

# SITE PLAN DRAWINGS FOR GENERAL TRUCKING

## CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

**LEGAL DESCRIPTION**

(Per Oakland County Tax Records)

**PARCEL NO. 15-24-401-041**

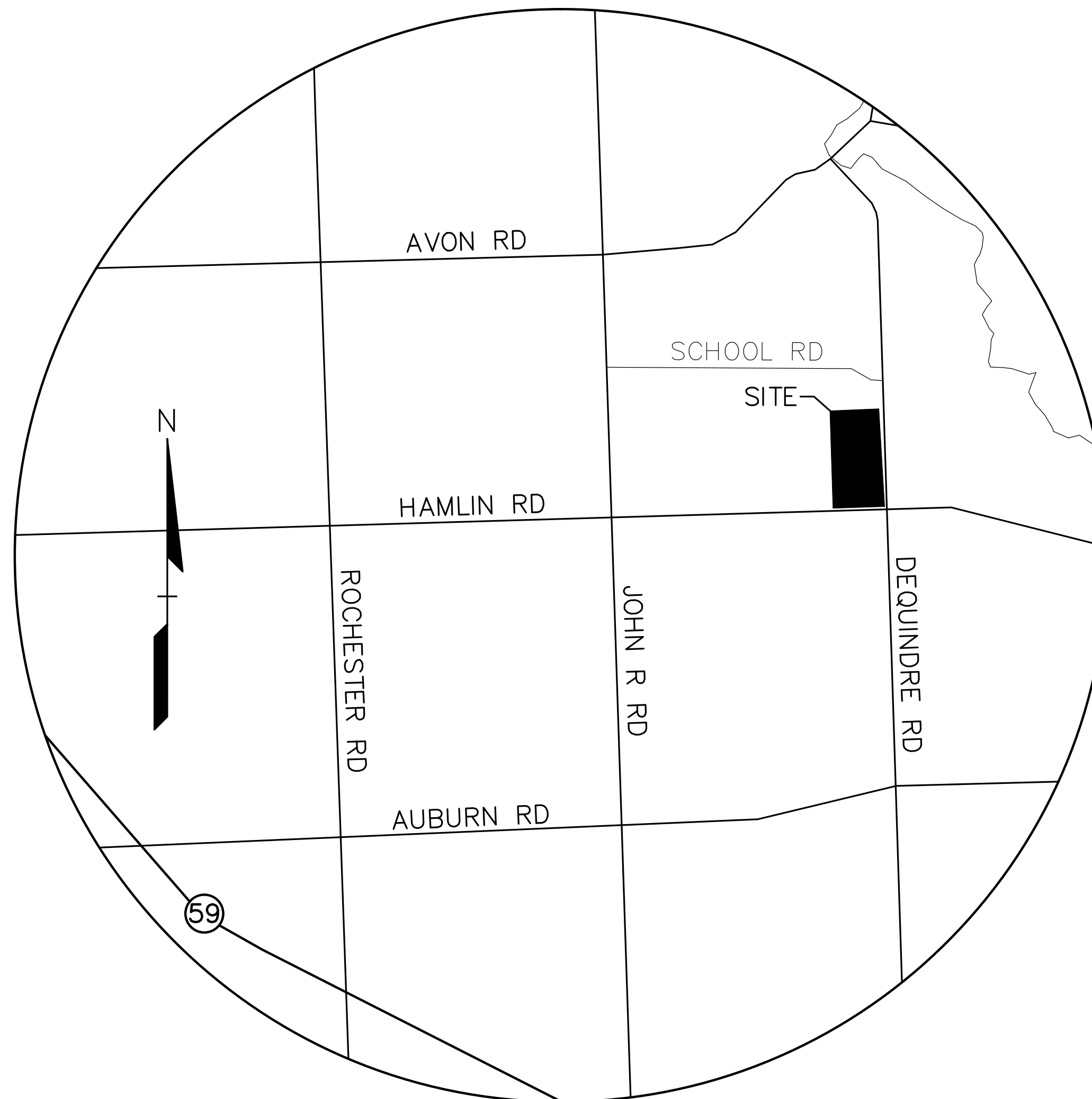
Town 3 North, Range 11 East, Section 24 Part of the Southeast 1/4 Beginning at a point distant S02°32'40"E, 234.05 feet from the East 1/4 Corner; thence S02°32'40"E 2432.20 feet to the Southeast section corner; thence S87°55'00"W 405.15 feet; thence N02°32'40"W 1798.65 feet; thence S87°55'00"W 405.15 feet; thence N54°44'40"E 235.40 feet; thence N30°57'40"E 6.20 feet; thence N02°34'00"W 716.03 feet; thence along the south right-of-way of a road on a curve to the right, having a radius of 539.96 feet, chord bearing S68°37'02"E 222.08 feet, a distance of 223.68 feet & S 56°45'00"E 28.03 feet & on a curve to the left, having a radius of 605.96 feet, chord bearing S74°50'00"E 376.18 feet, a distance of 382.50 feet & N87°05'00"E 26.85 feet to the Point of Beginning, Except the NORTH 776.55 feet thereof.

**LEGAL DESCRIPTION**

(As surveyed by Professional Engineering Associates)

**PARCEL NO. 15-24-401-041**

Part of the Southeast 1/4 Section 24, Town 3 North, Range 11 East, Rochester Hills, Oakland County, Michigan, being more particularly described as: Commencing at the East 1/4 Corner of said Section 24; thence along the east line of said section, S00°09'04"W, 776.55 feet to the Point of Beginning; thence continuing along said line, S00°09'04"W, 1883.46 feet to the Southeast corner of said Section 24; thence along the south line of said section, N89°34'19"W, 405.15 feet; thence N00°09'04"E, 1799.87 feet; thence N89°23'16"W, 405.15 feet; thence N57°26'24"E, 198.80 feet; thence S87°15'41"E, 643.67 feet to the aforementioned east line of said Section 24 and the Point of Beginning. Subject to the rights of the public over the southerly 33 feet and the westerly 33 feet thereof, known as Hamlin and Dequindre Roads.



LOCATION MAP - NOT TO SCALE

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- PFP-1 PROPOSED FLOOR PLAN
- PE-1 PROPOSED ELEVATIONS
- PE-1color PROPOSED COLOR ELEVATIONS

**DEVELOPER:**

J.B. DONALDSON COMPANY  
37610 HILLS TECH DRIVE  
FARMINGTON HILLS, MI 48331  
CONTACT: BENNETT DONALDSON  
PHONE: (248) 344-9045  
FAX: (248) 536-2353

**LANDSCAPE ARCHITECT:**

PROFESSIONAL ENGINEERING ASSOCIATES, INC.  
2900 E. GRAND RIVER AVENUE  
HOWELL, MI 48843  
CONTACT: JEFF SMITH, R.L.A., LEED AP  
PHONE: (517) 546-8583  
FAX: (517) 546-8973

**CIVIL ENGINEER:**

PROFESSIONAL ENGINEERING ASSOCIATES, INC.  
2430 ROCHESTER COURT, SUITE 100  
TROY, MICHIGAN 48063  
CONTACT: STEVE SORENSEN, P.E. / EMIL BUNEK P.E.  
PHONE: (248) 689-9090  
FAX: (248) 689-1044

**OWNER:**

GENERAL TRUCKING  
24121 MOUND ROAD  
WARREN, MI 48091  
CONTACT: EMIL JAKUPOVIC  
PHONE: (866) 943-6878 x260  
FAX: (866) 246-1544

**PROJECT ARCHITECT:**

GILLETT ASSOCIATES  
32969 HAMILTON CT. STE 211  
FARMINGTON HILLS, MI 48334  
CONTACT: TIMOTHY B. MELVIN, ALA LEED AP  
PHONE: (248) 489-2345  
FAX: (248) 489-2344



**CAUTION!**  
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CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR SHALL 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. THIS REQUIREMENT SHALL 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.

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Fax: (248) 689-1044  
website: www.peainc.com

J.B. DONALDSON COMPANY	37610 HILLS TECH DRIVE FARMINGTON HILLS, MI 48331	COVER SHEET	GENERAL TRUCKING	CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN	DES.	DN.	ESB	SUR.	PEA	P.M.	SAS
ORIGINAL ISSUE DATE: JUNE 11, 2014											
PEA JOB NO. 2014-036											
SCALE: NONE											
DRAWING NUMBER:											
<b>COVER</b>											

NO.	BY	CHK	DESCRIPTION	DATE
2	ESB	SAS	REVISED PER SITE PLAN REVIEW COMMENTS	7/20/14
1	ESB	SAS	REVISED PER SITE PLAN REVIEW COMMENTS	6/25/14

**REVISIONS**

**SITE DATA TABLE:**

<b>LAND AREA:</b>		<b>ZONING INFO:</b>	
GROSS =	18.37 ACRES	I - INDUSTRIAL	
NET (TO PROPOSED R.O.W.) =	10.93 ACRES		
<b>PROPOSED BUILDING AREA (GROSS):</b>		<b>BUILDING SETBACKS:</b>	
TOTAL BUILDING AREA =	40,000 S.F.	FRONT (HAMLIN)	50'
WAREHOUSE AREA =	26,000 S.F.	SIDE (DEQUINDRE)	50'
SHOP AREA =	6,000 S.F.	SIDE (WEST)	50'
OFFICE AREA =	8,000 S.F.	REAR (SOUTH)	50'
<b>PARKING REQUIRED:</b>		<b>REQUIRED:</b>	<b>PROVIDED:</b>
WAREHOUSE/DISTRIBUTION:			
1 SPACE / 1,700 SF FLOOR AREA			157.00'
+ 1 SPACE / 350 SF OFFICE AREA			88.28'
32,000 / 1,700 = 18.8			83.87'
8,000 / 350 = 22.8			817.48'
18.8 + 22.8 = 41.6 = 42 SPACES REQUIRED		<b>Notes:</b>	
<b>PARKING PROVIDED:</b>		1. Maximum building height allowed is 3 stories/42 feet.	
PARKING SPACES PROVIDED = 42 SPACES		2. All roof and ground mounted mechanical equipment shall be screened from adjacent roads and properties.	
(INCLUDING 2 HC SPACES)		3. Fire lanes shall be designated by the fire code official, and shall be conspicuously posted on both sides of the fire lane, with fire lane signs spaced not more than 100 feet apart, and in conformance with the MMUTCD.	
		4. All pedestrian walkways and required egress doors shall comply with Michigan Barrier Free Design Criteria.	

**FIRE DEPARTMENT NOTES:**

- 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 BURNING PERMIT GUIDELINES. CONTACT ROCHESTER HILLS FIRE DEPARTMENT FOR PERMIT INFORMATION. FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 307.6.2 & 307.6.2.3.
- FIRE LANES SHALL BE DESIGNATED BY THE FIRE CODE OFFICIAL, AND SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE, WITH FIRE LANE SIGNS SPACED NOT MORE THAN 100 FEET APART, "NO STOPPING, STANDING, PARKING, FIRE LANE", AND IN CONFORMANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 506.

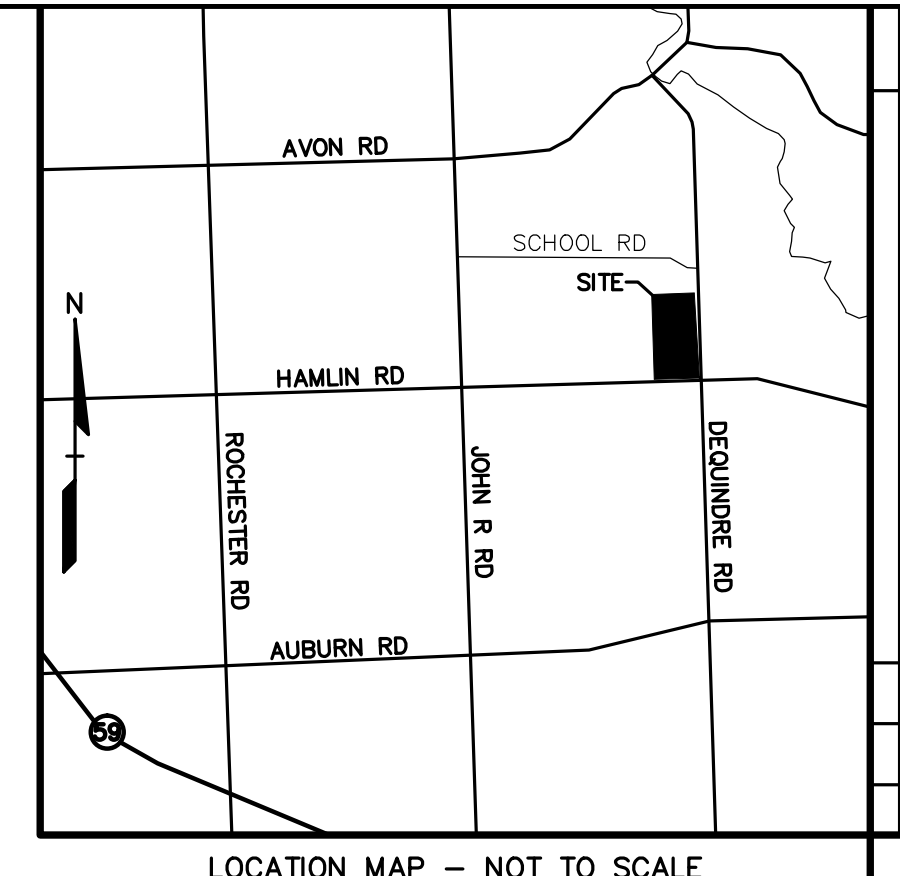
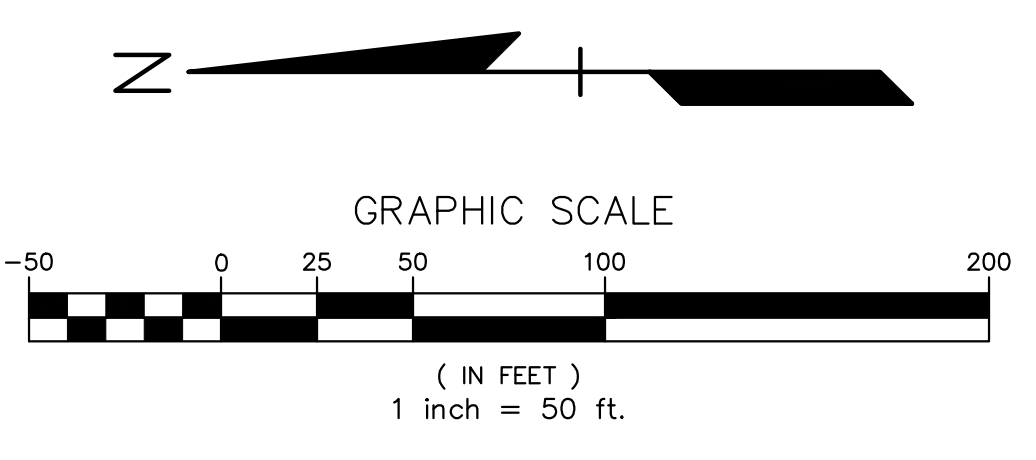
**SIGN LEGEND:**

- 'NO STOPPING STANDING OR PARKING FIRE LANE' SIGN [ ]
- 'BARRIER FREE PARKING' SIGN [ ]
- 'ONE WAY' SIGN [ ]

REFER TO SHEET P-6.1 FOR SIGN DETAILS

**USE STATEMENT:**

- Number of employees by establishment and shifts: The building will occupy approximately 17 employees over 2 shifts, with approximately 70 freight drivers on staff, but not working within the building. On average there will be approximately 12 -15 staff/office personal vehicles on site, and 10 - 15 freight trucks in the "trucking lot area".
- Operating hours: Monday thru Friday, 6:00AM - 4:00PM; and Saturday thru Sunday 8:00AM - 8:00PM
- Other relevant information: The facility General Trucking, Inc. is a premier carrier, transportation broker, and freight forwarding company with diverse shipping requirements of industries and businesses; both locally and through 48 states, Canada, and Mexico. Warehousing of goods are minimal and typically only required to meet the need of a client."
- The Shop area will be used for maintenance/repairs of company owned or leased equipment. This includes anything from tire and brake repairs, engine and transmission work, and regular oil changes to name a few. The shop area will not service outside equipment.
- Shipping contents are currently stored in an existing warehouse at the General Trucking terminal and in a rented warehouse. Some contents are stored long term (rented facility) whereas others are consolidated on a regular basis (i.e. weekly) and shipped (terminal). The intent is to bring these two locations together and combine both the long-term warehousing and the consolidation activity into the proposed facility.
- The proposed site will not be used for the storage or transport of hazardous materials with the exception of limited quantities of fluids used for service work on company equipment and vehicles; e.g. new and used oil, lubricants.



**REVISIONS**

NO.	BY	DATE	DESCRIPTION
1	ESB	6/25/14	REVISED PER SITE PLAN REVIEW COMMENTS
2	SAS	7/20/14	REVISED PER SITE PLAN REVIEW COMMENTS



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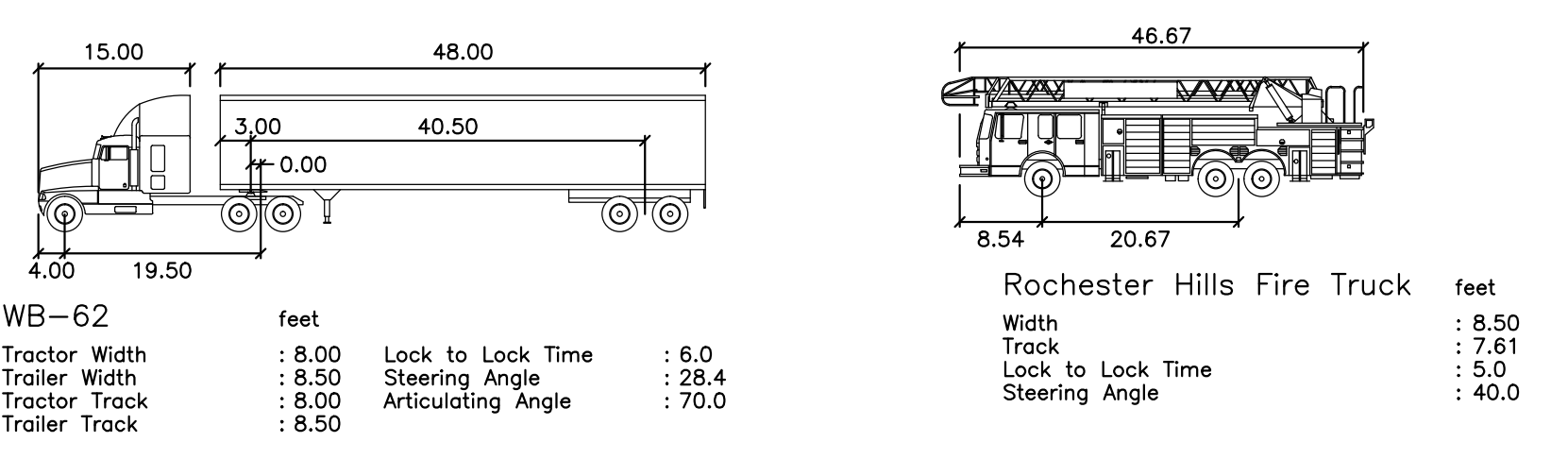
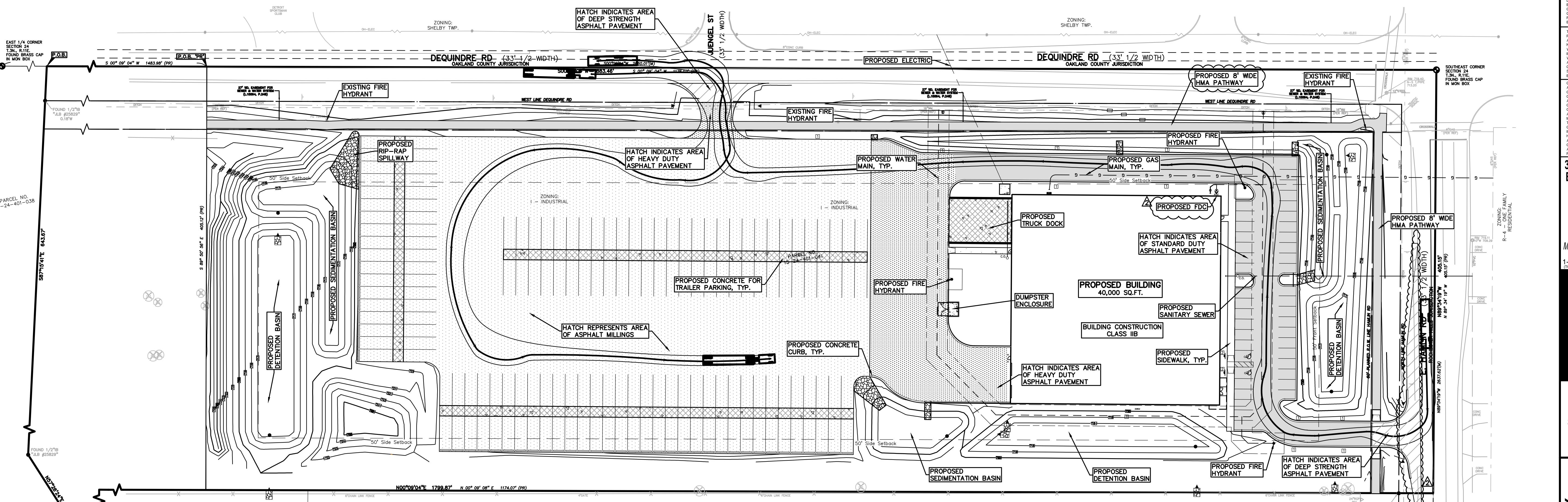
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37610 HILLS TECH DRIVE  
FARMINGTON HILLS, MI 48331

**OVERALL PLAN GENERAL TRUCKING**  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES. ESB SUR. PEA P.M.  
DN. ESB SUR. PEA P.M.  
SAS

ORIGINAL ISSUE DATE: JUNE 11, 2014  
PEA JOB NO. 2014-036  
SCALE: 1"=50'  
DRAWING NUMBER: P-1.1



**TRUCK ACCESS:**  
FOR TRUCK TURN DESIGN A ROCHESTER HILLS FIRE TRUCK WAS USED AT THE SOUTH ENTRANCE TO THE SITE AND A WB-62 SEMI TRUCK AND TRAILER WAS USED AT THE NORTH ENTRANCE

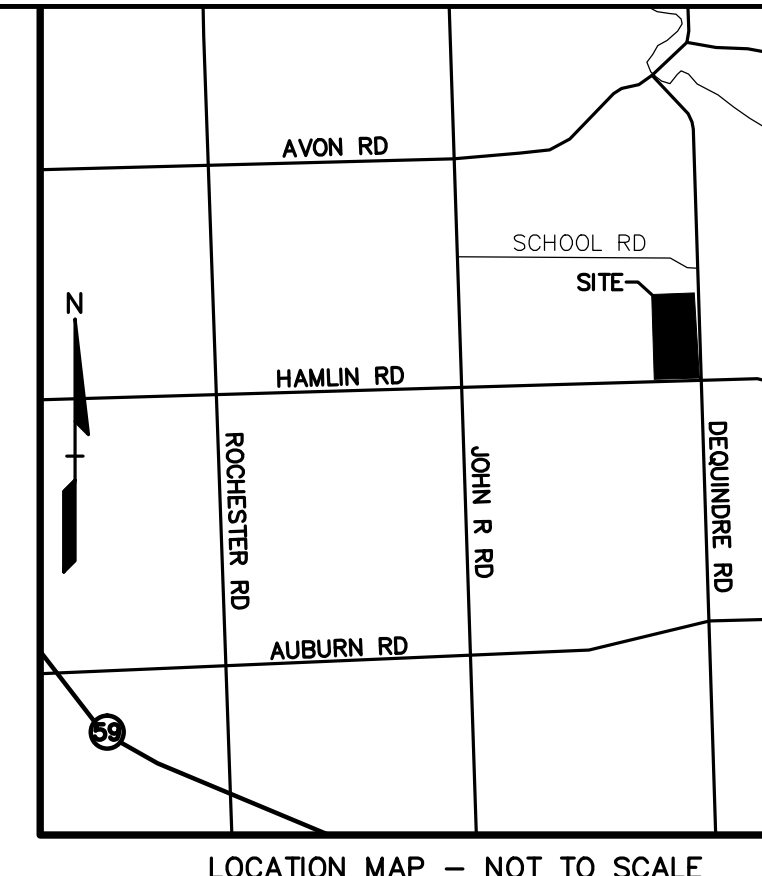
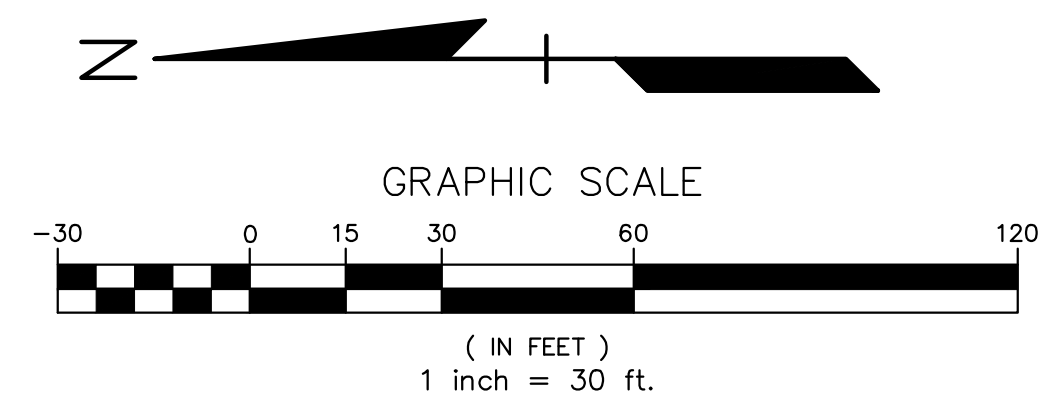
**BENCHMARKS** (GPS DERIVED - NAVD88)

**BM#301**  
Arrow on hydrant, west side of Dequindre, opposite the Detroit Sportman Club entrance drive.  
Elev. = 723.07

**BM#302**  
Arrow on hydrant, west side of Dequindre, south of Juengel Street.  
Elev. = 722.33

**BM#303**  
Arrow on hydrant at the northwest corner of Dequindre & Hamlin Roads.  
Elev. = 721.83

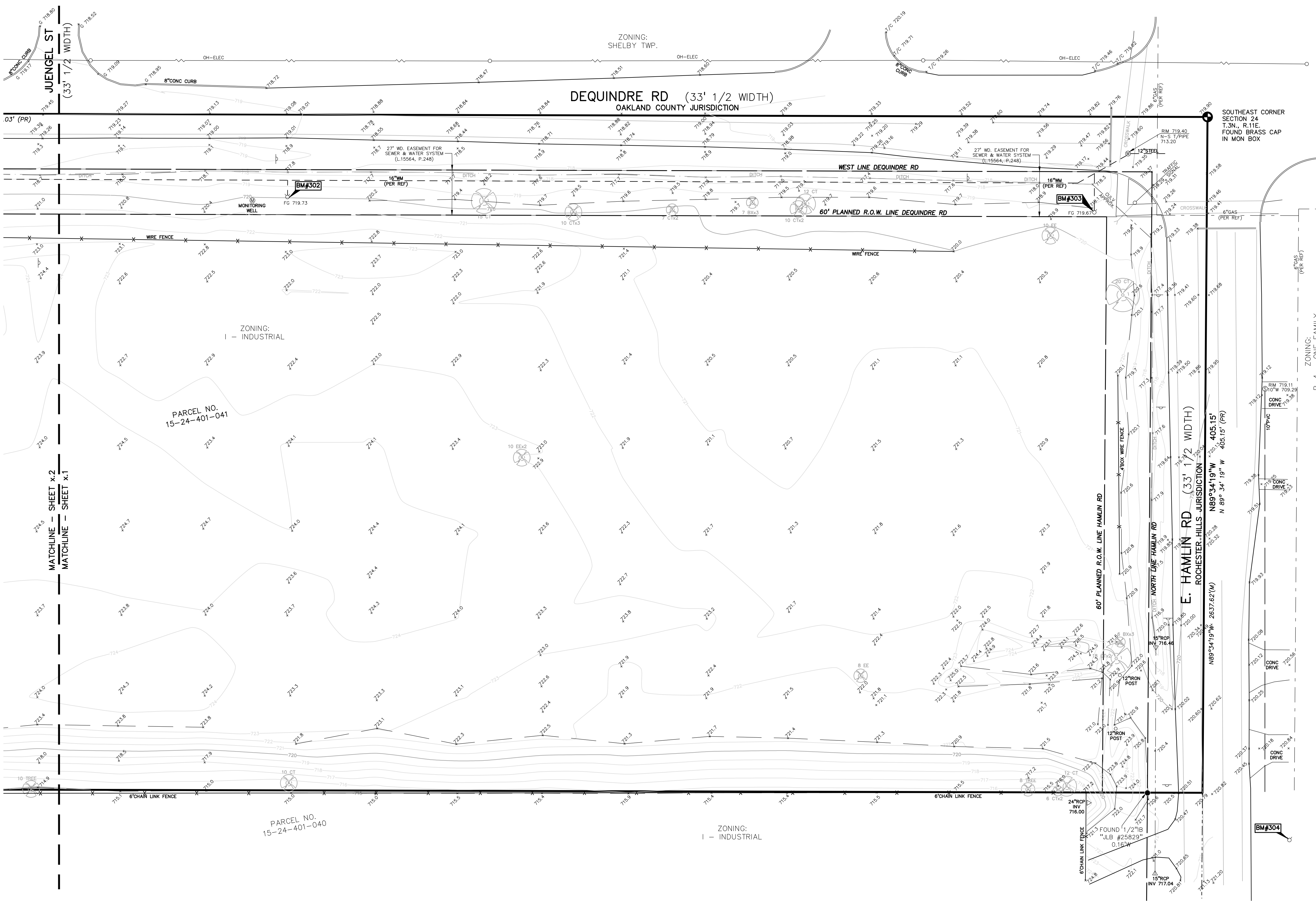
**BM#304**  
Arrow on hydrant, south side of Hamlin Road, approx. 400 feet west of Dequindre.  
Elev. = 723.71



NO.	BY	DATE	DESCRIPTION
1	ESB	06/29/14	REVISION PER SITE PLAN REVIEW COMMENTS
2	SAS	07/01/14	REVISION PER SITE PLAN REVIEW COMMENTS

**NOTE: SEE SHEET T-1.1 AND T-1.2 FOR TREE INVENTORY**

**FLOODPLAIN:**  
By graphical 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 Number 26125C-0411F & -0413F, Effective September 29, 2006.



**LEGEND**

- ELEC. PHONE OR CABLE TV O.H. LINE, POLE & GUY WIRE
- UNDERGROUND CABLE TV, CATV 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
- SEWER MAIN, CLEANOUT & MANHOLE
- STORM SEWER, CLEANOUT & MANHOLE
- COMBINED SEWER & MANHOLE
- CATCH BASIN, INLET, YARD DRAIN
- POST INDICATOR VALVE
- WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
- MAILBOX, TRANSFORMER, IRRIGATION CONTROL VALVE
- UNIDENTIFIED STRUCTURE
- SPOT ELEVATION
- CONTOUR LINE
- FENCE
- GUARD RAIL
- STREET LIGHT
- SIGN
- CONCRETE
- ASPHALT
- GRAVEL SHOULDER
- WETLAND



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37610 HILLS TECH DRIVE  
FARMINGTON HILLS, MI 48331

**TOPOGRAPHIC SURVEY - SOUTH GENERAL TRUCKING**  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES. ESB DN. ESB SUR. PEA P.M. SAS  
S:\PROJECTS\2014\2014036\DWG\CONSTRUCTION\JOB-14036.DWG

ORIGINAL ISSUE DATE:  
JUNE 11, 2014

PEA JOB NO. 2014-036

SCALE: 1"=30'

DRAWING NUMBER:

**BENCHMARKS** (GPS DERIVED - NAVD88)

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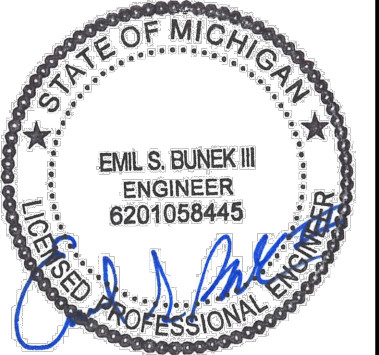
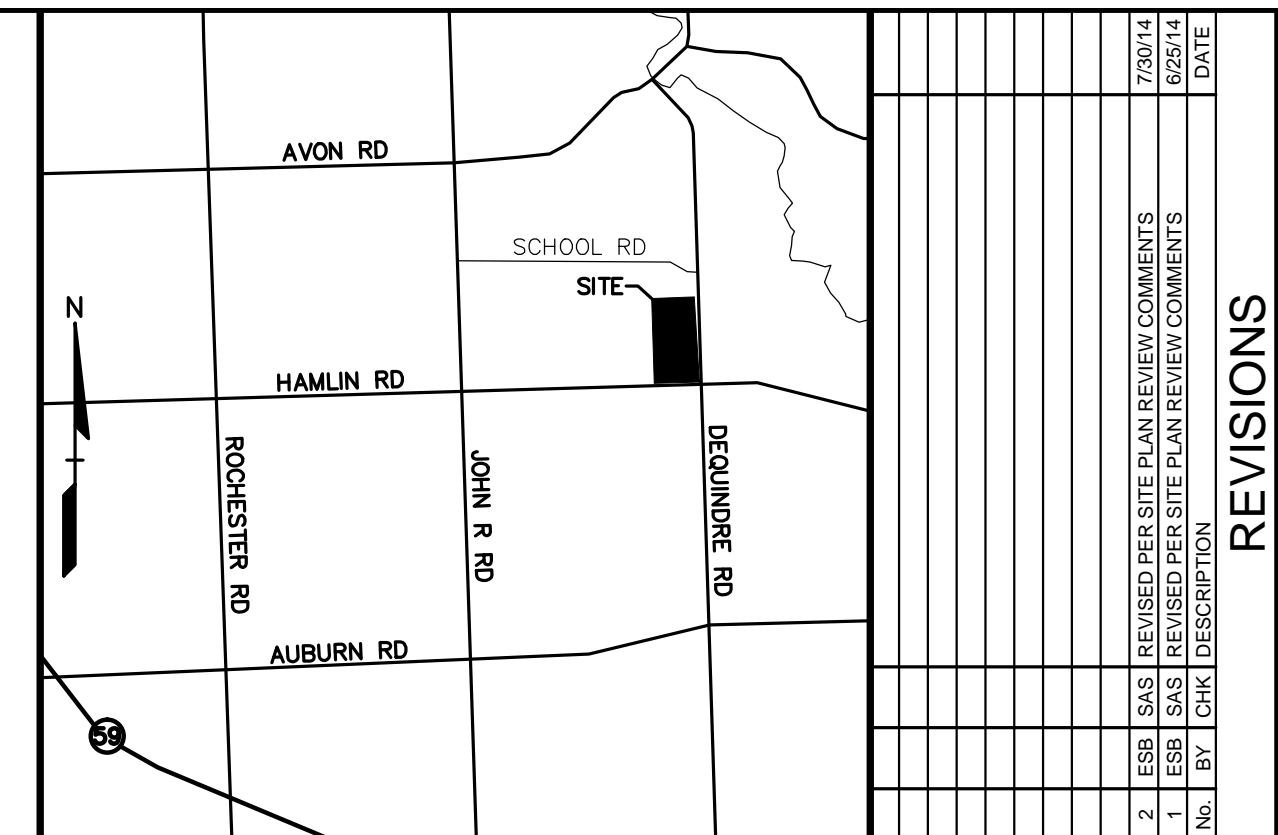
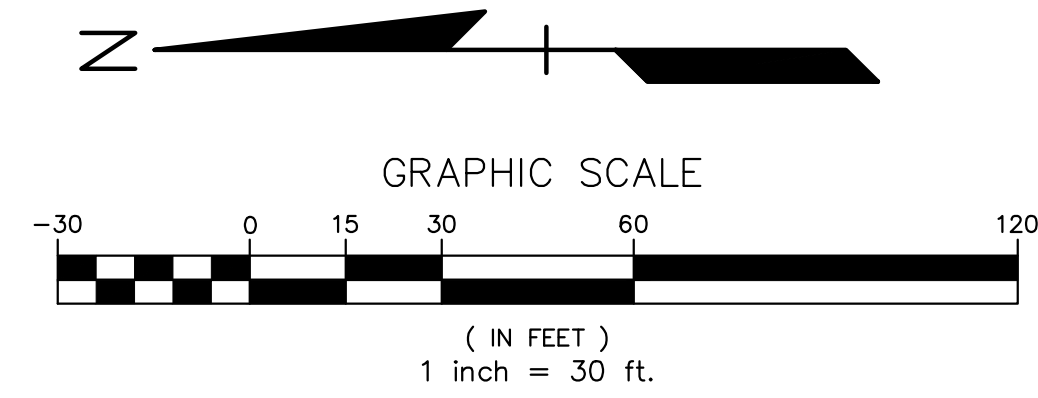
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**NOTE: SEE SHEET T-1.1 AND T-1.2 FOR TREE INVENTORY**



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**TOPOGRAPHIC SURVEY - NORTH**  
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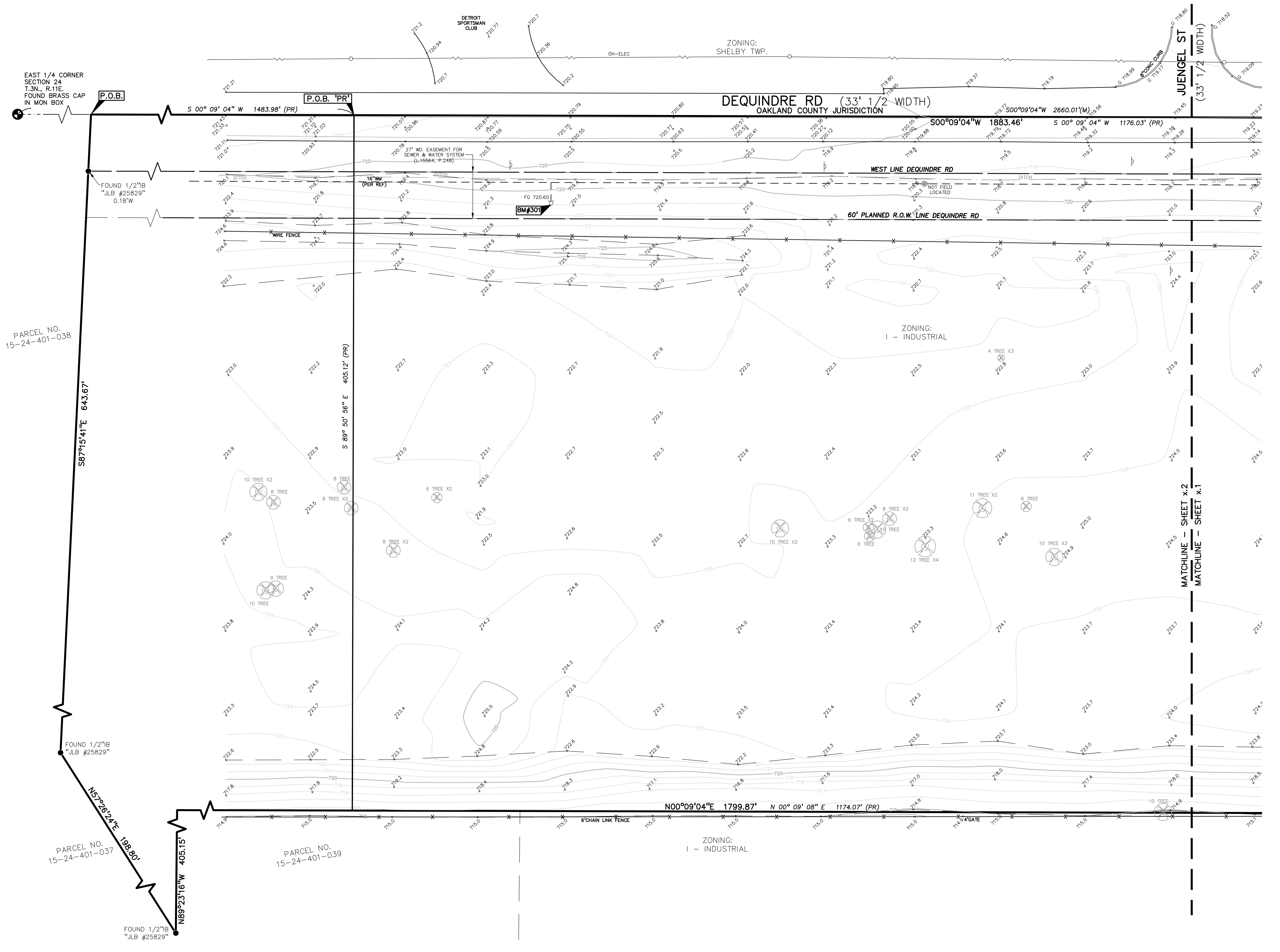
SCALE: 1"=30'

DRAWING NUMBER:

**P-2.2**

**LEGEND**

- ELEC. PHONE OR CABLE TV O.H. LINE, POLE & GUY WIRE
- UNDERGROUND CABLE TV, CATV 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
- SANITARY SEWER, CLEANOUT & MANHOLE
- STORM SEWER, CLEANOUT & MANHOLE
- COMBINED SEWER & MANHOLE
- CATCH BASIN, INLET, YARD DRAIN
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- WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
- MALIBOX, TRANSFORMER, IRRIGATION CONTROL VALVE
- UNIDENTIFIED STRUCTURE
- SPOT ELEVATION
- CONTOUR LINE
- FENCE
- GUARD RAIL
- STREET LIGHT
- SION
- CONCRETE
- ASPHALT
- GRAVEL SHOULDER
- WETLAND



**LEGAL DESCRIPTION**

(Per Oakland County Tax Records)

**PARCEL NO. 15-24-401-041**  
Town 3 North, Range 11 East, Section 24 Part of the Southeast 1/4 Beginning at a point distant S02°32'40"E, 234.05 feet from the East 1/4 Corner; thence S02°32'40"E 2432.20 feet to the Southeast section corner; thence S87°55'00"W 405.15 feet; thence N02°32'40"W 1798.65 feet; thence S87°55'00"W 405.15 feet; thence N54°44'40"E 235.40 feet; thence N30°57'40"E 6.20 feet; thence N02°34'00"W 716.03 feet; thence along the south right-of-way of a road on a curve to the right, having a radius of 539.96 feet, chord bearing S68°37'02"E 222.08 feet, a distance of 223.68 feet & S 56°45'00"E 28.03 feet & on a curve to the left, having a radius of 605.96 feet, chord bearing S74°50'00"E 376.18 feet, a distance of 382.50 feet & N87°05'00"E 26.85 feet to the Point of Beginning, Except the NORTH 776.55 feet thereof.

**LEGAL DESCRIPTION**

(As surveyed by Professional Engineering Associates)

**PARCEL NO. 15-24-401-041**  
Part of the Southeast 1/4 Section 24, Town 3 North, Range 11 East, Rochester Hills, Oakland County, Michigan, being more particularly described as: Commencing at the East 1/4 Corner of said Section 24; thence along the east line of said section, S00°09'04"W, 776.55 feet to the Point of Beginning; thence continuing along said line, S00°09'04"W, 1883.46 feet to the Southeast corner of said Section 24; thence along the south line of said section, N89°34'19"W, 405.15 feet; thence N00°09'04"E, 1799.87 feet; thence N89°23'16"W, 405.15 feet; thence N57°26'24"E, 198.80 feet; thence S87°15'41"E, 643.67 feet to the aforementioned east line of said Section 24 and the Point of Beginning. Subject to the rights of the public over the southerly 33 feet and the westerly 33 feet thereof, known as Hamlin and Dequindre Roads.

**NOT FOR CONSTRUCTION**

CITY FILE NUMBER: #14-002  
XREF: S:\PROJECTS\2014\2014036\DWG\12144\_TPOBASE.DWG  
XREF: S:\PROJECTS\2014\2014036\DWG\CONSTRUCTION\JOB-14036-DWG  
XREF: S:\PROJECTS\2014\2014036\DWG\CONSTRUCTION\JOB-14036-DWG

**SITE DATA TABLE:**

LAND AREA:  
 GROSS = 18.37 ACRES  
 GROSS (PARCEL SPLIT) = 10.93 ACRES  
 NET (TO PROPOSED R.O.W.) = 8.83 ACRES

PROPOSED BUILDING AREA (GROSS):  
 TOTAL BUILDING AREA = 40,000 S.F.  
 WAREHOUSE AREA = 26,000 S.F.  
 SHOP AREA = 6,000 S.F.  
 OFFICE AREA = 8,000 S.F.

ZONING INFO:  
 I - INDUSTRIAL

BUILDING SETBACKS:  
 FRONT (HAMLIN) 50'  
 SIDE (DEQUINDRE) 50'  
 SIDE (WEST) 50'  
 REAR (SOUTH) 50'

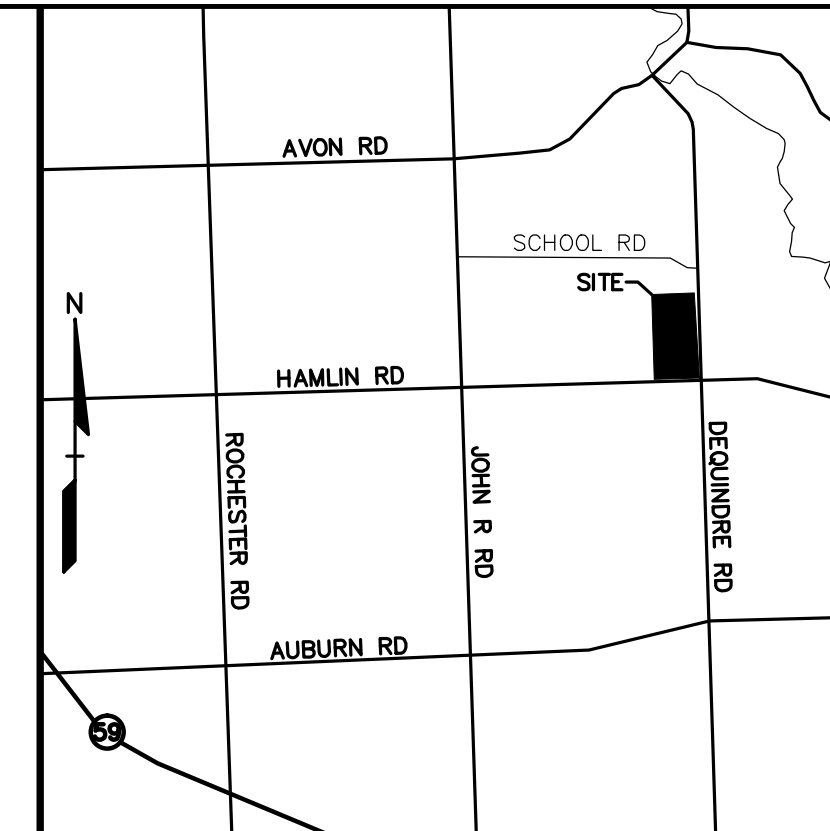
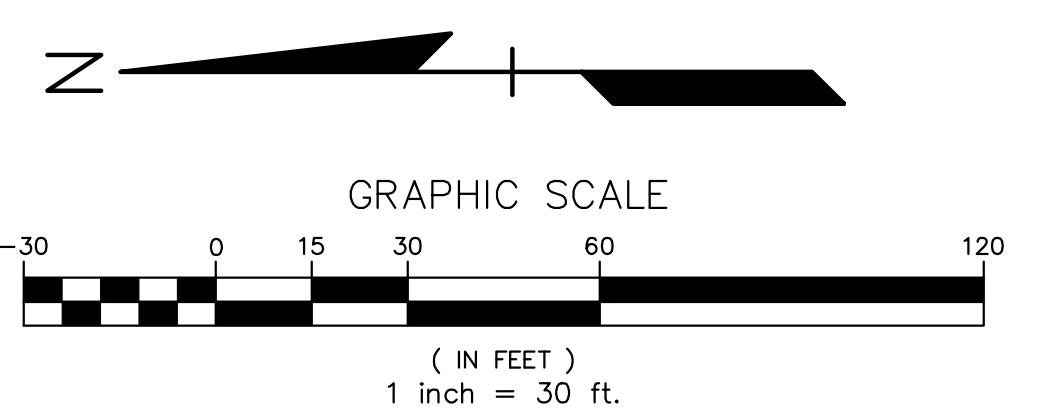
REQUIRED: PROVIDED:  
 50' 157.00'  
 50' 88.28'  
 50' 83.87'  
 50' 817.48'

PARKING REQUIRED:  
 WAREHOUSE/DISTRIBUTION:  
 1 SPACE / 1,700 SF FLOOR AREA  
 + 1 SPACE / 350 SF OFFICE AREA

32,000 / 1,700 = 18.8  
 8,000 / 350 = 22.8  
 18.8 + 22.8 = 41.6 = 42 SPACES REQUIRED

PARKING PROVIDED:  
 PARKING SPACES PROVIDED = 42 SPACES  
 (INCLUDING 2 HC SPACES)

Notes:  
 1. Maximum building height allowed is 3 stories/42 feet.  
 2. All roof and ground mounted mechanical equipment shall be screened from adjacent roads and properties.  
 3. Fire lanes shall be designated by the fire code official, and shall be conspicuously posted on both sides of the fire lane, with fire lane signs spaced not more than 100 feet apart, and in conformance with the MMUTCD.  
 4. All pedestrian walkways and required egress doors shall comply with Michigan Barrier Free Design Criteria.



LOCATION MAP - NOT TO SCALE

REVISIONS		DATE
2	ESB	7/20/14
1	ESB	6/25/14
1	ESB	6/25/14
	BY	CHK. DESCRIPTION



**CAUTION!**  
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**LEGEND**

- ELEC. PHONE OR CABLE TV O.K. LINE, POLE & OUT WIRE
- UNDERGROUND CABLE TV, CATV PEDESTAL
- TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
- ELECTRIC U.G. CABLE, MANHOLE, METER & HANGHOLE
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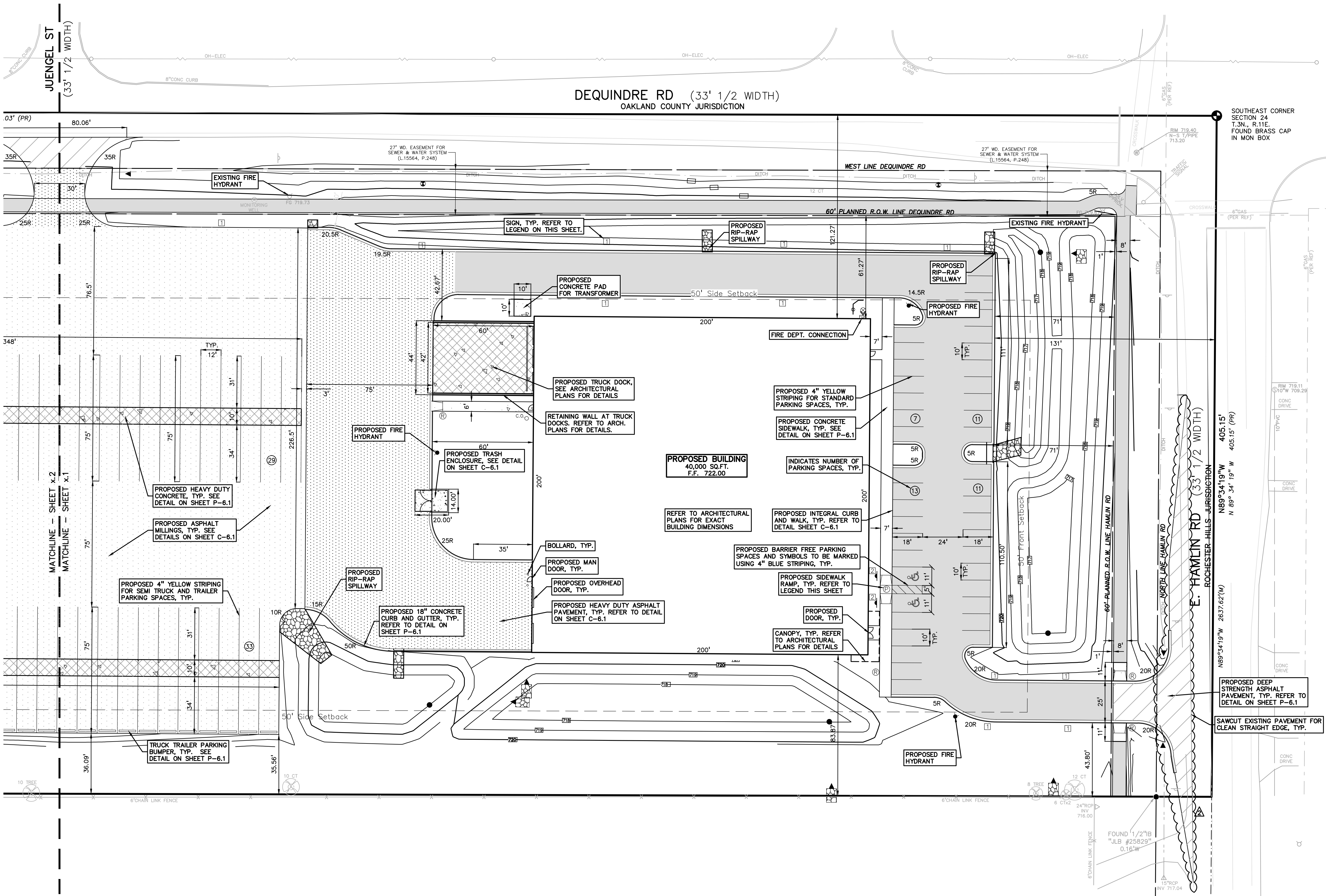


**SIDEWALK RAMP LEGEND:**

- SIDEWALK RAMP 'TYPE R'
  - SIDEWALK RAMP 'TYPE P'
- REFER TO SHEET P-7.1 FOR M.D.O.T. R-28-H STANDARD RAMP AND DETECTABLE WARNING DETAILS

**SIGN LEGEND:**

- 'NO STOPPING STANDING OR PARKING FIRE LANE' SIGN
  - 'BARRIER FREE PARKING' SIGN
  - 'ONE WAY' SIGN
- REFER TO SHEET P-6.1 FOR SIGN DETAILS



JUENDEL ST (33' 1/2 WIDTH)  
 MATCHLINE - SHEET x.2  
 MATCHLINE - SHEET x.1

DEQUINDRE RD (33' 1/2 WIDTH)  
 OAKLAND COUNTY JURISDICTION

SOUTHEAST CORNER SECTION 24 T.3N., R.11E. FOUND BRASS CAP IN MON BOX

E. HAMLIN RD (33' 1/2 WIDTH)  
 ROCHESTER HILLS - JURISDICTION

60'-PLANNED R.O.W. LINE DEQUINDRE RD

60'-PLANNED R.O.W. LINE HAMLIN RD

60'-PLANNED R.O.W. LINE HAMLIN RD

NOT FOR CONSTRUCTION

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 37610 HILLS TECH DRIVE  
 FARMINGTON HILLS, MI 48331

**PRELIMINARY SITE PLAN - SOUTH GENERAL TRUCKING**  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES. ESB DN. ESB SUR. PEA P.M. SAS

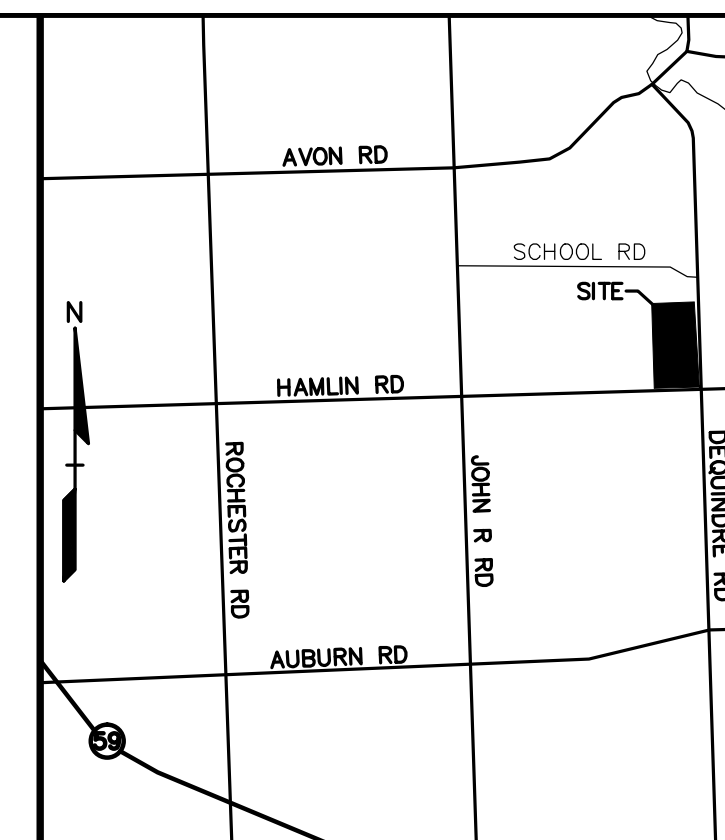
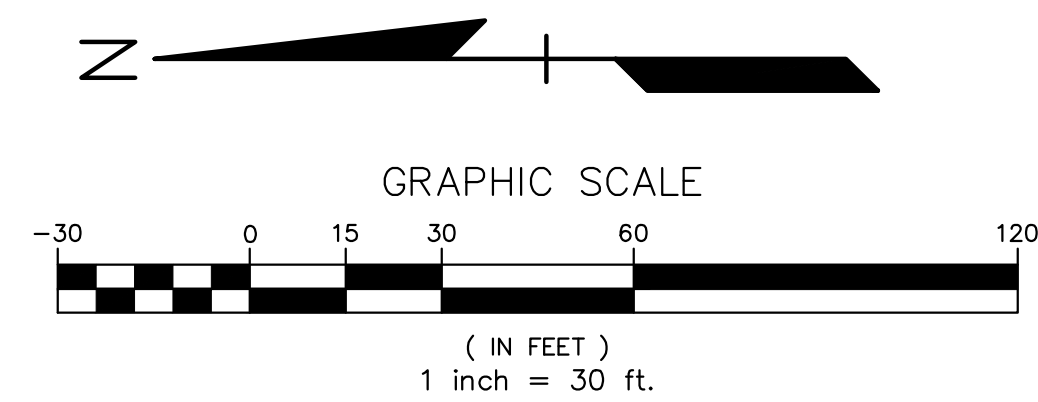
ORIGINAL ISSUE DATE:  
 JUNE 11, 2014

PEA JOB NO. 2014-036

SCALE: 1"=30'

DRAWING NUMBER:  
**P-3.1**

CITY FILE NUMBER: #14-002  
 XREF: S:\PROJECTS\2014\2014036\DWG\12144\_T0PBASE.DWG  
 XREF: S:\PROJECTS\2014\2014036\DWG\CONSTRUCTION\BASE-14036.DWG  
 XREF: S:\PROJECTS\2014\2014036\DWG\CONSTRUCTION\TBK-14036.DWG



LOCATION MAP - NOT TO SCALE

NO.	BY	DATE	DESCRIPTION
2	ESB	SAS	REVISED PER SITE PLAN REVIEW COMMENTS
1	ESB	SAS	REVISED PER SITE PLAN REVIEW COMMENTS

REVISIONS



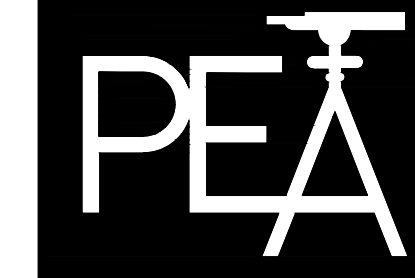
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**PRELIMINARY SITE PLAN - NORTH**  
**GENERAL TRUCKING**  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

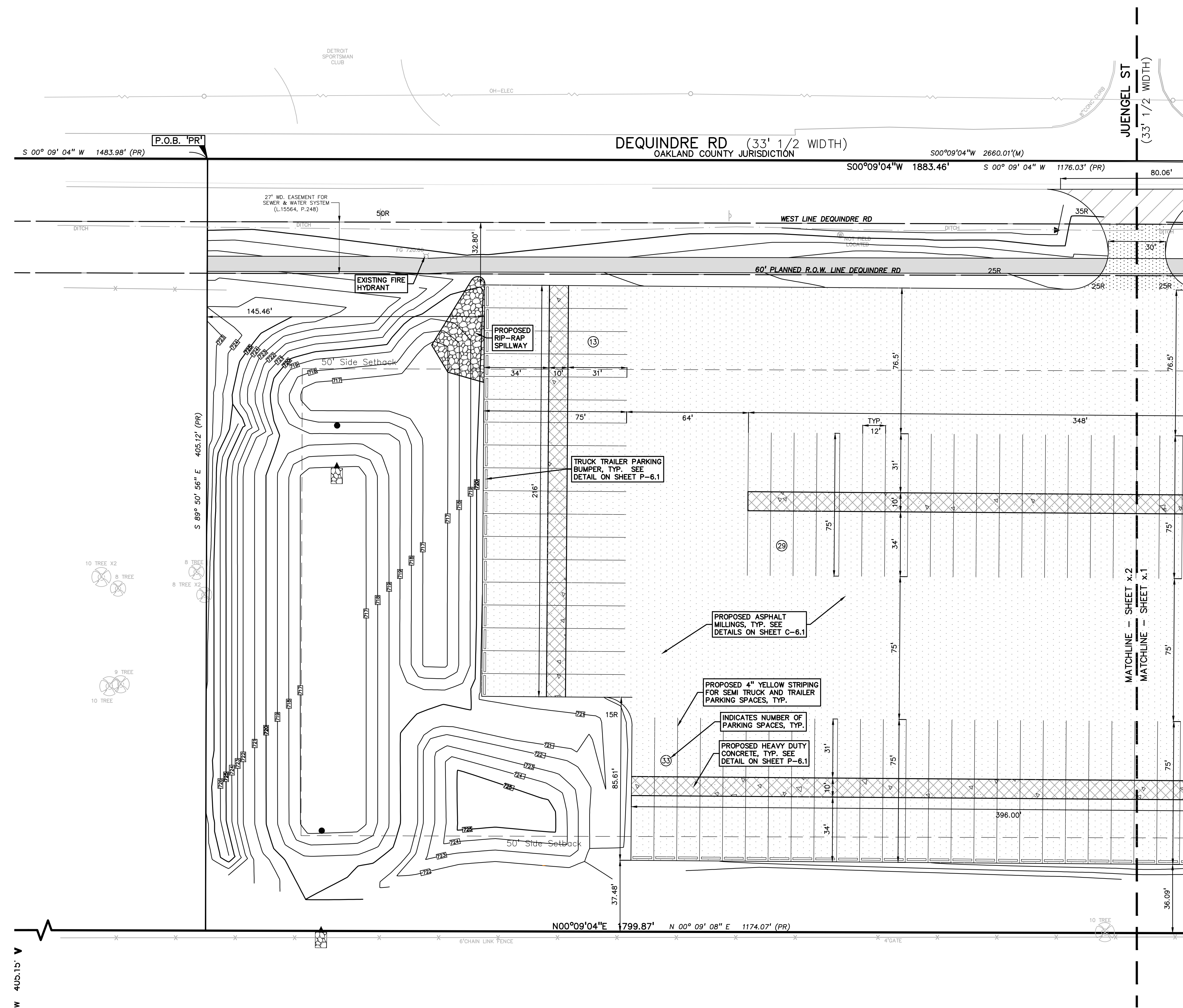
ORIGINAL ISSUE DATE:  
JUNE 11, 2014

PEA JOB NO. 2014-036

SCALE: 1"=30'

DRAWING NUMBER:

**P-3.2**



**LEGEND**

- ELEC. PHONE OR CABLE TV O.K. LINE, POLE & OUT WIRE
- UNDERGROUND CABLE TV, CATV PEDESTAL
- TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
- ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
- GAS MAIN, VALVE & GAS LINE MARKER
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- UNIDENTIFIED STRUCTURE
- SPOT ELEVATION
- CONTOUR LINE
- FENCE
- GUARD RAIL
- STREET LIGHT
- SIGN
- CONCRETE
- ASPHALT
- GRAVEL SHOULDER
- WETLAND

**SIDEWALK RAMP LEGEND:**

- SIDEWALK RAMP 'TYPE R'
  - SIDEWALK RAMP 'TYPE P'
- REFER TO SHEET P-7.1 FOR M.D.O.T. R-28-H STANDARD RAMP AND DETECTABLE WARNING DETAILS

**SIGN LEGEND:**

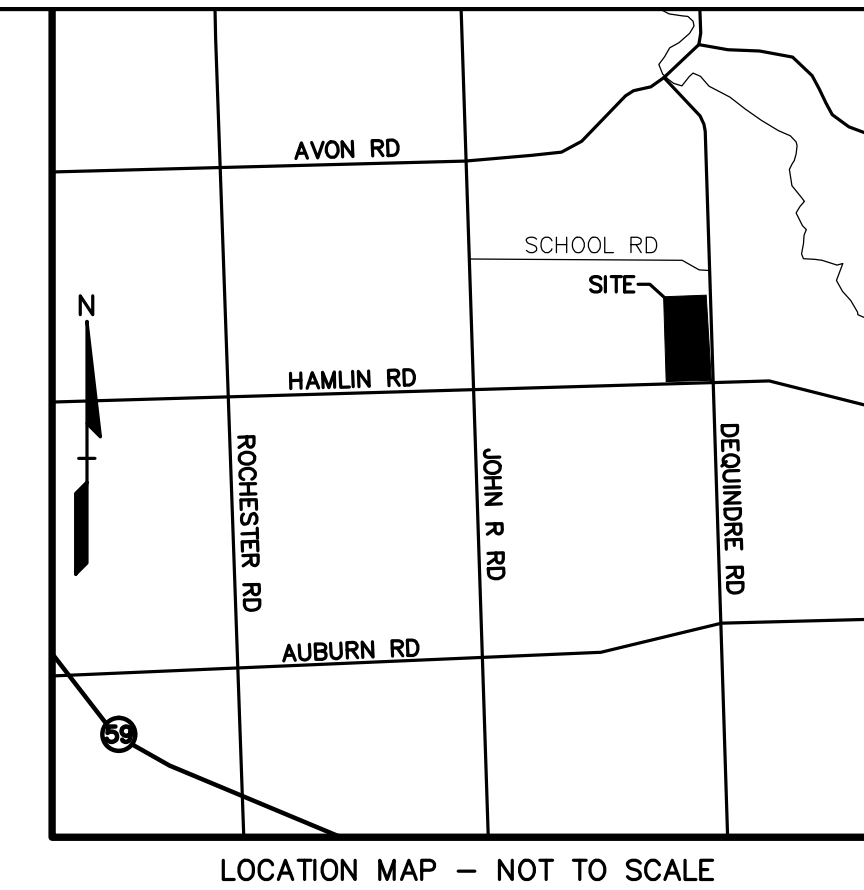
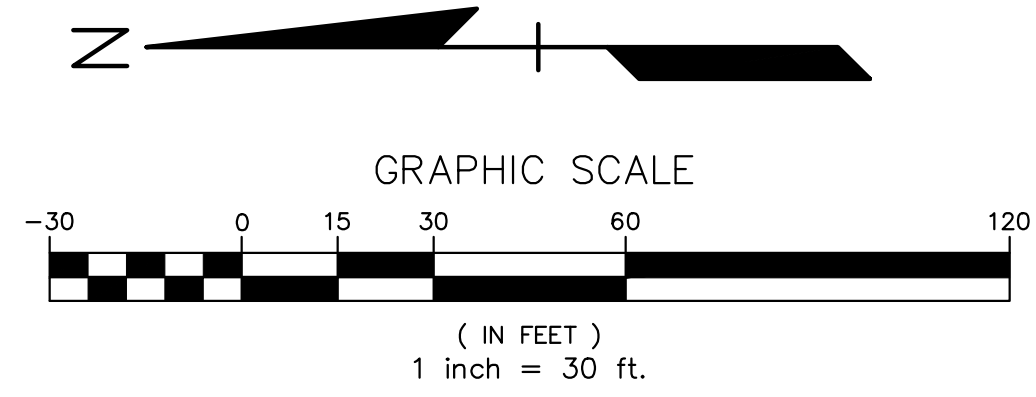
- 'NO PARKING FIRE LANE' SIGN
  - 'BARRIER FREE PARKING' SIGN
  - 'ONE WAY' SIGN
  - 'DO NOT ENTER' SIGN
- REFER TO SHEET P-6.1 FOR SIGN DETAILS

**NOT FOR CONSTRUCTION**

CITY FILE NUMBER: #14-002  
XREF: S:\PROJECTS\2014\2014036\DWG\12144\_T0P0BASE.DWG  
XREF: S:\PROJECTS\2014\2014036\DWG\CONSTRUCTION\BASE-14036.DWG  
XREF: S:\PROJECTS\2014\2014036\DWG\CONSTRUCTION\TBK-14036.DWG

**EARTHWORK BALANCING NOTE:**  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

**GRADING:**  
 PROPOSED SPOT GRADE ELEVATION. ALL GRADES INDICATED ARE TOP OF PAVEMENT UNLESS OTHERWISE NOTED.



REVISIONS	
No.	DATE
2	6/26/14
1	6/26/14



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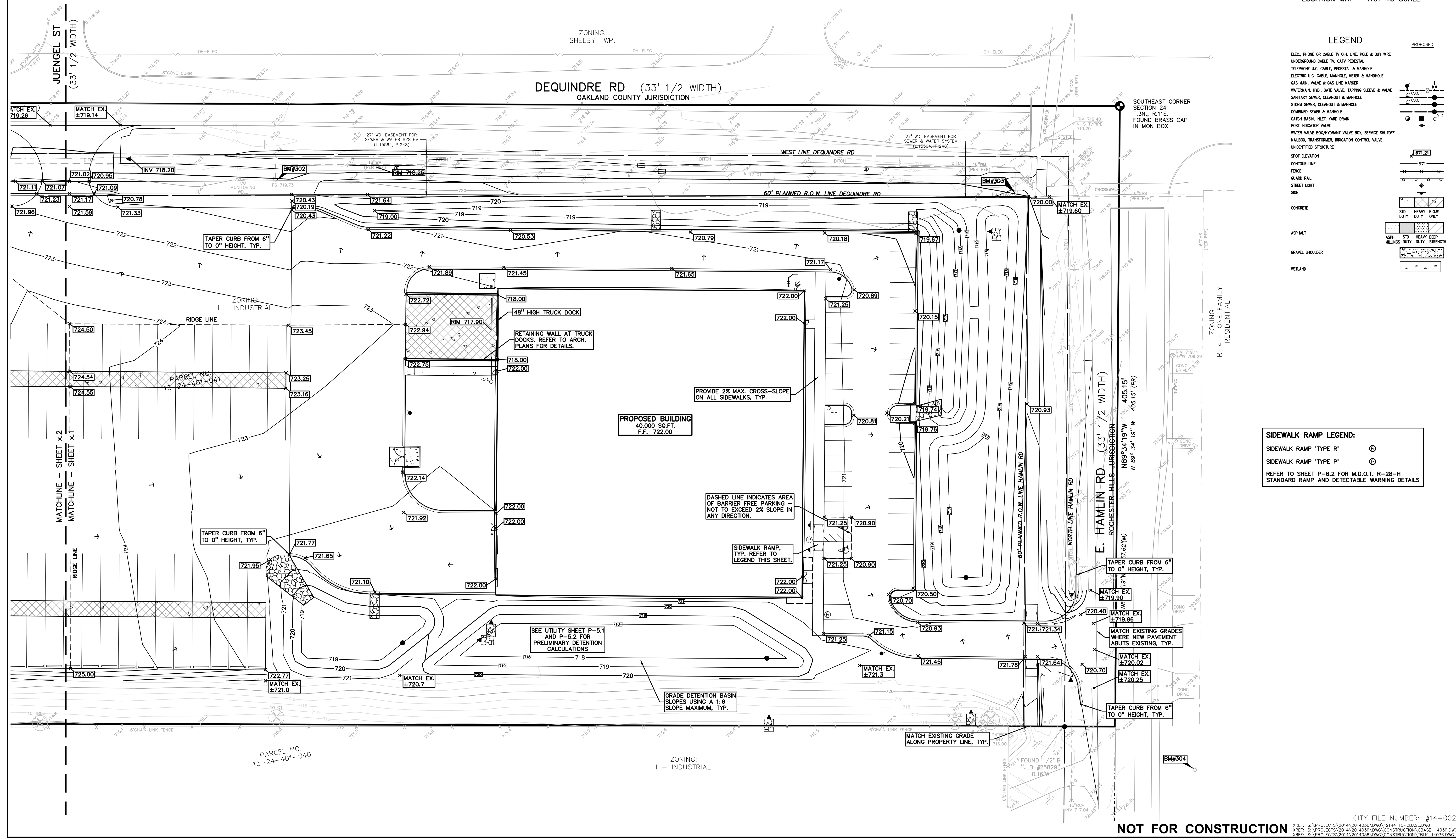
**J.B. DONALDSON COMPANY**  
 37610 HILLS TECH DRIVE  
 FARMINGTON HILLS, MI 48331  
**PRELIMINARY GRADING PLAN - SOUTH GENERAL TRUCKING**  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

ORIGINAL ISSUE DATE:  
 JUNE 11, 2014

PEA JOB NO. 2014-036

SCALE: 1"=30'

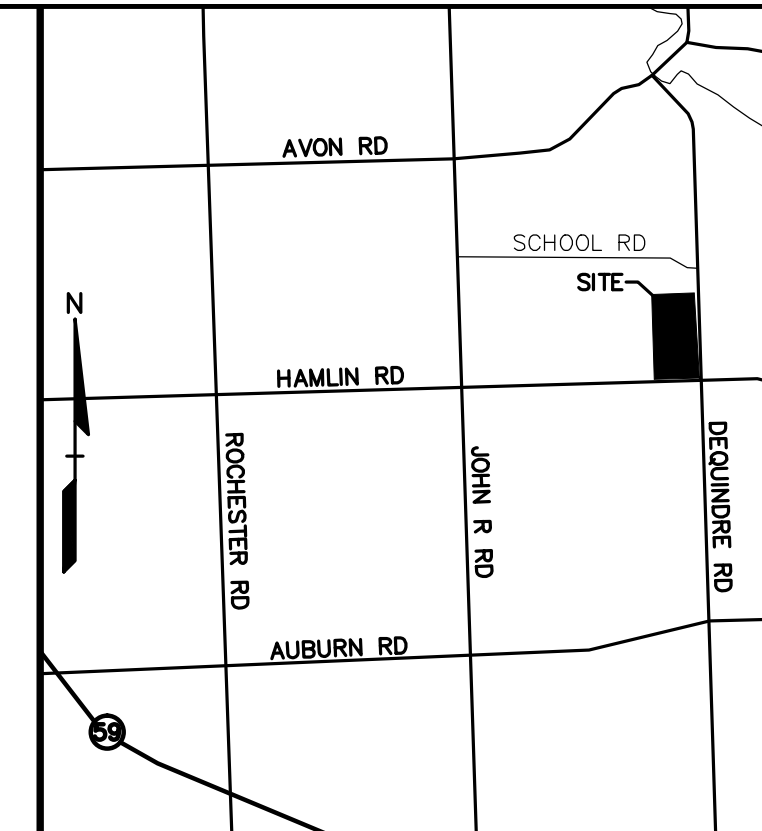
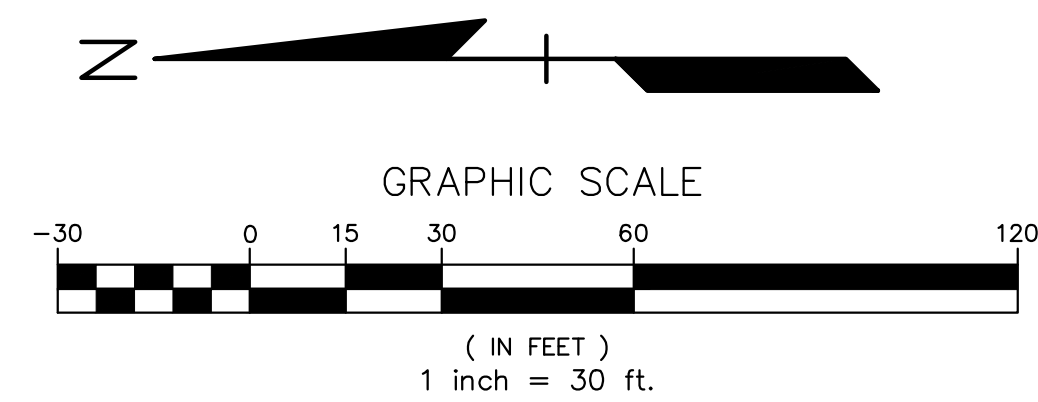
DRAWING NUMBER:  
**P-4.1**



- LEGEND**
- ELEC., PHONE OR CABLE TV O.H. LINE, POLE & GUY WIRE
  - UNDERGROUND CABLE TV, CATV PEDESTAL
  - TELEPHONE U.S. CABLE, PEDESTAL & MANHOLE
  - ELECTRIC U.S. CABLE, MANHOLE, METER & HANDHOLE
  - GAS MAIN, VALVE & GAS LINE BARRIER
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  - SPOT ELEVATION
  - CONTOUR LINE
  - FENCE
  - GUARD RAIL
  - STREET LIGHT
  - SDN
  - CONCRETE
  - ASPHALT
  - GRAVEL SHOULDER
  - WETLAND

- SIDEWALK RAMP LEGEND:**
- SIDEWALK RAMP "TYPE R"
  - SIDEWALK RAMP "TYPE P"
- REFER TO SHEET P-6.2 FOR M.D.O.T. R-28-H STANDARD RAMP AND DETECTABLE WARNING DETAILS

NOT FOR CONSTRUCTION CITY FILE NUMBER: #14-002



NO.	BY	CHK.	DESCRIPTION	DATE
2	ESB	SAS	REVISED PER SITE PLAN REVIEW COMMENTS	7/20/14
1	ESB	SAS	REVISED PER SITE PLAN REVIEW COMMENTS	6/25/14



**LEGEND**

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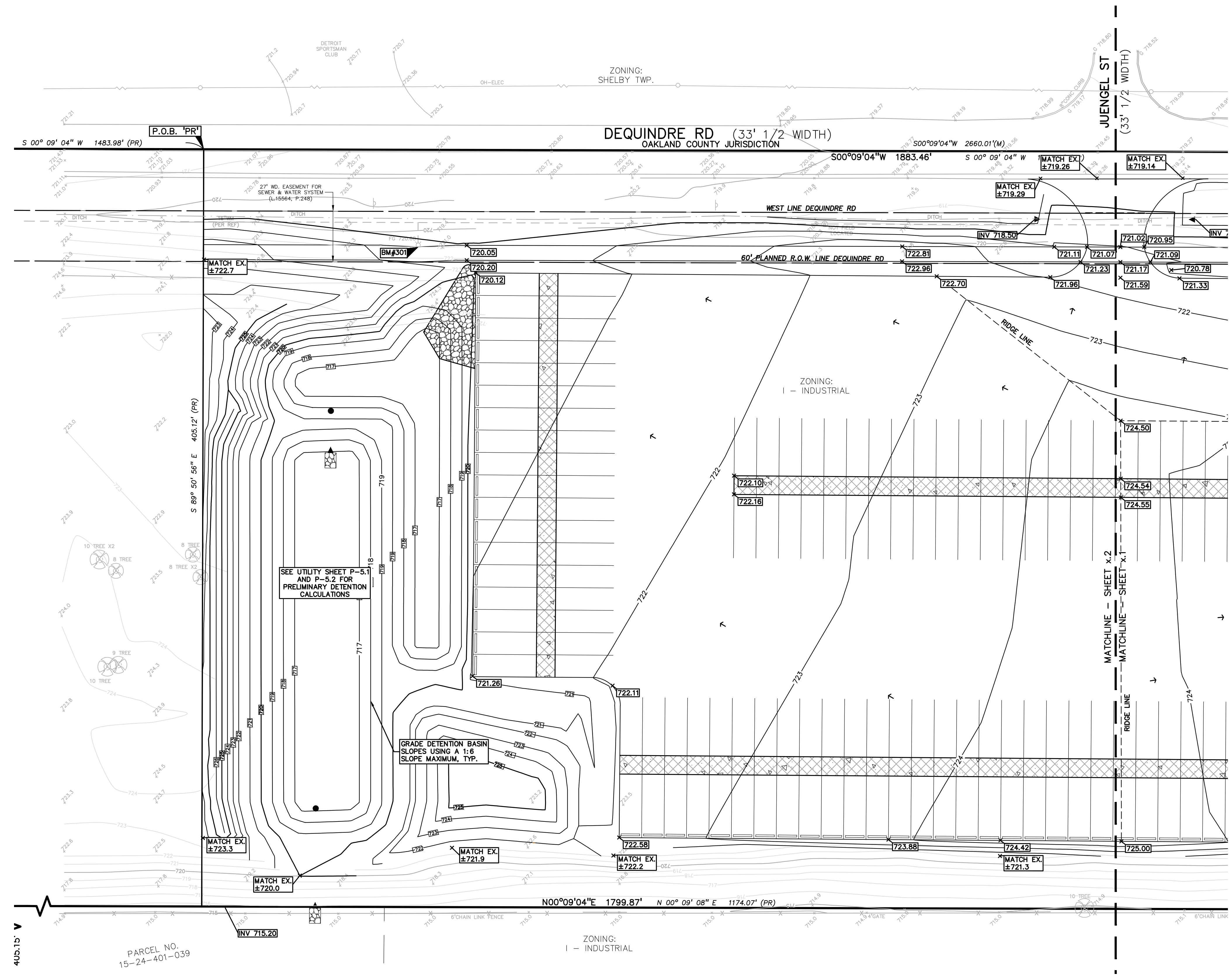
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**SIDEWALK RAMP LEGEND:**  
SIDEWALK RAMP 'TYPE R'   
SIDEWALK RAMP 'TYPE P'   
REFER TO SHEET P-6.2 FOR M.D.O.T. R-28-H STANDARD RAMP AND DETECTABLE WARNING DETAILS



PARCEL NO. 15-24-401-039

**J.B. DONALDSON COMPANY**  
37610 HILLS TECH DRIVE  
FARMINGTON HILLS, MI 48331

**PRELIMINARY GRADING PLAN - NORTH**  
**GENERAL TRUCKING**  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES. ESB SUR. PEA P.M. SAS  
DN. ESB SUR. PEA P.M. SAS



25 YEAR STORM DETENTION DESIGN (OAKLAND COUNTY DESIGN METHOD)

Basin 2		
Contributing Area (A)	2.16	AC.
Allowable Discharge (Qa)	0.43	C.F.S. (= 0.2 CFS/AC)
Coefficient of Runoff (Cr)	0.69	

Calculation of Required Discharge/Acre

$Q_o = ((Q_a)/(A))(Cr)$  0.29

$T = -25 + ((8062.5/Q_o))0.5$  141.72

Storage Volume Required:

$V_s = (12900(T)(T+25)) - 40Q_o(T)$  9321.37

$V_t = (V_s)/(A)(Cr)$  13859

Forebay Volume Required:

$Cpv = 1815(A)(Cr)$  2698.54

COEFFICIENT OF RUNOFF (Cr):

BASIN 2	AREA (S.F.)	AREA (AC.)	Cr
IMPERVIOUS	67568	1.55	0.90
GREEN SPACE	26358	0.61	0.15
TOTAL	93926	2.16	0.69

25 YEAR STORM DETENTION DESIGN (OAKLAND COUNTY DESIGN METHOD)

Basin 3		
Contributing Area (A)	2.24	AC.
Allowable Discharge (Qa)	0.45	C.F.S. (= 0.2 CFS/AC)
Coefficient of Runoff (Cr)	0.64	

Calculation of Required Discharge/Acre

$Q_o = ((Q_a)/(A))(Cr)$  0.31

$T = -25 + ((8062.5/Q_o))0.5$  135.12

Storage Volume Required:

$V_s = (12900(T)(T+25)) - 40Q_o(T)$  9186.33

$V_t = (V_s)/(A)(Cr)$  13087

Forebay Volume Required:

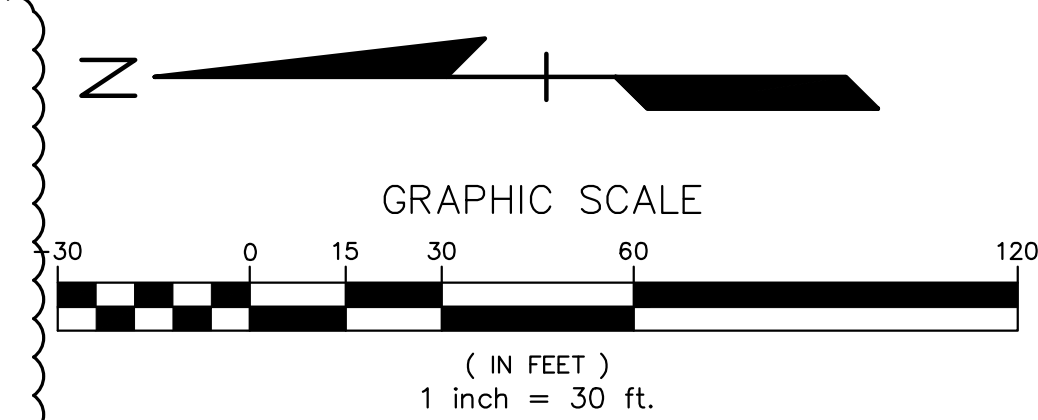
$Cpv = 1815(A)(Cr)$  2585.68

COEFFICIENT OF RUNOFF (Cr):

BASIN 3	AREA (S.F.)	AREA (AC.)	Cr
IMPERVIOUS	63228	1.45	0.90
GREEN SPACE	34341	0.79	0.15
TOTAL	97569	2.24	0.64

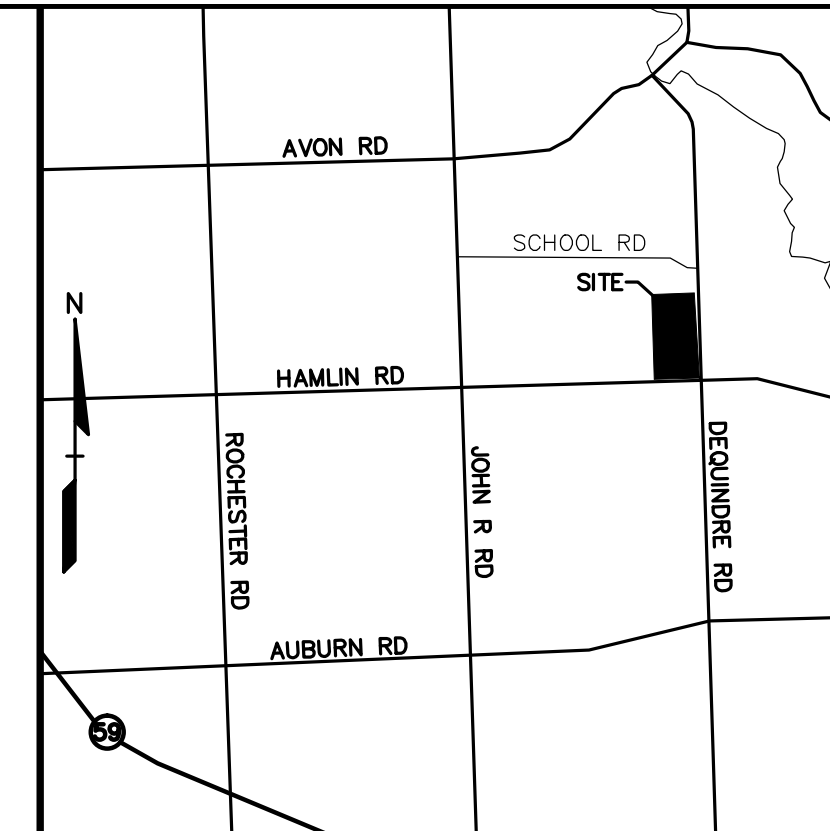
PROPOSED SANITARY SEWER BASIS OF DESIGN:

(Unit Factors Based on Oakland County Unit Assignment Factors)	
<b>OFFICE</b>	
Square Footage	8,000 S.F.
Unit Factor	0.4 per 1000 S.F.
REU	3.2
Population (P) (3.5 PEOPLE/EDU)	11.2 People
<b>WAREHOUSE + SHOP AREA</b>	
Square Footage	32,000 S.F.
Unit Factor	0.1 per 1000 S.F.
REU	3.2
Population (P) (3.5 PEOPLE/EDU)	11.2 People
<b>TOTAL REU</b>	<b>6.4</b>
<b>22 People</b>	
Average Flow (100 GPCPD)	2,240 G.P.D.
	0.003 C.F.S.
P (1000s)	0.022
Peaking Factor (PF)	4.00
PF = $(18 + \sqrt{P}) / (4 + \sqrt{P})$ - between 2.5 and 4	
Peak Flow (G.D.P.)	8,960 G.P.D.
Peak Flow (C.F.S.)	0.014 C.F.S.
6" Pipe Capacity Provided =	0.73 C.F.S.



STORMWATER NOTE:

THE EXISTING SITE SOILS CONSIST OF CLAYS. IN ADDITION, THE SITE HAS CONTAMINATED SOILS AND THEREFORE, NO INFILTRATION IS PROPOSED. STORMWATER DETENTION WILL BE PROVIDED IN A DETENTION POND. STORMWATER QUALITY WILL BE PROVIDED WITH A SEDIMENT FOREBAY. THE PROPOSED OUTLET WILL BE AT THE EXISTING STORMWATER OUTLET FOR THE SITE WHICH DISCHARGES TO THE ADJACENT DITCH TO THE WEST OF THE SITE.



NO.	BY	DATE	DESCRIPTION
1	ESB	02/24/14	SAS REVISED PER SITE PLAN REVIEW COMMENTS
2	ESB	02/24/14	SAS REVISED PER SITE PLAN REVIEW COMMENTS



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**PRELIMINARY UTILITY PLAN - SOUTH**  
**GENERAL UTILITY TRUCKING**  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

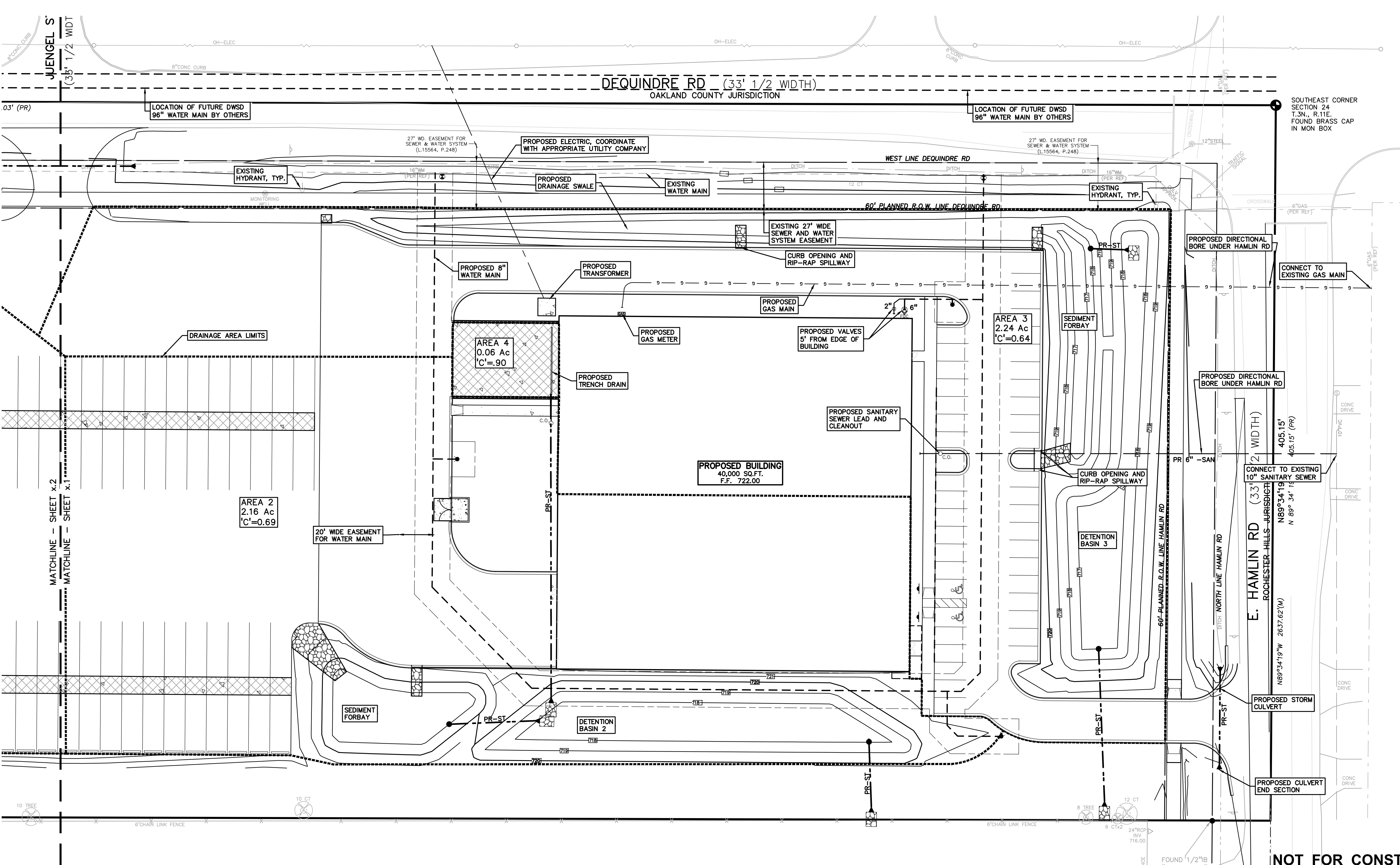
DES. ESB DN. ESB SUR. PEA P.M. SAS  
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ORIGINAL ISSUE DATE:  
JUNE 11, 2014

PEA JOB NO. 2014-036

SCALE: 1"=30'

DRAWING NUMBER:  
**P-5.1**



- GENERAL UTILITY NOTES:**
- ALL UTILITY LINES, STRUCTURES AND TRENCHES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS STANDARDS AND REQUIREMENTS.
  - NO PHYSICAL CONNECTION TO THE EXISTING WATER MAIN CAN BE MADE UNTIL THE NEW WATER LEAD PASSES ALL PRESSURE AND BACTERIOLOGICAL TESTS.
  - ALL WATER LEADS 2" AND SMALLER SHALL BE TYPE 'K' COPPER.
  - ALL WATER MAINS SHALL BE PROVIDED WITH 6 FEET MINIMUM COVER.
  - ALL STORM LEADS SHALL BE P.V.C. SOLID WALL PIPE, SCHEDULE 40 UNLESS OTHERWISE NOTED. ALL 12" DIAMETER STORM SEWER AND LARGER SHALL BE REINFORCED CONCRETE (RCP) CL-IV, UNLESS OTHERWISE NOTED.
  - ALL 6" SANITARY SEWER LEADS SHALL BE P.V.C. SOLID WALL PIPE, SDR 23.5 W/ RUBBER GASKET JOINTS.
  - BOXES ARE TO BE PROVIDED FOR ALL CLEANOUTS. THE BOXES SHALL BE E.J.L.W. # 1565 OR APPROVED EQUAL.
  - ALL NECESSARY FITTINGS, THRUST BLOCKS, RESTRAINING GLANDS, BLOW OFFS, ETC. FOR WATER LEAD SYSTEM ARE CONSIDERED INCIDENTAL TO THIS PROJECT. THE CONTRACTOR SHALL INSTALL THESE ITEMS AS NECESSARY AND AS REQUIRED BY THE CITY.
  - A SOIL EROSION PERMIT WILL BE REQUIRED FROM THE CITY OF ROCHESTER HILLS.
  - ALL ELECTRIC, TELEPHONE AND CABLE TV SERVICES WILL BE UNDERGROUND.

NOT FOR CONSTRUCTION

CITY FILE NUMBER: #14-002

XREF: S:\PROJECTS\2014\2014036\DWG\12144\_TOPBASE.DWG  
XREF: S:\PROJECTS\2014\2014036\DWG\CONSTRUCTION\BASE-14036.DWG  
XREF: S:\PROJECTS\2014\2014036\DWG\CONSTRUCTION\TBK-14036.DWG

**25 YEAR STORM DETENTION DESIGN (OAKLAND COUNTY DESIGN METHOD)**  
 Basin 1  
 Contributing Area (A): 3.40 AC.  
 Allowable Discharge (Qa): 0.68 C.F.S. (= 0.2 CFS/AC)  
 Coefficient of Runoff (Cr): 0.63

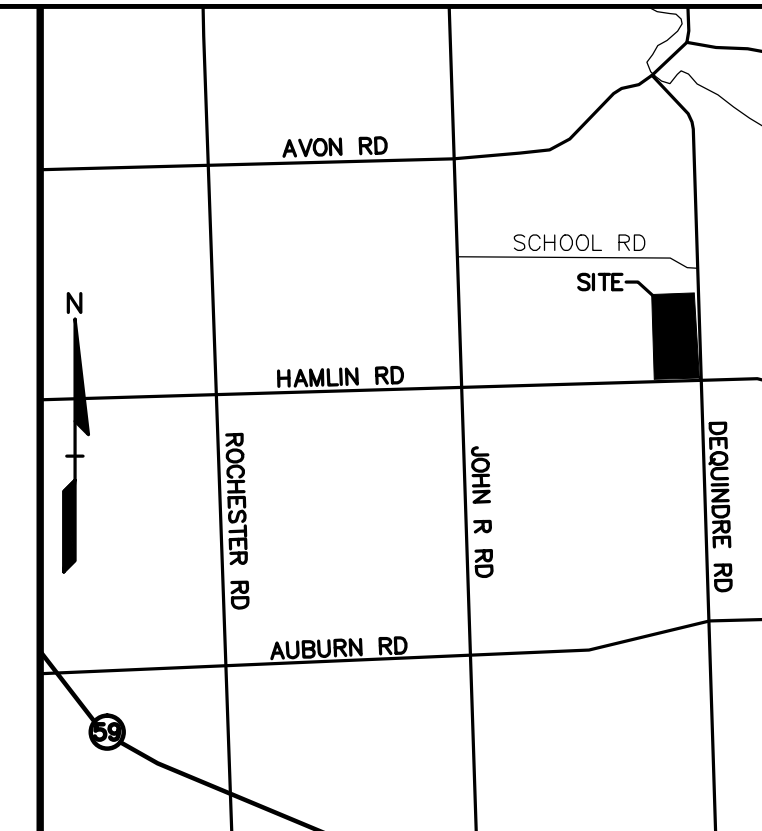
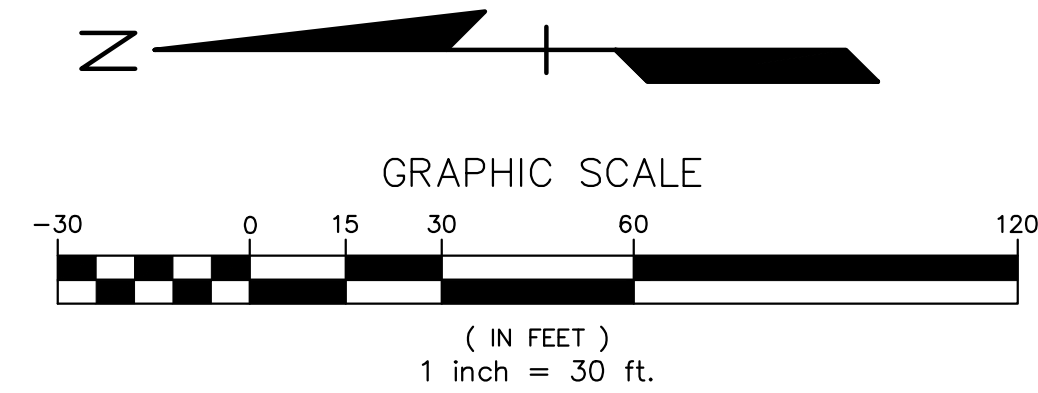
Calculation of Required Discharge/Acre  
 $Q_0 = ((Q_a)/A)(Cr) = 0.32$   
 $T = -25 + ((8062.5/Q_0))0.5 = 134.36$

Storage Volume Required:  
 $V_s = (12900(T)(T+25)) - 40Q_0(T) = 9170.12$   
 $V_t = (V_s)(A)(Cr) = 19616.671$

Forebay Volume Required:  
 $C_{pv} = 1815(A)(Cr) = 3882.64$

**COEFFICIENT OF RUNOFF (Cr):**

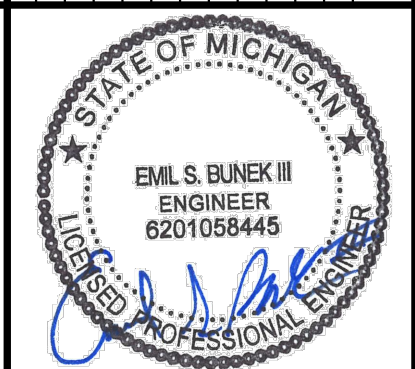
BASIN 1	AREA (S.F.)	AREA (AC.)	Cr
IMPERVIOUS	94837	2.17	0.90
GREEN SPACE	53273	1.22	0.15
TOTAL	147910	3.40	0.63



NO.	BY	CHK.	DESCRIPTION	DATE
1	ESB	SAS	REVISOR PER SITE PLAN REVIEW COMMENTS	7/20/14
2	ESB	SAS	REVISOR PER SITE PLAN REVIEW COMMENTS	8/29/14

REVISIONS

LOCATION MAP - NOT TO SCALE



**LEGEND**

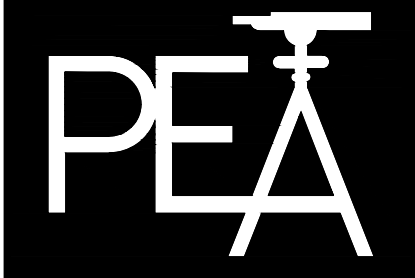
- ELEC. PHONE OR CABLE TV O.H. LINE, POLE & OUT WIRE
- UNDERGROUND CABLE TV, CATV PEDESTAL
- TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
- ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
- GAS MAIN, VALVE & GAS LINE MARKER
- WATERMAIN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
- SANITARY SEWER, CLEANOUT & MANHOLE
- STORM SEWER, CLEANOUT & MANHOLE
- COMBINED SEWER & MANHOLE
- CATCH BASIN, INLET, YARD DRAIN
- POST INDICATOR VALVE
- WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
- MAILBOX, TRANSFORMER, IRRIGATION CONTROL VALVE
- UNIDENTIFIED STRUCTURE
- SPOT ELEVATION
- CONTOUR LINE
- FENCE
- GUARD RAIL
- STREET LIGHT
- SIGN
- CONCRETE
- ASPHALT
- GRAVEL SHOULDER
- WETLAND

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**PRELIMINARY UTILITY PLAN - NORTH GENERAL TRUCKING**  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES. ESB DN. ESB SUR. PEA P.M. SAS

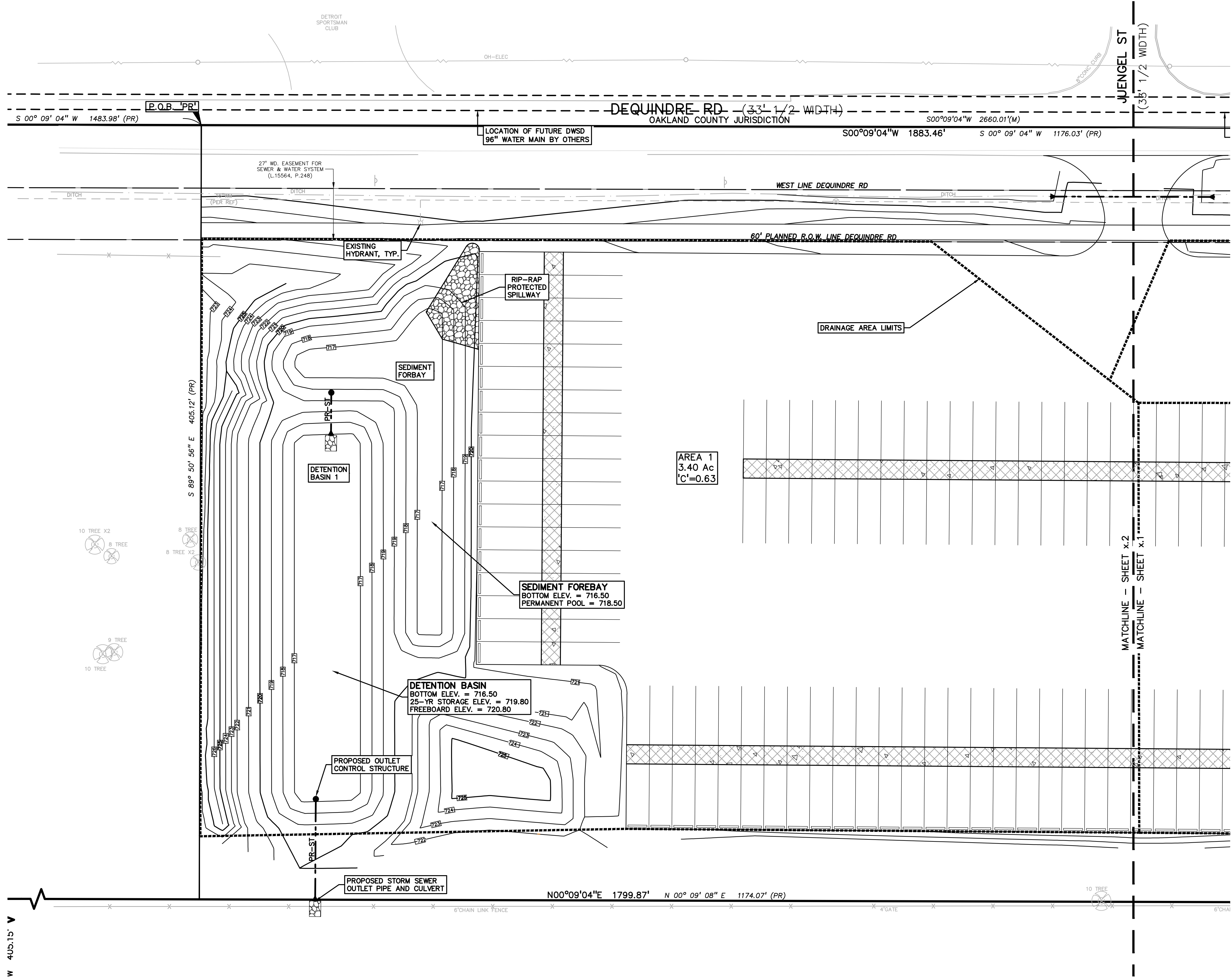
ORIGINAL ISSUE DATE:  
 JUNE 11, 2014

PEA JOB NO. 2014-036

SCALE: 1"=30'

DRAWING NUMBER:

**P-5.2**



W 405.15' V

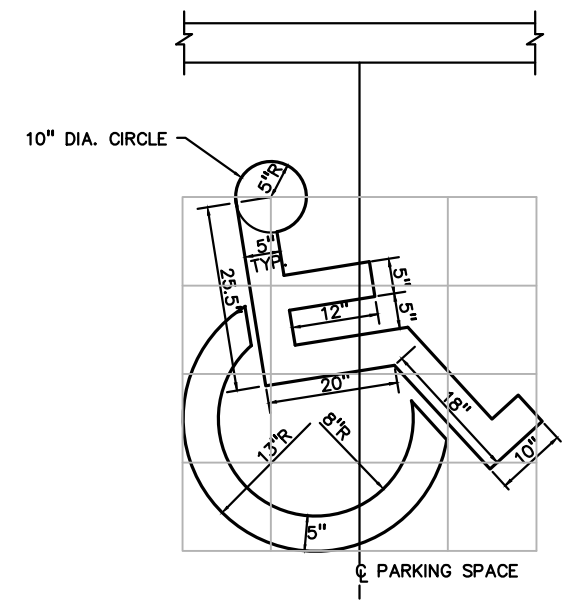
NOT FOR CONSTRUCTION

CITY FILE NUMBER: #14-002  
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 XREF: S:\PROJECTS\2014\2014036\DWG\CONSTRUCTION\BASE-14036.DWG  
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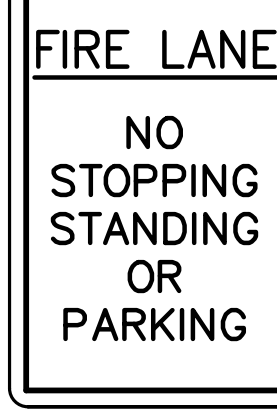


12" x 18" GREEN BORDER AND LEGEND WHITE SYMBOL, BLUE BACKGROUND, REFLECTORIZED 7'-0" MOUNTING HEIGHT (R7-6)

**BARRIER FREE PARKING SIGN DETAIL**  
NOT TO SCALE

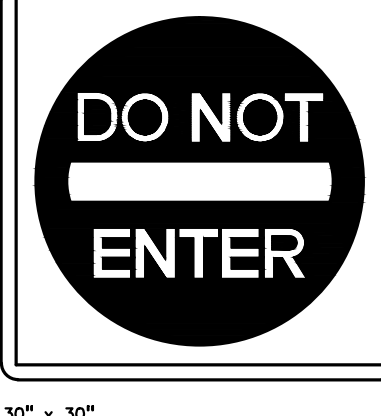


**STANDARD "BARRIER FREE" SYMBOL FOR PARKING SPACE**  
NOT TO SCALE



12" x 18" RED ON WHITE REFLECTORIZED 6'-8" MOUNTING HEIGHT (R7-22)

**NO PARKING SIGN DETAIL**  
NOT TO SCALE



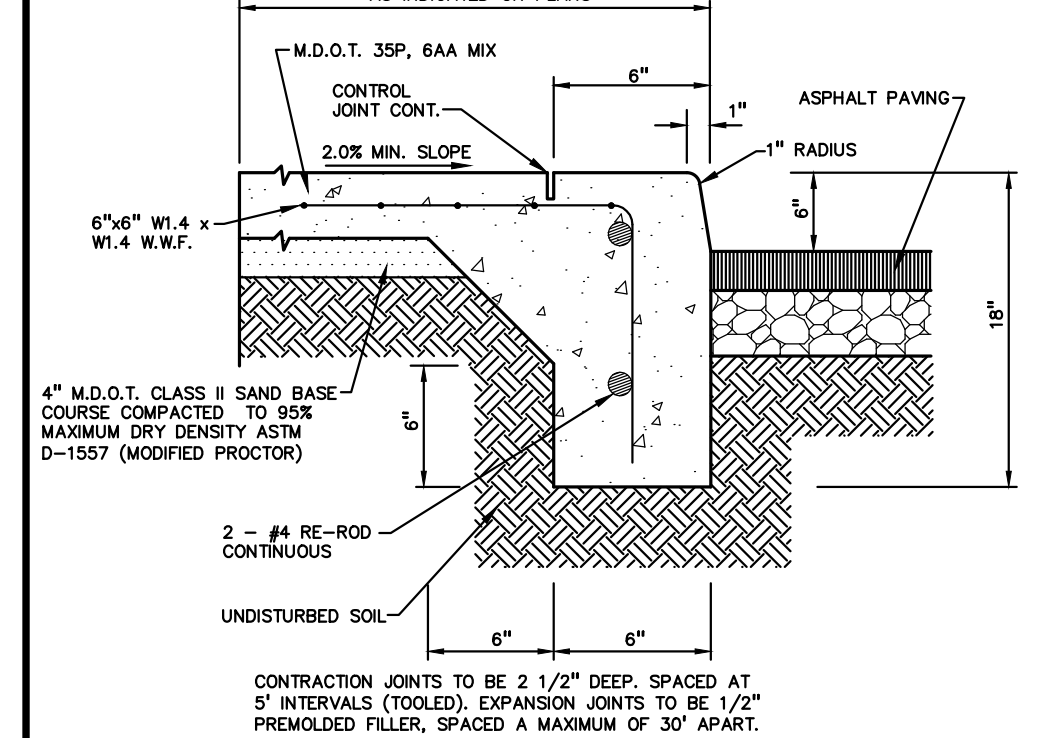
30" x 30" RED ON WHITE REFLECTORIZED 6'-8" MOUNTING HEIGHT (R9-1)

**DO NOT ENTER SIGN DETAIL**  
NOT TO SCALE

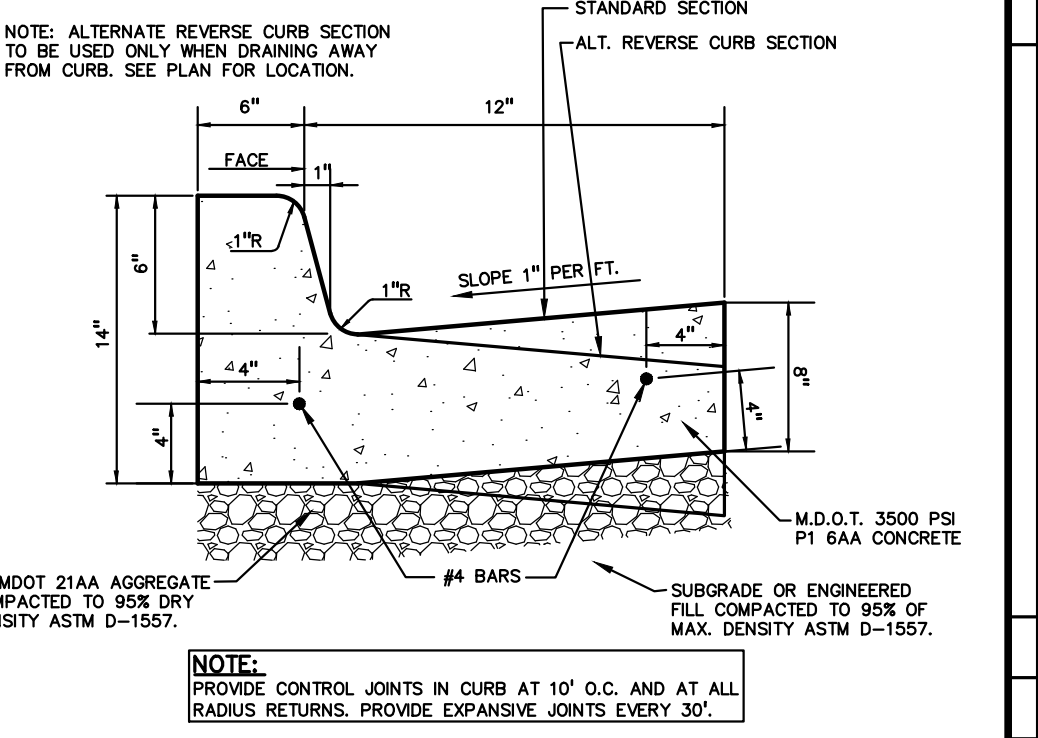


36" x 12" WHITE ON BLACK REFLECTORIZED 7'-0" MOUNTING HEIGHT (R6-18)

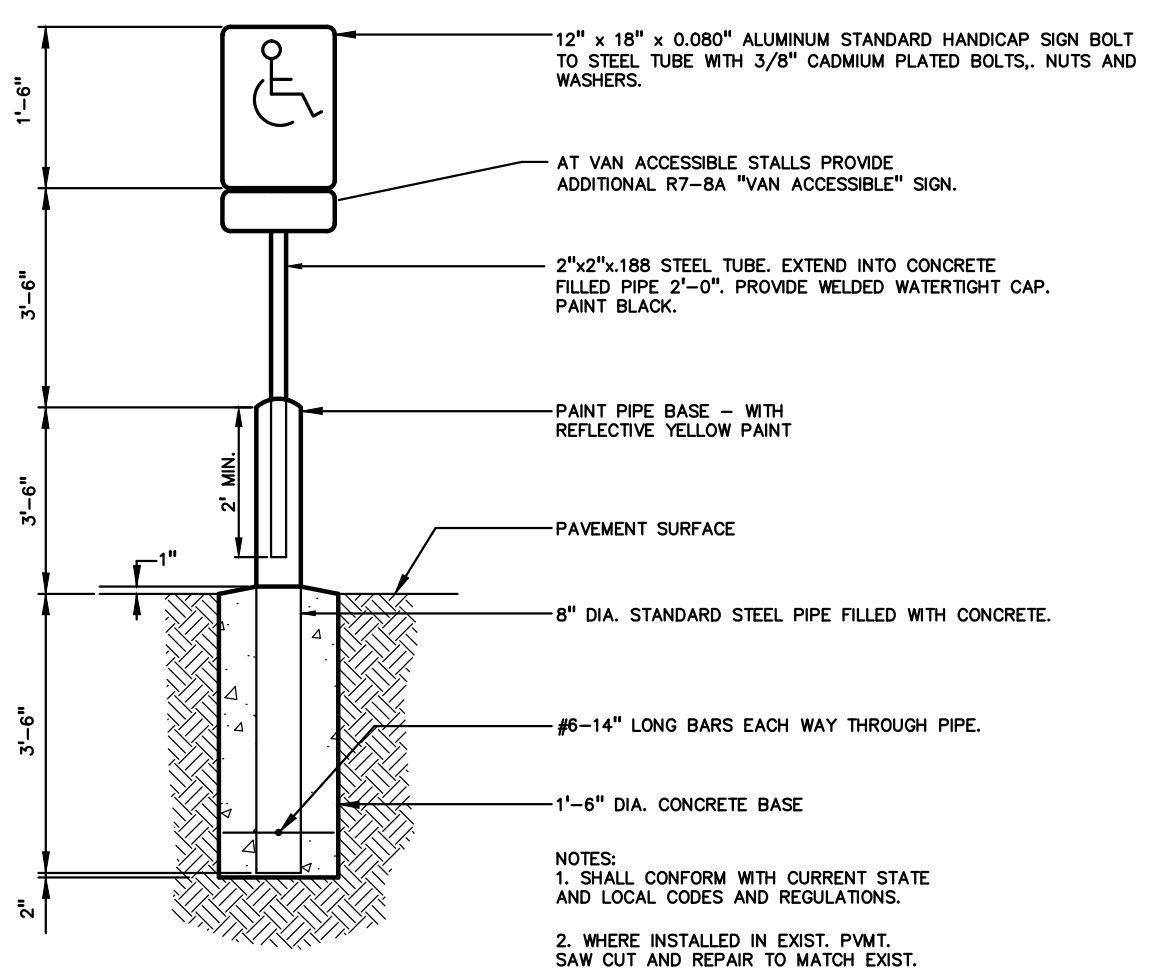
**ONE WAY SIGN DETAIL**  
NOT TO SCALE



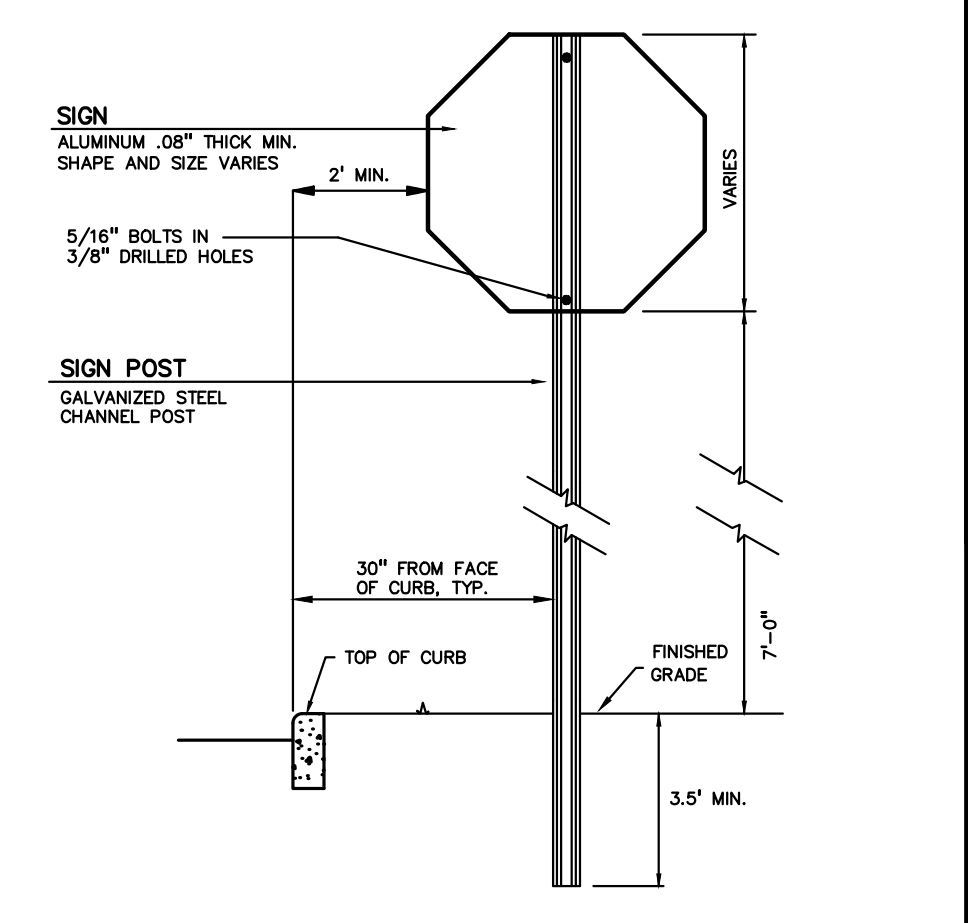
**INTEGRAL CURB AND SIDEWALK**  
NOT TO SCALE



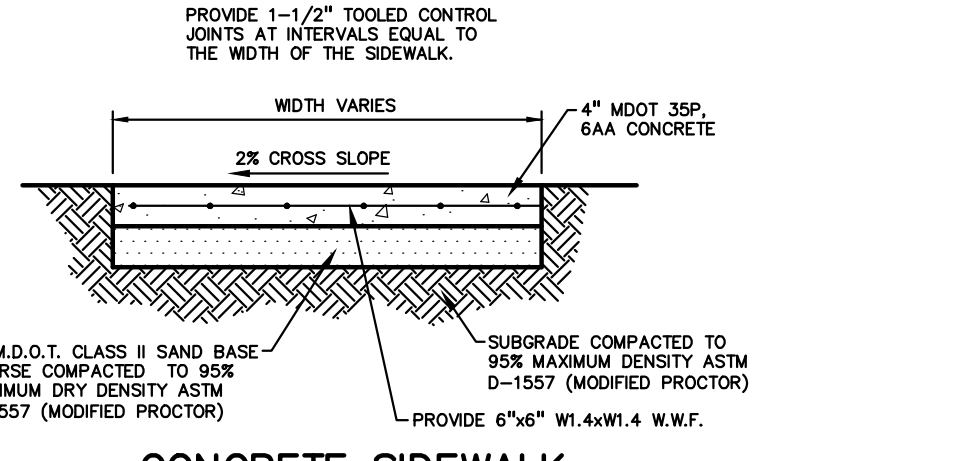
**18"x6" STANDARD CONCRETE CURB AND GUTTER**  
NOT TO SCALE



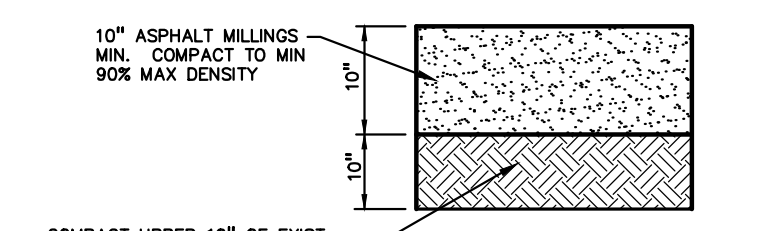
**SIGN AND POST INSTALLATION IN PAVED AREAS**  
NOT TO SCALE



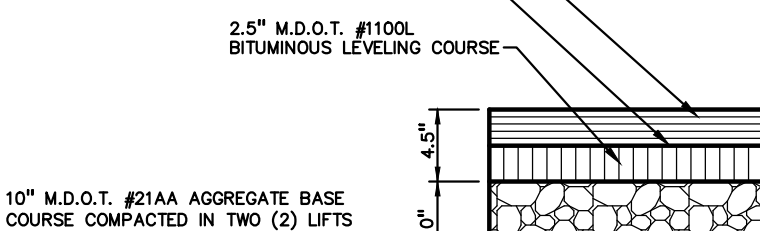
**SIGN AND POST INSTALLATION IN LANDSCAPED AREAS**  
NOT TO SCALE



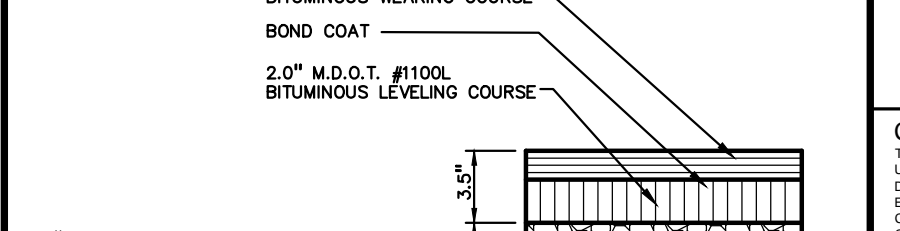
**CONCRETE SIDEWALK**  
NOT TO SCALE



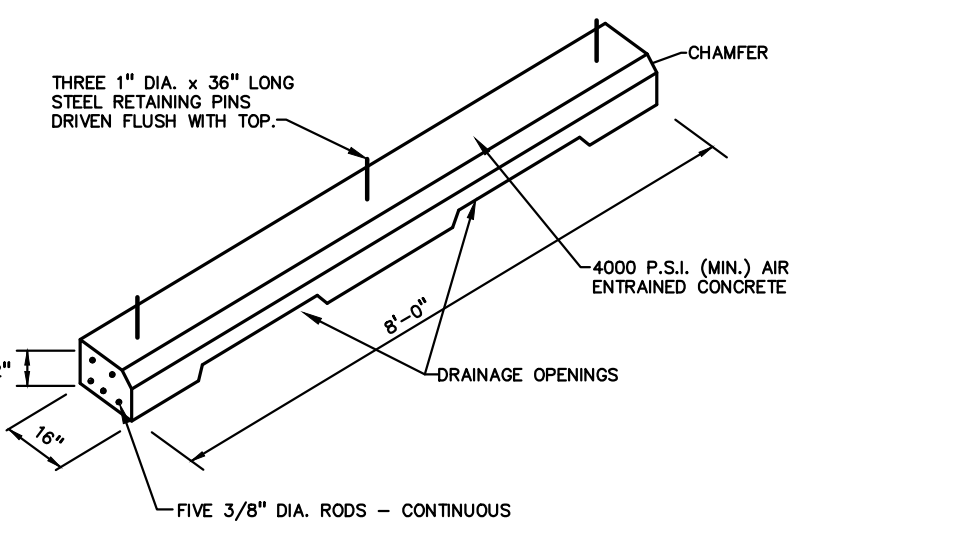
**ASPHALT MILLINGS DETAIL**  
NOT TO SCALE



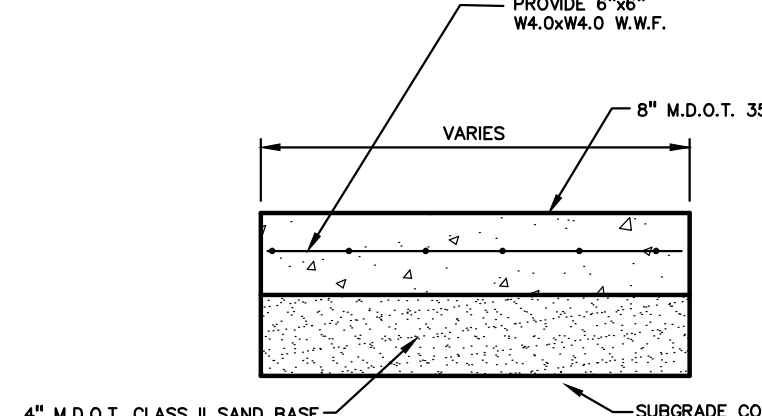
**HEAVY DUTY ASPHALT DETAIL**  
(NOT FOR USE IN THE RIGHT-OF-WAY)



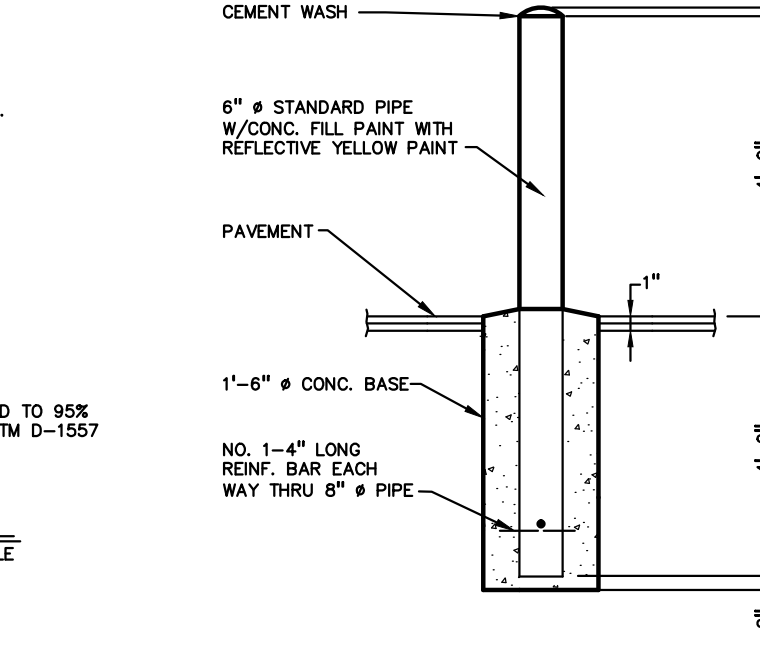
**STANDARD DUTY ASPHALT DETAIL**  
(NOT FOR USE IN THE RIGHT-OF-WAY)



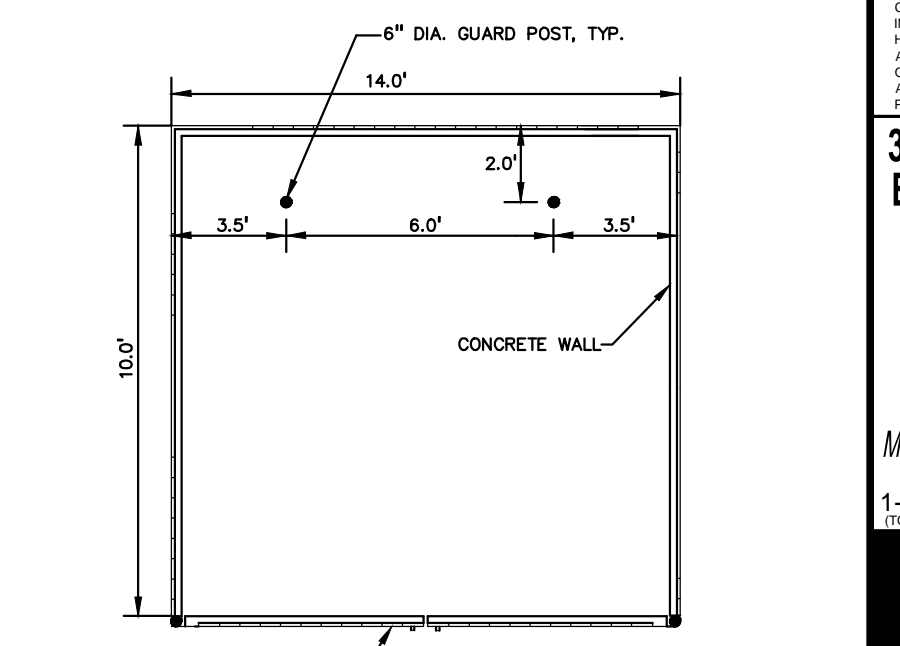
**TRUCK-TRAILER PARKING BUMPER**  
NOT TO SCALE



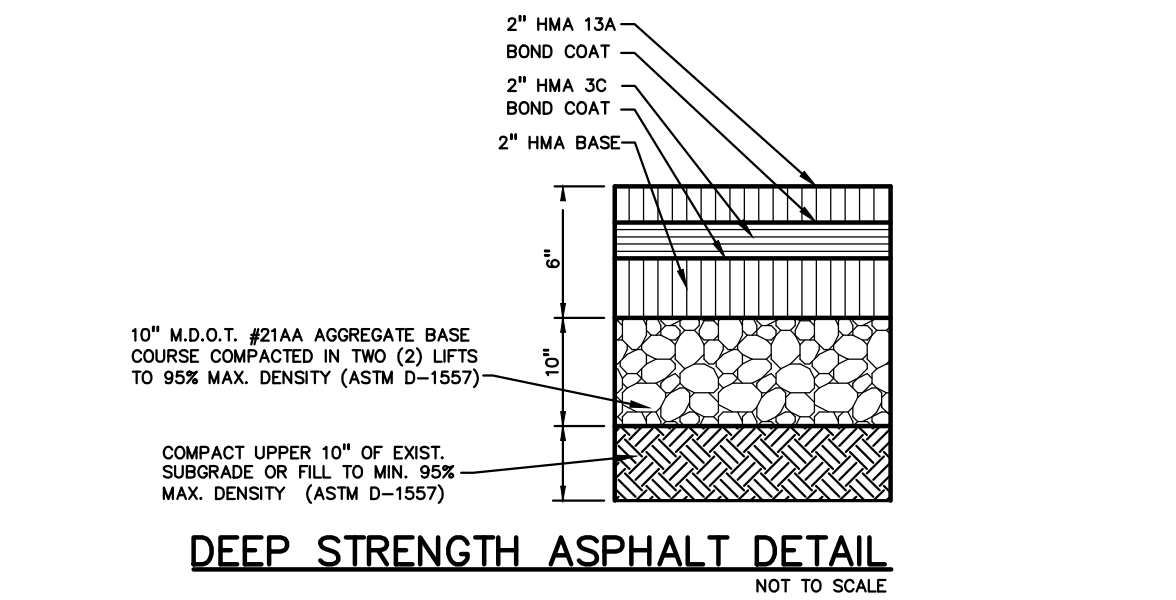
**HEAVY DUTY CONCRETE PAD DETAIL**  
NOT TO SCALE



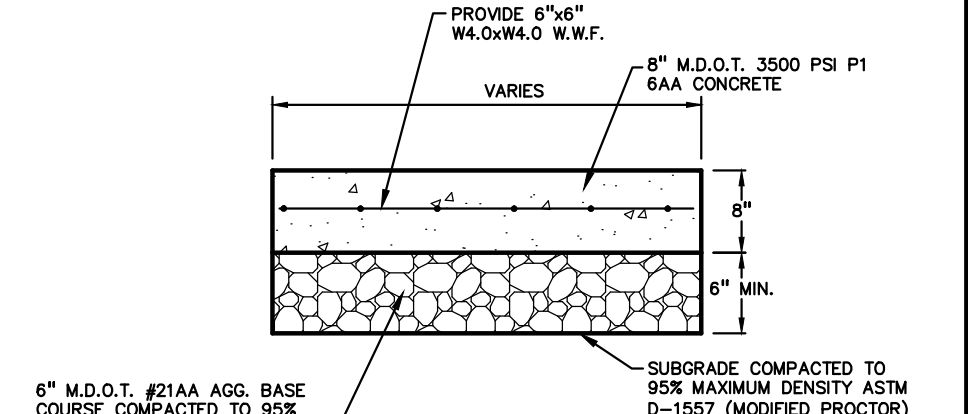
**6" DIA. GUARD POST DETAIL**  
NOT TO SCALE



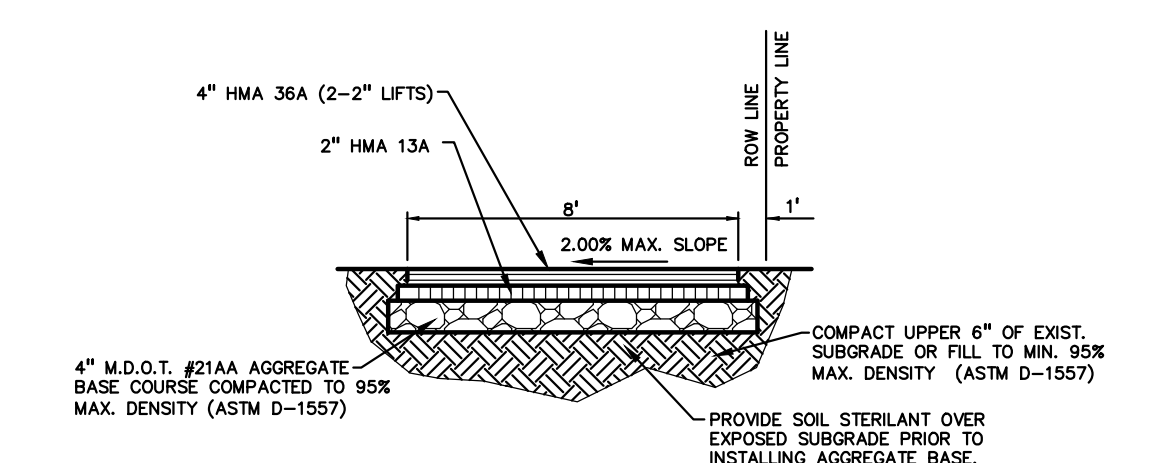
**TRASH ENCLOSURE GATE DETAIL**  
NOT TO SCALE



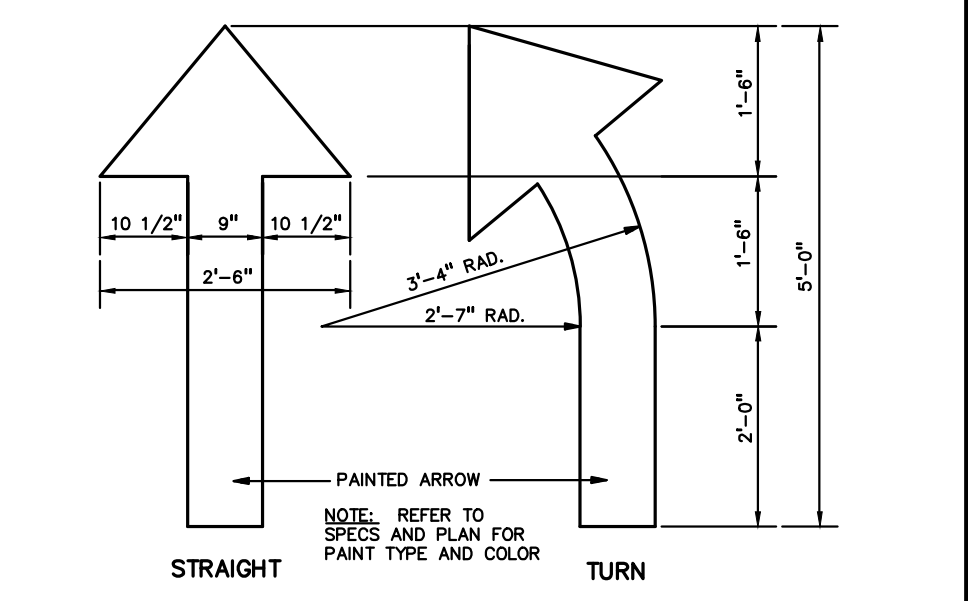
**DEEP STRENGTH ASPHALT DETAIL**  
NOT TO SCALE



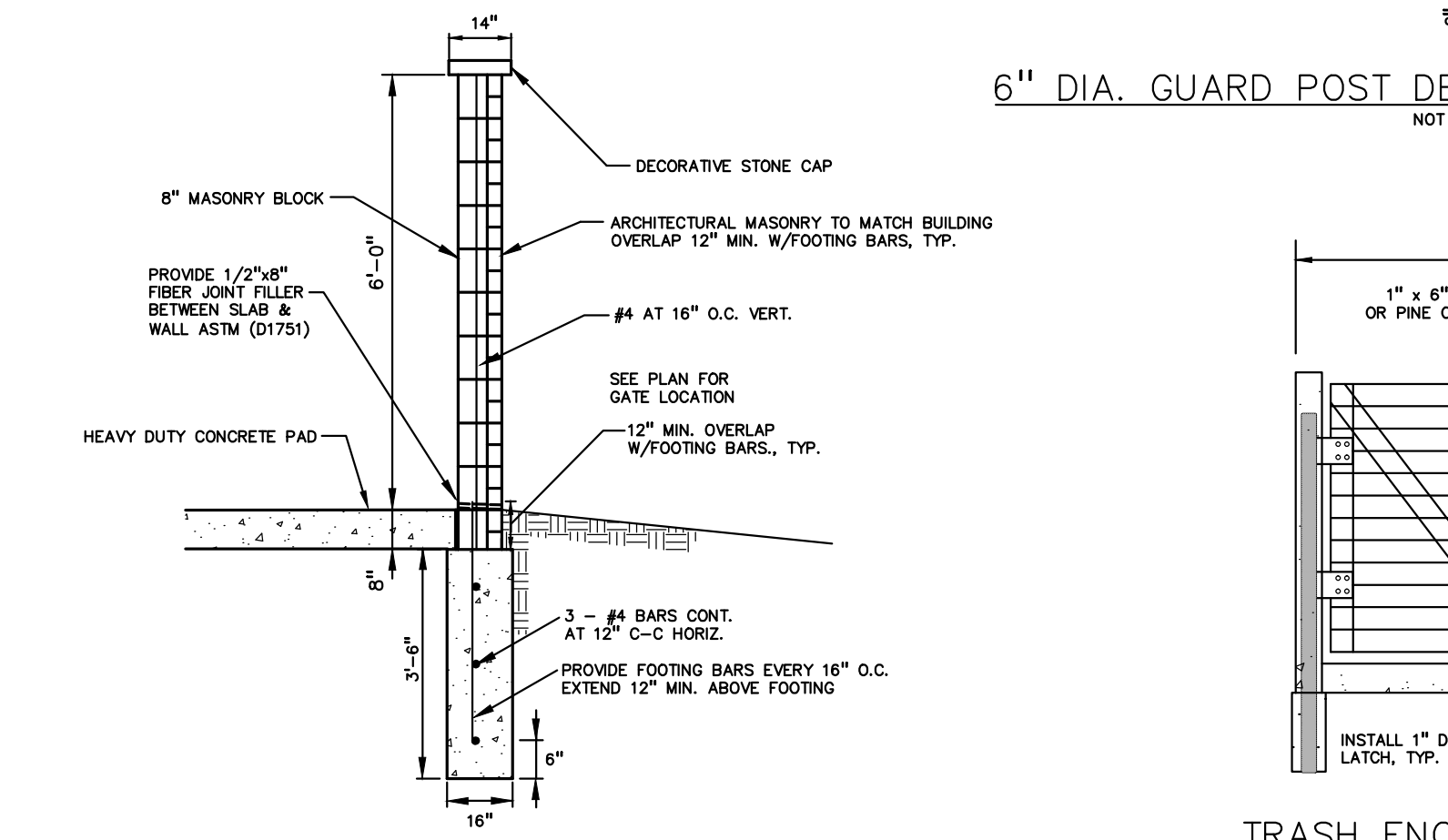
**HEAVY DUTY CONCRETE DETAIL**  
NOT TO SCALE



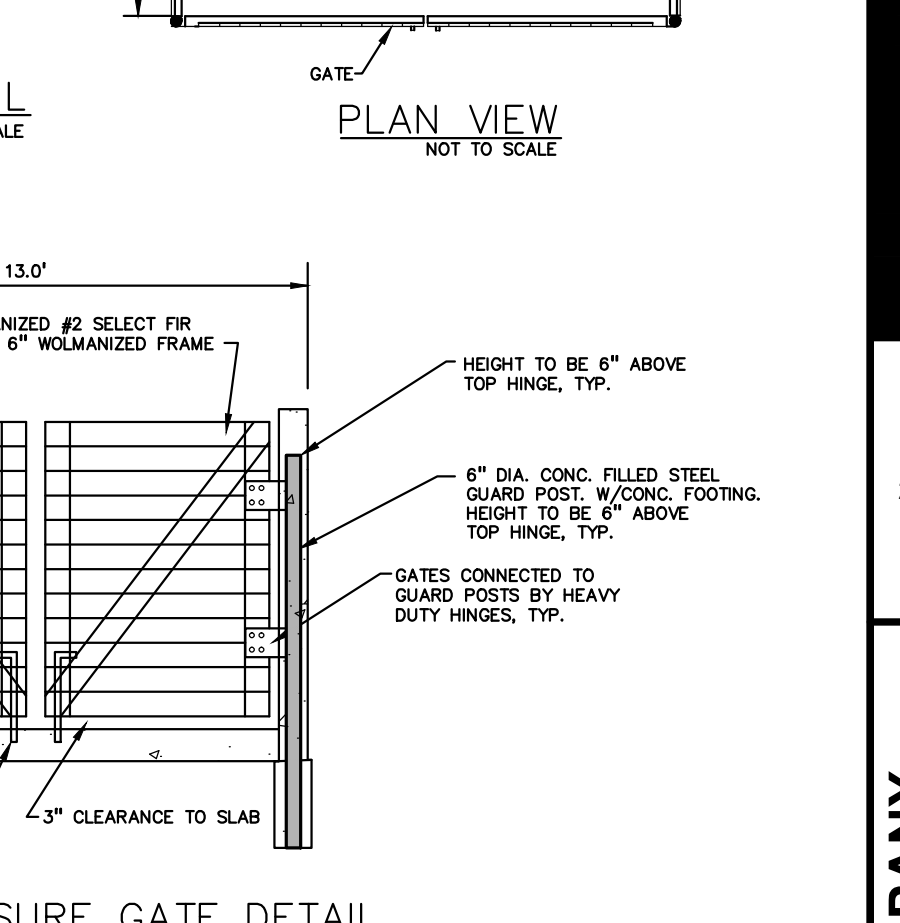
**ASPHALT BIKE PATH DETAIL**  
NOT TO SCALE



**PAINTED DIRECTIONAL ARROWS**  
NOT TO SCALE



**DUMPSTER ENCLOSURE WALL CROSS SECTION**



**TRASH ENCLOSURE DETAILS**  
NOT TO SCALE

NO.	BY	CHKD.	DESCRIPTION	DATE
1	ESB	DN	SAS REVISION PER SITE PLAN REVIEW COMMENTS	7/20/14
2	ESB	DN	SAS REVISION PER SITE PLAN REVIEW COMMENTS	8/25/14



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website: www.peainc.com

**J.B. DONALDSON COMPANY**  
37610 HILLS TECH DRIVE  
FARMINGTON HILLS, MI 48331

**PRELIMINARY DETAIL PLAN  
GENERAL TRUCKING**  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES. ESB DN. ESB SUR. PEA P.M. SAS

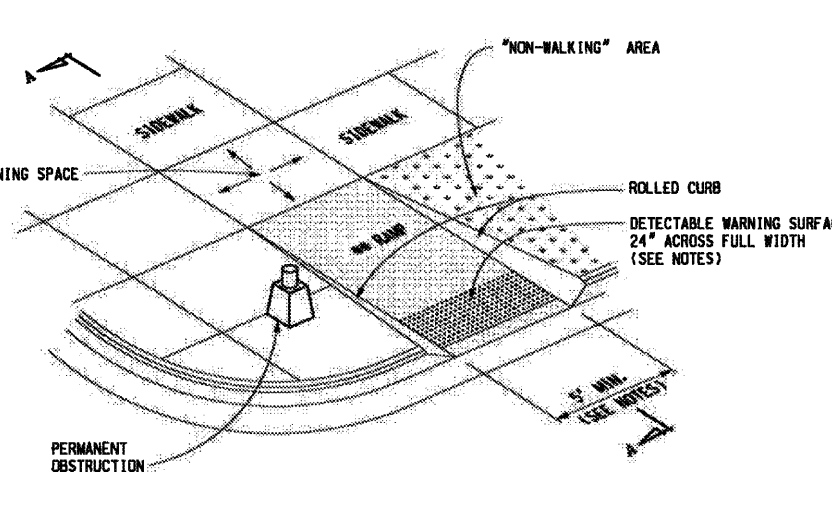
ORIGINAL ISSUE DATE:  
JUNE 11, 2014

PEA JOB NO. 2014-036

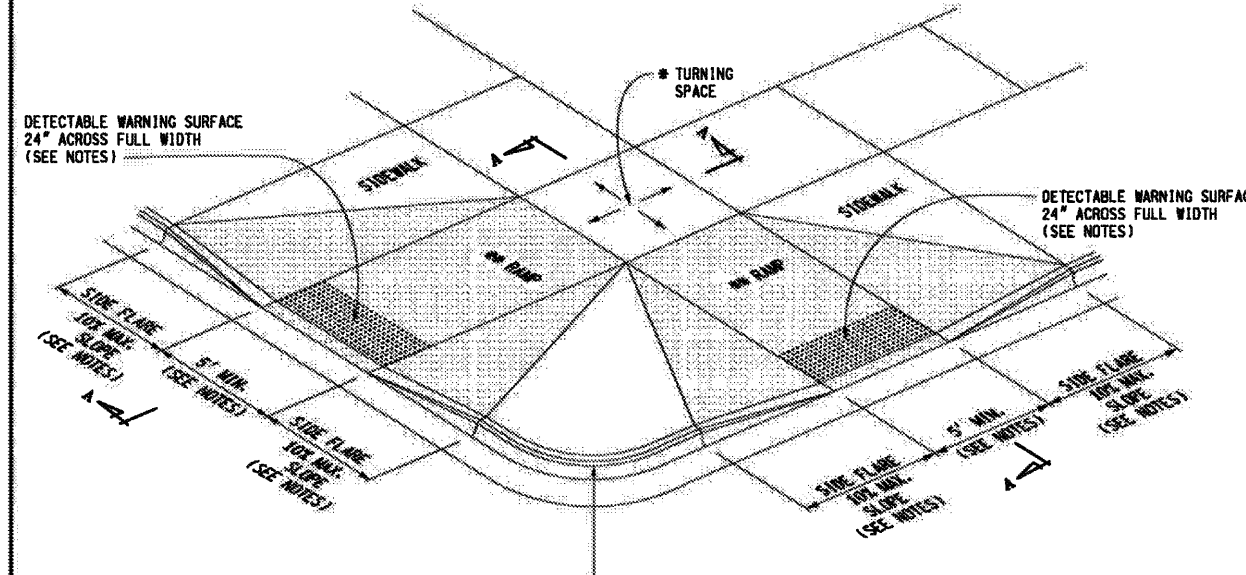
SCALE: NONE

DRAWING NUMBER:  
**P-6.1**

MAXIMUM TURNING SPACE SLOPE IS 2% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.  
 MAXIMUM RAMP CROSS SLOPE IS 2.0% RUNNING SLOPE 9% - 1% (0.2% MAXIMUM). SEE NOTES.



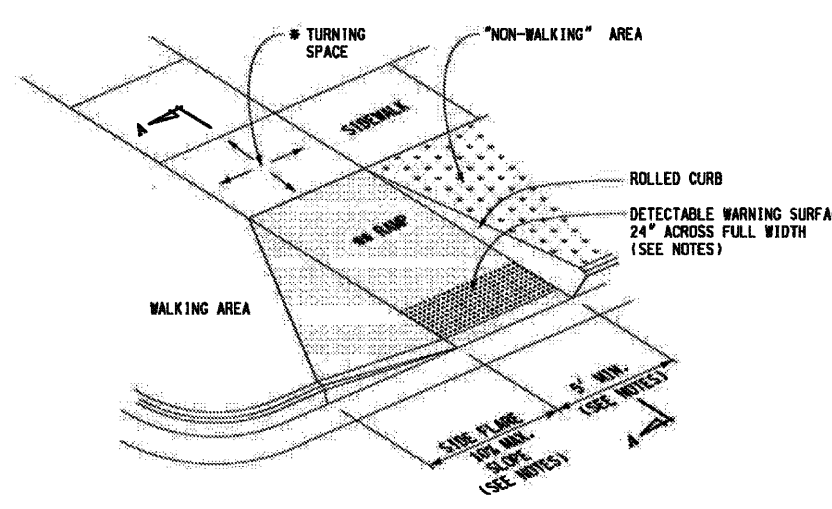
**SIDEWALK RAMP TYPE R**  
(ROLLED SIDES)



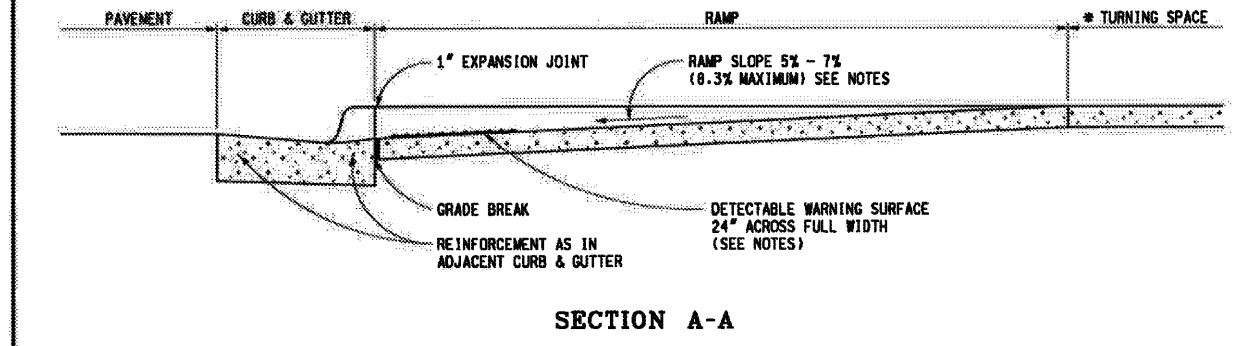
**SIDEWALK RAMP TYPE F**  
(FLARED SIDES, TWO RAMPS SHOWN)

MICHIGAN DEPARTMENT OF TRANSPORTATION  
 BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR  
**SIDEWALK RAMP AND  
 DETECTABLE WARNING DETAILS**  
 1-25-2013 10-3-2012 R-28-H SHEET 1 OF 1  
 T.A.B.L. APPROVAL PLAN DATE

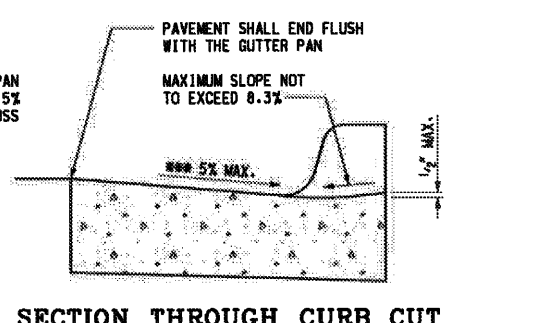
MAXIMUM TURNING SPACE SLOPE IS 2% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.  
 MAXIMUM RAMP CROSS SLOPE IS 2.0% RUNNING SLOPE 9% - 1% (0.2% MAXIMUM). SEE NOTES.



**SIDEWALK RAMP TYPE RF**  
(ROLLED / FLARED SIDES)



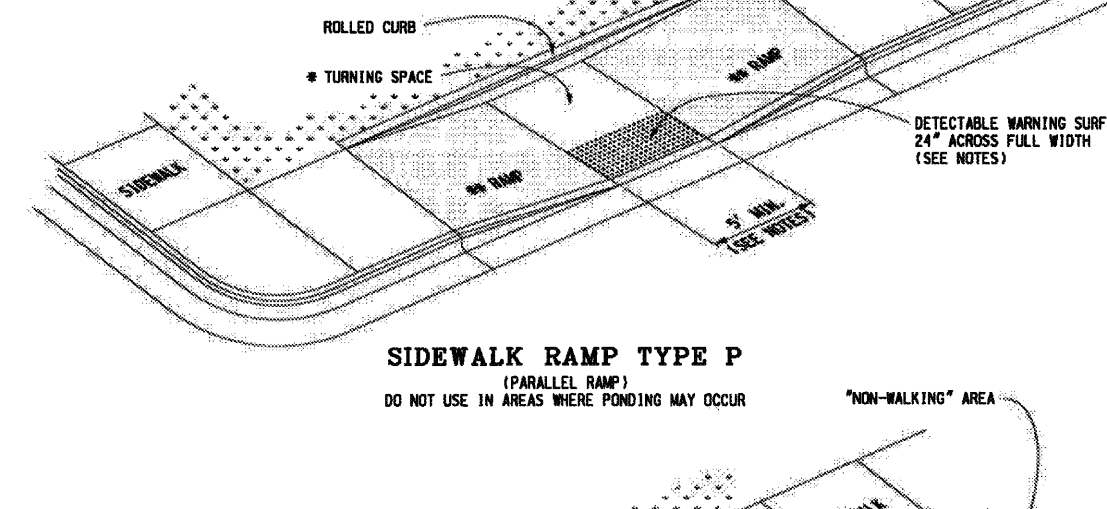
**SECTION A-A**



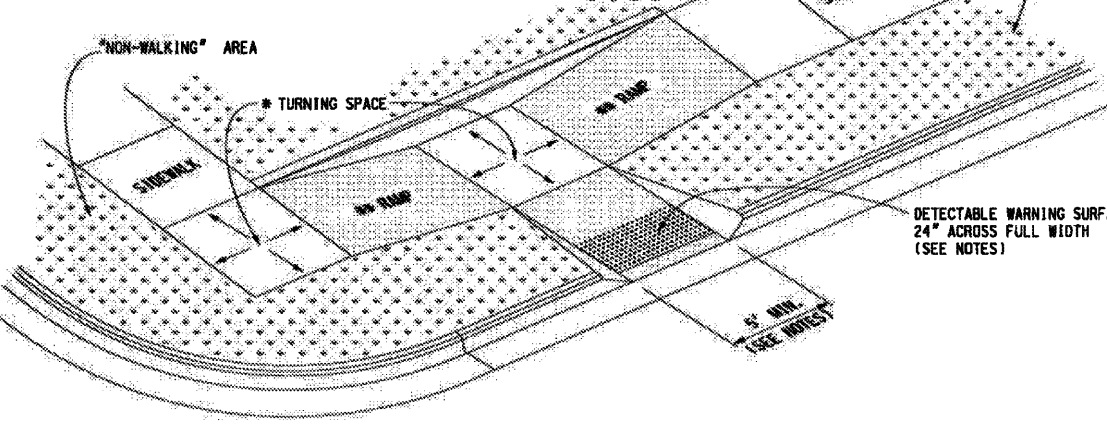
**SECTION THROUGH CURB CUT**  
(TYPICAL ALL RAMP TYPES)

MICHIGAN DEPARTMENT OF TRANSPORTATION  
 BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR  
**SIDEWALK RAMP AND  
 DETECTABLE WARNING DETAILS**  
 1-25-2013 10-3-2012 R-28-H SHEET 2 OF 1  
 T.A.B.L. APPROVAL PLAN DATE

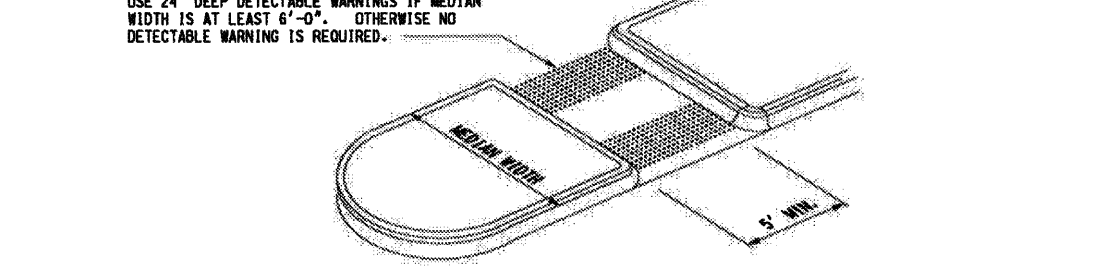
MAXIMUM TURNING SPACE SLOPE IS 2% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.  
 MAXIMUM RAMP CROSS SLOPE IS 2.0% RUNNING SLOPE 9% - 1% (0.2% MAXIMUM). SEE NOTES.



**SIDEWALK RAMP TYPE P**  
(PARALLEL RAMP)



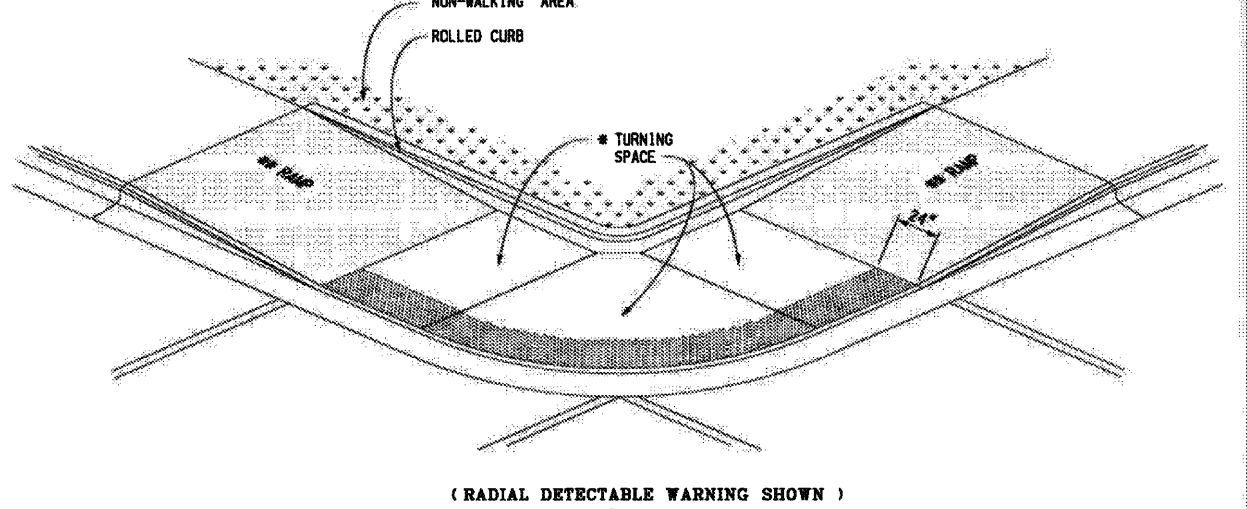
**SIDEWALK RAMP TYPE C**  
(COMBINATION RAMP)



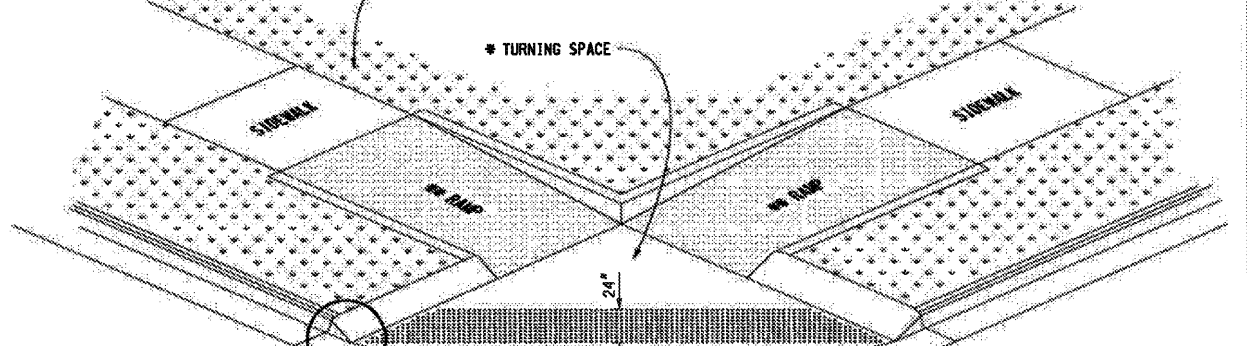
**SIDEWALK RAMP TYPE M**  
(MEDIAN ISLAND)

MICHIGAN DEPARTMENT OF TRANSPORTATION  
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**SIDEWALK RAMP AND  
 DETECTABLE WARNING DETAILS**  
 1-25-2013 10-3-2012 R-28-H SHEET 3 OF 1  
 T.A.B.L. APPROVAL PLAN DATE

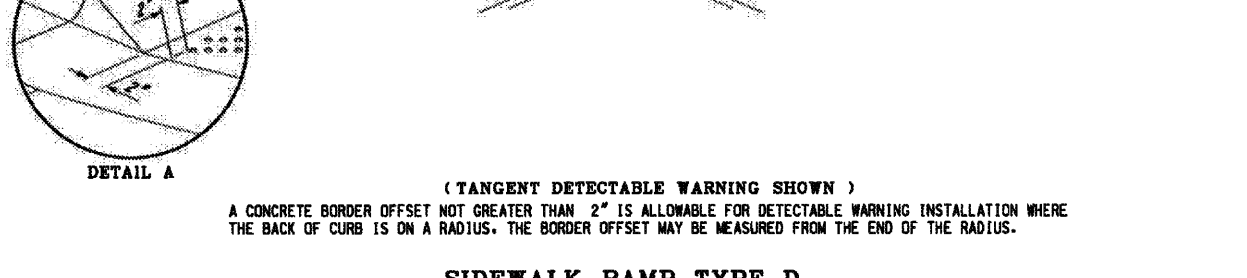
MAXIMUM TURNING SPACE SLOPE IS 2% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.  
 MAXIMUM RAMP CROSS SLOPE IS 2.0% RUNNING SLOPE 9% - 1% (0.2% MAXIMUM). SEE NOTES.



**SIDEWALK RAMP TYPE D**  
(DEPRESSED CORNER)



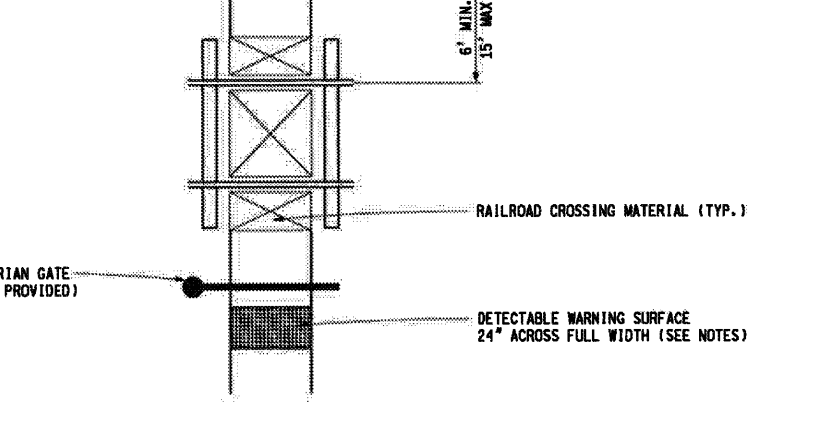
**SIDEWALK RAMP TYPE D**  
(TANGENT DETECTABLE WARNING SHOWN)



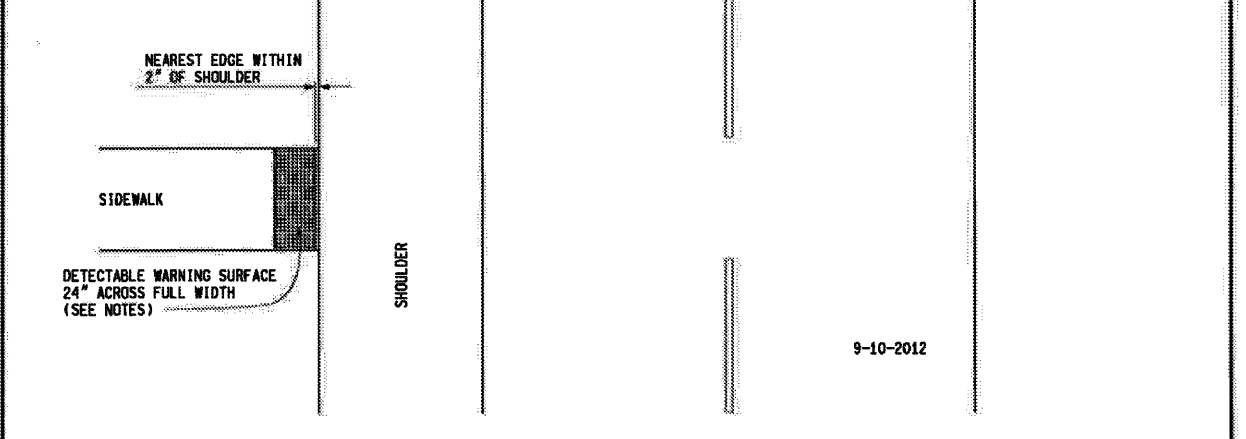
**SIDEWALK RAMP TYPE D**  
(RADIAL DETECTABLE WARNING SHOWN)

MICHIGAN DEPARTMENT OF TRANSPORTATION  
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**SIDEWALK RAMP AND  
 DETECTABLE WARNING DETAILS**  
 1-25-2013 10-3-2012 R-28-H SHEET 4 OF 1  
 T.A.B.L. APPROVAL PLAN DATE

THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE RAIL CROSSING IS 6' MINIMUM AND 15' MAXIMUM FROM THE LINE OF THE NEAREST RAIL. DO NOT PLACE DETECTABLE WARNING ON RAILROAD CROSSING MATERIAL.



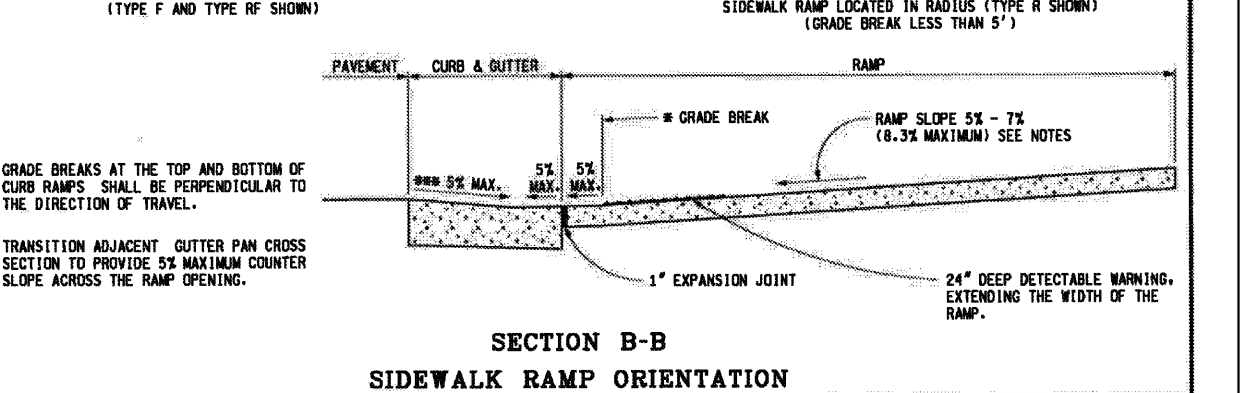
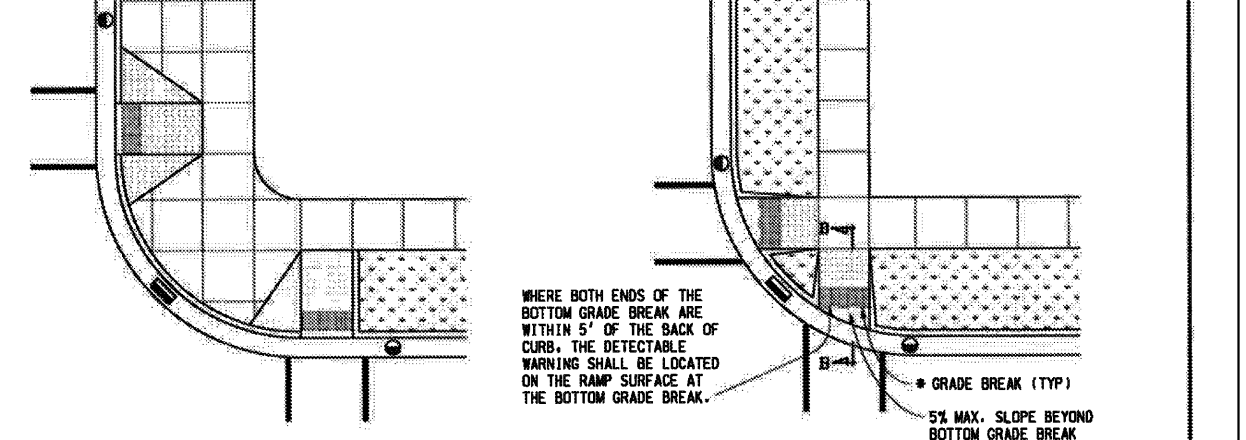
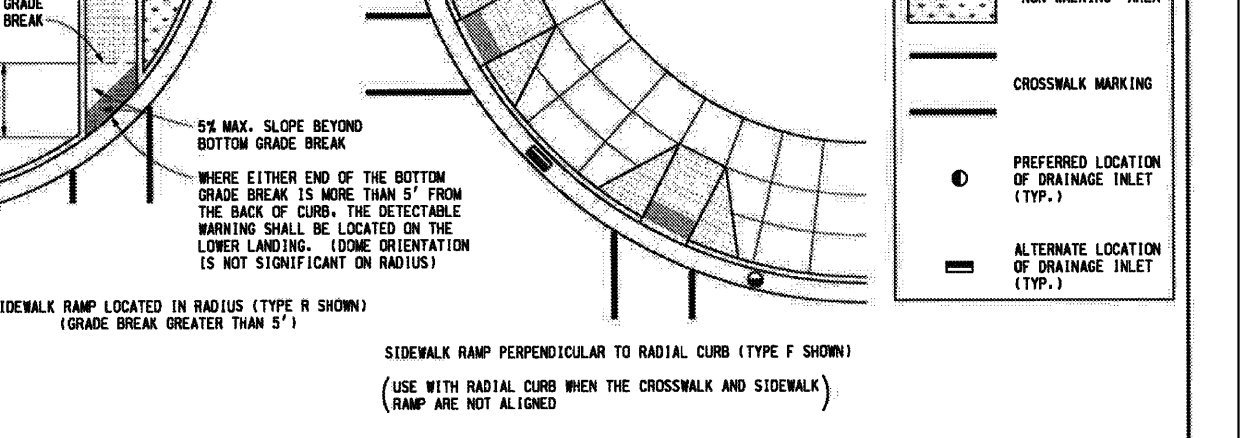
**DETECTABLE WARNING AT RAILROAD CROSSING**



**DETECTABLE WARNING AT FLUSH SHOULDER OR ROADWAY**

MICHIGAN DEPARTMENT OF TRANSPORTATION  
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**SIDEWALK RAMP AND  
 DETECTABLE WARNING DETAILS**  
 1-25-2013 10-3-2012 R-28-H SHEET 5 OF 1  
 T.A.B.L. APPROVAL PLAN DATE

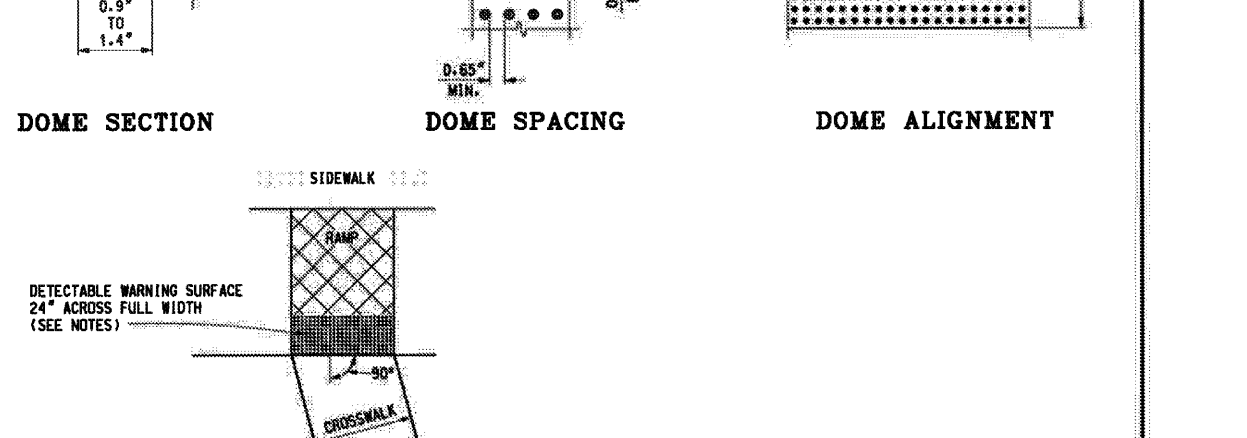
**LEGEND**  
 SIDEWALK RAMP  
 "NON-WALKING" AREA  
 CROSSED MARKING  
 PREFERRED LOCATION OF DRAINAGE INLET (TYP.)  
 ALTERNATE LOCATION OF DRAINAGE INLET (TYP.)



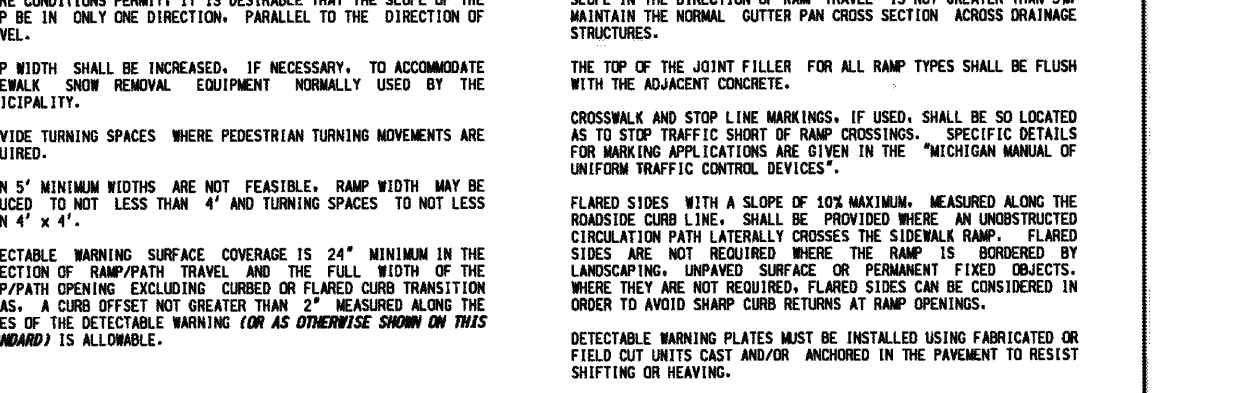
**SECTION B-B**  
**SIDEWALK RAMP ORIENTATION**

MICHIGAN DEPARTMENT OF TRANSPORTATION  
 BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR  
**SIDEWALK RAMP AND  
 DETECTABLE WARNING DETAILS**  
 1-25-2013 10-3-2012 R-28-H SHEET 6 OF 1  
 T.A.B.L. APPROVAL PLAN DATE

**DOMES SECTION**  
 80% TO 85% OF BASE  
 1.5\"/>



**DETECTABLE WARNING DETAILS**  
 NOTES:  
 DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS BY ALL PUBLIC AGENCIES AND BY ALL PRIVATE ORGANIZATIONS CONSTRUCTING FACILITIES FOR PUBLIC USE.  
 SIDEWALK RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.  
 RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT WORKED AND/OR SIGNALIZED MID-BLOCK CROSSINGS.  
 SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE DRAINAGE TRANSVERSE TO THE RUNNING SLOPE.  
 SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.  
 CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, WHERE CONDITIONS PERMIT. IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.  
 RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK RAMP REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.  
 PROVIDE TURNING SPACES WHERE PEDESTRIAN TURNING MOVEMENTS ARE REQUIRED.  
 WHEN 5' MINIMUM WIDTH ARE NOT FEASIBLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4' AND TURNING SPACES TO NOT LESS THAN 4' x 4'.  
 DETECTABLE WARNING SURFACE COVERAGE IS 24" MINIMUM IN THE DIRECTION OF RAMP/PATH TRAVEL AND THE FULL WIDTH OF THE RAMP/PATH OPENING EXCLUDING CURBS OR FLARED CURB TRANSITION AREAS. A CURB OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING (OR AS OTHERWISE SHOWN ON THIS STANDARD) IS ALLOWABLE.  
 FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2% FOR ALTERNATE TO EXISTING ROADWAYS. THE CROSS SLOPE MAY BE TRANSITIONED TO MEET AN EXISTING ROADWAY GRADE. THE CROSS SLOPE TRANSITION SHALL BE APPLIED UNIFORMLY OVER THE FULL LENGTH OF THE RAMP.  
 THE MAXIMUM RUNNING SLOPE OF A FLAT (OR REDUCED) WALKWAY, IT SHALL NOT EXCEED ANY RAMP OR SERIES OF RAMPS TO EXCEED 15 FEET IN LENGTH.  
 DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. THE LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER THE LOCATION OF THE DRAINAGE STRUCTURE. WHERE EXISTING DRAINAGE STRUCTURES ARE LOCATED IN THE RAMP PATH OF TRAVEL, USE A MANUFACTURED "ARCH" FORM-LINE GRATE. OPENINGS SHALL NOT BE GREATER THAN 4". ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOWNWAT DIRECTION OF TRAVEL.  
 TRANSITION THE GUTTER PAN CROSS SECTION SUCH THAT THE COUNTER SLOPE IN THE DIRECTION OF RAMP TRAVEL IS NOT GREATER THAN 1% MAINTAIN THE NORMAL GUTTER PAN CROSS SECTION ACROSS DRAINAGE STRUCTURES.  
 THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.  
 CROSSED AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".  
 FLARED SIDES WITH A SLOPE OF 5% MAXIMUM, MEASURED ALONG THE HORIZONTAL CURB LINE, SHALL BE PROVIDED WHERE AN UNDESTRUCTED CIRCULATION PATH LATERALLY CROSSES THE SIDEWALK RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE RAMP IS COVERED BY LANDSCAPING, UNRAVED SURFACE OR PERMANENT FIXED OBJECTS. WHERE THEY ARE NOT REQUIRED, FLARED SIDES CAN BE CONSIDERED IN ORDER TO AVOID SHARP CURB RETURNS AT RAMP OPENINGS.  
 DETECTABLE WARNING PLATES MUST BE INSTALLED USING FABRICATED OR FIELD CUT BRITS CAST AND/OR ANCHORED IN THE PAVEMENT TO RESIST SLIPPING OR HEAVING.



MICHIGAN DEPARTMENT OF TRANSPORTATION  
 BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR  
**SIDEWALK RAMP AND  
 DETECTABLE WARNING DETAILS**  
 1-25-2013 10-3-2012 R-28-H SHEET 7 OF 1  
 T.A.B.L. APPROVAL PLAN DATE

NO.	BY	CHK.	DESCRIPTION	DATE
2	ESB	SAS	REVISED PER SITE PLAN REVIEW COMMENTS	7/20/14
1	ESB	SAS	REVISED PER SITE PLAN REVIEW COMMENTS	6/25/14

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 CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR SHALL 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 IN ADDITION TO ANY CONTRACTORS' OBLIGATIONS TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO MAINTAIN, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.  
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 Fax: (248) 689-1044  
 website: www.peainc.com

**J.B. DONALDSON COMPANY**  
 37610 HILLS TECH DRIVE  
 FARMINGTON HILLS, MI 48331  
**M.D.O.T. SIDEWALK RAMP DETAILS**  
**GENERAL TRUCKING**  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN  
 DES. ESB DN. ESB SUR. PEA P.M. SAS  
 S:\PROJECTS\2014\2014036\DWG\CONSTRUCTION\TBK-14036-14036.DWG  
 ORIGINAL ISSUE DATE: JUNE 11, 2014  
 PEA JOB NO. 2014-036  
 SCALE: NONE  
 DRAWING NUMBER: P-6.2

**LANDSCAPE CALCULATIONS: REVISED**  
PER CITY OF ROCHESTER HILLS ZONING ORDINANCE

**INTERIOR EMPLOYEE PARKING LOT LANDSCAPE**  
REQUIRED: 5% OF EMPLOYEE VEHICLE USE AREA & 1 TREE / 150 SF  
NOTE: EA. LANDSCAPE ISLAND MUST HAVE 1 TREE MIN.  
14,345 SQ FT \* 5% = 717 SQ FT  
717 SF / 150 SF = 5 TREES

PROVIDED: 1,280 SF LANDSCAPE AREA & 5 TREES (3 ISLANDS)

**PERIMETER EMPLOYEE PARKING LOT LANDSCAPE**  
REQUIRED: 1 DEC TREE / 25 LF  
1 ORN TREE / 35 LF  
CONTINUOUS SHRUB HEDGE ALONG PARKING LOT  
HAMLIN ROAD: 260 LF / 25 = 10 DEC TREES  
260 LF / 35 = 7 ORN TREES  
DEQUINDRE ROAD: 20 LF / 25 = 1 DEC TREES  
20 LF / 35 = 1 ORN TREES

PROVIDED:  
HAMLIN ROAD: 10 PROPOSED DEC. 7 ORN TREES  
DEQUINDRE ROAD: 1 PROPOSED DEC. 1 ORN TREE  
CONTINUOUS SHRUB ALONG EMPLOYEE PARKING LOT

**RIGHT OF WAY LANDSCAPING**  
REQUIRED: 1 DEC TREE / 35 LF OF RIGHT OF WAY  
1 ORN TREE / 35 LF OF RIGHT OF WAY

HAMLIN ROAD: 405LF / 35 LF = 12 DEC & 12 ORN TREES  
DEQUINDRE ROAD: 1176 LF / 35 LF = 34 DEC & 34 ORN TREES

PROVIDED:  
HAMLIN ROAD: 12 DEC TREES & 12 ORN TREES  
DEQUINDRE ROAD: 34 DEC TREES & 34 ORN TREES

**BASIN BUFFER TYPE A LANDSCAPING**  
REQUIRED: 1.5 DEC TREES / 100 LF  
1 EVG TREES / 100 LF  
4 SHRUBS / 100 LF

NORTH BASIN= 785LF / 100 LF = 7.85 \* 1.5 = 12 DEC TREES  
785LF / 100 LF = 7.85 \* 1 = 8 EVERGREEN TREES  
785LF / 100 LF = 7.85 \* 4 = 32 SHRUBS

PROVIDED: 12 DEC. 8 EVERGREEN, & 32 SHRUBS

WEST BASIN= 795LF / 100 LF = 7.95 \* 1.5 = 12 DEC TREES  
795LF / 100 LF = 7.95 \* 1 = 8 EVERGREEN TREES  
795LF / 100 LF = 7.95 \* 4 = 32 SHRUBS

PROVIDED: 12 DEC. 8 EVERGREEN, & 32 SHRUBS

SOUTH BASIN= 544 LF / 100 LF = 5.44 \* 1.5 = 8 DEC TREES  
544 LF / 100 LF = 5.44 \* 1 = 5 EVERGREEN TREES  
544 LF / 100 LF = 5.44 \* 4 = 22 SHRUBS

PROVIDED: NONE PROVIDED DUE TO SPACE CONFLICT WITH R.O.W & PARKING LOT LANDSCAPE REQUIREMENTS

**TREE REPLACEMENT**  
REQUIRED: 24 DEC. TREES TO BE REMOVED & REPLACED BY  
12 - 10' HT. EVG. TREES OR 12- 3" DEC. TREES  
PROVIDED: 12 - 10' HT. EVERGREEN TREES

**L-1.1 TREE PLANT LIST:**

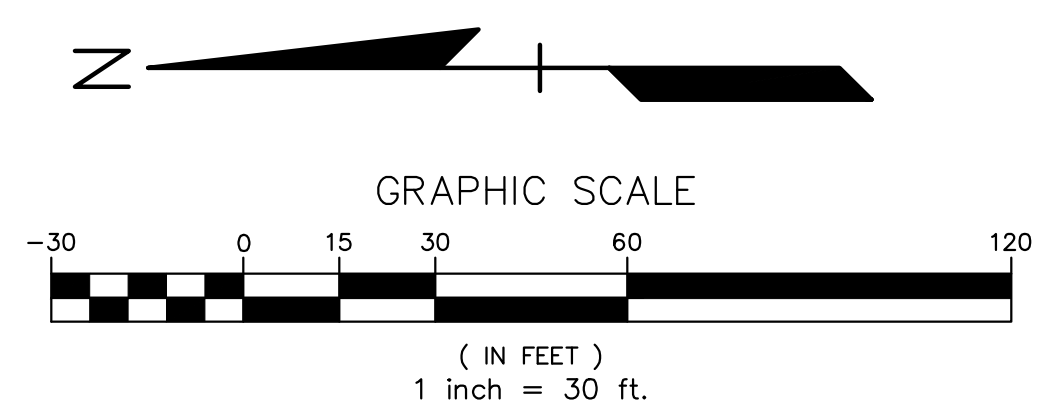
QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
15	AL8	Serviceberry	<i>Amelanchier laevis</i>	8' HL	B&B
1	AR3	Red Maple	<i>Acer rubrum</i>	3" Cal.	B&B
2	AB3	Sugar Maple	<i>Acer saccharum 'Green Mountain'</i>	3" Cal.	B&B
9	CO3	Common Hackberry	<i>Celtis occidentalis</i>	3" Cal.	B&B
17	GB3	Ginkgo	<i>Ginkgo biloba</i>	3" Cal.	B&B
8	MP2	Prairiefire Crab	<i>Malus 'Prairiefire'</i>	2" Cal.	B&B
18	MS2	Sugar Tyme Crab	<i>Malus 'Sugar Tyme'</i>	2" Cal.	B&B
5	QB3	Swamp White Oak	<i>Quercus bicolor</i>	3" Cal.	B&B
4	QM3	Bur Oak	<i>Quercus macrocarpa</i>	3" Cal.	B&B
18	TC3	Greenspire Linden	<i>Tilia cordata 'Greenspire'</i>	3" Cal.	B&B

**EVERGREEN PLANT LIST:**

5	PA8	Norway Spruce	<i>Picea abies</i>	8' HL	B&B
3	PA10	Norway Spruce	<i>Picea abies</i>	10' HL	B&B
3	PG10	Black Hills Spruce	<i>Picea glauca 'Densata'</i>	10' HL	B&B
3	PM8	Douglas Fir	<i>Pseudotsuga menziesii</i>	8' HL	B&B

**SHRUB PLANT LIST:**

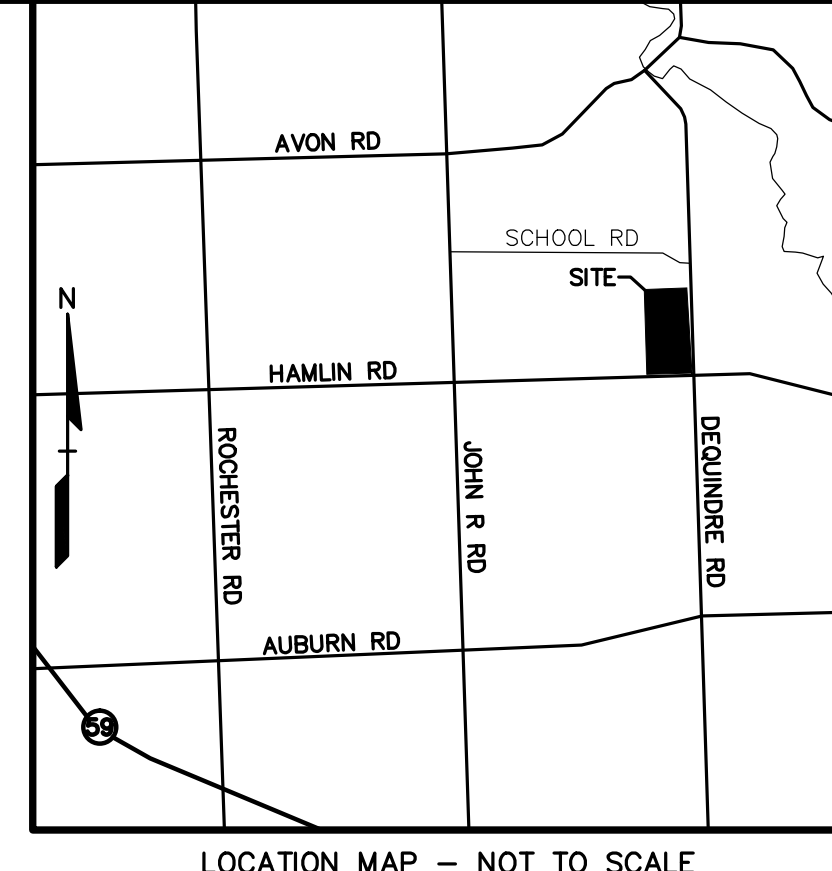
22	CS36	Red Twig Dogwood	<i>Cornus sericea</i>	36" HL	Cont.
54	EF30	Green Lane Euonymus	<i>Euonymus fortunei 'Green Lane'</i>	30" HL	Cont.
16	JSG30	Sea Green Juniper	<i>Juniperus ch. 'Sea Green'</i>	30" HL	Cont.
10	PO36	Diablo Ninebark	<i>Physocarpus opulifolius 'Monlo'</i>	36" HL	Cont.
18	SAW30	Anthony Waterer Spirea	<i>Spiraea x bum. 'Anthony Waterer'</i>	30" HL	Cont.
13	VD36	Arrowood Viburnum	<i>Viburnum dentatum</i>	36" HL	Cont.



**KEY:**

- Interior Parking Lot Trees
- Perimeter Parking Lot Trees
- R.O.W. Trees
- Basin Buffer Trees
- Replacement Trees
- Shrubs
- Existing Tree to Remain
- Stormwater Seed Mix
- Restore Disturbed Lawn with Irrigated Seed

NOTE: ALL PLANT BED AREAS TO BE IRRIGATED ALSO



**REVISIONS**

NO.	DATE	BY	REVISION
1	7/25/14	JE	REVISED PER SITE PLAN REVIEW COMMENTS
2	8/25/14	JE	REVISED PER SITE PLAN REVIEW COMMENTS
3	9/15/14	JE	REVISED PER SITE PLAN REVIEW COMMENTS



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CONTRACTOR CONTRACTOR AGREES THAT IN ACCORDANCE WITH ORDINANCE 4 ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR SHALL 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 LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY, REPAIR AND HOLD DESIGN PROFESSIONAL LIABILITY FOR ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF HIS OR HER PROFESSIONAL DUTY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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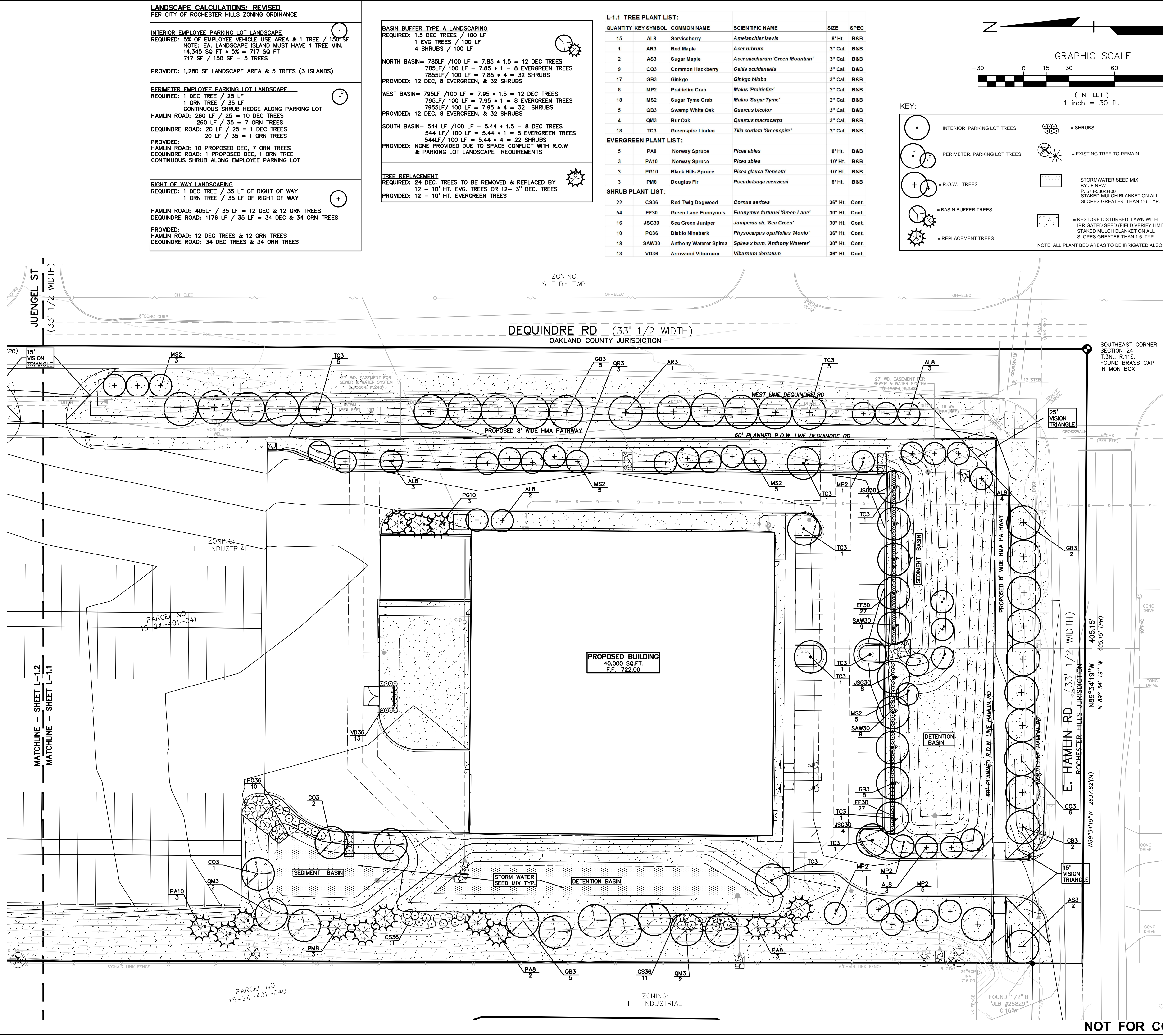
**J.B. DONALDSON COMPANY**  
37610 HILLS TECH DRIVE  
FARMINGTON HILLS, MI 48331

**PRELIM. LANDSCAPE PLAN - SOUTH GENERAL TRUCKING**

CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES: ESB DN: ESB SUR: PEA P.M. SAS

ORIGINAL ISSUE DATE: JUNE 11, 2014  
PEA JOB NO. 2014-036  
SCALE: 1"=30'  
DRAWING NUMBER: L-1.1



- 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 Nurseryman 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 3" shredded hardwood bark mulch, see specifications. Shredded pallets and died mulch will not be accepted.
  - All landscaped areas shall receive 3" compacted topsoil.
  - See specifics for additional comments, requirements, planting procedures and warranty standards.

**NOT FOR CONSTRUCTION**

CITY FILE NUMBER: #14-002  
XREF: S:\PROJECTS\2014\2014036\DWG\12144\_TOPORASE.DWG  
XREF: S:\PROJECTS\2014\2014036\DWG\CONSTRUCTION\2014036\_14036.DWG  
XREF: S:\PROJECTS\2014\2014036\DWG\CONSTRUCTION\TBLK-14036.DWG

**L-1.2 TREE PLANT LIST:**

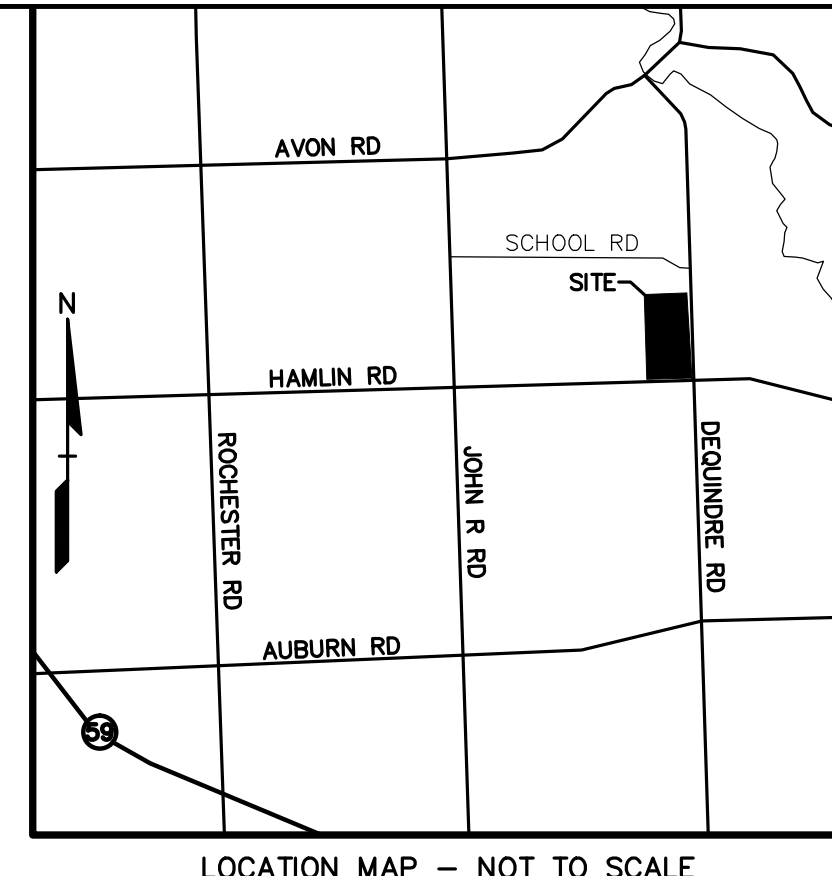
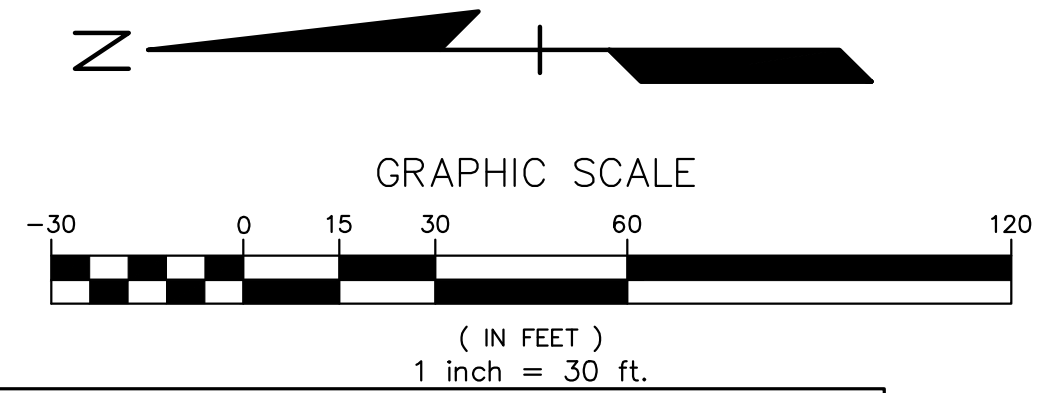
QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
5	AL8	Serviceberry	<i>Amelanchier laevis</i>	8' Ht.	B&B
5	AR3	Red Maple	<i>Acer rubrum</i>	3" Cal.	B&B
4	AS3	Sugar Maple	<i>Acer saccharum</i> 'Green Mountain'	3" Cal.	B&B
5	BN8	River Birch	<i>Betula nigra</i>	8' Ht.	B&B
1	CO3	Common Hackberry	<i>Celtis occidentalis</i>	3" Cal.	B&B
5	GB3	Ginkgo	<i>Ginkgo biloba</i>	3" Cal.	B&B
3	MS2	Sugar Tyme Crab	<i>Malus</i> 'Sugar Tyme'	2" Cal.	B&B
7	QM3	Bur Oak	<i>Quercus macrocarpa</i>	3" Cal.	B&B
3	QR3	Red Oak	<i>Quercus rubra</i>	3" Cal.	B&B
5	TC3	Greenspire Linden	<i>Tilia cordata</i> 'Greenspire'	3" Cal.	B&B

**EVERGREEN PLANT LIST:**

5	PA8	Norway Spruce	<i>Picea abies</i>	8' Ht.	B&B
3	PA10	Norway Spruce	<i>Picea abies</i>	10' Ht.	B&B
3	PG10	Black Hills Spruce	<i>Picea glauca</i> 'Densata'	10' Ht.	B&B
3	PM8	Douglas Fir	<i>Pseudotsuga menziesii</i>	8' Ht.	B&B

**SHRUB PLANT LIST:**

12	CS36	Red Twig Dogwood	<i>Cornus sericea</i>	36" Ht.	Cont.
20	PO36	Diablo Ninebark	<i>Physocarpus opulifolius</i> 'Monro'	36" Ht.	Cont.

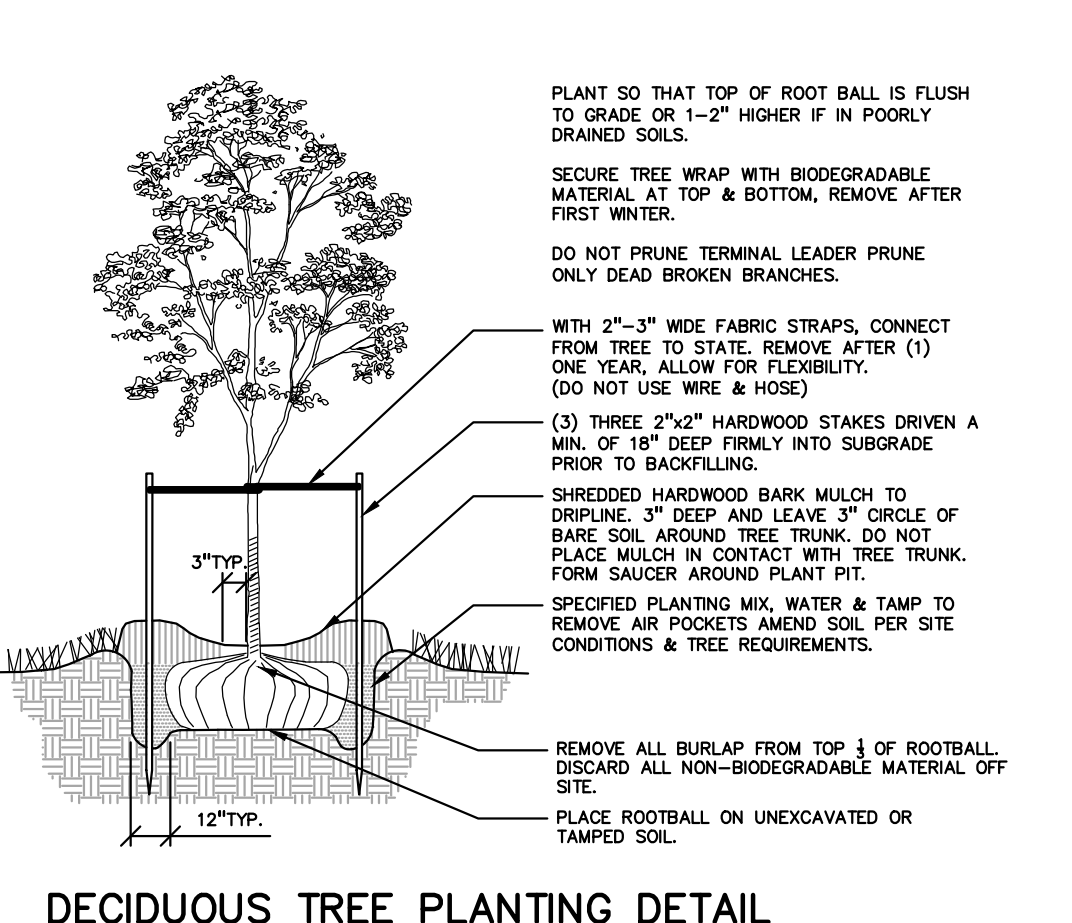
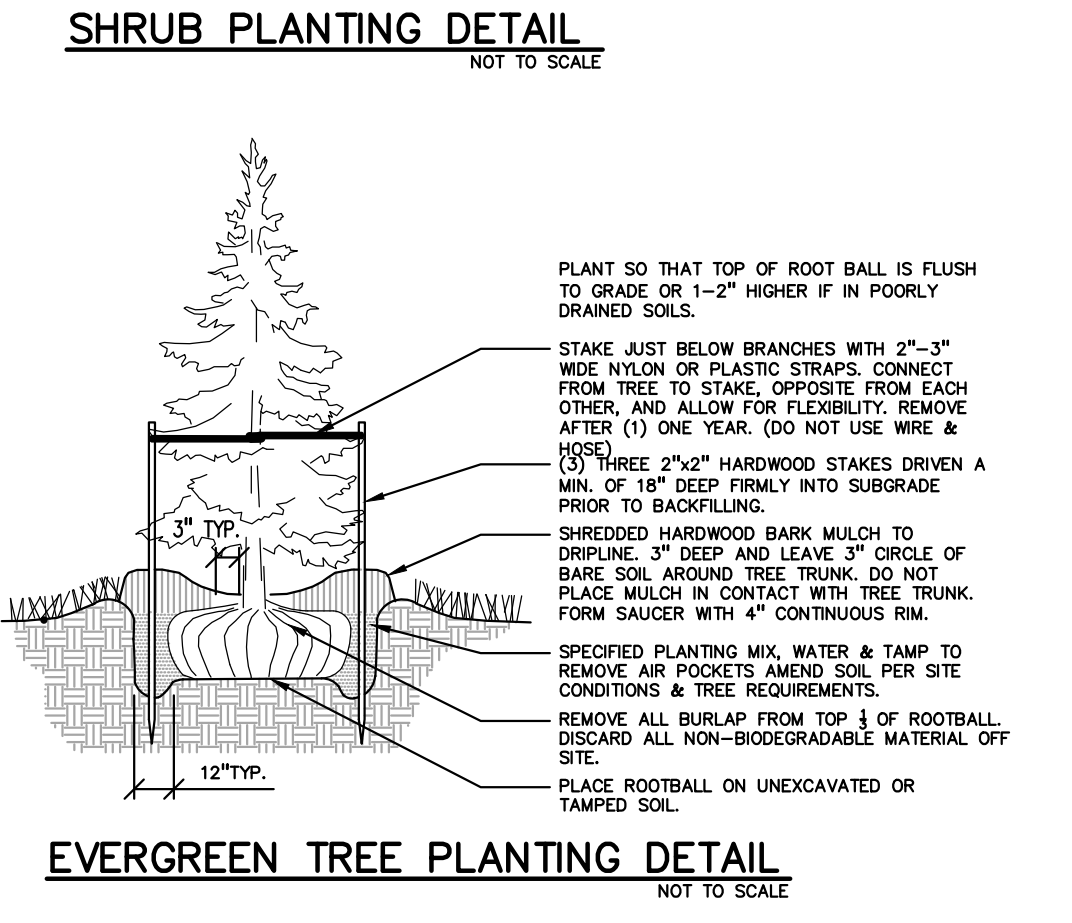
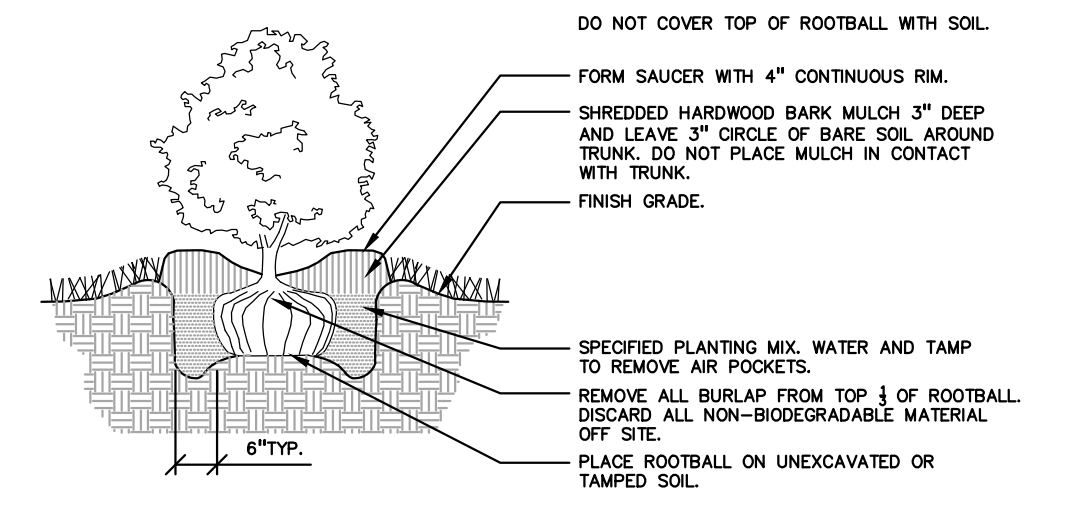
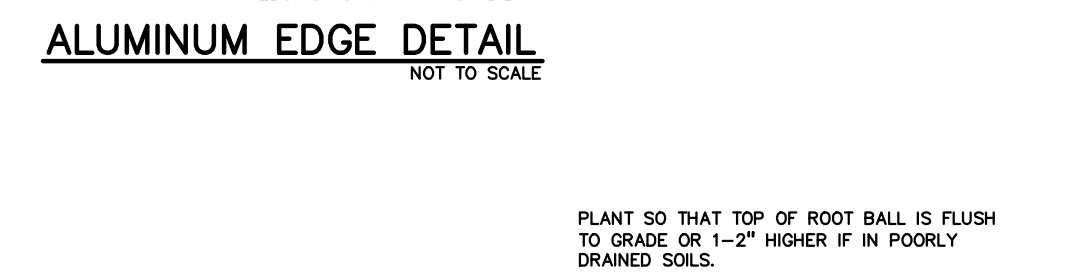
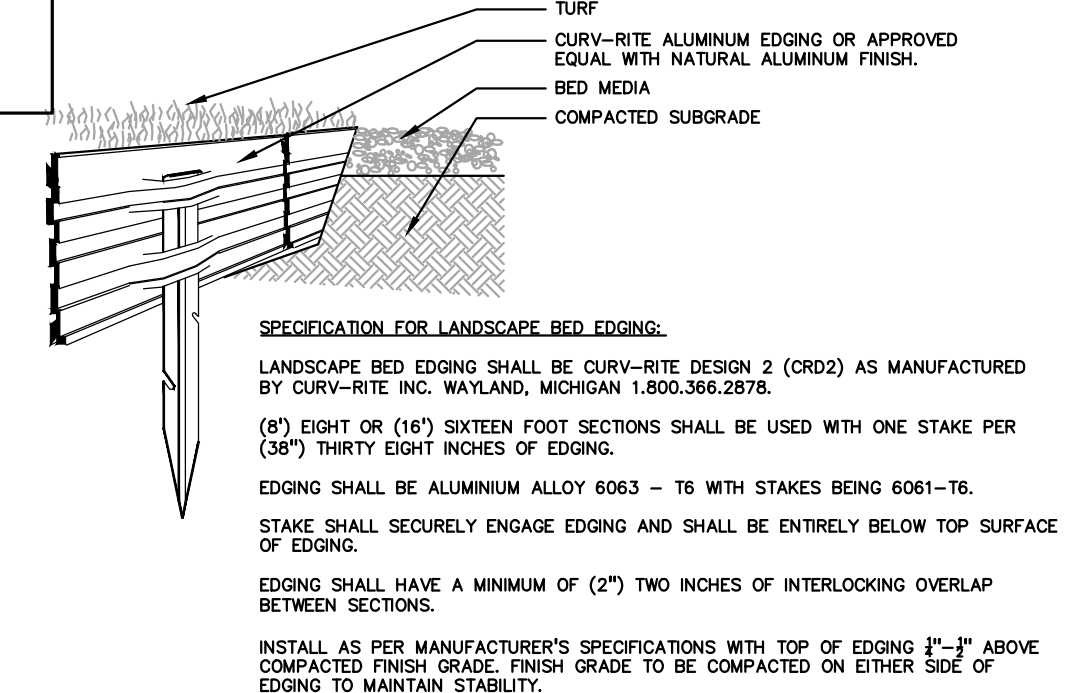
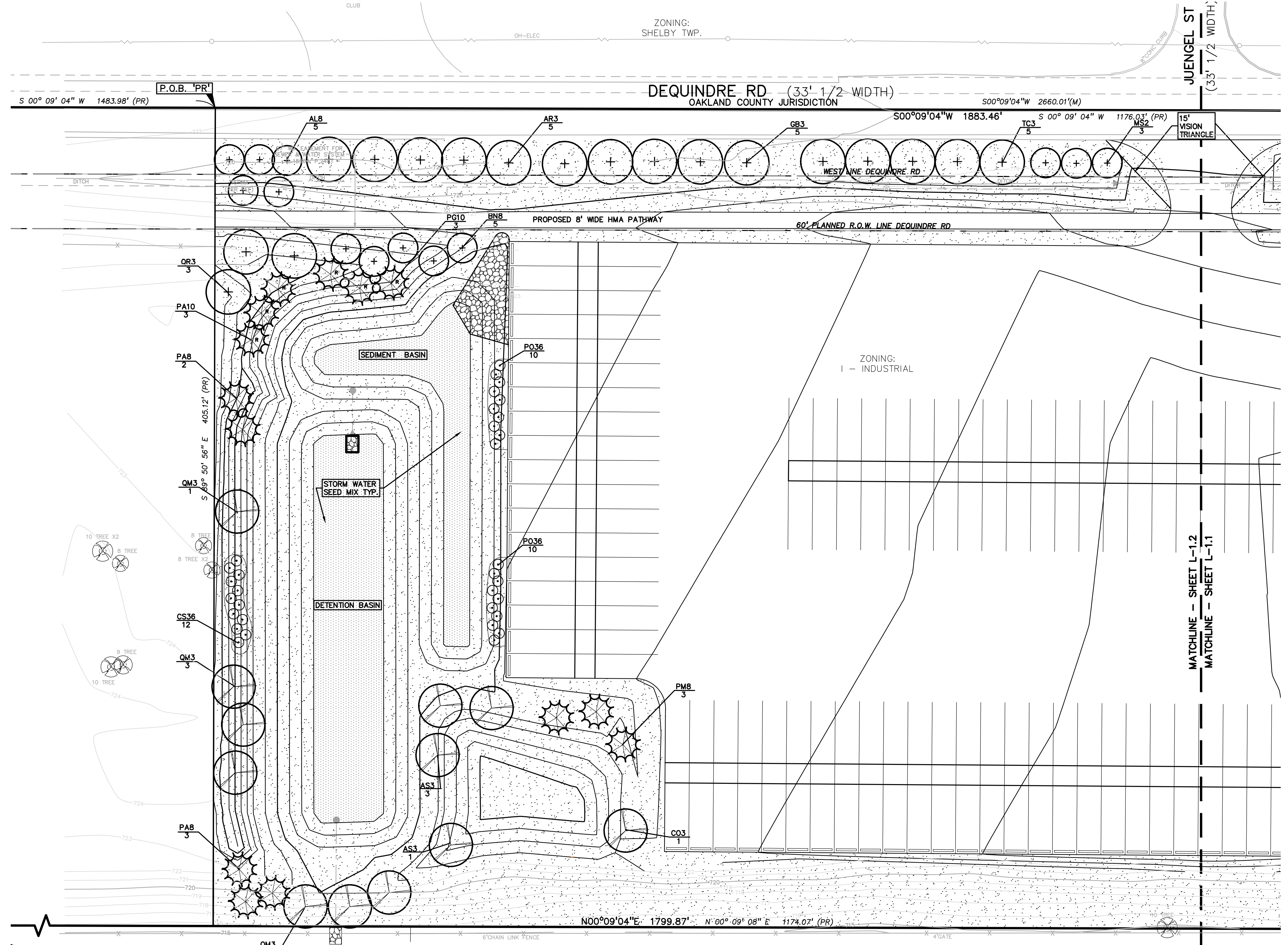


**REVISIONS**

NO.	DATE	DESCRIPTION
1	7/25/14	ISSUE PER SITE PLAN REVIEW COMMENTS
2	8/25/14	REVISED PER SITE PLAN REVIEW COMMENTS
3	9/10/14	FINAL DESIGN

**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 walkway. Evergreen and ornamental trees must be planted at least 10' from the edge of the public walkway. No trees or shrubs may be planted within the triangular area formed at the intersection of any street right-of-way lines at a distance along each line of 25' from their point of intersection. No trees or shrubs may be planted in the triangular area formed at the intersection of any driveway with a public walkway at a distance along each line of 15' from their point of intersection. 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.

**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.



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**J.B. DONALDSON COMPANY**  
37670 HILLS TECH DRIVE  
FARMINGTON HILLS, MI 48331

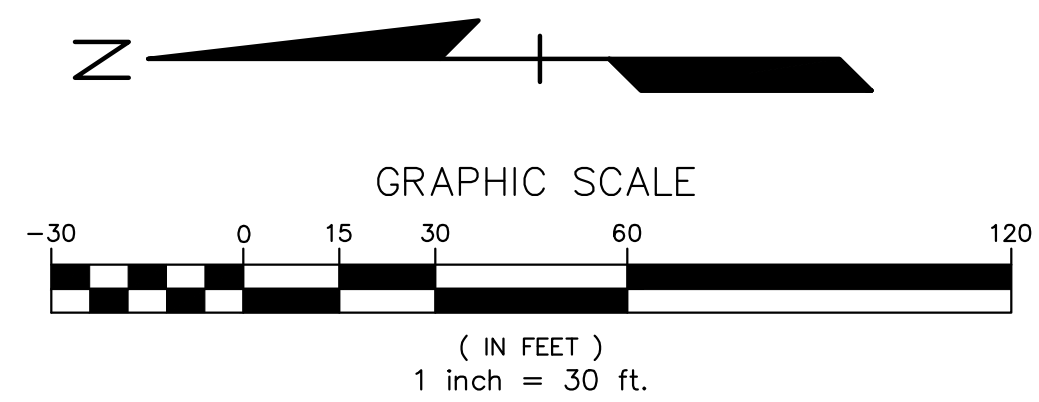
**PRELIM. LANDSCAPE PLAN - NORTH GENERAL TRUCKING**  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES. ESB DN. ESB SUR. PEA P.M. SAS  
S:\PROJECTS\2014\20140326\DWG\CONSTRUCTION\2014-14036-DWG

ORIGINAL ISSUE DATE: JUNE 11, 2014  
PEA JOB NO. 2014-036  
SCALE: 1"=30'  
DRAWING NUMBER: L-1.2

**NOT FOR CONSTRUCTION**

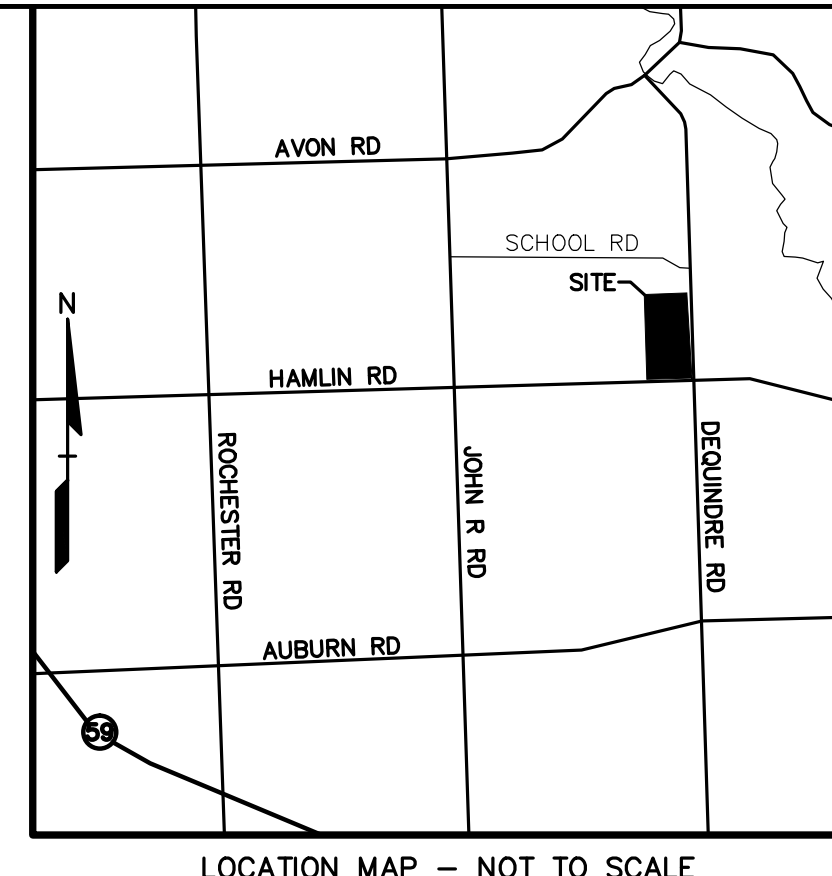
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**KEY:**

- = EXISTING TREES TO REMAIN
- = EXISTING TREES TO BE REMOVED
- = TREE PROTECTION FENCE

NOTE: SEE SHEET T-1.2 FOR TREE PROTECTION FENCE DETAIL, NOTES AND EXISTING TREE LIST.



NO.	DATE	REVISIONS
1	7/25/14	ISSUED PER SITE PLAN REVIEW COMMENTS
2	8/28/14	REVISED PER SITE PLAN REVIEW COMMENTS
3	9/10/14	REVISED PER SITE PLAN REVIEW COMMENTS
4	9/10/14	REVISED PER SITE PLAN REVIEW COMMENTS
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17	9/10/14	REVISED PER SITE PLAN REVIEW COMMENTS
18	9/10/14	REVISED PER SITE PLAN REVIEW COMMENTS
19	9/10/14	REVISED PER SITE PLAN REVIEW COMMENTS
20	9/10/14	REVISED PER SITE PLAN REVIEW COMMENTS



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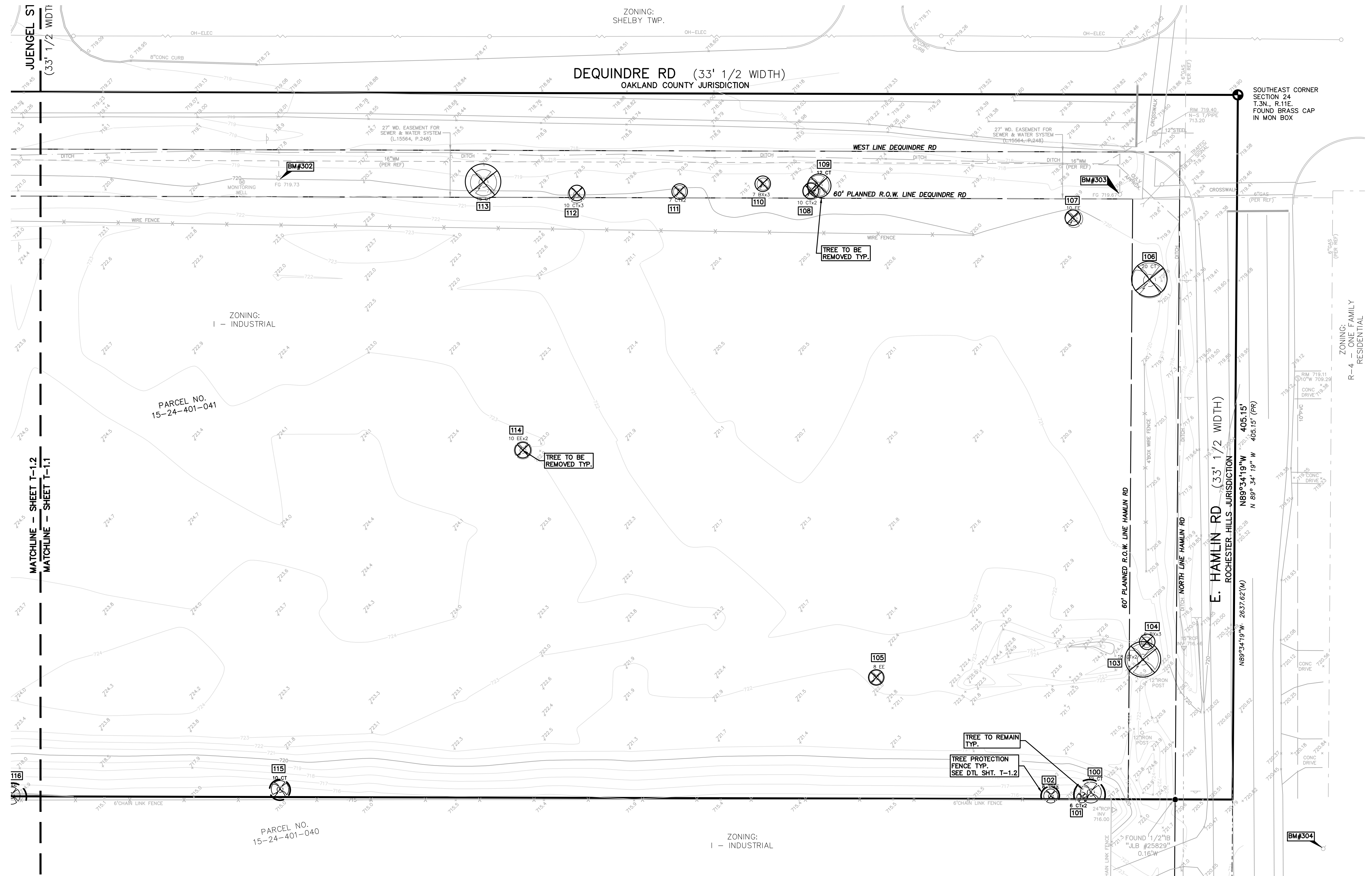
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<b>J.B. DONALDSON COMPANY</b> 37610 HILLS TECH DRIVE FARMINGTON HILLS, MI 48331		DES.	ESB	DN	ESB	SUR.	PEA	SAS
<b>TREE PRESERVATION PLAN - SOUTH GENERAL TRUCKING</b> CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN		DES.	ESB	DN	ESB	SUR.	PEA	SAS
ORIGINAL ISSUE DATE: JUNE 11, 2014		PEA JOB NO. 2014-036						
SCALE: 1"=30'		DRAWING NUMBER: <b>T-1.1</b>						



**NOT FOR CONSTRUCTION**

CITY FILE NUMBER: #14-002  
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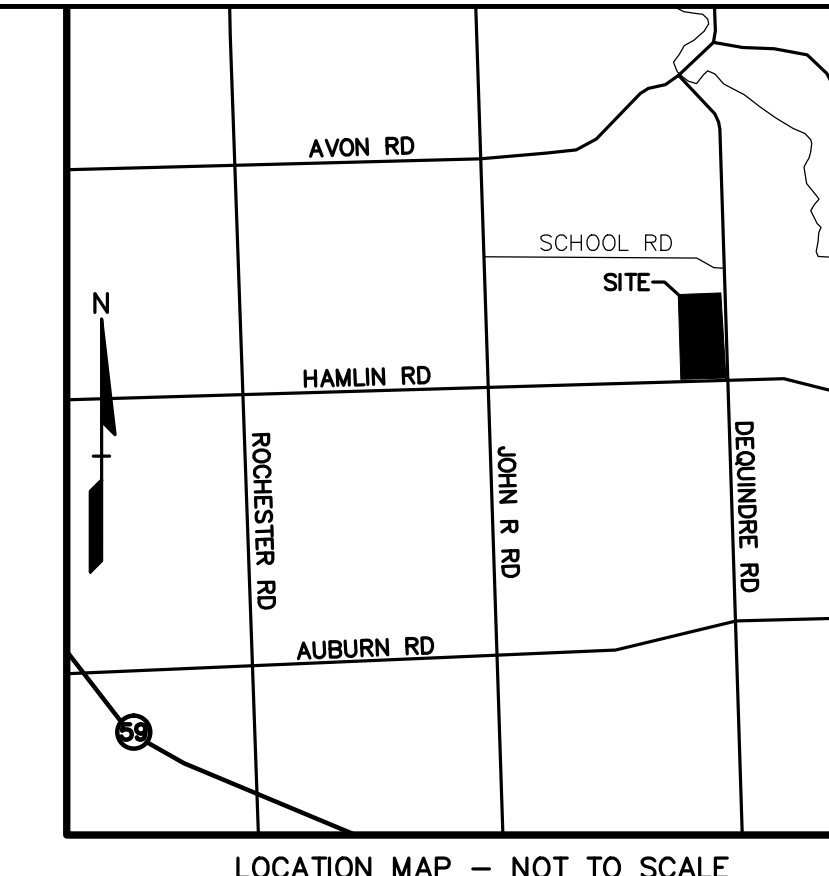
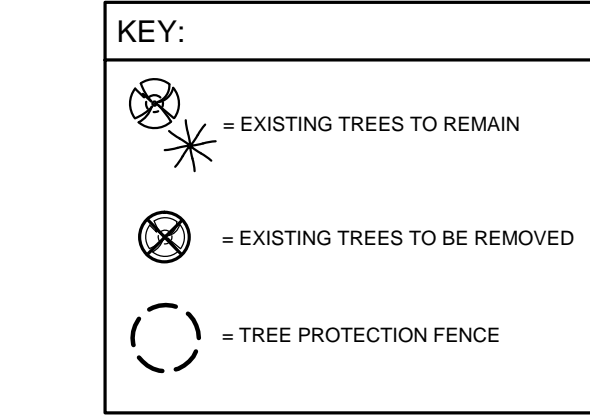
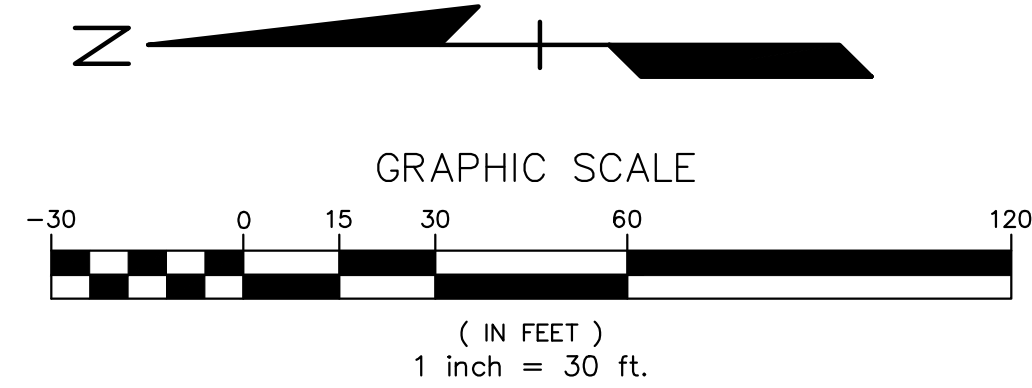
**CITY OF ROCHESTER HILLS NOTES:**

**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.



NO.	DATE	REVISIONS
1	7/25/14	ISSUED PER SITE PLAN REVIEW COMMENTS
2	7/25/14	REVISED PER SITE PLAN REVIEW COMMENTS
3	7/25/14	REVISED PER SITE PLAN REVIEW COMMENTS
4	7/25/14	REVISED PER SITE PLAN REVIEW COMMENTS
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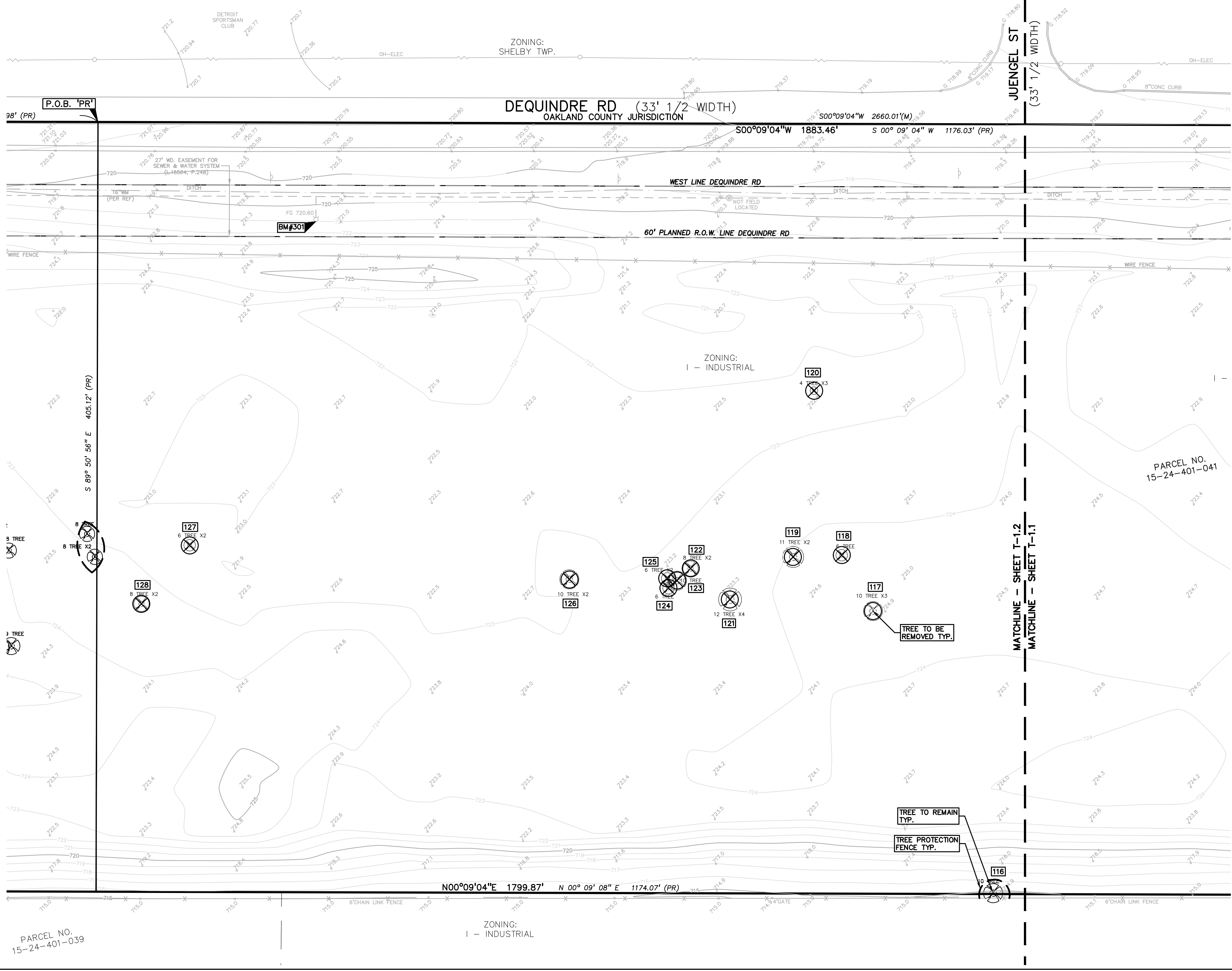
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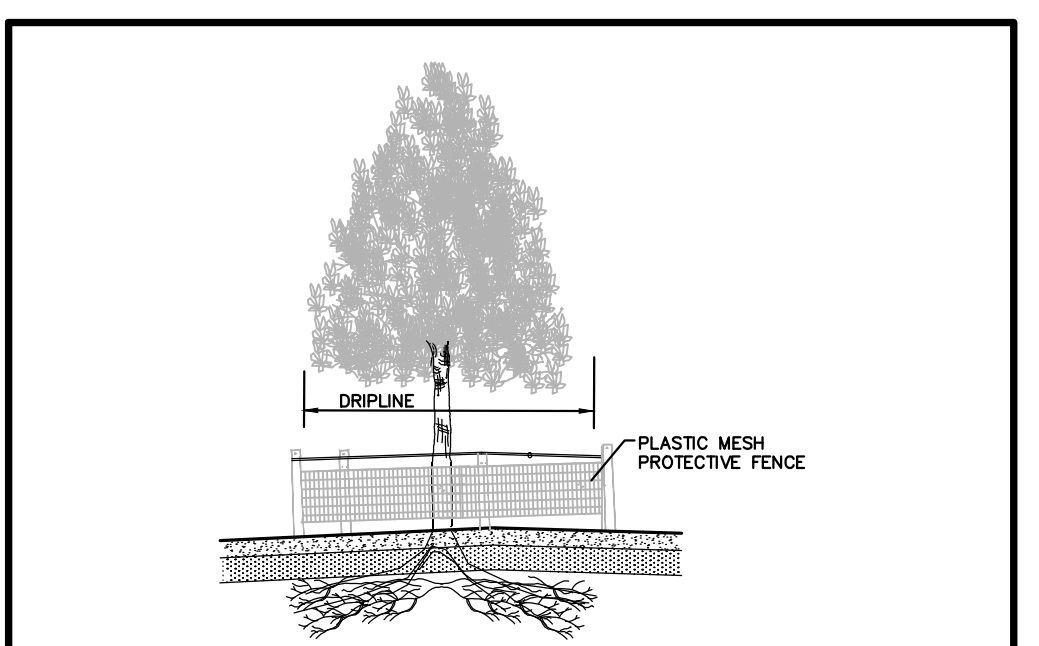
**J.B. DONALDSON COMPANY**  
37670 HILLS TECH DRIVE  
FARMINGTON HILLS, MI 48331  
**TREE PRESERVATION PLAN - NORTH GENERAL TRUCKING**  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN  
DES. ESB DN. ESB SUR. PEA P.M. SAS  
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ORIGINAL ISSUE DATE: JUNE 11, 2014  
PEA JOB NO. 2014-036  
SCALE: 1"=30'  
DRAWING NUMBER: T-1.2



**EXISTING TREE LIST : TO REMAIN AND TO BE REMOVED**

PLAN NO.	CODE	DBH	COMMON NAME	LATIN NAME	CONDITION	NOTE
100	CT	12	Cottonwood	Populus deltoides	FAIR	REMAIN
101	CT	6x2	Cottonwood	Populus deltoides	FAIR	REMAIN
102	TREE	8	#N/A	#N/A	FAIR	REMAIN
103	CT	18x2	Cottonwood	Populus deltoides	FAIR	TO BE REMOVED
104	BX	6x3	Box elder	Acer negundo	FAIR	TO BE REMOVED
105	EE	8	Siberian Elm	Ulmus pumila	FAIR	TO BE REMOVED
106	CT	20	Cottonwood	Populus deltoides	FAIR	TO BE REMOVED
107	EE	10	Siberian Elm	Ulmus pumila	FAIR	TO BE REMOVED
108	CT	10x2	Cottonwood	Populus deltoides	FAIR	TO BE REMOVED
109	CT	12	Cottonwood	Populus deltoides	FAIR	TO BE REMOVED
110	BX	7x3	Box elder	Acer negundo	FAIR	TO BE REMOVED
111	CT	7x2	Cottonwood	Populus deltoides	FAIR	TO BE REMOVED
112	CT	10x3	Cottonwood	Populus deltoides	FAIR	TO BE REMOVED
113	CT	15	Cottonwood	Populus deltoides	FAIR	TO BE REMOVED
114	EE	10x2	Siberian Elm	Ulmus pumila	FAIR	TO BE REMOVED
115	CT	10	Cottonwood	Populus deltoides	FAIR	REMAIN
116	TREE	10	#N/A	#N/A	FAIR	REMAIN
117	TREE	10x3	#N/A	#N/A	FAIR	TO BE REMOVED
118	TREE	6	#N/A	#N/A	FAIR	TO BE REMOVED
119	TREE	10x2	#N/A	#N/A	FAIR	TO BE REMOVED
120	TREE	4x3	#N/A	#N/A	FAIR	TO BE REMOVED
121	TREE	12x4	#N/A	#N/A	FAIR	TO BE REMOVED
122	TREE	10x2	#N/A	#N/A	FAIR	TO BE REMOVED
123	TREE	10	#N/A	#N/A	FAIR	TO BE REMOVED
124	TREE	6	#N/A	#N/A	FAIR	TO BE REMOVED
125	TREE	6	#N/A	#N/A	FAIR	TO BE REMOVED
126	TREE	10x2	#N/A	#N/A	FAIR	TO BE REMOVED
127	TREE	6x2	#N/A	#N/A	FAIR	TO BE REMOVED
128	TREE	8x2	#N/A	#N/A	FAIR	TO BE REMOVED



- TREE PROTECTION FENCE DETAIL**  
NOT TO SCALE
- TREE PROTECTION WILL BE ERRECTED PRIOR TO START OF CONSTRUCTION ACTIVITIES, AND SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE.
  - NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE DRIP LINE OF ANY TREE DESIGNATED TO REMAIN, INCLUDING, BUT NOT LIMITED TO, PLACING SOLVENTS, BUILDING MATERIAL, CONSTRUCTION EQUIPMENT, OR SOIL DEPOSITS WITHIN DRIP LINES.
  - GRADE CHANGES MAY NOT OCCUR WITHIN THE DRIP LINE OF PROTECTED TREES.
  - DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY DEVICE OR WIRE TO ANY REMAINING TREE.
  - ALL UTILITY SERVICE REQUEST MUST INCLUDE NOTIFICATION TO THE INSTALLER THAT PROTECTED TREES MUST BE AVOIDED. ALL TRENCHING SHALL OCCUR OUTSIDE OF THE PROTECTIVE FENCING.
  - IF TREE PROTECTION CANNOT BE MAINTAINED FOR A TREE THROUGHOUT THE CONSTRUCTION PERIOD, REPLACEMENT OF THAT TREE MAY BE REQUIRED PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.
  - REGULATED TREES LOCATED ON ADJACENT PROPERTY THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITIES MUST BE PROTECTED.

**NOT FOR CONSTRUCTION**

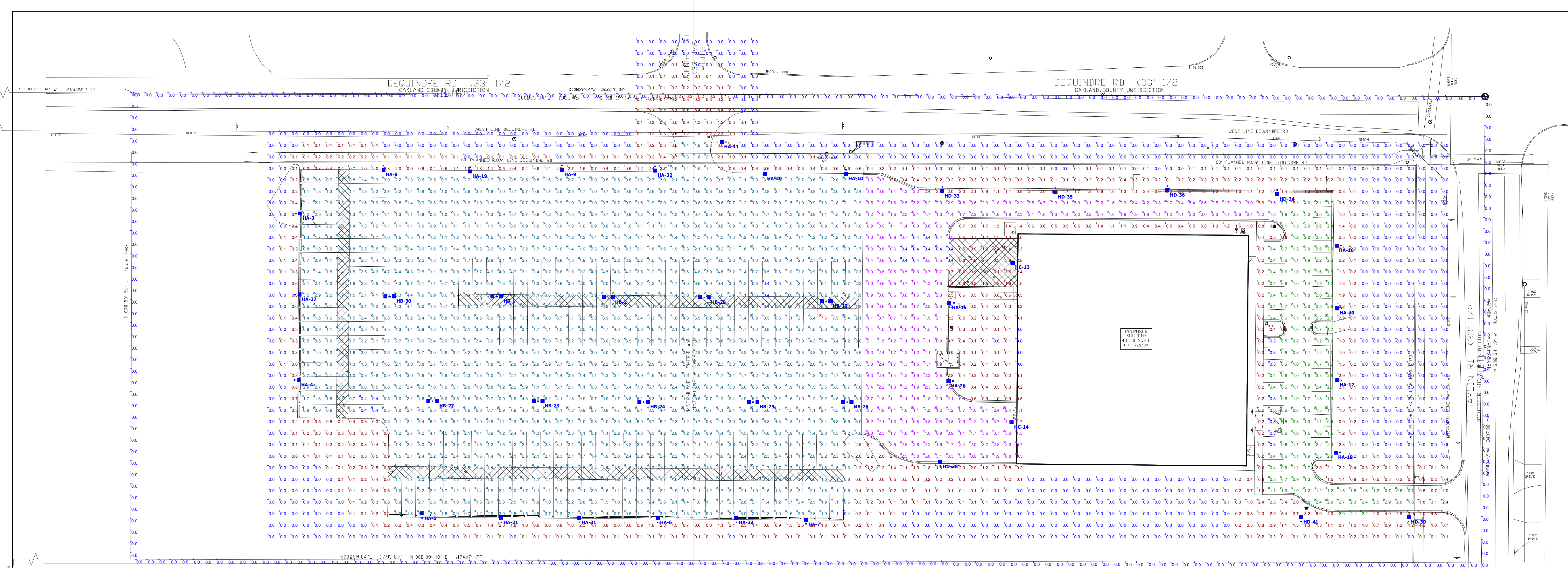
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GENERAL TRUCKING - ROCHESTER HILLS  
 SITE LIGHTING VALUES AT GRADE  
 PREPARED FOR: PROFESSIONAL ENGINEERING ASSOCIATES  
 GASSER BUSH ASSOCIATES

**Designer**  
 KJS  
**Date**  
 Mar 18 2014  
**Scale**  
 AS SHOWN  
**Drawing No.**  
 #14-24236-V1  
**1 of 1**



Plan View  
Scale - 1" = 40'

Luminaire Schedule											
Symbol	Label	Quantity	Manufacturer	Description	Catalog Number	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	HA	22	LITHONIA	Specification Area Luminaire, 250W Metal Halide, R4SC Sharp Cutoff Reflector, Full Cutoff MEETS THE 'NIGHTTIME FRIENDLY' CRITERIA	KSF1_250M_R4SC (ON 20' POLE)	ONE (1) 250 WATT CLEAR BT28 PULSE START METAL HALIDE LAMP IN HORIZONTAL POSITION	1	KSF1_250M_R4S C.ies	22500	0.72	288
	HB	10	LITHONIA	Specification Area Luminaire, 250W Metal Halide, R3 Reflector, Full Cutoff MEETS THE 'NIGHTTIME FRIENDLY' CRITERIA	KSF1_250M_R3 (ON 20' POLE)	ONE (1) 250 WATT CLEAR BT28 PULSE START METAL HALIDE LAMP IN HORIZONTAL POSITION	1	KSF1_250M_R3.ies	22500	0.72	576
	HC	2	LITHONIA	Specification Area Luminaire, 250W Metal Halide, R4SC Sharp Cutoff Reflector, Full Cutoff MEETS THE 'NIGHTTIME FRIENDLY' CRITERIA	KSF1_250M_R4SC (WALL MOUNT)	ONE (1) 250 WATT CLEAR BT28 PULSE START METAL HALIDE LAMP IN HORIZONTAL POSITION	1	KSF1_250M_R4S C.ies	22500	0.72	288
	HD	7	Lithonia Lighting	Specification Area Luminaire, 250W Metal Halide, R3 Reflector with houseside shield, Full Cutoff MEETS THE 'NIGHTTIME FRIENDLY' CRITERIA	KSF1_250M_R3_HS (ON 20' POLE)	ONE (1) 250 WATT CLEAR BT28 PULSE START METAL HALIDE LAMP IN HORIZONTAL POSITION	1	KSF1_250M_R3_HS.ies	22500	0.72	288

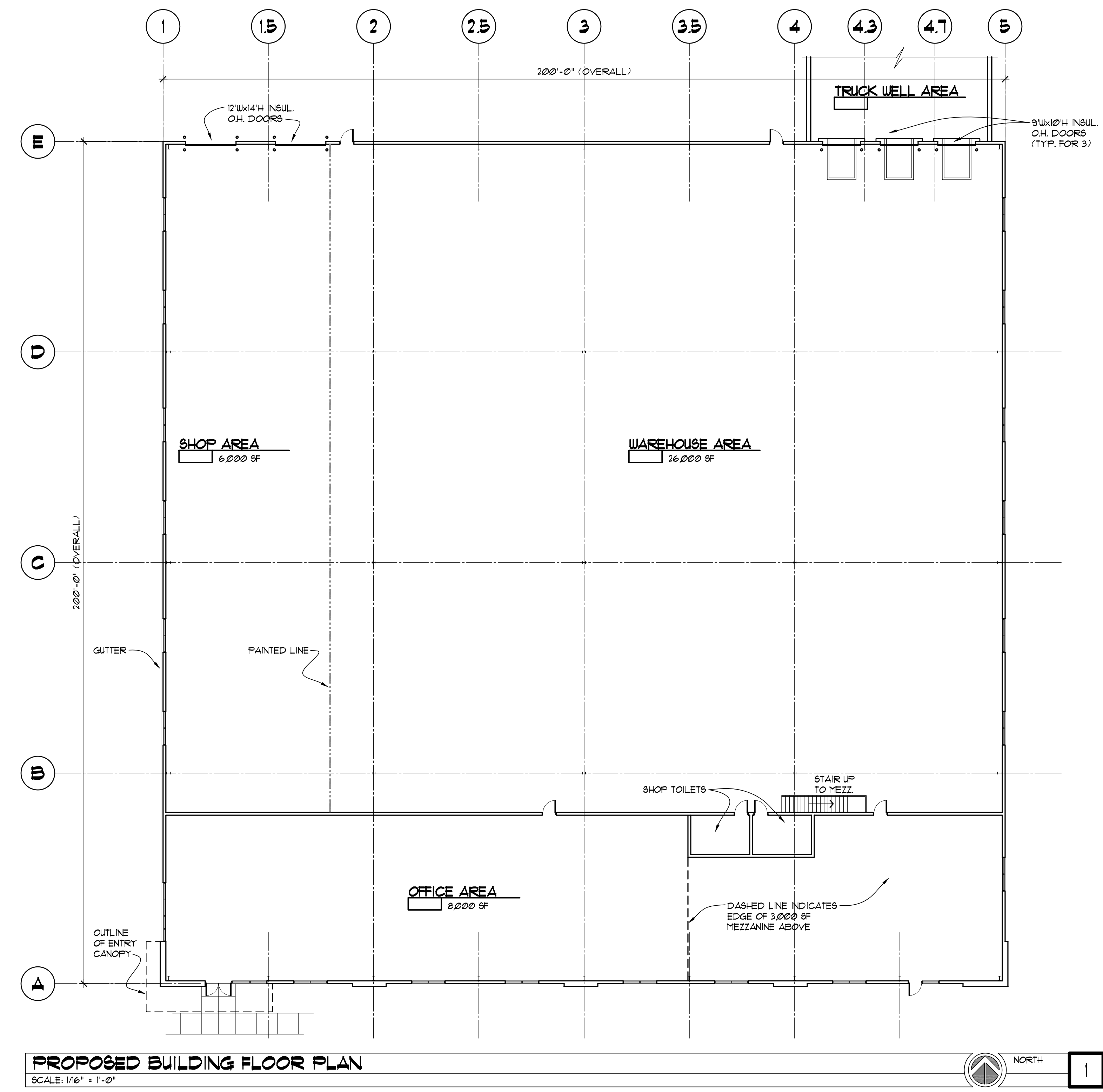
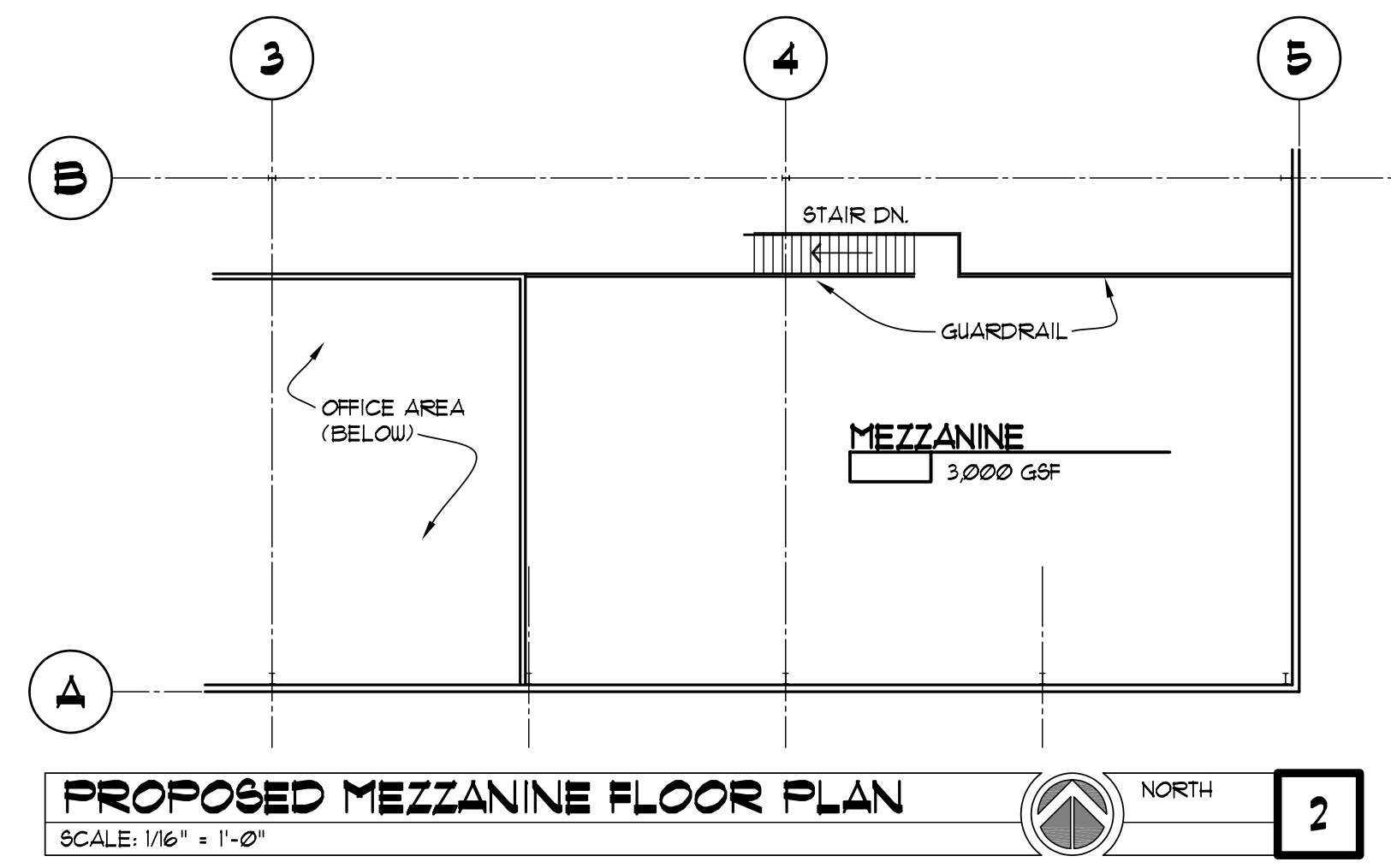
Luminaire Locations						
No.	Label	X	Y	MH	Orientation	Tilt
1	HB	9187.70	10592.46	20.00	90.00	0.00
2	HB	9284.65	10591.58	20.00	90.00	0.00
3	HA	9013.02	10664.55	20.00	90.00	0.00
4	HA	9011.77	10519.76	20.00	90.00	0.00
5	HA	9122.72	10400.16	20.00	0.00	0.00
6	HA	9327.48	10396.38	20.00	0.00	0.00
7	HA	9456.40	10394.87	20.00	0.00	0.00
8	HA	9089.02	10706.21	20.00	180.00	0.00
9	HA	9244.38	10706.22	20.00	180.00	0.00
10	HA	9491.10	10702.57	20.00	180.00	0.00
11	HA	9386.90	10726.60	20.00	270.00	0.00
12	HB	9473.96	10588.24	20.00	90.00	0.00
13	HC	9637.53	10621.97	18.00	270.00	0.00
14	HC	9636.65	10483.03	18.00	270.00	0.00
15	HA	9584.84	10586.81	20.00	270.00	0.00
16	HA	9921.35	10636.67	20.00	270.00	0.00
17	HA	9921.77	10519.67	20.00	270.00	0.00
18	HA	9920.50	10456.95	20.00	270.00	0.00
19	HA	9164.30	10704.68	20.00	180.00	0.00
20	HA	9420.49	10702.57	20.00	180.00	0.00
21	HA	9191.37	10396.38	20.00	0.00	0.00
22	HA	9395.88	10396.38	20.00	0.00	0.00
23	HB	9223.48	10501.59	20.00	90.00	0.00
24	HB	9315.28	10500.71	20.00	90.00	0.00
25	HB	9492.11	10500.71	20.00	90.00	0.00
26	HA	9584.07	10518.90	20.00	270.00	0.00
27	HB	9131.90	10501.59	20.00	90.00	0.00
28	HB	9367.99	10591.58	20.00	90.00	0.00
29	HB	9410.31	10500.71	20.00	90.00	0.00
30	HB	9094.71	10592.46	20.00	90.00	0.00
31	HA	9259.28	10396.38	20.00	0.00	0.00
32	HA	9325.35	10705.58	20.00	180.00	0.00
33	HD	9574.80	10687.53	20.00	180.84	0.00
34	HD	9865.92	10684.94	20.00	180.84	0.00
35	HD	9673.13	10686.76	20.00	180.90	0.00
36	HD	9770.50	10688.37	20.00	180.84	0.00
37	HA	9012.40	10594.04	20.00	90.00	0.00
38	HD	9573.02	10445.14	20.00	0.84	0.00
39	HD	9980.17	10396.86	20.00	0.00	0.00
40	HA	9921.77	10582.26	20.00	270.00	0.00
41	HD	9886.55	10396.86	20.00	0.00	0.00

**Note**

- SEE MH COLUMN OF LUMINAIRE LOCATIONS FOR MOUNTING HEIGHTS.
- SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTORS.
- CALCULATIONS ARE SHOWN IN FOOTCANDLES AT GRADE.

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP. GBA DOES NOT ACT AS THE CIVIL OR STRUCTURAL ENGINEER AND DOES NOT DETERMINE BASE REQUIREMENTS. POLES SPECIFICATIONS ARE NOT INCLUDED WITH EXTERIOR LIGHTING PHOTOMETRIC ANALYSIS. THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

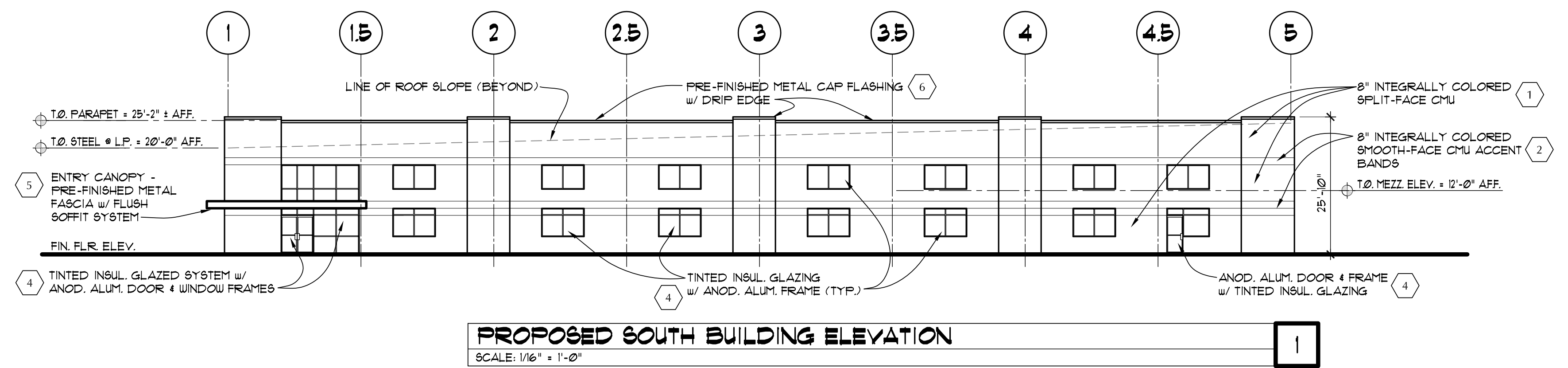
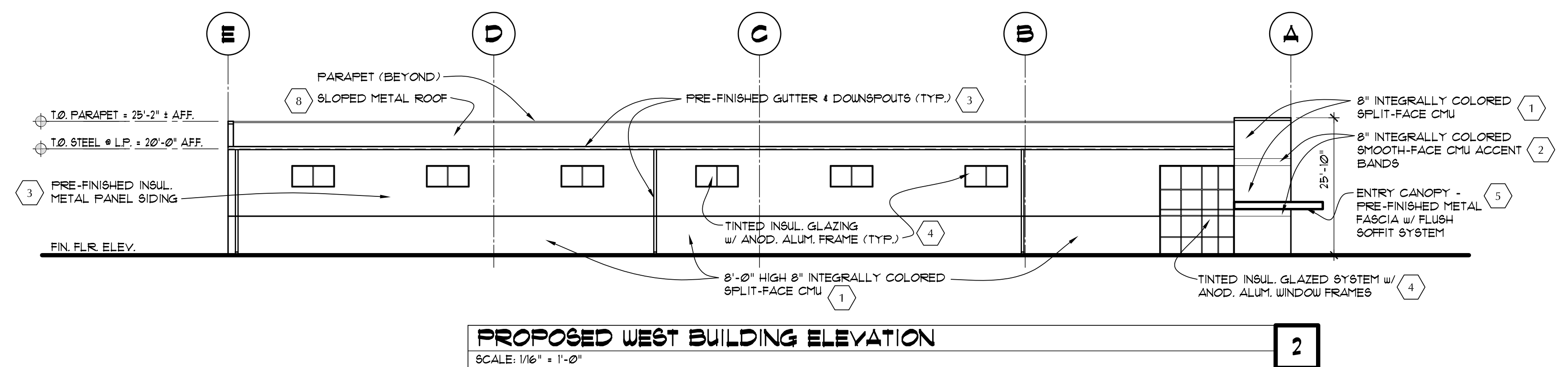
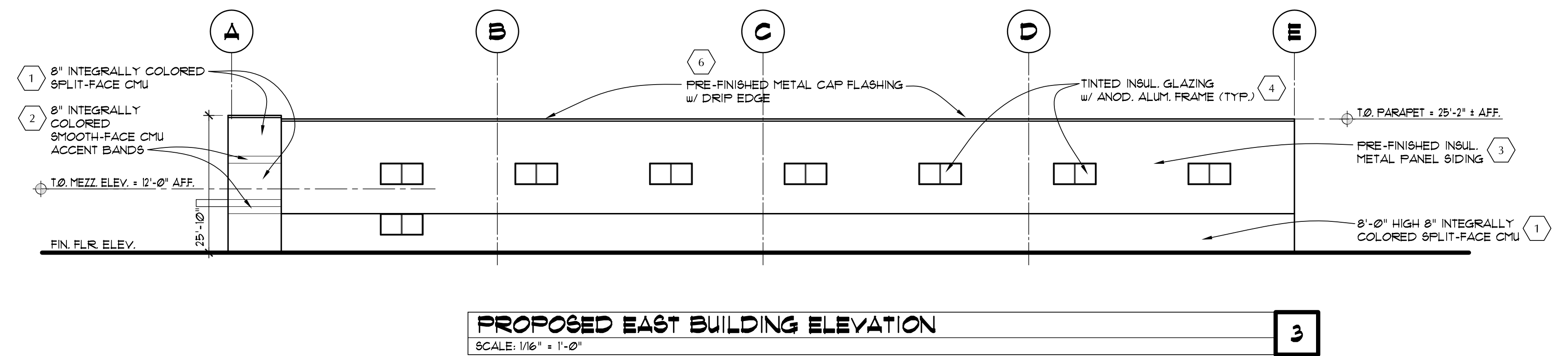
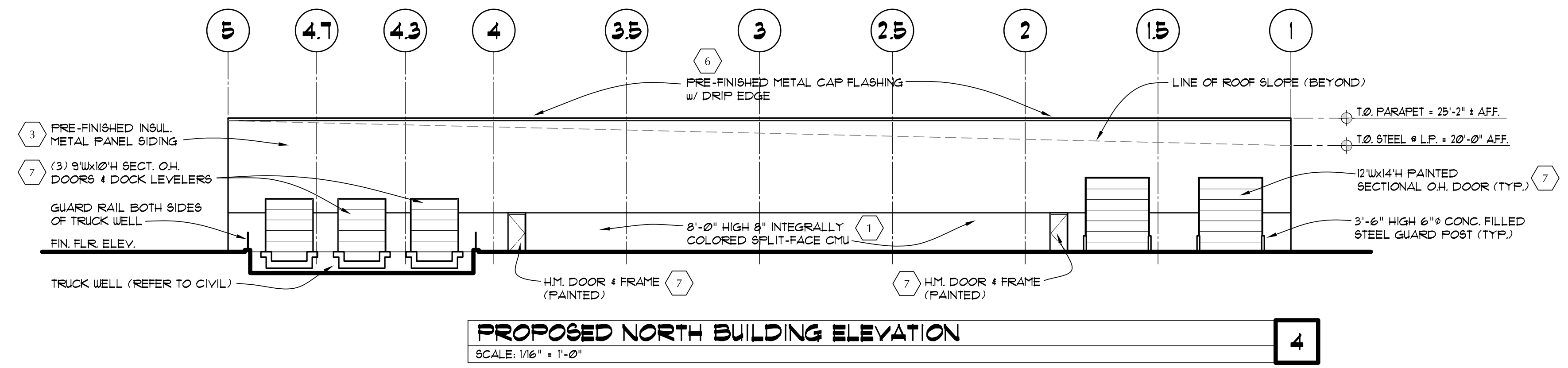
Statistics					
Description	Symbol	Avg	Max	Min	Avg/Min
DRIVE AREA	X	1.8 fc	5.6 fc	0.4 fc	14.0:1
LARGE PARKING LOT	X	2.3 fc	7.6 fc	0.4 fc	19.0:1
OVERALL LTG VALUES AT GRADE	+	1.4 fc	7.6 fc	0.0 fc	N/A
PROPERTY LINE	+	0.0 fc	0.2 fc	0.0 fc	N/A
SMALL PARKING LOT	X	1.4 fc	5.1 fc	0.3 fc	17.0:1



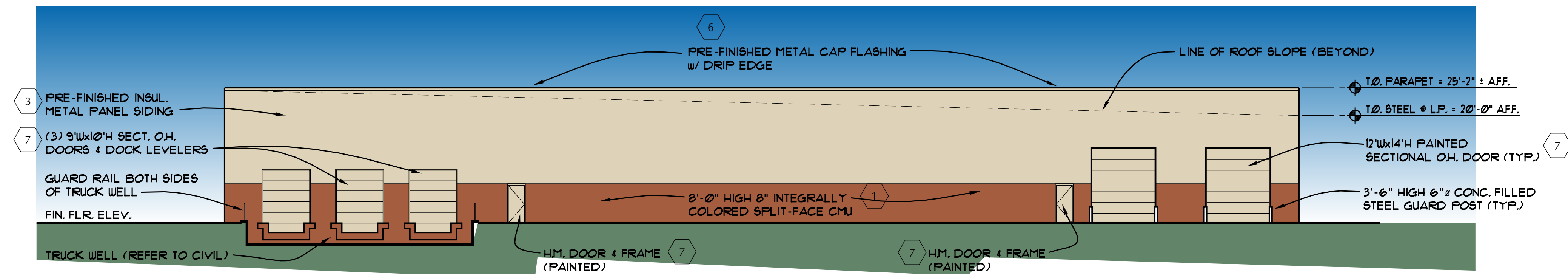
**OFFICE/WAREHOUSE BUILDING DATA**

PROPOSED OFFICE AREA ('B' USE)	8,000 G.S.F.
PROPOSED SHOP AREA ('F-1' USE)	6,000 G.S.F.
PROPOSED STORAGE/WAREHOUSE AREA ('S-1' USE)	26,000 G.S.F.
<b>TOTAL PROPOSED BUILDING</b>	<b>40,000 G.S.F.</b>
<b>PROPOSED MEZZANINE ('S-1' USE)</b>	<b>3,000 G.S.F.</b>

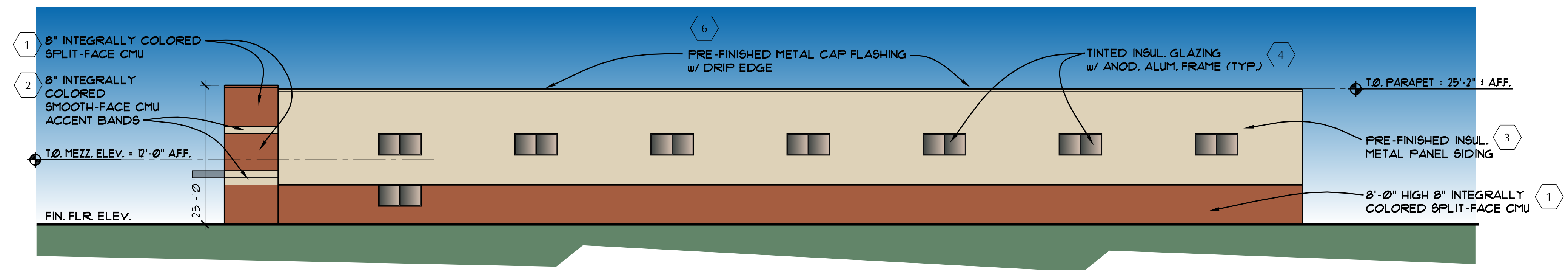
USE GROUPS: 'B' (OFFICE) / 'S-1' (STORAGE/WAREHOUSE) / 'F-1' (SHOP AREA)  
NON SEPARATED USES  
CONSTRUCTION CLASSIFICATION: '1B'  
THE BUILDING WILL BE FIRE SUPPRESSED



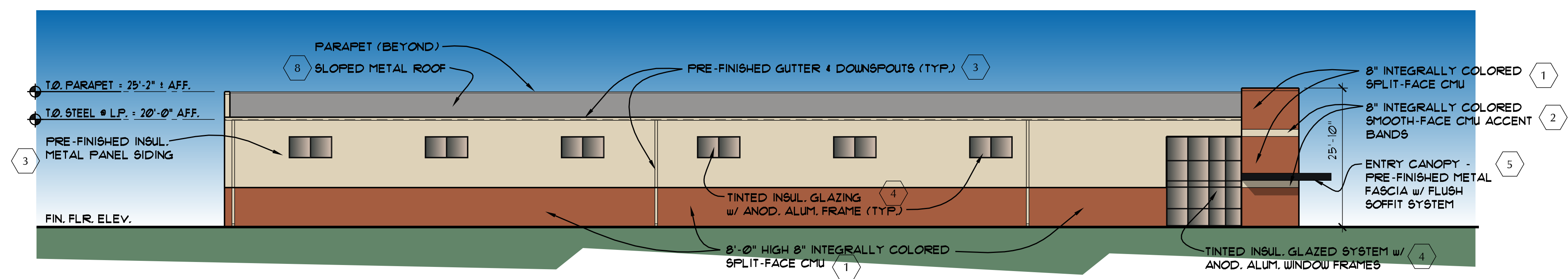
EXTERIOR MATERIAL SCHEDULE	
Tag	Description
1	FIELD COLOR: 8" SPLIT-FACED INTEGRALLY COLORED MASONRY UNITS (CMU). COLOR: DESERT RED (GRAND BLANC PRODUCTS)
2	ACCENT COLOR: 8" SMOOTH FACED SCORED CMU. COLOR: SALZBURG (GRAND BLANC PRODUCTS)
3	PRE-FINISHED FLUSH PANEL METAL SIDING. COLOR: LIGHT BEIGE (GUTTER AND DOWNSPOUT TO MATCH METAL SIDING COLOR)
4	GLAZING SYSTEM: PRE-FINISHED ANODIZED ALUMINUM FRAMING (COLOR: BLACK) WITH TINTED INSULATED GLAZING SYSTEM
5	ENTRANCE CANOPY: PRE-FINISHED METAL FASCIA (MATCH GLAZING FRAMING SYSTEM COLOR)
6	PRE-FINISHED METAL WALL CAP FLASHING (MATCH ADJACENT MASONRY WALL COLOR * 1)
7	OVERHEAD DOORS, HOLLOW METAL MAN DOORS & FRAMES (MATCH COLOR * 3)
8	PRE-FINISHED STANDING SEAM METAL ROOF SYSTEM (MATCH THE WALL PANEL COLOR)



**PROPOSED NORTH BUILDING ELEVATION**  
SCALE NT6 4

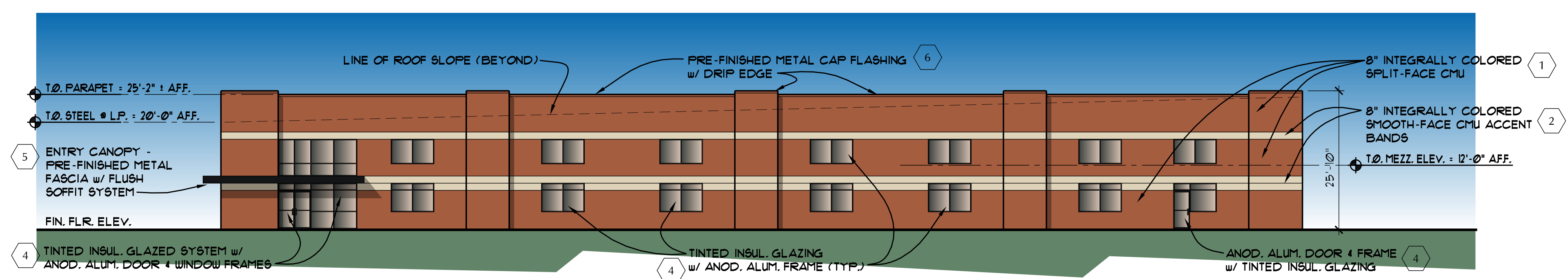


**PROPOSED EAST BUILDING ELEVATION**  
SCALE NT6 3



**PROPOSED WEST BUILDING ELEVATION**  
SCALE NT6 2

Tag	Description
1	FIELD COLOR 8" SPLIT-FACED INTEGRALLY COLORED MASONRY UNITS (CMU). COLOR - DESERT RED (GRAND BLANC PRODUCTS)
2	ACCENT COLOR 8" SMOOTH FACED SCORED CMU. COLOR - SALZBURG (GRAND BLANC PRODUCTS)
3	PRE-FINISHED FLUSH PANEL METAL SIDING. COLOR - LIGHT BEIGE (GUTTER AND DOWNSPOUT TO MATCH METAL SIDING COLOR)
4	GLAZING SYSTEM - PRE-FINISHED ANODIZED ALUMINUM FRAMING (COLOR BLACK) WITH TINTED INSULATED GLAZING SYSTEM
5	ENTRANCE CANOPY - PRE-FINISHED METAL FASCIA (MATCH GLAZING FRAMING SYSTEM COLOR)
6	PRE-FINISHED METAL WALL CAP FLASHING (MATCH ADJACENT MASONRY WALL COLOR # 1)
7	OVERHEAD DOORS, HOLLOW METAL MAN DOORS & FRAMES (MATCH COLOR # 3)
8	PRE-FINISHED STANDING SEAM METAL ROOF SYSTEM (MATCH THE WALL PANEL COLOR)



**PROPOSED SOUTH BUILDING ELEVATION**  
SCALE NT6 1

**PROPOSED WAREHOUSE & OFFICE FACILITY FOR GENERAL TRUCKING**  
HAMLIN & DEQUINDRE ROADS, ROCHESTER HILLS, MICHIGAN

SUBMITTALS / REVISIONS  
4-28-14 SITE PLAN RE-SUBMITTAL  
6-23-14 REVISED PER SITE PLAN REVIEW COMMENTS

**GILLET ASSOCIATES ARCHITECTURE**  
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**DONALDSON COMPANY**

DATE	PROJECT NO.	SHEET NO.
4-25-14	14-19	PE-1color