

PRELIMINARY SITE PLANS FOR

HILLSIDE ROCHESTER HILLS

PART OF THE NW 1/4 OF SECTION 30, T. 03 N., R. 11 E.,
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

OWNER:

HILLSIDE INVESTMENTS
39475 THIRTEEN MILE ROAD, SUITE 203
NOVI, MI 48377
CONTACT: DAVID HARDIN
PHONE: (248) 904-5724
EMAIL: DAVID@HILLSIDE-INVESTMENTS.COM

ARCHITECTS:

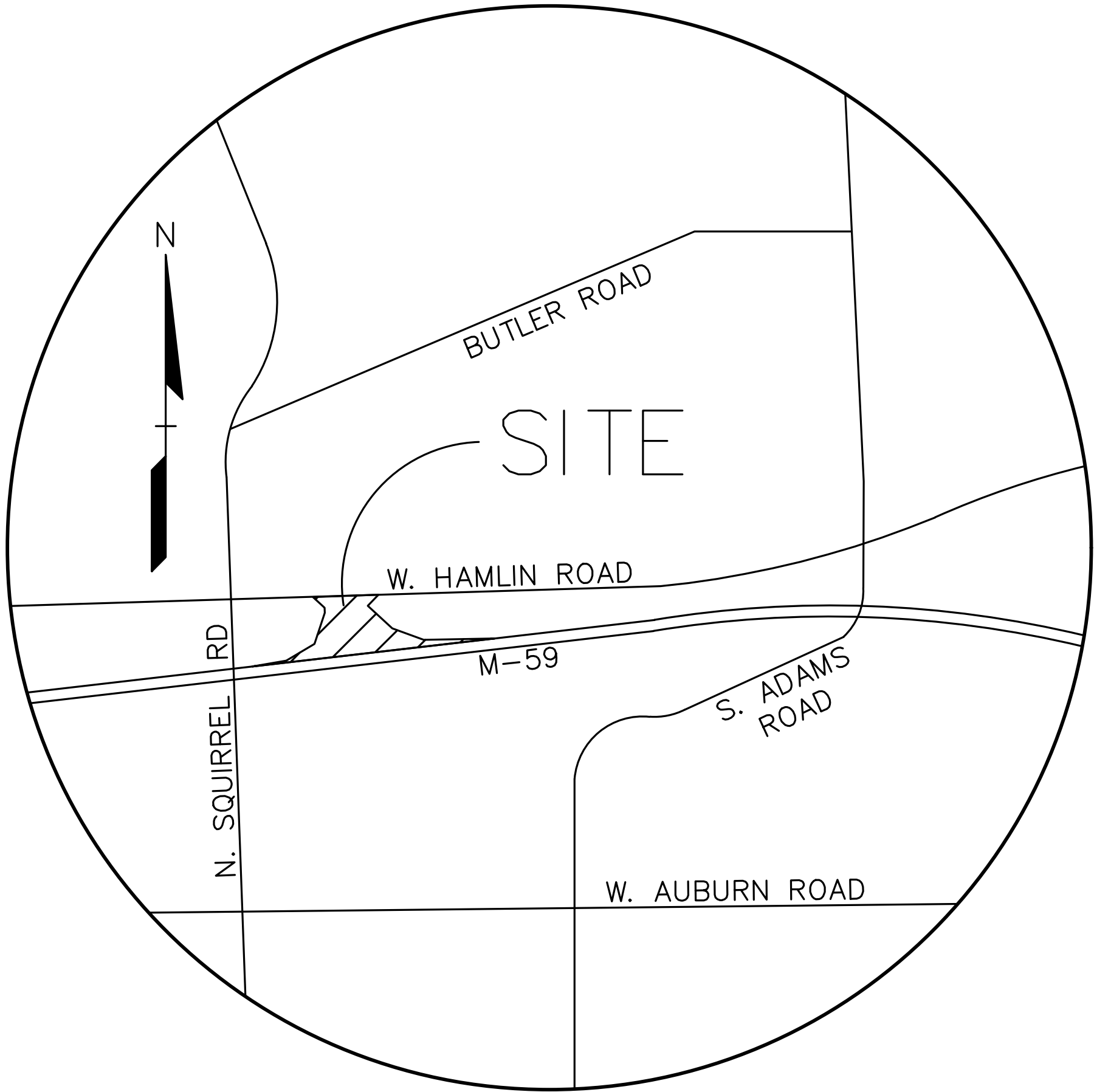
FAUDIE ARCHITECTS
26261 EVERGREEN RD, SUITE 123
SOUTHFIELD, MI 48076
CONTACT: BRIAN LIMING
PHONE: (248) 619-2354
EMAIL: BLIMING@FAUDIEARCHITECTURE.COM

CIVIL ENGINEER:

PEA, INC.
2430 ROCHESTER CT, SUITE 100
TROY, MI 48083
CONTACT: JAMES P. BUTLER, P.E.
PHONE: (248) 689-9090 EXT. 133
EMAIL: JBUTLER@PEAINC.COM

LANDSCAPE ARCHITECT:

PEA, INC.
7927 NEMCO WAY, SUITE 115
BRIGHTON, MI 48116
CONTACT: JAMES GOFF, PLA
PHONE: (517) 546-8583
EMAIL: JGOFF@PEAINC.COM



LOCATION MAP
NO SCALE

INDEX OF DRAWINGS:

- C-0.0 COVER SHEET
- C-1.0 TOPOGRAPHIC SURVEY
- C-2.0 OVERALL SITE PLAN
- C-2.1 DIMENSION AND PAVING PLAN
- C-3.0 FIRE PROTECTION PLAN
- C-4.0 PRELIMINARY GRADING PLAN
- C-5.0 PRELIMINARY UTILITY PLAN
- C-6.0 NOTES AND DETAILS
- C-6.1 NOTES AND DETAILS
- L-1.0 PRELIMINARY LANDSCAPE PLAN
- L-1.1 LANDSCAPE DETAILS
- T-1.0 TREE SURVEY PLAN
- T-1.1 EXISTING TREE LIST
- T-1.2 EXISTING TREE LIST
- SL-1.0 PHOTOMETRIC PLAN
- SL-1.1 PHOTOMETRIC DETAILS

ARCHITECTURAL PLANS:

- BASE OPTION: (NO UNDERGROUND PARKING)
- PFP-6A PROPOSED FIRST FLOOR PLAN
 - PFP-6B PROPOSED SECOND/THIRD FLOOR PLAN
 - PE-7 PROPOSED ELEVATION PLAN

LAND BANKED OPTION: (WITH UNDERGROUND PARKING)

- PFP-5A PROPOSED PARKING DECK PLAN
- PFP-5B PROPOSED FLOOR PLAN
- PE-9 PROPOSED ELEVATION PLAN

NO.	BY	DATE	REVISIONS
1	DES	7/23/20	DESIGN DEVELOPMENT
2	DES	6/29/20	REVISED SPA TO CITY
3	GMB	6/29/20	CITY COMMENTS



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

THIS DRAWING AND DESIGN ARE THE PROPERTY OF PEA, INC. THEY ARE SUBMITTED ON THE CONDITION THAT THEY ARE NOT TO BE USED, REPRODUCED, OR COPIED IN WHOLE OR IN PART, OR USED FOR FURNISHING INFORMATION TO OTHERS, WITHOUT THE PRIOR WRITTEN CONSENT OF PEA, INC. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED. © 2019 PEA, INC.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THE REQUIREMENT SHALL BE MADE TO APPLY CONTRACTORS AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL OR ALLIED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

3 FULL WORKING DAYS BEFORE YOU DIG CALL

811
Know what's below
Call before you dig
MISS Dig System, Inc.
1-800-482-7171 www.missdig.net
(1021-4784)



PEA, Inc.
2430 Rochester Ct, Ste 100
Troy, MI 48083-1872
t: 248.689.9090
f: 248.689.1044
www.peainc.com

HILLSIDE INVESTMENTS 39475 13 MILE ROAD, SUITE 203 NOVI, MI 48377		COVER SHEET HILLSIDE ROCHESTER HILLS PART OF THE NW 1/4 OF SECTION 30, T. 03 N., R. 11 E., CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN		DES	GMB	DN	KRD	SUR	WC	P.M	TDS
---	--	---	--	-----	-----	----	-----	-----	----	-----	-----

ORIGINAL ISSUE DATE:
OCTOBER 24, 2019

PEA JOB NO. 2019-238

SCALE: N.T.S.

DRAWING NUMBER:

C-0.0

LEGAL DESCRIPTION

(per First American Title Commitment Company, Commitment No. TC13-87079, Date May 21, 2019)

Land situated in the City of Rochester Hills, County of Oakland, State of Michigan, described as follows:

A parcel of land in the Northeast and Northwest Quarter of Section 30, Town 3 North, Range 11 East, Avon Township, now City of Rochester Hills, Oakland County, Michigan, described as: Commencing at the West Quarter corner of said Section 30; thence North 01 degree 33 minutes 09 seconds West, along the West line of said Section 30, 316.00 feet to the East Quarter Corner of Section 25, Town 3 North, Range 10 East; thence North 01 degree 46 minutes 02 seconds West, along the West line of said Section 30, 687.40 feet to a point on the North right-of-way line of Highway M-59; thence North 84 degrees 10 minutes 26 seconds East, along said right-of-way line, 159.33 feet; thence North 81 degrees 03 minutes 35 seconds East, along said right-of-way line, 645.24 feet to the Point of Beginning; thence continuing North 81 degrees 03 minutes 35 seconds East, 308.58 feet; thence North 60 degrees 07 minutes 32 seconds East, 295.77 feet; thence North 18 degrees 57 minutes 45 seconds East, 295.77 feet; thence North 01 degree 37 minutes 09 seconds West, 45.51 feet; thence North 46 degrees 37 minutes 09 seconds West, 141.41 feet; thence North 88 degrees 22 minutes 51 seconds East, along a line which is 75.00 feet Southerly of, measured at right angles, and parallel to the centerline of Hamlin Road, 590.00 feet; thence South 43 degrees 22 minutes 51 seconds West, 141.41 feet; thence South 46 degrees 37 minutes 09 seconds East, 300.00 feet; thence South 69 degrees 21 minutes 39 seconds East, 300.00 feet; thence North 89 degrees 42 minutes 51 seconds East, 639.84 feet; thence South 84 degrees 10 minutes 26 seconds West, along a line which is 185.00 feet Northerly of, measured at right angles, and parallel to the Median centerline of Highway M-59, a distance of 2,195.94 feet to the Point of Beginning.

Containing ±9.00 acres of land.

BENCHMARKS

(GPS DERIVED - NAVD88)

BM #300
CROSS CUT + IN TOP OF LIGHT POLE BASE ON EAST SIDE OF BASE, WEST SIDE PARKING LOT OF #3499 WEST HAMLIN ROAD.
ELEV. - 888.20

BM #301
BENCHMARK ON NORTHWEST SIDE UTILITY POLE, SOUTH SIDE OF HAMLIN ROAD.
ELEV. - 884.10

BM #302
ARROW ON HYDRANT WITH DIMPLE, ±88' SOUTHEAST OF UTILITY POLE ON SOUTH SIDE OF HAMLIN ROAD, EAST SIDE OF PARKING LOT OF #3895 WEST HAMLIN ROAD.
ELEV. - 882.30

FLOODPLAIN NOTE:

BY GRAPHICAL PLOTTING, SITE IS WITHIN ZONE 'X'. AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN PER FLOOD INSURANCE RATE MAP NUMBER 26125C389F, DATED SEPTEMBER 29, 2006.

BASIS OF BEARING:

THE BASIS OF BEARING FOR THE ESTABLISHMENT OF THE PROPERTY BOUNDARY IS THE VESTING DEED PROVIDED FROM MDOT. THE SOURCE IS RELATIVE TO THE MDOT RIGHT-OF-WAY FOR M-59.

SITE DATA TABLE:

SITE AREA: 9.00 ACRES (392,207 SF) NET AND GROSS DEVELOPED AREA = 7.94 ACRES

ZONING:
SITE: ORT, OFFICE, RESEARCH & TECHNOLOGY
NORTH: R-2, ONE-FAMILY RESIDENTIAL
EAST: ORT, OFFICE, RESEARCH & TECHNOLOGY
WEST: ORT, OFFICE, RESEARCH & TECHNOLOGY

PROPOSED USE: OFFICE (150,000 SF)

BUILDING INFORMATION:
MAXIMUM ALLOWABLE BUILDING HEIGHT = 40' (3 STORIES)
PROPOSED BUILDING HEIGHT = 61'-0" (4 STORIES)*

*PER SECTION 138-5.100(V), APPLICANT IS REQUESTING A HEIGHT MODIFICATION FROM THE PLANNING COMMISSION TO EXCEED THE MAXIMUM HEIGHT OF 40 FEET.

SETBACK REQUIREMENTS:	REQUIRED	PROVIDED
FRONT SETBACK (NORTH):	30'	288.47'
SIDE SETBACK (EAST):	0'	127.20'
SIDE SETBACK (WEST):	0'	57.08'
REAR SETBACK (SOUTH):	30'	102.35'
PARKING SETBACK	10'	10.00'

PARKING CALCULATIONS:
OFFICE = 1 SPACE PER 350 SF FLOOR AREA
PARKING REQUIRED = 150,000 / 350 = 428.57 ~ 429 SPACES

PARKING PROVIDED = 486 SURFACE SPACES
= 126 LANDBANKED SPACES (UG PARKING)
= 612 SPACES

ADA PARKING REQUIRED:
5 + 2% OF TOTAL PARKING PROVIDED
= 5 + [(486+126) * 0.02] = 17.24 ~ 17 SPACES

ADA PARKING PROVIDED:
15 SPACES (SURFACE) AND 5 SPACES (UG PARKING)

FIRE DEPARTMENT NOTES:

- FIRE LANES SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE, WITH FIRE LANE SIGNS SPACED NOTMORE THAN 100 FEET APART, FIRE LANE SIGNS SHALL READ "NO STOPPING, STANDING, PARKING, FIRE LANE", AND IN CONFORMANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 503.
- CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH IFC CHAPTER 14.
- OPEN BURNING IS NOT PERMITTED, INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING MATERIALS. OPEN BURNING FOR WARMING OF SAND AND/OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES. CONTACT ROCHESTER HILLS FIRE DEPARTMENT FOR PERMIT INFORMATION. FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 307.6.2 & 307.6.2.3
- A KNOX KEY SYSTEM SHALL BE INSTALLED AT THE BUILDING IN A LOCATION APPROVED BY THE FIRE CODE OFFICIAL. ORDERING INFORMATION IS AVAILABLE KNOXBOX.COM.

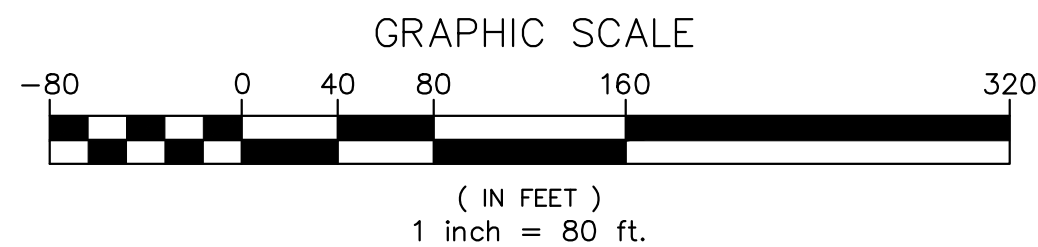
NOTE:

SEE SHEET C-2.1 FOR DETAILED SITE PLAN INFORMATION.

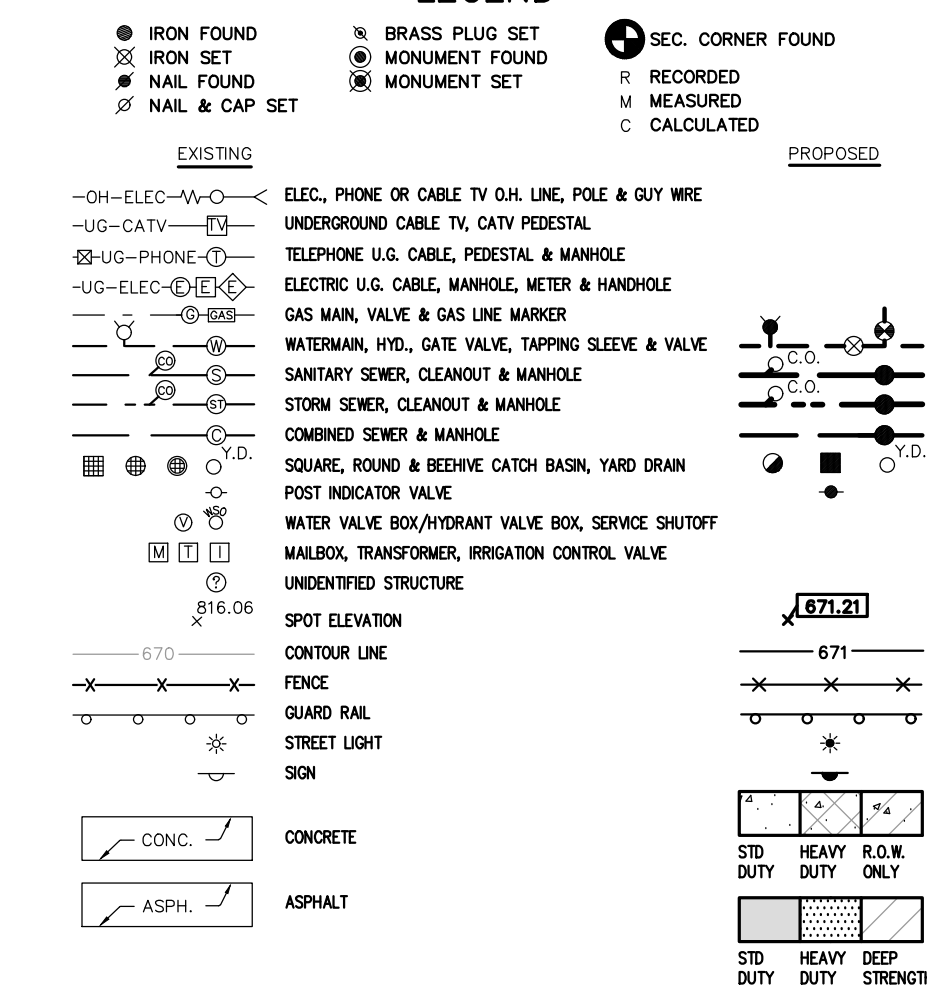
GENERAL NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

- ALL DIMENSIONS SHOWN ARE TO BACK OF CURB, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF ROCHESTER HILLS CURRENT STANDARDS AND REGULATIONS.
- THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- ANY WORK WITHIN THE STREET OR HIGHWAY RIGHT-OF-WAYS 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.
- ALL SIGNS MUST MEET SECTION 138-8.603 AND CHAPTER 134 OF THE CITY CODE OF ORDINANCES AND BE APPROVED UNDER A SEPARATE PERMIT ISSUED BY THE BUILDING DEPARTMENT.

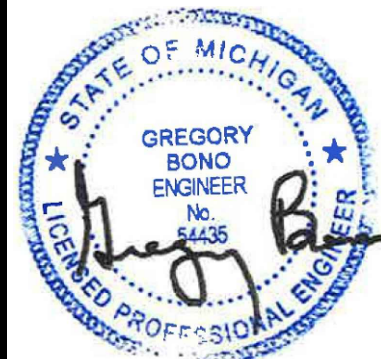


LEGEND



REFERENCE DRAWINGS

WATERMAIN	CITY OF ROCHESTER HILLS MISS DIG DESIGN TICKET B91631806, PDF DATED 6-25-19
SANITARY	CITY OF ROCHESTER HILLS MISS DIG DESIGN TICKET B91631806, PDF DATED 6-25-19
STORM SEWER	CITY OF ROCHESTER HILLS MISS DIG DESIGN TICKET B91631806, PDF DATED 6-25-19
CABLE	COMCAST, PDF 20190623094809, DATE 6-25-19 ATT MAP LOCATION: 3895-3499 W HAMLIN ROAD/OLD ADAMS ROAD, DATED 6-13-19, PREPARED BY JN2629
ELECTRIC	DTE ENERGY MISS DIG TICKET-B9163180-006, MAP #301-418, DATED 6-26-19 HAVE NOT RECEIVED YET AS OF 7-30-19
GAS	ALTA/ACSM LAND TITLE SURVEY, PEA, PROJECT NO. 19-238, DATED 7-3-19
SURVEY	ALTA/ACSM LAND TITLE SURVEY, PARTNER ENGINEERING PROJECT NO. 15-150662.1, DATE OF PLAT OR MAP: NOVEMBER 12, 2015, FIELD DATE OF SURVEY: NOVEMBER 12, 2015 SITE GRADING PLAN, DWMATTA ASSOCIATES, PROJECT NO. 98091, SHEET NO. C3, LATE DATED 12/12/2001, CITY FILE NO. 00-009, SECTION 30
FLOODPLAIN	FEMA F.I.R.M. 26125C389F, DATED SEPTEMBER 29, 2006



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

THIS DRAWING AND DESIGN ARE THE PROPERTY OF PEA, INC. THEY ARE NOT TO BE REPRODUCED, COPIED, REPRODUCED, OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF PEA, INC. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED. © 2018 PEA, INC.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS CURRENT STANDARDS AND REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS PRIOR TO THE START OF CONSTRUCTION.

3 FULL WORKING DAYS BEFORE YOU DIG CALL

811
Know what's below
Call before you dig
MISS DIG System, Inc.
1-800-482-7171 www.missdig.net

MISS DIG System, Inc.

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

1-800-482-7171 www.missdig.net

LEGAL DESCRIPTION
(per First American Title Commitment Company, Commitment No. TC13-87079, Date May 21, 2019)

Land situated in the City of Rochester Hills, County of Oakland, State of Michigan, described as follows:

A parcel of land in the Northeast and Northwest Quarter of Section 30, Town 3 North, Range 11 East, Avon Township, now City of Rochester Hills, Oakland County, Michigan, described as: Commencing at the West Quarter corner of said Section 30; thence North 01 degree 33 minutes 09 seconds West, along the West line of said Section 30, 316.00 feet to the East Quarter Corner of Section 25, Town 3 North, Range 10 East; thence North 01 degree 46 minutes 02 seconds West, along the West line of said Section 30, 687.40 feet to a point on the North right-of-way line of Highway M-59; thence North 84 degrees 10 minutes 28 seconds East, along said right-of-way line, 159.33 feet; thence North 81 degrees 03 minutes 35 seconds East, along said right-of-way line, 645.24 feet to the Point of Beginning; thence continuing North 81 degrees 03 minutes 35 seconds East, 308.58 feet; thence North 60 degrees 07 minutes 32 seconds East, 295.77 feet; thence North 18 degrees 57 minutes 45 seconds East, 295.77 feet; thence North 01 degree 37 minutes 09 seconds West, 45.51 feet; thence North 46 degrees 37 minutes 09 seconds West, 141.42 feet; thence North 88 degrees 22 minutes 51 seconds East, along a line which is 75.00 feet Southerly of, measured at right angles, and parallel to the centerline of Hamlin Road, 590.00 feet; thence South 43 degrees 22 minutes 51 seconds West, 141.41 feet; thence South 46 degrees 37 minutes 09 seconds East, 300.00 feet; thence South 69 degrees 21 minutes 39 seconds East, 300.00 feet; thence North 89 degrees 42 minutes 51 seconds East, 639.84 feet; thence South 84 degrees 10 minutes 28 seconds West, along a line which is 185.00 feet Northerly of, measured at right angles, and parallel to the Median centerline of Highway M-59, a distance of 2,195.94 feet to the Point of Beginning.

Containing ±9.00 acres of land.

BENCHMARKS
(GPS DERIVED - NAVD88)

BM #300
CROSS CUT + IN TOP OF LIGHT POLE BASE
ON EAST SIDE OF BASE, WEST SIDE PARKING
LOT OF #3499 WEST HAMLIN ROAD.
ELEV. - 888.20

BM #301
BENCHMARK ON NORTHWEST SIDE UTILITY POLE,
SOUTH SIDE OF HAMLIN ROAD.
ELEV. - 884.10

BM #302
ARROW ON HYDRANT WITH DIMPLE, ±88'
SOUTHEAST OF UTILITY POLE ON SOUTH
SIDE OF HAMLIN ROAD, EAST SIDE OF
PARKING LOT OF #3895 WEST HAMLIN ROAD.
ELEV. - 882.30

FLOODPLAIN NOTE:

BY GRAPHICAL PLOTTING, SITE IS WITHIN ZONE 'X'. AREA
DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE
FLOODPLAIN PER FLOOD INSURANCE RATE MAP NUMBER
26125C389F, DATED SEPTEMBER 29, 2006.

ACCESSIBLE DOOR LEGEND:

INDICATES ACCESSIBLE ACCESS DOOR (A)
INDICATES ACCESSIBLE ROUTE
REFER TO ARCHITECTURAL PLANS FOR FURTHER
DETAILS.
GRADES AT DOOR MAY NOT EXCEED 2% IN ANY
DIRECTION.

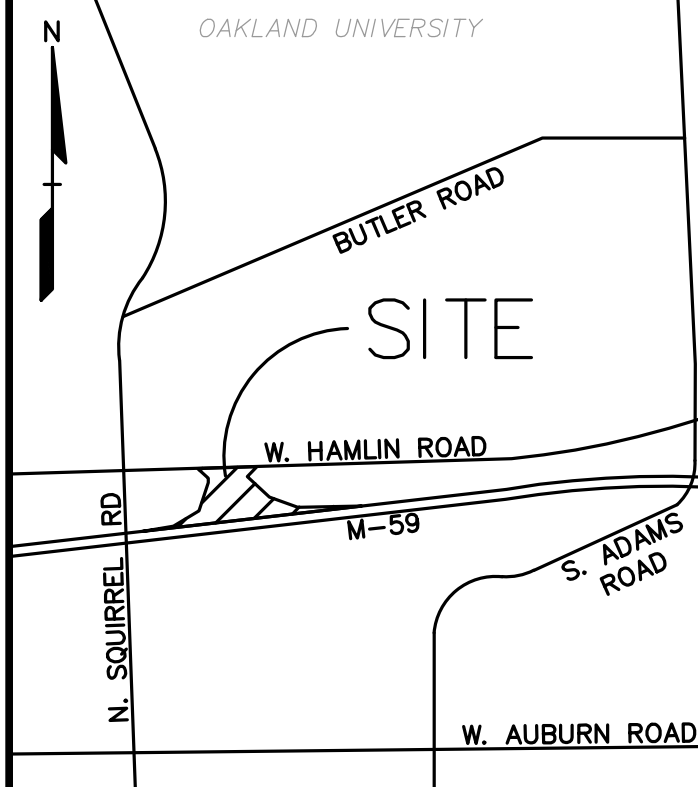
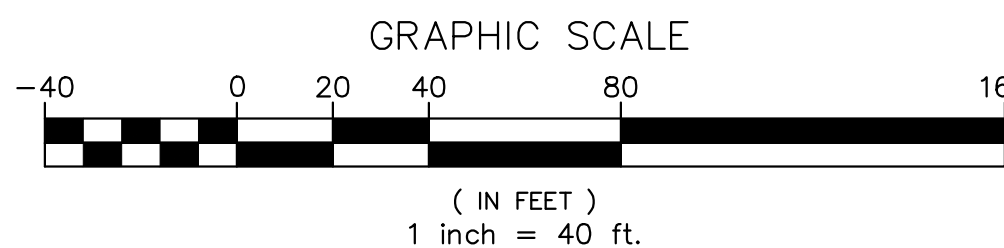
SIDEWALK RAMP LEGEND:

SIDEWALK RAMP 'TYPE R'
SIDEWALK RAMP 'TYPE P'
REFER TO LATEST M.D.O.T. R-28 STANDARD
RAMP AND DETECTABLE WARNING DETAILS
ON SHEET C-6.1.

NOTE: RAMPS AND LANDINGS IN THE R.O.W.
SHALL BE 8" THICK CONCRETE OVER 4"
21AA AGGREGATE BASE

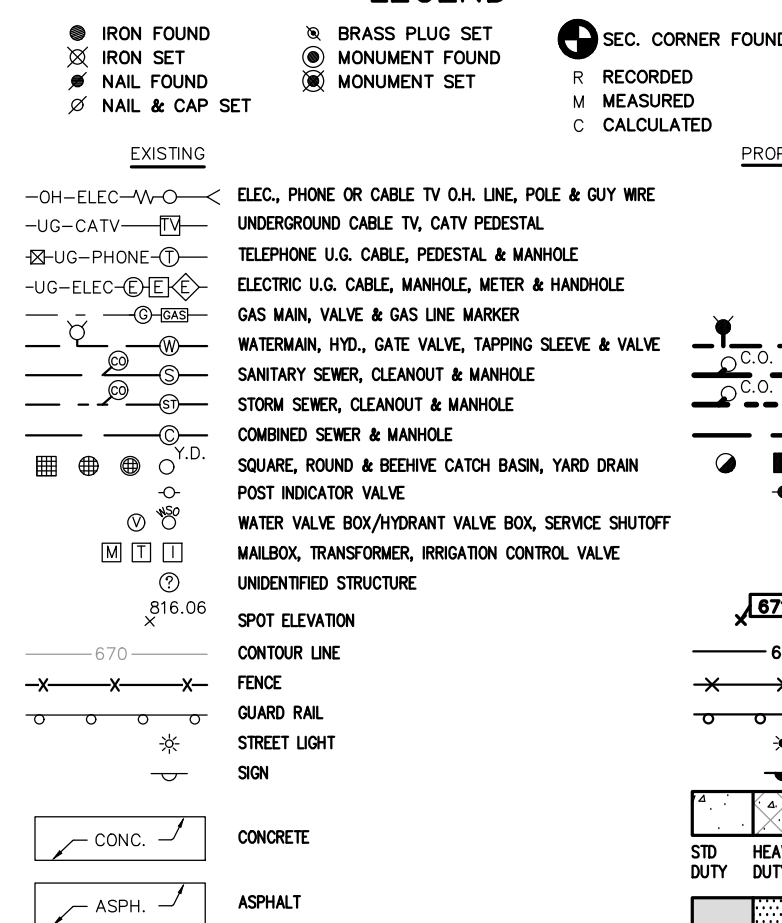
SIGN LEGEND:

'NO STOPPING STANDING PARKING' SIGN (1)
'FIRE LANE' SIGN
'BARRIER FREE PARKING' SIGN
(VAN ACCESSIBLE)
'CROSSWALK' SIGN
'STOP' SIGN
REFER TO SHEET C-6.0 FOR SIGN DETAILS



LOCATION MAP - NOT TO SCALE

LEGEND



REFERENCE DRAWINGS

WATERMAIN CITY OF ROCHESTER HILLS MISS DIG DESIGN TICKET B91631806, PDF DATED 6-25-19
SANITARY CITY OF ROCHESTER HILLS MISS DIG DESIGN TICKET B91631806, PDF DATED 6-25-19
STORM SEWER CITY OF ROCHESTER HILLS MISS DIG DESIGN TICKET B91631806, PDF DATED 6-25-19
CABLE COMCAST, PDF 20190623094809, DATE 6-25-19
ATT MAP LOCATION: 3895-3499 W HAMLIN ROAD/OLD ADAMS ROAD, DATED 6-13-19, PREPARED BY JN2629
ELECTRIC DTE ENERGY MISS DIG TICKET-B9163180-006, MAP #301-418, DATED 6-26-19
GAS HAVE NOT RECEIVED YET AS OF 7-30-19
SURVEY ALTA/ACSM LAND TITLE SURVEY, PEA, PROJECT NO. 19-238, DATED 7-3-19
ALTA/ACSM LAND TITLE SURVEY, PARTNER ENGINEERING PROJECT NO. 15-1506621, DATE OF PLAT OR MAP: NOVEMBER 12, 2015, FIELD DATE OF SURVEY: NOVEMBER 8, 2015
SITE GRADING PLAN, DMATTIA ASSOCIATES, PROJECT NO. 98091, SHEET NO. C3, LATE DATED 12/12/2001, CITY FILE NO. 00-009, SECTION 30
FLOODPLAIN FEMA F.I.R.M. 26125C389F, DATED SEPTEMBER 29, 2006



CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING
UNDERGROUND UTILITIES AS SHOWN ON THIS
DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS
GIVEN 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.

THIS DRAWING AND DESIGN ARE THE PROPERTY OF
PEA, INC. THEY ARE LOANED TO THE CONTRACTOR
FOR THE PROJECT ONLY. THEY ARE NOT TO BE
REPRODUCED, COPIED, REPRODUCED, OR
FURNISHED IN ANY MANNER TO OTHERS. WITHOUT THE
WRITTEN CONSENT OF PEA, INC. ALL COMMON
LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE
HEREBY SPECIFICALLY RESERVED. © 2019 PEA, INC.

CONSTRUCTION CONTRACTOR AGREES THAT IN
ACCORDANCE WITH GENERAL ACCEPTED
CONSTRUCTION PRACTICES, CONSTRUCTION
OF THE PROJECT SHALL BE THE SOLE
AND COMPLETE RESPONSIBILITY FOR JOB SITE
CONDITIONS DURING THE COURSE OF CONSTRUCTION
OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS
AND PROPERTY. THAT THE CONTRACTOR SHALL BE
MADE TO APPLY CONTRACTORS AND NOT BE LIMITED
TO NORMAL WORKING HOURS AND CONSTRUCTION
CONTRACTOR FURTHER AGREES TO DEFINE
INDUSTRY AND HOLD DESIGN PROFESSIONAL OR
ALLEGED IN CONNECTION WITH THE PERFORMANCE
OF WORK ON THIS PROJECT EXCEPT LIABILITY
ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN
PROFESSIONAL.

**3 FULL WORKING DAYS
BEFORE YOU DIG CALL**

811
Know what's below
Call before you dig

MISS DIG System, Inc.
1-800-482-7171 www.missdig.net
(TOLL FREE)



PEA, Inc.

2430 Rochester Ct, Ste 100
Troy, MI 48063-1872
t: 248.689.9090
f: 248.689.1044
www.peainc.com

HILLSIDE INVESTMENTS
3947.5 13 MILE ROAD, SUITE 203
NOVI, MI 48207
**DIMENSION AND PAVING PLAN
HILLSIDE ROCHESTER HILLS**
PART OF THE NW 1/4 OF SECTION 30, T. 03 N., R. 11 E.,
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

ORIGINAL ISSUE DATE:
OCTOBER 24, 2019

PEA JOB NO. 2019-238

SCALE: 1" = 40'

DRAWING NUMBER:

C-2.1

CITY FILE #19-040, SECTION 30

NOT FOR CONSTRUCTION

XREF: S:\PROJECTS\2019\2019238\DWG\19238-TOPBASE.DWG
XREF: S:\PROJECTS\2019\2019238\DWG\19238-UTLPLANS-V-BASE-19238.DWG
XREF: S:\PROJECTS\2019\2019238\DWG\19238-UTLPLANS-V-TBLC-19238.DWG

LEGAL DESCRIPTION
(per First American Title Commitment Company, Commitment No. TC13-87079, Date May 21, 2019)

Land situated in the City of Rochester Hills, County of Oakland, State of Michigan, described as follows:

A parcel of land in the Northeast and Northwest Quarter of Section 30, Town 3 North, Range 11 East, Avon Township, now City of Rochester Hills, Oakland County, Michigan, described as: Commencing at the West Quarter corner of said Section 30; thence North 01 degree 33 minutes 09 seconds West, along the West line of said Section 30, 316.00 feet to the East Quarter Corner of Section 25, Town 3 North, Range 10 East; thence North 01 degree 46 minutes 02 seconds West, along the West line of said Section 30, 687.40 feet to a point on the North right-of-way line of Highway M-59; thence North 84 degrees 10 minutes 26 seconds East, along said right-of-way line, 159.33 feet; thence North 81 degrees 03 minutes 35 seconds East, along said right-of-way line, 645.24 feet to the Point of Beginning; thence continuing North 81 degrees 03 minutes 35 seconds East, 308.58 feet; thence North 60 degrees 07 minutes 32 seconds East, 295.77 feet; thence North 18 degrees 57 minutes 45 seconds East, 295.77 feet; thence North 01 degree 37 minutes 09 seconds West, 45.51 feet; thence North 46 degrees 37 minutes 09 seconds West, 141.41 feet; thence South 46 degrees 37 minutes 09 seconds East, 300.00 feet; thence South 69 degrees 21 minutes 39 seconds East, 300.00 feet; thence North 89 degrees 42 minutes 51 seconds East, 639.84 feet; thence South 84 degrees 10 minutes 26 seconds West, along a line which is 185.00 feet Northerly of, measured at right angles, and parallel to the Median centerline of Highway M-59, a distance of 2,195.94 feet to the Point of Beginning.

Containing ±9.00 acres of land.

BENCHMARKS
(GPS DERIVED - NAVD88)

BM #300
CROSS CUT + IN TOP OF LIGHT POLE BASE ON EAST SIDE OF BASE, WEST SIDE PARKING LOT OF #3499 WEST HAMLIN ROAD.
ELEV. - 888.20

BM #301
BENCHMARK ON NORTHWEST SIDE UTILITY POLE, SOUTH SIDE OF HAMLIN ROAD.
ELEV. - 884.10

BM #302
ARROW ON HYDRANT WITH DIMPLE ±88' SOUTHEAST OF UTILITY POLE ON SOUTH SIDE OF HAMLIN ROAD, EAST SIDE OF PARKING LOT OF #3895 WEST HAMLIN ROAD.
ELEV. - 882.30

FLOODPLAIN NOTE:
BY GRAPHICAL PLOTTING, SITE IS WITHIN ZONE 'X'. AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN PER FLOOD INSURANCE RATE MAP NUMBER 26125C389F, DATED SEPTEMBER 29, 2006.

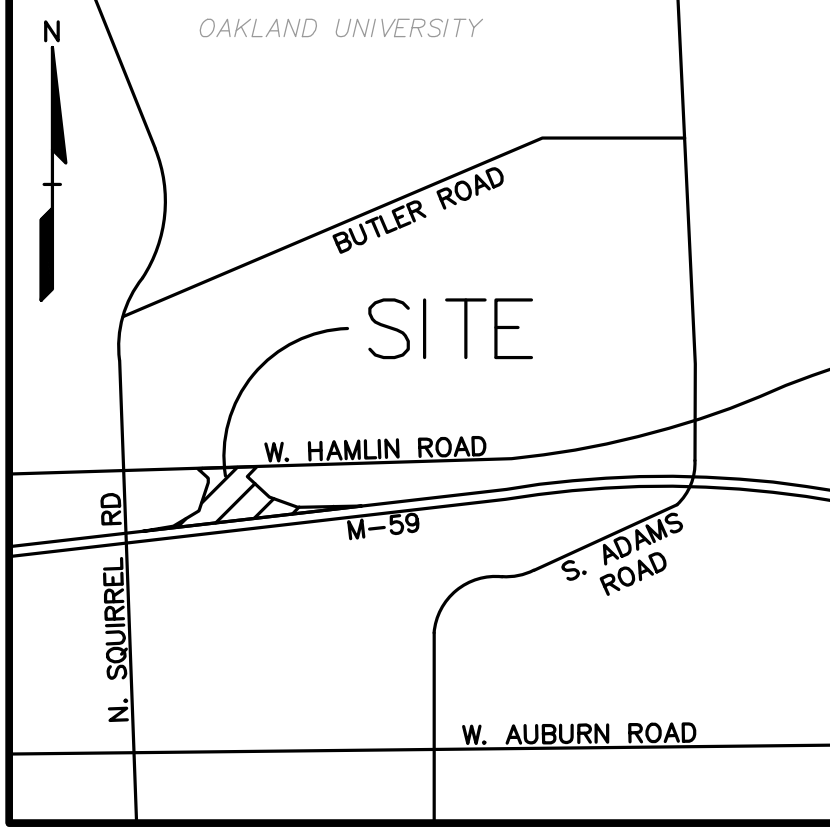
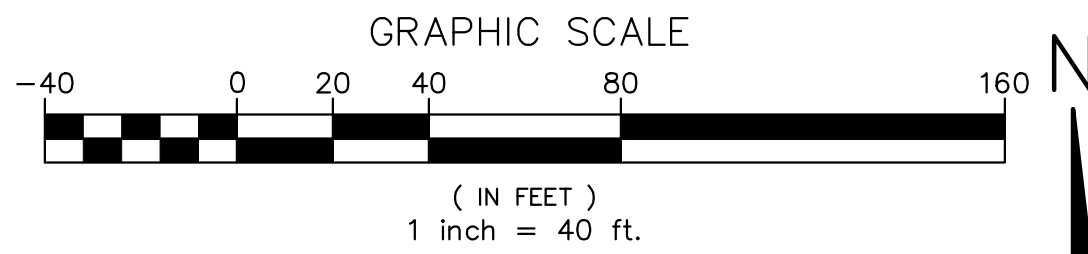
FIRE DEPARTMENT NOTES:

- FIRE LANES SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE, WITH FIRE LANE SIGNS SPACED NOTMORE THAN 100 FEET APART, FIRE LANE SIGNS SHALL READ "NO STOPPING, STANDING, PARKING, FIRE LANE"; AND IN CONFORMANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 503
- CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH IFC CHAPTER 14.
- OPEN BURNING IS NOT PERMITTED, INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING MATERIALS. OPEN BURNING FOR WARMING OF SAND AND /OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES. CONTACT ROCHESTER HILLS FIRE DEPARTMENT FOR PERMIT INFORMATION, FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 507.6.2 & 507.6.2.3
- A KNOX KEY SYSTEM SHALL BE INSTALLED AT THE BUILDING IN A LOCATION APPROVED BY THE FIRE CODE OFFICIAL. ORDERING INFORMATION IS AVAILABLE KNOXBOX.COM.

GENERAL NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

- ALL DIMENSIONS SHOWN ARE TO BACK OF CURB, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF ROCHESTER HILLS CURRENT STANDARDS AND REGULATIONS.
- THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- ANY WORK WITHIN THE STREET OR HIGHWAY RIGHT-OF-WAYS 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.
- ALL SIGNS MUST MEET SECTION 138-8.603 AND CHAPTER 134 OF THE CITY CODE OF ORDINANCES AND BE APPROVED UNDER A SEPARATE PERMIT ISSUED BY THE BUILDING DEPARTMENT.



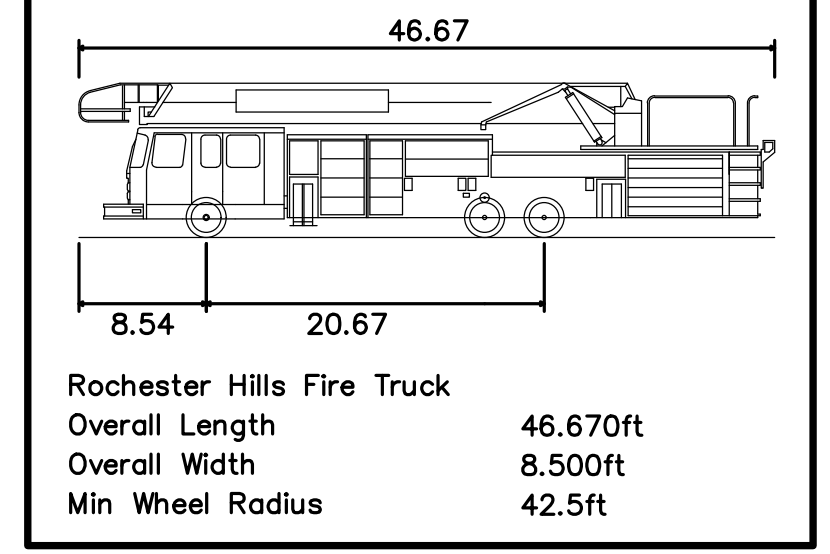
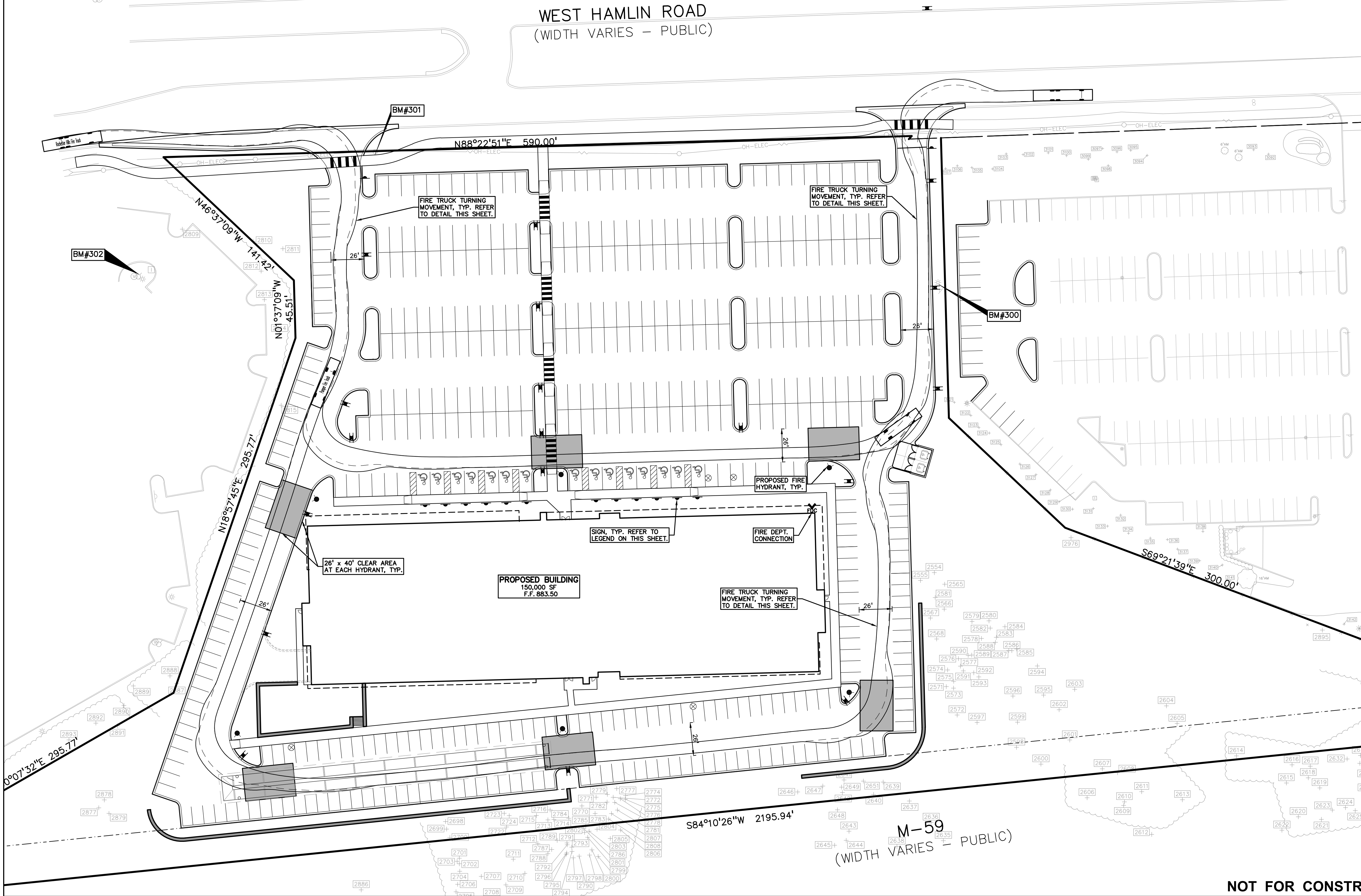
LOCATION MAP - NOT TO SCALE

LEGEND

- EXISTING**
- IRON FOUND
 - IRON SET
 - NAIL FOUND
 - NAIL & CAP SET
 - ELEC. PHONE OR CABLE TV ON LINE, POLE & BUY WIRE
 - UNDERGROUND CABLE TV, CABLE PEDESTAL
 - TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
 - ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
 - GAS MAIN, VALVE & GAS LINE MARKER
 - WATERMAIN, HYD., GATE VALVE, TAPPING SLEEVE & VALVE
 - SEWERY SINK, CLEANOUT & MANHOLE
 - STORM SEWER, CLEANOUT & MANHOLE
 - COMBINED SEWER & MANHOLE
 - SQUARE, ROUND & BEDDIE CATCH BASIN, YARD DRAIN
 - POST INDICATOR VALVE
 - WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
 - MANHOLE, TRANSFORMER, IRRIGATION CONTROL VALVE
 - UNIDENTIFIED STRUCTURE
 - SPOT ELEVATION
 - CONTOUR LINE
 - FENCE
 - GUARD RAIL
 - STREET LIGHT
 - SIGN
- PROPOSED**
- SEC. CORNER FOUND
 - RECORDED
 - MEASURED
 - CALCULATED
 - CONC. CONCRETE
 - ASPH. ASPHALT
 - SIGN LEGEND: 1. NO STOPPING STANDING PARKING FIRE LANE SIGN, 2. 'BARRIER FREE PARKING' SIGN, 3. 'VAN ACCESSIBLE' SIGN, 4. 'CROSSWALK' SIGN, REFER TO SHEET C-6.0 FOR SIGN DETAILS
 - BUILDING NOTES: THE PROPOSED BUILDING CONSTRUCTION TYPE II-B.

REFERENCE DRAWINGS

- WATERMAIN CITY OF ROCHESTER HILLS MISS DIG DESIGN TICKET B91631806, PDF DATED 6-25-19
- SANITARY CITY OF ROCHESTER HILLS MISS DIG DESIGN TICKET B91631806, PDF DATED 6-25-19
- STORM SEWER CITY OF ROCHESTER HILLS MISS DIG DESIGN TICKET B91631806, PDF DATED 6-25-19
- CABLE COMCAST, PDF 20190623094809, DATE 6-25-19
- GAS ATT MAP LOCATION 3895-3499 W HAMLIN ROAD/OLD ADAMS ROAD, DATED 6-13-19, PREPARED BY JN2629
- ELECTRIC DTE ENERGY MISS DIG TICKET-B9163180-006, MAP #301-418, DATED 6-26-19
- SURVEY HAVE NOT RECEIVED YET AS OF 7-30-19
- FLOODPLAIN ALTA/ACSM LAND TITLE SURVEY, PARTNER ENGINEERING PROJECT NO. 15-150662.1, DATE OF PLAT OR MAP: NOVEMBER 12, 2015, FIELD DATE OF SURVEY: NOVEMBER 8, 2015
- SITE GRADING PLAN, DMATTIA ASSOCIATES, PROJECT NO. 98091, SHEET NO. C3, LATE DATED 12/12/2001, CITY FILE NO. 00-009, SECTION 30
- FLOODPLAIN FEMA F.I.R.M. 26125C389F, DATED SEPTEMBER 29, 2006



NOT FOR CONSTRUCTION

CITY FILE #19-040, SECTION 30

NO.	BY	DATE	REVISIONS
1	JMS	7/23/20	CITY COMMENTS
2	JMS	8/29/20	REVISED SPA TO CITY
3	JMS	10/21/20	REVISED PER CITY COMMENTS



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

THIS DRAWING AND DESIGN ARE THE PROPERTY OF PEA, INC. THEY ARE LOANED TO THE CONTRACTOR FOR CONSTRUCTION PURPOSES ONLY. NO PART OF THIS DRAWING IS TO BE REPRODUCED, COPIED, REPRODUCED, OR IN ANY MANNER, WITHOUT THE WRITTEN CONSENT OF PEA, INC. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED. © 2019 PEA, INC.

CONSTRUCTION CONTRACTOR AGREES THAT IN CONNECTION WITH THE GENERAL ACCEPTANCE OF CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR THE SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THE CONTRACTOR SHALL BE MADE TO APPLY CONTRACTORS AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL OR ALLIGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

3 FULL WORKING DAYS BEFORE YOU DIG CALL

811

Know what's below
Call before you dig

MISS Dig System, Inc.

1-800-482-7171 www.missdig.net

(TOLL FREE)



PEA, Inc.

2430 Rochester Ct, Ste 100
Troy, MI 48063-1872
t: 248.689.9090
f: 248.689.1044
www.peainc.com

HILLSIDE INVESTMENTS 39475 13 MILE ROAD, SUITE 203 TROY, MI 48067	FIRE PROTECTION PLAN HILLSIDE ROCHESTER HILLS PART OF THE NW 1/4 OF SECTION 30, T. 03 N., R. 11 E., CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN	DES.	GMB	DN	KRD	SUR	WC	P.M.	TDS
ORIGINAL ISSUE DATE: OCTOBER 24, 2019									
PEA JOB NO. 2019-238									
SCALE: 1" = 40'									
DRAWING NUMBER: C-3.0									

PROPOSED SANITARY SEWER BASIS OF DESIGN: (Unit Factors Based on Oakland County Unit Assignment Factors)	
OFFICE	
Square Footage	150,000 S.F.
Unit Factor	0.4 PER 1,000 SF
REU	60.0
Population (P) (2.44 PEOPLE/EDU)	146.4 People
TOTAL	
REU	60.0
146 People	
Average Flow (100 GPCPD)	14,640 G.P.D.
	0.023 C.F.S.
P (1000s)	0.146
Peaking Factor (PF)	4.00
PF = (18+sqrt(P))/(4+sqrt(P))	
Peak Flow (G.D.P.)	58,560 G.P.D.
Peak Flow (C.F.S.)	0.091 C.F.S.

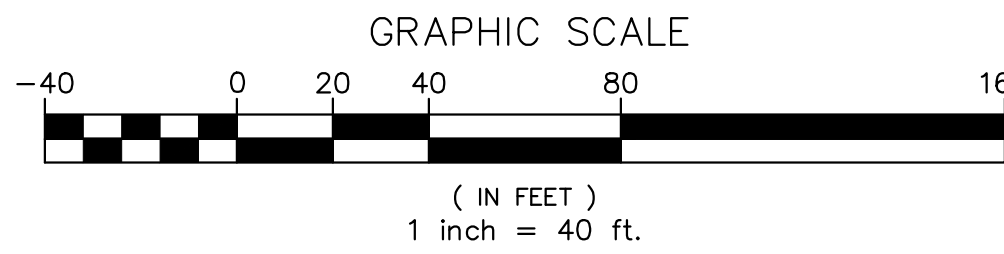
WATER MAIN BASIS OF DESIGN: (Unit Factors Based on Oakland County Unit Assignment Factors)	
OFFICE	
Square Footage	150,000 S.F.
Unit Factor	0.4 PER 1,000 SF
REU	60.0
Population (P) (2.44 PEOPLE/EDU)	146.4 People
TOTAL	
REU	60.0
146 People	
Average Flow (150 GPCPD)	21,960 G.P.D.
	0.034 C.F.S.
	0.022 M.G.D.
Design Max. Flow = (2*avg)	43,920 G.P.D.
	0.068 C.F.S.
	0.044 M.G.D.
Building Type =	IIB
Required Fire Flow =	1500 GPM

WEIGHTED C FACTOR CALCULATION		
	area	C
total	279,579	
pervious	44,325	0.25
mpervious	235,254	0.95
FUTURE	0	0.80
		0.839

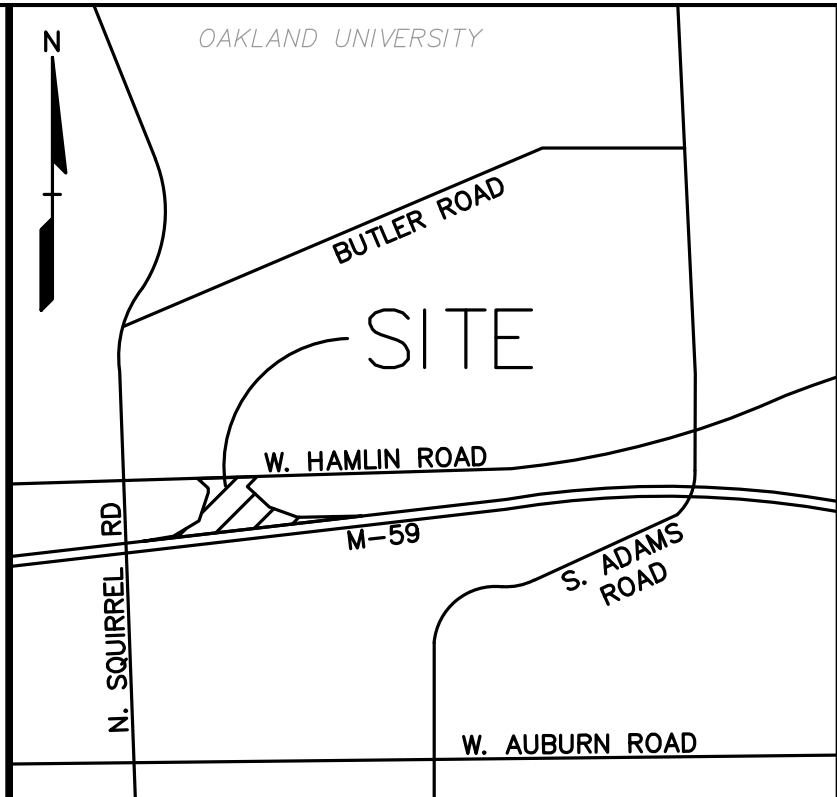
BENCHMARKS (GPS DERIVED - NAVD88)	
BM #300	CROSS CUT + IN TOP OF LIGHT POLE BASE ON EAST SIDE OF BASE, WEST SIDE PARKING LOT OF #3499 WEST HAMLIN ROAD. ELEV. - 888.20
BM #301	BENCHMARK ON NORTHWEST SIDE UTILITY POLE, SOUTH SIDE OF HAMLIN ROAD. ELEV. - 884.10
BM #302	ARROW ON HYDRANT WITH DIMPLE, ±88' SOUTHEAST OF UTILITY POLE ON SOUTH SIDE OF HAMLIN ROAD, EAST SIDE OF PARKING LOT OF #3895 WEST HAMLIN ROAD. ELEV. - 882.30

FLOODPLAIN NOTE:
BY GRAPHICAL PLOTTING, SITE IS WITHIN ZONE 'X'. AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN PER FLOOD INSURANCE RATE MAP NUMBER 26125C389F, DATED SEPTEMBER 29, 2006.

Frequency	Existing flow to MDOT ROW		Proposed flow to MDOT ROW							required storage per hydraulic report
	Discharge (cfs)	Run off Volume (cft)	Without detention			With required detention***				
			Discharge (cfs)	Velocity * (ft/s)	Run off Volume (cft)	Discharge (cfs)	Velocity (ft/s)	Required Storage Volume** (cft)	Water Surface Elevation (ft)	
10-year Storm Event	11.70	47634	15.51	n/a	65800	1.255	2.2	18166	871.66	36814
50-year Storm Event	20.62	82589	25.10	n/a	103381	1.463	2.2	20792	873.18	61601
100-year Storm Event Harmful Interference Evaluation	25.17	100592	29.75	n/a	122067	1.543	2.2	21475	877.73	74452
Drainage Area (Acres)	9		9							
Design Storage Volume (cft)		74727								



GENERAL UTILITY NOTES:
ALL UTILITY LINES, STRUCTURES AND TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF THE CITY OF ROCHESTER HILLS.
DRAINAGE NARRATIVE:
THE PROPOSED DEVELOPMENT WILL DRAIN TO A PROPOSED UNDERGROUND DETENTION SYSTEM AND BE RELEASED TO THE EXISTING SYSTEM AT THE PRE-DEVELOPMENT DISCHARGE RATE.



NO.	BY	DATE	REVISIONS
1	JMS	6/29/20	REVISED PER CITY COMMENTS
2	JMS	6/29/20	REVISED PER CITY COMMENTS
3	GMB	7/30/20	CITY COMMENTS



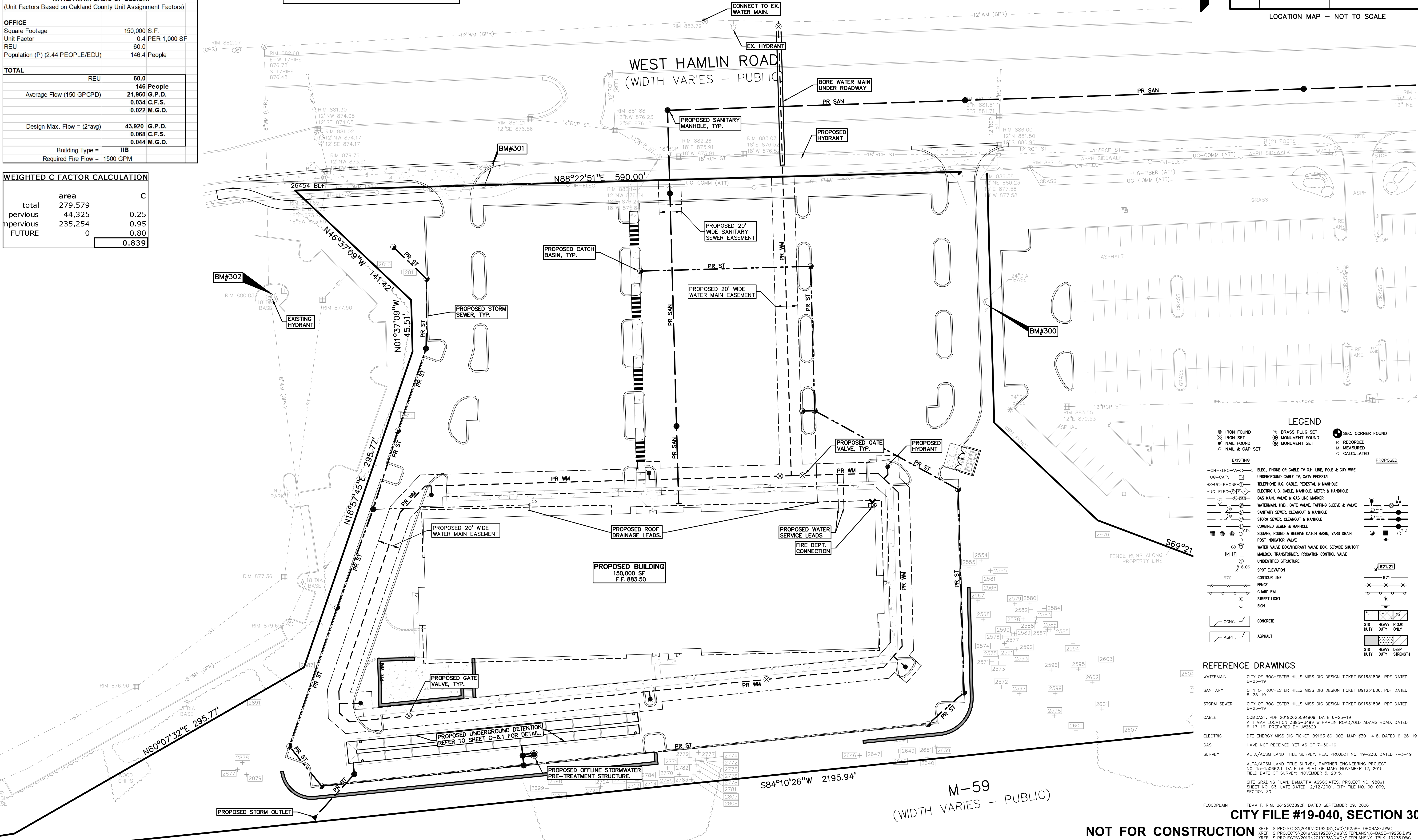
CAUTION!!
THE LOCATION AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.
THIS DRAWING AND DESIGN ARE THE PROPERTY OF PEA, INC. THEY ARE LOANED TO THE CONTRACTOR FOR THEIR USE ONLY. THEY ARE NOT TO BE REPRODUCED, COPIED, REPRODUCED, OR OTHERWISE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF PEA, INC. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED. © 2019 PEA, INC.
CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTRACTORS' AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

3 FULL WORKING DAYS BEFORE YOU DIG CALL 811
Know what's below
Call before you dig
MISS Dig System, Inc.
1-800-482-7171 www.missdig.net
(1021-4864)



PEA, Inc.
2430 Rochester Ct, Ste 100
Troy, MI 48063-1872
t: 248.689.9090
f: 248.689.1044
www.peainc.com

HILLSIDE INVESTMENTS												39475 13 MILE ROAD, SUITE 203 NOVI, MI 48207											
PRELIMINARY UTILITY PLAN HILLSIDE ROCHESTER HILLS PART OF THE NW 1/4 OF SECTION 30, T. 03 N., R. 11 E., CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN																							
DES.		GMB		DN.		KR		SUR.		WC		P.M.		TDS									
S:\PROJECTS\2019-238-HILLSIDE ROCHESTER HILLS\WC\UTL-C-5.0 (UTL-162).dwg																							
ORIGINAL ISSUE DATE: OCTOBER 24, 2019																							
PEA JOB NO. 2019-238																							
SCALE: 1" = 40'																							
DRAWING NUMBER: C-5.0																							



Design - CMP

DYODS® #	15203
System Description:	96 inch MDOT method
Project:	Hillside Rochester Hills
Application:	Infiltration (Perforated CMP)
Created:	06/12/2020
Modified:	06/12/2020

System Selection

Application:	Infiltration
System:	CMP - Perforated w/ Stone Backfill

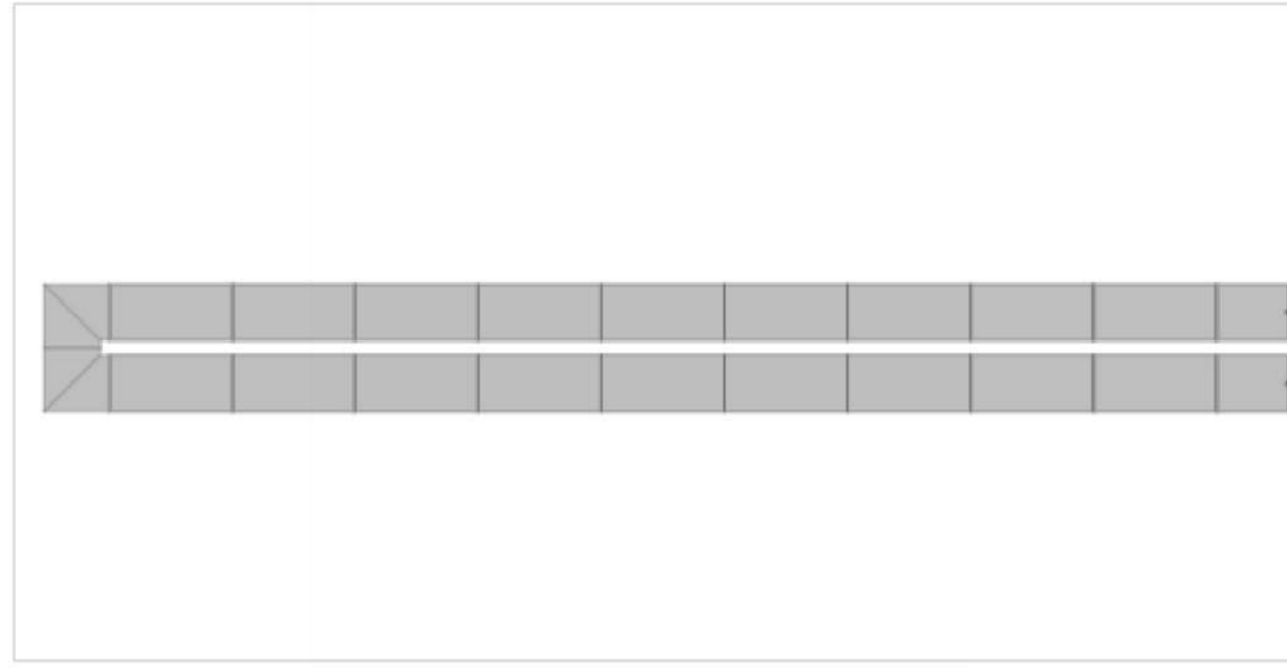
Structural Backfill Detail

Stone Porosity:	40 %
Width At Ends:	36 in
Above Pipe:	12 in
Width At Sides:	36 in
Below Pipe:	6 in

Calculations

Status:	OK
Barrel Count:	2
CMP Footprint (LxW):	263 x 27 ft
Length Per Barrel:	251 ft
Length Per Header:	27 ft
Pipe Storage:	57,270 cf
Structural Backfill Zone Storage:	17,926 cf
Total Storage Provided:	75,196 cf
Percent Of Required Storage:	100.26 %
Total CMP Footage:	529 ft
Approximate CMP Piece Count:	22
Approximate Coupling Bands:	21
Approximate Truckloads:	22
Total Excavation:	5,097 cy
Structural Backfill:	2,223 cy
Pavement Volume:	110 cy
Remaining Backfill To Pavement:	643 cy

Draftboard

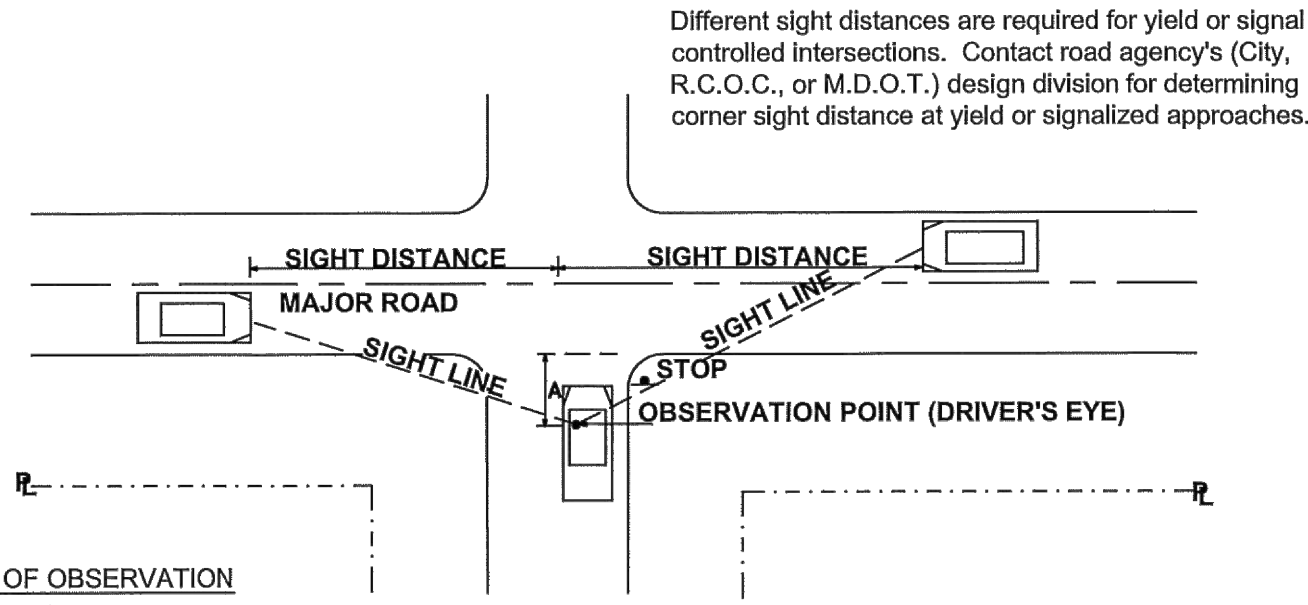


Design Parameters

Storage Volume:	75,000 cf
Limiting Length:	400 ft
Limiting Width:	70 ft
Pavement Type:	Flexible Pavement
Pavement Depth:	4 in
Freeboard Depth:	12 in
Invert Depth:	15 ft

Pipe Detail

Material:	Steel
Shape:	Round
Size:	144 in
Corrugation:	5" x 1" or 3" x 1"
Gage:	10
Pipe Spacing:	36 in
Coating:	Aluminized Steel Type 2 (ALT2)
Layout:	Single Manifold



POINT OF OBSERVATION

Paved Surface:
(A) Eighteen (18) feet from edge of pavement of through lane.
Gravel Surface:
(A) Eighteen (18) feet from edge of gravel road.
* For residential driveways approaching gravel or paved roads (A) is 10' from the edge of gravel/pavement.

The point of vision shall be from the height of eye, 3.5 feet above the proposed intersecting elevation to a height of object 3.5 feet above the existing or proposed road centerline and shall be continuously visible within the specified limits.

MINIMUM CORNER SIGHT DISTANCE FOR DRIVEWAYS AND STREETS AT MAJOR ROAD INTERSECTIONS FOR PASSENGER VEHICLES		
MAJOR ROAD POSTED OR 85% SPEED IN MPH	MINIMUM SIGHT DISTANCE IN FEET, BOTH DIRECTIONS	
	2 OR 3 LANE THRU ROAD IN FEET	4 OR 5 LANE THRU ROAD IN FEET
25	280	295
30	335	355
35	390	415
40	445	470
45	500	530
50	555	590
55	610	650

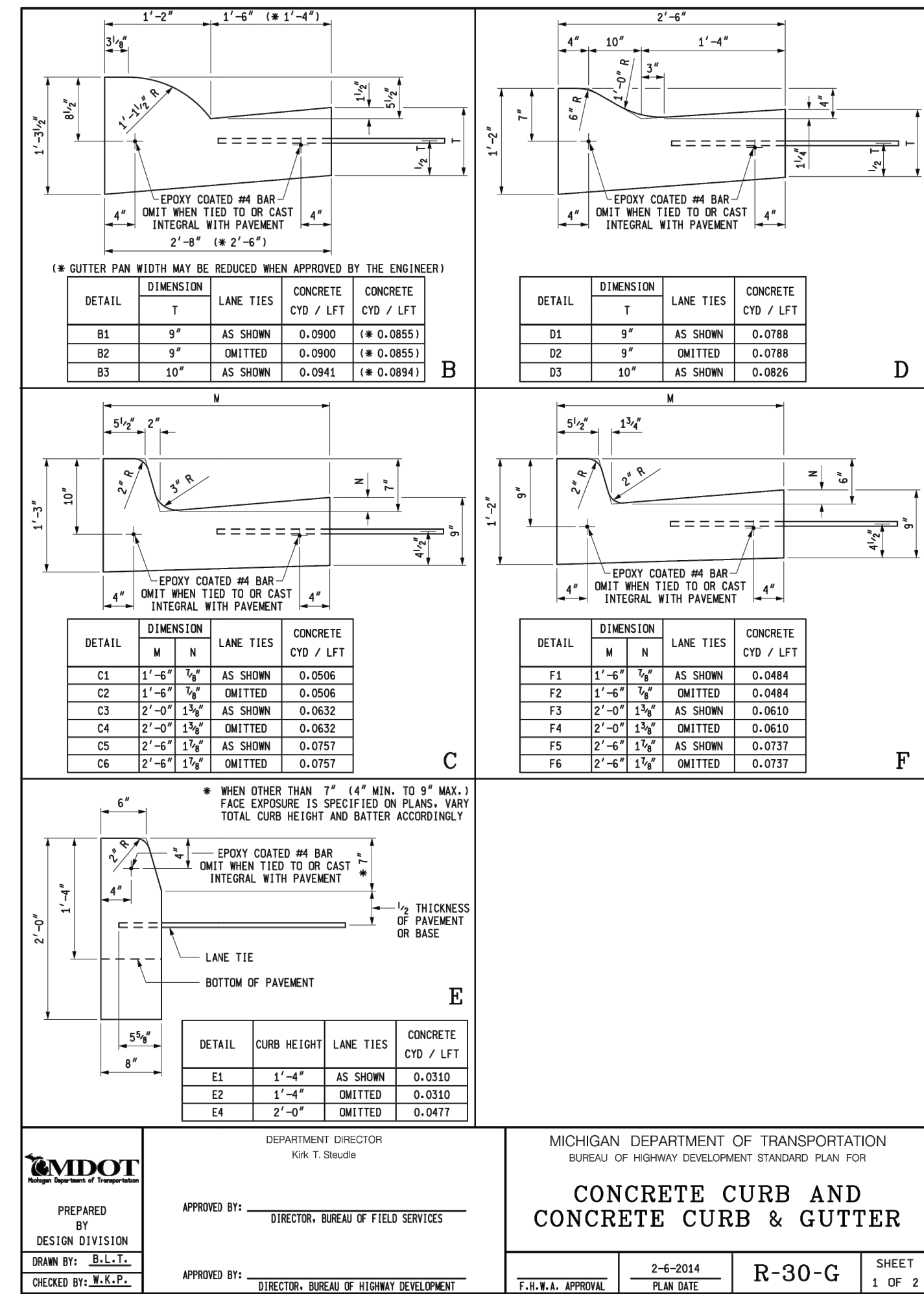
The basic prima facie speed shall be used for gravel roads, unless otherwise approved by the Engineer.

NOTES

- Any deviation from given data requires an engineering study approved by the road agency (City, R.C.O.C., or M.D.O.T.) in accordance with the latest edition AASHTO policy on geometric design.
- This design guide also applies to new Permit and Plat construction projects.
- The above data is based on a left turn maneuver into the intersecting roadway as described in AASHTO. Due to the higher potential accident severity, the left turning sight distance was used to determine the corner sight distance required. Right turn onto major roads shall have the same sight distances.
- Existing site conditions may require an engineering study to determine sight distance.

CITY OF ROCHESTER HILLS STANDARD DETAIL FOR: Sight Distance Roadways

DRAWN BY: B. SMITH	FILE NAME: CIRC.DWG	PLAN DATE: 8/28/1996	REV. 4/12/2012	REV. 3/15/2014	REV.
APPROVED BY: PAUL SHUMAKO, P.E., PTOE	CITY TRANSPORTATION ENGINEER	NOT TO SCALE	SHEET 1 OF 2		



PREPARED BY: DESIGN DIVISION	APPROVED BY: DIRECTOR, BUREAU OF FIELD SERVICES
DRAWN BY: B.L.L.	APPROVED BY: DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT
CHECKED BY: J.A.C.	

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR: CONCRETE CURB AND GUTTER	2-6-2014 PLAN DATE	R-30-G	SHEET 1 OF 2
--	-----------------------	--------	--------------



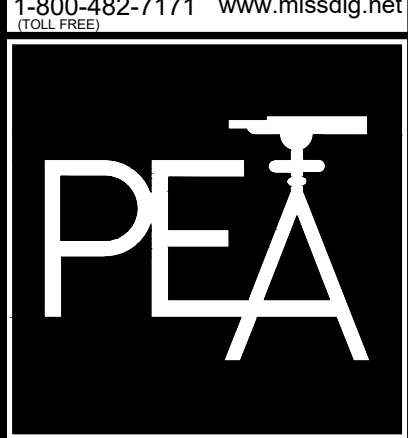
CAUTION!!
THE LOCATION AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND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

THIS DRAWING AND DESIGN ARE THE PROPERTY OF PEA, INC. THEY ARE LOANED TO THE CONTRACTOR THAT THEY ARE NOT TO BE USED, REPRODUCED, OR COPIED IN WHOLE OR IN PART, OR FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN CONSENT OF PEA, INC. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED. © 2018 PEA, INC.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERAL ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THE REQUIREMENT SHALL BE MADE TO APPLY CONTRACTORS AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION. CONTRACTOR FURTHER AGREES TO DEFINE, INDENTIFY AND HOLD DESIGN PROFESSIONAL OR ALLIED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

3 FULL WORKING DAYS BEFORE YOU DIG CALL

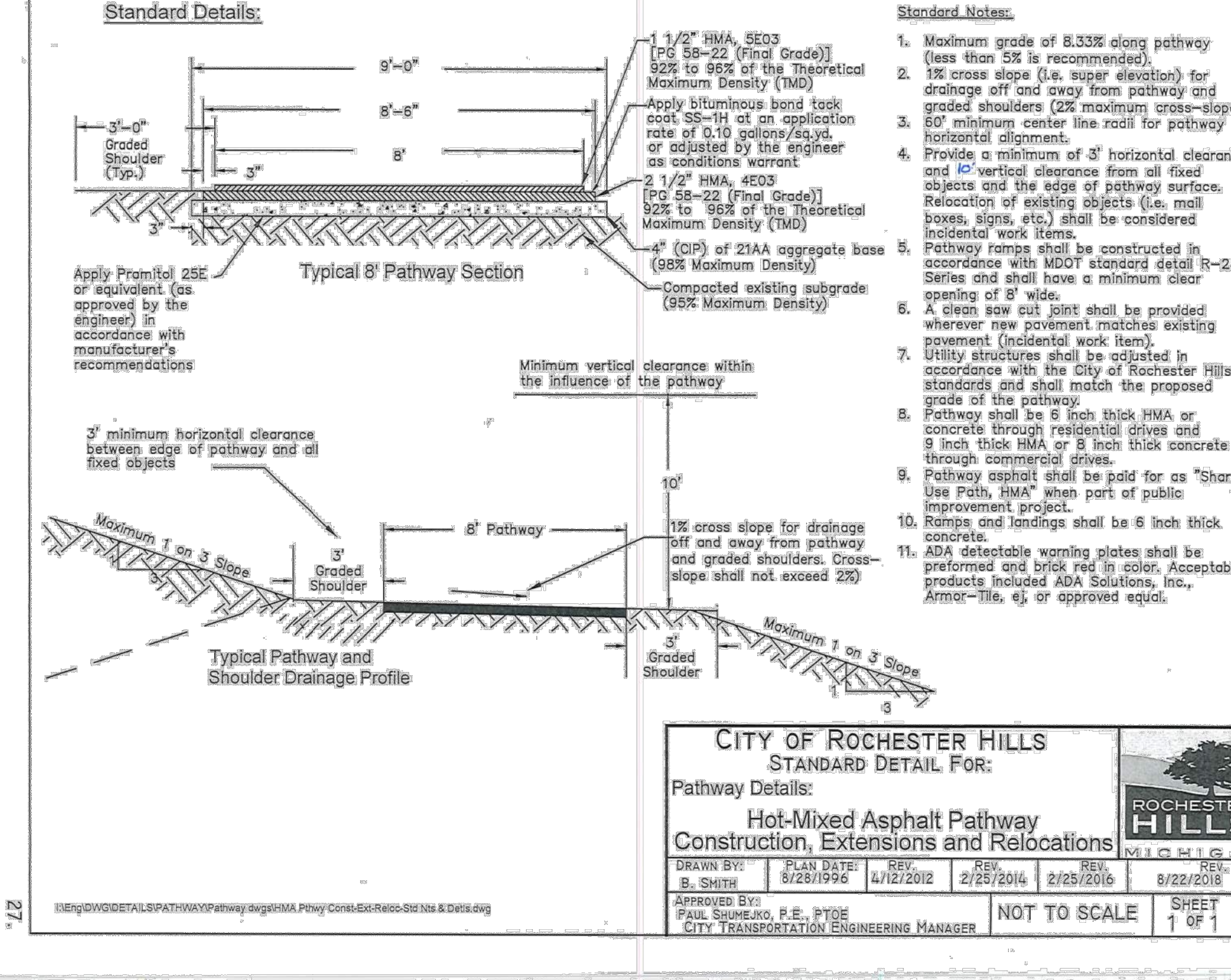
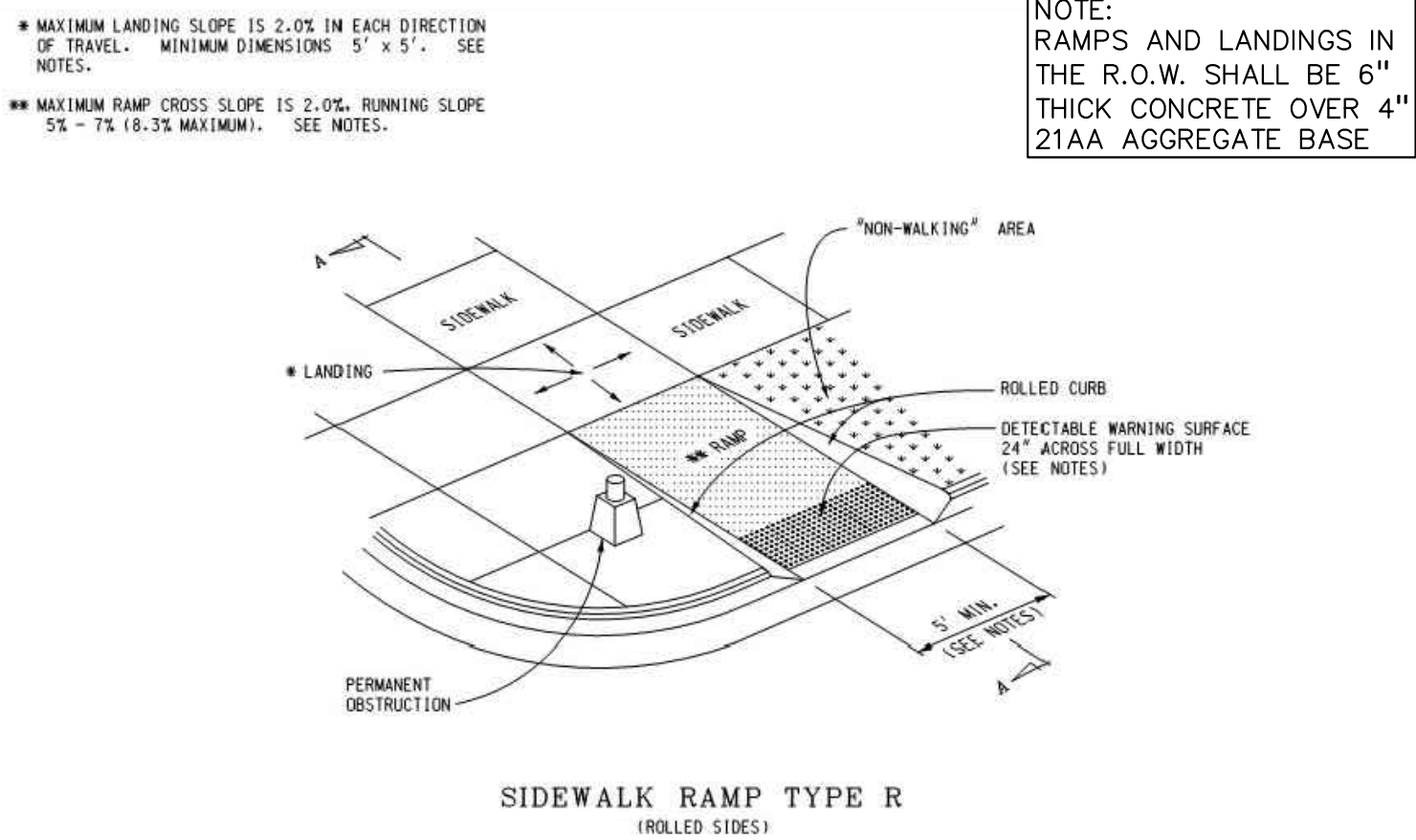
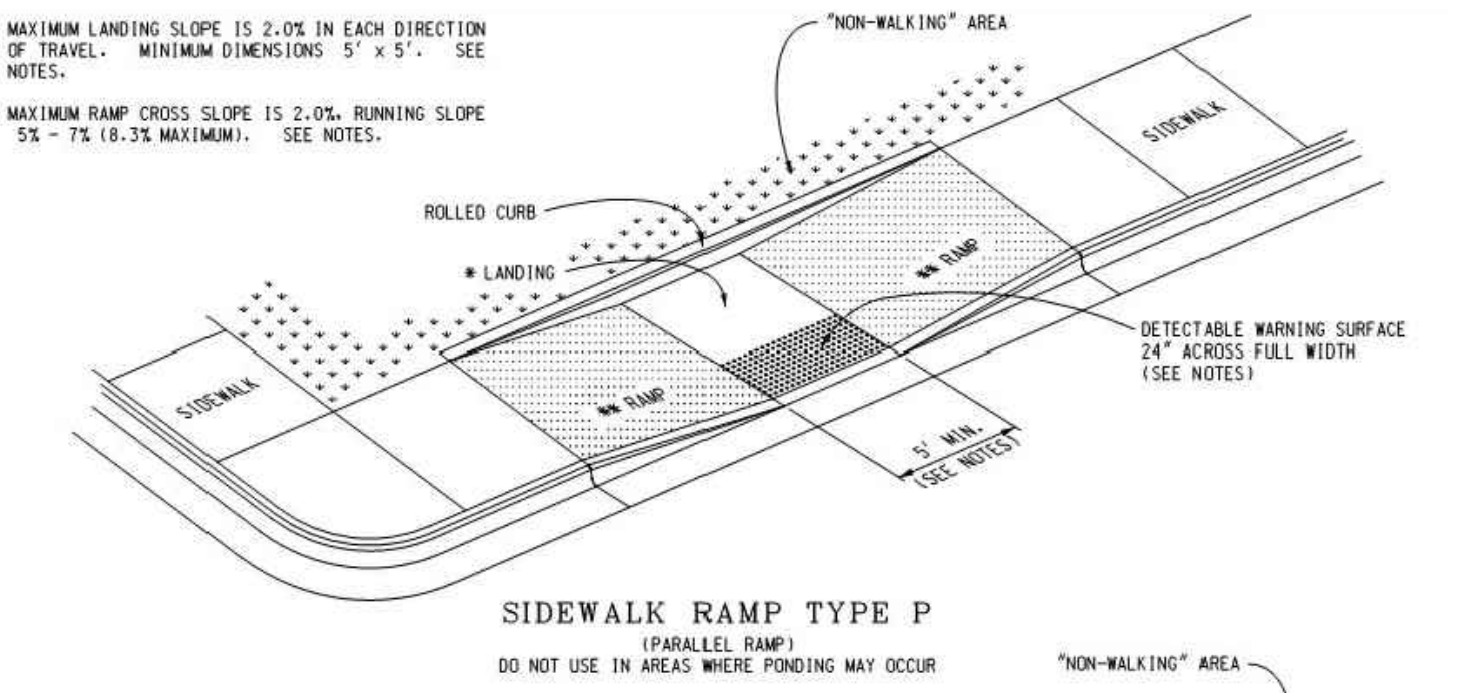
811
Know what's below
Call before you dig
MISS Dig System, Inc.
1-800-482-7171 www.missdig.net
(TOLL FREE)



PEA, Inc.
2430 Rochester Ct, Ste 100
Troy, MI 48063-1872
t: 248.689.9090
f: 248.689.1044
www.peainc.com

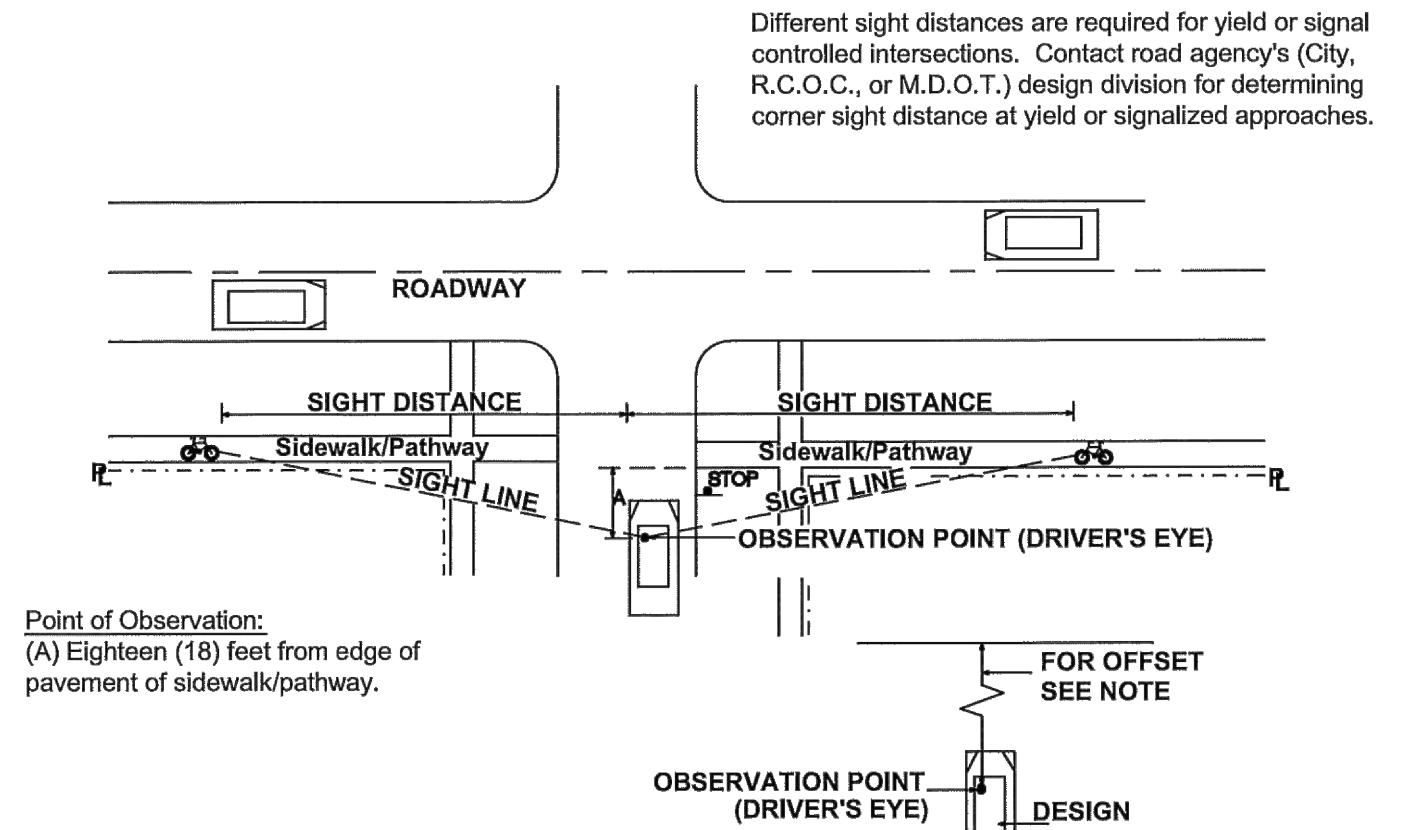
HILLSIDE INVESTMENTS		NOTES AND DETAILS		HILLSIDE ROCHESTER HILLS	
DES.	GMB	DN.	KRD	SUR.	WC
TDS	P.M.				

ORIGINAL ISSUE DATE:
OCTOBER 24, 2019
PEA JOB NO. 2019-238
SCALE: N.T.S.
DRAWING NUMBER:
C-6.1



CITY OF ROCHESTER HILLS STANDARD DETAIL FOR: Hot-Mixed Asphalt Pathway Construction, Extensions and Relocations

DRAWN BY: B. SMITH	FILE NAME: CIRC.DWG	PLAN DATE: 8/28/1996	REV. 4/12/2012	REV. 3/15/2014	REV.
APPROVED BY: PAUL SHUMAKO, P.E., PTOE	CITY TRANSPORTATION ENGINEER	NOT TO SCALE	SHEET 1 OF 1		



Point of Observation:
(A) Eighteen (18) feet from edge of pavement of sidewalk/pathway.

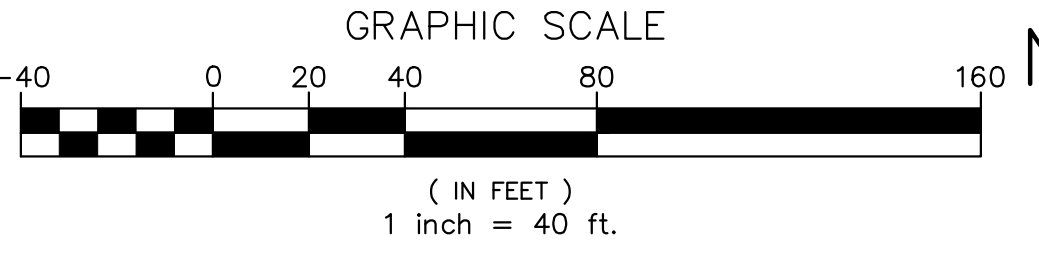
PATHWAY GRADE APPROACHING INTERSECTION (X)	MINIMUM SIGHT DISTANCE IN FEET, BOTH DIRECTIONS
0	135
-1	140
-2	145
-3	150
-4	160
-5	165
-6	175
-7	190
-8	205

NOTES

- Any deviation from given data requires an engineering study approved by the road agency (City, R.C.O.C., or M.D.O.T.) in accordance with the latest edition AASHTO Guide for the Development of Bicycle Facilities.
- This design guide also applies to new Permit and Plat construction projects.
- The bicycle design speed used in the chart is 18 MPH.
- Approach pathway slope greater than 8% is not allowed due to ADA compliance.
- Existing site conditions may require an engineering study to determine sight distance.

CITY OF ROCHESTER HILLS STANDARD DETAIL FOR: Sight Distance Pathways

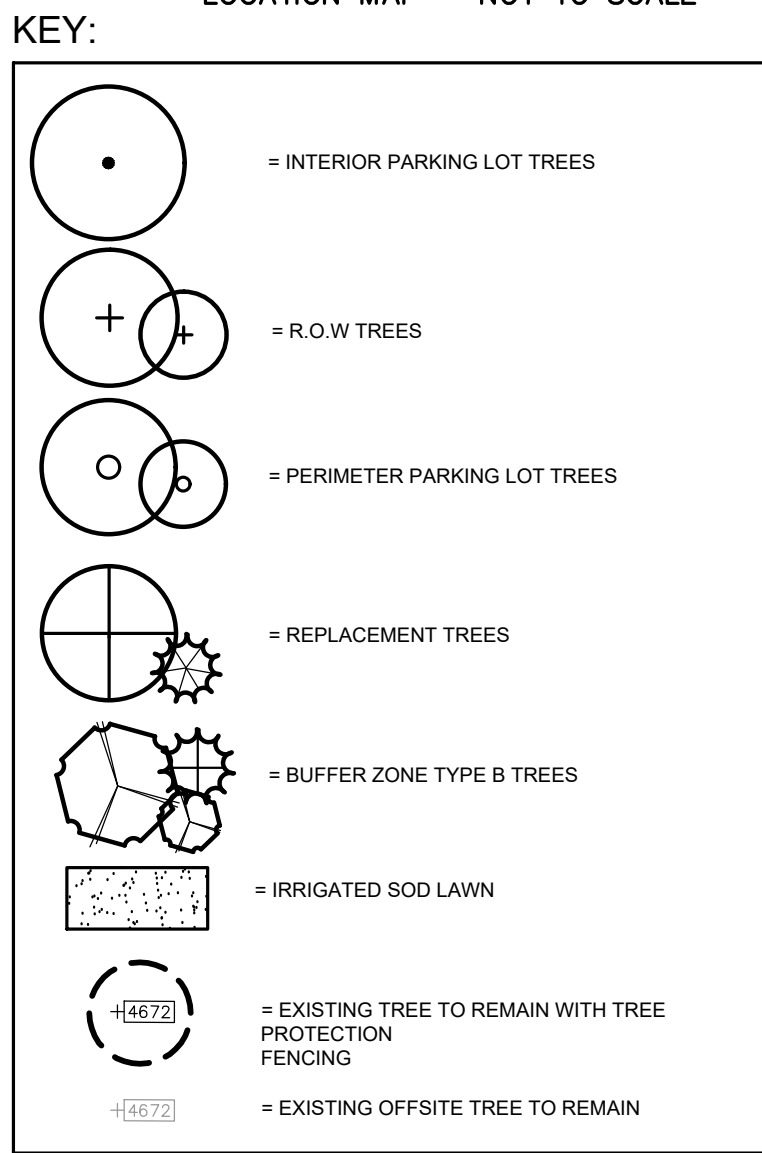
DRAWN BY: B. SMITH	FILE NAME: CIRC.DWG	PLAN DATE: 8/28/1996	REV. 4/12/2012	REV. 3/15/2014	REV.
APPROVED BY: PAUL SHUMAKO, P.E., PTOE	CITY TRANSPORTATION ENGINEER	NOT TO SCALE	SHEET 2 OF 2		



DECIDUOUS TREE PLANT LIST						
QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC	
17	AL8	Allegheny Serviceberry	<i>Amelanchier laevis</i>	8' H.	GB8	
13	AB2.5	Bowhall Maple	<i>Acer rubrum 'Bowhall'</i>	2.5" CAL	GB8	
3	AR2.5	Redpointe Maple	<i>Acer rubrum 'Redpointe'</i>	2.5" CAL	GB8	
3	AS2.5	Green Mountain Sugar Maple	<i>Acer saccharum 'Green Mountain'</i>	2.5" CAL	GB8	
8	CA8	Pagoda Dogwood	<i>Cornus alternifolia</i>	8' H.	GB8	
14	CB2.5	Upright European Hornbeam	<i>Carpinus betulus 'Fastigiata'</i>	2.5" CAL	GB8	
11	CC8	Eastern Redbud	<i>Cercis canadensis</i>	8' H.	GB8	
5	FG2.5	American Beech	<i>Fagus grandifolia</i>	2.5" CAL	GB8	
15	G2.5	Skyline Helyconist	<i>Gleditsia triacanthos 'Skyline' Inermis</i>	2.5" CAL	GB8	
19	M12.5	Marline Crab	<i>Malus 'Jaminii' PP</i>	2.5" CAL	GB8	
3	NS2.5	Black Gum	<i>Nyssa sylvatica</i>	2.5" CAL	GB8	
8	PO2.5	Sycamore	<i>Platanus occidentalis</i>	2.5" CAL	GB8	
7	QR2.5	Red Oak	<i>Quercus rubra</i>	2.5" CAL	GB8	
19	QP2.5	Redk Prince Oak	<i>Quercus robur x bicolor 'Long'</i>	2.5" CAL	GB8	
10	SR2.5	Japanese Tree Lilac	<i>Syringa reticulata 'Ivory Silk'</i>	2.5" CAL	GB8	
7	TB2.5	Boulevard Linden	<i>Tilia americana 'Boulevard'</i>	2.5" CAL	GB8	
20	UF2.5	Frontier Elm	<i>Ulmus 'Frontier'</i>	2.5" CAL	GB8	
182	TOTAL DEC.					

EVERGREEN TREE PLANT LIST:					
QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
27	AC8	Concolor Fir	<i>Abies concolor</i>	8' HL	B&B
17	PA8	Norway Spruce	<i>Picea abies</i>	8' HL	B&B
28	PG8	Black Hills Spruce	<i>Picea glauca</i> 'Densata'	8' HL	B&B
18	PO8	Serbian Spruce	<i>Picea omorika</i>	8' HL	B&B
12	PS8	Eastern White Pine	<i>Pinus strobus</i>	8' HL	B&B
102	TOTAL EVG.				

SHRUB PLANT LIST:		COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
28	P036	Summerwine Ninebark	<i>Physocarpus opulifolius 'Seward'</i>	36" Ht.	Cont.
48	SAW36	Anthony Waterer Spirea	<i>Spiraea x bum, 'Anthony Waterer'</i>	36" Ht.	Cont.
59	SP36	Miss Kim Lilac	<i>Syringas patula 'Miss Kim'</i>	36" Ht.	Cont.
60	VD36	Arrowwood Viburnum	<i>Viburnum dentatum</i>	36" Ht.	Cont.
195	TOTAL SHRUBS				



LANDSCAPE CALCULATIONS:
PER CITY OF ROCHESTER HILLS ZONING ORDINANCE

INTERIOR PARKING LOT LANDSCAPE
REQUIRED:
5% OF VEHICLE USE AREA, 1 TREE/150 SF, 1 TREE PER ISLAND
164,135 x 5% = 8,206.75 SF/150 = 54.7 TREES REQ'D

PROVIDED: 55 DEC. TREES & 12,534 SF LANDSCAPING

RIGHT OF WAY LANDSCAPING AT W. HAMLIN ROAD
REQUIRED: 1 DEC TREE / 35 LF OF RIGHT OF WAY
1 ORN TREE / 60 LF OF RIGHT OF WAY

W. HAMLIN ROAD: 613 LF - 30 - 30 (DRIVE APPROACHES) = 553 LF
553 / 35 LF = 15.8 DEC.; 553 / 60 = 9.21 ORN. TREES

PROVIDED: 16 DEC. & 10 ORNAMENTAL TREES

DUE TO OVERHEAD UTILITY CONFLICTS (TREES MUST BE A MIN. 15' OFF
OVERHEAD UTILITIES), SOME R.O.W. TREES AT HAMLIN ROAD HAVE BEEN
LOCATED ELSEWHERE ON SITE.

PERIMETER PARKING LOT TREES AT HAMLIN ROAD
REQUIRED: 1 DEC TREE / 25 LF OF RIGHT OF WAY
1 ORN TREE / 35 LF OF RIGHT OF WAY

W. HAMLIN ROAD:450 LF - 30 (DRIVE APPROACH) = 420 LF
420 LF/25 LF=16.8 DEC.; 420/35 = 12 ORN. TREES

PROVIDED: 17 DEC., 12 ORN.TREES & SHRUB HEDGE ROW

DUE TO OVERHEAD UTILITY CONFLICTS (TREES MUST BE A MIN. 15' OFF
OVERHEAD UTILITIES) AND CONFLICTS WITH REQUIRED R.O.W. PLANTINGS,
PERIMETER PARKING LOT TREES AT HAMLIN ROAD HAVE BEEN LOCATED
ELSEWHERE ON SITE, SHRUB HEDGE CANNOT EXTEND ENTIRE LENGTH OF
PARKING LOT DUE TO SIGHT LINE CONSTRAINTS PER CITY OF ROCHESTER
HILLS.

BUFFER ZONE TYPE B (SOUTH PROPERTY LINE - M-59)
REQUIRED: 2 DEC TREES / 100 LF, 1.5 ORN TREES / 100 LF,
AND 4 SHRUBS / 100 LF
(SOUTH PROPERTY LINE LIMITS NOT SHOWN ON PLAN)

2,195.94 LF / 100 = 43.9 DEC. 43.9 EVG., 32.9 ORN. & 87.84 SHRUBS

PROVIDED: 42 EXISTING HEALTHY DEC. TREES + 2 NEW DEC. CANOPY TREES,
44 EVG., 33 ORN., AND 88 SHRUBS

NOTE: SEE EXISTING TREE LIST UNDER NOTES COLUMN LABELED "BUFFER" FOR
DECIDUOUS TREES THAT COUNT TOWARDS THE BUFFER ZONE REQUIREMENT.

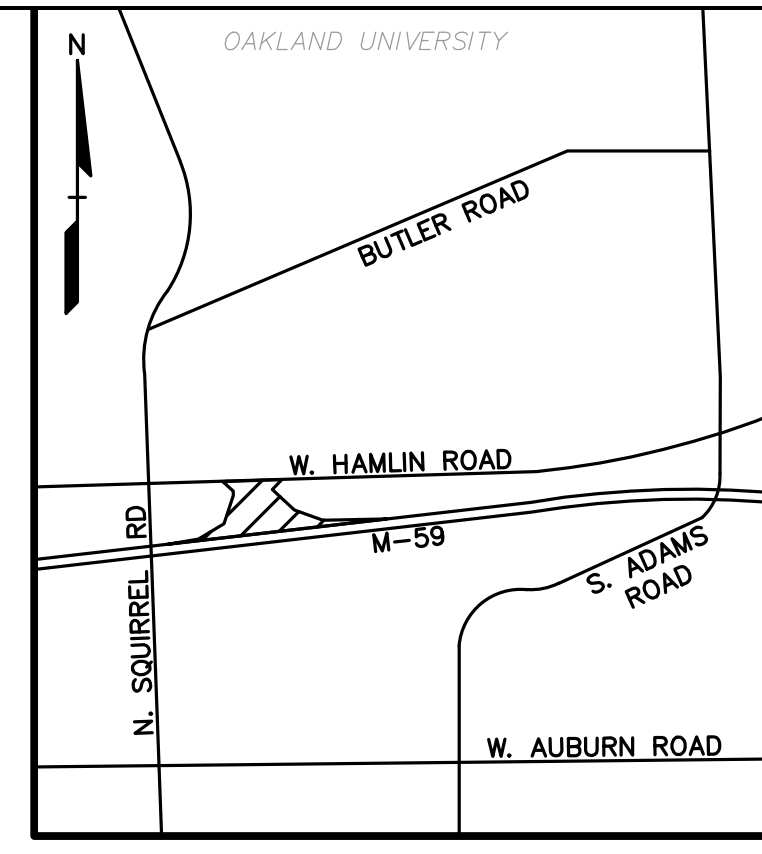
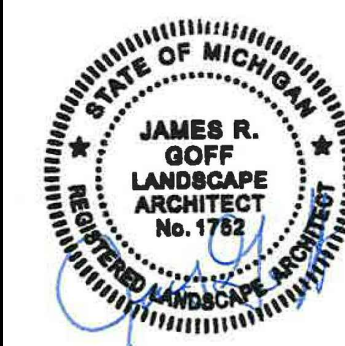
REPLACEMENT TREES
REQUIRED: 236 TREES REMOVED = 236 2" CAL. DEC. OR 8' HT. EVG.
REPLACEMENT TREES REQUIRED:
12 SPECIMEN TREES TO REMAIN = 12, 2" TREE REPLACEMENT
CREDIT 236 - 12 = 224 REPLACEMENT TREES REQUIRED

PROVIDED: 37 - 2.5" CAL. DEC. TREES & 58 - 8' HT. EVG. TREES = 95
TOTAL REPLACEMENT TREES, REMAINING 129 REPLACEMENT TREES
ARE TO BE PAID INTO CITY'S TREE FUND AT A RATE OF \$216.75
TREE - \$216.75 = 129 TREES = \$27,960.75

SEE SHEET T-1.0 FOR TREE REPLACEMENT CALCS. & EXISTING TREE LIST

NOTE:
IRRIGATION OVERSPRAY SHALL NOT BE BROADCAST
ON CITY PATHWAY OR CITY SIDEWALK, TYP.

NOTE:
PRIOR TO THE RELEASE OF THE PERFORMANCE
BOND, THE CITY OF ROCHESTER HILLS MUST
INSPECT ALL LANDSCAPE PLANTINGS.

[illegible]

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE 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.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

**3 FULL WORKING DAYS
BEFORE YOU DIG CALL**



Know what's below
Call before you dig
MISS DIG System, Inc.

1-800-482-7171 www.missdig.net
(TOLL FREE)



PEA, Inc.

2430 Rochester Ct, Ste 100
Troy, MI 48063-1872
t: 248.689.9090
f: 248.689.1044
www.peainc.com

		\$	
--	--	----	--

LAN S... AN TD

NTS

SCAFFOLDING
STERILIZATION
 80, T. 03 N.
 COUNTY
 WC

WEST
ROAD, SUITE 100
48377

ANDS
HES
SECTION 3
AKLAND

SUR.

E INVE
3 MILE R
NOVI, MI

RY LA
ROCI
1/4 OF S
HILLS, C

JRG

LSID
39475 1

INAR
IDE R
THE NW
CHESTER

DN.

HILL

PRE
HI
CITY
ES. J

		DB
ORIGINAL ISSUE DATE: OCTOBER 24, 2019		

PEA JOB NO. 2019-238

DRAWING NUMBER:
110

L-1.0

CITY FILE #19-040, SECTION 30

NOT FOR CONSTRUCTION

XREF: S:PROJECTS\2019\2019238\DWG\19238-TOPCBASE.DWG
XREF: S:PROJECTS\2019\2019238\DWG\SITEPLANS\X-BASE-19238.DWG
XREF: S:PROJECTS\2019\2019238\DWG\SITEPLANS\X-TBLK-19238.DWG

REVISIONS



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.

THIS DRAWING AND DESIGN ARE THE PROPERTY OF
PEA, INC. THEY ARE SUBMITTED ON THE CONDITION
THAT THEY ARE NOT TO BE USED, REPRODUCED, OR
COPIED, IN WHOLE OR IN PART, OR USED FOR
FURNISHING INFORMATION TO OTHERS, WITHOUT THE
PRIOR WRITTEN CONSENT OF PEA, INC. ALL COMMON
LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE
HEREBY SPECIFICALLY RESERVED. © 2018 PEA, INC.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD HARMLESS THE OWNER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN

**3 FULL WORKING DAYS
BEFORE YOU DIG CALL**

811

Know what's **below**
Call before you dig
MISS DIG System, Inc.

1-800-482-7171 www.missdig.net
(TOLL FREE)



PEA, Inc.

2430 Rochester Ct, Ste 100
Troy, MI 48063-1872
t: 248.689.9090
f: 248.689.1044
www.peainc.com

HILLSIDE INVESTMENTS

39475 13TH AVE S.W., SUITE 203
ALBUQUERQUE, NM 87321

LANDSCAPE DETAILS

HILLSIDE ROCHESTER HILLS

PART OF THE NW 1/4 OF SECTION 30, T.03 N., R. 11 E.,
CITY OF ROCHESTER HILLS, OKLAHOMA COUNTY, MICHIGAN

DES.	JRG	JRG	SUR.	WC	TDS
PROJECTS 2019-2019-2019	ROCHESTER HILLS	ROCHESTER HILLS	ROCHESTER HILLS	ROCHESTER HILLS	ROCHESTER HILLS

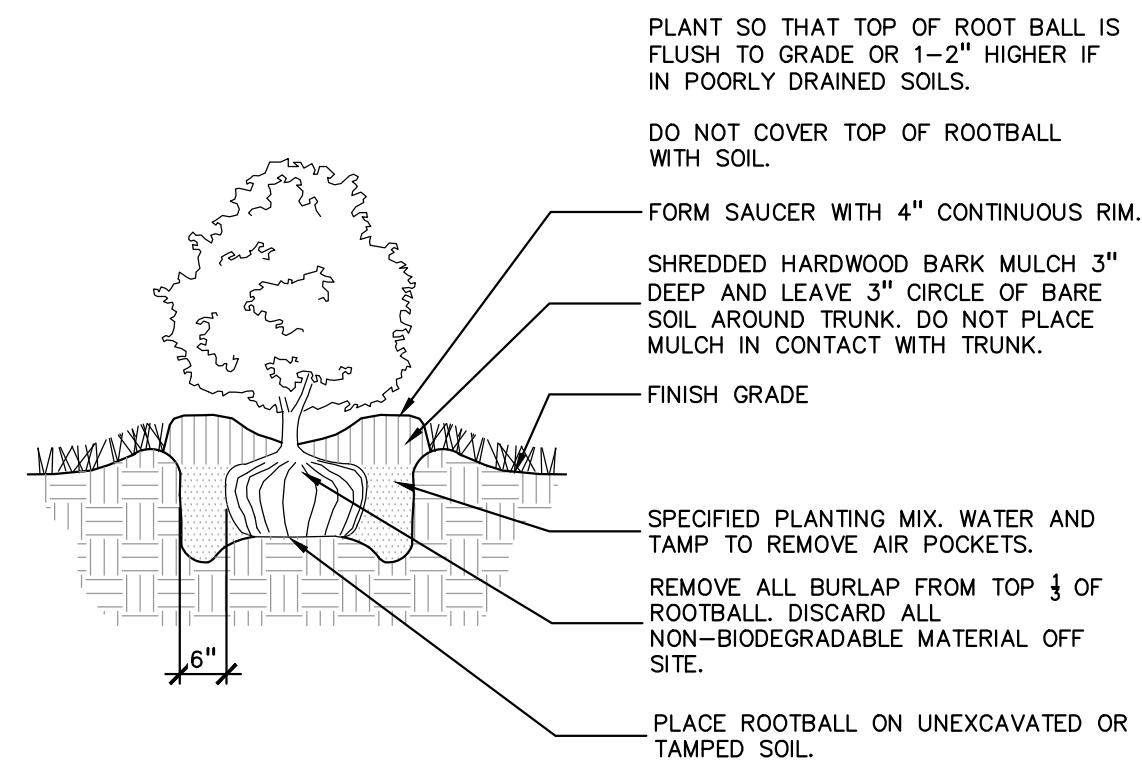
ORIGINAL ISSUE DATE:
OCTOBER 24, 2019

PEA JOB NO. 2019-238

SCALE: SEE DWG

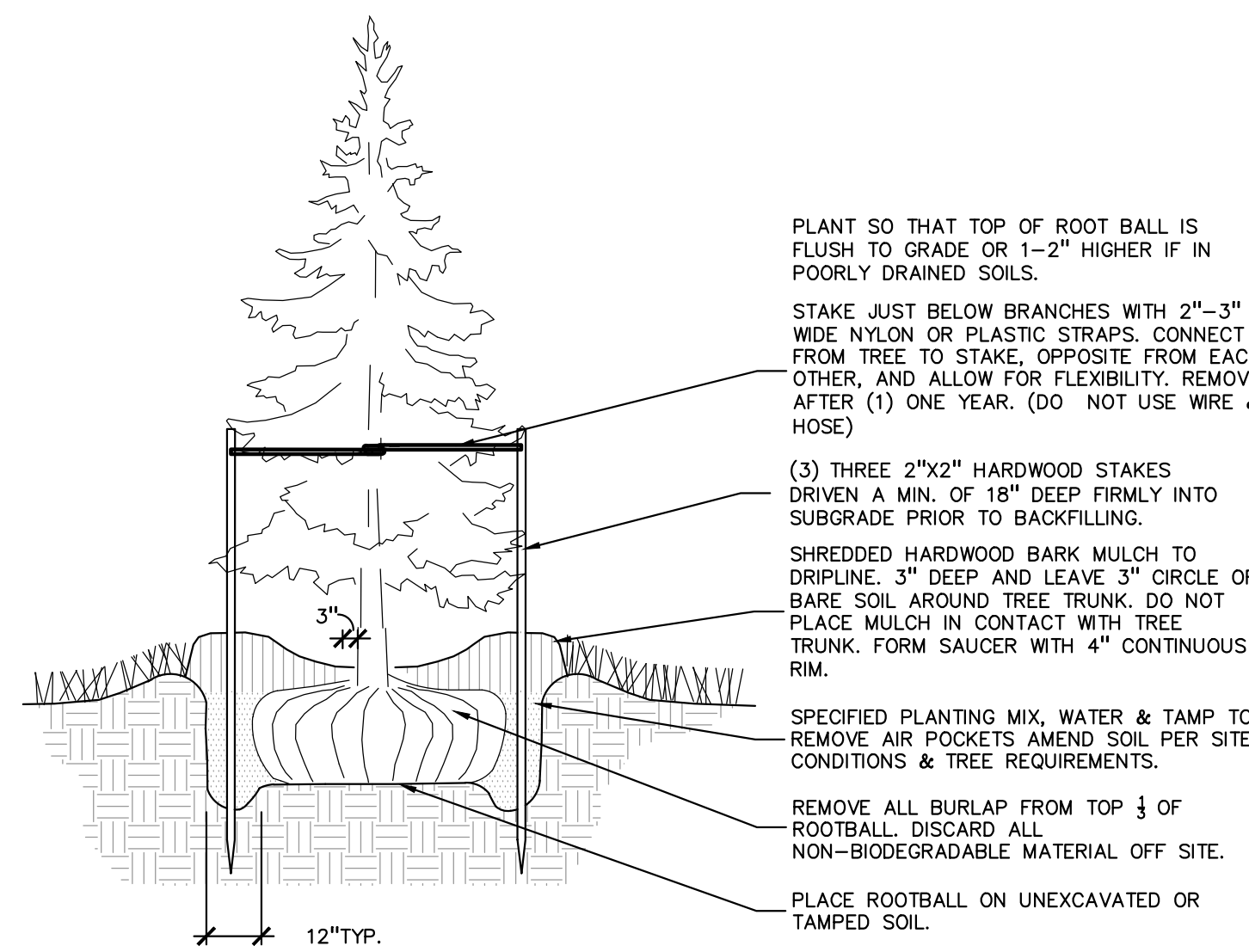
DRAWING NUMBER:

L-1.1



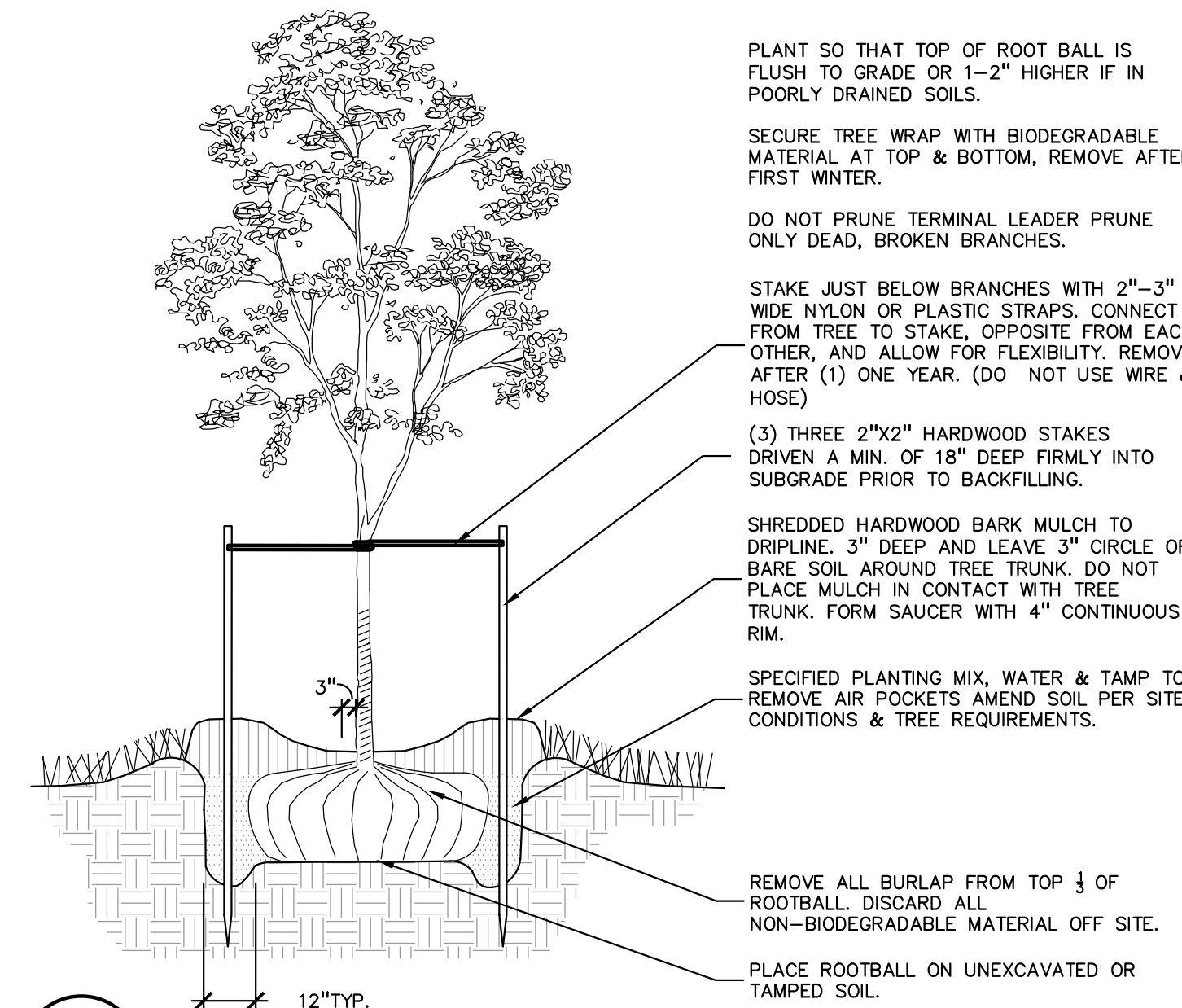
SHRUB PLANTING DETAIL

SCALE: 1" = 2'-0"



EVERGREEN TREE PLANTING DETAIL

SCALE: 1" = 3'-0"



DECIDUOUS TREE PLANTING DETAIL

SCALE: 1" = 3'-0"

CITY FILE #19-040, SECTION 30

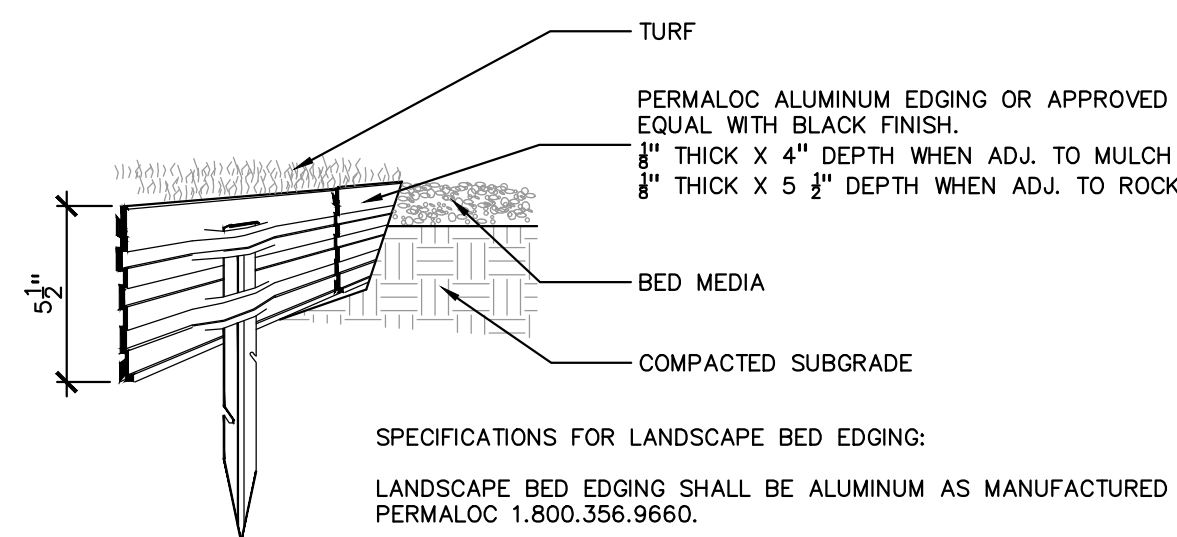
NOT FOR CONSTRUCTION

XREF: S:\PROJECTS\2019\2019238\DWG\19238-TOPOBASE.DWG
XREF: S:\PROJECTS\2019\2019238\DWG\SITEPLANS\X-BASE-19238.DWG
XREF: S:\PROJECTS\2019\2019238\DWG\SITEPLANS\X-TBLK-19238.DWG

COST OPINION				
PROJECT NAME:		HILLSIDE ROCHESTER HILLS	JOB NO.	2019-238
LANDSCAPE				
COST OPINION				
ESTIMATED QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	ITEM PRICE
15,371	S.Y.	Sod Lawn	\$6	\$92,226
195	E.A.	Shrubs	\$50	\$9,750
55	E.A.	Sub-Canopy Ornamental Trees	\$300	\$16,500
127	E.A.	Deciduous	\$400	\$50,800
129	E.A.	Tree Fung Trees	\$217	\$27,961
102	E.A.	Evergreen Trees	\$325	\$33,150
14	C.Y.	Mulch (3" Depth)	\$35.00	\$490
54	C.Y.	Plant mix for beds (12" Depth)	\$15.00	\$810
744	L.F.	Aluminum edge	\$5.00	\$3,720
1	E.A.	Irrigation	\$30,000	\$30,000
TOTAL LANDSCAPE				\$265,407
Does not include foundation plants, perennials, mobilization, contingency				

GENERAL LANDSCAPE NOTES:

1. 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.
2. 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.
3. ALL PLANT MATERIAL TO BE PREMIUM GRADE NURSERY STOCK AND SHALL SATISFY AMERICAN ASSOCIATION OF NURSERYMEN STANDARD FOR PURCHASER. COTYLOSTEAL LANDSCAPE MATERIAL SHALL BE NORTHERN GROWN, NO. 1, GRADE.
4. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON LANDSCAPE PLAN PRIOR TO PRICING THE WORK.
5. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL NOT MEETING SPECIFICATIONS.
6. ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.
7. ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER; TREES WITH FORKED OR IRREGULAR TRUNKS WILL NOT BE ACCEPTED.
8. 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.
9. ALL EVERGREEN TREES SHALL BE HEAVILY BRANCHED AND FULL TO THE GROUND, SYMMETRICAL IN SHAPE AND NOT SHEARED FOR THE LAST FIVE GROWING SEASONS.
10. ALL TREES TO HAVE CLAY OR CLAY LOAM BALLS, TREES WITH SAND BALLS WILL BE REJECTED.
11. 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.
12. 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.
13. IT IS MANDATORY THAT POSITIVE DRAINAGE IS PROVIDED AWAY FROM ALL BUILDINGS.
14. ALL PLANTING BEDS SHALL RECEIVE 3" SHREDED HARDWOOD BARK MULCH WITH PER EMENT, SEE SPECIFICATIONS. SHREDED PALETTE AND DYED MULCH WILL NOT BE ACCEPTED.
15. ALL LANDSCAPED AREAS SHALL RECEIVE 3" COMPACTED TOPSOIL.
16. SEE SPECIFICATIONS FOR ADDITIONAL COMMENTS, REQUIREMENTS, PLANTING PROCEDURES AND WARRANTY STANDARDS.
17. FOR NON-LAWN SEED MIX AREAS, AS NOTED ON PLAN, BROADCAST SEED MAXIMALLY FOR INVASIVE SPECIES CONTROL.



ALUMINUM EDGE DETAIL

SCALE: 1/2" = 1'-0"

CITY OF ROCHESTER HILLS IRRIGATION NOTES:

1. ALL SOD AND PLANT BED AREAS TO BE IRRIGATED BETWEEN THE HOURS OF 12 AM AND 5 AM ONLY.
2. EXTEND/ADJUST EXISTING IRRIGATION SYSTEM FOR BLDG EXPANSION, NEW LAWN AND PLANT BEDS. VERIFY CONDITION OF EXISTING SYSTEM.
3. NO IRRIGATION HEADS TO SPRAY ON CITY PATHWAY, TYP.
4. IRRIGATION CONTRACTOR TO PROVIDE SHOP DRAWINGS TO LANDSCAPE ARCH./CITY PER CITY. SPEC. FOR APPROVAL.

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 sidewalk. Evergreen and ornamental trees must be planted at least 10' from the edge of the public sidewalk. 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 sidewalk 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.

CITY OF ROCHESTER HILLS MAINTENANCE AGREEMENT:
PROPERTY MAINTENANCE:

- 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 materials 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 material or materials shall be in compliance with the maintenance requirements of this Section 138.2-109 with the exception that any non-conformity with the approved landscape plan will 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.

SPECIFICATIONS FOR LANDSCAPE BED EDGING:

LANDSCAPE BED EDGING SHALL BE ALUMINUM AS MANUFACTURED BY PERMALOC 1.800.356.9660.

(8") EIGHT OR (16") SIXTEEN FOOT SECTIONS SHALL BE USED WITH ONE STAKE PER (38") THIRTY EIGHT INCHES OF EDGING.

EDGING SHALL BE $\frac{1}{8}$ " THICK X 4" DEPTH WHEN ADJ. TO MULCH AND
 $\frac{3}{8}$ " THICK X 5 $\frac{1}{2}$ " DEPTH WHEN ADJ. TO ROCK, FINISH, BLACK
 DURAFLEX MEETS AAMA 2603

STAKE SHALL SECURELY ENGAGE EDGING AND SHALL BE ENTIRELY
BELOW TOP SURFACE OF EDGING.

EDGING SHALL HAVE A MINIMUM OF (2") TWO INCHES OF INTERLOCKING OVERLAP BETWEEN SECTIONS.

INSTALL AS PER MANUFACTURER'S SPECIFICATIONS WITH TOP OF
EDGING $\frac{1}{4}$ "- $\frac{1}{2}$ " ABOVE COMPACTED FINISH GRADE. FINISH GRADE TO
BE COMPACTED ON EITHER SIDE OF EDGING TO MAINTAIN STABILITY.