

GRAND TRAVERSE COUNTY ROAD COMMISSION

GTCRC NO: 21E003

4 MILE ROAD/HAMMOND ROAD ROUNDABOUT 4 MILE ROAD WATER & SANITARY SEWER EXTENSIONS EAST BAY TOWNSHIP

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SCALE
 FULL SIZE (22"x34") HALF SIZE (11"x17")
 PLAN SHEET 1"=30 FT. PLAN SHEET 1"=60 FT.
 PROFILE HOR. 1"=30 FT. PROFILE HOR. 1"=60 FT.
 VER. 1"= 3 FT. VER. 1"= 6 FT.

GENERAL PROVISIONS

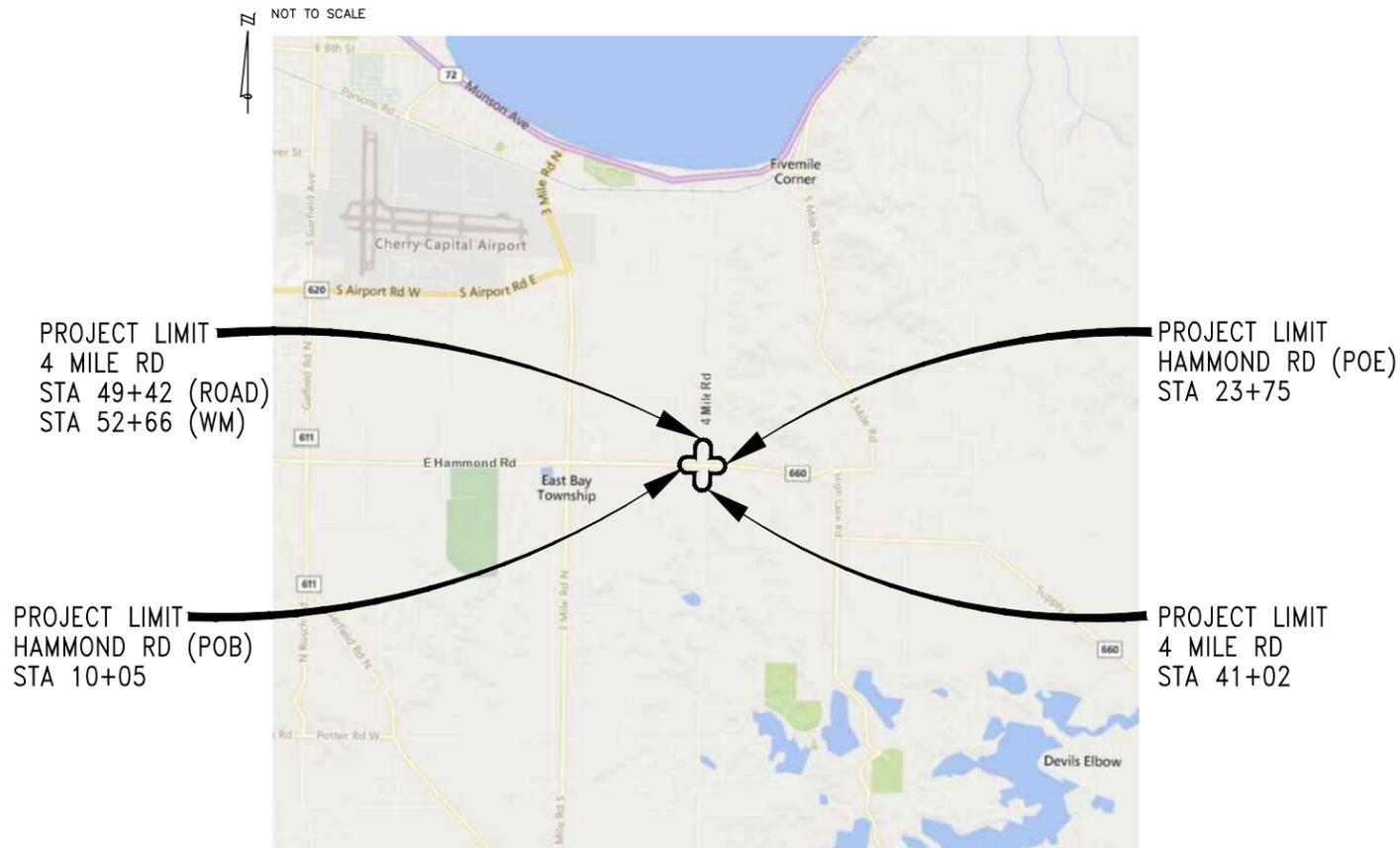
THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE PROPOSAL AND ACCOMPANYING SPECIFICATIONS FOR THIS PROJECT INCLUDING THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND A.A.S.H.T.O.; A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 2011.

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 BOARD OF ROAD COMMISSIONERS FOR GRAND TRAVERSE COUNTY WILL NOT BE RESPONSIBLE FOR ANY OMISSION OR VARIATIONS FROM THE LOCATIONS SHOWN. PURSUANT TO ACT 53 OF THE PA OF 1974 AS A CONDITION OF THIS CONTRACT, A MINIMUM 3 DAYS NOTICE, SHALL BE GIVEN TO MISS DIG PRIOR TO UNDERGROUND WORK TO BE PERFORMED IN ACCORDANCE WITH THIS CONTRACT. PHONE (800)-482-7171 OR (800)-482-7161 OR 811.

THE GRAND TRAVERSE COUNTY ROAD COMMISSION, AS AN AUTHORIZED PUBLIC AGENCY UNDER THE EROSION AND SEDIMENTATION CONTROL PROGRAM-PUBLIC ACT 347, HAS PROVIDED FOR EROSION AND SEDIMENTATION CONTROL BY MEANS OF SODDING, SEEDING AND OTHER METHODS. THE ROAD COMMISSION WILL MAINTAIN THESE FACILITIES UPON COMPLETION OF THE CONTRACT.

THE DATUMS FOR PLANS ARE BASED ON - HORIZONTAL: LOCAL
 - VERTICAL: NAVD88



GRAND TRAVERSE COUNTY ROAD COMMISSION

PROJECT NO. 21E003 CITY/TWP EAST BAY TOWNSHIP
 LOCATION 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 CONTRACT FOR RECONSTRUCTION OF 0.42 MILES OF ROADWAY INCLUDING ASPHALT PAVEMENT, CURB & GUTTER, SHOULDERS, STORM SEWER, SANITARY SEWER, WATER MAIN, PAVEMENT MARKINGS, SIGNING AND ROUNDABOUT CONSTRUCTION AT THE INTERSECTION OF 4 MILE ROAD AND HAMMOND ROAD.

TRAFFIC DATA

	TOTAL A.D.T.		% COMMERCIAL	DESIGN SPEED	POSTED SPEED
	2020	2040			
4 MILE ROAD	6,150	7,055	5.9%	25 MPH	UNPOSTED
HAMMOND ROAD	13,600	15,600	3.2%	25 MPH	UNPOSTED

BOARD OF COUNTY ROAD COMMISSIONERS

- WILLIAM D. MOUSER - CHAIRMAN
- JASON GILLMAN - VICE CHAIRMAN
- CARL J. BROWN - COMMISSIONER
- ALAN LEMAN - COMMISSIONER
- JOE UNDERWOOD - COMMISSIONER

BRAD KLUCZYNSKI - MANAGING DIRECTOR

ROAD PREPARED UNDER THE SUPERVISION OF:

GTCRC APPROVAL:



John R. Katers 2/22/21
 JOHN R. KATERS, PE
 ORCHARD, HILTZ, AND MCMULLEN, INC. DATE



Wayne Schoonover
 Mar 23 2021 5:09 PM
 WAYNE A. SCHOONOVER, PE
 GRAND TRAVERSE COUNTY
 ROAD COMMISSION DATE

EAST BAY TWP WATER MAIN AND SANITARY SEWER
 UTILITY PLANS PREPARED UNDER THE SUPERVISION OF:



Brian Sousa 3-24-21
 BRIAN SOUSA, PE
 WADE TRIM ASSOCIATES, INC. DATE

REVISIONS DESCRIPTION	RECOMMENDED FOR APPROVAL		APPROVED	
	BY	DATE	BY	DATE



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
- 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
- XX PARCEL NUMBER BOX
- NO ROW IMPACTS

MISCELLANEOUS UTILITY SYMBOLS

EXISTING

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

PROPOSED

- ROADWAY LIGHT POLES
- PEDESTRIAN LIGHT POLES
- HAWK SIGNAL POLES W/LIGHT

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 UNDERGROUND GAS & ELECTRICAL LINES

CAUTION - CRITICAL UNDERGROUND UTILITY USED WITH TELEPHONE & FIBER OPTIC LINES

PROPOSED

- RIPRAP
- SIGN
- FLOW DIRECTION
- STRUCTURE NUMBER
WM SAN STM
- DETECTABLE WARNING SURFACE
- SOIL EROSION CONTROL ITEM

UTILITY PATTERN

EXISTING

- 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
- CONDUIT

*OH = OVERHEAD , UG = UNDERGROUND

ROW PATTERN

- ROW ROW
- PROPERTY/PARCEL
- HIGHWAY EASEMENT
- TEMPORARY EASEMENT

TOPO PATTERN

EXISTING

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

PROPOSED

- GRADING LIMIT (SLOPE STAKE)
- CENTERLINE OF DITCH
- FENCE
- EDGE OF GRAVEL

REMOVAL LEGEND

- SIDEWALK, REM
- HMA SURFACE, REM
- PAVT, REM
- CURB AND GUTTER, REM
FENCE, REM
- TREE, REM
- S-XXXXXX SALVAGE
- B-XXXXXX BULKHEAD
- A-XXXXXX ABANDON
- R-XXXXXX REMOVE
- R/C-XXXXXX REMOVE, PAID AS CLEARING
- ADJ-XXXXXX ADJUST
- REL-XXXXXX RELOCATE
- REC-XXXXXX RECONSTRUCT
- R B/O-XXXXXX REMOVE BY OTHERS
- ADJ B/O-XXXXXX ADJUST BY OTHERS
- REL B/O-XXXXXX RELOCATE BY OTHERS

IF NECESSARY FOR CLARITY

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

OHM
ARCHITECTS ENGINEERS PLANNERS
300 East Mitchell St., Suite 2
Petoskey, MI 49770
P (231) 344-1150
OHM-ADVISORS.COM

DATE: 3/30/2021 PROJ NUMBER: 737-28-010 BA: ENG PROJ MGR: JK CAD: JM COUNTY: GRAND TRAVERSE CITY/VILLAGE/TOWNSHIP: EAST BAY TOWNSHIP SCALE: H: 1"=40' V: 1"=4' LOCAL: 1"=40'

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
LEGEND

DRAWING PATH: P:\7301_7400\737-28\010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Misc4_Mile_Hammond\20010LEG.dwg Mar 30, 2021 - 10:25pm

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GENERAL PROVISIONS

THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 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 HIS/HER 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 NOT ENTER UPON PRIVATE PROPERTY FOR ANY PURPOSE WITHOUT OBTAINING WRITTEN PERMISSION, AND HE/SHE SHALL BE RESPONSIBLE FOR PRESERVATION OF ALL PUBLIC PROPERTY, TREES, MONUMENTS, ETC. ALONG AND ADJACENT TO THE STREET AND/OR RIGHT OF WAY, AND SHALL USE EVERY PRECAUTION NECESSARY TO PREVENT DAMAGE OR INJURY THERETO. HE/SHE SHALL USE SUITABLE PRECAUTIONS TO PREVENT DAMAGE TO PIPES, CONDUITS, AND OTHER UNDERGROUND STRUCTURES AND SHALL PROTECT CAREFULLY FROM DISTURBANCE OR DAMAGE ALL MONUMENTS AND PROPERTY MARKERS UNTIL THE ENGINEER OR AUTHORIZED AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION AND SHALL NOT REMOVE THEM UNTIL DIRECTED.

THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE LOCAL FIRE AND POLICE DEPARTMENTS 24 HOURS IN ADVANCE OF PROPOSED ROAD CLOSURES.

THE CONTRACTOR AND/OR HIS/HER SUBCONTRACTOR SHALL NOTIFY "MISS DIG", LOCAL SEWER, FIRE AND POLICE DEPARTMENTS 72 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.

UTILITIES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL DIAL 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THIS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE FOLLOWING UTILITY COMPANIES HAVE FACILITIES WITHIN THE PROJECT LIMITS:

UTILITY	OWNER	CONTACT
Gas	DTE	Larry Bourke 231-592-3244(O) 231-349-2364(M) lawrence.bourke@dteenergy.com
Electric	Consumers Energy – Electric 821 Hastings Street Traverse City, MI	Doug DeYoung 231-929-6234(O) 231-649-4096(E) Douglas.Deyoung@cmsenergy.com
Electric	Cherryland Electric Cooperative 5930 US 31, PO Box 298 Grawn, MI 49637	Frank Slepker 231-486-9220(O) 231-649-4492(M) FSlepker@cherrylandelectric.coop
Electric	Traverse City Light and Power 1131 Hastings St Traverse City, MI 49686	Tony Chartrand 231-932-4562 tchartrand@tcip.org
Telecom	AT&T 205 E Harris St Cadillac, MI 49601	Jeff Shuster 231-779-8451(O) 231-510-1381(M) Js9865@att.com
Telecom	Grand Traverse Band Fiber	Steve Marth 231-534-7179(O) Steve.Marth@GTBIndians.com
Telecom	Charter Communications	James Lucas 231-463-5984 James.lucas@charter.com
Road and Storm Sewers	Grand Traverse County Road Commission 1881 LaFranier Road Traverse City, MI 49696	Wayne Schoonover, PE 231-922-4848 x216 wschoonover@gtcr.org
Water Main & Sanitary Sewer	Wade Trim (Engineer for East Bay Township) 10850 East Traverse Highway, Suite 2260 Traverse City, MI 49684	Brian Sousa, PE 231-947-7400(O) 231-878-0144(M) BSOUSA@WadeTrim.com
Traffic Signals	Consumers Energy 821 Hastings St Traverse City, MI 49686	Kimberly Ulom 231-932-6335(O) Kimberly.Ulom@cmsenergy.com

THE UTILITY LOCATIONS AS HEREON SHOWN ARE BASED ON FIELD OBSERVATIONS AND A CAREFUL REVIEW OF MUNICIPAL AND UTILITY RECORDS. HOWEVER, IT IS NOT POSSIBLE TO DETERMINE THE PRECISE SIZE, LOCATION, DEPTH, PRESSURE, OR ANY OTHER CHARACTERISTICS OF UNDERGROUND UTILITIES, TANKS OR SEPTIC FIELDS WITHOUT EXCAVATION. THEREFORE, WE CANNOT GUARANTEE THE ACCURACY OF COMPLETENESS OF THE BURIED UTILITY INFORMATION HEREON SHOWN. THE CONTRACTOR SHALL CALL MISS DIG (1-800-482-7171) A MINIMUM OF THREE WORKING DAYS PRIOR TO ANY EXCAVATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THESE UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND MAKE EVERY EFFORT TO PROTECT AND/OR RELOCATE THEM AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER/SURVEYOR AS SOON AS POSSIBLE IN THE EVENT A DISCREPANCY IS FOUND.

THE UTILITIES AND THEIR LOCATIONS ARE SHOWN ON THE PLANS ARE DEEMED ACCURATE BUT NOT GUARANTEED. THE CONTRACTOR SHALL CALL MISS DIG 3 WORKING DAYS BEFORE BEGINNING WORK.

GAS FACILITIES SHALL BE PROTECTED AND SUPPORTED PER THE FACILITIES OWNER STANDARDS.

THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.

THE CONTRACTOR SHALL BE AWARE OF AND USE CAUTION WHEN WORKING NEAR UNDERGROUND OR OVERHEAD LINES OF ALL UTILITIES WITHIN THE PROJECT AREA.

MAINTAINING TRAFFIC/TRAFFIC CONTROL

THE CONSTRUCTION INFLUENCE AREA (CIA) SHALL CONSIST OF THE WIDTH OF THE PROPOSED RIGHT-OF-WAY FROM THE PROJECT POINT OF BEGINNING TO THE POINT OF ENDING AND A SUFFICIENT DISTANCE BEFORE AND AFTER THE PROJECT TO WARN MOTORISTS OF THE CONSTRUCTION AHEAD.

THROUGH TRAFFIC WILL BE MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE SPECIAL PROVISION FOR "MAINTAINING TRAFFIC" IN THE PROPOSAL.

THE CONTRACTOR SHALL CONDUCT HIS/HER OPERATIONS IN SUCH A MANNER THAT LOCAL TRAFFIC AND EMERGENCY VEHICLES SHALL HAVE ACCESS WITHIN THE PROJECT AT ALL TIMES IN A MANNER APPROVED BY THE ENGINEER. THIS SHALL BE INCLUDED IN THE COST OF THE PROJECT.

AS DIRECTED BY THE ENGINEER, AGGREGATE TO MAINTAIN TRAFFIC ALONG THE PROJECT, DRIVEWAYS, AND STREET APPROACHES WILL BE PAID FOR AS Maintenance Gravel.

SOIL BORINGS AND/OR PAVEMENT CORES

THE SOIL BORING LOGS AND/OR PAVEMENT CORES REPRESENT POINT INFORMATION. NO INFERENCE SHOULD BE MADE THAT SUBSURFACE OR PAVEMENT CONDITIONS ARE THE SAME AT OTHER LOCATIONS.

PAVEMENT REMOVAL QUANTITIES

PAVEMENT REMOVAL AS SHOWN ON THE PLANS WILL BE AT THE DISCRETION OF THE ENGINEER. IF IN HIS/HER JUDGEMENT, AREAS OF PAVEMENT MAY BE LEFT IN PLACE, OR ADDITIONAL AREAS ADDED TO PROVIDE THE PROPER CROSS-SECTION AND BASE, CHANGES WILL BE MADE TO THE QUANTITIES.

SOIL EROSION MEASURES

APPROPRIATE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EARTH-DISTURBING ACTIVITIES. PLACE TURF ESTABLISHMENT ITEMS AS SOON AS POSSIBLE ON POTENTIAL ERODABLE SLOPES AS DIRECTED BY THE ENGINEER. PERMIT MUST BE ACQUIRED BY THE CONTRACTOR THROUGH THE CITY.

ALL SOIL EROSION AND SEDIMENTATION MUST BE CONTROLLED AND CONTAINED ON SITE.

SOIL EROSION AND SEDIMENTATION CONTROL: IN ADDITION TO THE GENERAL SOIL EROSION AND SEDIMENTATION CONTROL REQUIREMENTS IN THE PROPOSAL, THE FOLLOWING MEASURES SHALL BE INCORPORATED INTO THIS PROJECT:

- THE CONTRACTOR SHALL CONDUCT HIS/HER OPERATIONS IN SUCH A MANNER AS TO MINIMIZE THE AREAS LEFT BARREN DURING CONSTRUCTION AND TO DISTURB ONLY THOSE AREAS ABSOLUTELY REQUIRED FOR THE CONSTRUCTION OF THE PROJECT.
- EROSION CONTROL ITEMS SHALL BE INSTALLED AND MAINTAINED ACCORDING TO THE MDOT STANDARD PLANS AND SHALL BE REMOVED WHEN THEY ARE NO LONGER EFFECTIVE AS DETERMINED BY THE ENGINEER. NO SEPARATE PAYMENT SHALL BE ALLOWED FOR EITHER MAINTENANCE OR REMOVAL OF THE EROSION CONTROL ITEMS.
- THE CONTRACTOR SHALL REMOVE SEDIMENT COLLECTED IN STORM SEWERS AND DRAINAGE STRUCTURES CONSTRUCTED WITH THE PROJECT WHEN SUCH SEDIMENT EXCEEDS 1/2 OF THE SUMP DEPTH. THE ENGINEER WILL INSPECT SUMPS AFTER STORMS AND DIRECT THE CONTRACTOR TO CLEAN OUT TO PROVIDE FOR SEDIMENT COLLECTIONS. CLEANING SUMPS FOR SEDIMENTATION CONTROL SHALL NOT BE PAID FOR SEPARATELY.
- THE CITY SHALL FOLLOW ALL ENTITIES HAVING JURISDICTION FOR SOIL EROSION AND SEDIMENTATION CONTROL FOR ALL MATERIALS DISPOSED OF OFF THE PROPERTY.

ALL AREAS DISTURBED BY THE CONTRACTOR AND/OR HIS/HER SUBCONTRACTOR BEYOND THE GRADING LIMITS OF THIS PROJECT SHALL BE RESTORED WITH THE USE OF SOD OR HYDROSEED AS DIRECTED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS ACTIVITY.

IRRIGATION SYSTEMS/SPRINKLERS

SPRINKLER SYSTEMS WITHIN THE PROJECT LIMITS, OR IMPACTED BY THE WORK OF THIS CONTRACT, SHALL BE REPAIRED WITH AT LEAST EQUAL QUALITY MATERIALS AND WORKMANSHIP, TO A FUNCTIONING CONDITION AT LEAST AS GOOD AS EXISTED PRIOR TO THE BEGINNING OF THE PROJECT.

FOR THE CONTRACTOR TO BE REIMBURSED FOR IRRIGATION/SPRINKLER SYSTEM REPAIRS, BEFORE ANY CONTRACT WORK BEGINS, CONTRACTOR SHALL ARRANGE A WALK-THROUGH WITH THE PROPERTY OWNER OR DESIGNATED REPRESENTATIVE, ACCOMPANIED BY THE PROJECT ENGINEER OR INSPECTOR, FOR EACH ADJACENT PROPERTY, FOR THE PURPOSE OF DETERMINING AND EVALUATING THE EXISTING SPRINKLER SYSTEM DESIGN (LOCATION AND TYPES OF LINES, HEADS, VALVES, CONTROLLERS) AND ITS FUNCTIONALITY AND INTEGRITY.

IRRIGATION/SPRINKLER SYSTEM DESIGN INFORMATION SHALL BE DOCUMENTED BY THE CONTRACTOR WITH SKETCHES, DRAWINGS AND NARRATIVE, AND SHALL BE SUBMITTED TO AND USED BY THE PROJECT ENGINEER TO VERIFY NEED AND APPROVE ANY REPAIRS TO THE SYSTEM AND SUBSEQUENT PAYMENT.

NO PAYMENT SHALL BE MADE FOR REPAIRS NOT DEEMED NECESSARY AND APPROVED BY THE PROJECT ENGINEER AS A RESULT OF THIS WALK-THROUGH AND EVALUATION PROCESS. FAILURE OF THE CONTRACTOR TO FULFILL THESE REQUIREMENTS WILL CAUSE THE PROJECT ENGINEER TO MAKE THE REPAIRS AND CHARGE THE FULL COST TO THE CONTRACTOR AS A CONTRACT ADJUSTMENT.

SPRINKLER HEADS SHALL NOT BE COVERED WHEN PLACING TOPSOIL AND SOD.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY THE CONTRACTOR OR CONTRACTOR OPERATIONS TO SPRINKLER SYSTEMS OUTSIDE THE PROJECT LIMITS OR SLOPE STAKE LINE.

ILLICIT CONNECTIONS TO STORM WATER SYSTEM

CONNECTIONS TO EXISTING STORM CONVEYANCE SYSTEMS NOT SHOWN ON THE PLANS MUST BE RECONNECTED WITH MINIMAL INTERRUPTION IN SERVICE. SIZE, TYPE AND LOCATION BY STATION AND OFFSET AND ANY SUSPECT ILLICIT DISCHARGE OBSERVED SHALL BE REPORTED TO THE ENGINEER PRIOR TO RECONNECTING. CONTRACTOR SHALL PROCEED AS DIRECTED BY THE ENGINEER.

PAVING

CONSTRUCTION JOINTS AT EXISTING SURFACES SHALL BE BUTT JOINTS. FEATHERED JOINTS WILL NOT BE ALLOWED. COST FOR PERFORMING THIS WORK IS INCLUDED IN HMA, 4E3 AND HMA, 5E3.

ALL HMA QUANTITIES INCLUDE INTERSECTION WORK, PAYMENT FOR INTERSECTION APPROACH WORK WILL NOT BE PAID FOR SEPARATELY.

MISCELLANEOUS

RUBBISH COLLECTION SHALL NOT BE INTERFERED WITH BY CONTRACTOR'S OPERATIONS. IF ACCESS TO CERTAIN AREAS IS BLOCKED BY CONTRACTOR OPERATIONS, HE/SHE SHALL TRANSPORT THE RUBBISH THEMSELVES TO A LOCATION ACCESSIBLE TO COLLECTION CREWS.

REPLACING AND ADJUSTING MONUMENT BOXES

ALL GOVERNMENT CORNERS ON THIS PROJECT SHALL BE PRESERVED WHETHER SHOWN OR NOT. IT MAY BE NECESSARY TO PLACE OR ADJUST MONUMENT BOXES AS REQUIRED. WORK FOR ADJUSTING, REPLACING AND/OR PLACING NEW MONUMENTS SHALL BE COMPLETED IN ACCORDANCE WITH MDOT STANDARDS AND WILL BE PAID FOR BY THE ASSOCIATED CONTRACT ITEM.

SIGN REMOVAL

SIGNS TO BE REMOVED ARE SHOWN ON THE REMOVAL SHEETS, AND ARE PAID FOR BY THE STANDARD ITEM Sign, Type ____ Rem

PROPOSED SIGN LOCATIONS

PROPOSED SIGN LOCATIONS ARE SHOWN ON THE PLANS AS APPROXIMATE LOCATIONS ONLY. ACTUAL SIGN LOCATIONS WILL BE DETERMINED AND STAKED BY THE ENGINEER PRIOR TO PLACEMENT. CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO SIGN INSTALLATION OPERATIONS TO ASSURE PROPOSED LOCATIONS HAVE BEEN STAKED.

SAWCUTTING

PAYMENT FOR SAWCUTTING REQUIRED THROUGHOUT THIS PROJECT SHALL BE INCLUDED IN REMOVAL ITEMS AND WILL NOT BE PAID FOR SEPARATELY.

SUBGRADE UNDERCUTTING

AREAS AS DETERMINED BY THE ENGINEER TO BE UNDERCUT SHALL BE BACKFILLED WITH MATERIAL AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH MDOT'S 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE SPECIAL PROVISIONS FOR Subgrade Undercutting, Type II, Modified. GROUND STABILIZING MATS MAY BE USED AS DIRECTED BY THE ENGINEER TO FURTHER STABILIZE UNDERCUTTING AREAS IN ACCORDANCE WITH THE SPECIAL PROVISION FOR Biaxial Geogrid.

SIGNAL EQUIPMENT DISPOSAL

DISPOSAL OF ALL TRAFFIC SIGNAL EQUIPMENT IS INCLUDED IN THE REMOVAL PAY ITEMS AND SHALL ALSO INCLUDE THE FOLLOWING:

- NOTIFICATION TO GTRC THAT TRAFFIC SIGNAL EQUIPMENT IS BEING REMOVED.
- A WRITTEN AND PICTORIAL INVENTORY OF ALL SIGNAL EQUIPMENT PRIOR TO REMOVAL.
- REMOVAL OF THE FOLLOWING ELECTRONICS PRIOR TO CABINET REMOVAL
 - UPS UNIT AND BATTERIES
 - CONTROLLER
 - CONFLICT MONITOR
 - SPARE/LOOSE EQUIPMENT ON SHELVES
- TEMPORARY STORAGE OF ALL SIGNAL EQUIPMENT (INCLUDING AERIAL FIELD EQUIPMENT, POLES, SIGNAL HEADS, CABINET AND EQUIPMENT IN CABINET) IN A DUMPSTER ON SITE (OR AS DIRECTED BY THE ENGINEER) ALLOWING GTRC 48 HOURS TO SALVAGE ANY EQUIPMENT.
- PROPER DISPOSAL OF ALL REMAINING EQUIPMENT.

MISCELLANEOUS PAY ITEMS

THE FOLLOWING ITEMS OF WORK WILL NOT BE PAID FOR SEPARATELY AND ARE INCLUDED IN OTHER ITEMS OF WORK AND SHALL BE DONE AS REQUIRED BY THE ENGINEER.

INCLUDED IN EXCAVATION, EARTH:

- REMOVING TREES LESS THAN 3 INCH DIAMETER
- REMOVING SHRUBS AND BUSHES
- REMOVING WOOD BOLLARDS
- REMOVING HMA CURBS
- REMOVING EDGEDRAIN, UNDERDRAIN, FRENCH DRAINS, OR DRAINAGE TILE
- REMOVING, RESETTING, OR DISPOSING OF CONCRETE BUMPER BLOCKS OR WOODEN/CONCRETE RAILROAD TIES
- RELOCATING ORNAMENTAL ROCKS AND BOULDERS TO THE RIGHT-OF-WAY LINE
- REMOVING ABANDONED UTILITY CONDUIT AND INTERNAL COMPONENTS
- REMOVING GEOTEXTILE FABRIC
- REMOVING GEOGRID
- EXCAVATION, ROCK
- PROJECT CLEANUP

INCLUDED IN HMA PAY ITEMS:

- HMA BOND COAT

INCLUDED IN PAVEMENT OR CURB REMOVAL ITEMS:

- SAWING, FOR PAVEMENT AND CURB REMOVAL

INCLUDED IN CONCRETE ITEMS:

- CONCRETE ADMIXTURES

PROFILE NOTES

EDGE OF PAVEMENT (E/P) GRADES ARE GIVEN FOR CURB AND GUTTER SECTIONS AND PAVED SHOULDER SECTIONS. FOR CURB AND GUTTER SECTIONS (E/P) IS THE SAME AS THE EDGE OF METAL (E/M). CURB AND GUTTER ENDINGS TOO WILL RECEIVE CURB DROPS AS DETAILED IN THE PLANS.

WHEN END SECTIONS ARE SHOWN ON CULVERTS AND SEWER STUBS; STATION, OUT, AND INVERTS ARE GIVEN AT END SECTION LIP. THE CALL OUT FOR PIPE LENGTH AND PIPE GRADE ON PLAN OR PROFILE INCLUDES THE LENGTH OF THE END SECTION PER MDOT STANDARD PLANS. HOWEVER, ACTUAL PIPE PAY LENGTH SHALL DEDUCT THE "L" LENGTH OF THE END SECTION IN ACCORDANCE WITH MDOT STANDARD PLANS R-88 SERIES FOR STEEL END SECTION OR THE "D" LENGTH OF END SECTION IN ACCORDANCE WITH MDOT STANDARD PLAN R-86 SERIES FOR PRECAST CONCRETE END SECTION FOR PIPE CULVERT.

STATION AND OFFSET OF ALL DRAINAGE STRUCTURES ARE CALLED OUT AT CENTER OF COVER PER MDOT STANDARD PLAN OF COVER. ADJUST LOCATION OF BASE OF 48 INCH AND LARGER DIAMETER STRUCTURES TO HAVE CENTER OF TOP OF ECCENTRIC CONE AT PROPER LOCATION TO RECEIVE COVER AT STATION AND OUT SHOWN ON PLANS.

PROPOSED COVER ELEVATION ON EXISTING OR PROPOSED B AND G TYPE COVERS AS SHOWN OR DIRECTED BY THE ENGINEER TO MATCH ADJACENT PAVEMENT OR GROUND.

DRAINAGE STRUCTURES

STATION, OFFSETS, AND ELEVATIONS LISTED ON THE PLANS DEPICT THE LOWEST POINT OF THE STRUCTURE COVER. THE FOLLOWING OFFSET AND ELEVATION ADJUSTMENT FROM E/P TO THE LOW POINT HAVE ALREADY BEEN DETERMINED AND REFLECTED ON THE PLANS:

COVER TYPE	Δ ELEVATION (FEET)	Δ OFFSET (FEET)
TYPE J	-0.13	1.29

NOTE: ROUND STRUCTURE COVERS (I.E. TYPE B, G AND E) DO NOT HAVE ANY OFFSET ADJUSTMENT AND THE ELEVATIONS ARE TO THE RIM.



REVISIONS	DATE	DESCRIPTION

DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	CITY/TOWNSHIP	SCALE	V. 1"	H. 1"=40'	LOCAL	STATE	FEDERAL
3/30/2021	7371-040010	BA	JK	JM	GRAND TRAVERSE	EAST BAY TOWNSHIP						

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
GENERAL NOTES

DRAWING PATH: P:\7301_7400\7371\20010_GTRC_EW_Corridor_Roundabouts\Drawings\Civil\Misc4\Mike_Hammond\20010\DOT\ETE.dwg Mar 30, 2021 10:26pm

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DRAWING PATH: P:\2017_24007371200010_GTCRC_EW_Corridor_Roundabouts\Drawings\Civil\Miss4_Mile_Hammond\200010NOTE.dwg Mar 30, 2021 10:28pm

M.D.O.T. STANDARD PLANS AND SPECIAL DETAILS	
TITLE	PLAN NO.
ROAD	
DRAINAGE STRUCTURES	R-1-G
COVER B	R-7-F
COVER E	R-10-D
MONUMENT BOXES	R-11-E
COVER J	R-14-D
CURB RAMP AND DETECTABLE WARNING DETAILS	R-28-J*
DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS	R-29-I
CONCRETE CURB AND CONCRETE CURB & GUTTER	R-30-G
TRANSVERSE PAVEMENT JOINTS (PLAIN CONCRETE PAVEMENT)	R-39-K
LOAD TRANSFER ASSEMBLIES FOR TRANSVERSE JOINTS	R-40-H
LONGITUDINAL PAVEMENT JOINTS	R-41-H
TYPICAL JOINT LAYOUTS FOR CONCRETE PAVEMENT	R-42-F
LOCATION OF TRANSVERSE JOINTS IN PLAIN CONCRETE PAVEMENT	R-43-I
BEDDING AND FILLING AROUND PIPE CULVERTS	R-82-D
UTILITY TRENCHES	R-83-C
PRECAST CONCRETE END SECTION FOR PIPE CULVERT	R-86-F
STEEL END SECTION	R-88-D
SOIL EROSION & SEDIMENTATION CONTROL MEASURES	R-96-E
SEEDING AND TREE PLANTING	R-100-H
GRADING CROSS-SECTIONS	R-105-D
PAVEMENT MARKINGS	
PAVEMENT ARROW AND MESSAGE DETAILS	PAVE-900-F
LONGITUDINAL LINE TYPES AND PLACEMENT	PAVE-905-D
PAVEMENT MARKINGS FOR INTERSECTIONS	PAVE-930-C
LEFT TURN LANE MARKINGS	PAVE-935-D
RIGHT TURN LANE AND ISLAND PAVEMENT MARKINGS	PAVE-940-C
INTERSECTION, STOP BAR AND CROSSWALK MARKINGS	PAVE-945-C
ROUNDBOUT MARKINGS	PAVE-951-B
SIGNAGE	
STANDARD SIGN INSTALLATIONS	SIGN-100-G
ROADSIDE SIGN LOCATIONS & SUPPORT SPACING	SIGN-120-E
SIGN SUPPORT SELECTION CHARTS	SIGN-150-D
STEEL POSTS	SIGN-200-E*

AN ASTERISK (*) INDICATES A SPECIAL DETAIL

THE FOLLOWING ITEMS OF WORK SHALL BE DONE AS THEY APPLY THROUGHOUT THE PROJECT OR AS DIRECTED BY THE ENGINEER. THESE ITEMS ARE NOT DETAILED OR INCLUDED ELSEWHERE ON THE PLANS.

MISCELLANEOUS PROJECT QUANTITIES

GTCRC QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
0.75	LSUM	Mobilization, Max
500	Cyd	Subgrade Undercutting, Type II, Modified
500	Syd	Biaxial Geogrid
1	LSUM	Pavt, Cleaning
50	Ton	Hand Patching
600	Ft	Sprinkler Line
4	Ea	Irrigation Control Box, Relocate
4	Ea	Irrigation Control Box, Replace
20	Ea	Sprinkler Head, Relocate
20	Ea	Sprinkler Head, Replace

EAST BAY TWP QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
0.25	LSUM	Mobilization, Max



REVISIONS	<div style="display: flex; justify-content: space-between;"> </div>
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DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
3/30/2021	7371-240010	BA	JK	JM	GRAND TRAVERSE	EAST BAY TOWNSHIP	H: 1"=40' V: 1"=4'	LOCAL	NAVD83

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDBOUT

GENERAL NOTES

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PT NUMBER	DESCRIPTION	UNADJUSTED NORTHING	UNADJUSTED EASTING	ROTATED NORTHING	ROTATED EASTING	ELEVATION
100	TRAVERSE POINT	512078.339	19381076.37	512078.5309	19381076.82	771.53
101	TRAVERSE POINT	511634.023	19381029.6	511634.2141	19381030.05	785.88
102	TRAVERSE POINT	512167.467	19381370.75	512167.6627	19381371.21	780.06
103	TRAVERSE POINT	512198.128	19380345.55	512198.3105	19380346	760.72
104	TRAVERSE POINT	512538.031	19380979.79	512538.2218	19380980.24	763.47
105	TRAVERSE POINT	511999.54	19383543.55	511999.7639	19383544.02	825.38
106	TRAVERSE POINT	511920.404	19383454.75	511920.6267	19383455.22	813.66
200	JOB BENCHMARK - SPIKE ON W/SIDE PWR POLE ON THE EAST SIDE 4 MILE RD ~385' SOUTH OF HAMMOND RD CL	511746.08	19381020.18	511746.271	19381020.63	780.75
201	JOB BENCHMARK - SPIKE ON W/SIDE PWR POLE ON THE EAST SIDE 4 MILE RD ~215' NORTH OF HAMMOND RD CL	512346.326	19381035.37	512346.5175	19381035.82	767.59
300	SECTION CORNER - MON BOX	509462.268	19380961.32	509462.4573	19380961.77	789.01
301	CAPPED IRON ROD	509461.335	19380994.21	509461.5248	19380994.66	785.83
302	SECTION CORNER - MON BOX	512132.449	19380998.24	512132.6399	19380998.69	770.09
303	SECTION CORNER - MON BOX	514771.826	19381118.93	514772.0194	19381119.39	677.69
304	SECTION CORNER - MON BOX	512189.785	19378355.3	512189.9416	19378355.74	736.65
305	SECTION CORNER - FD	512057.698	19383599.6	512057.9226	19383600.07	838.81

THIS PROJECT USES A LOCAL HORIZONTAL DATUM. REFER TO THE ABOVE CHART FOR CLARIFICATION.

END WATER MAIN CONSTRUCTION
(SEE UTILITY PLANS)
STA 52+66 (4 MILE)
N 512874.146
E 19381032.603

END CONSTRUCTION
STA 49+42 (4 MILE)
N 512551.298
E 19381016.264

END MAINLINE CONSTRUCTION
STA 48+59 (4 MILE)
N 512468.175
E 19381010.081

N4°15'14"E
210.36'

PT: 47+65.79

4 MILE RD CONST E

PC: 46+69.22

N5°48'24"W
41.15'

PT: 46+28.07

N7°15'27"E
140.53'

PT: 17+00.30

N8°3'39"14"E
105.36'
16+00

N59°41'51"W
17.98'

PT: 44+24.83

N3°20'58"W
60.44'

PT: 43+41.25

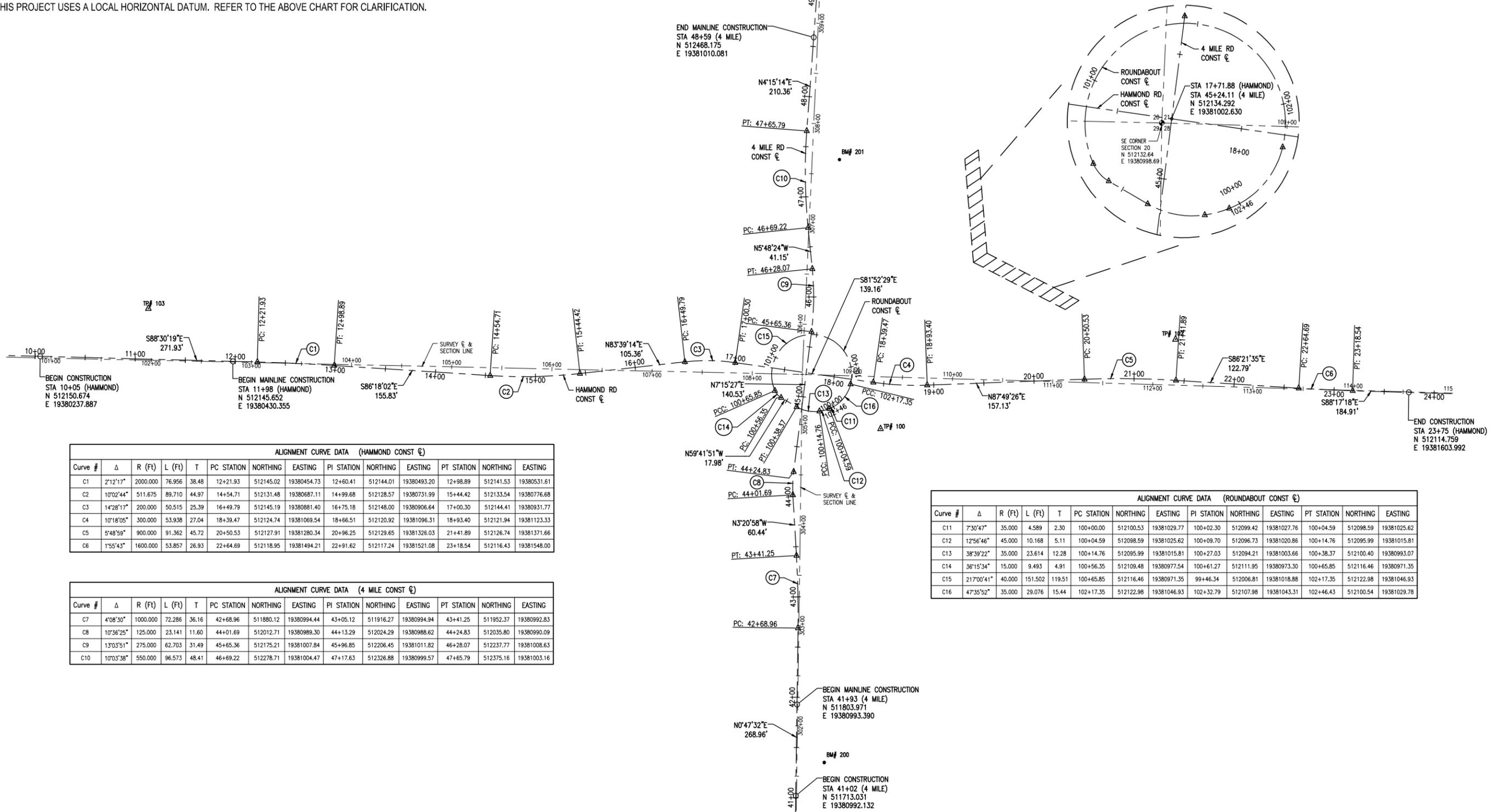
PC: 42+68.96

N0°47'32"E
268.96'

PT: 41+00

BEGIN MAINLINE CONSTRUCTION
STA 41+02 (4 MILE)
N 511713.031
E 19380992.132

BEGIN CONSTRUCTION
STA 41+02 (4 MILE)
N 511713.031
E 19380992.132



ALIGNMENT CURVE DATA (HAMMOND CONST E)													
Curve #	Δ	R (Ft)	L (Ft)	T	PC STATION	NORTHING	EASTING	PI STATION	NORTHING	EASTING	PT STATION	NORTHING	EASTING
C1	2°12'17"	2000.00	76.956	38.48	12+21.93	512145.02	19380454.73	12+60.41	512144.01	19380493.20	12+98.89	512141.53	19380531.61
C2	10°02'44"	511.675	89.710	44.97	14+54.71	512131.48	19380687.11	14+99.68	512128.57	19380731.99	15+44.42	512133.54	19380776.68
C3	14°28'17"	200.00	50.515	25.39	16+49.79	512145.19	19380881.40	16+75.18	512148.00	19380906.64	17+00.30	512144.41	19380931.77
C4	10°18'05"	300.00	53.938	27.04	18+39.47	512124.74	19381069.54	18+66.51	512120.92	19381096.31	18+93.40	512121.94	19381123.33
C5	5°48'59"	900.00	91.362	45.72	20+50.53	512127.91	19381280.34	20+96.25	512129.65	19381326.03	21+41.89	512126.74	19381371.66
C6	1°55'43"	1600.00	53.857	26.93	22+64.69	512118.95	19381494.21	22+91.62	512117.24	19381521.08	23+18.54	512116.43	19381548.00

ALIGNMENT CURVE DATA (4 MILE CONST E)													
Curve #	Δ	R (Ft)	L (Ft)	T	PC STATION	NORTHING	EASTING	PI STATION	NORTHING	EASTING	PT STATION	NORTHING	EASTING
C7	4°08'30"	1000.00	72.286	36.16	42+68.96	511880.12	19380994.44	43+05.12	511916.27	19380994.94	43+41.25	511952.37	19380992.83
C8	10°36'25"	125.00	23.141	11.60	44+01.69	512012.71	19380989.30	44+13.29	512024.29	19380988.62	44+24.83	512035.80	19380990.09
C9	13°03'51"	275.00	62.703	31.49	45+65.36	512175.21	19381007.84	45+96.85	512206.45	19381011.82	46+28.07	512237.77	19381008.63
C10	10°03'38"	550.00	96.573	48.41	46+69.22	512278.71	19381004.47	47+17.63	512326.88	19380999.57	47+65.79	512375.16	19381003.16

ALIGNMENT CURVE DATA (ROUNDABOUT CONST E)													
Curve #	Δ	R (Ft)	L (Ft)	T	PC STATION	NORTHING	EASTING	PI STATION	NORTHING	EASTING	PT STATION	NORTHING	EASTING
C11	7°30'47"	35.000	4.589	2.30	100+00.00	512100.53	19381029.77	100+02.30	512099.42	19381027.76	100+04.59	512098.59	19381025.62
C12	12°56'46"	45.000	10.168	5.11	100+04.59	512098.59	19381025.62	100+09.70	512096.73	19381020.86	100+14.76	512095.99	19381015.81
C13	38°39'22"	35.000	23.614	12.28	100+14.76	512095.99	19381015.81	100+27.03	512094.21	19381003.66	100+38.37	512100.40	19380993.07
C14	36°15'34"	15.000	9.493	4.91	100+56.35	512109.48	19380977.54	100+61.27	512111.95	19380973.30	100+65.85	512116.46	19380971.35
C15	21°70'41"	40.000	151.502	119.51	100+65.85	512116.46	19380971.35	99+46.34	512006.81	19381018.88	102+17.35	512122.98	19381046.93
C16	47°35'52"	35.000	29.076	15.44	102+17.35	512122.98	19381046.93	102+32.79	512107.98	19381043.31	102+46.43	512100.54	19381029.78

ARCHITECTS ENGINEERS PLANNERS
300 East Mitchell St., Suite 2
Potosky, MI 49770
P (231) 344-1150
OHM-ADVISORS.COM

DATE: 3/30/2021
PROJ NUMBER: 737-0042010
BA: JAK
PROJ LEADER: JAK
CADD: JAK
COUNTY: GRAND TRAVERSE
CITY/VILLAGE/TOWNSHIP: EAST BAY TOWNSHIP
SCALE: H: 1"=40' V: 1"=40'
HORIZONTAL DATUM: LOCAL
VERTICAL DATUM: NAVD83
SHEET: 6 OF 84

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
ALIGNMENT SHEET

DRAWING PATH: P:\7301_7400\73720010_GTCRC-E-M_Corridor_Roundabouts\Drawings\Civil\Misc4_Mile_Hammond\20010\ALN.dwg Mar 30, 2021 - 10:28am

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NOTE: ALL STATION RANGES FOR EXISTING TYPICALS ON THIS SHEET ARE REFERENCED OFF SURVEY ☿

OHM
 ARCHITECTS ENGINEERS PLANNERS
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 Petoskey, MI 49770
 P (231) 344-1150
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APPLIES:
HAMMOND - SURVEY ☿
 • STA 104+38 TO STA 107+71
 • STA 114+29 TO STA 114+56

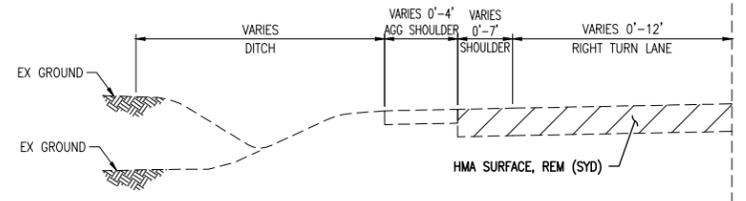
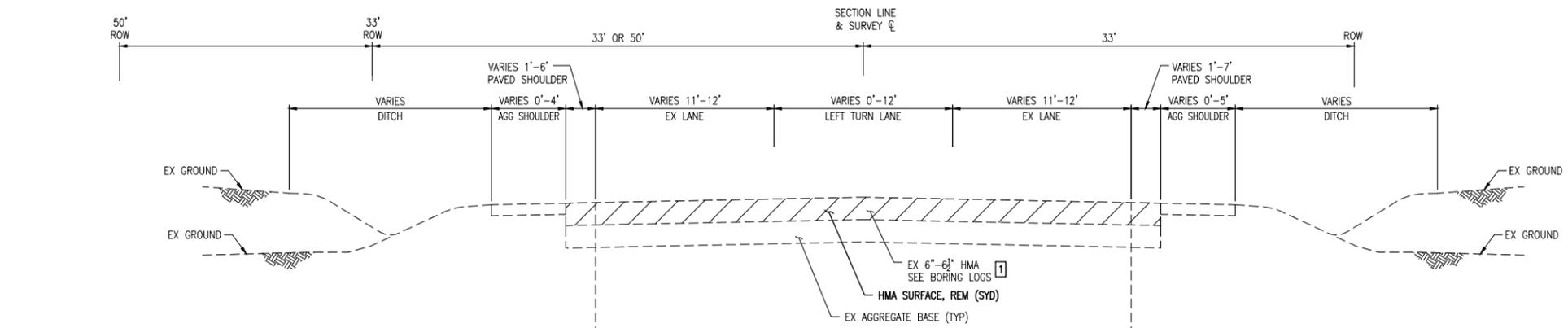
4 MILE - SURVEY ☿
 • STA 302+21 TO STA 304+66
 • STA 310+03 TO STA 313+28

APPLIES:
HAMMOND - SURVEY ☿
 • STA 102+92 TO STA 104+38
 • STA 109+37 TO STA 114+29

4 MILE - SURVEY ☿
 • STA 309+72 TO STA 310+03

APPLIES:
HAMMOND - SURVEY ☿
 • STA 102+58 TO STA 102+92
 • STA 107+71 TO STA 109+37

4 MILE - SURVEY ☿
 • STA 304+66 TO STA 309+72

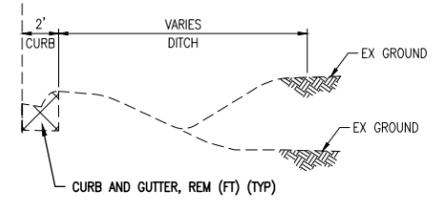


EXISTING CROSS SECTION - HMA

APPLIES:
HAMMOND - SURVEY ☿
 • STA 102+58 TO STA 114+56

4 MILE - SURVEY ☿
 • STA 302+21 TO STA 313+28

[1] EXISTING HMA PAVT DEPTHS ARE <12" BASED ON POINT INFORMATION FROM RECENTLY OBTAINED PAVT CORES. PAVT DEPTHS ARE FOR INFORMATION ONLY. THE CONTRACTOR SHALL NOT BE PAID EXTRA FOR HMA SURFACE, REM FOR THOSE DEPTHS THAT EXCEED THE DEPTHS LISTED IN THE TYPICAL CROSS SECTION. IF THE EX PAVT DEPTH EXCEEDS 12 INCHES, THE CONTRACTOR WILL BE PAID PER SECTION 501.04 OF THE 2012 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

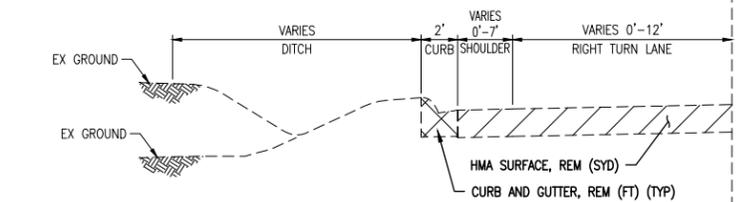


APPLIES:
HAMMOND - SURVEY ☿
 • STA 102+58 TO STA 107+71
 • STA 109+38 TO STA 114+56

4 MILE - SURVEY ☿
 • STA 302+21 TO STA 304+66
 • STA 306+45 TO STA 313+28

APPLIES:
HAMMOND - SURVEY ☿
 • STA 107+71 TO STA 109+38

4 MILE - SURVEY ☿
 • STA 304+66 TO STA 306+45



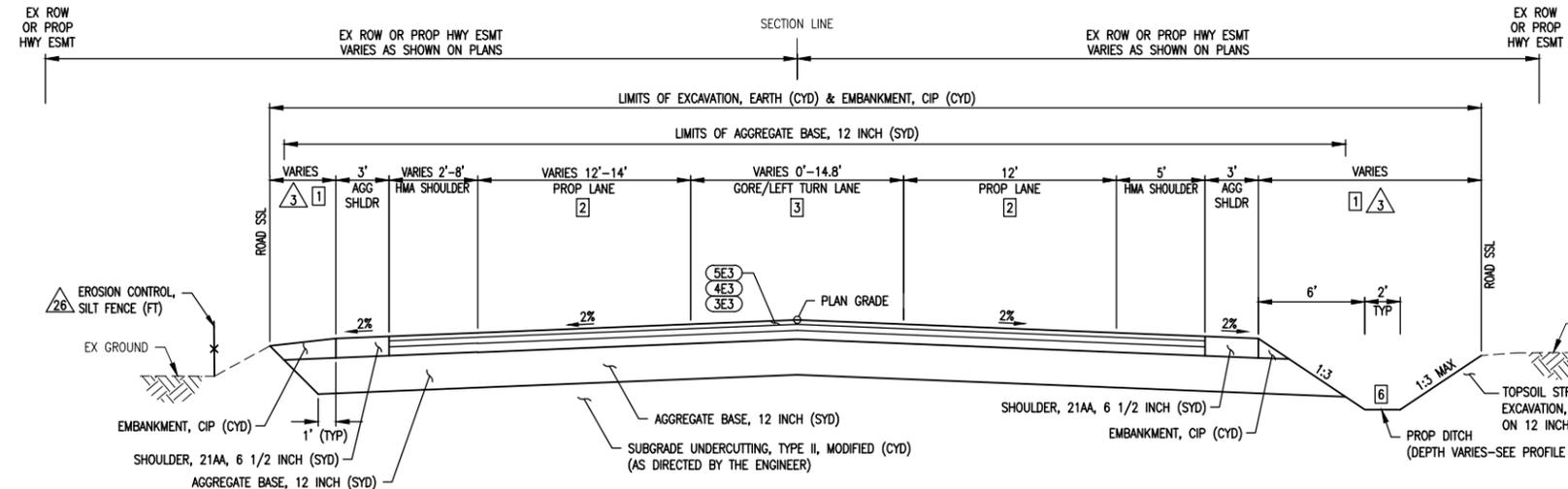
DATE	3/30/2021	PROJ NUMBER	737-04-010	ENG	BA	PROJ MGR	JK	CADD	JM	COUNTY	GRAND TRAVERSE	CITY/VILLAGE/TOWNSHIP	EAST BAY TOWNSHIP	HORIZ DATUM	VERT DATUM	SCALE	H: 1"=40'	V: 1"=4'	INVD/DB
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GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 TYPICAL CROSS SECTIONS



Know what's below.
 Call before you dig.

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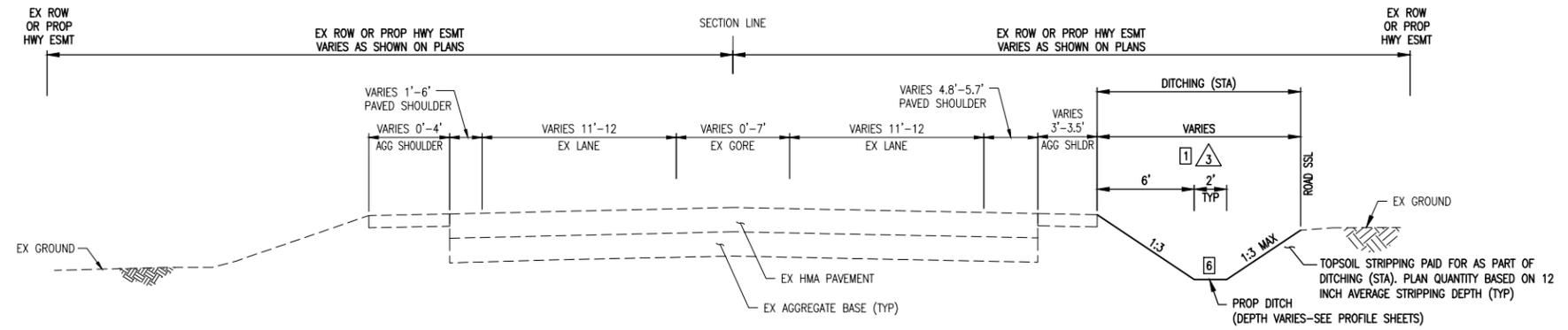


APPLIES: STA 23+08 TO STA 23+75

APPLIES: STA 11+98 TO STA 12+84

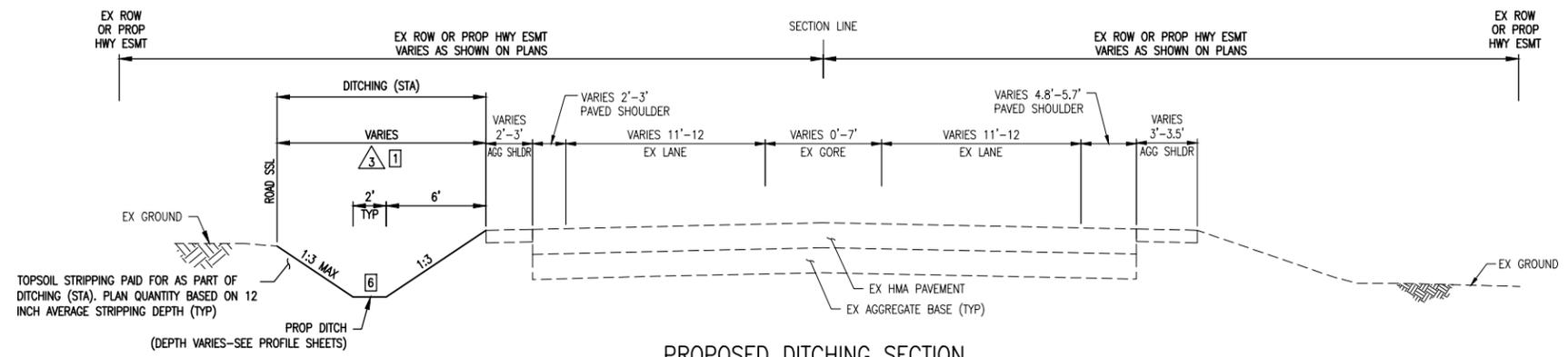
PROPOSED HMA SECTION PAGE 2 OF 2

- APPLIES:
- | | |
|--------------------------|--------------------------|
| HAMMOND CONST C | 4 MILE CONST C |
| • STA 11+98 TO STA 13+87 | • STA 41+93 TO STA 44+08 |
| • STA 21+46 TO STA 23+75 | • STA 48+18 TO STA 48+59 |



PROPOSED DITCHING SECTION

- APPLIES:
- | | |
|--------------------------|--------------------------|
| HAMMOND CONST C | 4 MILE CONST C |
| • STA 10+05 TO STA 11+98 | • STA 41+85 TO STA 41+93 |
| | • STA 48+59 TO STA 49+42 |



PROPOSED DITCHING SECTION

- APPLIES:
- | |
|--------------------------|
| 4 MILE CONST C |
| • STA 41+02 TO STA 41+93 |

- NOTES:**
- WORK FOR TURF ESTABLISHMENT SHALL BE DONE PER THE SPECIAL PROVISION FOR "TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC". SEE SESC SHEETS FOR LOCATIONS.
 - SEE CONSTRUCTION SHEETS FOR LANE WIDTH INFORMATION
 - GORE WIDTH VARIES:
 - 0' @ STA 12+01 TO 11.3' @ STA 13+87
 - 0' @ STA 42+03 TO 9.7' @ STA 44+08
 - 10.3' @ STA 21+46 TO 0' @ STA 23+74
 - 9.3' @ STA 48+18 TO 0' @ STA 49+84
 SEE PERMANENT PAVEMENT MARKING AND SIGNING PLAN FOR GORE LOCATIONS
 - SEE CONSTRUCTION PLANS, PROFILES, AND MISCELLANEOUS DETAILS FOR INFORMATION TO CONSTRUCT SWALES.

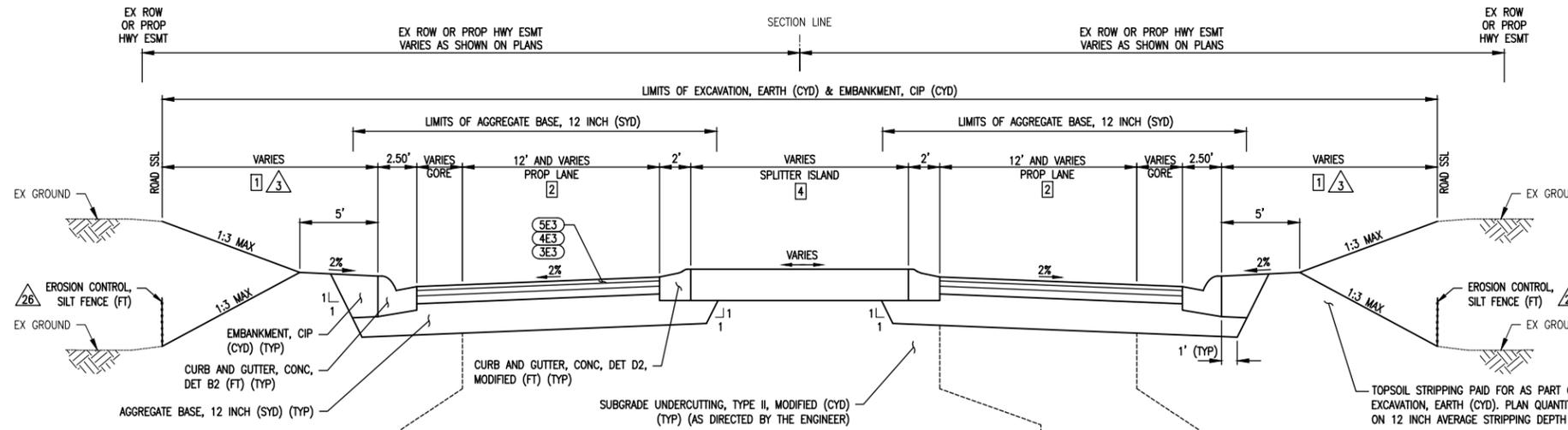
- LEGEND**
- TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC (SYD)
 - EROSION CONTROL, SILT FENCE (FT)

DRAWING PATH: P:\7301_7400\7120010_GTCRC-E-M_Corridor_Roundabouts\Drawings\Civil\Typical\4 Mile Hammond\2001010TYP_PR.dwg Mar 30, 2021 - 10:29pm

DATE: 3/30/2021 3:00:20 PM PROJ: 7301-7400-010 BA: JAK PROJ: GRAND TRAVERSE COUNTY VILLAGE/TOWNSHIP EAST BAY TOWNSHIP CITY: GRAND TRAVERSE COUNTY: GRAND TRAVERSE STATE: MI SCALE: 1"=5' HORIZ: LOCAL VERT: 1"=8' REVISIONS: | | | | |

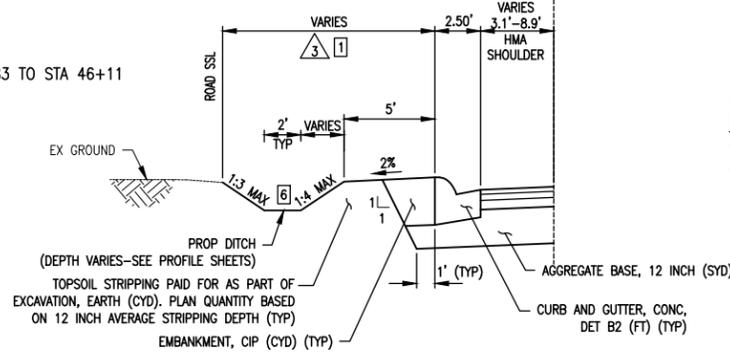
GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
TYPICAL CROSS SECTIONS

APPLIES: STA 13+87 TO STA 17+18
STA 18+37 TO STA 21+46
STA 44+08 TO STA 44+57
STA 46+11 TO STA 48+18



APPLIES: STA 19+86 TO STA 21+46
STA 44+08 TO STA 44+57
STA 45+83 TO STA 48+18

APPLIES: STA 45+83 TO STA 46+11



PROPOSED ROUNDABOUT SPLITTER SECTION

APPLIES:
HAMMOND CONST C

- STA 13+87 TO STA 17+18
- STA 18+37 TO STA 21+46

4 MILE CONST C

- STA 44+08 TO STA 44+57
- STA 45+83 TO STA 48+18

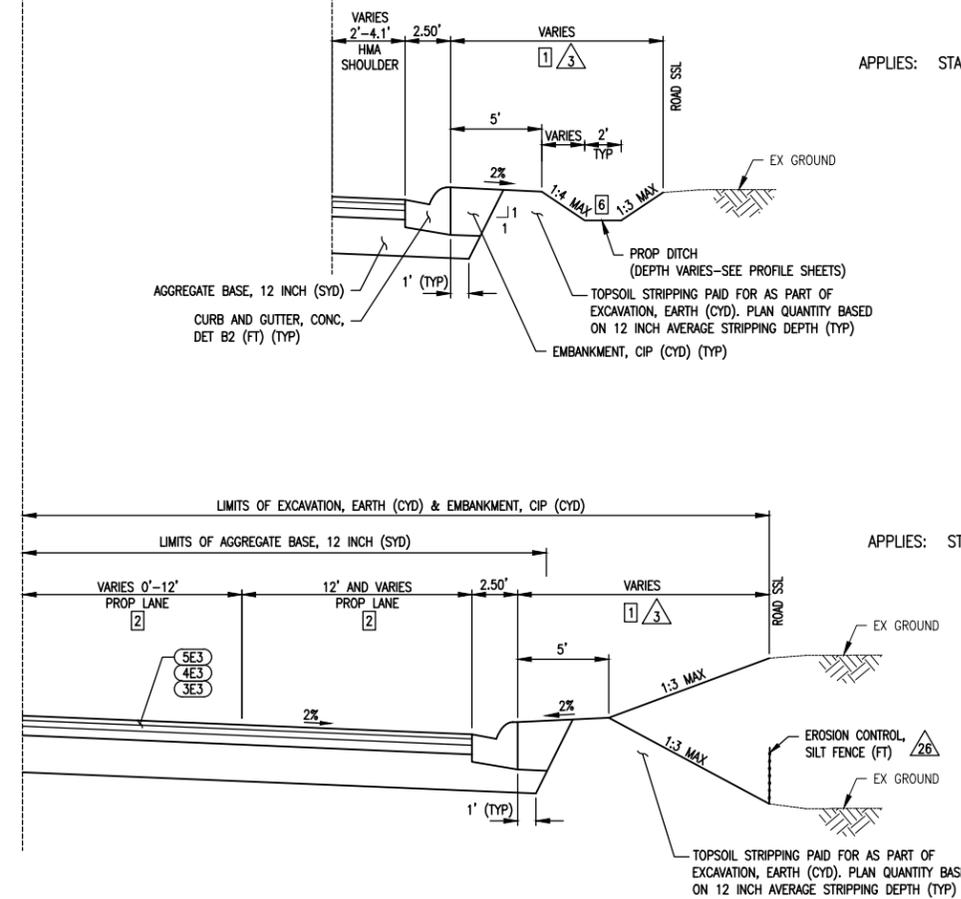
NOTES:

- 1 WORK FOR TURF ESTABLISHMENT SHALL BE DONE PER THE SPECIAL PROVISION FOR "TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC". SEE SESC SHEETS FOR LOCATIONS.
- 2 SEE CONSTRUCTION SHEETS FOR LANE WIDTH INFORMATION
- 4 SEE LANDSCAPING PLANS AND MISCELLANEOUS DETAILS FOR PROPOSED SPLITTER ISLAND TREATMENT.
- 6 SEE CONSTRUCTION PLANS, PROFILES, AND MISCELLANEOUS DETAILS FOR INFORMATION TO CONSTRUCT SWALES.

LEGEND

- 3 - TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC (SYD)
- 26 - EROSION CONTROL, SILT FENCE (FT)

APPLIES: STA 18+37 TO STA 19+86



APPLIES: STA 13+87 TO STA 17+18

DRAWING PATH: P:\7301_7400\71200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Typical\4 Mile Roundabout\20010101TYP_PR.dwg Mar 30, 2021 - 10:29pm

REVISIONS:

HORIZ DATUM: VERT DATUM

LOCAL

SCALE

V.

H.

1"=5'

CITY/VILLAGE/TOWNSHIP

GRAND TRAVERSE

EAST BAY TOWNSHIP

LOCAL

DATE

3/30/2021

PROJ NUMBER

737-04-010

BA

PROJ INVR

JK

CADD

JK

COUNTY

GRAND TRAVERSE

CITY/VILLAGE/TOWNSHIP

EAST BAY TOWNSHIP

LOCAL

SCALE

1"=5'

V.

H.

VERT DATUM

LOCAL

REVISIONS:

DATE

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PROJ NUMBER

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PROJ INVR

JK

CADD

JK

COUNTY

GRAND TRAVERSE

CITY/VILLAGE/TOWNSHIP

EAST BAY TOWNSHIP

LOCAL

SCALE

1"=5'

V.

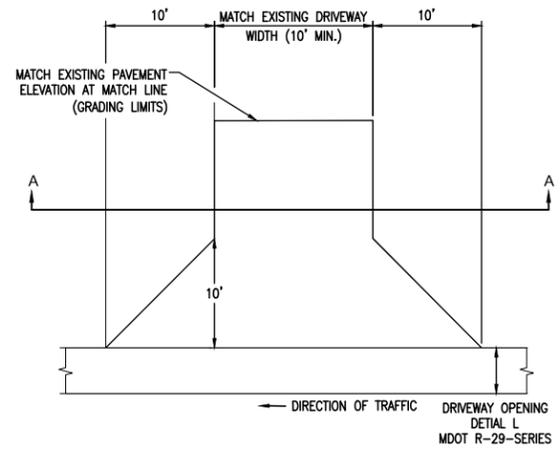
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VERT DATUM

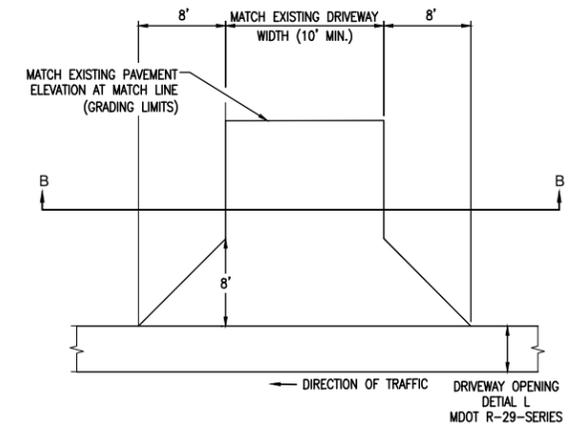
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GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
TYPICAL CROSS SECTIONS

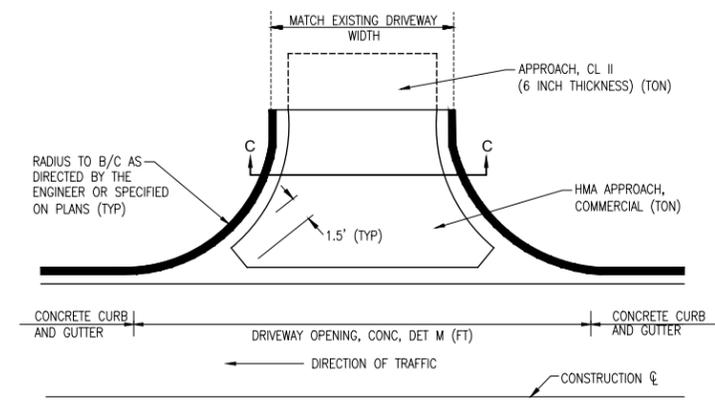
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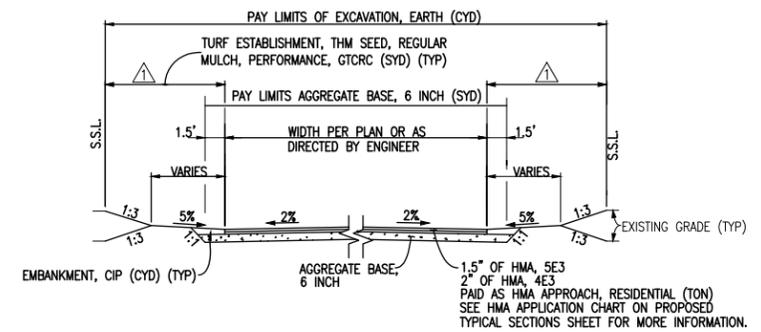
RESIDENTIAL HMA DRIVE



RESIDENTIAL AGGREGATE DRIVE

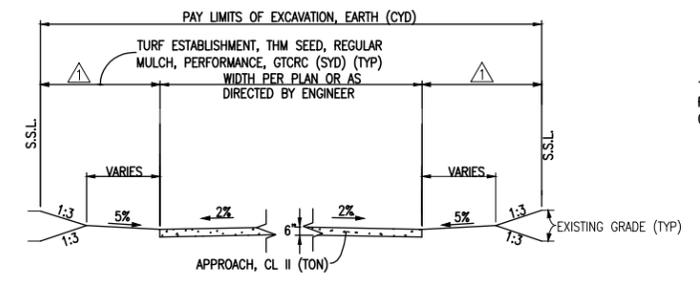


TYPICAL COMMERCIAL HMA DRIVE



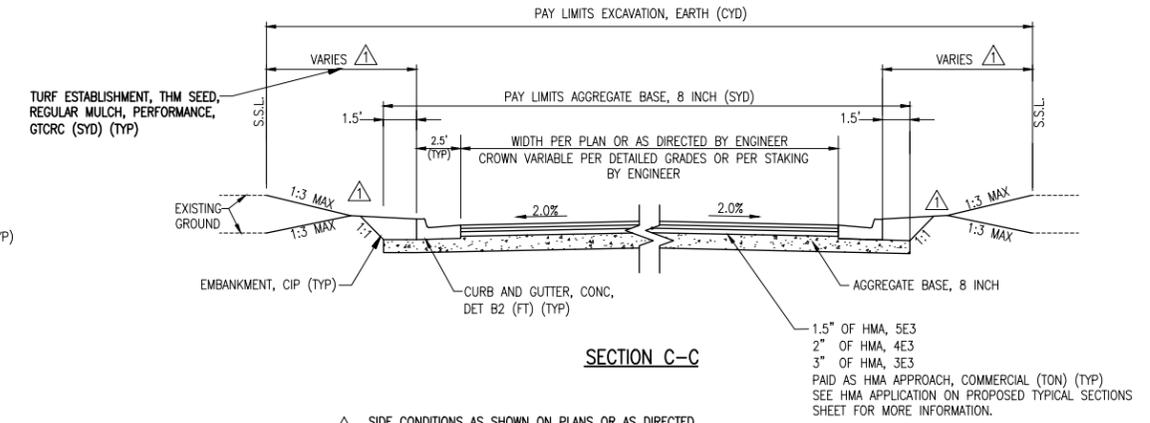
SECTION A-A (HMA)

△ SIDE CONDITIONS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER



SECTION B-B (AGGREGATE)

△ SIDE CONDITIONS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER



SECTION C-C

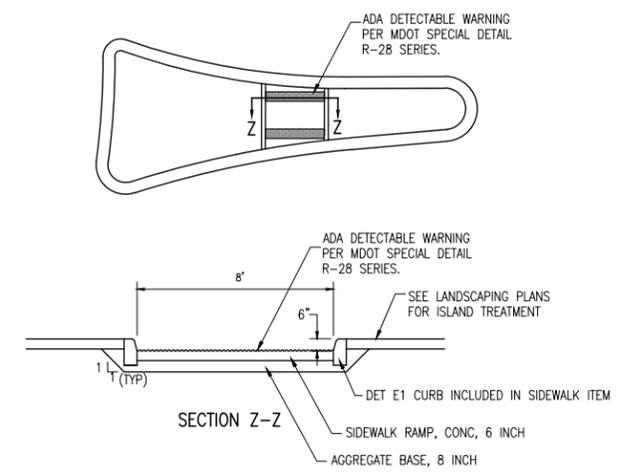
△ SIDE CONDITIONS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER

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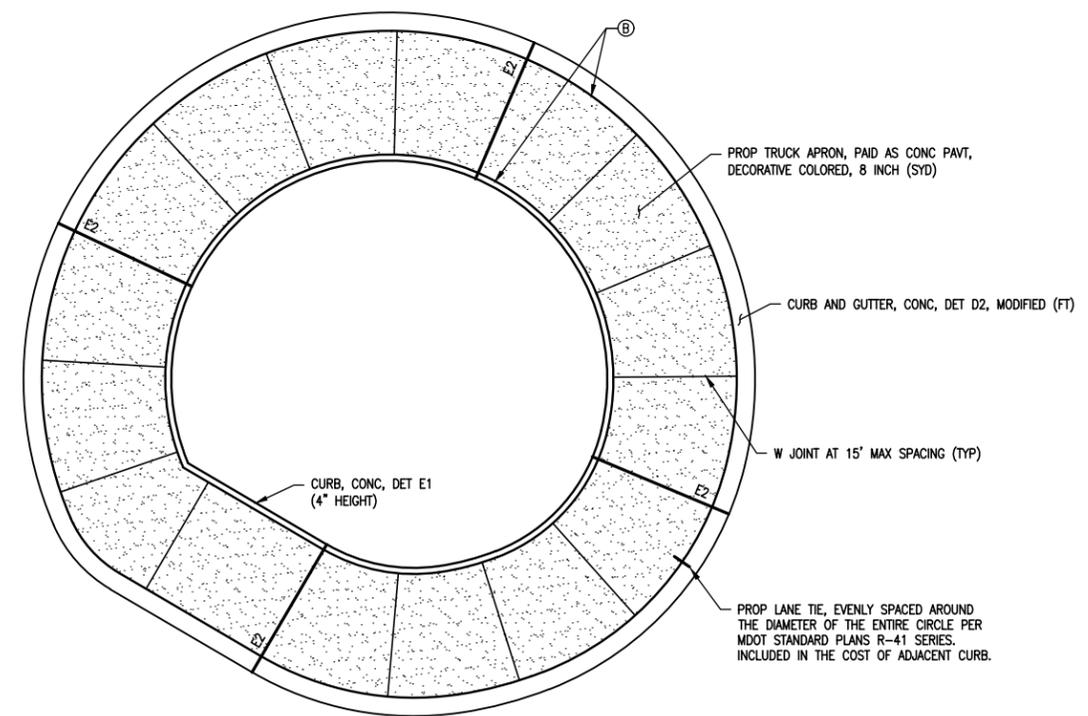
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3/30/2021	737200010	BA	JK	JM	GRAND TRAVERSE	EAST BAY TWP.	LOCAL	NAVD83	1"=5'	V

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MISCELLANEOUS DETAILS

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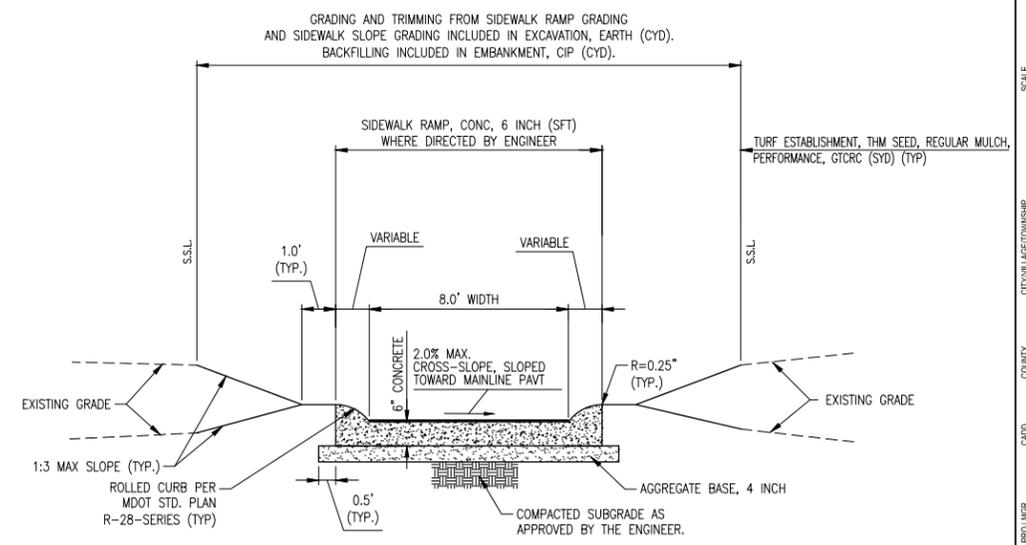


SIDEWALK RAMP DETAIL @ SPLITTER ISLAND



TRUCK APRON AT ROUNDABOUT CENTRAL ISLAND

LONGITUDINAL JOINTS ARE INCLUDED IN CONC PAVT PAY ITEM
 Ⓟ - LONGITUDINAL BULKHEAD CONSTRUCTION JOINT, ACCORDING TO STANDARD PLAN R - 41 SERIES.



SIDEWALK RAMP DETAIL

DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Detail\4_Mile_Hammond\200010DET.dwg Mar 30, 2024 10:30pm

DATE	PROJ NUMBER	ENG	BA	JK	PROJ LEAD	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	H	V	VERT DATUM
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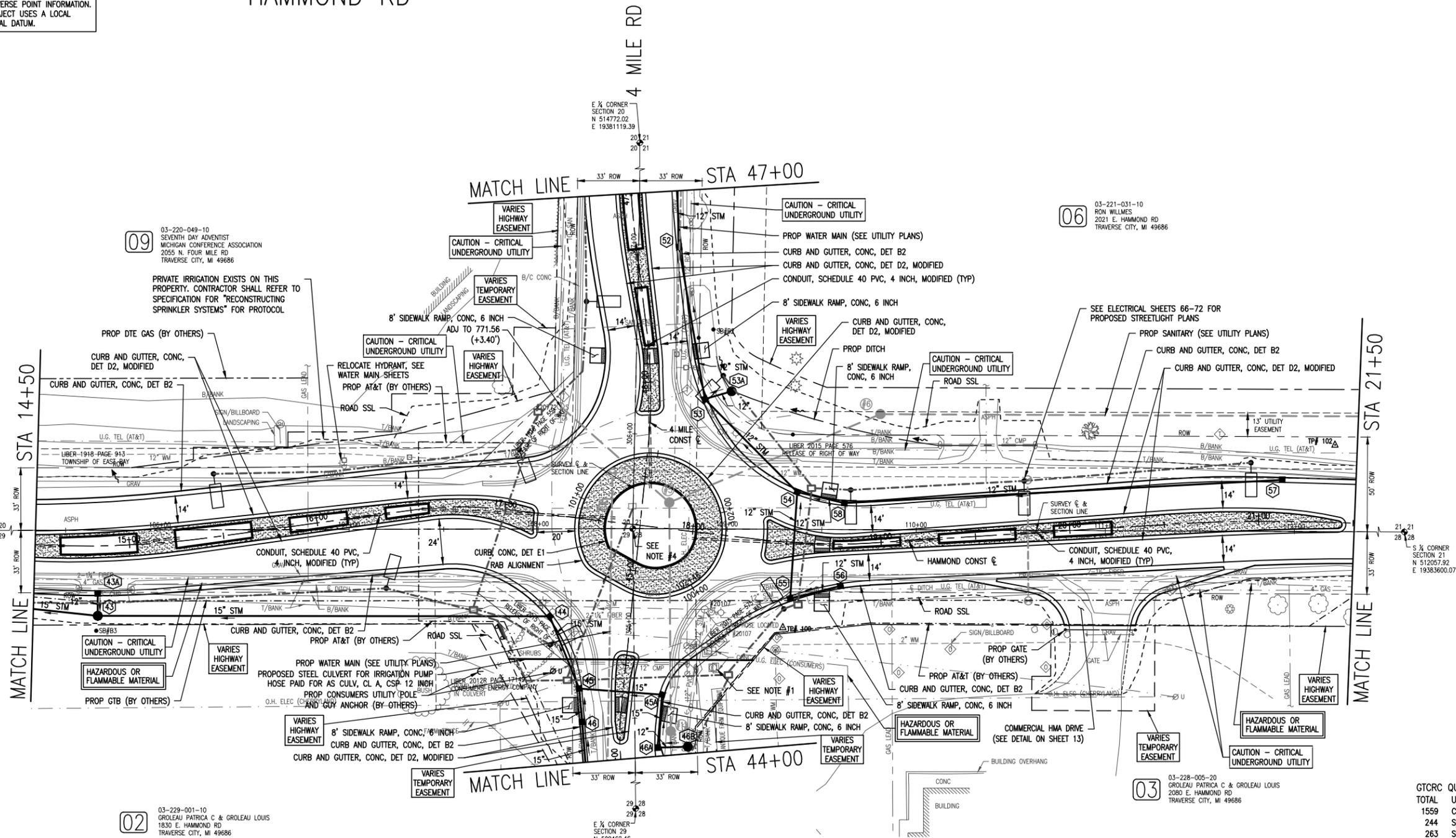
GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 MISCELLANEOUS DETAILS

SEE SHEET 6 FOR BENCHMARK AND TRAVERSE POINT INFORMATION. THIS PROJECT USES A LOCAL HORIZONTAL DATUM.

HAMMOND RD



OHM
ARCHITECTS ENGINEERS PLANNERS
300 East Mitchell St., Suite 2
Potosky, MI 49770
P (231) 344-1150
OHM-ADVISORS.COM



09 03-220-049-10
SEVENTH DAY ADVENTIST
MICHIGAN CONFERENCE ASSOCIATION
2055 N. FOUR MILE RD
TRAVERSE CITY, MI 49686

PRIVATE IRRIGATION EXISTS ON THIS PROPERTY. CONTRACTOR SHALL REFER TO SPECIFICATION FOR "RECONSTRUCTING SPRINKLER SYSTEMS" FOR PROTOCOL

06 03-221-031-10
RON WILLIAMS
2021 E. HAMMOND RD
TRAVERSE CITY, MI 49686

02 03-229-001-10
GROLEAU PATRICA C & GROLEAU LOUIS
1830 E. HAMMOND RD
TRAVERSE CITY, MI 49686

03 03-228-005-20
GROLEAU PATRICA C & GROLEAU LOUIS
2080 E. HAMMOND RD
TRAVERSE CITY, MI 49686

GTORC DRAINAGE QUANTITIES THIS SHEET

STRUCT NO	STATION	OFFSET	Dr Structure, ___ inch			Dr Structure Cover, Type _			Sewer, CI A, 12 inch, Tr Det B	Sewer, CI A, 15 inch, Tr Det B	Sewer, CI E, 12 inch, Tr Det B	Sewer, CI E, 15 inch, Tr Det B	TO STRUCT NO
			24	48	60	B	E	J					
			Ea	Ea	Ea	Ea	Ea	Ea					
46	44+18.77	20.14 LT										45	
46B	44+04.64	35.90 RT	1	1				17			18	46A	
46A	44+05.21	19.85 RT									29	45A	
45A	44+36.41	20.72 RT									44	45	
45	44+35.19	23.25 LT									42	44	
44	17+30.07	53.27 RT							240			43	
43A	14+82.78	24.99 RT	1					12				43	
43	14+82.61	36.85 RT				1			76			42	
57	21+12.41	21.85 LT								232		58	
56	18+78.20	21.99 RT	1							28		55	
55	18+53.90	29.51 RT								57		54	
58	18+80.98	21.66 LT								26		54	
54	18+53.68	26.86 LT								70		53	
53A	18+11.70	75.90 LT	1							15		53	
53	17+98.08	70.16 LT								82		52	
52	46+68.84	22.42 RT								120		51	
TOTALS (CAT 001)			4	11	1	1	2	13	29	316	630	133	-

GTORC QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
1559	Cyd	Embankment, CIP
244	Syd	Aggregate Base, 8 inch
263	Syd	Aggregate Base, 10 inch
5198	Syd	Aggregate Base, 12 inch
45	Ton	Approach, CI II
130	Ft	Culv, CI A, CSP, 12 inch
3	Ft	Public Utility Structure, Adj, Add Depth
1	Ea	Public Utility Structure Cover, Adj, Case 2
621	Ton	HMA, 3E3
414	Ton	HMA, 4E3
311	Ton	HMA, 5E3
69	Ton	HMA Approach, Commercial
65	Ft	Joint, Expansion, E2
162	Ft	Joint, Plane-of-Weakness, W
543	Syd	Conc Pavt, Misc, Decorative Colored, 6 inch
288	Syd	Conc Pavt, Misc, Decorative Colored, 8 inch
149	Ft	Curb, Conc, Det E1
1581	Ft	Curb and Gutter, Conc, Det B2
161	Ft	Driveway Opening, Conc, Det M
1744	Ft	Curb and Gutter, Conc, Det D2, Modified
96	Ft	Detectable Warning Surface
121	Ft	Curb Ramp Opening, Conc
586	Sft	Sidewalk Ramp, Conc, 6 inch
1	Ea	Monument Box
1	Ea	Monument Preservation

EAST BAY TWP QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
54	Syd	Aggregate Base, 4 inch
53	Syd	Aggregate Base, 8 inch
731	Ft	Curb, Conc, Det E1
427	Ft	Conduit, Schedule 40 PVC, 4 inch, Modified

- NOTES
- A CONTRACTOR HIRED BY THE GROLEAU FAMILY WILL REMOVE/RELOCATE THE ELECTRICAL IRRIGATION BOX/CABINET AND HOSES/PUMPS TO OUTSIDE THE HIGHWAY EASEMENT/TEMPORARY EASEMENT LIMITS PRIOR TO THE START OF CONSTRUCTION. GROLEAU'S CONTRACTOR WILL THEN REPLACE/REINSTALL THE IRRIGATION BOX/CABINET AND HOSES/PUMPS AFTER THE ROAD CONTRACTOR INSTALLS THE NEW STEEL CONDUIT UNDER 4 MILE ROAD, WHICH WILL OCCUR IN STAGE 1A/1B.
 - THE CONTRACTOR SHALL HAND DIG WITH A REPRESENTATIVE FROM THE RESPECTIVE UTILITY COMPANY PRESENT.
 - UTILITY EXPLORATION / LOCATION IS INCLUDED IN THE COST OF THE APPLICABLE UNDERGROUND ITEM (WATER MAIN, SANITARY SEWER, STORM SEWER, STREETLIGHT, IRRIGATION, ELECTRICAL, OR EARTHWORK)
 - THE PROPOSED GRADE AT THE MONUMENT BOX IS ± 2' HIGHER THAN EXISTING GRADE.
 - PRIVATE UTILITY LOCATIONS ARE APPROXIMATE. LOCATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AND THE UTILITY COMPANY.

DRAWING PATH: P:\7301_7400737\20010_GTORC_E-M_Corridor_Roundabouts\Drawings\Civil\Plans_Constr\4 Mile Hammond\20010CON.dwg Date: 3/1/2021 1:30pm

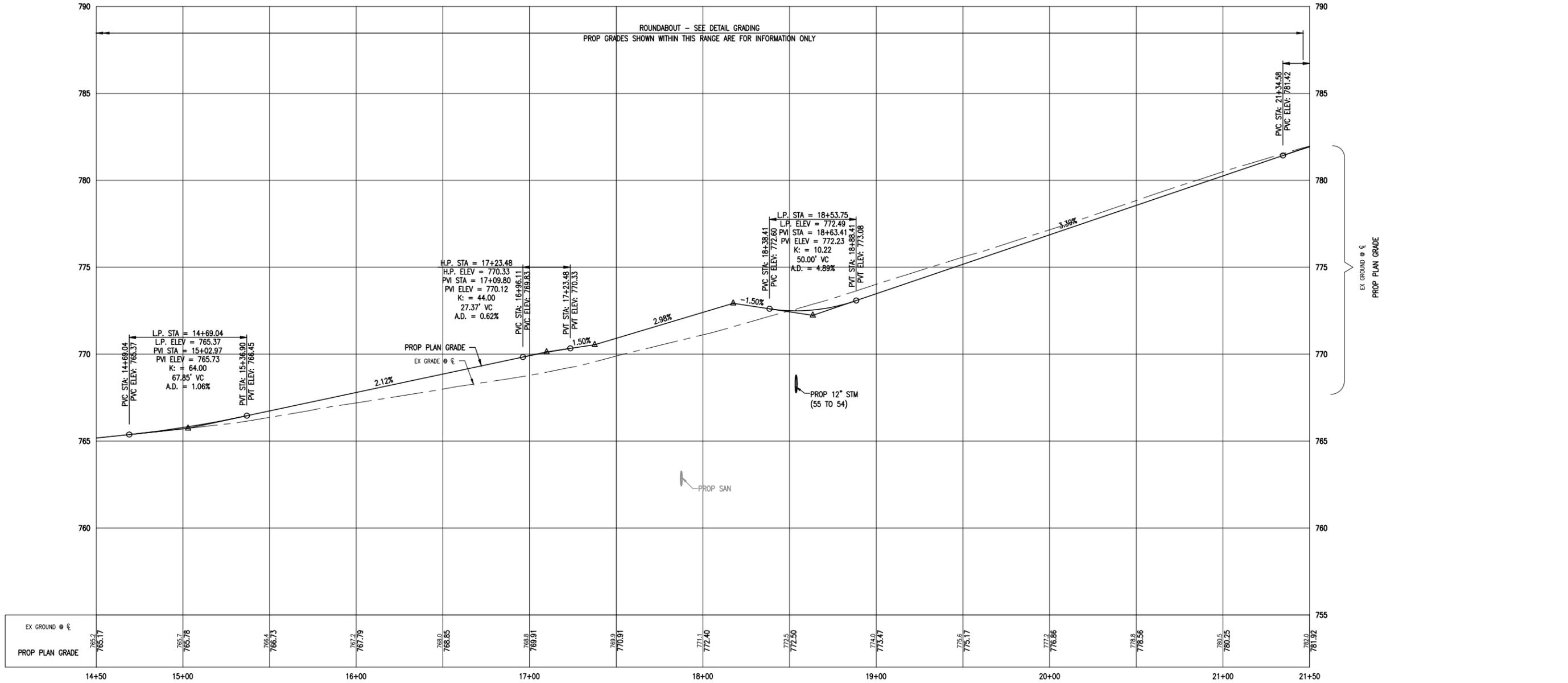
REVISIONS:
 HORIZONTAL VERT DATUM:
 SCALE:
 COUNTY:
 CITY/VILLAGE/TOWNSHIP:
 EAST BAY TOWNSHIP
 GRAND TRAVERSE
 PROJ NUMBER:
 DATE:
 SHEET:
 16 OF 84

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
CONSTRUCTION PLAN

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SEE SHEET 6 FOR BENCHMARK AND TRAVERSE POINT INFORMATION. THIS PROJECT USES A LOCAL HORIZONTAL DATUM.

HAMMOND RD



DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Profiles\4 Mile Hammond\00010PRE.dwg Mar 30, 2021 10:23 pm

REVISIONS:

VERT DATUM

SCALE

CITY/TOWNSHIP

COUNTY

STATE

PROJECT

DATE

PROJ NUMBER

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PROJ NUMBER

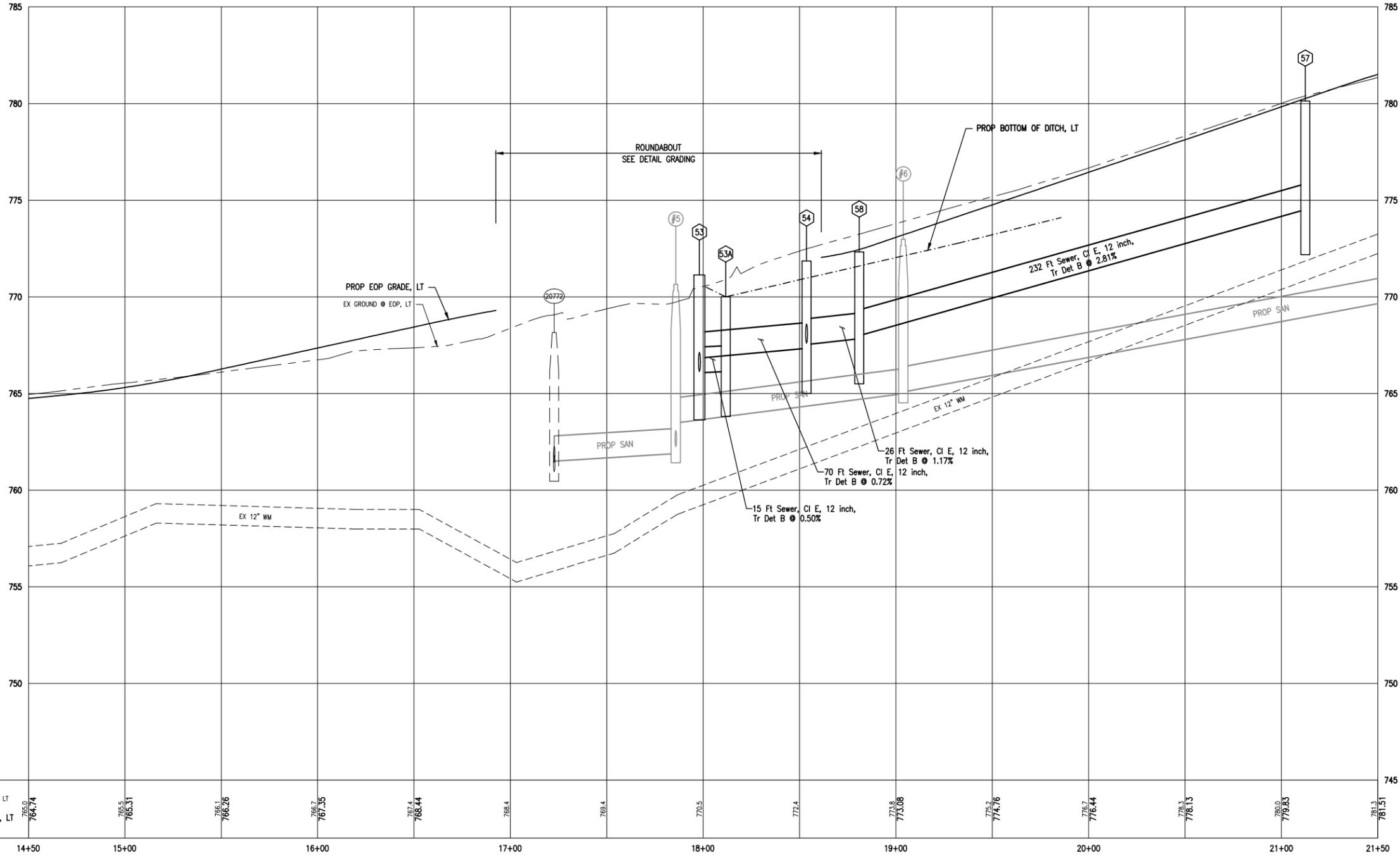
DATE

GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 PROFILE - CENTER (HAMMOND RD)

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SEE SHEET 6 FOR BENCHMARK AND TRAVERSE POINT INFORMATION. THIS PROJECT USES A LOCAL HORIZONTAL DATUM.

HAMMOND RD



- (20772) STA 45+85.82, 47.6' L
EX SANITARY MANHOLE
T/CAST 768.16
10" INV N 781.43
10" INV S 760.96
- #5 STA 17+85.83, 13.8' L
PROP SANITARY MANHOLE
T/CAST 770.65
(SEE UTILITY PLANS FOR ALL OTHER INFO)
- #53 STA 17+98.08, 70.2' L
60" DIA CATCH BASIN, COVER J
T/CAST 771.13
12" INV E 766.23
12" INV SE 767.00
12" INV N 766.13
- #53A STA 18+11.70, 75.9' L
24" DIA CATCH BASIN, COVER E
12" INV W 766.31
- #54 STA 18+53.68, 26.9' L
48" DIA CATCH BASIN, COVER J
T/CAST 771.86
12" INV S 767.60
12" INV NW 767.50
12" INV E 767.70
- #58 STA 18+80.98, 21.7' L
48" DIA CATCH BASIN, COVER J
T/CAST 772.32
12" INV E 768.15
12" INV W 768.00
- #6 STA 19+03.81, 67.5' L
PROP SANITARY MANHOLE
T/CAST 772.98
(SEE UTILITY PLANS FOR ALL OTHER INFO)
- #57 STA 21+12.41, 21.8' L
48" DIA CATCH BASIN, COVER J
T/CAST 780.13
12" INV W 774.68

DRAWING PATH: P:\7301_7400\73120010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Profiles\1 Mile Hammond\00010PRF.dwg Mar 30, 2021 10:23 pm

REVISIONS:

NO. 1

DATE

BY

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CITY/VILLAGE/TOWNSHIP

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CITY/VILLAGE/TOWNSHIP

COUNTY

ROAD NAME

PROJECT NUMBER

DATE

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SCALE

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V. 1"=30'

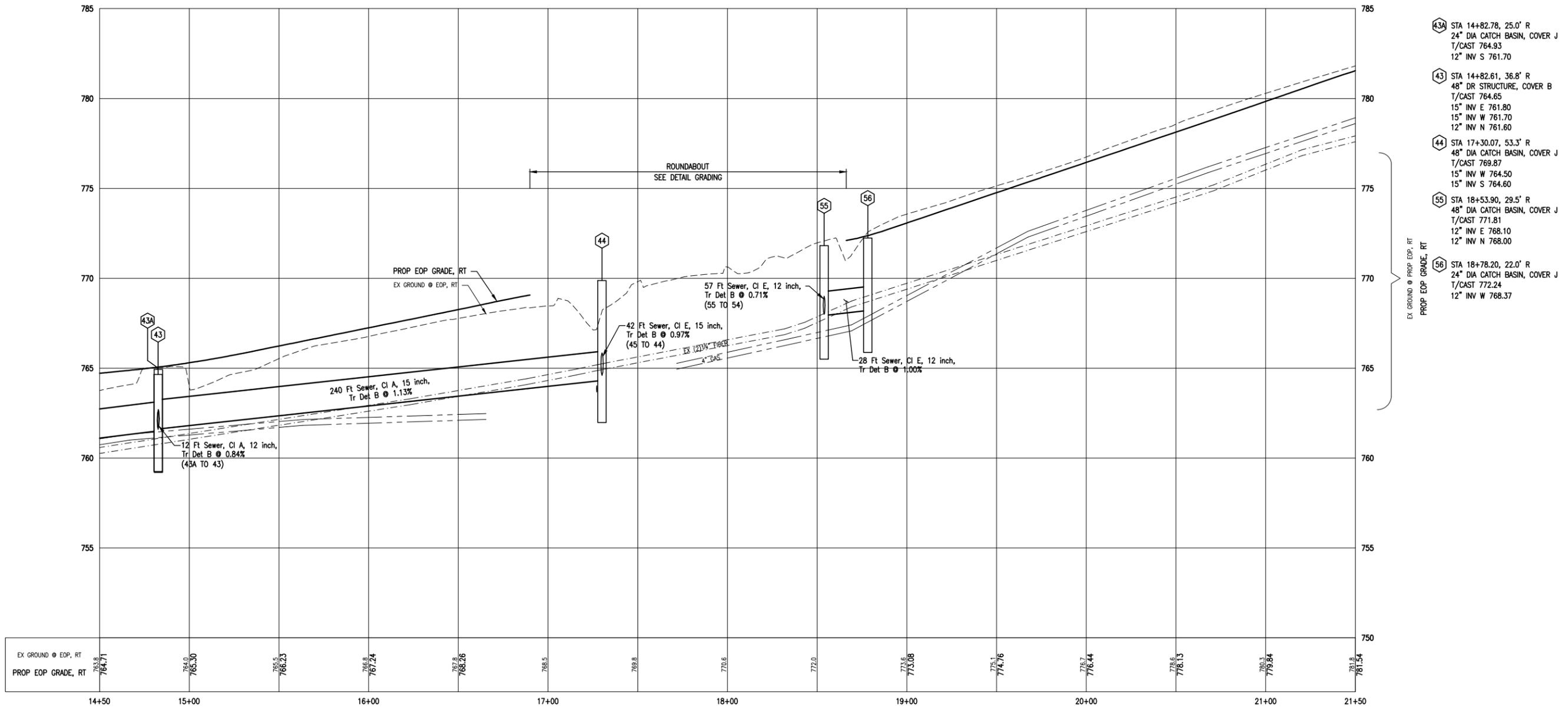
CITY/VILLAGE/TOWNSHIP

COUNTY

ROAD NAME

SEE SHEET 6 FOR BENCHMARK AND TRAVERSE POINT INFORMATION. THIS PROJECT USES A LOCAL HORIZONTAL DATUM.

HAMMOND RD



- 43A STA 14+82.78, 25.0' R
24" DIA CATCH BASIN, COVER J
T/CAST 764.93
12" INV S 761.70
- 43 STA 14+82.61, 36.8' R
48" DR STRUCTURE, COVER B
T/CAST 764.65
15" INV E 761.80
15" INV W 761.70
12" INV N 761.60
- 44 STA 17+30.07, 53.3' R
48" DIA CATCH BASIN, COVER J
T/CAST 769.87
15" INV W 764.50
15" INV S 764.60
- 55 STA 18+53.90, 29.5' R
48" DIA CATCH BASIN, COVER J
T/CAST 771.81
12" INV E 768.10
12" INV N 768.00
- 56 STA 18+78.20, 22.0' R
24" DIA CATCH BASIN, COVER J
T/CAST 772.24
12" INV W 768.37

DRAWING PATH: P:\7301_7400\73120010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Profiles\1 Mile Hammond\00010PRF.dwg Mar 30, 2021 10:23 pm

REVISIONS

VERT DATUM

LOCAL

SCALE

H: 1"=30'

CITY/VILLAGE/TOWNSHIP

EAST BAY TOWNSHIP

COUNTY

GRAND TRAVERSE

PROJ MGR

BA

DATE

3/30/2021

PROJ NUMBER

737-004010

SHEET

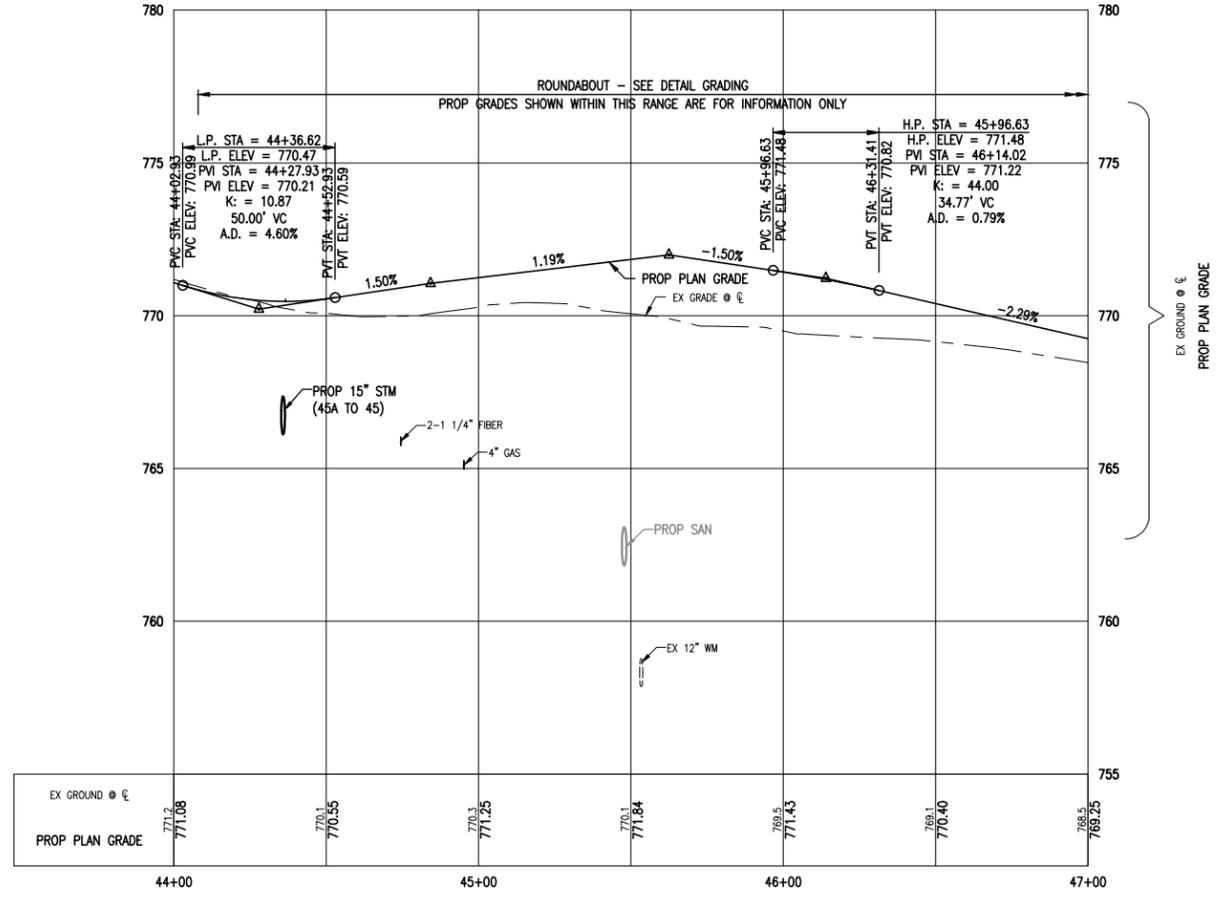
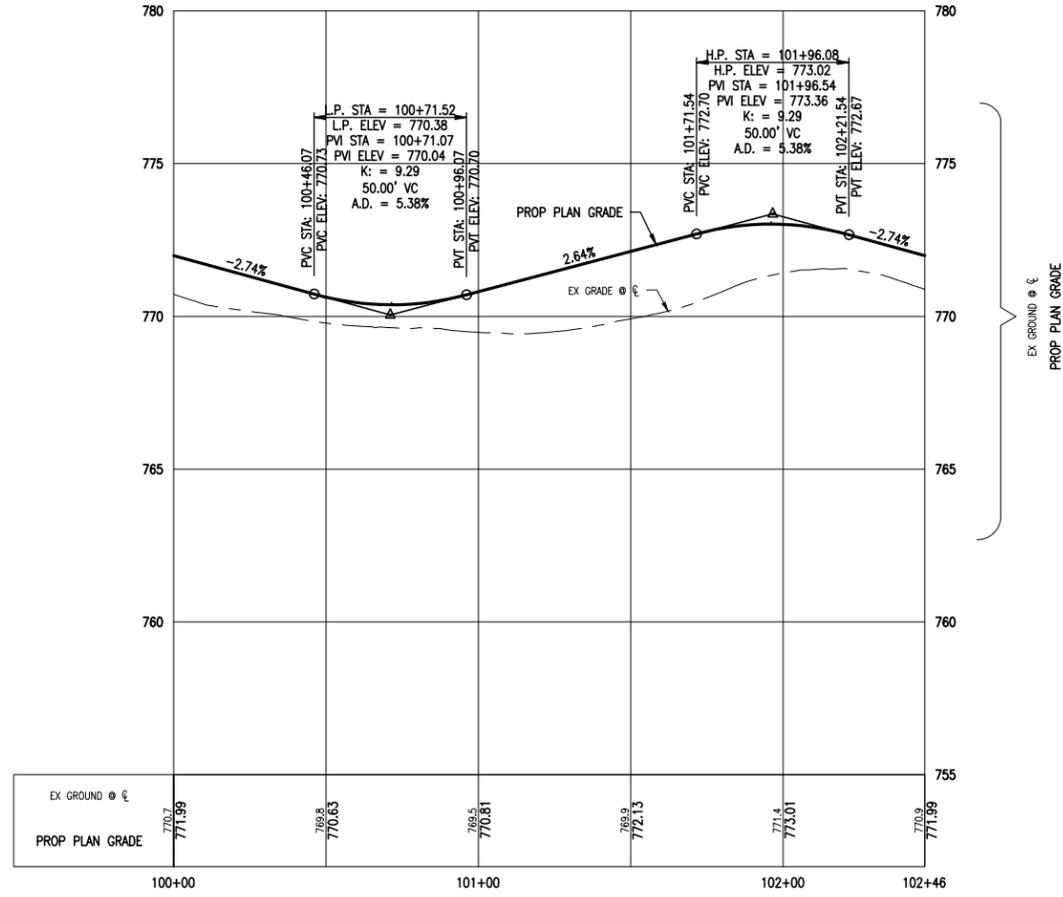
GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
PROFILE - RIGHT (HAMMOND RD)

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SEE SHEET 6 FOR BENCHMARK AND TRAVERSE POINT INFORMATION. THIS PROJECT USES A LOCAL HORIZONTAL DATUM.

RAB

4 MILE RD



DRAWING PATH: P:\7301_7400\737200010_GTCR_E-M_Corridor_Roundabouts\Drawings\Civil\Profiles\1 Mile Hammond\00010PRF.dwg Mar 30, 2021 10:23 pm

DATE: 3/30/2021 PROJ NUMBER: 737-004010 BA: GRAND TRAVERSE COUNTY CADD: JM PROJ MGR: J.K. COUNTY: GRAND TRAVERSE CITY/VILLAGE/TOWNSHIP: EAST BAY TOWNSHIP SCALE: H: 1"=30' V: HORIZ DATUM: LOCAL VERT DATUM: NAVD83 REVISIONS:

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
PROFILE - CENTER (4 MILE RD & RAB)

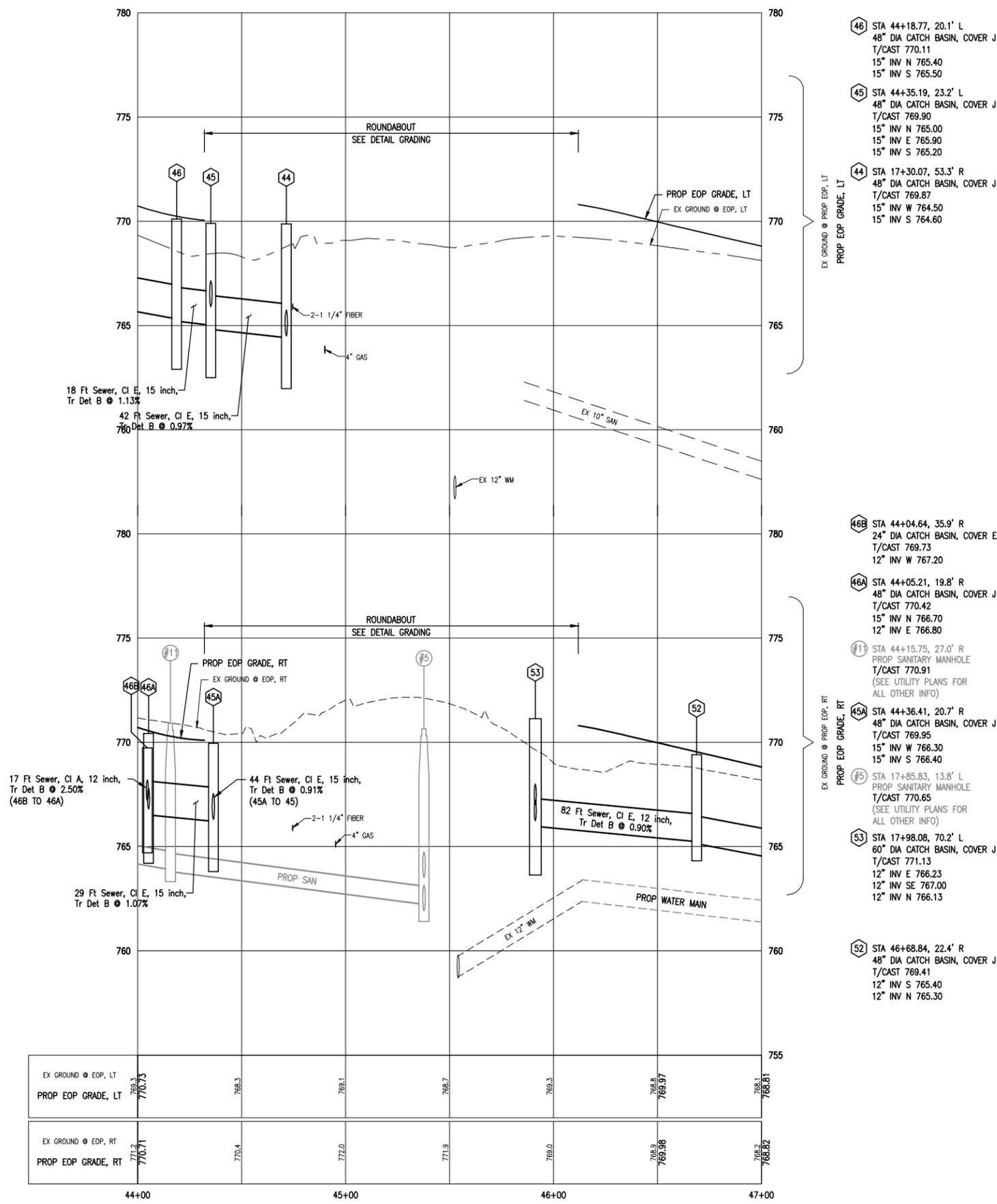
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4 MILE RD



OHM
ARCHITECTS ENGINEERS PLANNERS
300 East Mitchell St., Suite 2
Potosi, MI 49770
P (231) 344-1150
OHM-ADVISORS.COM



- 46 STA 44+18.77, 20.1' L
48" DIA CATCH BASIN, COVER J
T/CAST 770.11
15" INV N 765.40
15" INV S 765.50
- 45 STA 44+35.19, 23.2' L
48" DIA CATCH BASIN, COVER J
T/CAST 769.90
15" INV N 765.00
15" INV E 765.90
15" INV S 765.20
- 44 STA 17+30.07, 53.3' R
48" DIA CATCH BASIN, COVER J
T/CAST 769.87
15" INV E 764.50
15" INV S 764.60

- 46B STA 44+04.64, 35.9' R
24" DIA CATCH BASIN, COVER E
T/CAST 769.73
12" INV W 767.20
- 46A STA 44+05.21, 19.8' R
48" DIA CATCH BASIN, COVER J
T/CAST 770.42
15" INV N 766.70
12" INV E 766.80
- #1 STA 44+15.75, 27.0' R
PROP SANITARY MANHOLE
T/CAST 770.91
(SEE UTILITY PLANS FOR ALL OTHER INFO)
- 45A STA 44+36.41, 20.7' R
48" DIA CATCH BASIN, COVER J
T/CAST 769.95
15" INV W 766.30
15" INV S 766.40
- #5 STA 17+85.83, 13.8' L
PROP SANITARY MANHOLE
T/CAST 770.65
(SEE UTILITY PLANS FOR ALL OTHER INFO)
- 53 STA 17+98.08, 70.2' L
60" DIA CATCH BASIN, COVER J
T/CAST 771.13
12" INV E 766.23
12" INV SE 767.00
12" INV N 766.13
- 52 STA 46+68.84, 22.4' R
48" DIA CATCH BASIN, COVER J
T/CAST 769.41
12" INV S 765.40
12" INV N 765.30

STATION	EX GROUND @ EOP, LT	PROP EOP GRADE, LT	EX GROUND @ EOP, RT	PROP EOP GRADE, RT
44+00	769.3	770.73	771.6	770.71
45+00	768.3		770.4	
46+00	769.1		772.0	
47+00	768.7		771.9	
	769.3		769.0	
	768.8	769.97	768.9	769.98
	768.1	768.81	768.6	768.82

DRAWING PATH: P:\7301_7400\731200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Profiles\4 Mile Hammond\00010PRE.dwg Mar 30, 2021 10:23 pm

REVISIONS: _____

NO.	DATE	DESCRIPTION

DATE	PROJ NUMBER	ENG	BA	PROJ MGR	JM	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
3/30/2021	737-004070						GRAND TRAVERSE	EAST BAY TOWNSHIP	H: 1"=30' V: _____	LOCAL	NAVD83

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
PROFILE - LEFT & RIGHT (4 MILE RD)

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SEE SHEET 6 FOR BENCHMARK AND TRAVERSE POINT INFORMATION. THIS PROJECT USES A LOCAL HORIZONTAL DATUM.

WEST LEG

HAMMOND RD

EAST LEG



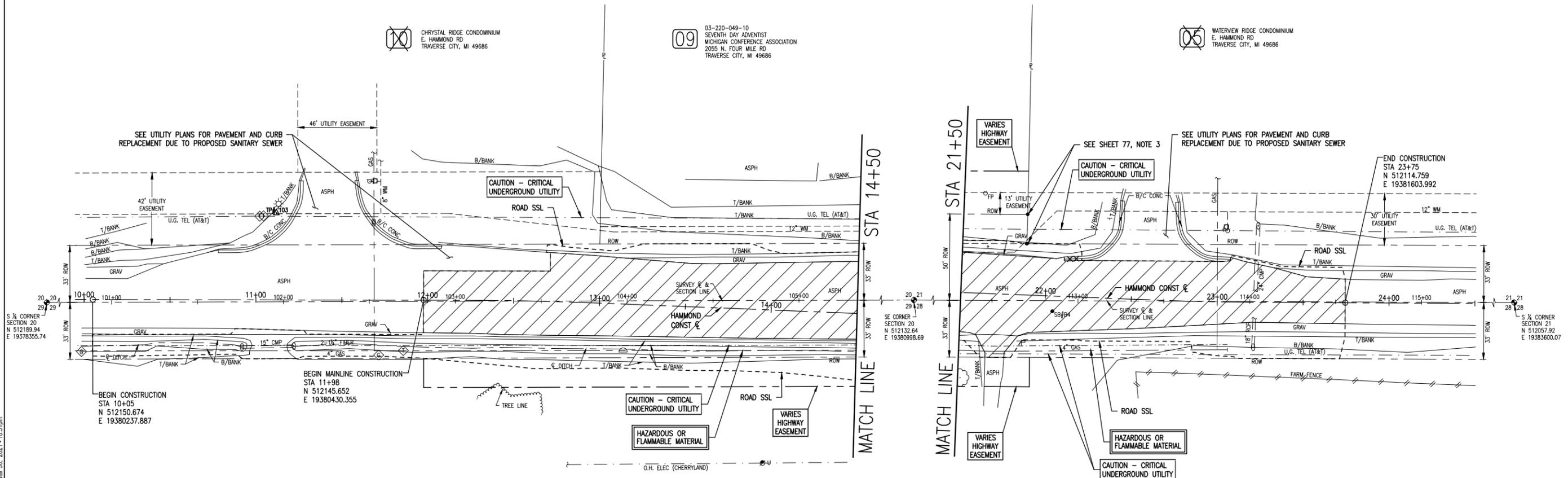
OHM
ARCHITECTS ENGINEERS PLANNERS
300 East Mitchell St., Suite 2
Petoskey, MI 49770
P (231) 344-1150
OHM-ADVISORS.COM

+86.28 TELEPHONE RISER 49.88'L
+86.52 TELEPHONE RISER 49.82'L
+86.04 IRON REBAR-SET 3.51'L
+97.26 LIGHT POLE 368.1'L

+50.27 FIRE HYDRANT E.G. 760.66 69.72'L
+50.27 FIRE HYDRANT E.G. 760.66 69.72'L
+53.47 HYDRANT VALVE BOX 69.94'L

09 03-220-049-10
SEVENTH DAY ADVENTIST
MICHIGAN CONFERENCE ASSOCIATION
2055 N. FOUR MILE RD
TRAVERSE CITY, MI 49686

05 WATERVIEW RIDGE CONDOMINIUM
E. HAMMOND RD
TRAVERSE CITY, MI 49686



02 03-229-001-10
GROLEAU PATRICA C & GROLEAU LOUIS
1830 E. HAMMOND RD
TRAVERSE CITY, MI 49686

03 03-228-005-20
GROLEAU PATRICA C & GROLEAU LOUIS
2080 E. HAMMOND RD
TRAVERSE CITY, MI 49686

+82.49 GAS TEST RISER 28.47'R

R +75.74 15" ROUND CULVERT CMP/E/PIPE 759.25 26.22'R

R +05.9 15" ROUND CULVERT CMP/M/INV 758.92 25.72'R

R B/O +55.44 GAS TEST RISER 30.87'R

REL B/O +59.66 FIRE RISER 28.49'R

ADJ B/O +97.54 HORIZONTAL ELEC 297.73'R

+78.51 POWER POLE 94.29'R

+31.46 CL2 DECID TREE 6" 44.96'R

REL +68.28 WALLBOX 23.69'R

R +02.0 18" ROUND CULVERT RCP/IN/INV 281.02 26.59'R

GTCRC QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
1	Ea	Culv, Rem, Less than 24 inch
1	Ea	Culv, End, Rem, Less than 24 inch
11	Ft	Curb and Gutter, Rem
1037	Cyd	Excavation, Earth
2161	Syd	HMA Surface, Rem

- NOTES:
- SEE WATER MAIN SHEETS 77-84 FOR LIMITS OF WATER MAIN REMOVAL AND ABANDONMENT.
 - EXISTING SIGNAL INFRASTRUCTURE REMOVALS ARE DETAILED ON THE SIGNAL PLAN BEGINNING ON SHEET 74.
 - CONTRACTOR TO RELOCATE ROCKS/BOULDERS THAT ARE WITHIN THE GRADING LIMITS TO THE PROPERTY LINE OR TEMPORARY/HIGHWAY EASEMENT LINE, WHICHEVER IS FURTHER. THIS WORK IS INCLUDED IN THE COST OF EXCAVATION, EARTH (CYD).
 - UTILITY EXPLORATION / LOCATION IS INCLUDED IN THE COST OF THE APPLICABLE UNDERGROUND ITEM (WATER MAIN, SANITARY SEWER, STORM SEWER, STREETLIGHT, IRRIGATION, ELECTRICAL, OR EARTHWORK)
 - PRIVATE UTILITY LOCATIONS ARE APPROXIMATE. LOCATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AND THE UTILITY COMPANY.

DRAWING PATH: P:\7301_7400\73120010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Removal\4 Mile_Hammond\20010REM.dwg Mar 30, 2021 - 10:31pm

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
REMOVAL PLAN

SEE SHEET 6 FOR BENCHMARK AND TRAVERSE POINT INFORMATION. THIS PROJECT USES A LOCAL HORIZONTAL DATUM.

HAMMOND RD

WEST LEG

EAST LEG



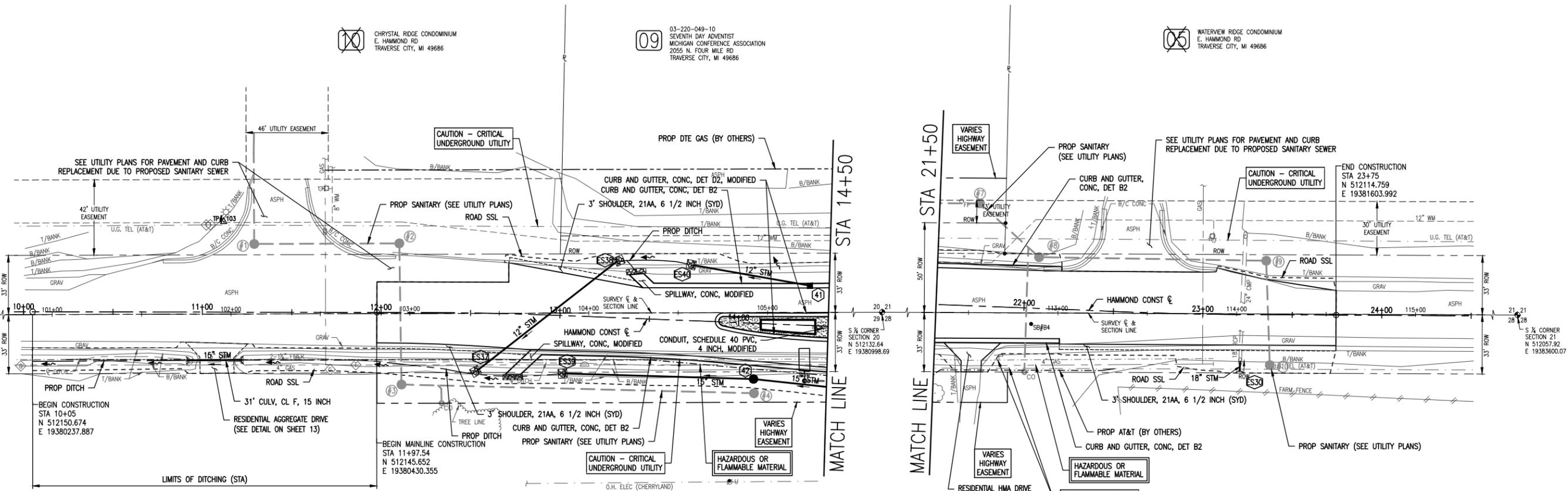
03-220-049-10
SEVENTH DAY ADVENTIST
MICHIGAN CONFERENCE ASSOCIATION
2055 N. FOUR MILE RD
TRAVERSE CITY, MI 49686

09
03-220-049-10
SEVENTH DAY ADVENTIST
MICHIGAN CONFERENCE ASSOCIATION
2055 N. FOUR MILE RD
TRAVERSE CITY, MI 49686

05
WATERVIEW RIDGE CONDOMINIUM
E. HAMMOND RD
TRAVERSE CITY, MI 49686

02
03-229-001-10
GROLEAU PATRICA C & GROLEAU LOUIS
1830 E. HAMMOND RD
TRAVERSE CITY, MI 49686

03
03-229-005-20
GROLEAU PATRICA C & GROLEAU LOUIS
2080 E. HAMMOND RD
TRAVERSE CITY, MI 49686



STRUCT NO	STATION	OFFSET	Dr Structure, ___ inch		Dr Structure Cover, Type _		Sewer, CI A, 12 inch, Tr Det B	Sewer, CI A, 15 inch, Tr Det B	Culv, CI E, 12 inch	TO STRUCT NO	Culv End Sect, 12 inch	Culv End Sect, 15 inch	Culv End Sect, Footing
			24	48	B	J							
		Ft	Ea	Ea	Ea	Ea	Ft	Ft	Ft		Ea	Ea	Ea
41	14+38.98	22.18	LT	1			66			ES40			
ES40	13+73.71	30.97	LT								1		1
42	14+09.51	31.10	RT		1	1		106		ES39			
ES39	13+04.27	32.22	RT									1	1
ES38	13+30.56	31.31	LT						99	ES37	1		1
ES37	12+54.58	31.76	RT								1		1
TOTALS (CAT 001)				1	1	1	1	66	106	99	3	1	4

TOTAL	UNIT	DESCRIPTION
433	Cyd	Embankment, CIP
2	Sta	Ditching
39	Syd	Aggregate Base, 6 inch
14	Syd	Aggregate Base, 10 inch
2281	Syd	Aggregate Base, 12 inch
15	Ton	Approach, CI II
108	Syd	Shoulder, 21AA, 6 1/2 inch
2	Ea	Culv End Sect, 15 inch
1	Ea	Culv End Sect, 18 inch
6	Ft	Culv, CI A, 18 inch
31	Ft	Culv, CI F, 15 inch
1	Ea	Sewer Tap, 18 inch
341	Ton	HMA, 3E3
228	Ton	HMA, 4E3
171	Ton	HMA, 5E3
7	Ton	HMA Approach, Residential
38	Syd	Conc Pavt, Misc, Decorative Colored, 6 inch
398	Ft	Curb and Gutter, Conc, Det B2
132	Ft	Curb and Gutter, Conc, Det D2, Modified
23	Ft	Spillway, Conc, Modified

TOTAL	UNIT	DESCRIPTION
77	Ft	Curb, Conc, Det E1
9	Ft	Conduit, Schedule 40 PVC, 4 inch, Modified

- NOTES
- UTILITY EXPLORATION / LOCATION IS INCLUDED IN THE COST OF THE APPLICABLE UNDERGROUND ITEM (WATER MAIN, SANITARY SEWER, STORM SEWER, STREETLIGHT, IRRIGATION, ELECTRICAL, OR EARTHWORK).
 - PRIVATE UTILITY LOCATIONS ARE APPROXIMATE. LOCATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AND THE UTILITY COMPANY.

DRAWING PATH: P:\7301_7400\73720010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Plans_Corridor_Roundabouts\0010CON.dwg Mar 30, 2021 - 10:32am

GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 CONSTRUCTION PLAN
 SHEET 23 OF 84

SEE SHEET 6 FOR BENCHMARK AND TRAVERSE POINT INFORMATION. THIS PROJECT USES A LOCAL HORIZONTAL DATUM.

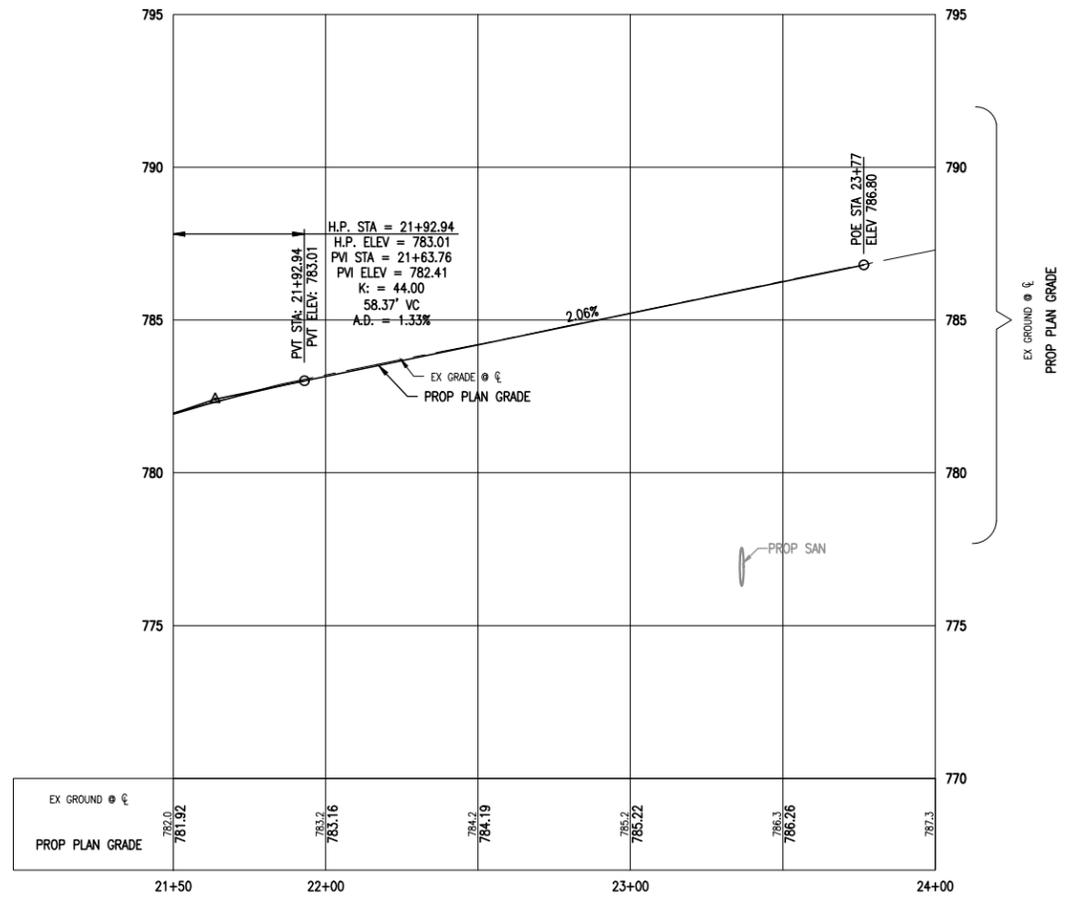
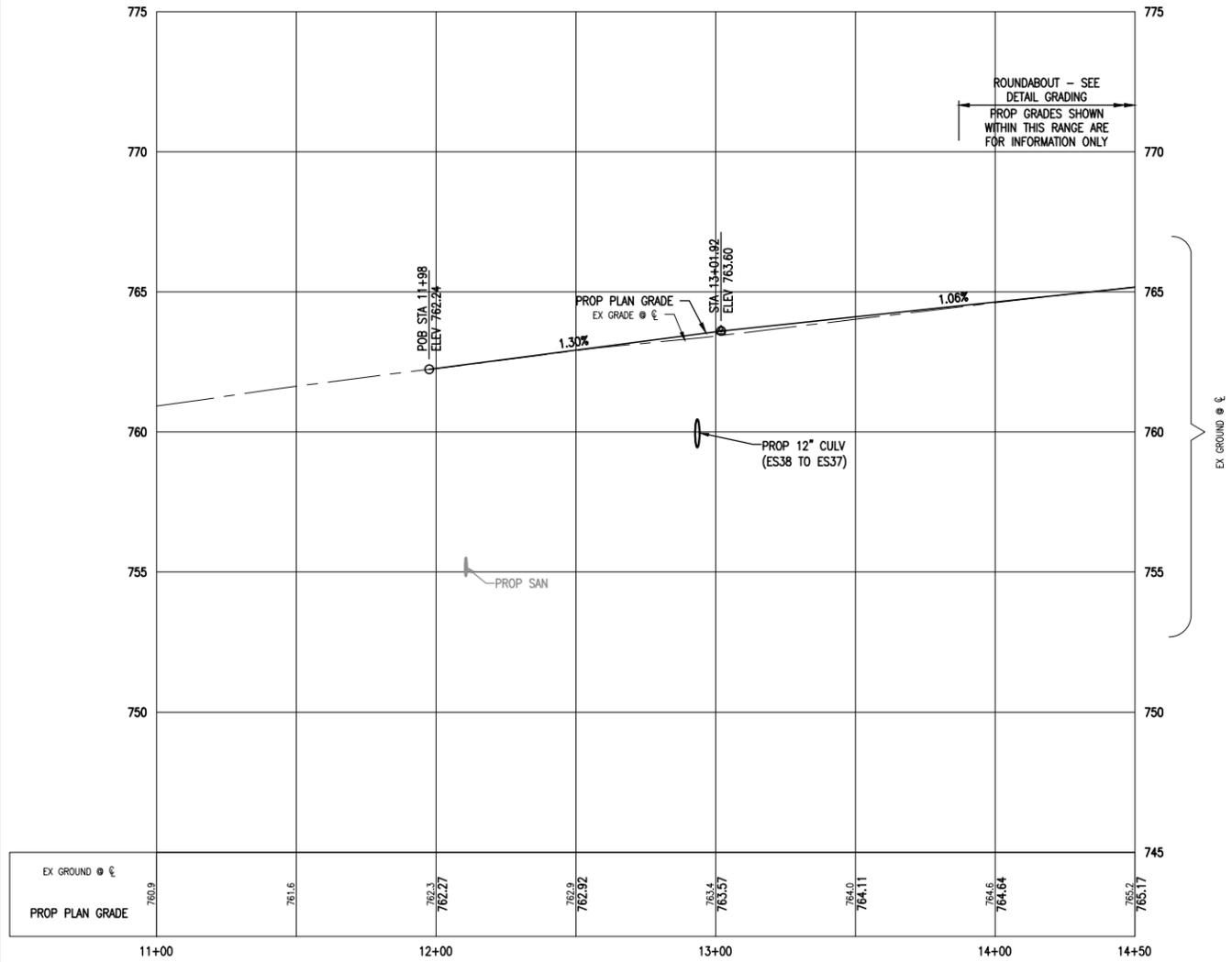
WEST LEG

HAMMOND RD

EAST LEG



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DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Profiles\1 Mile Hammond\00010PRE.dwg Mar 30, 2021 10:32pm

DATE	PROJ NUMBER	ENG	BA	JK	PROJ MGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
3/30/2021	737-004010						GRAND TRAVERSE	EAST BAY TOWNSHIP	H: 1"=30'	V: LOCAL	NAVD83

GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 PROFILE - CENTER (HAMMOND RD)

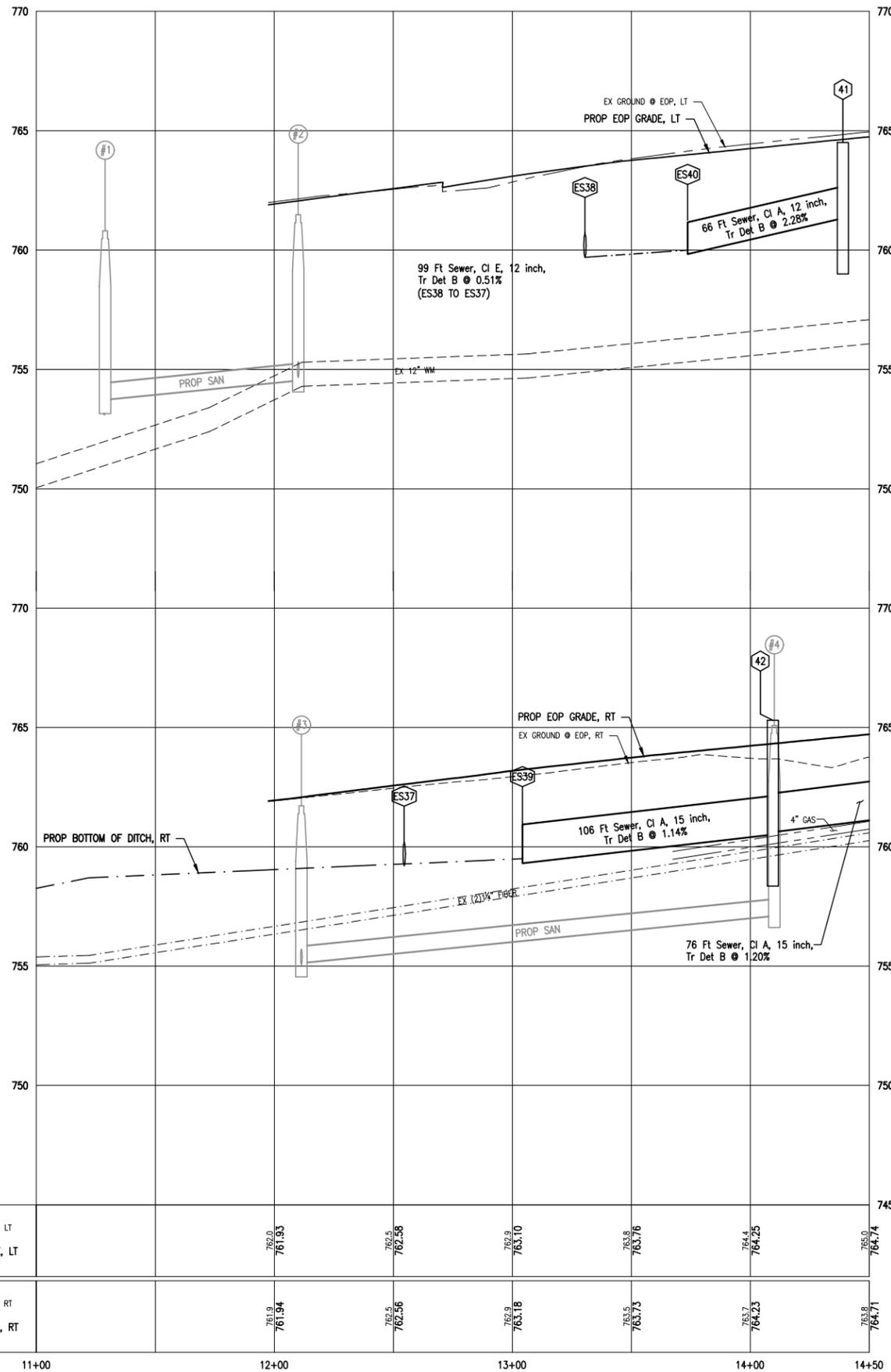
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SEE SHEET 6 FOR BENCHMARK AND TRAVERSE POINT INFORMATION. THIS PROJECT USES A LOCAL HORIZONTAL DATUM.

HAMMOND RD

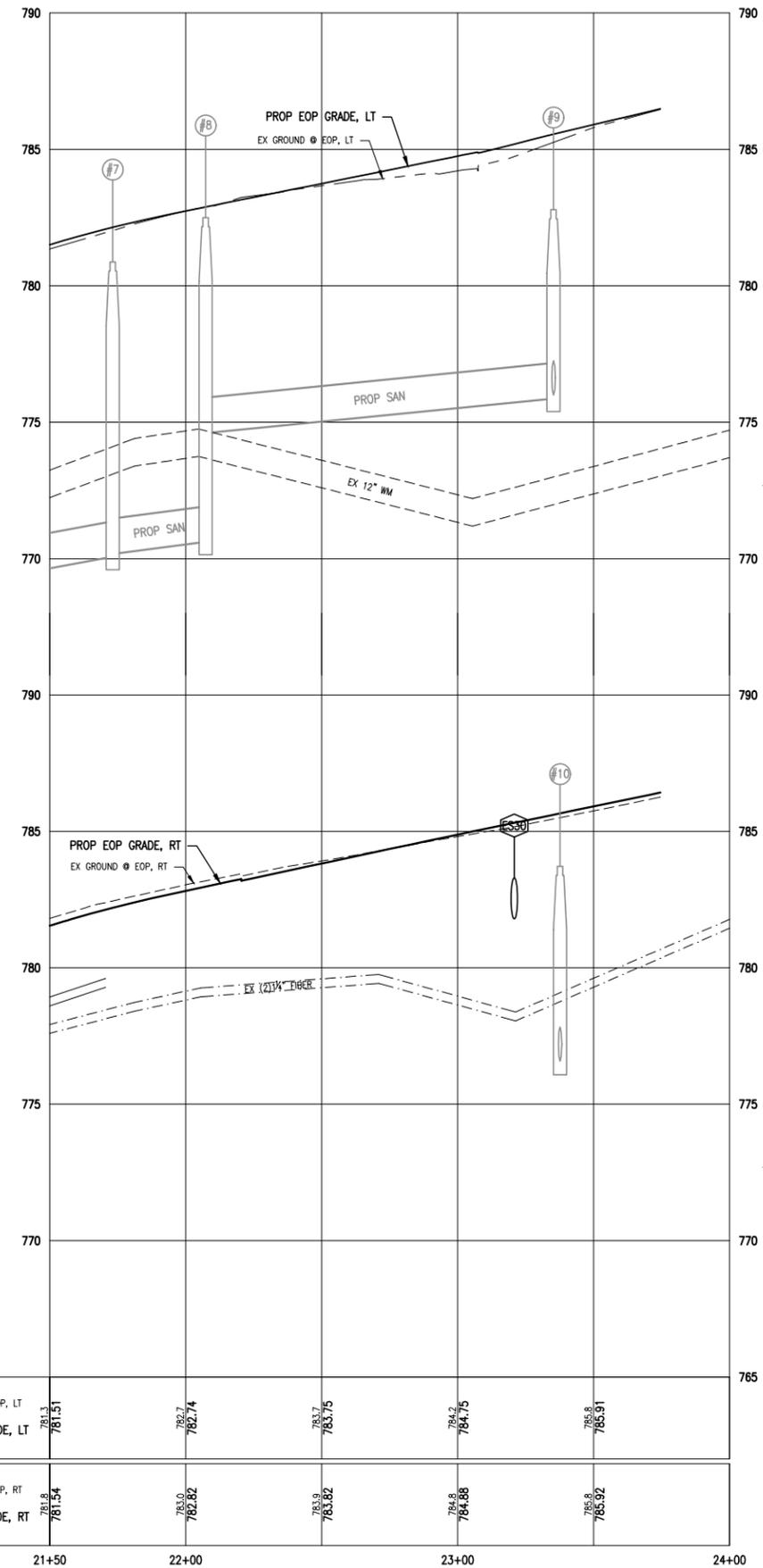
WEST LEG

EAST LEG



- #1 STA 11+28.90, 38.0' L PROP SANITARY MANHOLE T/CAST 760.81 (SEE UTILITY PLANS FOR ALL OTHER INFO)
- #2 STA 12+10.02, 38.5' L PROP SANITARY MANHOLE T/CAST 761.48 (SEE UTILITY PLANS FOR ALL OTHER INFO)
- ES38 STA 13+30.56, 31.3' L 12" CULV END SECTION 12" INV SW 759.70
- ES40 STA 13+73.71, 31.0' L 12" CULV END SECTION 12" INV E 760.00
- 41 STA 14+38.98, 22.2' L 24" DIA CATCH BASIN, COVER J T/CAST 764.51 12" INV W 761.50

- #3 STA 12+11.38, 40.2' R PROP SANITARY MANHOLE T/CAST 761.72 (SEE UTILITY PLANS FOR ALL OTHER INFO)
- ES37 STA 12+54.58, 31.8' R 12" CULV END SECTION 12" INV NE 759.20
- ES39 STA 13+04.27, 32.2' R 15" CULV END SECTION 15" INV E 759.50
- #4 STA 14+10.10, 39.0' R PROP SANITARY MANHOLE T/CAST 765.08 (SEE UTILITY PLANS FOR ALL OTHER INFO)
- 42 STA 14+09.51, 31.1' R 48" DR STRUCTURE, COVER B 15" INV W 760.70 15" INV E 760.80



- #7 STA 21+73.15, 57.2' L PROP SANITARY MANHOLE T/CAST 780.88 (SEE UTILITY PLANS FOR ALL OTHER INFO)
- #8 STA 22+07.30, 28.5' L PROP SANITARY MANHOLE T/CAST 782.50 (SEE UTILITY PLANS FOR ALL OTHER INFO)
- #9 STA 23+35.27, 30.1' L PROP SANITARY MANHOLE T/CAST 782.79 (SEE UTILITY PLANS FOR ALL OTHER INFO)

- ES30 STA 23+20.82, 31.5' R 18" CULV END SECTION 18" INV N 781.50
- #10 STA 23+37.65, 28.1' R PROP SANITARY MANHOLE T/CAST 783.72 (SEE UTILITY PLANS FOR ALL OTHER INFO)

DRAWING PATH: P:\7301_7400\731200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Profiles\1 Mile Hammond\00010PRF.dwg Mar 30, 2021 10:32pm

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REVISIONS:
| | | | |

DATE: 3/30/2021
PROJECT NUMBER: 731200010
ENGINEER: BA
PROJECT MANAGER: JK
CADD MANAGER: JM
COUNTY: GRAND TRAVERSE
CITY/VILLAGE/TOWNSHIP: EAST BAY TOWNSHIP
SCALE: H: 1"=30'
VERTICAL DATUM: LOCAL
HORIZONTAL DATUM: NAD83

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
PROFILE - LEFT & RIGHT (HAMMOND RD)

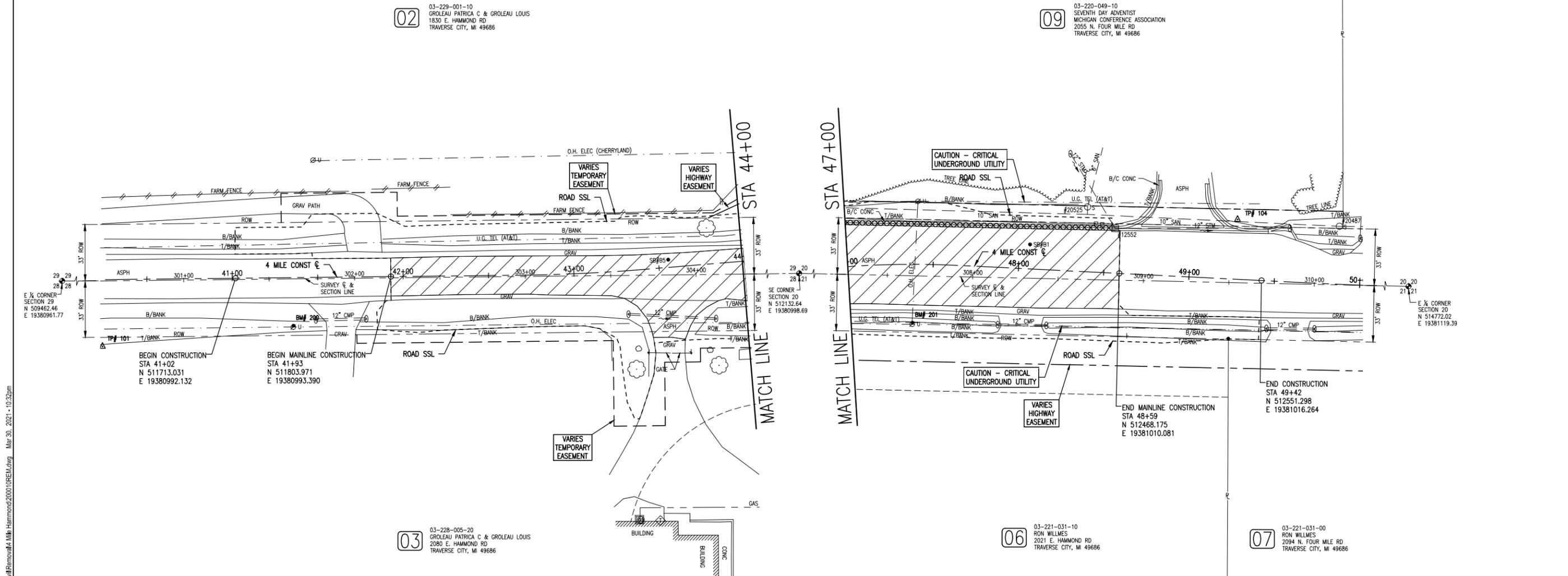
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SEE SHEET 6 FOR BENCHMARK AND TRAVERSE POINT INFORMATION. THIS PROJECT USES A LOCAL HORIZONTAL DATUM.

SOUTH LEG 4 MILE RD NORTH LEG



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DRAWING PATH: P:\7301_7400\737200010_GTCRC E-M Corridor_Roundabouts\Drawings\Civil\Removal\4 Mile_Hammond\20010REM.dwg Mar 30, 2021 - 10:32am

02 03-229-001-10
GROLEAU PATRICA C & GROLEAU LOUIS
1830 E. HAMMOND RD
TRAVERSE CITY, MI 49686

09 03-220-049-10
SEVENTH DAY ADVENTIST
MICHIGAN CONFERENCE ASSOCIATION
2355 N. FOUR MILE RD
TRAVERSE CITY, MI 49686

03 03-228-005-20
GROLEAU PATRICA C & GROLEAU LOUIS
2080 E. HAMMOND RD
TRAVERSE CITY, MI 49686

06 03-221-031-10
RON WILLIAMS
2021 E. HAMMOND RD
TRAVERSE CITY, MI 49686

07 03-221-031-00
RON WILLIAMS
2094 N. FOUR MILE RD
TRAVERSE CITY, MI 49686

+76.42 POWER POLE 69.24'L

R-456.25 6.2 DECID TREE 6 27.4'L

+67.04 POWER POLE 43.92'L

+55.70 12" ROUND CULVERT CMP/N/NW 762.32 73.24'L
+66.3 #2052 6" PVC INW SW 765.58'
6" PVC INW SW 757.48'
REL -477.5 MAILBOX 33.16'L
REL -475.18 MAILBOX 32.87'L
+82.83 #12522 CATCH BASIN-CURB 1/CST 765.20 30.2'L
12" RCP INW N 760.70
12" PVC INW SW 761.50

+54.32 IRON REBAR-SET 36.96'L

+84.98 12" ROUND CULVERT CMP/S/INW 759.85 32.45'L

+13.91 #20487 SANITARY MANHOLE 1/CST 761.32 34.2'L
10" PVC INW N 762.52
10" PVC INW S 762.52
+26.3 15" ROUND CULVERT CMP/N/INW 759.71 27.42'L

+52.06 IRON REBAR-SET 38.25'R

+63.83 POWER POLE 28.15'R

+77.15 12" ROUND CULVERT CMP/N/INW 776.56 24.08'R

+06.63 12" ROUND CULVERT CMP/S/INW 778.65 23.81'R

R-460.16 12" ROUND CULVERT CMP/N/INW 770.20 22.89'R
R-464.6 6.11 DECID TREE 5 54.88'L
REL -465.34 GAS METER 142.78'R
REL -465.89 BOULDER 47.73'R
R-467.15 6.15 6" UG TEL 145.23'L
S-472.10 SIGN-NO THRU TRAFFIC 44.97'R
+77.63 TELEPHONE RISER 143.43'R

R-468.87 GATE POST 45.71'R
S-468.82 SIGN-NO THRU TRAFFIC 45.01'R
+07.83 BOULDER 44.08'R
R-471.81 12" ROUND CULVERT CMP/S/INW 768.17 25.58'R
+72.82 6.2 DECID TREE 10 53.12'R

REL B/C-455.14 POWER POLE 28.31'R

R-455.21 12" ROUND CULVERT CMP/N/INW 764.35 27.43'R

R-453.63 12" ROUND CULVERT CMP/S/INW 764.35 27.43'R

S-430.83 SIGN-GUIDE 32.43'R

+50.33 IRON ROD-FD 32.77'R

+72.52 12" ROUND CULVERT CMP/N/INW 761.77 26.41'R

+06.64 12" ROUND CULVERT CMP/S/INW 761.00 26.06'R

GTCRC QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
1	Ea	Tree, Rem, 19 inch to 36 inch
1	Ea	Tree, Rem, 6 inch to 18 inch
2	Ea	Culv, Rem, Less than 24 inch
162	Ft	Curb and Gutter, Rem
2	Ea	Gate, Rem
852	Cyd	Excavation, Earth
1453	Syd	HMA Surface, Rem
1	Ea	Sign, Type III, Rem

NOTES:

- SEE WATER MAIN SHEETS 77-84 FOR LIMITS OF WATER MAIN REMOVAL AND ABANDONMENT.
- EXISTING SIGNAL INFRASTRUCTURE REMOVALS ARE DETAILED ON THE SIGNAL PLAN BEGINNING ON SHEET 74.
- CONTRACTOR TO RELOCATE ROCKS/BOULDERS THAT ARE WITHIN THE GRADING LIMITS TO THE PROPERTY LINE OR TEMPORARY/HIGHWAY EASEMENT LINE, WHICHEVER IF FURTHER. THIS WORK IS INCLUDED IN THE COST OF EXCAVATION, EARTH (CYD).
- UTILITY EXPLORATION / LOCATION IS INCLUDED IN THE COST OF THE APPLICABLE UNDERGROUND ITEM (WATER MAIN, SANITARY SEWER, STORM SEWER, STREETLIGHT, IRRIGATION, ELECTRICAL, OR EARTHWORK)
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DATE	3/30/2021
PROJ NUMBER	737-004070
ENG	BA
PROJ LEADER	JK
CADD	JM
COUNTY	GRAND TRAVERSE
TOWNSHIP	EAST BAY TOWNSHIP
SCALE	H: 1"=30'
VERT DATUM	LOCAL
MAP/DRAWN	

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
REMOVAL PLAN

26
OF 84

SEE SHEET 6 FOR BENCHMARK AND TRAVERSE POINT INFORMATION. THIS PROJECT USES A LOCAL HORIZONTAL DATUM.

4 MILE RD

SOUTH LEG

NORTH LEG



OHM
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Potosky, MI 49770
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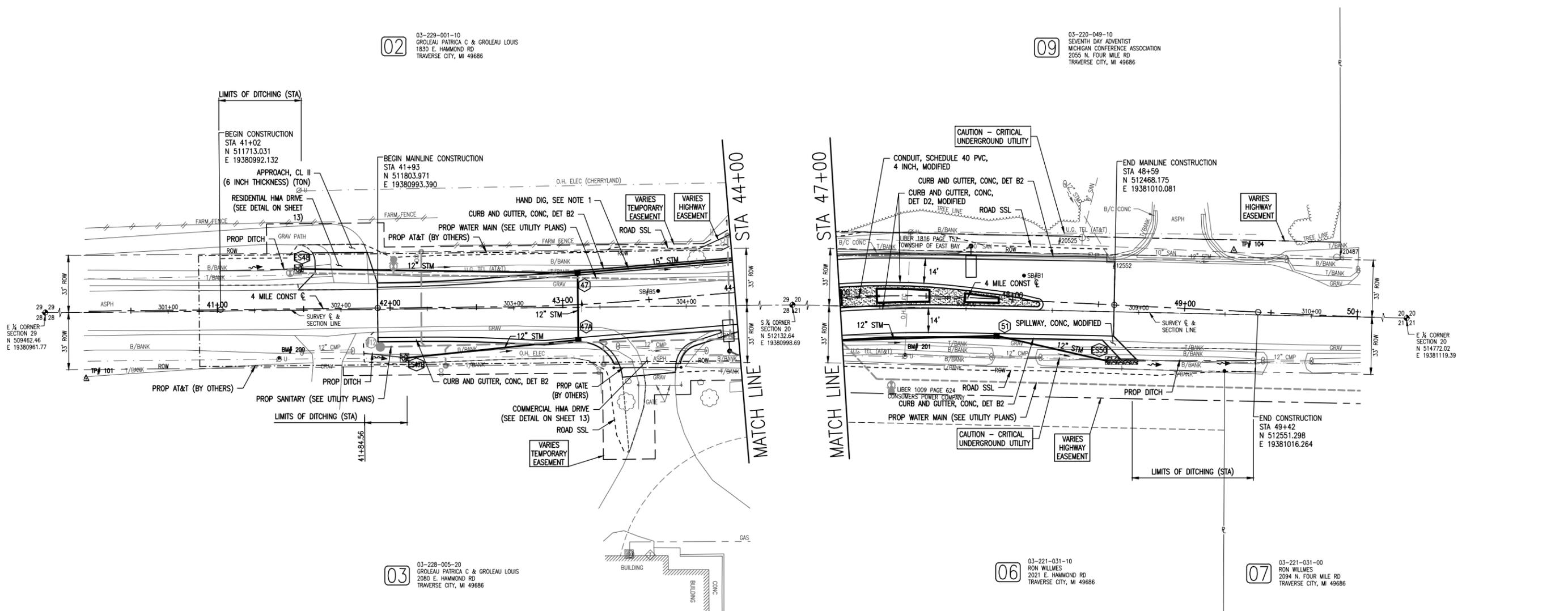
02 03-229-001-10
GROLEAU PATRICA C & GROLEAU LOUIS
1830 E. HAMMOND RD
TRAVERSE CITY, MI 49686

09 03-220-049-10
SEVENTH DAY ADVENTIST
MICHIGAN CONFERENCE ASSOCIATION
2055 N. FOUR MILE RD
TRAVERSE CITY, MI 49686

03 03-228-005-20
GROLEAU PATRICA C & GROLEAU LOUIS
2080 E. HAMMOND RD
TRAVERSE CITY, MI 49686

06 03-221-031-10
RON WILLIAMS
2021 E. HAMMOND RD
TRAVERSE CITY, MI 49686

07 03-221-031-10
RON WILLIAMS
2094 N. FOUR MILE RD
TRAVERSE CITY, MI 49686



REVISIONS:
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100

HORIZONTAL VERT DATUM
LOCAL
SCALE
H: 1"=30'
V:
CITY/VILLAGE/TOWNSHIP
EAST BAY TOWNSHIP
COUNTY
GRAND TRAVERSE
STATE
MI

DATE
3/30/2021
PROJECT NUMBER
737-040470
ENGINEER
BA
PROJECTOR
JK
CADD
JM
CADD
JM
COUNTY
GRAND TRAVERSE
CITY/VILLAGE/TOWNSHIP
EAST BAY TOWNSHIP
STATE
MI

DRAWING PATH: P:\7301_7400\73720010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Plans_Corridor_4 Mile Hammond\20010CON.dwg Mar 30, 2021 - 10:32am

- NOTES
1. THE CONTRACTOR SHALL HAND DIG WITH A REPRESENTATIVE FROM THE RESPECTIVE UTILITY COMPANY PRESENT.
 2. UTILITY EXPLORATION / LOCATION IS INCLUDED IN THE COST OF THE APPLICABLE UNDERGROUND ITEM (WATER MAIN, SANITARY SEWER, STORM SEWER, STREETLIGHT, IRRIGATION, ELECTRICAL, OR EARTHWORK).
 3. PRIVATE UTILITY LOCATIONS ARE APPROXIMATE. LOCATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AND THE UTILITY COMPANY.

GTCRC DRAINAGE QUANTITIES THIS SHEET									
STRUCT NO	STATION	OFFSET	Dr Structure, inch dia	Dr Structure Cover, Type	Sewer, CI E, 12 inch, Tr Det B	Sewer, CI E, 15 inch, Tr Det B	TO STRUCT NO	Culv End Sect, 12 inch	Culv End Sect, Footing
			48	J	Ft	Ft		Ea	Ea
ES48	41+48.89	23.04 LT			160		47	1	1
ES47B	42+09.58	28.91 RT			100		47A	1	1
47A	43+08.05	20.35 RT	1	1	39		47		
47	43+09.51	18.30 LT	1	1		112	46		
51	47+92.02	21.17 RT	1	1	66		ESS0		
ESS0	48+56.52	32.50 RT						1	1
TOTALS (CAT 001)			3	3	365	112	-	3	3

GTCRC QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
466	Cyd	Embankment, CIP
1	Sta	Ditching
137	Syd	Aggregate Base, 8 inch
32	Syd	Aggregate Base, 10 inch
1773	Syd	Aggregate Base, 12 inch
20	Ton	Approach, CI II
245	Ton	HMA, 3E3
163	Ton	HMA, 4E3
123	Ton	HMA, 5E3
72	Ton	HMA Approach, Commercial
77	Syd	Conc Pavt, Misc, Decorative Colored, 6 inch
679	Ft	Curb and Gutter, Conc, Det B2
94	Ft	Driveway Opening, Conc, Det M
240	Ft	Curb and Gutter, Conc, Det D2, Modified
14	Ft	Spillway, Conc, Modified
2	Ea	Post, Mailbox

EAST BAY TWP QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
139	Ft	Curb, Conc, Det E1
50	Ft	Conduit, Schedule 40 PVC, 4 inch, Modified

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SEE SHEET 6 FOR BENCHMARK AND TRAVERSE POINT INFORMATION. THIS PROJECT USES A LOCAL HORIZONTAL DATUM.

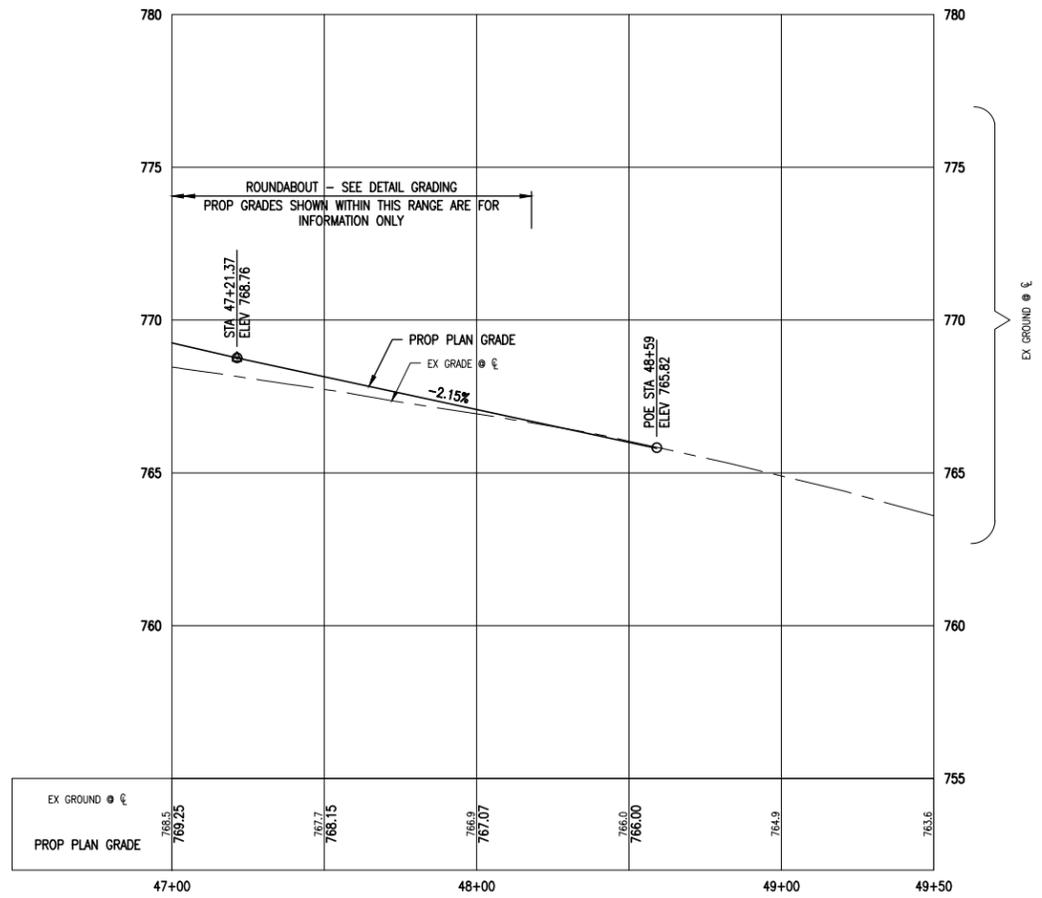
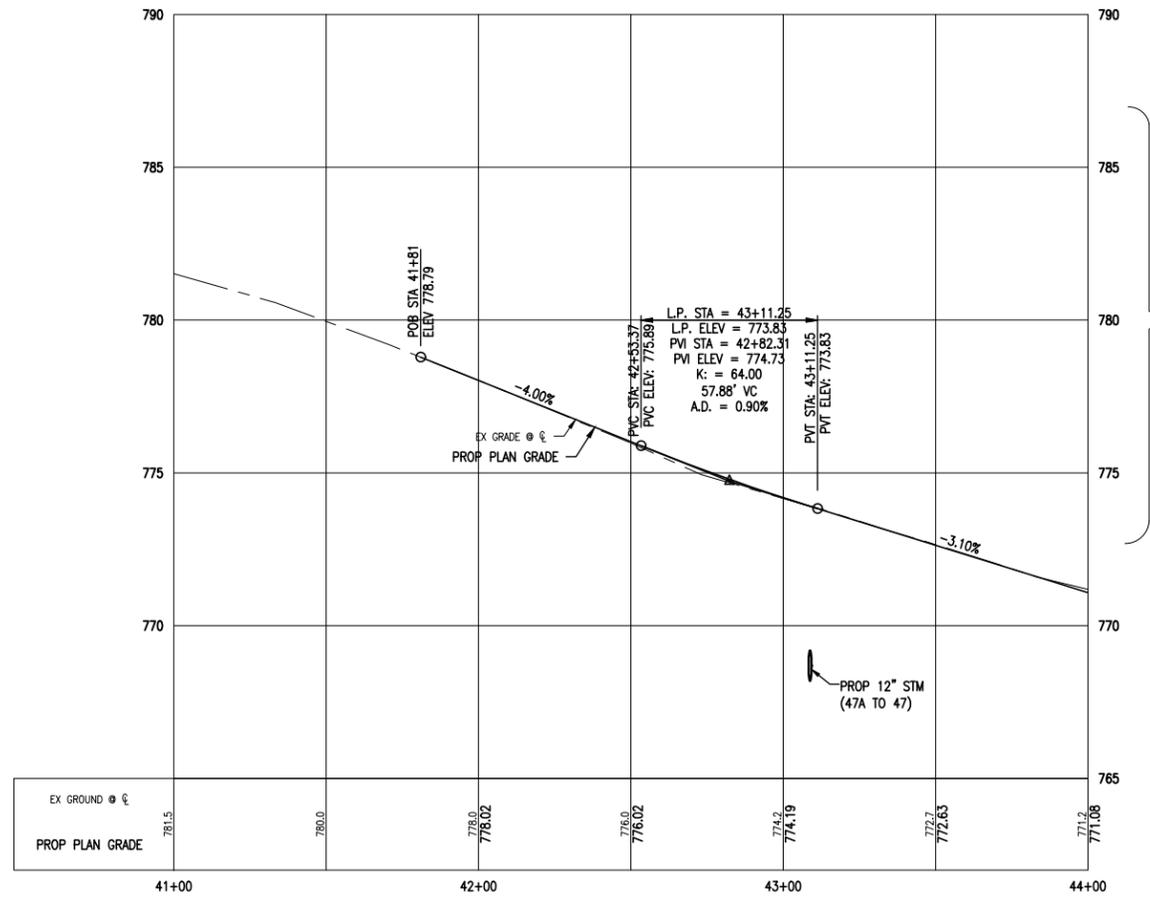
4 MILE RD

SOUTH LEG

NORTH LEG



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 P (231) 344-1150
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DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Profiles\4 Mile Hammond\00010PRE.dwg Mar 30, 2021 10:33pm

DATE	3/30/2021	PROJ NUMBER	737-004010	ENG	BA	PROJ LEADER	JK	CADD	JM	COUNTY	GRAND TRAVERSE	CITY/VILLAGE/TOWNSHIP	EAST BAY TOWNSHIP	SCALE	H: 1"=30'	V: V	HORIZ DATUM	LOCAL	VERT DATUM	NAVD83
------	-----------	-------------	------------	-----	----	-------------	----	------	----	--------	----------------	-----------------------	-------------------	-------	-----------	------	-------------	-------	------------	--------

GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 PROFILE - CENTER (4 MILE RD)

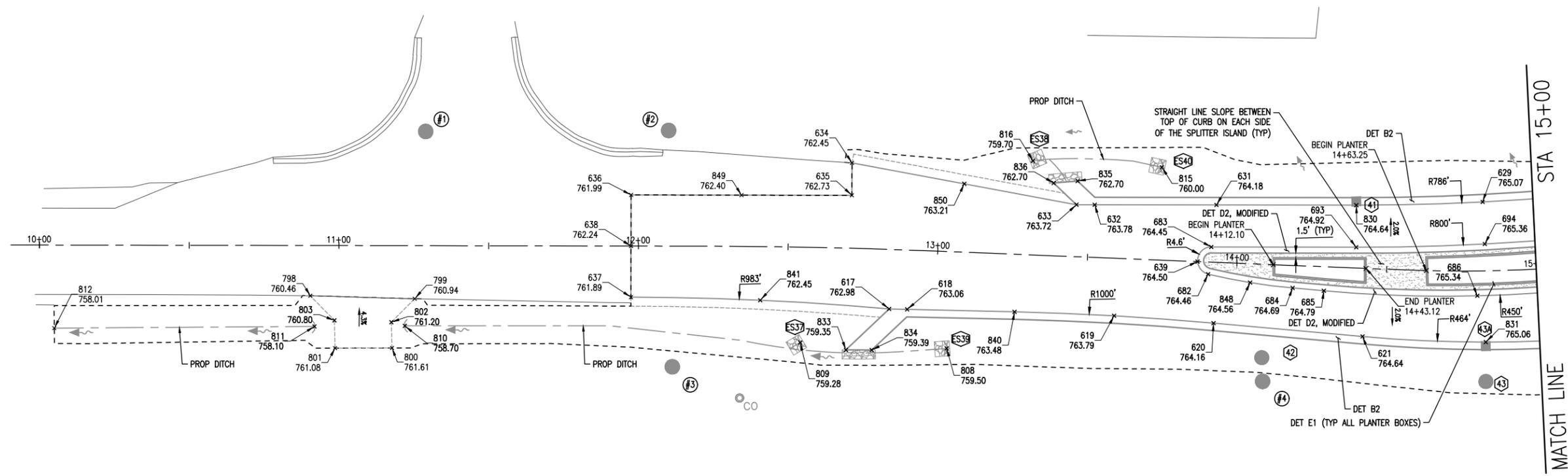
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HAMMOND RD



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Point #	Elevation	Northing	Easting
617	762.98	512122.62	19380516.02
618	763.06	512122.33	19380522.02
619	763.79	512118.51	19380591.06
620	764.16	512115.27	19380624.19
621	764.64	512109.60	19380673.80
629	765.07	512153.36	19380715.00
631	764.18	512154.55	19380626.11
632	763.78	512155.61	19380585.49
633	763.72	512155.77	19380579.41
634	762.45	512171.50	19380504.80
635	762.73	512160.72	19380504.52
636	761.99	512162.65	19380430.80
637	761.89	512128.66	19380429.91
638	762.24	512145.65	19380430.35
639	764.50	512135.86	19380619.36
682	764.46	512131.59	19380622.77
683	764.45	512140.60	19380624.05
684	764.69	512126.31	19380650.89
685	764.79	512125.12	19380661.28
686	765.34	512122.20	19380712.48

Point #	Elevation	Northing	Easting
693	764.92	512139.34	19380672.44
694	765.36	512139.37	19380715.38
798	760.46	512131.72	19380322.90
799	760.94	512129.89	19380357.72
800	761.61	512113.71	19380349.73
801	761.08	512114.12	19380330.74
802	761.20	512122.28	19380349.73
803	760.80	512123.36	19380330.74
808	759.50	512109.03	19380534.90
809	759.28	512112.18	19380486.04
810	758.70	512120.95	19380354.18
811	758.10	512121.49	19380324.04
812	758.01	512123.07	19380237.17
815	760.00	512167.54	19380608.22
816	759.70	512170.73	19380565.24
830	764.64	512153.33	19380672.80
831	765.06	512106.73	19380714.94
833	759.35	512109.36	19380501.23
834	759.39	512109.12	19380509.85
835	762.70	512163.64	19380580.00

Point #	Elevation	Northing	Easting
836	762.70	512163.17	19380571.97
840	763.48	512120.64	19380557.85
841	762.45	512126.58	19380473.03
848	764.56	512128.45	19380636.74
849	762.40	512161.68	19380467.66
850	763.21	512163.63	19380542.11

DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Grading\4_Mile_Hammond\20010\GRD.dwg Mar 30, 2021 - 10:33pm

DATE: 3/30/21 PROJ NUMBER: 737200010 BA: GRAND TRVERSE CAD: JM COUNTY: GRAND TRVERSE CITY/VILLAGE/TOWNSHIP: EAST BAY TOWNSHIP SCALE: H: 1"=20' V: CITY DATUM: LOCAL HORIZONTAL DATUM: VERT DATUM: NAVD83 REVISIONS:

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
DETAIL GRADING

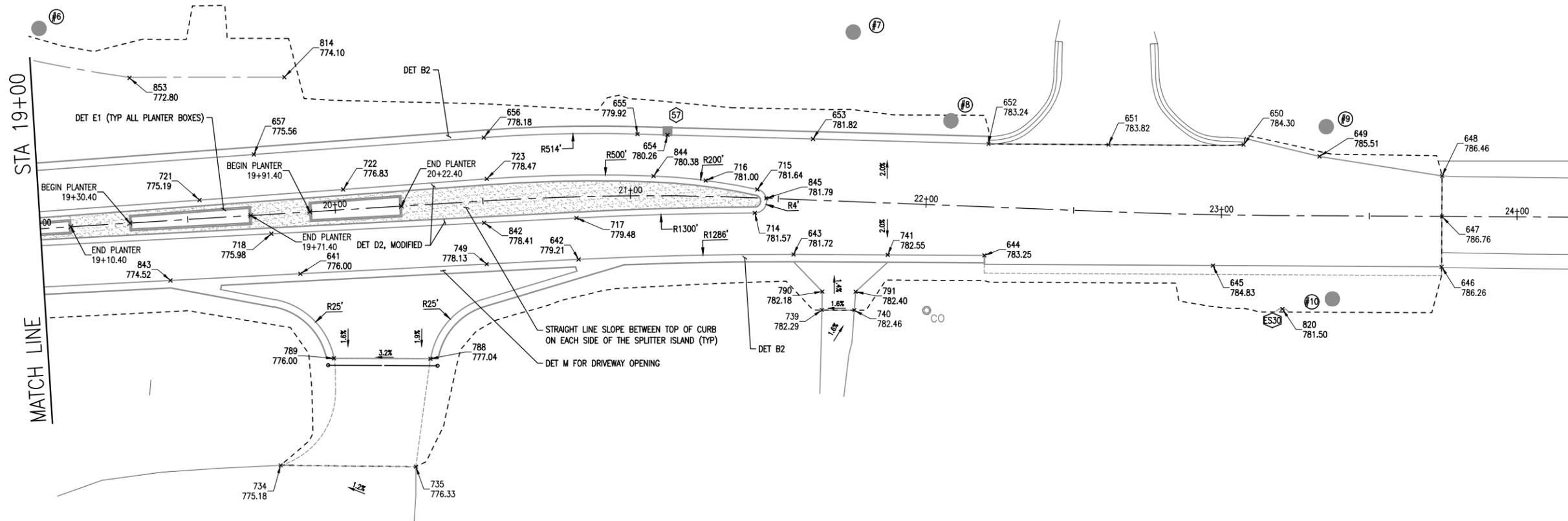
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HAMMOND RD



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Point #	Elevation	Northing	Easting
641	776.00	512104.84	19381217.54
642	779.21	512107.40	19381311.75
643	781.72	512107.31	19381384.45
644	783.25	512105.38	19381448.98
645	784.83	512100.08	19381526.19
646	786.26	512097.77	19381603.48
647	786.76	512114.76	19381603.99
648	786.46	512128.44	19381604.40
649	785.51	512136.04	19381563.12
650	784.30	512140.61	19381537.56
651	783.82	512141.73	19381491.86
652	783.24	512143.00	19381451.31
653	781.82	512146.11	19381391.99
654	780.26	512148.68	19381342.82
655	779.92	512149.22	19381332.67
656	778.18	512149.31	19381280.68
657	775.56	512145.50	19381202.81
714	781.57	512121.63	19381371.72
715	781.64	512129.51	19381372.75
716	781.00	512132.98	19381355.37

Point #	Elevation	Northing	Easting
717	779.48	512121.39	19381311.37
718	775.98	512118.59	19381208.08
721	775.19	512130.57	19381184.06
722	776.83	512132.95	19381232.71
723	778.47	512135.32	19381281.36
734	775.18	512040.34	19381209.28
735	776.33	512038.78	19381255.00
739	782.29	512088.29	19381393.58
740	782.46	512087.97	19381404.56
741	782.55	512106.36	19381416.32
749	778.13	512106.55	19381280.63
788	777.04	512075.09	19381260.81
789	776.00	512076.03	19381228.22
790	782.18	512094.53	19381393.87
791	782.40	512094.19	19381405.15
814	774.10	512171.36	19381213.77
820	781.50	512084.84	19381549.33
842	778.41	512120.54	19381280.10
843	774.52	512103.65	19381173.56
844	780.38	512134.90	19381337.76

Point #	Elevation	Northing	Easting
845	781.79	512126.49	19381375.70
853	772.80	512172.36	19381161.36

DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Grading\4 Mile Hammond\20010GPRD.dwg Mar 30, 2021 - 10:33pm

DATE: 3/30/2021 PROJ NUMBER: 737200010 BA: E-M PROJ MGR: JMK CAD: JM COUNTY: GRAND TRAVERSE CITY/TOWNSHIP: EAST BAY TOWNSHIP SCALE: H: 1"=20' V: 1"=10' HORIZ DATUM: LOCAL VERT DATUM: NAVD83 REVISIONS: | | | | |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
DETAIL GRADING

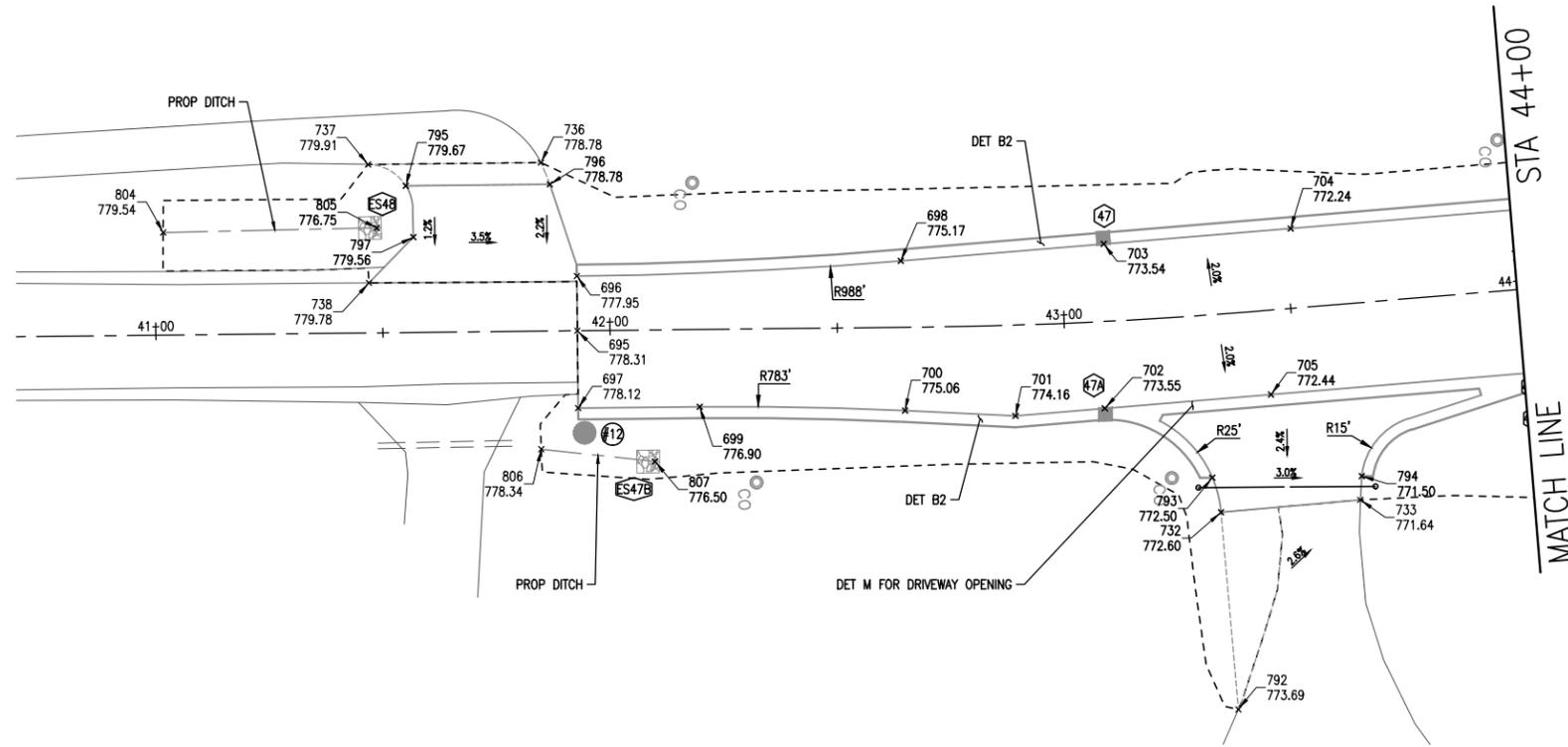
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4 MILE RD



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P (231) 344-1150
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Point #	Elevation	Northing	Easting
695	778.31	511803.97	19380993.39
696	777.95	511804.14	19380981.39
697	778.12	511803.74	19381010.39
698	775.17	511875.52	19380979.80
699	776.90	511830.49	19381010.76
700	775.06	511875.68	19381012.69
701	774.16	511899.94	19381014.43
702	773.55	511919.64	19381013.28
703	773.54	511920.25	19380977.18
704	772.24	511961.50	19380974.77
705	772.44	511956.27	19381011.13
732	772.60	511944.63	19381036.72
733	771.64	511975.39	19381034.75
736	778.78	511796.84	19380956.26
737	779.91	511758.79	19380955.74
738	779.78	511758.36	19380981.75
792	773.69	511947.41	19381080.10
793	772.50	511942.91	19381029.07
794	771.50	511975.81	19381029.52
795	779.67	511766.99	19380960.64

Point #	Elevation	Northing	Easting
796	778.78	511796.68	19380961.08
797	779.56	511768.37	19380971.96
804	779.54	511713.33	19380969.58
805	776.75	511760.38	19380969.75
806	778.34	511795.38	19381019.20
807	776.50	511820.34	19381022.52

DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Grading\4 Mile Hammond\20010GPRD.dwg Mar 30, 2021 - 10:33pm

REVISIONS:

HORIZ DATUM

VERT DATUM

SCALE

H: 1"=20'

V: 1"=20'

CITY/VILLAGE/TOWNSHIP

COUNTY

ROAD

PROJ. NO.

DATE

3/30/2021

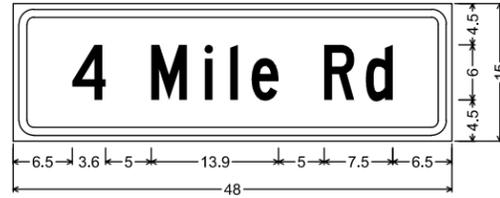
737-20-010

BA

33

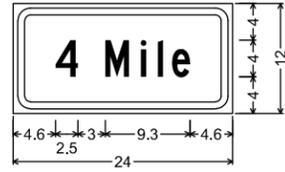
GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
DETAIL GRADING

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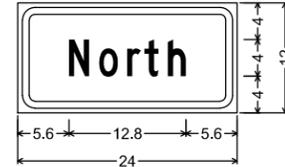
Identifier : SS-F1
 2.3" Radius, 0.9" Border, 0.6" Indent, Black on Orange;
 [4 Mile] C; [Rd] C;
 Table of letter and object lefts.

4	M	i	l	e	R	d
6.5	15.1	21.0	23.7	26.1	34.0	38.6



Identifier : SS-B1
 1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange;
 [4 Mile] C;
 Table of letter and object lefts.

4	M	i	e
4.6	10.1	14.0	15.8



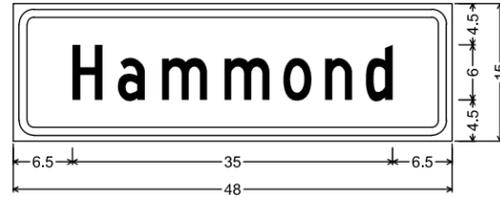
Identifier : SS-D1
 1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange;
 [North] C;
 Table of letter and object lefts.

N	o	r	t	h
5.6	8.9	12.0	13.9	16.4



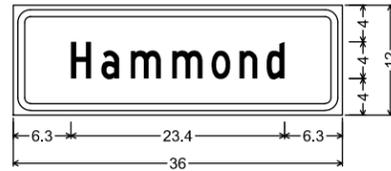
Identifier : SS-J;
 1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange;
 [At 4 Mile] C;
 Table of letter and object lefts.

A	t	4	M	i	e
6.8	9.9	14.5	19.9	23.8	27.2



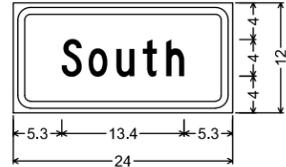
Identifier : SS-E1
 2.3" Radius, 0.9" Border, 0.6" Indent, Black on Orange;
 [Hammond] C;
 Table of letter and object lefts.

H	a	m	m	o	n	d
6.5	11.5	16.3	23.1	29.6	34.1	38.6



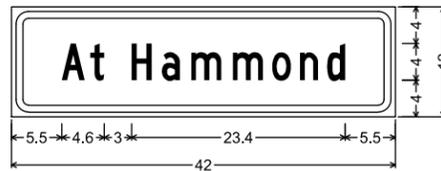
Identifier : SS-A1
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 [Hammond] C;
 Table of letter and object lefts.

H	a	m	m	o	n	d
6.3	9.6	12.9	17.4	21.7	24.8	27.7



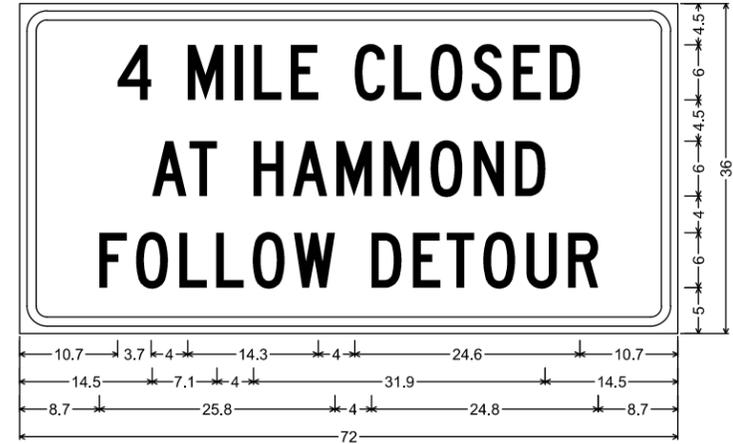
Identifier : SS-C1
 1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange;
 [South] C;
 Table of letter and object lefts.

S	o	u	t	h
5.3	8.3	11.3	14.2	16.7



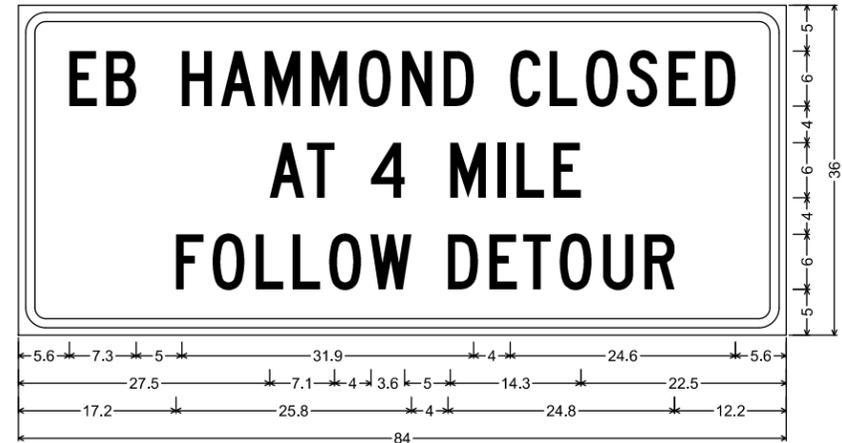
Identifier : SS-I;
 1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange;
 [At Hammond] C;
 Table of letter and object lefts.

A	t	H	a	m	m	o	n	d
5.5	8.6	13.1	16.5	19.7	24.2	28.5	31.6	34.5



Identifier : SS-F1
 3.0" Radius, 1.0" Border, 0.8" Indent, Black on Orange;
 [4 MILE CLOSED] C; [AT HAMMOND] C; [FOLLOW DETOUR] C;
 Table of letter and object lefts.

4	M	I	L	E	C	L	O	S	E	D	
10.7	18.4	23.5	25.6	29.7	36.7	40.9	45.0	49.4	54.0	58.0	
A	T	H	A	M	M	O	N	D			
14.5	18.6	25.6	29.9	34.6	39.8	44.9	49.7	54.2			
F	O	L	L	O	W	D	E	T	O	U	R
8.7	12.7	17.5	21.5	25.5	30.0	38.5	43.0	46.7	50.7	55.4	60.0



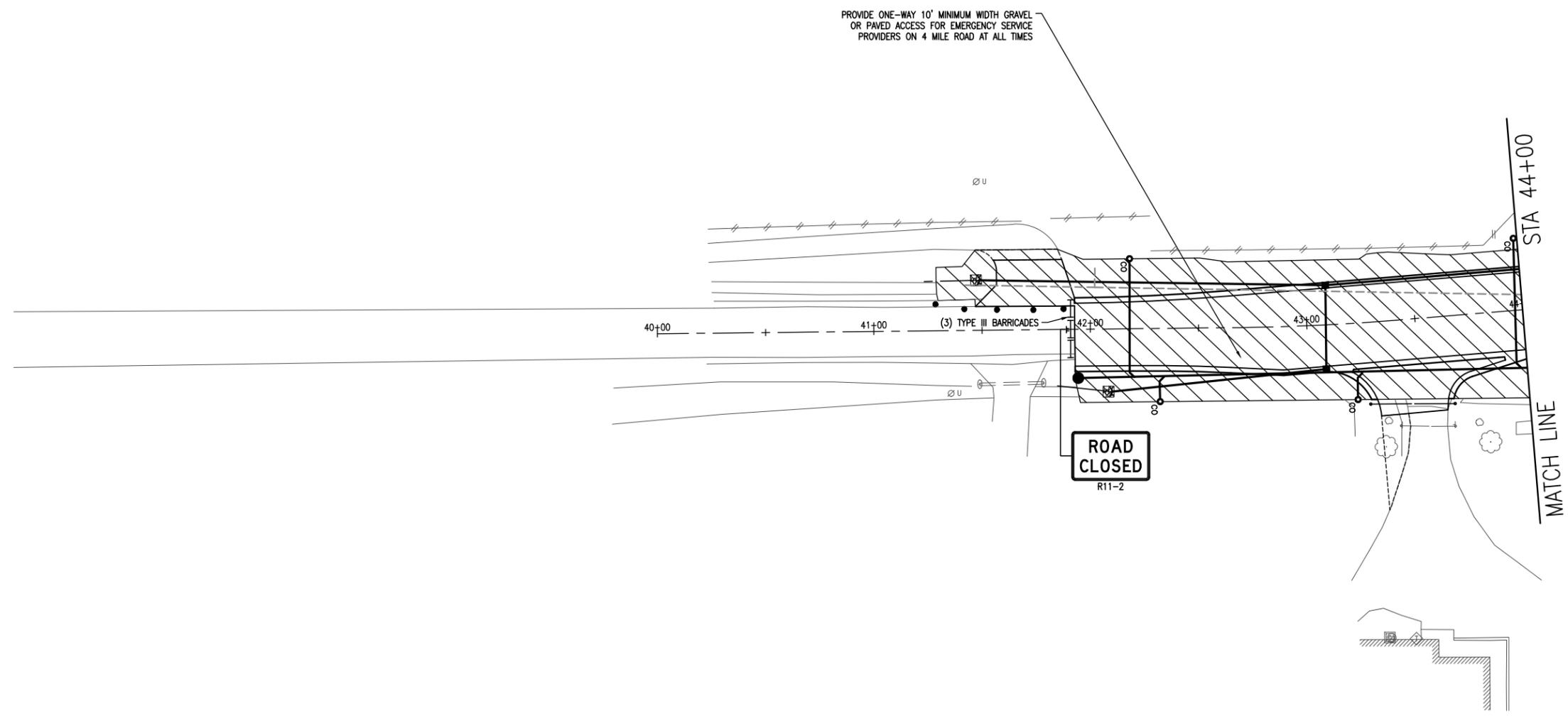
Identifier : SS-E1
 3.0" Radius, 1.0" Border, 0.8" Indent, Black on Orange;
 [EB HAMMOND CLOSED] C; [AT 4 MILE] C; [FOLLOW DETOUR] C;
 Table of letter and object lefts.

E	B	H	A	M	M	O	N	D	C	L	O	S	E	D
5.6	9.6	17.9	22.2	26.9	32.1	37.2	42.0	46.5	53.8	58.1	62.1	66.6	71.1	75.1
A	T	4	M	I	L	E								
27.5	31.6	38.6	47.2	52.4	54.5	58.5								
F	O	L	L	O	W	D	E	T	O	U	R			
17.2	21.2	26.0	30.0	34.0	38.5	47.0	51.5	55.2	59.2	63.9	68.5			

4 MILE RD



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- LEGEND**
- EXISTING ROADWAY
 - WORK DONE THIS STAGE
 - TEMPORARY PAVEMENT
 - PLASTIC DRUM, HIGH INTENSITY
 - TEMPORARY SIGN
 - BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
 - LIGHTED ARROW, TYPE C

THE FOLLOWING STRIPING ITEMS TO BE PAID FOR AS TEMPORARY WET REFLECTIVE PAVEMENT MARKING, TYPE NR:

- *SW SOLID WHITE, 6 INCH
- *SY SOLID YELLOW, 6 INCH
- *SB STOP BAR, 18 INCH
- *DSY DOUBLE SOLID YELLOW, 4 INCH (DOUBLE SOLID LINES, 1' CENTER TO CENTER)

*NOTE: STRIPING ITEMS TO BE PAID FOR AS TYPE R PAVEMENT MARKINGS DENOTED WITH AN "R" PREFIX.

DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile-Hammond\200101STG1B.dwg Mar 30, 2021 - 10:35pm

REVISIONS:

NO.	DATE	DESCRIPTION

DATE	PROJ NUMBER	ENG	BA	PROJ MGR	JK	CADD	JM	COUNTY	GRAND TRAVERSE	CITY/VILLAGE/TOWNSHIP	EAST BAY TOWNSHIP	HORIZ DATUM	VERT DATUM	SCALE	H	V	LOCAL	INVD/DB
3/30/2021	737-2042010				JK		JM	GRAND TRAVERSE		EAST BAY TOWNSHIP				1"=30'				

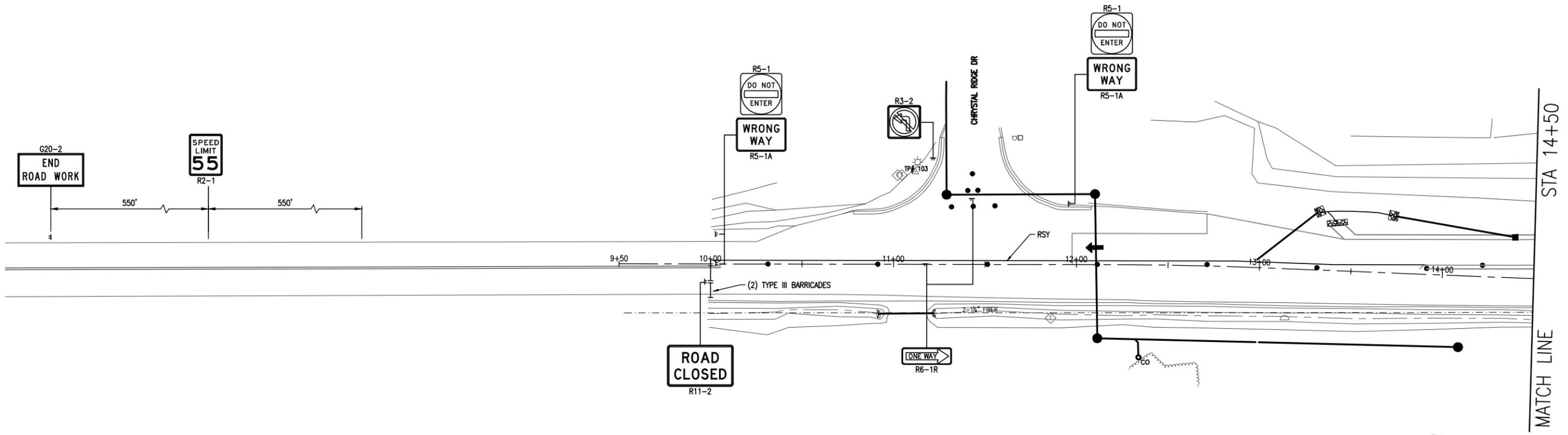
GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 1B

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HAMMOND RD



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DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile-Hammond\20010101STG2A.dwg Mar 30, 2021 - 10:35pm

- LEGEND**
- EXISTING ROADWAY
 - WORK DONE THIS STAGE
 - TEMPORARY PAVEMENT
 - PLASTIC DRUM, HIGH INTENSITY
 - TEMPORARY SIGN
 - BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
 - LIGHTED ARROW, TYPE C

THE FOLLOWING STRIPING ITEMS TO BE PAID FOR AS TEMPORARY WET REFLECTIVE PAVEMENT MARKING, TYPE NR:

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*NOTE: STRIPING ITEMS TO BE PAID FOR AS TYPE R PAVEMENT MARKINGS DENOTED WITH AN "R" PREFIX.

DATE	PROJ NUMBER	ENG	BA	PROJ MGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	HORIZ DATUM	VERT DATUM
3/30/2021	737-2042010			JK	JM	GRAND TRAVERSE	EAST BAY TOWNSHIP	LOCAL	NAVD83

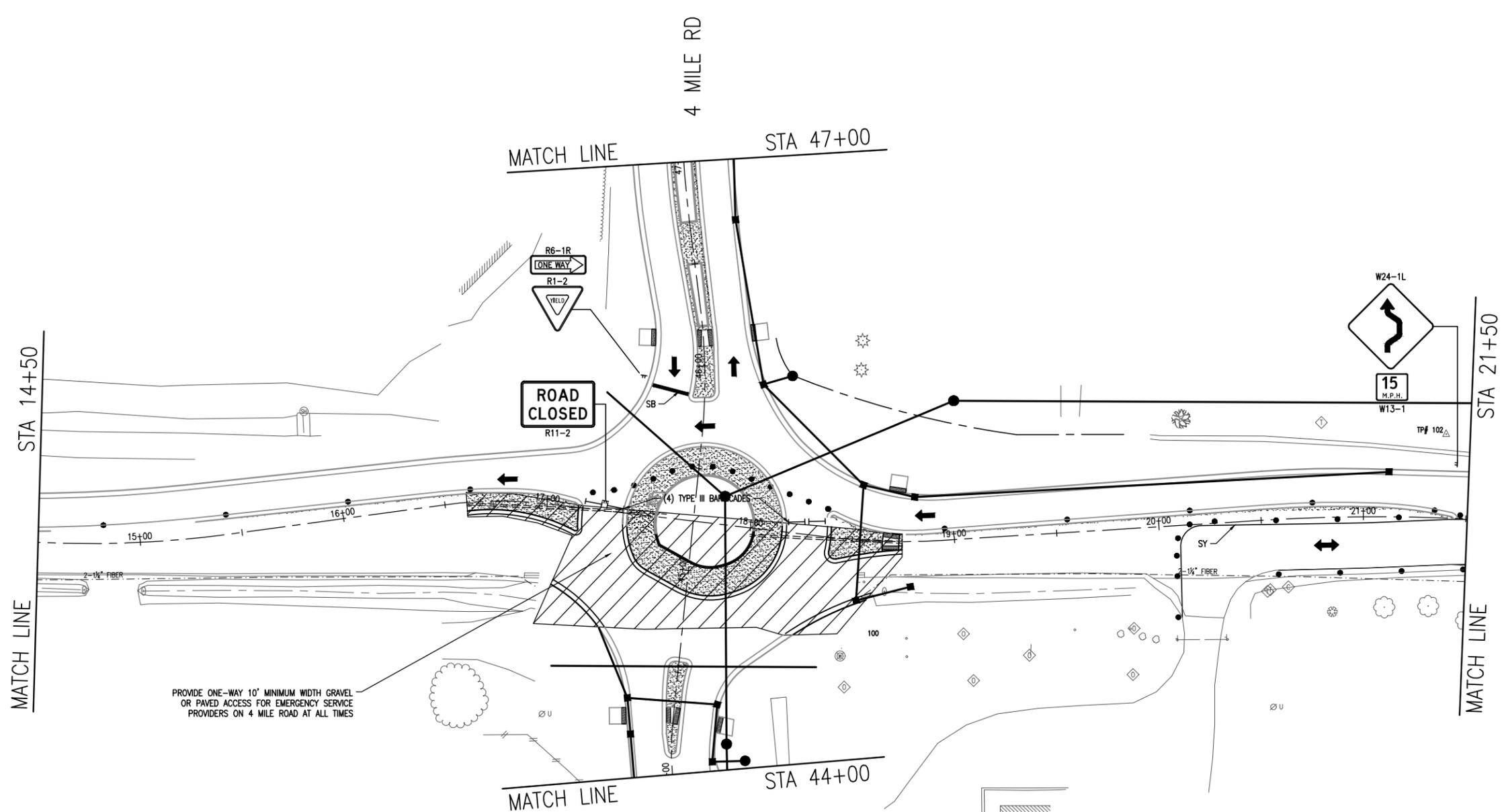
GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 MAINTAINING TRAFFIC PLAN STAGE 2A

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- LEGEND**
- EXISTING ROADWAY
 - WORK DONE THIS STAGE
 - TEMPORARY PAVEMENT
 - PLASTIC DRUM, HIGH INTENSITY
 - TEMPORARY SIGN
 - BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
 - LIGHTED ARROW, TYPE C

THE FOLLOWING STRIPING ITEMS TO BE PAID FOR AS TEMPORARY WET REFLECTIVE PAVEMENT MARKING, TYPE NR:

- *SW SOLID WHITE, 6 INCH
- *SY SOLID YELLOW, 6 INCH
- *SB STOP BAR, 18 INCH
- *DSY DOUBLE SOLID YELLOW, 4 INCH (DOUBLE SOLID LINES, 1' CENTER TO CENTER)

*NOTE: STRIPING ITEMS TO BE PAID FOR AS TYPE R PAVEMENT MARKINGS DENOTED WITH AN "R" PREFIX.

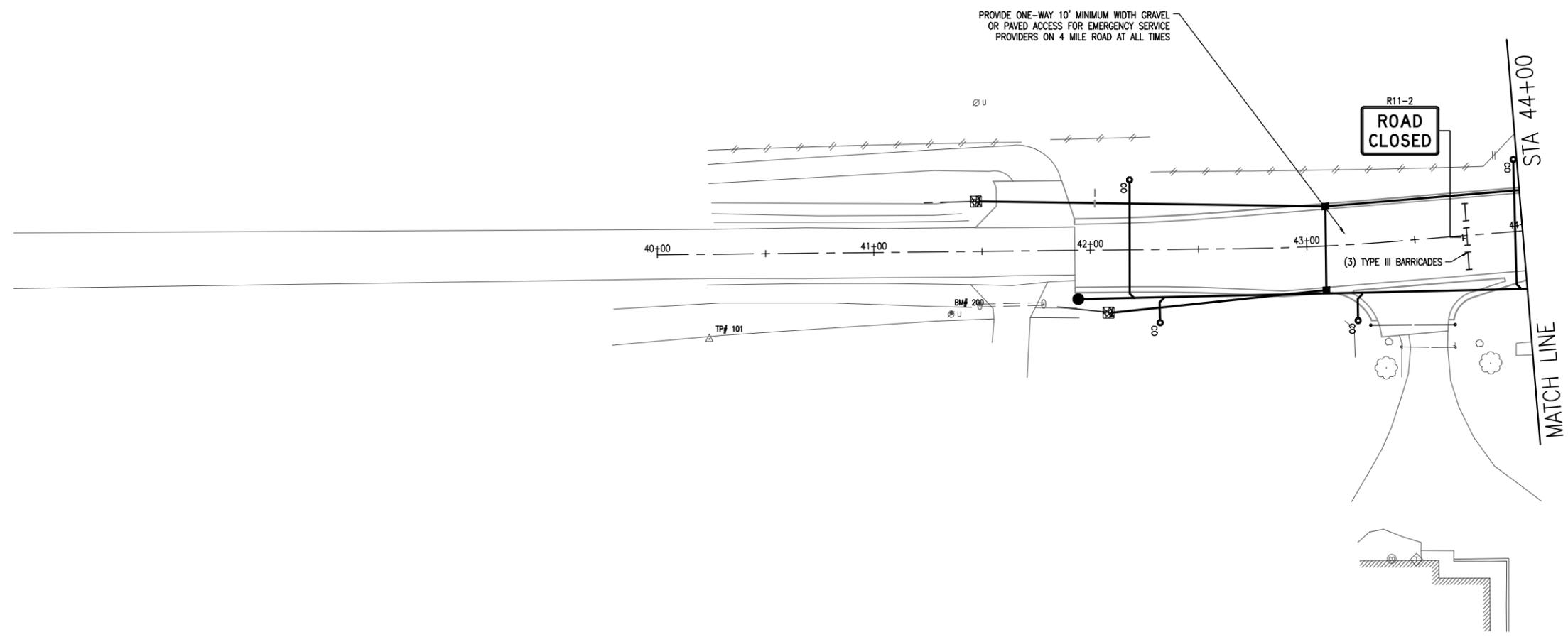
DATE	PROJ NUMBER	ENG	BA	PROJ MGR	JK	CADD	JM	COUNTY	GRAND TRAVERSE	CITY/VILLAGE/TOWNSHIP	EAST BAY TOWNSHIP	HORIZ DATUM	VERT DATUM
3/30/2021	737-04470											LOCAL	NAVD83
GRAND TRAVERSE COUNTY ROAD COMMISSION 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT MAINTAINING TRAFFIC PLAN STAGE 2A													

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- LEGEND**
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DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile-Hammond\200101STG2A.dwg Mar 30, 2021 - 10:35pm

DATE	PROJ NUMBER	ENG	BA	PROJ MGR	JAK	CADD	JM	COUNTY	GRAND TRAVERSE	CITY/VILLAGE/TOWNSHIP	EAST BAY TOWNSHIP	SCALE	H: 1"=30'	V:	HORIZ DATUM	VERT DATUM	INSTRUMENT	NAVD83	
3/30/2021	737-04-010																		

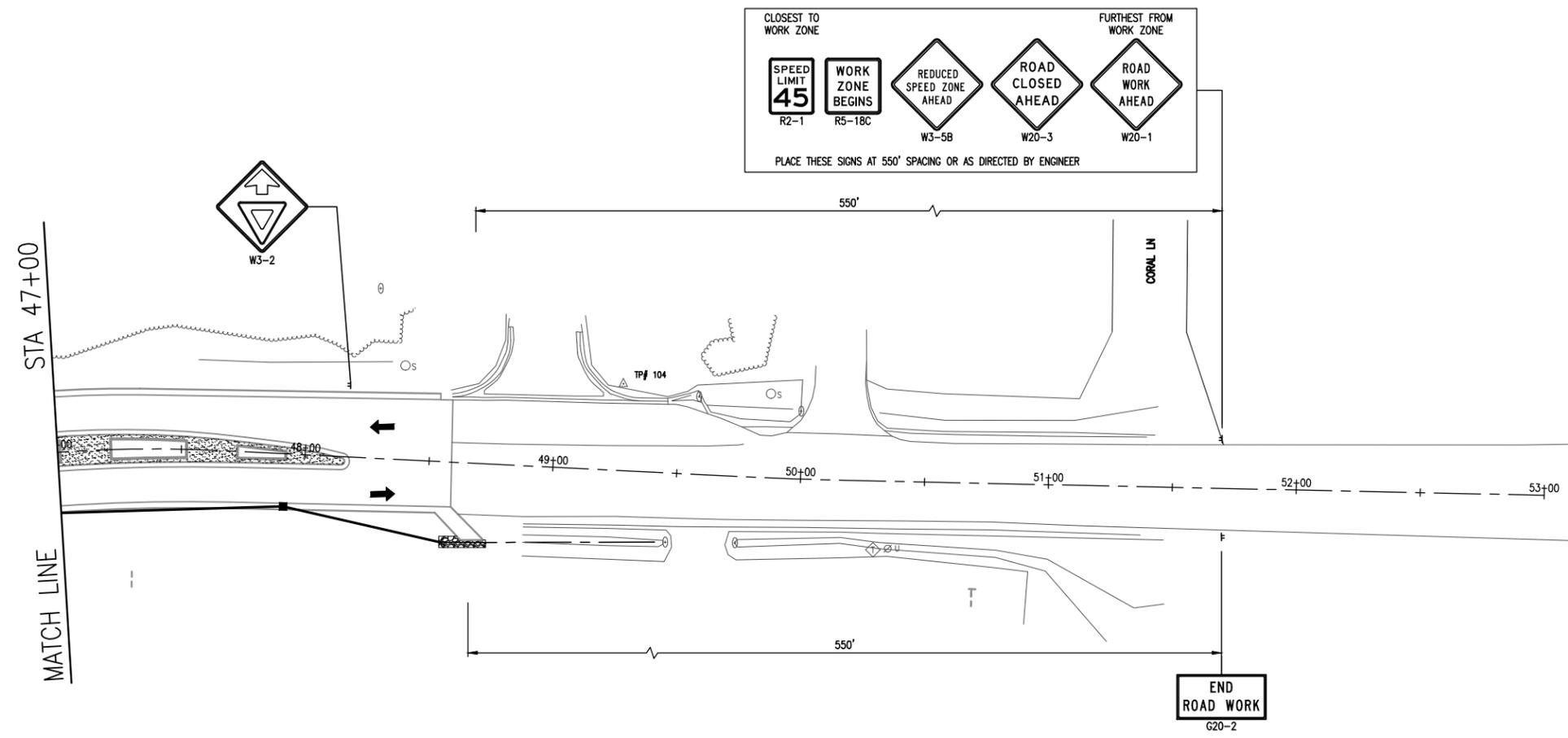
GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 2A

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CLOSEST TO WORK ZONE		FURTHEST FROM WORK ZONE		
SPEED LIMIT 45 R2-1	WORK ZONE BEGINS R5-18C	REDUCED SPEED ZONE AHEAD W3-5B	ROAD CLOSED AHEAD W20-3	ROAD WORK AHEAD W20-1
PLACE THESE SIGNS AT 550' SPACING OR AS DIRECTED BY ENGINEER				

- LEGEND**
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 - WORK DONE THIS STAGE
 - TEMPORARY PAVEMENT
 - PLASTIC DRUM, HIGH INTENSITY
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DATE	PROJ NUMBER	ENG	BA	PROJ MGR	JK	CADD	JM	COUNTY	GRAND TRAVERSE	CITY/VILLAGE/TOWNSHIP	EAST BAY TOWNSHIP	HORIZ DATUM	LOCAL	VERT DATUM	NAVD83
3/30/2021	737-2042010														

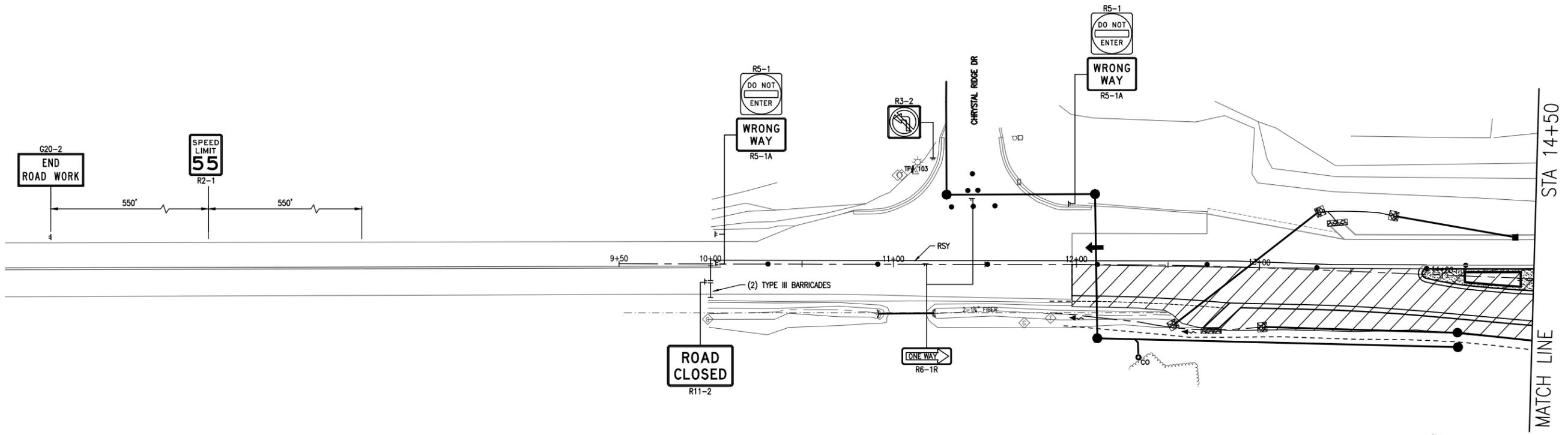
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4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 2A

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- LEGEND**
- EXISTING ROADWAY
 - WORK DONE THIS STAGE
 - TEMPORARY PAVEMENT
 - PLASTIC DRUM, HIGH INTENSITY
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 - BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
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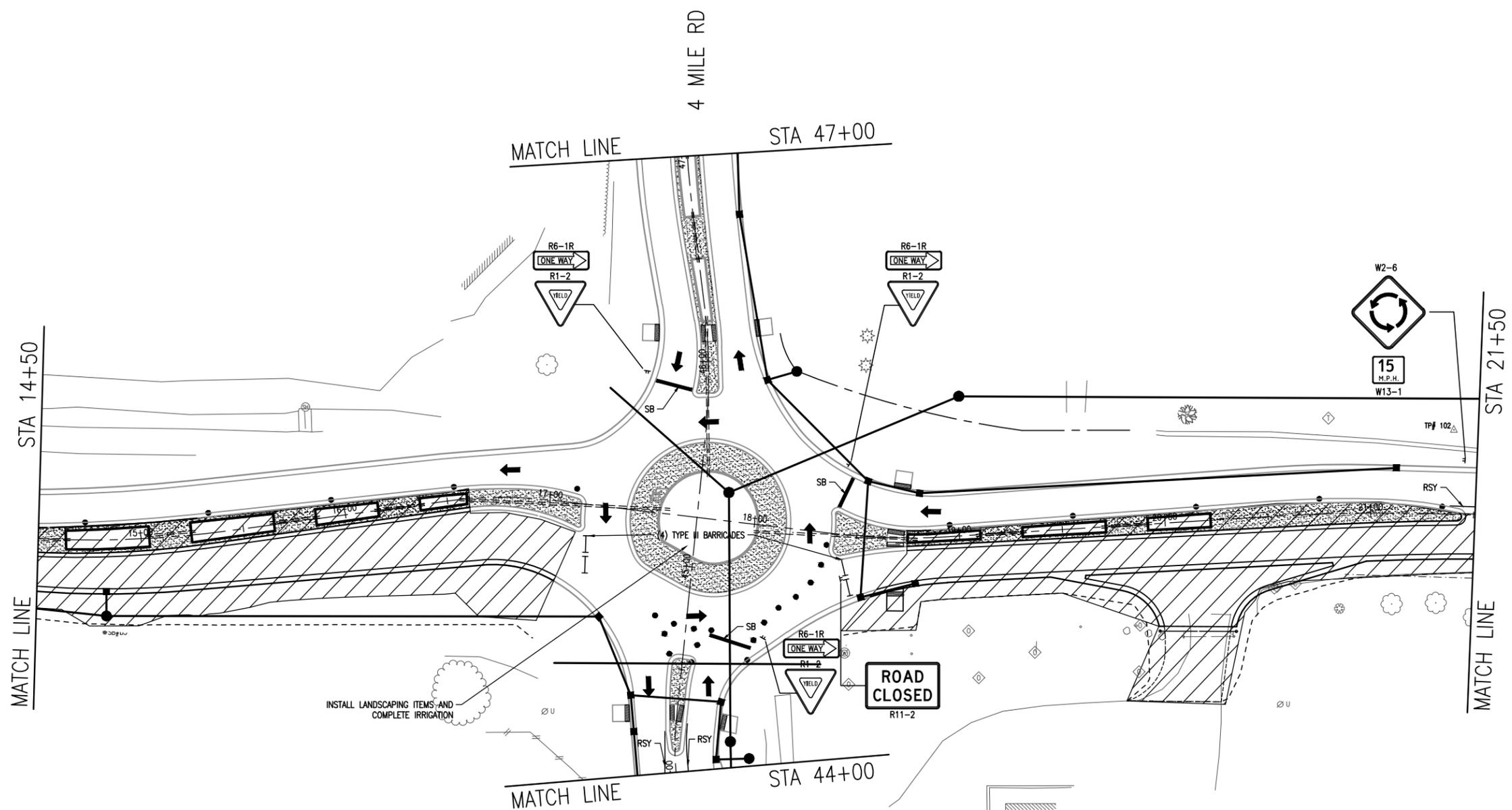
DATE	PROJ NUMBER	ENG	BA	PROJ MGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	HORIZ DATUM	VERT DATUM
3/30/2021	737-2042010			JK	JM	GRAND TRAVERSE	EAST BAY TOWNSHIP	LOCAL	NAVD83
SCALE		H		V					
1"=30'		1"=30'		1"=30'					
GRAND TRAVERSE COUNTY ROAD COMMISSION 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT MAINTAINING TRAFFIC PLAN STAGE 2B									

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INSTALL LANDSCAPING ITEMS AND COMPLETE IRRIGATION

- LEGEND**
- EXISTING ROADWAY
 - WORK DONE THIS STAGE
 - TEMPORARY PAVEMENT
 - PLASTIC DRUM, HIGH INTENSITY
 - TEMPORARY SIGN
 - BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
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DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile-Hammond\20010101STG2B.dwg Mar 30, 2021 - 10:36pm

REVISIONS:

DATE	PROJ NUMBER	ENG	BA	PROJ LEAD	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	HORIZ DATUM	VERT DATUM
3/30/2021	737-2042010			JM	JM	GRAND TRAVERSE	EAST BAY TOWNSHIP	LOCAL	NAVD83

SCALE: H: 1"=30' V: 1"=30'

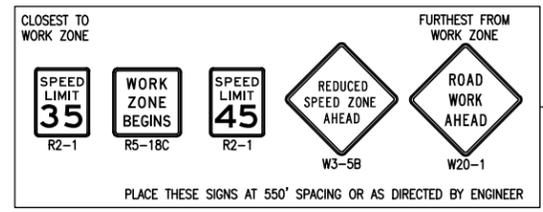
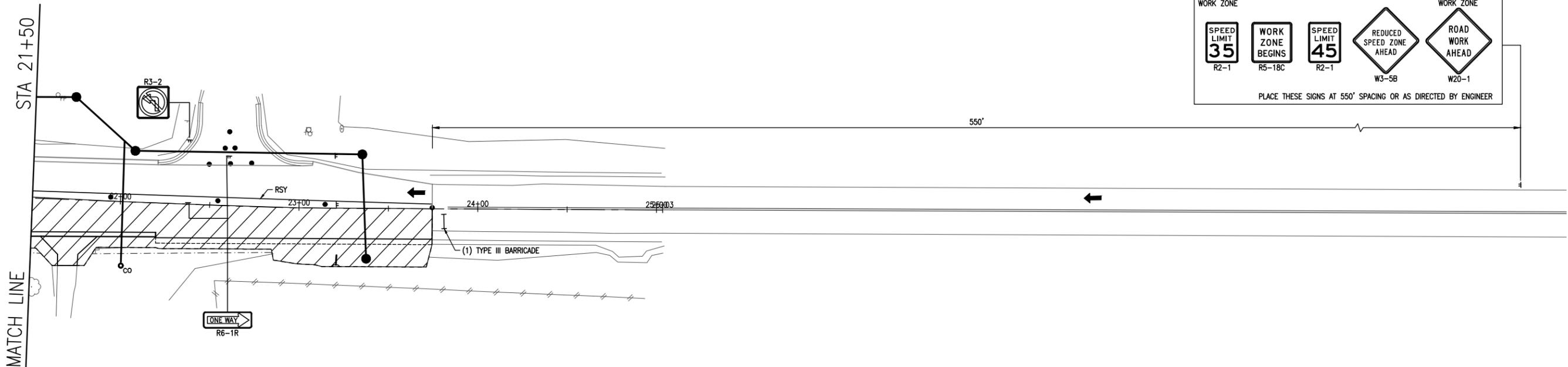
GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 2B

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PRIOR TO FULLY OPENING THE ROUNDABOUT THE FOLLOWING ITEMS MUST BE COMPLETED USING THE STAGE 2B MAINTENANCE OF TRAFFIC PLAN AND FLAG CONTROL AS DIRECTED BY THE ENGINEER:

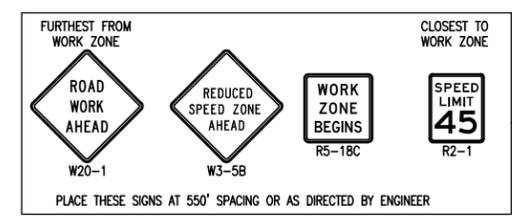
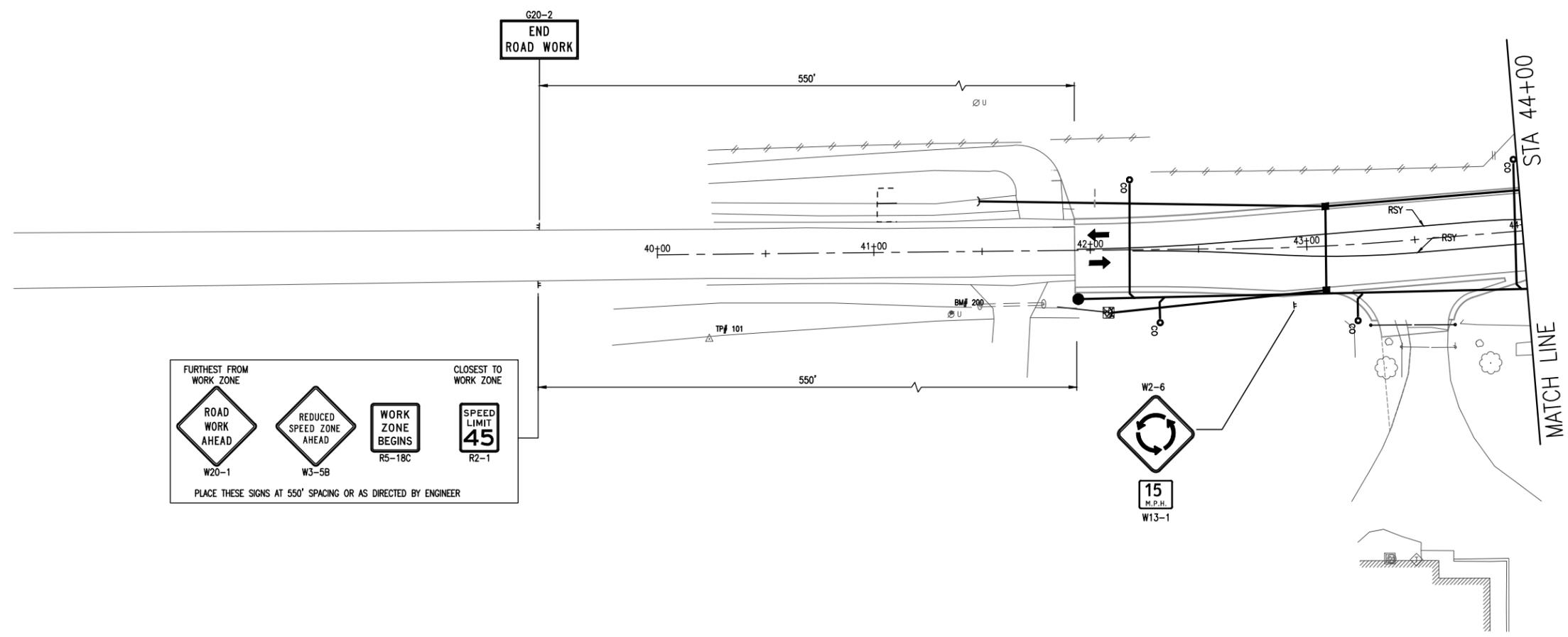
- PLACE HMA WEARING COURSE
- PLACE PERMANENT PAVEMENT MARKINGS AND SIGNS
- STREET LIGHT INSTALLATION

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DATE: 3/30/2021 PROJ NUMBER: 7372004010 ENG: BA PROJ MGR: JK CAD: JM COUNTY: GRAND TRAVERSE CITY/VILLAGE/TOWNSHIP: EAST BAY TOWNSHIP SCALE: H: 1"=30' V: 1"=40' HORIZ DATUM: VERT DATUM: LOCAL: NAD83

GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 MAINTAINING TRAFFIC PLAN STAGE 2B

4 MILE RD



- LEGEND**
- EXISTING ROADWAY
 - WORK DONE THIS STAGE
 - TEMPORARY PAVEMENT
 - PLASTIC DRUM, HIGH INTENSITY
 - TEMPORARY SIGN
 - BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
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DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile-Hammond\20010101\STG2B.dwg Mar 30, 2021 - 10:36pm

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NO.	DATE	DESCRIPTION

DATE	PROJ NUMBER	ENG	BA	PROJ MGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	HORIZ DATUM	VERT DATUM
3/30/2021	737-04-010	BA	JK	JK	JK	GRAND TRAVERSE	EAST BAY TOWNSHIP	LOCAL	NAVD83

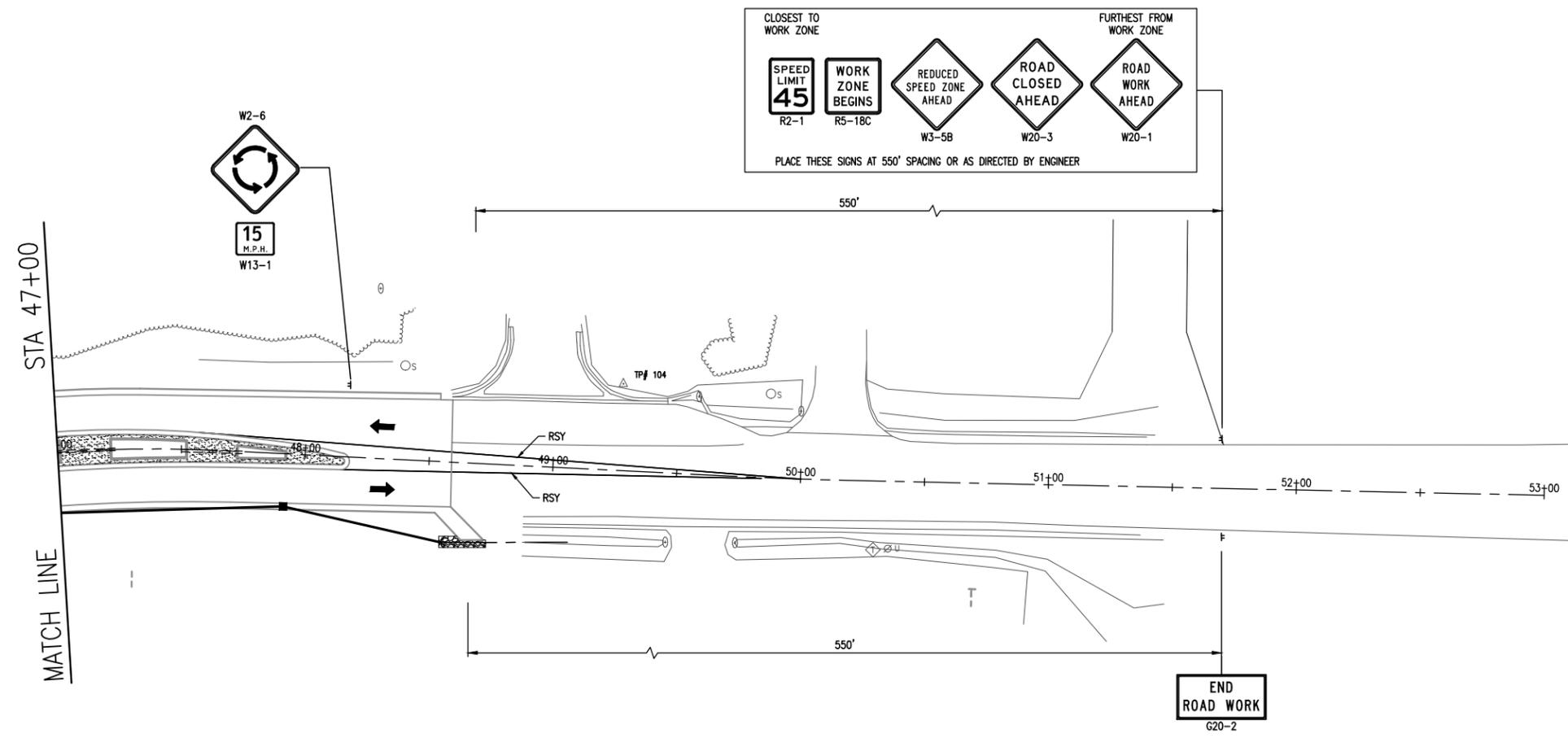
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CLOSEST TO WORK ZONE

SPEED LIMIT 45 R2-1

WORK ZONE BEGINS R5-18C

REDUCED SPEED ZONE AHEAD W3-5B

ROAD CLOSED AHEAD W20-3

ROAD WORK AHEAD W20-1

FURTHEST FROM WORK ZONE

PLACE THESE SIGNS AT 550' SPACING OR AS DIRECTED BY ENGINEER

- LEGEND**
- EXISTING ROADWAY
 - WORK DONE THIS STAGE
 - TEMPORARY PAVEMENT
 - PLASTIC DRUM, HIGH INTENSITY
 - TEMPORARY SIGN
 - BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
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STAGE 2C (NOT SHOWN)

PRIOR TO FULLY OPENING TO TRAFFIC THE CONTRACTOR SHALL COMPLETE ALL REMAINING WORK ITEMS INCLUDING (BUT NOT LIMITED TO):
PAVE THE HMA WEARING COURSE AT ALL LOCATIONS, PLACE PERMANENT SIGNING AND PAVEMENT MARKINGS, INSTALL STREETLIGHTS, INSTALL IRRIGATION, INSTALL PLANTING AND COMPLETE ALL RESTORATION.

THE CONTRACTOR SHALL USE THE SAME TRAFFIC CONTROL PLAN AS STAGE 2B. USE FLAG CONTROL AS A SUPPLEMENT TO THE TRAFFIC CONTROL FOR STAGE 2B, AS NECESSARY AND AS DIRECTED BY THE ENGINEER.

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DATE	PROJ NUMBER	ENG	BA	PROJ MGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
3/30/2021	737-2042010			JK	JM	GRAND TRAVERSE	EAST BAY TOWNSHIP	H: 1"=30' V: 1"=30'	LOCAL	NAVD83

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
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GENERAL NOTES

- ALL SOIL EROSION AND SEDIMENTATION CONTROL (SESC) ITEMS SHALL BE IN ACCORDANCE WITH MDOT 2012 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, ALONG WITH RCOG'S NOTICE TO BIDDERS, CONTRACTOR MATERIAL DISPOSAL NOTICE AND FORM FOR ALL MATERIALS THAT ARE DISPOSED OF OFF THE PROJECT SITE.
- 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.
- 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 HIS 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- FOR FINAL PROJECT ACCEPTANCE AND SECS 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.
- TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC 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.
- MEASUREMENT AND PAYMENT:
 - 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.
 - REMOVAL AND DISPOSAL OF ACCUMULATED SEDIMENT OR DEBRIS WILL NOT BE PAID FOR SEPARATELY.

STANDARDS:

- 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.
- 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.
- STAGING THE WORK WILL BE DONE BY THE CONTRACTOR AS DIRECTED IN THESE PLANS, AND AS REQUIRED TO ENSURE PROGRESSIVE STABILIZATION OF DISTURBED EARTH.
- 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.
- 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.
- 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.
- 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.
- THE CONTRACTOR SHALL PRESERVE NATURAL VEGETATION AS MUCH AS POSSIBLE.
- 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.
- IF RUNOFF CAN OCCUR FROM SOIL STOCK PILES, SEDIMENT CONTROL FENCING WILL BE PLACED AT THE BASE OF THE STOCK PILE TO RETAIN SOIL.
- 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.
- 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.

TURF ESTABLISHMENT:

- TOPSOIL SHALL BE FROM OFFSITE TOPSOIL SCREENING PLANT AND BE LOOSE AND BLACK IN COLOR. THE MATERIAL SHALL BE FREE FROM SOD STONES OR ROCKS GREATER THAN 0.25 INCHES, ROOTS, PLANTS, CLAY LUMPS, WEED STALKS, CLODS, DEBRIS, OR OTHER CONTAMINANTS AS DETERMINED BY THE ENGINEER. SEE TURF ESTABLISHMENT, PERFORMANCE, GTCRC SPECIAL PROVISION FOR ADDITIONAL REQUIREMENTS.
- PROVIDE AND APPLY WATER TO TURF ESTABLISHMENT AREAS AT THE REQUIRED RATES AS SPECIFIED IN SECTION 816.03.J OF THE 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION. WATER REQUIRED FOR ESTABLISHING TURF SHALL BE INCLUDED IN THE COST OF TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC (SYD). WATER REQUIRED FOR COMPACTION SHALL BE INCLUDED IN THE COST OF EARTHWORK PAY ITEMS.
- TURF ESTABLISHMENT ITEMS SHALL BE PLACED ADJACENT TO SHOULDERS AT A DEPTH BELOW THE EDGE OF PAVEMENT TO ALLOW ROADWAY SURFACE WATER TO UNIFORMLY SHEET FLOW TO DITCHES.
- ALL AREAS DISTURBED BY THE CONTRACTOR AND SUBCONTRACTORS BEYOND THE SLOPE STAKE LINE (SSL) (I.E. THE GRADING LIMIT LINE) SHALL BE SODDED OR SEEDDED AS SPECIFIED OR DIRECTED BY THE ENGINEER. NO ADDITIONAL PAYMENT OR COMPENSATION WILL BE MADE FOR THIS ACTIVITY.

SEQUENCE OF CONSTRUCTION FOR SOIL EROSION AND SEDIMENTATION CONTROL:

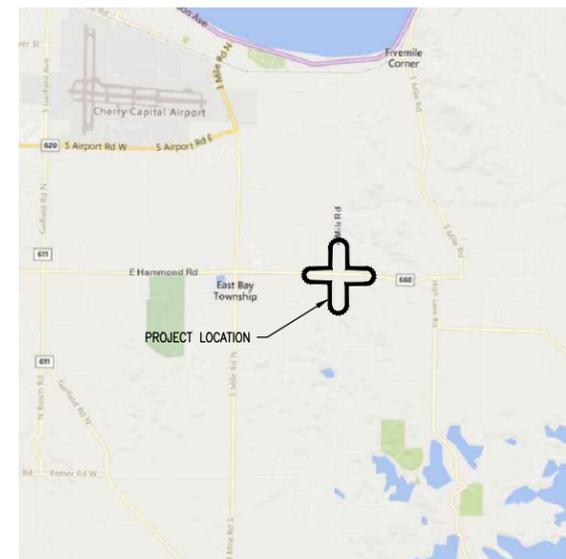
- REMOVE TREES AND CLEAR PRIOR TO INSTALLING SOIL EROSION AND SEDIMENTATION CONTROL (SESC) ITEMS.
- INSTALL TEMPORARY SESC ITEMS.
- PRIOR TO GRUBBING, STRIPING TOP SURFACE, OR EARTH EXCAVATION, ALL SOIL EROSION AND SEDIMENT CONTROL ITEMS MUST BE IN PLACES AS SHOWN ON THE PLANS. ACTUAL CONSTRUCTION MAY VARY TO REFLECT MATERIALS USED AND TO CONTROL SITE PROBLEMS, SUBJECT TO THE APPROVAL OF THE ENGINEER.
- 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.
- INSTALL STORM SEWER AND ASSOCIATED TEMPORARY AND PERMANENT SESC ITEMS.
- CONSTRUCT PAVEMENT.
- CLEAR ALL ACCUMULATED SEDIMENT FROM SEWERS, CATCH BASINS AND PAVEMENT AREAS WITH FREQUENCY. INCLUDED IN EROSION CONTROL PAY ITEMS, AS DIRECTED BY ENGINEER.
- 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.
- REMOVE TEMPORARY SOIL EROSION AND SEDIMENT CONTROL ITEMS AFTER PERMANENT VEGETATION IS ESTABLISHED.
- CONTINUE TO MAINTAIN AND REPAIR PERMANENT RESTORATION ITEMS AS NECESSARY OR DIRECTED BY THE ENGINEER. UNTIL FULLY ESTABLISHED. INCLUDED IN PERMANENT RESTORATION PAY ITEMS.
- VACUUM, SWEEPING AND PROJECT CLEAN UP AS DIRECTED BY THE ENGINEER, INCLUDED IN OTHER ITEMS OF WORK AS PER RCOG SPECIAL PROVISIONS IN THE PROPOSAL.

GTCRC QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
17	Ea	Erosion Control, Inlet Protection, Fabric Drop
2	Ea	Erosion Control, Inlet Protection, Geotextile and Stone
1287	Ft	Erosion Control, Silt Fence
32	Syd	Riprap, Plain
5661	Syd	Turf Establishment, THM Seed, Regular Mulch, Performance, GTCRC

LEGEND

- TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC
- RIPRAP, PLAIN
- EROSION CONTROL, SILT FENCE
- EROSION CONTROL, INLET PROTECTION, FABRIC DROP
- EROSION CONTROL, INLET PROTECTION, GEOTEXTILE AND STONE
- LOW POINT IN ROAD PROFILE
- HIGH POINT IN ROAD PROFILE
- PROPOSED DRAINAGE STRUCTURE #



NOT TO SCALE



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REVISIONS

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HORIZ. DATUM: VERT. DATUM: LOCAL

SCALE: H: 1"=30' V: 1"=30'

CITY/VILLAGE/TOWNSHIP: EAST BAY TOWNSHIP

COUNTY: GRAND TRAVERSE

CAZD: JM

PROJUGR: JK

ENG: BA

PROJNUMBER: 737404010

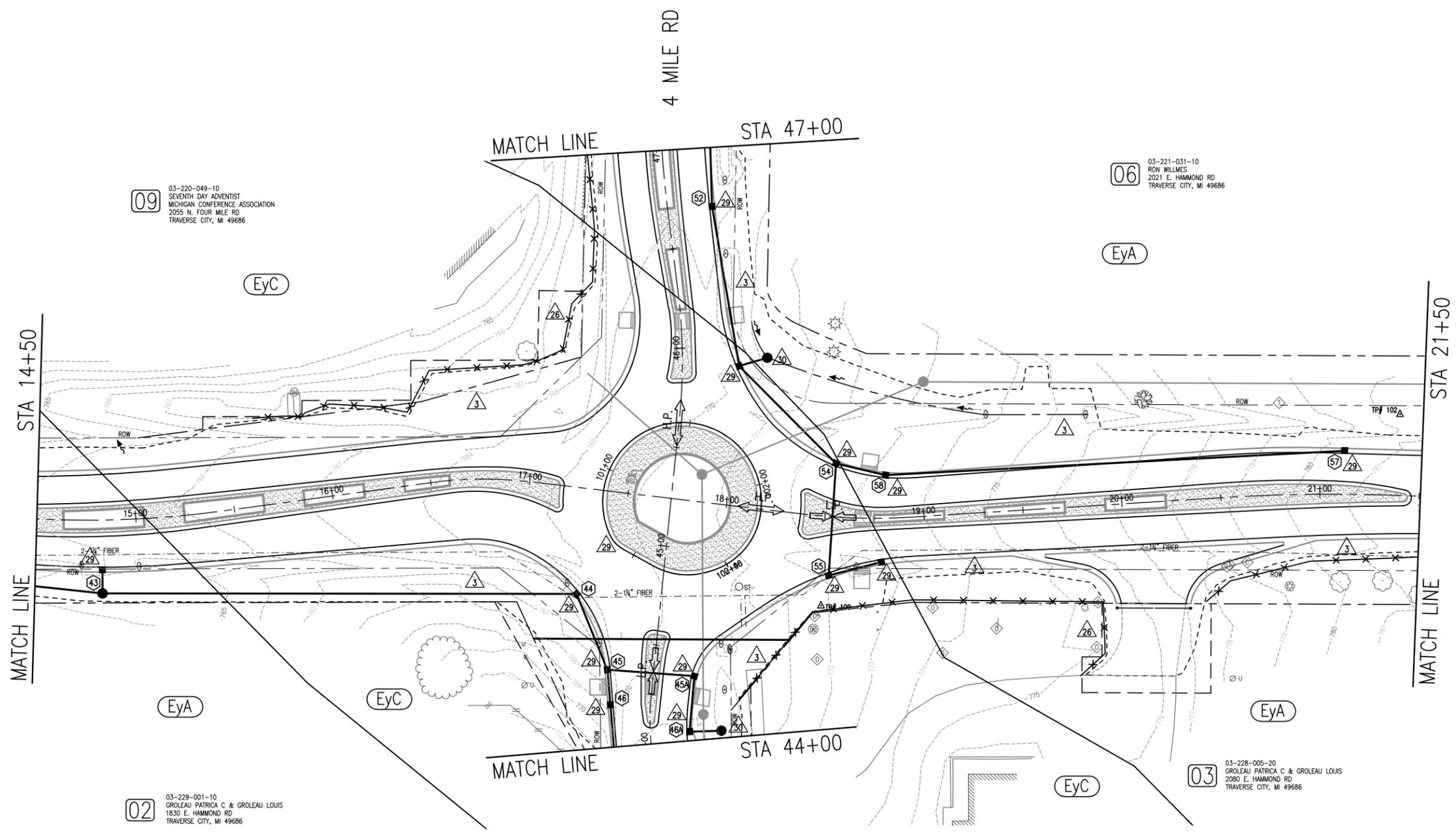
DATE: 3/30/2021

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
SOIL EROSION & SEDIMENT CONTROL

HAMMOND RD



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09 03-220-049-10
 SEVENTH DAY ADVENTIST
 MICHIGAN CONFERENCE ASSOCIATION
 2055 N. FOUR MILE RD
 TRAVERSE CITY, MI 49686

06 03-221-031-10
 RON WILLMES
 2021 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

02 03-229-001-10
 GROLEAU PATRICA C & GROLEAU LOUIS
 1830 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

03 03-228-005-20
 GROLEAU PATRICA C & GROLEAU LOUIS
 2080 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

LEGEND
 SOIL SURVEY - PER GIS MAPS

- Eya EMMET SANDY LOAM, 0 TO 2 PERCENT SLOPES
- Eyc EMMET SANDY LOAM, 6 TO 12 PERCENT SLOPES

DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Misc4_Mile_Hammond\20010SESC.dwg Mar 30, 2021 - 10:38pm

DATE	PROJ NUMBER	ENG	BA	PROJ MGR	JM	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
3/30/2021	737-04070	BA		JM			GRAND TRAVERSE	EAST BAY TOWNSHIP	H: 1"=30' V: 1"=40'	LOCAL	NAVD83

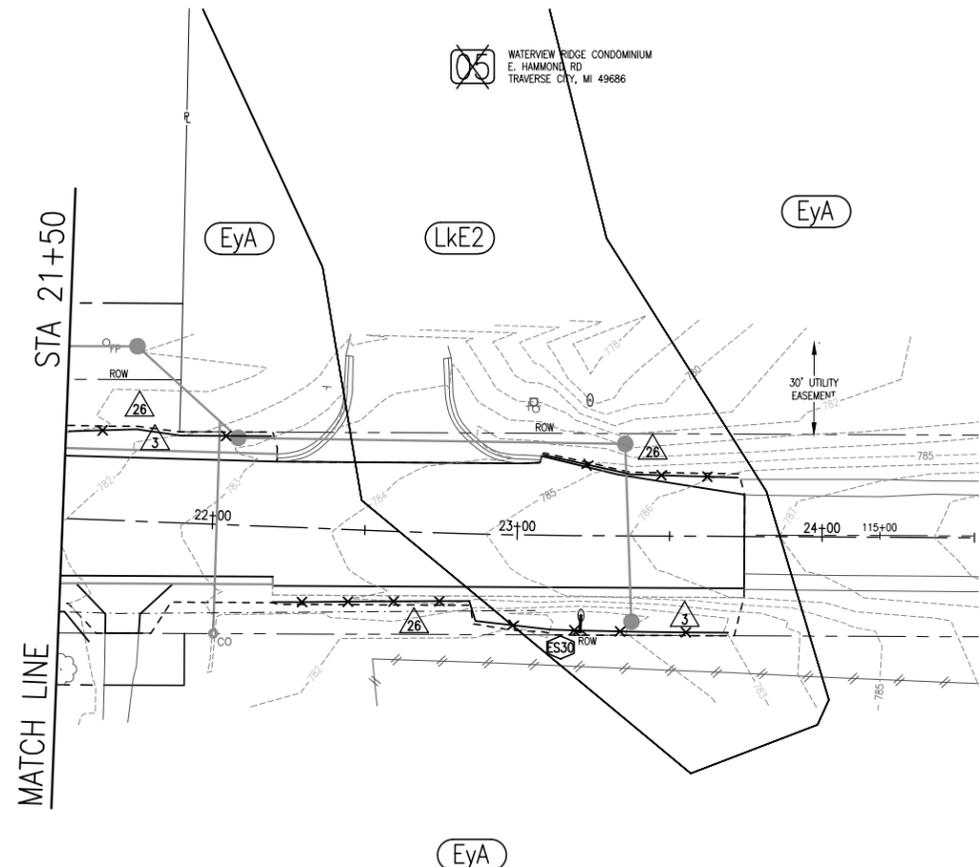
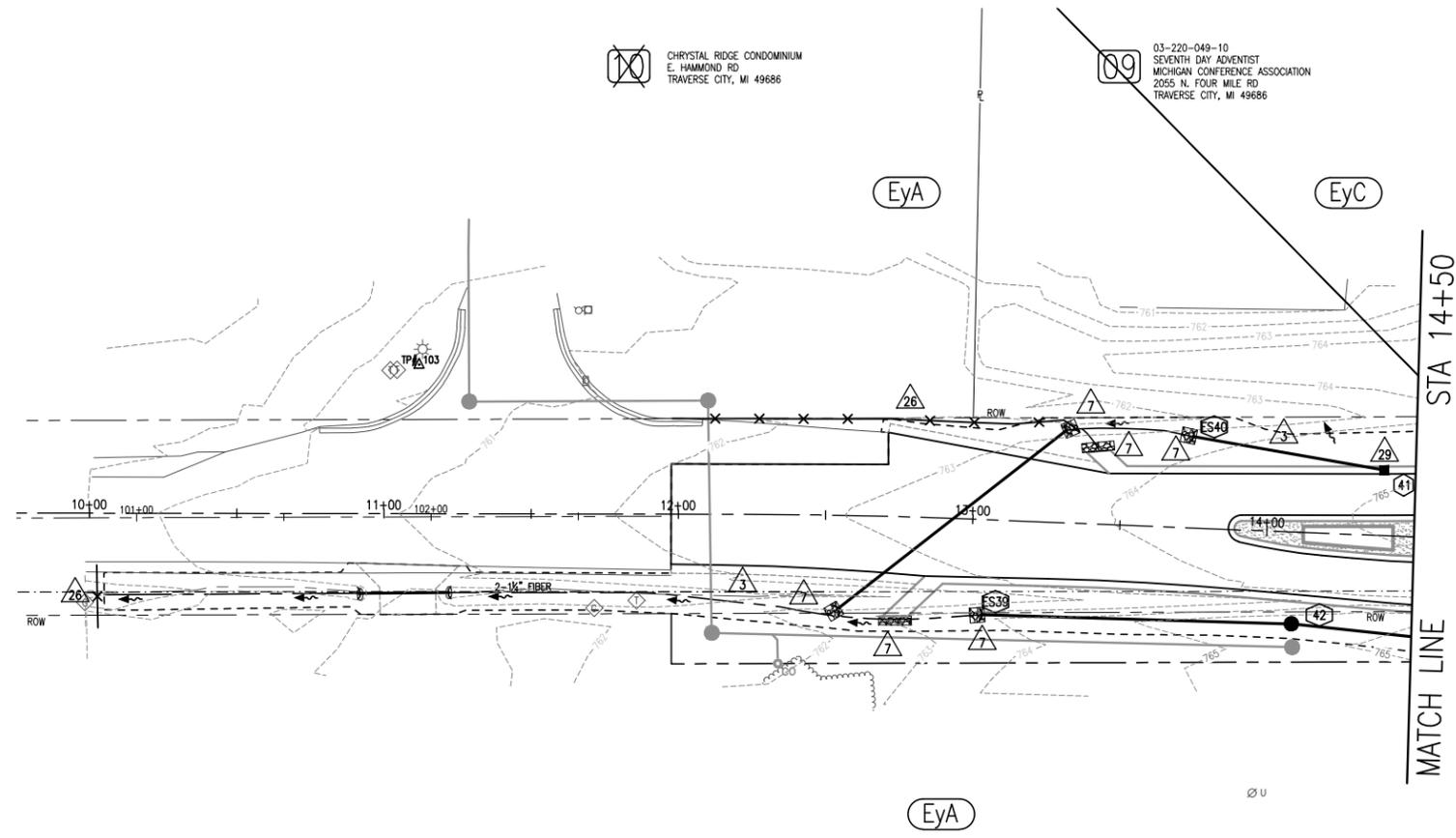
GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
SOIL EROSION & SEDIMENT CONTROL

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01 CHRYSTAL RIDGE CONDOMINIUM
 E. HAMMOND RD
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09 03-220-049-10
 SEVENTH DAY ADVENTIST
 MICHIGAN CONFERENCE ASSOCIATION
 2055 N. FOUR MILE RD
 TRAVERSE CITY, MI 49686

05 WATERVIEW RIDGE CONDOMINIUM
 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

02 03-229-001-10
 GROLEAU PATRICA C & GROLEAU LOUIS
 1830 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

03 03-228-005-20
 GROLEAU PATRICA C & GROLEAU LOUIS
 2080 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

LEGEND
SOIL SURVEY - PER GIS MAPS

- (EyA)** EMMET SANDY LOAM, 0 TO 2 PERCENT SLOPES
- (EyC)** EMMET SANDY LOAM, 6 TO 12 PERCENT SLOPES
- (LkE2)** LEE LANAU-KALKASKA LOAMY SANDS,
18 TO 25 PERCENT SLOPES, MODERATELY ERODED

DATE	PROJ NUMBER	ENG	BA	PROJ MGR	JK	CADD	AM	COUNTY	GRAND TRAVERSE	CITY/VILLAGE/TOWNSHIP	EAST BAY TOWNSHIP	HORIZ DATUM	VERT DATUM	SCALE	H	V	REF REVISIONS
3/30/2021	737-04-010											LOCAL	NAVD83	1"=30'			

GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 SOIL EROSION & SEDIMENT CONTROL

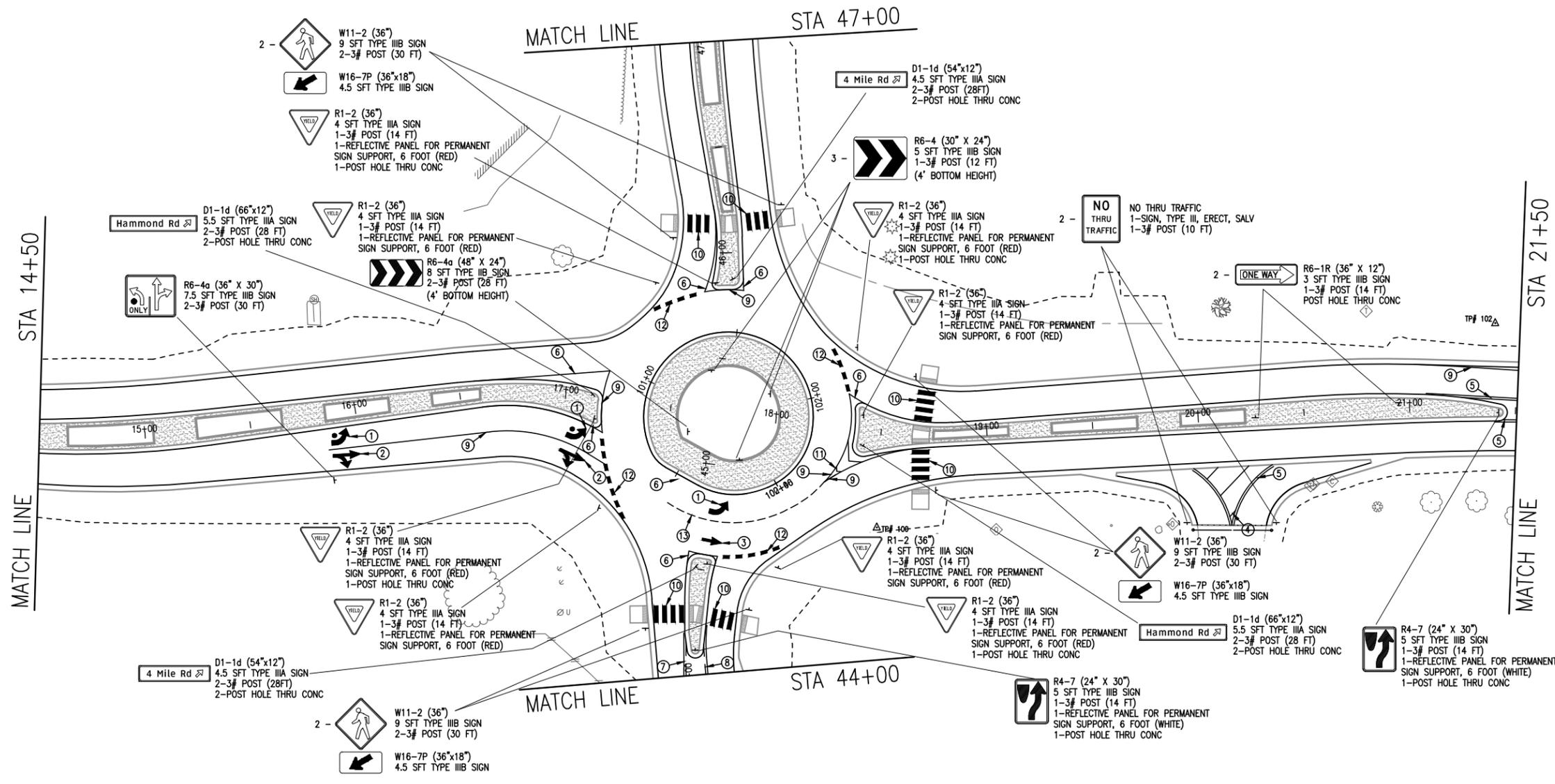
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4 MILE RD



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- LEGEND**
- ① PAVT MRKG, COLD PLASTIC, LEFT-TURN ARROW SYMBOL (NECESS PAVEMENT MARKING)
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 - ⑫ PAVT MRKG, SPRAYABLE THERMOPLASTIC, 4 INCH, WHITE DASHED, DASHES TO BE 12' LONG WITH 6' GAP (NECESS PAVEMENT MARKING)

PERMANENT SIGNING AND MARKING QTYS

TOTAL	UNIT	DESCRIPTION
17	Ea	Post Hole Thru Conc for Steel Post
608	Ft	Post, Steel, 3 lb
6	Ea	Sign, Type III, Erect, Salv
5	Ea	Sign, Type III, Rem
52	Sft	Sign, Type IIIA
196	Sft	Sign, Type IIIB
12	Ea	Reflective Panel for Permanent Sign Support, 6 foot
6	Ea	Post, Flexible, Delineator, GTCRC
26	Ft	Pavt Mrkg, Ovlv Cold Plastic, 12 inch, Cross Hatching, White
162	Ft	Pavt Mrkg, Ovlv Cold Plastic, 12 inch, Cross Hatching, Yellow
168	Ft	Pavt Mrkg, Ovlv Cold Plastic, 12 inch, Crosswalk
60	Ft	Pavt Mrkg, Ovlv Cold Plastic, 24 inch, Stop Bar
3	Ea	Pavt Mrkg, Ovlv Cold Plastic, Lt Turn Arrow Sym
2	Ea	Pavt Mrkg, Ovlv Cold Plastic, Thru and Rt Turn Arrow Sym
1	Ea	Pavt Mrkg, Ovlv Cold Plastic, Thru Arrow Sym
55	Ft	Pavt Mrkg, Sprayable Thermoapl, 4 inch, White
3285	Ft	Pavt Mrkg, Sprayable Thermoapl, 4 inch, Yellow
1760	Ft	Pavt Mrkg, Sprayable Thermoapl, 6 inch, White
401	Ft	Pavt Mrkg, Sprayable Thermoapl, 6 inch, Yellow
373	Ft	Recessing Pavt Mrkg, Longit
277	Sft	Recessing Pavt Mrkg, Transv

DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\PMIS4_Mile_Hammond\20010\PMIS1.dwg Mar 30, 2021 10:37am

DATE: 3/30/2021 PROJ NUMBER: 737200010 BA: GRAND TRAVERSE COUNTY ROAD COMMISSION CITY/VILLAGE/TOWNSHIP: EAST BAY TOWNSHIP COUNTY: GRAND TRAVERSE STATE: MI SCALE: H: 1"=30' V: LOCAL HORIZ DATUM: VERT DATUM: NAVD83 REVISIONS:

**GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
PERMANENT MARKING AND SIGNING PLAN**

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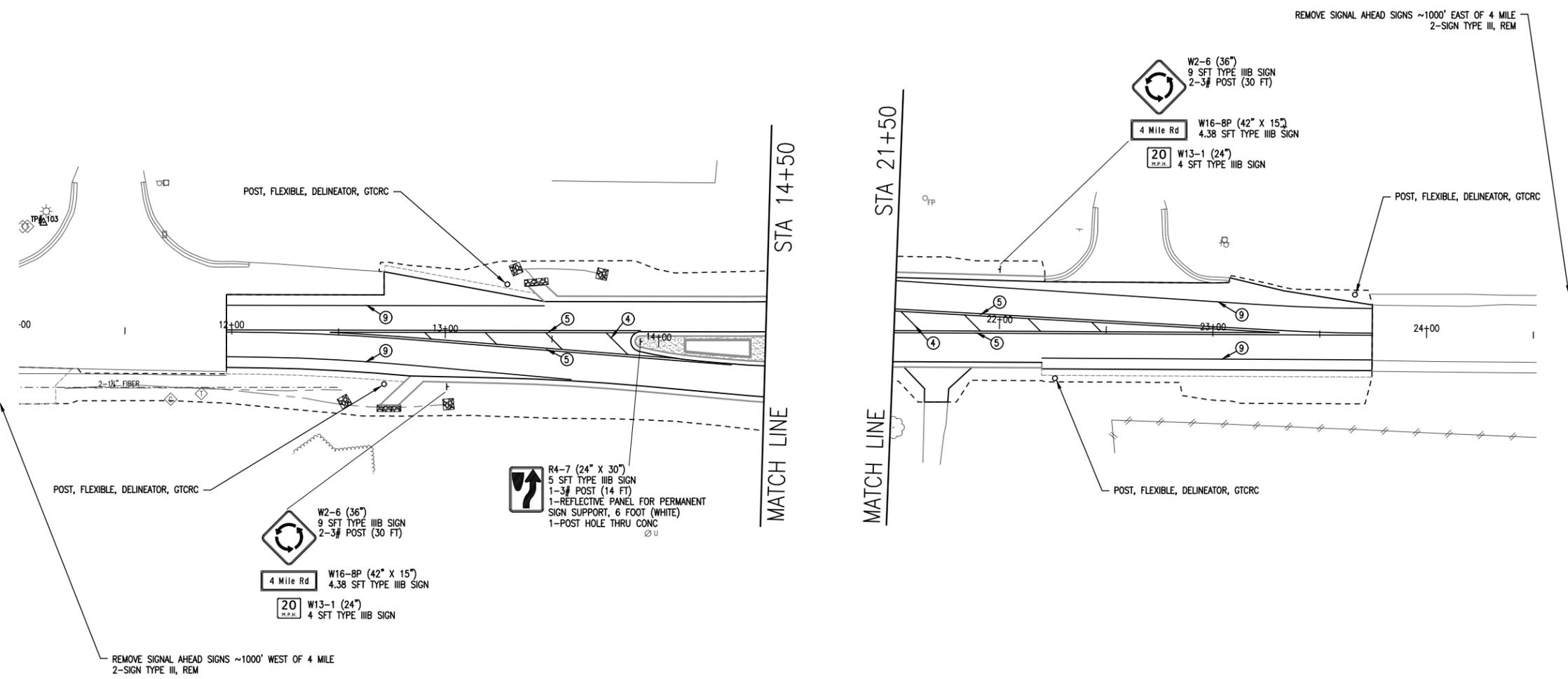
HAMMOND RD

WEST LEG

EAST LEG



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- LEGEND**
- ① PAVT MRKG, COLD PLASTIC, LEFT-TURN ARROW SYMBOL (NECESS PAVEMENT MARKING)
 - ② PAVT MRKG, COLD PLASTIC, THRU-RIGHT ARROW SYMBOL (NECESS PAVEMENT MARKING)
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 - ⑫ PAVT MRKG, SPRAYABLE THERMOPLASTIC, 4 INCH, WHITE DASHED, DASHES TO BE 12' LONG WITH 6' GAP (NECESS PAVEMENT MARKING)

DATE	3/30/2021	PROJ NUMBER	737-040470	BA	PROJ LEADER	JK	CADD	JM	COUNTY	GRAND TRAVERSE	CITY/VILLAGE/TOWNSHIP	EAST BAY TOWNSHIP	SCALE	H: 1"=30'	VERT DATUM	LOCAL	REF: 11/18/18
<p>GRAND TRAVERSE COUNTY ROAD COMMISSION 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT PERMANENT MARKING AND SIGNING PLAN</p>																	

DRAWING PATH: P:\7301_7400\737\20010_10_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\PMIS4 Mile Hammond\20010\PMIS1.dwg Mar 30, 2021 10:37am

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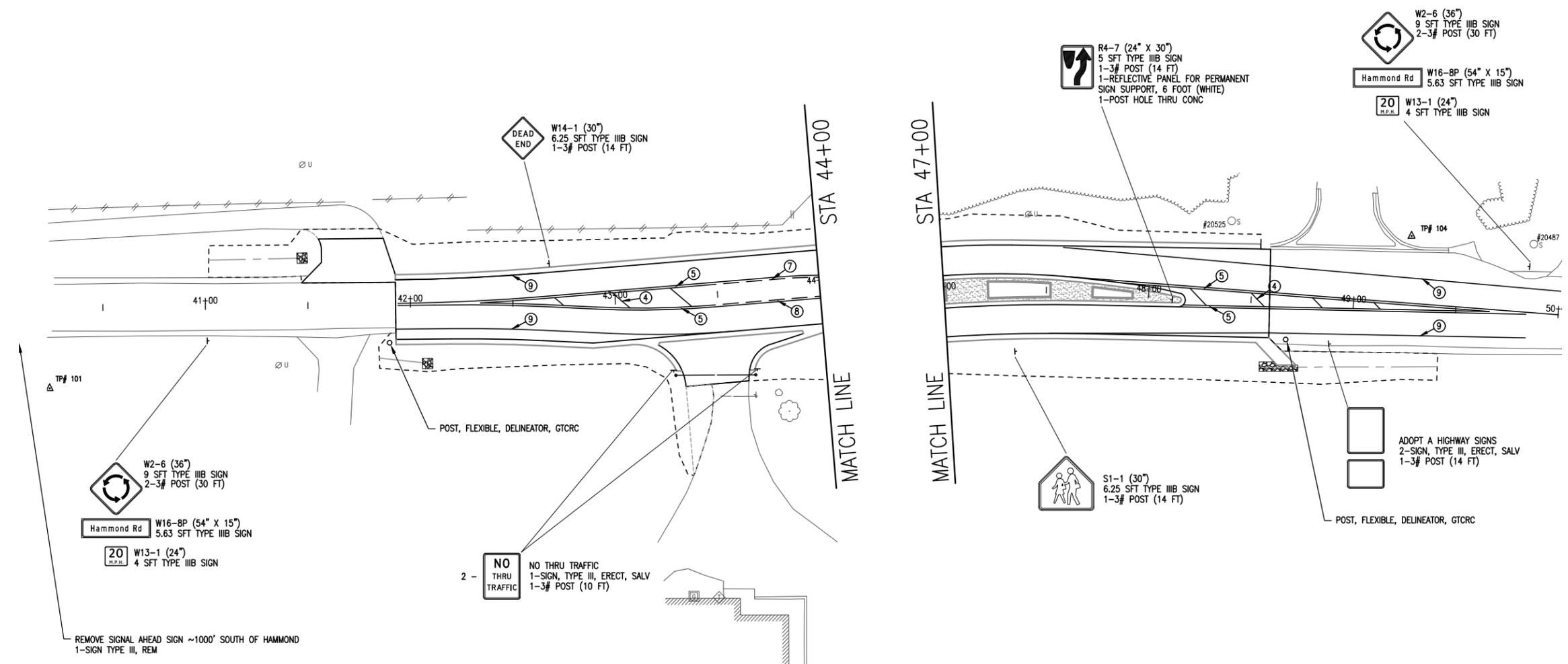
4 MILE RD

SOUTH LEG

NORTH LEG



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- LEGEND**
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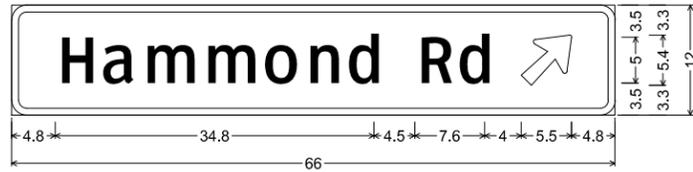
DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\PMIS4 Mile Hammond\20010\PMIS4.dwg Mar 30, 2021 10:37am

DATE	PROJ NUMBER	ENG	BA	7372004010	PROJ LEADER	JK	CADD	JM	COUNTY	GRAND TRAVERSE	CITY/VILLAGE/TOWNSHIP	EAST BAY TOWNSHIP	HORIZ DATUM	VERT DATUM	SCALE	H	V	LOCAL	NAVD83
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GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
PERMANENT MARKING AND SIGNING PLAN

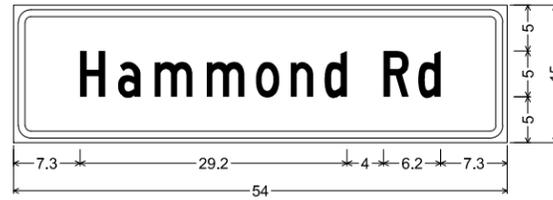
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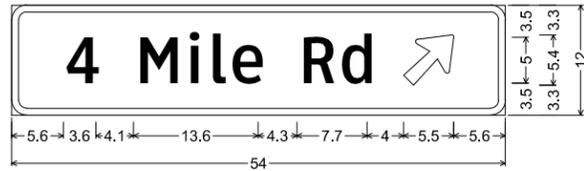
Identifier : D1-1d (Hammond);
 1.6" Radius, 0.8" Border, White on Green;
 [Hammond Rd] ClearviewHwy-3-W; Arrow A-5 - 6.9" 45°;
 Table of letter and object lefts.

H	a	m	m	o	n	d	R	d	↗
4.8	9.5	14.1	20.8	27.2	31.9	36.3	44.1	48.5	55.7



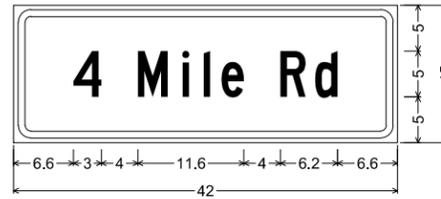
Identifier : W16-8P(Hammond);
 1.9" Radius, 0.8" Border, 0.5" Indent, Black on Yellow;
 [Hammond Rd] C;
 Table of letter and object lefts.

H	a	m	m	o	n	d	R	d
7.3	11.4	15.4	21.1	26.5	30.3	34.0	40.5	44.3



Identifier : D1-1d (Hammond);
 1.6" Radius, 0.8" Border, White on Green;
 [4 Mile Rd] ClearviewHwy-3-W; Arrow A-5 - 6.9" 45°;
 Table of letter and object lefts.

4	M	i	l	e	R	d	↗
5.6	13.3	18.8	21.3	23.6	31.2	35.6	42.9



Identifier : W16-8P (4 Mile);
 1.9" Radius, 0.8" Border, 0.5" Indent, Black on Yellow;
 [4 Mile Rd] C;
 Table of letter and object lefts.

4	M	i	l	e	R	d
6.6	13.6	18.5	20.8	22.7	29.2	33.0

REVISIONS:

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DATE	PROJ NUMBER	ENG	BA	PROJ MGR	JK	CADD	IM	COUNTY	GRAND TRAVERSE	CITY/VILLAGE/TOWNSHIP	EAST BAY TOWNSHIP	HORIZ DATUM	VERT DATUM	SCALE	H	1"=30'	V	LOCAL	INVD/BS
3/30/2021	737-004070																		

GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 PERMANENT SIGN DETAILS

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GENERAL NOTES

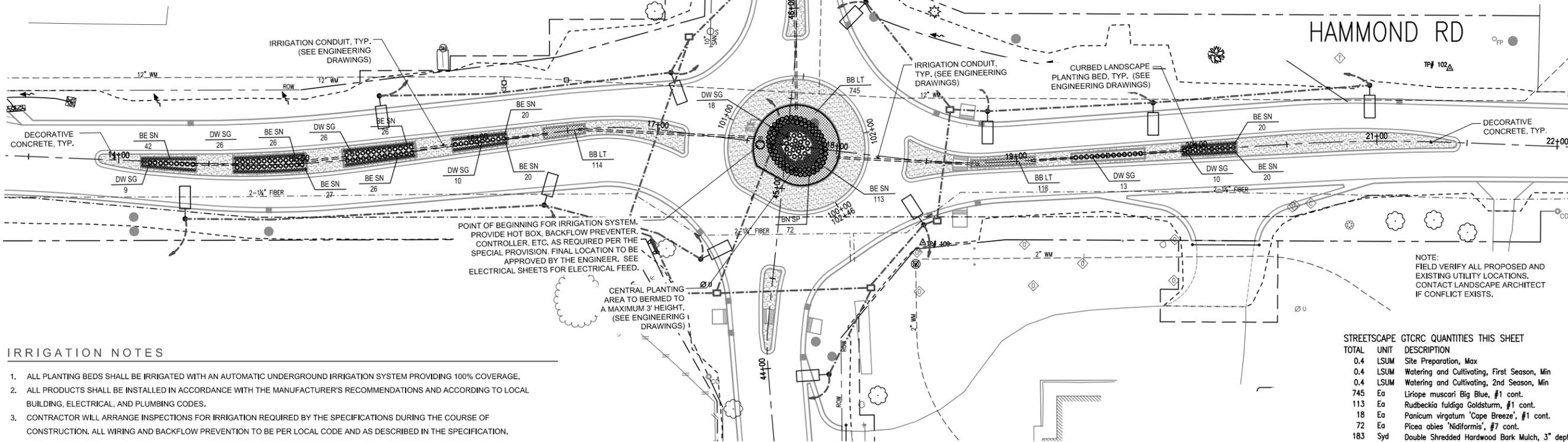
- CONTRACTOR SHALL BE RESPONSIBLE FOR BEING FAMILIAR WITH ALL DOCUMENTED UNDERGROUND UTILITIES, PIPES AND STRUCTURES. LOCATE AND PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION UNLESS OTHERWISE NOTED. CONTACT MISS DIG (811 OR 800-482-7171) A MINIMUM OF 3 DAYS PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.
- REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- ALL DIMENSIONS ON THIS DRAWING ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.
- DO NOT SCALE DRAWINGS. UTILIZE DIMENSIONS INDICATED ON THE PLANS. THE CONTRACTOR SHALL COORDINATE ALL WORK AND BE RESPONSIBLE FOR ALL METHODS, MEANS, SEQUENCE, AND PROCEDURES OF THE WORK.
- THE CONTRACTOR SHALL KEEP ALL DRAINAGE FACILITIES (CATCH BASINS, YARD DRAINS, ETC.) AFFECTED BY HIS CONSTRUCTION OPERATIONS CLEAN AND FULLY OPERATIONAL AT ALL TIMES.
- 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 LANDSCAPE ARCHITECT.
- IN THE EVENT THAT DISCREPANCIES ARISE BETWEEN WHAT IS SHOWN ON THE DRAWINGS AND ACTUAL FIELD CONDITIONS THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY FOR RESOLUTION.

LAYOUT NOTES

- ALL DIMENSIONS SHOWN ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.
- DO NOT SCALE DRAWINGS. UTILIZE DIMENSIONS INDICATED ON THE PLANS.
- ALL DIMENSIONS ARE TO THE EDGE OF PAVEMENT, FACE OF WALL, OR FACE OF CURB UNLESS OTHERWISE NOTED.
- WALKWAYS AND HARDSCAPE ELEMENTS INDICATED AS CURVILINEAR SHALL HAVE SMOOTH CONTINUOUS CURVES.
- UNLESS INDICATED OTHERWISE, ALL WALKWAYS ABUT AT 90 DEGREE ANGLES.
- LAYOUT ALL CONSTRUCTION LINES AND VERIFY LAYOUT WITH THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING ANY CONSTRUCTION WORK.
- DIMENSIONS FOR PLANT BEDS ARE APPROXIMATE. STAKE PLANT BEDS ON-SITE FOR FINAL APPROVAL BY LANDSCAPE ARCHITECT.
- REFER TO GENERAL NOTES FOR ADDITIONAL INSTRUCTIONS.
- FIELD VERIFY ALL PROPOSED AND EXISTING UTILITY LOCATIONS.

PLANTING NOTES

- THE CONTRACTOR SHALL VERIFY UTILITY CLEARANCES THROUGH MISS DIG PRIOR TO DETERMINING FINAL LOCATIONS FOR ALL STREETSCAPE FEATURES, INCLUDING ALL PLANTINGS. ANY FIELD ADJUSTMENTS TO FINAL PLANTING LOCATIONS SHALL BE AS DIRECTED BY THE LANDSCAPE ARCHITECT.
- STAKE ALL BED LINES FOR THE LANDSCAPE ARCHITECT'S REVIEW PRIOR TO INSTALLATION. ALL PLANTING PROCEDURES ARE SUBJECT TO THE REVIEW OF THE LANDSCAPE ARCHITECT AND THE CONTRACTOR SHALL CORRECT ANY DEFICIENCIES FOUND AT NO ADDITIONAL COST TO THE OWNER.
- SECURE PLANT MATERIAL AS SPECIFIED ON PLANS. IN THE EVENT THAT PLANT MATERIALS SPECIFIED ARE NOT AVAILABLE, CONTACT LANDSCAPE ARCHITECT FOR APPROVED SUBSTITUTIONS. NO SUBSTITUTIONS FOR PLANT MATERIALS WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT.
- VERIFY THAT ALL PLANTING PRODUCTS, PLANT MATERIAL, AND PLANT QUANTITIES DELIVERED TO THE SITE MATCH WHAT IS INDICATED ON THE PLANS AND SPECIFICATIONS.
- PROTECT ALL PLANT MATERIAL DURING DELIVERY TO PREVENT DAMAGE TO ROOT BALLS, TRUNKS, STEMS, 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. REMOVE UNACCEPTABLE PLANT MATERIAL IMMEDIATELY FROM THE SITE.
- 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 WINDBURN, LEAF DISCOLORATION, IRREGULAR BRANCHING OR INJURIES.
- ALL PLANT MATERIAL DELIVERED TO THE SITE IS SUBJECT TO THE REVIEW OF THE LANDSCAPE ARCHITECT BEFORE, DURING AND AFTER INSTALLATION.
- PROVIDE PLANT PHOTOGRAPHS OF EACH PLANT SPECIFIED TO THE LANDSCAPE ARCHITECT FOR COMPLIANCE REVIEW PRIOR TO SHIPPING.
- TEST FILL ALL PLANTING 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. CONTRACTOR SHALL REPLACE LOST PLANT MATERIAL WITH SAME SIZE AND SPECIES AT NO ADDITIONAL COST TO OWNER.
- ALL PLANT MATERIALS, INCLUDING 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 PLANTING PITS AND BEDS, MULCHING, AND OTHER PLANTING REQUIREMENTS.
- LAWN AREAS TO PROVIDE A SMOOTH AND CONTINUAL GRADE.
- ALL PLANTING BEDS SHALL HAVE A MINIMUM PLANTING MIX TO A MINIMUM DEPTH OF 18" AND BE DRESSED WITH A MINIMUM OF 3" MULCH DEPTH.
- ALL PLANTING AREAS SHALL BE WEED FREE PRIOR TO PLANTING INSTALLATION.
- 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.
- REFER TO GENERAL NOTES FOR ADDITIONAL INSTRUCTIONS.
- REFER TO MDOT STANDARD PLAN R-100-H PLANTING DETAILS



IRRIGATION NOTES

- ALL PLANTING BEDS SHALL BE IRRIGATED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM PROVIDING 100% COVERAGE.
- ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ACCORDING TO LOCAL BUILDING, ELECTRICAL, AND PLUMBING CODES.
- 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 SPECIFICATION.
- 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.
- ALL WIRE SPLICES OR CONNECTIONS SHALL BE MADE WITH APPROVED WATERPROOF WIRE CONNECTIONS AND BE IN A VALVE OR SPLICE BOX.
- ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 14 AWG, UL APPROVED DIRECT BURY.
- SEE IRRIGATION SPECIFICATION FOR ADDITIONAL INFORMATION
- SHOP DRAWINGS SHALL BE REQUIRED FOR IRRIGATION PLANS AS DESCRIBED IN THE SPECIFICATION.

PLANT LIST					
CODE	COMMON NAME	LATIN NAME	INSTALL SIZE	CONDITION	SPACING
BN SP	BIRD'S NEST SPRUCE	<i>Picea abies 'Nidiformis'</i>	#7	CONTAINER	30" O.C.
DW SG	CAPE BREEZE DWARF SWITCHGRASS	<i>Panicum virgatum 'Cape Breeze'</i>	#1	CONTAINER	36" O.C.
BE SN	BLACK EYED SUSAN	<i>Rudbeckia fulgida goldsturm</i>	#1	CONTAINER	18" O.C.
BB LT	BIG BLUE LILYTURF	<i>Liriope muscari 'Big Blue'</i>	#1	CONTAINER	12" O.C.

STREETSCAPE GTCRC QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
0.4	LSUM	Site Preparation, Max
0.4	LSUM	Watering and Cultivating, First Season, Min
0.4	LSUM	Watering and Cultivating, 2nd Season, Min
745	Ea	Liriope muscari Big Blue, #1 cont.
113	Ea	Rudbeckia fulgida Goldsturm, #1 cont.
18	Ea	Panicum virgatum 'Cape Breeze', #1 cont.
72	Ea	Picea abies 'Nidiformis', #7 cont.
183	Syd	Double Shredded Hardwood Bark Mulch, 3" depth
183	Syd	Planting Mix, Furn, 18 inch

STREETSCAPE EAST BAY TWP QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
0.6	LSUM	Site Preparation, Max
0.6	LSUM	Watering and Cultivating, First Season, Min
0.6	LSUM	Watering and Cultivating, 2nd Season, Min
385	Ea	Liriope muscari Big Blue, #1 cont.
338	Ea	Rudbeckia fulgida Goldsturm, #1 cont.
115	Ea	Panicum virgatum 'Cape Breeze', #1 cont.
1	LSUM	Underground Automatic Irrigation System
262	Syd	Double Shredded Hardwood Bark Mulch, 3" depth
262	Syd	Planting Mix, Furn, 18 inch

ARCHITECTS ENGINEERS PLANNERS
 300 East Mitchell St., Suite 2
 Petoskey, MI 49770
 P (231) 344-1150
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REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
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8		
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13		
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DATE: 3/30/2021
 PROJ NUMBER: 737-042470
 ENG: BA
 PROJ LEAD: JK
 COUNTY: GRAND TRAVERSE
 TOWNSHIP: EAST BAY TOWNSHIP
 SCALE: H: 1"=30'
 V: V
 LOCAL: 1"=10'
 VERT DATUM: 1"=40'
 HORIZ DATUM: 1"=40'

**GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 LANDSCAPE PLAN**

DRAWING PATH: P:\7301_7400\73720010_GTCRC_E-M_Corridor_Roundabouts\Drawings\PLN_LID\Sheets\2001\LDSCF.dwg Mar 30, 2021 10:39pm

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DRAWING PATH: P:\7301_7400\73720010_GTCRC_E-W_Corridor_Roundabout\Drawings\Civil\Plans_Constr4_Mile_Hammond\Electrical\Details_Schedules_General\Info.dwg Mar 30, 2021 10:39pm

ELEC. ABBREVIATIONS GENERAL NOTES - ELECTRICAL

Ø	SPECIAL PHASE
A	AMPERE
AFF	ABOVE FINISHED FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
CAT	CATALOGUE
CB	CIRCUIT BREAKER
CMU	CONCRETE MASONRY UNIT
CO.	COMPANY
CUH	CABIN UNIT HEATER
E	ELECTRICAL CONTRACTOR
EC	EXHAUST FAN
EF	ELECTRIC WATER COOLER
EWC	ELECTRIC WATER COOLER
F	FIRE ALARM
FA	FIRE ALARM
G	GROUND FAULT CIRCUIT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	EQUIPMENT GROUND
H	HIGH INTENSITY DISCHARGE
HID	HAND OFF AUTO
HOA	HIGH PRESSURE SODIUM
HPS	HEATING VENTILATION & AIR CONDITIONING
HVAC	HEATING VENTILATION & AIR CONDITIONING
K	KEY OPERATED DEVICE
KVA	KILOVOLT-AMPERES
KW	KILO-WATTS
L	LIGHT EMITTING DIODE
LED	LIGHT EMITTING DIODE
M	MAIN CIRCUIT BREAKER
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MH	METAL HALIDE
MISC	MISCELLANEOUS
MLO	MAIN LUG ONLY
MTD	MOUNTED
N	NEUTRAL
NEU	NEUTRAL
NO	NUMBER
P	PILOT
PL	PILOT
R	RECEPTACLE
RECP	RECEPTACLE
T	TELEPHONE
TEL	TELEPHONE
TRANS	TRANSFORMER
TV	TELEVISION
TYP	TYPICAL
U	UNDERGROUND ELECTRIC
UGE	UNIT HEATER
UH	UNLESS NOTED OTHERWISE
UNO	UNLESS NOTED OTHERWISE
V	VOLT
VV	VOLT
VA	VOLT-AMPERES
W	WIRE
WN	WIRELESS NETWORK CONTROLLER
WNC	WIRELESS NETWORK CONTROLLER
WP	WEATHERPROOF

- ALL ELECTRICAL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE AND ANY STATE/LOCAL AMENDMENTS.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACQUISITION OF AN ELECTRICAL PERMIT AND SCHEDULING OF THE NECESSARY INSPECTIONS. UPON COMPLETION OF THE WORK THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE OWNER EVIDENCE OF INSPECTION APPROVAL.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION REQUIRED WITH THE ELECTRIC UTILITY SERVING THE FACILITY. UTILITY COSTS SHALL BE PAID UNDER LUMP SUM PAY ITEM POWER CO. (EST COST TO CONTRACTOR).



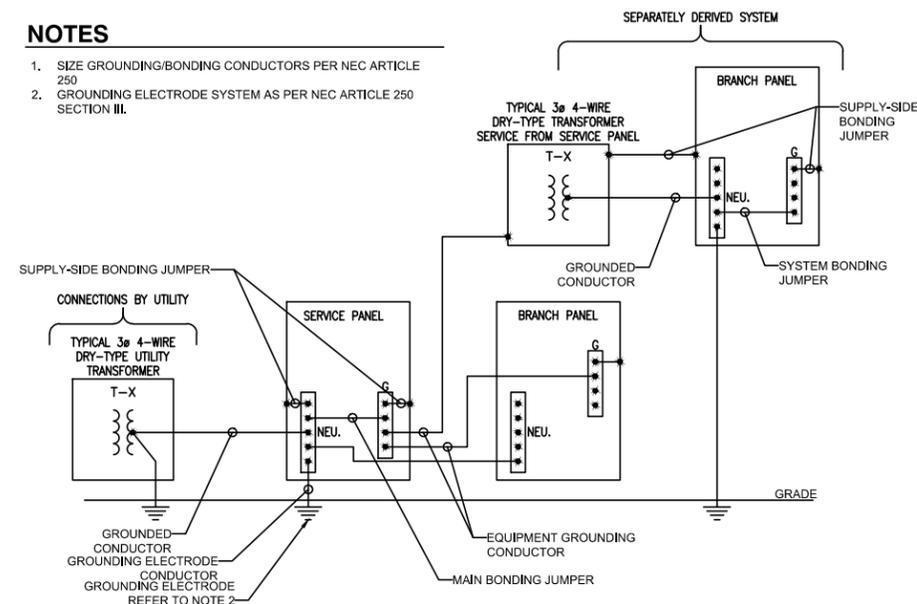
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NOTES

- SIZE GROUNDING/BONDING CONDUCTORS PER NEC ARTICLE 250
- GROUNDING ELECTRODE SYSTEM AS PER NEC ARTICLE 250 SECTION III.



GROUNDING BONDING DIAGRAM

NO SCALE

ELECTRICAL LEGEND																				
LIGHT FIXTURES	RECEPTACLE OUTLETS	FIRE ALARM SYSTEM																		
<ul style="list-style-type: none"> □ SURFACE / CEILING MOUNT ■ EMERGENCY SURFACE / CEILING MOUNT ○ PENDANT / CHAIN MOUNT ● EMERGENCY PENDANT / CHAIN MOUNT ◻ RECESSED MOUNT ◼ EMERGENCY RECESSED MOUNT — TRACK STRIP ○ (INT.) (EXT.) WALL MOUNT ○ (INT.) (EXT.) EMERGENCY WALL MOUNT ○ EXTERIOR POLE MOUNT ○ EXTERIOR POST MOUNT ○ BOLLARD ○ INTERIOR EMERGENCY WALL PACK ○ EXIT SIGN (WALL/CEILING) ○ CEILING FAN (LIGHT/NO LIGHT) 	<ul style="list-style-type: none"> ○ SIMPLEX RECEPTACLE ○ DUPLEX GROUNDED RECEPTACLE ○ GFCI ○ GFCI - MOUNTED ABOVE CTR ○ DUAL USB PORTS ○ UC DUAL USB PORTS ABOVE CTR ○ WP WEATHERPROOF COVER W/ GFCI ○ T TAMPERPROOF ○ TC TAMPERPROOF ABOVE COUNTER ○ TGC TAMPERPROOF GFCI ABOVE COUNTER ○ 208V, 1Ø STRAIGHT BLADE RECEPTACLE ○ DRYER RECEPTACLE ○ RANGE RECEPTACLE ○ QUADRUPLEX RECEPTACLE ○ DUPLEX RECEPT ON EMERGENCY POWER ○ FLOOR BOX ○ ØRECEPTACLE 	<ul style="list-style-type: none"> ○ OUTDOOR BELL / CHIME ○ SMOKE DETECTOR ○ SMOKE DETECTOR WITH AUDIBLE BASE ○ SMOKE/CARBON MONOXIDE DETECTOR ○ DUCT SMOKE DETECTOR ○ HEAT DETECTOR ○ FIRE ALARM HORN/STROBE ○ FIRE ALARM STROBE ○ FIRE ALARM HORN ○ FIRE ALARM SPEAKER/STROBE ○ FIRE ALARM SPEAKER ○ FIRE ALARM PULL STATION ○ ELECTRO/MAG DOOR HOLD OPEN ○ END OF LINE RESISTOR ○ FIRE ALARM FLOW SWITCH ○ FIRE ALARM PRESSURE SWITCH ○ FIRE ALARM TAMPER SWITCH ○ FIRE ALARM ANNUNCIATOR PANEL ○ FIRE ALARM CONTROL PANEL ○ HOOD SUPPRESSION SYSTEM FIRE ALARM CONTACT 																		
POWER DISTRIBUTION	SWITCH OUTLETS	TELEPHONE/COMMUNICATIONS																		
<ul style="list-style-type: none"> □ DISCONNECT SWITCH □ FUSED DISCONNECT SWITCH □ COMBINATION MOTOR STARTER WITH DISCONNECT SWITCH □ MOTOR STARTER □ ELECTRICAL METER □ DISTRIBUTION PANEL □ ELECTRICAL POWER PANEL SURFACE MOUNT □ ELECTRICAL POWER PANEL FLUSH MOUNT □ RELAY □ ELECTRICAL TRANSFORMER □ ELECTRICAL PULL BOX □ VARIABLE FREQUENCY DRIVE ○ JUNCTION BOX (CEILING WALL SURFACE) ○ SINGLE PHASE MOTOR ○ THREE PHASE MOTOR 	<ul style="list-style-type: none"> SWITCHES: X = DESIGNATION BELOW Z = ZONE DESIGNATION ○ SINGLE POLE ○ TWO POLE ○ THREE WAY ○ FOUR WAY ○ DIM DIMMER ○ F FAN ○ K KEY OPERATED ○ LV LOW VOLTAGE ○ M MOTION DETECTION ○ P PILOT LIGHT ○ T TIMER 	<ul style="list-style-type: none"> ○ CEILING WALL ○ FLOOR ○ FURNITURE ○ X=NUMBER AND TYPE OF PORTS ○ COAXIAL PORT ○ DATA PORT ○ PHONE PORT ○ WIRELESS ACCESS POINT ○ SPEAKER ○ INTERCOM CALL BOX ○ ENTRANCE CALL SYSTEM ○ BELL ○ MICROPHONE JACK ○ POWER SUPPLY ○ REQUIRES WIRE GUARD ○ NURSE CALL MAIN PANEL ○ NURSE CALL PULL STATION ○ NURSE CALL LIGHT ○ CLOCK 																		
RACEWAY NOTES	WIRES																			
<ol style="list-style-type: none"> MINIMUM SIZE OF RIGID CONDUIT SHALL BE 3/4" MINIMUM SIZE OF FLEX CONDUIT SHALL BE 1/2" MINIMUM SIZE WALL BOX IN CMU SHALL BE 4"x4" MINIMUM SIZE OF UNDERGROUND CONDUIT SHALL BE 1 1/4" 	<ul style="list-style-type: none"> POWER CIRCUIT WIRING UNDERGROUND WIRING SWITCH LOOP WIRING UN-SWITCHED HOT WIRING LOW VOLTAGE WIRING DATA WIRING 	<table border="1"> <thead> <tr> <th>PROPOSED</th> <th>EXISTING</th> <th>DEMOLISH</th> </tr> </thead> <tbody> <tr> <td>---</td> <td>---</td> <td>---</td> </tr> </tbody> </table>	PROPOSED	EXISTING	DEMOLISH	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PROPOSED	EXISTING	DEMOLISH																		
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REVISIONS

HORIZONTAL DATUM: VERT DATUM: LOCAL
 SCALE: 1"=30'
 CITY/VILLAGE/TOWNSHIP: EAST BAY TOWNSHIP
 COUNTY: GRAND TRAVERSE
 CAD: JM
 PROJ MGR: JK
 ENG: BA
 PROJ NUMBER: 7374004010
 DATE: 3/30/21

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GRAND TRVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 GENERAL ELECTRICAL INFORMATION

HAMMOND RD

4 MILE RD

ELECTRICAL SERVICE PROVIDER INFORMATION

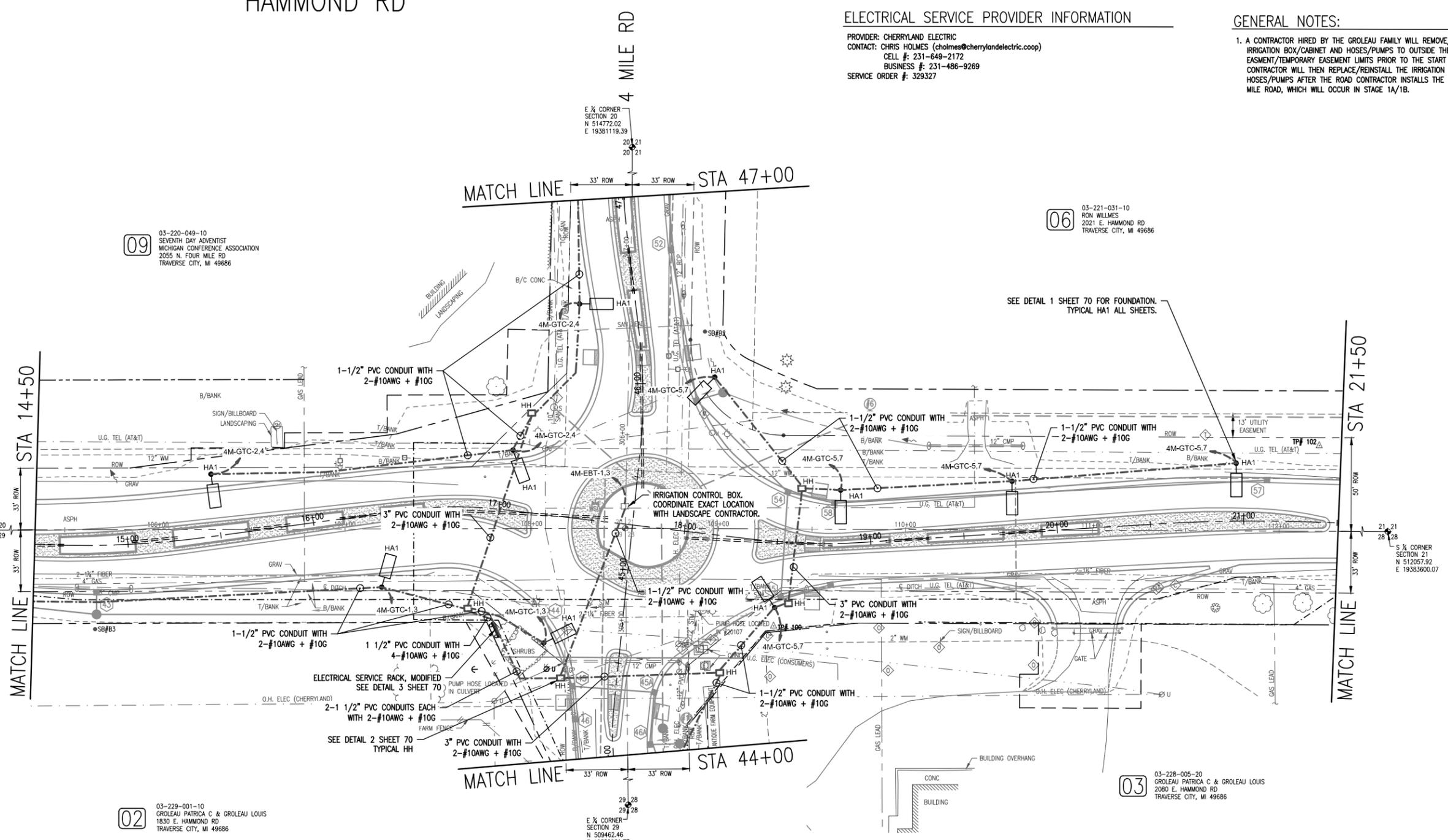
PROVIDER: CHERRYLAND ELECTRIC
 CONTACT: CHRIS HOLMES (cholmes@cherrylandelectric.coop)
 CELL #: 231-649-2172
 BUSINESS #: 231-486-9269
 SERVICE ORDER #: 329327

GENERAL NOTES:

- A CONTRACTOR HIRED BY THE GROLEAU FAMILY WILL REMOVE/RELOCATE THE ELECTRICAL IRRIGATION BOX/CABINET AND HOSES/PUMPS TO OUTSIDE THE HIGHWAY EASEMENT/TEMPORARY EASEMENT LIMITS PRIOR TO THE START OF CONSTRUCTION. GROLEAU'S CONTRACTOR WILL THEN REPLACE/REINSTALL THE IRRIGATION BOX /CABINET AND HOSES/PUMPS AFTER THE ROAD CONTRACTOR INSTALLS THE NEW STEEL CONDUIT UNDER 4 MILE ROAD, WHICH WILL OCCUR IN STAGE 1A/1B.



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09 03-220-049-10
 SEVENTH DAY ADVENTIST
 MICHIGAN CONFERENCE ASSOCIATION
 2055 N. FOUR MILE RD
 TRAVERSE CITY, MI 49686

06 03-221-031-10
 ROW WILLMES
 2021 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

02 03-229-001-10
 GROLEAU PATRICA C & GROLEAU LOUIS
 1830 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

03 03-228-005-20
 GROLEAU PATRICA C & GROLEAU LOUIS
 2080 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
1124	Ft	Conduit, Schedule 40, 1 1/2 inch
265	Ft	Conduit, Schedule 40, 3 inch
2680	Ft	DB Cable, in Conduit, 600V, 1/C#10
1390	Ft	Cable, Equipment Grounding Wire, 1/C#10
6	Ea	Hh, Square
7	Ea	Light Std Arm, 8 foot
7	Ea	Light Std Fdn
1	Ea	Electrical Service Rack
7	Ea	Luminaire, LED Decorative Downlight
3000	Dlr	Power Co. (Est. Cost to Contractor)

EAST BAY TWP QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
3	Ea	Light Std Arm, 8 foot
3	Ea	Light Std Fdn
3	Ea	Luminaire, LED Decorative Downlight

DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Plans_4 Mile Hammond_200010CON.dwg Mar 30, 2021 1:10:41pm

DATE: 3/30/2021 PROJ NUMBER: 737200010 BA: JMK PROJ LEADER: JMK CADD: JMK COUNTY: GRAND TRAVERSE CITY/VILLAGE/TOWNSHIP: EAST BAY TOWNSHIP HORIZ DATUM: VERT DATUM: LOCAL SCALE: H: 1"=30' V: 1"=30'

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GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 ELECTRICAL PLAN

HAMMOND RD

WEST LEG

EAST LEG



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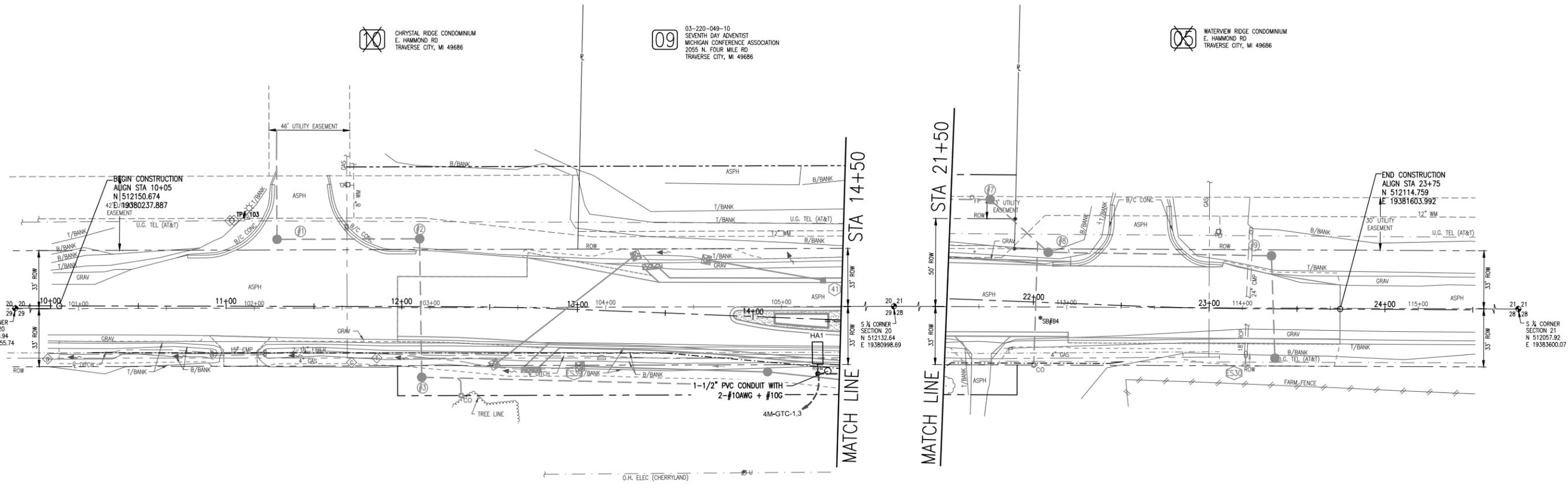
08 CRYSTAL RIDGE CONDOMINIUM
 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

09 03-220-049-10
 SEVENTH DAY ADVENTIST
 MICHIGAN CONFERENCE ASSOCIATION
 2055 N. FOUR MILE RD
 TRAVERSE CITY, MI 49686

05 WATERVIEW RIDGE CONDOMINIUM
 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

02 03-229-001-10
 GROLEAU PATRICA C & GROLEAU LOUIS
 1830 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

03 03-228-005-20
 GROLEAU PATRICA C & GROLEAU LOUIS
 2080 E. HAMMOND RD
 TRAVERSE CITY, MI 49686



DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Plans_4 Mile Hammond_200010CON.dwg Mar 30, 2021 - 10:41pm

QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
15	Ft	Conduit, Schedule 40, 1 1/2 inch
30	Ft	DB Cable, in Conduit, 600V, 1/C#10
15	Ft	Cable, Equipment Grounding Wire, 1/C#10
1	Ea	Light Std Arm, 8 foot
1	Ea	Light Std Fdn
1	Ea	Luminaire, LED Decorative Downlight

DATE	3/30/2021	PROJ NUMBER	737-04-010	ENG	BA	CADD	JM	COUNTY	GRAND TRAVERSE	CITY/VILLAGE/TOWNSHIP	EAST BAY TOWNSHIP	HORIZ DATUM	LOCAL	VERT DATUM	NAVD83
SCALE	H: 1"=30'		V: 1"=30'												
GRAND TRAVERSE COUNTY ROAD COMMISSION 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT ELECTRICAL PLAN															

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4 MILE RD

SOUTH LEG

NORTH LEG



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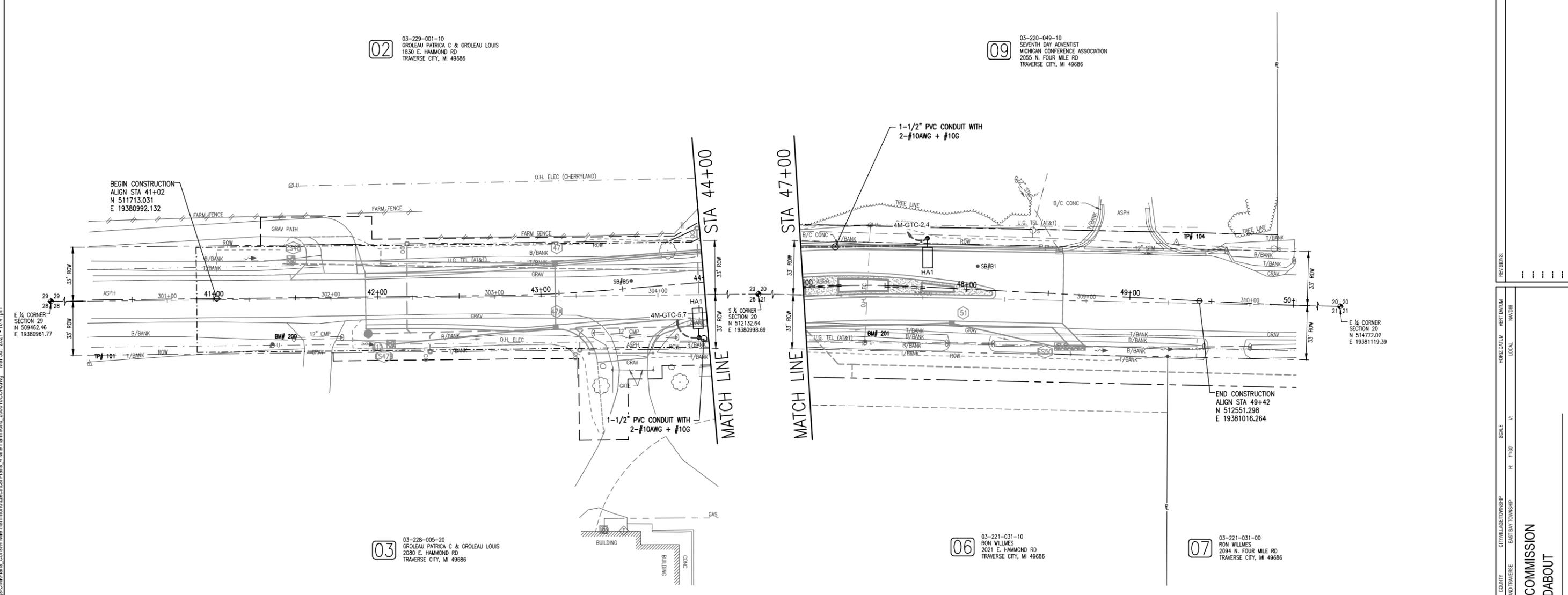
02 03-229-001-10
 GROLEAU PATRICA C & GROLEAU LOUIS
 1830 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

09 03-220-049-10
 SEVENTH DAY ADVENTIST
 MICHIGAN CONFERENCE ASSOCIATION
 2055 N. FOUR MILE RD
 TRAVERSE CITY, MI 49686

03 03-228-005-20
 GROLEAU PATRICA C & GROLEAU LOUIS
 2080 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

06 03-221-031-10
 RON WILLIAMS
 2021 E. HAMMOND RD
 TRAVERSE CITY, MI 49686

07 03-221-031-00
 RON WILLIAMS
 2094 N. FOUR MILE RD
 TRAVERSE CITY, MI 49686



QUANTITIES THIS SHEET

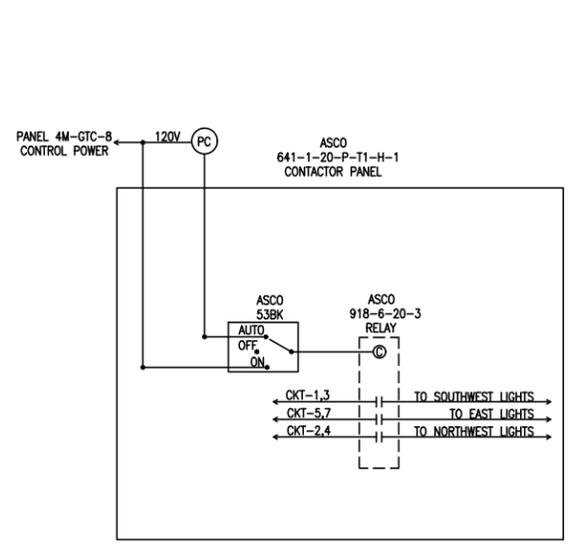
TOTAL	UNIT	DESCRIPTION
90	Ft	Conduit, Schedule 40, 1 1/2 inch
180	Ft	DB Cable, in Conduit, 600V, 1/C#10
90	Ft	Cable, Equipment Grounding Wire, 1/C#10
2	Ea	Light Std Arm, 8 foot
2	Ea	Light Std Fdn
2	Ea	Luminaire, LED Decorative Downlight

DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Plans_4 Mile Hammond\Electrical\Plans_4 Mile Hammond_200110CON.dwg Mar 30, 2021 - 10:41pm

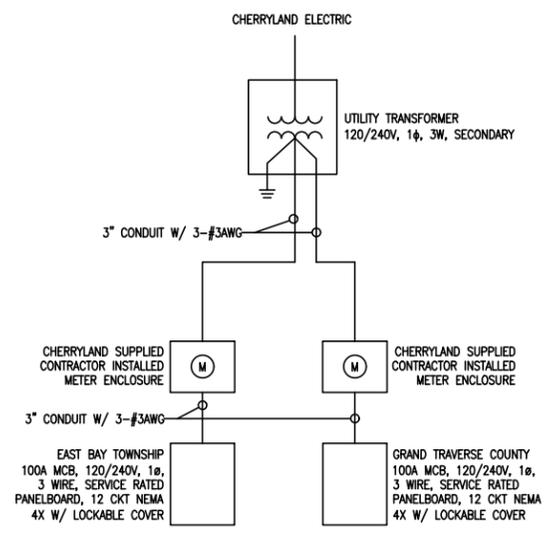
DATE: 3/30/2021 PROJ NUMBER: 737-04-010 ENG: BA PROJ MGR: JK CADD: JM COUNTY: GRAND TRAVERSE CITY/VILLAGE/TOWNSHIP: EAST BAY TOWNSHIP SCALE: H: 1"=30' V: LOCAL HORIZONTAL: VERT DATUM: NAVD83

GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 ELECTRICAL PLAN

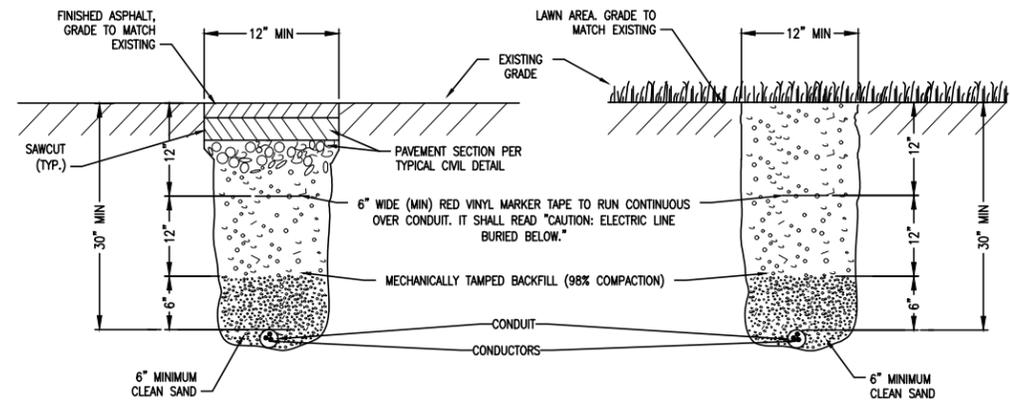
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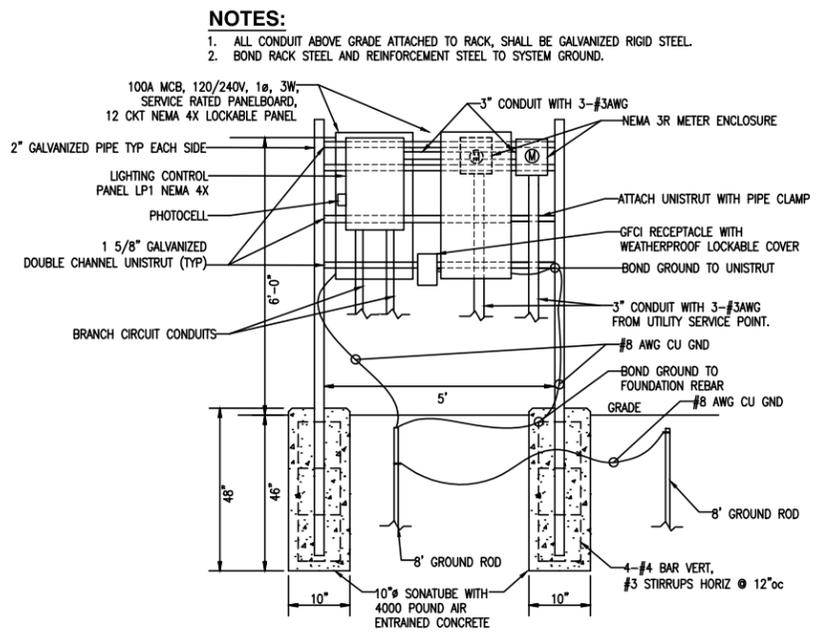
6 LP1 DETAIL
NO SCALE



5 ELECTRICAL ONE-LINE DIAGRAM
NO SCALE



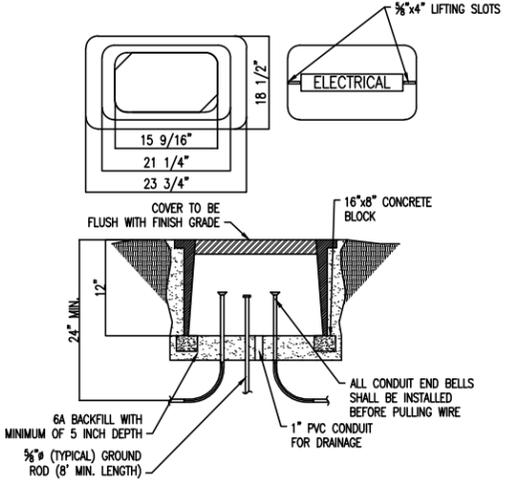
4 TRENCH DETAIL
NO SCALE



3 ELECTRICAL RACK DETAIL
NO SCALE

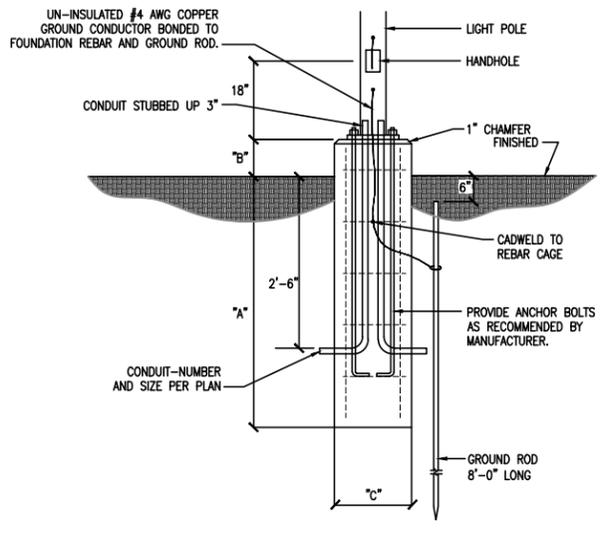
NOTES:

- BOX AND COVER SHALL BE CONCRETE OR COMPOSITE. METAL COVER IS ACCEPTABLE.
- COVERS SHALL BE SECURED WITH 3/8" BOLTS, NUTS, AND WASHERS, WHICH SHALL BE BRASS, STAINLESS STEEL OR OTHER CORROSION RESISTANT MATERIAL. STAINLESS STEEL SHALL HAVE A CHROMIUM CONTENT OF NOT LESS THAN 18% AND A NICKEL CONTENT OF NOT LESS THAN 8%, NUTS SHALL BE RECESSED BELOW TOP SURFACE OF COVER.
- COVER LETTERING SHALL BE 1/2" MINIMUM LETTERS CAST IN STANDARD MARKINGS: (ELECTRICAL).
- CONDUIT ENTERING THE BOX SHALL HAVE 90° LONG RADIUS BEND (INSIDE THE BOX). THE CONDUITS OPENING, INSIDE THE BOX, SHALL BE AT LEAST 4" BELOW THE LID, OPENING SHALL HAVE SMOOTH EDGE. IF THE CONDUIT IS P.V.C. A SLIP COUPLING MUST BE USED. IF THE CONDUIT IS RIGID PIPE, A PROTECTIVE BUSHING SHALL BE USED.
- CONDUCTORS SHALL HAVE A MINIMUM OF 24" SLACK FROM CONDUIT BELL END.
- BACKFILL WITH EXCAVATED MATERIAL AND THOROUGHLY COMPACT.
- WHERE PULLBOXES ARE INSTALLED IN CONCRETE AREAS, 1/2" PREMOLD EXPANSION JOINT SHALL BE INSTALLED AROUND THE BOX.
- BOXES IN NON-VEHICLE TRAFFIC AREAS TO BE TIER 8 AND IN VEHICLE TRAFFIC AREAS TO BE TIER 22 UNLESS OTHERWISE NOTED.



2 HAND HOLE DETAIL
NO SCALE

POLE SCHEDULE			
POLE PART: SEE LIGHT FIXTURE SCHEDULE			
POLE HEIGHT	"A"	"B"	"C"
25' HIGH	7'-0"	0'-4"	24" DIA. CONCRETE BASE (6) #8 BARS VERTICAL, #3 TIES @ 12" OC



1 LIGHT POLE BASE DETAIL
NO SCALE

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DATE: 3/30/2021 PROJ NUMBER: 7372004010 BA: EAST BAY TOWNSHIP PROJ: GRAND TRAVERSE COUNTY: EAST BAY TOWNSHIP CITY/VILLAGE/TOWNSHIP: EAST BAY TOWNSHIP HORIZ DATUM: VERT DATUM: LOCAL V: 1"=30' SCALE: 1"=30' REVISIONS: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 ELECTRICAL DETAILS

DRAWING PATH: P:\7301_7400\737200010_GTCRC-E-M_Corridor_Roundabouts\Drawings\Civil\Plans_Cons\4 Mile_Hammond\Electrical\Details_Schedules_General\Info.dwg Mar 30, 2021 10:42am

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER		LAMPS	REMARKS
HA1	LUMINAIRE, LED DECORATIVE DOWNLIGHT	STERNBURG	1A-1531LED-R-24L40T3-MDL018-FG-HSHN-CBAA-BKT	117.4 WATT, LED	PURCHASE WITH STERNBURG POLE PART NO. 22-25-A-RT-5-RC-BKT MUST MEET MDOT BREAKAWAY SPECIFICATIONS
		-	-		
		-	-		

CONTRACTOR MUST PROVIDE CUT SHEET FOR ALL STREET LIGHTING ITEMS FOR ENGINEER'S REVIEW AND APPROVAL PRIOR TO ORDERING MATERIALS. SEE SPECIFICATIONS FOR SHOP DRAWING APPROVAL PROCESS.



ARCHITECTS ENGINEERS PLANNERS

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REVISIONS:

1
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DATE: 3/30/2021 PROJ NUMBER: 737-004010 BA: ENG: PROJ LEAD: JK CAD: JIM COUNTY: GRAND TRAVERSE CITY/VILLAGE/TOWNSHIP: EAST BAY TOWNSHIP SCALE: H: 1"=30' V: LOCAL: HORIZ DATUM: EAST BAY TOWNSHIP VERT DATUM: NAVD83

GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 ELECTRICAL SCHEDULES

PANEL 4M EBT							DESCRIPTION: PANEL RACK MOUNT, 240/120V, 1φ, 3W, 100A, MCB, 12 CIRCUIT, 22KA SSCR						
IDENTIFICATION	KVA LOAD		WIRE	POLE	AMP	CIRCUIT	CIRCUIT	AMP	POLE	WIRE	KVA LOAD		IDENTIFICATION
	A	B									B	A	
IRRIGATION CONTROL	0,18	-	#10	1	20	1	2				-	-	
	-	-				3	4				-	-	
	-	-				5	6				-	-	
	-	-				7	8				-	-	
	-	-				9	10				-	-	
	-	-				11	12				-	-	
CONNECTED LOAD	0,18												CONNECTED LOAD

PANEL 4M GTC							DESCRIPTION: PANEL SURFACE MOUNT, 240/120V, 1φ, 3W, 100A, MCB, 12 CIRCUIT, 22KA SSCR						
IDENTIFICATION	KVA LOAD		WIRE	POLE	AMP	CIRCUIT	CIRCUIT	AMP	POLE	WIRE	KVA LOAD		IDENTIFICATION
	A	B									B	A	
SOUTHWEST STREET LIGHTS	0,18	-	#10	2	20	1	2	20	2	#10	0,18	-	NORTH WEST STREET LIGHTS
	-	0,18				3	4	20	2	#10	0,18	-	
EAST STREET LIGHTS	0,35	-	#10	2	20	5	6	20	1	#12	0,18	-	RACK RECEPTACLE
	-	0,35				7	8	20	1	#12	0,10	-	LIGHTING CONTROL
	-	-				9	10				-	-	
	-	-				11	12				-	-	
CONNECTED LOAD	0,53	0,53									0,28	0,36	CONNECTED LOAD

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LEGEND SHEET

TRAFFIC SIGNAL

	INSTALL 12" VEHICULAR TRAFFIC SIGNAL (1-WAY SHOWN)
	INSTALL VEHICULAR TRAFFIC SIGNAL WITH SALVAGED HEADS (2-WAY SHOWN)
	EXISTING VEHICULAR TRAFFIC SIGNAL (1-WAY SHOWN)
	REMOVE VEHICULAR TRAFFIC SIGNAL (1-WAY SHOWN)
	INSTALL PEDESTRIAN (COUNTDOWN TYPE) TRAFFIC SIGNAL (2-WAY SHOWN)
	INSTALL PEDESTRIAN (COUNTDOWN TYPE) TRAFFIC SIGNAL WITH SALVAGED HEAD (2-WAY SHOWN)
	REMOVE PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (1-WAY SHOWN)
	EXISTING PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (1-WAY SHOWN)
	INSTALL JUNCTION BOX
	INSTALL SALVAGED JUNCTION BOX
	REMOVE JUNCTION BOX
	EXISTING JUNCTION BOX
	INSTALL OVERHEAD PLASTIC JACKETED CABLE
	EXISTING OVERHEAD PLASTIC JACKETED CABLE
	REMOVE OVERHEAD PLASTIC JACKETED CABLE
	INSTALL TRAFFIC SIGNAL CONTROLLER (NEW OR SALVAGED AS INDICATED). (EXCEPT AS OTHERWISE INDICATED)
	INSTALL MAST ARM POLE & MAST ARM (SIZES AS INDICATED) ON NEW FOUNDATION (EXCEPT AS OTHERWISE INDICATED).
	INSTALL TRAFFIC SIGNAL PEDESTAL ON NEW FDN. OR PUSHBUTTON SUPPORT POST (AS INDICATED).
	INSTALL ANCHOR BASE STEEL STRAIN POLE (SIZE AS INDICATED) ON NEW FOUNDATION. (EXCEPT AS OTHERWISE INDICATED).
	EXISTING TRAFFIC SIGNAL CONTROLLER
	EXISTING MAST ARM STANDARD
	EXISTING PEDESTAL
	EXISTING STEEL STRAIN POLE
	BAG SIGNALS AS DIRECTED BY ENGINEER. (INCLUDED IN INSTALLATION OF T.S. ON THIS CONTRACT).
	REMOVE BAG AS DIRECTED BY ENGINEER. (INCLUDED IN INSTALLATION OF T.S. ON THIS CONTRACT).
	POCH POLE CONTACT HEIGHT OF T.S. SPAN WIRE
	L.C.H. LOW CONTACT HEIGHT OF SPAN WIRE T.S. TO SPAN WIRE.
	INSTALL WARNING SIGN (TYPE AS INDICATED ON PLANS).
	INSTALL 1 OR 2-WAY CASE SIGN (AS INDICATED ON PLANS)
	REMOVE 2-WAY CASE SIGN
	EXISTING 2-WAY CASE SIGN
	INSTALL 4-WAY CASE SIGN
	REMOVE 4-WAY CASE SIGN
	EXISTING 4-WAY CASE SIGN

UNDERGROUND

	M.H. 1234	EXISTING MANHOLE
	EX. H.H.	EXISTING HANDHOLE
		EXISTING DUCT RUN
		REMOVE EXISTING DUCT RUN
	2-3\"/>	BUILD DIRECT BURIAL CONDUIT (D.B.) OR ENCASED CONDUIT (E.C.) (2-3\"/>
	2-3\"/>	GALVANIZED IRON CONDUIT (2-3\"/>
	M.H. 5678	BUILD NEW MANHOLE (2-WAY)
	M.H. 9012	BUILD NEW MANHOLE (3-WAY)
	M.H. 3456	BUILD NEW MANHOLE (4-WAY)
	M.H. 7890	BUILD NEW MANHOLE (CORNER)
		BUILD ROUND HANDHOLE
		BUILD SQUARE HANDHOLE
		BUILD TYPE "D" HANDHOLE
		EXISTING DIRECT BURIAL OR PARKWAY CABLE
		ABANDON DIRECT BURIAL OR PARKWAY CABLE
		INSTALL DIRECT BURIAL CABLE (NO. & SIZE AS INDICATED)
		EXISTING U.G.-FED ST. LTG. UNIT
		REMOVE U.G.-FED ST. LTG. UNIT & FDN. (EXCEPT AS OTHERWISE INDICATED)
		INSTALL COMB. T.S. & ST. LTG. STD. (SIZE AS SPECIFIED) ON NEW FDN., 6FT. CLAMP ON BRACKET ARM WITH 3'-0" RISE, INSTALL 400W. TYPE LUMINAIRE.

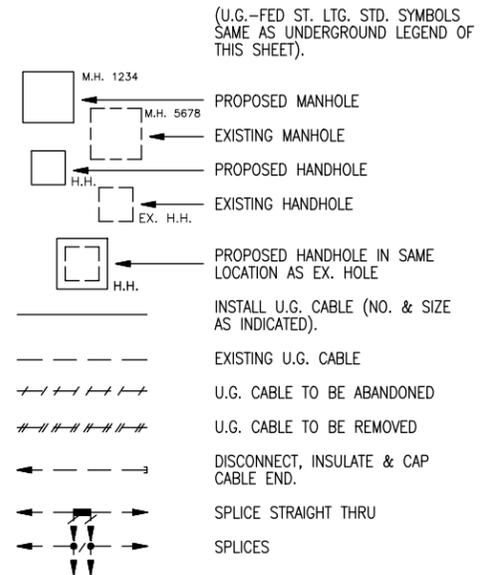
TRAFFIC SIGNAL

	INSTALL OVERHEAD DETECTION CAMERA MOUNTED AS INDICATED ON THE PLANS.
	INSTALL SALVAGED OVERHEAD DETECTION CAMERA MOUNTED AS INDICATED ON THE PLANS.
	EXISTING OVERHEAD DETECTION CAMERA
	REMOVE OVERHEAD DETECTION CAMERA
	DETECTION AREA FOR OVERHEAD DETECTOR
	WIRELESS VEHICLE DETECTION AREA
	INSTALL WIRELESS DETECTION RADIO
	INSTALL LOOP DETECTOR & CABINET (EXCEPT AS OTHERWISE INDICATED).
	EXISTING LOOP DETECTOR & CABINET
	INSTALL OPTICAL DETECTOR AS SHOWN ON PLANS

OVERHEAD

	EXISTING OR REMOVE WOOD POLE AS INDICATED
	REPLACE WOOD POLE (HEIGHT & CLASS AS INDICATED)
	INSTALL WOOD POLE (HEIGHT & CLASS AS INDICATED) (USE SALVAGED POLE WHERE INDICATED)
	EXISTING OVERHEAD ST. LTG. UNIT
	REMOVE OVERHEAD ST. LTG. UNIT
	INSTALL OVERHEAD ST. LTG. UNIT
	EXISTING OVERHEAD LINE
	REMOVE OVERHEAD LINE
	INSTALL OVERHEAD LINE
	INSTALL & LATER REMOVE OVERHEAD LINE
	INSTALL GUY & ANCHOR (1/2\"/>
	REMOVE GUY & ANCHOR ROD
	INSTALL POLE GUY (1/2\"/>
	INSTALL ARM GUY (3/8\"/>
	REMOVE GUY (TYPE AS INDICATED)
	MATERIAL TO BE INSTALLED
	MATERIAL TO BE REMOVED
	MAKE WOOD POLE SELF-SUPPORTING IN CONCRETE
	CABLE POLE

DIAGRAMS



DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Signals\200010SIG.dwg Mar 30, 2021 10:44am

REFERENCES

HORIZ DATUM VERT DATUM
LOCAL
NAVD83

SCALE
H: 1"=30'
V:

CITY/TOWNSHIP
EAST BAY TOWNSHIP

COUNTY
GRAND TRAVERSE

CADD
JM

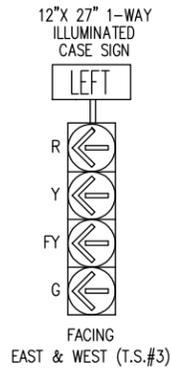
PROJ NUMBER
JK

DATE
3/30/2021

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
SIGNAL LEGEND

SHEET

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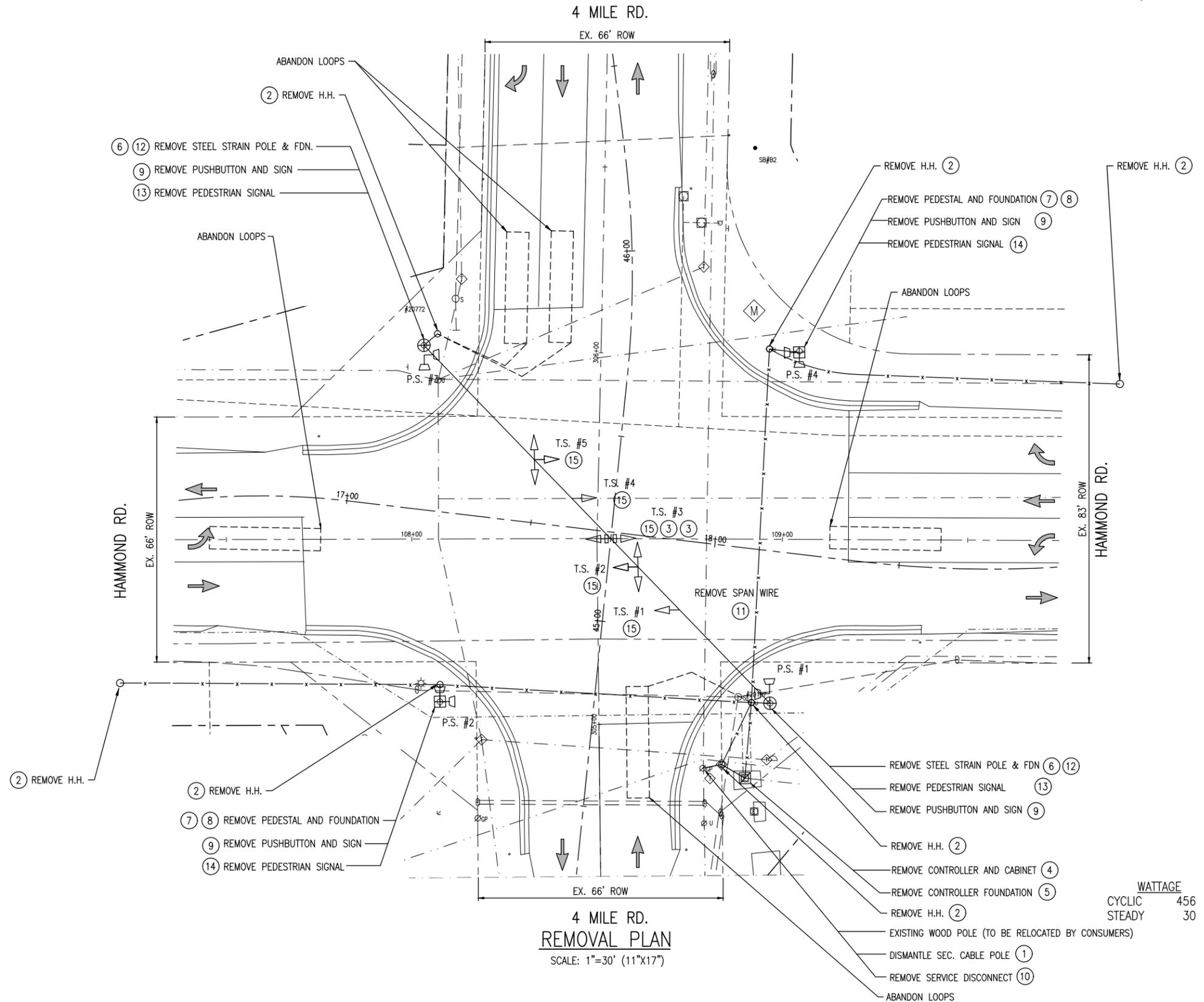
SIGNAL EQUIPMENT DISPOSAL

- DISPOSAL OF ALL TRAFFIC SIGNAL EQUIPMENT IS INCLUDED IN THE REMOVAL PAY ITEMS AND SHALL ALSO INCLUDE THE FOLLOWING:
- NOTIFICATION TO GTCRC THAT TRAFFIC SIGNAL EQUIPMENT IS BEING REMOVED.
 - A WRITTEN AND PICTORIAL INVENTORY OF ALL SIGNAL EQUIPMENT PRIOR TO REMOVAL
 - REMOVAL OF THE FOLLOWING ELECTRONICS PRIOR TO CABINET REMOVAL
 - UPS UNIT AND BATTERIES
 - CONTROLLER
 - CONFLICT MONITOR
 - SPARE/LOOSE EQUIPMENT ON SHELVES
 - TEMPORARY STORAGE OF ALL SIGNAL EQUIPMENT (INCLUDING AERIAL FIELD EQUIPMENT, POLES, SIGNAL HEADS, CABINET AND EQUIPMENT IN CABINET) IN A DUMPSTER ON SITE (OR AS DIRECTED BY THE ENGINEER) ALLOWING GTCRC 48 HOURS TO SALVAGE ANY EQUIPMENT.
 - PROPER DISPOSAL OF ALL REMAINING EQUIPMENT.

ALL TRAFFIC SIGNAL CABLES SHALL BE REMOVED ON THIS PLAN.

CONTACT KIMBERLY ULLOM (231) 932-6335
 CONSUMER'S ENERGY FOR REMOVAL OF
 SECONDARY SERVICE. NO COST TO CONTRACTOR.
 NOTIF #1053125367

QUANTITIES THIS SHEET		
1	Cable Pole, Sec, Disman	1 Ea
2	Hh, Rem	7 Ea
3	Case Sign, Rem	2 Ea
4	Controller and Cabinet, Rem	1 Ea
5	Controller Fdn, Rem	1 Ea
6	Fdn, Rem	2 Ea
7	Pedestal Fdn, Rem	2 Ea
8	Pedestal, Rem	2 Ea
9	Pushbutton, Rem	4 Ea
10	Serv Disconnect, Rem	1 Ea
11	Span Wire, Rem	1 Ea
12	Steel Pole, Rem	2 Ea
13	TS, Pedestrian, Bracket Arm Mtd, Rem	2 Ea
14	TS, Pedestrian, Pedestal Mtd, Rem	2 Ea
15	TS, Span Wire Mtd, Rem	2 Ea



**4 MILE RD.
 REMOVAL PLAN**
 SCALE: 1"=30' (11"x17")

WATTAGE	
CYCLIC	456
STEADY	30

DRAWING PATH: P:\7301_7400\737200010_GTCRC_E-M_Corridor_Roundabouts\Drawings\Civil\Signals\200010SIG.dwg Mar 30, 2021 10:44pm

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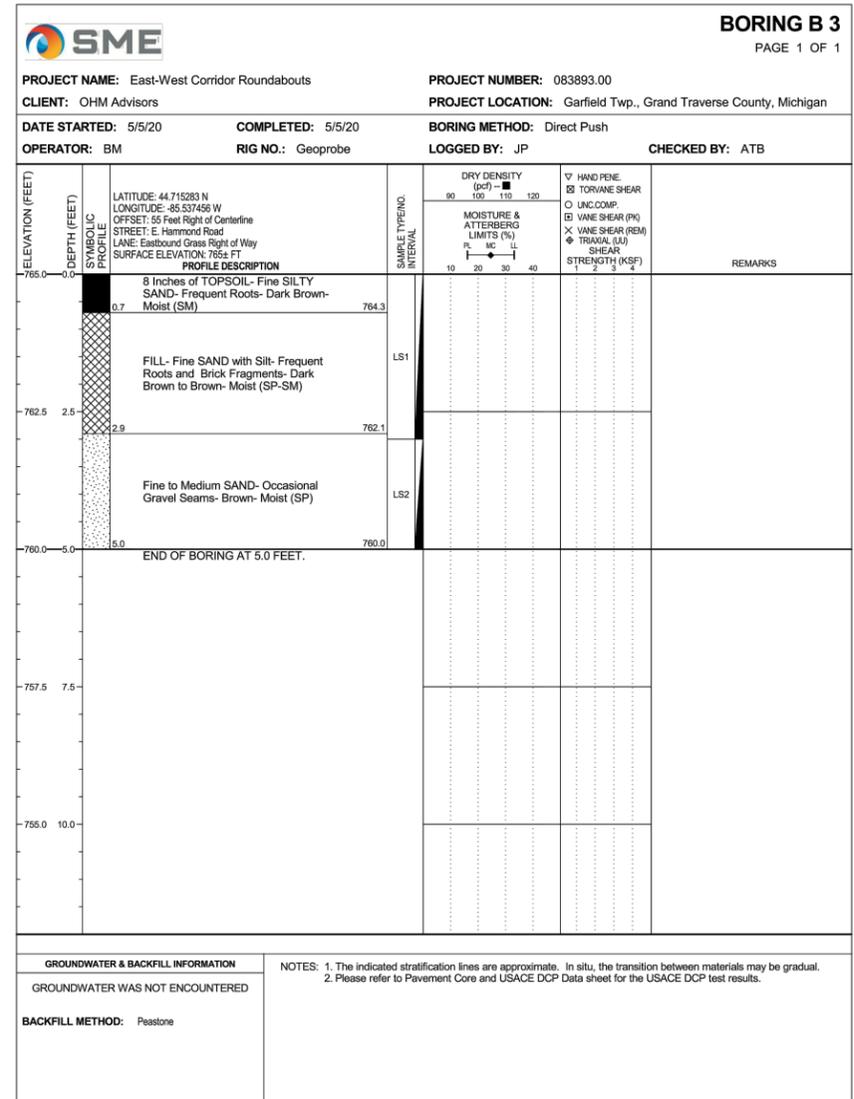
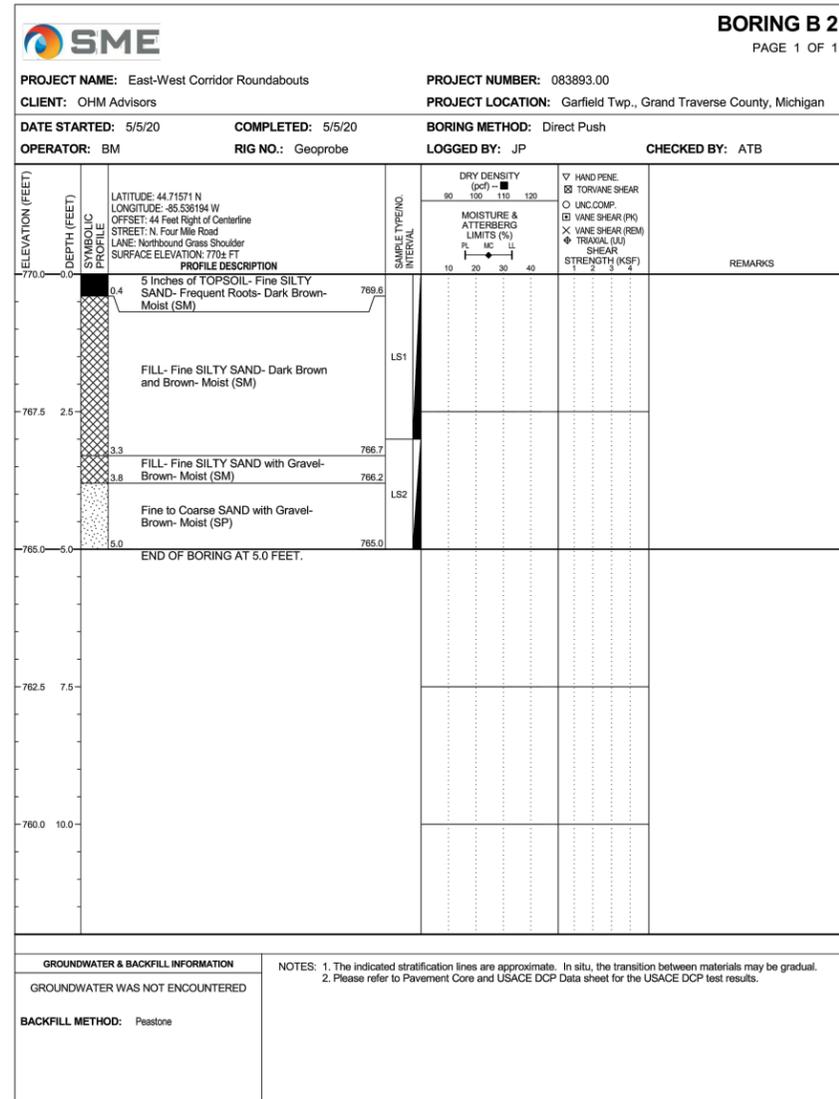
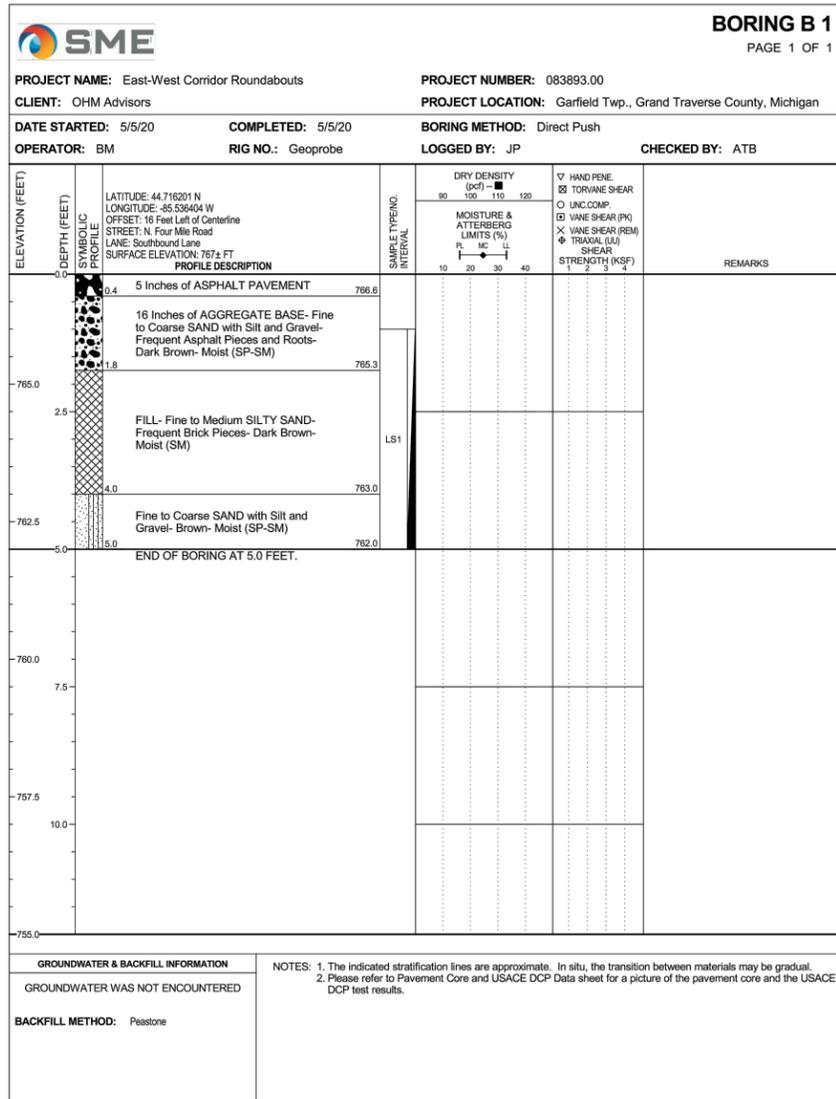
REVISIONS: _____

DATE	PROJ NUMBER	ENG	BA	PROJ LEAD	JK	CADD	JM	COUNTY	GRAND TRAVERSE	CITY/VILLAGE/TOWNSHIP	EAST BAY TOWNSHIP	SCALE	H	1"=30'	V	VERT DATUM	MAVD88
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GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 SIGNAL REMOVAL PLAN

SHEET 74 OF 84

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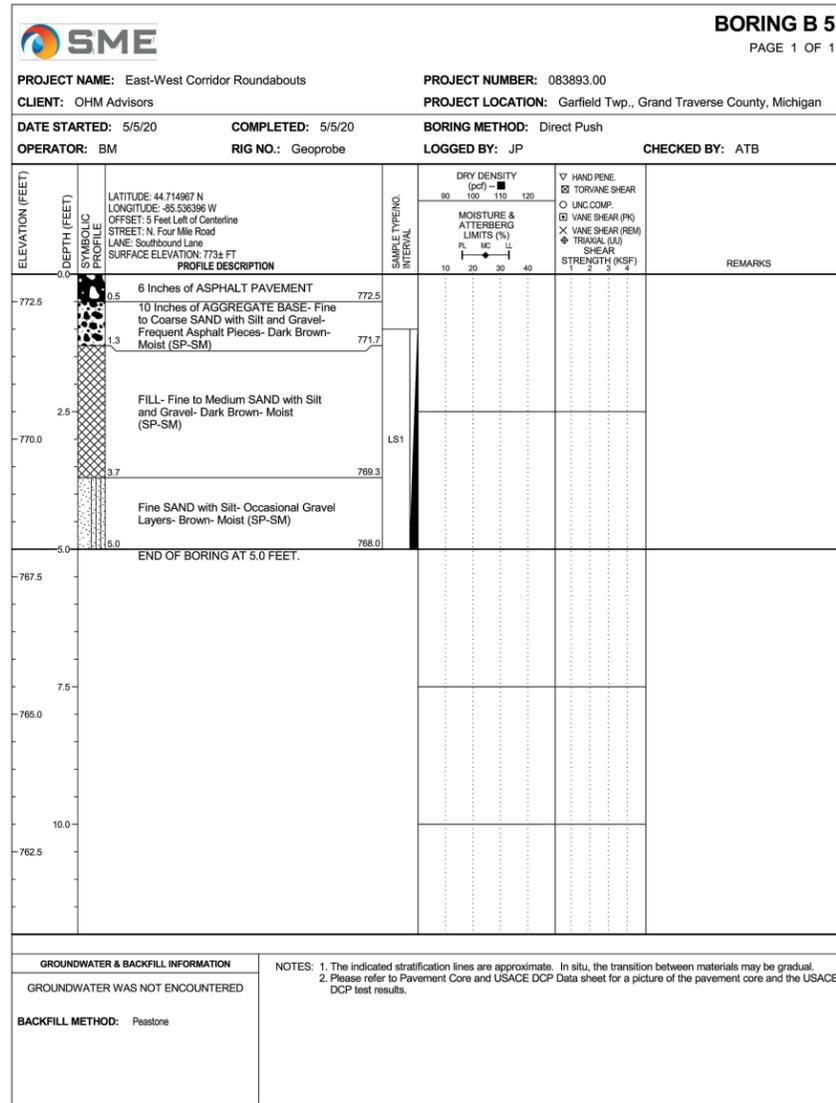
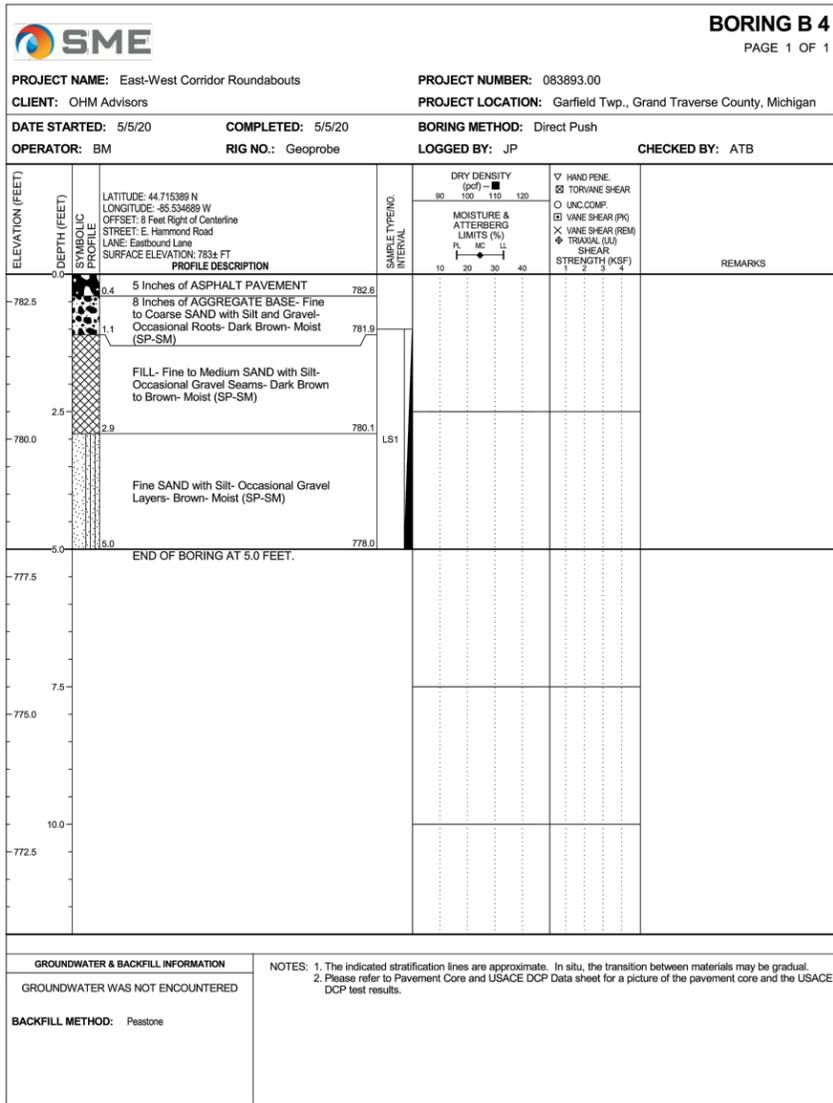
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DATE: 3/30/2021 PROJ NUMBER: 737-04-010 BA: ENG PROJ MGR: JK CAD: JM COUNTY: GRAND TRAVERSE CITY/VILLAGE/TOWNSHIP: EAST BAY TOWNSHIP SCALE: H: 1"=40' V: 1"=4' HORIZ DATUM: VERT DATUM: LOCAL NAD83

GRAND TRAVERSE COUNTY ROAD COMMISSION
 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
 SOIL BORING LOG

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SPECIAL PROVISIONS & GENERAL PLAN NOTES

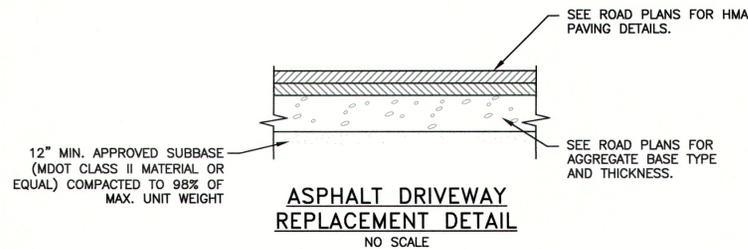
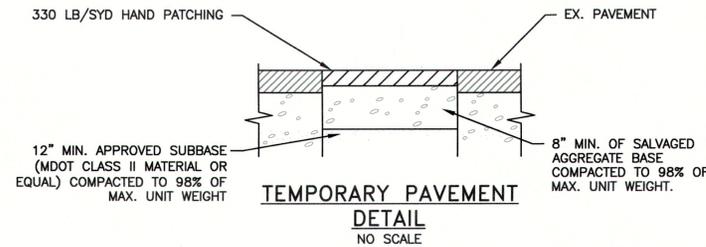
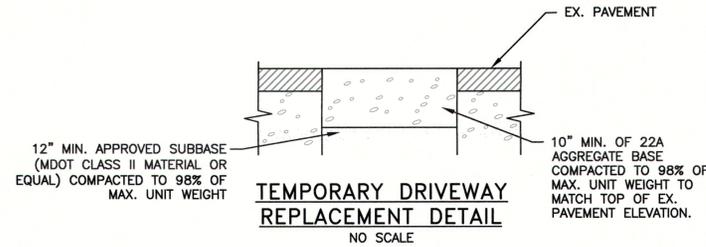
- THE FOLLOWING SPECIAL PROVISIONS ARE TO BE USED DURING THE CONSTRUCTION OF THIS PROJECT. WHERE THESE SPECIAL PROVISIONS ARE AT A VARIANCE WITH THE SPECIFICATIONS IN THE CONTRACT DOCUMENTS, THESE SPECIAL PROVISIONS SHALL PREVAIL.
- THE EXISTING UTILITIES SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AS OBTAINED FROM SURVEYS AND FROM THE CORRESPONDING UTILITY COMPANIES. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO SATISFY HIMSELF AS TO THE ACCURACY OR OF HIS RESPONSIBILITY IN CASE UTILITIES HAVE BEEN CONSTRUCTED OR REMOVED SINCE THIS INFORMATION WAS OBTAINED. THREE WORKING DAYS BEFORE YOU DIG, EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS, CALL MISS DIG AT 1-800-482-7171.
- IT IS THE INTENT THAT ALL GOVERNMENT CORNERS ON THIS PROJECT BE PRESERVED. ALL MONUMENT BOXES, PROPERTY CORNERS, ETC. SHALL BE REPLACED OR ADJUSTED IF DISTURBED (WHETHER SHOWN ON THE PLANS OR NOT).
- EXISTING HOUSE LEADS, SEPTIC TANK OVERFLOWS, STORM DRAIN TILES, AND IRRIGATION SYSTEMS DESTROYED OR DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED AND/OR RECONNECTED TO THEIR OUTLET. ALL COSTS SHALL BE CONSIDERED INCLUDED IN OTHER ITEMS.
- ALL EXISTING GAS MAINS, WATER MAINS, STORM SEWERS, TELEPHONE DUCTS AND OTHER UTILITIES WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE SUPPORTED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNERS OF THE UTILITIES.
- COSTS FOR ANY WORK FOR WHICH THERE IS NO SPECIFIC PAY ITEM IN THE PROPOSAL SHALL BE INCLUDED IN OTHER PROPOSED ITEMS OF WORK AND CONSIDERED INCIDENTAL TO THE COST OF THE PROJECT.
- CONTRACTOR SHALL PROVIDE PROPER SIGNING AND BARRICADES TO CLOSE ROADS, SHIFT TRAFFIC AND PROVIDE FOR LOCAL ACCESS, IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS.
- IN ROADWAYS, STREETS, DRIVES AND PARKING AREAS, THE AGGREGATE BASE COURSE SHALL BE REPLACED IMMEDIATELY AFTER BACKFILLING UTILITY TRENCHES AND BACK GRADING. AGGREGATE WEDGES MAY BE NEEDED FOR TRANSITION.
- CURB RECONSTRUCTION, OF CURB NOT SCHEDULED TO BE REMOVED, IF REQUIRED DUE TO DAMAGE DURING THE CONSTRUCTION PROCESS, SHALL MATCH THE EXISTING CURB AND WILL BE CONSIDERED INCIDENTAL TO THE PROJECT, UNLESS SPECIFICALLY COVERED IN ANOTHER PAY ITEM.
- LAWN AREAS AND IRRIGATION SYSTEMS DISTURBED BY CONSTRUCTION SHALL BE RESTORED IN ACCORDANCE WITH ROAD PLANS. RESTORATION OF ALL DISTURBED AREAS AND IRRIGATION SYSTEMS IS INCLUDED IN THE TURF ESTABLISHMENT, THM SEED, SPECIAL MULCH LUMP SUM PAY ITEM.
- DEWATERING, WHEREVER REQUIRED, SHALL BE CONSIDERED INCLUDED IN OTHER ITEMS.
- IF THERE IS AN EXISTING STORM SEWER SYSTEM, IT SHALL BE PROTECTED AND MAINTAINED DURING CONSTRUCTION. INLETS SHALL BE PROTECTED AGAINST SILTATION WITH INLET FILTERS AND ALL STRUCTURES AND PIPES SHALL BE CLEANED AT THE END OF THE PROJECT.
- EXISTING STORM SEWERS, CULVERTS, DRAINAGE DITCHES, WATER MAINS, AND SANITARY SEWERS MUST REMAIN IN SERVICE DURING THE ENTIRE CONSTRUCTION PERIOD.
- ALL ELEVATIONS SHOWN ARE IN FEET.
- RESIDENTS AND BUSINESSES SHALL HAVE ACCESS TO THEIR RESIDENCE AT ALL TIMES, AND ALL TRENCHES MUST BE BACKFILLED AND COMPACTED TO DRIVABLE CONDITIONS AT THE END OF EACH DAY.
- ALL CONCRETE SHALL BE MDOT GRADE S-2 WITH 6AA CRUSHED LIME STONE AGGREGATE.
- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE TOWNSHIP'S CURRENT STANDARDS, SPECIFICATIONS, AND DETAILS AS IF FULLY REWRITTEN HEREIN.
- ALL WATER MAIN IS TO BE INSTALLED A MINIMUM OF 10 FEET, HORIZONTAL DISTANCE MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE, FROM ANY SANITARY OR STORM SEWER. SIMILARLY, ALL WATER AND SEWER SERVICE LEADS SHALL BE ISOLATED FROM EACH OTHER AS REQUIRED BY LOCAL ORDINANCES AND PLUMBING CODES AND ANY OTHER APPLICABLE STANDARDS.
- CONTRACTOR IS RESPONSIBLE FOR SALVAGING AND REPLACING ALL SIGNS AND MAIL BOXES AFFECTED BY HIS OPERATIONS. COSTS SHALL BE INCLUDED IN OTHER PAY ITEMS. ALL SIGNS AND MAILBOXES ARE TO BE REPLACED IN THE SAME LOCATION AND ELEVATION AS PRE-CONSTRUCTION CONDITION AND SHALL MEET THE REQUIREMENTS OF THE GOVERNING BODY. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS FOR MAIL DELIVERY BY EITHER TEMPORARILY RELOCATING THE MAILBOXES TO THE OUTSKIRTS OF THE PROJECT AREA OR BY MAINTAINING ACCESS TO THE EXISTING MAILBOXES BY THE POSTAL CARRIER.
- AT ALL LOCATIONS WHERE CONCRETE OR BITUMINOUS SURFACES ARE TO BE REMOVED AND REPLACED, A SAW CUT IS REQUIRED TO PROVIDE A NEAT JOINT. SAW-CUTTING IS CONSIDERED INCIDENTAL TO THE COST OF THE PROJECT.
- CONTRACTOR IS TO KEEP, AT A MINIMUM, AN 18-INCH VERTICAL DISTANCE BETWEEN THE PROPOSED WATER MAIN AND ANY SANITARY SEWER OR STORM SEWER CROSSINGS. AN 18-INCH HORIZONTAL DISTANCE MUST ALSO BE KEPT BETWEEN ANY STRUCTURES AND THE PIPE.
- CORPORATIONS, CURB STOPS, AND OTHER WATER FITTINGS MUST CONFORM TO THE "REDUCTION OF LEAD IN DRINKING WATER ACT" EFFECTIVE JANUARY 4, 2014.
- ALL PRE-CONSTRUCTION DRAINAGE PATTERNS MUST BE MAINTAINED, INCLUDING REBUILDING SPILLWAYS, RIP-RAP, AND CULVERTS.
- ALL ELEVATIONS ARE BASED ON NAVD88 DATUM.
- THE HORIZONTAL DATUM IS NAD 1983 MICHIGAN STATE PLANE ZONE 2112.
- BASE SURVEY AND ROUNDABOUT LAYOUT PROVIDED BY OHM ADVISORS.
- EXISTING POTABLE WELL LOCATIONS BASED ON LATITUDE AND LONGITUDE RECORDED ON MCGI.STATE.MI.US/WATERWELLVIEWER/
- ROUNDABOUT IMPROVEMENTS BY OTHERS.
- REMOVAL AND RECONSTRUCTION QUANTITIES WITHIN THE ROUNDABOUT CONSTRUCTION LIMITS ARE INCLUDED IN THE ROAD PLAN SHEETS.
- 200 CUBIC YARDS OF UNDERCUT AND BACKFILL IS TO BE INCLUDED WITHIN THE CONTRACTOR'S BID FOR THE INSTALLATION OF THE PROPOSED DOMESTIC WATER AND SANITARY SEWER UTILITIES. ALL UNDERCUT & BACKFILL ACTIVITIES MUST BE PRE-APPROVED BY THE ENGINEER OR PAYMENT WILL NOT BE MADE.
- A ROUTE FOR EMERGENCY SERVICE VEHICLES IS TO REMAIN OPEN WITHIN THE CONSTRUCTION LIMITS AT ALL TIMES.

CONSTRUCTION NOTES

- ALL CONSTRUCTION ACTIVITY MUST REMAIN IN THE R.O.W., EASEMENTS, TOWNSHIP-OWNED PROPERTY, OR DESIGNATED STAGING AREAS. ANY AREAS OUTSIDE OF THOSE NOTED, THAT ARE AFFECTED BY CONSTRUCTION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- TREES WITHIN THE LIMITS OF THE TRENCH MAY BE REMOVED IF NEEDED. ALL OTHER TREES MUST BE SAVED UNLESS OTHERWISE NOTED. CONTRACTOR IS RESPONSIBLE FOR TREE REMOVAL, IF REQUIRED. PAYMENT IS INCLUDED IN OTHER ITEMS. TREES ON PRIVATE PROPERTY, THAT ARE TO BE REMOVED, MUST BE APPROVED BY THE PROPERTY OWNER PRIOR TO REMOVAL.
- ANY UTILITY RELOCATIONS OR POLES THAT NEED TO BE HELD, ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE INCLUDED IN OTHER ITEMS.
- EXISTING MONUMENT BOXES, WATER VALVES, SANITARY AND STORM MANHOLE COVERS, CATCH BASIN COVERS, ETC. SHALL BE ADJUSTED TO FIT THE FINAL GRADE AND SHALL BE INCLUDED IN OTHER ITEMS. PAYMENT FOR ADJUSTMENTS TO ALL STRUCTURES SHALL BE INCLUDED IN OTHER ITEMS, REGARDLESS OF THE AMOUNT OF ADJUSTMENT REQUIRED AND REGARDLESS OF WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.
- CONTRACTOR SHALL SUBMIT AN ITEMIZED CONSTRUCTION SCHEDULE PRIOR TO THE START OF CONSTRUCTION, FOR REVIEW AND APPROVAL BY THE OWNER AND THE ENGINEER.
- ALL GRAVEL SHOULDERS SHALL BE REPLACED WITH 8" OF MDOT 23A GRAVEL COMPACTED TO 98% MAX. UNIT WEIGHT, TO THE PRE-CONSTRUCTION WIDTH. COST/PAYMENT SHALL BE INCLUDED IN OTHER PAY ITEMS.
- EXISTING CULVERTS THAT ARE TO BE REMOVED, OR REMOVED AND REPLACED WITH NEW, MUST BE DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT.
- WATER MAIN LENGTHS ARE LABELED BETWEEN HYDRANTS, TEES, CROSSES, CHANGES IN PIPE MATERIAL, AND MATCH LINES. VALVES AND BENDS ARE NOT CONSIDERED IN THE PIPE LENGTHS.
- SANITARY SEWER MAIN LENGTHS ARE LABELED BETWEEN MANHOLES AND MATCH LINES.
- ALL MANHOLE, WATER VALVE AND RIM ELEVATIONS MUST BE CONFIRMED BY CONTRACTOR WITH THE PROPOSED ROAD PLANS PRIOR TO SETTING.
- ADJUSTMENT OF VALVE BOXES AND MANHOLES TO MEET FINAL ROUNDABOUT GRADES.
- ALL FINISH GRADES ARE SUBJECT TO THE FINAL ROUNDABOUT CONSTRUCTION. FINISH GRADES SHOWN ON THESE PLANS ARE APPROXIMATE. CONTRACTOR TO CONSULT ROUNDABOUT ROAD PLANS FOR FINISH GRADES.

LEGEND

EXISTING	PROPOSED
BENCH MARK	
CIRCUIT BREAKER POLE	
CATCH BASIN	
ELECTRIC HAND HOLE	
GATE VALVE	
GUY ANCHOR	
GAS VALVE	
FIRE HYDRANT	
IRON	
LAMP POLE	
MAILBOX	
POST	
POWER POLE	
SIGN	
SANITARY MANHOLE	
SANITARY CLEANOUT	
STUMP	
TELEPHONE PEDESTAL	
UNDERGROUND UTILITY MARKER	
WATER METER PIT	
WATER SHUT OFF	
CABLE TV PEDESTAL	
GUY POLE	
MONUMENT (SURVEY)	
TELEPHONE POLE	
BUILDING LINE	
OVERHEAD POWER LINE	
EDGE OF GRAVEL	
WATER MAIN	
SANITARY SEWER	
GAS MAIN	
UNDERGROUND TELEPHONE	
ASPHALT	
CONCRETE	
AGGREGATE	
TOP OF BERM	
BOTTOM OF BERM	
GUARDRAIL	
VALVE & NUMBER	
HYDRANT & NUMBER	
REM & REP EX. CURB	
REM & REP EX. ASPH.	
TEMPORARY PAVEMENT	



SEWER LEAD NUMBER	DISTANCE FROM DOWNSTREAM MANHOLE	DISTANCE FROM SANITARY SEWER MAIN TO END OF LEAD	DEPTH BELOW GRADE	SHEET NO.
1	20' FROM MH #3	10'		C3.0
2	36' FROM MH #7	69'		C4.0
3	15' FROM MH #11	60'		C5.0
4	89' FROM MH #11	12'		C5.0
5	180' FROM MH #11	11'		C5.0
6	194' FROM MH #11	5'		C5.0

WATER SERVICE LEAD NO.	DISTANCE FROM GATE VALVE OR HYDRANT. INCLUDE VALVE OR HYDRANT NUMBER	DISTANCE FROM WATER MAIN TO CURB STOP VALVE	DEPTH BELOW GRADE	SHEET NO.
1	14'	5'		C5.0

GENERAL SHEETS	SHEET NO.
NOTES, LEGEND, AND ROAD DETAILS	C1.0
SHEET INDEX	C2.0
E. HAMMOND ROAD - STA 100+84 TO 107+35	C3.0
E. HAMMOND ROAD - STA 107+50 TO 115+65	C4.0
4-MILE ROAD - STA 300+55 TO 306+21	C5.0
4-MILE ROAD - STA 306+25 TO 313+50	C6.0
WATER MAIN DETAILS	C7.0
SANITARY SEWER DETAILS	C8.0

STATE OF MICHIGAN
BRIAN C. SOUSA
ENGINEER
NO. 54305
EXPIRES 12/31/20
FOR WADE TRIM SHEET
C1.0 - C8.0
5-22-21

PROJECT MANAGER: BRIAN C. SOUSA
C:\PW_WORK\GBOGART\10179683\COT-PLTS-LEGENDANDNOTES.DWG - C1.0 - PLOTTED 3/23/2021 9:36 AM BY: BOGART, GARTH



Know what's below.
Call before you dig.

REV#	DATE	DESCRIPTION	BY

10850 East Traverse Highway, Suite 2200
Traverse City, MI 49684
www.wadetrtrim.com

WADE TRIM

EAST BAY CHARTER TOWNSHIP
1965 N. THREE MILE ROAD
TRAVERSE CITY, MI 49696
HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS

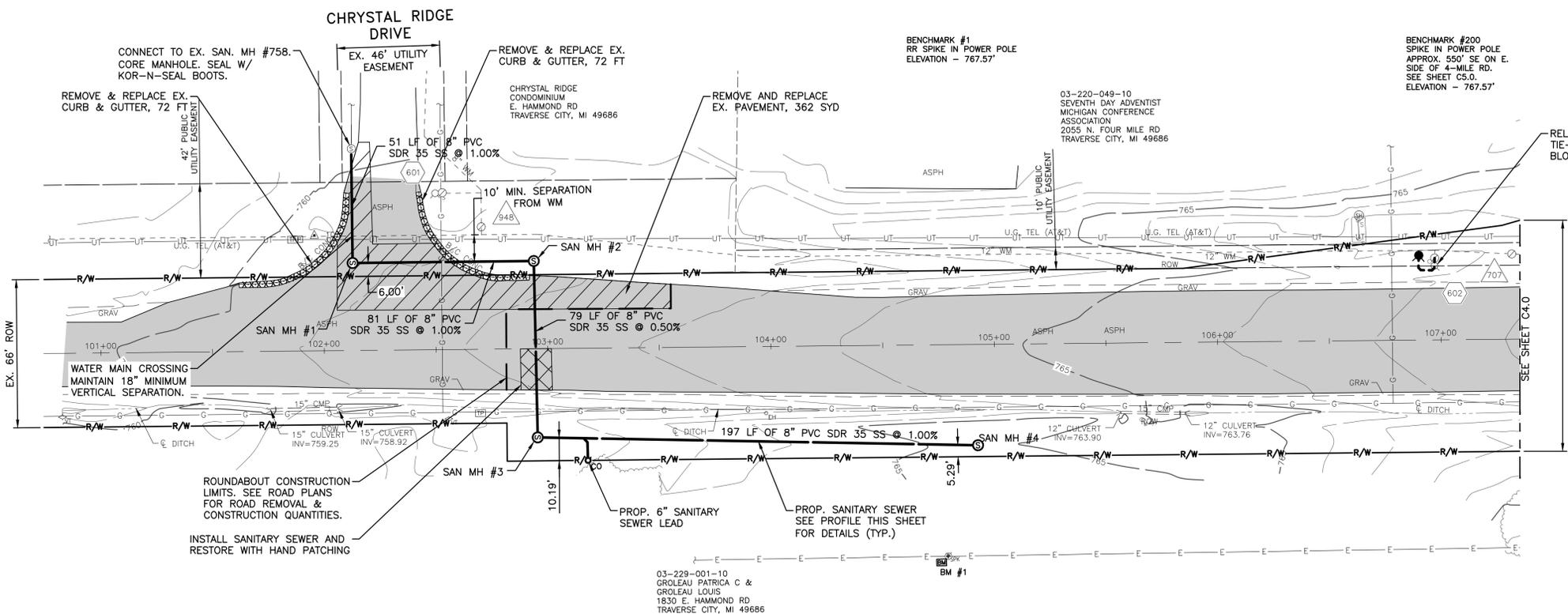
NOTES, LEGEND, AND ROAD DETAILS
HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS

ISSUED FOR: DATE: BY:
C1 SUBMITTAL 9/25/20 BCS
EGLE PERMITS 12/7/20 OCC
BID 3/22/21 BCS

JOB NO.
EBT3431-01C

SHEET
C1.0

FILE NO.: 29-2-29



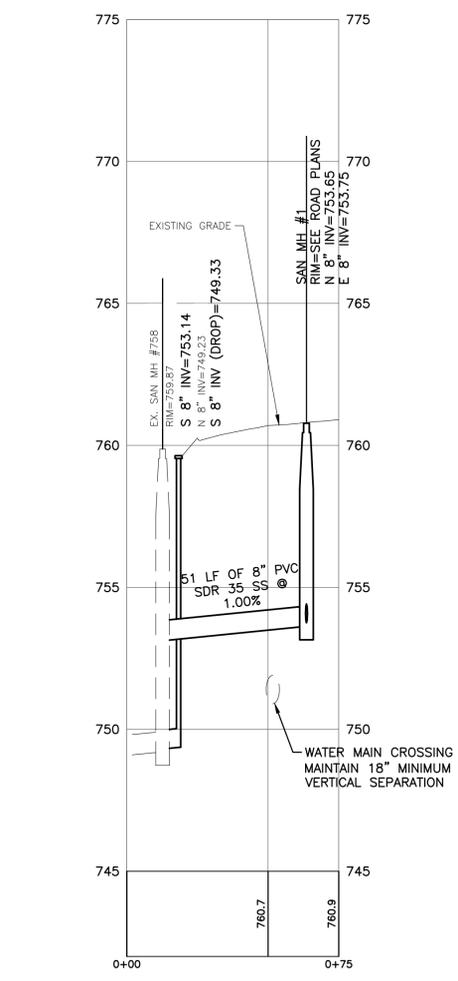
QUANTITIES THIS SHEET

ITEM	QUANTITY	UNIT
HMA Surface, Rem*	362	Syd
Curb and Gutter, Rem*	144	Ft
Aggregate Base, 8 inch	132	Syd
Aggregate Base, 12 inch	230	Syd
Hand Patching	5	Ton
HMA, 3E3 (3")	61	Ton
HMA, 4E3 (2")	40	Ton
HMA, 5E3 (1.5")	30	Ton
Curb and Gutter, Conc, Det B2	144	Ft
Hydrant, Relocate	1	Ea
Connect to Existing Sanitary Manhole	1	Ea
Sanitary Sewer Main, PVC, SDR 35, 8-Inch	408	Ft
Sanitary Sewer Manhole, 48-Inch Dia.	4	Ea
Sanitary Sewer Service, 6-Inch	11	Ft
Sanitary Cleanout	1	Ea
Turf Establishment, THM Seed, Regular Mulch, GTCRC*	401	Syd

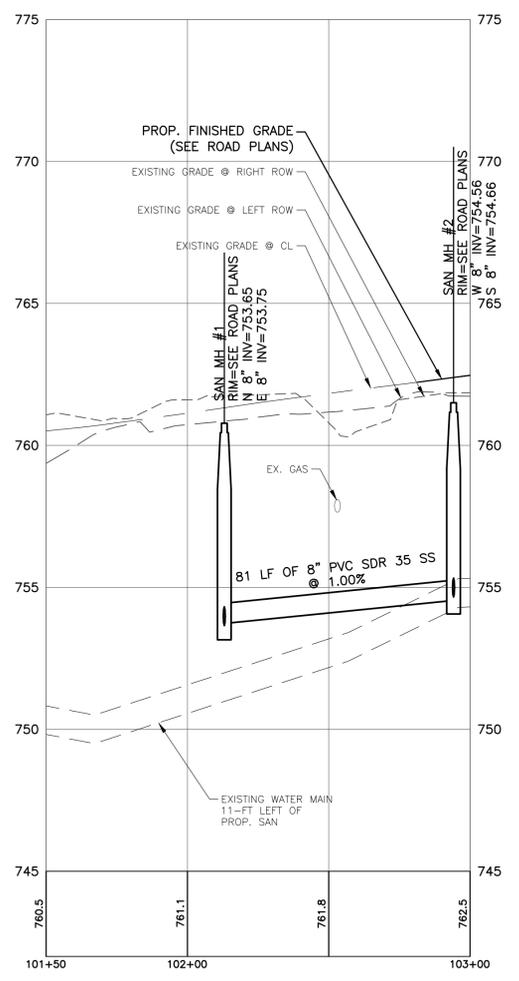
*QUANTITY SHOWN ONLY REPRESENTS REMOVAL AND RECONSTRUCTION OUTSIDE OF THE ROUNDABOUT ROAD CONSTRUCTION PROJECT LIMITS. SEE ROAD PLANS FOR ADDITIONAL REMOVAL AND PROPOSED QUANTITIES.

HAMMOND ROAD - PLAN VIEW

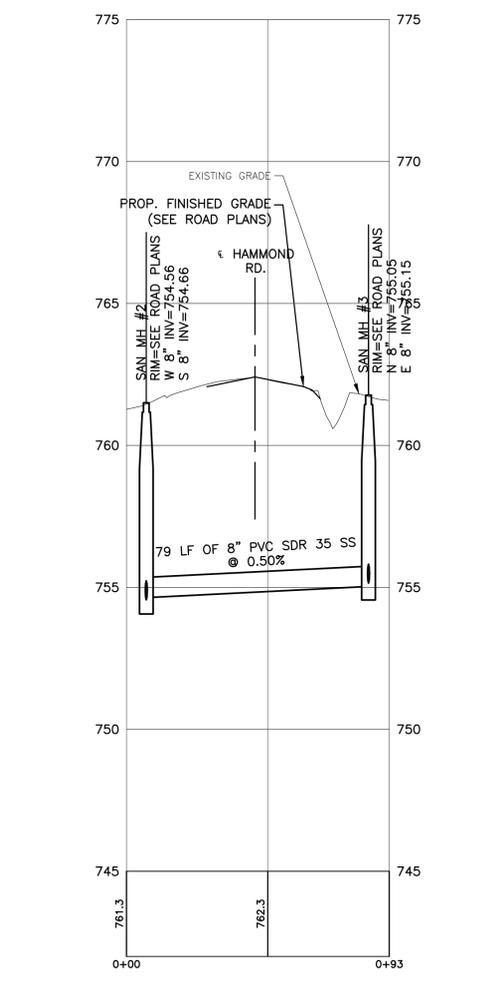
STA. 100+84 - 107+35



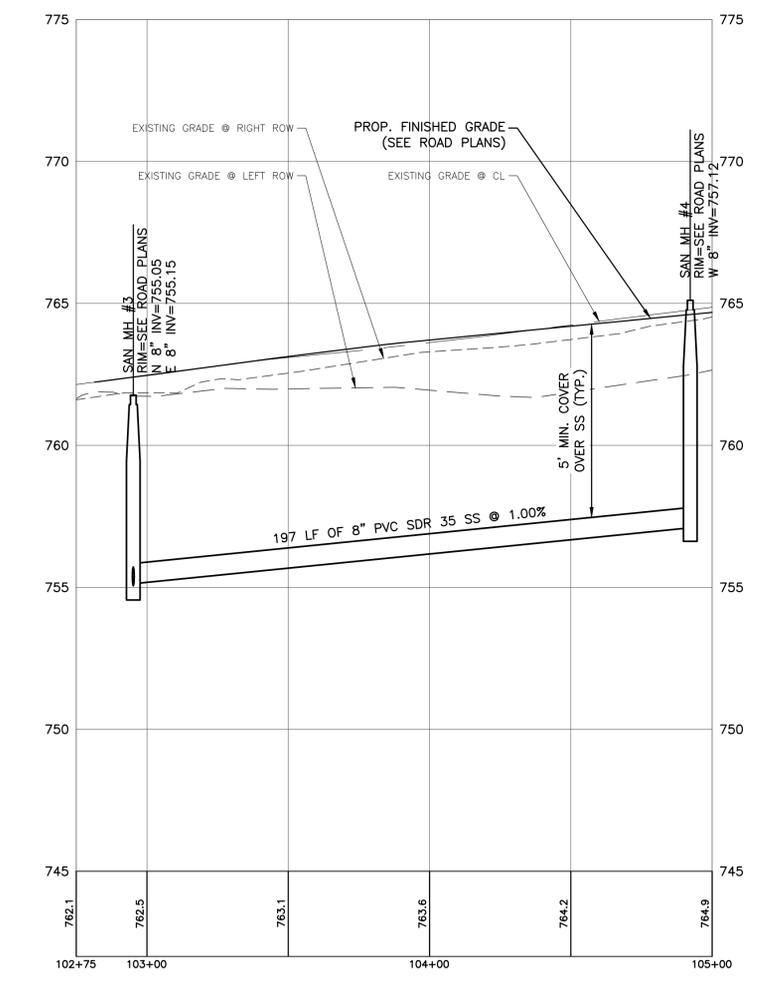
CONNECT TO EXISTING - PROFILE



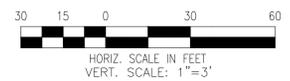
HAMMOND ROAD - PROFILE



HAMMOND RD CROSSING - PROFILE



HAMMOND ROAD - PROFILE



HORIZ. SCALE IN FEET
VERT. SCALE: 1"=3'

REV.#	DATE	DESCRIPTION	BY

10500 East Traverse Highway, Suite 2260
Traverse City, MI 49684
231.947.7400
www.wadtrim.com

EAST BAY CHARTER TOWNSHIP
1965 N. THREE MILE ROAD
TRAVERSE CITY, MI 49696

HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS

HAMMOND RD. PLAN & PROFILE - STA. 100+84 TO 107+35

HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS

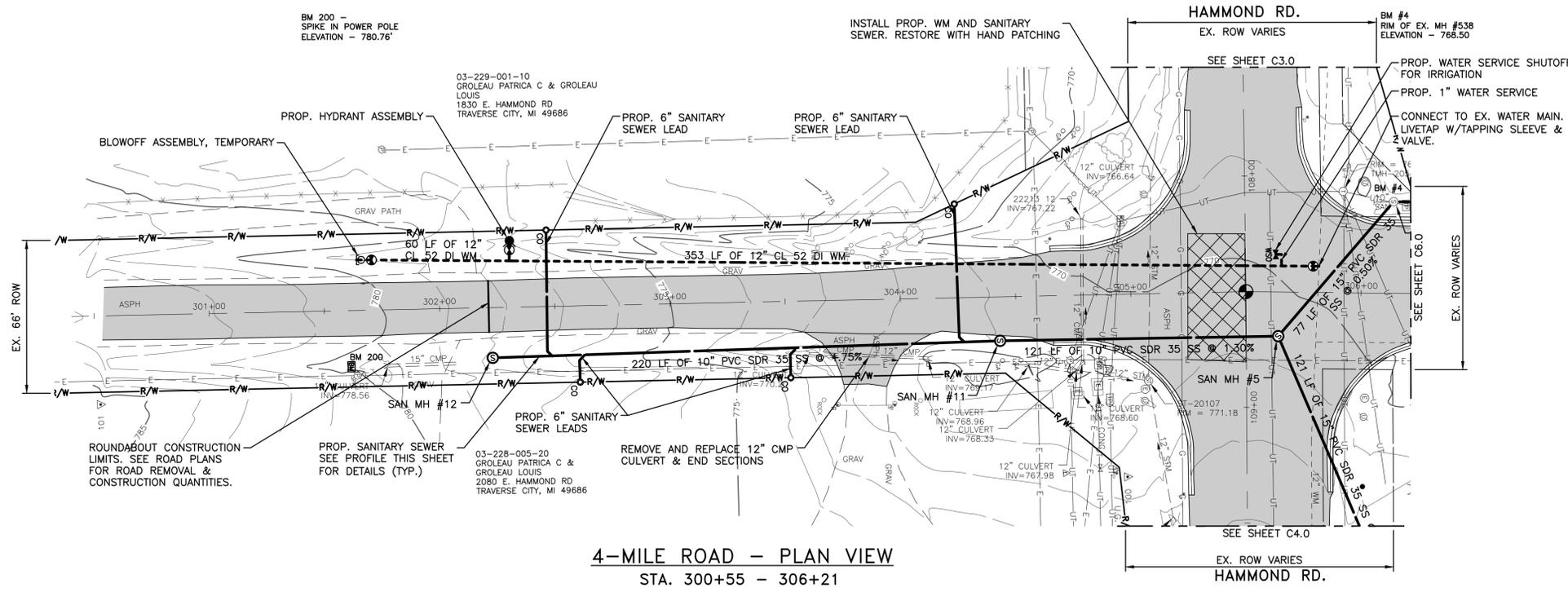
ISSUED FOR: DATE: BY:
 GI SUBMITTAL 9/25/20 BCS
 FILE PERMITS 12/7/20 BCS
 BID 3/22/21 BCS

JOB NO.
FBT3431-01C

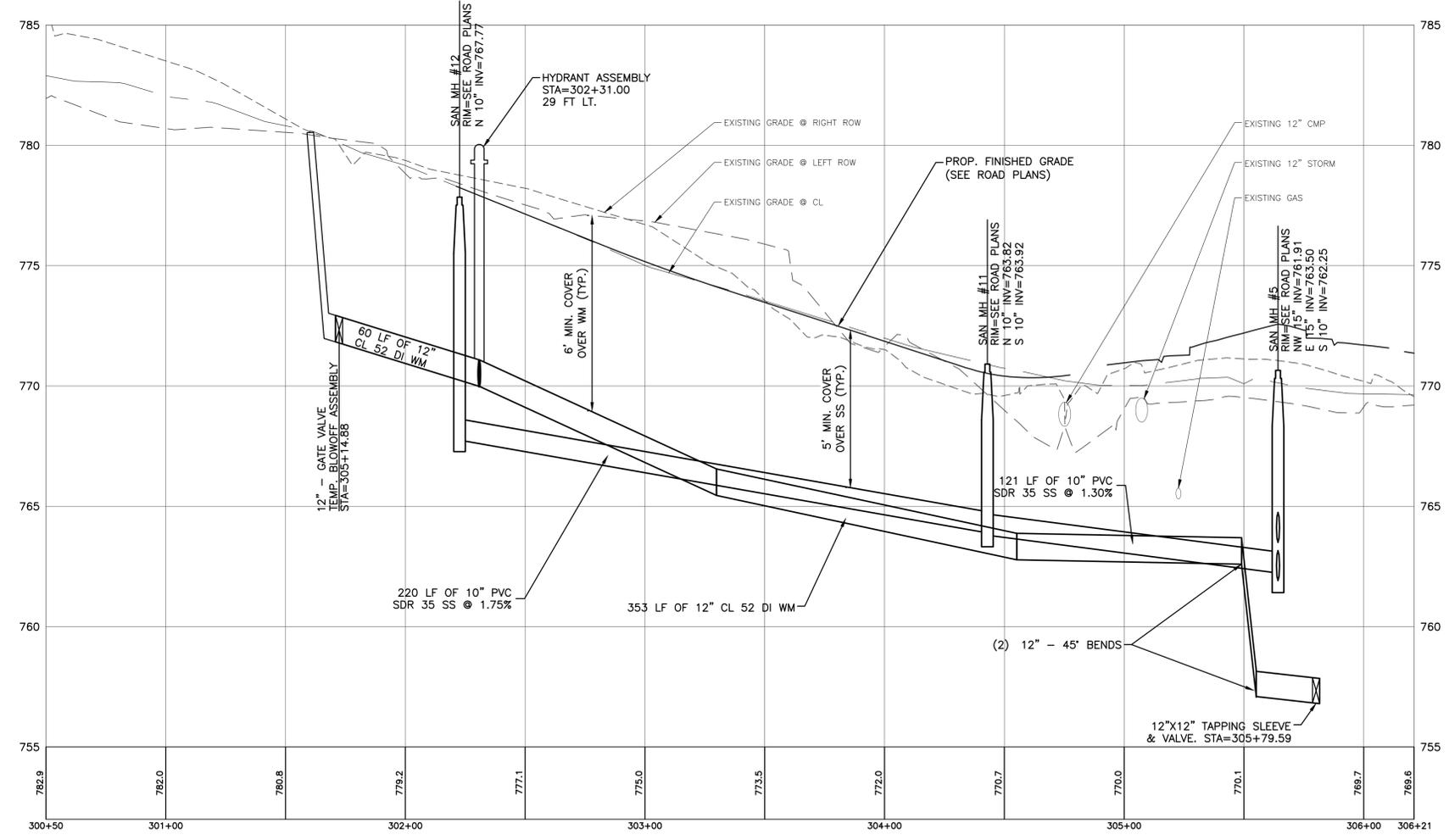
SHEET
C3.0

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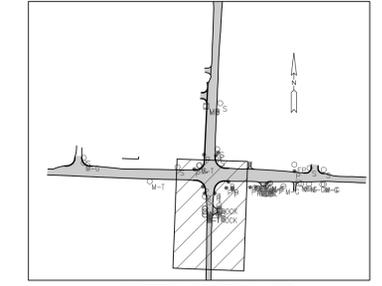
PROJECT MANAGER: BRIAN C. SOUSA
C:\PW\WORK\BODGART\1079663\CSP-PROPOSED.DWG - C3.0 - PLOTTED: 3/30/2021 1:33 PM BY: BODGART, GARTH



4-MILE ROAD - PLAN VIEW
STA. 300+55 - 306+21



4-MILE ROAD - PROFILE VIEW

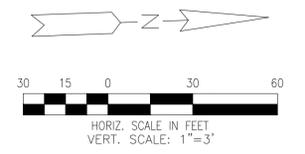


SHEET LOCATION MAP
NOT TO SCALE

QUANTITIES THIS SHEET

ITEM	QUANTITY	UNIT
HMA Surface, Rem*	See Road Plans	Syd
Curb and Gutter, Rem*	See Road Plans	Ft
Hand Patching	25	Ton
Connect to Existing Water Main	1	Ea
Water Main, DI, CI 52, 12-Inch	413	Ft
Gate Valve and Box, 12-Inch	1	Ea
Hydrant Assembly	1	Ea
Blowoff Assembly, Temporary	1	Ea
Water Service, 1-Inch	8	Ft
Sanitary Sewer Main, PVC, SDR 35, 10-Inch	341	Ft
Sanitary Sewer Manhole, 48-Inch Dia.	2	Ea
Sanitary Sewer Service, 6-Inch	144	Ft
Sanitary Cleanout	4	Ea
Turf Establishment, THM Seed, Regular Mulch, GTCRC*	50	Syd

*QUANTITY SHOWN ONLY REPRESENTS REMOVAL AND RECONSTRUCTION OUTSIDE OF THE ROUNDABOUT ROAD CONSTRUCTION PROJECT LIMITS. SEE ROAD PLANS FOR ADDITIONAL REMOVAL AND PROPOSED QUANTITIES.



PROJECT MANAGER: BRIAN C. SOUSA
C:\PW_WORK\GEOGRAPHIC\PLANS\PROPOSED.DWG - C5.0 - PLOTTED 3/20/2021 1:33 PM BY: BOGART, GARTH

REV#	DATE	DESCRIPTION	BY



EAST BAY CHARTER TOWNSHIP
1965 N. THREE MILE ROAD
TRAVERSE CITY, MI 49696

HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS
4-MILE RD. PLAN & PROFILE - STA. 300+55 TO 306+21
HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS

ISSUED FOR: DATE: BY:
CI SUBMITTAL 9/25/20 BCS
EGLE PERMITS 12/7/20 DCC
BID 3/22/21 BCS

JOB NO.
EBT3431-01C

SHEET
C5.0

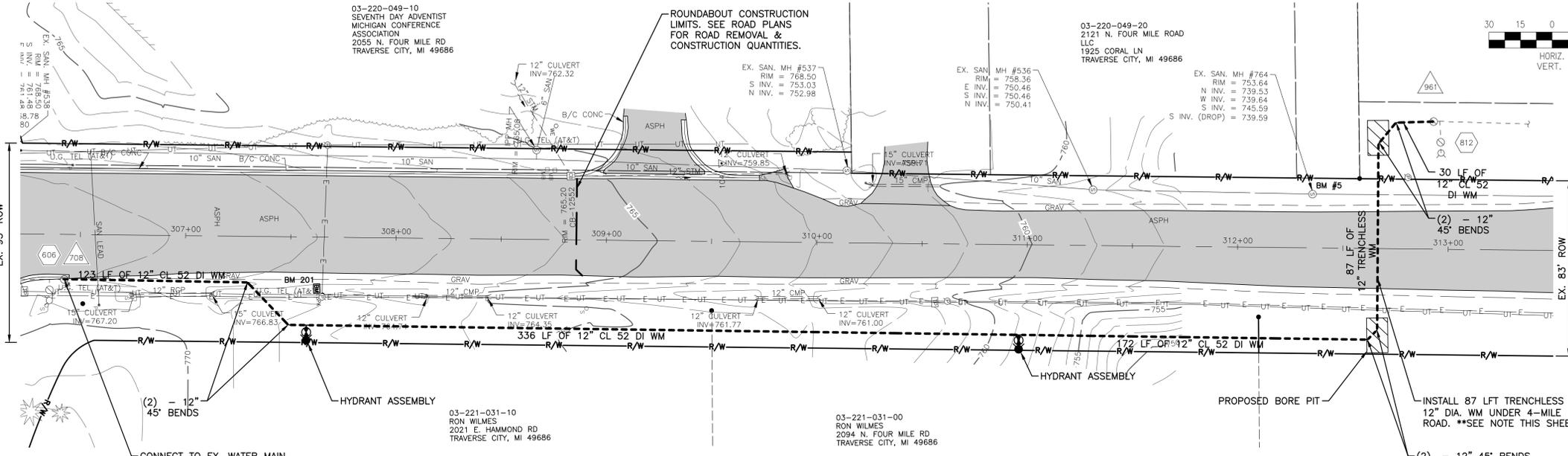
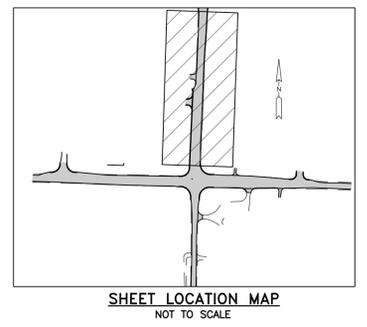
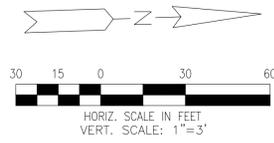
FILE NO.: 29-2-33

BM 201 - SPIKE IN POWER POLE ELEVATION - 767.57'

BM #5 RIM OF EX. SAN. MH #764 ELEVATION - 753.64'

03-220-049-10 SEVENTH DAY ADVENTIST MICHIGAN CONFERENCE ASSOCIATION 2055 N. FOUR MILE RD TRAVERSE CITY, MI 49686

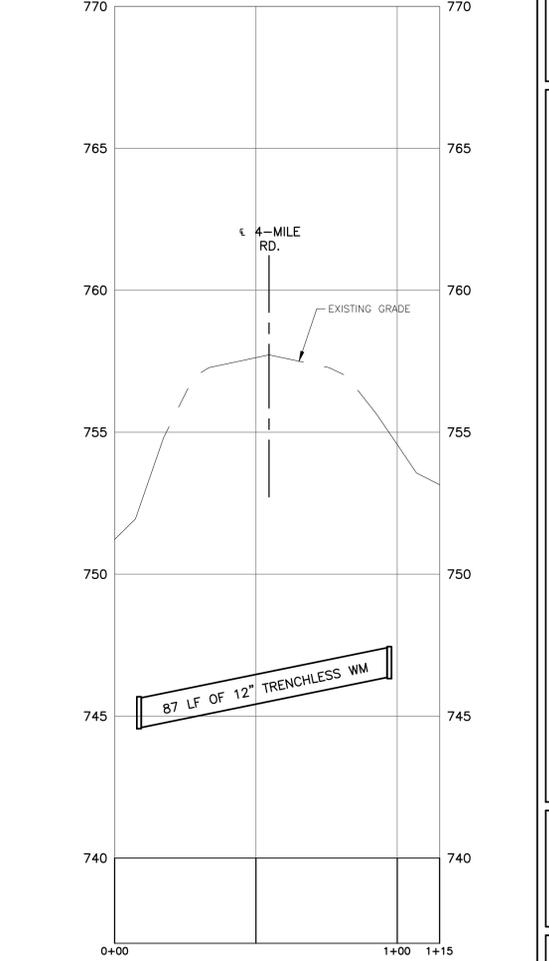
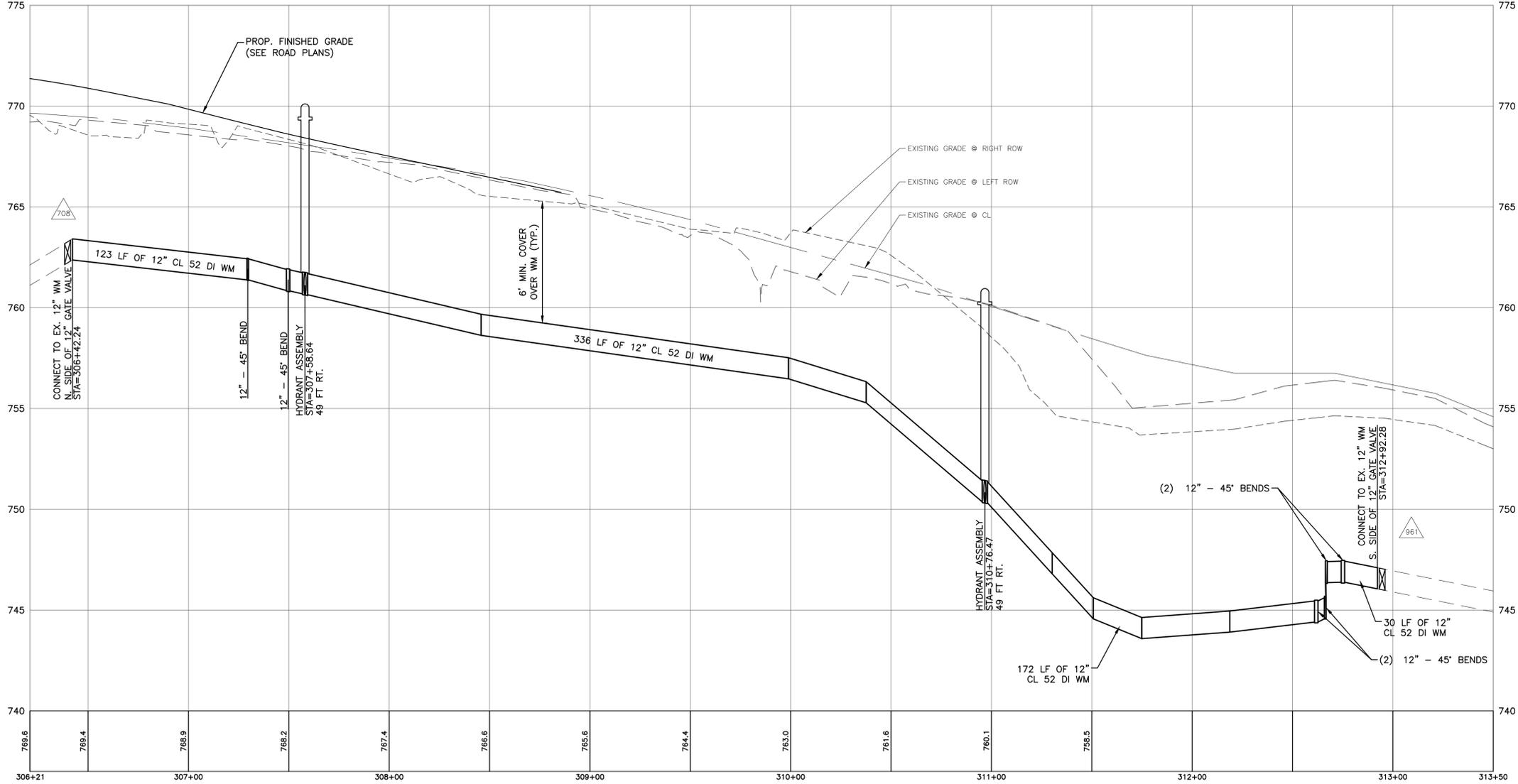
03-220-049-20 2121 N. FOUR MILE ROAD LLC 1925 CORAL LN TRAVERSE CITY, MI 49686



QUANTITIES THIS SHEET		
ITEM	QUANTITY	UNIT
HMA Surface, Rem*	See Road Plans	Syd
Curb and Gutter, Rem*	See Road Plans	Ft
Connect to Existing Water Main	2	Ea
Water Main, DI, Cl 52, 12-Inch	661	Ft
Water Main, Trenchless, 12-Inch	87	Ft
Hydrant Assembly	2	Ea
Turf Establishment, THM Seed, Regular Mulch, GTCRC*	1167	Syd

*QUANTITY SHOWN ONLY REPRESENTS REMOVAL AND RECONSTRUCTION OUTSIDE OF THE ROUNDABOUT ROAD CONSTRUCTION PROJECT LIMITS. SEE ROAD PLANS FOR ADDITIONAL REMOVAL AND PROPOSED QUANTITIES.
 **TRENCHLESS WM INSTALLED UNDER 4-MILE RD. TO BE INSTALLED BY MEANS OF BORE AND JACK OR DIRECTIONAL DRILL. IF BORE AND JACK, WM SHALL BE 12-INCH CL. 52 DUCTILE IRON. IF DIRECTIONAL DRILL, WM SHALL BE 12-INCH AWWA C906 HDPE AND THE CONTRACTOR IS TO SUBMIT SIZED THRUST RESTRAINTS TO THE ENGINEER FOR REVIEW AND APPROVAL.

4-MILE ROAD - PLAN VIEW
STA. 306+25 - 313+50



4-MILE ROAD - PROFILE VIEW

4-MILE RD CROSSING - PROFILE VIEW

PROJECT MANAGER: BRIAN C. SOUSA
 C:\PW\WORK\GEOGRAPHIC\PLANS\PROPOSED.DWG - C6.0 - PLOTTED: 3/20/2021 1:33 PM BY: BOGART, GARTH

REV#	DATE	DESCRIPTION	BY

10800 East Traverse Highway, Suite 2200
 Traverse City, MI 49684
 231.947.7400
 www.wadetrims.com

EAST BAY CHARTER TOWNSHIP
 1965 N. THREE MILE ROAD
 TRAVERSE CITY, MI 49696

HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS
 4-MILE RD. PLAN & PROFILE - STA 306+25 TO 313+50
 HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS

ISSUED FOR: DATE: BY:
 EGLE PERMITS 12/7/20 BCS
 BID 3/22/21 BCS

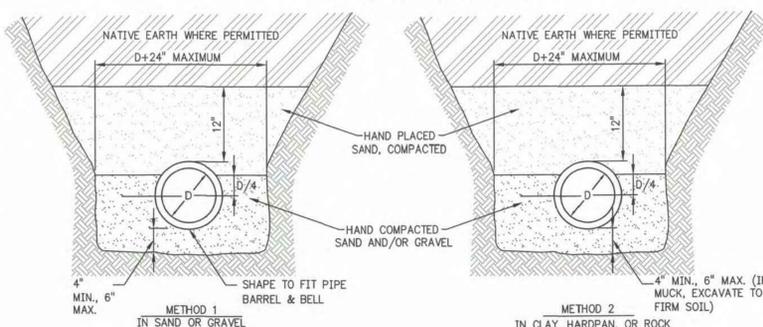
JOB NO.
 EBT3431-01C

SHEET
 C6.0

FILE NO.: 29-2-34

NOTE:
ALL BACKFILL MATERIAL SHALL CONFORM TO ASTM D2321 STANDARDS

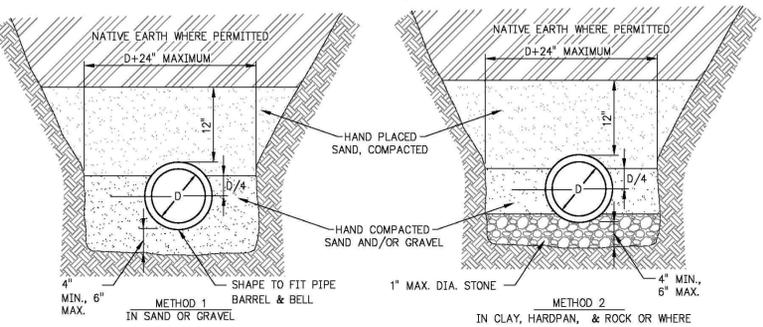
NOTE:
WATERMAIN TRENCHES NEED TO PROVIDE A MINIMUM WIDTH OF PIPE DIAMETER PLUS 16 INCHES FOR 8 INCH TO 18 INCH DIAMETER PLASTIC/FLEXIBLE PIPE MATERIALS. FOR 18 INCH AND LARGER PIPE DIAMETERS, THE MINIMUM TRENCH WIDTH IS 1.25 TIMES THE PIPE DIAMETER PLUS 12 INCHES FOR PLASTIC/FLEXIBLE PIPE MATERIALS.



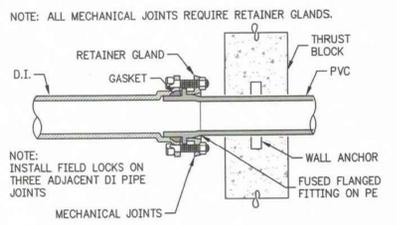
PIPE BEDDING DETAIL
(CLASS A) NO SCALE

NOTE:
ALL BACKFILL MATERIAL SHALL CONFORM TO ASTM D2321 STANDARDS

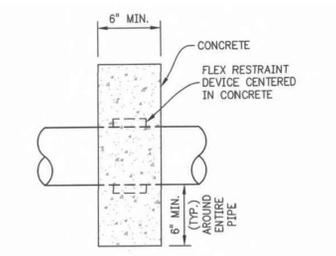
NOTE:
WATERMAIN TRENCHES NEED TO PROVIDE A MINIMUM WIDTH OF PIPE DIAMETER PLUS 16 INCHES FOR 8 INCH TO 18 INCH DIAMETER PLASTIC/FLEXIBLE PIPE MATERIALS. FOR 18 INCH AND LARGER PIPE DIAMETERS, THE MINIMUM TRENCH WIDTH IS 1.25 TIMES THE PIPE DIAMETER PLUS 12 INCHES FOR PLASTIC/FLEXIBLE PIPE MATERIALS.



PIPE BEDDING DETAIL
(CLASS B) NO SCALE



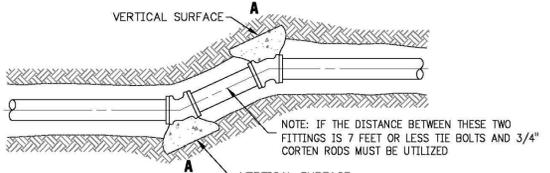
HDPE/PVC TO DI (MJ) ADAPTER DETAIL
NO SCALE



SERVICE LEAD THRUST RESTRAINT DETAIL
(APPLICABLE FOR HDPE/PVC WATERMAIN ONLY)
NO SCALE

DEGREE OF BEND IN ELBOW	PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS
SURFACE A		
45°	4"	1'-4" x 1'-0" = 1.3 SQ. FT.
45°	6"	1'-8" x 1'-4" = 2.2 SQ. FT.
45°	8"	2'-0" x 2'-0" = 4.0 SQ. FT.
45°	10"	2'-4" x 2'-4" = 5.4 SQ. FT.
45°	12"	2'-8" x 2'-8" = 7.1 SQ. FT.
45°	16"	3'-8" x 3'-8" = 13.5 SQ. FT.
SURFACE B		
22.5° OR 11.25°	4"	1'-0" x 0'-8" = 0.7 SQ. FT.
22.5° OR 11.25°	6"	1'-4" x 1'-0" = 1.3 SQ. FT.
22.5° OR 11.25°	8"	1'-8" x 1'-4" = 2.2 SQ. FT.
22.5° OR 11.25°	10"	1'-8" x 1'-8" = 2.8 SQ. FT.
22.5° OR 11.25°	12"	1'-10" x 1'-10" = 3.4 SQ. FT.
22.5° OR 11.25°	16"	2'-8" x 2'-8" = 7.1 SQ. FT.

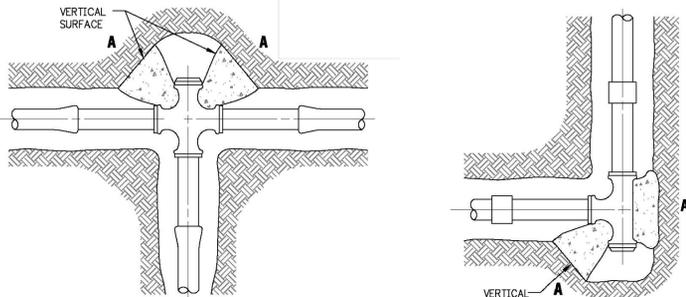
ALL MECHANICAL JOINTS REQUIRE RETAINER GLANDS



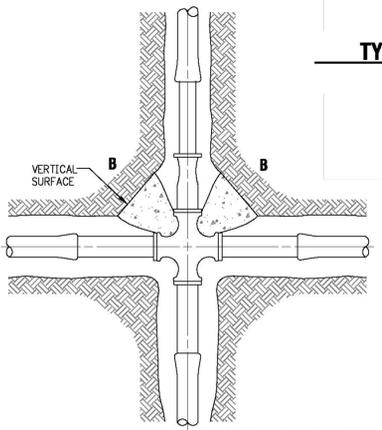
TYPICAL OFFSET DETAIL
NO SCALE

PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS
SURFACE A	
4"	1'-0" x 1'-0" = 1.0 SQ.FT.
6"	1'-4" x 1'-0" = 1.8 SQ.FT.
8"	2'-0" x 1'-4" = 2.7 SQ.FT.
10"	1'-10" x 1'-10" = 3.4 SQ.FT.
12"	2'-4" x 2'-4" = 5.4 SQ.FT.
16"	2'-10" x 2'-10" = 8.0 SQ.FT.

ALL MECHANICAL JOINTS REQUIRE RETAINER GLANDS



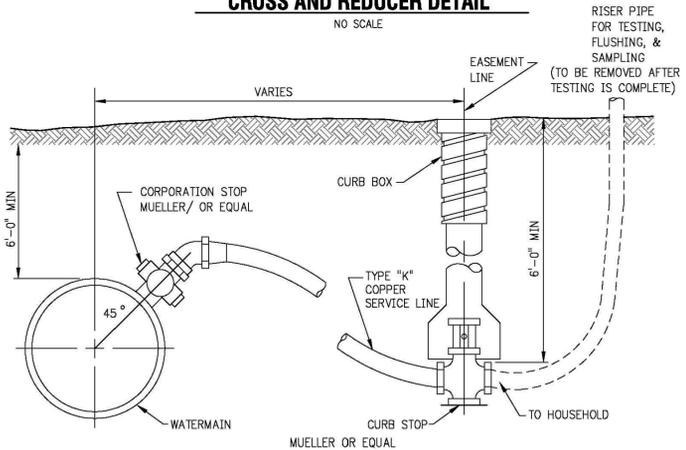
TYPICAL CROSS AND PLUG DETAIL
NO SCALE



CROSS AND REDUCER DETAIL
NO SCALE

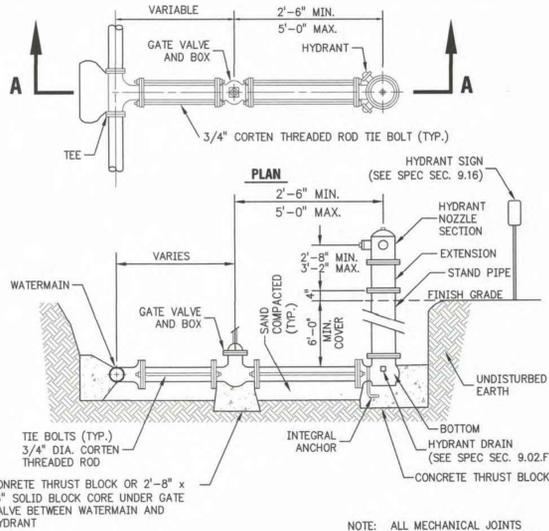
PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS
SURFACE B	
4"	0'-6" x 0'-6" = 0.3 SQ.FT.
6"	0'-10" x 0'-8" = 0.6 SQ.FT.
8"	1'-0" x 0'-10" = 0.8 SQ.FT.
10"	1'-4" x 1'-4" = 1.8 SQ.FT.
12"	1'-8" x 1'-8" = 2.8 SQ.FT.
16"	2'-0" x 2'-0" = 4.0 SQ.FT.

ALL MECHANICAL JOINTS REQUIRE RETAINER GLANDS

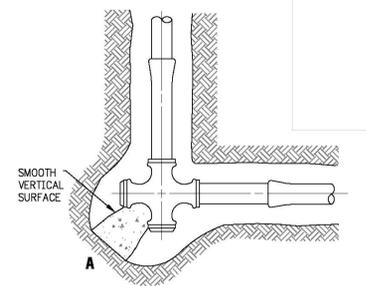


NOTE:
ALL 2" BLOWOFFS AT WATERMAIN STUBS TO BE LOCATED BY ENGINEER/FIELD REPRESENTATIVE.

SERVICE CONNECTION DETAIL
NO SCALE



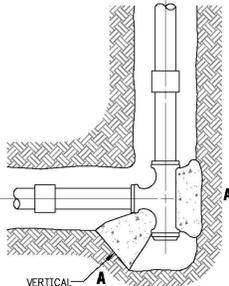
HYDRANT ASSEMBLY DETAIL
NO SCALE



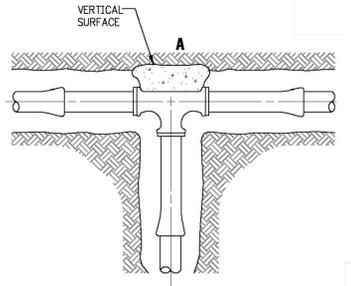
CROSS WITH 2 PLUGS DETAIL
NO SCALE

PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS
SURFACE A	
4"	1'-4" x 0'-8" = 0.9 SQ. FT.
6"	1'-8" x 1'-4" = 2.2 SQ. FT.
8"	2'-0" x 1'-9" = 3.5 SQ. FT.
10"	2'-4" x 2'-4" = 5.4 SQ. FT.
12"	2'-8" x 2'-8" = 7.1 SQ. FT.
16"	3'-8" x 3'-8" = 13.5 SQ. FT.

ALL MECHANICAL JOINTS REQUIRE RETAINER GLANDS



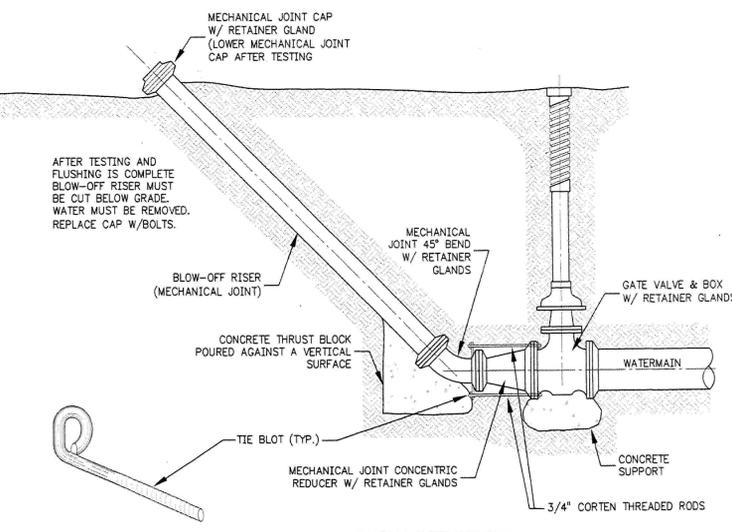
TYPICAL TEE AND PLUG DETAIL
NO SCALE



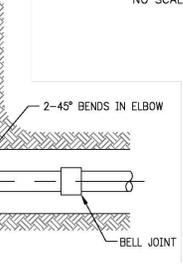
TYPICAL TEE CONNECTION DETAIL
NO SCALE

PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS
SURFACE A	
4"	1'-6" x 1'-6" = 2.3 SQ. FT.
6"	1'-9" x 1'-9" = 3.1 SQ. FT.
8"	2'-4" x 2'-4" = 5.4 SQ. FT.
10"	2'-8" x 2'-8" = 7.1 SQ. FT.
12"	3'-0" x 3'-0" = 9.0 SQ. FT.
16"	4'-5" x 4'-5" = 19.5 SQ. FT.

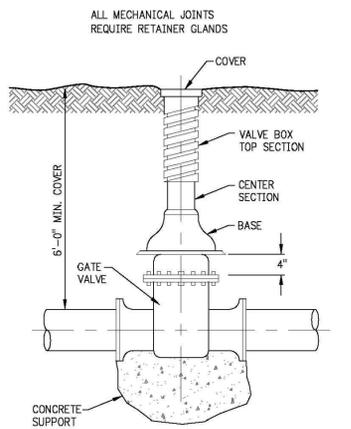
ALL MECHANICAL JOINTS REQUIRE RETAINER GLANDS



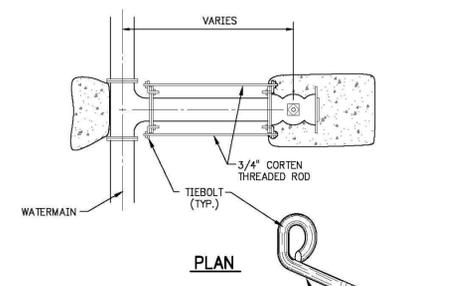
BLOW-OFF DETAIL
NO SCALE



TYPICAL BEND DETAIL
NO SCALE



VALVE BOX INSTALLATION DETAIL
NO SCALE



THRUST RESTRAINT DETAIL FOR ALL VALVES ON STUBBED LINES
NO SCALE

PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS
SURFACE A	
4"	1'-9" x 1'-4" = 2.3 SQ. FT.
6"	2'-3" x 2'-0" = 4.5 SQ. FT.
8"	2'-8" x 2'-8" = 7.1 SQ. FT.
10"	3'-0" x 3'-0" = 9.0 SQ. FT.
12"	3'-8" x 3'-8" = 13.5 SQ. FT.

ALL MECHANICAL JOINTS REQUIRE RETAINER GLANDS

PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS
SURFACE A	
4"	1'-9" x 1'-4" = 2.3 SQ.FT.
6"	2'-3" x 2'-0" = 4.5 SQ.FT.
8"	2'-8" x 2'-8" = 7.1 SQ.FT.
10"	3'-0" x 3'-0" = 9.0 SQ.FT.
12"	3'-8" x 3'-8" = 13.5 SQ.FT.
16"	5'-0" x 5'-0" = 25 SQ.FT.

ALL MECHANICAL JOINTS REQUIRE RETAINER GLANDS

NO.	DESCRIPTION	DATE	BY

10800 East Traverse Highway, Suite 2200
Traverse City, MI 49684
231.947.7400
www.wadetrims.com

EAST BAY CHARTER TOWNSHIP
1965 N. THREE MILE ROAD
TRAVERSE CITY, MI 49696
HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS
WATER MAIN DETAILS
HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS

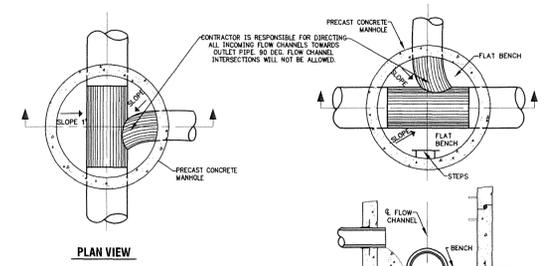
ISSUED FOR: DATE: BY:
G1 SUBMITTAL 9/25/20 BCS
EGLE PERMITS 12/7/20 DCC
BID 3/22/21 BCS

JOB NO.
EBT3431-01C

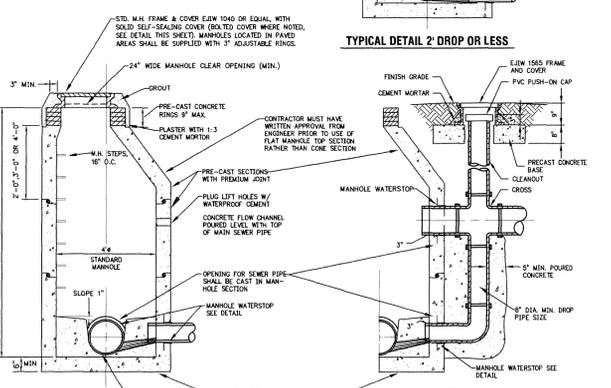
SHEET
C7.0

FILE NO.: 29-2-35

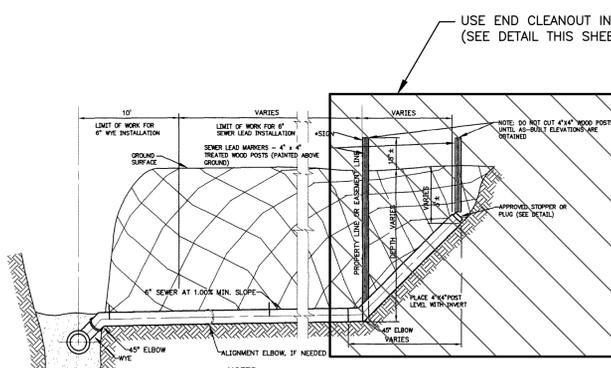
PROJECT MANAGER: BRIAN C. SOUSA
C:\PW\WORK\GBOCAR\10795653\CD-PLTS-WATERMAINDETAILS.DWG - C7.0 - PLOTTED 3/30/2021 1:33 PM BY: BOGART, GARTH



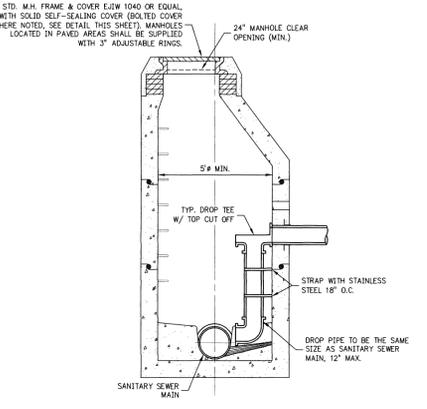
TYPICAL DETAIL 2" DROP OR LESS
NO SCALE



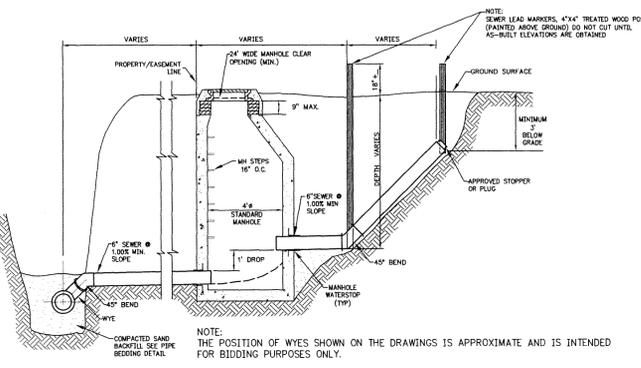
DETAIL - STANDARD MANHOLE
NO SCALE



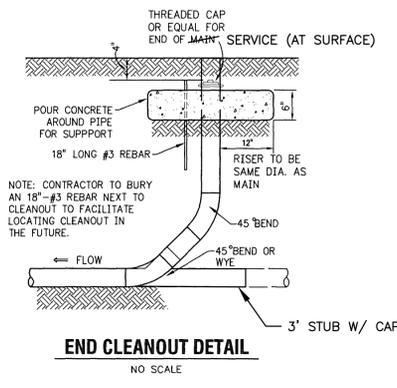
WYE AND SEWER LEAD INSTALLATION DETAIL
NO SCALE



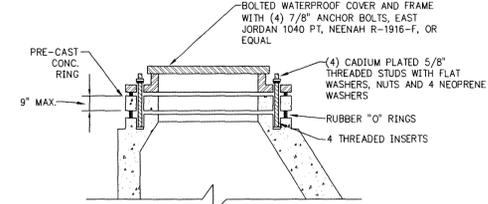
INTERNAL DROP MANHOLE DETAIL
NO SCALE



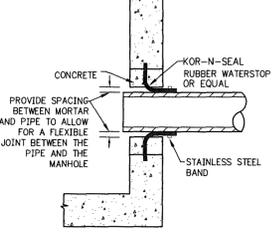
INDUSTRIAL/COMMERCIAL IPP SURVEILLANCE MANHOLE DETAIL
NO SCALE



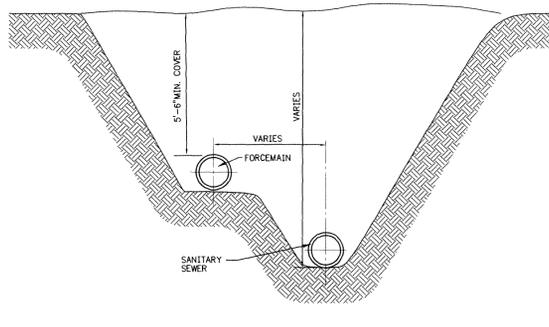
END CLEANOUT DETAIL
NO SCALE



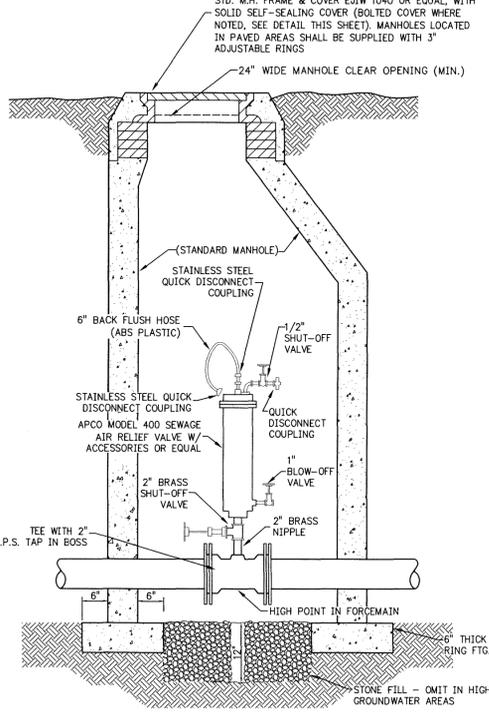
BOLTED MANHOLE COVER DETAIL
NO SCALE



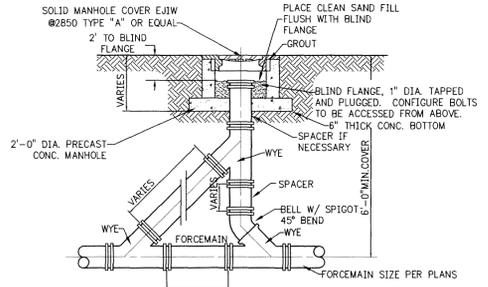
MANHOLE/WETWELL WATERSTOP DETAIL
NO SCALE



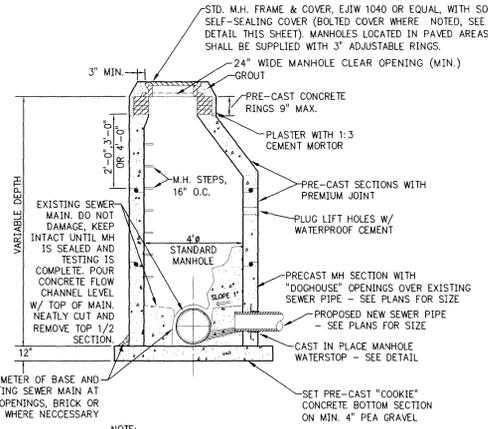
2 PIPE TRENCH DETAIL
NO SCALE



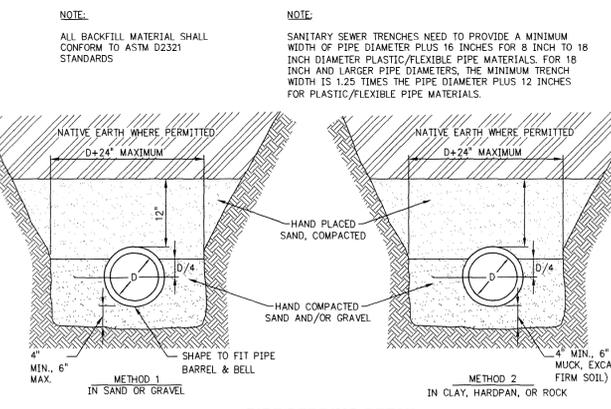
FORCEMAIN AIRVALVE DETAIL
NO SCALE



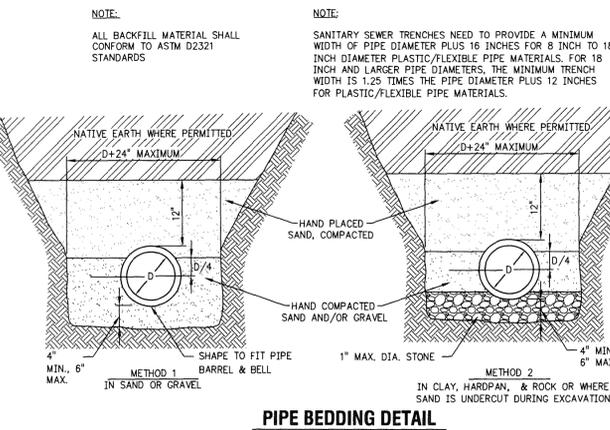
TWO WAY FORCEMAIN CLEANOUT DETAIL
NO SCALE



MANHOLE OVER EXISTING SEWER DETAIL
NO SCALE



PIPE BEDDING DETAIL
(CLASS A) NO SCALE



PIPE BEDDING DETAIL
(CLASS B) NO SCALE

REV#	DATE	DESCRIPTION

10800 East Traverse Highway, Suite 2000
Traverse City, MI 49684
231.847.7400
www.wadetrims.com

WADE TRIM

EAST BAY CHARTER TOWNSHIP
1965 N. THREE MILE ROAD
TRAVERSE CITY, MI 49696
HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS

ISSUED FOR: DATE: BY: GJ SUBMITTAL 9/25/20 BCS EGLE PERMITS 12/7/20 DCC BID 3/22/21 BCS

JOB NO. EBT3431-01C
SHEET C8.0

FILE NO.: 29-2-36

PROJECT MANAGER: BRIAN C. SOUSA
C:\PW\WORK\GEOCART\1079663\CD-PLTS-SANITARYDETAILS.DWG - C8.0 - PLOTTED 3/30/2021 1:33 PM BY: GEOCART, GARTH

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