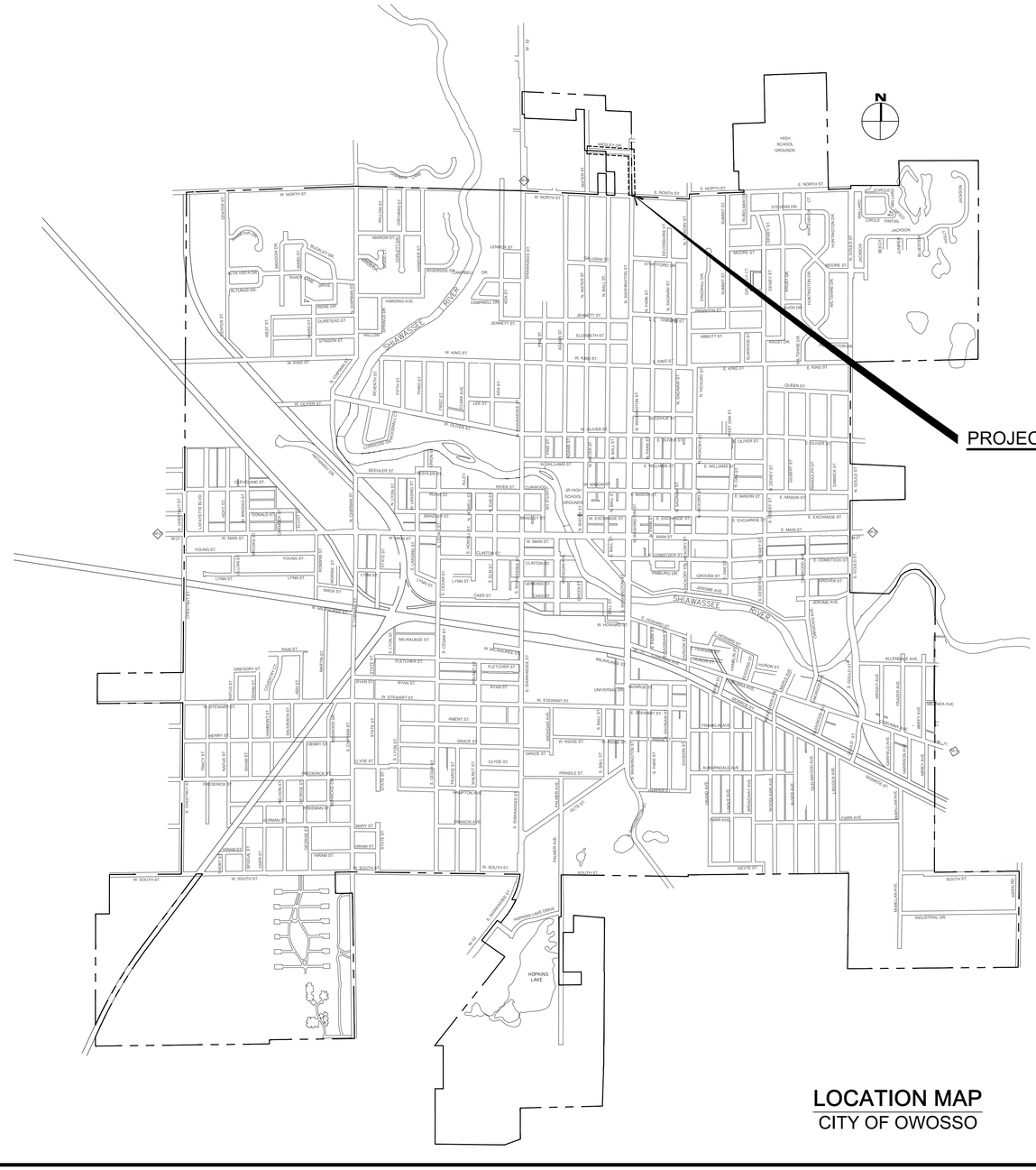
CITY OF OWOSSO

WASHINGTON PARK
UTILITY EXTENSION PROJECT

SHIAWASSEE COUNTY

POP: 15,194 (2010 CENSUS)



PROJECT LOCATION - WESLEY DR AND WASHINGTON ST

LOCATION MAP
CITY OF OWOSSO

UTILITY CONTACTS

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AT THE TOME OF PREPARING THESES PANS. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE REASONABILITY TO BE SATISFIED AS TO ITS ACCURACY AND LOCATION OF EXISTING UTILITIES.

CHARTER COMMUNICATIONS
ATT: MARK KELLY
1480 S. VALLEY CENTER DRIVE
BAY CITY, MI 48706

CABLE TV
PHONE: 989-233-9404
mark.kelly@chartercom.com

CITY OF OWOSSO
ATT: CLAYTON WEHNER, P.E.
301 W. MAIN STREET
OWOSSO, MI 48867

ROAD & STORM SEWER
989-725-0550
clayton.wehner@ci.owosso.mi.us

CITY OF OWOSSO
ATT: RYAN SUCHANEK
301 W. MAIN STREET
OWOSSO, MI 48867

SANITARY SEWER & WATER MAIN
989-725-0550
ryan.suchanek@ci.owosso.mi.us

CONSUMERS ENERGY
ATT: TRACY MAHAR
1801 W. MAIN ST
OWOSSO, MI 48867

ELECTRIC
OFFICE: 989-729-3250
CELL: 517-204-9018
tmmahar@cmsenergy.com

CONSUMERS ENERGY
ATT: ADAM BERTRAM
530 W. WILLOW STREET
P.O. BOX 30162
LANSING, MI 48909

GAS
OFFICE: 517-374-2375
CELL: 517-614-8570
adam.bertram@cmsenergy.com

DAYSTARR COMMUNICATIONS
ATT: JARED JACKSON
307 N. BALL STREET
OWOSSO, MI 48867

FIBER
PHONE: 989-720-6004
FAX: 989-720-6060
jared.jackson@daystarrfiber.net

FRONTIER COMMUNICATIONS
ATT: HAROLD ROTH
1943 W. M-21
OWOSSO, MI 48847

FIBER
PHONE: 989-627-9759
harold.roth@ftr.com

SHIAWASSEE COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
ATT: STEVE ALWORDEN
201 N. SHIAWASSEE STREET
CORUNNA, MI 48817

SOIL EROSION AND SEDIMENTATION CONTROL
PHONE: 989-743-2289
FAX: 989-743-2413
salworden@shiawasseechd.net

CALL MISS DIG AT 1-800-482-7171 OR 811 THREE DAYS, EXCLUDING SATURDAY, SUNDAY, AND HOLIDAY, BEFORE STARTING YOUR PROJECT.

MDOT ROAD STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON PLANS, THEY ARE TO BE CONSTRUCTED ACCORDING TO THE MDOT STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.

DRAINAGE STRUCTURES	R-1-G*
COVER B	R-7-F*
MONUMENT BOXES	R-11-E
COVER K	R-15-F*
COVER Q	R-18-F*
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS	R-28-J*
DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS	R-29-I
CONCRETE CURB AND CONCRETE CURB AND GUTTER	R-30-G
BUMPER & PARKING RAIL AND MISC. WOOD POSTS	R-74-D
GRANULAR BLANKET, UNDERDRAINS, AND OUTLET ENDINGS FOR SEWER UNDERDRAINS, AND SEWER BULKHEADS	R-80-E
BEDDING AND FILLING AROUND PIPE CULVERTS	R-82-D
UTILITY TRENCHES	R-83-C
SOIL EROSION & SEDIMENT CONTROL MEASURES	R-96-E
SEEDING AND TREE PLANTING	R-100-H

*SPECIAL DETAILS INCLUDED IN PROPOSAL OR MODIFIED IN GENERAL PLANS

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

SHEET NO.	DESCRIPTION
PART ONE - UTILITY AND ROADWAY IMPROVEMENTS	
1	COVER SHEET
2	WATER MAIN NOTES AND DETAILS
3	WATER MAIN STANDARD DETAILS
4	STREET ITEMS GENERAL NOTES AND DETAILS SEWER TRENCH DETAILS
5	SESC STANDARD NOTES
6	TYPICAL CROSS SECTIONS
7	TRAFFIC CONTROL PLAN
8	REMOVAL PLAN
9	CONSTRUCTION PLAN
10	CONSTRUCTION PROFILE
11	RESERVED
12	DETAIL GRADES
13-14	WATER MAIN PLAN AND PROFILE
15	RESERVED
16	SOIL BORINGS
17-19	CROSS SECTIONS - WESLEY DRIVE
PART TWO - WASHINGTON PARK LIFT STATION	
C-001	GENERAL NOTES & LEGEND
C-101	PROPOSED SITE PLAN
C-501	STANDARD DETAILS
C-502	PUMP STATION DETAILS
E-001	NOTES & LEGEND
E-101	PROPOSED SITE PLAN AND ONE-LINE
E-501	STANDARD DETAILS
M-101	MECHANICAL NEW WORK

THE DESIGN OF THIS ROAD IS BASED ON THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS OF CONSTRUCTION, 2020 EDITION, AND THE AASHTO A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 2011 EDITION, AND THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, 2011 EDITION.

THE MATERIAL AND METHODS FOR WATER MAIN CONSTRUCTION CONFORM TO THE STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA) AND THE MICHIGAN SAFE DRINKING WATER ACT 1976 PA 399, AS AMENDED, AND THE ADMINISTRATIVE RULES.

CONTRACT FOR: 0.25 MILES OF WATER MAIN INSTALLATION, 0.04 MILES OF SANITARY SEWER MAIN INSTALLATION, 0.13 MILES OF STREET REHABILITATION, LIFT STATION AND FORCE MAIN INSTALLATION

CITY OF OWOSSO APPROVAL

STATE OF MICHIGAN
CLAYTON ROBERT WEHNER
ENGINEER
No. 6201000052
LICENSED PROFESSIONAL ENGINEER

Clayton Wehner
DIRECTOR OF ENGINEERING CLAYTON WEHNER, PE

6201000052
REGISTRATION NUMBER

4/25/2025
DATE

CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

NO.	REVISIONS	DATE	BY
1	ISSUED FOR BID PLANS	4/25/25	CW

ORIGINAL PLAN
APPROVED BY
CHECKED BY

BENCH MARK DATA
DESCRIPTION
ELEV.

WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS
COVER SHEET

APRIL 2025
PROJECT NO.

FIELD BOOK
PG.

1

WATER MAIN CONSTRUCTION NOTES

1. ALL WATER MAIN MAIN LINE PROPOSED FOR THIS PROJECT HAS BEEN DESIGNED FOR AND SHALL BECOME A PUBLIC SYSTEM.

2. A WATER MAIN CONSTRUCTION PERMIT FROM THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY MUST BE ISSUED PRIOR TO BEGINNING THE CONSTRUCTION OF ANY WATER MAIN IN THIS PROJECT.

3. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF OWOSSO SPECIAL PROVISION FOR WATER MAIN INSTALLATION AND THE STANDARD DETAILS.

4. ALL PUBLIC WATER MAIN SHALL BE OWNED AND MAINTAINED BY THE CITY OF OWOSSO UPON COMPLETION OF THE PROJECT.

5. ALL PUBLIC WATER MAIN SHALL BE PVC AWWA C900/C909. TRACER WIRE AND BOXES SHALL CONFORM TO THE CITY OF OWOSSO SPECIAL PROVISION FOR WATER MAIN INSTALLATION.

6. ALL PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES THAT ARE USED FOR POTABLE WATER MUST COMPLY WITH THE LEAD FREE REQUIREMENT AND MUST BEAR THE MARK NSF/ANSI STANDARD 61, ANNEX G OR NSF 61-G.

7. GATE VALVES SHALL BE EAST JORDAN RESILIENT SEATED GATE VALVES CONFORMING TO AWWA C509. VALVES SHALL BE VERTICAL, NON-RISING STEM AND OPEN CLOCKWISE. SEE CITY OF OWOSSO SPECIAL PROVISION FOR WATER MAIN INSTALLATION AND STANDARD DETAILS.

8. FIRE HYDRANTS SHALL CONFORM TO THE SPECIFICATION SHOWN ON THIS SHEET.

9. WHERE SANITARY SERVICE LEADS OR OTHER UTILITIES ARE ENCOUNTERED DURING THE CONSTRUCTION OF THE WATER MAIN, THE CONTRACTOR SHALL MAKE ADJUSTMENTS TO EITHER THE WATER MAIN OR EXISTING UTILITY TO PROVIDE CONTINUOUS SERVICE TO PROPERTIES ALONG THE ROUTE OF CONSTRUCTION. ALL WORK INCLUDING THE REBORING OF SANITARY SEWER SERVICE LEADS TO ACCOMMODATE CONSTRUCTION OR ADJUSTING WATER MAIN CONSTRUCTION TO CLEAR EXISTING SERVICES SHALL BE CONSIDERED INCLUSIVE TO CONSTRUCTION OF THE WATER MAIN.

10. PRESSURE TAPS TO EXISTING WATER MAINS AND CONNECTIONS TO EXISTING VALVES SHALL BE MADE ONLY UNDER CITY OF OWOSSO OBSERVATION. ALL VALVE OPENING AND CLOSING SHALL BE BY THE CITY OF OWOSSO PERSONNEL. A FULL DIAMETER STAINLESS STEEL TAPPING SLEEVE IS REQUIRED FOR ALL PRESSURE TAPS.

11. ALL WATER MAIN SHALL HAVE A MINIMUM COVER OVER THE TOP OF THE PIPE OF 5.5 FEET FROM FINISHED GRADE. THE STANDARD LAYING CONDITIONS FOR WATER MAIN SHALL BE A 30" TRENCH WIDTH OR PIPE DIAMETER PLUS 12". THE PIPE SHALL BE LAID ON A 4" PREPARED SAND CUSHION WITH RECESSES TO ACCOMMODATE PIPE BELLS.

12. ALL WATER SERVICE LEADS SHALL HAVE A MINIMUM COVER OVER THE TOP OF THE PIPE OF 5 FEET FROM FINISHED GRADE.

13. ALL TRENCH EXCAVATION UNDER OR WITHIN 5' OF EXISTING OR PROPOSED PAVING SHALL BE BACKFILLED WITH CLASS II COMPACTED GRANULAR MATERIALS.

14. MINIMUM HORIZONTAL SEPARATION BETWEEN WATER MAIN AND SEWERS SHALL BE 10 FEET.

15. CONTRACTOR SHALL RESTRAIN ALL THRUST IN THE SYSTEM BY THE USE OF MEGA-LUG RESTRAINED JOINTS. ALL HYDRANTS, TEES, VERTICAL OR HORIZONTAL BENDS AND FUTURE VALVE CONNECTIONS SHALL BE RESTRAINED. RESTRAINTS SHALL HAVE APPROVAL PRIOR TO BEING INCORPORATED INTO PROJECT CONSTRUCTION.

16. WATER MAINS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH AWWA STANDARD C605, AND DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651. WATER MAIN CHLORINATION SHALL BE OBSERVED AND MONITORED BY CITY OF OWOSSO REPRESENTATIVE.

17. WATER SERVICE LEADS SHALL BE TYPE "K" COPPER AND SHALL BE A MINIMUM OF ONE-INCH (1") IN DIAMETER. ALL SERVICE LEADS SHALL BE BORED UNDER ROADWAY. CORPORATIONS SHALL BE BRONZE ALLOY OR BRASS AND COMPLY WITH NSF/ANSI-372 OR NSF/ANSI-61G.

18. THE CONTRACTOR SHALL INSTALL TWO INCH CORPORATIONS ON THE WATERLINE FOR PRESSURE TESTING, CHLORINE ADDITION AND FOR BLOW-OFF PURPOSES. THE CORPORATIONS SHALL HAVE COPPER PIPE EXTENDING TO THE GROUND SURFACE. THE CONTRACTOR SHALL REMOVE THE CORPORATION AND COPPER LINE UPON A SATISFACTORY TEST AND INSTALL A PLUG.

19. THE CONTRACTOR SHALL ENCASE THE WATER MAIN IN PLASTIC OR CONCRETE PIPE WHERE VERTICAL SEPARATION BETWEEN STORM SEWER AND WATER MAIN OR SANITARY SEWER AND WATER MAIN IS LESS THAN EIGHTEEN (18) INCHES, AS PER MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY.

20. WHERE WATER MAIN CROSSES BENEATH SANITARY OR STORM SEWER, A SOLID LENGTH OF PIPE SHALL BE POSITIONED ABOVE OR BENEATH THE CROSSING TO AVOID PIPE JOINTS IN THE VICINITY OF THE CROSSING.

FREEBORE NOTE:
CONTRACTOR SHALL FREEBORE PROPOSED WATER MAIN WHERE NECESSARY TO SAVE/PROTECT TREES OR AVOID EXISTING UTILITIES AND POLES. COST OF FREEBORE SHALL BE INCLUDED IN THE WATER MAIN PAY ITEM. REQUIRED FREEBORE LOCATIONS SHALL BE DETERMINED IN THE FIELD AND ARE NOT SHOWN ON THE PLANS.

CONSUMERS ENERGY NOTE:
ALL UTILITY POLES SHALL BE PROTECTED BY THE CONTRACTOR DURING CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE HIS CONSTRUCTION OPERATIONS WITH AFFECTED UTILITIES AND ADEQUATELY SUPPORT THE POLES.

WATER USAGE NOTE:
A SERVICE CHARGE OF $1,250 WILL BE REQUIRED AT TIME OF PERMIT APPLICATION. THIS FEE INCLUDES THE MINIMUM CHARGE OF $75 FOR 5,000 BULK GALLONS OF WATER, PLUS ADDITIONAL CHARGES OF $16 PER 1,000 GALLONS CONSUMED IN EXCESS OF THE MINIMUM QUANTITY. OWOSSO WATER SYSTEM PERSONNEL WILL ATTACH A WATER METER AND RPZ BACKFLOW PREVENTER TO THE HYDRANT FOR CONTRACTOR USE. IF THE WATER METER AND RPZ IS RETURNED IN GOOD OPERATING CONDITION, THE CONTRACTOR WILL RECEIVE A $450 REFUND, LESS ADDITIONAL WATER CONSUMED IN EXCESS OF MINIMUM QUANTITY.

MISCELLANEOUS ESTIMATES

THE FOLLOWING ITEMS OF WORK SHALL BE DONE AS THEY APPLY THROUGHOUT THE PROJECT. THESE ITEMS ARE NOT DETAILED OR INCLUDED ON THE PLAN AND PROFILE SHEETS

1	LSUM	Mobilization, Max 10% (Road and Storm Sewer, Gravity Sanitary Sewer, Water Main)
25	Ft	Curb and Gutter, Rem
50	Syd	Pavt, Rem
100	Cyd	Subgrade Undercutting, Type II
5	Cyd	Subbase, CIP
100	Cyd	Aggregate Base, LM, Modified
10	Syd	Aggregate Base, 6 inch, Modified
100	Cyd	Material, Surplus and Unsuitable, Rem, LM
25	Cyd	Salv Crushed Material, LM
50	Ton	Maintenance Gravel
2	Ton	Cement
50	Syd	Driveway, Nonreinf Conc, 6 inch
25	Ft	Curb and Gutter, Conc, Det F4, Modified
4	Ea	Post, Mailbox
1	LSUM	Audio Visual Filming
1	LSUM	Testing and Chlorination of Water Main
4	Ea	Sign, Type III, Rem
4	Ea	Sign, Type III, Erect, Salv

MAINTAINING TRAFFIC QUANTITIES

2	Ea	Pedestrian, Type II Barricade, Temp
2	Ea	Lighted Arrow, Type C, Furn & Oper
50	Ea	Plastic Drum, Fluorescent, Furn & Oper
200	Sft	Sign, Type B, Temp, Prismatic, Furn & Oper
1	LSUM	Minor Traffic Devices, Max $10,000
1	LSUM	Traf Regulator Control

WaterMaster® Fire Hydrant Specification

WaterMaster® Fire Hydrant Specifications for
City of Owosso hydrants with Stortz

1. Manufacturers shall provide sufficient documentation to assure that their hydrant will successfully meet the latest revisions of AWWA Standard C502. Fire hydrants shall be rated for 250 psi working pressure and be listed by Underwriters Laboratories Inc.(UL246) and meet the test requirements of Factory Mutual (1510) at this pressure.

2. Hydrants shall be of a true compression type, opening against the pressure and closing with the pressure. Composition of the main valve shall be a molded rubber having a durometer hardness of 91 +/- 5. The rubber seat valve shall fit a 5 ¼" opening and not be less than 1" thick.

3. Fire hydrants shall be **three-way** in design, having **Harrington 5" Storz C & X Dome** pumper nozzle, and **2 1/2" Nat Std 2 7/8" Base,C Dome** hose nozzle. Nozzles shall "thread" counterclockwise into hydrant barrel utilizing "o" ring pressure seals. A suitable nozzle lock shall be in place to prevent inadvertent nozzle removal. Wedging devices and/or ductile iron retainer rings to secure nozzles shall not be allowed.

4. The lubrication system shall be sealed from the waterway and any external contaminants by use of "o" ring pressure seals. Anti-friction washers shall be in place above and below the thrust collar of the operating nut to further minimize operating torque. The grease reservoir shall be factory filled with an FDA approved food grade lubricant. Oil shall not be used.

5. The operating nut shall be a one piece design, manufactured of ASTM B-584 bronze. It shall be **1 1/8" Pentagon- point to flat** in size/shape. The operating nut shall be affixed to the bonnet by means of an ASTM B-584 bronze hold down nut. The hold down nut shall be threaded into the bonnet in such a manner as to prevent accidental disengagement during the opening cycle of the hydrant. A resilient weather seal shall be incorporated with the hold down nut, for the purpose of protecting the operating mechanism from the elements.

6. The direction of opening shall be **right**. An arrow shall be cast on the top of the hydrant to indicate the opening direction.

7. The hydrant bonnet shall be attached to the upper barrel by no more than six bolts and nuts. All nuts and bolts below grade shall be 304 stainless steel.

8. The hydrant will have **6'** Depth of bury, unless otherwise noted.

9. Hydrants shall be of the "Traffic Model" design, provided with a safety coupling and flange design that will permit a full 360 degree facing of the nozzles. O-rings shall be the Quad-Ring® type and be installed in a groove on the bottom of the joint so that taping or gluing to the upper standpipe or extension is not required. The safety coupling shall be a one piece design. Multiple parts and cast iron not allowed.

10. The operating stem shall be a two piece design, not less than 1 ¼ " diameter (excluding threaded or machined areas). Threads shall be Acme type with no 60 deg. V threads allowed. Travel stops shall be in the inlet/shoe and are not allowed in the bonnet area. Screws, pins, bolts or fasteners used in conjunction with the stem coupling shall be stainless steel.

11. The inside diameter of the hydrant barrels shall not be less than 7 ¼ inches and the hydrant shall be painted **Yellow**.

12. Heavy duty drip shutoff (top plate) and valve seat shall be high strength manganese bronze. Valve seat shall be installed in a bronze seat ring. Drain shall be **tapped and plugged**, bronze lined and 3/8 inch diameter minimum. They shall operate without the use of springs, toggles, tubes, levers or other intricate synchronizing mechanisms. Lower valve plate shall be a one piece ductile iron casting and not require a separate cap nut. Drains shall be open and flushed during the first 4 turns of opening the hydrant before positively closing while operating the hydrant.

13. The shoe connection shall be **Mechanical Joint** or as specified. The inlet/shoe shall be fusion bonded epoxy coated per ANSI/AWWA C550 and with an NSF61 approved coating having ample blocking pads for sturdy setting. Six stainless steel bolts and nuts are required to fasten the shoe to the lower barrel. The shoe/inlet shall be directly connected to the standpipe flange. Designs using a sandwich piece in between the standpipe and shoe/inlet shall not be allowed.

14. External parts- the top bonnet, upper standpipe, lower standpipe and shoe shall be ductile iron to ensure strength throughout the exterior of the hydrant- Gray Iron hydrant body parts will not be allowed.

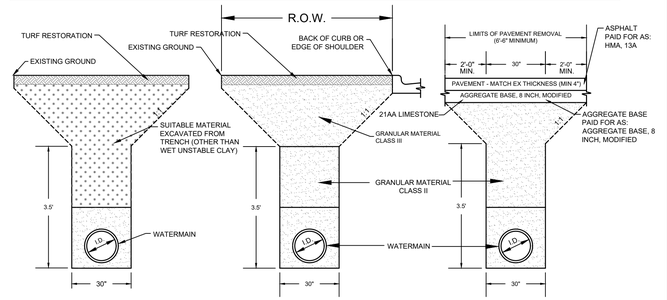
Municipality reserves the right to accept only those materials which are in full compliance with these specifications and deemed most advantageous to its interests.

Upon request, supplier shall furnish flow data indicating friction loss in psi at a flow of 1,000 gpm from the pumper nozzle. Such friction loss shall not exceed 2.5 psi. Also, the municipality may request the manufacturing "point of origin" for any/or all hydrant parts. All cast components shall be made in the USA.

Failure to comply with any of these above requirements is sufficient cause for rejection of proposed hydrants.

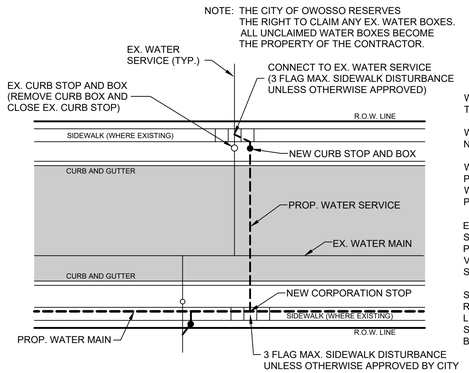
Hydrant shall be EJ WaterMaster® **5BR250**.
55726D 6' 0" DOB
53726D 5' 0" DOB
54727D 5'6" DOB

ejco.com 800 626 4653 1



TRENCH BACKFILL DETAIL 'F'
TYPICAL WATERMAINS NOT WITHIN INFLUENCE OF ROADBED, DRIVEWAY, OR SIDEWALK, AND LOCATED OUTSIDE OF ROAD RIGHT-OF-WAY

TRENCH BACKFILL DETAIL 'G'
TYPICAL WATERMAINS UNDER ROADBED AND/OR WITHIN INFLUENCE OF ROADBED, DRIVEWAY, OR SIDEWALK, OR LOCATED WITHIN THE ROAD RIGHT-OF-WAY



WATER SERVICES ON THE OPPOSITE SIDE OF THE ROAD OF THE NEW WATER MAIN SHALL BE BORED.

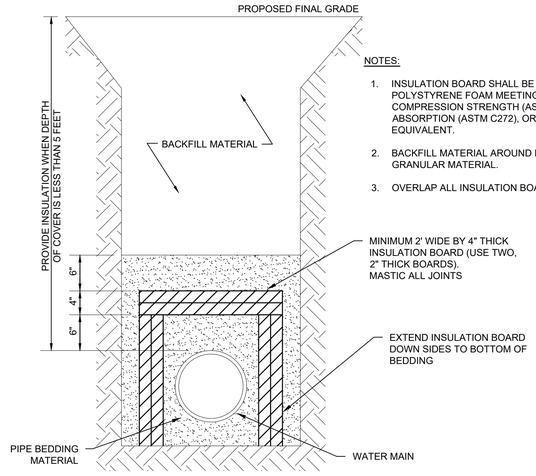
WATER SERVICES ON THE SAME SIDE OF THE ROAD AS THE NEW WATER MAIN SHALL BE OPEN CUT.

WHERE THE EXISTING CURB STOP BOX IS LOCATED IN PAVEMENT, PAVEMENT REMOVAL AND DRIVE RESTORATION WILL BE PAID SEPARATELY. CONTRACTOR SHALL MINIMIZE PAVEMENT DISTURBANCE AS DIRECTED BY THE ENGINEER.

EXISTING AND PROPOSED WATER SERVICE LEADS ARE NOT SHOWN ON PLAN SHEETS. METER PITS, WHERE VISIBLE AT TIME OF TOPOGRAPHIC SURVEY, ARE SHOWN.

SIDEWALK REMOVAL AND REPLACEMENT FOR WATER SERVICE LINE REPLACEMENT IS ALSO NOT SHOWN ON PLAN SHEETS AND SHALL BE AS DIRECTED BY ENGINEER

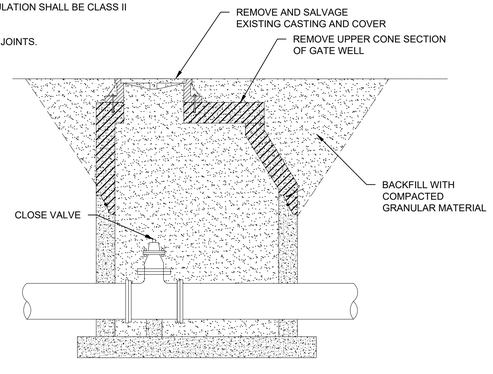
NEW WATER SERVICE CONNECTION DETAIL
NOT TO SCALE



NOTES:

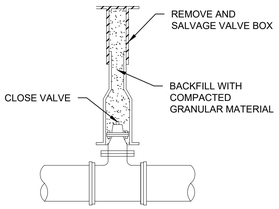
1. INSULATION BOARD SHALL BE CLOSED CELL, EXTRUDED POLYSTYRENE FOAM MEETING ASTM 578, TYPE VI, 40 PSI COMPRESSION STRENGTH (ASTM D1621) 0.1% MAX. WATER ABSORPTION (ASTM C272), OR OWNER APPROVED EQUIVALENT.
2. BACKFILL MATERIAL AROUND INSULATION SHALL BE CLASS II GRANULAR MATERIAL.
3. OVERLAP ALL INSULATION BOARD JOINTS.

WATER MAIN TRENCH INSULATION DETAIL
NOT TO SCALE



EXISTING VALVE WITH MANHOLE ABANDONMENT DETAIL
NOT TO SCALE

NOTE:
THE CITY RESERVES THE RIGHT TO CLAIM ANY EX. WATER VALVE BOXES AND GATE WELL COVERS AND CASTINGS. ALL UNCLAIMED SHALL BECOME THE PROPERTY OF THE CONTRACTOR.



EXISTING VALVE WITH VALVE BOX ABANDONMENT DETAIL
NOT TO SCALE

CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

NO.	REVISIONS	DATE	BY
1	ISSUED FOR BID PLANS	4/25/25	CW
	ORIGINAL PLAN		APPROVED BY
			CHECKED BY

BENCH MARK DATA

ELEV.	DESCRIPTION

WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS
WATER MAIN NOTES AND DETAILS

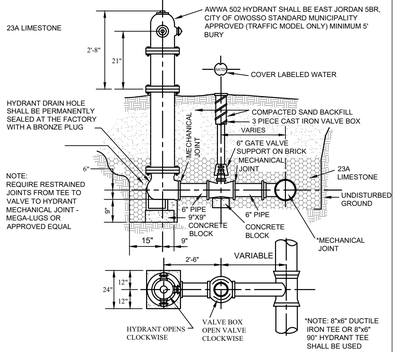
APRIL 2025
PROJECT NO.

FIELD BOOK
PG.

2

NOTES:

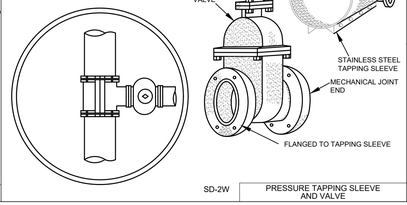
1. THE PUMPER CONNECTION SHALL FACE THE STREET.
2. SET THE HYDRANT FLANGE AT PROPOSED GRADE OR AS FIELD DIRECTED.
3. SET THE VALVE BOX COVER FLUSH WITH THE PROPOSED GRADE.
4. ALL WORK FROM THE CENTER LINE OF THE MAIN TO AND INCLUDING THE HYDRANT SHALL BE PAID FOR BY UNIT PRICE BID ITEM FOR HYDRANTS.
5. ALL MECHANICAL JOINTS SHALL BE RESTRAINED BY MEGA LUGS, OR APPROVED EQUAL.
6. HYDRANT BARRELS SHALL BE PAINTED YELLOW. CAPS SHALL BE COLOR GREEN
7. 90° HYDRANT TEES ARE APPROVED WHERE SPACE REQUIREMENTS ARE LIMITED.



SD-1W | FIRE HYDRANT DETAIL

NOTES:

1. ALL TAPPING SLEEVES SHALL BE STAINLESS STEEL WITH FLANGED OUTLET. TAPPING SLEEVES SHALL BE APPROVED BY THE CITY OF OWOSSO PRIOR TO INSTALLATION.
2. THE GASKET FOR MAIN LINE SHALL BE MADE FOR THE PIPE MATERIAL IN PLACE, NORMALLY DUCTILE IRON CLASS 53.
3. OUTLET FLANGE IS CLASS 125 ANS/B16.1.
4. TAPPING TEE SHALL HAVE A BUILT-IN TEST PLUG.
5. THE VALVE SHALL BE FLANGED, CONNECTED TO THE SLEEVE BY MECHANICAL JOINT TO THE LINE TO BE CONSTRUCTED.
6. THE VALVE SHALL HAVE OVERSIZE SEAT RINGS TO PERMIT ENTRY OF THE TAPPING MACHINE CUTTERS.
7. THE VALVE SHALL MEET ALL REQUIREMENTS OF AWWA C-500.
8. THE MINIMUM SIZE MANHOLE SHALL BE 5' - 0" INTERNAL DIAMETER.
9. THE TOP OPENING SHALL BE CENTERED ON THE VALVE OPERATING NUT.
10. USE FLAT SLAB FOR COVER WITH 24" OPENING.



SD-2W | PRESSURE TAPPING SLEEVE AND VALVE

MINIMUM PIPE RESTRAINT LENGTH SCHEDULE FOR GROUND BURIED PRESSURE PIPES(1)*

	LENGTH (IN FEET) OF RESTRAINT REQUIRED (2)						
DEFLECTION ANGLE	22½°	33¾°	45°	56¼°	67½°	78¾°	90° OR DEAD END
PIPE							
6"	3	6	11	16	23	29	37
8"	4	8	15	22	31	41	50
10"	5	11	18	28	38	49	61

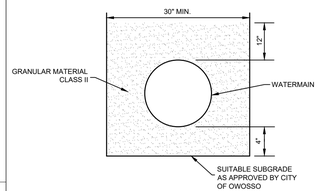
* WHEN MANUFACTURER SPECIFICATIONS CALL FOR GREATER RESTRAINT LENGTHS THE GREATER LENGTHS SHALL BE INSTALLED, WHEN THE MANUFACTURER SPECIFICATIONS CALL FOR LESSER RESTRAINT LENGTHS THEN THE ABOVE LENGTHS SHALL BE INSTALLED

1. THIS TABLE IS BASED ON A TEST PRESSURE OF 180 PSI (OPERATING PRESSURE + WATER HAMMER). FOR OTHER TEST PROCEDURES, ALL VALUES ARE TO BE INCREASED PROPORTIONALLY.
2. IN EACH DIRECTION FROM POINT OF DEFLECTION OR TERMINATION EXCEPT FOR A TEE AT WHICH ONLY THE BRANCH IN THE DIRECTION OF THE TEE STEM.
3. IF TIE RODS ARE USED, PLACE 2 RODS 5/8 INCH DIAMETER MINIMUM FOR WATERMAIN 6 INCH TO 10 INCH.

SD-7W | MINIMUM PIPE RESTRAINT SCHEDULE

NOTE:
ALL MECHANICAL JOINTS SHALL BE RESTRAINED WITH MEGA LUGS OR APPROVED EQUAL. LENGTH OF RESTRAINT SHALL BE DETERMINED BY MANUFACTURER AND DIPRA, AND APPROVED BY CITY OF OWOSSO. THE MINIMUM REQUIRED RESTRAINT LENGTHS ARE SHOWN IN DETAIL SD-7W. MANUFACTURER RESTRAINT LENGTHS THAT ARE LESS THAN SHOWN IN SD-7W MUST BE APPROVED BY CITY OF OWOSSO.

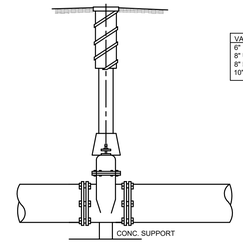
SD-3W | LOCATION OF RESTRAINED JOINTS



SD-10W | WATERMAIN BEDDING DETAIL

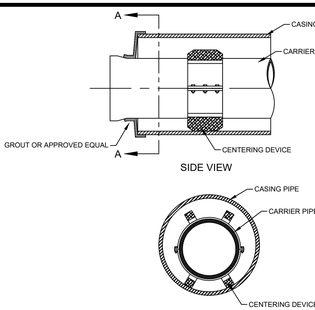
NOTES:

1. RESILIENT SEATED WEDGE GATE VALVES SHALL BE PER PROJECT SPECIFICATIONS.
2. ALL PRESSURE TAPS 4" AND OVER MUST BE ENCLOSED WITH A CONCRETE VALVE MANHOLE.
3. CONCRETE ADJUSTING BRICK OR RINGS ALLOWABLE TO A MAXIMUM ADJUSTMENT OF 12".
4. VALVE BOXES SHALL BE MADE OF GOOD QUALITY CAST IRON AND SHALL BE OF THE SECTIONAL TYPE. THE LOWER SECTION SHALL BE A MINIMUM OF FIVE (5) INCHES IN DIAMETER, ENLARGED AT THE BASE TO FIT AROUND THE BONNET OF THE VALVE. THE UPPER SECTION SHALL BE ARRANGED TO SLIDE OR SCREW DOWN OVER THE ADJOINING LOWER SECTION AND SHALL BE FULL DIAMETER THROUGHOUT. VALVE BOXES SHALL BE PROVIDED WITH CAST IRON LIDS OR COVERS. LIDS OR COVERS SHALL BE MARKED "WATER". THE OVER-ALL LENGTH OF VALVE BOXES SHALL BE SUFFICIENT TO PERMIT THE TOP TO BE SET FLUSH WITH THE FINAL GROUND SURFACE GRADE. VALVE BOXES SHALL BE AS MANUFACTURED BY TRAVERSE CITY IRON WORKS, CLOW CORPORATION OR APPROVED EQUAL.



VALVE SIZE	MIN. BASIN SIZE
6"	BOX-3 PIECE
8" UNPAVED	BOX-3 PIECE
8" PAVED	BOX-3 PIECE
10" - 12"	BOX-3 PIECE

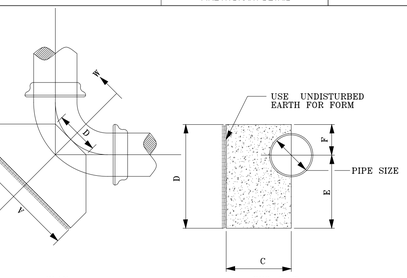
SD-4W | WATER VALVE AND VALVE BOX DETAIL



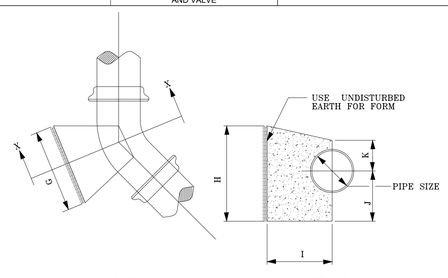
NOTES:

1. CASING PIPE SHALL BE EITHER REINFORCED CONCRETE PIPE OR SDR-26 PLASTIC PIPE
2. FOR CARRIER PIPES LESS THAN SIX (6) INCHES IN DIAMETER, THE INSIDE DIAMETER OF THE CASING PIPE SHALL BE AT LEAST TWO (2) INCHES GREATER THAN THE LARGEST OUTSIDE DIAMETER OF THE CARRIER PIPE JOINTS OR COUPLINGS.
3. FOR CARRIER PIPES SIX (6) INCHES OR GREATER IN DIAMETER, THE INSIDE DIAMETER OF THE CASING PIPE SHALL BE AT LEAST FOUR (4) INCHES GREATER THAN THE LARGEST OUTSIDE DIAMETER OF THE CARRIER PIPE JOINTS OR COUPLINGS.
4. ALL CASING PIPE ENDS THAT ARE BELOW GROUND LEVEL SHALL BE CONSTRUCTED AS TO PREVENT LEAKAGE OF ANY SUBSTANCE FROM THE CASING THROUGHOUT ITS LENGTH. EACH END OF THE CASING SHALL REQUIRE A SUFFICIENT SEAL TO PREVENT THE POTENTIAL FOR LEAKAGE OF ANY SUBSTANCE FROM THE CASING PIPE. GROUT FILL IS AN ACCEPTABLE METHOD INSTALLED BY PRESSURE GROUTING. IF USED, THE GROUT MATERIAL SHALL CONSIST OF NON-SHRINK SAND CEMENT SLURRY OR APPROVED EQUAL, AND SUFFICIENTLY SEAL THE CASING PIPE ENDS.

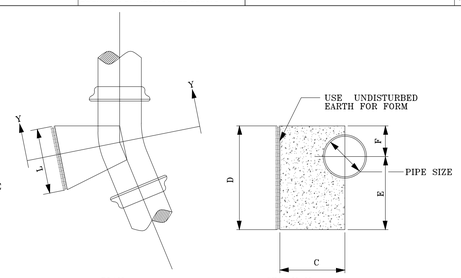
CASING PIPE DETAIL



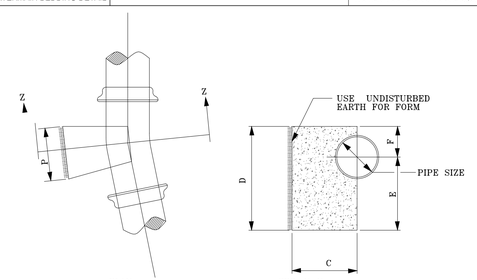
DETAIL OF BLOCK FOR 90° BEND OR TEE
NO SCALE



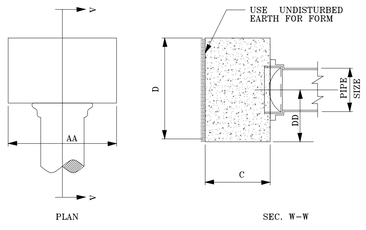
DETAIL OF BLOCK FOR 45° BEND
NO SCALE



DETAIL OF BLOCK FOR 22 1/2° BEND
NO SCALE



DETAIL OF BLOCK FOR 11 1/4° BEND
NO SCALE

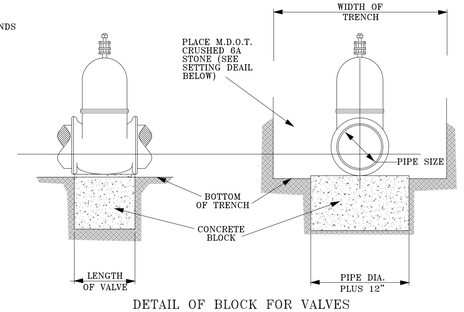


DETAIL OF BLOCK FOR PLUGS
NO SCALE

NOTE: TABLE BELOW IS BASED IN WATER MAIN PRESSURE OF 100 P.S.I. WIRTH NOMAL CLAY SOIL FOR WATER MAIN PRESSURE OF 150 P.S.I., INCREASE THE AREA BY 50%; FOR 180 P.S.I., INCREASE BY 80% AND ETC.. FOR SOFT AND ABNORMAL SOIL CONITIONS, THE THRUST BLOCK SIZE SHALL BE DETERMINED BY THE ENGINEER.

NOTE:
THE CONCRET USED FOR BLOCKING SHALL BE A MINIMUM COMPRESSIVE STRENGTH OF 3000 POUNDS PER SQUARE INCH IN TWENTY-EIGHT (28) DAYS.

SIZE OF MAIN	PLUGS				MINIMUM CONCRETE REQUIRED	90° BENDS OR TEE						MINIMUM CONCRETE REQUIRED	45° BENDS					MINIMUM CONCRETE REQUIRED	22 1/2° BENDS				MINIMUM CONCRETE REQUIRED	11 1/4° BENDS			MINIMUM CONCRETE REQUIRED	SIZE OF MAIN
	AA	BB	CC	DD		A	B	C	D	E	F		G	H	I	J	K		L	M	N	O		P	Q	R		
4"	1'-0"	1'-0"	1'-0"	0'-6"	0.04 CYD	1'-0"	1'-0"	1'-0"	0'-8"	0'-6"	0'-6"	0.04 CYD	1'-6"	1'-0"	1'-0"	0'-6"	0'-6"	0.04 CYD	0'-8"	0'-8"	1'-0"	0'-4"	0.03 CYD	0'-6"	0'-6"	1'-0"	0.01 CYD	4"
6"	1'-6"	1'-0"	1'-0"	0'-6"	0.06 "	2'-0"	1'-0"	1'-0"	0'-8"	0'-6"	0'-6"	0.07 "	1'-6"	1'-0"	1'-0"	0'-6"	0'-6"	0.04 "	1'-0"	1'-0"	1'-0"	0'-6"	0.03 "	0'-7"	0'-7"	1'-0"	0.01 "	6"
8"	2'-0"	1'-6"	1'-0"	0'-9"	0.11 "	2'-0"	2'-0"	1'-0"	0'-10"	1'-0"	0'-9"	0.12 "	2'-0"	1'-0"	1'-0"	0'-6"	0'-6"	0.08 "	1'-6"	1'-0"	1'-0"	0'-6"	0.04 "	0'-9"	0'-9"	1'-0"	0.02 "	8"
10"	2'-0"	2'-0"	1'-3"	1'-0"	0.19 "	3'-0"	2'-0"	1'-3"	1'-0"	1'-0"	0'-9"	0.19 "	2'-0"	1'-6"	1'-3"	0'-9"	0'-9"	0.11 "	1'-6"	1'-6"	1'-3"	0'-6"	0.07 "	1'-0"	1'-0"	1'-3"	0.04 "	10"
12"	2'-6"	2'-0"	1'-6"	1'-0"	0.28 "	3'-0"	2'-0"	1'-6"	1'-2"	1'-3"	1'-0"	0.32 "	2'-0"	2'-0"	1'-6"	1'-0"	0'-9"	0.15 "	2'-0"	1'-2"	1'-6"	0'-7"	0.08 "	1'-0"	1'-8"	1'-6"	0.05 "	12"
14"	3'-0"	2'-6"	1'-9"	1'-3"	0.49 "	3'-0"	2'-6"	1'-9"	1'-4"	1'-6"	1'-3"	0.49 "	3'-0"	2'-0"	1'-9"	1'-0"	1'-0"	0.29 "	2'-0"	1'-6"	1'-9"	0'-9"	0.16 "	1'-6"	1'-4"	1'-9"	0.12 "	14"
16"	3'-6"	3'-0"	2'-0"	1'-6"	0.52 "	4'-0"	3'-0"	2'-0"	1'-6"	1'-6"	1'-3"	0.69 "	3'-0"	3'-0"	2'-0"	1'-6"	1'-3"	0.47 "	2'-0"	2'-0"	2'-0"	1'-0"	0.24 "	2'-0"	1'-6"	2'-0"	0.20 "	16"
18"	4'-0"	3'-0"	2'-3"	1'-6"	1.00 "	4'-0"	4'-0"	2'-3"	1'-8"	2'-0"	1'-6"	1.06 "	3'-0"	3'-0"	2'-3"	1'-6"	1'-3"	0.51 "	3'-0"	2'-0"	2'-3"	1'-0"	0.48 "	2'-0"	1'-8"	2'-3"	0.24 "	18"
20"	4'-0"	4'-0"	2'-6"	2'-0"	1.45 "	5'-0"	4'-6"	2'-6"	2'-0"	2'-3"	1'-9"	1.23 "	4'-0"	3'-0"	2'-6"	1'-6"	1'-6"	0.82 "	3'-0"	2'-6"	2'-6"	1'-3"	0.58 "	2'-0"	1'-10"	2'-6"	0.30 "	20"
24"	5'-0"	5'-0"	3'-0"	2'-6"	2.78 "	6'-0"	5'-6"	3'-0"	2'-3"	2'-9"	1'-9"	2.74 "	4'-0"	4'-0"	3'-0"	2'-0"	1'-9"	1.21 "	3'-0"	3'-0"	3'-0"	1'-6"	0.80 "	2'-6"	2'-2"	3'-0"	0.42 "	24"
30"	6'-0"	6'-0"	3'-9"	3'-0"	4.96 "	7'-0"	7'-0"	3'-9"	2'-6"	3'-6"	2'-6"	5.39 "	5'-6"	5'-0"	3'-9"	2'-6"	2'-0"	2.14 "	4'-0"	3'-0"	3'-9"	1'-6"	1.35 "	3'-0"	2'-8"	3'-9"	0.98 "	30"
36"	8'-0"	6'-0"	4'-6"	3'-0"	8.00 "	8'-0"	7'-6"	4'-6"	3'-0"	3'-9"	2'-9"	8.12 "	6'-0"	6'-0"	4'-6"	3'-0"	2'-6"	4.03 "	5'-0"	4'-0"	4'-6"	2'-0"	2.77 "	3'-0"	3'-2"	4'-6"	1.36 "	36"
42"	8'-0"	8'-0"	5'-3"	4'-0"	12.44 "	9'-0"	8'-0"	5'-3"	3'-6"	4'-0"	3'-0"	11.58 "	7'-7"	7'-0"	5'-3"	3'-6"	3'-0"	6.43 "	5'-0"	5'-0"	5'-3"	2'-6"	3.85 "	4'-0"	3'-9"	5'-3"	2.17 "	42"



DETAIL OF BLOCK FOR VALVES
NO SCALE

THRUST BLOCKING DETAIL

CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

NO.	REVISIONS	DATE	BY
1	ISSUED FOR BID PLANS	4/25/25	CW

ORIGINAL PLAN — APPROVED BY
CHECKED BY

BENCH MARK DATA

ELEV.	DESCRIPTION

WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS
WATER MAIN STANDARD DETAILS

APRIL 2025 — PROJECT NO.
FIELD BOOK — PG.

3

GENERAL NOTES

UNDERGROUND UTILITIES/MISS DIG
FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL DIAL 1-800-482-7171 FOR 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. MEMBER WILL THUS 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 EXISTING UTILITIES ON THESE DRAWINGS HAVE BEEN SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND SHALL NOTIFY THE ENGINEER AS TO WHERE POSSIBLE CONFLICT EXIST.

EXISTING WATER MAINS AND SEWERS
THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO PROPERLY IDENTIFIED EXISTING WATER MAINS AND / OR EXISTING SEWERS DURING THE CONSTRUCTION OF THE PROJECT.

ADJUSTING OF 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.

PAVEMENT MARKINGS AND SIGNS
ALL PERMANENT PAVEMENT MARKINGS, SHAPES, AND DIMENSIONS SHALL CONFORM WITH MDOT PAVEMENT MARKING TYPICALS PAVE - 900 SERIES.

SOIL EROSION MEASURES
APPROPRIATE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EARTH DISTURBING ACTIVITIES. PLACE LAWN RESTORATION ITEMS AS SOON AS POSSIBLE ON POTENTIAL ERODIBLE SLOPES AS DIRECTED BY THE ENGINEER. CRITICAL DITCH GRADES SHALL BE PROTECTED WITH EITHER SOD OR SEED / MULCH BLANKET AS DIRECTED BY THE ENGINEER.

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE AND MAINTAINED UNTIL THE CONTRACT HAS BEEN COMPLETED AND ACCEPTED. MEASURES SHALL ONLY BE PAID FOR ONCE.

RUBBISH DISPOSAL
SEE MAINTAINING TRAFFIC SPECIAL PROVISIONS.

MAIL DELIVERY
SEE MAINTAINING TRAFFIC SPECIAL PROVISIONS.

STORM SEWER REMOVAL
REMOVAL OF SEWER WITH DIAMETER LESS THAN 12 INCHES, WITHIN THE EXCAVATION LIMITS OF NEW SEWER, IS INCLUDED IN THE UNIT PRICE FOR NEW SEWER AND WILL NOT BE PAID FOR SEPARATELY.

STORM SEWER STRUCTURES
ALL STORM ORIFICES TO RECEIVE SEWER PIPE SHALL BE FITTED WITH KOR-N-SEAL FLEXIBLE CONNECTOR (S) , OR APPROVED EQUAL CONNECTOR. THE FLEXIBLE CONNECTOR WILL NOT BE PAID FOR SEPARATELY, BUT IS CONSIDERED AS PART OF THE DRAINING STRUCTURE PAY ITEM.

STORM SEWER CONNECTIONS
PROPOSED STORM SEWERS SHALL BE CONNECTED TO EXISTING STORM SEWERS WITH A FERNCO COUPLER, OR APPROVED EQUAL, AS DIRECTED BY THE ENGINEER. CONNECTION SHALL BE ACCOMPLISHED WITH COUPLER OF SIMILAR SIZE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. PAYMENT FOR ALL MATERIALS AND LABOR NECESSARY TO ACCOMPLISH THIS WORK WILL NOT BE PAIR FOR SEPARATELY, BUT WILL BE CONSIDERED AS PART OF OTHER WORK ITEMS.

STREET APPROACHES
STREET APPROACHES SHALL BE PAID FOR AS PART OF THE MAINLINE PAVING PAY ITMES.

STRUCTURE ADJUSTMENTS
ADJUSTMENTS TO STORM AND SANITARY STRUCTURES LOCATED WITHIN THE PAVEMENT OR CURB AND GUTTER SHALL BE PAID FOR AS: Dr Structure Cover, Adj, Case 1.

CURB AND GUTTER
ALL NEW SECTIONS OF CURB AND GUTTER SHALL BE TIED TO EXISTING CURB AND GUTTER ON BOTH ENDS USING EPOXY COATED #4 BARS.

SIDEWALK RAMPS AND SIDEWALKS
SIDEWALK RAMPS SHALL BE COMPLETED IN ACCORDANCE WITH THE MDOT 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MDOT STANDARD PLAN R-28 SERIES, EXCEPT AS MODIFIED HEREIN. THE PORTION OF RAMP FROM THE CURB AND GUTTER TO THE LANDING SHALL BE 7-INCHES THICK AS IDENTIFIED ON THE SIDEWALK RAMP THICKNESS DETAIL. THE LANDING SHALL BE 4-INCHES THICK. THE PAY ITEMS FOR Sidewalk Ramp, Conc, 7 inch AND Sidewalk, Conc, __ inch SHALL INCLUDE ALL EXCAVATION AND EMBANKMENT NECESSARY TO CONSTRUCT EACH ITEM AND ALL WORK NECESSARY TO SAW AND TRIM EDGES OF EXISTING CONCRETE. EXCAVATION AND EMBANKMENT WILL NOT BE PAID FOR SEPARATELY.

DETECTIBLE WARNING SURFACES SHALL BE EAST JORDAN DURALAST TM AND POWDER COATED RED, INSTALLED ONTO FRESH CONCRETE, AND IN ACCORDANCE WITH MDOT STANDARD R-28 SERIES. THE WARNING SURFACES SHALL BE 2.5 FEET IN LENGTH SUCH THAT TWO PLATES ARE USED FOR EACH 5 FOOT WIDE RAMP.

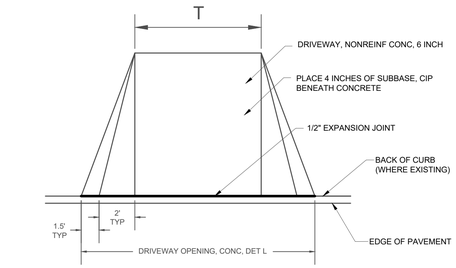
SIDEWALKS LOCATED WITHIN RESIDENTIAL DRIVEWAYS SHALL BE 6-INCHES THICK AND WILL BE PAID FOR AS Sidewalk, Conc, 6 inch.

SIDEWALKS LOCATED WITHIN COMMERCIAL DRIVEWAYS SHALL BE 7-INCHES THICK AND WILL BE PAID FOR AS Sidewalk, Conc, 7 inch.

LAWN SPRINKLERS / LANDSCAPING
OWNERS OF EXISTING LAWN SPRINKLER SYSTEMS AND / OR LANDSCAPING SHALL BE NOTIFIED (IN WRITING WITH A COPY SENT TO THE ENGINEER) BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF ANY WORK THAT WILL BE DONE THAT WILL AFFECT THOSE SYSTEMS AND / OR LANDSCAPING. IF THE PROPERTY OWNER FAILS TO RELOCATE THE LAWN SPRINKLER SYSTEM PRIOR TO THE CONTRACTOR BEGINNING WORK, AND IF THE CONTRACTOR CUTS THE SYSTEM DURING CONSTRUCTION, THE CONTRACTOR SHALL CAP THE SYSTEM PIPE AND WITNESS THE LOCATION OF THE CAP WITH A WOODEN STAKE FOR THE PROPERTY OWNERS USE. THE CONTRACTOR SHALL PLACE THE SALVAGED SPRINKLER HEADS ON THE BACK OF THE RIGHT OF WAY. IF THE PROPERTY OWNER FAILS TO RELOCATE THE LANDSCAPING PRIOR TO THE CONTRACTOR BEGINNING WORK, THE CONTRACTOR SHALL CAREFULLY SALVAGE THE LANDSCAPING ITEMS AND STOCKPILE THEM ON THE BACK OF THE RIGHT OF WAY OR AT A LOCATION DESIGNATED BY THE ENGINEER FOR THE PROPERTY OWNER. ANY OTHER MODIFICATION TO THE SPRINKLER SYSTEM AND / OR LANDSCAPING IS THE RESPONSIBILITY OF THE OWNER AND IS NOT PART OF THIS CONTRACT. THIS WORK WILL NOT BE PAID FOR SEPARATELY.

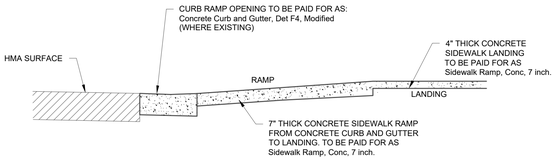
PROPERTY OWNERS
PROPERTY OWNERS' NAMES, WHERE SHOWN, ARE FOR INFORMATION ONLY, AND THIER ACCURACY IS NOT GUARANTEED.

MAINTAINING TRAFFIC
REFER TO THE CONTRACT SPECIAL PROVISION FOR WORK RESTRICTIONS RELATIVE TO MAINTAINING TRAFFIC.

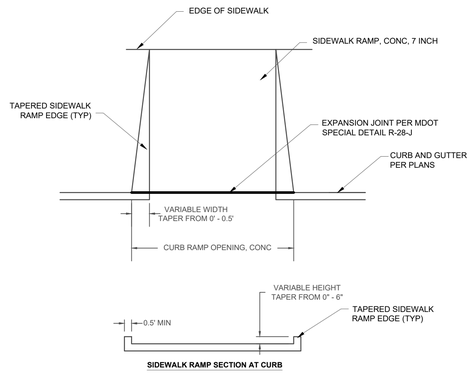


DIMENSION T IS 1' EACH SIDE OF THE EXISTING DRIVEWAY WIDTH BEHIND SIDEWALK

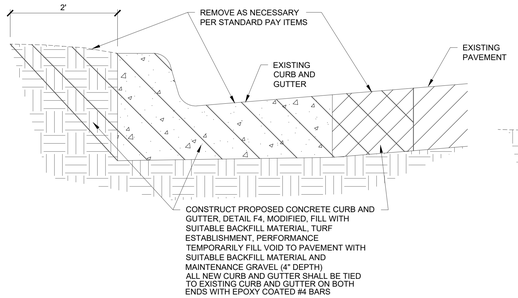
DRIVEWAY APPROACH DETAIL
NOT TO SCALE



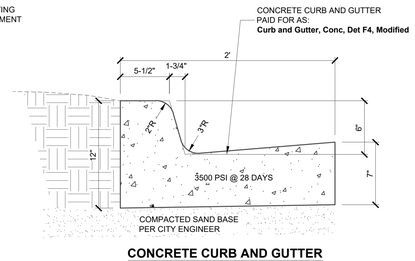
SIDEWALK RAMP THICKNESS DETAIL
NOT TO SCALE



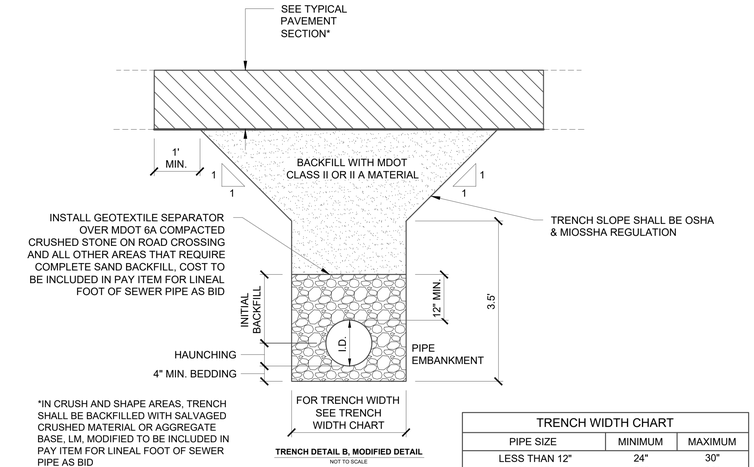
SIDEWALK RAMP DETAIL
NOT TO SCALE



TYPICAL SELECT CURB AND GUTTER REPAIR DETAIL
NOT TO SCALE



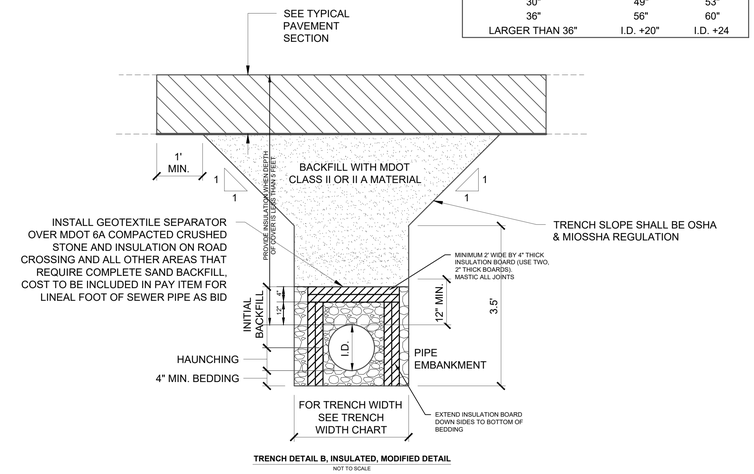
CONCRETE CURB AND GUTTER MDOT F4 - MODIFIED DETAIL
NOT TO SCALE



*IN CRUSH AND SHAPE AREAS, TRENCH SHALL BE BACKFILLED WITH SALVAGED CRUSHED MATERIAL OR AGGREGATE BASE, LM, MODIFIED TO BE INCLUDED IN PAY ITEM FOR LINEAL FOOT OF SEWER PIPE AS BID

TRENCH DETAIL B, MODIFIED DETAIL
NOT TO SCALE

TRENCH WIDTH CHART		
PIPE SIZE	MINIMUM	MAXIMUM
LESS THAN 12"	24"	30"
12" & 15"	30"	36"
18"	34"	40"
21"	38"	42"
24"	42"	46"
27"	45"	49"
30"	49"	53"
36"	56"	60"
LARGER THAN 36"	I.D. +20"	I.D. +24



TRENCH DETAIL B, INSULATED, MODIFIED DETAIL
NOT TO SCALE

EXISTING FEATURES LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	TREE (DECIDUOUS)	C	CABLE BOX		SURVEY CONTROL POINT
	BUSH	T	TELEPHONE RISER	BM#1	BENCHMARK
	TREE (CONIFEROUS)	T	TELEPHONE MANHOLE		SECTION CORNER
	DEAD TREE	TH	TELEPHONE HANDHOLE		BOUNDARY LINE
	STUMP	E	ELECTRICAL RISER		PROPERTY LINE
	MANHOLE	E	ELECTRICAL MANHOLE		WATERMAIN
	SANITARY CLEANOUT	EH	ELECTRICAL HANDHOLE		SANITARY SEWER
	RD. CATCH BASIN		POWER POLE		STORM SEWER
	SQ. CATCH BASIN		LIGHT POLE		CULVERT (21" AND UNDER)
	FIRE HYDRANT		GUY POLE		CULVERT (24" AND UP)
	WATER VALVE		GUY ANCHOR	CATV	CABLE T.V.
	CURB STOP & BOX		PED CROSSING SIGNAL	T	TELEPHONE
W	WELL		YARD LIGHT	E	ELECTRIC
W	WATER MANHOLE		SIGN	G	GAS
W	WATER METER		MAILBOX	OH	OVERHEAD LINES
B#	SOIL BORING		GUARD POST		GUARDRAIL
	MONITORING WELL		FOUND CONC. MONUMENT	x	FENCE
			FOUND IRON ROD		WOODLINE
			SET IRON ROD		

NOTE: ALL ITEMS LISTED ON THE LEGEND MAY NOT BE PRESENT ON DRAWING.

CITY OF OWOSSO, MICHIGAN
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DEPT. OF PUBLIC SERVICE

NO.	REVISIONS	DATE	BY
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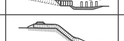
ELEV.	DESCRIPTION

WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS
STREET ITEMS GENERAL NOTES & DETAILS
SEWER TRENCH DETAILS

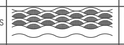
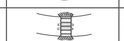
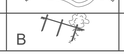
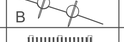
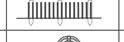
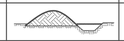
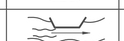
APRIL 2025 — PROJECT NO.
FIELD BOOK PG.

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET
S-E-S-C KEYING SYSTEM

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
EROSION CONTROLS			
E1	SELECTIVE GRADING AND SHAPING		To reduce steep slopes and erosive velocities.
E2	GRUBBING OMITTED		For use on steep slopes to prevent rilling, gullying, and reduce sheet flow velocity or where clear vision corridors are necessary.
E3	SLOPE ROUGHENING AND SCARIFICATION		Where created grades cause increased erosive velocites. Promotes infiltration and reduces runoff velocity.
E4	TERRACES		On relatively long slopes up to 8% grades with fairly stable soils.
E5	DUST CONTROL		For use on construction sites, unpaved roads, etc. to reduce dust and sedimentation from wind and construction activities.
E6	MULCH		For use in areas subject to erosive surface flows or severe wind or on newly seeded areas.
E7	TEMPORARY SEEDING		Stabilization method utilized on construction sites where earth change has been initiated but not completed within a 2 week period.
E8	PERMANENT SEEDING		Stabilization method utilized on sites where earth change has been completed (final grading attained).
E9	MULCH BLANKETS		On exposed slopes, newly seeded areas, new ditch bottoms, or areas subject to erosion.
E10	SODDING		On areas and slopes where immediate stabilization is required.
E11	VEGETATED CHANNELS		For use in created stormwater channels. Vegetation is used to slow water velocity and reduce erosion within the channel.
E12	RIPRAP		Use along shorelines, waterways, or where concentrated flows occur. Slows velocity, reduces sediment load, and reduces erosion.
E13	GABION WALLS		On newly created or denuded stream banks to reduce velocity until permanent stabilization is achieved or on existing banks to retard erosive velocities.
E14	ENERGY DISSIPATOR		Where the energy transmitted from a concentrated flow of surface runoff is sufficient to erode receiving area or watercourse.
E15	TEMPORARY SLOPE DRAIN		Where surface runoff temporarily accumulates or sheet flows over the top of a slope and must be conveyed down a slope in order to prevent erosion.
E16	SLOPE DRAIN		Where concentrated flow of surface runoff must be permanently conveyed down a slope in order to prevent erosion.

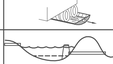
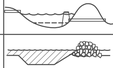
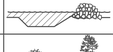
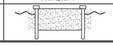
B = BIOENGINEERING

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET
S-E-S-C KEYING SYSTEM

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
E17	CELLULAR CONFINEMENT SYSTEMS		Used on steep slopes and high velocity channels.
E18	PLASTIC SHEETS		Used on exposed slopes, seeded areas, new ditch bottoms, and areas subject to surface runoff and erosion. Used as a liner in temporary channels and to stabilize stockpiles.
E19	TEMPORARY DRAINAGEWAY/ STREAM CROSSING		Use on construction sites where stream/drainageway crossings are required.
E20	TEMPORARY BYPASS CHANNEL		Use within existing stream corridors when existing flow cannot be interrupted, and at culvert and bridge repair sites
E21	LIVE STAKING	 B	In areas requiring protection of slopes against surface erosion and shallow mass wasting.
	EROSION / SEDIMENT CONTROLS		
ES31	CHECK DAM		Used to reduce surface flow velocities within constructed and existing flow corridors.
ES32	STONE FILTER BERM		Use primarily in areas where sheet or rill flow occurs and to accommodate dewatering flow.
ES33	FILTER ROLLS	 B	In areas requiring immediate protection of slopes against surface erosion and gully formation and for perimeter sediment control.
ES34	SAND FENCE		For use in areas susceptible to wind erosion, especially where the ground has not yet been stabilized by other means.
ES35	DEWATERING		Use where construction activities are limited by the presence of water and dry work is required.
ES36	DIVERSION DIKE/BERM		Within existing flow corridors to address or prevent erosion and sedimentation, or on disturbed or unstable slopes subject to erosive surface water velocities.
ES37	DIVERSION DITCH		In conjunction with a diversion dike, or where diversion of upslope runoff is necessary to prevent damage to unstabilized or disturbed construction areas.
ES38	COFFERDAM/SHEET PILINGS		Constructed along or within water corridor or waterbody to provide dry construction area.
ES39	STREAMBANK BIOSTABILIZATION	 B	For use along banks where stream and riparian zones may have difficulty recovering from the long-term effects of erosion.
ES40	POLYMERS		To minimize soil erosion and reduce sedimentation in water bodies by increasing soil particle size.
ES41	WATTLES	 B	In areas requiring protection of slopes against surface erosion and gully formation.

B = BIOENGINEERING

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET
S-E-S-C KEYING SYSTEM

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
SEDIMENT CONTROLS			
S51	SILT FENCE		Use adjacent to critical areas, to prevent sediment laden sheet flow from entering these areas.
S52	CATCH BASIN SEDIMENT GUARD		Use in or at stormwater inlets, especially at construction sites.
S53	STABILIZED CONSTRUCTION ACCESS		Used at every point where construction traffic enters or leaves a construction site.
S54	TIRE WASH		For use on construction sites where vehicular traffic requires sediment removed from its tires in highly erosive areas.
S55	SEDIMENT BASIN		At the outlet of disturbed areas and at the location of a permanent detention basin.
S56	SEDIMENT TRAP		In small drainage areas, along construction site perimeters, and above check dams or drain inlets.
S57	VEGETATED BUFFER/FILTER STRIP		Use along shorelines, waterways, or other sensitive areas. Slows velocity, reduces sediment load, and reduces erosion in areas of sheet flow.
S58	INLET PROTECTION FABRIC DROP		Use at stormwater inlets, especially at construction sites.
S59	INLET PROTECTION FABRIC FENCE		Use at stormwater inlets, especially at construction sites.
S60	INLET PROTECTION STONE		Use around urban stormwater inlets.
S61	TURBIDITY CURTAIN		Use during construction adjacent to a water esource, to contain sediment within the work area when other BMP's cannot be used.

B = BIOENGINEERING

CONSTRUCTION SEQUENCE

1. INSTALLATION OF TEMPORARY EROSION CONTROL MEASURES.
2. TRENCH EXCAVATION, STORM SEWER INSTALLATION, AND BACKFILL.
3. PERMANENT MEASURES, FINAL GRADING, SEEDING AND MULCHING.

SOIL EROSION/SEDIMENTATION CONTROL
OPERATION TIME SCHEDULE

CONSTRUCTION SEQUENCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
STRIP AND STOCKPILE TOPSOIL												
ROUGH GRADE/ SEDIMENT CONTROL												
TEMP CONTROL MEASURES												
STORM FACILITIES							N/A					
TEMP CONSTRUCTION ROADS							N/A					
FOUNDATION/ BLDG. CONSTRUCTION							N/A					
SITE CONSTRUCTION												
PERM CONTROL MEASURES												
FINISH GRADING												
LANDSCAPING							N/A					

CITY OF OWOSSO, MICHIGAN
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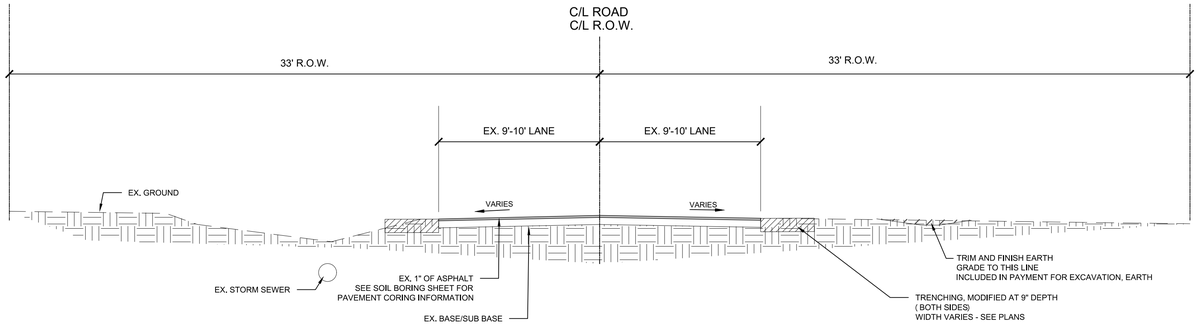
BENCH MARK DATA

ELEV.	DESCRIPTION

WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS
SESC STANDARD NOTES

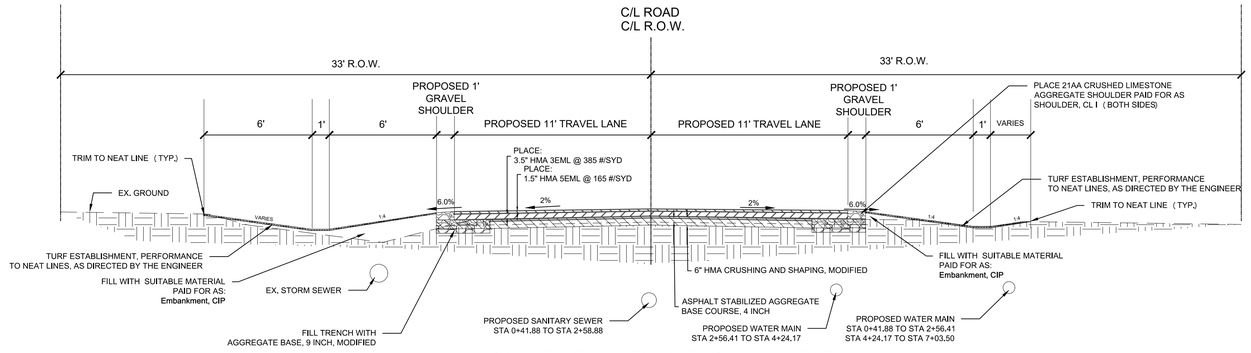
APRIL 2025
PROJECT NO.

FIELD BOOK
PG.



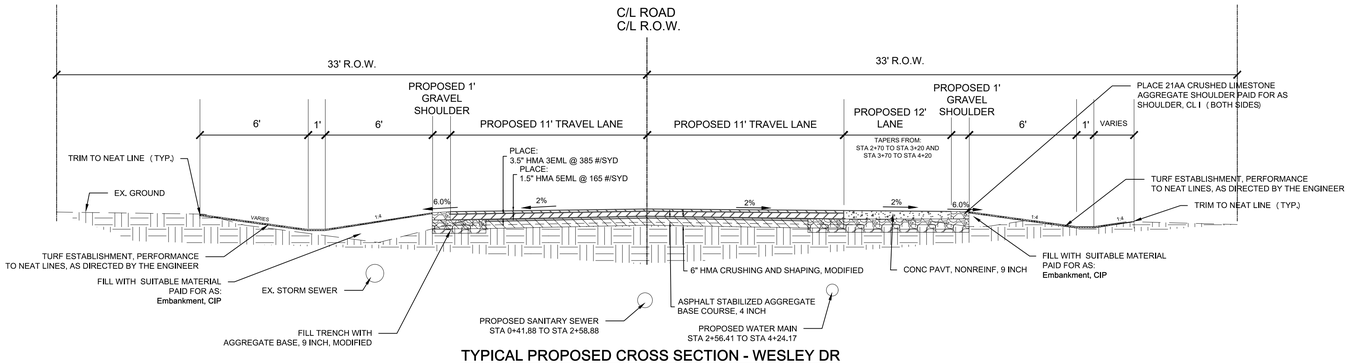
TYPICAL EXISTING CROSS SECTION - WESLEY DR

APPLIES TO STATIONS:
STA 0+41.88 TO 7+03.50
SCALE: 1" = 4'



TYPICAL PROPOSED CROSS SECTION - WESLEY DR

APPLIES TO STATIONS:
STA 0+41.88 TO 2+70.00
STA 4+20.00 TO 7+03.50
SCALE: 1" = 4'



TYPICAL PROPOSED CROSS SECTION - WESLEY DR

APPLIES TO STATIONS:
STA 2+70.00 TO 4+20.00
SCALE: 1" = 4'

WESLEY DRIVE STA 0+41.88 TO STA 6+80.00 - HMA APPLICATION RATE					
ITEM	PAY ITEM	RATE PER SYD	PERFORMANCE GRADE	ESTIMATED THICKNESS	REMARKS
MAINLINE PAVING	HMA, 5EML	165 LBS.	64-28	1.5"	TOP COURSE - AWI = 220 (MIN)
	HMA, 3EML	385 LBS.	64-28	3.5"	BASE COURSE
BOND COAT		0.1 GAL.			SS-1H (FOR INFORMATION ONLY)

CITY OF OWOSSO, MICHIGAN
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WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS

TYPICAL CROSS SECTIONS

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APRIL 2025
PROJECT NO.

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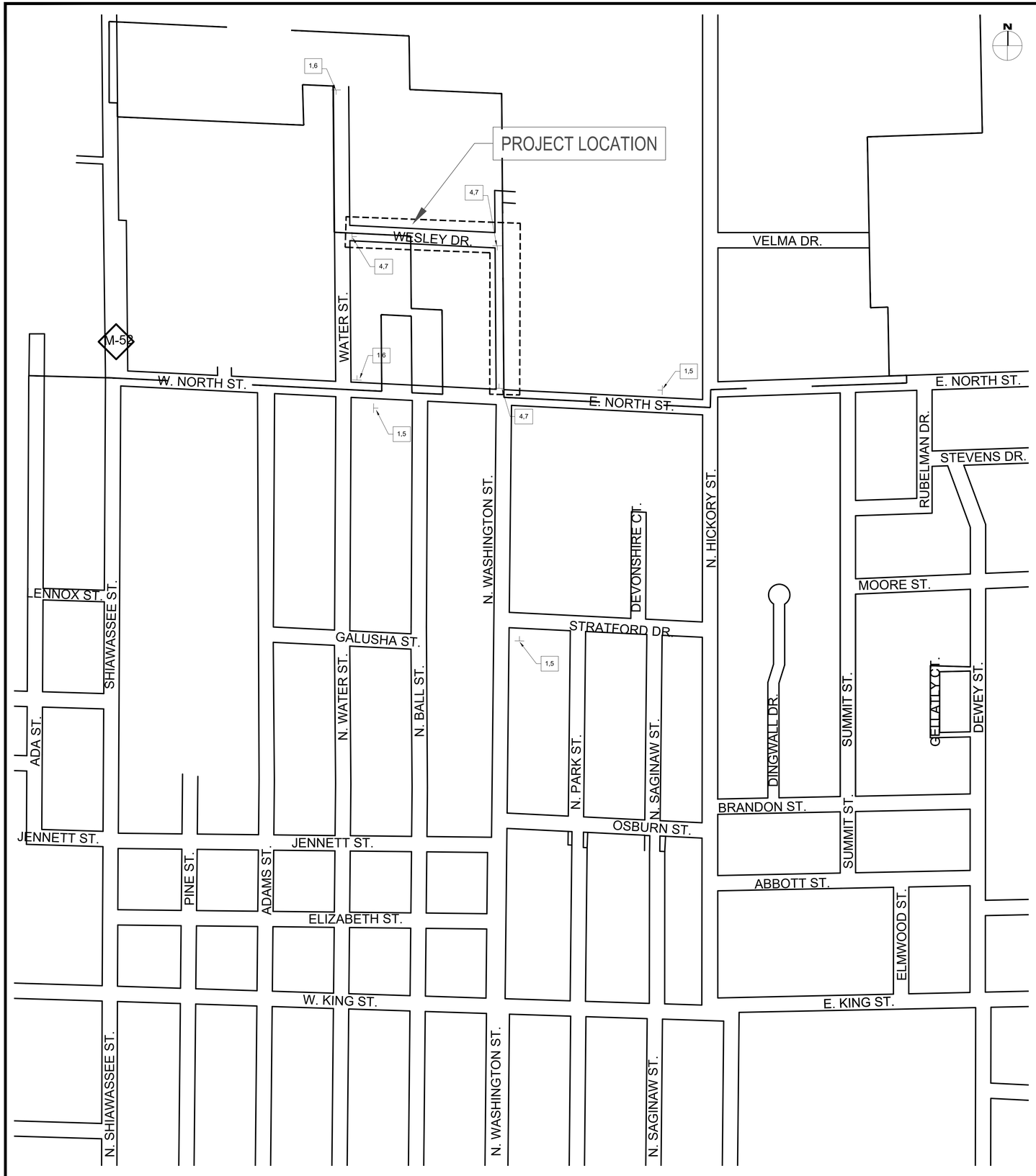

SIGNING REQUIREMENTS

NO.	SIGN	SIGN DESIGNATOIN	SIZE	NO. REQ.	TOTAL AREA (SFT)
1	ROAD WORK AHEAD	W20-1	48 x 48	5	80
2	DETOUR AHEAD	W20-2A	48 x 48	0	0
3	ROAD CLOSED AHEAD	W20-3	48 x 48	0	0
4	ROAD CLOSED LOCAL TRAFFIC ONLY	R11-3A	60 x 30	3	3
5	WASHINGTON ST	M4-8 MOD	30 x 12	3	8
6	WESLEY DR	M4-8 MOD	30 x 12	2	5
7		TYPE III BARRICADE		3	

THE NORTHBOUND LANE ON WATER STREET AT WESLEY DRIVE SHALL BE CLOSED DURING THE WATER MAIN TIE-IN, SANITARY SEWER CONNECTION, AND ASSOCIATED WORK IN ACCORDANCE WITH MDOT MAINTAINING TRAFFIC TYPICAL 110-TR-NFW-2L. QUANTITIES FOR THIS CLOSURE ARE INCLUDED IN THE MAINTAINING TRAFFIC QUANTITIES TABLE ON THE WATER MAIN NOTES AND DETAILS SHEET.

MAINTAINING TRAFFIC LEGEND

PROJECT LOCATION

TEMPORARY SIGN

CITY OF OWOSSO, MICHIGAN
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WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS

TRAFFIC CONTROL PLAN

APRIL 2025
PROJECT NO.

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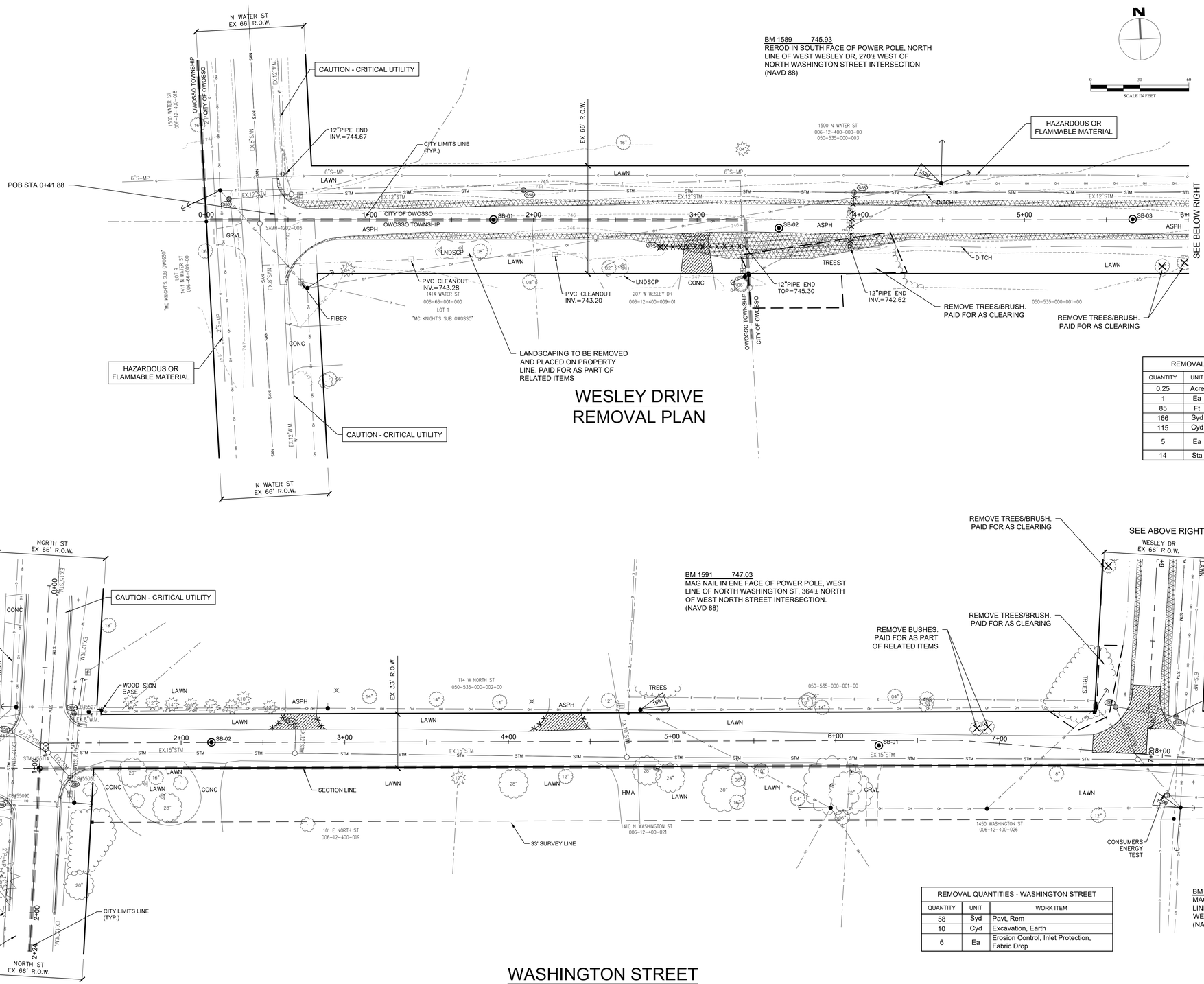
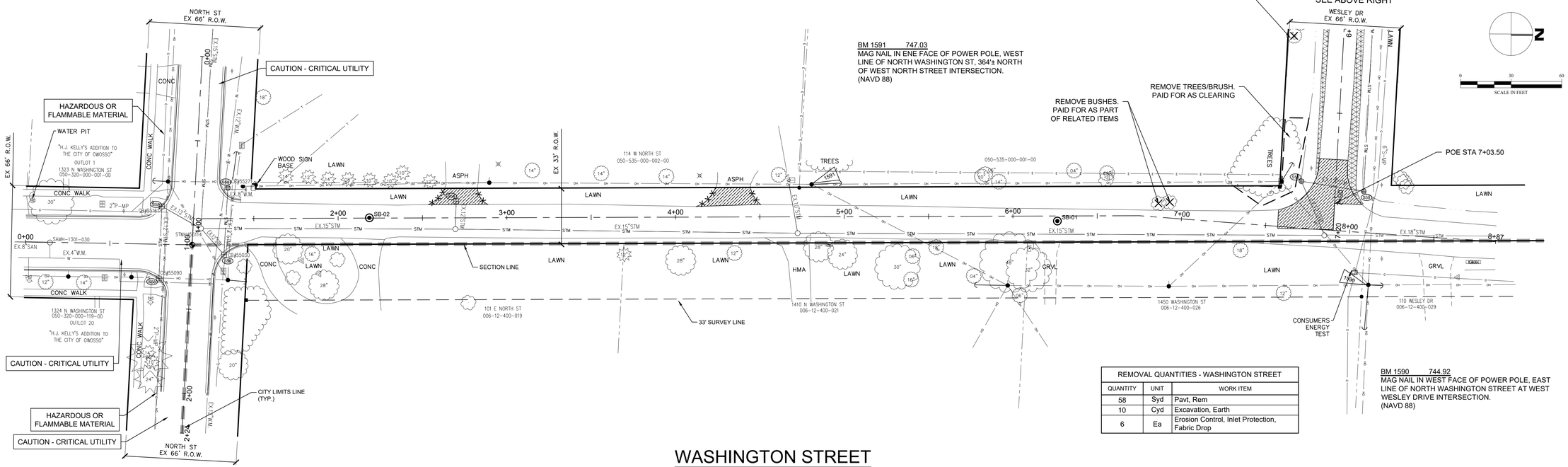


WESLEY DRIVE
REMOVAL PLAN

REMOVAL QUANTITIES - WESLEY DRIVE		
QUANTITY	UNIT	WORK ITEM
0.25	Acre	Clearing
1	Ea	Dr Structure, Rem
85	Ft	Sewer, Rem, Less than 24 inch
166	Syd	Pavt, Rem
115	Cyd	Excavation, Earth
5	Ea	Erosion Control, Inlet Protection, Fabric Drop
14	Sta	Trenching, Modified

LEGEND

- Curb and Gutter, Rem
- Sewer, Rem
- Dr Structure, Rem
- HMA Surface, Rem
- Trenching, Modified
- Pavt, Rem
- Sidewalk, Rem
- Excavation Earth
- STANDARD SOIL EROSION KEY



WASHINGTON STREET
REMOVAL PLAN

REMOVAL QUANTITIES - WASHINGTON STREET		
QUANTITY	UNIT	WORK ITEM
58	Syd	Pavt, Rem
10	Cyd	Excavation, Earth
6	Ea	Erosion Control, Inlet Protection, Fabric Drop

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WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS
REMOVAL PLAN

APRIL 2025
PROJECT NO.

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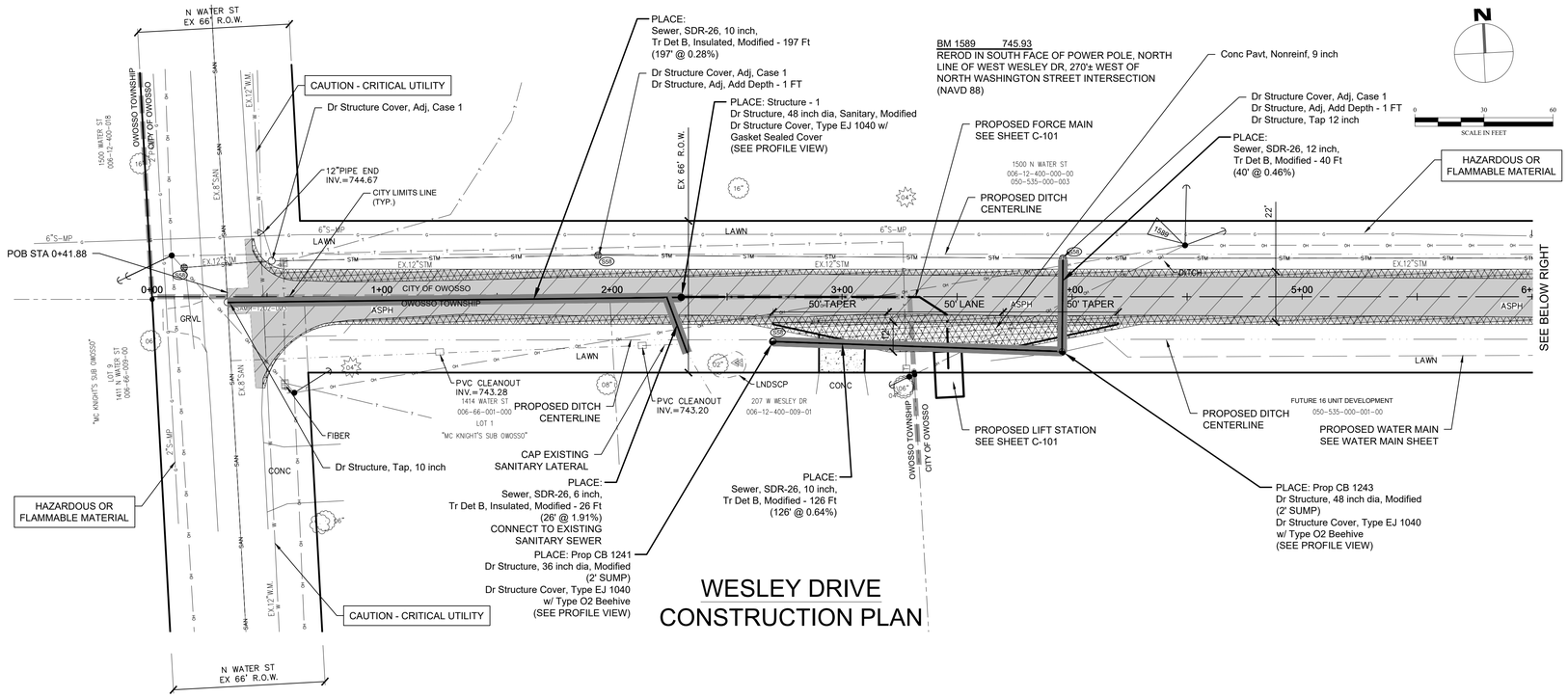
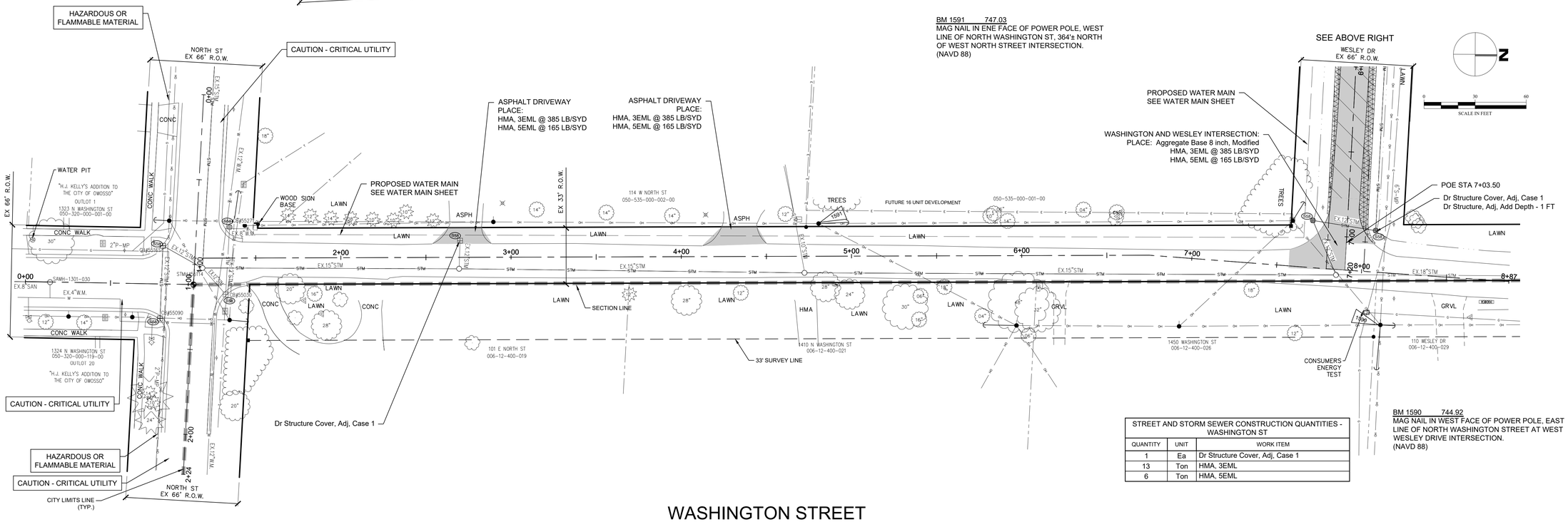


WESLEY DRIVE
CONSTRUCTION PLAN



WASHINGTON STREET
CONSTRUCTION PLAN

BM 1590 744.92
MAG NAIL IN WEST FACE OF POWER POLE, EAST
LINE OF NORTH WASHINGTON STREET AT WEST
WESLEY DRIVE INTERSECTION.
(NAVD 88)

CONSTRUCTION LEGEND

- Curb and Gutter, Conc, Det F4, Modified
- Sewer, SDR-26, __ inch, Tr Det B, Modified
- HMA
- HMA Base Crushing and Shaping, Modified
- Aggregate Base, 9 inch, Modified
- Driveway, Nonreinf, Conc, __ inch
- Approach, Cl I
- Sidewalk, Conc, __ inch
- Sidewalk, Ramp, Conc, __ inch
- STANDARD SOIL EROSION KEY

SANITARY SEWER CONSTRUCTION QUANTITIES - WESLEY DR		
QUANTITY	UNIT	WORK ITEM
26	Ft	Sewer, SDR-26, 6 inch, Tr Det B, Insulated, Modified
197	Ft	Sewer, SDR-26, 10 inch, Tr Det B, Insulated Modified
1	Ea	Dr Structure, Tap, 10 inch
1	Ea	Dr Structure, 48 inch dia, Sanitary, Modified
1	Ea	Dr Structure Cover, Type EJ 1040 w/ Solid Gasket Sealed Cover
140	Syd	Conc Pavt, Nonreinf, 9 inch

STREET AND STORM SEWER CONSTRUCTION QUANTITIES - WESLEY DR		
QUANTITY	UNIT	WORK ITEM
215	Cyd	Embankment, CIP
5	Cyd	Subbase, CIP
130	Cyd	Aggregate Base, LM, Modified
130	Syd	Aggregate Base, 8 inch, Modified
662	Syd	Aggregate Base, 9 inch, Modified
1757	Syd	HMA Base Crushing and Shaping, Modified
1757	Syd	Asphalt Cement Stabilized Base Course
2811	Gal	Asphalt Cement Binder
42	Ton	Shoulder, Cl I
126	Ft	Sewer, SDR-26, 10 inch, Tr Det B, Modified
40	Ft	Sewer, SDR-26, 12 inch, Tr Det B, Modified
4	Ea	Dr Structure Cover, Adj, Case 1
3	Ft	Dr Structure, Adj, Add Depth
1	Ea	Dr Structure, Tap, 12 inch
1	Ea	Dr Structure, 36 inch dia, Modified
1	Ea	Dr Structure, 48 inch dia, Modified
2	Ea	Dr Structure Cover, Type EJ 1040 w/ O2 Beehive Grate
369	Ton	HMA, 3EML
173	Ton	HMA, 5EML
40	Syd	Driveway, Nonreinf Conc, 6 inch
1800	Syd	Turf Establishment, Performance

STREET AND STORM SEWER CONSTRUCTION QUANTITIES - WASHINGTON ST		
QUANTITY	UNIT	WORK ITEM
1	Ea	Dr Structure Cover, Adj, Case 1
13	Ton	HMA, 3EML
6	Ton	HMA, 5EML

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WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS
CONSTRUCTION PLAN

APRIL 2025
PROJECT NO.

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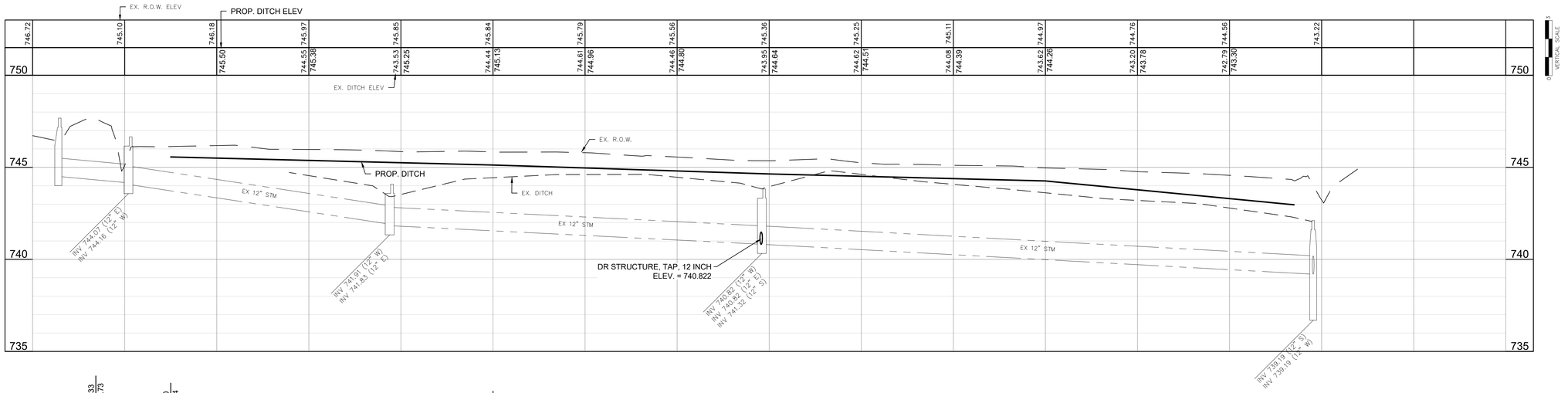
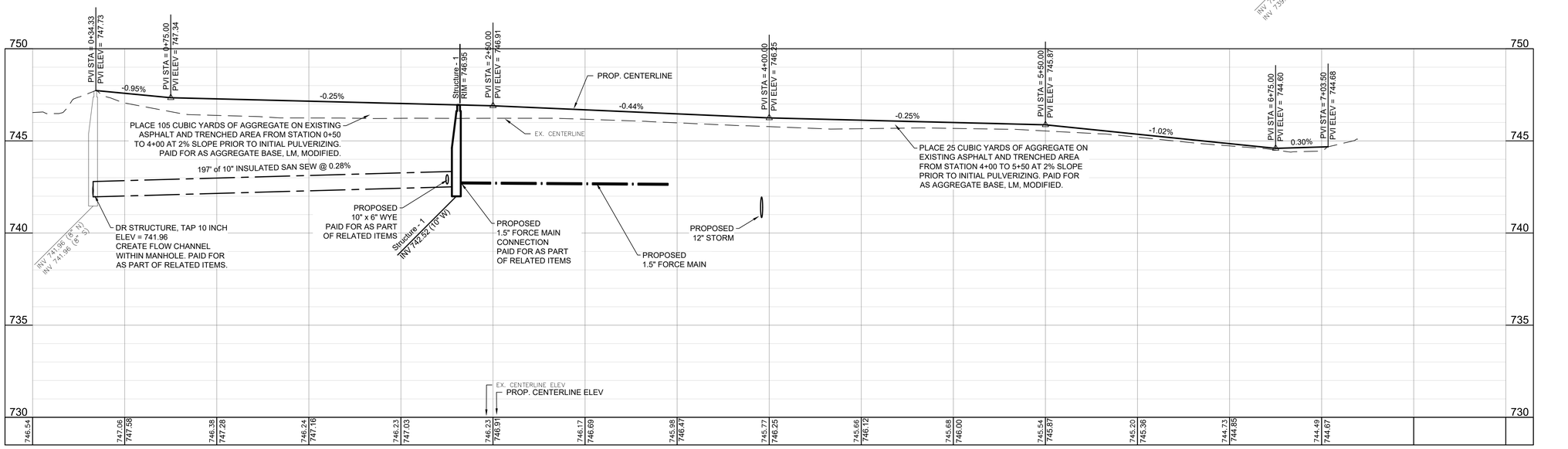
LEFT



CENTERLINE



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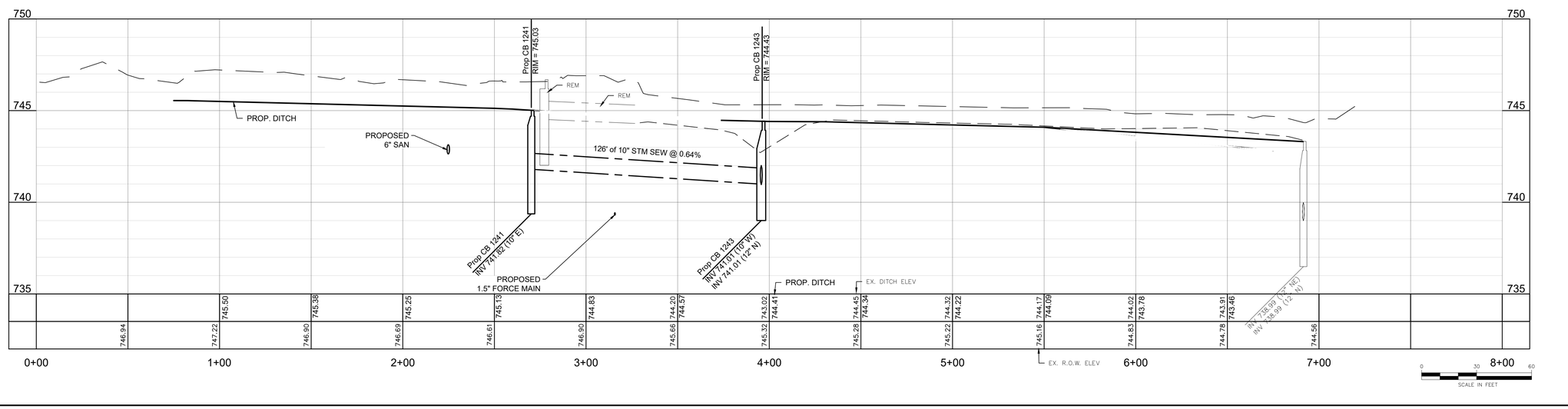

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WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS

CONSTRUCTION PROFILE
WESLEY DRIVE

APRIL 2025
PROJECT NO.

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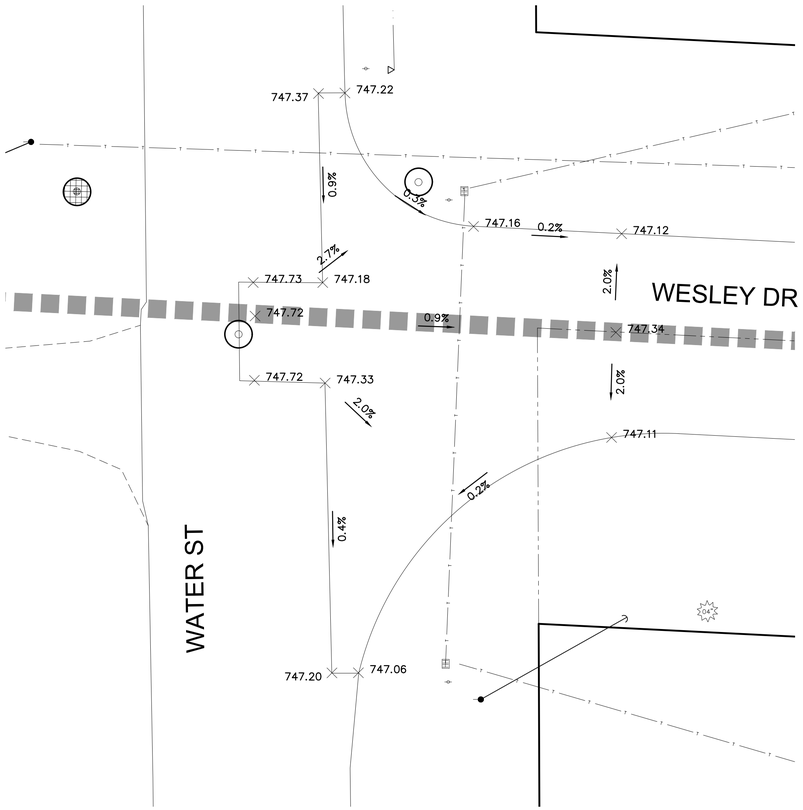
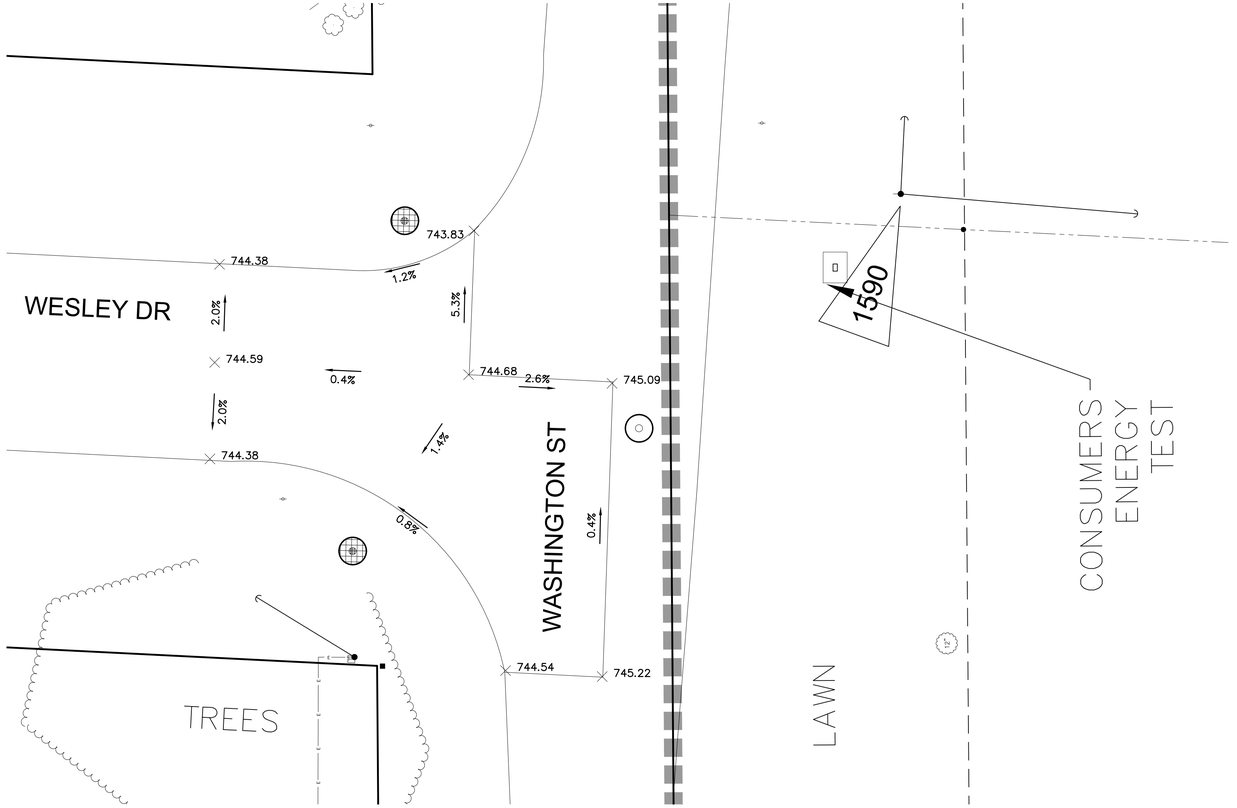
WATER ST AND WESLEY DR INTERSECTION



WASHINGTON ST AND WESLEY DR INTERSECTION



N

CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

NO.	REVISIONS	DATE	BY
1	ISSUED FOR BID PLANS	4/25/25	CW

ORIGINAL PLAN
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CHECKED BY

BENCH MARK DATA

ELEV.	DESCRIPTION

WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS

DETAIL GRADES

APRIL 2025
PROJECT NO.

FIELD BOOK
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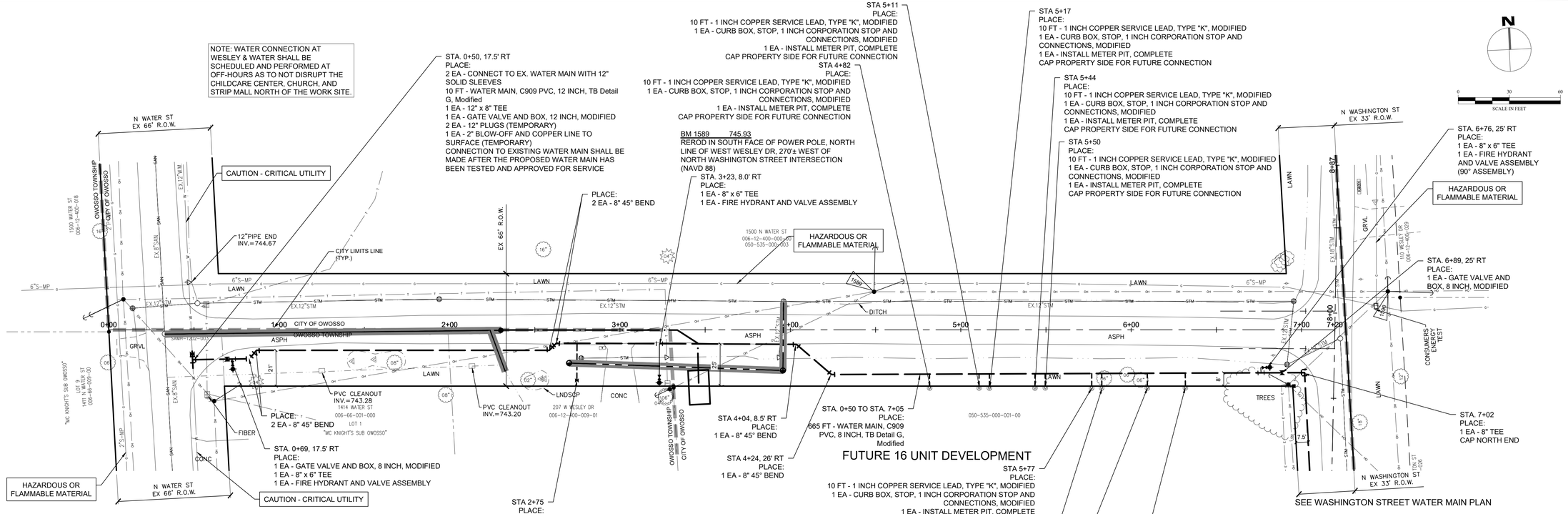
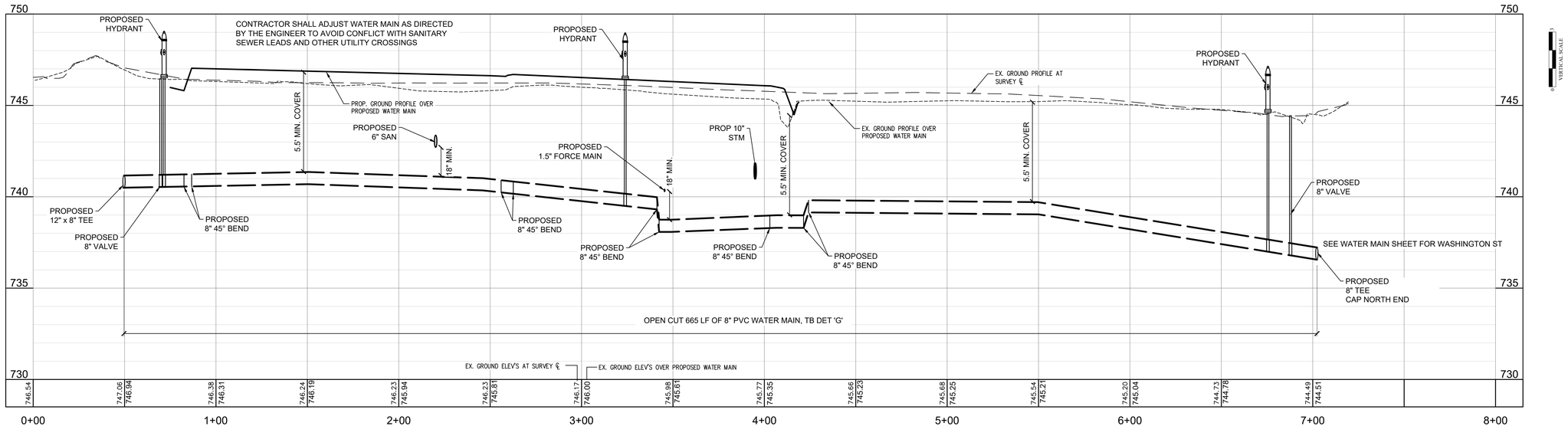
WESLEY DRIVE
WATER MAIN PLAN



WATER MAIN LEGEND

- WATER MAIN
- WATER SERVICE LINE
- CURB STOP
- METER PIT
- GATE VALVE AND BOX, _INCH
- REDUCER
- HYDRANT / VALVE
- WATER MAIN, REM

WATER MAIN QUANTITIES (THIS SHEET)		
QUANTITY	UNIT	WORK ITEM
2	EA	CONNECT TO EX. WATER MAIN
665	FT	WATER MAIN, C909 PVC, 8 INCH, TB DETAIL G, MODIFIED
10	FT	WATER MAIN, C909 PVC, 12 INCH, TB DETAIL G, MODIFIED
3	EA	FIRE HYDRANT AND VALVE ASSEMBLY
2	EA	GATE VALVE AND BOX, 8 INCH, MODIFIED
1	EA	GATE VALVE AND BOX, 12 INCH, MODIFIED
110	FT	1 INCH COPPER SERVICE LINE, TYPE "K", MODIFIED
10	EA	CURB BOX, STOP, 1 INCH CORPORATION STOP AND CONNECTION, MODIFIED
9	EA	INSTALL METER PIT, COMPLETE
750	SYD	TURF ESTABLISHMENT, PERFORMANCE



CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
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ORIGINAL PLAN APPROVED BY
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BENCH MARK DATA
DESCRIPTION
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WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS
WATER MAIN

FIELD BOOK
PG.
APRIL 2025
PROJECT NO.

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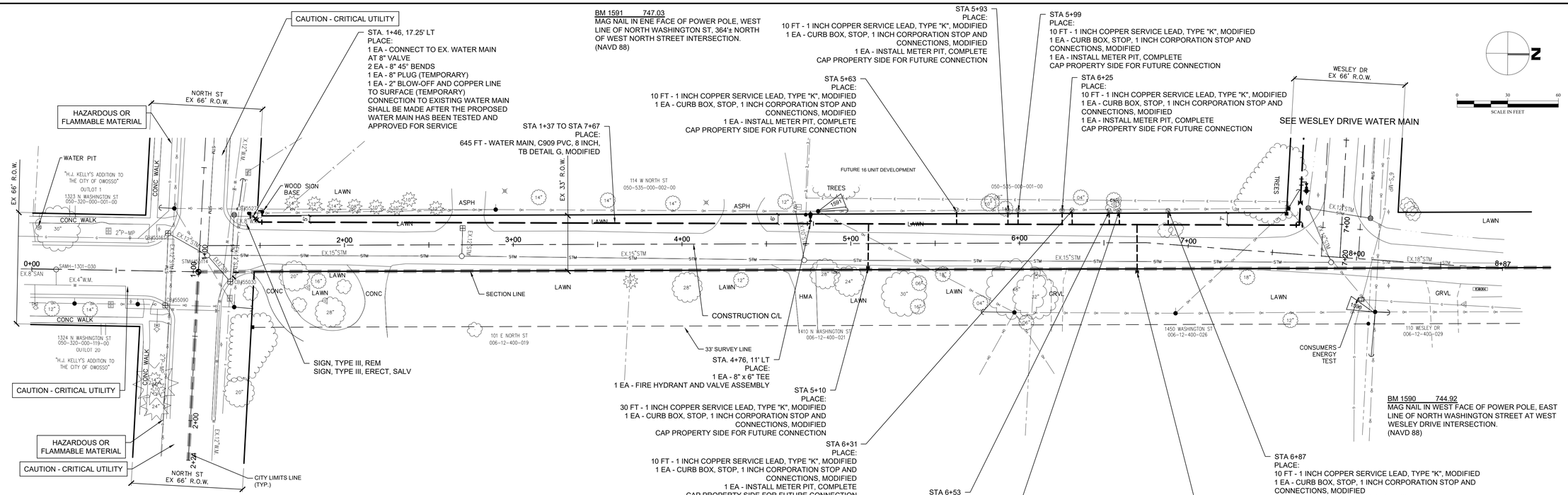
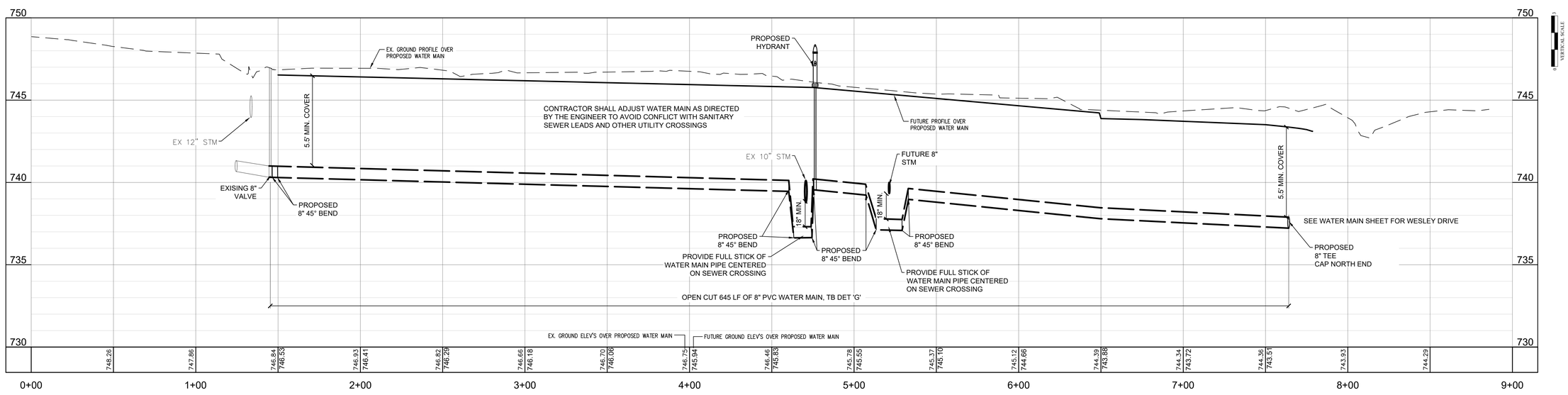


WATER MAIN LEGEND

- WATER MAIN
- WATER SERVICE LINE
- CURB STOP
- METER PIT
- GATE VALVE AND BOX, _INCH
- REDUCER
- HYDRANT / VALVE
- WATER MAIN, REM

WASHINGTON STREET
WATER MAIN PLAN

WATER MAIN QUANTITIES (THIS SHEET)		
QUANTITY	UNIT	WORK ITEM
1	EA	CONNECT TO EX. WATER MAIN
645	FT	WATER MAIN, C909 PVC, 8 INCH, TB DETAIL G, MODIFIED
1	EA	FIRE HYDRANT AND VALVE ASSEMBLY
140	FT	1 INCH COPPER SERVICE LINE, TYPE "K", MODIFIED
10	EA	CURB BOX, STOP, 1 INCH CORPORATION STOP AND CONNECTION, MODIFIED
8	EA	INSTALL METER PIT, COMPLETE
725	SYD	TURF RESTORATION, PERFORMANCE
1	EA	SIGN, TYPE III, REM
1	EA	SIGN, TYPE III, ERECT, SALV



CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

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ORIGINAL PLAN
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CHECKED BY

BENCH MARK DATA

DESCRIPTION	ELEV.

WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS
WATER MAIN

APRIL 2025
PROJECT NO.

FIELD BOOK
PG.

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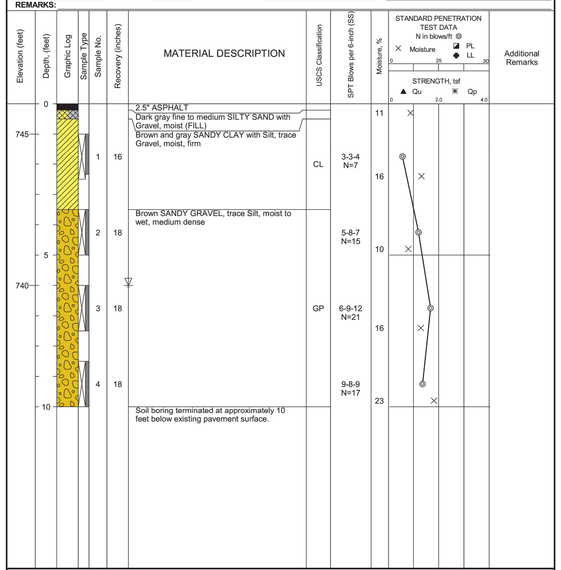
WESLEY DRIVE SOIL BORINGS

DATE STARTED: 3/30/21 **DRILL COMPANY:** PSI
DATE COMPLETED: 3/30/21 **DRILLER:** D. Guajardo **LOGGED BY:** I. Al-Hemyari
COMPLETION DEPTH 10.0 ft **DRILL RIG:** CME-55
BENCHMARK: N/A **DRILLING METHOD:** 3 1/4" HSA
ELEVATION: 746 ft **SAMPLING METHOD:** SS
LATITUDE: **HAMMER TYPE:** Automatic
LONGITUDE: **EFFICIENCY** N/A
STATION: N/A **OFFSET:** N/A **REVIEWED BY:** T. Khalaff
REMARKS:

BORING SB-01

Water		
	While Drilling	6 feet
	Upon Completion	N/A
	Cave Depth	N/A

BORING LOCATION: See Boring Location Diagram



intertek psi
Professional Service Industries, Inc.
3120 Sovereign Drive, Suite C
Lansing, MI 48911
Telephone: (517) 394-5700

PROJECT NO.: 0406-659
PROJECT: City of Owosso Wesley Drive Rehabilitation
LOCATION: Wesley Drive, Owosso, Michigan

The stratification lines represent approximate boundaries. The transition may be gradual.

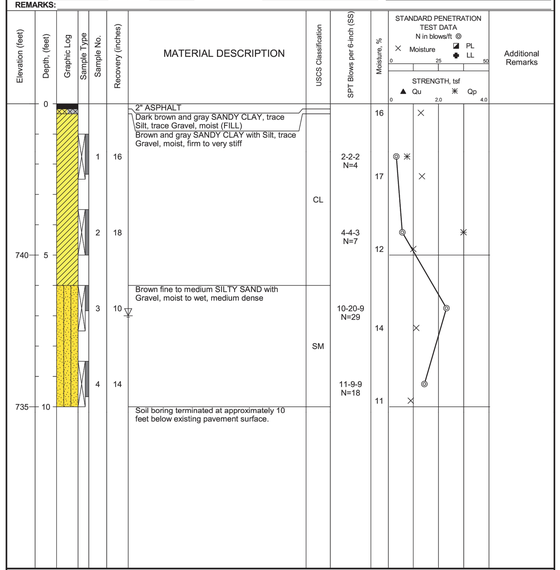
Sheet 1 of 1

DATE STARTED: 3/30/21 **DRILL COMPANY:** PSI
DATE COMPLETED: 3/30/21 **DRILLER:** D. Guajardo **LOGGED BY:** I. Al-Hemyari
COMPLETION DEPTH 10.0 ft **DRILL RIG:** CME-55
BENCHMARK: N/A **DRILLING METHOD:** 3 1/4" HSA
ELEVATION: 745 ft **SAMPLING METHOD:** SS
LATITUDE: **HAMMER TYPE:** Automatic
LONGITUDE: **EFFICIENCY** N/A
STATION: N/A **OFFSET:** N/A **REVIEWED BY:** T. Khalaff
REMARKS:

BORING SB-02

Water		
	While Drilling	7 feet
	Upon Completion	N/A
	Cave Depth	N/A

BORING LOCATION: See Boring Location Diagram



intertek psi
Professional Service Industries, Inc.
3120 Sovereign Drive, Suite C
Lansing, MI 48911
Telephone: (517) 394-5700

PROJECT NO.: 0406-659
PROJECT: City of Owosso Wesley Drive Rehabilitation
LOCATION: Wesley Drive, Owosso, Michigan

The stratification lines represent approximate boundaries. The transition may be gradual.

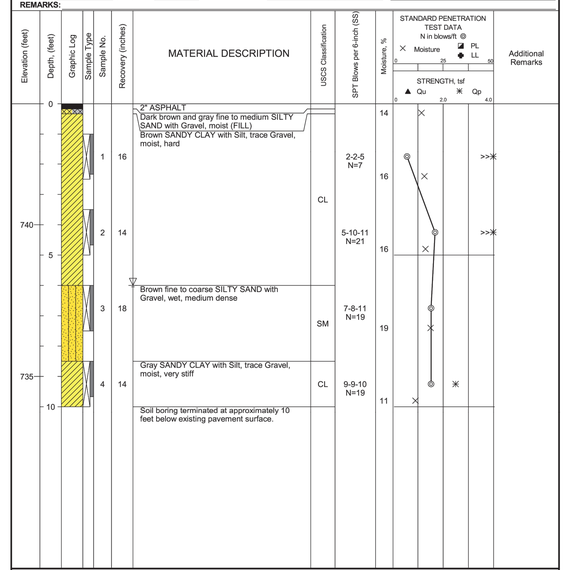
Sheet 1 of 1

DATE STARTED: 3/30/21 **DRILL COMPANY:** PSI
DATE COMPLETED: 3/30/21 **DRILLER:** D. Guajardo **LOGGED BY:** I. Al-Hemyari
COMPLETION DEPTH 10.0 ft **DRILL RIG:** CME-55
BENCHMARK: N/A **DRILLING METHOD:** 3 1/4" HSA
ELEVATION: 744 ft **SAMPLING METHOD:** SS
LATITUDE: **HAMMER TYPE:** Automatic
LONGITUDE: **EFFICIENCY** N/A
STATION: N/A **OFFSET:** N/A **REVIEWED BY:** T. Khalaff
REMARKS:

BORING SB-03

Water		
	While Drilling	6 feet
	Upon Completion	N/A
	Cave Depth	N/A

BORING LOCATION: See Boring Location Diagram



intertek psi
Professional Service Industries, Inc.
3120 Sovereign Drive, Suite C
Lansing, MI 48911
Telephone: (517) 394-5700

PROJECT NO.: 0406-659
PROJECT: City of Owosso Wesley Drive Rehabilitation
LOCATION: Wesley Drive, Owosso, Michigan

The stratification lines represent approximate boundaries. The transition may be gradual.

Sheet 1 of 1

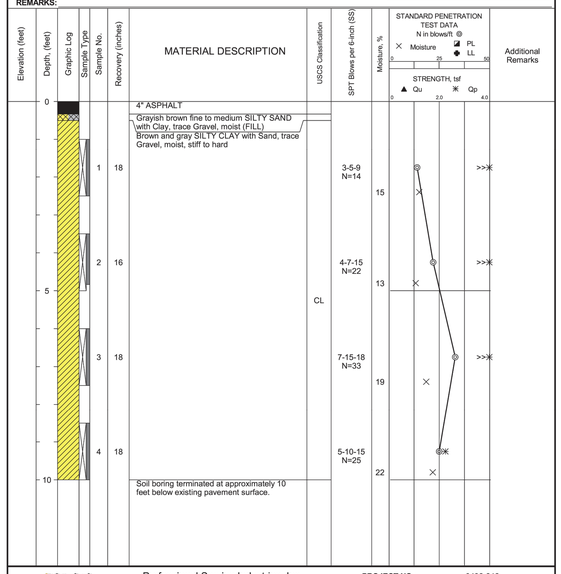
WASHINGTON STREET SOIL BORINGS

DATE STARTED: 3/11/21 **DRILL COMPANY:** PSI
DATE COMPLETED: 3/11/21 **DRILLER:** D. Guajardo **LOGGED BY:** I. Al-Hemyari
COMPLETION DEPTH 10.0 ft **DRILL RIG:** CME-55
BENCHMARK: N/A **DRILLING METHOD:** 3 1/4" HSA
ELEVATION: N/A **SAMPLING METHOD:** SS
LATITUDE: **HAMMER TYPE:** Automatic
LONGITUDE: **EFFICIENCY** N/A
STATION: N/A **OFFSET:** N/A **REVIEWED BY:** T. Khalaff
REMARKS:

BORING SB-01

Water		
	While Drilling	N/A
	Upon Completion	N/A
	Cave Depth	N/A

BORING LOCATION: N Washington Street



intertek psi
Professional Service Industries, Inc.
3120 Sovereign Drive, Suite C
Lansing, MI 48911
Telephone: (517) 394-5700

PROJECT NO.: 0406-646
PROJECT: City of Owosso Road Rehabilitaiton
LOCATION: Owosso, Michigan

The stratification lines represent approximate boundaries. The transition may be gradual.

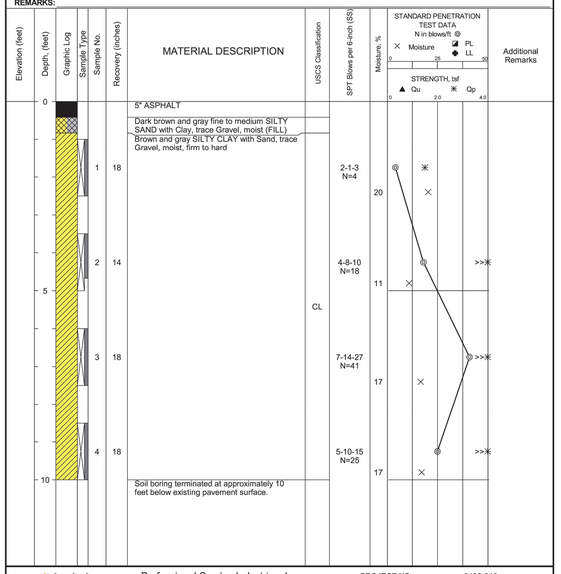
Sheet 1 of 1

DATE STARTED: 3/11/21 **DRILL COMPANY:** PSI
DATE COMPLETED: 3/11/21 **DRILLER:** D. Guajardo **LOGGED BY:** I. Al-Hemyari
COMPLETION DEPTH 10.0 ft **DRILL RIG:** CME-55
BENCHMARK: N/A **DRILLING METHOD:** 3 1/4" HSA
ELEVATION: N/A **SAMPLING METHOD:** SS
LATITUDE: **HAMMER TYPE:** Automatic
LONGITUDE: **EFFICIENCY** N/A
STATION: N/A **OFFSET:** N/A **REVIEWED BY:** T. Khalaff
REMARKS:

BORING SB-02

Water		
	While Drilling	N/A
	Upon Completion	N/A
	Cave Depth	N/A

BORING LOCATION: N Washington Street



intertek psi
Professional Service Industries, Inc.
3120 Sovereign Drive, Suite C
Lansing, MI 48911
Telephone: (517) 394-5700

PROJECT NO.: 0406-646
PROJECT: City of Owosso Road Rehabilitaiton
LOCATION: Owosso, Michigan

The stratification lines represent approximate boundaries. The transition may be gradual.

Sheet 1 of 1

CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
DEPT. OF PUBLIC SERVICE

NO.	REVISIONS	DATE	BY
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ORIGINAL PLAN APPROVED BY

CHECKED BY

BENCH MARK DATA
DESCRIPTION
ELEV.

WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS
SOIL BORINGS

FIELD BOOK
PG.

APRIL 2025
PROJECT NO.

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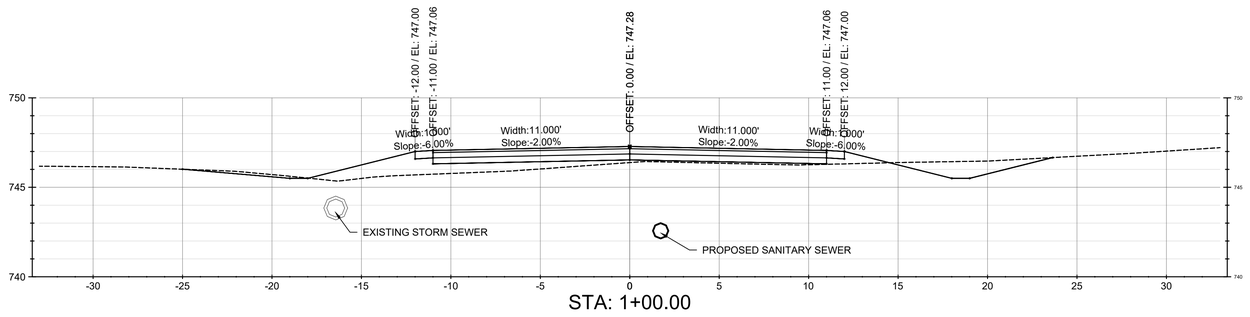

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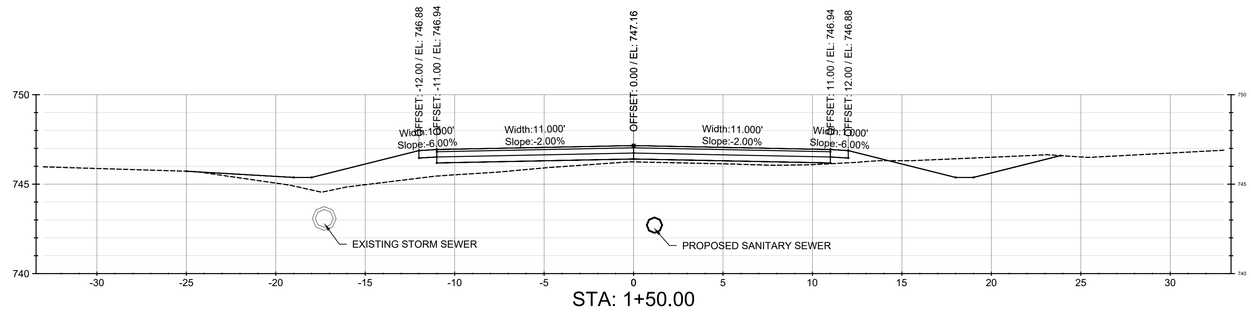

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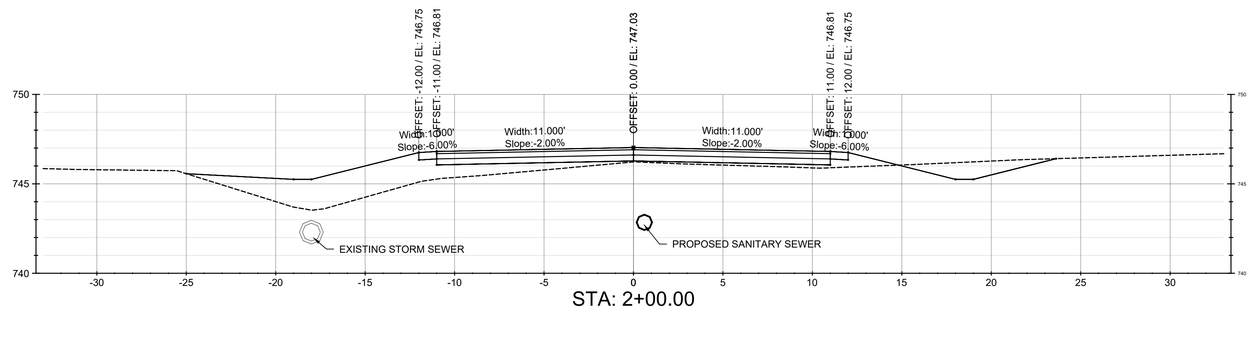

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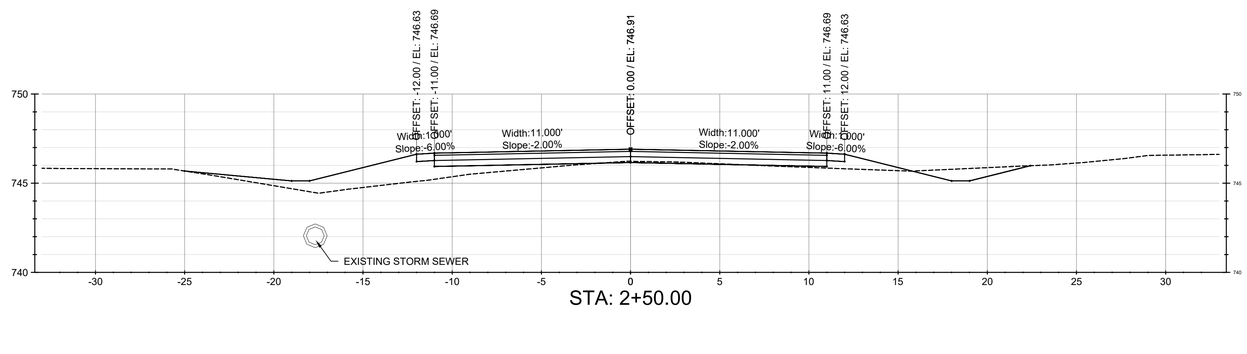

STA: 2+50.00

0 4 8
SCALE IN FEET

0 4
VERTICAL SCALE

CITY OF OWOSSO, MICHIGAN
ENGINEERING DIVISION
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	CHECKED BY		

BENCH MARK DATA

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WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS

CROSS SECTIONS
WESLEY DRIVE

APRIL 2025
PROJECT NO.

FIELD BOOK
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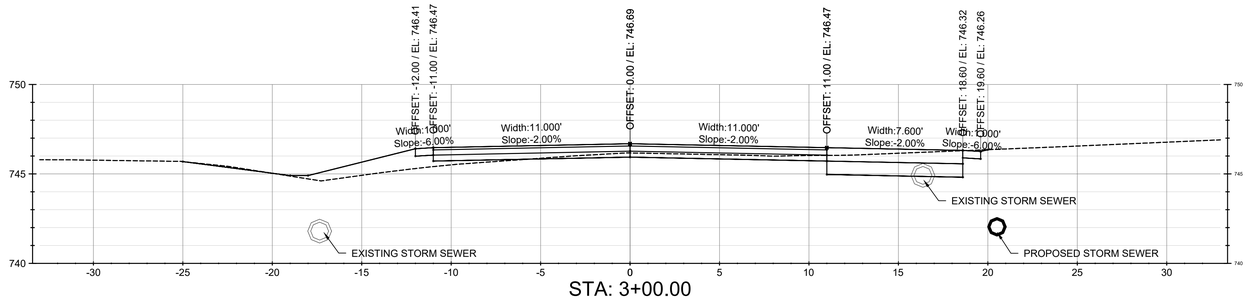

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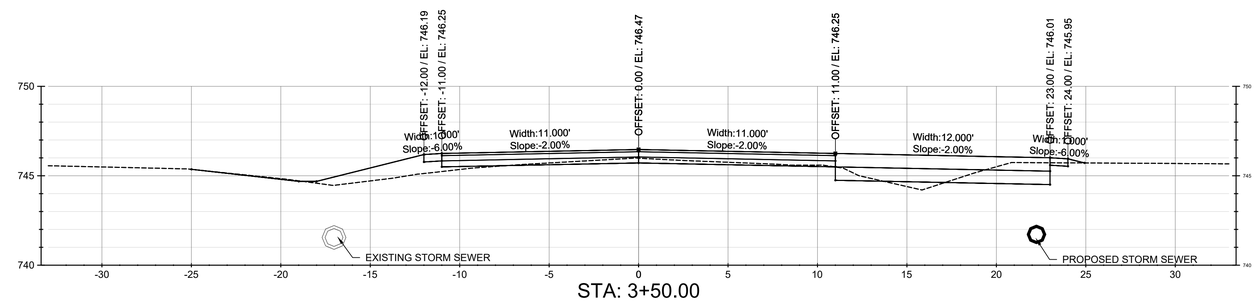

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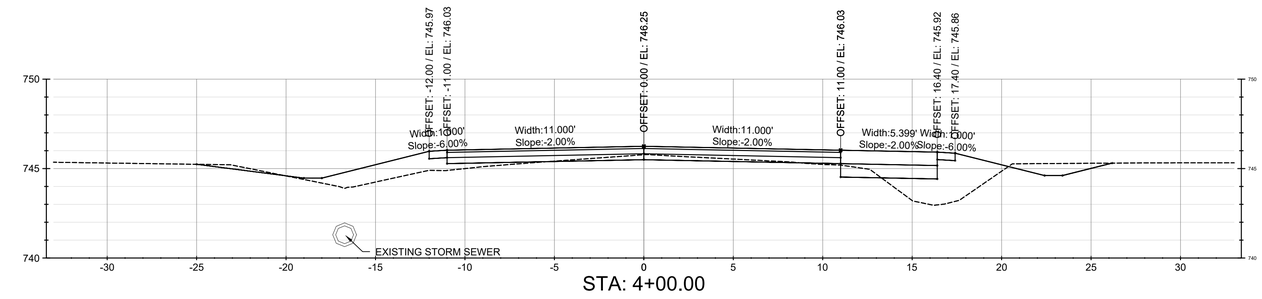

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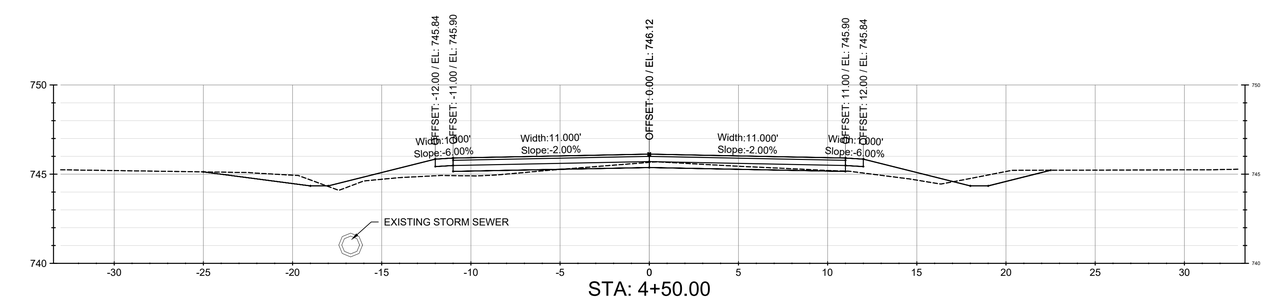

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VERTICAL SCALE

SCALE IN FEET

CITY OF OWOSSO, MICHIGAN
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WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS

CROSS SECTIONS
WESLEY DRIVE

APRIL 2025
PROJECT NO.

FIELD BOOK
PG.

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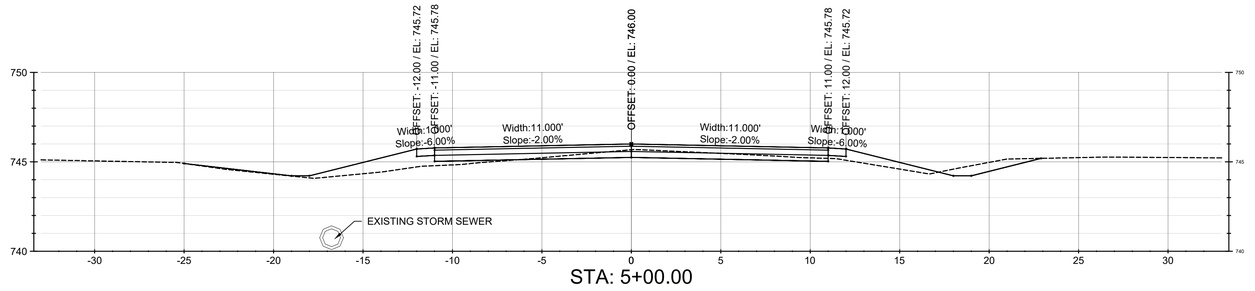

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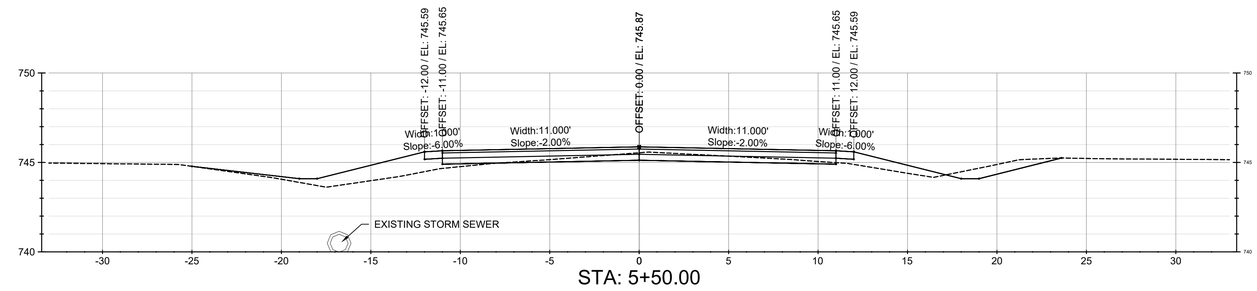

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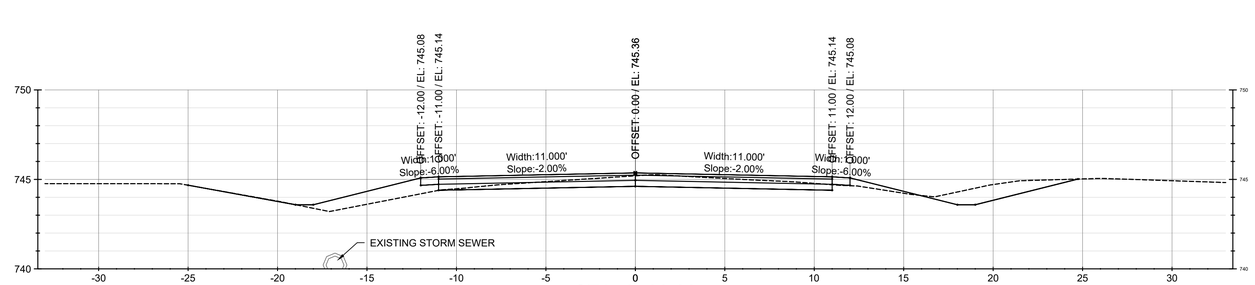

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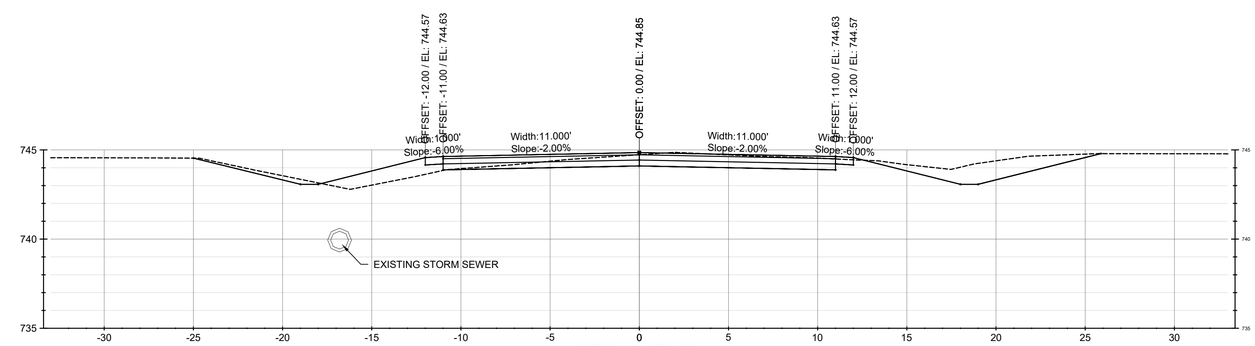

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CITY OF OWOSSO, MICHIGAN
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APPROVED BY

BENCH MARK DATA

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WASHINGTON PARK UTILITY EXTENSION PROJECT
PART ONE: UTILITY AND ROADWAY IMPROVEMENTS

CROSS SECTIONS
WESLEY DRIVE

APRIL 2025
PROJECT NO.

FIELD BOOK
PG.

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SITE LEGEND

SITE SYMBOLS

FEATURES

- EXISTING SIGN
- PROPOSED SIGN
- TRASH RECEPTACLE
- PICNIC TABLE
- POST
- MAIL BOX
- POWER METER
- FLAG POLE
- ROCK
- GUY WIRE
- UTILITY POLE
- DECIDUOUS TREE
- EVERGREEN TREE
- SHRUB
- STUMP

STORM / DRAINAGE

- EXISTING MANHOLE
- PROPOSED MANHOLE
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN

MISCELLANEOUS

- MONITORING WELL
- SOIL BORING
- MANHOLE W/ ID
- SPOT ELEVATION
- SLOPE ARROW
- SLOPE ARROW
- ADA MARKING
- (F) FUTURE IMPROVEMENTS

SURVEY

- FOUND PROPERTY CORNER
- SET PROPERTY CORNER
- FOUND MONUMENT
- SET MONUMENT
- OWNERSHIP TIE
- SECTION CORNER
- BM-1 BENCHMARK
- KEY NOTE
- SOIL EROSION AND SEDIMENTATION CONTROL NOTE

UTILITY SYMBOLS

WATER

- DRINKING FOUNTAIN
- EXISTING VALVE IN BOX
- PROPOSED VALVE IN BOX
- EXISTING CURB STOP
- PROPOSED CURB STOP
- METER
- EXISTING VALVE MANHOLE
- PROPOSED VALVE MANHOLE
- EXISTING WELL
- PROPOSED WELL
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- SPRINKLER HEAD
- IRRIGATION BOX
- SPIGOT
- LOCATION FLAG

SANITARY SEWER

- EXISTING MANHOLE
- PROPOSED MANHOLE
- EXISTING AIR RELEASE STRUCTURE
- PROPOSED AIR RELEASE STRUCTURE
- EXISTING IN-LINE FLUSH CONNECTION
- PROPOSED IN-LINE FLUSH CONNECTION
- EXISTING IN-LINE FLUSH CONNECTION
- PROPOSED IN-LINE FLUSH CONNECTION
- EXISTING CLEAN OUT
- PROPOSED CLEAN OUT
- EXISTING SEWER VALVE
- PROPOSED SEWER VALVE
- EXISTING CURB STOP
- PROPOSED CURB STOP
- PUMP STATION (SIMPLEX)
- PUMP STATION (DUPLEX)
- SEWER LATERAL
- LOCATION FLAG

NATURAL GAS

- MARKER
- LOCATION FLAG
- VALVE

CABLE TV

- RISER
- LOCATION FLAG
- JUNCTION BOX

COMMUNICATIONS

- TELEPHONE
- BOX OR RISER
- JUNCTION BOX
- FIBER OPTIC BOX
- LOCATION FLAG
- FIBER OPTIC FLAG
- MANHOLE
- VAULT
- SATELLITE DISH

UTILITY SYMBOLS (CONT.)

ELECTRICAL

- METER
- TRANSFORMER
- BOX OR RISER
- LOCATION FLAG
- LIGHT POLE
- EXTERIOR BUILDING LIGHT
- TRAFFIC SIGNAL POLE
- TRAFFIC SIGNAL CONTROL (BOX)
- RAIL ROAD SIGNAL
- MANHOLE
- JUNCTION BOX

FEATURE HATCHING

- EXISTING ASPHALT TO BE DEMOLISHED
- EXISTING CONCRETE TO BE DEMOLISHED
- PROPOSED PAVEMENT AS NOTED ON DRAWINGS
- PROPOSED CONCRETE PAVEMENT
- PROPOSED LIGHT DUTY HOT MIX ASPHALT (HMA) PAVEMENT
- PROPOSED HEAVY DUTY HOT MIX ASPHALT (HMA) PAVEMENT
- PROPOSED GRAVEL
- WETLAND AREA
- PROPOSED SOD

FEATURES & FEATURE LINES

- LIMITS OF CONSTRUCTION
- RIGHT OF WAY LINE
- SECTION LINE
- UTILITY EASEMENTS
- EXISTING CONTOUR - MAJOR (900)
- EXISTING CONTOUR - MINOR (899)
- PROPOSED CONTOUR - MAJOR (899)
- PROPOSED CONTOUR - MINOR (899)
- EROSION SILT FENCE (SF)
- EROSION SUPER SILT FENCE (SSF)
- FENCE (WOOD)
- FENCE (STEEL)
- FLOOD HAZARD AREA
- FLOW ARROW
- GUARD RAILING
- GRAVEL ROAD OR DRIVE
- RAIL ROAD TRACKS
- ROCK RETAINING WALL
- TREE / BRUSH LINES
- CLEARING & GRUBBING LIMITS
- WATER EDGES
- DITCH CENTER LINE
- WETLAND BOUNDARY
- PROPOSED STRUCTURE
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- EXISTING UNDERGROUND STRUCTURE
- FUTURE STRUCTURE

UTILITY LINES

- CABLE TV OVERHEAD (OTV)
- CABLE TV UNDERGROUND (UTV)
- COMMUNICATION FIBER OPTIC (FO)
- COMMUNICATION OVERHEAD (OT)
- COMMUNICATION UNDERGROUND (UT)
- ELECTRIC OVERHEAD (OE)
- ELECTRIC UNDERGROUND (UE)
- NATURAL GAS (G)
- NATURAL GAS HIGH PRESSURE (HPG)
- SANITARY FORCEMAIN (FM)
- SANITARY SEWER (SS)
- COMBINED SANITARY SEWER (CSS)
- STORM DRAIN (SD)
- STORM ROOF DRAIN (RD)
- STEAM (SM)
- FIRE PROTECTION (F)
- WATER MAIN (W)
- UTILITY LINE 36" AND LARGER (36"SS)

NOTE: HEAVIER LINE WEIGHTS INDICATE PROPOSED WORK.

NOTES:

GENERAL

1. THE DRAWINGS INDICATE THE GENERAL EXTENT OF THE WORK. THE DRAWINGS ARE NOT INTENDED TO INDICATE OR DESCRIBE ALL WORK REQUIRED FOR THE FULL PERFORMANCE AND COMPLETION OF THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, ON THE BASIS OF THE GENERAL PERFORMANCE CRITERIA AND GENERAL EXTENT OF THE WORK INDICATED, DESCRIBED OR REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SHALL VERIFY ALL NEW AND EXISTING CONDITIONS, SHOWN ON THESE DRAWINGS, AT THE SITE. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING FOR ANY DISCREPANCIES, OMISSIONS AND/OR CONFLICTS BEFORE COMMENCEMENT OF WORK. COMMENCEMENT OF WORK SHALL CONSTITUTE ACCEPTANCE OF ALL NEW OR EXISTING WORK.
3. CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES AND REGULATORY AGENCIES.
4. ALL WORK SHALL CONFORM TO APPLICABLE INDUSTRY AND MANUFACTURER'S PUBLISHED STANDANDS FOR QUALITY OF MATERIALS AND WORKMANSHIP, AS WELL AS, ALL REQUIREMENTS IN THESE DRAWINGS AND SPECIFICATIONS. ANY CONFLICTING REQUIREMENTS OF THE SOURCE LISTED ABOVE SHALL BE BROUGHT UP TO THE CITY'S REPRESENTATIVE'S ATTENTION PRIOR TO PROCEEDING WITH THE WORK.

UTILITIES

1. FOR THE PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CONTACT MISS DIG SYSTEM, INC. BY PHONE AT 811 OR VIA THE WEB AT MISSDIG.ORG, A MINIMUM OF 3 BUSINESS DAYS PRIOR TO EXCAVATING, EXCLUDING WEEKENDS AND HOLIDAYS.
2. UNDERGROUND UTILITIES AS SHOWN HEREON WERE TAKEN FROM EXISTING PLANS AND ARE APPROXIMATE LOCATIONS ONLY. UNDERGROUND UTILITY LOCATIONS HAVE NOT BEEN FIELD VERIFIED.
3. UNLESS SPECIFICALLY NOTED FOR REMOVAL ON THE CONSTRUCTION PLANS, ALL ROADWAYS, DRIVES, CULVERTS AND ABOVE GROUND UTILITIES DAMAGED OR DESTROYED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED, INCIDENTAL TO THE COST OF CONSTRUCTION, AT NO EXPENSE TO THE OWNER.
4. THE EXISTING GAS MAINS AND UNDERGROUND TELEPHONE, ELECTRIC AND CABLE TELEVISION CONDUITS AND/OR LINES ARE NOT SHOWN. CONTACT THE MISS DIG SYSTEM PRIOR TO WORK FOR LOCATION AND DEPTH OF THESE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THESE UTILITIES WHICH ARE NOT WITHIN THE SPACE OCCUPIED BY COMPLETED PIPES OR STRUCTURES THAT ARE A PART OF THIS CONTRACT. DURING CONSTRUCTION, IF DAMAGED OR DESTROYED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COSTS TO REPAIR OR REPLACE THEM AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. THE CONTRACTOR SHALL PROTECT EXISTING STORM SEWERS IN A MANNER ACCEPTABLE TO THE ENGINEER DURING THE PROPOSED CONSTRUCTION. ANY UTILITY, WHICH IS TO REMAIN IN SERVICE THAT IS DAMAGED OR DESTROYED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PROPERLY IDENTIFIED EXISTING WATER MAINS AND/OR EXISTING SEWERS DURING THE CONSTRUCTION OF THIS PROJECT.
7. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT POINTS OF POSSIBLE CONFLICT SO THAT THESE CONFLICTS CAN BE RESOLVED.

TRAFFIC CONTROL

1. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE CURRENT MMUTCD MANUAL.

SOIL EROSON AND SEDIMENTATION CONTROL (SESC)

1. ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. ALL APPLICABLE SESC MEASURES WILL BE INSTALLED PRIOR TO OR IN CONJUNCTION WITH THE START OF CONSTRUCTION AND REMAINING EFFECT UNTIL AREAS ARE STABILIZED.
3. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTORS TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENT CONTROL WORK, AND ANY NECESSARY REPAIRS SHALL BE MADE WITHOUT DELAY.
4. EROSION AND SEDIMENTATION FROM WORK ON THE PROJECT SHALL NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE MAN MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.
5. CONTRACTOR SHALL APPLY TEMPORARY SESC MEASURES AS REQUIRED AND AS DIRECTED ON THESE PLANS. THEY SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, DITCHES, AND OTHER EARTH CHANGES HAS BEEN ACCOMPLISHED.
6. PERMANENT SESC MEASURES FOR ALL SLOPES, CHANNELS, DITCHES OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING. WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH CHANGE HAS BEEN COMPLETED OR WHERE SIGNIFICANT EARTH CHANGE ACTIVITY CEASES. TEMPORARY SESC MEASURES SHALL BE IMPLEMENTED WITHIN 30 CALENDAR DAYS. ALL TEMPORARY SESC MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SESC MEASURES ARE IMPLEMENTED.

PROPERTY

1. ANY DAMAGE TO EXISTING LAWN SPRINKLER SYSTEMS AND/OR LANDSCAPING SHALL BE REPAIRED BY THE CONTRACTOR. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN OTHER ITEMS OF WORK.

SURVEY

1. CONTRACTOR TO VERIFY ALL ELEVATIONS AND LOCATIONS AS REQUIRED TO COMPLETE THE WORK.

CONSTRUCTION SPECIFIC NOTES

1. ALL DISTURBED AREAS SHALL BE RESTORED WITH 4-INCHES OF TOPSOIL, FERTILIZER, 3 POUNDS OF THM SEED MIXTURE AS DEFINED BY MDOT SPECIFICATIONS FOR SEED MIXTURES, TABLE 917-1, WITH MDOT CLASS A FERTILIZERS PER THOUSAND SQUARE FEET OF AREA. TOPSOIL SHALL BE RICH, BLACK SURFACE EARTH, FREE FROM SOD, WEED STALKS AND DEBRIS. SEEDED AREAS SHALL RECEIVE A PROPER MULCH OF CHOPPED STRAW, JUTE MATTING OR WOVEN KRAFT PAPER YARN.
2. CONTRACTOR SHALL NOT UTILIZE ANY PAVED ROADWAYS FOR TRACK EQUIPMENT OPERATION OR STORAGE.

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ANN ARBOR, MI 48103
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MARK	DATE	DESCRIPTION
	6/28/22	90% SUBMITTAL
	12/4/24	ISSUE FOR BID

BY

CITY OF OWOSSO, MICHIGAN
WASHINGTON PARK LIFT STATION

PART TWO GENERAL NOTES & LEGEND

Project No.: 200-280565-22001
Designed By:
Drawn By:
Checked By:

C-001

Bar Measures 1 inch

4/10/2025 9:02:32 AM - O:\PROJECTS\ANN ARBOR\IER\280565\200-280565-22001\CAD\SHEETFILES\C-001_LEGEND & NOTES.DWG - SMITH, ADAM4

1500 N WATER ST
006-12-400-000-00
050-535-000-003

207 W WESLEY DR
006-12-400-009-01

W. WESLEY DR.

6"S-MP

EX.12"STM

1589

CONNECT TO EX. SANITARY MANHOLE

CONCRETE PULL OFF LANE, INCL. IN PART ONE WORK

1.5" FORCE MAIN

CONCRETE DRIVE REPLACEMENT, INCL. IN PART ONE WORK

VALVE BOX

FLUSHING VALVE ACCESS SEE DETAIL SHEET C-502

PROPOSED OH ELECTRIC, SEE ELECTRICAL SHEET E-101

10.8' TAPER

50.0' LANE

50.0' TAPER

MATCH ELEVATIONS

TOP OF CONCRETE 746.05'

TOP OF CONCRETE 746.00'

BOLLARD RIM 746.15
8-IN (E) 739.15
1 1/4-IN (FM) 739.81

TOP OF CONCRETE 745.91'

1' WIDE GRAVEL SHOULDER, INCL. IN PART ONE WORK

TOP OF CONCRETE 746.12'

BOLLARD

PROPOSED HYDRANT, INCL. IN PART ONE WORK

8 INCH CAP INV. 739.21

EX. UTILITY POLE

12-FOOT 8-INCH PVC SANITARY SEWER 0.50%

CONTROL PANEL/ATS

PACKAGE DUPLEX LIFT STATION

CONCRETE PAD, TOP OF CONCRETE ELEV. 746.00' SEE DETAIL SHEET C-501.

25'X25' WIDE UTILITY EASEMENT

GENERATOR, SEE ELECTRICAL SHEETS FOR DETAILS

PROPOSED UTILITY POLE, SEE ELECTRICAL SHEET E-101

FUTURE SANITARY BY OTHERS

FUTURE DRIVE CONSTRUCTION, BY OTHERS

OWOSSO TOWNSHIP

CITY OF OWOSSO

SCALE: 1" = 10'

Bar Measures 1 inch

4/10/2025 9:03:06 AM - O:\PROJECTS\ANN ARBOR\IER\280565200-280565-22001\CADSHEETFILES\C-101 PROPOSED SITE PLAN.DWG - SMITH, ADAM4

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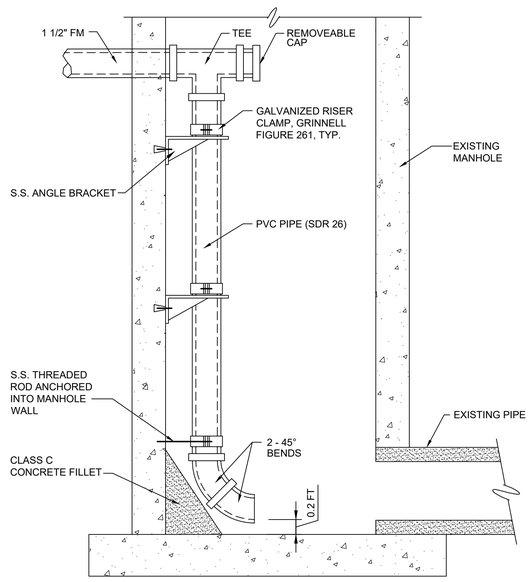
CITY OF OWOSSO, MICHIGAN
WASHINGTON PARK LIFT STATION

PART TWO
PROPOSED SITE PLAN

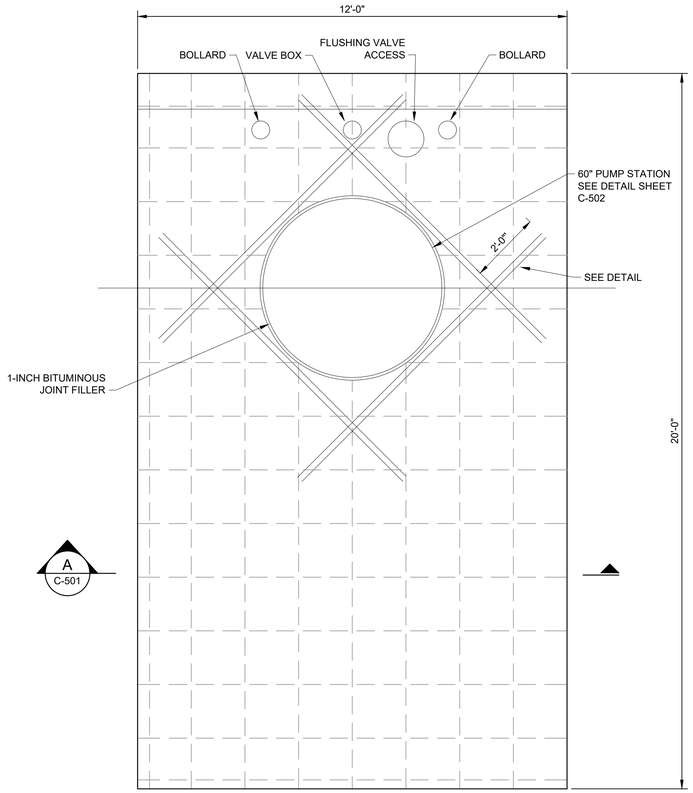
Project No.: 200-280565-22001
Designed By:
Drawn By:
Checked By:

C-101



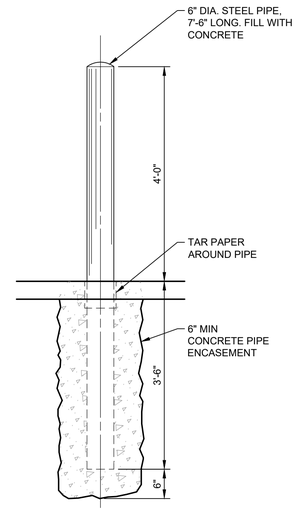
INTERIOR-DROP MANHOLE DETAIL

NO SCALE



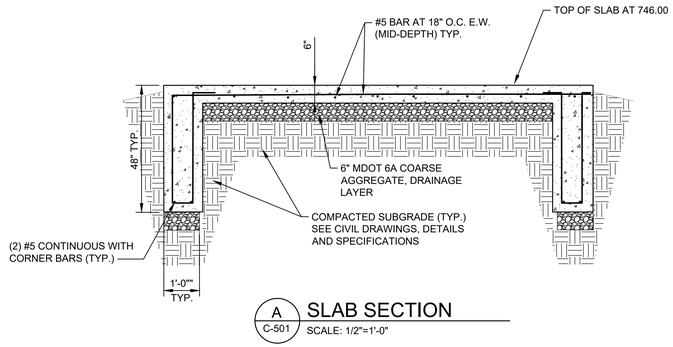
PUMP STATION SLAB PLAN

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



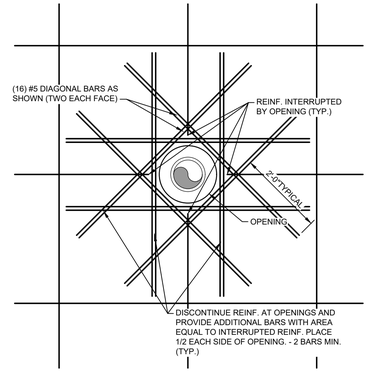
BOLLARD DETAIL

SCALE: 3/4"=1'-0"



SLAB SECTION

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



TYPICAL REINF. STEEL AT OPENING

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WASHINGTON PARK LIFT STATION

PART TWO STANDARD DETAILS

Project No.: 200-280565-22001
Designed By:
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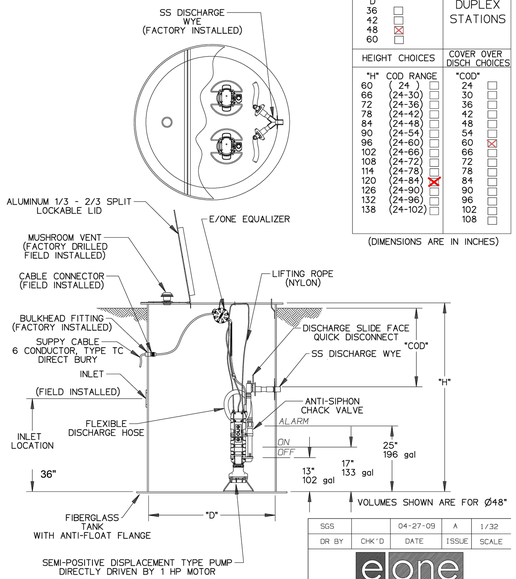
Checked By:

C-501

Bar Measures 1 inch



DIAMETER CHOICES	
"D"	
36	☐
42	☐
48	☒
60	☐

W SERIES DUPLEX STATIONS

HEIGHT CHOICES			COVER OVER DISCH. CHOICES
"H"	COD RANGE		"COD"
60	(24)	☐	24 ☐
66	(24-30)	☐	30 ☐
72	(24-36)	☐	36 ☐
78	(24-42)	☐	42 ☐
84	(24-48)	☐	48 ☐
90	(24-54)	☐	54 ☐
96	(24-60)	☐	60 ☒
102	(24-66)	☐	66 ☐
108	(24-72)	☐	72 ☐
114	(24-78)	☐	78 ☐
120	(24-84)	☒	84 ☐
126	(24-90)	☐	90 ☐
132	(24-96)	☐	96 ☐
138	(24-102)	☐	102 ☐
			108 ☐

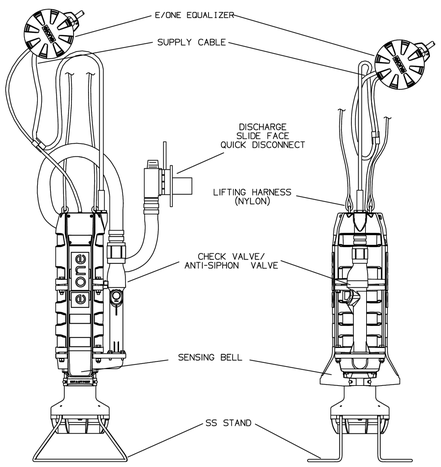
(DIMENSIONS ARE IN INCHES)

SGS		04-27-09	A	1/32
DR BY	CHK'D	DATE	ISSUE	SCALE

e/one SEWER SYSTEMS

DETAIL SHEET, W SERIES DUPLEX

NA0156P01



EXPLOSION PROOF GRINDER PUMP

NOTE:

THE PUMP ASSEMBLIES ARE LISTED BY ETL TO FACTORY MUTUAL (FM) STANDARDS FOR CLASS 1, DIVISION 1, GROUP D, THE LEVEL CONTROL SYSTEM, INTEGRAL TO THE PUMP, IS INTRINSICALLY SAFE

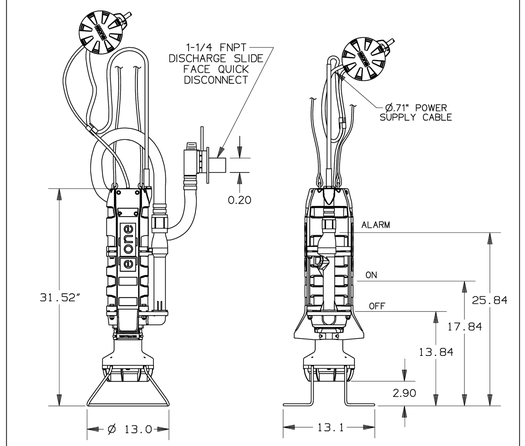
ALSO AVAILABLE APPROVED BY CSA FOR CLASS 1, DIVISION 1, GROUP D

AD	DB	12/09/10	A	
DR BY	CHK'D	DATE	ISSUE	SCALE

e/one SEWER SYSTEMS

EXPLOSION PROOF GRINDER PUMPS

LM000373



EXPLOSION PROOF GRINDER PUMP

NOTE:

THE PUMP ASSEMBLIES ARE LISTED BY ETL TO FACTORY MUTUAL (FM) STANDARDS FOR CLASS 1, DIVISION 1, GROUP D, THE LEVEL CONTROL SYSTEM, INTEGRAL TO THE PUMP, IN INTRINSICALLY SAFE

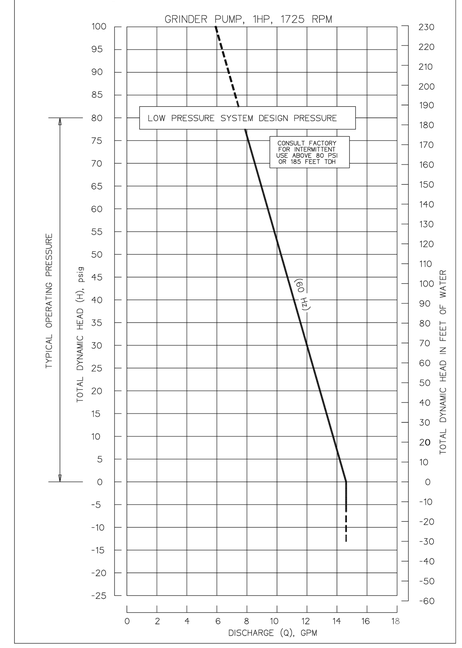
ALSO AVAILABLE APPROVED BY CSA FOR CLASS 1, DIVISION 1, GROUP D

AD	DB	12/09/10	A	
DR BY	CHK'D	DATE	ISSUE	SCALE

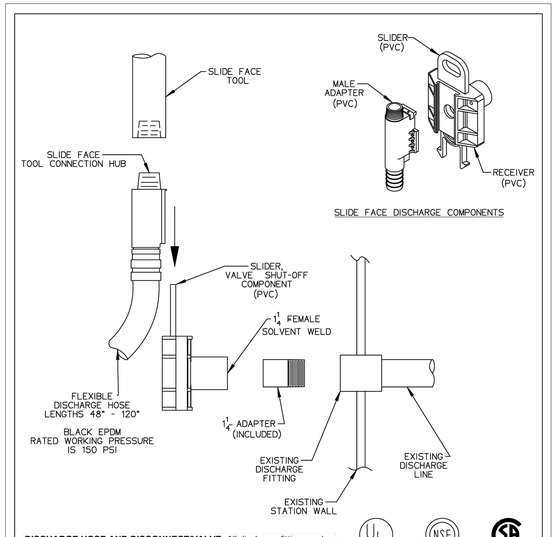
e/one SEWER SYSTEMS

DIMENSION SHEET, EXPLOSION PROOF

LM000374



ESD 08-0022 REV. 2, 6/08



DISCHARGE HOSE AND DISCONNECT/VALVE: All discharge fittings and piping shall be constructed of polypropylene, EPDM or PVC. The discharge hose assembly shall include a shut-off valve rated for 200 psi WOG and a quick disconnect feature to simplify installation and pump removal. The bulkhead penetration shall be factory installed and warranted by the manufacturer to be watertight.

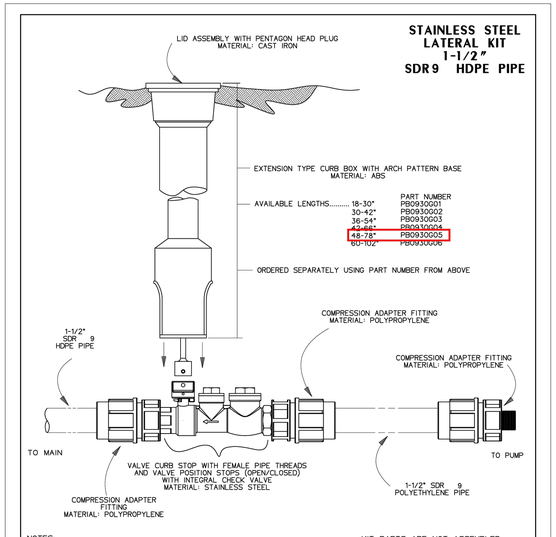
SLIDE FACE ASSEMBLY

SGS		08/09/12	3	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

e/one SEWER SYSTEMS

SLIDEFACE DISCHARGE DETAIL

ESD 09-0136



NOTES:

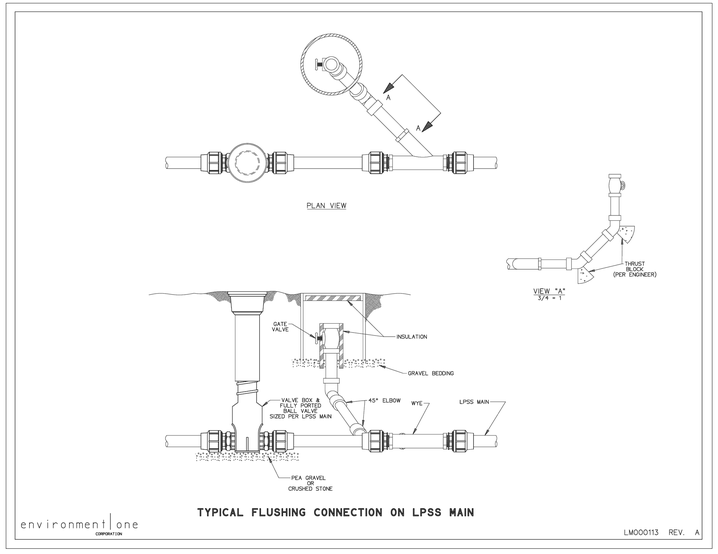
1. SS CURB STOP/CHECK VALVE AND FITTINGS ARE PROVIDED SEPARATELY, TO BE ASSEMBLED BY CONTRACTOR
2. TO ASSEMBLE, APPLY A DOUBLE LAYER OF TEFLON TAPE, AND A LAYER OF PIPE DOPE (BY CONTRACTOR) TO THE THREADS ON THE PLASTIC FITTINGS AND INSTALL PER THE MANUFACTURER'S INSTRUCTIONS
   *FOR SS FITTING INTO SS THREAD, USE EITHER PIPE DOPE OR TEFLON TAPE, NOT BOTH
3. ASSEMBLY IS TO BE PRESSURE TESTED

KIT PARTS ARE NOT ASSEMBLED

SGS	DN	11/02/11	B	3/16
DR BY	CHK'D	DATE	ISSUE	SCALE

e/one SEWER SYSTEMS

STAINLESS STEEL LATERAL KIT 1-1/2" SDR9 HDPE PIPE



TYPICAL FLUSHING CONNECTION ON LPSS MAIN

environment one CORPORATION

LM000113 REV. A

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BY

CITY OF OWOSSO, MICHIGAN
WASHINGTON PARK LIFT STATION

PART TWO PUMP STATION DETAILS

Project No.: 200-280565-22001
Designed By:
Drawn By:
Checked By:

C-502

Bar Measures 1 inch

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BACKGROUND PLAN AND ONE LINE SYMBOLS

SYMBOL	DESCRIPTION
	CONTROL SWITCH (SEL. OR P.B.) SEE CIRCUITS FOR SPECIFIC TYPE
F FL	SEE CIRCUITS FOR SPECIFIC TYPE FLOAT SWITCH - FLOW SWITCH
T M	TEMPERATURE - HUMIDISTAT SWITCH (SUBSCRIPT=NO. OF STAGES)
L P V	LIMIT (PROXIMITY TYPE) PRESSURE - VACUUM SWITCH
ALT	ELECTRICAL OR MECHANICAL ALTERNATOR (SEE WIRING)
OS	OVERLOAD SWITCH OR DEVICE
TB	TERMINAL BOX
	SOLENOID VALVE
PC	PHOTOCELL LINE VOLTAGE
	AS NOTED (LIGHTING PANEL, CONTROL PANEL, DISTRIBUTION PANEL, ETC.) WALL MOUNTED
JB	JUNCTION BOX
	TRANSFORMER
	CONDUIT WITH CONDUIT SEAL FITTING
	CONDUIT EXPOSED
	CONDUIT CONCEALED
E	DIRECT BURIED CONDUIT
UG	DIRECT BURIED CABLE
OH	OVERHEAD LINE
DB	UNDERGROUND DUCT BANK
1 2 3 4 5 6	CONCRETE ENCASED DUCT BANK WITH CABLE LOCATIONS, AND SPARE DUCTS AS INDICATED ON DRAWINGS
	CABLE REEL
EDB	EXISTING UNDERGROUND DUCT BANK
L L L L	MULTI-STACK ALARM LIGHTS
	SELECTOR SWITCH / PUSHBUTTON. FUNCTIONS AS SHOWN IN WIRING DIAGRAMS
	LOW VOLTAGE DISCONNECT SWITCH
	LOW VOLTAGE FUSE (BELOW 600V)
1 RV 2 FVR 3 2S,2W	ALL STARTERS SHALL BE FULL VOLTAGE, NON-REVERSING UNLESS OTHERWISE INDICATED. (FVR) FULL VOLTAGE REVERSING (RV) REDUCED VOLTAGE (2S, 2W) TWO SPEED, TWO WINDING
	600V, 3 POLE MOLDED CASE CIRCUIT BREAKER, FRAME & RATING AS SHOWN
1/2 A-3	SINGLE PHASE, FRACTIONAL HP MOTOR TO LOCATION INDICATED (SEE NOTE 2)
A 1	THREE PHASE LOAD WITH IDENTIFICATION
	HIGH VOLTAGE FUSE (ABOVE 600V)
FT 10	TAG NO. (BALLOON) FOR DEVICE INDICATED
A-3 MCP OR CP-1 FT 10	FOR POWER (SEE NOTE 2) 3/4"C(2/C#18SH) CONDUIT AND WIRE RUN FROM DEVICE INDICATED TO LOCATION INDICATED
	CAPACITOR, 3 PHASE, SIZE AS INDICATED
F C	DISCONNECT SWITCH (F) = FUSED, (C) = CIRCUIT BREAKER
	MAGNETIC STARTER (BACKGROUND DRAWINGS ONLY)
SIZE 2	COMBINATION MAGNETIC STARTER FUSED UNLESS NOTED (CIRCUIT BREAKER)
LC	COMBINATION LIGHTING CONTACTOR WITH HAND-OFF-AUTO SWITCH
R	MANUAL STARTER (R) = REVERSING
CP	CONTROL PANEL
1/8 UH-19	UNIT HEATER, 1/8 HORSEPOWER
	LIGHTING ARRESTOR
A-3	LOW VOLTAGE HOME RUNS 120/208V, 120/240V (SEE NOTE 2)
NEMA 4	WATERTIGHT
NEMA 4X	WATERTIGHT AND CORROSION PROOF
NEMA 7	EXPLOSION PROOF - CLASS I, DIVISION 1, GROUP D
NEMA 9	EXPLOSION PROOF - CLASS II, DIVISION 1
K	KEYLOCK
SD	SMOKE DETECTOR
E	EXIT LIGHT
	FLUORESCENT LUMINAIRE
	INCANDESCENT LUMINAIRE
	HIGH INTENSITY DISCHARGE LIGHT
EM	EMERGENCY BATTERY PACK
DS	DESK INTERCOM SET
	CAMERA

WIRING DEVICE SCHEDULE

SYMBOL	DESCRIPTION	NEMA TYPE
	125V, 2P, DUPLEX, 3W	5-20 R
	SIMPLEX RECEPTACLE	
	QUAD RECEPTACLE	
S	20A, 120/277V SWITCH	SPST

GRAPHIC SYMBOL FOR INSTRUMENTATION ITEMS

SYMBOL	DESCRIPTION
	DEVICE MOUNTED ON PANEL
	BOARD OR PANEL MOUNTED DEVICE - DEVICE MOUNTED INSIDE PANEL
	FIELD OR LOCALLY MOUNTED DEVICE
	PROGRAMMED FUNCTION NOT NORMALLY ACCESSIBLE TO OPERATOR
	PROGRAMMED FUNCTION ACCESSIBLE THROUGH OPERATOR'S INTERFACE DEVICE
	PLC INPUT OR OUTPUT POINT
	INTERLOCKING
S	MOTOR STARTER
L	COMPLEX LOGIC
	FLOAT SWITCH
	OFF PAGE CONNECTOR
	PROCESS MACHINERY MOTOR
	IN-FLOW ELEMENT (PROPELLER TYPE)
	IN-LINE FLOW ELEMENT (MAGNETIC TYPE)
	PUMP
	BLOWER
	GENERAL USE DISCONNECTING SWITCH
ETI	ELAPSED TIME INDICATOR
T	TIMING RELAY COIL
T 1	TIMING RELAY COIL (OFF DELAY)
G	INDICATING LIGHT
	PUSH-TO-TEST INDICATING LIGHT
X1 X2	SECONDARY TRANSFORMER
	MOLDED CASE CIRCUIT BREAKER
	MOMENTARY PUSHBUTTON OPERATOR - NORMALLY CLOSED
	MOMENTARY PUSHBUTTON OPERATOR - NORMALLY OPEN
	SELECTOR SWITCH - NORMALLY OPEN
	PUSHBUTTON OPERATOR WITH MUSHROOM HEAD
	SOLENOID OR CLUTCH
	THERMAL OVERLOAD
	FIELD LOCATED
	TERMINAL POINT
	TERMINAL
	LOW VOLTAGE FUSE
	FUSIBLE TERMINAL BLOCK
	CIRCUIT BREAKER WITH STAB CONNECTION
	CONTROL POWER TRANSFORMER
	RECEPTACLE

INSTRUMENTATION LINE SYMBOLS

SYMBOL	DESCRIPTION
	ELECTRICAL SIGNAL
//	AIR LINE/PNEUMATIC SIGNAL
	HYDRAULIC SIGNAL
	ELECTROMAGNETIC OR SONIC SIGNAL
O	SOFTWARE SIGNAL
	CONNECTION TO PROCESS, OR MECHANICAL LINK
E-NET	ETHERNET COMMUNICATION SIGNAL-UNSHIELDED TWISTED PAIR (UTP)-SPEED AS INDICATED
E-FO	ETHERNET FIBER OPTIC COMMUNICATIONS SIGNAL
FO	PLC REMOTE I/O FIBER OPTIC COMMUNICATION SIGNAL
V-FO	ETHERNET VIDEO FIBER OPTIC

I.S.A. STANDARD LETTER FUNCTIONS

SYMBOL	FIRST LETTER	SUCCEEDING LETTERS
A	ANALYSIS, ANALOG	ALARM
B	BURNER, FLAME	BATCH
C	CONDUCTIVITY, COMMAND	CONTROL (FEEDBACK TYPE)
D	DENSITY, SPECIFIC GRAVITY	
E	VOLTAGE	PRIMARY ELEMENT
F	FLOW RATE	RATIO
G	GAGING	GLASS
H	HAND, MANUAL	HIGH
I	CURRENT	INDICATE
J	POWER	SCAN
K	TIME, TIME SCHEDULE	CONTROL (NO FEEDBACK)
L	LEVEL, LIGHT	LOW
M	MOISTURE, HUMIDITY	MIDDLE, MODULATE
N		
O	OVERLOAD	ORIFICE
P	PRESSURE, VACUUM	POINT
Q	QUANTITY	TOTALIZE, INTEGRATE
R	RADIOACTIVITY	RECORD, PRINT, RECEIVE
S	SPEED, FREQUENCY, SOLENOID	SWITCH
T	TEMPERATURE, TURBIDITY	TRANSMIT, TRANSFORM
U	MULTIVARIABLE	MULTIFUNCTION
V	VIBRATION, VISCOSITY	VALVE, DAMPER, LOUVER
W	WEIGHT, FORCE	
X		
Y		RELAY, COMPUTE
Z	POSITION	DRIVE, ACTUATE

CONTROL CIRCUIT & PILOT DEVICE LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PRESS. ACTUATED SWITCH		FLOAT ACTUATED SWITCH
	FLOW ACTUATED SWITCH		TEMP. ACTUATED SWITCH
	LIMIT SWITCH - NORMALLY OPEN		LIMIT SWITCH - NORMALLY CLOSED
	LIMIT SWITCH - NORMALLY CLOSED - HELD OPEN		LIMIT SWITCH - NORMALLY OPEN - HELD CLOSED
	LATCHING CABLE SWITCH		TIME DELAY FUSE
	MOMENTARY PUSHBUTTON OPERATOR-NORMALLY CLOSED		PUSHBUTTON OPERATOR WITH MUSHROOM HEAD
	MOMENTARY PUSHBUTTON OPERATOR-NORMALLY OPEN	(F)	FIELD LOCATED STOP BUTTON
	CONTROL RELAY CONTACT - NORMALLY OPEN		CONTROL RELAY CONTACT - NORMALLY CLOSED
INST.	TIMING RELAY INSTANTANEOUS CONTACT	INST.	TIMING RELAY INSTANTANEOUS CONTACT
CR	CONTROL RELAY COIL	T	TIMING RELAY COIL
CR L CR U	TWO COIL LATCHING RELAY	O H C	SELECTOR SWITCH OPERATOR WITH FUNCTION SHOWN
	TIMED CLOSED CONTACT ON ENERGIZATION		TIMED OPEN CONTACT ON ENERGIZATION
	TIMED OPEN CONTACT ON DE-ENERGIZATION		TIMED CLOSED CONTACT ON DE-ENERGIZATION
	ZERO SPEED OR ANTI-PLUGGING SWITCH	R 1	PUSH-TO-TEST INDICATING LIGHT
	MAINTAINED STOP-START PUSHBUTTON OPERATOR		MAINTAINED STOP-MOMENTARY START PUSHBUTTON (JOG)
	MAINTAINED PUSH-PULL OPERATOR		SOLENOID OR CLUTCH
		ETI	ELAPSED TIME INDICATOR
	LOCAL TERMINALS WITH EXTERNAL WIRING	X1 X2	120VAC TRANSFORMER

GRAPHIC SYMBOLS FOR VALVES

SYMBOL	DESCRIPTION
	STROKE OR POSITION ACTUATOR CYLINDER (OPEN-SHUT)
	STROKE OR POSITION ACTUATOR CYLINDER (THROTTLING)
	PNEUMATIC DIAPHRAGM OR POSITIONER (OPEN-SHUT)
	PNEUMATIC DIAPHRAGM OR POSITIONER (THROTTLING)
	BALL VALVE
	GLOBE VALVE
	GATE VALVE OR KNIFE GATE
	CHECK VALVE
	PLUG VALVE

NOTE: THE PLC I/O ADDRESS SHALL BE USED AS THE WIRING TAG SCHEME FOR ALL PANEL AND FIELD CONTROL WIRING. COORDINATE WITH ELECTRICAL CONTRACTOR.

NOTES:

1. FOR ITEMS INDICATED AS "FIELD LOCATE", CHECK THE DRAWINGS OF OTHER TRADES FOR INTERFERENCE AND FOR LOCATIONS OF MOUNTING FLANGES, CONNECTIONS POINTS, ETC.

2. INSTALL A SINGLE CONDUCTOR INSULATED (RHW, THHN, OR XHHW) COPPER GROUND WIRE IN EACH CONDUIT, SIZE AS SHOWN ON DRAWINGS, OR AS A MINIMUM PER THE NATIONAL ELECTRICAL CODE. THIS GROUND WIRE SHALL BE CONNECTED AT EACH END TO THE EQUIPMENT GROUND. THIS ALSO INCLUDES INSTRUMENTATION DEVICES SUCH AS LEVEL, PRESSURE, FLOW TRANSMITTERS, LIMIT SWITCHES, CONDUITS, NETWORK AND I/O CABLES.

3. THE FOLLOWING EXAMPLE COMPONENT IDENTIFICATION SHALL BE USED AS APPROPRIATE:

   (F) FIELD MOUNTED, NOT AT STARTER OR OTHER CONTROL PANELS
   (S) STARTER PANEL MOUNTED
   (MCP) AT MAIN CONTROL PANEL
   (1) AT CONTROL PANEL NO.1
   (2) AT CONTROL PANEL NO.2
   (TCP) AT TEMPERATURE CONTROL PANEL

4. NO WIRES SHALL BE TERMINATED TO TERMINAL STRIPS, OR OTHER EQUIPMENT WITHOUT FIRST VERIFYING SIGNAL TYPE. DAMAGES RESULTING FROM LACK OF VERIFICATION SHALL BE BORNE BY CONTRACTOR. CONTRACTOR SHALL COORDINATE SIGNAL TYPE WITH I/O CARDS.

5. CONDUIT ROUTINGS SHOWN ON BACKGROUND PLANS, AND SITE PLANS ARE INTENDED ROUTINGS ONLY. EXACT CONDUIT ROUTINGS FOR ALL CONDUITS, AND LENGTH SHALL BE FIELD LOCATED AND VERIFIED BY THE CONTRACTOR. COORDINATE CONDUIT ROUTING IN FINISHED AREAS WITH OWNER. CONDUIT TO BE CONCEALED IN THESE AREAS.

6. ETHERNET AND FIBER OPTIC TERMINATIONS SHALL BE PERFORMED BY A QUALIFIED REPRESENTATIVE OF CABLE MANUFACTURER, THE CABLES SHALL BE TESTED. NO SPLICING SHALL BE PERMITTED OF FIBER OPTIC CABLES, BETWEEN PANELS. ALL FIBERS SHALL BE TERMINATED AT PATCH PANELS, INCLUDING SPARES.

7. REFER TO THE CABLE MANUFACTURER'S RECOMMENDATIONS FOR MINIMUM BEND RADIUS FOR FIBER OPTIC CABLES. INSTALL NEW PULL BOXES (PB) AS REQ'D FOR CONDUITS. SIZE PULL BOXES AS REQ'D PER FIBER OPTIC CABLE MANUFACTURERS RECOMMENDATIONS.

8. RACEWAYS, PULLBOXES AND JUNCTION BOXES TO BE INSTALLED WITH CHANNEL STRUT. MINIMUM STRUT LENGTH TO BE 12 INCHES, WHERE POSSIBLE.

9. WIRING FOR STARTERS SHALL BE IN ACCORDANCE WITH NEMA CLASS II B STANDARDS. SUBMIT ENGINEERED SHOP DRAWINGS FOR ALL STARTERS SHOWN TO BE WIRED.

10. CONTROL PANELS SHALL BE MOUNTED OFF WALLS WITH STRUT. CONDUITS SHALL BE MOUNTED ON STRUT INCLUDING SINGLE RUNS.

11. CONDUIT ENTERING CONTROL PANELS AND ELECTRICAL EQUIPMENT ENCLOSURES SHALL BE FILLED WITH DUCT SEAL, INCLUDING OPENINGS IN BOTTOM OF PANEL.

12. CABLES (INCLUDING FIBER, ETHERNET, CONTROL WIRE, ETC.) WHERE PASSING THROUGH A PULLBOX SHALL BE LABELED AND COMPLETELY IDENTIFIED WITH IDENTIFICATION NUMBERS AND ORIGINATION/DESTINATION. THIS ALSO INCLUDES ALL CABLE BUNDLES ENTERING CONTROL PANELS, PULLBOXES, ETC.

13. CONTROL WIRES SHALL BE TAGGED WITH THE PLC I/O ADDRESS IN THE FIELD, AND IN THE STARTER.

14. FIELD CONTROL WIRING BETWEEN MOTOR CONTROL CENTERS, FIELD STARTERS, FIELD CONTACTORS, AND CONTROL PANELS SHALL BE YELLOW #14AWG.

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MARK	DATE	DESCRIPTION
	6/28/22	90% SUBMITTAL
	12/4/24	ISSUE FOR BID

BY

CITY OF OWOSSO, MICHIGAN
WASHINGTON PARK LIFT STATION

PART TWO
NOTES & LEGEND

Project No.: 200-280565-22001
Designed By: RWS
Drawn By: ADM
Checked By: RWS

E-001

Bar Measures 1 inch

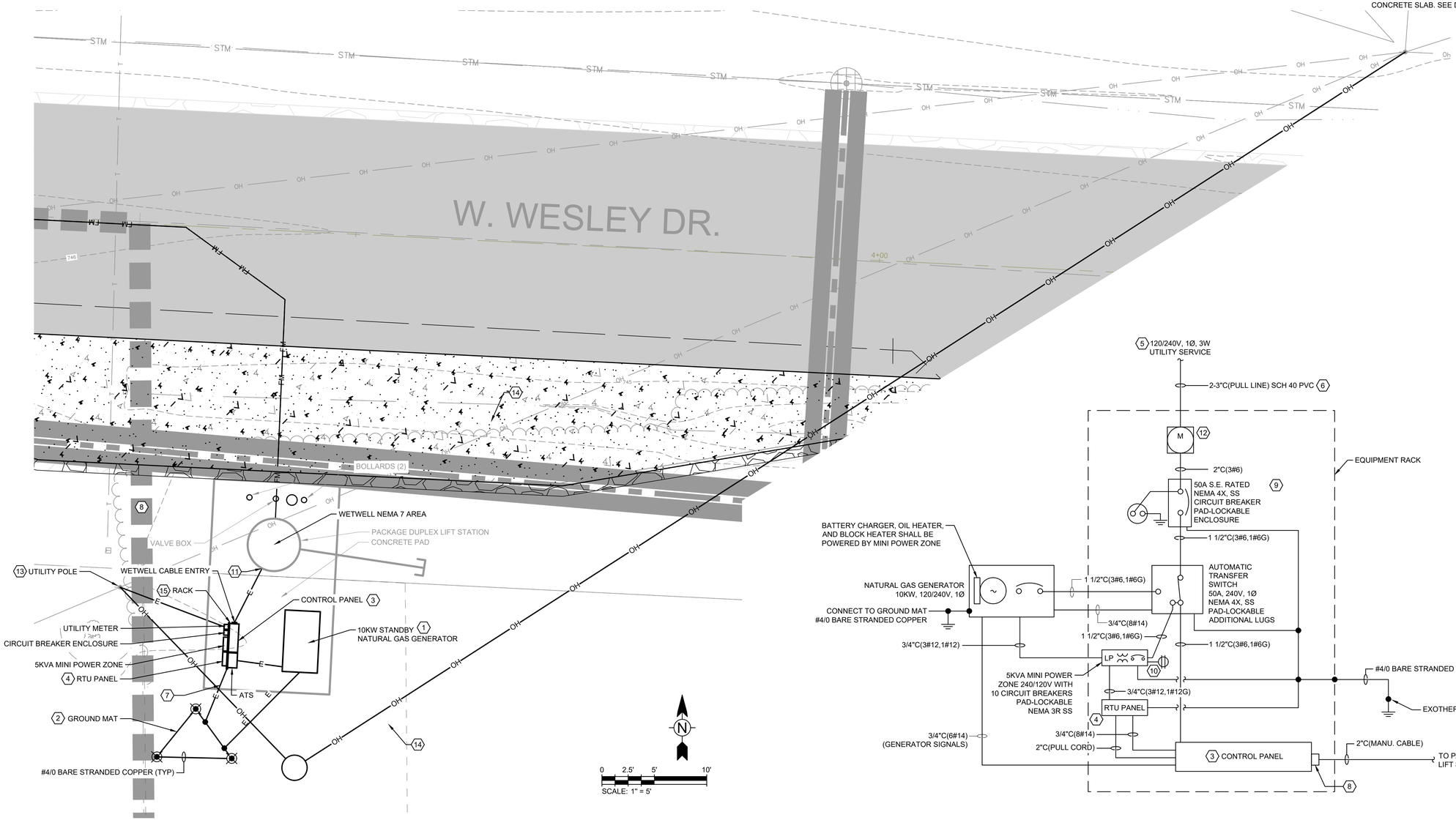
4/10/2025 9:05:08 AM - O:\PROJECTS\ANN ARBOR\ER\280565\200-280565-22001\CAD\SHEET FILES\E-001 NOTES & LEGEND.DWG - SMITH, ADAM4

KEYNOTES

1. SEE C-501 FOR CONCRETE PAD DETAILS
2. SEE E-501 FOR GROUND MAT DETAILS.
3. CONTROL PANEL SHALL BE SUPPLIED BY MANUFACTURER AND INSTALLED BY CONTRACTOR.
4. RTU PANEL SHALL BE PROVIDED AND INSTALLED BY OWNER. PROVIDE SPACE FOR 24"X24"X8" RTU PANEL AND 12" CLEAR SPACE AROUND PANEL ON RACK. PROVIDE $20,000 ALLOWANCE FOR PURCHASE AND INSTALLATION OF PANEL.
5. REFER TO SPECIFICATIONS FOR UTILITY WORK ALLOWANCES.
6. CONTRACTOR SHALL INSTALL CONDUIT FROM DROP POLE TO METER. UTILITY WILL PULL IN WIRE. SEE E-501 TRENCH DETAIL (TYP).
7. SEE ONE-LINE FOR RACK MOUNT EQUIPMENT THAT SHALL BE CONNECTED TO THE GROUND MAT.

KEYNOTES (CONTINUED)

8. SEE E-501 FOR WETWELL CABLE ENTRY DETAIL.
9. PAD-LOCKABLE IN EITHER POSITION.
10. RACK MOUNT A 20AMP CONVENIENCE GFCI RECEPTACLE WITH WEATHERPROOF COVER NEXT TO MINI POWER ZONE. PROVIDE DEDICATED CIRCUIT IN LP. 3/4" CONDUIT #12 WIRE.
11. INSTALL CABLE SUPPORT AND STRAIN RELIEF PER MANUFACTURER RECOMMENDATIONS. PROVIDE CONDUIT ENTRY SEAL TO PREVENT GROUND WATER ENTRY INTO WETWELL.
12. PROVIDE UTILITY METER SOCKET. COORDINATE WITH UTILITY REQUIREMENTS.
13. COORDINATE RISER AT POLE WITH UTILITY.
14. CONTRACTOR TO ENGAGE UTILITY TO DEMOLISH EXISTING OVERHEAD SERVICE AND ADD A NEW POLE TO REROUTE SERVICE AROUND THE PUMP STATION. SEE ALLOWANCE SPEC 01210.
15. RACK SHALL BE S.S. STRUT AND HARDWARE. SIZE TO ACCOMODATE EQUIPMENT. MOUNT TO CONCRETE SLAB. SEE DETAIL



PROPOSED SITE PLAN

PROPOSED ONE-LINE

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CITY OF OWOSSO, MICHIGAN
WASHINGTON PARK LIFT STATION

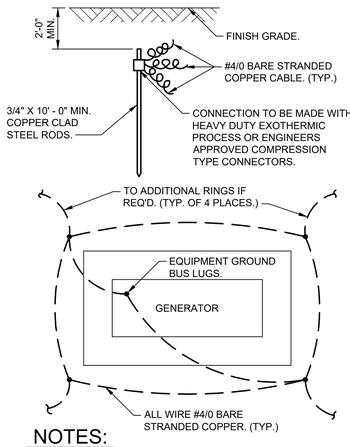
PART TWO
PROPOSED SITE PLAN AND ONE-LINE

Project No.:	200-280565-22001
Designed By:	RWS
Drawn By:	ADM
Checked By:	RWS

E-101

Bar Measures 1 inch

4/10/2025 9:05:51 AM - O:\PROJECTS\ANN ARBOR\ER\280565\200-280565-22001\CAD\SHEETFILES\E-101 PROPOSED SITE PLAN AND ONE-LINE.DWG - SMITH, ADAM4

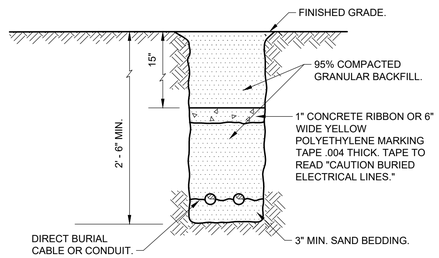


NOTES:

ADDITIONAL CONCENTRIC RINGS SHALL BE ADDED AS REQ'D. TO MEET THE (5) OHM SPECIFIED RESISTANCE. EACH RING TO HAVE 4 GROUND RODS, AND SPACE 10 FEET FROM THE INNER RING.

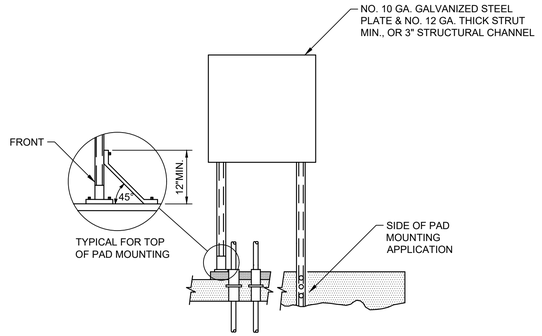
GROUND MAT

NO SCALE



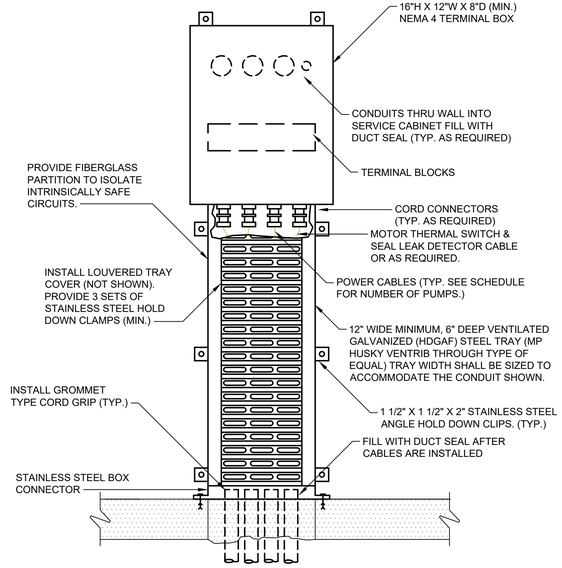
TRENCHING DETAIL

NO SCALE



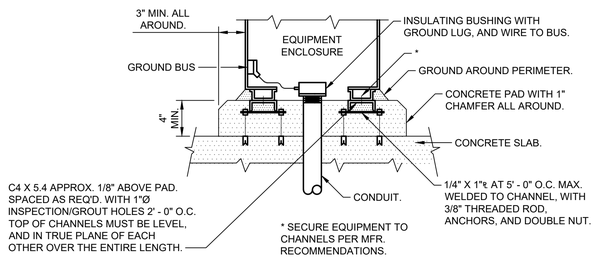
RACK MOUNTED EQUIPMENT DETAIL

NO SCALE
STAINLESS STEEL HARDWARE (TYP.)



WETWELL CABLE ENTRY DETAIL

NO SCALE



EQUIPMENT PAD OUTDOOR

NO SCALE

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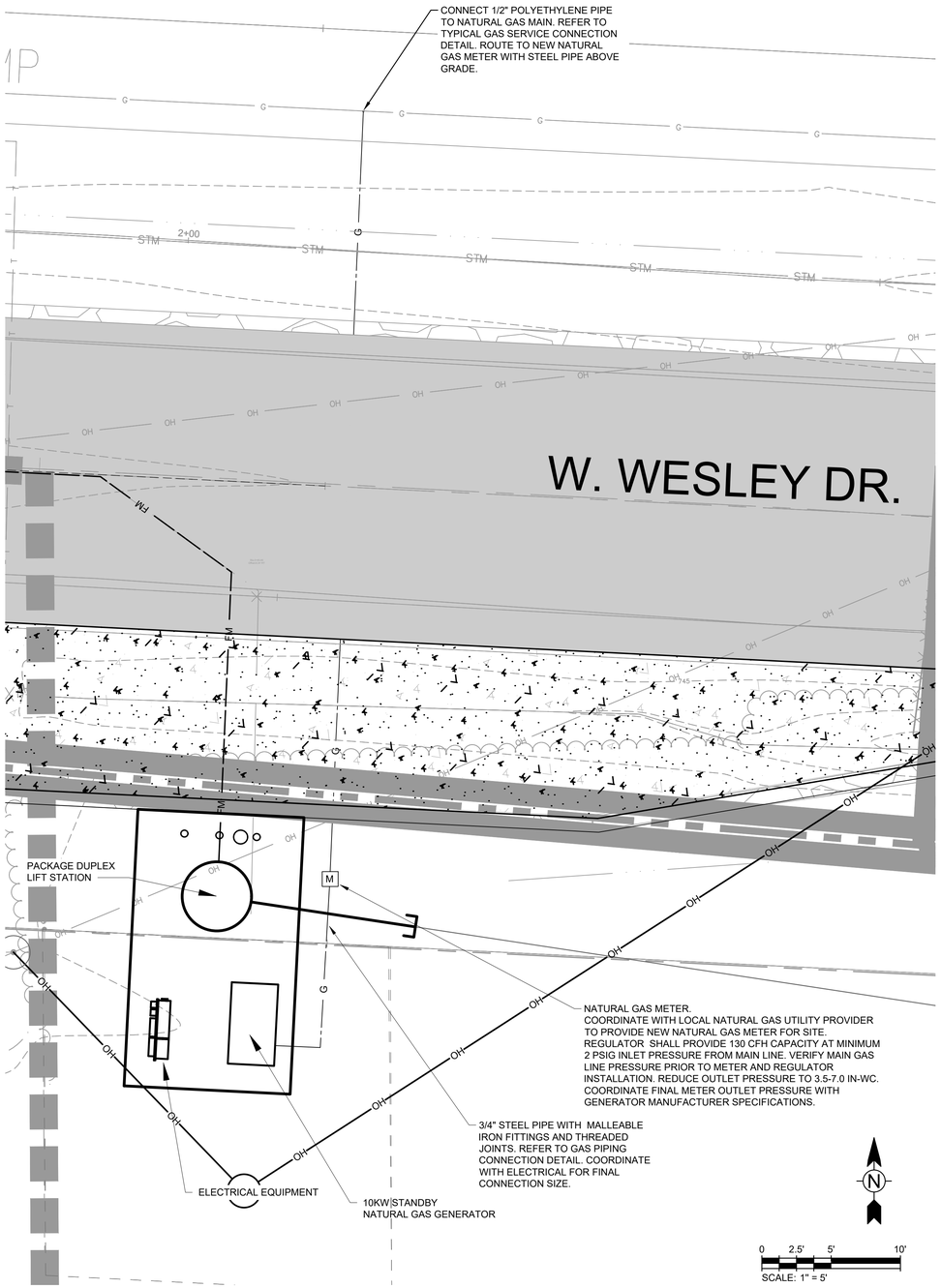
CITY OF OWOSSO, MICHIGAN
WASHINGTON PARK LIFT STATION

PART TWO STANDARD DETAILS

Project No.:	200-280565-22001
Designed By:	RWS
Drawn By:	ADM
Checked By:	RWS

E-501

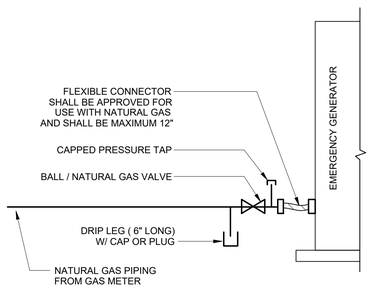
Bar Measures 1 inch



MECHANICAL NEW WORK

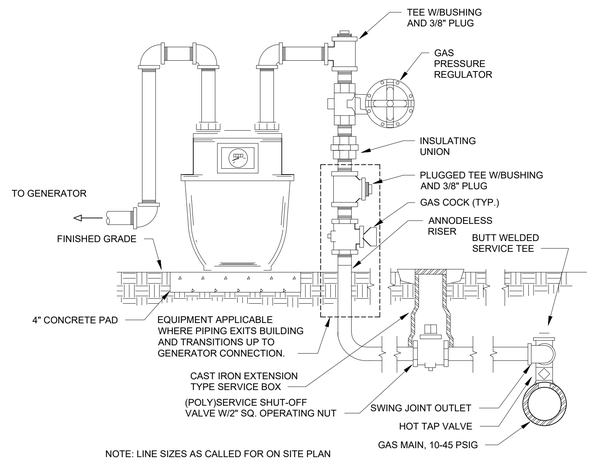
GENERAL NOTES

1. ALL MECHANICAL WORK SHALL BE IN STRICT COMPLIANCE WITH THE LATEST APPLICABLE EDITION OF THE MICHIGAN MECHANICAL AND PLUMBING CODE AND APPLICABLE PROVISIONS OF THE INTERNATIONAL FUEL GAS CODE (IFGC).
2. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. IT IS INTENDED THAT A COMPLETE SYSTEM BE PROVIDED WITH ALL NECESSARY EQUIPMENT, APPURTENANCES, AND CONTROLS, COMPLETELY COORDINATED WITH ALL DISCIPLINES. ALL PARAMETERS GIVEN IN THESE DOCUMENTS SHALL BE STRICTLY CONFORMED WITH. ANY ITEMS AND LABOR REQUIRED FOR A COMPLETE SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, AND THESE CONTRACT DOCUMENTS SHALL BE FURNISHED WITHOUT OCCURRING ANY ADDITIONAL COST TO THE OWNER. CAREFULLY REVIEW ALL CONTRACT DOCUMENTS AND THE DESIGN OF OTHER TRADES BEFORE PREPARING SHOP DRAWINGS.
3. COORDINATE EQUIPMENT AND PIPING WITH ALL OTHER DISCIPLINES AND TRADES. MAKE ALL OFFSETS AND TRANSITIONS TO COORDINATE WITH OTHER TRADES WITHOUT ANY ADDITIONAL EXPENSE TO THE OWNER.
4. ALL NEW EXPOSED GAS PIPING SHALL BE PRIMED AND PAINTED. ALL NEW GAS PIPING WITHIN FINISHED SPACES SHALL BE PAINTED YELLOW AND LABELED IN ACCORDANCE WITH APPLICABLE CODE. ALL EXISTING UNPAINTED GAS PIPING IS TO REMAIN UNPAINTED.
5. COORDINATE NEW METER LOCATION FOR STRUCTURE WITH LOCAL UTILITIES.
6. ALL GAS PIPING SHALL BE LABELED AT BEGINNING, ALL ENDS, AND AT 6' INTERVALS DESIGNATING GAS & PRESSURE. LABELS SHALL BE PER SPECIFICATIONS.
7. THIS CONTRACTOR SHALL CONNECT GAS PIPING AT A TOTAL DEMAND OF APPROXIMATELY 130 CFH.
8. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH OTHER TRADES TO MINIMIZE SPATIAL CONFLICTS.
9. CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND DIMENSIONS BEFORE CONSTRUCTION BEGINS. CONTACT CONTRACTING OFFICER SHOULD DISCREPANCIES OCCUR.



GAS PIPING CONNECTION DETAIL

SCALE: NTS



NOTE: LINE SIZES AS CALLED FOR ON SITE PLAN

TYPICAL GAS SERVICE CONNECTION

SCALE: NTS

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CITY OF OWOSSO, MICHIGAN
WASHINGTON PARK LIFT STATION
PART TWO
MECHANICAL NEW WORK

Project No.:	200-280565-22001
Designed By:	JRJ
Drawn By:	JRJ
Checked By:	LER

M-101

Bar Measures 1 inch

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