CITY OF ROCHESTER HILLS
OAKLAND COUNTY, MICHIGAN
EASTERN AVENUE PARKING LOTS

CITY FILE # – X00–000

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*MDOT SPECIAL DETAIL

APPLICATION DATE	PERMITS	APPROVAL DATE
XX/XX/XXXX	OCWRC SOIL EROSION PERMIT	XX/XX/XXXX
XX/XX/XXXX	OCWRC DRAIN PERMIT	XX/XX/XXXX

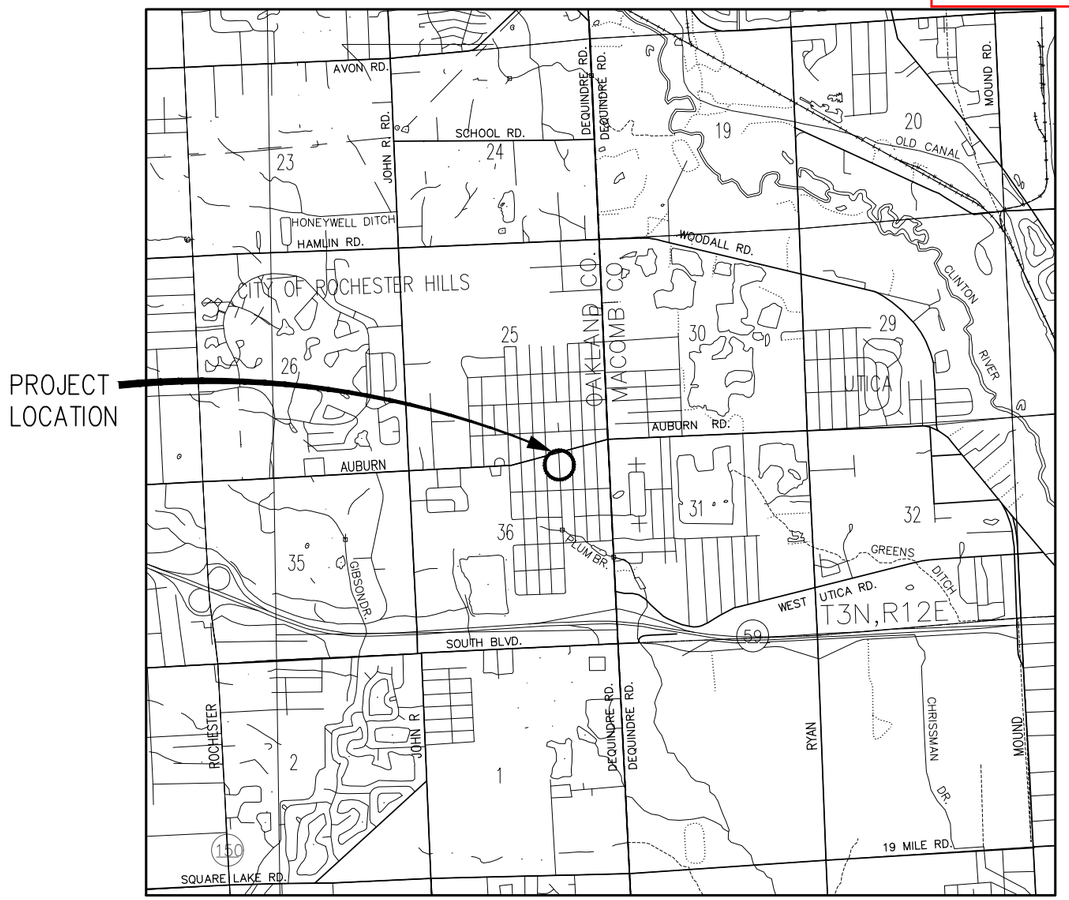
GENERAL PROVISIONS

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE PROPOSAL AND ACCOMPANYING SPECIFICATIONS FOR THIS PROJECT INCLUDING THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, AASHTO'S 2017 A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, AND MDOT'S 2017 GUIDELINES FOR GEOMETRICS ON LOCAL AGENCY PROJECTS, BOTH 3R AND 4R GUIDELINES.

PAVEMENT MARKING AND PLACING OF TRAFFIC CONTROL SIGNS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2011 EDITION. THIS WORK WILL BE DONE PRIOR TO THE FINAL ACCEPTANCE OF THIS PROJECT.

THE LOCATION OF ALL PUBLIC UTILITIES SHOWN ON THESE PLANS IS TAKEN FROM THE BEST AVAILABLE DATA. THE CITY OF ROCHESTER HILLS WILL NOT BE RESPONSIBLE FOR ANY OMISSION OR VARIATION FROM THE LOCATIONS SHOWN. PURSUANT TO ACT 174 OF THE P.A. OF 2013, AS A CONDITION OF THIS CONTRACT, NOTICE SHALL BE GIVEN TO MISS DIG PRIOR TO UNDERGROUND WORK TO BE PERFORMED IN ACCORDANCE WITH THIS CONTRACT, PHONE (800) 482–7171. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THE PLANS AND ARE NOT THE RESPONSIBILITY OF THE CITY.

THE ELEVATIONS ON THESE PLANS ARE BASED ON NAVD 1988 VERTICAL DATUM.



LOCATION MAP
N.T.S.

Site Plan Review

Reviewed for compliance to the City Ordinance, Building and Fire Codes

Department	Reviewer	Approved
Planning	Kristen Kapelanski 248-841-2772 KapelanskiK@RochesterHills.org	Yes
Building	Mark Artinian 248-841-2446 ArtinianM@RochesterHills.org	Yes
Engineering	Jason Boughton 248-841-2490 BoughtonJ@RochesterHills.org	Yes
Traffic	Keith Depp 248-841-2503 DeppK@RochesterHills.org	Yes
Nat. Resources	Matt Einheuser 248-841-2551 EinheuserM@RochesterHills.org	Yes
Fire	Lt. Josh Boyce 248-841-2713 BoyceJ@RochesterHills.org	Yes

City of Rochester Hills
Planning & Economic Development

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

The applicant needs to submit a Land Improvement Permit (LIP) application with engineer's estimate, fee and construction plans to proceed with the construction plan review process.

CITY OF ROCHESTER HILLS

BRYAN BARNETT
• MAYOR •

RYAN DEEL
DAVID BLAIR
DALE HETRICK
SUSAN BOWYER
CAROL MORLAN
THERESA MUNGIOLI
DAVID WALKER
• COUNCIL MEMBERS •

ALLAN SCHNECK
• DIRECTOR OF PUBLIC SERVICES •

PAUL DAVIS
• CITY ENGINEER/DPS DEPUTY DIRECTOR •

CONTRACT FOR: CONSTRUCTION OF PARKING LOTS AND WALKWAY ALONG EASTERN AVENUE FROM CITY PROPERTIES SOUTH OF THE SOUTH DOWNTOWN ALLEY TO AUBURN ROAD.

OHM
Advancing Communities
34000 Plymouth Road | Livonia, MI 48150
P (734) 522-6711 | F (734) 522-6427

PREPARED UNDER THE SUPERVISION OF:

STATE OF MICHIGAN – ALEX PARENT – ENGINEER – No. 6201068837 – LICENSED PROFESSIONAL ENGINEER

ALEX PARENT, P.E.

6201068837
Registration No.

1/25/22
Date

CITY OF ROCHESTER HILLS APPROVAL:

ALLAN E. SCHNECK, P.E.
Public Services Director

Date

PAUL M. DAVIS, P.E.
City Engineer/Deputy Director

Date

REVISIONS

PROJECT NO.	SHEET NO.
0190–21–0010	1 OF 14

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City File #22-002 Section #36 in the lower right hand corner of each sheet

WATER & SEWER UTILITY SYMBOLS

EXISTING

- ST — STORM MANHOLE
- SQUARE CATCH BASIN
- ROUND CATCH BASIN
- CULVERT
- CULVERT W/O END SECTION
- CULVERT W/END SECTION
- S — SANITARY MANHOLE
- CO — CLEAN OUT
- GW — GATE VALVE & WELL
- GATE VALVE & BOX
- W — WATER STOP BOX
- FIRE HYDRANT
- MP — METER PIT
- WATER METER
- SH — SPRINKLER HEAD
- IV — IRRIGATION VALVE

PROPOSED

- STORM MANHOLE
- INLET/CATCH BASIN
- CULVERT END SECTION
- SANITARY MANHOLE
- GV&W — GATE VALVE & WELL
- GV&B — GATE VALVE & BOX
- TSV&W — TAPPING SLEEVE VALVE & WELL
- TSV&B — TAPPING SLEEVE VALVE & BOX
- FIRE HYDRANT

REAL ESTATE SYMBOLS

- CONTIGUOUS PROPERTY SYMBOL
- XXXX — PARCEL NUMBER BOX
- NO ROW IMPACTS

MISCELLANEOUS UTILITY SYMBOLS

EXISTING

- GUY WIRE
- GP — GUY POLE
- U — UTILITY POLE
- UL — UTILITY POLE W/LIGHT
- LIGHT/DECOR LAMP POLE
- FL — FLOOD LIGHT
- GAS VALVE
- GV — GAS VENT
- G — GAS METER
- GAS RISER
- TRAFFIC SIGNAL
- P — PEDESTRIAN RISER
- TRANSFORMER PAD
- U — PRIVATE UTILITY MANHOLE
- RAILROAD CROSSING
- E — ELECTRIC METER
- PB — PHONE BOOTH
- TS — TRAFFIC SIGNAL CONTROLLER
- HAND HOLE
- E — ELECTRIC RISER
- T — TELEPHONE RISER
- C — CABLE TV RISER
- W — MONITORING WELL
- UNDERGROUND MARKER

MISCELLANEOUS SYMBOLS

EXISTING

- RIPRAP
- SIGN
- FLOW DIRECTION
- STUMP
- WETLAND
- CONIFEROUS TREE — CL 1 1" TO 5", CL 2 6" TO 17", CL 3 18" TO 35", CL 4 36" AND UP
- DECIDUOUS TREE
- CONIFEROUS SHRUB
- DECIDUOUS SHRUB
- SB# — SOIL BORING
- SECTION CORNER
- MON — MONUMENT
- IRON ROD/PIPE
- PK — PK NAIL
- BM# — BENCHMARK
- TP# — TRAVERSE POINT
- MAIL/NEWSPAPER BOX
- FP — FLAG POLE
- POST
- HAZARDOUS OR FLAMMABLE MATERIAL — USED WITH GAS & UNDERGROUND ELECTRICAL LINES
- CAUTION – CRITICAL UNDERGROUND UTILITY — USED WITH UNDERGROUND TELEPHONE & FIBER OPTIC LINES & WATER MAIN

PROPOSED

- RIPRAP
- SIGN
- FLOW DIRECTION
- XX XX XXX — STRUCTURE NUMBER WM SAN STM
- ADA SIDEWALK RAMP

UTILITY PATTERN

EXISTING

- ELEC — ELECTRICAL *
- 6" (COMPANY) GAS — GAS\OIL
- (COMPANY) CABLE/TEL — CABLE/TELEPHONE *
- FIBER OPTIC — FIBER OPTIC *
- 12" WM — WATER
- 12" SAN — SANITARY
- 12" STM — STORM

PROPOSED

- 12" — STORM/SANITARY/WATER
- 12" — PRIMARY UTILITY WILL HAVE A CONTINUOUS LINESTYLE, WITH THE SECONDARY UTILITY MATCHING ITS RESPECTIVE EXISTING UTILITY LINESTYLE

*OH = OVERHEAD , UG = UNDERGROUND

ROW PATTERN

EXISTING

- ROW — ROW
- SECTION
- PROPERTY/PARCEL

PROPOSED

- ROW — ROW

TOPO PATTERN

EXISTING

- HEDGE/TREE
- FENCE
- GUARDRAIL
- CENTERLINE OF DITCH
- RAILROAD
- WETLAND/EDGE OF WATER

PROPOSED

- GRADING LIMIT (SLOPE STAKE)
- CENTERLINE OF DITCH
- GUARDRAIL
- FENCE
- DECORATIVE FENCE

REMOVAL LEGEND

- PAVT, REM
- SIDEWALK, REM
- CURB AND GUTTER, REM
- TREE, REM

PROPOSED LEGEND

- PROPOSED CONCRETE
- PROPOSED HMA

IF NECESSARY FOR CLARITY

- S — SAVE
- B — BULKHEAD
- A — ABANDON
- C — CLEARING
- R — REMOVE
- SALV — SALVAGE
- REL — RELOCATE
- REC — RECONSTRUCT
- ADJ — ADJUST
- REL B/O — RELOCATE BY OTHERS
- ADJ B/O — ADJUST BY OTHERS
- R B/O — REMOVE BY OTHERS

ROCHESTER HILLS MICHIGAN

OHM
ARCHITECTS ENGINEERS PLANNERS
2365 PONTIAC RD SUITE 201
AUBURN HILLS, MI 48326
(248) 751-3100
OHM-ADVISORS.COM

REVISIONS:

DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
*	0190-2-2010	KAC	ARP	KAC	OAKLAND	CITY OF ROCHESTER HILLS	H: 1"=40' V: 1"=4'	NAD 83	NGVD 29

CITY OF ROCHESTER HILLS
EASTERN AVENUE PARKING LOTS

LEGEND SHEET

SHEET 2 OF 14

DRAWING PATH: P:\0166_0200\0190210010_EASTERN_AVE_#93\Drawings\Civil\Misc\210010LEG.dwg Jan 25, 2022 - 8:22pm

GENERAL

THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2020 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION EXCEPT AS NOTED HEREIN AND IN THE PROPOSAL BOOK.

LIMITATIONS ON PRIVATE WORK: DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOT PERFORM WORK BY PRIVATE AGREEMENT WITH PROPERTY OWNERS ADJACENT TO THE PROJECT. WORK MAY BE ALLOWED WHEN REQUESTED BY LOCAL MUNICIPALITIES, BUT ONLY WITH THE WRITTEN CONSENT OF THE ENGINEER.

THE CONTRACTOR SHALL CONDUCT THEIR OPERATIONS IN SUCH A MANNER TO COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES FOR NOISE LEVELS, VIBRATIONS, OR ANY OTHER RESTRICTIONS WHILE REMOVING PAVEMENT OR FOR ANY OTHER CONSTRUCTION OPERATIONS WITHIN THIS CONTRACT TO BE INCLUDED IN THE RESPECTIVE ITEM OF WORK.

THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE LOCAL FIRE AND POLICE DEPARTMENTS 48 HOURS IN ADVANCE OF PROPOSED ROAD CLOSURES OR CHANGES IN CONSTRUCTION STAGING REQUIRED FOR UTILITY CROSSINGS OR ROADWAY EXCAVATION.

THE CONTRACTOR AND/OR THEIR SUBCONTRACTOR SHALL NOTIFY "MISS DIG" AND THE APPROPRIATE MUNICIPALITY'S WATER, SEWER, FIRE AND POLICE DEPARTMENTS 72 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.

NO USE OF PRIVATE PROPERTY BY THE CONTRACTOR OR ANY SUBCONTRACTORS SHALL OCCUR BEFORE THE PROJECT ENGINEER HAS A WRITTEN AGREEMENT BETWEEN THE PROPERTY OWNER AND CONTRACTOR. THE WRITTEN AGREEMENT MUST BE NOTARIZED BY A PUBLIC NOTARY AND PROVIDED BY THE CONTRACTOR. IF SUCH USE DOES OCCUR BEFORE THE PROJECT ENGINEER HAS POSSESSION OF THE NOTARIZED AGREEMENT, THE PROJECT ENGINEER WILL ISSUE A NOTICE OF NON-COMPLIANCE SUSPENDING ALL WORK IMMEDIATELY UNTIL SUCH TIME AS A COPY OF THE WRITTEN, NOTARIZED PERMISSION IS SUBMITTED OR THE PROPERTY IN QUESTION HAS BEEN VACATED BY THE CONTRACTOR, OR ANY SUBCONTRACTORS, AND RESTORED TO ITS ORIGINAL CONDITION, WITH NO EXTENSION OF TIME OR ADDITIONAL COST FOR IDLE EQUIPMENT, DOWNTIME, ETC. TO THE CITY OF ROCHESTER HILLS.

SOIL BORINGS

THE SOIL BORING LOGS REPRESENT POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY INFERS THAT SUBSURFACE CONDITIONS ARE THE SAME OTHER THAN AT THE EXACT LOCATION OF THE BORINGS.

SLOPE RESTORATION

MULCH BLANKETS SHALL BE INSTALLED ON ALL GRADED SLOPES AS IDENTIFIED IN THE SPECIAL PROVISION FOR SLOPE RESTORATION.

UTILITIES

THE FOLLOWING UTILITY COMPANIES HAVE FACILITIES WITHIN THE PROJECT LIMITS:

1. CITY OF ROCHESTER HILLS
   1000 ROCHESTER HILLS DR
   ROCHESTER HILLS, MI 48309
   ATT: TRACY BALINT
   PH: (248) 841-2504

2. FOR ELECTRIC:
   DETROIT EDISON COMPANY
   ONE ENERGY PLAZA, 518 SB
   DETROIT, MI 48226
   ATTN: MICHAEL DEWANDELER
   PH: (586) 997-2160

3. FOR GAS:
   CONSUMERS ENERGY
   4600 COOLIDGE HWY
   ROYAL OAK, MI 48073
   ATTN: ERNEST MARTYNIUK
   PH: (248) 433-5868

4. FOR TELEPHONE:
   AT&T
   54 N MILL ST
   PONTIAC, MI 48342
   ATTN: MATT SLIWA
   PH: (248) 877-0762

5. FOR CABLE TELEVISION:
   COMCAST
   25626 TELEGRAPH RD
   SOUTHFIELD, MI 48034
   ATTN: MARK MARLOW
   PH: (313) 304-9996

6. FOR CABLE TELEVISION:
   WIDE OPEN WEST (WOW)
   32650 N. AVIS RD
   MADISON HEIGHTS, MI 48071
   ATTN: JOE GREEN
   PH: (734) 237-4319

7. FOR COUNTY DRAIN, WATER AND SEWERAGE:
   OAKLAND COUNTY WATER RESOURCE COMMISSIONER
   ONE PUBLIC WORKS - BLDG 95 WEST
   WATERFORD, MI 48328
   ATTN: STEVE KORTH, P.E.
   PH: (248) 858-0958

CONSTRUCTION PROCEDURES FOR INADVERTANT FINDS

INADVERTENT FINDS PROCEDURES ARE INTENDED TO MINIMIZE THE EFFECT OF CONSTRUCTION WORK WHEN UNANTICIPATED ARTIFACTS, CULTURAL FEATURES OR HUMAN REMAINS ARE ENCOUNTERED. IF ARTIFACTS OR BONES ARE DISCOVERED DURING THE PROJECT, WORK AT THE LOCATION OF THE FIND SHALL STOP. THE LOCATION SHALL BE CORDONED OFF AND PROTECTED TO PREVENT DISTURBANCE OR VANDALISM. IF ARTIFACTS ARE FOUND, THE PROJECT MANAGER OR OTHER RESPONSIBLE PARTY SHALL CONTACT THE STATE ARCHAEOLOGIST. IF BONES THAT ARE POSSIBLY HUMAN ARE FOUND, THE PROJECT MANAGER OR OTHER RESPONSIBLE PARTY SHALL CONTACT THE LOCAL POLICE AUTHORITY AND THE STATE ARCHAEOLOGIST. IN CONSULTATION WITH THE POLICE AND/OR THE STATE ARCHAEOLOGIST, A DETERMINATION WILL BE MADE REGARDING APPROPRIATE STEPS TO BE TAKEN AT THE FIND LOCATION. A FIELD EVALUATION MAY BE REQUIRED TO DETERMINE WHETHER ARCHAEOLOGICAL INVESTIGATION OF THE SITE IS NECESSARY. IF AN INVESTIGATION TAKES PLACE, CONSTRUCTION WORK MAY CONTINUE AT OTHER LOCATIONS ON THE PROJECT AWAY FROM THE FIND SPOT. ONCE APPROPRIATE STEPS HAVE BEEN TAKEN TO RECORD AND RECOVER THE ARTIFACTS AND/OR HUMAN REMAINS AT THE FIND LOCATION, WORK WILL BE ALLOWED TO CONTINUE AT THAT LOCATION.

BEDDING AND FILLING

BEDDING AND FILLING AROUND PIPE CULVERTS SHALL BE DONE AS SPECIFIED ON STANDARD PLAN R-82 SERIES.

SLOPES

CLASS A SLOPES WILL BE REQUIRED ON THIS PROJECT.

COOLING OF BITUMINOUS MAT

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE THE BITUMINOUS MAT OR SUBSEQUENT LIFT IS PROPERLY COOLED BEFORE OPENING TO TRAFFIC. THIS OPERATION IS INCLUDED IN THE COST OF THE BITUMINOUS MATERIALS.

ADJUSTING PROPERTY CORNERS

IT IS THE INTENT THAT ALL PROPERTY CORNERS ON THIS PROJECT BE PRESERVED AND THAT, WHERE NECESSARY, PROPERTY CORNERS BE REPLACED OR ADJUSTED, WHETHER SHOWN OR NOT. PRESERVING PROPERTY CORNERS SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIAL PROVISION FOR MONUMENT PRESERVATION, MODIFIED AND THE CURRENT STANDARDS OF THE OAKLAND COUNTY REGISTER OF DEEDS.

DUST CONTROL

THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST ON THE PROJECT BY SPRAYING WATER ON ANY AGGREGATE OR UNRESTORED SURFACES AS NEEDED OR AS REQUESTED BY THE ENGINEER. THERE WILL BE NO ADDITIONAL PAYMENT FOR THIS WORK.

MISCELLANEOUS PAY ITEMS

PROTECTION AND RESTORATION OF PROPERTY: EXISTING MAILBOXES IN CONFLICT WITH THE WORK SHALL BE TEMPORARILY RESET AS DIRECTED BY THE ENGINEER. WHEN THE PROJECT IS COMPLETED, THE MAILBOXES SHALL BE RESET BY THE CONTRACTOR IN ACCORDANCE WITH POSTAL REGULATIONS. THE TEMPORARY RESETTING AND FINAL PLACEMENT OF THE MAILBOXES WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF POST, MAILBOX (EA) THIS ITEM SHALL BE PAID ONLY ONCE FOR EACH MAILBOX AND THE SINGLE PAYMENT WILL INCLUDE BOTH THE TEMPORARY AND PERMANENT MAILBOX INSTALLATIONS. MODULAR &/OR ONE-PIECE MAILBOX/POST ASSEMBLIES SHALL ALSO BE BOTH TEMPORARILY RESET & PERMANENTLY REINSTALLED AS-DIRECTED BY THE ENGINEER UNDER A SINGLE PAYMENT OF POST, MAILBOX (EA) UNLESS OTHERWISE SHOWN ON PLANS.

AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL REPAIR OR REPLACE ANY MAILBOXES OR THEIR SUPPORTS THEY MAY DAMAGE. NO ADDITIONAL COMPENSATION WILL BE PAID FOR THIS ACTIVITY.

WHEN THE FOLLOWING ITEMS OF WORK ARE SPECIFIED ON THE PLANS OR REQUIRED BY THE ENGINEER IN THE CONSTRUCTION OF THE PROJECT, THE ITEM WILL NOT BE PAID FOR SEPARATELY, UNLESS A PAY ITEM FOR THESE ITEMS IS PROVIDED.

- CLEARING
- REMOVING TREES LESS THAN 6 INCH DIAMETER
- REMOVING SHRUBS AND BUSHES
- REMOVING HMA CURBS
- REMOVING, RESETTING, OR DISPOSING OF CONCRETE BUMPER BLOCKS AND RAILROAD TIES
- RELOCATING ORNAMENTAL ROCKS AND BOULDERS TO THE RIGHT-OF-WAY LINE
- HMA BOND COAT
- ROCK EXCAVATION
- SWEEPING PAVEMENT
- SAWING, FOR PAVEMENT AND CURB REMOVAL
- CONCRETE ADMIXTURES
- REMOVING EDGEDRAIN OR UNDERDRAIN OR FRENCHDRAINS OR DRAINAGE TILE
- ABANDONED UTILITY CONDUITS / PIPES

THE CONTRACTOR SHALL RELOCATE ORNAMENTAL OBJECTS OR PERSONAL PROPERTY (ROCKS, BRICK PAVERS, LANDSCAPE TIMBERS, ECT.) TO THE RIGHT-OF-WAY LINE OR AS DIRECTED BY ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS ACTIVITY.

WHEN PRIVATE PERSONAL PROPERTY IS LOCATED IN THE RIGHT-OF-WAY AND SPECIFIED ON THE PLANS TO BE REMOVED OR RELOCATED BY THE PROPERTY OWNER AND HAS NOT BEEN REMOVED, THEN THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE ITEMS AS A PART OF EXCAVATION, EARTH (CYD) WHEN DIRECTED BY THE ENGINEER.

STORM SEWER / CULVERTS

ALL SEWER TRENCHES SHALL BE BACKFILLED OR OTHERWISE PROTECTED BY THE END OF THE WORK DAY TO PROTECT LOCAL TRAFFIC AND PEDESTRIANS AS DIRECTED BY THE ENGINEER WHICH SHALL BE INCLUDED IN THE SEWER CONSTRUCTION.

INCREASED OR DECREASED WORK REQUIRED BY CHANGES IN SEWER OR CULVERT ELEVATIONS OF TWO FEET OR LESS WILL NOT BE CONSIDERED AS A BASIS FOR AND ADJUSTMENT IN CONTRACT UNIT PRICE.

STRUCTURES (UTILITY, STORM, WATER, SANITARY)

FINAL ADJUSTMENTS OF ALL STRUCTURES BOTH NEW AND EXISTING SHALL BE MADE PRIOR TO PLACING THE FINAL SURFACE COURSE OF HMA.

WHEN EXCAVATING FOR UTILITY CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO: BEFORE EACH DAYS WORK, OR WHEN MOVING TO A NEW AREA OF WORK, DETERMINE AND EVALUATE THE LOCATION OF ALL UNDERGROUND FACILITIES IN THE AREA. IF LOCATION STAKES HAVE BEEN REMOVED OR DO NOT APPEAR CORRECT, THE CONTRACTOR SHALL NOT EXCAVATE UNTIL ALL UTILITIES HAVE HAD AN OPPORTUNITY TO CHECK THEIR LOCATIONS. ANY DELAYS INCURRED, DUE TO CHECKING OR RESTAKING OF UTILITIES, SHALL NOT BE A BASIS FOR ADDITIONAL COMPENSATION OR TIME.

WHEN EXCAVATING FOR UTILITY CONSTRUCTION, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING GAS, WATER AND SANITARY FACILITIES, BY THE USE OF SHEETING OR OTHER METHODS AS APPROVED BY THE ENGINEER, INCLUDED IN THE SEWER CONSTRUCTION.

TREE PRESERVATION

TREE REMOVAL SHALL BE KEPT TO THE MINIMUM POSSIBLE. TREE REMOVAL SHALL NOT COMMENCE IN ANY GIVEN AREA UNTIL AFTER APPROVAL TO DO SO IS GIVEN BY THE ENGINEER. ALL TREES TO BE REMOVED WILL BE CLEARLY MARKED BY THE ENGINEER. TREES REMOVED BY THE CONTRACTOR THAT WERE NOT CLEARLY MARKED AND INTENDED FOR REMOVAL SHALL BE REPLACED WITH 2 1/2" TO 3" DIAMETER PLANTINGS OF A SIMILAR SPECIES AT THE CONTRACTOR'S EXPENSE. REPLACEMENT TREES SHALL BE PROVIDED SUCH THAT THE SUM OF THE DIAMETERS OF THE REPLACEMENT TREES EQUALS THE DIAMETER OF THE TREES REMOVED. TEMPORARY FENCE SHALL BE ERECTED AROUND TREES THAT ARE TO BE SAVED.

UNDERGROUND UTILITIES

FOR PROTECTION OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL DIAL 1-800-482-7171 (OR 811) A MINIMUM OF 3 WORKING DAYS PRIOR TO EACH EXCAVATION IN THE VICINITY OF UTILITY LINES. ALL "MISS DIG" PARTICIPATING MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE PART OF THE "MISS DIG" ALERT SYSTEM.

SOIL EROSION MEASURES

PLACE PERMANENT SEED AND MULCH AS SOON AS POSSIBLE. CRITICAL DITCH GRADES SHOULD BE PROTECTED WITH EITHER SOD OR SEED/MULCH AS DIRECTED BY THE ENGINEER. REFER TO PLANS AND STANDARD DETAILS FOR SOIL EROSION DETAILS. CONTROLS SHALL BE MAINTAINED WEEKLY AND AFTER EVERY RAIN EVENT BY THE CONTRACTOR.

PAVEMENT REMOVAL QUANTITIES

PAVEMENT REMOVAL AS SHOWN ON THE PLANS SHALL BE AT THE DISCRETION OF THE ENGINEER.

EARTHWORK & GRADING

SURPLUS EXCAVATED MATERIAL AND UNSUITABLE MATERIAL MAY BE USED TO FLATTEN FILL SLOPES AS DIRECTED BY THE ENGINEER TO BE INCLUDED IN EXCAVATION. ANY SURPLUS OR UNSUITABLE MATERIAL UNABLE TO BE USED ON THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY. THIS WORK SHALL BE INCLUDED IN THE COST OF EXCAVATION, EARTH (CYD).

THE CITY OF ROCHESTER HILLS HAS OBTAINED GRADING EASEMENTS FOR GRADING BACK OF THE RIGHT-OF-WAY AS SHOWN ON THE PLANS.

ALL NATURAL SOIL LEFT IN PLACE, IN CUT SECTIONS, SHALL BE COMPACTED TO NOT LESS THAN 95 PERCENT OF MAXIMUM UNIT WEIGHT TO A MINIMUM DEPTH OF 12 INCHES.

WHEN PROJECT IS OPEN TO THROUGH TRAFFIC, ROADWAY EXCAVATION ON BOTH SIDES OF THE ROAD AT THE SAME TIME WILL NOT BE PERMITTED. THE CONTRACTOR SHALL BRING ONE SIDE UP TO THE EXISTING EDGE WITH PAVING MATERIALS PRIOR TO BEGINNING EXCAVATION OPERATIONS ON THE OTHER SIDE. PART WIDTH CONSTRUCTION WILL NOT BE PAID FOR SEPARATELY.

THE LIMIT OF EARTH DISTURBANCE SHALL BE THE SLOPE STAKE LINE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

ALL SLOPES SHALL BE CLASS A SLOPES.

AREAS DISTURBED BY THE CONTRACTOR OR SUBCONTRACTOR SHALL BE RESTORED AS SPECIFIED IN THE SOIL EROSION AND SEDIMENTATION CONTROL PLANS OR DIRECTED BY THE ENGINEER. NO ADDITIONAL PAYMENT OR COMPENSATION WILL BE ALLOWED FOR AREAS DISTURBED OUTSIDE THE SLOPE STAKE LINE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PROPERTY BEYOND THE SLOPE STAKE LINE, INCLUDING EXISTING FENCING, LAWN, TREES AND SHRUBBERY UNLESS OTHERWISE NOTED IN THE PLANS.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE TEMPORARY STORAGE AREAS FOR EXCAVATION, EARTH (CYD) WHICH MAY BE USED AS EMBANKMENT MATERIAL IN OTHER AREAS IF IT IS SUITABLE MATERIAL AS DETERMINED BY THE ENGINEER. ANY EXTRA HANDLING OF EXCAVATED MATERIAL IS CONSIDERED INCLUDED IN THE ITEM THESE PAY ITEMS.

ALL EXCAVATIONS, UNDERCUTS, OR DROP-OFFS OF ANY KIND IN THE PROJECT SHALL BE BACKFILLED OR GRADED OUT AS SPECIFIED AND/OR DIRECTED BY THE ENGINEER AT THE END OF EACH WORKDAY, UNLESS OTHERWISE APPROVED BY THE ENGINEER. EXCAVATION OF TRENCHES WITHIN 10 FEET OF THE EDGE OF THE TRAVELED WAY FOR VEHICLES OR PEDESTRIANS SHALL NOT BE LEFT OPEN OVERNIGHT.

WHEN APPROVED BY THE ENGINEER, ORANGE PLASTIC SAFETY FENCING (ALSO KNOWN AS SNOW FENCING), MINIMUM 4 FOOT TALL AND SECURELY ERECTED ON GROUND DRIVEN STAKES SHALL BE ERECTED ALONG THE SIDES OF ALL UNDERGROUND WORK AREAS WHEN TRENCHES, EXCAVATIONS, OR DROP-OFFS EXCEED 3FT IN DEPTH. SAFETY FENCING WILL BE MAINTAINED UNTIL BACKFILL IS UP TO WITHIN 3 FT OF ADJACENT GRADE. PAYMENT FOR SAFETY FENCING SHALL BE INCLUDED IN THE COST OF MINOR TRAF DEVICES (LS).

CURB AND PAVEMENT REMOVAL

SAWING FOR PAVEMENT REMOVAL TO THE DEPTH REQUIRED FOR NEAT REMOVAL OF PAVEMENTS OR CURBS SHALL BE INCLUDED IN THE REMOVAL. SAWING DEPTH SHALL BE ADEQUATE TO PREVENT SPALLING, CHIPPING OR DAMAGE TO EXISTING PAVEMENT EDGES LEFT IN PLACE AS DIRECTED BY THE ENGINEER.

THE LOCATION OF ALL CURB REMOVAL, PROPOSED CURB, AND CURB DROPS SHOWN ON THE PLANS ARE TO BE VERIFIED IN THE FIELD BY THE ENGINEER PRIOR TO CONSTRUCTION.

SUBGRADE UNDERCUTTING

SUBGRADE UNDERCUTTING, TYPE II IS AN ESTIMATED QUANTITY. LOCATIONS AND FINAL QUANTITY FOR EACH ITEM WILL BE DETERMINED DURING CONSTRUCTION BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR EACH ITEM.

TURF ESTABLISHMENT

RESTORATION SHALL BE PAID FOR AS TURF ESTABLISHMENT, PERFORMANCE (SYD) FOR ALL DISTURBED AREAS WHERE PAVEMENT IS NOT BEING PROPOSED, AS CALLED FOR IN THE PLAN SHEETS.

MISCELLANEOUS ESTIMATED QUANTITIES (PROJECT WIDE)

THE FOLLOWING ITEMS OF WORK SHALL BE DONE AS THEY APPLY ON THE PROJECT. THESE ITEMS ARE NOT DETAILED ELSEWHERE ON THE CONSTRUCTION PLANS.

MAINTENANCE OF TRAFFIC QUANTITIES (PROJECT WIDE)

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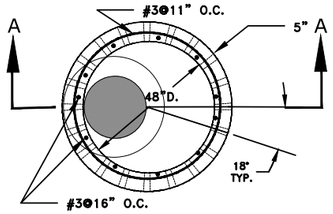
ENG: KAC
PROJ MGR: ARP
CADD: KAC
COUNTY: OAKLAND
CITY/VILLAGE/TOWNSHIP: CITY OF ROCHESTER HILLS
SCALE: H: 1"=40' V: 1"=4'
HORIZ DATUM: NAD 83
VERT DATUM: NGVD 29

CITY OF ROCHESTER HILLS
EASTERN AVENUE PARKING LOTS

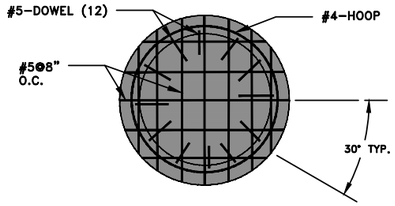
NOTES SHEET

SHEET: 3 OF 14

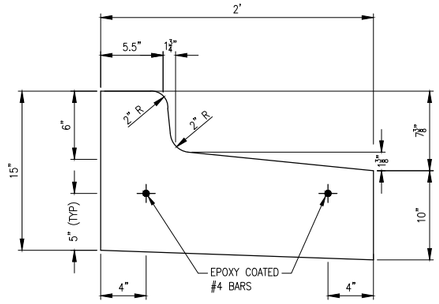
DRAWING PATH: P:\0166_0200\0192\0010_EASTERN_AVE_#93\Drawings\Civil\Misc\210010NOT.dwg Jan 25, 2022 - 8:22pm



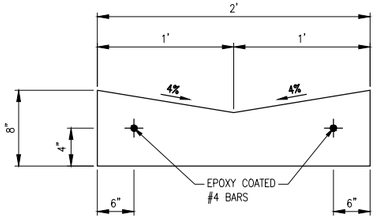
PLAN



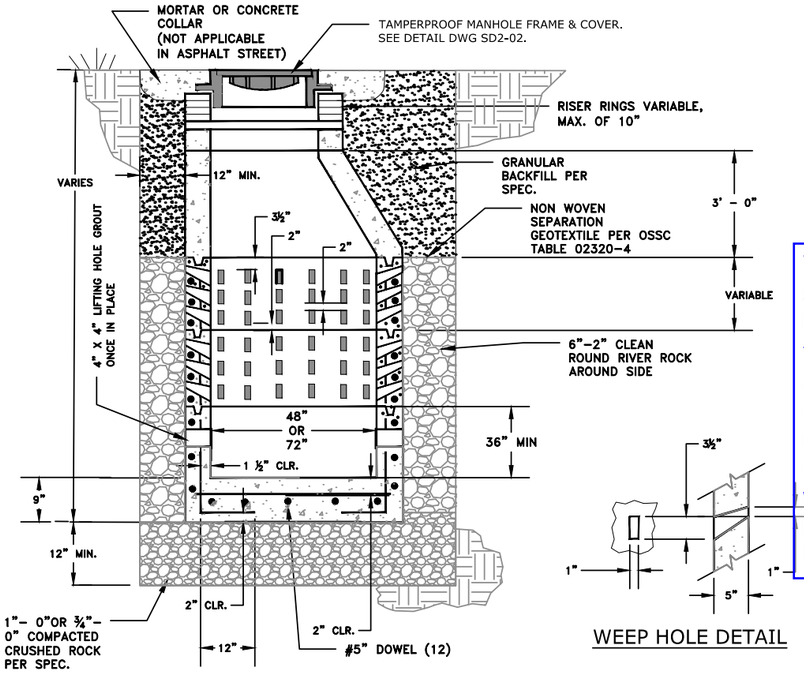
CONCRETE BASE
STEEL DETAIL



CURB AND GUTTER, CONC,
DET F4, MODIFIED (SPILLOUT)
NOT TO SCALE



VALLEY GUTTER, CONC, MODIFIED
NOT TO SCALE



SECTION A-A

NOTE: ALL PRECAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C478.

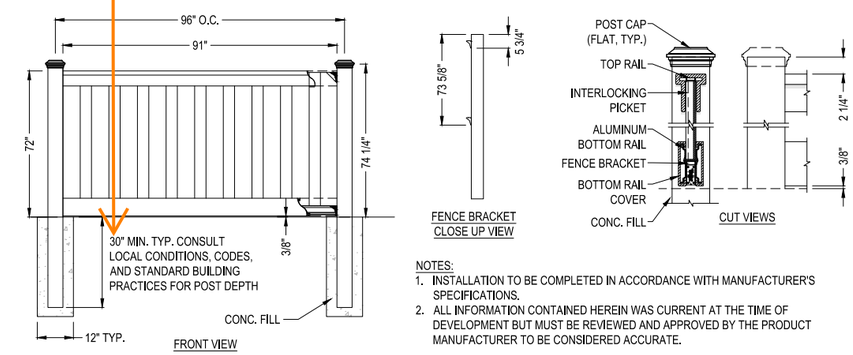
WEEP HOLE DETAIL

DRY WELL CATCH BASIN DETAIL

The site plan shows a storm sewer network between structures but this detail does not have an upstream or downstream pipe connecting to it. How does the weep holes work with a 12-inch pipes being connect to it? Revise as necessary

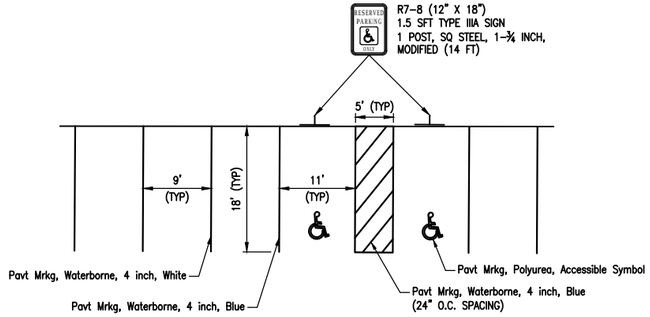
TRANSITION BETWEEN SHOULDER & STANDARD
CURB AND GUTTER (AS SPECIFIED ON PLANS)
TO APPLY: AT ALL CURB TRANSITIONS AS SHOWN IN PLANS

Recommend 42".



NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.

DECORATIVE 6 FOOT FENCE DETAIL



PARKING LOT MARKING AND SIGNING DETAIL

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CITY OF ROCHESTER HILLS
EASTERN AVENUE PARKING LOTS

SITE DETAILS SHEET

SHEET 4 OF 14

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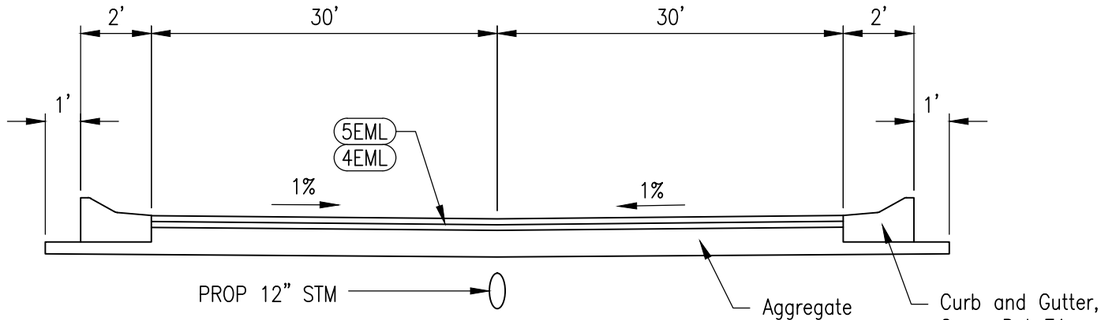
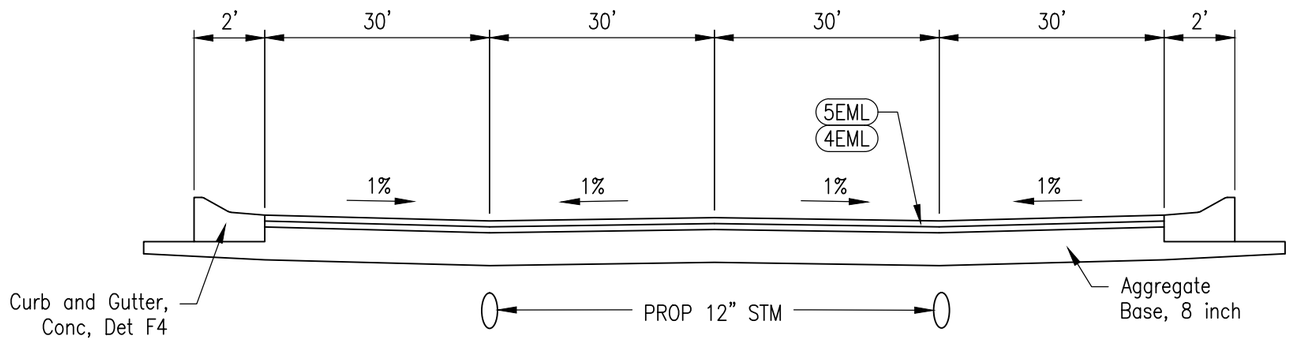
HMA APPLICATION ESTIMATE				
IDENT NO.	ITEM	RATE (LBS/SYD)	PERFORMANCE GRADE	REMARKS
5EML	HMA, 5EML	192.5	64-22	1.75" TOP COURSE (ANI-260 MIN.)
4EML	HMA, 4EML	247.5	64-22	2.25" LEVELING COURSE



WEST PARKING LOT
(LOOKING EAST/WEST)



EAST PARKING LOT
(LOOKING NORTH/SOUTH)

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-	0193-21-0010	KAC	ARP	KAC	OAKLAND	CITY OF ROCHESTER HILLS	H: 1"=40' V: 1"=4'	NAD 83	NGVD 29

CITY OF ROCHESTER HILLS
EASTERN AVENUE PARKING LOTS

TYPICAL CROSS SECTION SHEET

SHEET 5 OF 14

AUBURN ROAD

SOUTH ALLEY

EASTERN AVE (60' R.O.W.)

Show storm drain easement L.10277 P.876 and L. 10354 P.458

Per consultation with City Attorney; this plan is exempt from tree removal permit requirements under City Code sec. 126-266(3), which pertains to city owned properties. Department of PNR is aware and will work with planning to minimize tree loss. PNR will work with planning to update tree survey based on recent site inspection observations.

The number of trees proposed for planting currently cover replacement requirements if this was regulated under tree conservation ordinance.

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-	018021-0010	KAC	ARP	KAC	OAKLAND	CITY OF ROCHESTER HILLS	H: 1"=40'	V: 1"=4'

CITY OF ROCHESTER HILLS
EASTERN AVENUE PARKING LOTS
DEMOLITION PLAN

SHEET 6 OF 14

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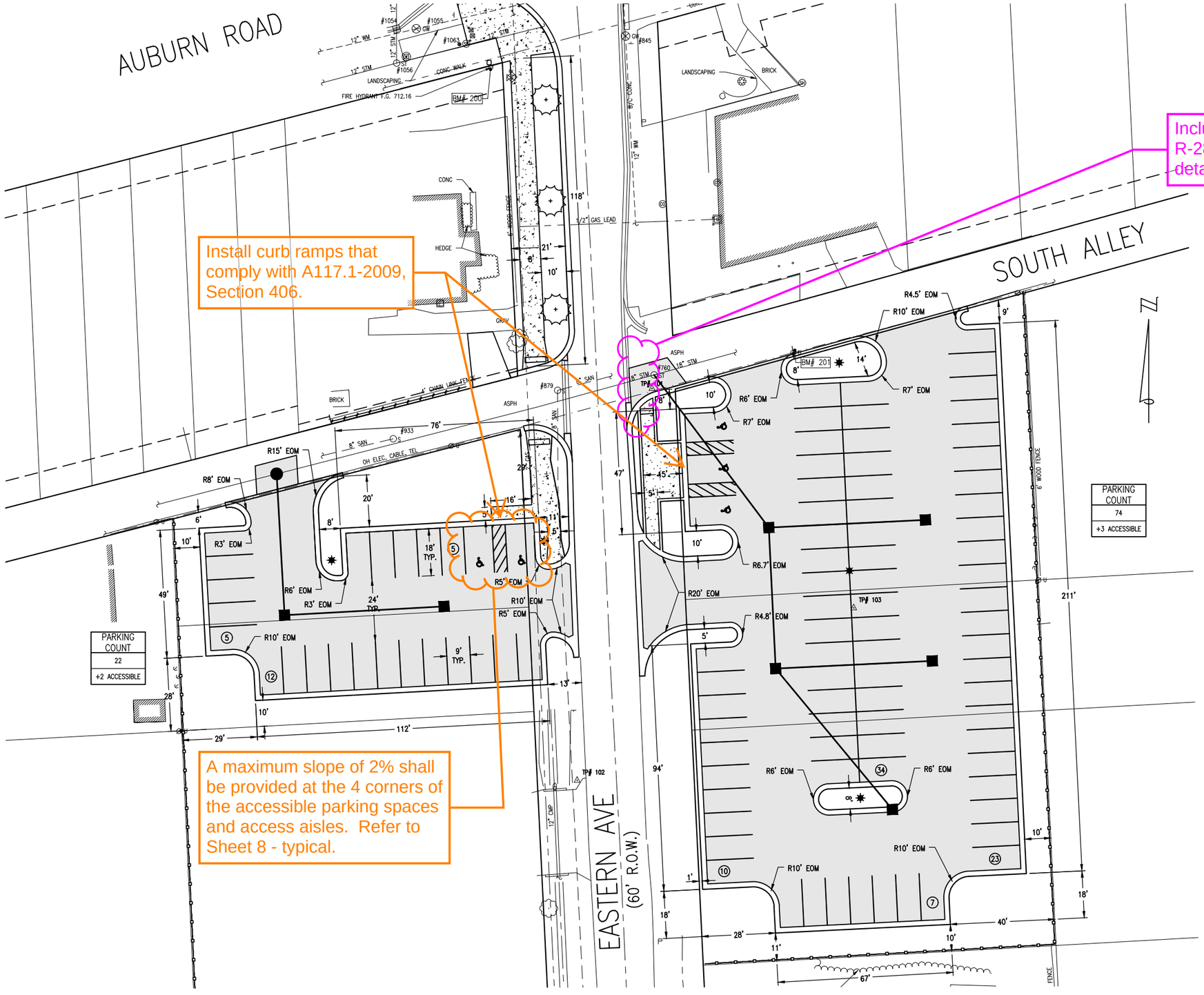

Install curb ramps that comply with A117.1-2009, Section 406.

Include latest MDOT R-28-J standard details per attached.

Include latest MDOT R-29-1 standard detail per attached.

A City right-of-way use permit is required prior to commencement of construction.

Note on Landscape Plans Irrigation overspray shall not broadcast onto City pathway.

A maximum slope of 2% shall be provided at the 4 corners of the accessible parking spaces and access aisles. Refer to Sheet 8 - typical.

A Oakland County Water Resources Commissions Permit will be necessary for the storm sewer connections in the public alley way.

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DATE -
PROJ NUMBER 018-21-0010
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PROJ MGR ARP
CADD KAC
COUNTY OAKLAND
CITY/VILLAGE/TOWNSHIP CITY OF ROCHESTER HILLS
H. 1"=40'
V. 1"=4'
SCALE
HORIZ DATUM NAD 83
VERT DATUM NGVD 29

CITY OF ROCHESTER HILLS
EASTERN AVENUE PARKING LOTS
SITE PLAN

SHEET 7 OF 14

DRAWING PATH: P:\0166_0200\0190210010_EASTERN_AVE_#93\Drawings\Civil\Plans_Const\210010CON.dwg Jan 25, 2022 - 8:24pm

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CITY OF ROCHESTER HILLS
EASTERN AVENUE PARKING LOTS
GRADING PLAN

SHEET 8 OF 14

GENERAL NOTES

1. ALL SOIL EROSION AND SEDIMENTATION CONTROL (SESC) ITEMS SHALL BE IN ACCORDANCE WITH MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE MDOT SOIL EROSION AND SEDIMENTATION CONTROL MANUAL. IN ADDITION, THE CONTRACTOR SHALL FOLLOW ANY LOCAL SESC RULES AND REGULATIONS "PER OCWRC APPROVED PERMIT".

2. SEDIMENTATION FROM EROSIONS OF THE WORK SITE SHALL BE CONTAINED ON SITE AND NOT ALLOWED TO COLLECT IN ANY ADJACENT AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, PONDS AND WETLANDS. THE CONTRACTOR SHALL CONDUCT WORK IN A MANNER SUCH THAT ALL SOIL, FUELS, OILS, BITUMINOUS MATERIALS, CHEMICALS, SANITARY SEWAGE, AND OTHER HARMFUL MATERIALS, RESULTING FROM THE CONSTRUCTION OF THE PROJECT, ARE CONFINED WITHIN PROJECT LIMITS AND PREVENTED FROM ENTERING WATERCOURSES, RIVERS, LAKES, RESERVOIRS, OR GROUND WATER.

3. STAGE THE WORK AS SHOWN IN PLANS OR DIRECTED BY THE ENGINEER TO ENSURE PROGRESSIVE STABILIZATION OF DISTURBED EARTH. THE CONTRACTOR SHALL PRESERVE NATURAL VEGETATION AS MUCH AS POSSIBLE AND CONDUCT THEIR OPERATIONS IN SUCH A MANNER AS TO MINIMIZE THE AREAS LEFT BARREN DURING CONSTRUCTION. THE CONTRACTOR WILL ONLY BE ALLOWED TO DISTURB ONLY THOSE AREAS ABSOLUTELY REQUIRED FOR THE CONSTRUCTION OF THE PROJECT THAT ARE WITHIN THE GRADING LIMITS. AREAS OUT SIDE THE GRADING LIMITS MUST BE RESTORED AND WILL NOT BE PAID FOR SEPARATELY.

4. THE CONTRACTOR SHALL INSPECT SESC MEASURES DAILY TO ENSURE THEIR EFFECTIVENESS AND WHEN NECESSARY, IMMEDIATELY REPAIR OR INSTALL ADDITIONAL CONTROLS. THE CONTRACTOR SHALL REMOVE SEDIMENT COLLECTED IN CULVERTS AND SUMPS OF ALL DRAINAGE STRUCTURES CONSTRUCTED WITH THE PROJECT WHEN SUCH SEDIMENT EXCEEDS HALF OF THE SUMP DEPTH OR CULVERT DIAMETER. THE ENGINEER WILL INSPECT CULVERTS, SUMPS, AND ALL SESC ITEMS AFTER STORMS AND DIRECT THE CONTRACTOR TO CLEANOUT CULVERTS, SUMPS, AND ALL SESC ITEMS. CLEARING CULVERTS AND SUMPS FOR SEDIMENTATION CONTROL IS CONSIDERED MAINTENANCE AND WILL NOT BE PAID FOR SEPARATELY.

5. ALL TEMPORARY SESC DEVICES SHALL BE PERIODICALLY MAINTAINED AND CLEANED OF ALL ACCUMULATED SEDIMENT TO ENSURE THEY REMAIN OPERATIONAL UNTIL ALL DISRUPTED AREAS ARE PERMANENTLY STABILIZED, AT WHICH TIME, THEY SHALL BE REMOVED.

6. PERMANENT SESC MEASURES FOR ANY DISTURBED AREA SHALL BE COMPLETED WITHIN FIVE DAYS AFTER FINAL GRADING OF THE SECTION OR ANY PORTION THEREOF. THE CONTRACTOR WILL MAINTAIN AND REPAIR PERMANENT RESTORATION ITEMS UNTIL FINAL ROAD ACCEPTANCE.

7. ALL AREAS TEMPORARILY STABILIZED DURING THE NON-GROWING SEASON SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING THE COMMENCEMENT OF THE NEXT PLANTING SEASON. ALL STRAW OR HAY MULCH SHALL BE REMOVED OR DEEPLY INCORPORATED INTO THE SOIL BEFORE PROVIDING PERMANENT STABILIZATION. DORMANT SEEDING IS ALSO RECOMMENDED FOR EARLY SPRING GROWTH.

8. IN ADDITION TO SESC MEASURES, CONSTRUCT BARRIERS TO PROTECT CRITICAL EROSION AREAS AND TO PREVENT UNWANTED ACCESS BY VEHICLES, EQUIPMENT, AND PEDESTRIANS. POTENTIAL AREAS THAT MAY NEED BARRIERS ARE HIGHLY ERODIBLE AREAS SUCH AS, TREE CANOPIES, SEDIMENT AND RETENTION PONDS, COFFERDAMS, BARREN LAND, AND SLOPES GRATER THAN 1:3.

9. IF RUNOFF OCCURS FROM SOIL STOCKPILES, SEDIMENT CONTROL FENCING WILL BE PLACED AT THE BASE OF THE STOCKPILE TO RETAIN SOIL, OR AS DIRECTED BY THE ENGINEER.

10. MINIMIZE DUST AND THE TRACKING OF LOOSE MATERIALS FROM THE CONSTRUCTION WORK SITE ONTO PUBLIC ROADWAYS AND INTO THE WATERS OF THE STATE. ANY MATERIALS TRACKED ONTO PUBLIC ROADWAYS SHALL BE REMOVED AS SOON AS POSSIBLE AS FOLLOWED AND PAID FOR IN THE PAVEMENT CLEANING SPECIAL PROVISION.

11. CONSTRUCT CHECK DAMS IN DITCHES IMMEDIATELY AFTER DITCHING, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL MAINTAIN THE CHECK DAMS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING THE TOTAL REMOVAL AND DISPOSAL OF COLLECTED SEDIMENT UPON COMPLETION OF THE PROJECT. REMOVE CHECK DAM AFTER PERMANENT VEGETATION IS ESTABLISHED.

12. FOR FINAL PROJECT ACCEPTANCE AND SESC PERMIT CLOSING, THE REMOVAL OF TEMPORARY SESC MEASURES, CONSTRUCTION OF PERMANENT SESC MEASURES, AND 90 PERCENT VEGETATIVE GROWTH ON DISTURBED AREAS ARE REQUIRED. IN ADDITION, PAVEMENT, DITCHES, GUTTERS, CATCH BASINS, AND STORM SEWERS MUST BE FREE OF ACCUMULATED SEDIMENT.

13. TURF ESTABLISHMENT, PERFORMANCE IS THE RESPONSIBILITY OF THE CONTRACTOR AS SPECIFIED IN THE SPECIAL PROVISION. ALL AREAS DISTURBED BY THE CONTRACTOR AND SUBCONTRACTORS BEYOND THE SLOPE STAKE LINE (SSL) SHALL BE RESTORED. NO ADDITIONAL PAYMENT OR COMPENSATION WILL BE MADE FOR THIS ACTIVITY.

14. MEASUREMENT AND PAYMENT:
A. PAYMENT FOR THE SESC ITEMS WILL INCLUDE FURNISHING, PLACING, MAINTAINING AND REMOVING THESE ITEMS AS REQUIRED, IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS OR AS SPECIFIED. MAINTENANCE OR REMOVAL OF THE TEMPORARY SESC ITEMS WILL NOT BE PAID FOR SEPARATELY.

B. REMOVAL AND DISPOSAL OF ACCUMULATED SEDIMENT OR DEBRIS WILL NOT BE PAID FOR SEPARATELY.

15. THE SOIL EROSION CONTROLS WILL BE MAINTAINED WEEKLY AND AFTER EVERY STORM EVEN BY THE CONTRACTOR.

STANDARDS

1. SOIL EROSION CONTROL MEASURES WILL BE ESTABLISHED IN EARLY STAGE OF CONSTRUCTION BY THE CONTRACTOR. SEDIMENT CONTROL PRACTICES WILL BE APPLIED TO PREVENT ANY TRANSPORTING OF SOIL OFF THE SITE.

2. EROSION AND ANY SEDIMENTATION FROM WORK ON THIS PROJECT SHALL BE CONTAINED AND SHALL NOT BE ALLOWED TO COLLECT IN ANY ADJACENT AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, PONDS AND WETLANDS.

3. STAGING THE WORK WILL BE DONE BY THE CONTRACTOR AS DIRECTED IN THESE PLANS, AND AS REQUIRED TO ENSURE PROGRESSIVE STABILIZATION OF DISTURBED EARTH.

4. DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR FOR EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES, AND WHEN NECESSARY, REPAIRS SHALL BE PERFORMED AND/OR ADDITIONAL MEASURES SHALL BE TAKEN WITHOUT DELAYS.

5. ALL TEMPORARY EROSION CONTROL DEVICES (PER DETAIL) SHALL BE PERIODICALLY MAINTAINED AND CLEANED OF ALL ACCUMULATED SEDIMENT TO ENSURE THEY REMAIN OPERATIONAL UNTIL ALL CONTRIBUTING DISRUPTED AREAS ARE PERMANENTLY STABILIZED, AT WHICH TIME, THEY SHALL BE REMOVED.

6. PERMANENT SOIL EROSION CONTROL MEASURES FOR ANY DISTURBED AREA SHALL BE COMPLETED WITHIN 5 CALENDAR DAYS AFTER FINAL GRADING OF THE SECTION OR ANY PORTION THEREOF. TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED WITHIN 3 DAYS FOLLOWING COMPLETION OF GRADING, DITCHING OR INSTALLATION OF DRAINAGE STRUCTURES OR LEACHING BASINS. ALL TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.

7. ALL AREAS TEMPORARILY STABILIZED DURING THE NON-GROWING SEASON SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING THE COMMENCEMENT OF THE NEXT PLANTING SEASON. ALL STRAW OR HAY MULCH SHALL BE REMOVED OR DEEPLY INCORPORATED INTO THE SOIL BEFORE PROVIDING PERMANENT STABILIZATION. DORMANT SEEDING IS ALSO RECOMMENDED FOR EARLY SPRING GROWTH.

8. THE CONTRACTOR SHALL PRESERVE NATURAL VEGETATION AS MUCH AS POSSIBLE.

9. CONSTRUCTION BARRIERS WILL BE USED TO PROTECT CRITICAL EROSION AREAS AND TO PREVENT UNWANTED ACCESS BY VEHICLES, EQUIPMENT AND PEOPLE. AREAS THAT MAY NEED BARRIERS ARE HIGHLY ERODIBLE AREAS; TREES, SEDIMENT AND RETENTION PONDS, AND COFFERDAMS.

10. IF RUNOFF CAN OCCUR FROM SOIL STOCK PILES, SEDIMENT CONTROL FENCING WILL BE PLACED AT THE BASE OF THE STOCK PILE TO RETAIN SOIL.

11. THE CONTRACTOR SHALL CONDUCT WORK IN A MANNER SUCH THAT ALL SOIL, FUELS, OILS, BITUMINOUS MATERIALS, CHEMICALS, SANITARY SEWAGE, AND OTHER HARMFUL MATERIALS, RESULTING FROM THE CONSTRUCTION OF THE PROJECT, ARE CONFINED WITHIN PROJECT LIMITS AND PREVENTED FROM ENTERING WATERCOURSES, RIVERS, LAKES, RESERVOIRS, OR GROUND WATER.

12. PAYMENT FOR THE SOIL EROSION AND SEDIMENTATION CONTROL ITEMS WILL INCLUDE, FURNISHING, PLACING, MAINTAINING AND REMOVING THESE ITEMS AS REQUIRED, IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS OR AS SPECIFIED.

SEQUENCE OF CONSTRUCTION FOR SOIL EROSION AND SEDIMENTATION CONTROL:

1. REMOVE TREES AND CLEAR PRIOR TO INSTALLING SOIL EROSION AND SEDIMENTATION CONTROL (SESC) ITEMS.

2. INSTALL TEMPORARY SESC ITEMS.

3. PRIOR TO GRUBBING, STRIPING TOP SURFACE, OR EARTH EXCAVATION, ALL SOIL EROSION AND SEDIMENT CONTROL ITEMS MUST BE IN PLACES AS SHOWN ON THE PLANS. ACTUAL CONSTRUCTION MAY VARY TO REFLECT MATERIALS USED AND TO CONTROL SITE PROBLEMS, SUBJECT TO THE APPROVAL OF THE ENGINEER.

4. EXCAVATE OR GRADE SITE WHILE MAINTAINING SOIL EROSION AND SEDIMENT CONTROL ITEMS. COLLECTED SILT AND SEDIMENT SHALL BE REMOVED PERIODICALLY, AND WITHIN 24 HOURS AFTER RAIN EVENTS, TO MAINTAIN THE EFFECTIVENESS OF THE CONTROL MEASURES.

5. INSTALL STORM SEWER AND ASSOCIATED TEMPORARY AND PERMANENT SESC ITEMS.

6. CONSTRUCT PAVEMENT.

7. CLEAR ALL ACCUMULATED SEDIMENT FROM SEWERS, CATCH BASINS AND PAVEMENT AREAS WITH FREQUENCY. INCLUDED IN EROSION CONTROL PAY ITEMS, AS DIRECTED BY ENGINEER.

8. RESTORE ALL DISTURBED AREAS MAXIMUM 5 DAYS AFTER FINAL GRADING WITH MULCH BLANKET. 3" TOPSOIL AND CLASS A SOD OR CLASS A SEEDING AS CALLED FOR IN THE PLANS.

9. REMOVE TEMPORARY SOIL EROSION AND SEDIMENT CONTROL ITEMS AFTER PERMANENT VEGETATION IS ESTABLISHED.

10. CONTINUE TO MAINTAIN AND REPAIR PERMANENT RESTORATION ITEMS AS NECESSARY OR DIRECTED BY THE ENGINEER. UNTIL FULLY ESTABLISHED. INCLUDED IN PERMANENT RESTORATION PAY ITEMS.

11. VACUUM, SWEEPING AND PROJECT CLEAN UP AS DIRECTED BY THE ENGINEER, INCLUDED IN OTHER ITEMS OF WORK.

Know what's **below.**
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CITY OF ROCHESTER HILLS
EASTERN AVENUE PARKING LOTS

SESC NOTES SHEET

SHEET 9 OF 14

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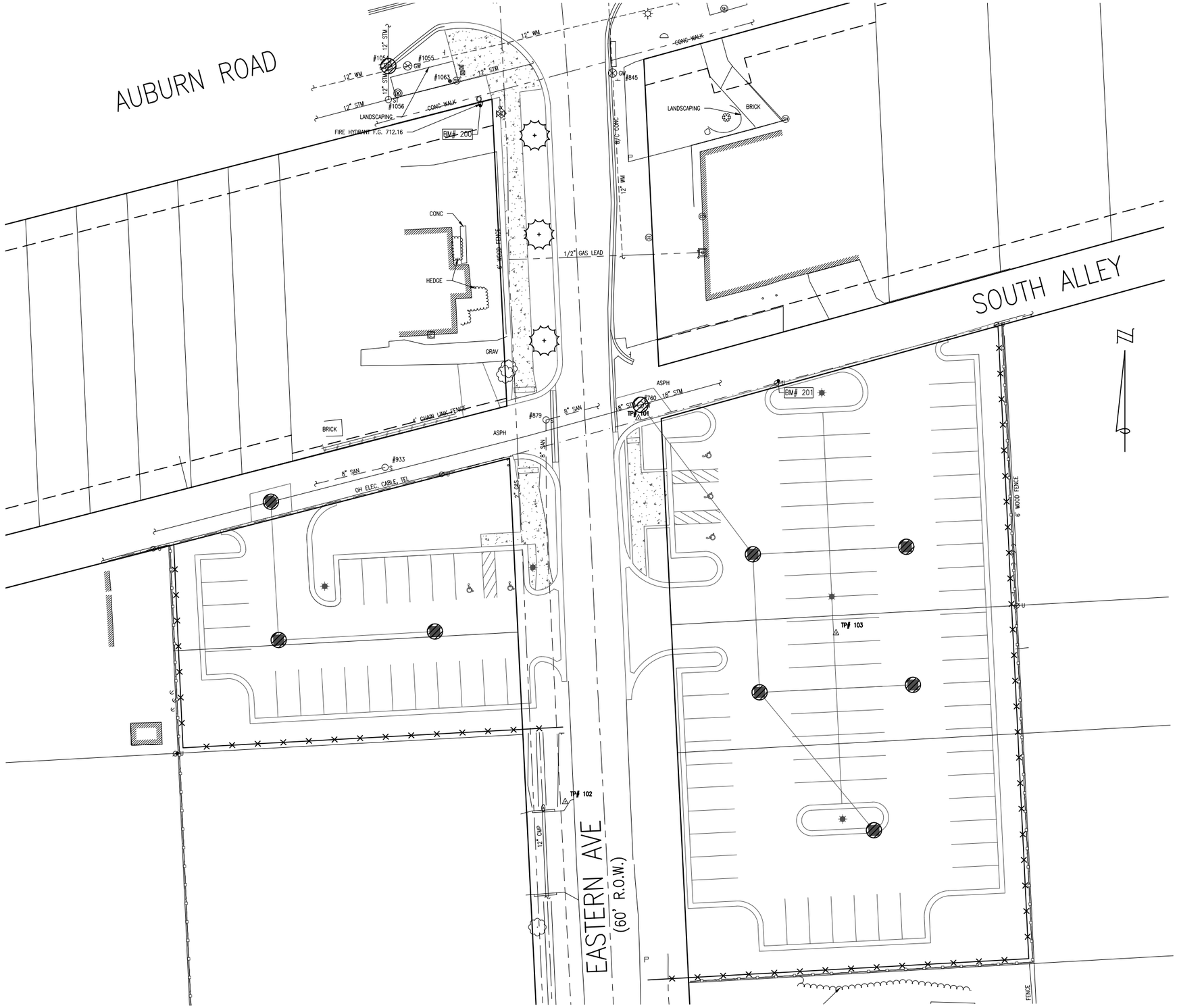

LEGEND

- Erosion Control, Inlet Protection, Fabric Drop (SI-4)
- Erosion Control, Silt Fence (SSP-3)

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DRAWING PATH: P:\0166_0200\0190210010_EASTERN_AVE_#93\Drawings\Civil\Misc\210010SESC.dwg Jan 25, 2022 - 8:26pm

ROCHESTER HILLS MICHIGAN

OHM
ARCHITECTS ENGINEERS PLANNERS
2365 PONTIAC RD SUITE 201
AUBURN HILLS, MI 48326
(248) 751-3100
OHM-ADVISORS.COM

REVISIONS:

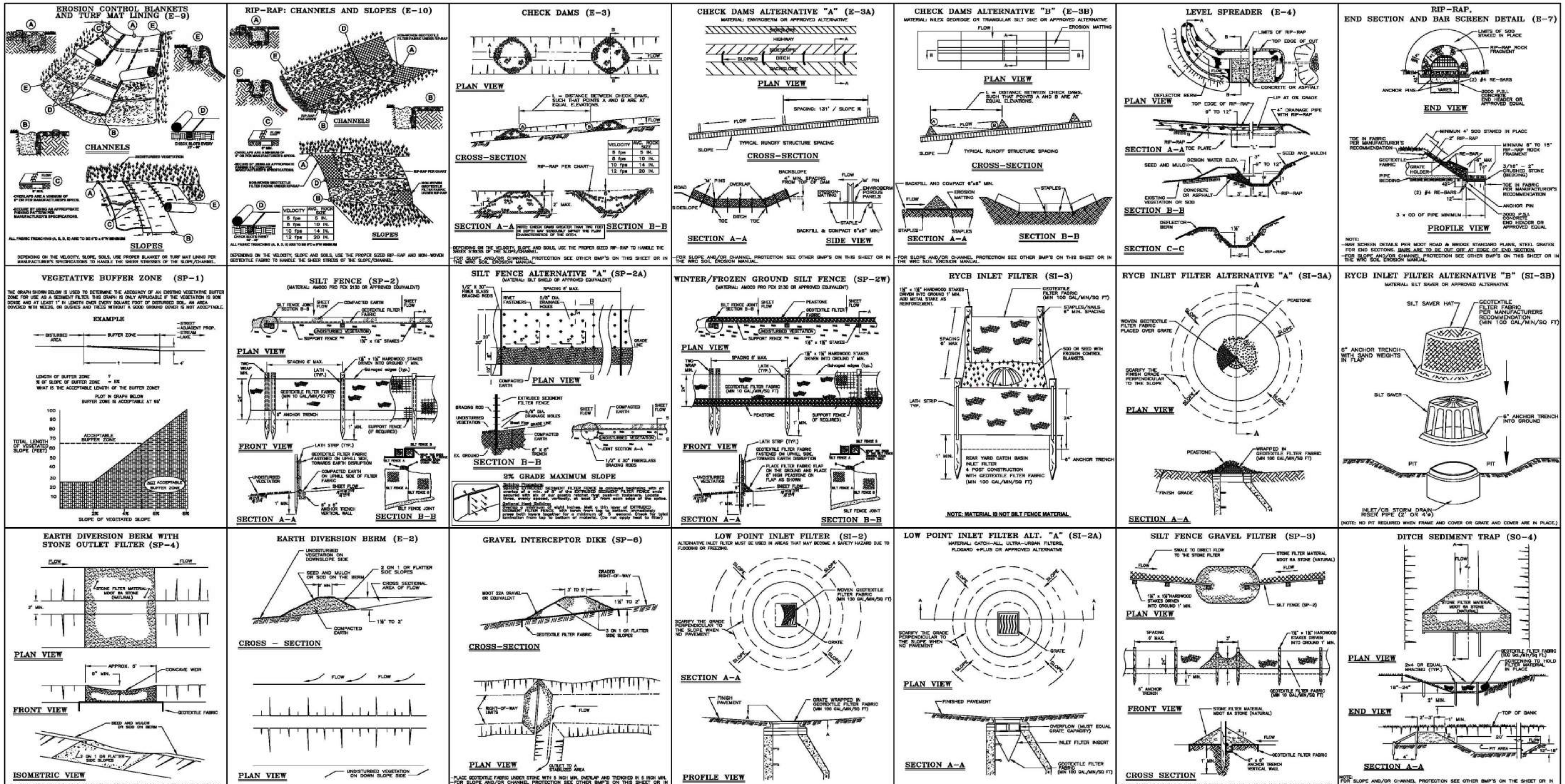
DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE		HORIZ DATUM
-	0190-21-0010	KAC	ARP	KAC	OAKLAND	CITY OF ROCHESTER HILLS	H: 1"=40'	V: 1"=4'	NAD 83

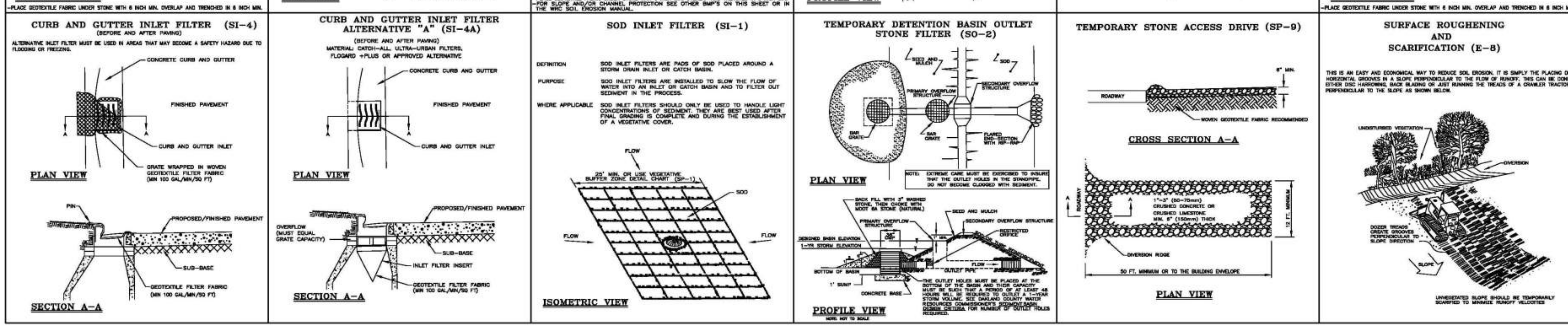
HORIZ DATUM NAD 83 VERT DATUM NGVD 29

CITY OF ROCHESTER HILLS
EASTERN AVENUE PARKING LOTS

SESC PLAN SHEET

SHEET 10 OF 14





NOTE:

WHILE PERFORMING WORK INVOLVING GROUNDS MAINTENANCE AND/OR THE CONSTRUCTION/MAINTENANCE OF ANY INFRASTRUCTURE, INCLUDING ROADS, WATER MAINS, SANITARY SEWERS, STORM DRAINS AND STORM WATER BEST MANAGEMENT PRACTICES (BMPS), CONTRACTORS SHALL MINIMIZE POLLUTION FROM STORM WATER RUNOFF THAT CAN AFFECT WATER QUALITY RELATED TO WORK ACTIVITIES. POLLUTANTS THAT COULD IMPAIR WATER QUALITY MAY INCLUDE FUEL, GREASE AND OIL, NUTRIENTS, BACTERIA AND PATHOGENS, LITTER AND DEBRIS, AND SOIL EROSION AND SEDIMENTATION. APPLICABLE BMPS SHALL BE IMPLEMENTED BY THE CONTRACTOR TO THE MAXIMUM EXTENT PRACTICABLE TO PROTECT WATER QUALITY AND WILDLIFE HABITAT.

SOIL EROSION AND SEDIMENTATION CONTROL DETAILS

REVISION BLOCK

Rev. No.	Rev. By	Rev. Date	Description
1	[illegible]	[illegible]	PROPOSED DETAIL SHEET
2	[illegible]	[illegible]	STANDARDS COMMITTEE APPROVAL / NAME CHANGES
3	[illegible]	[illegible]	SILT FENCE ALTERNATIVE "A" DETAIL (SP-2A) ADDED
4	[illegible]	[illegible]	STANDARDS COMMITTEE APPROVAL / NOTE CHANGES

ORIG. DATE:	01/01/01
SCALE:	NONE
DESIGNED BY:	WRC
DRAWN BY:	Mapping

WRC WATER RESOURCES COMMISSIONER Jim Nash

ONE PUBLIC WORKS DRIVE, BLDG 95 WEST WATERFORD, MICHIGAN 48328-1907

SHEET NO.: 1 of 1

ROCHESTER HILLS MICHIGAN

OHM ARCHITECTS ENGINEERS PLANNERS
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CITY OF ROCHESTER HILLS
EASTERN AVENUE PARKING LOTS
SESC DETAIL SHEET

DRAWING PATH: P:\0166_0200\0190\21\0010_EASTERN_AVE_#93\Drawings\Civil\Misc\210010SESC.dwg Jan 25, 2022 - 8:26pm

GENERAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR BEING FAMILIAR WITH ALL DOCUMENTED UNDERGROUND UTILITIES, PIPES AND STRUCTURES. LOCATE AND PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION UNLESS OTHERWISE NOTED. CONTACT MISS DIG (811 OR 800-482-7171) A MINIMUM OF 3 DAYS PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.
4. ALL WORK TO BE PERFORMED BY LICENSED AND INSURED CONTRACTORS AND EXPERIENCED WORKERS.
5. REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
6. THE CONTRACTOR SHALL KEEP ALL DRAINAGE FACILITIES (CATCH BASINS, YARD DRAINS, ETC.) AFFECTED BY HIS CONSTRUCTION OPERATIONS CLEAN AND FULLY OPERATIONAL AT ALL TIMES.
7. CONTRACTOR SHALL REPAIR AT HIS OWN EXPENSE, ANY DAMAGE, WHETHER INSIDE OR OUTSIDE OF THE PROJECT LIMITS, TO UTILITY SYSTEMS, SURFACE PAVEMENTS, FIXTURES, STRUCTURES, AND/OR EXISTING TREES OR LANDSCAPING THAT ARE NOT SPECIFICALLY INDICATED TO BE REMOVED OR RELOCATED AS PART OF THE PROJECT CONSTRUCTION. IN THE EVENT THAT ANY EXISTING DRAINAGE STRUCTURES OR UTILITIES ARE DAMAGED AND THE SERVICES DISRUPTED, THE LINES SHALL BE IMMEDIATELY REPAIRED AND THE SERVICES RESTORED AS DIRECTED BY THE ENGINEER.
8. IN THE EVENT THAT DISCREPANCIES ARISE BETWEEN WHAT IS SHOWN ON THE DRAWINGS AND ACTUAL FIELD CONDITIONS THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR RESOLUTION.
9. THE CONTRACTOR IS RESPONSIBLE FOR CONSISTENCY OF THE ANGLE OF THE SCORING PATTERN AND JOINTING PATTERN IN THE CROSSWALKS. THE SCORING PATTERN IS SUBJECT TO THE ENGINEERS APPROVAL.

LAYOUT NOTES

1. ALL DIMENSIONS SHOWN ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.
2. DO NOT SCALE DRAWINGS. UTILIZE DIMENSIONS INDICATED ON THE PLANS.
3. ALL DIMENSIONS ARE TO THE EDGE OF PAVEMENT, FACE OF WALL, OR FACE OF CURB UNLESS OTHERWISE NOTED.
4. WALKWAYS AND HARDSCAPE ELEMENTS INDICATED AS CURVILINEAR SHALL HAVE SMOOTH CONTINUOUS CURVES.
5. ALL CONCRETE SCORING SHALL BE PARALLEL, PERPENDICULAR OR TANGENT TO ADJACENT IMPROVEMENTS UNLESS OTHERWISE NOTED AND AS APPROVED BY THE ENGINEER.
6. LAYOUT ALL CONSTRUCTION LINES AND VERIFY LAYOUT WITH THE ENGINEER PRIOR TO BEGINNING ANY CONSTRUCTION WORK.
7. REFER TO GENERAL NOTES FOR ADDITIONAL INSTRUCTIONS.
8. FIELD VERIFY ALL PROPOSED AND EXISTING UTILITY LOCATIONS.
9. THE CONTRACTOR SHALL COORDINATE ALL WORK AND BE RESPONSIBLE FOR ALL METHODS, MEANS, SEQUENCE, AND PROCEDURES OF THE WORK.

PLANTING NOTES

1. STAKE ALL TREE LOCATIONS FOR THE ENGINEER'S REVIEW PRIOR TO INSTALLATION. ALL PLANTING PROCEDURES ARE SUBJECT TO THE REVIEW OF THE ENGINEER AND THE CONTRACTOR SHALL CORRECT ANY DEFICIENCIES FOUND AT NO ADDITIONAL COST TO THE OWNER.
2. SECURE PLANT MATERIAL AS SPECIFIED ON PLANS. IN THE EVENT THAT PLANT MATERIALS SPECIFIED ARE NOT AVAILABLE, CONTRACTOR SHALL SUBMIT ALTERNATES TO ENGINEER FOR APPROVAL PRIOR TO SUBMITTING A BID. NO SUBSTITUTIONS FOR PLANT MATERIALS WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY THE ENGINEER.
3. VERIFY THAT ALL PLANTING PRODUCTS, PLANT MATERIAL, AND PLANT QUANTITIES DELIVERED TO THE SITE MATCH WHAT IS INDICATED ON THE PLANS AND SPECIFICATIONS.
4. PROTECT ALL PLANT MATERIAL DURING DELIVERY TO PREVENT DAMAGE TO ROOT BALLS, TRUNKS, BRANCHES AND THE DESICCATION OF LEAVES. PROTECT ALL PLANT MATERIAL DURING SHIPPING WITH SHADE CLOTH OR SHIP WITH ENCLOSED TRANSPORT. MAINTAIN PROTECTIONS AND HEALTH OF PLANT MATERIAL STORED ON SITE. HANDLE ALL TREES WITH NYLON STRAPS. NO CHAINS OR CABLES ALLOWED. REMOVE UNACCEPTABLE PLANT MATERIAL IMMEDIATELY FROM THE SITE.
5. ALL PLANT MATERIAL SHALL BE NURSERY GROWN, WELL FORMED, TRUE TO SPECIES, HARDENED OFF WITH VIGOROUS ROOT SYSTEMS, FULL CROWN AND CANOPIES, AND FREE FROM DISEASE, PESTS AND INSECTS, AND DEFECTS SUCH AS KNOTS, SUN SCALD, WINDBURN, LEAF DISCOLORATION, IRREGULAR BRANCHING OR INJURIES.
6. ALL ROOT BALLS SHALL CONFORM TO THE SIZE STANDARDS SET FORTH IN 'AMERICAN STANDARDS FOR NURSERY STOCK'.
7. PROVIDE SOURCE INFORMATION AND PLANT SAMPLES OR PHOTOGRAPHS OF EACH PLANT SPECIFIED TO THE ENGINEER FOR COMPLIANCE REVIEW PRIOR TO INSTALLATION.
8. ALL PLANT MATERIAL DELIVERED TO THE SITE IS SUBJECT TO THE REVIEW AND ACCEPTANCE OF THE ENGINEER BEFORE, DURING AND AFTER INSTALLATION.
9. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO INSPECT AND/OR SELECT ANY AND ALL PLANT MATERIAL AT THE NURSERY PRIOR TO DELIVERY TO THE SITE.
10. TEST FILL ALL TREE PITS WITH WATER, PRIOR TO PLANTING, TO ASSURE PROPER SOIL PERCOLATION. PITS WHICH DO NOT ADEQUATELY DRAIN SHALL BE FURTHER EXCAVATED TO A DEPTH SUFFICIENT FOR DRAINAGE TO OCCUR AND/OR BACKFILLED WITH SUITABLE DRAINAGE GRAVEL. NO ALLOWANCES SHALL BE MADE FOR PLANT MATERIAL LOSS DUE TO IMPROPER DRAINAGE.
11. CONTRACTOR SHALL REPLACE DEAD OR DYING PLANT MATERIAL WITH SAME SIZE AND SPECIES AT NO ADDITIONAL COST TO OWNER.
12. ALL PLANT MATERIALS, INCLUDING ANY RELOCATED PLANT MATERIAL, SHALL BE PLANTED IN A PROFESSIONAL MANNER TYPICAL TO THE INDUSTRY STANDARDS TO ASSURE COMPLETE SURVIVABILITY OF ALL INSTALLED PLANT MATERIALS AS WELL AS TO PROVIDE AN AESTHETICALLY APPROVED PROJECT. CONTRACTOR SHALL REFER TO THE PLANTING DETAILS FOR MINIMUM SIZE AND WIDTH OF TREE PITS, PLANTING BEDS, GUYING AND STAKING, MULCHING, AND OTHER PLANTING REQUIREMENTS.
13. LAWN AREAS TO PROVIDE A SMOOTH AND CONTINUAL GRADE.
14. PLANTING BEDS SHALL HAVE A MINIMUM OF 4" DEPTH OF DOUBLE SHREDDED HARDWOOD MULCH AND SHALL BE CONSISTENT WITH PLANTING DETAILS AND SPECIAL PROVISIONS.
15. PLANTING MIX AND/OR TOPSOIL SHALL BE PROVIDED AND BLENDED AS DESCRIBED IN THE PLANTING DETAILS AND SPECIAL PROVISIONS.
16. ALL PLANTING AREAS SHALL BE WEED FREE PRIOR TO PLANTING INSTALLATION.
17. REMOVE ALL PLANTING AND LANDSCAPE DEBRIS FROM THE PROJECT SITE AND SWEEP AND WASH CLEAN ALL PAVED AND FINISHED SURFACES AFFECTED BY THE LANDSCAPE INSTALLATION.
18. THE CONTRACTOR SHALL COORDINATE PLANTING PERIODS WITH INITIAL MAINTENANCE PERIODS TO PROVIDE THE REQUIRED MAINTENANCE FROM THE DATE OF PLANTING COMPLETION. ALL PLANTING SHALL OCCUR DURING ONE OF THE FOLLOWING PERIODS:
    A. SPRING PLANTING: APRIL 15 - JUNE 1
    B. FALL PLANTING: SEPTEMBER 1 - OCTOBER 15
21. SEE TURF ESTABLISHMENT, PERFORMANCE SPECIAL PROVISION FOR LAWN SEEDING INFORMATION.
22. REFER TO GENERAL NOTES FOR ADDITIONAL INSTRUCTIONS.
23. SEE SHEET 14 FOR PLANTING DETAILS

IRRIGATION NOTES

1. ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ACCORDING TO LOCAL BUILDING, ELECTRICAL, AND PLUMBING CODES.
2. CONTRACTOR WILL ARRANGE INSPECTIONS FOR IRRIGATION REQUIRED BY THE SPECIFICATIONS DURING THE COURSE OF CONSTRUCTION. ALL WIRING AND BACKFLOW PREVENTION TO BE PER LOCAL CODE AND AS DESCRIBED IN THE SPECIAL PROVISION.
3. INSTALL IRRIGATION MAINS WITH A MINIMUM 18" OF COVER BASED ON FINISH GRADES. INSTALL IRRIGATION LATERALS WITH MINIMUM 12" OF COVER BASED ON FINISH GRADES.
4. ALL WIRE SPLICES OR CONNECTIONS SHALL BE MADE WITH APPROVED WATERPROOF WIRE CONNECTIONS AND BE IN A VALVE OR SPLICE BOX.
5. ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 14 AWG, UL APPROVED DIRECT BURY.
6. SEE IRRIGATION SPECIFICATIONS FOR ADDITIONAL INFORMATION
7. SHOP DRAWINGS SHALL BE REQUIRED FOR IRRIGATION PLANS AS DESCRIBED IN THE SPECIFICATIONS, AND SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.
8. THE CONTRACTOR SHALL DESIGN THE SYSTEM TO PROVIDE HEAD TO HEAD COVERAGE ALL LAWN AREAS DEFINED ON THE PLANS.

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

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OHM

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REVISIONS:

DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	CITY/ILLAGE/TOWNSHIP	SCALE		HORIZ DATUM	VERT DATUM
-	0166-2-0019	KAC	ARP	KAC	OAKLAND	CITY OF ROCHESTER HILLS	H.	1"=40'	NAD 83	NGVD 29
							V.	1"=4'		

CITY OF ROCHESTER HILLS
EASTERN AVENUE PARKING LOTS

LANDSCAPE NOTES

SHEET 12 OF ##

DRAWING PATH: P:\0166_0200\0190210010_EASTERN_AVE_#93\Drawings\PLN_LID\Sheets\210010LND.dwg Jan 25, 2022 - 8:28pm

AUBURN ROAD

SOUTH ALLEY

EASTERN AVE
(60' R.O.W.)

FIRE HYDRANT F.G. 712.16

BM# 200

BM# 201

BLACK GUM (2)

4'-9" TYP.

35'-0"

40'-0"

1/2" GAS LEAD

MULCHED TREE RING (4' DIA.) WITH SPADED EDGE (TYP. ALL PROPOSED TREES)

SEEDED LAWN, TYP.

AUTUMN BRILLIANCE SERVICEBERRY (6)

15'-0" TYP.

OH ELEC. CABLE

SEEDED LAWN, TYP.

EXCLAMATION LONDON PLANE TREE

8'-0"

8'-0"

TP# 101

TP# 102

TP# 103

COLUMNAR HORNBEAM

±9'-4"

±6'-4"

SEEDED LAWN, TYP.

HAMELN FOUNTAIN GRASS (17)

WARDS YEW (8)

HAMELN FOUNTAIN GRASS (23)

HAMELN FOUNTAIN GRASS (43)

3'-6", TYP.

7'-6", TYP.

EXCLAMATION LONDON PLANE TREE (4)

4'-0", TYP.

27'-0" TYP.

6'-0", TYP.

SEEDED LAWN, TYP.

COLUMNAR HORNBEAM (2)

4'-0" TYP.

4'-9" TYP.

27'-0" TYP.

AUTUMN BRILLIANCE SERVICEBERRY (8)

SEEDED LAWN, TYP.

MULCHED TREE RING (4' DIA.) WITH SPADED EDGE (TYP. ALL PROPOSED TREES)

EXCLAMATION LONDON PLANE TREE

10'-0" TYP.

N

Replace with Tupelo Tower Black Gum. Straight Species Black Gums branch too wide for this site and will cause future Rd/Pathway clearance.

5 Serviceberry are shown, however, the label shows 6 to be planted here.
Confirm Planting number and spacing.

Show sight distance lines per the attached Road and Pathway Sight Line Details.

recommend replacing Yew with "New Gen Independence Boxwoods. Shorter species to minmize future issues with the corner clearance.

PLANT LIST

COMMON NAME	LATIN NAME	INSTALL SIZE	CONDITION	SPACING
AUTUMN BRILLIANCE SERVICEBERRY	*Amelanchier x grandiflora 'Autumn Brilliance'*	8' HT.	B&B	PER PLAN
BLACK GUM	*Nyssa sylvatica*	3" CAL.	B&B	PER PLAN
EXCLAMATION LONDON PLANETREE	*Platanus x acerifolia 'Exclamation'*	3" CAL.	B&B	PER PLAN
COLUMNAR EUROPEAN HORNBEAM	*Carpinus betulus 'Fastigiata'*	3" CAL.	B&B	PER PLAN
WARDS YEW	*Taxus x media 'Wardii'*	24" Spread	B&B	36"
HAMELN FOUNTAIN GRASS	*Pennisetum alopecuroides 'Hameln'*	1 GAL.	CONT.	30"

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REVISIONS:

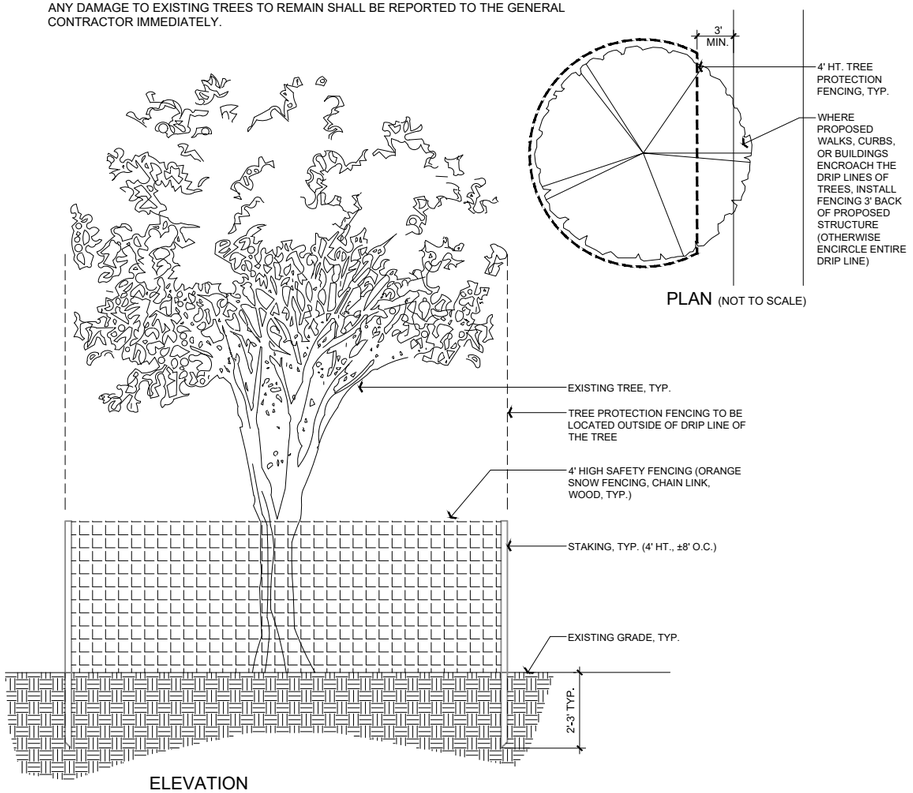
DATE: -
PROJ NUMBER: 0180-2-2010
ENG: KAC
PROJ MGR: ARP
CADD: KAC
COUNTY: OAKLAND
CITY/VILLAGE/TOWNSHIP: CITY OF ROCHESTER HILLS
SCALE: H. 1"=40' V. 1"=4'
HORIZ DATUM: NAD 83
VERT DATUM: NGVD 29

CITY OF ROCHESTER HILLS
EASTERN AVENUE PARKING LOTS
LANDSCAPE PLANTING PLAN

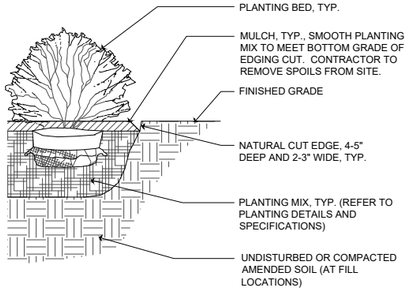
SHEET 13 OF ##

DRAWING PATH: P:\0166_0200\0180210010_EASTERN_AVE_#93\Drawings\PLN_UD\Sheets\210010LND.dwg Jan 25, 2022 - 8:26pm

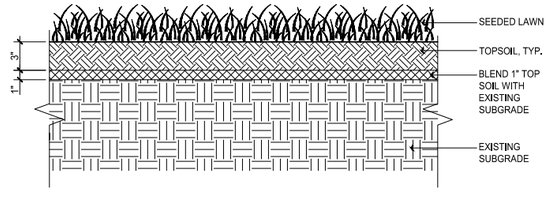
NOTE:
1. ALL TREE PROTECTION FENCING SHALL BE ERECTED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. INSPECTION SHALL BE AT THE DISCRETION OF THE GENERAL CONTRACTOR.
2. NO ACTIVITY SHALL TAKE PLACE WITHIN THE DRIP LINE OF ANY TREE TO REMAIN (GRADING, DIGGING, STORAGE OF MATERIALS, ETC.)
3. ANY REQUIRED SILT FENCING SHALL BE LOCATED OUTSIDE THE TREE PROTECTION FENCING.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING TREES SCHEDULED TO REMAIN AND ANY REPLACEMENT TREES REQUIRED AS A RESULT. ANY DAMAGE TO EXISTING TREES TO REMAIN SHALL BE REPORTED TO THE GENERAL CONTRACTOR IMMEDIATELY.



1 TREE PROTECTION FENCING DETAIL
SCALE: 1/2" = 1'-0"



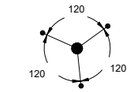
2 NATURAL BED EDGE
SCALE: 3/4" = 1'-0"



3 SEED LAWN
SCALE: 1 1/2" = 1'-0"

NOTES:

1. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
2. FINAL TREE STAKING PLACEMENT TO BE APPROVED BY OWNER.
3. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY ALSO BE PRUNED, HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
4. MARK THE NORTH SIDE OF THE TREE IN THE NURSERY, AND ROTATE TREE TO FACE NORTH AT THE SITE WHENEVER POSSIBLE.
5. IF PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, CUT THE WIRE BASKET IN FOUR PLACES AND FOLD DOWN (8" MIN.) INTO PLANTING HOLE.
6. REMOVE ALL TWINE, ROPE, WIRE, AND BURLAP FROM TOP HALF OF ROOTBALL.
7. SET TREE PLUMB IN PLANTING PIT.
8. EACH TREE MUST BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. TREES WHERE THE TRUNK FLARE IS NOT VISIBLE SHALL BE REJECTED. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.



PLANTING PIT TABLE

BALL SIZE	PIT WIDTH AT BOTTOM
UP TO 48"	DIA. OF BALL + 2'
OVER 48"	1 3/4 X DIA. OF BALL

4 MULTI-STEMMED TREE PLANTING
SCALE: 1/2" = 1'-0"

NOTES:

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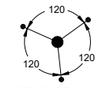

BALL SIZE	PIT WIDTH AT BOTTOM
UP TO 48"	DIA. OF BALL + 2'
OVER 48"	1 3/4 X DIA. OF BALL

5 TREE PLANTING
SCALE: 1/2" = 1'-0"

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CITY OF ROCHESTER HILLS
EASTERN AVENUE PARKING LOTS
LANDSCAPE DETAILS

SHEET 14 OF ##

DRAWING PATH: P:\0180_0200\0180210010_EASTERN_AVE_#93\Drawings\PLN_UD\Sheets\210010LDTL.dwg Jan 25, 2022 - 8:26pm

Site Plan_Pole Placements
Scale: 1 inch= 18 Ft.

DTE

#	Date	Comments

Revisions

Drawn By: M. Valascho
Checked By:
Date:1/11/2022
Scale:

Eastern Avenue Parking Lot Lighting

DTE Community Lighting Group

Site Plan_Photometric Results
Scale: 1 inch= 18 Ft.

DTE

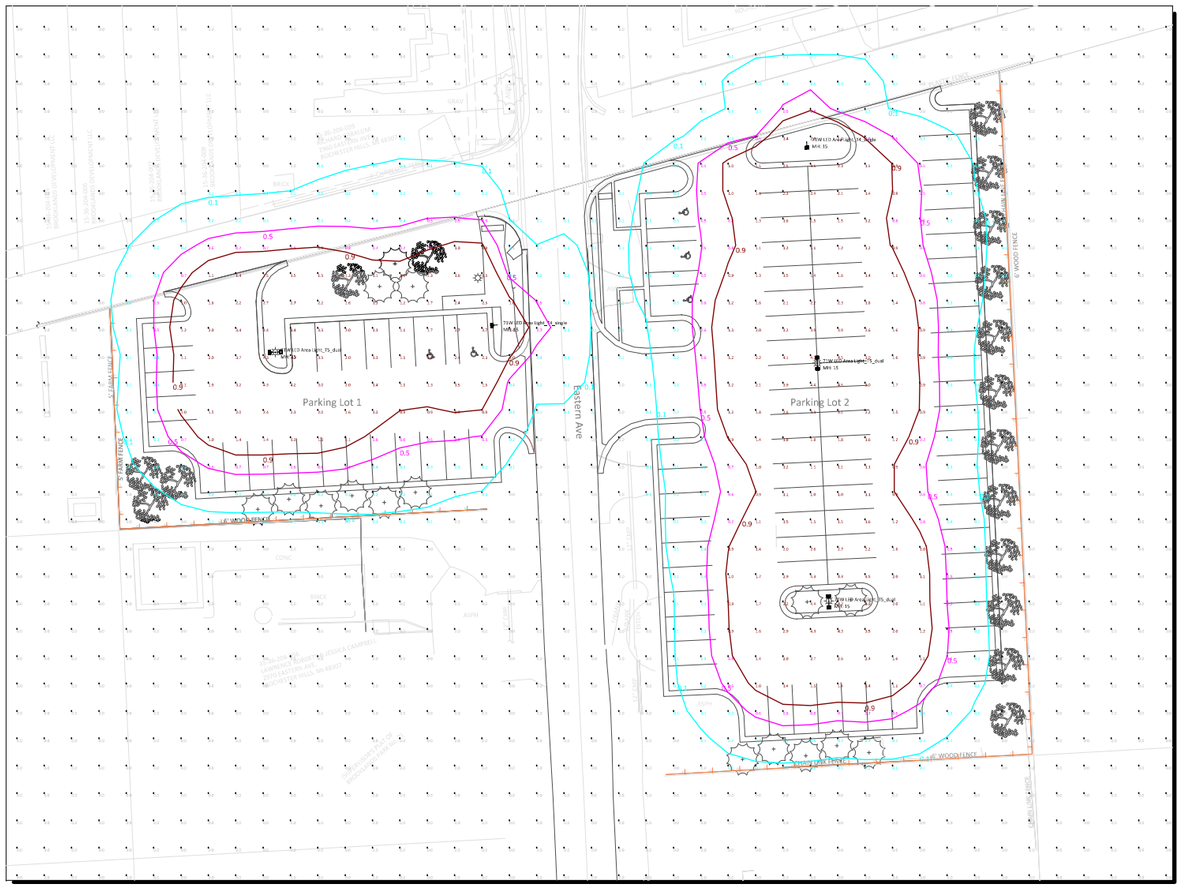
#	Date	Comments

Revisions

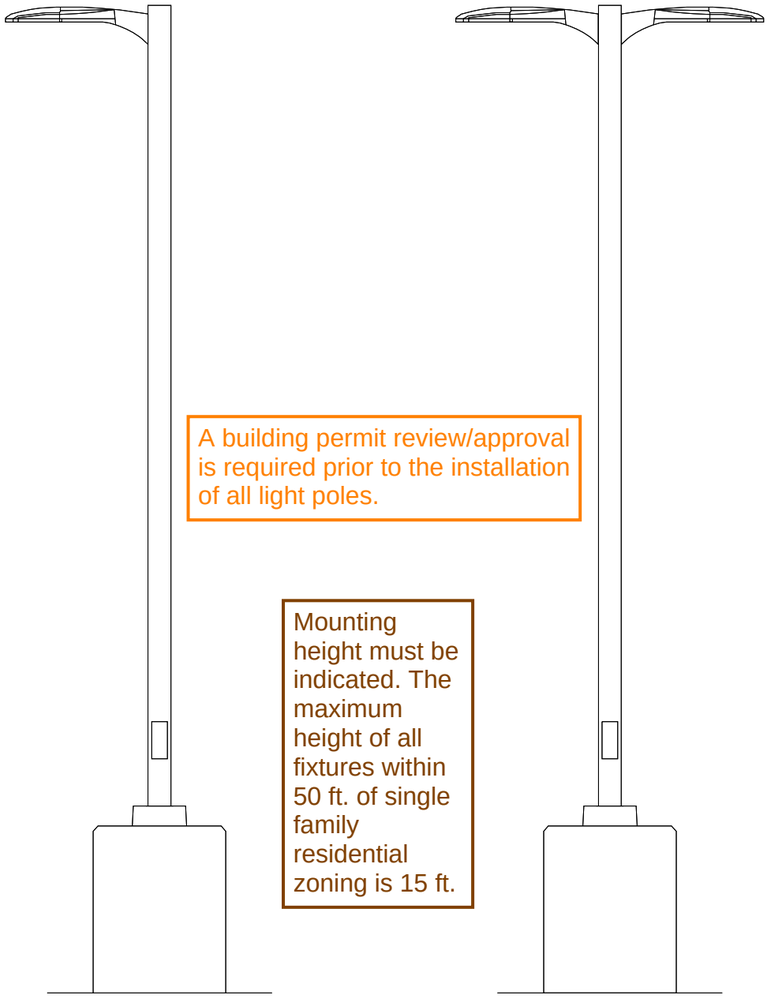
Drawn By: M. Valascho
Checked By:
Date:1/11/2022
Scale:

Eastern Avenue Parking Lot Lighting

DTE Community Lighting Group



Photometric Results



A building permit review/approval is required prior to the installation of all light poles.

Mounting height must be indicated. The maximum height of all fixtures within 50 ft. of single family residential zoning is 15 ft.

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ObtrusiveLight_1_Cd_Seg1	Obtrusive - Cd	N.A.	97.00	116	79	1.23	1.47
ObtrusiveLight_1_Ill_Seg1	Obtrusive - Ill	Fc	0.00	0.0	0.0	N.A.	N.A.
ObtrusiveLight_2_Cd_Seg1	Obtrusive - Cd	N.A.	315.23	566	126	2.50	4.49
ObtrusiveLight_2_Ill_Seg1	Obtrusive - Ill	Fc	0.05	0.1	0.0	N.A.	N.A.
ObtrusiveLight_3_Cd_Seg1	Obtrusive - Cd	N.A.	128.31	172	77	1.67	2.23
ObtrusiveLight_3_Ill_Seg1	Obtrusive - Ill	Fc	0.00	0.0	0.0	N.A.	N.A.
ObtrusiveLight_4_Cd_Seg1	Obtrusive - Cd	N.A.	203.60	494	72	2.83	6.86
ObtrusiveLight_4_Ill_Seg1	Obtrusive - Ill	Fc	0.02	0.1	0.0	N.A.	N.A.
Overall_Horizontal	Illuminance	Fc	0.15	4.5	0.0	N.A.	N.A.
Parking Lot 1_Horizontal	Illuminance	Fc	1.47	4.4	0.2	7.35	22.00
Parking Lot 2_Horizontal	Illuminance	Fc	1.21	4.5	0.0	N.A.	N.A.

Isoline Legend	
Illuminance (Fc)	
Color	Value
	0.1
	0.5
	0.9

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	LLF	Luminaire Lumens	Luminaire Watts
	3	71W LED Area Light_T5_dual	Back-Back	0.767	8768	71
	2	71W LED Area Light_T4_single	Single	0.767	8268	71

DTE

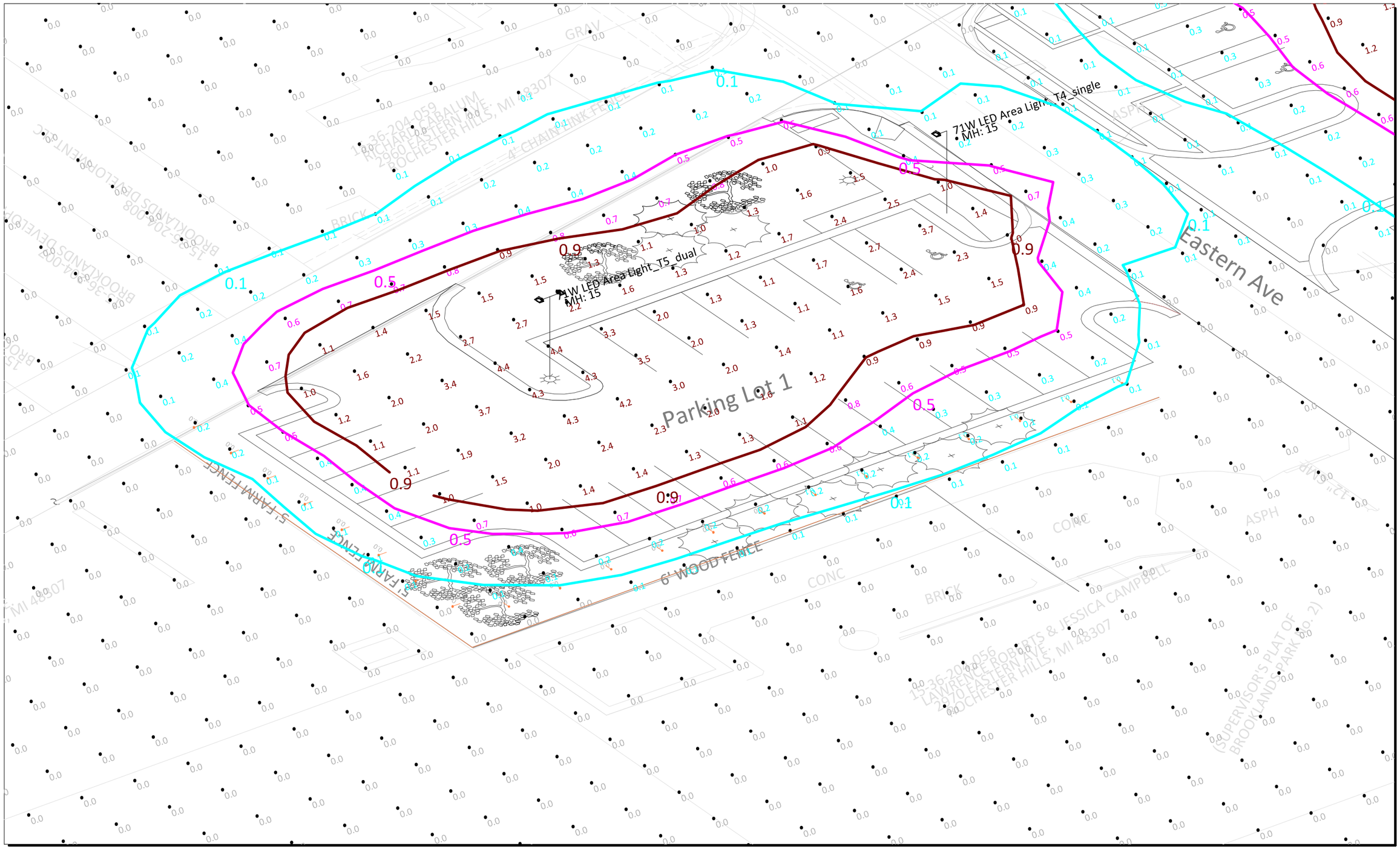
#	Date	Comments

Revisions

Drawn By: M. Valascho
Checked By:
Date:1/11/2022
Scale:

Eastern Avenue Parking Lot Lighting

DTE Community Lighting Group



Isometric View 1

DTE

#	Date	Comments

Revisions

Drawn By: M. Valascho
Checked By:
Date:1/11/2022
Scale:

Eastern Avenue Parking Lot Lighting

DTE Community Lighting Group

Isometric View 2

DTE

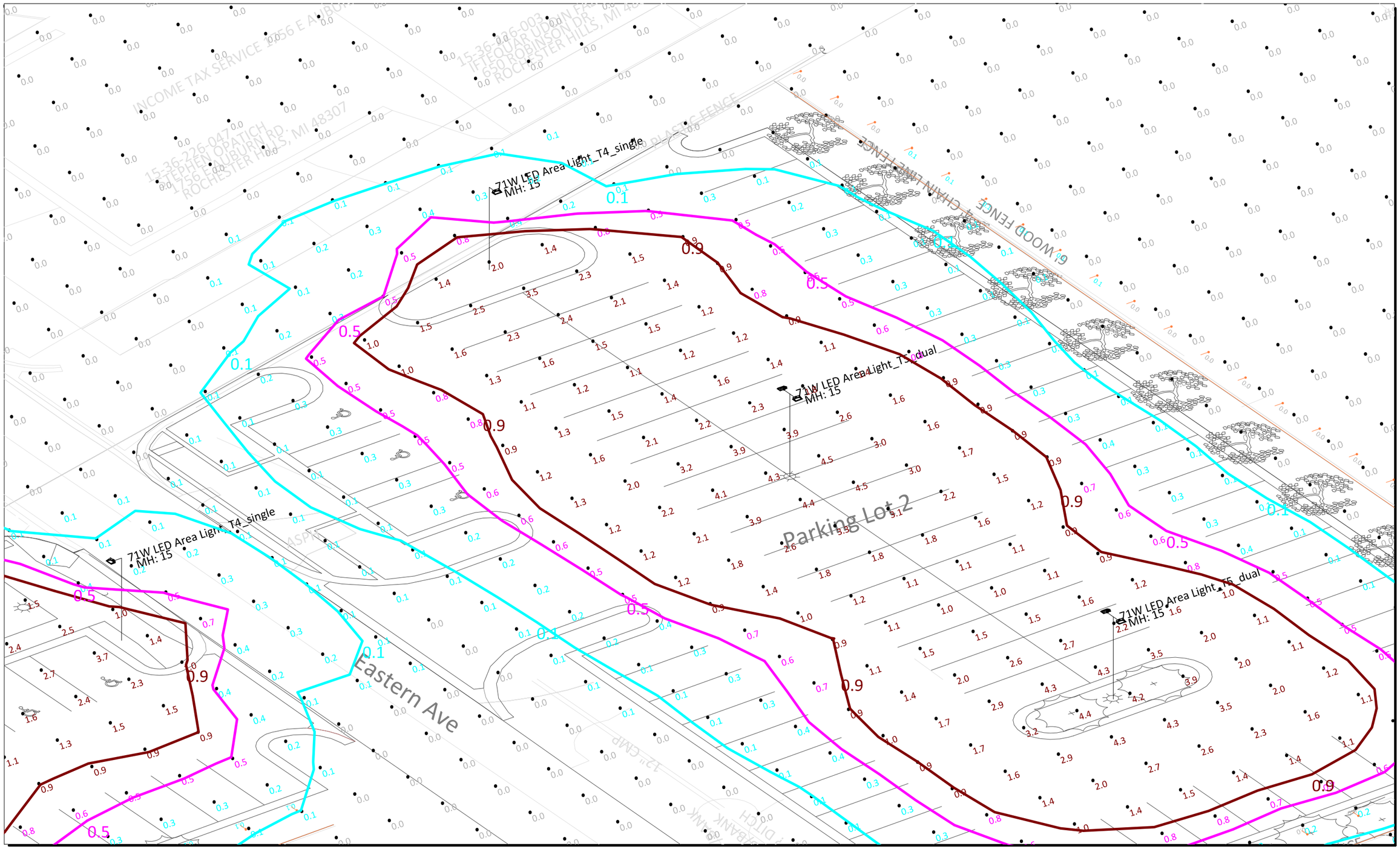
#	Date	Comments

Revisions

Drawn By: M. Valascho
Checked By:
Date:1/11/2022
Scale:

Eastern Avenue Parking Lot Lighting

DTE Community Lighting Group



Isometric View 3

DTE

#	Date	Comments

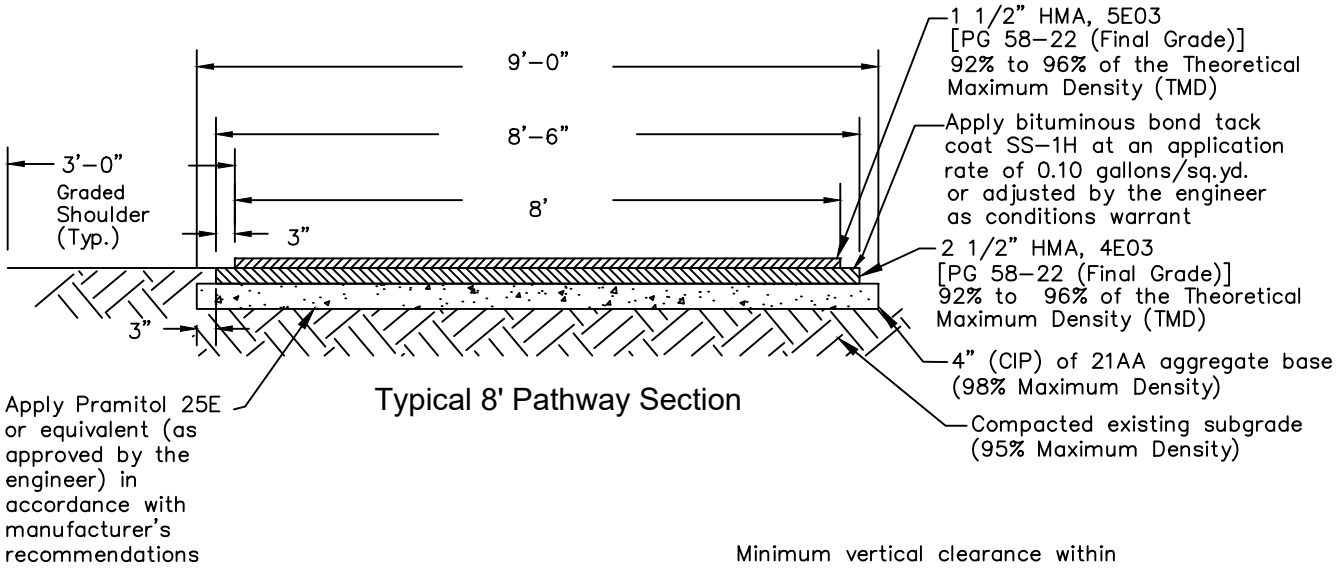
Revisions

Drawn By: M. Valascho
Checked By:
Date:1/11/2022
Scale:

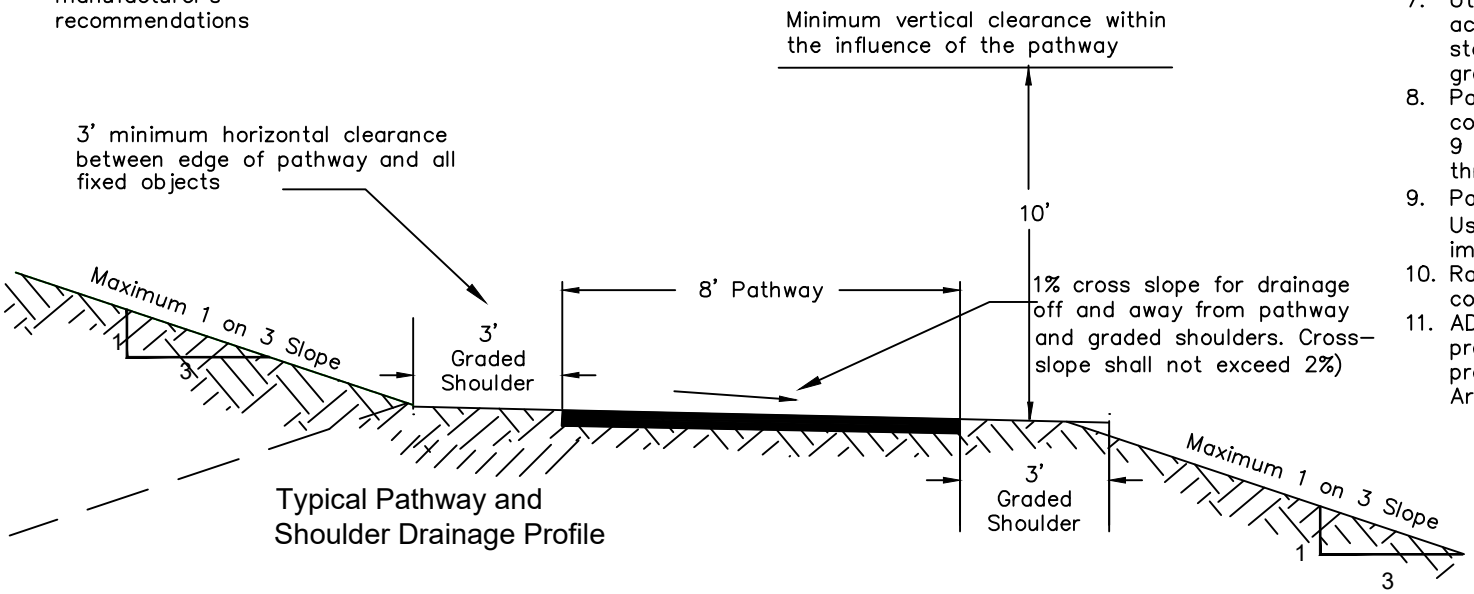
Eastern Avenue Parking Lot Lighting

DTE Community Lighting Group

Standard Details:



Typical 8' Pathway Section



Typical Pathway and
Shoulder Drainage Profile

Standard Notes:

1. Maximum grade of 8.33% along pathway (less than 5% is recommended).
2. 1% cross slope (i.e. super elevation) for drainage off and away from pathway and graded shoulders (2% maximum cross–slope).
3. 60' minimum center line radii for pathway horizontal alignment.
4. Provide a minimum of 3' horizontal clearance and 8' vertical clearance from all fixed objects and the edge of pathway surface. Relocation of existing objects (i.e. mail boxes, signs, etc.) shall be considered incidental work items.
5. Pathway ramps shall be constructed in accordance with MDOT standard detail R–28 Series and shall have a minimum clear opening of 8' wide.
6. A clean saw cut joint shall be provided wherever new pavement matches existing pavement (incidental work item).
7. Utility structures shall be adjusted in accordance with the City of Rochester Hills standards and shall match the proposed grade of the pathway.
8. Pathway shall be 6 inch thick HMA or concrete through residential drives and 9 inch thick HMA or 8 inch thick concrete through commercial drives.
9. Pathway asphalt shall be paid for as "Shared Use Path, HMA" when part of public improvement project.
10. Ramps and landings shall be 6 inch thick concrete.
11. ADA detectable warning plates shall be preformed and brick red in color. Acceptable products included ADA Solutions, Inc., Armor–Tile, ej, or approved equal.

CITY OF ROCHESTER HILLS
STANDARD DETAIL FOR:

Pathway Details:

Hot-Mixed Asphalt Pathway Construction, Extensions and Relocations

DRAWN BY:	PLAN DATE:	REV.	REV.	REV.	REV.
B. SMITH	8/28/1996	4/12/2012	2/25/2014	2/25/2016	8/22/2018

APPROVED BY:
PAUL SHUMEJKO, P.E., PTOE
CITY TRANSPORTATION ENGINEERING MANAGER

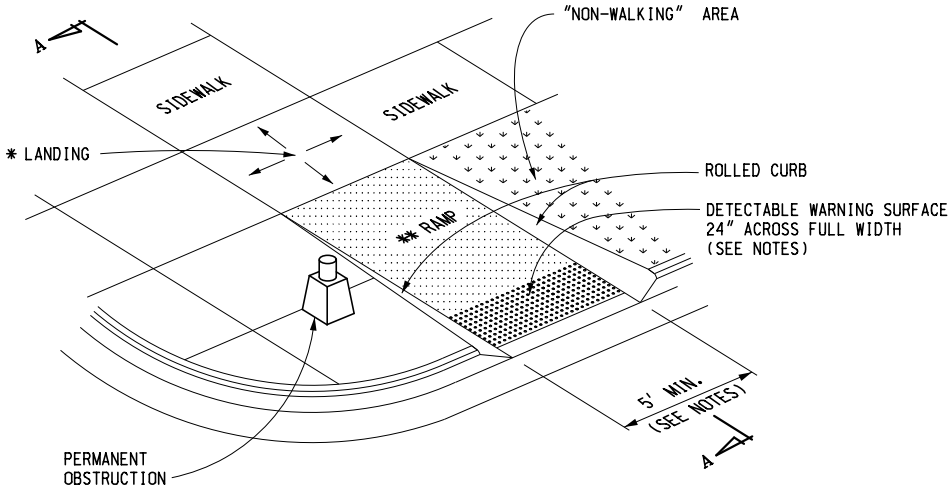
NOT TO SCALE

SHEET 1 OF 1

I:\Eng\DWG\DETAILS\PATHWAY\Pathway dwgs\HMA Pthwy Const-Ext-Reloc-Std Nts & Detls.dwg

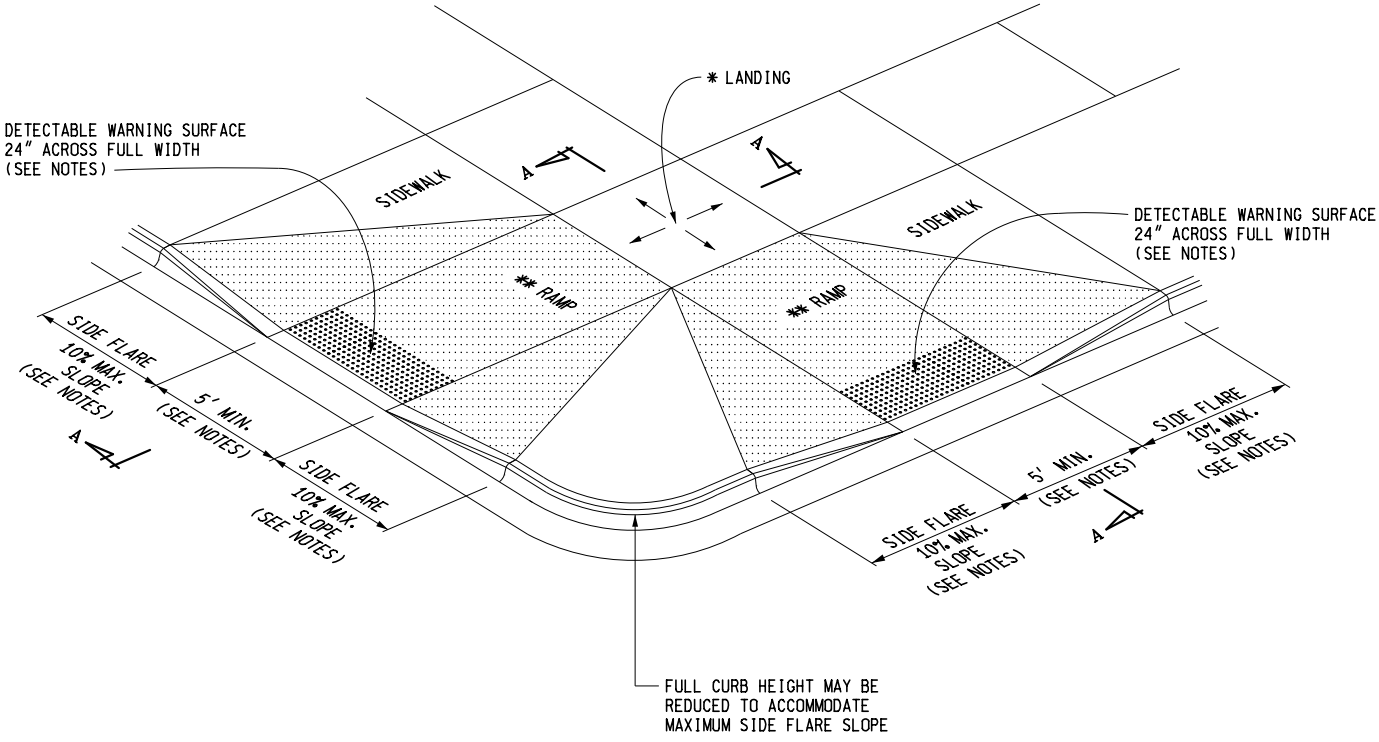
* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5′ x 5′. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% – 7% (8.3% MAXIMUM). SEE NOTES.



CURB RAMP TYPE R

(ROLLED SIDES)



CURB RAMP TYPE F

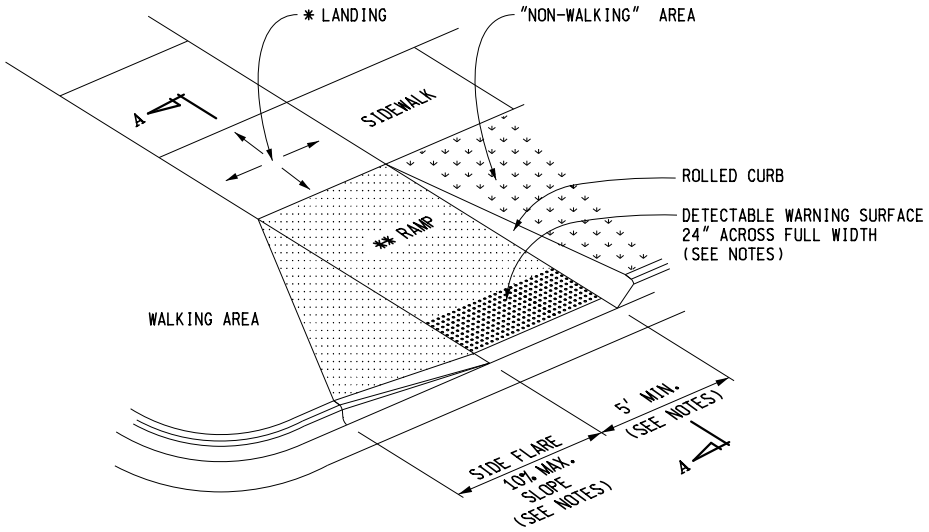
(FLARED SIDES, TWO RAMPS SHOWN)

MDOT Michigan Department of Transportation PREPARED BY DESIGN DIVISION DRAWN BY: B.L.T. CHECKED BY: W.K.P.	DEPARTMENT DIRECTOR Paul C. Ajegba APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES APPROVED BY: _____ DIRECTOR, BUREAU OF DEVELOPMENT	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR **CURB RAMP AND DETECTABLE WARNING DETAILS**

F.H.W.A. APPROVAL	PLAN DATE		SHEET
	5-8-2020	R-28-J	1 OF 7

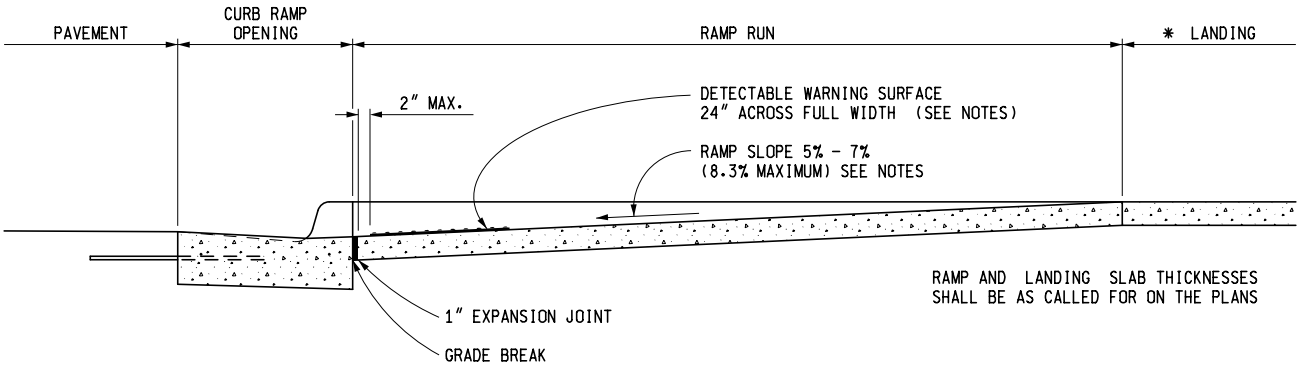
* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5′ x 5′. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% – 7% (8.3% MAXIMUM). SEE NOTES.



CURB RAMP TYPE RF

(ROLLED / FLARED SIDES)

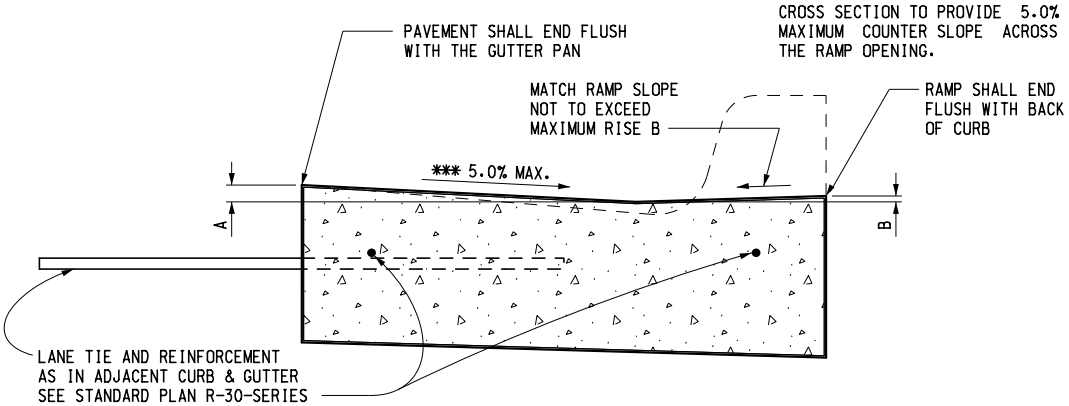


SECTION A-A

CURB TYPE	MAXIMUM RISE (INCHES)	
	A	B
B1	3/4	1
B2	3/4	1
B3	3/4	1
D1	3/4	1
D2	3/4	1
D3	3/4	1
C1	1/2	1/2
C2	1/2	1/2
C3	3/4	1/2
C4	3/4	1/2
C5	1	1/2
C6	1	1/2
F1	1/2	1/2
F2	1/2	1/2
F3	3/4	1/2
F4	3/4	1/2
F5	1	1/2
F6	1	1/2

FOR CURB TYPES SEE STANDARD PLAN R-30-SERIES

*** TRANSITION ADJACENT GUTTER PAN CROSS SECTION TO PROVIDE 5.0% MAXIMUM COUNTER SLOPE ACROSS THE RAMP OPENING.



SECTION THROUGH CURB RAMP OPENING

(TYPICAL ALL RAMP TYPES)

MICHIGAN DEPARTMENT OF TRANSPORTATION

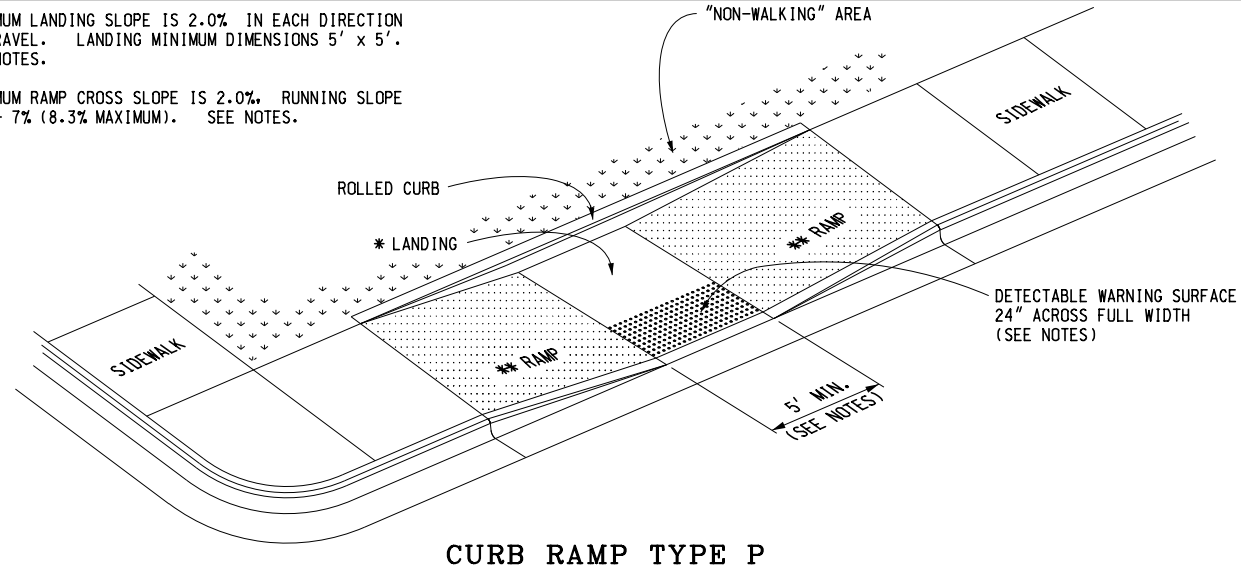
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

CURB RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 2 OF 7

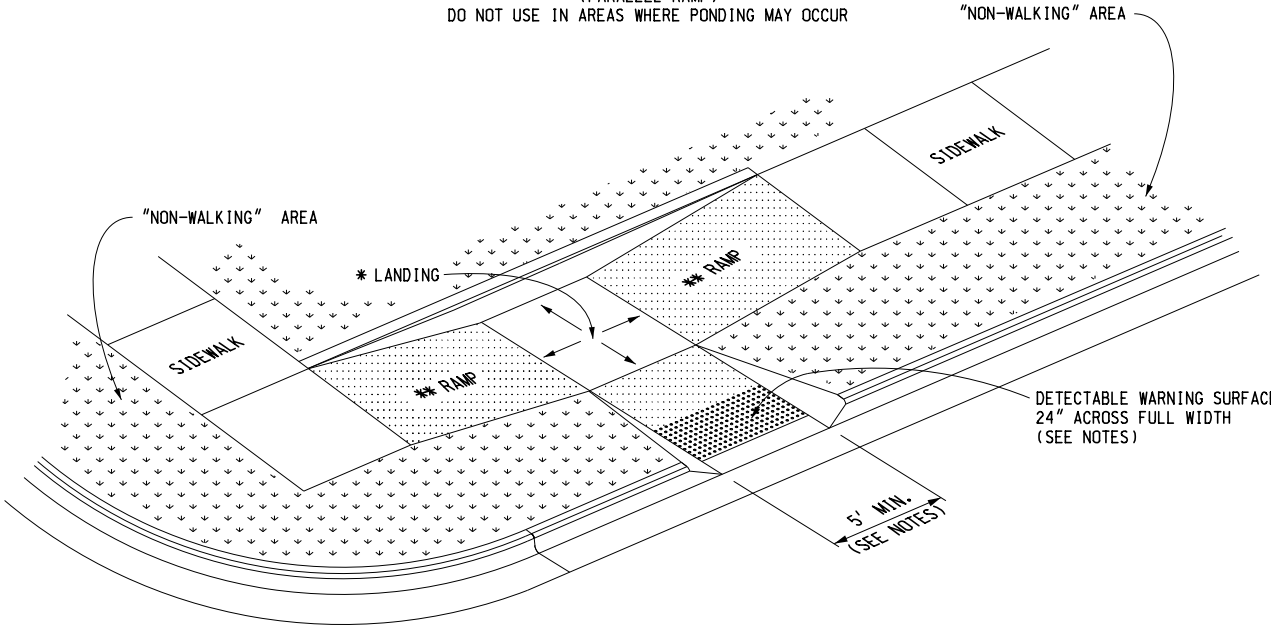
* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



CURB RAMP TYPE P

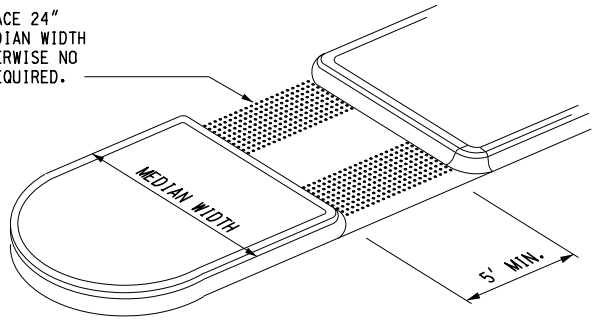
(PARALLEL RAMP)
DO NOT USE IN AREAS WHERE PONDING MAY OCCUR



CURB RAMP TYPE C

(COMBINATION RAMP)

DETECTABLE WARNING SURFACE 24" ACROSS FULL WIDTH IF MEDIAN WIDTH IS AT LEAST 6'-0". OTHERWISE NO DETECTABLE WARNING IS REQUIRED.



CURB RAMP TYPE M

(MEDIAN ISLAND)

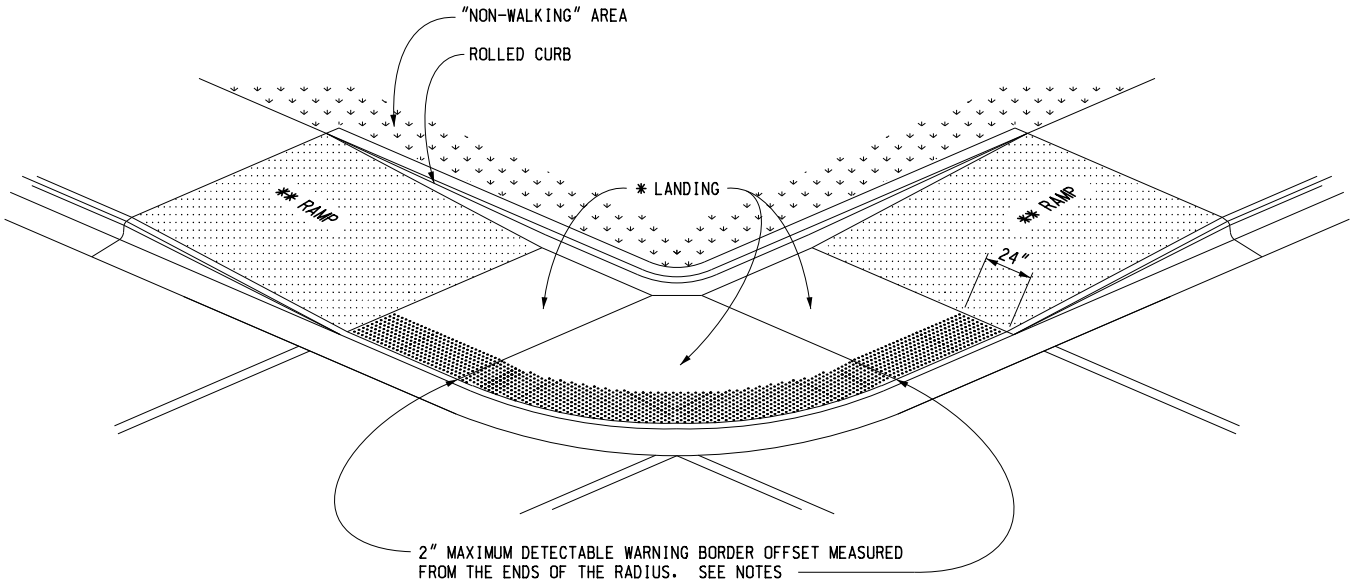
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

CURB RAMP AND DETECTABLE WARNING DETAILS

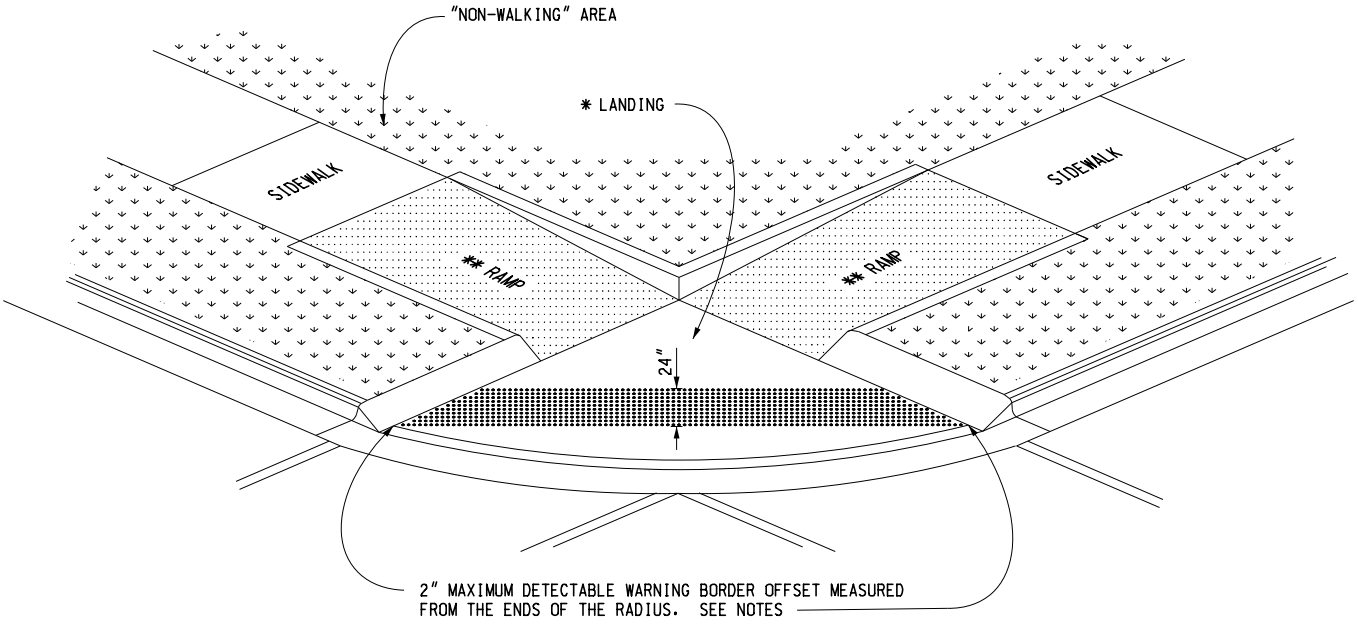
F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 3 OF 7

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. LANDING MINIMUM DIMENSIONS 5′ x 5′. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% – 7% (8.3% MAXIMUM). SEE NOTES.



(RADIAL DETECTABLE WARNING SHOWN)



(TANGENT DETECTABLE WARNING SHOWN)

CURB RAMP TYPE D

(DEPRESSED CORNER)

USE ONLY WHEN INDEPENDENT DIRECTIONAL RAMPS CAN NOT BE CONSTRUCTED FOR EACH CROSSING DIRECTION

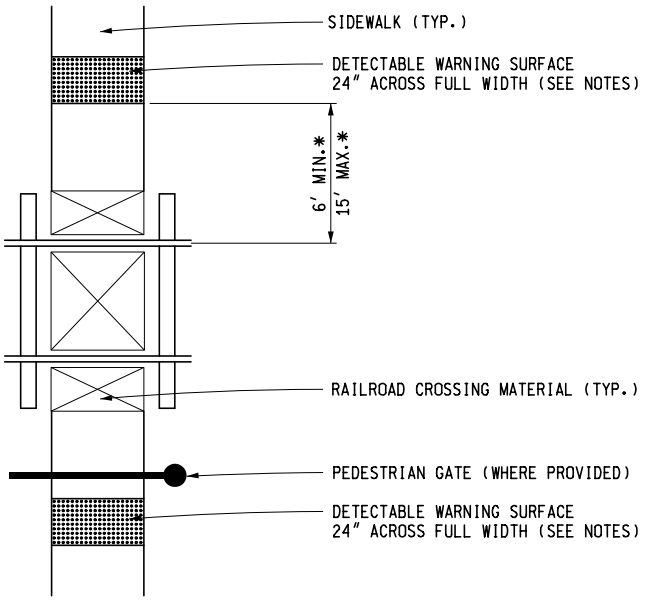
MICHIGAN DEPARTMENT OF TRANSPORTATION

BUREAU OF DEVELOPMENT STANDARD PLAN FOR

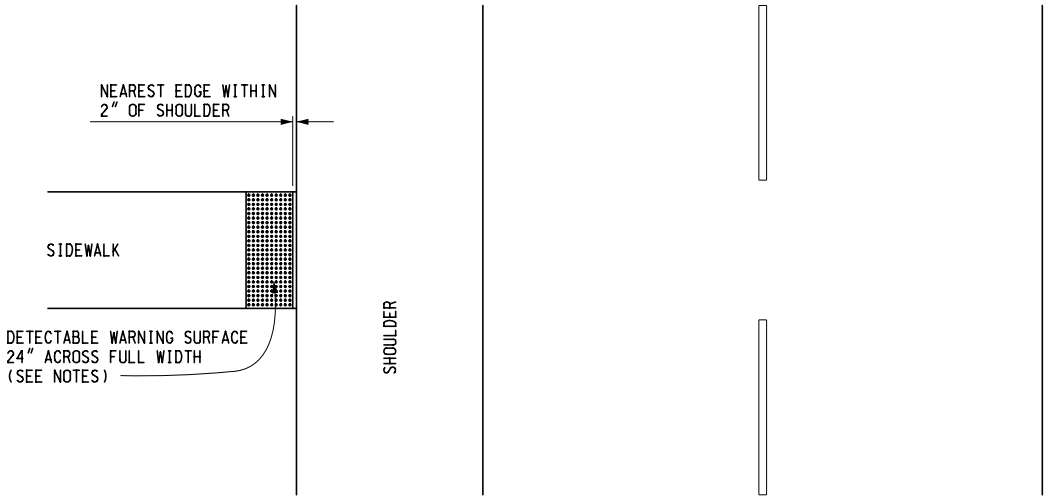
CURB RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 4 OF 7

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



DETECTABLE WARNING AT RAILROAD CROSSING

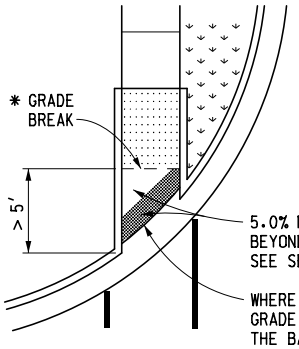


DETECTABLE WARNING AT FLUSH SHOULDER OR ROADWAY

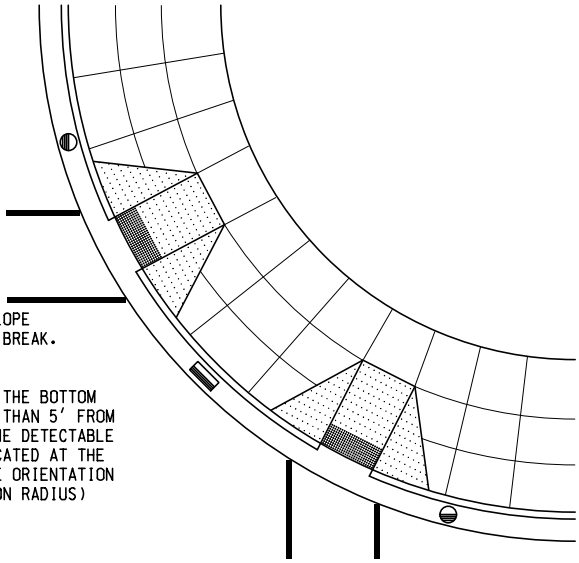
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

CURB RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 5 OF 7



CURB RAMP LOCATED IN RADIUS (TYPE R SHOWN)
(GRADE BREAK OFFSET GREATER THAN 5')

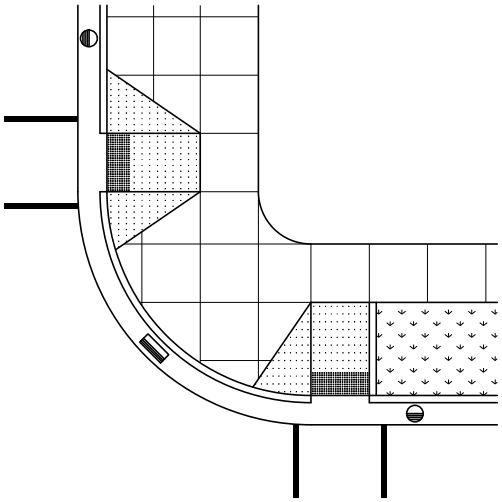


CURB RAMP PERPENDICULAR TO RADIAL CURB (TYPE F SHOWN)

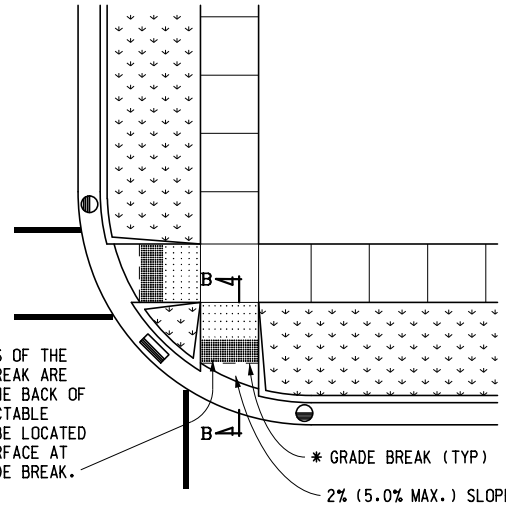
(USE WITH RADIAL CURB WHEN THE CROSSWALK AND CURB RAMP ARE NOT ALIGNED)

LEGEND

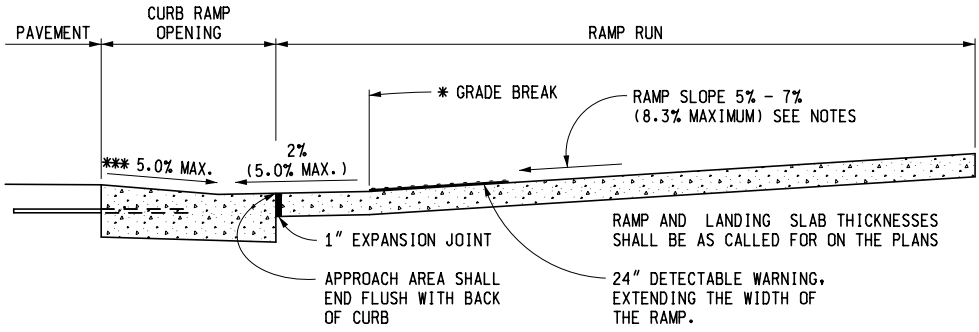
- SLOPED SURFACE
- DETECTABLE WARNING
- "NON-WALKING" AREA
- CROSSWALK MARKING
- PREFERRED LOCATION OF DRAINAGE INLET (TYP.)
- ALTERNATE LOCATION OF DRAINAGE INLET (TYP.)



CURB RAMP PERPENDICULAR TO TANGENT CURB
(TYPE F AND TYPE RF SHOWN)



CURB RAMP LOCATED IN RADIUS (TYPE R SHOWN)
(GRADE BREAK OFFSET LESS THAN 5')



* GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS SHALL BE PERPENDICULAR TO THE DIRECTION OF TRAVEL.

*** TRANSITION ADJACENT GUTTER PAN CROSS SECTION TO PROVIDE 5.0% MAXIMUM COUNTER SLOPE ACROSS THE RAMP OPENING.

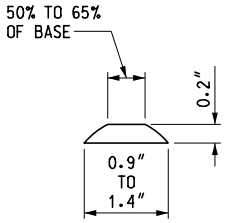
SEE SHEET 2 FOR CURB RAMP OPENING DETAILS.

SECTION B-B
CURB RAMP ORIENTATION

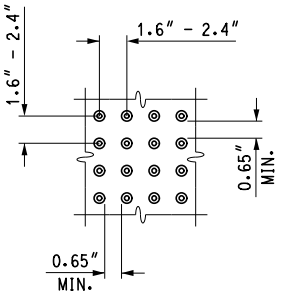
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

CURB RAMP AND DETECTABLE WARNING DETAILS

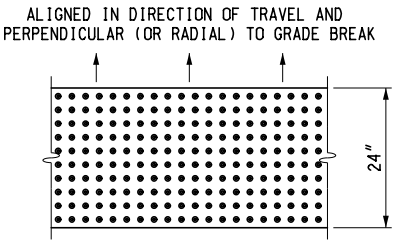
F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 6 OF 7



DOME SECTION



DOME SPACING



DOME ALIGNMENT

DETECTABLE WARNING DETAILS

NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS IN THE PUBLIC RIGHT OF WAY.

CURB 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 MARKED AND/OR SIGNALIZED MID-BLOCK CROSSINGS.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROOMING, 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 SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

WHEN 5′ MINIMUM WIDTHS ARE NOT PRACTICABLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4′ AND LANDINGS TO NOT LESS THAN 4′ x 4′.

CURB RAMPS WITH A RUNNING SLOPE ≤5% DO NOT REQUIRE A TOP LANDING. HOWEVER, ANY CONTINUOUS SIDEWALK OR PEDESTRIAN ROUTE CROSSING THROUGH OR INTERSECTING THE CURB RAMP MUST INDEPENDENTLY MAINTAIN A CROSS SLOPE NOT GREATER THAN 2% PERPENDICULAR TO ITS OWN DIRECTION(S) OF TRAVEL.

DETECTABLE WARNING SURFACE COVERAGE IS 24" MINIMUM IN THE DIRECTION OF RAMP/PATH TRAVEL AND THE FULL WIDTH OF THE RAMP/PATH OPENING EXCLUDING CURBED OR FLARED CURB TRANSITION AREAS. A BORDER OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING IS ALLOWABLE. FOR RADIAL CURB THE OFFSET IS MEASURED FROM THE ENDS OF THE RADIUS.

FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2.0%. FOR ALTERATIONS 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 8.3% IS RELATIVE TO A FLAT (0%) REFERENCE. HOWEVER, IT SHALL NOT REQUIRE ANY RAMP OR SERIES OF RAMPS TO EXCEED 15 FEET IN LENGTH NOT INCLUDING LANDINGS OR TRANSITIONS.

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 MANUFACTURER'S ADA COMPLIANT GRATE. OPENINGS SHALL NOT BE GREATER THAN ½". ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.

CROSSWALK 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 ON UNIFORM TRAFFIC CONTROL DEVICES".

FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE ROADSIDE CURB LINE, SHALL BE PROVIDED WHERE AN UNOBSTRUCTED CIRCULATION PATH LATERALLY CROSSES THE CURB RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE RAMP IS BORDERED BY LANDSCAPING, UNPAVED 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.

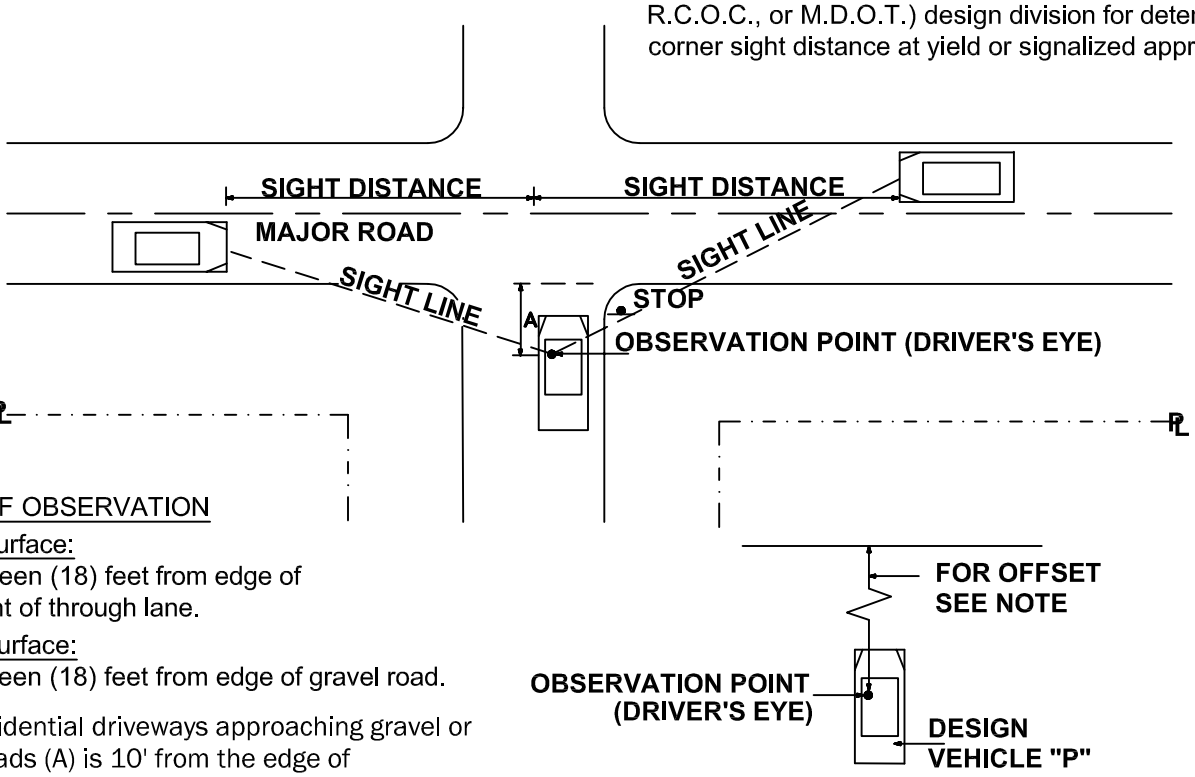
DETECTABLE WARNING PLATES MUST BE INSTALLED USING FABRICATED OR FIELD CUT UNITS CAST AND/OR ANCHORED IN THE PAVEMENT TO RESIST SHIFTING OR HEAVING.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

CURB RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 7 OF 7

Different sight distances are required for yield or signal controlled intersections. Contact road agency's (City, R.C.O.C., or M.D.O.T.) design division for determining corner sight distance at yield or signalized approaches.



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 facia speed shall be used for gravel roads, unless otherwise approved by the Engineer.

NOTES

1. 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.
2. This design guide also applies to new Permit and Plat construction projects.
3. 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 distanced required. Right turn onto major roads shall have the same sight distances.
4. Existing site conditions may require an engineering study to determine sight distance.

CITY OF ROCHESTER HILLS
STANDARD DETAIL FOR:

Sight Distance Roadways

DRAWN BY:	FILE NAME:	PLAN DATE:	REV.	REV.	REV.
B. SMITH	CIRC DRV	8/28/1996	4/12/2012	3/15/2014	

APPROVED BY:
PAUL SHUMEJKO, P.E., PTOE
CITY TRANSPORTATION ENGINEER

NOT TO SCALE

SHEET 1 OF 2

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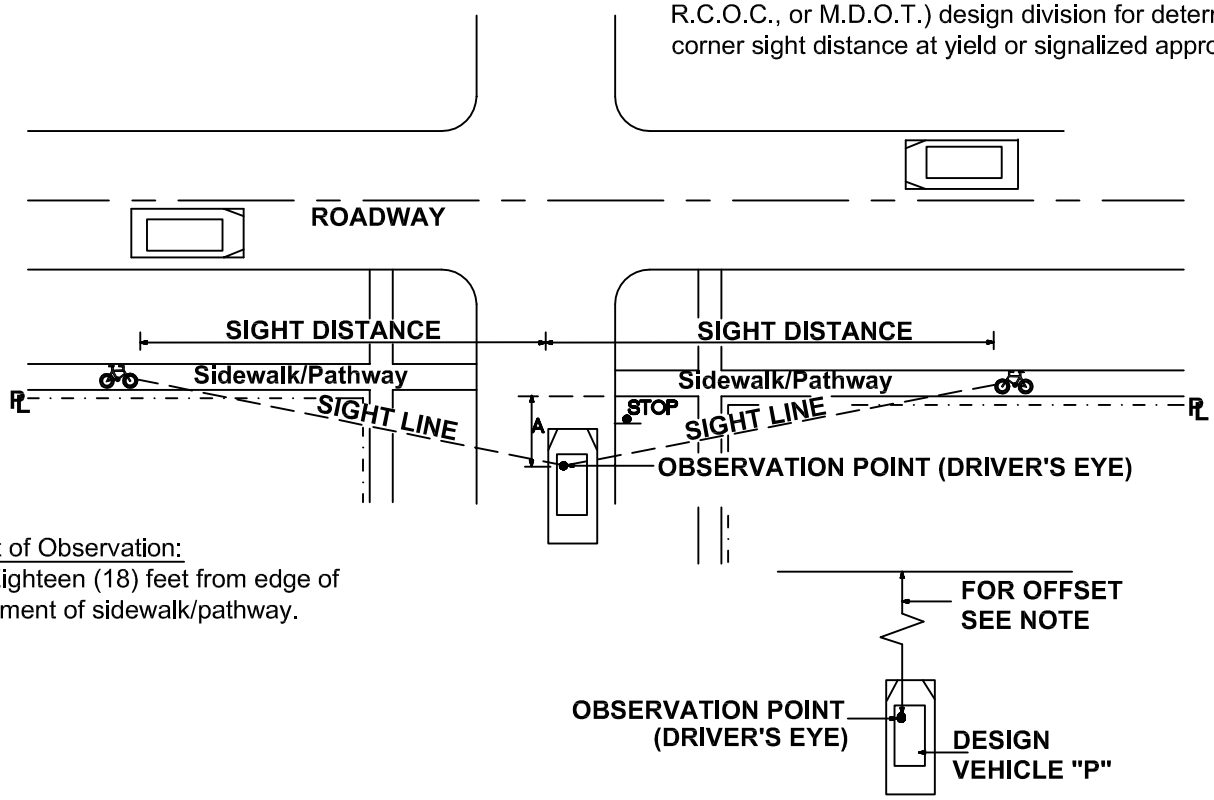
Different sight distances are required for yield or signal controlled intersections. Contact road agency's (City, R.C.O.C., or M.D.O.T.) design division for determining corner sight distance at yield or signalized approaches.



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

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 STREETS AT INTERSECTIONS	
PATHWAY GRADE APPROACHING INTERSECTION (%)	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

1. 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.
2. This design guide also applies to new Permit and Plat construction projects.
3. The bicycle design speed used in the chart is 18 MPH.
4. Approach pathway slope greater than 8% is not allowed due to ADA compliance.
5. Existing site conditions may require an engineering study to determine sight distance.

CITY OF ROCHESTER HILLS
STANDARD DETAIL FOR:
Sight Distance Pathways

ROCHESTER HILLS MICHIGAN

DRAWN BY:	FILE NAME:	PLAN DATE:	REV.	REV.	REV.
B. SMITH	CIRC DRV	8/28/1996	4/12/2012	3/15/2014	

APPROVED BY:
PAUL SHUMEJKO, P.E., PTOE
CITY TRANSPORTATION ENGINEER

NOT TO SCALE

SHEET 2 OF 2

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Irrigation overspray shall not broadcast onto City pathway.