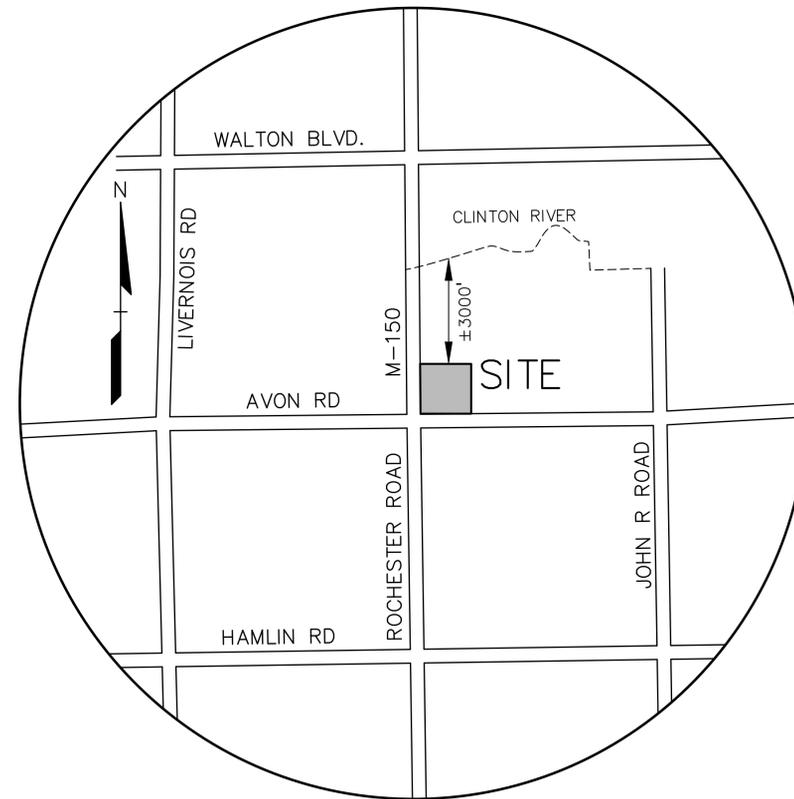


PRELIMINARY SITE PLANS FOR
ROCHESTER RETAIL
 N.E.C. OF ROCHESTER ROAD AND AVON ROAD
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN



NOTE:
 A CONDITIONAL USE PERMIT IS
 REQUIRED FOR THE DRIVE-THROUGH

Refer to Section 138-1.203 of the Zoning Ordinance for conditional use signage requirements. Signs advertising a conditional use is proposed for the property must be posted 15 days prior to the public hearing.



LOCATION MAP
 NO SCALE

Site Plan Review		
Reviewed for compliance to the City Ordinance, Building and Fire Codes		
Department	Reviewer	Approved
Planning	Kristen Kapelanski 248-841-2772 KapelanskiK@RochesterHills.org	Yes
Building	Mark Artinian 248-841-2446 ArtinianM@RochesterHills.org	Yes
Engineering	Jason Boughton 248-841-2490 BoughtonJ@RochesterHills.org	Yes
Nat. Resources	Matt Einheuser 248-841-2551 EinheuserM@RochesterHills.org	Yes
Fire	Lt. Ann Echols 248-841-2701 EcholsA@RochesterHills.org	Yes

C. McEwen for M. Artinian

City of Rochester Hills
 Planning & Economic Development

Conditions and mark-ups noted throughout the plan set must be addressed prior to final approval.



CAUTION!!
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INDEX OF DRAWINGS:

- COVER SHEET
- C-1.0 TOPOGRAPHIC SURVEY
- C-3.0 SITE PLAN
- C-3.1 FIRE PROTECTION PLAN
- C-4.0 PRELIMINARY GRADING PLAN
- C-6.1 PRELIMINARY UTILITY PLAN - WEST
- C-6.2 PRELIMINARY UTILITY PLAN - EAST
- C-9.1 NOTES AND DETAILS
- C-9.2 DETAILS
- C-9.3 DETAILS
- C-12.0 SIGHT DISTANCE PLAN
- L-1.0 PRELIMINARY LANDSCAPE PLAN
- L-1.1 LANDSCAPE DETAILS
- T-1.0 TREE PRESERVATION PLAN

- ARCHITECTURAL PLANS:**
- A-1 FIRST LEVEL FLOOR PLAN
 - A-2 SECOND LEVEL FLOOR PLAN
 - A-3 CONCEPTUAL BUILDING ELEVATIONS

- PHOTOMETRIC PLANS:**
- SHEET 1 OF 2 LED SITE LAYOUT
 - SHEET 2 OF 2 LED SITE LAYOUT

CLIENT
ROCHESTER AVON PARTNERS, LLC
 251 EAST MERRILL STREET, SUITE #205
 BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE
RETAIL REDEVELOPMENT
 N.E.C. ROCHESTER ROAD & AVON ROAD
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS	
CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

ORIGINAL ISSUE DATE:
 MAY 10, 2021

DRAWING TITLE
COVER SHEET

PEA JOB NO.	2019-007
P.M.	RLS
DN.	BA
DES.	PB

DRAWING NUMBER:
COVER

DEVELOPER:

ROCHESTER AVON PARTNERS, LLC
 251 EAST MERRILL STREET, SUITE #205
 BIRMINGHAM, MI, 48009
 CONTACT: DORAID MARKUS
 PHONE: (248) 892-2222
 EMAIL: DMARKUS@MARKUSLLC.COM

ARCHITECT:

ROGVOY ARCHITECTS
 32500 TELEGRAPH ROAD, SUITE #250
 BINGHAM FARMS, MI, 48025
 CONTACT: MARK DRANE
 PHONE: (248) 540-7700
 FAX: (248) 540-2710

CIVIL ENGINEER:

PEA GROUP
 2430 ROCHESTER COURT, SUITE 100
 TROY, MI, 48063
 CONTACT: RACHEL L. SMITH, PE
 PHONE: (248) 689-9090 EXT. 1165
 FAX: (248) 689-1044
 EMAIL: RACHEL.SMITH@PEAGROUP.COM

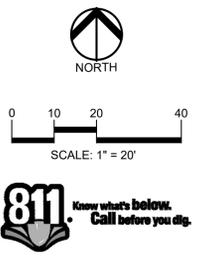
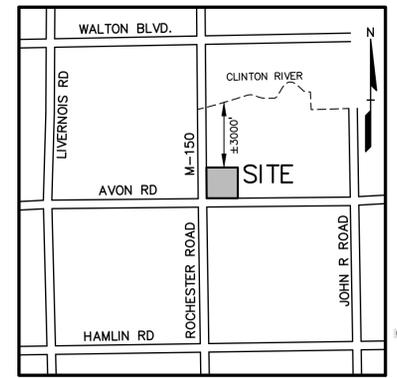
LANDSCAPE ARCHITECT:

PEA GROUP
 7927 NEMCO WAY, SUITE 115
 BRIGHTON, MI 48116
 CONTACT: JEFF SMITH, R.L.A., LEED AP
 PHONE: (517) 546-8583
 FAX: (517) 546-8973
 EMAIL: JSMITH@PEAGROUP.COM

W 1/4 CORNER SECTION 14
T.03N., R.11E
CITY OF ROCHESTER HILLS
OAKLAND COUNTY, MI
REMON IN MON BOX

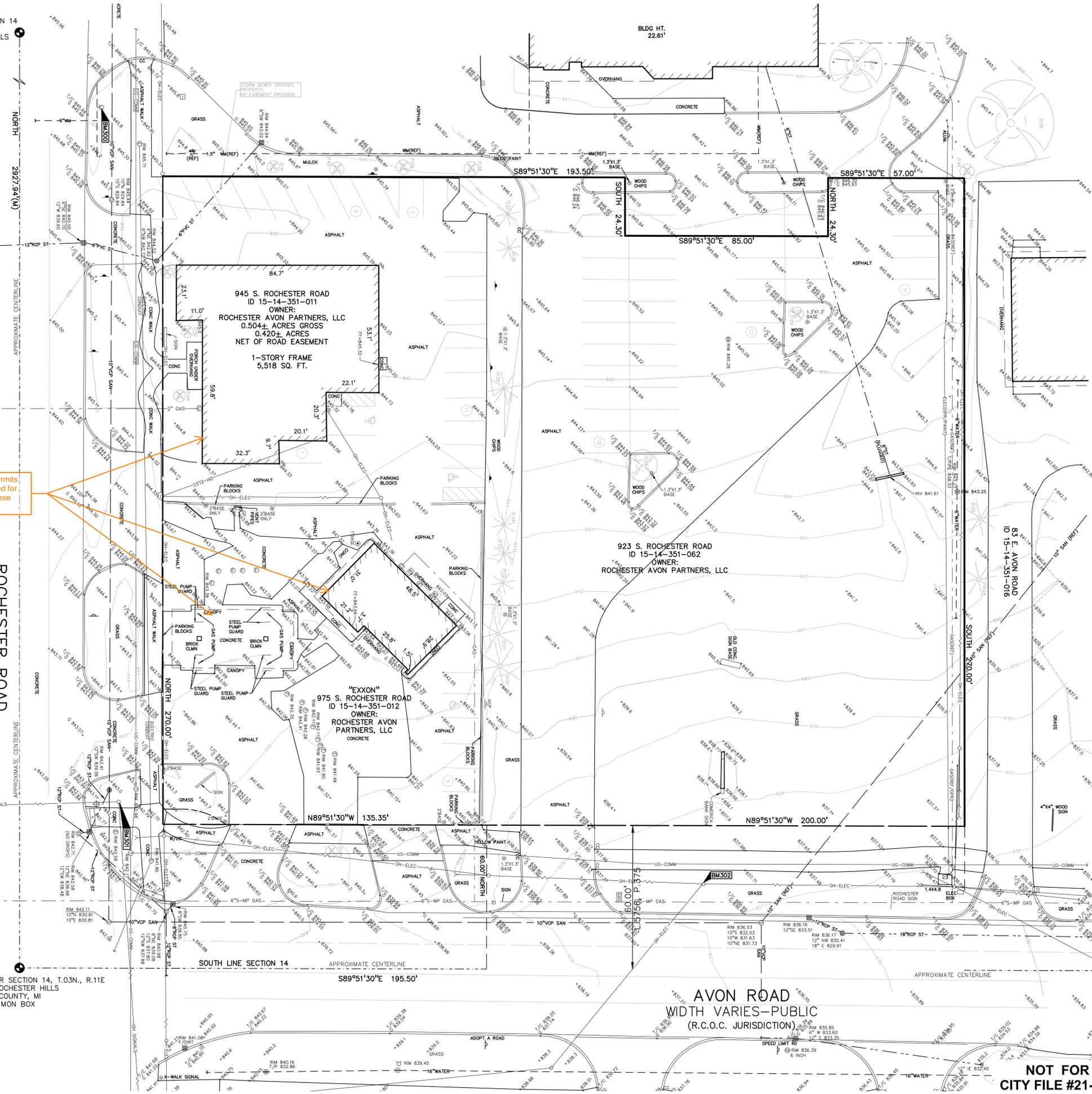
PEA GROUP
t: 844.813.2949
www.peagroup.com

RACHEL L. SMITH
REGISTERED PROFESSIONAL ENGINEER
No. 49928



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

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Demolition permits will be required for removal of these structures.

ROCHESTER ROAD
WIDTH VARIES - PUBLIC
(MOT JURISDICTION)

SW CORNER SECTION 14, T.03N., R.11E
CITY OF ROCHESTER HILLS
OAKLAND COUNTY, MI
REMON IN MON BOX

AVON ROAD
WIDTH VARIES - PUBLIC
(R.C.O.C. JURISDICTION)

- LEGEND**
- IRON FOUND
 - IRON SET
 - NAIL FOUND
 - NAIL & CAP SET
 - BRASS PLUG SET
 - MONUMENT FOUND
 - MONUMENT SET
 - RECORDERED
 - MEASURED
 - CALCULATED

- EXISTING**
- OH-ELEC-W-O
 - UG-CATV
 - UG-PACKAGE
 - UG-ELEC-E
 - UG-ELEC-E
 - WATER MAIN, VALVE & GAS LINE MARKER
 - WATER MAIN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
 - SANITARY SEWER, CLEANOUT & MANHOLE
 - STORM SEWER, CLEANOUT & MANHOLE
 - SQUARE, ROUND & BENTHIE CATCH BASIN, YARD DRAIN
 - WATER VALVE EQUIPMENT VALVE BOX, SERVICE SHUTOFF
 - MALBOX, TRANSFORMER, IRRIGATION CONTROL VALVE
 - UNIDENTIFIED STRUCTURE
 - SPOT ELEVATION
 - CONTOUR LINE
 - FENCE
 - GUARD RAIL
 - STREET LIGHT
 - SIGN
 - CONCRETE
 - ASPH.

- REFERENCE DRAWINGS**
- CITY OF ROCHESTER HILLS GIS MAP
 - CITY OF ROCHESTER HILLS GIS MAP
 - CITY OF ROCHESTER HILLS GIS MAP
 - ELECTRIC
 - NOT RECEIVED
 - NOT RECEIVED
 - CONSUMERS ENERGY MAP 03-61-14-3, DATED 01/10/19
 - NO FACILITIES IN THE AREA
 - CONCRETE SERVICE MAP RECEIVED 02/19/19
 - FRM MAP 20120309ZF, DATED 09/29/06, ZONE "C"
 - MOOT ROAD PLANS, VARIOUS PROJECTS
 - BOUNDARY TOPOGRAPHIC SURVEY, COMERICA BANK, NF #1448, DATED 12/21/00
 - OTHER
 - PARTIAL GRADING/UTILITY PLAN, COMERICA BANK, UNDATED

- BENCHMARKS**
(GPS DERIVED - NAVD88)
- BM #300**
CUT "X" ON NORTHEAST BOLT HYDRANT EAST SIDE ROCHESTER ROAD, ±350' NORTH OF AVON ROAD.
ELEV. - 846.92'
 - BM #301**
CUT "X" ON SOUTHWEST BOLT OF STEEL STRAIN POLE AT NORTHEAST CORNER OF AVON AND ROCHESTER ROAD.
ELEV. - 844.05'
 - BM #302**
SET BENCHMARK IN NORTH FACE OF UTILITY POLE NORTH SIDE OF AVON ROAD, ±300' EAST OF ROCHESTER ROAD.
ELEV. - 838.42'

EXISTING SOIL INFORMATION:

PER THE WEB SOIL SURVEY OF OAKLAND COUNTY, AS PUBLISHED BY THE USDA-NRCS, VERSION 19, DATED JUNE 1, 2020, THIS SITE CONSISTS OF SOILS OF THE FOLLOWING TYPE:

59 - URBAN LAND

LEGAL DESCRIPTION
COMBINED PROPERTY

LAND IN A PART OF SOUTHWEST 1/4 SECTION 14, TOWN 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST SECTION CORNER OF SAID SECTION 14, THENCE SOUTH 89 DEGREES 51 MINUTES 30 SECONDS EAST 195.50 FEET ALONG THE SOUTH LINE OF SECTION 14; THENCE NORTH 60.00 FEET TO THE NORTH LINE OF AVON ROAD (WIDTH VARIES) AND THE POINT OF BEGINNING; THENCE ALONG SAID NORTH LINE NORTH 89 DEGREES 51 MINUTES 30 SECONDS WEST 135.35 FEET TO THE EAST LINE OF S. ROCHESTER ROAD (WIDTH VARIES); THENCE ALONG SAID EAST LINE NORTH 270.00 FEET; THENCE SOUTH 89 DEGREES 51 MINUTES 30 SECONDS EAST 193.50 FEET; THENCE SOUTH 24.30 FEET; THENCE SOUTH 89 DEGREES 51 MINUTES 30 SECONDS EAST 85.00 FEET; THENCE NORTH 24.30 FEET; THENCE S89°51'30"E 57.00 FEET; THENCE SOUTH 270.00 FEET TO THE NORTH LINE OF SAID AVON ROAD; THENCE ALONG SAID NORTH LINE NORTH 89 DEGREES 51 MINUTES 30 SECONDS WEST 200.00 FEET TO THE POINT OF BEGINNING.

CLIENT
ROCHESTER AVON PARTNERS, LLC
251 EAST MERRILL STREET, SUITE #205
BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE
RETAIL REDEVELOPMENT
N.E.C. ROCHESTER ROAD & AVON ROAD
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS

CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

ORIGINAL ISSUE DATE:
MAY 10, 2021

DRAWING TITLE
TOPOGRAPHIC SURVEY

PEA JOB NO.	2019-007
P.M.	RLS
DN.	BA
DES.	PB
DRAWING NUMBER:	

FLOODPLAIN:
BY GRAPHIC PLOTTING, THE SUBJECT PARCEL IS IN "AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN" (ZONE X) PER FEMA FLOOD INSURANCE RATE MAP PANEL NUMBER 26125C0392F, EFFECTIVE DATE SEPTEMBER 29, 2006

XREF: S:\PROJECTS\2019\2019-007\DWG\TOPOBASE-19007.dwg
XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\CEASE-19007.dwg
XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\BLK-19007.dwg

NOT FOR CONSTRUCTION
CITY FILE #21-007 SECTION #14

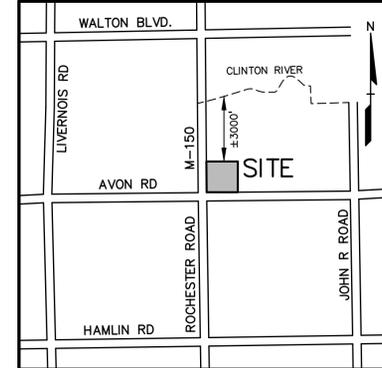
C-1.0

W 1/4 CORNER SECTION 14
T.03N., R.11E
CITY OF ROCHESTER HILLS
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REMON IN MON BOX

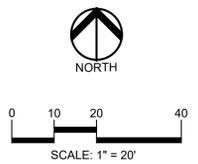
GENERAL NOTES:
REFER TO SHEET C-9.1 FOR GENERAL NOTES AND PAVING NOTES

- SIGN LEGEND:**
- 1 'NO PARKING FIRE LANE' SIGN
 - 2 'STOP' SIGN
 - 3 'BARRIER FREE PARKING' SIGN
 - 4 'VAN ACCESSIBLE' SIGN
 - 5 'CROSSWALK' SIGN
 - 6 'DO NOT ENTER' SIGN
 - 7 'NO LEFT TURN' SIGN
 - 8 'KEEP RIGHT' SIGN
 - 9 'NO DRIVE-THRU ACCESS' SIGN
 - 10 'F.D.C.' SIGN
 - 11 'MOBILE PICK-UP' SIGN
 - 12 'CONTINUE AROUND BUILDING TO DRIVE-THRU ENTRANCE' SIGN
- REFER TO SHEET C-9.2/9.3 FOR SIGN DETAILS

- SIDEWALK RAMP LEGEND:**
- 13 SIDEWALK RAMP 'TYPE R'
 - 14 SIDEWALK RAMP 'TYPE R'
 - 15 SIDEWALK RAMP 'TYPE X'
- REFER TO MDOT R-28 STANDARD RAMP DETAILS ON CONSTRUCTION PLANS



PEA GROUP
t: 844.813.2949
www.peagroup.com



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REFERENCE DRAWINGS

- WATER MAIN
- SANITARY SEWER
- STORM SEWER
- ELECTRIC
- TELEPHONE
- GAS
- PETROLEUM
- CITY
- FLOOD PLAN
- OTHER
- BOUNDARY TOPOGRAPHIC SURVEY
- COMERICA BANK, NF #1448, DATED 12/21/00
- OTHER

SITE DATA TABLE:

SITE AREA: 2.033 ACRES (88,539 SF)

ZONING: B-2 GENERAL BUSINESS WITH FB-3 FLEX BUSINESS OVERLAY (GAS STATION PROPERTY IS B-5 AUTOMOTIVE WITH FB-3 FLEX BUSINESS OVERLAY)

PROPOSED USE: MIXED USE RETAIL/RESTAURANT/OFFICE BUILDING

RESTAURANT WITH DRIVE THRU	= 6,330 SF
RETAIL	= 4,001 SF
OFFICE	= 10,943 SF
CIRCULATION	= 3,013 SF
TOTAL BUILDING AREA	= 26,575 SF

BUILDING INFORMATION:

MAXIMUM ALLOWABLE BUILDING HEIGHT = 45 FEET (3 STORIES)
PROPOSED BUILDING HEIGHT = 2-STORIES (37'-6" HIGH)

BUILDING FOOTPRINT AREA = 13,346 SF
BUILDING LOT COVERAGE = (13,346 SF / 88,539 SF) x 100 = 15.1%

MINIMUM BUILDING FRONTAGE BUILD-TO-AREA: 159.36' FACADE WIDTH/270' ROCHESTER ROAD FRONTAGE = 59% (40% MIN. REQ.)

PER FB-3 OVERLAY DISTRICT: SETBACK REQUIREMENTS:

	MIN.	MAX.	PROVIDED
FRONT SETBACK (WEST):	15'	25'	139.83'
FRONT SETBACK (WEST):	70'	NONE	
FRONT SETBACK (SOUTH):	15'	25'	57.33'
FRONT SETBACK (SOUTH):	70'	NONE	
SIDE SETBACK (NORTH):	25'	NONE	48.23'
REAR SETBACK (EAST):	50'	NONE	109.04'
PARKING SETBACK (WEST):	15'	25'	12.0**
PARKING SETBACK (SOUTH):	15'	25'	10.22**

*-REQUESTING PLANNING COMMISSION APPROVAL (DUE TO REQUIREMENT FOR LARGER PARKING SETBACK WITH 70' OR GREATER BUILDING SETBACK)
**-REQUESTING PLANNING COMMISSION APPROVAL (DUE TO REQUIREMENT FOR LARGER PARKING SETBACK WITH 70' OR GREATER BUILDING SETBACK)

REQUIRED PARKING FOR PROPOSED DEVELOPMENT:
MINIMUM 1 SPACE PER 400 SF OF GROSS FLOOR AREA (26,575/400) = 67 SPACES
MAXIMUM PARKING IS 200% OF MINIMUM (67 x 2) = 134 SPACES

PARKING PROVIDED:
TOTAL PARKING SPACES PROPOSED = 111 SPACES (INC. 6 H/C SPACES)
(DOES NOT INCLUDE 7 SPACES FOR COMERICA BANK)

OUTDOOR AMENITY:
REQUIRED AMENITY SPACE IS 2% OF TOTAL SITE AREA (88,539 x 0.02) = 1,771 SF
AMENITY SPACE PROVIDED = 1,795 SF

CLIENT
ROCHESTER AVON PARTNERS, LLC
251 EAST MERRILL STREET, SUITE #205
BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE
RETAIL REDEVELOPMENT
N.E.C. ROCHESTER ROAD & AVON ROAD
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS

CITY COMMENTS	DATE
	6/16/21
	7/21/21

ORIGINAL ISSUE DATE:
MAY 10, 2021

DRAWING TITLE
SITE PLAN

ROAD COMMISSION FOR OAKLAND COUNTY (R.C.O.C.) NOTES:

- PROPER SIGNING IS REQUIRED PRIOR TO ANY WORK STARTING WITHIN THE ROAD RIGHT-OF-WAY.
- LANE CLOSURES WILL BE RESTRICTED TO 9AM - 3PM MONDAY THROUGH FRIDAY.
- MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES.
- PROPOSED CURBS SHOULD MATCH EXISTING CURBS AND WILL BE TIED TO EXISTING CURBS USING EPOXY-COATED #4 BAR.
- A FULL-DEPTH SAWCUT AND/OR MILLED BUTT-JOINT WILL BE REQUIRED AT THE AVON ROAD DRIVE APPROACH PER THE R.C.O.C. FIELD INSPECTOR.
- ALL FIXED OBJECTS WITHIN 5 FEET OF BACK OF CURB WILL BE REMOVED OR RELOCATED PRIOR TO EXCAVATION.
- ROADWAYS SHALL BE KEPT CLEAN OF DIRT AND DEBRIS.
- ALL EXCAVATIONS WITHIN A 1:1 INFLUENCE OF THE ROADWAY WILL REQUIRE M.D.O.T. CLASS II BACKFILL COMPACTED TO 95% MAXIMUM DENSITY.

PEA JOB NO. 2019-007
P.M. RLS
DN. BA
DES. PB

DRAWING NUMBER:
C-3.0

RAMP LANDINGS TO BE CONCRETE WITH DETECTABLE WARNING AND ARE TO BE INSTALLED AT MAX. SLOPE OF 2%

STANDARD DUTY ASPHALT PAVEMENT, TYP. REFER TO DETAIL ON SHEET C-9.1

AMENITY AREA (SHADED) PATH, BENCHES, BIKE RACKS, ETC. AREA = 1,795 SQ.FT. REFER TO LANDSCAPE PLANS FOR ADDITIONAL DETAILS

18"x6" CONCRETE CURB AND GUTTER, TYP. REFER TO DETAIL ON SHEET C-9.1

CONCRETE CURB SPILLWAY, REFER TO DETAIL ON SHEET C-9.1

STANDARD DUTY ASPHALT PAVEMENT, TYP. REFER TO DETAIL ON SHEET C-9.1

8' WIDE ASPHALT PATH, TYP. REFER TO DETAILS ON C-9.1

HEAVY DUTY ASPHALT PAVEMENT, TYP. REFER TO DETAIL ON SHEET C-9.1

SEGMENTAL BLOCK RETAINING WALL ALONG PROPERTY LINE, HEIGHT VARIES (0"-12")

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DETAIL M GUTTER PAN, TYP. REFER TO M.D.O.T. DETAIL R-29 ON CONSTRUCTION PLANS

30" WIDE F-5 CURB AND GUTTER, REFER TO M.D.O.T. DETAIL R-30 ON CONSTRUCTION PLANS

RIGHT-IN, LEFT-IN AND RIGHT-OUT DRIVE APPROACH, REFER TO M.D.O.T. DETAIL GEO-680

NOTE: ALL WORK WITHIN THE ROCHESTER ROAD (M-150) RIGHT-OF-WAY IS UNDER THE JURISDICTION OF THE MICHIGAN DEPT. OF TRANSPORTATION AND REQUIRES A PERMIT.

ALL SIGNS MUST MEET CHAPTER 134 OF THE CITY CODE OF ORDINANCES AND BE APPROVED UNDER A SEPARATE PERMIT ISSUED BY THE BUILDING DEPARTMENT

FRONT YARD ARTERIAL SETBACK IS A MINIMUM OF 15 FT. AND A MAXIMUM OF 25 FT. WITH AN OPTIONAL 70 FT. PER SECTION 138-8.604. THE PLANNING COMMISSION CAN MODIFY REQUIRED SETBACKS.

CONCRETE SIDEWALK, TYP. REFER TO DETAILS ON C-9.1

8' WIDE ASPHALT PATH, TYP. REFER TO DETAILS ON C-9.1

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CONCRETE SIDEWALK, TYP. REFER TO DETAILS ON C-9.1

8' WIDE ASPHALT PATH, TYP. REFER TO DETAILS ON C-9.1

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30" WIDE F-5 CURB AND GUTTER, REFER TO M.D.O.T. DETAIL R-30 ON CONSTRUCTION PLANS

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PROPOSED PATHWAY EASEMENT

EXISTING CONCRETE SIDEWALK, SIDEWALK RAMPS AND DETECTABLE WARNING TO REMAIN AT ROAD INTERSECTION, AS SHOWN.

8' WIDE ASPHALT PATH, TYP. REFER TO DETAILS ON C-9.1

CONCRETE SIDEWALK, TYP. REFER TO DETAILS ON C-9.1

SW CORNER SECTION 14, T.03N., R.11E
CITY OF ROCHESTER HILLS
OAKLAND COUNTY, MI
REMON IN MON BOX

24"x6" CONCRETE CURB AND GUTTER, TYP. REFER TO DETAIL ON SHEET C-9.1

24" WIDE BUTT JOINT AS REQUIRED BY R.C.O.C. FIELD INSPECTOR. REFER TO DETAIL ON C-9.1

MATCH EX. CURB TYPE AND WIDTH WITH NEW CURBS TO CLOSE EXISTING DRIVE OPENINGS. THE NEW CURBS TO EXISTING USING EPOXY COATED #4 BARS PER R.C.O.C.

CONCRETE DRIVE APPROACH, REFER TO DETAILS ON C-9.1

9" DEEP STRENGTH ASPHALT PAVEMENT REPAIR AFTER STORM AND SANITARY SEWER CONNECTION, REFER TO DETAILS ON C-9.1

24"x6" CONCRETE CURB AND GUTTER, TYP. REFER TO DETAIL ON SHEET C-9.1

24" WIDE GUTTER PAN, REFER TO DETAIL ON SHEET C-9.1

RELOCATE EXISTING 'ROCHESTER ROAD' SIGN PER R.C.O.C. REQUIREMENTS

24"x6" CONCRETE CURB AND GUTTER, TYP. REFER TO DETAIL ON SHEET C-9.1

24" WIDE GUTTER PAN, REFER TO DETAIL ON SHEET C-9.1

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24" WIDE GUTTER PAN, REFER TO DETAIL ON SHEET C-9.1

AVON CONCRETE DRIVE APPROACH, REFER TO DETAILS ON C-9.1
WIDTH VARIES-PUBLIC
(R.C.O.C. JURISDICTION)

NOTE: ALL WORK WITHIN THE AVON ROAD RIGHT-OF-WAY IS UNDER THE JURISDICTION OF THE ROAD COMMISSION FOR OAKLAND COUNTY AND REQUIRES A PERMIT.

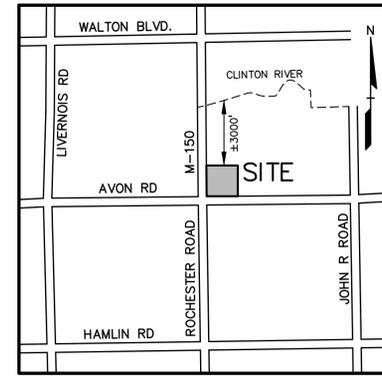
NOT FOR CONSTRUCTION
CITY FILE #21-007 SECTION #14

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NOTE:
SEE SHEET C-9.1 FOR SANITARY BASIS OF DESIGN

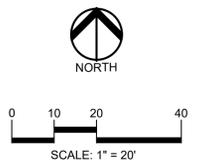
SAND BACKFILL NOTE:
ALL UTILITIES UNDER PAVEMENT OR WITHIN 3' OF THE EDGE OF PAVEMENT (OR WITHIN THE 45° LINE OF INFLUENCE OF PAVEMENT) SHALL HAVE M.D.O.T. CLASS II GRANULAR BACKFILL COMPACTED TO 95% MAX. DRY DENSITY (ASTM D-1557).

PUBLIC UTILITY EASEMENTS:
ALL WATER MAIN SHALL BE LOCATED IN A 20' WIDE EASEMENT.

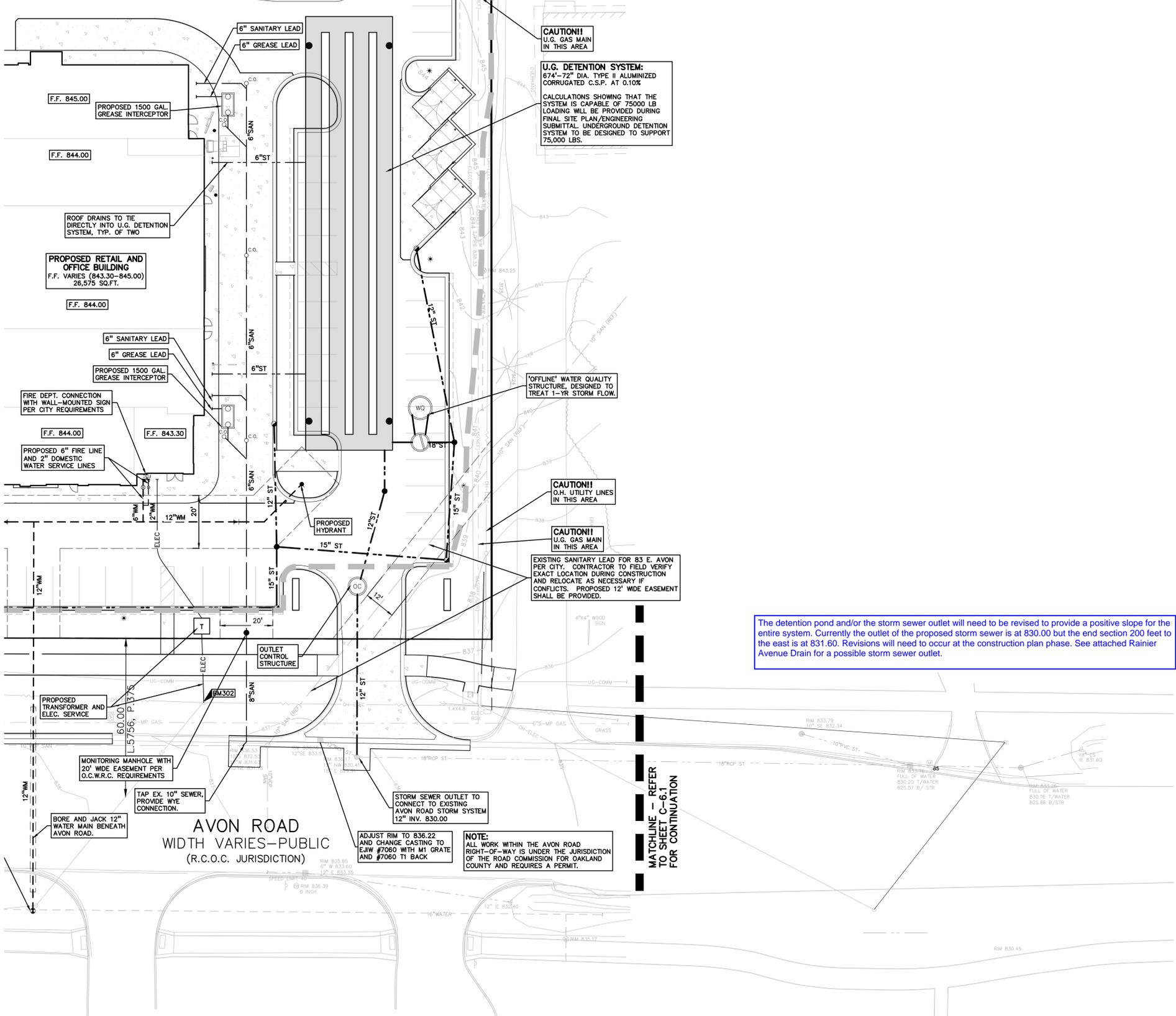


PEA GROUP
t: 844.813.2949
www.peagroup.com

STATE OF MICHIGAN
RACHEL L. SMITH
ENGINEER
No. 49928



CAUTION!!
THE LOCATION AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.



DETENTION CALCULATIONS:

CITY OF ROCHESTER HILLS REQUIRES 25-YEAR DETENTION BE PROVIDED FOR ALL TRIBUTARY AREAS. INFILTRATION CANNOT BE PROVIDED DUE TO THIS BEING A CONTAMINATED BROWNFIELD SITE.

TRIBUTARY AREA = 2.23 ACRES
 AVERAGE RUNOFF COEFFICIENT 'C' = 0.88
 $(1.95AC \times 0.95) + (0.28 \times 0.35) = 2.23$
 C (ROOF/PVMT) = 0.95; C (GRASS) = 0.35

ALLOWABLE DISCHARGE = 2.23×0.20 CFS/ACRE = 0.446 CFS

BANKFULL STORAGE (CHANNEL PROTECTION VOLUME)
 CHANNEL PROTECTION VOLUME (C_{pv}) = 6788 x AREA x C
 = 6788 x 2.23 x 0.88
 = 13,321 CF

VOLUME PROVIDED AT 835.21 = 13,321 C.F.
 VOLUME WILL BE RELEASED GRADUALLY OVER A 24-HOUR PERIOD.

25-YR DETENTION REQUIREMENT (OAKLAND COUNTY FORMULA)

Q₀ = ALLOWABLE DISCHARGE/ACRE IMPERVIOUS
 = 0.446 CFS/(2.23 ACRES x 0.88) = 0.227 CFS/ACRE IMPERVIOUS

O.C.W.R.C. ORIFICE OUTLET FORMULA FOR STORAGE TIME FOR A 25-YEAR STORM:

T₂₅ = $-25 + (8062.5 \times 0.227)^{0.5} = 163.46$ MINUTES

V_{S25} = $\frac{12900T}{T+25} - 40 Q_0 T = \frac{12900 \times 163.46}{188.46} - 40 \times 0.227 \times 163.46$
 = 9,705 CF/ACREA

V_{T25} = V_{S25} x AREA x 'C'
 = 9,705 x 2.23 x 0.88 = 19,045 C.F. REQUIRED.

DETENTION PROVIDED:
 DETENTION IS PROPOSED TO BE PROVIDED IN 72" DIAMETER PIPES.
 674' OF 72" PIPE PROPOSED (28.27 CF/LF) = 19,054 C.F. PROVIDED

OUTLET CONTROL INVERT = 830.33
 LOWEST DETENTION PIPE INVERT = 831.00
 HIGHEST DETENTION PIPE INVERT = 831.26
 MAXIMUM STORAGE ELEVATION = 837.26

25-YEAR VOLUME PROVIDED AT ELEVATION = 837.24 (5.98' DEEP)

OUTLET RESTRICTION SIZING:

TOTAL DRAINAGE AREA FOR NORTH BASIN = 2.23 ACRES
 AVERAGE RUNOFF COEFFICIENT 'C' = 0.88
 ALLOWABLE OUTLET FLOW (0.20 CFS PER ACRE) = 0.446 CFS

25-YEAR STORAGE VOLUME = 19,045 CF
 25-YEAR STORAGE ELEVATION = 837.24

CHANNEL PROTECTION VOLUME = 13,321 CF
 CHANNEL PROTECTION ELEVATION = 835.21

EXTENDED WATER QUALITY RELEASE:
 PER CITY REQUIREMENTS, THE CHANNEL PROTECTION VOLUME SHOULD BE DISCHARGED OVER 24 TO 48 HOURS. WHEN SIZING THE OUTLET RESTRICTION, THE AVERAGE FLOW RATE SHOULD ASSUME THE SYSTEM HAS HALF THE C_{pv} VOLUME STORED (6661 CF).

AVERAGE DISCHARGE RATE = $\frac{13,321 \text{ CF}}{36 \text{ HOURS}} = 0.103 \text{ C.F.S.}$
 STORAGE ELEVATION OF HALF C_{pv} VOLUME (6661 CF) = 833.54
 OUTLET RESTRICTION INVERT = 830.33
 HEAD OVER ORIFICE RESTRICTIONS (833.54 - 830.33) = 3.21 FEET

ORIFICE FLOW EQUATION, FLOW Q = 0.62 x A x (2g x HEAD OVER ORIFICE)^{0.5}
 WHERE FLOW Q = 0.103 CFS
 WHERE HEAD H = 3.21 FEET
 SOLVING FOR AREA OF ORIFICE 'A' = 0.01155 SQ.FT. (1.664 SQ.IN.)
 THEREFORE PROVIDE, ONE (1) 1.5" DIA. HOLE (0.01227 SQ.FT.) AT 830.33
 A 1.5" DIA. ORIFICE WOULD DE-WATER THE DETENTION SYSTEM IN ±33.8 HOURS (±24 HRS)

PEAK FLOW RESTRICTION:
 DISCHARGE FROM THE SYSTEM CAN NOT EXCEED 0.446 CFS. CALCULATIONS BELOW VERIFY THIS CONDITION IS MET WHEN SYSTEM IS STORING AT THE MAXIMUM ELEVATION OF 837.24:

CHANNEL PROTECTION RESTRICTION, 1.5" HOLE AT 830.33
 ORIFICE FLOW EQUATION, FLOW Q = 0.62 x A x (2g x HEAD OVER ORIFICE)^{0.5}
 WHERE FLOW A = 0.01227 SQ.FT.
 WHERE HEAD H = 6.91 FEET
 Q_{cpv} = 0.160 CFS

THEREFORE, A SECOND ORIFICE IS REQUIRED TO DISCHARGE THE REMAINDER OF THE ALLOWABLE OUTFLOW (0.446-0.160) 0.286 CFS. THIS SECOND ORIFICE WILL BE INSTALLED AT THE CHANNEL PROTECTION VOLUME STORAGE ELEVATION OF 835.21

ORIFICE FLOW EQUATION, FLOW Q = 0.62 x A x (2g x HEAD OVER ORIFICE)^{0.5}
 WHERE FLOW Q = 0.286 CFS (MAX.)
 WHERE HEAD H = (837.24-835.21) = 2.03 FEET
 SOLVING FOR AREA OF ORIFICE 'A' = 0.0403 SQ.FT. (5.810 SQ.IN.)
 THEREFORE PROVIDE, ONE (1) 2.7" DIA. HOLE (0.0398 SQ.FT.) AT 835.21

USING ABOVE ORIFICE EQUATION AND USING THE HEAD 'H' AND AREA 'A' VALUES PROVIDED FOR BOTH SETS OF RESTRICTIONS, GIVES THE MAXIMUM FLOW FROM EACH SET OF ORIFICES:

MAX. OUTLET FLOW FROM C_{pv} RESTRICTION = 0.160 CFS
 MAX. OUTLET FLOW FROM 25-YEAR RESTRICTION = 0.282 CFS
 COMBINED MAXIMUM OUTLET FLOW (0.160 + 0.282) = 0.442 CFS (LESS THAN 0.446 ALLOWABLE)

REFER TO OUTLET CONTROL DETAIL ON SHEET C-9.3 FOR ADDITIONAL DETAILS

The detention pond and/or the storm sewer outlet will need to be revised to provide a positive slope for the entire system. Currently the outlet of the proposed storm sewer is at 830.00 but the end section 200 feet to the east is at 831.60. Revisions will need to occur at the construction plan phase. See attached Rainier Avenue Drain for a possible storm sewer outlet.

CLIENT
ROCHESTER AVON PARTNERS, LLC
 251 EAST MERRILL STREET, SUITE #205
 BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE
RETAIL REDEVELOPMENT
 N.E.C. ROCHESTER ROAD & AVON ROAD
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS	
CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

ORIGINAL ISSUE DATE:
 MAY 10, 2021

DRAWING TITLE
PRELIMINARY UTILITY PLAN - EAST

PEA JOB NO.	2019-007
P.M.	RLS
DN.	BA
DES.	PB
DRAWING NUMBER:	

NOT FOR CONSTRUCTION
CITY FILE #21-007 SECTION #14

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C-6.2

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GENERAL NOTES:
 THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

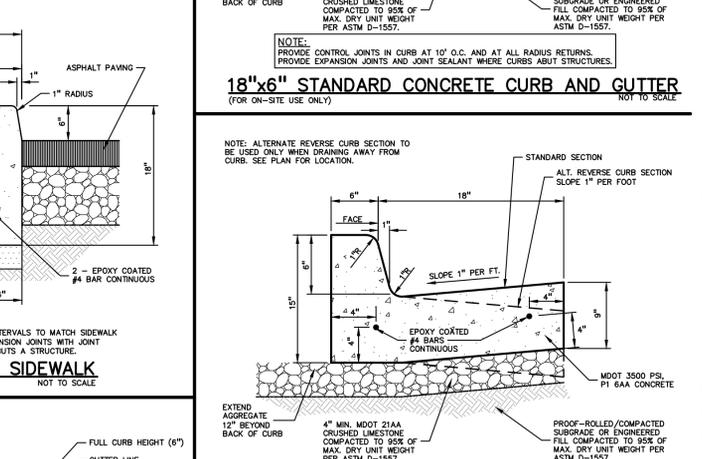
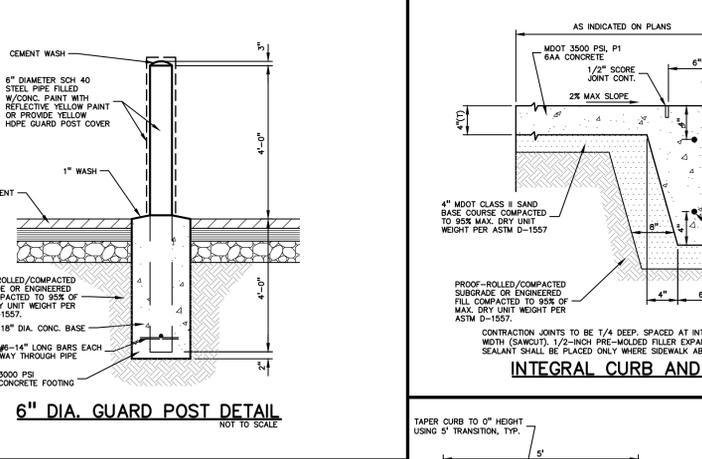
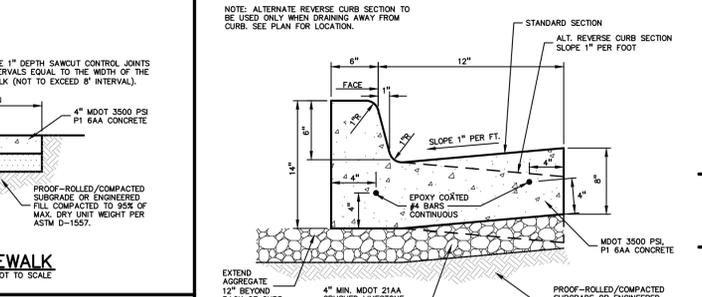
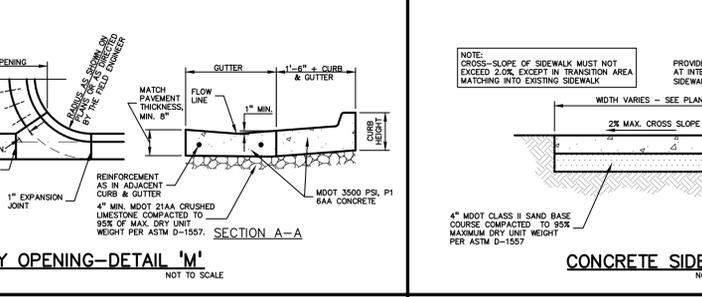
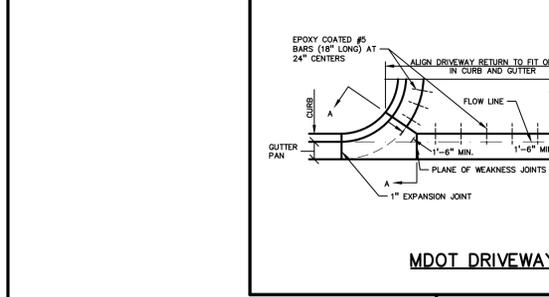
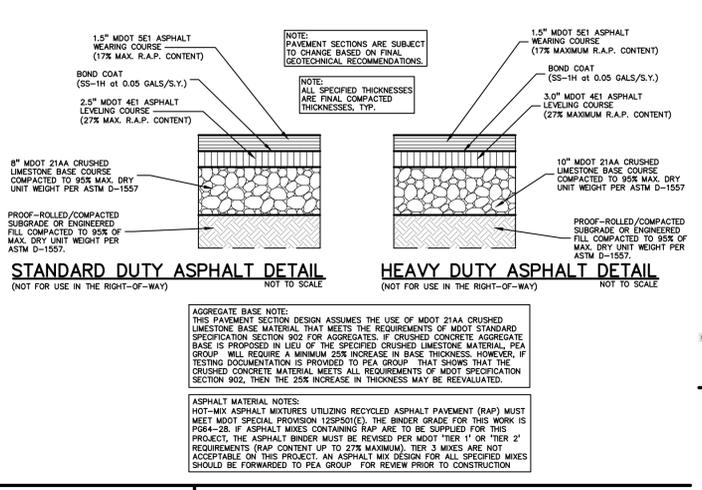
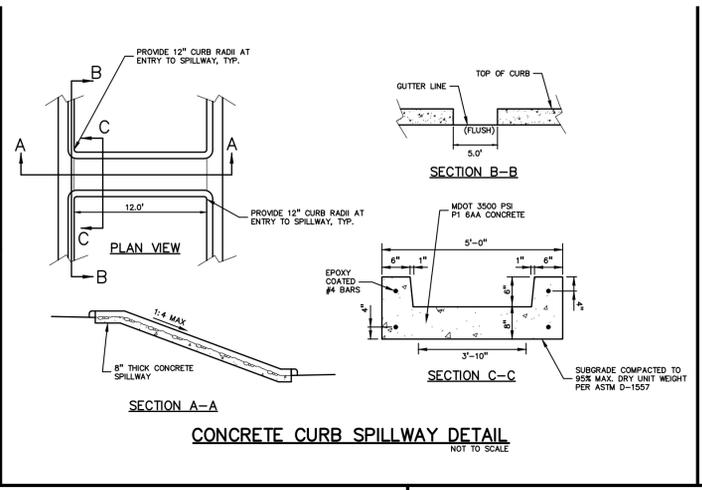
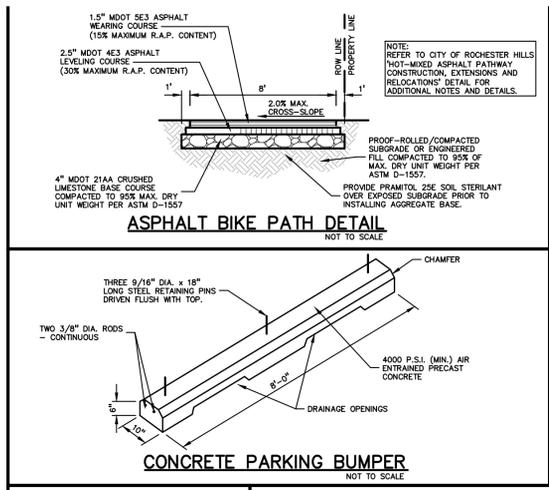
1. ALL CONSTRUCTION, WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT OSHA, MDOT AND MUNICIPALITY STANDARDS AND REGULATIONS.
2. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
3. THE CONTRACTOR MUST CONTACT THE ENGINEER SHOULD THEY ENCOUNTER ANY DESIGN ISSUES DURING CONSTRUCTION. IF THE CONTRACTOR MAKES DESIGN MODIFICATIONS WITHOUT THE WRITTEN DIRECTION OF THE DESIGN ENGINEER, THE CONTRACTOR DOES SO AT HIS OWN RISK.
4. ALL NECESSARY PERMITS, TESTING, BONDS AND INSURANCES ETC., SHALL BE PAID FOR BY THE CONTRACTOR. THE OWNER SHALL PAY FOR ALL CITY INSPECTION FEES.
5. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE 811/ONE CALL UTILITY LOCATING CENTER, THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION. IF NO NOTIFICATION IS GIVEN AND DAMAGE RESULTS, SAID DAMAGE WILL BE REPAIRED AT SOLE EXPENSE OF THE CONTRACTOR. IF EXISTING UTILITY LINES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED.
6. CONTRACTOR TO VERIFY THAT THE PLANS AND SPECIFICATIONS ARE THE VERY LATEST PLANS AND SPECIFICATIONS AND FURTHERMORE, VERIFY THAT THESE PLANS AND SPECIFICATIONS HAVE BEEN APPROVED. ALL ITEMS CONSTRUCTED BY THE CONTRACTOR PRIOR TO RECEIVING FINAL APPROVAL, HAVING TO BE ADJUSTED OR RE-DONE, SHALL BE AT THE CONTRACTORS EXPENSE. SHOULD THE CONTRACTOR ENCOUNTER A CONFLICT BETWEEN THESE PLANS AND/OR SPECIFICATIONS, THEY SHALL SEEK CLARIFICATION IN WRITING FROM THE ENGINEER BEFORE COMMENCEMENT OF CONSTRUCTION. FAILURE TO DO SO SHALL BE AT SOLE EXPENSE TO THE CONTRACTOR.
7. ANY WORK WITHIN THE STREET OR HIGHWAY RIGHTS-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL NECESSARY PERMITS HAVE BEEN ISSUED FOR THE WORK.
8. ALL PROPERTIES OR FACILITIES IN THE SURROUNDING AREAS, PUBLIC OR PRIVATE, DESTROYED OR OTHERWISE DISTURBED DUE TO CONSTRUCTION, SHALL BE REPLACED AND/OR RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR.
9. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADING, SIGNAGE, LIGHTS AND TRAFFIC CONTROL DEVICES TO PROTECT THE WORK AND SAFELY MAINTAIN TRAFFIC IN ACCORDANCE WITH LOCAL REQUIREMENTS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION). THE DESIGN ENGINEER, OWNER, CITY AND STATE SHALL NOT BE HELD LIABLE FOR ANY CLAIMS RESULTING FROM ACCIDENTS OR DAMAGES CAUSED BY THE CONTRACTOR'S FAILURE TO COMPLY WITH TRAFFIC AND PUBLIC SAFETY REGULATIONS DURING THE CONSTRUCTION PERIOD.
10. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST THE TOP OF ALL EXISTING AND PROPOSED STRUCTURES (MANHOLES, CATCH BASINS, INLETS, GATE WELLS ETC.) WITHIN GRADED AND /OR PAVED AREAS TO FINAL GRADE SHOWN ON THE PLANS. ALL SUCH ADJUSTMENTS SHALL BE INCIDENTAL TO THE JOB AND WILL NOT BE PAID FOR SEPARATELY.

PAVING NOTES:

1. IN AREAS WHERE NEW PAVEMENTS ARE BEING CONSTRUCTED, THE TOPSOIL AND SOIL CONTAINING ORGANIC MATTER SHALL BE REMOVED PRIOR TO PAVEMENT CONSTRUCTION.
2. PROVIDE EXPANSION JOINTS AND JOINT SEALANT AT TWO "END-OF-RADIUS" LOCATIONS (OPPOSITE SIDES AT EACH LONG END) OF CONCRETE CURB ISLANDS.
3. REFER TO ARCHITECTURAL PLANS FOR DETAILS OF FROST SLAB AT EXTERIOR BUILDING DOORS.
4. CONSTRUCTION TRAFFIC SHOULD BE MINIMIZED ON THE NEW PAVEMENT. IF CONSTRUCTION TRAFFIC IS ANTICIPATED ON THE PAVEMENT STRUCTURE, THE INITIAL LIFT THICKNESS COULD BE INCREASED AND PLACEMENT OF THE FINAL LIFT COULD BE DELAYED UNTIL THE MAJORITY OF THE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED. THIS ACTION WILL ALLOW REPAIR OF LOCALIZED FAILURE, IF ANY DOES OCCUR, AS WELL AS REDUCE LOAD DAMAGE ON THE PAVEMENT SYSTEM.
5. CONCRETE PAVEMENT JOINTING - UNLESS SHOWN OTHERWISE IN THE PLANS OR REQUIRED BY THE AUTHORITY HAVING JURISDICTION:
 - 5.1. WHERE PROPOSED CONCRETE ABUTS A STRUCTURE PROVIDE A MINIMUM 1/2" EXPANSION JOINT WITH SEALANT. THE JOINT FILLER BOARD MUST BE AT LEAST THE FULL DEPTH OF THE CONCRETE AND HELD DOWN A 1/4" INCH TO ALLOW FOR SEALING
 - 5.2. WHERE PROPOSED CONCRETE ABUTS EXISTING CONCRETE OR IN BETWEEN POURS OF PROPOSED CONCRETE (CONSTRUCTION JOINT) PROVIDE 5/8" DOWELS EVERY 30" CENTER TO CENTER HALF WAY ALONG THE THICKNESS OF THE PROPOSED PAVEMENT. ALTERNATE DOWELS SIZES AND SPACING MUST BE APPROVED THE ENGINEER PRIOR TO COMMENCING WORK AND VIA THE SUBMITTAL PROCESS.
 - 5.3. WHERE PROPOSED CONCRETE ABUTS EXISTING OR PROPOSED SIDEWALK PROVIDE A MINIMUM 1/2" EXPANSION JOINT WITH SEALANT
 - 5.4. WHERE PROPOSED CONCRETE ABUTS EXISTING OR PROPOSED CURBING PROVIDE A MINIMUM 1/2" EXPANSION JOINT WITH SEALANT
 - 5.5. CONTROL LONGITUDINAL AND/OR TRANSVERSE JOINTS SHALL BE PLACED TO PROVIDE PANELS WITHIN THE PAVEMENT AS SQUARE AS POSSIBLE WITH THE FOLLOWING MAXIMUM SPACING PARAMETERS:
 - 5.5.1. 6-INCH THICK CONCRETE PAVEMENT: 12' X 12'
 - 5.5.2. 8-INCH THICK CONCRETE PAVEMENT: 15' X 15'
 - 5.6. IRREGULAR SHAPED PANELS MAY REQUIRE THE USE OF REINFORCING MESH OR FIBER MESH AS DETERMINED BY THE ENGINEER. THE USE OF MESH MUST BE APPROVED THE ENGINEER PRIOR TO COMMENCING WORK AND VIA THE SUBMITTAL PROCESS.
 - 5.7. IF A JOINT PLAN IS NOT PROVIDED IN THE PLANS, THE CONTRACTOR SHALL SUBMIT ONE TO THE ENGINEER FOR REVIEW PRIOR TO COMMENCING WORK AND VIA THE SUBMITTAL PROCESS.
6. CONCRETE CURBING JOINTING - UNLESS SHOWN OTHERWISE IN THE PLANS OR REQUIRED BY THE AUTHORITY HAVING JURISDICTION:
 - 6.1. WHERE PROPOSED CONCRETE CURBING ABUTS A STRUCTURE PROVIDE A MINIMUM 1/2" EXPANSION JOINT WITH SEALANT
 - 6.2. WHERE PROPOSED CONCRETE ABUTS EXISTING OR PROPOSED SIDEWALK PROVIDE A MINIMUM 1/2" EXPANSION JOINT WITH SEALANT
 - 6.3. WHERE PROPOSED CONCRETE ABUTS EXISTING CURBING PROVIDE A MINIMUM 1/2" EXPANSION JOINT WITH SEALANT
 - 6.4. IN BETWEEN POURS OF PROPOSED CONCRETE CURBING (CONSTRUCTION JOINT)
 - 6.4.1. CARRY THE REBAR CONTINUOUSLY BETWEEN POURS
 - 6.4.2. IF THE REBAR IS NOT LONG ENOUGH TO CARRY CONTINUOUSLY THEN THE TWO PIECES OF REBAR PER THE LATEST MDOT SPECIFICATIONS
 - 6.5. CONTROL JOINTS SHALL BE PLACED A MAXIMUM 10' CENTER TO CENTER AND AT ALL RADIUS RETURNS

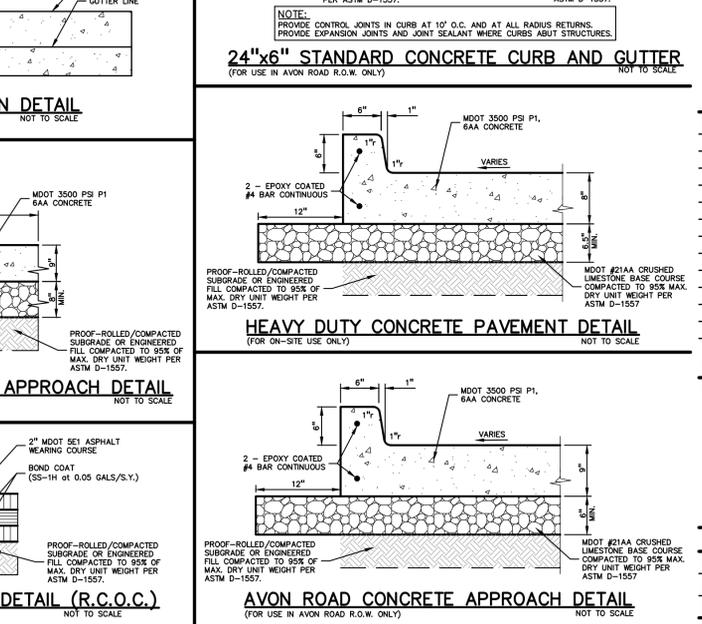
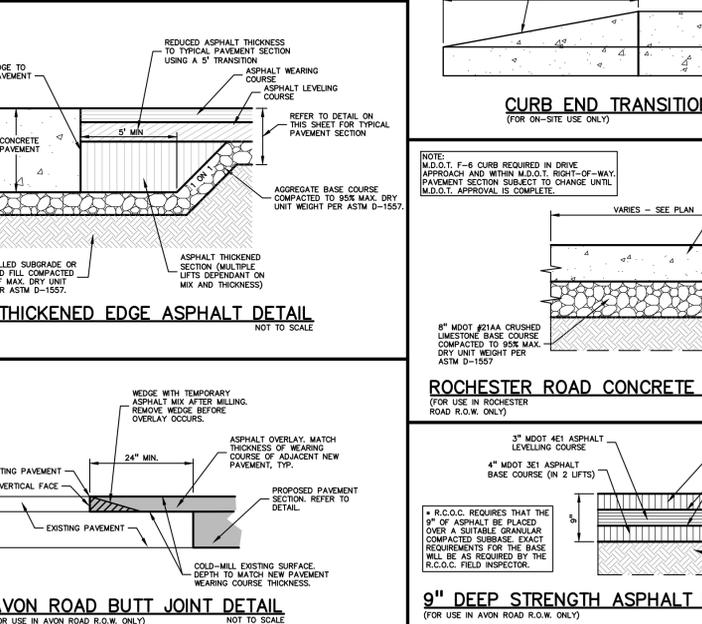
GENERAL GRADING AND EARTHWORK NOTES:
 THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING TREES AND BRUSH AND REMOVE ALL THAT ARE NECESSARY TO GRADE SITE.
2. ALL GRADES ARE TO TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
3. THE STAGING OF CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY WITHIN THE SITE BOUNDARIES. ANY CONSTRUCTION ACTIVITIES OUTSIDE OF THE SITE BOUNDARIES SHALL BE AT THE SOLE RESPONSIBILITY AND RISK OF THE CONTRACTOR.
4. ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET THE REQUIREMENTS OF THE AUTHORIZED PUBLIC AGENCY OF JURISDICTION. AN EROSION CONTROL PERMIT MUST BE SECURED FROM OAKLAND COUNTY PRIOR TO CONSTRUCTION.
5. ALL EARTHWORK AND GRADING OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE SOILS INVESTIGATION AND REPORT.
6. REFER TO SOIL EROSION CONTROL PLAN FOR ADDITIONAL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND NOTES (WILL BE PART OF FINAL SITE PLAN/ENGINEERING PLANS).
7. ALL SLOPES EXCEEDING 1:6 MUST BE STABILIZED BY SODDING OR BY PLACING A MULCH BLANKET PEGGED IN PLACE OVER SEED.
8. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR SODDED IN ACCORDANCE WITH THE LANDSCAPE PLANS. PROVIDE A MINIMUM OF 4" OF TOPSOIL IN THESE AREAS UNLESS OTHERWISE NOTED.
9. THE CONTRACTOR SHALL NOTE EXISTING UNDERGROUND UTILITIES WITHIN AND ADJACENT TO THE SITE. BACKFILL FOR EXISTING UTILITY TRENCHES SHALL BE EXAMINED CRITICALLY. ANY TRENCHES FOUND TO HAVE SOFT, UNSTABLE OR UNSUITABLE BACKFILL MATERIAL, IN THE OPINION OF THE THIRD PARTY TESTING COMPANY, THAT ARE TO BE WITHIN THE ZONE OF INFLUENCE OF PROPOSED BUILDINGS OR PAVEMENT SHALL BE COMPLETELY EXCAVATED AND BACKFILLED WITH SUITABLE MATERIAL.
10. ON-SITE FILL CAN BE USED IF THE SPECIFIED COMPACTION REQUIREMENTS CAN BE ACHIEVED. IF ON-SITE SOIL IS USED, IT SHOULD BE CLEAN AND FREE OF FROZEN SOIL, ORGANICS, OR OTHER DELETERIOUS MATERIALS.
11. THE FINAL SUBGRADE/EXISTING AGGREGATE BASE SHOULD BE THOROUGHLY PROTECTED USING A FULLY LOADED TANDEM AXLE TRUCK OR FRONT END LOADER UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMENT ENGINEER. LOOSE OR YIELDING AREAS THAT CANNOT BE MECHANICALLY STABILIZED SHOULD BE REINFORCED USING GEOTEXTILES OR REMOVED AND REPLACED WITH ENGINEERED FILL OR AS DICTATED BY FIELD CONDITIONS.
12. SUBGRADE UNDERCUTTING, INCLUDING BACKFILLING SHALL BE PERFORMED TO REPLACE MATERIALS SUSCEPTIBLE TO FROST HEAVING AND UNSTABLE SOIL CONDITIONS. ANY EXCAVATIONS THAT MAY BE REQUIRED BELOW THE TOPSOIL IN FILL AREAS OR BELOW SUBGRADE IN CUT AREAS WILL BE CLASSIFIED AS SUBGRADE UNDERCUTTING.
13. SUBGRADE UNDERCUTTING SHALL BE PERFORMED WHERE NECESSARY AND THE EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ANY SUBGRADE UNDERCUTTING SHALL BE BACKFILLED AS RECOMMENDED IN THE GEOTECHNICAL ENGINEERING REPORT FOR THE PROJECT.
14. ANY SUB-GRADE WATERING REQUIRED TO ACHIEVE REQUIRED DENSITY SHALL BE CONSIDERED INCIDENTAL TO THE JOB.



PROPOSED SANITARY SEWER BASIS OF DESIGN:
 (Unit Factors Based on Oakland County Unit Assignment Factors)

Office	10,943 S.F.
Square Footage	10,943 S.F.
Unit Factor	0.4 per 1000 sf
REU	4.4
Population (P) (2.44 PEOPLE/EDU)	10.7 People
Retail	
Number	6,330
Unit Factor	0.04 per 1000 sf
REU	0.3
Population (P) (2.44 PEOPLE/EDU)	0.6 People
Quick Service Restaurants	
Number of units	2
Unit Factor	1 per unit
REU	2.0
Population (P) (2.44 PEOPLE/EDU)	4.9 People
TOTAL	
REU	6.6
Average Flow (100 GPCPD)	1,618 G.P.D.
P (1000s)	0.016
Peak Flow (P.F.)	4.39
Peak Flow (G.D.P.)	7,106 G.P.D.
Peak Flow (C.F.S.)	0.011 C.F.S.
6" Pipe Capacity Provided	0.665 C.F.S.



CAUTION!!
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CLIENT
ROCHESTER AVON PARTNERS, LLC
 251 EAST MERRILL STREET, SUITE #205
 BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE
RETAIL REDEVELOPMENT
 N.E.C. ROCHESTER ROAD & AVON ROAD
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS

CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

ORIGINAL ISSUE DATE:
 MAY 10, 2021

DRAWING TITLE
NOTES AND DETAILS

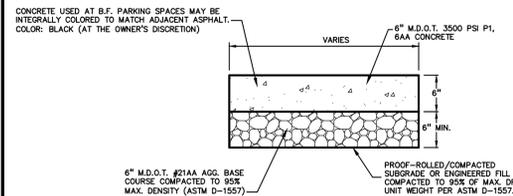
PEA JOB NO. 2019-007

P.M.	RLS
D.N.	BA
DES.	PB
DRAWING NUMBER:	

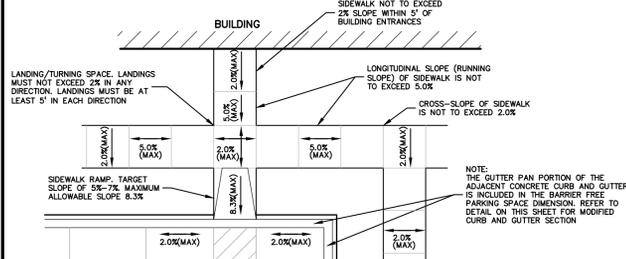
NOT FOR CONSTRUCTION
CITY FILE #21-007 SECTION #14

GENERAL BARRIER FREE NOTES:

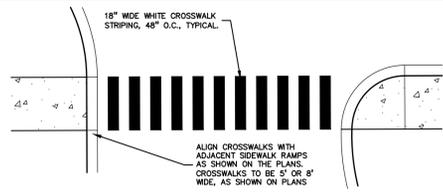
- THE FOLLOWING NOTES PROVIDE AN OUTLINE OF SOME OF THE REQUIREMENTS CONTAINED WITHIN THE "STANDARDS FOR ACCESSIBLE DESIGN - AMERICANS WITH DISABILITIES ACT 2010", AND "ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES", ICC/ANSI A117.1-2009. THE CONTRACTOR IS RESPONSIBLE FOR ALL OF THE REQUIREMENTS PRESENTED WITHIN THESE DOCUMENTS, WHICH ARE AVAILABLE IN FULL UPON REQUEST.
- AN ACCESSIBLE ROUTE CONSISTS OF WALK SURFACES, CURB RAMPS AND RAMPS. AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED WITHIN THE SITE FROM ACCESSIBLE PARKING SPACES, ACCESSIBLE PASSENGER LOADING ZONES, PUBLIC STREETS AND SIDEWALKS, AND PUBLIC TRANSPORTATION STOPS TO THE BUILDING OR FACILITY ENTRANCE THEY SERVE.
- THE RUNNING SLOPE OF ALL WALKING SURFACES SHALL NOT EXCEED 5% (1:20) AND THE CROSS-SLOPE SHALL NOT EXCEED 2% (1:48).
- WALKING SURFACES MUST BE LEVEL WITH PERMITTED VERTICAL CHANGES IN LEVEL NOT TO EXCEED 1/4", OR BEVELED CHANGES IN LEVEL NOT TO EXCEED 1/2". REFER TO DETAIL ON THIS SHEET. ANY CHANGE IN LEVEL GREATER THAN 1/2" MUST BE RAMPED.
- TURNING SPACES ALONG ACCESSIBLE ROUTES MUST BE AT LEAST 5 FEET WIDE IN ALL DIRECTIONS AND NOT EXCEED 2% SLOPE (1:48) IN ANY DIRECTION.
- ACCESSIBLE ROUTES WILL BE DESIGNED TO BE A MINIMUM OF 5 FEET WIDE. THE MINIMUM CLEAR WIDTH IS 3 FEET.
- RAMPS ALONG ACCESSIBLE ROUTES WILL HAVE A RUNNING SLOPE GREATER THAN 5% (1:20) AND LESS THAN 8.3% (1:12).
- THE CROSS-SLOPE OF RAMPS SHALL NOT EXCEED 2% (1:48).
- THE MINIMUM CLEAR WIDTH OF ANY RAMP IS 36 INCHES.
- THE MAXIMUM RISE FOR ANY RAMP (NOT INCLUDING CURB RAMPS) SHALL NOT EXCEED 30 INCHES. LANDINGS ARE REQUIRED AT THE TOP AND BOTTOM OF EACH RAMP. LANDINGS SHALL HAVE A CROSS-SLOPE NOT EXCEEDING 2% (1:48). SHALL BE 5 FEET LONG AND AT LEAST AS WIDE AS THE RAMP CLEAR WIDTH. IF THERE IS A CHANGE OF DIRECTION AT A LANDING, THEN THE LANDING MUST BE AT LEAST 5 FEET WIDE AND 5 FEET LONG.
- HANDRAILS ARE REQUIRED FOR ANY RAMP (NOT INCLUDING CURB RAMPS) WITH A RISE GREATER THAN 6 INCHES. ALL HANDRAILS ARE REQUIRED TO HAVE EDGE PROTECTION UNLESS ADJOINING ANOTHER ACCESS POINT OR IF THE VERTICAL DROP-OFF AT THE EDGE OF THE RAMP DOES NOT EXCEED 1/2" IN 10 FEET. EDGE PROTECTION CAN BE PROVIDED BY MEANS OF A 4" MIN. CURB OR BARRIER.
- CURB RAMPS ALONG ACCESSIBLE ROUTES SHALL NOT BE STEEPER THAN 8.3% (1:12). APPROACHING SLOPES TO THE RAMP CANNOT EXCEED 5%, WHICH INCLUDES SIDEWALKS, PAVEMENT, GUTTERS ETC.
- IF CURB RAMP SIDES ARE FLARED, THE FLARES SHALL NOT BE STEEPER THAN 10% (1:10).
- CURB RAMPS SHALL BE LOCATED OR PROTECTED TO PREVENT THEIR OBSTRUCTION BY PARKED VEHICLES.
- HANDRAILS ARE NOT REQUIRED ON CURB RAMPS.
- WHERE DETECTABLE WARNING IS REQUIRED AT CURB RAMPS, THE DETECTABLE WARNING SHALL BE 24" MINIMUM IN DEPTH AND SHALL EXTEND THE FULL WIDTH OF THE RAMP. THE DETECTABLE WARNING SHALL BE LOCATED SO THE EDGE NEAREST THE CURB IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE.
- FOR EVERY SIX OR FRACTION OF SIX ACCESSIBLE PARKING SPACES, ONE VAN ACCESSIBLE SPACE SHALL BE PROVIDED.
- ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE FROM PARKING TO A BUILDING ENTRANCE.
- BARRIER FREE CAR PARKING SPACES SHALL BE A MINIMUM OF 11 FEET WIDE WITH AN ACCESS AISLE 5 FEET WIDE MINIMUM.
- SURFACE SLOPES WITHIN THE PARKING SPACES AND AISLES SHALL NOT EXCEED 2% (1:48).
- ACCESSIBLE AREAS INCLUDING PARKING SPACES, AISLES AND PATHWAYS, REQUIRE A MINIMUM VERTICAL CLEARANCE OF 98 INCHES.
- ACCESSIBLE PARKING SPACES ARE REQUIRED TO BE IDENTIFIED BY SIGNS. THE SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY. VAN PARKING SPACES ARE REQUIRED TO BE DESIGNATED AS "VAN ACCESSIBLE". REFER TO DETAILS ON THIS SHEET.



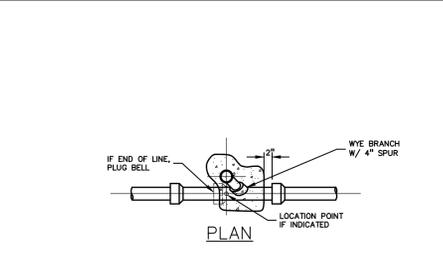
BARRIER FREE PARKING SPACE ALTERNATE CONCRETE PAVEMENT DETAIL
NOT TO SCALE



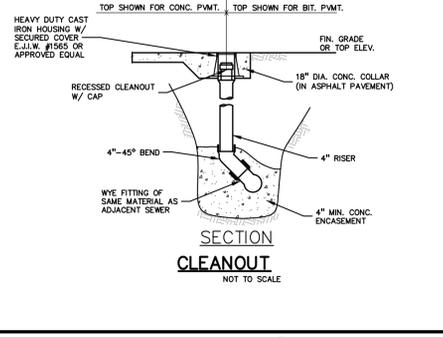
PARKING SPACE GRADING INFORMATION
NOT TO SCALE



STRIPED CROSSWALK DETAIL
NOT TO SCALE



CLEANOUT
NOT TO SCALE



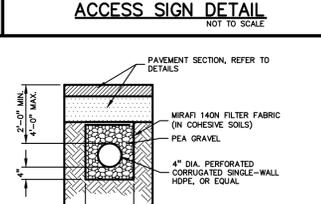
PAVEMENT INLET/CATCH BASIN UNDERDRAIN DETAIL
NOT TO SCALE



NO PARKING-FDC SIGN DETAIL
NOT TO SCALE



NO DRIVE THRU ACCESS SIGN DETAIL
NOT TO SCALE



NO DRIVE THRU ACCESS SIGN DETAIL
NOT TO SCALE



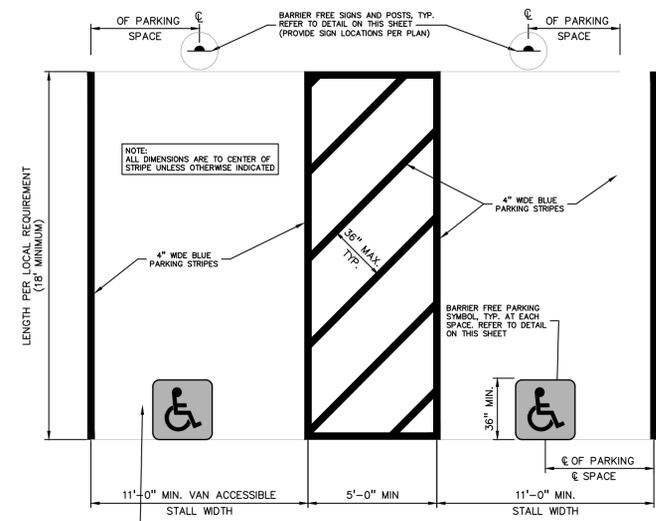
CROSSWALK SIGN DETAIL
NOT TO SCALE



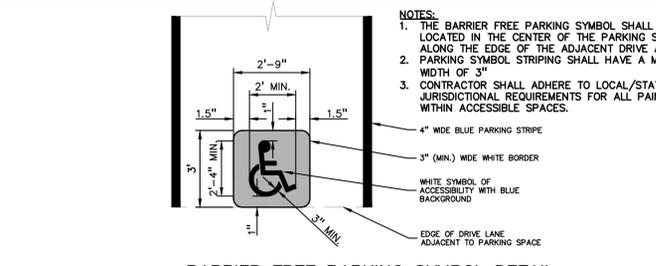
NO LEFT TURN SIGN DETAIL
NOT TO SCALE



KEEP RIGHT SIGN DETAIL
NOT TO SCALE



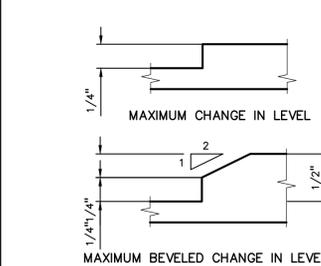
UNIVERSAL BARRIER FREE PARKING STALL DETAIL
NOT TO SCALE



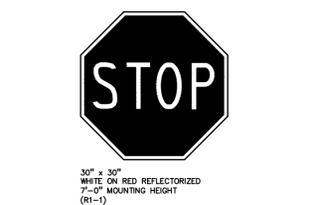
BARRIER FREE PARKING SYMBOL DETAIL (INTERNATIONAL SYMBOL OF ACCESSIBILITY)
NOT TO SCALE



FIRE LANE SIGN DETAIL
NOT TO SCALE



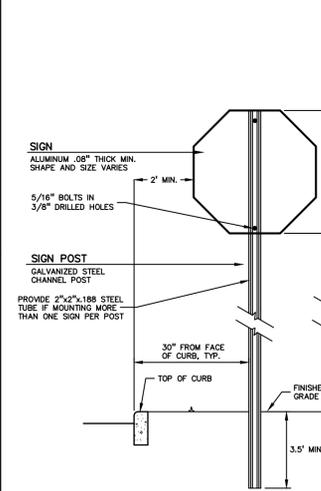
BARRIER FREE SURFACE CHANGE IN LEVEL TOLERANCE
NOT TO SCALE



STOP SIGN DETAIL
NOT TO SCALE

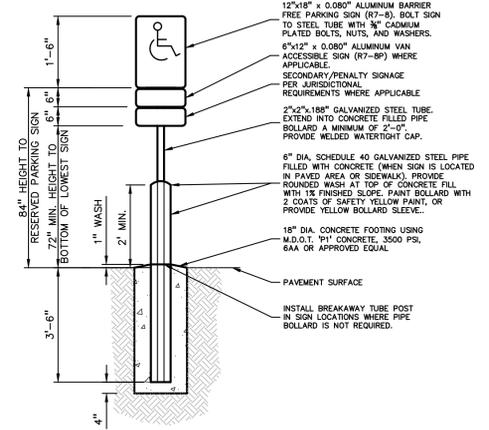


DO NOT ENTER SIGN DETAIL
NOT TO SCALE



SIGN AND POST INSTALLATION IN LANDSCAPED AREAS
NOT TO SCALE

- BARRIER FREE SIGN NOTES:**
- ONE SIGN IS REQUIRED AT EACH BARRIER FREE PARKING SPACE.
 - ALL SIGNS SHALL COMPLY WITH THE LATEST STANDARDS OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD).
 - WHEN TWO BARRIER FREE PARKING SPACES ARE ADJACENT AND FACING EACH OTHER, TWO SIGNS ARE REQUIRED, BUT CAN BE MOUNTED ON THE SAME POST. SIGN POSTS SHALL BE 2" NOM. SQUARE 14-GAUGE GALVANIZED STEEL TUBE WITH 7/16" HOLES AT 1" CENTERS. POSTS SHALL TELESCOPE INSIDE ANCHOR POSTS A MINIMUM OF 12".
 - ANCHOR POSTS SHALL BE 2.25" NOM. SQUARE 12-GAUGE GALVANIZED STEEL POST, A MINIMUM OF 3 FEET LONG.
 - IF THESE NOTES AND DETAILS CONFLICT WITH LOCAL CODES AND ORDINANCES, THE STRICTER REQUIREMENT SHOULD BE USED.
 - ALTERNATE MATERIALS MAY BE USED IF IN COMPLIANCE WITH A.D.A. GUIDELINES AND LOCAL REQUIREMENTS.



BARRIER FREE SIGN AND POST DETAIL
NOT TO SCALE



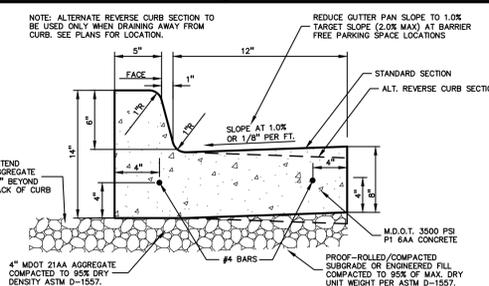
BARRIER FREE PARKING SIGN DETAIL
NOT TO SCALE



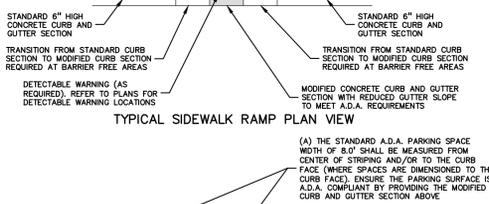
RESERVED PARKING SIGN DETAIL
NOT TO SCALE



VAN ACCESSIBLE PARKING SIGN DETAIL
NOT TO SCALE



MODIFIED CURB AND GUTTER SECTION FOR BARRIER FREE PARKING AREAS



TYPICAL SIDEWALK RAMP PLAN VIEW



TYPICAL BARRIER FREE PARKING SPACES MODIFIED 18"x6" CONCRETE CURB AND GUTTER DETAIL TO BE USED IN BARRIER FREE AREAS



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CLIENT
ROCHESTER AVON PARTNERS, LLC
251 EAST MERRILL STREET, SUITE #205
BIRMINGHAM, MICHIGAN, 48009

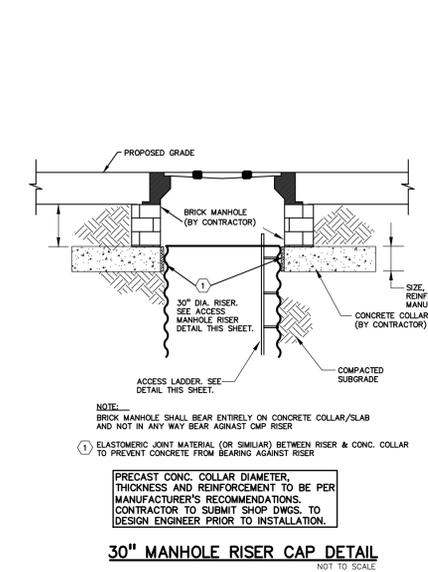
PROJECT TITLE
RETAIL REDEVELOPMENT
N.E.C. ROCHESTER ROAD & AVON ROAD
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS	
CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

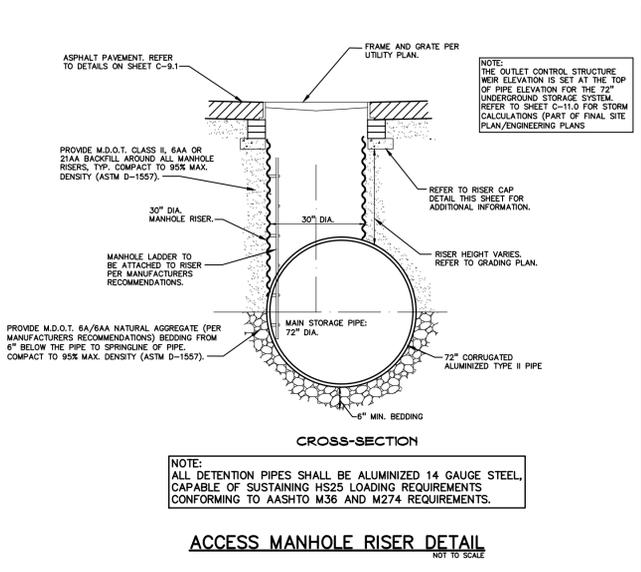
ORIGINAL ISSUE DATE:
MAY 10, 2021
DRAWING TITLE
DETAILS

PEA JOB NO.	2019-007
P.M.	RLS
DN.	BA
DES.	PB
DRAWING NUMBER:	

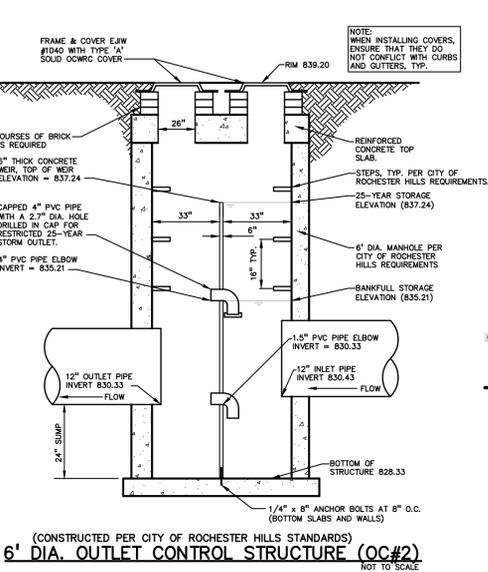
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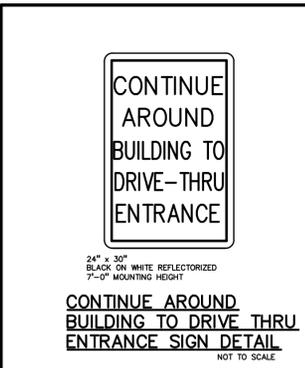
30" MANHOLE RISER CAP DETAIL
NOT TO SCALE



ACCESS MANHOLE RISER DETAIL
NOT TO SCALE



6' DIA. OUTLET CONTROL STRUCTURE (OC#2)
NOT TO SCALE



CONTINUE AROUND BUILDING TO DRIVE THRU ENTRANCE SIGN DETAIL
NOT TO SCALE

ULTRA
ALUMINUM MFG. INC.

ULTRA ALUMINUM MFG. INC.
2124 GRAND COMMERCE DRIVE
HOWELL, MI 48850
1-800-656-4420
FAX: (800) 646-7429
www.ultraaluminum.com

DIMENSIONS	
HT	A B C D E F
3'	4 1/2" 6" 20" 5 1/2" 42" 8"
4'	4 1/2" 6" 28" 5 1/2" 42" 8"
5'	4 1/2" 6" 32" 5 1/2" 42" 8"
6'	4 1/2" 6" 44" 5 1/2" 42" 8"

SELECT DESIRED POST:
 2" x 2" x .080 WALL
 2" x 2" x .080 WALL
 2" x 2" x .125 WALL
 1 1/2" x 1 1/2" x .100 WALL

SELECT DESIRED PICKET SPACING:
 3 13/16"
 5 5/8"

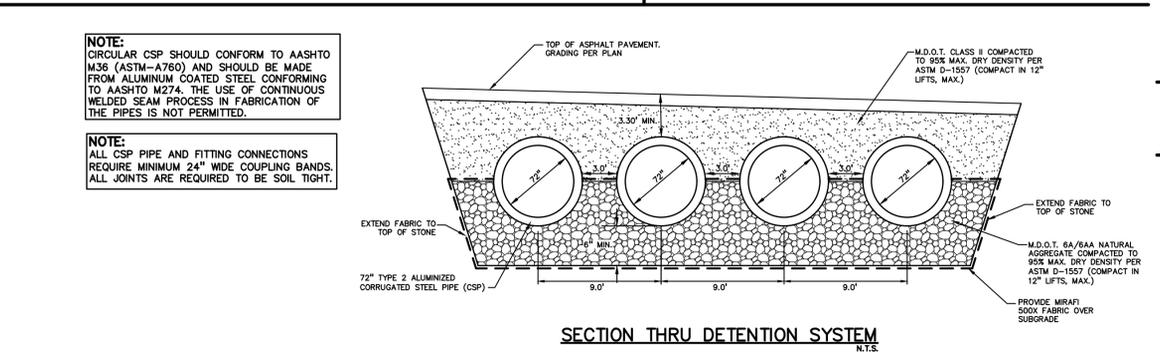
SELECT DESIRED HEIGHT:
 3'
 4'
 5'
 6'

NOTE: ULTRA FENCE DETAIL SHOWN AS A REPRESENTATIVE DETAIL OF THE TYPE OF FENCE PROPOSED. CONTRACTOR MAY PROVIDE APPROVED EQUAL ALTERNATE FENCE TYPES. FINAL FENCE TYPES TO BE APPROVED BY THE OWNER.

SPECIFICATIONS:
 HORIZONTAL BAILS - 1 1/8" x 1"
 SIDE WALLS - .082"
 ENCLOSED BOTTOM - AVAILABLE
 PICKETS - 5 1/8" x 5 1/8" x .050 WALL

NOTES:
 1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 2. DO NOT SCALE DIMENSIONS.

UAS 101 STANDARD BOTTOM, SPEAR TOP COMMERCIAL ORNAMENTAL FENCING (ALUMINUM)
DECORATIVE ALUMINUM FENCE DETAIL
NOT TO SCALE



SECTION THRU DETENTION SYSTEM
N.T.S.

1500 Gallon Interceptor - 8' x 4' x 7'-10 1/2"
Advance Concrete Products Company

(800) 824-8351 (248) 887-4173 Fax: (248) 887-2755

PCPA
PRECAST CONCRETE PRODUCTS ASSOCIATION

All Concrete Shall Have A 28 Day Compressive Strength Of 4500 PSI.
 Reinforcing Steel Shall Comply With ASTM A615 Grade 60 Rebar.
 Bar Bending And Placement Shall Comply With The Latest ACI Standards.
 Standard Structural Design Based On AASHTO HS 20 Wheel Loading.
 1" Ø Butyl Rubber Rope Mastic Is Provided For Placement Between Top And Bottom Sections Of Vault.
 If Function Of Interceptor Is Oil, Gas, or Water Separation, Fuel Resistant Rope Mastic Is Recommended & Can Be Provided.

Available Options -
 Grade Adjustment Rings
 Cast Iron Frames & Covers
 Custom Opening Locations
 Watertight Boots In Variety of Sizes
 Double, Triple or Quadruple Compartments

Approximate Weight Total = 25,900 Lbs.
 Bottom Section = 9,300 Lbs. Top Section = 9,300 Lbs.
 Divider Wall = 2,300 Lbs.

GREASE INTERCEPTOR
NOT TO SCALE

CLIENT
ROCHESTER AVON PARTNERS, LLC
251 EAST MERRILL STREET, SUITE #205
BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE
RETAIL REDEVELOPMENT
N.E.C. ROCHESTER ROAD & AVON ROAD
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS

CITY COMMENTS	6/16/21
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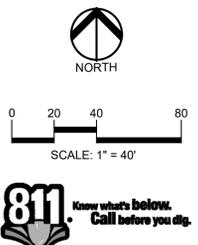
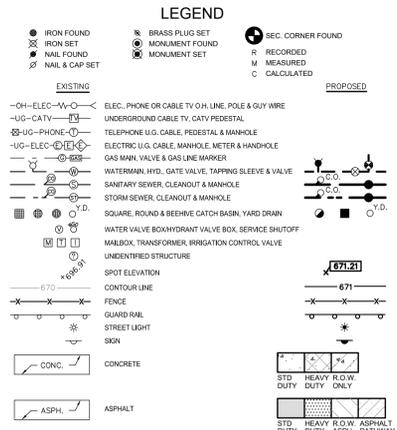
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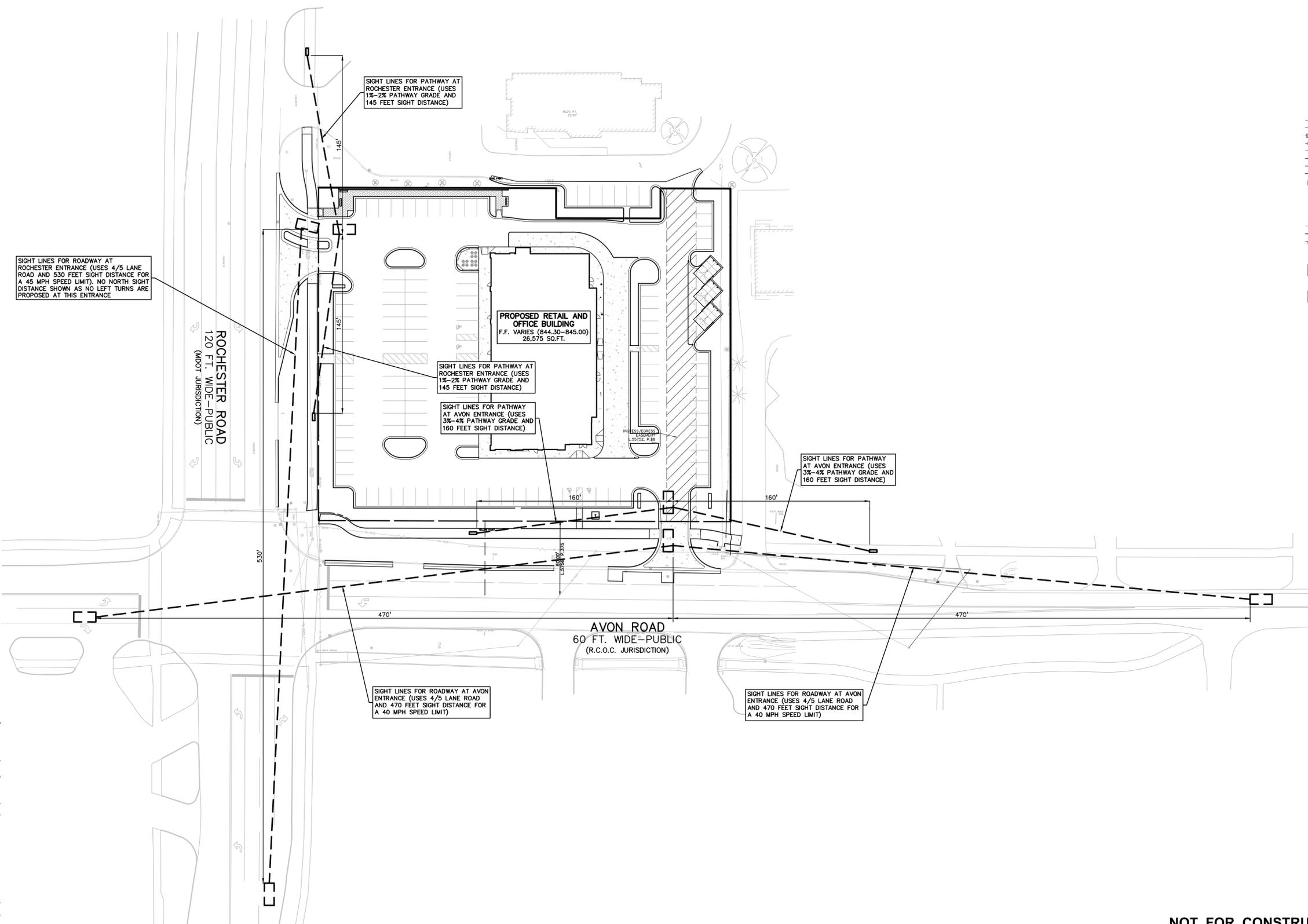


LOCATION MAP - NOT TO SCALE



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

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SIGHT LINES FOR ROADWAY AT ROCHESTER ENTRANCE (USES 4/5 LANE ROAD AND 530 FEET SIGHT DISTANCE FOR A 45 MPH SPEED LIMIT). NO NORTH SIGHT DISTANCE SHOWN AS NO LEFT TURNS ARE PROPOSED AT THIS ENTRANCE

SIGHT LINES FOR PATHWAY AT ROCHESTER ENTRANCE (USES 1%-2% PATHWAY GRADE AND 145 FEET SIGHT DISTANCE)

SIGHT LINES FOR PATHWAY AT ROCHESTER ENTRANCE (USES 1%-2% PATHWAY GRADE AND 145 FEET SIGHT DISTANCE)

SIGHT LINES FOR PATHWAY AT AVON ENTRANCE (USES 3%-4% PATHWAY GRADE AND 160 FEET SIGHT DISTANCE)

SIGHT LINES FOR PATHWAY AT AVON ENTRANCE (USES 3%-4% PATHWAY GRADE AND 160 FEET SIGHT DISTANCE)

SIGHT LINES FOR ROADWAY AT AVON ENTRANCE (USES 4/5 LANE ROAD AND 470 FEET SIGHT DISTANCE FOR A 40 MPH SPEED LIMIT)

SIGHT LINES FOR ROADWAY AT AVON ENTRANCE (USES 4/5 LANE ROAD AND 470 FEET SIGHT DISTANCE FOR A 40 MPH SPEED LIMIT)

AVON ROAD
60' FT. WIDE - PUBLIC
(R.C.O.C. JURISDICTION)

ROCHESTER ROAD
120' FT. WIDE - PUBLIC
(MDOJ JURISDICTION)

CLIENT
ROCHESTER AVON PARTNERS, LLC
251 EAST MERRILL STREET, SUITE #205
BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE
RETAIL REDEVELOPMENT
N.E.C. ROCHESTER ROAD & AVON ROAD
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS	
CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

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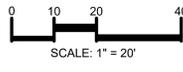
DRAWING TITLE
SIGHT DISTANCE PLAN

PEA JOB NO.	2019-007
P.M.	RLS
DN.	BA
DES.	PB
DRAWING NUMBER:	

C-12.0

NOT FOR CONSTRUCTION
CITY FILE #21-007 SECTION #14

XREF: S:\PROJECTS\2019\2019-007\DWG\TOP\BASE-19007.dwg
XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\CEASE-19007.dwg
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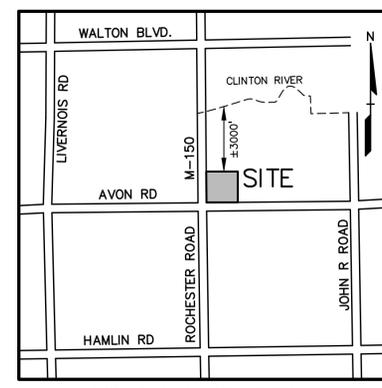
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BIRMINGHAM, MICHIGAN, 48009

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N.E.C. ROCHESTER ROAD & AVON ROAD
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

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CITY COMMENTS	7/21/21

ORIGINAL ISSUE DATE:
MAY 10, 2021
DRAWING TITLE
LANDSCAPE PLAN

PEA JOB NO.	2019-007
P.M.	RLS
DN.	JE
DES.	JE
DRAWING NUMBER:	



LANDSCAPE CALCULATIONS:
PER CITY OF ROCHESTER HILLS ZONING ORDINANCE, ZONED B-2 WITH FB-3 FLEX BUSINESS OVERLAY DISTRICT

R.O.W. TREES:
REQUIRED: 1 DEC OR EVG/ 35LF AND 1 ORN TREE/ 60LF OF ROW.
AVON RD: 335'/35 = 10 DEC OR EVG AND 335'/60 = 6 ORN.
ROCHESTER RD: 290'/35 = 9 DEC OR EVG AND 290'/60 = 5 ORN

PROVIDED:
AVON RD: 10 DEC. AND 6 ORN.
ROCHESTER RD: 9 DEC. AND 5 ORN.

FB OVERLAY - ARTERIAL ST. ROCHESTER RD. FRONT YARD LANDSCAPING
REQUIRED: 3 DEC, 4 ORN, 15 SHRUBS/ 100LF OF ROW. (15' WIDE)
ROCHESTER RD: 290'/100 = 9 DEC, 12 ORN. AND 44 SHRUBS

PROVIDED: 9 TREES AT DRIVE THRU, 4 ORN. AT ROCHESTER RD, 4 ORN. AT AVON RD., 4 ORN. AT EAST P/L AND 44 SHRUBS AT ROCHESTER RD.
(NOT ENOUGH ROOM TO BE PLACED IN ROCHESTER RD. ROW, TREES ARE LOCATED ELSEWHERE ON SITE)

INTERIOR PARKING LANDSCAPE
REQUIRED: MINIMUM 5% OF THE VEHICLE USE AREA TO BE LANDSCAPED AREA. 1 DEC. TREE FOR EVERY 150 SF OF REQUIRED INTERIOR LANDSCAPE.
5% OF THE 47,274 SF VEHICLE USE AREA = 2364 /150 = 16 TREES

PROVIDED: 13 DEC. AND 3 EVG. TREES, SHRUB HEDGE AT PARKING SPACES ADJ. TO AVON AND ROCHESTER RD.
2,390 SF LANDSCAPE AREA

OUTDOOR AMENITY SPACE
REQUIRED: MINIMUM 2% GROSS LAND AREA OF THE DEVELOPMENT TO BE OUTDOOR AMENITY SPACE.
GROSS LAND AREA: 88,539 SF * .02 = 1,771 SF REQUIRED

PROVIDED: 1,795 SF OF AMENITY SPACE. WITH PLANTINGS AND BENCHES, BIKE RACK AND PLANTERS.

TREE REPLACEMENT CALCULATIONS
PER CITY OF ROCHESTER HILLS ZONING ORDINANCE

REPLACEMENT TREES:
REQUIRED: 1, 2" DEC. TREE OR 8' EVG PER REGULATED TREE REMOVED. 2" TREE REPLACEMENT CREDIT FOR EACH SPECIMEN TREE PRESERVED.

REQUIRED: 18, 3" OR 8' EVG. REPLACEMENT TREES
PROVIDED: 9, 3" DEC. TREES
(9 REMAINING TREES TO BE PUT INTO TREE FUND DUE TO SPACE LIMITATIONS, 304.00 X 9 = \$2,736.00)

SEE SHEET T-1.0 FOR TREE PRESERVATION PLAN

KEY:

- = R.O.W. FRONTAGE TREES
- = ROCHESTER ROAD - ARTERIAL FRONT YARD TREES (TREES PLACED ELSEWHERE ON SITE)
- = INTERIOR PARKING LOT TREES
- = REPLACEMENT TREE
- = IRRIGATED SHRUBS
- = IRRIGATED PERENNIALS
- = IRRIGATED AMENITY AREA PLANTINGS TO BE DETAILED DURING CONST. DWGS
- = IRRIGATED SOD LAWN
- = ROCK MAINTENANCE EDGE, 6" DEPTH RIVER ROCK OVER WEED FABRIC
- = EXISTING TREE TO REMAIN WITH TREE PROTECTION FENCING

IRRIGATION NOTES:
ALL LANDSCAPE AREAS MUST BE IRRIGATED. WATERING WILL ONLY OCCUR BETWEEN THE HOURS OF 12AM-5AM. AN IRRIGATION PLAN MUST BE SUBMITTED PRIOR TO CITY APPROVAL OF THE FINAL SITE PLAN.

TREE NOTE PER CITY:
ALL TREES WITHIN THE PATHWAY SIGHT LINE MUST BE MAINTAINED OR LIMBED UP TO CREATE A 3.5' MIN. VERTICAL DISTANCE FROM GROUND TO FIRST LIMB. TREE TRUNKS TO BE PLANTED MIN. OF 1" OFF PATHWAY SIGHT LINE.

CITY OF ROCHESTER HILLS NOTES:

TREE PLANTING RESTRICTIONS:
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. Shade trees and shrubs must be planted at least 5' from the edge of the public roadway. Evergreen and ornamental trees must be planted at least 10' from the edge of the public roadway. 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 roadway at a distance 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 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. These requirements are incorporated into the plan.

CLOSING COMMENT:
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.

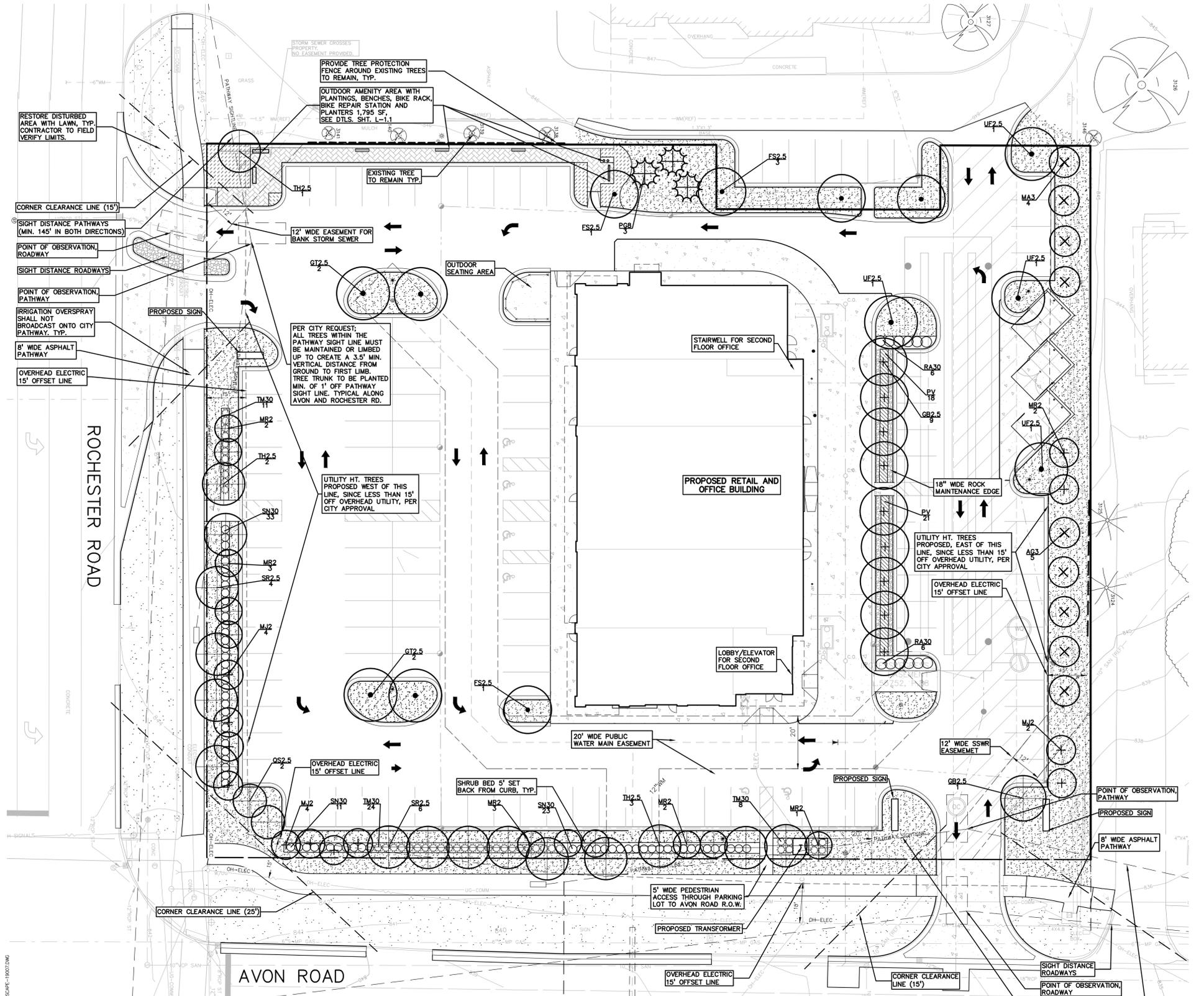
SECTION 138-12.109 - Maintenance

The owner of the property shall be responsible for all maintenance of site landscaping, as follows:

- Landscaping shall be kept in a neat, orderly and healthy growing condition, free from debris and refuse.
- 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.
- All dead, damaged, or diseased plant material shall be removed immediately and replaced within six 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.
- 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 138-12.109 will place the parcel in non-conformity with the approved landscape plan and be a violation of this ordinance.
- 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.

NOT FOR CONSTRUCTION
CITY FILE #21-007 SECTION #14

XREF: S:\PROJECTS\2019\2019-007\DWG\TOPBASE-19007.dwg
XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\CBASE-19007.dwg
XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\BLK-19007.dwg



EVERGREEN TREE PLANT LIST:

QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
3	P08	White Spruce	<i>Picea glauca</i>	8-10' Ht.	B&B
3	T01EVG.				

SHRUB PLANT LIST:

QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
12	RA30	Gro Low Sumac	<i>Rhus armoatica 'Gro-Low'</i>	30" Ht.	Cont.
67	SN30	Neon Flash Spirea	<i>Spiraea japonica 'Neon Flash'</i>	30" Ht.	Cont.
43	TM30	Dense Yew	<i>Taxus x media 'Densiformis'</i>	30" Ht.	Cont.
122	TOT.SHRUB				

PERENNIAL PLANT LIST:

QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
39	PV	Red Switch Grass	<i>Panicum virgatum 'Rotstrahlbusch'</i>	1 Gal.	Cont.
39	TOT.PER.				

L-1.0 DECIDUOUS TREE PLANT LIST:

QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
5	AG3	Autumn Brilliance Serviceberry	<i>Amelanchier x grandiflora 'Autumn Brilliance' single stem</i>	3" Cal.	B&B
5	FS2.5	Columnar Beech	<i>Fagus sylvatica 'Fastiglata'</i>	2.5-3" Cal.	B&B
10	GB2.5	Fastigiate Ginkgo (columnar)	<i>Ginkgo biloba 'Fastiglata'</i>	2.5-3" Cal.	B&B
4	GT2.5	Streetkeeper Honeylocust	<i>Gleditsia triacanthos 'Street keeper' Inermis</i>	2.5-3" Cal.	B&B
4	MA3	Adirondack Crab	<i>Malus 'Adirondack' (10' x 18' columnar)</i>	3" Cal.	B&B
10	MJ2	Marilee Crab	<i>Malus 'Jamin' PP (10' x 20' columnar)</i>	2.2-5" Cal.	B&B
13	MR2	Red Baron Crab	<i>Malus 'Red Barron' (10' x 18' columnar)</i>	2.2-5" Cal.	B&B
2	QS2.5	Skinny Genes Oak	<i>Quercus alba 'JFS-KW2QX' P.A.F. (col./fastiglata)</i>	2.5-3" Cal.	B&B
10	SR2.5	Japanese Tree Lilac	<i>Syringa reticulata, 15' x 20'</i>	2.5-3" Cal.	B&B
6	TH2.5	Summer Sprite Linden	<i>Tilia cordata 'Halka', 15' x 20'</i>	2.5-3" Cal.	B&B
4	UF2.5	Frontier Elm	<i>Ulmus 'Frontier'</i>	2.5-3" Cal.	B&B
73	TOT.DEC.				

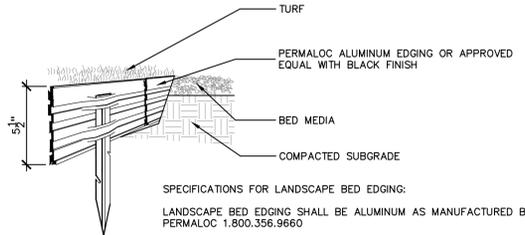
Add note: Irrigation overspray shall not broadcast onto the City pathway.

S:\PROJECTS\2019\2019-007\445 S ROCHESTER ROAD-PEA\DWG\SITE PLANS\L-1 LANDSCAPE-19007.DWG

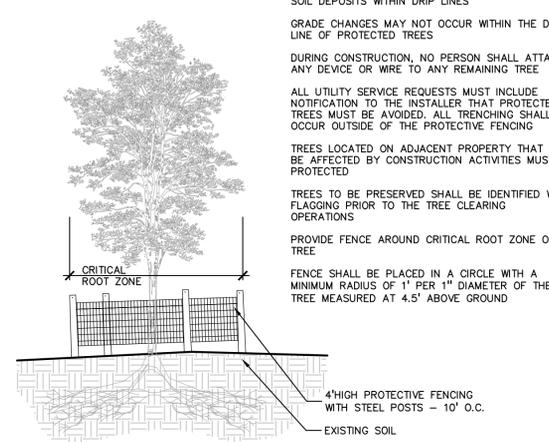
LANDSCAPING				
PLAN QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	ITEM PRICE
1.705	S.Y.	SOD LAWN	\$8.00	\$10,230.00
23	EA.	SUB CANOPY ORNAMENTAL TREES AT 2" CAL.	\$350.00	\$8,050.00
50	EA.	DECIDUOUS TREES AT 2.5" CAL.	\$550.00	\$27,500.00
3	EA.	EVERGREEN TREES AT 8" HT.	\$450.00	\$1,350.00
17	C.Y.	MULCH 3"	\$50.00	\$850.00
34	C.Y.	PLANT MIX FOR BEDS (6" DEPTH)	\$55.00	\$1,870.00
760	L.F.	ALUMINUM EDGING	\$5.00	\$3,800.00
10	C.Y.	RIVER ROCK	\$85.00	\$850.00
39	EA.	PERENNIALS	\$20.00	\$780.00
122	EA.	SHRUBS	\$55.00	\$6,710.00
9	EA.	TREES TO BE PAID INTO THE TREE FUND	\$304.00	\$2,736.00
1	AC.	IRRIGATION (COMMERCIAL BUILDING)	\$21,000.00	\$21,000.00
1	25%	CONTINGENCY	\$19,070.00	\$19,070.00
TOTAL LANDSCAPING				\$104,796.00

NOTE: ESTIMATE DOES NOT INCLUDE SITE FURNITURE, AND PLANTINGS WITHIN AMENITY AREA.

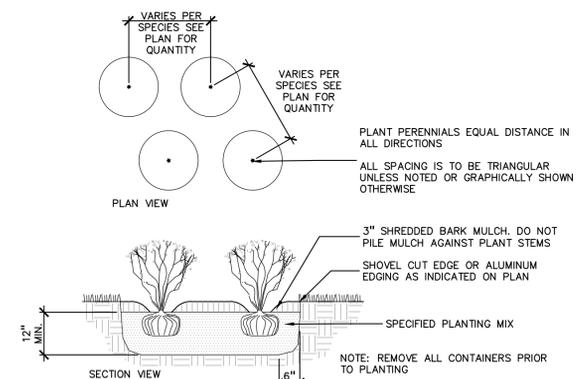
- GENERAL PLANTING NOTES:**
- LANDSCAPE CONTRACTOR SHALL VISIT SITE, INSPECT EXISTING SITE CONDITIONS AND REVIEW PROPOSED PLANTING AND RELATED WORK. IN CASE OF DISCREPANCY BETWEEN PLAN AND PLANT LIST, PLAN SHALL GOVERN QUANTITIES. CONTACT LANDSCAPE ARCHITECT WITH ANY CONCERNS.
 - CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ON SITE UTILITIES PRIOR TO BEGINNING CONSTRUCTION ON HIS/HER PHASE OF WORK. ELECTRIC, GAS, TELEPHONE, CABLE TELEVISION MAY BE LOCATED BY CALLING MISS DIG 1-800-482-7171. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF CONTRACTOR. CONTRACTOR SHALL COORDINATE ALL RELATED ACTIVITIES WITH OTHER TRADES ON THE JOB AND SHALL REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER'S REPRESENTATIVE PRIOR TO COMMENCING.
 - ALL PLANT MATERIAL TO BE PREMIUM GRADE NURSERY STOCK AND SHALL SATISFY AMERICAN ASSOCIATION OF NURSERMEN STANDARD FOR NURSERY STOCK. ALL LANDSCAPE MATERIAL SHALL BE NORTHERN GROWN, NO. 1, GRADE.
 - CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON LANDSCAPE PLAN PRIOR TO PRICING THE WORK.
 - THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL NOT MEETING SPECIFICATIONS.
 - ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.
 - ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER; TREES WITH FORKED OR IRREGULAR TRUNKS WILL NOT BE ACCEPTED.
 - ALL MULTI STEM TREES SHALL BE HEAVILY BRANCHED AND HAVE SYMMETRICAL CROWNS. ONE SIDED TREES OR THOSE WITH THIN OR OPEN CROWNS SHALL NOT BE ACCEPTED.
 - ALL EVERGREEN TREES SHALL BE HEAVILY BRANCHED AND FULL TO THE GROUND, SYMMETRICAL IN SHAPE AND NOT SHEARED FOR THE LAST FIVE GROWING SEASONS.
 - ALL TREES TO HAVE CLAY OR CLAY LOAM BALLS, TREES WITH SAND BALLS WILL BE REJECTED.
 - NO MACHINERY IS TO BE USED WITHIN THE DRIP LINE OF EXISTING TREES; HAND GRADE ALL LAWN AREAS WITHIN THE DRIP LINE OF EXISTING TREES.
 - ALL TREE LOCATIONS SHALL BE STAKED BY LANDSCAPE CONTRACTOR AND ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF THE PLANT MATERIAL.
 - IT IS MANDATORY THAT POSITIVE DRAINAGE IS PROVIDED AWAY FROM ALL BUILDINGS.
 - ALL PLANTING BEDS SHALL RECEIVE 4" SHREDDED HARDWOOD BARK MULCH WITH PRE EMERGENT. SEE SPECIFICATIONS. SHREDDED PALETTE AND DYED MULCH WILL NOT BE ACCEPTED.
 - ALL LANDSCAPED AREAS SHALL RECEIVE 4" COMPACTED TOPSOIL.
 - SEE SPECIFICATIONS FOR ADDITIONAL COMMENTS, REQUIREMENTS, PLANTING PROCEDURES AND WARRANTY STANDARDS.
 - CONTRACTOR SHALL NOT INSTALL PLANTS UNDER BUILDING OVERHANG AND SHALL NOTIFY LANDSCAPE ARCHITECT IF DRAWINGS CONFLICT WITH BUILDING OVERHANGS.



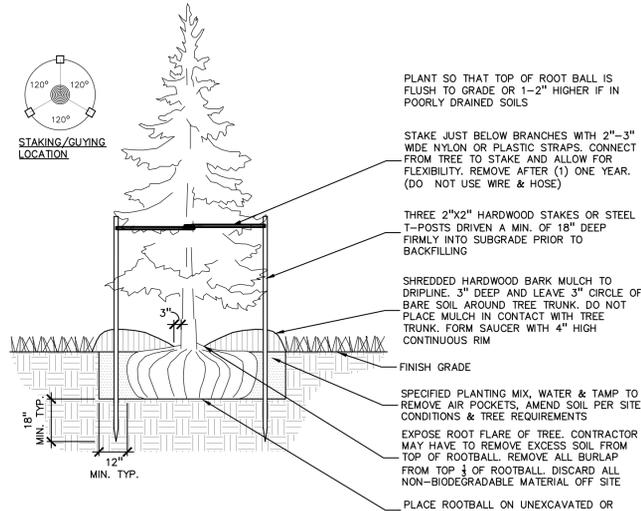
6 ALUMINUM EDGE DETAIL
SCALE: 1/2" = 1'-0"



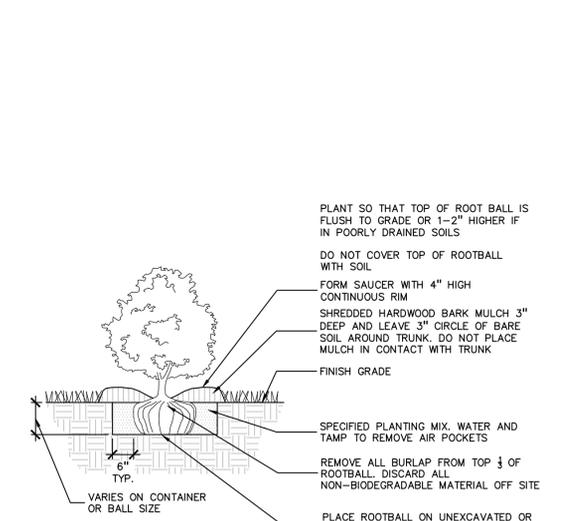
3 TREE PROTECTION DETAIL
SCALE: 1" = 3'-0"



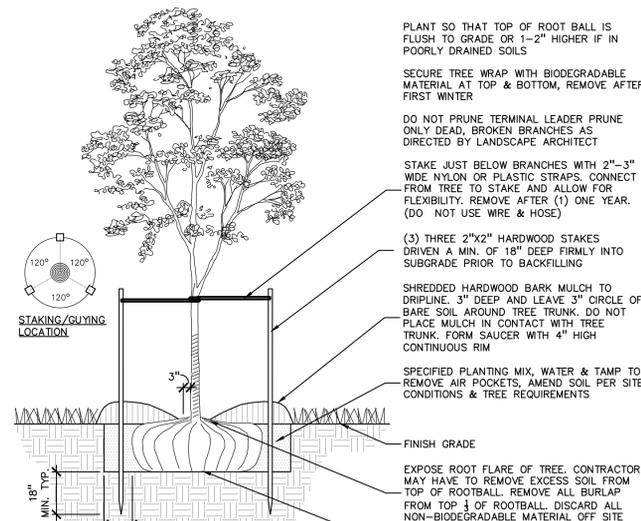
5 PERENNIAL PLANTING DETAIL
SCALE: 1" = 2'-0"



2 EVERGREEN TREE PLANTING DETAIL
SCALE: 1" = 3'-0"



4 SHRUB PLANTING DETAIL
SCALE: 1" = 2'-0"



1 DECIDUOUS TREE PLANTING DETAIL
SCALE: 1" = 3'-0"



BIKE FIX IT STATION AND PUMP:
BY: DERO OR APPROVED EQUAL
PHONE: 888-337-6729
STATION: FIX IT, QTY 1
PUMP: AIR KIT, QTY 1
COLOR: BLACK, POWDER COATED, OWNER TO SELECT/APPROVE COLOR



BENCH: 72" PLAINWELL, ALUMINUM
BY: LANDSCAPE FORMS OR APPROVED EQUAL
PHONE: 800-521-2546
COLOR: BLACK, POWDER COATED, OWNER TO SELECT/APPROVE COLOR
QUANTITY: 2, QTY. TO BE APPROVED BY OWNER



BIKE RACK: BRCS-103 (3 LOOPS, 5 BIKES)
(CYCLE SENTRY COLLECTION) SURFACE MOUNT
BY: VICTOR STANLEY OR APPROVED EQUAL
PHONE: 800-368-2573
COLOR: POWDER COAT GALV. BLACK
OWNER TO SELECT/APPROVE COLOR
QUANTITY: 1



PLANTER: URBAN LONG PLANTER
(FIBERGLASS, 12" WIDE X 60" LONG X 24" HT.)
BY: VICTOR STANLEY OR APPROVED EQUAL
PHONE: 800-368-2573
COLOR: MATT BLACK
QUANTITY: 3
(NOT RECOMMENDED TO REMAIN OUTSIDE DURING WINTER MONTHS)

7 SITE AMENITY OPTION DETAILS
NOT TO SCALE

4 SHRUB PLANTING DETAIL
SCALE: 1" = 2'-0"

1 DECIDUOUS TREE PLANTING DETAIL
SCALE: 1" = 3'-0"

NOT FOR CONSTRUCTION
CITY FILE #21-007 SECTION #14



CAUTION!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

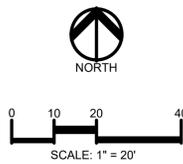
CLIENT
ROCHESTER AVON PARTNERS, LLC
251 EAST MERRILL STREET, SUITE #205
BIRMINGHAM, MICHIGAN 48209

PROJECT TITLE
RETAIL REDEVELOPMENT
N.E.C. ROCHESTER ROAD & AVON ROAD
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS	
CITY COMMENTS	6/16/21
CITY COMMENTS	7/21/21

ORIGINAL ISSUE DATE:
MAY 10, 2021
DRAWING TITLE
LANDSCAPE DETAILS

PEA JOB NO.	2019-007
P.M.	RLS
DN.	JE
DES.	JE
DRAWING NUMBER:	



CAUTION!!
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CLIENT
ROCHESTER AVON PARTNERS, LLC
251 EAST MERRILL STREET, SUITE #205
BIRMINGHAM, MICHIGAN, 48009

PROJECT TITLE
RETAIL REDEVELOPMENT
N.E.C. ROCHESTER ROAD & AVON ROAD
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

REVISIONS

CITY COMMENTS	6/16/21
CITY COMMENTS	7/2/21

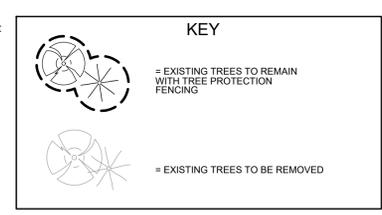
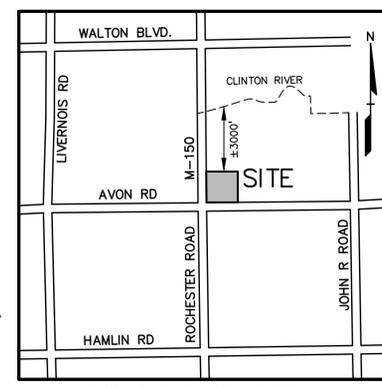
ORIGINAL ISSUE DATE:
MAY 10, 2021

DRAWING TITLE
TREE PRESERVATION PLAN

PEA JOB NO.	2019-007
P.M.	RLS
DN	JE
DES.	JE

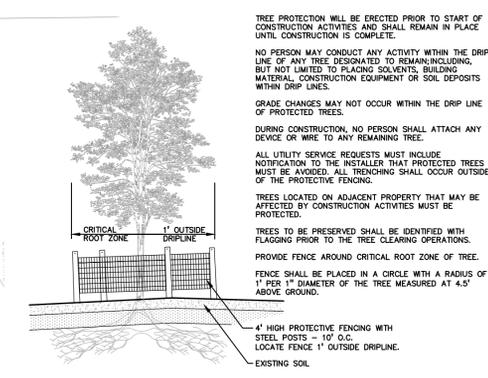
DRAWING NUMBER:

T-1.0



NATURAL FEATURES STATEMENT:
STEEP SLOPE: THE SITE DOES NOT CONTAIN REGULATED STEEP SLOPES.
WETLANDS: THE SITE DOES NOT CONTAIN REGULATED WETLANDS OR WATERCOURSE.
NATURAL FEATURES SETBACK: THE SITE DOES NOT CONTAIN NATURAL FEATURE SETBACKS.

TREE REPLACEMENT CALCULATIONS
PER CITY OF ROCHESTER HILLS ZONING ORDINANCE
REQUIRED: 1" DEC. TREE OR 8' EVG PER REGULATED TREE REMOVED. 2" TREE REPLACEMENT CREDIT FOR EACH SPECIMEN TREE PRESERVED.
REQUIRED: 18, 3" OR 8' EVG. REPLACEMENT TREES
SEE SHEET L-1.0 FOR TREE REPLACEMENTS



TREE PROTECTION DETAIL
NOT TO SCALE

NOTE: OFFSITE TREES ON TREE LIST ARE NOT INCLUDED IN PRESERVATION PERCENTAGE.
REGULATED ON SITE TREES
REGULATED TREES REMOVED: 12
SPECIMEN TREES REMOVED: 2
DBH OF SPECIMEN TREES REMOVED: 33 INCHES = 17 REPLACEMENT INCHES
3" SPECIMEN REPLACEMENT TREES: 6 TREES (3" DECIDUOUS OR 8' EVERGREEN)
SPECIMEN TREES TO REMAIN ON-SITE: 0 TREES
REPLACEMENT REQUIRED: 12+6=18 TREES (3" DECIDUOUS OR 8' EVERGREEN)

TOTAL TREES ON SITE: 12
EXEMPT TREES IN BUILDING: 7
TREES TO REMAIN ON SITE: 2
% TREES TO REMAIN: (2)/(12-7) = 40.0%

EXISTING TREE LIST: TREE TO BE REMOVED DENOTED WITH STRIKE OUT THROUGH TREE NUMBER

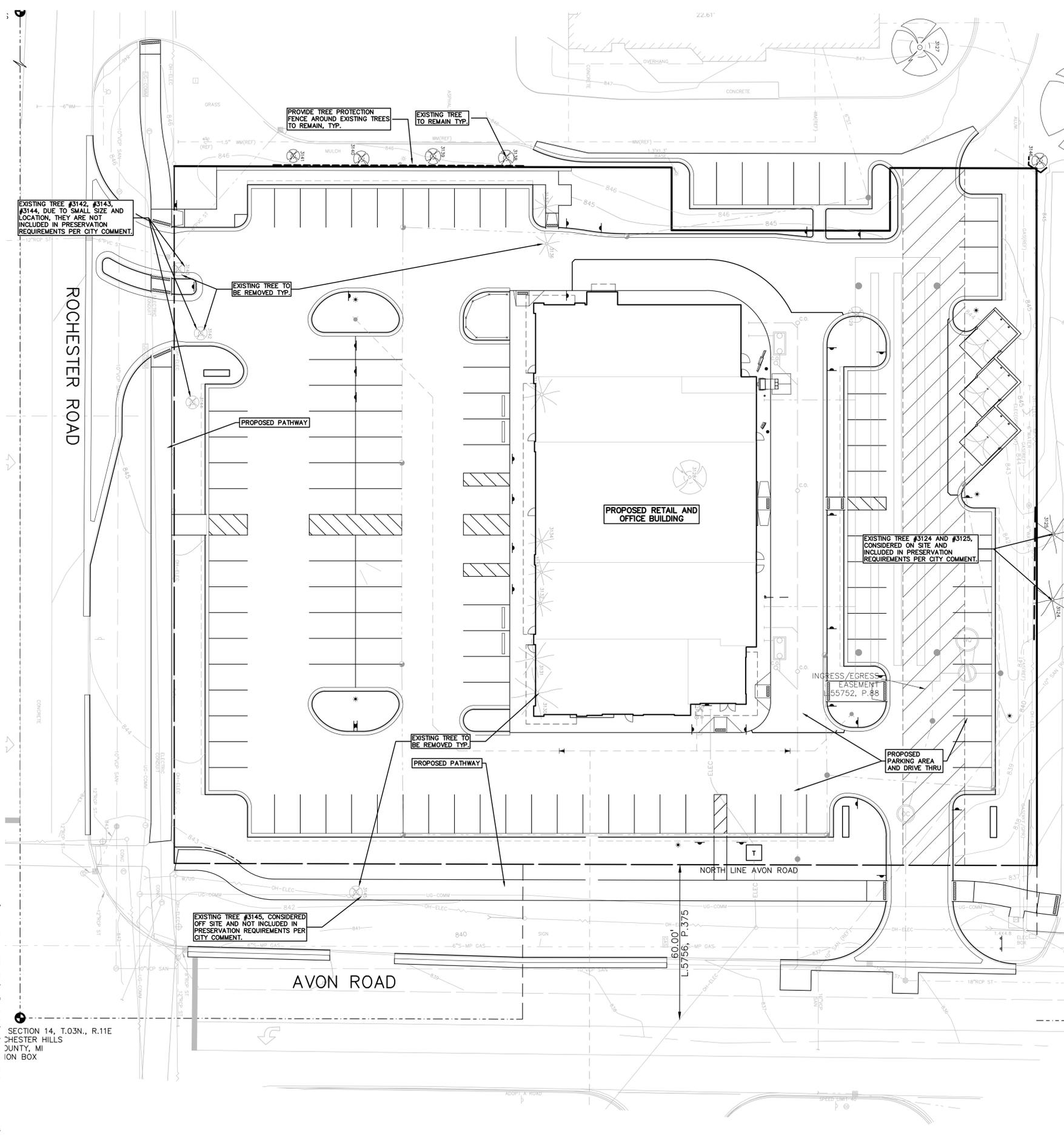
TAG NO.	CODE	DBH	COMMON NAME	LATIN NAME	CONDITION	NOTES	EXEMPT?	SPECIMEN	SAVE / REMOVE	OFFSITE/ NIC	IN BUILDING
3124	DF	15	Douglas Fir	<i>Pseudotsuga menziesii</i>	FAIR			N	S	N	N
3125	DF	15	Douglas Fir	<i>Pseudotsuga menziesii</i>	FAIR			N	S	N	N
3126	E	36	American Elm	<i>Ulmus americana</i>	GOOD			Y	S	Y	N
3127	NM	22	Norway Maple	<i>Acer platanoides</i>	GOOD			Y	S	Y	N
3128	TH	13	Thornapple/Hawthorne	<i>Crataegus spp.</i>	FAIR			Y	R	N	Y
3129	HL	6	Honeylocust	<i>Gleditsia triacanthos</i>	POOR			N	R	N	N
3130	NS	20	Norway Spruce	<i>Picea Abies</i>	POOR			Y	R	N	Y
3131	NS	15	Norway Spruce	<i>Picea Abies</i>	FAIR			N	R	N	Y
3132	BS	10	Blue Spruce	<i>Picea pungens</i>	FAIR			N	R	N	Y
3133	BS	10	Blue Spruce	<i>Picea pungens</i>	FAIR			N	R	N	Y
3134	BS	10	Blue Spruce	<i>Picea pungens</i>	FAIR			N	R	N	Y
3135	BS	14	Blue Spruce	<i>Picea pungens</i>	FAIR			N	R	N	Y
3136	BS	10	Blue Spruce	<i>Picea pungens</i>	FAIR			N	R	N	N
3137	BS	10	Blue Spruce	<i>Picea pungens</i>	FAIR			N	R	N	N
3138	FC	6	Flowering Cherry	<i>Prunus spp.</i>	GOOD			N	S	Y	N
3139	FC	6	Flowering Cherry	<i>Prunus spp.</i>	GOOD			N	S	Y	N
3140	FC	6	Flowering Cherry	<i>Prunus spp.</i>	GOOD			N	S	Y	N
3141	FC	5	Flowering Cherry	<i>Prunus spp.</i>	GOOD			N	S	Y	N
3142	FC	7	Flowering Cherry	<i>Prunus spp.</i>	FAIR			N	R	Y	N
3143	FC	7	Flowering Cherry	<i>Prunus spp.</i>	GOOD			N	R	Y	N
3144	FC	7	Flowering Cherry	<i>Prunus spp.</i>	POOR			N	R	Y	N
3145	CA	6	Crab Apple	<i>Malus coronaria</i>	FAIR			N	R	Y	N
3146	BX	6	Box elder	<i>Acer negundo</i>	POOR	X3		N	S	Y	N

CITY OF ROCHESTER HILLS NOTES:
IMPORTANT:
ALL TREES ON ADJACENT PROPERTIES MUST BE PROTECTED. THE TREE PROTECTIVE FENCING MAY BE PLACED ALONG THE ACTUAL PROPERTY LINE IF THE BRANCHES OF THE TREES ON THE ADJACENT PROPERTIES DO NOT OVERHANG ONTO THE SITE BEING DEVELOPED. IF THE BRANCHES OVERHANG ONTO THE AREA OF THE SITE BEING DEVELOPED, THE TREE PROTECTIVE FENCING MUST BE PLACED AT THE ACTUAL DRIP LINE OF THESE TREES. IT SHOULD ALSO BE NOTED THAT THE SILT FENCING MUST BE PLACED ON THE DEVELOPMENT SIDE OF THE TREE PROTECTIVE FENCING. THE SILT FENCING MAY NOT BE PLACED BETWEEN THE TREE BEING PRESERVED AND THE TREE PROTECTIVE FENCING. IF ANY REGULATED TREES ARE MANAGED ON THE ADJACENT PROPERTIES, THE DAMAGED TREES WILL BE EITHER REPLACED ON THE OWNER'S PROPERTY ON AN INCH FOR INCH BASIS OR A FINE IN THE SUM OF \$122.00 PER CALIPER INCH WILL BE ISSUED AGAINST THE DEVELOPMENT. THIS FINE WILL BE DUE PRIOR TO BUILDING PERMITS BEING ISSUED. IF YOU HAVE ANY QUESTIONS OR NEED ADDITIONAL INFORMATION, CALL THE CITY'S PLANNING DEPARTMENT AT 248-656-4660.

- TREE PROTECTION NOTES:**
- The tree protection fencing (TPF) shall be erected per the plans approved by the City of Rochester Hills Planning Department. The TPF must be in place and be inspected by the City of Rochester Hills Planning Staff prior to the start of any earthwork or construction operations. It is the developer's responsibility to contact the City Planning Department at 248-656-4660 to schedule a TPF inspection. The TPF shall remain in place throughout the entire construction process or until the City authorizes the removal or issues a final Certificate of Occupancy, whichever occurs first.
 - Upon completion of grading and the installation of the infrastructure, a second inspection of the TPF and the trees designated for preservation is required by the City of Rochester Hills' Forester prior to the start of any additional construction. It is the developer's responsibility to contact the City Planning Department at 248-656-4660 to schedule this TPF inspection.
 - A final inspection by the City of Rochester Hills Planning Staff is required at the end of the warranty and maintenance period. The Landscape Maintenance Bond will not be released until this inspection is complete and all related issues are resolved. It is the developer's responsibility to contact the City Planning Department at 248-656-4660 to schedule this inspection.
 - The Tree Conservation Ordinance prohibits any construction or development activities within the drip line of any regulated trees not approved for removal, including, but not limited to, land clearing, grubbing, trenching, grading or filling; no person shall place any solvents, building material, construction equipment, soil deposits or harmful materials within the drip line limit of trees designated for preservation.
 - Proposed grades are to match the existing elevations outside the limits of the TPF. No grading either cut or fill is permitted within the drip line of any tree designated for preservation.
 - During the construction process no person shall attach any device or wire/cable/card/rope to an existing tree designated to be preserved.
 - All utility service requests must include notification to the installer that protected trees must be avoided. All trenching shall occur outside the TPF.
 - Swales shall be routed to avoid the area within the drip line of the only tree designated for preservation. Swales shall be constructed so as to not direct any additional flow into the drip line of a tree designated for preservation.
 - If tree protection cannot be maintained for a tree throughout entire period required, the replacement of that tree will be required on an inch for inch basis prior to the issuance of any Certificate of Occupancy.
 - Regulated trees located off-site on adjacent properties that may be affected by construction operations must be protected defined herein.
 - The TPF shall consist of four-foot high orange snow fencing to be installed around the drip line of all trees designated to be saved. This fencing shall be supported by six-foot metal T-bar posts five-feet on center and driven a minimum of 24" into the ground. The TPF fencing shall remain upright and securely in place for the required time as specified above.
 - 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.

NOT FOR CONSTRUCTION
CITY FILE #21-007 SECTION #14

XREF: S:\PROJECTS\2019\2019-007\DWG\TOPBASE-19007.dwg
XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\CEASE-19007.dwg
XREF: S:\PROJECTS\2019\2019-007\DWG\SITE PLANS\BLK-19007.dwg



SECTION 14, T.03N., R.11E
CHESTER HILLS
JUNTY, MI
ION BOX

S:\PROJECTS\2019\2019-007\465 S ROCHESTER ROAD-PEA\JOB SITE PLANS\T-1.0 TREE PRESERVATION PLAN\007.dwg

issued for:
 OWNER REVIEW: 11 SEPT. 2020
 OWNER REVIEW: 01 FEB. 2021
 OWNER REVIEW: 10 FEB. 2021
 OWNER REVIEW: 11 FEB. 2021
 OWNER REVIEW: 08 MAR. 2021
 OWNER REVIEW: 19 APR. 2021
 OWNER REVIEW: 20 APR. 2021
 OWNER REVIEW: 22 APR. 2021
 SITE PLAN REVIEW: 05 MAY 2021
 SITE PLAN REVIEW: 05 JUN. 2021

project:

Proposed
Commercial Development
 NEC Rochester Rd. & Avon Rd.
 Rochester Hills, Michigan



32600 TELEGRAPH ROAD
 SUITE 250
 BINGHAM FARMS, MICHIGAN
 48025-2404
 PH 248.540.7700 FX 248.540.2710
 www.rogvoy.com



drawing:

First Level Floor Plan

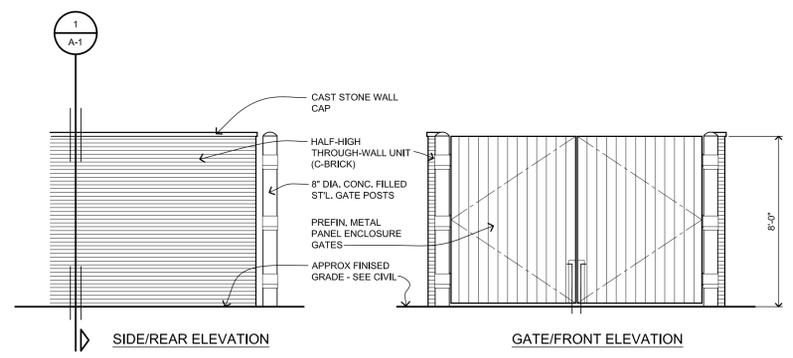
DO NOT SCALE DRAWING

issue date:
 drawn: KL
 checked: MD
 approved: MD

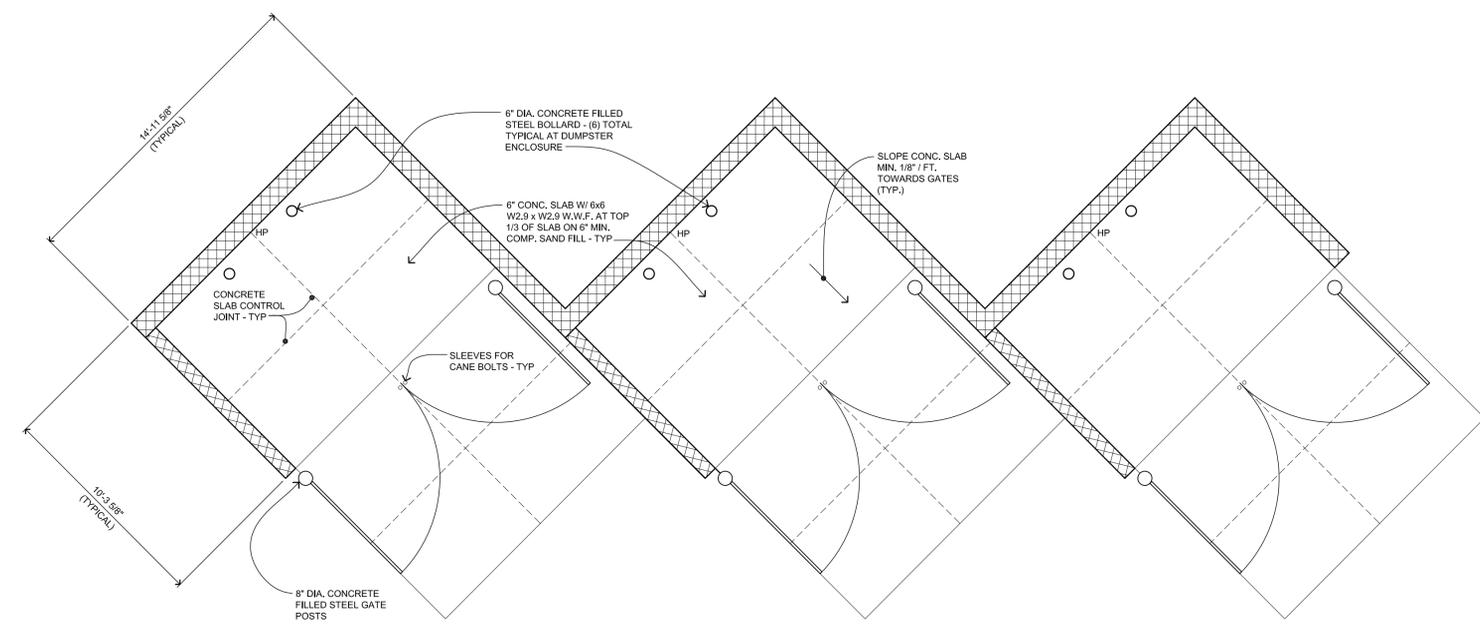
file number: 19026

sheet:

A-1



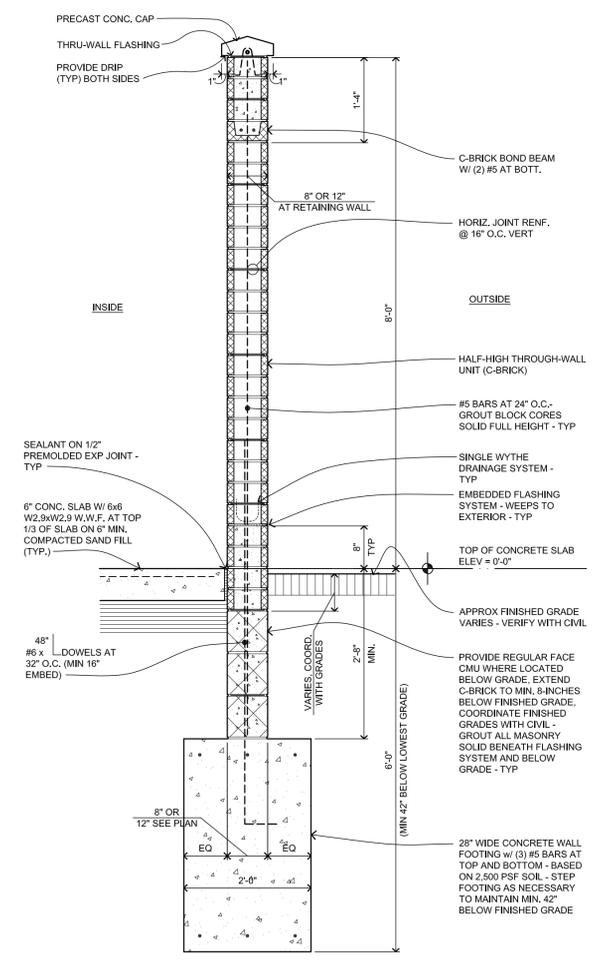
2
 Dumpster Enclosure Elevations
 1/4" = 1'-0"



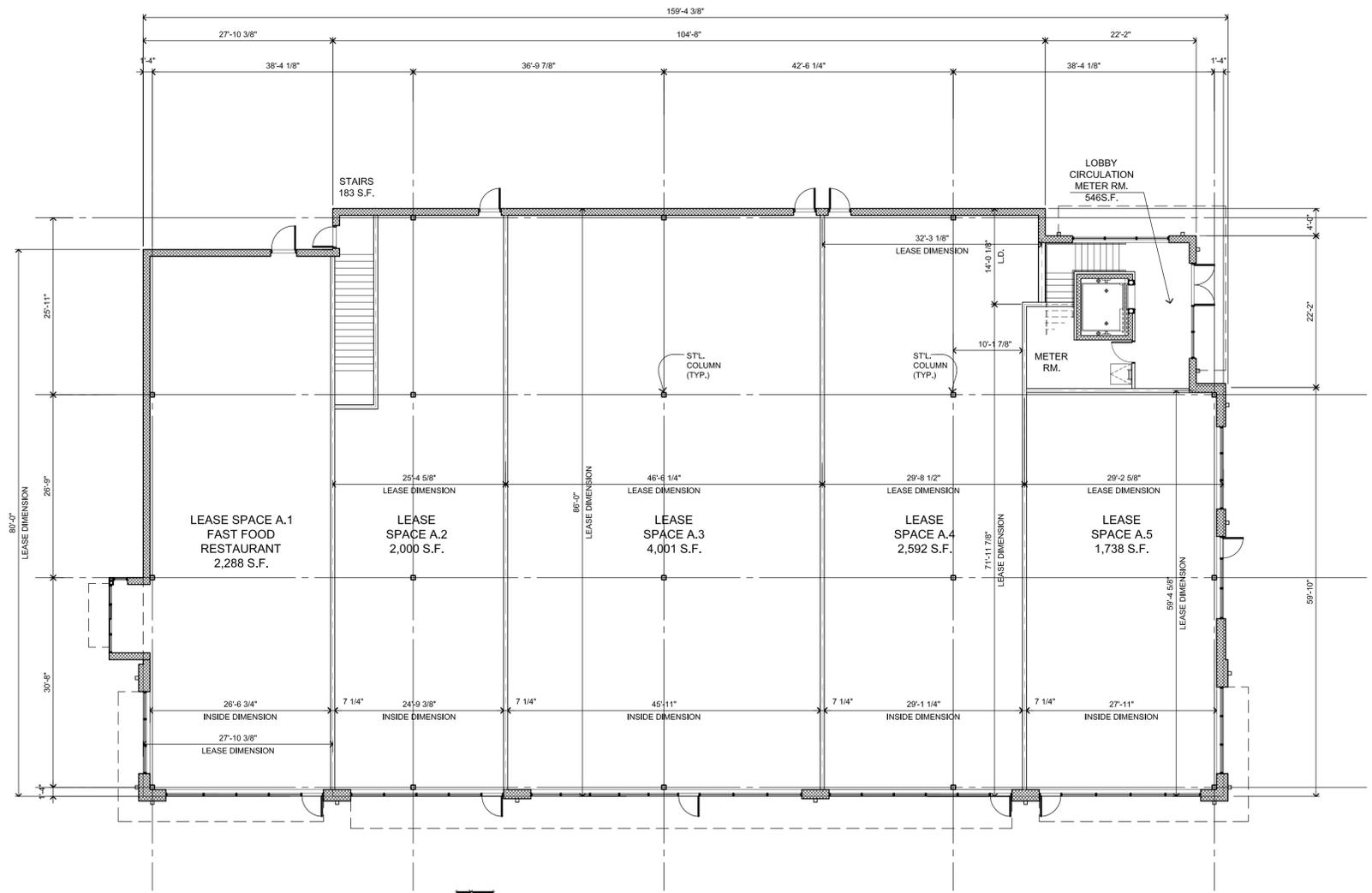
Dumpster Enclosure Plan View

Scale: 1/4"=1'-0"

SEE SITE PLAN FOR ORIENTATION AND LOCATION, TYP.



1
 Dumpster Enclosure Wall Section
 3/4" = 1'-0"



1st Level Floor Plan

GFA : 13,348 S.F.
 GLA : 12,619 S.F.

Scale: 3/32"=1'-0"

issued for:
 OWNER REVIEW: 11 SEPT. 2020
 OWNER REVIEW: 01 FEB. 2021
 OWNER REVIEW: 11 FEB. 2021
 SITE PLAN REVIEW: 05 MAY 2021
 SITE PLAN REVIEW: 15 JUN. 2021
 SITE PLAN REVIEW: 21 JUL. 2021

project:

Proposed
Commercial Development

NEC Rochester Rd. & Avon Rd.
 Rochester Hills, Michigan



32500 TELEGRAPH ROAD
 SUITE 250
 BINGHAM FARMS, MICHIGAN
 48025-2404
 PH 248.540.7700 FX 248.540.2710
 www.rogvoy.com



drawing:

**Second Level
 Floor Plan**

DO NOT SCALE DRAWING

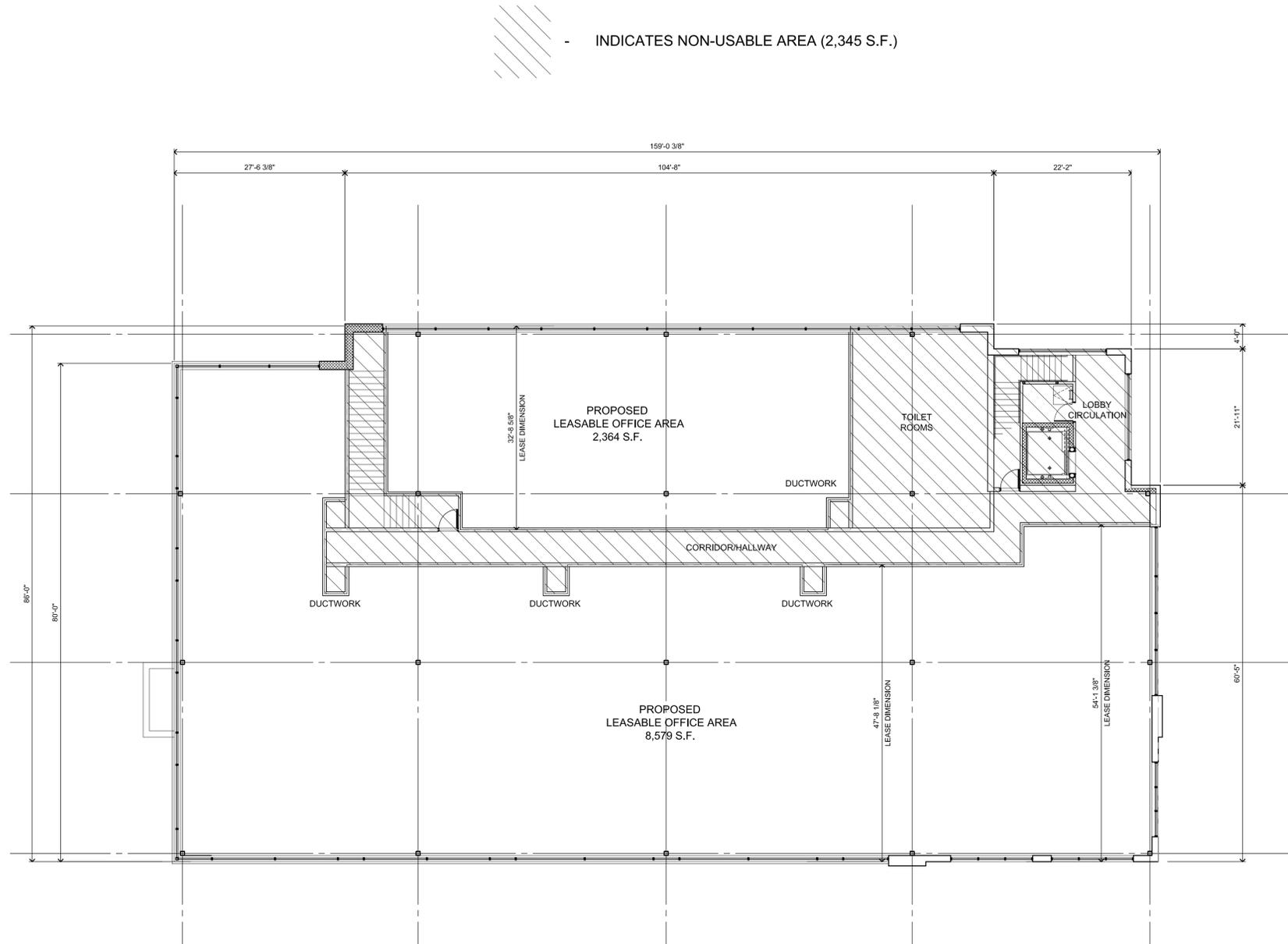
issue date:
 drawn: KL
 checked: MD
 approved: MD

file number: 19026

sheet:

A-2

Building Code Compliance	
BUILDING CODE REFERENCES THE FOLLOWING IS THE CODE ANALYSIS FOR THE PROPOSED BUILDING SHELL UNDER THE CURRENT CODE:	
MICHIGAN BUILDING CODE INCORPORATING THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE	
UNIFORM FEDERAL ACCESSIBILITY STANDARDS AMERICANS WITH DISABILITIES ACT (ADAAG, 2010)	
AMERICAN NATIONAL STANDARD - ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES (ANSI A117.1-2009)	
MICHIGAN MECHANICAL CODE RULES INCORPORATING THE 2015 EDITION OF THE INTERNATIONAL MECHANICAL CODE	
MICHIGAN PLUMBING CODE INCORPORATING THE 2015 EDITION OF THE INTERNATIONAL PLUMBING CODE	
MICHIGAN ELECTRICAL CODE INCORPORATING THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE WITH PART 8 AMENDMENTS	
INTERNATIONAL FIRE CODE - 2015	
FIRE SUPPRESSION - NFPA 13 - 2015 MBC	
FIRE ALARM - NFPA 72 - 2015 MBC	
ENERGY CODE - MEC 2015 (MICHIGAN ENERGY CODE - CHAPTER 4, COMMERCIAL ENERGY EFFICIENCY COMPLYING WITH THE REQUIREMENTS OF ANSI/ASHRAE/IESNA 90.1-2013.	
PROPOSED BUILDING PROPERTIES	
PROPOSED:	MIXED-OCCUPANCY, MULTISTORY BUILDING (\$ 506.2.4)
CONSTRUCTION CLASSIFICATION:	II B (\$ 602.2)
PROPOSED TOTAL BUILDING AREA	
FIRST FLOOR:	13,348 GSF
SECOND FLOOR:	13,288 GSF
TOTAL BUILDING AREA:	26,636 SF
STORIES:	2-STORIES ABOVE GRADE PLAN
PROPOSED OCCUPANCIES	
FIRST FLOOR:	A-2, ASSEMBLY & M, MERCANTILE (303.3 & 309.1)
SECOND FLOOR:	B, BUSINESS (304.1)
ALLOWABLE HEIGHT, STORIES AND AREA	
ALLOWABLE HEIGHT:	75-FEET (S, SPRINKLERED) (T 504.3)
ALLOWABLE NUMBER OF STORIES:	3-STORIES (S, SPRINKLERED) (T 504.4)
ALLOWABLE AREA PER STORY:	28,500 SF (SM, SPRINKLERED) (T 506.2) (NOT EXCEEDING THREE STORIES)
<ul style="list-style-type: none"> ALLOWABLE HEIGHT, STORIES, AND AREA BASED ON THE MOST RESTRICTIVE PROPOSED OCCUPANCY, A-2 ASSEMBLY. 	
ALLOWABLE AREA WITH FULL OPEN PERIMETER & SPRINKLER:	35,625 SF (\$506.3.3)
ALLOWABLE AREA CALCULATIONS PER PROPOSED SCHEMATIC PLAN	
FIRST STORY:	GROUP A-2 OCCUPANCY 6,880 SF TOTAL PROPOSED GROUP M OCCUPANCY 5,739 SF TOTAL PROPOSED TOTAL SF WITH LOBBY: 13,348 SF
<ul style="list-style-type: none"> COMBINED OCCUPANCIES' TOTAL FIRST FLOOR AREA IS LESS THAN THAT PERMITTED FOR THE MOST RESTRICTIVE OCCUPANCY NOTED ABOVE. FIRST FLOOR QUALIFIES FOR NON-SEPARATED OCCUPANCY DESIGN METHOD. 	
SECOND STORY:	GROUP B OCCUPANCY 10,943 SF TOTAL PROPOSED TOTAL SF INCLUDING NON-USABLE AREA: 13,288 SF
<ul style="list-style-type: none"> TOTAL SECOND FLOOR AREA IS LESS THAN THAT PERMITTED FOR THE MOST RESTRICTIVE OCCUPANCY NOTED ABOVE. SECOND FLOOR QUALIFIES FOR NON-SEPARATED OCCUPANCY DESIGN METHOD. 	
MIXED USE AND OCCUPANCY (\$ 508)	
SEPARATION:	NON-SEPARATED OCCUPANCIES (\$ 508.3)
<ul style="list-style-type: none"> NO SEPARATION IS REQUIRED BETWEEN NON-SEPARATED USES. 	
FIRE SUPPRESSION AND FIRE ALARM REQUIREMENTS	
SUPPRESSION SYSTEM:	FULLY SPRINKLERED (NFPA 13) (\$ 903)
<ul style="list-style-type: none"> FIRE SUPPRESSION SYSTEM TO BE PROVIDED THROUGHOUT THE BUILDING AREA AS REQUIRED PER THE CODE (& NFPA 13) FOR THE MOST RESTRICTIVE USE. FIRE SUPPRESSION SYSTEM IS A DEFERRED SUBMITTAL BY THE FIRE SUPPRESSION CONTRACTOR. 	
FIRE ALARM SYSTEM:	FULLY ALARMED (AS REQUIRED BY CODE) (\$ 907)
<ul style="list-style-type: none"> FIRE ALARM SYSTEM TO BE PROVIDED THROUGHOUT THE BUILDING AREA AS REQUIRED PER THE CODE (& NFPA 72) FOR THE MOST RESTRICTIVE USE. FIRE ALARM SYSTEM IS A DEFERRED SUBMITTAL BY THE FIRE ALARM CONTRACTOR. 	
FIRE RESISTANCE RATING REQUIREMENTS (T601)	
CONSTRUCTION TYPE: II B	
STRUCTURAL FRAME	= 0 HR
BEARING WALLS	
EXTERIOR	= 0 HR
INTERIOR	= 0 HR
NON-BEARING WALLS & PARTITIONS	
EXTERIOR	= 0 HR
INTERIOR	= 0 HR
FLOOR CONSTRUCTION	= 0 HR
ROOF CONSTRUCTION	= 0 HR

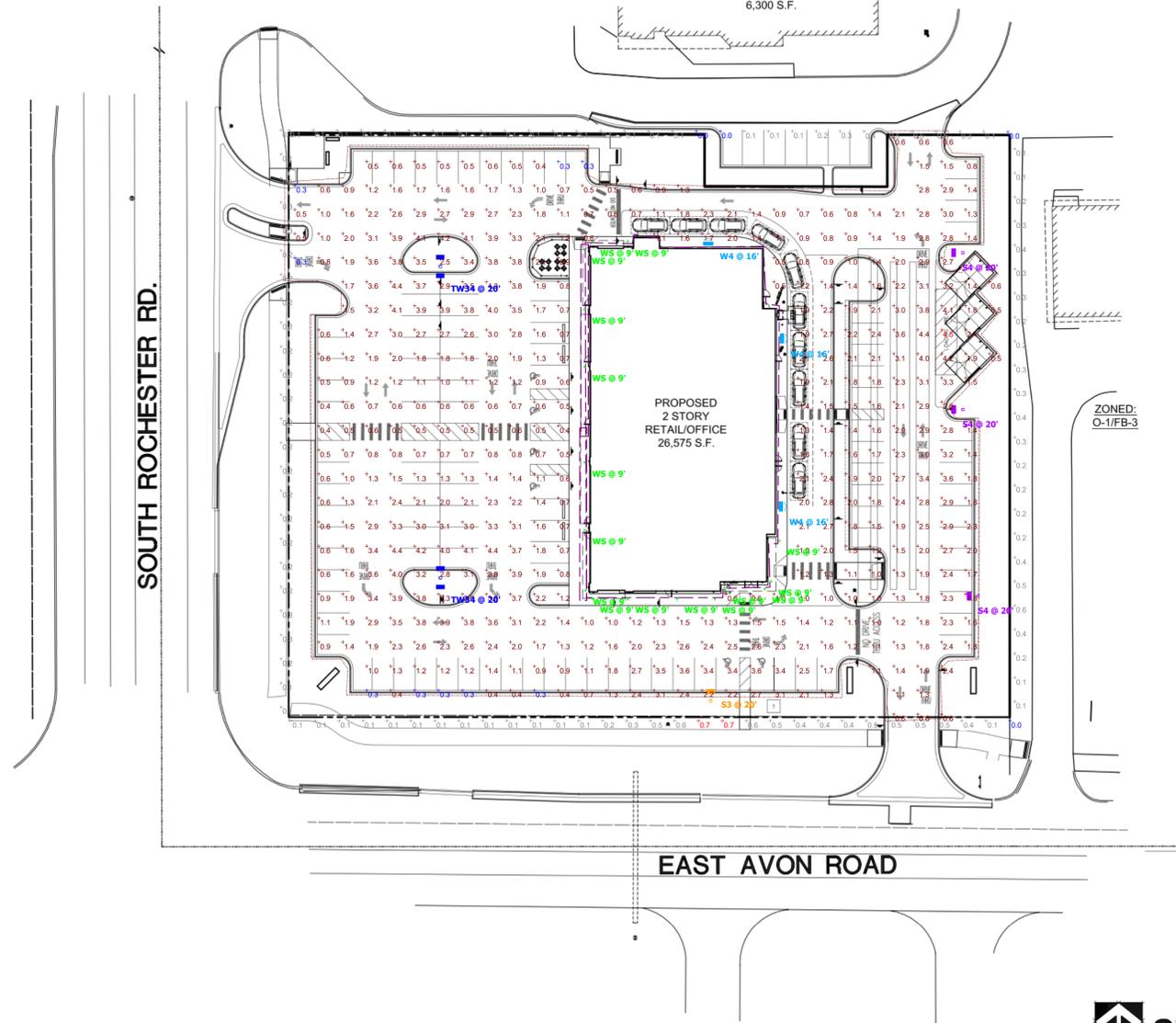


2nd Level Floor Plan
 GFA : 13,288 S.F.
 GLA : 10,943 S.F.
 Scale: 3/32"=1'-0"

G:\Drawings\2019\19026\02_Scheme\Elevations\19026 Elev-Floor Plan 21-0721.dwg, 7/21/2021 9:16:53 AM, krtshen

Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Lumen Multiplier	Light Loss Factor	Wattage	Efficiency	Distribution	Plot	Notes
	TW34		2	HUBBELL OUTDOOR	[...]	[...]	[...]	1	[...]	[...]	1	0.92	197.3	100%			
	ASL1-160L-100-4K7-3-U			HUBBELL OUTDOOR	ASL1-160L-100-4K7-3-U		B-70-CRI	1	ASL1-160L-100-4K7-3.ies	12012	1	0.92	87.6	100%			
	ASL1-160L-115-4K7-4W-U			HUBBELL OUTDOOR	ASL1-160L-115-4K7-4W-U		B-70-CRI	1	ASL1-160L-115-4K7-4W.ies	15234	1	0.92	109.7	100%			
	S4		3	HUBBELL OUTDOOR	ASL1-160L-100-4K7-4W-U		B-70-CRI	1	ASL1-160L-100-4K7-4W.ies	11788	1	0.92	87.6	100%			
	S3		1	HUBBELL OUTDOOR	ASL1-160L-100-4K7-3-U		B-70-CRI	1	ASL1-160L-100-4K7-3.ies	12012	1	0.92	87.6	100%			
	W4		3	HUBBELL OUTDOOR	LNCA-36L-4K-035-3-U	Large LNCA Litepak	C-70-CRI	1	LNCA-36L-4K-035-3-U.ies	4632	1	0.92	40.3	100%			
	WS		16	Ultralights Lighting, 320 S Plumer Ave, Tucson, AZ 85719	19414	Ultralights Lighting - Wall sconce luminaire. Product ID: 19413 Brown formed steel housing with flat white plastic lens top and bottom. 48 LEDs with single row of 24 mounted at top and at bottom. One Fulham driver. Model: 1111200700-18CA Operating at 120v AC and 60 Hz.		48	19414_16.BW-Ultralights.ies	3	1	0.5	18.8	100%			

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	1.8 fc	4.5 fc	0.3 fc	15.0:1	6.0:1
Property Line	+	0.2 fc	0.7 fc	0.0 fc	N/A	N/A



SITE PLAN

SCALE: 1"=30'-0"

Plan View
Scale - 1" = 35ft

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