80	-6.10	830.70		MEASURED TO TOP OF DEBRIS, NO PIPES VISIBLE, FULL OF DEBRIS
159	BEEHIVE CATCH BASIN	10"	834.42	-1.52	832.90	EAST	C.M.P.
160	CATCH BASIN		834.35	-5.60	828.75		MEASURED TO TOP OF DEBRIS, NO PIPES VISIBLE, FULL OF DEBRIS
162	BEEHIVE CATCH BASIN		833.87	6.00	839.87		FULL OF WATER, FULL OF DEBRIS, MEASURED TO +/- TOP OF DEBRIS
167	BEEHIVE CATCH BASIN		830.47		830.47		
174	ROUND CATCH BASIN	12"	831.03	-5.57	825.46	WEST	
		12"	831.03	-5.62	825.41	EAST	
177	BEEHIVE CATCH BASIN	12"	829.22	-2.80	828.42	EAST	
189	BEEHIVE CATCH BASIN	8"	828.96	-6.00	822.96	SOUTH	
		18"	828.96	-4.30	824.66	NORTH	
		12"	828.96	-4.50	824.46	WEST	
252	SANITARY MANHOLE	8"	828.37	-5.00	821.37	SOUTH	
		8"	828.37	-6.15	820.22	NORTH	
306	STORM MANHOLE	12"	830.29	-5.35	824.94	WEST	
		12"	830.29	-5.40	824.89	EAST	
307	STORM MANHOLE		832.08	-3.50	828.58	EAST & WEST	MEASURE TO CENTER OF CHANNEL
318	GATEVALVE		829.16	-6.65	822.51	NORTH & SOUTH	MEASURED TO TOP OF PIPE
331	STORM MANHOLE	12"	830.16	-5.75	824.41	NORTHWEST	
		24"	830.16	-6.40	823.76	NORTH	+/- MEASUREMENT TO INVERT
392	BEEHIVE CATCH BASIN	24"	830.16	-9.45	820.71	SOUTH	
		12"	820.91	-3.95	818.96	EAST	NO OTHER PIPES VISIBLE
395	BEEHIVE CATCH BASIN	12"	819.76	-3.75	816.01	WEST	NO OTHER PIPES VISIBLE
407	ROUND CATCH BASIN	18"	824.36	-5.23	819.13	WEST	
		24"	824.36	-5.27	819.09	SOUTH	
410	BEEHIVE CATCH BASIN	24"	828.69	-3.16	825.51	SOUTH	NO OTHER PIPES VISIBLE

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.

(R) = UTILITY SHOWN FROM RECORDS OR PLANS, & FIELD LOCATED WHERE POSSIBLE.

PRIOR TO THE PLANNED BUILDING IMPROVEMENTS, AND/OR CONSTRUCTION, THE RESPECTIVE UTILITY COMPANIES MUST BE NOTIFIED TO STAKE THE PRECISE LOCATION OF THEIR UTILITIES.

NOTES

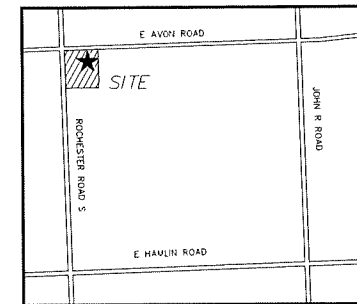
- ELECTRIC UTILITY MAPS WERE NOT AVAILABLE AT TIME OF SURVEY.
- TREE SIZES AND SPECIES ARE THE BEST ESTIMATION OF THE FIELD SURVEYOR. SPECIFIC QUESTIONS REGARDING INDIVIDUAL TREES SHOULD BE DIRECTED TO A QUALIFIED FORESTER.
- NO BOUNDARY SURVEY WAS PERFORMED BY GIFFELS-WEBSTER ENGINEERS, INC. AT TIME OF SURVEY.

TREE LIST

Tag #	Size	Common Name	Scientific Name	Intent	Condition	Status
80	10"	Scotch Pine	Pinus sylvestris	Save	Fair	Regulated
81	10"	Bradford Pear	Pyrus calleryana	Save	Good	Regulated
82	9"	Bradford Pear	Pyrus calleryana	Save	Poor	Regulated
83	5"	Bradford Pear	Pyrus calleryana	Save	Fair	Non Regulated
84	11"	Bradford Pear	Pyrus calleryana	Save	Fair	Regulated
85	11"	Scotch Pine	Pinus sylvestris	Save	Good	Regulated
86	11"	Scotch Pine	Pinus sylvestris	Save	Good	Regulated
97	10"	Scotch Pine	Pinus sylvestris	Save	Good	Regulated
98	12"	Scotch Pine	Pinus sylvestris	Save	Good	Regulated
100	3"	Hop Hornbeam	Carpinus caroliniana	Remove	Poor	Non Regulated
101	4"	Hop Hornbeam	Carpinus caroliniana	Remove	Fair	Non Regulated
102	4"	Hop Hornbeam	Carpinus caroliniana	Remove	Fair	Non Regulated
103	6"	Norway Maple	Acer plantanoidies	Remove	Good	Regulated
104	5"	Red Maple	Acer rubrum	Remove	Good	Non Regulated
105	3"	Norway Maple	Acer plantanoidies	Remove	Good	Non Regulated
106	5"	Bradford Pear	Pyrus calleryana	Remove	Good	Non Regulated
107	6"	Bradford Pear	Pyrus calleryana	Remove	Good	Regulated
108	6"	Bradford Pear	Pyrus calleryana	Remove	Good	Regulated
109	3"	Red Maple	Acer rubrum	Remove	Good	Non Regulated
110	4"	Red Maple	Acer rubrum	Remove	Good	Non Regulated
111	MS 12"	Box Elder	Acer negundo	Remove	Fair	Non Regulated
112	MS 8"	Box Elder	Acer negundo	Remove	Fair	Non Regulated
113	MS 13"	Crabapple	Malus	Remove	Fair	Regulated
114	28"	Siberian Elm	Ulmus pumila	Remove	Good	Landmark
115	13"	Scotch Pine	Pinus sylvestris	Save	Good	Regulated
116	12"	Scotch Pine	Pinus sylvestris	Save	Good	Regulated
117	11"	Scotch Pine	Pinus sylvestris	Save	Good	Regulated
118	6"	Serbian Spruce	Picea omonika	Remove	Good	Non Regulated
119	6"	Serbian Spruce	Picea omonika	Remove	Good	Non Regulated
120	5"	Serbian Spruce	Picea omonika	Remove	Good	Non Regulated
121	11"	Bradford Pear	Pyrus calleryana	Remove	Good	Regulated
122	6"	Serbian Spruce	Picea omonika	Remove	Good	Non Regulated
123	8"	Norway Maple	Acer plantanoidies	Remove	Good	Regulated
124	11"	Honey Locust	Gleditsia triacanthos	Remove	Good	Regulated
125	6"	Serbian Spruce	Picea omonika	Remove	Good	Non Regulated
126	12"	Austrian Pine	Pinus nigra	Save	Good	Regulated
127	8"	Austrian Pine	Pinus nigra	Save	Good	Regulated
128	8"	Austrian Pine	Pinus nigra	Save	Good	Regulated
129	13"	Honey Locust	Gleditsia triacanthos	Save	Good	Regulated
130	13"	Honey Locust	Gleditsia triacanthos	Save	Good	Regulated
131	6"	White Fir	Abies concolor	Save	Good	Regulated
132	7"	White Fir	Abies concolor	Save	Good	Regulated
133	8"	White Fir	Abies concolor	Save	Good	Regulated
134	7"	White Fir	Abies concolor	Save	Fair	Regulated
135	14"	Austrian Pine	Pinus nigra	Save	Good	Regulated
136	13"	Austrian Pine	Pinus nigra	Save	Good	Regulated
137	13"	Austrian Pine	Pinus nigra	Save	Fair	Regulated
304	2.5"	Sweetgum	Liquidambar styraciflua	Save	Good	Non Regulated
305	3"	Honey Locust	Gleditsia triacanthos	Save	Good	Non Regulated
306	3"	Honey Locust	Gleditsia triacanthos	Save	Good	Non Regulated
307	3"	Honey Locust	Gleditsia triacanthos	Save	Good	Non Regulated
308	3"	Honey Locust	Gleditsia triacanthos	Save	Good	Non Regulated
309	3"	Honey Locust	Gleditsia triacanthos	Save	Good	Non Regulated
310	3"	Honey Locust	Gleditsia triacanthos	Save	Good	Non Regulated
311	2.5"	Sweetgum	Liquidambar styraciflua	Save	Good	Non Regulated
312	2.5"	Red Maple	Acer rubrum	Save	Good	Non Regulated

TREE IMPACT CALCULATIONS

TOTAL NUMBER OF TREES SURVEYED:	56
NUMBER OF TREES OFFSITE:	25
TOTAL NUMBER OF TREES ONSITE:	31
NUMBER OF REGULATED TREES ONSITE:	22
NUMBER OF LANDMARK TREES:	1
NUMBER OF REGULATED TREES PRESERVED:	5
NUMBER OF REGULATED TREES REMOVED:	7
TOTAL NUMBER OF REPLACEMENT TREES PROPOSED:	14



LOCATION MAP
(1" = 2000')

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Developed For

LEADER DOGS FOR THE BLIND

1039 S. ROCHESTER ROAD
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(248) 218-6332

SCHEDULE OF STRUCTURES & TREE LIST

LEADER DOGS FOR THE BLIND PARKING LOT ADDITION

CITY OF ROCHESTER HILLS
OAKLAND COUNTY
MICHIGAN

Date: 04.23.2018
Scale:
Sheet: 03
Project: 19458

100-YEAR STORM

C = 0.9 A = 0.68 ACRES
 Q = 0.21 C
 = 0.2108
 = 0.22
 $T(100) = 25 \cdot (10312.5 / Q)^{1/3}$
 = 25 \cdot (10312.5 / 0.22)^{1/3}
 = 191.5 min
 $V_s = [(16500 \cdot T) / (T + 25)] \cdot (40 \cdot Q \cdot T)$
 = [(16500 \cdot 191.5) / (191.5 + 25)] \cdot (40 \cdot 0.22 \cdot 191.5)
 = 12909.49
 $V_t = C \cdot V_s \cdot A$
 = (0.9) \cdot (12909.49) \cdot (0.68 ACRES)
 = 10224.32 CF
 EXISTING STORAGE VOLUME PROVIDED = 10767 CF
 EXISTING STORAGE VOLUME REQUIRED = 10256 CF
 ADDITIONAL STORAGE VOLUME REQUIRED = 10224 CF
 TOTAL STORAGE VOLUME REQUIRED = 102810 CF
 10767 CF > 102810 CF
 ADDITIONAL REQUIRED VOLUME WILL FIT WITHIN EXISTING STORM WATER DETENTION FACILITY

FIRE DEPARTMENT NOTES

FIRE LANES SHALL BE DESIGNATED BY THE FIRE CODE OFFICIAL AND SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE WITH FIRE LANE SIGNS SPACED NOT MORE THAN 100 FEET APART
 FIRE LANE SIGNS SHALL READ "NO STOPPING, STANDING, PARKING, FIRE LANE" AND SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES

PAVING NOTE

ALL RAMPS AND LANDINGS SHALL BE 6" THICK AT ROADS OR THROUGH DRIVEWAYS
 ALL PARKING AREA TO USE 6" CURBING AND INTEGRAL CURB AND WALK

ZONING INFORMATION

EXISTING ZONING: SP - SPECIAL PURPOSE
 EXISTING USE: OPEN SPACE
 PROPOSED ZONING: NO CHANGE
 PROPOSED USE: ADDITIONAL PARKING AREA
 ADJACENT ZONING:
 EAST: R3 - ONE FAMILY RESIDENTIAL WITH MIXED RESIDENTIAL OVERLAY
 NORTH: B5 - AUTOMOTIVE SERVICE
 B2 - GENERAL BUSINESS
 D1 - OFFICE BUSINESS WITH FLEX BUSINESS 3 OVERLAY
 B5 - AUTOMOTIVE SERVICE
 B3 - SHOPPING CENTER BUSINESS WITH FLEX BUSINESS 3 OVERLAY
 WEST:
 B3 - SHOPPING CENTER BUSINESS WITH FLEX BUSINESS 3 OVERLAY
 SOUTH:
 B3 - SHOPPING CENTER BUSINESS WITH FLEX BUSINESS 3 OVERLAY

RECHARGE AREA

REV = 1815' A * C
 = 1815' (0.68 ACRES) * (0.9)
 = 1437 CF
 REMOVAL DEPTH = 18 IN. (PER CITY STANDARDS)
 RECHARGE AREA REQUIRED = (1437 CF / 1.5 FT) = 958 SF
 RECHARGE AREA PROVIDED = 2288 SF
 RECHARGE VOLUME PROVIDED = 2430 CF

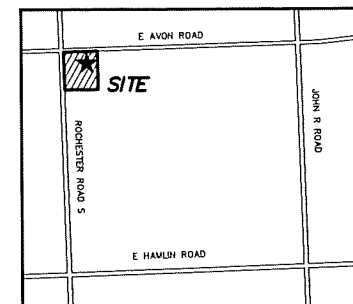
PRETREATMENT AREA

1-YEAR STORM STORAGE VOLUME REQUIRED
 1-YEAR STORM VOLUME
 $V = 4320 \cdot C \cdot A$
 $C = 0.9$
 $A = 0.68 ACRES$
 $V = 4320 (0.9) (0.68)$
 $V = 3421 CUBIC FEET$
 REQUIRED VOLUME = 3421 CF
 PROVIDED VOLUME = 3694 CF

PARKING DATA

REQUIRED: 1 PARKING SPACE PER 3 PERSONS
 MAX BUILDING OCCUPANCY: 15 619 PERSONS
 207 SPACES REQUIRED
 MAXIMUM PARKING ALLOWED: 12% OF MINIMUM REQUIRED
 MAXIMUM OF 259 SPACES
 EXISTING PROVIDED: 102 SPACES TOTAL
 16 VAN ACCESSIBLE SPACES
 PROPOSED: 102 PROPOSED SPACES
 8 REMOVED SPACES
 TOTAL: 94 SPACES ADDED
 6 VAN ACCESSIBLE SPACES
 2 VAN ACCESSIBLE SPACES REMOVED
 TOTAL: 4 VAN ACCESSIBLE SPACES ADDED
 NEW TOTAL PARKING: 256 SPACES TOTAL (20 VAN ACCESSIBLE)

NOTE: MAXIMUM BUILDING CAPACITY FOR CAMPUS IS 1,383 PERSONS. WHEN ACCOUNTING FOR OFFICE, TRAINING, KITCHEN, AND KITCHEN, 1 SPACE PER 6 PERSONS IS A REASONABLE STANDARD GIVEN THE NATURE OF THE FACILITY



LOCATION MAP
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 DEAN A. WAKELAND
 LICENSED PROFESSIONAL ENGINEER
 No. 58868

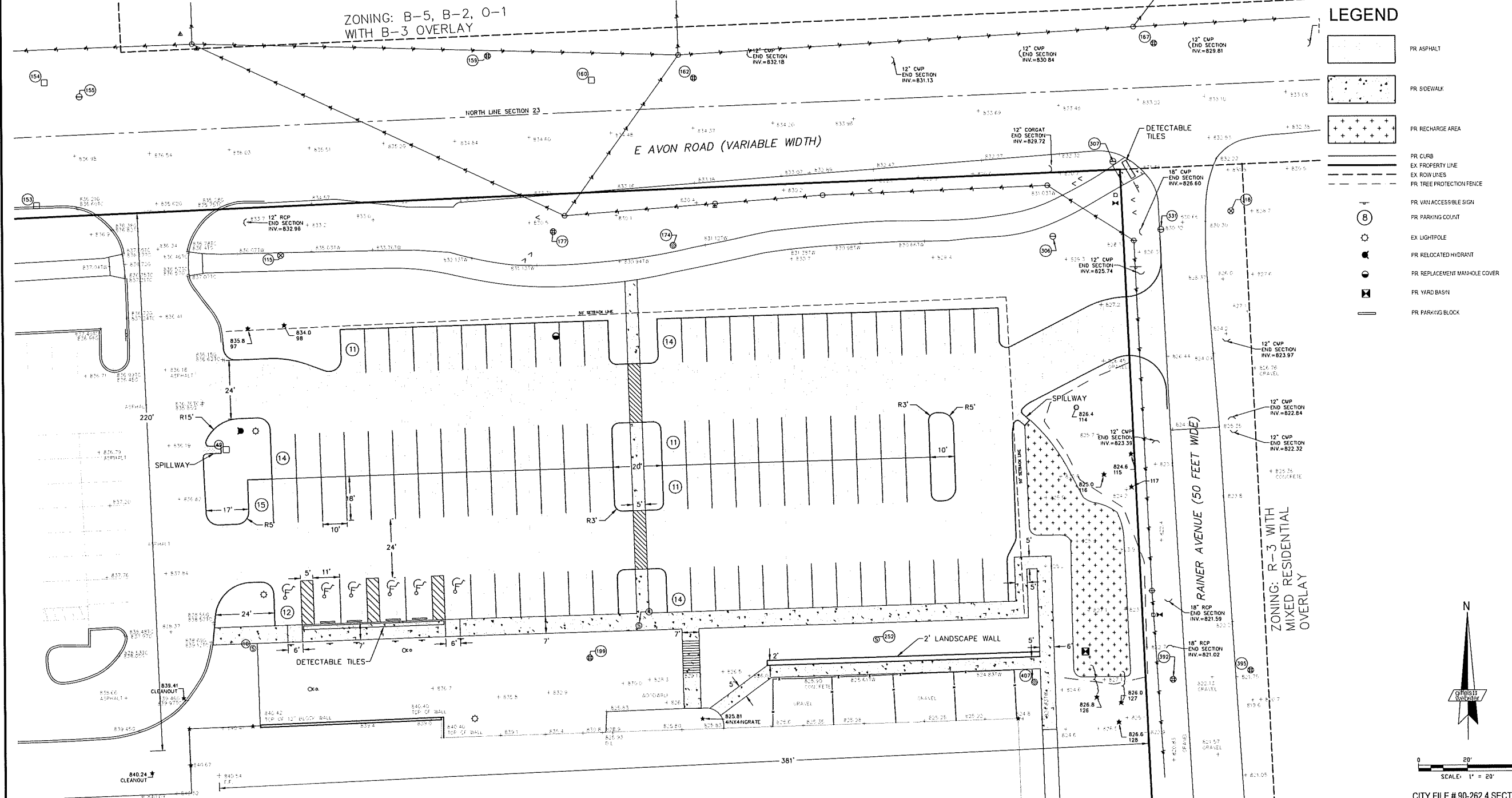
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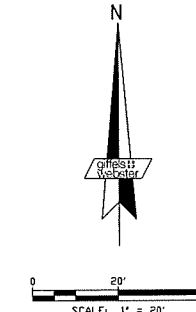
SITE PLAN
 LEADER DOGS FOR THE BLIND PARKING LOT ADDITION
 CITY OF ROCHESTER HILLS
 OAKLAND COUNTY
 MICHIGAN

Date:	04.23.2018
Scale:	1" = 20'
Sheet:	05
Project:	19458



LEGEND

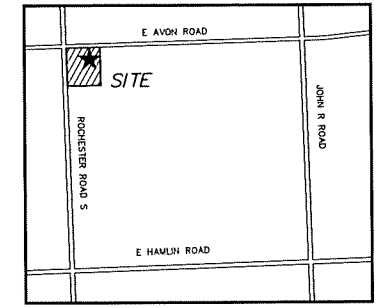
- PR ASPHALT
- PR SIDEWALK
- PR RECHARGE AREA
- PR CURB
- EX PROPERTY LINE
- EX ROW LINES
- PR TREE PROTECTION FENCE
- PR VAN ACCESSIBLE SIGN
- PR PARKING COUNT
- EX LIGHTPOLE
- PR RELOCATED HYDRANT
- PR REPLACEMENT MANHOLE COVER
- PR YARD BASIN
- PR PARKING BLOCK



CITY FILE # 90-262.4 SECTION 23
 NOT TO BE USED AS
 CONSTRUCTION DRAWINGS

LEGEND

EX 612.05 FC	EXISTING FINISHED GRADE ELEVATION	○	PROPOSED SAN CLEAN OUT	□	EXISTING CATCH BASIN
RM 1035.40	PROPOSED RM ELEVATION	●	PROPOSED SAN MANHOLE	⊕	EXISTING BEEHIVE CATCH BASIN
ADJ. RM 1035.40	ADJUST EXISTING RM ELEVATION	■	PROPOSED CATCH BASIN	⊗	EXISTING GATE VALVE
1036.10 GJ	PROPOSED GUTTER ELEVATION	⊙	PROPOSED YARD BASIN	⊖	EXISTING SAN MANHOLE
1036.10 T/A	PROPOSED TOP OF ASPHALT ELEVATION	⊕	PROPOSED STORM MANHOLE	⊖	EXISTING STORM MANHOLE
1036.10 F.G.	PROPOSED FINISHED GRADE ELEVATION	⊖	PROPOSED FDC	⊖	
1036.10 F.F.	PROPOSED FINISHED FLOOR ELEVATION	⊖	PROPOSED HYDRANT		
1036.10 TP	PROPOSED TOP OF PORCH ELEVATION	⊖	PROPOSED STORM SEWER	---	
1036.10 D.L.	PROPOSED DOORLEDGE ELEVATION	⊖	PROPOSED STORM UNDER DRAIN	---	
1036.10 T/W	PROPOSED TOP OF WALK ELEVATION	⊖	PROPOSED SANITARY LEAD	---	
1036.10 T/C	PROPOSED TOP OF CURB ELEVATION	⊖	PROPOSED WATER MAIN	---	
---	RODGE LINE	⊖	PROPOSED EMERGENCY ACCESS EASEMENT	---	
---	PROPOSED SWALE	⊖	PROPOSED 12" SANITARY EASEMENT FOR FUTURE	---	
---	DRAINAGE ARROW	⊖	PROPOSED 2' STOP BOX	⊖	
		⊖	EXISTING HYDRANT	---	
		⊖	EXISTING SANITARY SEWER	---	
		⊖	EXISTING STORM SEWER	---	
		⊖	EXISTING WATER MAIN	---	



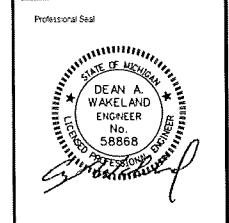
LOCATION MAP
(NOT TO SCALE)

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Engineers
Surveyors
Planners
Landscape Architects

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Executive:	MP
Manager:	AW
Designer:	AW
Quality Control:	MP
Section:	23
	T-3-N R-11-E



DATE	ISSUE
04.23.2018	CONCEPT
05.22.2018	SITE PLAN SUBMITTAL
08.15.2018	SITE PLAN REVISIONS PER ROCHESTER HILLS COMMENTS
09.20.2018	SITE PLAN RESUBMITTAL

Developed For

LEADER DOGS FOR THE BLIND

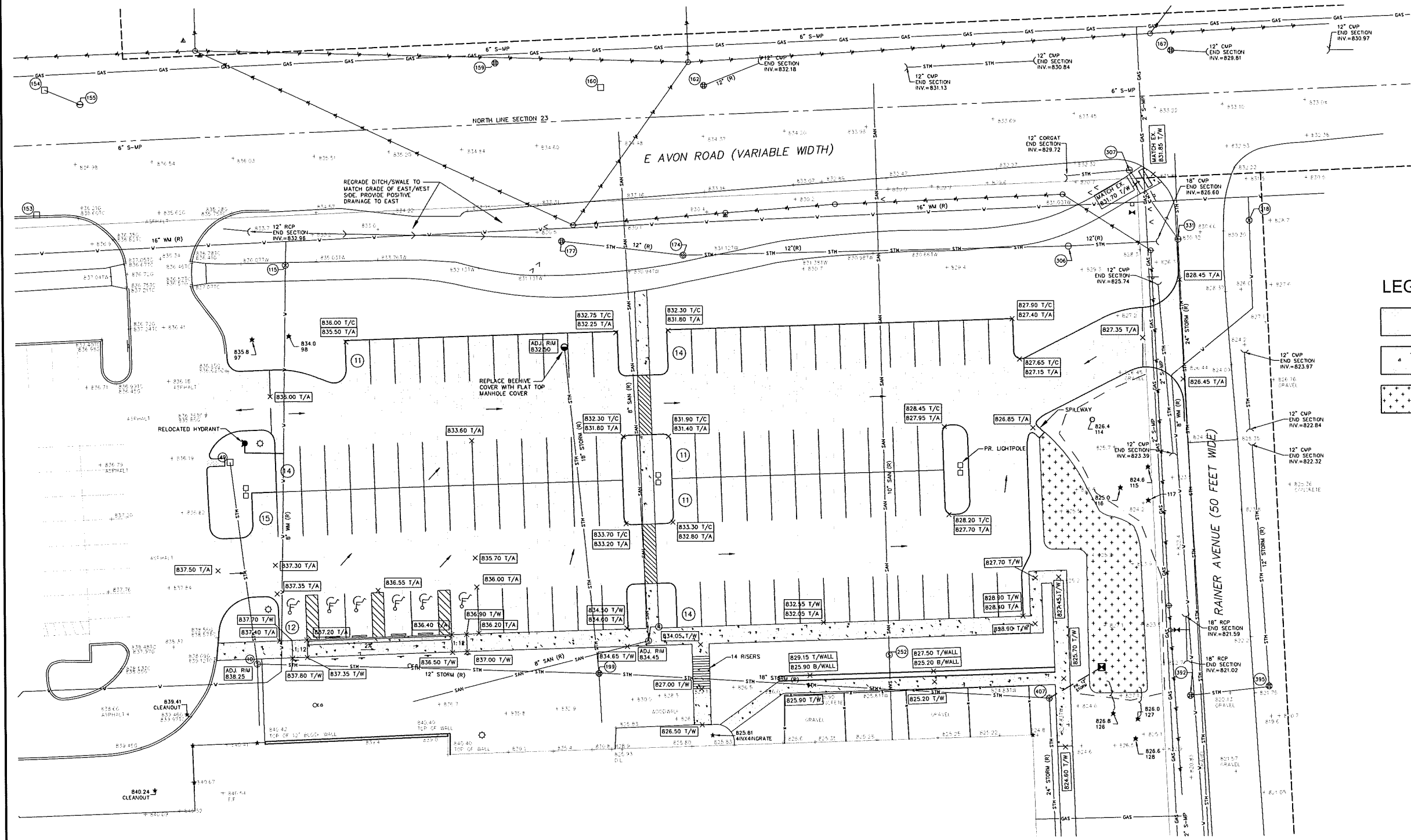
1039 S. ROCHESTER ROAD
ROCHESTER HILLS, MI 48307
(248) 218-6332

GRADING AND UTILITY PLAN

LEADER DOGS FOR THE BLIND PARKING LOT ADDITION

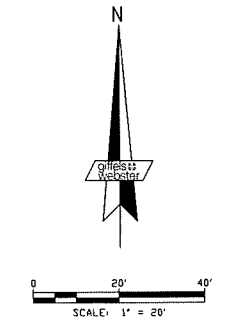
CITY OF ROCHESTER HILLS
OAKLAND COUNTY
MICHIGAN

Date:	04.23.2018
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LEGEND

PR ASPHALT	PR SIDEWALK	PR PRETREATMENT AREA
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PLANT LIST:

NO.	COMMON NAME	BOTANICAL NAME	SIZE	SYMBOL
SHRUBS:				
39	TRILLIUM FRIEDEMANNI	PHYSCOCARPUS OPULIFOLIUS SPOW/WW PPAF	3 GAL POT	RDS SPY
38	GRO-LOW SUMAC	RHUS AROMATICA GRO-LOW	3 GAL POT	
TREES:				
18	KOREAN DWARF LILAC TREE	SYRIMIA MEYERI PALBIN	1" CAL BAB	KL
9	MUSASHIYO COLUMNAR ZELKOVA	ZELKOVA SERRATA	3" CAL BAB	ZK
8	ARDENTALYEA TREE	HIBISCUS SYRIACUS ARDEN	1" CAL BAB	TU
7	ARNDOLD TULIP TREE	LIRIODENDRON TULIPIFERA ARNDOLD	3" CAL BAB	ED
4	COLUMNAR ENGLISH OAK	QUERCUS ROBUR FASTIGIATA	3" CAL BAB	HK
4	HACKBERRY	CELTIS OCCIDENTALIS	3" CAL BAB	HK

REPLACEMENT TREES

PLANT LIST:

NO.	COMMON NAME	BOTANICAL NAME	SIZE	SYMBOL
3	BLACK GUM	NYSSA SYLVATICA	3" CAL BAB	BG
3	LILJEDEN	TILIA CORDATA	3" CAL BAB	LT
3	ROYAL FROST BIRCH	BETULA X ROYAL FROST	3" CAL BAB	RF
3	TWOBLY'S RED SENTINEL JAP MAPLE	ACER PALMATUM TWOMBLY'S RED SENTINEL	3" CAL BAB	JM
2	SHILOH SPLASH RIVER BIRCH	BETULA INGRA SHILOH SPLASH PP1632	2" CAL BAB	SB

TREES TO BE REMOVED:

7 Regulated Removed Trees & 1 Landmark Tree (28" Caliper x 50% = 14")
 7 Proposed 3" Caliper Trees + (5 Proposed 3" Caliper Trees & 2 Proposed 2" Caliper Trees)

REPLACEMENT TREES:

12 Proposed Trees @ 3" Caliper + 2 Proposed Trees @ 2" Caliper = 40" Caliper Total, 14 Replacement Trees

ROW NATURAL FEATURES (South Avon Road):

1 Deciduous Per 35ft + 1 Ornamental Per 60 ft
 385 lf / 35 = 11 Required 3" Caliper Deciduous Trees
 385 lf / 60 = 7 Required 3" Caliper Ornamental Trees

PROVIDED TREES:

11 Proposed Deciduous Trees @ 3" Caliper = 33" (8 Zelkova, 4 Hackberry, 1 Tulip Tree)
 21 Proposed Ornamental Trees @ 1" Caliper = 21" (9 Arden Athea, 15 Dwarf Korean Lilac Tree)

ROW NATURAL FEATURES (Rainer Road):

1 Deciduous Per 35ft + 1 Ornamental Per 60 ft
 228 lf / 35 = 7 Required 3" Caliper Deciduous Trees
 228 lf / 60 = 4 Required 3" Caliper Ornamental Trees

PROVIDED TREES:

2 Proposed Deciduous Trees @ 3" Caliper = 6" (2 Tulip Tree)
 13 Existing Deciduous & Evergreen Trees @ Varied Calipers = 112"
 (3 Scotch Tree, 5 Serbian Spruce, 3 Austrian Pine, 1 Norway Maple, 1 Honey Locust)
 1 Proposed Ornamental Trees @ 1" Caliper = 1" (1 Dwarf Korean Lilac Tree)
 1 Existing Ornamental Trees @ 11" Caliper = 11"

PARKING LOT: Interior:

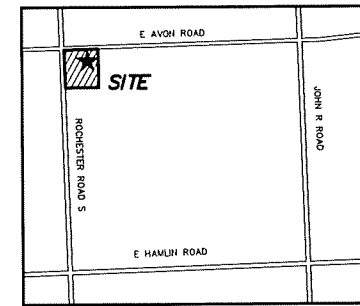
5% of Parking Lot + 1 Deciduous Per 150 sq. ft. Landscape Area
 5% (37,560 sq. ft. / 150 sq. ft.) = 12.52" Caliper of Trees

PROVIDED TREES:

13 Proposed Parking Lot Trees @ 3" Caliper = 39" (5 Tulip Tree, 8 English Oak)

SEED MIX PLANT LIST:

COMMON NAME	BOTANICAL NAME	PERCENT	ONCES
GRASS: (9 SPECIES)			
BOTTLEBRUSH SEDGE	CAREX LURIDA	5%	2 OZ.
BROWN FOX SEDGE	CAREX VULPINOIDEA	80%	34 OZ.
BARNYARD GRASS	ECHINOCHLOA CRUSGALLI	5%	2 OZ.
COMMON RUSH	JUNCUS EFFUSUS	5%	2 OZ.
GREAT BULRUSH (SOFTSTEM)	SCIRPUS VALIDUS CREBER	5%	2 OZ.
	TOTAL =		42 OZ.
FORBS: (9 SPECIES)			
SWEET FLAG	ACORUS CALAMUS	10%	4 OZ.
SWAMP MILKWEED	ASCLEPIAS INCARNATE	5%	2 OZ.
PARICLED ASTER	ASTER SIMPLEX	5%	2 OZ.
WILD SEINFIA	CASSIA HEBECARPA	5%	2 OZ.
BLUE FLAG IRIS	IRIS VIRGIFICA SHREVEI	10%	4 OZ.
MOCKEY FLOWER	MIMULUS RIGIDUS	5%	2 OZ.
WILD GOLDEN GLOW	RUBECKIA LACINATA	50%	21 OZ.
COMMON ARROW-HEAD	SAGITTARIA LATIFOLIA	5%	2 OZ.
MEADOWSWEET	SPIRAEA ALBA	5%	2 OZ.
	TOTAL =		41 OZ.
COVER CROP:			
ALPINE RYEGRASS	LOLIUM MULTIFLORUM	25%	264 OZ.
CREeping RED FESCUE	FESTUCA RUBRA VAR. RUBRA	50%	528 OZ.
MEXICAN COSMOS	COSMOS BIPINNATUS	25%	264 OZ.
	TOTAL =		1056 OZ.



LOCATION MAP
 (1" = 2000')

PARKING DATA

EXISTING	140 SPACES
PROPOSED	102 SPACES
TOTAL	248 SPACES

ZONING INFORMATION

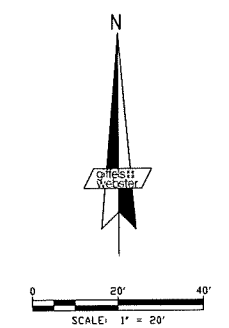
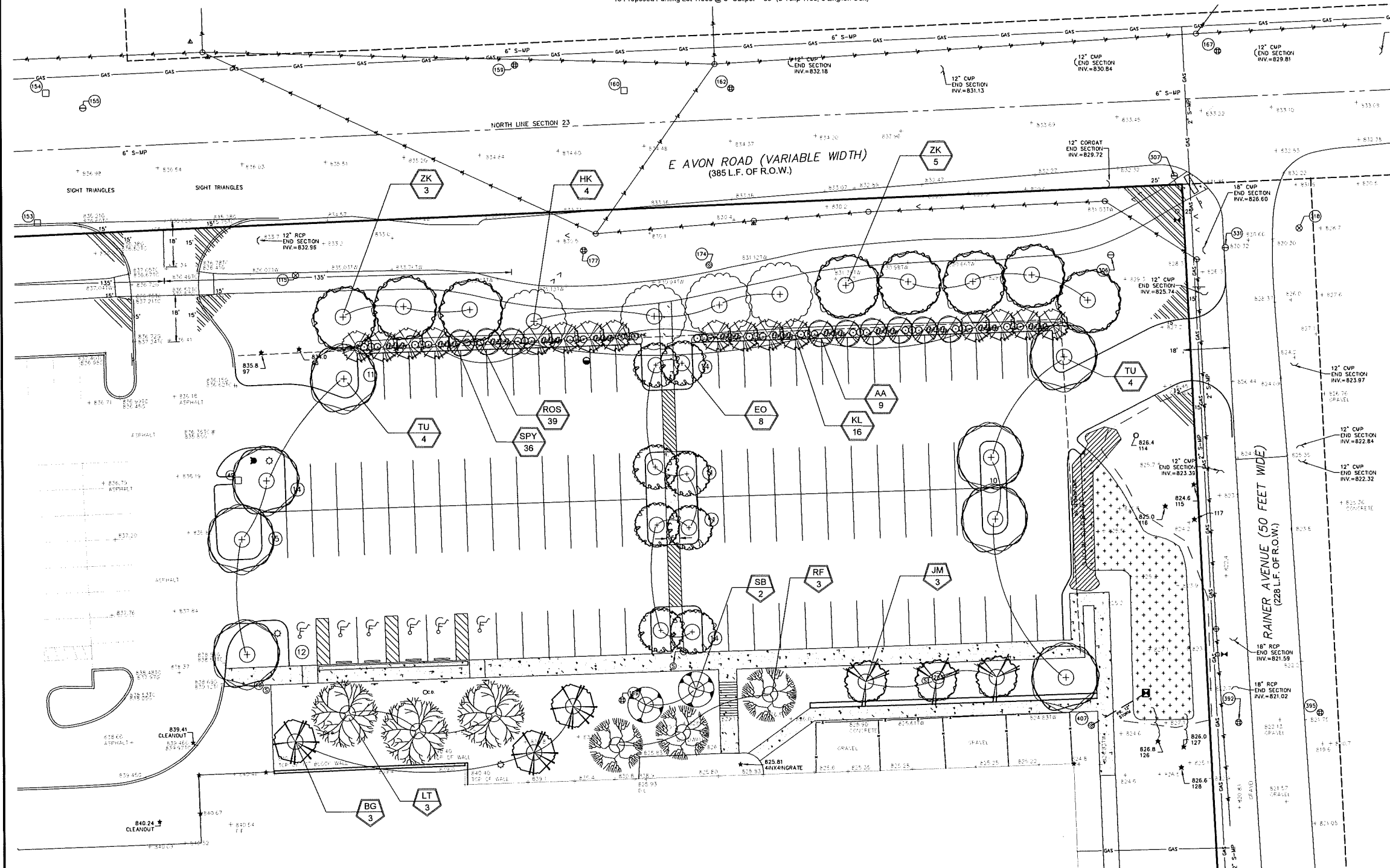
EXISTING ZONING: SP - SPECIAL PURPOSE
 EXISTING USE: OPEN SPACE
 PROPOSED ZONING: NO CHANGE
 PROPOSED USE: ADDITIONAL PARKING AREA
 ADJACENT ZONING:
 EAST: R3 - ONE FAMILY RESIDENTIAL
 NORTH: O1 - OFFICE BUSINESS
 WEST: B3 - SHOPPING CENTER BUSINESS
 SOUTH: B3 - SHOPPING CENTER BUSINESS

CALCULATIONS

REV = 1815° A ° C
 = 1815° (0.91 ACRES) * (0.7)
 = 1155 CF
 REMOVAL DEPTH = 18 IN (PER CITY STANDARDS)
 RECHARGE AREA REQUIRED = (1156 CF / 1.5 FT) = 771 SF

LEGEND

- FR ASPHALT
- FR SIDEWALK
- FR RECHARGE AREA
- SIGHT TRIANGLES
- CORNER CLEARANCE TRIANGLES
- FR CURB
- EX PROPERTY LINE
- EX ROW LINES
- FR VAN ACCESSIBLE SIGN
- FR PARKING COUNT



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Professional Seal

811
 Know what's below.
 Call before you dig.

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LEADER DOGS FOR THE BLIND

1039 S. ROCHESTER ROAD
 ROCHESTER HILLS, MI 48307
 (248) 218-6332

LANDSCAPE PLAN

LEADER DOGS FOR THE BLIND PARKING LOT ADDITION

CITY OF ROCHESTER HILLS
 OAKLAND COUNTY
 MICHIGAN

Date:	04/23/2018
Scale:	1" = 20'
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Project:	19458

PLANT NOTES:

- A. The Planning Department may approve an alternative form of irrigation for a particular site, or may waive this requirement upon determining that underground irrigation is not necessary for the type of proposed plant materials.
- B. All automatic irrigation systems shall be designed to minimize water usage, and shall be shut off during water emergencies, periods of protracted rainfall, or water rationing periods.
- C. The irrigation requirement may be waived by the reviewing authority if the project incorporates landscaping that will contribute points towards LEED certification or an equivalent rating system.
- D. The applicant may be required to post a Performance Bond prior to the issuance of a temporary or final Certificate of Occupancy to ensure the completion of landscaping (including irrigation). If the landscaping is not 100% complete when any certificate of occupancy is requested, the City will inspect the landscaping and determine the percentage of completion and a performance bond must be submitted to the City by the Developer in the sum equal to the unfinished portion of the landscape work. The City will have the authority to determine the percentage of completion and the bond amount required. If the landscaping is 100% complete and approved no Performance Bond will be required.
- E. Maintenance Bond. A Maintenance Bond in the sum of 25% of estimated cost of landscaping (including irrigation) must be posted prior to the issuance of any Certificate of Occupancy (including temporary). The Maintenance Bond is held for a period 2 years, at the end of which time the City shall inspect the landscaping. Once, inspection issues are addressed the unused balance of the Maintenance Bond will be released.

Maintenance

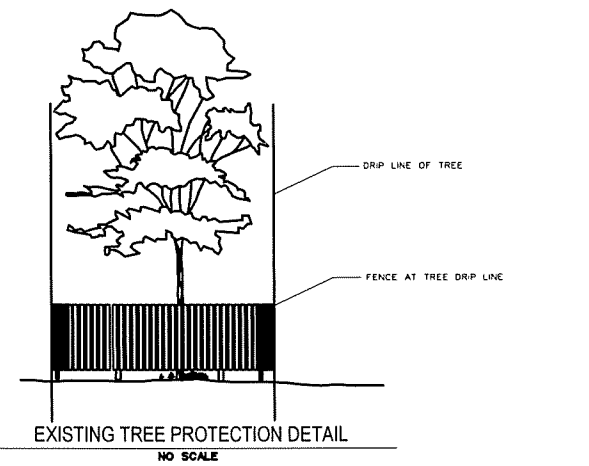
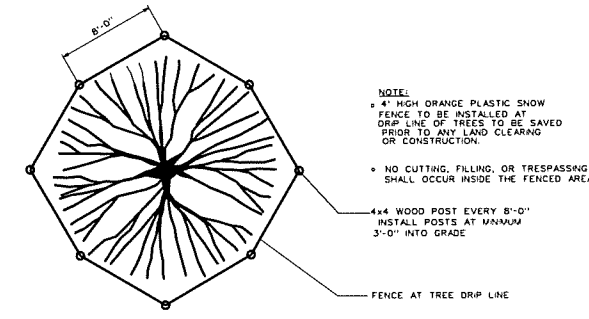
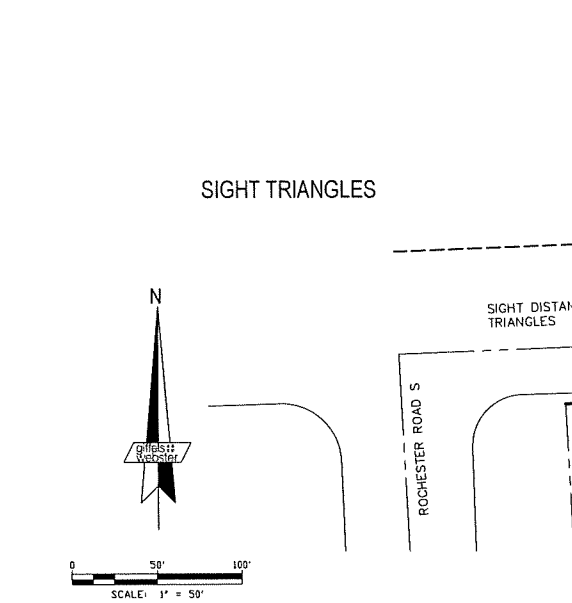
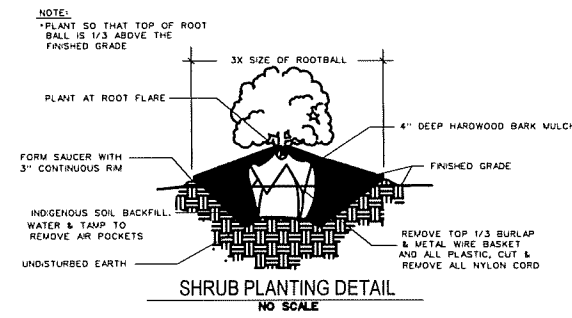
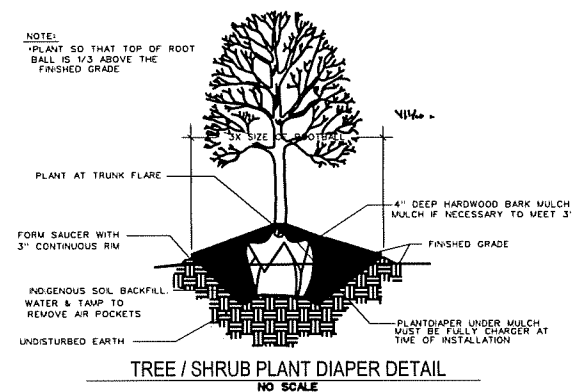
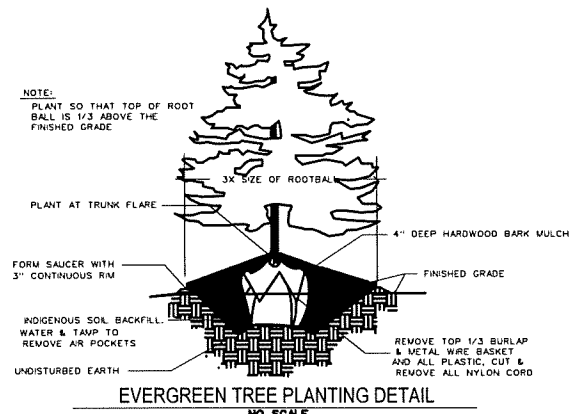
- The owner of the property shall be responsible for all maintenance of site landscaping, as follows:
- A. Landscaping shall be kept in a neat, orderly and healthy growing condition, free from debris and refuse.
 - B. Pruning shall be minimal at the time of installation, only to remove dead or diseased branches. Subsequent pruning shall assure proper maturation of plants to achieve their approved purpose.
 - C. All dead, damaged, or diseased plant material shall be removed immediately and replaced within six (6) months after it dies or in the next planting season, whichever occurs first. For purposes of this Section, the planting season for deciduous plants shall be between March 1 and June 1 and from October 1 until the prepared soil becomes frozen. The planting season for evergreen plants shall be between March 1 and June 1. Plant material installed to replace dead or diseased material shall be as close as practical to the size of the material it is intended to replace. The City may notify property owners of the need to replace dead, damaged, or diseased material.
 - D. The approved landscape plan shall be considered a permanent record and integral part of the Site Plan Approval. Unless otherwise approved in accordance with the aforementioned procedures, any revisions to or removal of plant materials, or non-compliance with the maintenance requirements of this Section 139-2.109 will place the parcel in non-conformity with the approved landscape plan and be a violation of this Ordinance.
 - E. If protected trees are damaged, a fine shall be issued on an inch-by-inch basis at a monetary rate as defined by the Forestry Department.

Installation:

All landscaping shall be installed in a manner consistent with the standards of the American Association of Nurserymen, the approved site plan, and the following:

NOTES

1. PRIOR APPROVAL IS REQUIRED TO PLANT ANY TREE OR SHRUB ON THE PUBLIC RIGHT-OF-WAY.
2. ALL TREES AND SHRUBS MUST BE PLANTED AT LEAST 10' FROM THE EDGE OF THE PUBLIC ROAD. (TREES MUST BE PLANTED AT LEAST 15' AWAY FROM CURB OR ROAD EDGE WHERE THE SPEED LIMIT IS MORE THAN 35 MPH) SHADE TREES AND SHRUBS MUST BE PLANTED AT LEAST 5' FROM THE EDGE OF THE PUBLIC WALKWAY. EVERGREEN AND ORNAMENTAL TREES MUST BE PLANTED AT LEAST 10' FROM THE PUBLIC WALKWAY.
3. NO TREES OR SHRUBS MAY BE PLANTED WITHIN THE TRIANGULAR AREA FORMED AT THE INTERSECTION OF ANY STREET RIGHT-OF-WAY LINES AT A DISTANCE ALONG EACH LINE OF 25' FROM THEIR POINT OF INTERSECTION. NO TREES OR SHRUBS MAY BE PLANTED IN THE TRIANGULAR AREA FORMED AT THE INTERSECTION OF ANY DRIVEWAY WITH A PUBLIC WALKWAY AT A DISTANCE ALONG EACH LINE OF 15' FROM THEIR POINT OF INTERSECTION.
4. ALL TREES AND SHRUBS MAY BE PLANTED AT LEAST 10' FROM ANY FIRE HYDRANT. SHADE AND EVERGREEN TREES MUST BE PLANTED AT LEAST 15' AWAY FROM THE NEAREST OVERHEAD WIRE. TREES MUST BE PLANTED A MINIMUM OF 5' FROM AN UNDERGROUND UTILITY, UNLESS THE CITY'S LANDSCAPE ARCHITECT REQUIRES A GREATER DISTANCE.
5. PRIOR TO THE RELEASE OF THE PERFORMANCE BOND, THE CITY OF ROCHESTER HILLS FORESTRY DIVISION NEEDS TO INSPECT ALL TREES, EXISTING OR PLANTED, TO IDENTIFY ANY THAT POSE A HAZARD TO THE SAFE USE OF PUBLIC RIGHT-OF-WAY. FORESTRY MAY REQUIRE THE DEVELOPER TO REMOVE, AND POSSIBLY REPLACE, ANY SUCH TREES THESE REQUIREMENTS ARE INCORPORATED INTO THE PLA
6. ALL PLANTING AREAS TO BE IRRIGATED
7. PARCEL BOUNDARY IS THE LIMITS OF GRADING
8. PRIOR TO THE RELEASE OF THE PERFORMANCE BOND, THE CITY OF ROCHESTER HILLS MUST INSPECT ALL LANDSCAPING PLANTINGS AND THE OPERATION OF THE IRRIGATION SYSTEM
9. IRRIGATION WILL ONLY OCCUR BETWEEN THE HOURS OF 12AM AND 5AM
10. ALL SIGNS MUST MEET THE REQUIREMENTS OF SECTION 139-12.306 AND CHAPTER 134 OF THE CITY OF ORDINANCES AND BE APPROVED UNDER SEPARATE PERMITS ISSUED BY THE BUILDING DEPARTMENT.
11. THE PROPOSED STREET TREES ARE TO BE PLANTED IN THE ROW AFTER CONSTRUCTION OF THE PROJECT IS COMPLETED. APPLICANT SHALL PAY \$200 PER LOT TO ACCOUNT FOR PLANTINGS.
12. IRRIGATION OVER SPRAY WILL NOT BROADCAST OVER THE PATHWAY.
13. PRIOR APPROVAL IS REQUIRED TO PLANT ANY TREE OR SHRUB ON THE PUBLIC RIGHT-OF-WAY. ALL TREES AND SHRUBS MUST BE PLANTED AT LEAST 10' FROM THE EDGE OF THE PUBLIC ROAD. (TREES MUST BE PLANTED AT LEAST 15' AWAY FROM CURB OR ROAD EDGE WHERE THE SPEED LIMIT IS MORE THAN 35 MPH) SHADE TREES AND SHRUBS MUST BE PLANTED AT LEAST 5' FROM THE EDGE OF THE PUBLIC WALKWAY. EVERGREEN AND ORNAMENTAL TREES MUST BE PLANTED AT LEAST 10' FROM THE EDGE OF THE PUBLIC WALKWAY. NO TREES OR SHRUBS MAY BE PLANTED WITHIN THE TRIANGULAR AREA ALONG EACH LINE OF 15' FROM THEIR POINT OF INTERSECTION. ALL TREES AND SHRUBS MUST BE PLANTED AT LEAST 10' FROM ANY FIRE HYDRANT. SHADE AND EVERGREEN TREES MUST BE PLANTED A MINIMUM OF 5' FROM AN UNDERGROUND UTILITY, UNLESS THE CITY'S LANDSCAPE ARCHITECT REQUIRES A GREATER DISTANCE. PRIOR TO THE RELEASE OF THE PERFORMANCE BOND, THE CITY OF ROCHESTER HILLS FORESTRY DIVISION NEEDS TO INSPECT ALL TREES, EXISTING OR PLANTED, TO IDENTIFY ANY THAT POSE A HAZARD TO THE SAFE USE OF THE PUBLIC RIGHT-OF-WAY. FORESTRY MAY REQUIRE THE DEVELOPER TO REMOVE, AND POSSIBLY REPLACE, ANY SUCH TREES. THE ABOVE REQUIREMENTS ARE INCORPORATED INTO THE PLAN.

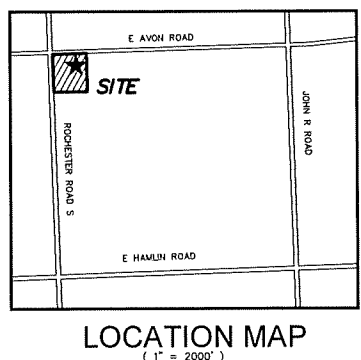


FERTILIZATION:
FERTILIZERS IN SOIL UNDER PLANTDIAPER IS HIGHLY RECOMMENDED AND IT WILL CAUSE LESS POLLUTION AND RUNOFF. KNOW WHAT INGREDIENTS IN THE FERTILIZER YOU ARE USING. ALL ORGANIC FERTILIZERS ARE ACCEPTABLE.

FERTILIZERS TO CONSIDER:
-N: UREA (THE LARGEST AGRICULTURAL NITROGEN FERTILIZER) SUCH AS AMMONIUM AND AMMONIUM NITRATE ARE FINE.
-P: MONO-AMMONIUM PHOSPHATE, DI-AMMONIUM PHOSPHATE AND AMMONIUM PHOSPHATE. AT HIGH CONCENTRATION, IT MAY TEMPORARILY REDUCE WATER HOLDING CAPACITY, BUT IT CAN BE RECOVERED RATHER QUICKLY.
-K: POTASSIUM CHLORIDE, POTASSIUM SULFATE, AND POTASSIUM NITRATE. AT HIGH CONCENTRATION, IT MAY TEMPORARILY REDUCE WATER HOLDING CAPACITY, BUT IT CAN BE RECOVERED QUICKLY.
-AVOID FERTILIZERS OR ADDITIVES CONTAINING METAL IONS OTHER THAN GROUP I (ALKALI METALS) SUCH AS ALUMINUM, IRON, CALCIUM, MAGNESIUM, WHICH ARE COMMON IN MANY MIXED TYPE FERTILIZERS.

LAWN SEED MIX:

- 30% PERENNIAL RYEGRASS
- 20% PARK KENTUCKY BLUEGRASS
- 45% CREeping RED FESCUE
- 5% ANNUAL RYEGRASS
- 4#/1000 S.F. SEEDING RATE



LANDSCAPING COST SUMMARY
LEADER DOGS FOR THE BLIND PARKING LOT ADDITION
in
Rochester Hills Michigan

ITEM	QUANT.	UNIT PRICE	TOTAL
Black Gum	3	\$350.00	\$1,050.00
Linden	3	\$350.00	\$1,050.00
Arnold Tulip Tree	8	\$350.00	\$2,800.00
Hackberry	4	\$350.00	\$1,400.00
Columnar English Oak	8	\$350.00	\$2,800.00
Arden Althea Tree	9	\$350.00	\$3,150.00
Korean Lilac Tree	16	\$350.00	\$5,600.00
Royal Frost Birch	3	\$350.00	\$1,050.00
Pyramidal English Oak	8	\$350.00	\$2,800.00
Twombly's Red Sentinel Jap Maple	3	\$350.00	\$1,050.00
Shloh Splash River Birch	2	\$350.00	\$700.00
Musashino Columnar Zelkova	8	\$350.00	\$2,800.00
Grow-Low Sumac	36	\$35.00	\$1,260.00
Tiny Wine Nnebank	39	\$45.00	\$1,755.00
Mulch by the Yard installed	25	\$50.00	\$1,250.00
Planting Soil by the Yard installed	21	\$70.00	\$1,470.00
Irrigation System installed	1	\$15,000.00	\$15,000.00
# of Lb's Native Seed Pond Mix	19	\$100.00	\$1,900.00
# of Sq Ft of Lawn Seed installed	2,800	\$1.50	\$4,200.00
GRAND TOTAL			\$53,085.00

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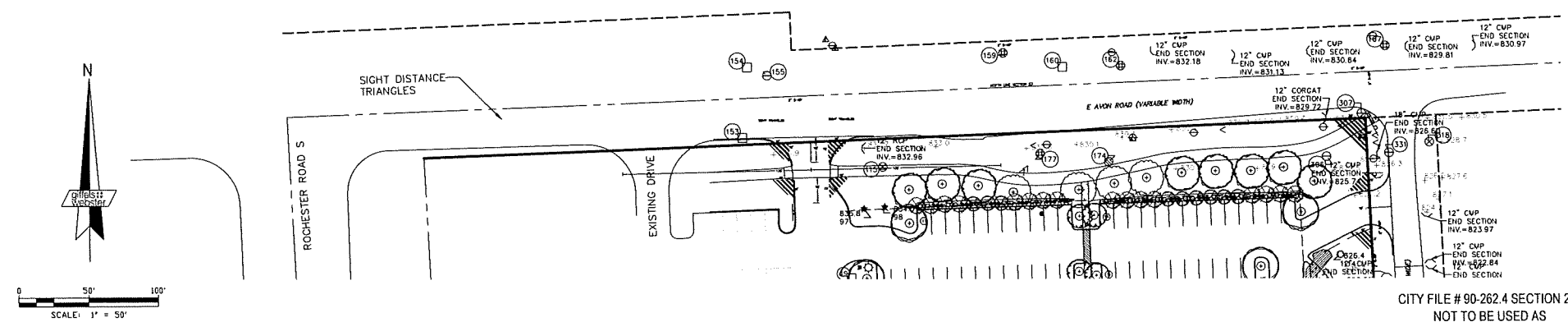
LANDSCAPE DETAILS

LEADER DOGS FOR THE BLIND PARKING LOT ADDITION

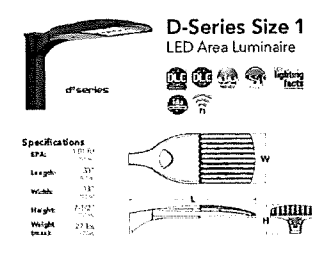
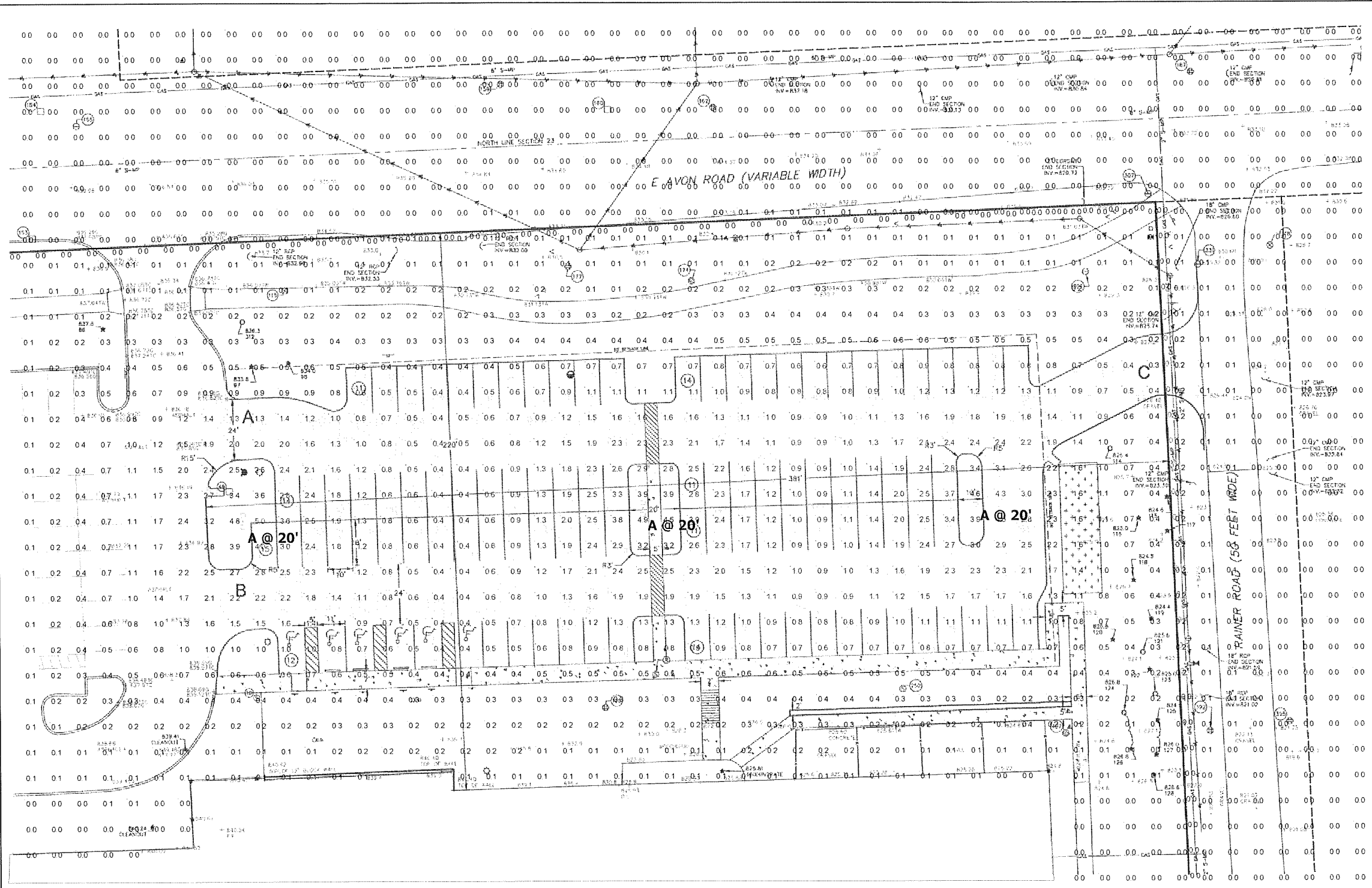
CITY OF ROCHESTER HILLS
OAKLAND COUNTY
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Date: 04/23/2018
Scale: AS NOTED
Sheet: 08
Project: 19458

SIGHT TRIANGLES



CITY FILE # 90-262.4 SECTION 23
NOT TO BE USED AS CONSTRUCTION DRAWINGS



Specifications
 EPA: 100%
 Length: 31"
 Width: 18"
 Height: 2 1/2"
 Weight: 27 lbs

Capable Luminaire
 This luminaire is an adjustable luminaire which has been designed and tested to provide consistent color appearance and uniformity of light distribution. At all locations of the luminaire, the luminaire is designed to provide uniformity of light distribution. The luminaire is an adjustable luminaire which has been designed and tested to provide consistent color appearance and uniformity of light distribution. The luminaire is an adjustable luminaire which has been designed and tested to provide consistent color appearance and uniformity of light distribution.

Ordering Information

Part No.	Description	Quantity	Notes
DSX1	LED P4 50K T5W HVOLT	1	

EXAMPLE: DSX1 LED P4 50K T5W HVOLT SPA DDBD

Part No.	Description	Quantity	Notes
DSX1	LED P4 50K T5W HVOLT	1	

Plan View
 Scale - 1" = 20'

- General Note**
- SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
 - SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
 - PARKING LOT CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0".
 - PROPERTY LINE CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 5' - 0".

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIREMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705

Drawing Note
 THIS DRAWING WAS GENERATED FROM AN ELECTRONIC IMAGE FOR ESTIMATION PURPOSE ONLY. LAYOUT TO BE VERIFIED IN FIELD BY OTHERS.

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
OVERALL	+	0.5 fc	5.0 fc	0.0 fc	N/A	N/A	0.1:1
PARKING LOT	X	1.3 fc	4.3 fc	0.3 fc	14.3:1	4.3:1	0.3:1
PROPERTY LINE	+	0.0 fc	0.1 fc	0.0 fc	N/A	N/A	0.0:1

Description	# Luminaires	Total Watts	Area	Density
POWER DENSITY FOR PARKING LOT	3	750.00 W	36373.59 R ²	0.02 W/R ²

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens per Lamp	LLF	Wattage	Mounting Height
□	A	3	Lithonia Lighting	DSX1 LED P4 50K T5W HVOLT	DSX1 LED P4 50K T5W HVOLT	LED	1	DSX1 LED P4 50K T5W HVOLT.dwg	15132	0.9	250	20'-0"



LEADER DOGS FOR THE BLIND
 PHOTOMETRIC SITE PLAN
 PREPARED FOR: GIFFELS WEBSTER
 GASSER BUSH ASSOCIATES
 WWW.GASSERBUSH.COM

Designer
 TV/KB
Date
 5/21/2018
 rev. 9/19/2018
Scale
 Not to Scale
Drawing No.
 #14-28419-V2
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