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

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

BAY CITY, MI 48706

ROAD & STORM SEWER 989-725-0551 clayton.wehner@ci.owosso.mi.us

989-725-0550

ELECTRIC

OFFICE: 989-729-3250

OFFICE: 517-374-2375

CELL: 517-614-8570

PHONE: 989-720-6004

PHONE: 989-627-9759

harold.roth@ftr.com

FAX: 989-720-6060

tracy.mahar@cmsenergy.com

adam.bertram@cmsenergy.com

jared.jackson@daystarrfiber.ne

salworden@shiawasseechd.net

CELL: 517-204-9018

SANITARY SEWER & WATER MAIN

ryan.suchanek@ci.owosso.mi.us

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

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

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

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

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

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

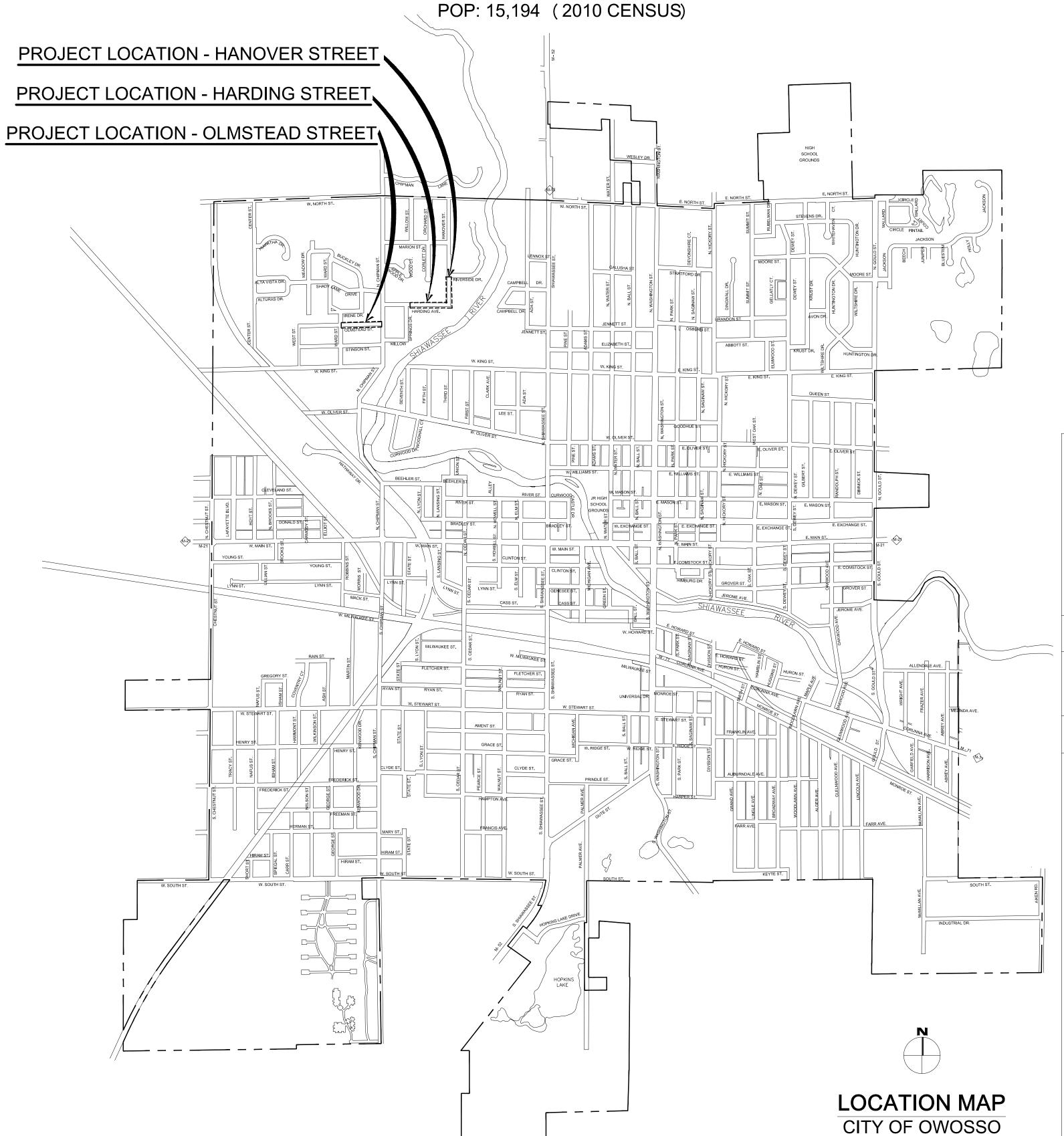
CALL MISS DIG AT 1-800-482-7171 OR 811 THREE DAYS, EXCLUDING SATURDAY, SUNDAY, AND HOLIDAY, BEFORE STARTING YOUR

CITY OF OWOSSO

2025 WATER MAIN REPLACEMENT PROJECT CONTRACT 1 DWSRF 7880-01

SHIAWASSEE COUNTY

SECTIONS 13 & 14, T7N-R2E, CITY OF OWOSSO



SHEET NO.	DESCRIPTION
CS	COVER SHEET
D1	WATER MAIN NOTES AND DETAILS
D2	WATER MAIN STANDARD DETAILS
D3	STREET ITEMS GENERAL NOTES AND DETAILS
D4	SESC STANDARD NOTES AND DETAILS
OL1	OLMSTEAD ST - WATER MAIN PLAN AND PROFILE
HR1	HARDING ST - WATER MAIN PLAN AND PROFILE
HN1	HANOVER ST - WATER MAIN PLAN AND PROFILE

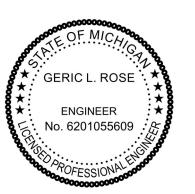


r 🗖
LEIS&VANDENBRINK

WATER MAIN DESIGN PLANS BY:

DESIGN. BUILD. OPERATE.

WATER MAIN PLANS PREPARED UNDER SUPERVISION OF:



GERIC L. ROSE, P.E., P.S. REGISTERED PROFESSIONAL ENGINEER No. 6201055609 FLEIS & VANDENBRINK ENGINEERING, INC.

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: 0.30 MILES OF WATER MAIN REPLACEMENT WITH WATER SERVICE LINE REPLACEMENTS.

CITY OF OWOSSO APPROVAL



620100052

4/17/2025



4/17/2025

DATE

WATER MAIN CONSTRUCTION NOTES

- 1. ALL WATER MAIN MAIN LINE PROPOSED FOR THIS PROJECT HAS BEEN DESIGNED FOR AND SHALL BECOME A PUBLIC
- 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
- 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 CENTERED BENEATH OR ABOVE 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:

EX. CURB STOP AND BOX

(REMOVE CURB BOX AND CLOSE EX. CURB STOP)

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.

EX. WATER

SIDEWALK (WHERE EXISTING)

CURB AND GUTTER

CURB AND GUTTER

PROP. WATER MAIN -

SERVICE (TYP.) -

WATER USAGE NOTE:

NOTE: THE CITY OF OWOSSO RESERVES

THE RIGHT TO CLAIM ANY EX. WATER BOXES.

CONNECT TO EX. WATER SERVICE

UNLESS OTHERWISE APPROVED)

-NEW CURB STOP AND BOX

PROP. WATER SERVICE

-NEW CORPORATION STOP

3 FLAG MAX. SIDEWALK DISTURBANCE

UNLESS OTHERWISE APPROVED BY CITY

EX. WATER MAIN

R.O.W. LINE

ALL UNCLAIMED WATER BOXES BECOME

THE PROPERTY OF THE CONTRACTOR.

A SERVICE CHARGE OF \$1,000 WILL BE REQUIRED AT TIME OF PERMIT APPLICATION. THIS FEE INCLUDES THE MINIMUM CHARGE OF \$60 FOR 5,000 BULK GALLONS OF WATER, PLUS ADDITIONAL CHARGES OF \$12 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.

NEW WATER MAIN SHALL BE OPEN CUT.

SURVEY, ARE SHOWN.

WHERE THE EXISTING CURB STOP BOX IS LOCATED IN

METER PITS, WHERE VISIBLE AT TIME OF TOPOGRAPHIC

SIDEWALK REMOVAL AND REPLACEMENT FOR WATER

SERVICE LINE REPLACEMENT IS NOT SHOWN ON PLAN

SHEETS AND SHALL BE AS DIRECTED BY ENGINEER

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

Quantity	Unit	Pay Item							
1	LSUM	Mobilization, Max \$,Water Main							
5	Syd	Pavt, Rem							
25	Syd	Sidewalk, Rem							
20	Cyd	Subbase, CIP							
5	Syd	Aggregate Base, 6 inch, Modified							
150	Ft	Water Main, Rem							
1	Ea	Hydrant, Rem							
2	Ea	Water Main, 4 inch, Cut and Plug, Modified							
3	Ea	Water Main, 6 inch, Cut and Plug, Modified							
3	Ea	Water Main, 8 inch, Cut and Plug, Modified							
5	Ton	HMA, 13A							
2	Syd	Driveway, Nonreinf Conc, 6 inch							
225	Sft	Sidewalk, Conc, 4 inch							
48	Sft	Sidewalk, Conc, 6 inch							
10	Ea	Sanitary Serv Conflict							
10	Ea	Abandoned Gas Main Conflict							
1	Ea	Sign, Type III, Rem							
1	Ea	Sign, Type III, Erect, Salv							
16	Ft	Post, Steel, 3 pound							
1000	Syd	Turf Establishment, Performance							
20	Ton	Maintenance Gravel							
1	LSUM	Testing and Chlorination of Water Main							

MAINTAINING TRAFFIC QUANTITIES

Quantity	Unit	Pay Item
10	Ea	Barricade, Type III, High Intensity, Double Sided, Furn & Oper
1	LSUM	Minor Traffic De
125	Ea	Plastic Drum, High Intensity, Furn & Oper
200	Sft	Sign, Type B, Temp, Prismatic, Furn & Op
1	LSUM	Traf Regulator Control

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 1/4" 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

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

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

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

WaterMaster® Fire Hydrant **Specification** CHIGA ISION RVICE

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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 1/4 " 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

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 shall be a one piece ductile iron casting and not require a

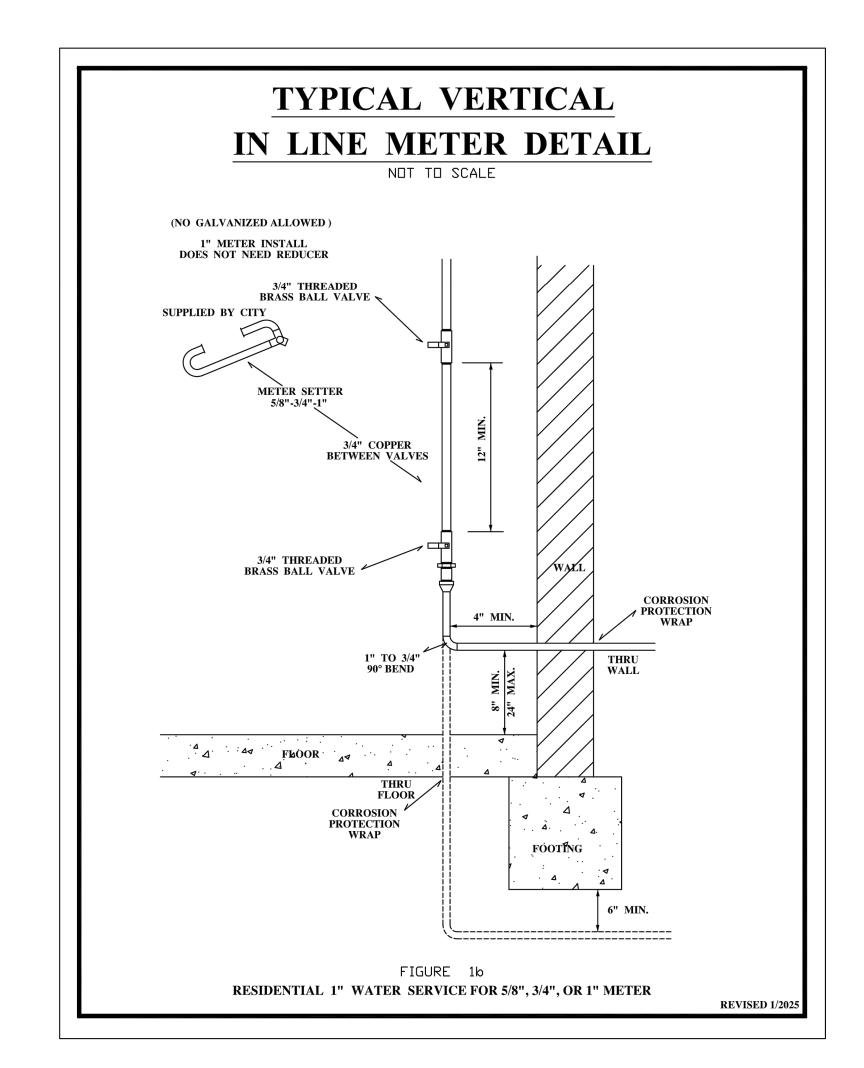
IN LINE METER DETAIL NOT TO SCALE (NO GALVANIZED ALLOWED) 1" METER INSTALL DOES NOT NEED REDUCER METER COUPLINGS SUPPLIED BY CITY REDUCER REQUIRED CORROSION BEFORE METER **▶** PROTECTION MUST BE BRASS FEMALE THREADS FOR CITY TO HOOKUP METER COUPLINGS FLOOR FLOOR CORROSION ' PROTECTION FOOTING

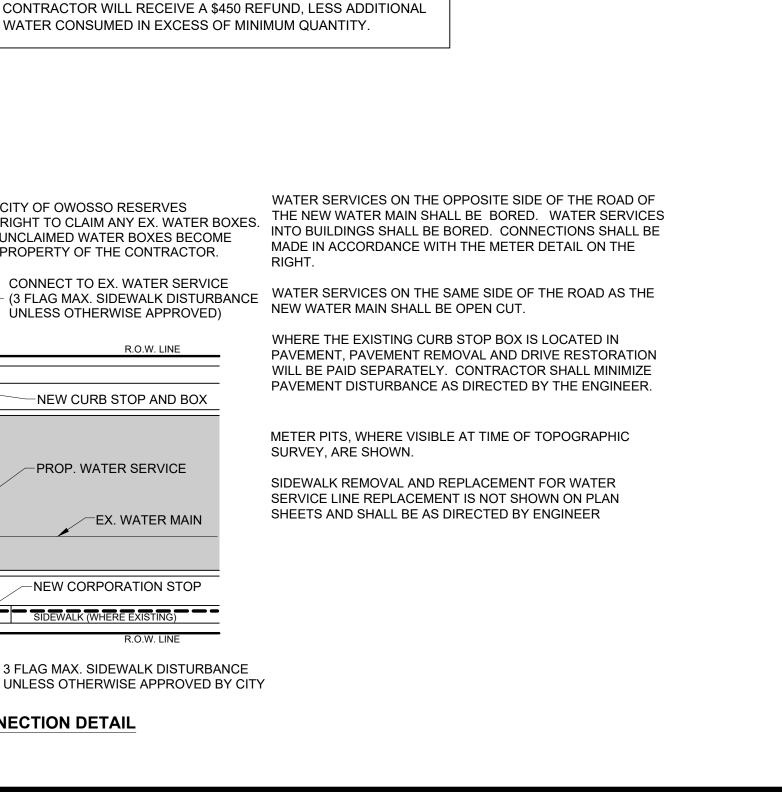
FIGURE 1a

RESIDENTIAL 1" WATER SERVICE FOR 5/8". 3/4". OR 1" METER

REVISED 1/2025

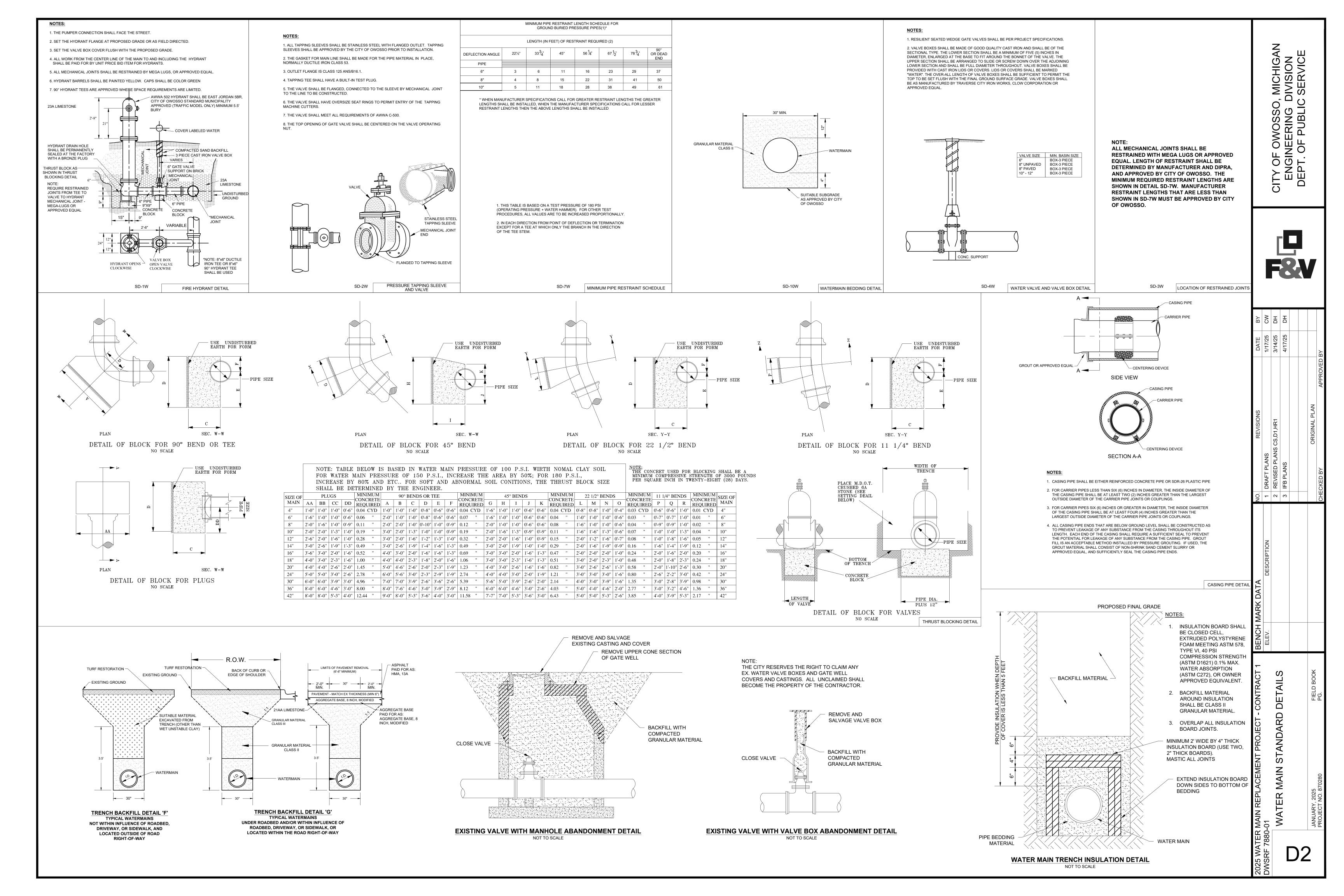
TYPICAL HORIZONTAL





NEW WATER SERVICE CONNECTION DETAIL

other intricate synchronizing mechanisms. Lower valve plate 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 800 626 4653



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.

SEWER CONNECTIONS

PROPOSED SEWERS SHALL BE CONNECTED TO EXISTING 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.

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 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 Curb Ramp, Conc, __ 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 BLACK ASPHALT DIPPED, 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

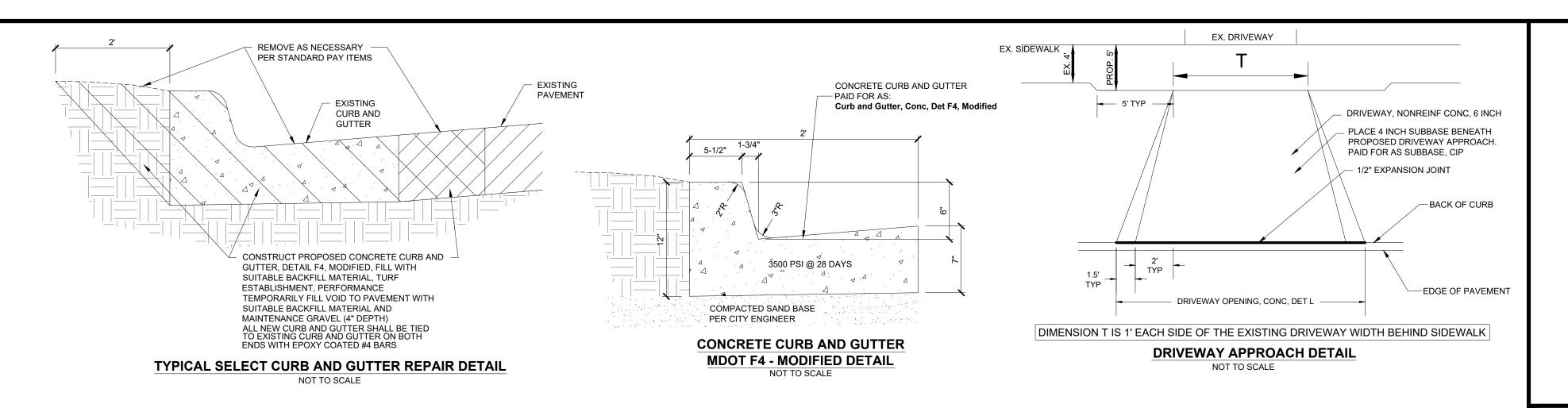
OWNERS OF EXISTING LAWN SPRINKLER SYSTEMS AND / OR LANDSCAPING SHALL BE NOTIFIED (IN WRITING WITH A COPY SENT TO THE ENGINEER) BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF ANY WORK THAT WILL BE DONE THAT WILL AFFECT THOSE SYSTEMS AND / OR LANDSCAPING. IF THE PROPERTY OWNER FAILS TO RELOCATE THE LAWN SPRINKLER 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.

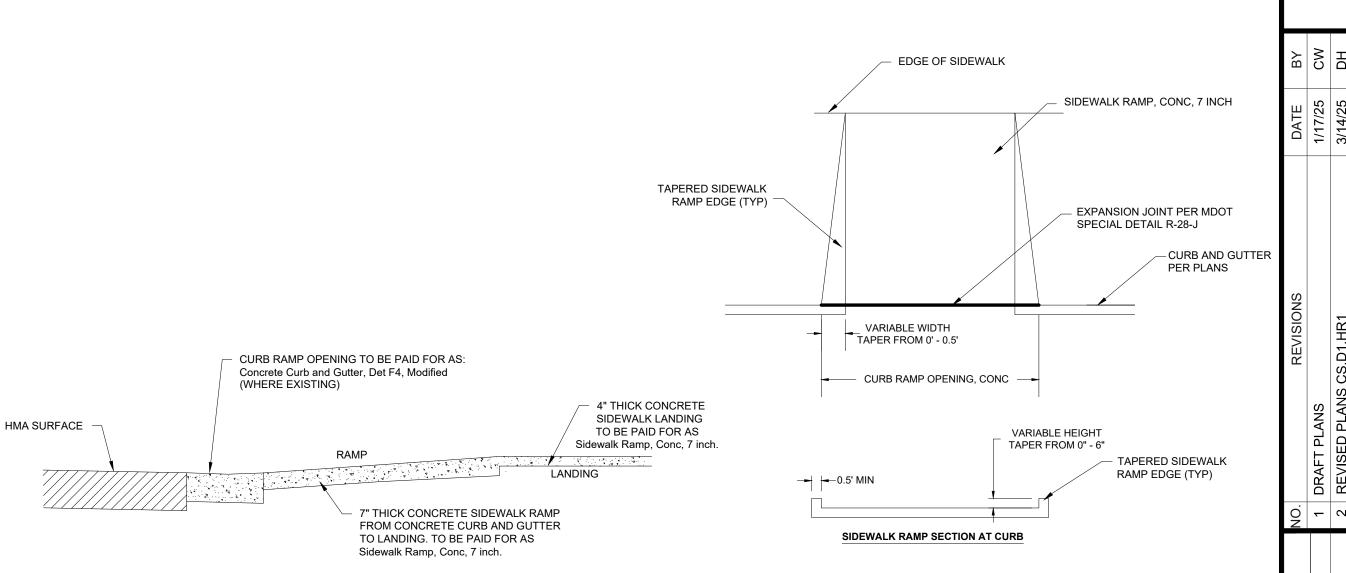
MAINTAINING TRAFFIC

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



SIDEWALK RAMP THICKNESS DETAIL

NOT TO SCALE



EXISTING FEATURES LEGEND

SIDEWALK RAMP DETAIL

NOT TO SCALE

SYMBOL DESCRIPTION SYMBOL DESCRIPTION		DESCRIPTION	SYMBOL	DESCRIPTION			
(·)	TREE (DECIDUOUS)	C	CABLE BOX		SURVEY CONTROL POINT		
	BUSH	T	TELEPHONE RISER	BM#1	BENCHMARK		
	TREE (CONIFEROUS)	\bigcirc	TELEPHONE MANHOLE	•	SECTION CORNER		
**	DEAD TREE	THH	TELEPHONE HANDHOLE		BOUNDARY LINE		
@	STUMP	E	ELECTRICAL RISER		PROPERTY LINE		
\circ	MANHOLE	Ē	ELECTRICAL MANHOLE		WATERMAIN SANITARY SEWER		
0	SANITARY CLEANOUT	EHH	ELECTRICAL HANDHOLE		STORM SEWER		
#	RD. CATCH BASIN	-•	POWER POLE		CULVERT (21" AND UNDER)		
\blacksquare	SQ. CATCH BASIN	×	LIGHT POLE	==	CULVERT (24" AND UP)		
-Ò-	FIRE HYDRANT	0	GUY POLE		CABLE T.V. catv catv		
\bowtie	WATER VALVE)	GUY ANCHOR		TELEPHONE		
\otimes	CURB STOP & BOX	9 -0	PED CROSSING SIGNAL	—— Е	ELECTRIC E E E		
(W)	WELL	×	YARD LIGHT		OVERHEAD LINES		
W	WATER MANHOLE	ф	SIGN	— o —	GUARDRAIL o o		
M	WATER METER	⊡	MAILBOX		x_FENCExxx		
B#	SOIL BORING	0	GUARD POST	w	WOODLINE		
	MONITORING WELL	•	FOUND CONC. MONUMENT				
		•	FOUND IRON ROD				
		0	SET IRON ROD		L ITEMS LISTED ON THE LEGEND MAY RESENT ON DRAWING.		

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STREET AND DET

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

F8V

RK DATA	NO.	REVISIONS	DATE	
DESCRIPTION	_	1 DRAFT PLANS	1/17/25	
	2	REVISED PLANS CS,D1,HR1	3/14/25	-
	က	3 IFB PLANS	4/17/25	
		ORIGINAL PLAN		

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

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
EROS	SION 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	ANT TOWN VIOLENCE WAS A STATE OF THE STATE O	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	Market Samuel of the Control of the	For use in created stormwater channels. Vegetation is used to slow water velocity and reduce erosion within the channel.
E12	RIPRAP	- under the control	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 / SEDIME CONTROLS	NT	
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	ADERSKE STEER	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	В	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	В	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					
S	EDIMENT CONTROLS							
S51	SILT FENCE		Use adjacent to critical areas, to prevent sediment laden shee 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

SOIL EF	ROSIO	N/SE	DIME	NTA	ΓΙΟΝ (CON	ΓROL					
	OPER	RATIC	NIT N	/IE SC	CHED	ULE						
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												1
STORM FACILITIES							N/A					
TEMP CONSTRUCTION ROADS							N/A					
FOUNDATION/ BLDG. CONSTRUCTION							N/A					
SITE CONSTRUCTION												-
PERM CONTROL MEASURES												-
FINISH GRADING												-
LANDSCAPING							N/A					

CONSTRUCTION SEQUENCE

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

