

## ADVERTISEMENT FOR BIDS

### Splash Park Utility Extension City of Ewart May 21, 2018

The City of Ewart, the OWNER, will receive sealed Bids for the Splash Park Utility Extension project at the City of Ewart Offices at 5814 100<sup>th</sup> Ave., Ewart, MI 49631, until June 4, 2018 at 11:00 AM local time. No Bids will be received after that time. Bids will be publicly opened and read aloud at that time and place.

**BASE PROJECT INCLUDES THE CONSTRUCTION OF APPROXIMATELY 722 FEET OF 6" SMALL DIAMETER EFFLUENT GRAVITY SANITARY SEWER (open cut or directional drilling) AND 438 FEET OF 4" DUCTILE IRON WATER MAIN, INCLUDING APPURTANCES.**

Bidding Documents may be examined at the following locations after May 22, 2018 at 5:00 PM:

The office of the ENGINEER, OHM Advisors., 415 E. Main Street, MI 48640; Builders Exchanges: 4461 Cascade Rd. SE, Grand Rapids, MI 49546; Construction Association of Michigan (CAM): 334 S. Water St., Saginaw, MI 48607; Home Builders Association of Central Michigan: 2026 Independence Dr., Mt. Pleasant, MI 48858; and the City of Ewart Offices: office at 5814 100<sup>th</sup> Ave., Ewart, MI 49631.

Bidding Documents may be obtained at the office of the ENGINEER, OHM Advisors, upon payment of fifty dollars (\$50.00) non-refundable deposit. An additional, non-refundable charge of twenty dollars (\$20.00) will be required for mailing Bidding Documents. Bidders should direct correspondence to the ENGINEER, (John Tanner at 231-923-6595 or [john.tanner@ohm-advisors.com](mailto:john.tanner@ohm-advisors.com)).

A Pre-Bid meeting will be held at 11:00 AM on May 29, 2017 at City of Ewart, City Hall, 5814 100<sup>th</sup> Ave., Ewart, MI 49631 to review the project details and visit the project site with interested parties. **This meeting is not mandatory to bid on the project, but attendance is highly recommended.** Contractors are highly encouraged to review the plans and project site prior to the meeting.

**This project is associated a project that is funded through the Michigan Economic Development Corporation (MEDC) which requires that Federal Wage Rates (Davis-Bacon Act) be utilized. The MEDC encourages minority and women owned businesses to submit bids on the project.**

Bid Security in the amount of 5 percent (5%) of Bidder's maximum Bid price in the form of a Bid Bond, and subject to the conditions provided in the Instructions to Bidders must be submitted with each Bid. Bids may not be withdrawn for a period of sixty (60) days after the actual date of opening thereof. This time period may be extended by mutual agreement of the Owner and any Bidder or Bidders.

The OWNER reserves the right to accept any or all Bids and award the contract to other than the lowest bidder, to waive any irregularities or informalities or both; to reject any or all Bids; and in general to make the award of the Contract in any manner deemed by the OWNER, in its sole discretion, to be in the best interest of the OWNER.

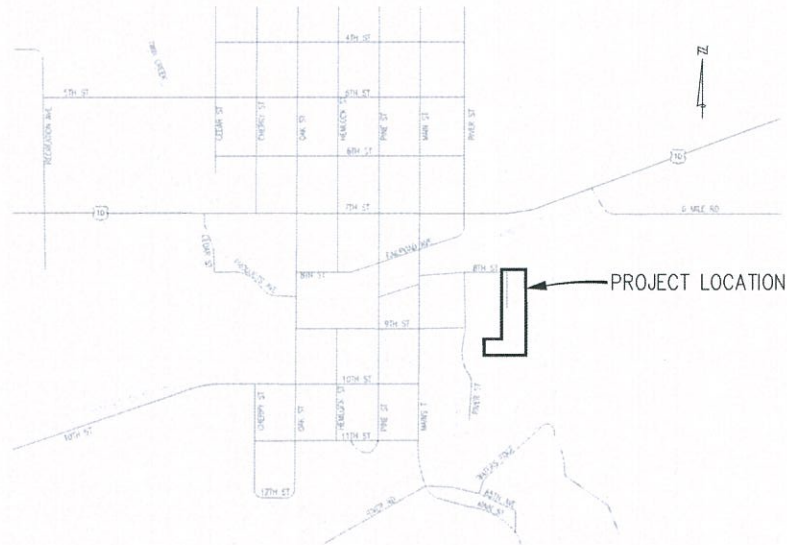
Patrick Muczynski  
City of Ewart

# CITY OF EVART OSCEOLA COUNTY, MICHIGAN SPLASH PARK UTILITY EXTENSION

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
BASE PROJECT	
1	COVER SHEET
2	NOTE SHEET
3	LEGEND SHEET
4	WATER MAIN SHEET
5	ALTERNATE 1 - OPEN CUT SANITARY SEWER SHEET
6	ALTERNATE 2 - DIRECTIONAL DRILL SANITARY SEWER SHEET
7-8	DETAIL SHEET

M.D.O.T. STANDARD PLANS	
TITLE	PLAN NO.
DRAINAGE STRUCTURES	R-1-G*
UTILITY TRENCHES	R-85-C*
SOIL EROSION AND SEDIMENTATION CONTROL MEASURES	R-96-E

\* DENOTES SPECIAL DETAIL



LOCATION MAP  
N.T.S.

APPLICATION DATE	PERMITS	APPROVAL DATE
	ACT 399 - MDEQ WATER SUPPLY SYSTEMS PERMIT	
	PART 41 - MDEQ WASTEWATER SYSTEMS PERMIT	
	OSCEOLA COUNTY EROSION CONTROL	

## CITY OF EVART

CASEY KEYSOR  
• MAYOR •



ROBERT FOSTER  
• MAYOR PRO TEM •

DAN ELLIOTT  
• COUNCIL MEMBER •

JOHN JOYCE  
• COUNCIL MEMBER •

RALPH CARLSON  
• COUNCIL MEMBER •

ZACK SZAKACS  
• CITY MANAGER •

CONTRACT FOR: UTILITY EXTENSION FOR PROPOSED SPLASH PARK					
 <div style="float: right; font-size: small;">             Advancing Communities              415 S. MAIN STREET              EVART, MI 49829              P (989) 491-2000           </div>					
PREPARED UNDER THE SUPERVISION OF:					
 <p>G. JOHN TANNER</p>	<p>43295 Registration No. 5/22/18 Date</p>				
REVISIONS					
<table border="1" style="width: 100%;"> <tr> <th>PROJECT NO.</th> <th>SHEET NO.</th> </tr> <tr> <td>5011-17-0010</td> <td>1 OF 8</td> </tr> </table>		PROJECT NO.	SHEET NO.	5011-17-0010	1 OF 8
PROJECT NO.	SHEET NO.				
5011-17-0010	1 OF 8				



## UTILITY CROSSINGS AT DRIVEWAYS

ALL UTILITY CROSSINGS AT DRIVEWAYS SHALL BE BACKFILLED IMMEDIATELY FOLLOWING PIPE INSTALLATION TO MAKE THESE DRIVEWAYS ACCESSIBLE. THIS IS INCLUDED IN PIPE INSTALLATION.

## UTILITY TRENCH DEWATERING

THE COST OF ANY CONTAMINANT REMEDIATION REQUIRED TO INSTALL THE PROPOSED UTILITIES SHALL BE INCLUDED IN THE UNIT PRICE FOR THE AFFECTED UTILITY UNLESS DEEP WELL DEWATERING IS REQUIRED. DEWATERING FROM ALL DOWNSHAFT PUMPS MUST BE FILTERED THROUGH A FILTER BAG COST FOR THE PROVIDING AND DISPOSING OF THE FILTER BAGS SHALL BE PAID FOR AS TOWN OF GRAND RAPIDS, FILTER BAG (EACH) FOR EACH BAG USED. BAGS SHALL BE REPLACED WHEN THEY BECOME CLOGGED OR IF THEY BECOME DAMAGED. REPLACEMENT OF BAGS DAMAGED DUE TO NEGLIGENCE BY THE CONTRACTOR WILL NOT BE PAID FOR SEPARATELY.

IF DEEMED NECESSARY, AND WITH THE APPROVAL OF THE ENGINEER, DEEP WELL DEWATERING SHALL NOT BE INCLUDED IN THE COST OF THE UTILITY BUT WILL BE PAID FOR SEPARATELY.

GRASSROOT AREAS TO BE RESTORED TO ORIGINAL CONDITION UNLESS NOTED OTHERWISE.

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN ACCORDANCE WITH PUBLIC ACT 53, 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 ACTIVELY 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. UTILITY LOCATIONS SHOWN ON THE PLANS ARE ONLY APPROXIMATE AND SHOULD BE LOCATED IN THE FIELD BEFORE EXCAVATING IN THE AREA. THE FOLLOWING UTILITY COMPANIES HAVE FACILITIES WITHIN THE PROJECT LIMITS:

CITY OF EVART  
200 S. MAIN ST.  
EVART, MI 49821  
ATTN: PATRICK MCDONOUGH  
PHONE: 231-252-2085

1. FOR ELECTRIC  
CONSUMERS ENERGY  
4920 CLAY AVENUE SW  
GRAND RAPIDS, MI 49508  
ATTN: CHRIS SCHROCK  
PHONE: 616-535-4057

2. FOR TELECOM  
AT&T  
142 E. STATE STREET  
TRAVERSE CITY, MI 49684  
ATTN: CHUCK HELMOLD  
PHONE: 231-941-2750

3. FOR CABLE  
CARTER COMMUNICATIONS  
315 DAVIS STREET  
GRAND HAVEN, MI 49431  
ATTN: DAVID W. YOUNG  
PHONE: 616-935-1564

4. FOR GAS  
DTE ENERGY  
400 FORTYFOUR ROAD  
BIG RAPIDS, MI 49307  
ATTN: LARRY REICHERT  
PHONE: 231-592-3244

ALL GAS FACILITIES SHALL BE PROTECTED AND SUPPORTED PER THE UTILITIES STANDARDS.

## GENERAL

1. THE IMPROVEMENTS ORDERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE PROPOSAL AND ACCOMPANYING SPECIFICATIONS FOR THIS PROJECT INCLUDING THE 2012 MOST STANDARD SPECIFICATIONS FOR CONSTRUCTION, ADJUSTED SIGN POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND CITIES, AND THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING ALL NECESSARY FEES ASSOCIATED WITH THIS PROJECT.

3. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES FOR NOISE LEVELS, HOURS OF OPERATION FOR CONSTRUCTION ACTIVITY, VIBRATION, OR ANY OTHER RESTRICTIONS. NO ADDITIONAL COMPENSATION WILL BE DUE TO THE CONTRACTOR FOR ANY WINTER PROTECTION MEASURES THAT MAY BE REQUIRED TO COMPLY WITH THE CONTRACT DOCUMENTS.

4. THE CONTRACTOR AND/OR HIS SUBCONTRACTOR SHALL NOTIFY "MISS DIG" AND THE APPROPRIATE MUNICIPAL UTILITIES, FIRE AND POLICE DEPARTMENTS A MINIMUM OF 3 WORKING DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

5. COORDINATION BY THE CONTRACTOR, NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR ANY DELAY OR INCONVENIENCE DUE TO MATERIAL, LOGISTICS OR DELAYS DUE TO THE OPERATIONS OF SUCH OTHER PARTIES DURING WORK INDICATED OR SHOWN ON THE PLANS OR IN THE PROPOSAL OR FOR ANY DELAYS IN CONSTRUCTION DUE TO THE DEWATERING OF EXISTING UTILITIES THAT MAY OR MAY NOT BE SHOWN ON THE PLANS.

6. THE EXISTING UTILITIES SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AS OBTAINED FROM THE UTILITY OWNERS. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SATISFIED AS TO ITS ACCURACY AND THE LOCATION OF EXISTING UTILITIES.

7. ALL CONSTRUCTION WITHIN THE MOST RIGHT-OF-WAY SHALL COMPLY WITH THE REQUIREMENTS OF MDOT.

8. THE CONTRACTOR SHALL MAINTAIN AN ACCESSIBLE ROUTE TO ALL BUILDINGS AT ALL TIMES.

9. ALL DIMENSIONS SHOWN ARE TO BACK OF CURB, EDGE OF SIDEWALK, OUTSIDE FACE OF BUILDING, CENTER OF STRUCTURE, OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.

10. CONTRACT PLANS FOR THE PROJECT HAVE BEEN DEVELOPED AND PREPARED BY ORCHARD, HILTZ & MCNEIL, INC.

11. THE CONTRACTOR SHALL NOT ENTER UPON PRIVATE PROPERTY FOR ANY PURPOSE WITHOUT OBTAINING WRITTEN PERMISSION.

12. 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 APPROVED BY THE CITY OF EVART, BUT ONLY WITH THE WRITTEN CONSENT OF THE ENGINEER.

13. ALL QUANTITIES AND DIMENSIONS SHOWN IN PLANS ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL FIELD VERIFY PRIOR TO CONSTRUCTION.

## REMOVAL

1. SAW CUTTING FOR PAVEMENT REMOVAL AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER SHALL BE TO THE DEPTH REQUIRED FOR HEAT REMOVAL OF PAVEMENT OR CURB.
2. SAWING DEPTH SHALL BE ADEQUATE TO PREVENT SPALLING, CHIPPING, OR DAMAGE TO EXISTING PAVEMENT EDGES LEFT IN PLACE AS DIRECTED.
3. REMOVALS SHALL BE DONE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
4. ANY ADDITIONAL TREE REMOVALS, CLEARING, GRADING, ETC. NEEDED FOR THE CONTRACTOR'S STAGING AND/OR WORK OPERATIONS SHALL BE COMPLETED AND THE AREA RESTORED TO THE SATISFACTION OF THE OWNER WITHOUT ADDITIONAL COMPENSATION.
5. ADDITIONAL WORK OUTSIDE OF THE LIMITS AS SHOWN ON THE PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO STARTING THE ADDITIONAL WORK.

## CONCRETE CONSTRUCTION

1. CONCRETE USED FOR CURB AND SIDEWALK SHALL MEET THE REQUIREMENTS OF SECTION 601 OF THE 2012 MOST STANDARD SPECIFICATIONS FOR CONSTRUCTION AND SHALL BE MOIST CLASS P1 WITH A MINIMUM CEMENT CONTENT OF 506 LB/CYD OR AS APPROVED BY THE ENGINEER.
2. CONCRETE PAVEMENT CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH SECTION 402 OF THE 2012 MOST STANDARD SPECIFICATIONS FOR CONSTRUCTION.
3. EXPANSION JOINTS WITH EXPANSION FILLER SHALL BE PLACED WHERE THE CONCRETE PAVEMENT ADJUTS AN EXISTING FENCED DRIVEWAY OR BUILDING OR AS DIRECTED BY THE ENGINEER.

## HMA CONSTRUCTION

1. HMA USED FOR PAVEMENT SHALL MEET THE REQUIREMENTS OF SECTION 501 OF THE 2012 MOST STANDARD SPECIFICATIONS FOR CONSTRUCTION AND GRADE SHALL BE AS NOTED PER PLANS AND DETAILS OR AS APPROVED BY THE ENGINEER.
2. HMA PAVEMENT CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH SECTION 501 OF THE 2012 MOST STANDARD SPECIFICATIONS FOR CONSTRUCTION.
3. PAVEMENT IMPACTED BY CONSTRUCTION SHALL BE RESTORED AS REQUIRED BY MDOT AND THE CITY OF EVART.
4. HMA BOND COAT WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF HMA PAVING.

## AGGREGATE CONSTRUCTION

1. AGGREGATE USED FOR PAVEMENT BASE SHALL MEET THE REQUIREMENTS OF SECTION 902 OF THE 2012 MOST STANDARD SPECIFICATIONS FOR CONSTRUCTION AND SHALL BE MOIST CLASS 22A OR AS APPROVED BY THE ENGINEER.
2. AGGREGATE BASE CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH SECTION 302 OF THE 2012 MOST STANDARD SPECIFICATIONS FOR CONSTRUCTION.
3. SHOULDER AND APPROACH GRAVEL SHALL BE 22A AGGREGATE, UNLESS OTHERWISE NOTED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH MOST STANDARD SPECIFICATIONS SECTION 307 EXCEPT THAT THE MATERIAL SHALL BE COMPACTED TO NOT LESS THAN 90% OF THE MAXIMUM UNIT WEIGHT.

## WATER SUPPLY SYSTEM NOTES

1. DUCTILE IRON WATER MAIN PIPE SHALL BE ANMA SPECIFICATION C-151, STANDARD WALL THICKNESS CLASS 52 DUCTILE IRON WATER MAIN.
2. HIGH DENSITY POLYETHYLENE (HDPE) PIPE DR-19 PIPE PER ANMA SPECIFICATIONS. USE DUCTILE IRON FITTINGS (TEES, BENDS, SLEEVES ETC) UNLESS OTHERWISE CALLED FOR ON THE PLANS. PIPE JOINTS ON PLANS ARE OUTSIDE DIAMETER.
3. WHERE PRACTICAL AND APPROVED BY ENGINEER, JOINTS IN HORIZONTAL AND VERTICAL ALIGNMENT MAY BE MADE BY DEFLECTING JOINTS WITHIN THE MANUFACTURER'S RECOMMENDED TOLERANCES.
4. ALL HYDRANTS SHALL BE SET PLUMB TO EXISTING GRADE UNLESS OTHERWISE DIRECTED BY ENGINEER. FIRE HYDRANTS SHALL BE EITHER 8-1/2" OR 4" APPROVED EQUAL.
5. HYDRANTS, VALVES, FITTINGS, CASTINGS, ETC. SHALL BE AS CALLED FOR IN THE SPECIFICATIONS.
6. CONNECTIONS TO EXISTING WATER MAIN SHALL BE MADE ONLY AFTER RESULTS OF SUCCESSFUL HYDROSTATIC & BACTERIOLOGICAL TESTS HAVE BEEN REVIEWED & APPROVED BY THE ENGINEER.
7. ALL DUCTILE IRON WATER MAIN LOCATED IN AREAS OF MUCK OR FEAT SHALL BE WRAPPED WITH 8-MIL POLYETHYLENE ENCASEMENT.
8. UNLESS OTHERWISE INDICATED, SLIP-ON JOINTS MAY BE USED EXCEPT ADJACENT TO TEES, BENDS, HYDRANTS, AND LOCATIONS WHERE MISALIGNMENT RESTRAINT GUARDS ARE REQUIRED.
9. NO SLIP-ON JOINT PIPE SHALL BE DEFLECTED MORE THAN 3 DEGREES. WHERE DEFLECTIONS GREATER THAN 3 DEGREES ARE REQUIRED, VERTICAL OR HORIZONTAL BENDS WILL BE REQUIRED IN ACCORDANCE WITH THE DETAILS.
10. ALL HYDRANTS NOT IN "SERVICE SHALL BE COVERED WITH BLACK PLASTIC UNTIL SUCH TIME AS THEY ARE PUT IN SERVICE OR REMOVED.
11. CONTRACTOR SHALL COMPACT ALL TRENCHES AND EXCAVATIONS IN ONE-FEET LIFTS BY VIBRATORY MEANS DURING THE BACKFILLING OPERATIONS TO 95% MAXIMUM UNIT WEIGHT (MODIFIED PROCTOR) UNLESS OTHERWISE INDICATED.
12. CONTRACTOR TO "SALVAGE FIRE HYDRANTS, CASTINGS, AND VALVES THAT ARE TO BE REMOVED AND DELIVER THEM TO OWNER'S STORAGE YARD. THE "SALVAGED MATERIAL SHALL REMAIN PROPERTY OF THE OWNER.
13. 12 INCH TO 24 INCH FITTINGS INCLUDING TEES, BENDS, CROSSES AND REDUCERS SHALL BE PAID BY THE CITY FOR THE ITEMS USED. FITTINGS LISTED IN THE WATER APPURTENANCE CHARTS ARE FOR INFORMATION ONLY. ADDITIONAL BENDS MAY BE NEEDED FOR ALIGNMENT OR GRADE ADJUSTMENT AND WILL BE PAID FOR AS NEEDED.
14. INSTALL WATERMAIN AT 6-FT (MIN) BURIED DEPTH. FITTINGS LESS THAN 12 INCHES DIAMETER WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN LESSER FOOT OF EXCAVATED WATERMAIN.
15. CONTRACTOR SHALL CLOSE ALL SERVICE CONNECTIONS ON ABANDONED WATERMANS.
16. ALL EXISTING MARKS LARGER THAN 4 INCHES DIAMETER TO BE ABANDONED IN PLACE AND FILLED WITH FLOWABLE FILL.
17. FITTINGS CALLED OUT IN THE PROFILES ARE FOR INFORMATION ONLY AND MAY VARY. CONTRACTOR CAN DEFLECT PIPE WHEN POSSIBLE, AND THE USE OF FITTING TO AVOID CORNERS MUST BE APPROVED IN THE FIELD. CONTRACTOR SHALL HAVE SUFFICIENT FITTINGS ON HAND TO COMPLETE THE ANTICIPATED WORK.

## WATER SERVICE CONNECTION SEQUENCE

1. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING RESIDENTS AND BUSINESS OWNERS OF WATER SHUT OFF AT LEAST 24 HOURS IN ADVANCE.
2. THE EXISTING SERVICE LEAD SHALL BE EXPOSED BETWEEN THE OLD WATER MAIN AND THE CURB STOP BOX.
3. THE EXISTING WATER MAIN LEAD SHALL REMAIN IN THE GROUND UNLESS THE NEW LEAD MUST GO IN THE SAME TRENCH.
4. IF THE EXISTING SERVICE LEAD IS COPPER, A NEW COPPERATION SHALL BE PLACED ON THE NEW WATER MAIN AND A NEW COPPER SERVICE LEAD SHALL BE INSTALLED FROM THE NEW COPPERATION TO THE FRONT OF WAY OR THE LOCATION WHERE THE EXISTING LEAD WAS CUT.
5. WHERE NEW SERVICE LEADS ARE BEING INSTALLED, THE NEW SERVICE LEAD SHALL BE CONNECTED TO THE SECTION OF THE EXISTING SERVICE LEAD USING A MINIMUM 1/2" 15000 COPPER FLARE CONNECTION OR APPROVED EQUAL.
6. THE CITY OF EVART DPW SHALL BE NOTIFIED IN WRITING OF ALL NON-COPPER SERVICE LEADS THAT ARE FOUND.
7. ALL STOP BOXES ARE TO BE LOCATED OUTSIDE DRIVEWAYS AND SIDEWALKS, WHERE POSSIBLE, THE CURB BOX SHALL BE PLACED AS SHOWN ON PLANS, OR APPROVED IN THE FIELD.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL ON THIS PROJECT, KEEPING DUST TO A MINIMUM IS A HIGH PRIORITY FOR THE CITY AND THE CONTRACTOR WILL BE EXPECTED TO MAINTAIN DUST CONTROL ON A REGULAR BASIS THERE WILL BE NO ADDITIONAL PAYMENT FOR THIS WORK. FIELD CONDITIONS WILL DICTATE THE AMOUNT AND FREQUENCY OF DUST CONTROL MEASURES.

## TEMPORARY WATER SERVICE

TEMPORARY WATER SERVICE WILL BE REQUIRED FOR ANY WATER SHUTDOWN LASTING LONGER THAN 4 HOURS UNLESS OTHERWISE APPROVED BY THE CITY OF EVART. CONTRACTOR SHALL SUPPLY THE CITY AND ENGINEER WITH A TEMPORARY WATER SERVICE STAGING PLAN PRIOR TO CONSTRUCTION.

TEMPORARY WATER MAINS AND SERVICES SHALL BE CHLORINATED AND BE IN COMPLIANCE WITH THE MDOT.

## PROPERTY CORNERS

ANY PROPERTY CORNERS WITHIN THE FRONT OR BACK SLOPE SHALL BE STAKED AND PROTECTED BY PERSON. THE REPLACEMENT OF ANY PROPERTY CORNERS DESTROYED DURING CONSTRUCTION WILL BE THE FINANCIAL RESPONSIBILITY OF THE CONTRACTOR. THE ESTABLISHMENT OF ALL MONUMENTS AND PROPERTY CORNERS WILL BE PERFORMED BY THE CONTRACTOR. PROPERTY CORNERS SHALL BE REPLACED BY A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF MICHIGAN.

## SOIL EROSION AND SEDIMENTATION CONTROL

1. SOIL EROSION AND SEDIMENTATION CONTROL SHALL BE IN ACCORDANCE WITH THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION AND THE CONTRACTOR SHALL COMPLY WITH LOCAL RULES AND REGULATIONS FOR SOIL EROSION AND SEDIMENTATION CONTROL.
2. ALL SOIL EROSION AND SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH MOST STANDARD PLAN R-16 SERIES.
3. THE CONTRACTOR SHALL EMPLOY A MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY CERTIFIED STORM WATER OPERATOR ON ALL SITES WITH A DISTURBANCE OF FIVE (5) OR MORE ACRES (PERMIT-BY-MAIL). THE OPERATOR SHALL COMPLETE ALL INSPECTIONS AND REPORTS TO COMPLY WITH SECS PERMIT REQUIREMENTS. THE PROJECT COVERS APPROXIMATELY 15 ACRES.
4. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO MINIMIZE THE AREAS LEFT BARRIEN DURING CONSTRUCTION AND TO DESTROY ONLY THOSE AREAS ABSOLUTELY REQUIRED FOR THE CONSTRUCTION OF THE PROJECT.
5. EROSION CONTROL ITEMS SHALL BE INSTALLED AND MAINTAINED ON A REGULAR BASIS AS DIRECTED BY THE ENGINEER AND SHALL BE REMOVED WHEN NO LONGER EFFECTIVE AS DETERMINED BY THE ENGINEER. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL CONTROL IS IN PLACE AND STABILIZED. NO SEPARATE PAYMENT SHALL BE ALLOWED FOR OTHER MAINTENANCE OF REMOVAL OF THE EROSION CONTROL ITEMS.
6. THE CONTRACTOR SHALL REMOVE SEDIMENT COLLECTED IN CULVERTS AND SUMPS OF ALL DRAINAGE STRUCTURES IN THE VICINITY OF THE PROJECT WHEN SUCH SEDIMENT EXCEEDS 1/4 OF THE SUMP DEPTH OR CULVERT DIAMETER. THE ENGINEER WILL INSPECT CULVERTS, SUMPS AND ALL SEIC ITEMS AFTER STORM EVENTS AND DIRECT THE CONTRACTOR TO CLEAN OUT ALL CULVERTS, SUMPS, AND ALL SEIC ITEMS. CLEANING PUMPS AND SUMPS FOR SEDIMENTATION CONTROL SHALL NOT BE PAID FOR SEPARATELY. SEDIMENT REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATIONS.
7. THE CONTRACTOR SHALL FOLLOW LOCAL RULES AND REGULATIONS FOR SOIL EROSION AND SEDIMENTATION CONTROL FOR ALL MATERIALS THAT ARE DEPOSITED OFF THE PROJECT SITE.
8. IF THE PROJECT OR ANY CONSTRUCTION ACTIVITY IS STOPPED FOR ANY LENGTH OF TIME OTHER THAN THAT ENCOUNTERED IN A NORMAL WORK WEEK, EXTRA PRECAUTION SHALL BE TAKEN TO PROTECT THE UNCOMPLETED WORK FROM EROSION, INCLUDING THE PLACEMENT OF RIPRAP, HAY BALES OR OTHER ACCEPTABLE TEMPORARY PRECAUTION.
9. THE CONTRACTOR SHALL SUEP PAVED ROADS AND OTHER PAVED SURFACES DAILY TO REMOVE TRACKED SOIL AND DIRT.
10. THE CONTRACTOR SHALL INSTALL SILT FENCES AND ROCK FILTERS AS TEMPORARY EROSION AND SEDIMENTATION CONTROL IN DISTURBED AREAS AS REQUIRED AND AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
11. THE CONTRACTOR SHALL INSTALL FABRIC WOOD BACS ON ALL CATCH BASINS DURING CONSTRUCTION TO FILTER MATERIALS ENTERING CATCH BASINS.
12. THE CONTRACTOR SHALL CLEAN OUT ALL CATCH BASINS AND FLUSH OUT ALL LINES AT THE COMPLETION OF THE PROJECT.
13. THE CONTRACTOR SHALL SUBMIT PROPOSED SPOT, PILE LOCATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO STOCKPILING MATERIAL ON SITE.
14. SPOIL PILES SHALL BE GRADED SO THAT THE SLOPES ARE NOT STEEPER THAN 3:1 AND SHALL BE SEEDED AND MULCHED.
15. SPOIL PILES SHALL HAVE ONE FENCE PLACED AT THE BASE OF THE SPOIL PILES TO RETAIN SOIL UNTIL VEGETATION IS ESTABLISHED.

## MAINTENANCE OF TRAFFIC

1. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MUST MAINTAINING TRAFFIC PLANS.
2. CONTRACTOR SHALL COORDINATE WORK WITH OWNER ACROSS EXISTING DRIVES.

## PAVEMENT MARKING AND SIGNAGE

1. WATERBORNE PAVEMENT MARKINGS SHALL MEET THE REQUIREMENTS OF SECTION 903 AND BE APPLIED IN ACCORDANCE WITH SECTION 811 OF THE 2012 MOST STANDARD SPECIFICATIONS FOR CONSTRUCTION.

## EARTHWORK & GRADING

1. THE CONTRACTOR SHALL RESTORE ALL ADJACENT AREAS UPON COMPLETION OF THE PROJECT.
2. ALL DISTURBED AREAS SHALL BE BROUGHT TO FINAL GRADE AND STABILIZED AS SOON AS POSSIBLE AFTER BEING DISTURBED. PERMANENT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED WITHIN FIVE CALENDAR DAYS FOR COMPLETING FINAL GRADING.
3. ALL PERMANENT SLOPES STEEPER THAN 4:1 SHALL BE STABILIZED USING MULCH BLANKETS.
4. CONTRACTOR SHALL PLACE "SALVAGED AND ADDITIONAL TOPSOIL, SEED AND MULCH ON ALL DISTURBED AREAS NOT UNDER PAVEMENT OR OTHERWISE LABELED, AS DIRECTED BY THE ENGINEER TO PROVIDE A MINIMUM 3" THICKNESS.
5. ALL FILL SHALL BE CLEAN INERT MATERIAL.
6. ALL EXCAVATIONS UNDER OR WITHIN 3 FEET OF PUBLIC PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED AND COMPACTED WITH SAND (MOIST CLASS 10).
7. "SURPLUS" EXCAVATED MATERIAL MAY BE USED TO FLATTEN FILL SLOPES AS DIRECTED BY THE ENGINEER, ANY SURPLUS OR UNSERVICEABLE MATERIAL INCLUDING FERTILIZER, UNABLE TO BE USED SHALL BECOME THE PROPERTY OF THE CONTRACTOR FOR HIS DISPOSAL.

## TEMPORARY PAVEMENT RESTORATION

RESTORATION WORK FOR WATER MAIN LOCATED WITHIN PAVEMENTS WILL INCLUDE THE PLACEMENT OF COMPACTED MAINTENANCE AGGREGATE. MAINTENANCE AGGREGATE AND/OR COLD PATCH SHALL BE PLACED IN ALL LOCATIONS WHERE ACTIVE DRIVEWAYS AND SIDEWALKS ARE IMPACTED AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.

## MISCELLANEOUS QUANTITIES

TOTAL	UNIT	DESCRIPTION
1	LSUM	Mobilization, Max
1	LSUM	Dewatering System



REVISIONS

NO.	DATE	DESCRIPTION
1	01/15/2021	ISSUED FOR PERMIT
2	02/01/2021	REVISED PER CITY OF EVART COMMENTS
3	02/01/2021	REVISED PER CITY OF EVART COMMENTS
4	02/01/2021	REVISED PER CITY OF EVART COMMENTS
5	02/01/2021	REVISED PER CITY OF EVART COMMENTS
6	02/01/2021	REVISED PER CITY OF EVART COMMENTS
7	02/01/2021	REVISED PER CITY OF EVART COMMENTS
8	02/01/2021	REVISED PER CITY OF EVART COMMENTS
9	02/01/2021	REVISED PER CITY OF EVART COMMENTS
10	02/01/2021	REVISED PER CITY OF EVART COMMENTS
11	02/01/2021	REVISED PER CITY OF EVART COMMENTS
12	02/01/2021	REVISED PER CITY OF EVART COMMENTS
13	02/01/2021	REVISED PER CITY OF EVART COMMENTS
14	02/01/2021	REVISED PER CITY OF EVART COMMENTS
15	02/01/2021	REVISED PER CITY OF EVART COMMENTS
16	02/01/2021	REVISED PER CITY OF EVART COMMENTS
17	02/01/2021	REVISED PER CITY OF EVART COMMENTS
18	02/01/2021	REVISED PER CITY OF EVART COMMENTS
19	02/01/2021	REVISED PER CITY OF EVART COMMENTS
20	02/01/2021	REVISED PER CITY OF EVART COMMENTS
21	02/01/2021	REVISED PER CITY OF EVART COMMENTS
22	02/01/2021	REVISED PER CITY OF EVART COMMENTS
23	02/01/2021	REVISED PER CITY OF EVART COMMENTS
24	02/01/2021	REVISED PER CITY OF EVART COMMENTS
25	02/01/2021	REVISED PER CITY OF EVART COMMENTS
26	02/01/2021	REVISED PER CITY OF EVART COMMENTS
27	02/01/2021	REVISED PER CITY OF EVART COMMENTS
28	02/01/2021	REVISED PER CITY OF EVART COMMENTS
29	02/01/2021	REVISED PER CITY OF EVART COMMENTS
30	02/01/2021	REVISED PER CITY OF EVART COMMENTS
31	02/01/2021	REVISED PER CITY OF EVART COMMENTS
32	02/01/2021	REVISED PER CITY OF EVART COMMENTS
33	02/01/2021	REVISED PER CITY OF EVART COMMENTS
34	02/01/2021	REVISED PER CITY OF EVART COMMENTS
35	02/01/2021	REVISED PER CITY OF EVART COMMENTS
36	02/01/2021	REVISED PER CITY OF EVART COMMENTS
37	02/01/2021	REVISED PER CITY OF EVART COMMENTS
38	02/01/2021	REVISED PER CITY OF EVART COMMENTS
39	02/01/2021	REVISED PER CITY OF EVART COMMENTS
40	02/01/2021	REVISED PER CITY OF EVART COMMENTS
41	02/01/2021	REVISED PER CITY OF EVART COMMENTS
42	02/01/2021	REVISED PER CITY OF EVART COMMENTS
43	02/01/2021	REVISED PER CITY OF EVART COMMENTS
44	02/01/2021	REVISED PER CITY OF EVART COMMENTS
45	02/01/2021	REVISED PER CITY OF EVART COMMENTS
46	02/01/2021	REVISED PER CITY OF EVART COMMENTS
47	02/01/2021	REVISED PER CITY OF EVART COMMENTS
48	02/01/2021	REVISED PER CITY OF EVART COMMENTS
49	02/01/2021	REVISED PER CITY OF EVART COMMENTS
50	02/01/2021	REVISED PER CITY OF EVART COMMENTS

CITY OF EVART  
SPLASH PARK UTILITY EXTENSION  
NOTE SHEET  
2



## WATER & SEWER UTILITY SYMBOLS

### EXISTING

- STORM MANHOLE
- SQUARE CATCH BASIN
- ROUND CATCH BASIN
- CULVERT
- CULVERT HEAD END SECTION
- CULVERT TAIL END SECTION
- SANITARY MANHOLE
- CLEAN OUT
- GATE VALVE & WELL
- GATE VALVE & BOX
- WATER STOP BOX
- FIRE HYDRANT
- METER PIT
- WATER METER
- SPRINKLER HEAD
- PRESSURE VALVE

### PROPOSED

- STORM MANHOLE
- RECTIFICATION BASIN
- CULVERT END SECTION
- SANITARY MANHOLE
- GATE VALVE & WELL
- GATE VALVE & BOX
- TAPPING SLEEVE VALVE & WELL
- TAPPING SLEEVE VALVE & BOX
- FIRE HYDRANT

## REAL ESTATE SYMBOLS

- CONTIGUOUS PROPERTY SYMBOL
- PARCEL NUMBER BOX
- LOT POWER BOUNDARY

## MISCELLANEOUS UTILITY SYMBOLS

### EXISTING

- CABLE WIRE
- CABLE POLE
- UTILITY POLE
- UTILITY POLE W/ LIGHT
- LIGHT/DECOR LAMP POLE
- FLUOR LIGHT
- GAS VALVE
- GAS VENT
- GAS METER
- GAS RISER
- TRAFFIC SIGNAL
- PEDESTRIAN RISER
- TRANSFORMER PAD
- PRIVATE UTILITY MANHOLE
- RAILROAD CROSSING
- ELECTRIC METER
- PHONE BOOTH
- TRAFFIC SIGNAL CONTROLLER

- HAND HOLE
- ELECTRIC RISER
- TELEPHONE RISER
- CABLE TV RISER
- MONITORING WELL
- UNDERGROUND MARKER

## MISCELLANEOUS SYMBOLS

### EXISTING

- BRIAR
- SHRUB
- FLOW DIRECTION
- STUMP
- WETLAND
- CONIFEROUS TREE
  - 1. 1" TO 3"
  - 2. 3" TO 12"
  - 3. 12" TO 36"
  - 4. 36" AND UP
- DECIDUOUS TREE
- CONIFEROUS SHRUB
- DECIDUOUS SHRUB
- SOIL BORING
- SECTION CORNER
- MONUMENT
- POST ROD/PIPE
- P.N. NAIL
- BENCHMARK
- BM
- TP
- TRAVERSE POINT
- MAIL/NEWSPAPER BOX
- FLAG POLE
- POST

HAZARDOUS OR FLAMMABLE MATERIAL

CAUTION - CRITICAL UNDERGROUND UTILITY

### PROPOSED

- BRIAR
- SHRUB
- FLOW DIRECTION
- STRUCTURE NUMBER
- MAIL
- NEWSPAPER
- FLAG POLE
- POST
- ADM. SIDEWALK RAMP

## UTILITY PATTERN

### EXISTING

- 1" ELECTRIC
- 2" GAS/OIL
- 3" CABLE/TELEPHONE
- 4" FIBER OPTIC
- 5" WATER
- 6" SANITARY
- 7" STORM

### PROPOSED

- 12" STORM/SANITARY/WATER
- 12" STORM/SANITARY/WATER

12" = OVERHEAD, 12" = UNDERGROUND

## ROW PATTERN

### EXISTING

- ROW
- SECTION
- PROPERTY/PARCEL

### PROPOSED

- ROW

## TOPO PATTERN

### EXISTING

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

### PROPOSED

- GRADING LINE (SLOPE STAKE)
- CENTERLINE OF DITCH
- CAMPGROUND
- FENCE

## REMOVAL LEGEND

- SIDEWALK REMOVAL
- HMA SURFACE REMOVAL
- PAVEMENT REMOVAL
- COLD MIXING HMA SURFACE
- HMA BASE CHIPPING AND THAWING
- EXCAVATION, EARTH MODIFIED

- CURBS AND GUTTER, PER
- TREE, PER
- SALVAGE
- BUSHHEAD
- ABANDON
- REMOVE
- ADJUST
- RELOCATE
- RECONSTRUCT
- REMOVE BY OTHERS
- ADJUST BY OTHERS
- RELOCATE BY OTHERS

## IF NECESSARY FOR CLARITY

- SALVAGE
- BUSHHEAD
- ABANDON
- CLEARANCE
- REMOVE
- RELOCATE
- RECONSTRUCT
- RELOCATE BY OTHERS
- ADJUST BY OTHERS

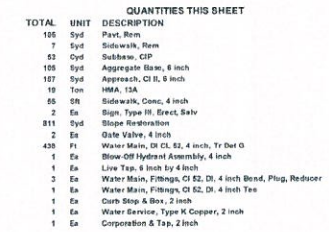
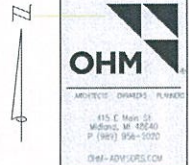
## SPECIAL LEGEND



CITY OF EVART  
SPLASH PARK UTILITY EXTENSION  
LEGEND SHEET

JOB BEHCHAMPA # 201 ELEV 942.305	
JOB BEHCHAMPA # 202 ELEV 992.303	
TRAMERGE POINT # 100 N 875086.592 E 12088602.601	
TRAMERGE POINT # 101 N 875267.734 E 12088793.064	
TRAMERGE POINT # 102 N 874931.84 E 12088474.180	

GRAPHIC SCALE: 1 inch = 30 feet



- IN ADDITION TO THE SOIL EROSION AND SEDIMENTATION CONTROL REQUIREMENTS IN THE PROPOSAL, THE FOLLOWING MEASURES SHALL BE INCORPORATED INTO THIS PROJECT:
- 1. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO MINIMIZE THE SOIL LOSS AND EROSION DURING CONSTRUCTION. THESE MEASURES SHALL BE ABSOLUTELY REQUIRED FOR THE CONSTRUCTION OF THE PROJECT.
  - 2. EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED ACCORDING TO THE DETAIL SHOWN ON THE PLANS OR STANDARD PLANS, AND SHALL BE REMOVED WHEN NO LONGER REQUIRED. CERTAINING THAT THERE IS NO SEPARATE PROVISION, SHALL BE ALLOWED FOR EITHER MAINTENANCE OR REMOVAL OF THE EROSION CONTROL MEASURES.
  - 3. THE CONTRACTOR SHALL REMOVE SEDIMENT COLLECTED IN SUMPS OF ALL DRAINAGE STRUCTURES CONSTRUCTED WITH THE PROJECT WHEN SOIL SEDIMENT EXCEEDS 1/2" OF THE LUMP SUM. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY WHEN THE CONTRACTOR IS REQUIRED TO REMOVE SEDIMENT COLLECTED IN SUMPS TO PROVIDE FOR SEDIMENT COLLECTION. CLEANSUMPS SHALL BE MAINTAINED THROUGHOUT THE PROJECT.
  - 4. THE CONTRACTOR SHALL FOLLOW LOCAL LAWS AND REGULATIONS FOR SOIL EROSION AND SEDIMENTATION CONTROL FOR ALL MATERIALS THAT ARE DISPOSED OF OUT THE PROJECT SITE.

REFER TO MOOT 2012 STANDARD PLAN R-96-D AND MOOT SEASC MANUAL



Know what's below.  
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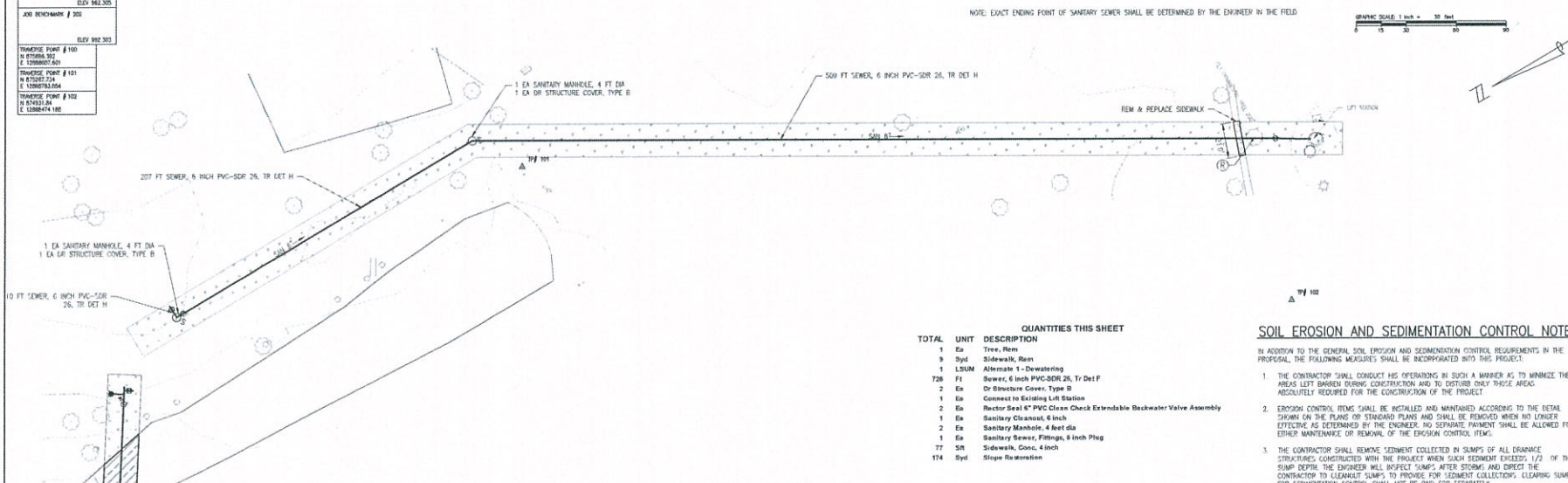
CITY OF EVART  
SPLASH PARK UTILITY EXTENSION  
WATER MAIN SHEET

4

**Table A-10**: P&G's PLM model supply chain simulation results: Case B: Fresh 100 My Extension (Oughston/Oughston, Sept. May 19, 2016 - 10:30 am)



300 BENCHMARK # 201
ELEV 982.305
300 BENCHMARK # 202
ELEV 982.305
300 BENCHMARK # 203
ELEV 982.305
TRANSVERSE POINT # 100
N 87005.234
E 1208807.601
TRANSVERSE POINT # 101
N 87005.234
E 1208807.601
TRANSVERSE POINT # 102
N 87005.234
E 1208807.601



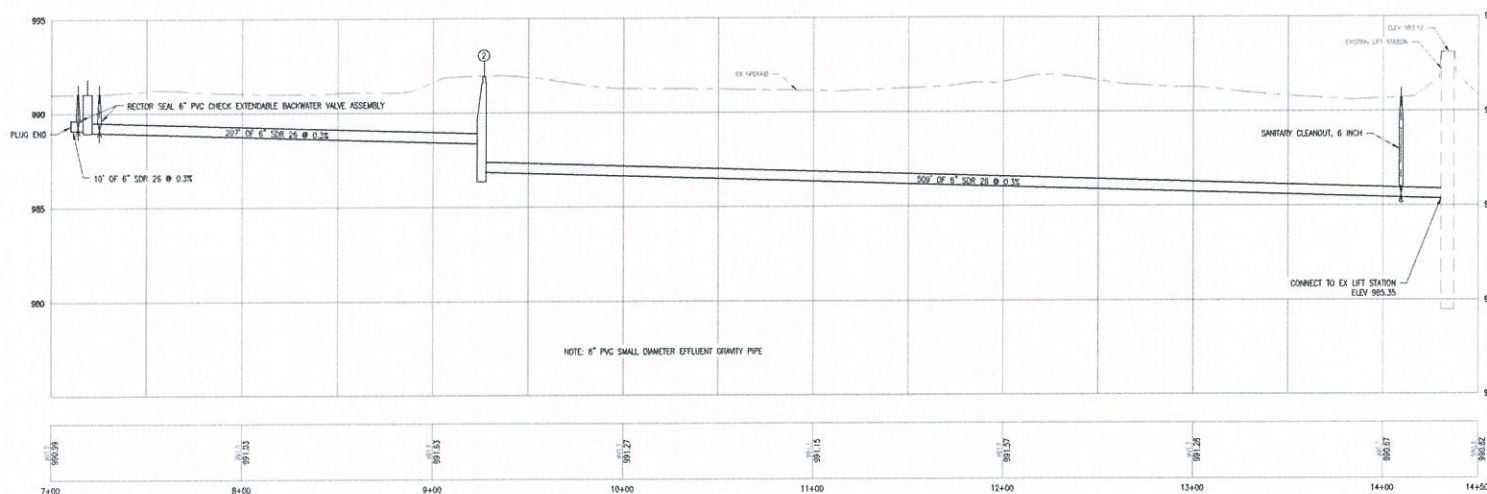
TOTAL	UNIT	DESCRIPTION
1	Ea	Tree, Rem
9	Syd	Sidewalk, Rem
1	LSUM	Alternate 1 - Dewatering
728	Ft	Sewer, 6 inch PVC-SDR 26, 19 Det F
2	Ea	Dr Structure Cover, Type B
1	Ea	Connect to Existing Lift Station
2	Ea	Rector Seal 6" PVC Clean Check Extendable Backwater Valve Assembly
1	Ea	Sanitary Cleanout, 6 inch
2	Ea	Sanitary Manhole, 4 feet dia
1	Ea	Sanitary Sewer, Fittings, 8 inch Plug
77	Sf	Sidewalk, Conc, 4 inch
174	Syd	Slope Restoration

### SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

- 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 OPERATIONS IN SUCH A MANNER AS TO MINIMIZE THE AREAS LEFT BARE DURING CONSTRUCTION AND TO DETOUR ONLY THOSE AREAS ABSOLUTELY REQUIRED FOR THE CONSTRUCTION OF THE PROJECT.
- EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED ACCORDING TO THE DETAIL SHOWN ON THE PLANS OR STANDARD PLANS AND SHALL BE REMOVED WHEN 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 SUMPS OF ALL DRAINAGE STRUCTURES CONSTRUCTED WITH THE PROJECT WHEN SUCH SEDIMENT EXCEEDS 1/3 OF THE SUMP DEPTH. THE ENGINEER WILL INSPECT SUMPS AFTER STORMS AND DIRECT THE CONTRACTOR TO CLEANOUT SUMPS TO PROVIDE FOR SEDIMENT COLLECTIONS. CLEANING SUMPS FOR SEDIMENTATION CONTROL SHALL NOT BE PAID FOR SEPARATELY.
- THE CONTRACTOR SHALL FOLLOW LOCAL RULES AND REGULATIONS FOR SOIL EROSION AND SEDIMENTATION CONTROL FOR ALL MATERIALS THAT ARE EXPOSED OF THE PROJECT SITE.

REFER TO MOET 2012 STANDARD PLAN R-96-B AND MOET SEASC MANUAL

SLOPE RESTORATION



### PROPOSED STRUCTURE TABLE

SAN 1 MH
T/CAST: 981.00
6" PVC INV E 989.10
6" PVC INV S 989.00
SAN 2 MH
T/CAST: 991.94
6" PVC INV H 988.88
6" PVC INV SW 987.38
LIFT STATION
T/L: 993.12
6" PVC INV N 985.35

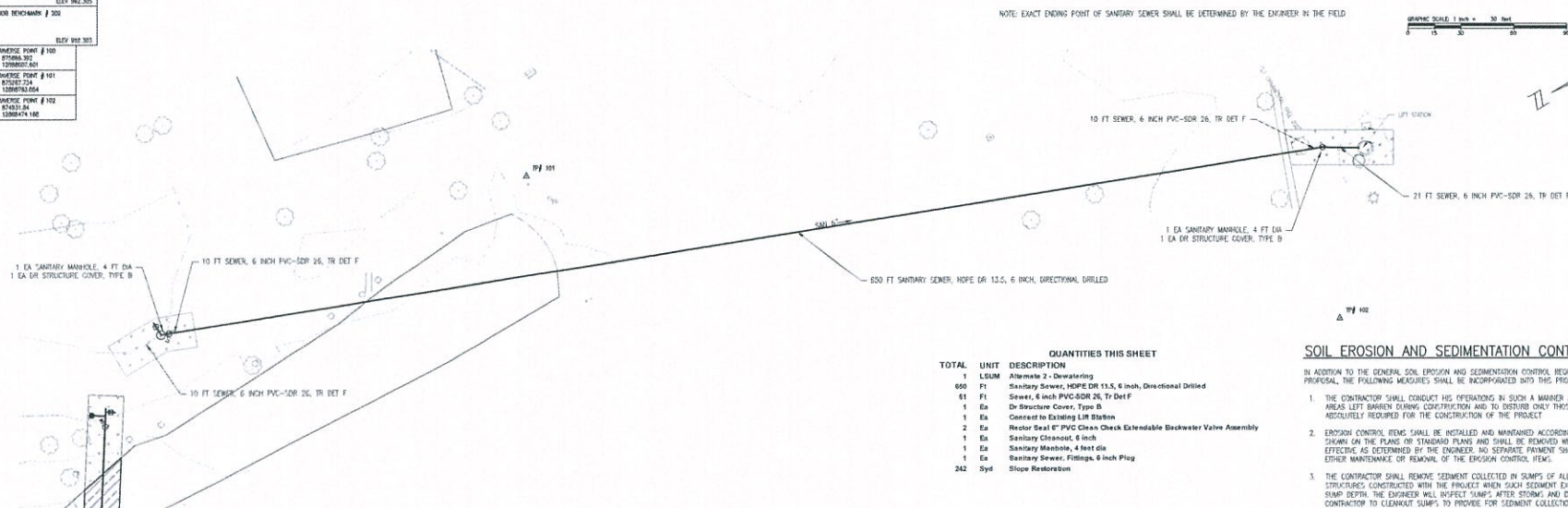


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**OHM**  
ARCHITECTS, ENGINEERS, PLANNERS  
415 E Main St  
Mishawaka, MI 49801  
P (800) 956-2000  
OHM-ADVISORS.COM

CITY OF EVART  
SPLASH PARK UTILITY EXTENSION  
ALTERNATE 1 - OPEN CUT SANITARY SEWER SHEET  
5  
OF 5

JOB BENCHMARK # 201	
ELEV 942.305	
JOB BENCHMARK # 202	
ELEV 992.303	
TRANSVERSE POINT # 100	
N 875666.392	
E 12080007.601	
TRANSVERSE POINT # 101	
N 875287.234	
E 12080793.054	
TRANSVERSE POINT # 102	
N 874391.874	
E 12080874.182	



NOTE: EXACT ENDING POINT OF SANITARY SEWER SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.



**OHM**

ARCHITECT CHAIRS PLUMB

415 E. Main St.  
Midland, MI 48640  
P (989) 956-2020

[OHM-ADVISORS.COM](http://OHM-ADVISORS.COM)

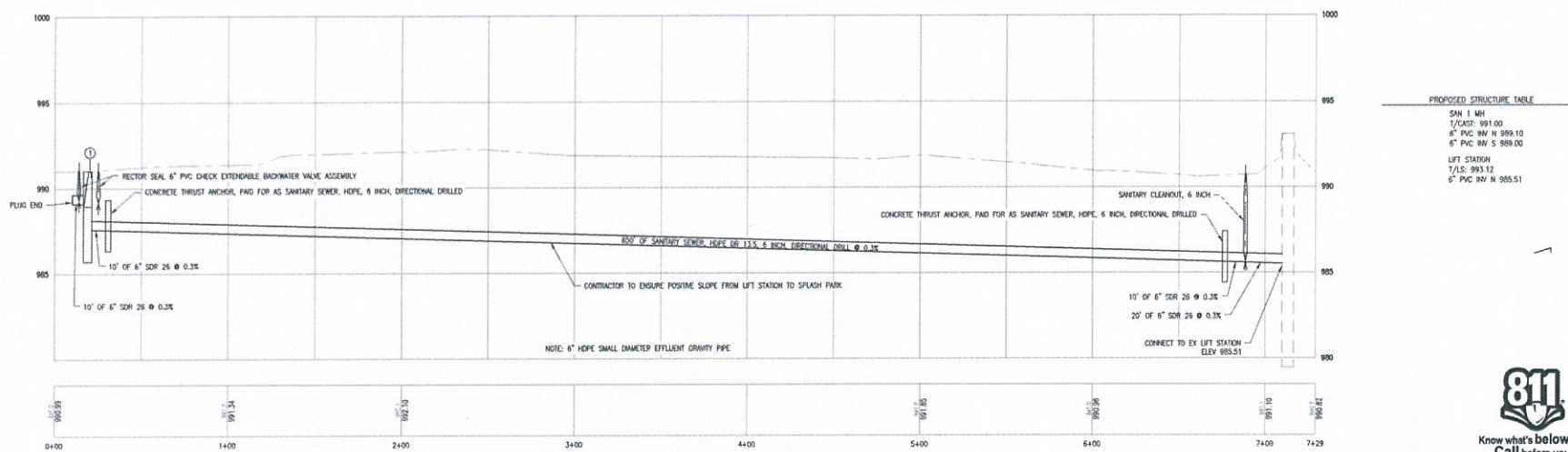
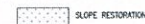
QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
1	LSUM	Alternate 2 - Dewatering
650	FI	Sentry Saver, HDPE DR 11.5, 6 inch, Directional Drilled
61	FI	Sewer, 6 inch PVC-SDR 26, Tr Def F
1	Ex	Dr Structure, Class, Type B
1	Ex	Connect to Existing LIR Station
2	Ex	Reactor Seal F PVC Clean Check Extendable Backwater Valve Assembly
1	Ex	Sentry Sealout, 6 inch
1	Ex	Sentry Manhole, 4 feet dia
1	Ex	Sentry Sewer, Fittings, 6 inch Plug
242	Syd	Slope Restoration

SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

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

1. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO MINIMIZE THE AREAS LEFT BAREHEN DURING CONSTRUCTION AND TO DESTROY ONLY THOSE AREAS ABSOLUTELY REQUIRED FOR THE CONSTRUCTION OF THE PROJECT
2. EROSION CONTROL ITEMS SHALL BE INSTALLED AND MAINTAINED ACCORDING TO THE DETAIL DRAWN ON THE PLANS OR STANDARD PLANS AND SHALL BE REMOVED WHEN NO LONGER REQUIRED AS DETERMINED BY THE ENGINEER. EROSION SEPARATORS SHALL BE ALLOWED FOR EITHER MAINTENANCE OR REMOVAL OF THE EROSION CONTROL ITEMS.
3. THE CONTRACTOR SHALL REMOVE SEDIMENT COLLECTED IN SUMPS OF ALL DRAINAGE STRUCTURES CONSTRUCTED WITH THE PROJECT WHEN SUCH SEDIMENT EXCEEDS 1/2 OF THE BUMP DRAIN THE ENGINEER WILL INSPECT SUMPS AT SEVERAL TIMES AND DIRECT THE CONTRACTOR TO CLEANUP THE SUMPS. WHEN THE COLLECTIONS EXCEEDING SUMPS FOR SEDIMENTATION CONTROL SHALL NOT BE PAID FOR AFTERWARDS.
4. THE CONTRACTOR SHALL FOLLOW LOCAL RULES AND REGULATIONS FOR SOIL EROSION AND SEDIMENTATION CONTROL FOR ALL MATERIALS THAT ARE DEPOSED OF OFF THE PROJECT SITE.

REFER TO MDOT 2012 STANDARD PLAN R-96-G AND MDOT SE&SC MANUAL



PROPOSED STRUCTURE TABLE

SAN 1 MH
T/CAST: 991.00
6" PVC INW N 989.10
6" PVC INW S 989.00
LIFT STATION
T/LS: 993.12
6" PVC INW N 985.51

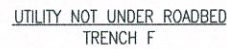
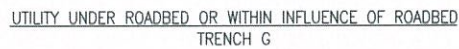


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SPLASH PARK UTILITY EXTENSION  
ALTERNATE 2 - DIRECTIONAL DRILL SANITARY SEWER SHEET

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JAN 10 1964  
U.S. DEPARTMENT OF AGRICULTURE  
WASHINGTON, D.C.





1. BEDDING UNDER THE UTILITY SHALL BE AS SPECIFIED AND THE UNDERCUT MATERIAL, REFINISHED WITH GRANULAR MATERIAL CLASS IIIA. BACKFILLING SHALL BE ACCORDING TO THE CURRENT STANDARD SPECIFICATION.
2. BACKFILL FOR UTILITY TRENCHES ABOVE GRANULAR MATERIAL CLASS IIIA SHALL BE PLACED FOLLOWS:
  - (A) GRANULAR MATERIAL OF THE CLASS SPECIFIED ON DETAILS SHALL BE USED TO BACKFILL TRENCHES UNDER THE ROADWAY AND SHALL BE COMPACTED TO NOT LESS THAN 95% OF ITS MAXIMUM UNIT WEIGHT.
  - (B) GRANULAR MATERIAL OF THE CLASS SPECIFIED ON DETAILS SHALL BE USED TO BACKFILL UTILITY TRENCHES OUTSIDE THE ROADWAY BUT, WITHIN THE 1:1 ZONE OF INFLUENCE, IT WILL ALSO BE USED AS BACKFILL UNDER SIDEWALKS, PARKING AREAS, AND MISCELLANEOUS STRUCTURES AND COMPACTED TO NOT LESS THAN 95% OF ITS MAXIMUM UNIT WEIGHT.
  - (C) MATERIAL EXCAVATED FROM THE UTILITY TRENCHES SHALL BE USED TO BACKFILL UTILITY TRENCHES OUTSIDE THE LIMITS OF THE 1:1 ZONE OF INFLUENCE AND SHALL BE COMPACTED TO NOT LESS THAN 95% OF ITS MAXIMUM UNIT WEIGHT.
3. GRANULAR MATERIAL CLASS I & IIA OR MAY BE USED WHERE GRANULAR MATERIAL CLASS II IS SPECIFIED ON THE PLANS.
4. ESTIMATED PAVEMENT REMOVAL WITHIN 6" TO TRENCH WIDTH "W" PLUS 1'-0" EACH SIDE OF THE TRENCH (6'-0" MINIMUM).
5. DO NOT BACKFILL WITH ANY FROZEN MATERIAL AT ANY TRENCH

BLOW-OFF HYDRANT  
NOT TO SCALE

