SET NO.

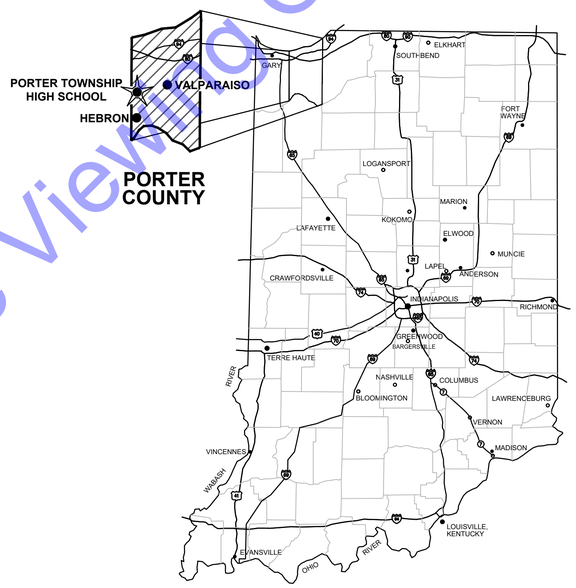
COMMUNITY UTILITIES OF INDIANA INC.
LAKE AND PORTER COUNTY, INDIANA

TWIN LAKES 2025 WATER MAIN REPLACEMENT

FEBRUARY 2025

COMMUNITY UTILITIES OF INDIANA INC.

EDGAR TAPIA.....CONSTRUCTION INSPECTOR
MIKE MILLER.....VICE PRESIDENT OF OPERATIONS
COLIN WEBB.....AREA MANAGER



GENERAL LOCATION MAP

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QA/QC BY : JOHN WETZEL, P.E. 1/23/2025
DATE :

CERTIFIED BY : 1/30/2025
DATE :
RYAN LAREAU
INDIANA P.E. No. 11800145

RYAN M LAREAU
REGISTERED
No. 11800145
STATE OF INDIANA
PROFESSIONAL ENGINEER

CONTRACT NO. : W24200

File: Z:\SHARED\ON CLIENTS M-Z\UTILITIES INC\W24200 - TWN LAKES 2025 WATER MAIN REPLACEMENT\06 CAD\A CURRENT FILES\1 DRAWINGS\01-TITLE SHEET.DWG
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VICINITY MAP

SCALE: 1"=1000'-0"

0 1000' 2000'

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PORTER COUNTY, INDIANA

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RML	JML	AMR
Issue Date:	Project No:	Scale:
--	W24200	AS SHOWN

VICINITY MAP AND DRAWING SET INDEX

Drawing No: G2

Sheet: 02 OF 13

File: Z:\SHARED\IN CLIENTS M-Z\UTILITIES INC\W24200 - TWIN LAKES 2025 WATER MAIN REPLACEMENT\06 CADA CURRENT FILES\1 DRAWINGS\02-GENERAL DRAWINGS.DWG
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GENERAL ABBREVIATIONS

A	AIR	FLD	FILTRATE DRAIN		MATERIAL
AB	ANCHOR BOLT	FLG	FLANGE	P/L	PROPERTY LINE
AFF	ABOVE FINISH FLOOR	FL	FLUSHING LINE	POJ	PUSH ON JOINT
ALT	ALTERNATE	FLR	FLOOR	PSF	POUNDS PER SQUARE FOOT
ALUM	ALUMINUM	FM	FORCE MAIN	PSI	POUNDS PER SQUARE INCH
@	AT	FRP	FIBER REINFORCED PLASTIC	PVC	POLYVINYL CHLORIDE
APP.	APPARENT	FT	FEET OR FOOT	PW	POTABLE WATER
ATT	AERATION TANK TRANSFER	FTG	FOOTING		
AUTO	AUTOMATIC	FW	FINISHED WATER	R	RECIRULCATION
AVG	AVERAGE			RAD	RADIUS
		G	GAS	RAS	RETURN ACTIVATED SLUDGE
B	BAFFLE	GALV	GALVANIZED	RCP	REINFORCED CONCRETE PIPE
BLDG	BUILDING	GEN	GENERAL	RD	ROOF DRAIN
BM	BENCH MARK	GRD	GROUND OR GRADE	REINF	REINFORCING
BOT	BOTTOM			REQ'D	REQUIRED
BRG	BEARING	HB	HOSE BIBB	R/W (ROW)	RIGHT-OF-WAY
		HORIZ	HORIZONTAL		
CFM	CUBIC FEET PER MINUTE	HP	HORSEPOWER	SAN	SANITARY
CL	CENTERLINE	HW	HOT WATER	SAS	SANITARY SEWER
CO	CLEAN OUT			SCH	SCHEDULE
COL/C	COLUMN	ID	INSIDE DIAMETER	SECT	SECTION
CONC	CONCRETE	IJ	ISOLATION JOINT	SF	SQUARE FEET
COP	COPPER	INV	INVERT	SHT	SHEET
CJ	CONSTRUCTION JOINT	IP	IRON PIN	SL	SAMPLE LINE
CW	COLD WATER			SOS	STORM SEWER
CY	CUBIC YARD	LAV	LAVATORY	SP	STOP PLATE
		LB	POUND	SQ	SQUARE
D	DRAIN	LL	LIVE LOAD	STD	STANDARD
DEC	DECANT	LLV	LONG LEG VERTICAL	S STL, SS	STAINLESS STEEL
DIA	DIAMETER	LTG	LIGHTING	STL	STEEL
DIM	DIMENSION			SUP	SUPERNATANT
DI	DUCTILE IRON PIPE	MAX	MAXIMUM	SY	SQUARE YARD
DL	DEAD LOAD	MCC	MOTOR CONTROL CENTER		
DSPT	DOWN SPOUT	MGD	MILLIONS GALLONS PER DAY	TOS	TOP OF SLAB
DWG	DRAWING	MH	MANHOLE	TOW	TOP OF WALL
		MIN	MINIMUM, MINUTE	TW	TERTIARY WATER
E	ELECTRICAL CONDUIT	MJ	MECHANICAL JOINT	TYP	TYPICAL
EA	EACH				
EF	EACH FACE	NC	NORMALLY CLOSED	V	VACUUM OR VALVE
EFFL	EFFLUENT	NG	NATURAL GAS	VAR	VARIES
EL	ELEVATION	NIC	NOT IN CONTRACT	VERT	VERTICAL
EW	EACH WAY	NO	NORMALLY OPEN		
EX	EXISTING	NO.	NUMBER	W	WEIR
EXF	EXHAUST FAN	NPW	NON-POTABLE WATER	W/	WITH
EXP JP	EXPANSION JOINT			W/O	WITHOUT
		OC	ON CENTER	WAS	WASTE ACTIVATED SLUDGE
F	FILTER	OD	OUTSIDE DIAMETER	WC	WATER CLOSET
FCAR	FLANGED COUPLING ADAPTER, RESTRAINED	OPG	OPENING	WH	WATER HEATER
		OPP	OPPOSITE	WL	WATER LINE
FD	FLOOR DRAIN			WWF	WELDED WIRE FABRIC
FDN	FOUNDATION	PB	PULL BOX		
FH	FIRE HYDRANT	PE	POLYETHYLENE EXP. JT.	YH	YARD HYDRANT

GENERAL NOTES

1. EMBEDMENT MATERIALS FOR BEDDING, HAUNCHING, AND INITIAL BACKFILL, CLASS I, II, OR III AS DESCRIBED IN ASTM D2321-89, STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS, SHALL BE USED AND COMPACTED FOR ALL FLEXIBLE PIPE INSTALLATION PER STATE CODE 327 IAC 3-6-18G.
2. ALL WATER TRENCHES WITHIN THE ROAD RIGHT-OF-WAY, UNDER PARKING LOTS, DRIVES, SIDEWALKS AND EXISTING PIPES SHALL BE BACKFILLED WITH #53, #73 AGGREGATES, COMPACTED TO 95% PROCTOR DENSITY, UNLESS OTHERWISE NOTED.
3. ALL PERMITS REQUIRED FOR THE EXECUTION OF THE WORK SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR WITH THE EXCEPTION OF THE LOCAL STORM WATER PERMIT AND THE IDEM WATER MAIN CONSTRUCTION PERMIT, BOTH OF WHICH CAN BE FOUND IN THE SPECIFICATIONS.
4. CONTRACTOR TO NOTIFY INDIANA UNDERGROUND (1-800-382-5544) 48 HOURS PRIOR TO CONSTRUCTION FOR THE EXACT LOCATION OF EXISTING UTILITIES.
5. THE WATER SERVICE SHALL HAVE A MINIMUM COVER OF 5'-0" FROM THE FINISHED GRADE TO THE TOP OF THE PIPE.
6. ANY EXISTING PIPE OR TILE(S), WHICH ARE DAMAGED DURING CONSTRUCTION, SHALL BE REPLACED WITH EQUAL OR BETTER MATERIALS AND CONSTRUCTION METHODS.
7. CONTRACTOR TO FIELD LOCATE PROPOSED LOCATION OF WATER SERVICE LINES PRIOR TO CONSTRUCTION WITH EACH PROPERTY OWNER AND WILL PHYSICALLY MARK THE LOCATIONS OF EACH ON THE GROUND. THE CONTRACTOR WILL ALSO FURNISH AS-BUILT PLANS SHOWING THE LOCATION OF EACH WATER SERVICE REFERENCED TO THE NEAREST PROPERTY LINE.
8. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE REGRADED TO THE ORIGINAL OR APPROVED CONTOURS PRIOR TO COMPLETION OF THE PROJECT.
10. ANY PAVEMENT OR IMPROVED ROAD SURFACE OR SIDEWALK DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH EQUAL OR BETTER MATERIALS AND CONSTRUCTION METHODS.
11. ALL GRASSED AREAS, WHICH ARE DAMAGED DURING THE COURSE OF CONSTRUCTION, SHALL BE SEEDED WITH COMPARABLE GRASS SEED AND COVERED WITH STRAW. WATER SHALL BE APPLIED AS REQUIRED TO ASSURE GROWTH.
12. A "RECORD DRAWING" SURVEY SHALL BE PROVIDED TO THE OWNER UPON COMPLETION OF THE PROJECT.
13. THE CONTRACTOR WILL BE RESPONSIBLE FOR FINAL ADJUSTMENT OF ALL CASTINGS (MANHOLES, INLETS, WATER VALVES, ETC.)
14. THE CONTRACTOR SHALL VERIFY THE ELEVATIONS OF ALL EXISTING UNDERGROUND CONDUITS DURING LAYOUT OF THE PROPOSED WATER SERVICES.
15. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND COMMUNITY UTILITIES OF INDIANA INC. A MINIMUM OF 72 HOURS PRIOR TO BEGINNING CONSTRUCTION AND MUST GIVE PRIOR NOTICE EACH DAY THEREAFTER WHEN WORK WILL NOT BE TAKING PLACE.
16. ALL EXISTING UTILITIES SHOWN ON PLAN ARE DEPICTED AT APPROXIMATE LOCATIONS. CONTRACTOR MUST FIELD VERIFY PRIOR TO CONSTRUCTION AND IF ANY CONFLICTS OCCUR MUST NOTIFY ENGINEER PRIOR TO DIGGING.
17. CONTRACTOR TO FIELD VERIFY THE DEPTH & ALIGNMENT OF ALL EXISTING SANITARY AND STORM SEWERS, SANITARY FORCE MAINS, GAS MAINS, GAS SERVICES, TELEPHONE LINES, FIBER OPTIC LINES, BURIED ELECTRIC AND WATER MAINS PRIOR TO CONSTRUCTION.
18. CONTRACTOR SHOULD TAKE NOTE THAT THE SPECIAL NOTES ON EACH SHEET ARE SPECIFIC FOR THAT PARTICULAR SHEET.
19. CONTRACTOR SHOULD MAINTAIN A SAFE TRAFFIC CONSTRUCTION ZONE THROUGHOUT THE ENTIRETY OF THE PROJECT. MAINTAINING CLEAN ROADS OF DEBRIS DAILY AS WELL AS THE PROPER CONSTRUCTION SIGNS DEPICTING THE CONSTRUCTION ZONE FROM ALL INCOMING DIRECTIONS.
20. ALL PROPERTY AND RIGHT-OF-WAY LINE INFORMATION SHOWN IN DRAWING SET ARE APPARENT AND SHALL NOT BE DEEMED EXACT LOCATIONS, UNLESS OTHERWISE NOTED. INFORMATION WAS OBTAINED VIA "INDIANA ON-LINE" GIS SHAPE FILES.
21. EXISTING UTILITY INFORMATION SHOWN IN DRAWING SET, MEETS "ASCE 36-02" QUALITY LEVEL **"C"**, UNLESS OTHERWISE NOTED.

    UTILITY COORDINATION AND PROJECT DEPICTION OF EXISTING SUBSURFACE UTILITY DATA:

    UTILITY QUALITY LEVEL DESCRIPTIONS:

    UTILITY QUALITY LEVEL A - PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY THE ACTUAL EXPOSURE (OR VERIFICATIONS OF PREVIOUSLY EXPOSED AND SURVEYED UTILITIES) AND SUBSEQUENT MEASUREMENT OF SUBSURFACE UTILITIES, USUALLY AT A SPECIFIC POINT. ACCURACY OF LOCATION MATCHES PROJECT SURVEY TOLERANCE.

    UTILITY QUALITY LEVEL B - INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION SUBSURFACE UTILITIES. THE RELIABILITY OF THIS INFORMATION IS SURVEYED TO PROJECT CONTROL AND SUBJECT TO ACCURACY LEVELS OF THE GEOPHYSICAL TOLERANCE DEFINED BY THE PROJECT.

    UTILITY QUALITY LEVEL C - INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE GROUND UTILITY FEATURES AND CORRELATING QUALITY LEVEL "D" INFORMATION.

    UTILITY QUALITY LEVEL D - INFORMATION DERIVED FROM EXISTING RECORDS OR VERBAL RECOLLECTIONS.
22. NORTHING AND EASTING COORDINATES SHOWN ON ALL MANHOLE, INLETS, ETC. ARE SHOWN FROM CENTER OF STRUCTURE NOT CASTING, UNLESS OTHERWISE NOTED.
23. ALL MANHOLES THAT HAVE PIPE INVERT DIFFERENTIAL OF 2' OR GREATER, SHALL BE CONSIDERED A DROP MANHOLE. CONTRACTOR SHALL REFER TO MISCELLANEOUS DETAILS AND DETAILED SPECIFICATIONS FOR MORE INFORMATION.

EXISTING UTILITY NOTES

1. THE EXISTING UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. LOCATION OF SIZE AND MATERIAL SHOWN ON UTILITIES ARE FROM AVAILABLE RECORDS AND AVAILABLE FIELD MARKINGS, SUPPLIED BY THE RESPECTIVE UTILITY COMPANY. THE INDIANA UNDERGROUND PLANT PROTECTION SERVICE (IUPPS) MUST BE NOTIFIED 48 HOURS PRIOR TO ANY EXCAVATION FOR VERIFICATION OF LOCATION, SIZE AND MATERIAL FOR EXISTING UNDERGROUND UTILITIES (1-800-382-5544).
2. SIZE, MATERIAL, DEPTH AND LOCATION OF KNOWN EXISTING SEWER FACILITIES IS FROM AVAILABLE HISTORIC INFORMATION AND ABOVE-GROUND INSPECTION AND MEASUREMENT. THE CONTRACTOR SHALL VERIFY ALL SEWER INFORMATION CONTAINED IN THE CONTRACT DOCUMENTS PRIOR TO ANY CONSTRUCTION WHICH WOULD BE IMPACTED BY FACILITIES NOT LOCATED AS SHOWN IN THE CONTRACT DOCUMENTS. THE COST TO CORRECT ANY FACILITIES INSTALLED PRIOR TO VERIFICATION OF EXISTING CONDITIONS BY THE CONTRACTOR SHALL BE AT NO COST TO THE OWNER OR ENGINEER. DIFFERING CONDITIONS DISCOVERED DURING VERIFICATION WILL BE HANDLED PER THE CONTRACT DOCUMENTS.
3. THE LOCATION OF UTILITIES AND STRUCTURES, BOTH SURFACE AND SUBSURFACE, ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF SURVEY AND ARE NOT NECESSARILY COMPLETE OR CORRECT. DETERMINING THE EXACT LOCATION AND PROTECTING UTILITIES AND STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR. DURING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RESTORATION OF SAME IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY OWNER AND FOR ANY RESULTING CONTINGENT DAMAGE AND COST.
4. IF UTILITY FACILITIES OTHER THAN THOSE SHOWN ARE LOCATED, OR IF UTILITIES ARE LOCATED WHICH ARE NOT IN ACCORDANCE WITH THE LOCATIONS SHOWN ON THE DRAWINGS, THE ENGINEER SHALL BE NOTIFIED TO DETERMINE IF PLAN REVISIONS ARE NEEDED.
5. ALL EXISTING UTILITIES SHOWN IN PROFILE ARE INDICATED AT THEIR ASSUMED ELEVATION. CONTRACTOR TO FIELD VERIFY PRIOR TO CONSTRUCTION.
6. IN GENERAL, UTILITY SERVICE LINES TO INDIVIDUAL CUSTOMERS ARE NOT SHOWN ON THE PLANS. CONTRACTOR SHALL ASSUME THAT UNDERGROUND SERVICE LINES EXIST TO EACH PROPERTY ALONG THE NEW ROUTE FOR WATER, SANITARY SEWER, GAS, ELECTRIC, TELEPHONE, AND CABLE TV. THE CONTRACTOR SHALL LOCATE, PROTECT, AND IF DAMAGED BY CONTRACTOR, REPAIR ALL UTILITY SERVICE LINES ENCOUNTERED.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN IN SERVICE ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY UTILITY WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER AND THE APPLICABLE UTILITY OWNER.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR/REPLACEMENT TO ALL DAMAGED WATER SERVICES. CONTRACTOR MUST NOTIFY OWNER AND SERVICE DISPATCHER OF ANY DAMAGES TO THE WATER FACILITIES. DAMAGED WATER FACILITIES MUST BE REPAIRED BY THE CONTRACTOR WITHIN TWO (2) HOURS AT NO ADDITIONAL COST TO THE OWNER. IF WATER MAINTENANCE IS REQUIRED TO MAKE REPAIRS, THE CONTRACTOR WILL BE BILLED.
9. THE CONTRACTOR SHALL PROTECT ALL POWER POLES FROM DAMAGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES. WHERE REQUIRED, ALL UTILITY POLES ARE TO BE SUPPORTED IN A MANNER APPROVED BY THE APPROPRIATE UTILITY DURING CONSTRUCTION.

UTILITY CONTACT INFORMATION

UTILTY PROVIDER	CONTACT	PHONE	ADDRESS
AT&T - DISTRIBUTION	MATT SPINDLER	317.220-7043	240 N. MERIDIAN ST., ROOM 1791 INDIANAPOLIS, IN 46204 ms4822@att.com
COMCAST NORTH			
KANKAKEE VALLEY R.E.M.C.	JACOB BAILEY	219.733.2511	8642 W. US HWY 30/PO BOX 157 WANATAH, IN 46390 jbailey@kvremc.com
NORTHWESTERN INDIANA TELEPHONE COMPANY	DON SCHOENBECK	219.996-0216	PO BOX 64 HEBRON, IN 46341 dons@nitco.com
NIPSCO GAS (CROWN POINT)	DAVE SCHAAFSMA	866.732.6244	utilitycoordination@nisource.com
TWIN LAKES UTILITIES	RICK CLEVELAND	219.988-2581	1048 N. LAKE SHORE DR. CROWN POINT, IN 46307 cmgr@lofs.org
UTILITIES INC.	COLIN WEBB	219.227-1933	colin.webb@uiwater.com

HATCHING SYMBOLS

- -CMU WALL (PLAN VIEW) -GRANULAR BACKFILL (PROFILE VIEW)
- - DEMOLITION (CONTRACTOR SHALL REFER TO DETAILED SPECIFICATIONS)
- - GROUT
- - CONCRETE
- - STEEL
- - COMPACTED GRANULAR BACKFILL OR COMPACTED FOUNDATION
- - ABANDONED IN PLACE

DRAWING SET LEGEND

- EXISTING OVERHEAD TELEPHONE LINE
- EXISTING GAS LINE AND VALVE
- EXISTING WATER LINE AND VALVE
- EXISTING FIBER OPTIC LINE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING BURIED ELECTRIC
- EXISTING NON-POTABLE WATER LINE
- EXISTING POTABLE WATER LINE
- EXISTING BURIED TELEPHONE LINE
- EXISTING FENCE
- APPARENT RIGHT-OF-WAY
- APPARENT PROPERTY LINE
- EDGE OF ROAD
- EDGE OF ROAD WITH CURB
- EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- **NEW WATER LINE**
- **PROPOSED MAJOR CONTOUR LINE**
- **PROPOSED MINOR CONTOUR LINE**

- AC UNIT
- BOLLARD
- BOULDER / LARGE ROCK
- CENTER LINE MONUMENT
- ROW MONUMENT
- CONTROL POINT / BENCH MARK
- DRILL HOLE
- MAIL BOX
- FLAG POLE
- POST
- STUMP
- BUSH / HEDGE
- DECIDUOUS TREE
- CONIFEROUS TREE
- SIGN
- UTILITY LOCATE FLAG
- GAS LINE MARKER
- GAS VALVE
- GAS METER
- GUY POLE
- POWER POLE
- LIGHT POLE
- GUY WIRE
- ELECTRIC METER
- ELECTRIC PANEL
- ELECTRIC TRANSFORMER
- HAND HOLE BOX
- FIBER OPTIC MARKER
- TEL/TV PEDESTAL

- TELEPHONE MANHOLE
- TELEPHONE LINE MARKER
- TRAFFIC MANHOLE
- WATER LINE MARKER
- WATER METER
- VALVE
- IRRIGATION CONTROL VALVE
- FIRE HYDRANT
- FLUSH HYDRANT
- YARD HYDRANT
- WALL SPIGOT
- EXISTING PIPE PLUG
- STORM CATCH BASIN (SQUARE)
- STORM CATCH BASIN (ROUND)
- STORM CURB INLET
- STORM MANHOLE
- SANITARY MANHOLE
- SANITARY VALVE
- CLEANOUT
- VENT
- **NEW VALVE**
- **NEW FIRE HYDRANT**
- **NEW FLUSH HYDRANT**
- **NEW WET SADDLE AND VALVE BODY**
- **NEW PLUG**
- **NEW LINE STOP**
- **NEW CUT AND CAP**
- **NEW ARV**

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GENERAL ABBREVIATIONS, LEGENDS, SYMBOLS, AND NOTES

Drawing No: G3

Sheet: 03 OF 13

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PLAN VIEW

SCALE: 1"=100'-0"

0 100' 200'

CONTROL POINT INFORMATION			
IDENTIFIER	**NORTHING**	**EASTING**	**DESCRIPTION**
CP-1733	2242941.94	2919275.35	MAG SPIKE
CP-1	2242444.05	2919296.66	CAPPED REBAR
CP-2	2242784.23	2919298.23	CAPPED REBAR

TEMPORARY BENCHMARK INFORMATION		
IDENTIFIER	**ELEVATION**	**DESCRIPTION**
TBM-1478	767.02	TBM / EC

Project coordinates are based on the following:
HORIZONTAL-US State plane coordinates: NAD83 *(North American Datum)* Indiana West Zone (1302)
VERTICAL- USGS 1988 NAVD (North American Vertical Datum)-per GPS observations (Not verified by physical location of published USGS monuments)

GENERAL NOTES:

1. **DRAWING NUMBER REFERS TO PLAN AND PROFILE VIEW DRAWINGS.**

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DRAWING INDEX AND SURVEY DATA

Drawing No: G4

Sheet: 04 OF 13

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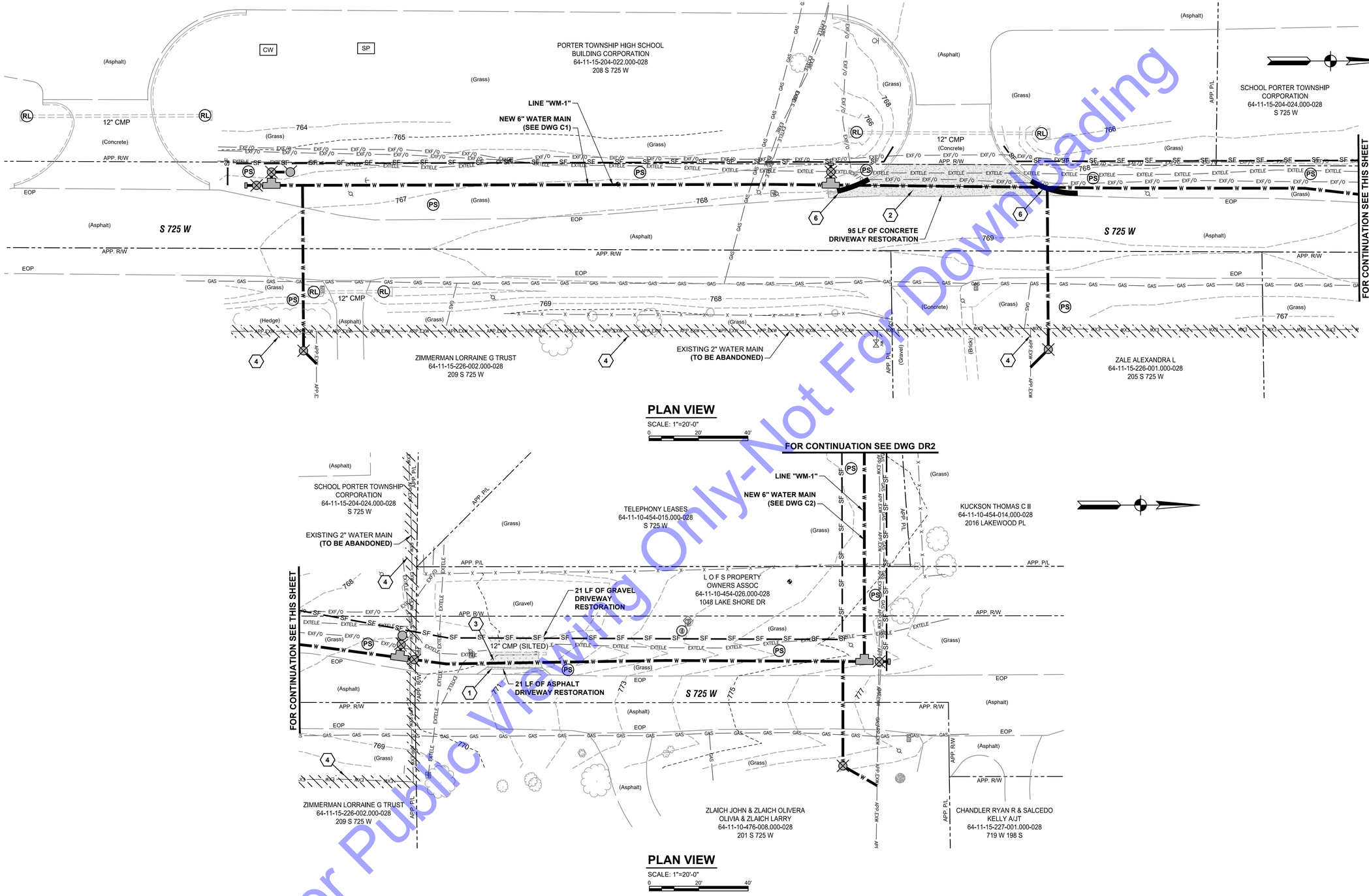

DEMOLITION AND RESTORATION KEYNOTES:

1. REMOVE ASPHALT PAVEMENT, TRENCH RESTORATION, AGGREGATE BASE AND ASPHALT BASE REPLACEMENT - STANDARD DUTY (SEE DETAIL, DWG. MD2).
2. REMOVE AND REPLACE CONCRETE PAVEMENT DRIVEWAY (SEE DETAIL, DWG. MD2).
3. REMOVE AND REPLACE STONE DRIVE (SEE DETAIL, DWG. MD2).
4. PLUG EXISTING WATER MAIN AND ABANDON IN PLACE.
5. REMOVE AND REPLACE CONCRETE SIDEWALK (SEE DETAIL, DWG. MD2).
6. REMOVE AND REPLACE CONCRETE CURB.

EROSION CONTROL LEGEND:

PS	PERMANENT SEEDING
SF	SILT FENCE
CW	CONCRETE WASHOUT
IP	INLET PROTECTION
SP	STOCKPILE
RL	LOG ROLL

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION CONTROL MEASURES AS SPECIFIED IN THE DETAILED SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO CONCRETE WASHOUT STATIONS, TEMPORARY CONSTRUCTION ENTRANCES, TEMPORARY SEEDING, ETC. AS REQUIRED DURING THE DURATION OF THE PROJECT TO MAINTAIN COMPLIANCE WITH THE GENERAL STORM WATER CONSTRUCTION PERMIT. CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS OF THE GENERAL STORM WATER CONSTRUCTION PERMIT, INCLUDING PROVIDING REQUIRED NOTIFICATIONS TO THE REQUIRED AGENCIES.
2. SEE DRAWING EC1 & EC2 FOR EROSION CONTROL DETAILS.

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FORT WAYNE, IN.
CROWN POINT, IN.
BOWLING GREEN, KY.
SOUTH BEND, IN.

RYAN M. LAREAU
REGISTERED
No. 11800145
STATE OF INDIANA
PROFESSIONAL ENGINEER
Signature 1/30/25 Date

COMMUNITY UTILITIES OF INDIANA, INC.
PORTER COUNTY, INDIANA
TWIN LAKES 2025 WATER MAIN REPLACEMENT

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No.	Submittal / Revision	By	Date

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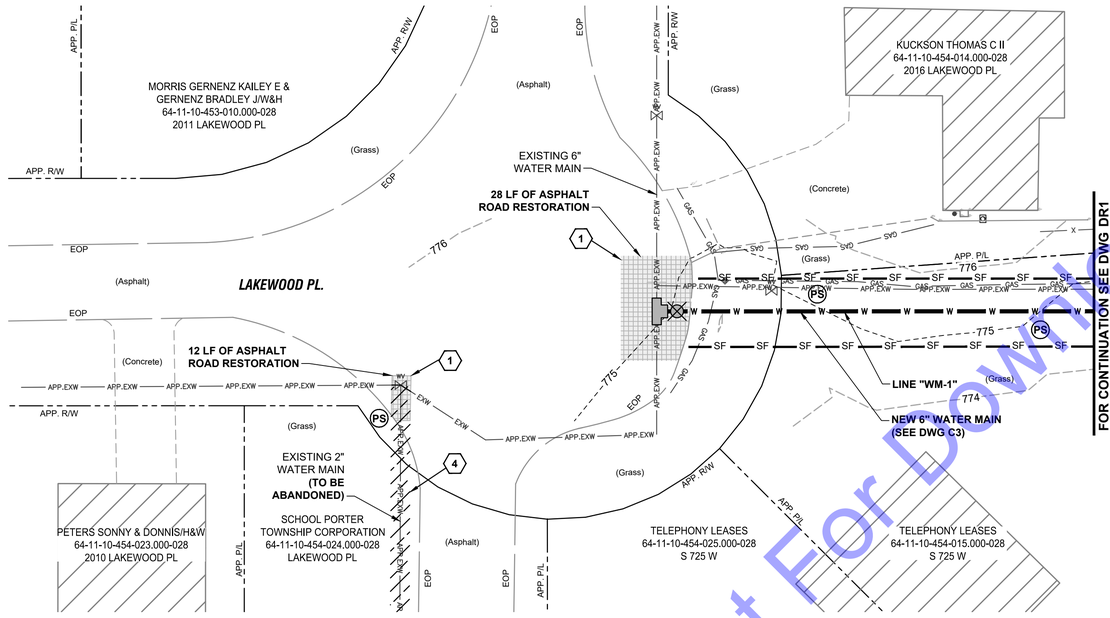
RML	JML	AMR
Issue Date:	Project No:	Scale:
--	W24200	AS SHOWN

DEMOLITION, RESTORATION AND EROSION CONTROL PLAN VIEWS

Drawing No: DR1

Sheet: 05 OF 13



PLAN VIEW

SCALE: 1"=20'-0"

0 20' 40'

DEMOLITION AND RESTORATION KEYNOTES:

1. REMOVE ASPHALT PAVEMENT, TRENCH RESTORATION, AGGREGATE BASE AND ASPHALT BASE REPLACEMENT - STANDARD DUTY (SEE DETAIL, DWG. MD2).
2. REMOVE AND REPLACE CONCRETE PAVEMENT DRIVEWAY (SEE DETAIL, DWG. MD2).
3. REMOVE AND REPLACE STONE DRIVE (SEE DETAIL, DWG. MD2).
4. PLUG EXISTING WATER MAIN AND ABANDON IN PLACE.
5. REMOVE AND REPLACE CONCRETE SIDEWALK (SEE DETAIL, DWG. MD2).
6. REMOVE AND REPLACE CONCRETE CURB.

EROSION CONTROL LEGEND:

PS	PERMANENT SEEDING
SF	SILT FENCE
CW	CONCRETE WASHOUT
IP	INLET PROTECTION
SP	STOCKPILE
RL	LOG ROLL

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION CONTROL MEASURES AS SPECIFIED IN THE DETAILED SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO CONCRETE WASHOUT STATIONS, TEMPORARY CONSTRUCTION ENTRANCES, TEMPORARY SEEDING, ETC. AS REQUIRED DURING THE DURATION OF THE PROJECT TO MAINTAIN COMPLIANCE WITH THE GENERAL STORM WATER CONSTRUCTION PERMIT. CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS OF THE GENERAL STORM WATER CONSTRUCTION PERMIT, INCLUDING PROVIDING REQUIRED NOTIFICATIONS TO THE REQUIRED AGENCIES.
2. SEE DRAWING EC1 & EC2 FOR EROSION CONTROL DETAILS.

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DEMOLITION, RESTORATION AND EROSION CONTROL PLAN VIEW

Drawing No: DR2

Sheet: 06 OF 13

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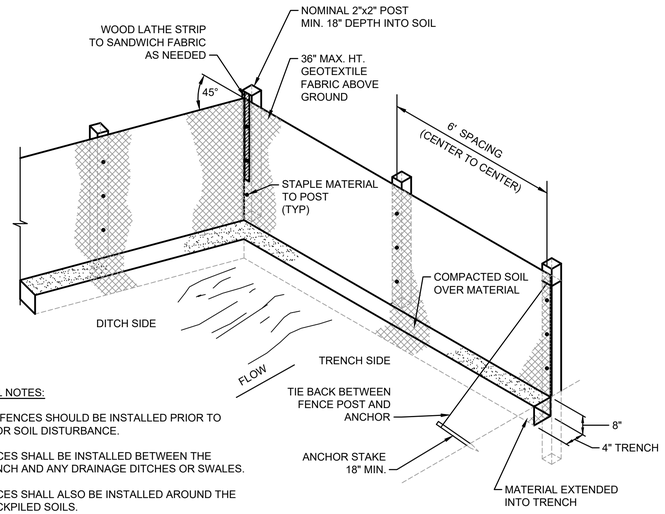
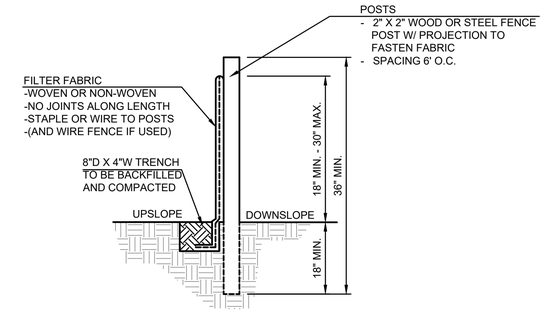


GENERAL NOTES:

1. SILT FENCES SHOULD BE INSTALLED PRIOR TO MAJOR SOIL DISTURBANCE.
2. FENCES SHALL BE INSTALLED BETWEEN THE TRENCH AND ANY DRAINAGE DITCHES OR SWALES.
3. FENCES SHALL ALSO BE INSTALLED AROUND THE STOCKPILED SOILS.
4. THE GEOTEXTILE SHALL BE FREE FROM DEFECTS, TEARS, PUNCTURES, FLAWS, DETERIORATION OR DAMAGE INCURRED DURING MANUFACTURE, TRANSPORTATION, STORAGE, OR INSTALLATION.
5. TIE BACKS SHALL BE PLACED AS REQUIRED.



INSTALLATION:
1. THE BOTTOM 1' OF THE FENCE SHALL BE BURIED IN THE TRENCH ON THE UPSLOPE SIDE.
2. FENCE SHALL BE INSTALLED ALONG LEVEL GRADES, NOT ACROSS FLOW CHANNELS.
3. IF OPTIONAL SUPPORT WIRE FENCE IS USED, POST SPACING MAY BE EXTENDED TO 8' O.C.

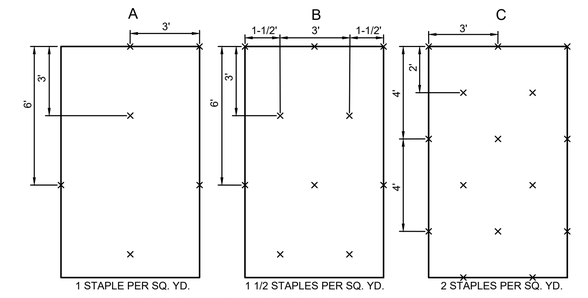
MAINTENANCE:
1. INSPECT SILT FENCE PERIODICALLY (WEEKLY) AND AFTER EACH STORM EVENT.
2. IF FABRIC IS TORN OR DAMAGED OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED PORTION IMMEDIATELY.
3. REMOVE DEPOSITED SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE FENCE, OR IT IS CAUSING THE FABRIC TO BULGE.
4. TAKE CARE NOT TO UNDERMINE THE FENCE DURING SEDIMENT REMOVAL.
5. AFTER THE CONTRIBUTING AREA HAS BEEN STABILIZED, REMOVE THE FENCE AND REMAINING SEDIMENT, BRING THE DISTURBED AREA TO GRADE, AND STABILIZE.

SILT FENCE DETAIL

NOT TO SCALE

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE INDIANA STORM WATER QUALITY MANUAL FROM THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AND LOCAL EROSION AND SEDIMENT CONTROL ORDINANCE, OR SWCD.
2. THE NOTICE OF INTENT (NOI) AND PUBLIC NOTICE FOR THE PROJECT SHALL BE POSTED ON A SIGN INSTALLED AT OR NEAR THE SITE CONSTRUCTION TRAILER. THE NOI SHALL LIST THE CONTACT INFORMATION FOR THE SITE CONTACT PERSON. THE SIGN AND INFORMATION SHALL BE MAINTAINED AND REMAIN LEGIBLE THROUGHOUT CONSTRUCTION.
3. A COPY OF THIS EROSION AND SEDIMENT CONTROL PLAN AND THE EROSION AND SEDIMENT CONTROL REPORT SHALL BE AVAILABLE AT THE PROJECT SITE THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
4. THE CONTRACTOR SHALL CONTROL WASTE, GARBAGE, DEBRIS, WASTEWATER, AND OTHER SUBSTANCES ON THE SITE SO THEY WILL NOT BE TRANSPORTED FROM THE SITE BY THE ACTION OF WIND, STORM WATER RUNOFF, OR OTHER FORCES. PROPER DISPOSAL OR MANAGEMENT OF ALL WASTES AND UNUSED BUILDING MATERIAL APPROPRIATE TO THE NATURE OF THE WASTE OR MATERIAL IS REQUIRED.
5. PUBLIC OR PRIVATE ROADWAYS SHALL BE KEPT CLEAR OF ACCUMULATED SEDIMENT. ALL SEDIMENT THAT IS CLEARED MUST BE RETURNED TO THE LIKELY POINT OF ORIGIN OR OTHER SUITABLE LOCATION. CLEARING OF LARGE AMOUNTS OF SEDIMENT SHALL NOT INCLUDE FLUSHING THE AREA WITH WATER.
6. MINIMIZE THE EXPOSURE OF BARE EARTH BY LIMITING THE WORK AREA TO THAT NECESSARY TO PERFORM THE WORK, AND BY PROPER SCHEDULING OF MANPOWER AND EQUIPMENT.
7. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED, CLEANED, AND MAINTAINED FOLLOWING EACH STORM EVENT.
8. WHEREVER POSSIBLE, MAINTAIN EXISTING VEGETATIVE COVER. USE NON-VEGETATIVE MATERIAL INCLUDING MULCH, EROSION BLANKETS, OR STONE TO CONTROL EROSION FROM DISTURBED AREAS.
9. A LOG SHALL BE MAINTAINED OF ALL INSPECTIONS (WEEKLY, AND FOLLOWING STORM EVENTS), MAINTENANCE AND REPAIR OF EROSION AND SEDIMENT CONTROL MEASURES. THE LOG SHALL BE MAINTAINED ON SITE AND BE AVAILABLE UPON REQUEST TO THE OWNER'S REPRESENTATIVES AND THE OPERATING AUTHORITIES HAVING JURISDICTION OVER THE SITE.



EROSION CONTROL BLANKET

NOT TO SCALE

SPECIFICATIONS
EFFECTIVE LIFE
- THE FUNCTIONAL LIFE OF AN EROSION CONTROL BLANKET IS DEPENDENT ON THE MATERIALS USED.

ANCHORING
- STAPLES, PINS OR STAKES USED TO PREVENT MOVEMENT OR DISPLACEMENT OF BLANKET. (FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR SPECIFIC APPLICATIONS.)

MATERIALS
- ORGANIC (STRAW, EXCELSIOR, WOVEN PAPER, COCONUT FIBER, ETC.) OR SYNTHETIC MULCH INCORPORATED WITH A POLYPROPYLENE, NATURAL FIBER OR SIMILAR NETTING MATERIAL. (THE NETTING MAY BE BIODEGRADABLE, PHOTODEGRADABLE OR PERMANENT.)

  NOTE: SOME EROSION CONTROL BLANKET NETTINGS MAY POSE A THREAT TO CERTAIN SPECIES OF WILDLIFE IF THEY BECOME ENTANGLED IN THE NETTING MATRIX.

- 6-12 INCH STAPLES, PINS, OR STAKES.

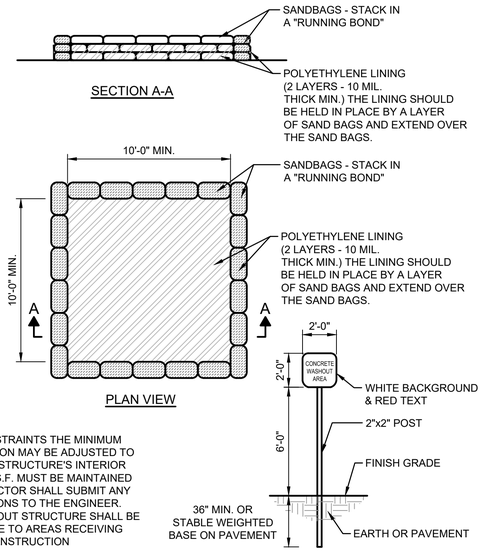
INSTALLATION
1. SELECT THE TYPE AND WEIGHT OF EROSION CONTROL BLANKET TO FIT THE SITE CONDITIONS (E.G., SLOPE, CHANNEL, FLOW VELOCITY) PER THE MANUFACTURER'S RECOMMENDATIONS.
2. PREPARE THE SEEDBED, ADD SOIL AMENDMENTS, AND PERMANENTLY SEED THE AREA IMMEDIATELY FOLLOWING SEEDBED PREPARATION.
3. LAY EROSION CONTROL BLANKETS ON THE SEEDED AREA SO THAT THEY ARE IN CONTINUOUS CONTACT WITH THE SOIL WITH EACH UP-SLOPE OR UP-STREAM BLANKET OVERLAPPING THE DOWN-SLOPE OR DOWN-STREAM BLANKET BY AT LEAST EIGHT INCHES, OR FOLLOW MANUFACTURER'S RECOMMENDATIONS.
4. TUCK THE UPPERMOST EDGE OF THE UPPER BLANKETS INTO A CHECK SLOT (SLIT TRENCH), BACKFILL WITH SOIL AND TAMP DOWN. IN CERTAIN APPLICATIONS, THE MANUFACTURER MAY REQUIRE ADDITION CHECK SLOTS AT SPECIFIC LOCATIONS DOWN SLOPE FROM THE UPPERMOST EDGE OF THE UPPER BLANKETS.
5. ANCHOR THE BLANKETS IN PLACE BY DRIVING STAPLES, PINS, OR STAKES THROUGH THE BLANKET AND INTO THE UNDERLYING SOIL. FOLLOW AN ANCHORING PATTERN APPROPRIATE FOR THE SITE CONDITIONS AND AS RECOMMENDED BY THE MANUFACTURER.

MAINTENANCE
INSPECT WITHIN 24 HOURS OF EACH RAIN EVENT AND AT LEAST ONCE EVERY SEVEN CALENDAR DAYS.
CHECK FOR EROSION OR DISPLACEMENT OF THE BLANKET.
IF ANY AREA SHOWS EROSION, PULL BACK THAT PORTION OF THE BLANKET COVERING THE ERODED AREA, ADD SOIL AND TAMP, RESEED THE AREA, REPLACE AND STAPLE THE BLANKET.

NOTES
CHANNEL LININGS UTILIZE STAPLE PATTERN "C" WITH ADDITIONAL STAPLES ON SIDE SLOPES AT PROJECTED WATER LINE.

STAPLE PATTERNS APPLY TO ALL NORTH AMERICAN GREEN EROSION CONTROL BLANKETS. STAPLE PATTERNS MAY VARY DEPENDING UPON SOIL TYPE AND AVERAGE RAINFALL.

AT SLOPE LENGTHS GREATER THAN 300 FEET OR WHERE DRAINAGE OVER LARGE AREAS IS DIRECTED ONTO THE BLANKETS, STAPLE PATTERN "C" SHOULD BE UTILIZED.



NOTE:
DUE TO SITE CONSTRAINTS THE MINIMUM INTERIOR DIMENSION MAY BE ADJUSTED TO FIT THE SITE. THE STRUCTURE'S INTERIOR FOOTAGE OF 100 S.F. MUST BE MAINTAINED AND THE CONTRACTOR SHALL SUBMIT ANY DESIGN ALTERATIONS TO THE ENGINEER. CONCRETE WASHOUT STRUCTURE SHALL BE RELOCATED CLOSE TO AREAS RECEIVING CONCRETE, AS CONSTRUCTION PROGRESSES.

CONCRETE WASHOUT PIT DETAIL

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EROSION CONTROL DETAILS

Drawing No: EC1

Sheet: 07 OF 13

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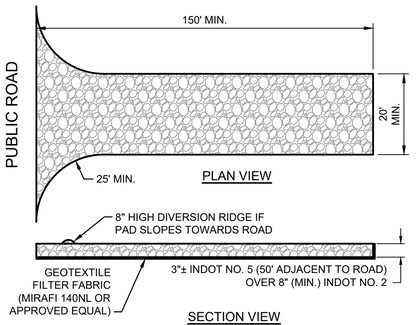
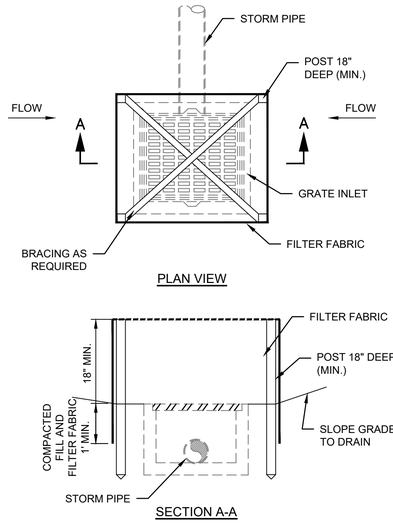


MAINTENANCE:

1. INSPECT DAILY AND AFTER EACH STORM EVENT OR HEAVY USE.
2. RESHAPE AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
3. TOPDRESS WITH CLEAN STONE AS REQUIRED. MAINTAIN MINIMUM DEPTH THROUGHOUT CONSTRUCTION.
4. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY SWEEPING OR BRUSHING. (DO NOT FLUSH AREA WITH WATER UNLESS WATER IS CONVEYED TO SEDIMENT TRAP.)
5. REPAIR ANY BROKEN PAVEMENT IMMEDIATELY.

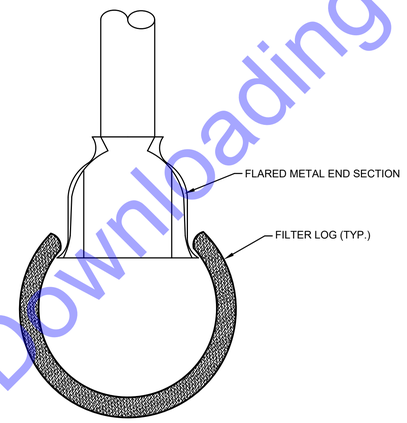
STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE



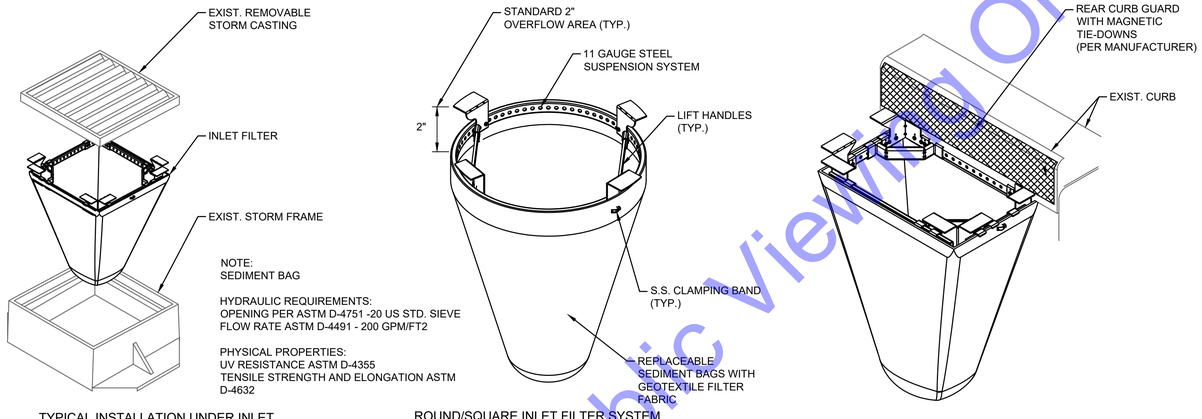
STORM INLET WITH SILT FENCE EROSION DETAIL

NOT TO SCALE



DEGRADABLE FILTRATION LOGS END SECTION - DETAIL

NOT TO SCALE



GENERAL NOTES:

1. TO BE INSTALLED AT EXISTING STANDARD INLET GRATES IN PAVED AREAS DOWNSTREAM OF EXCAVATION.
2. INSTALL INLET FILTER ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE AND PER MANUFACTURER'S RECOMMENDATIONS.
3. FOR CURB BOX INLETS, CURB BACK MUST HAVE FILTER ATTACHED PER MANUFACTURER'S RECOMMENDATION OR CONTRACTOR MUST CREATE A DAM TO DIRECT RUNOFF INTO THE SEDIMENT BAG.

INLET FILTER EROSION CONTROL DETAIL FOR STANDARD SIZED STORM STRUCTURES

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EROSION CONTROL DETAILS

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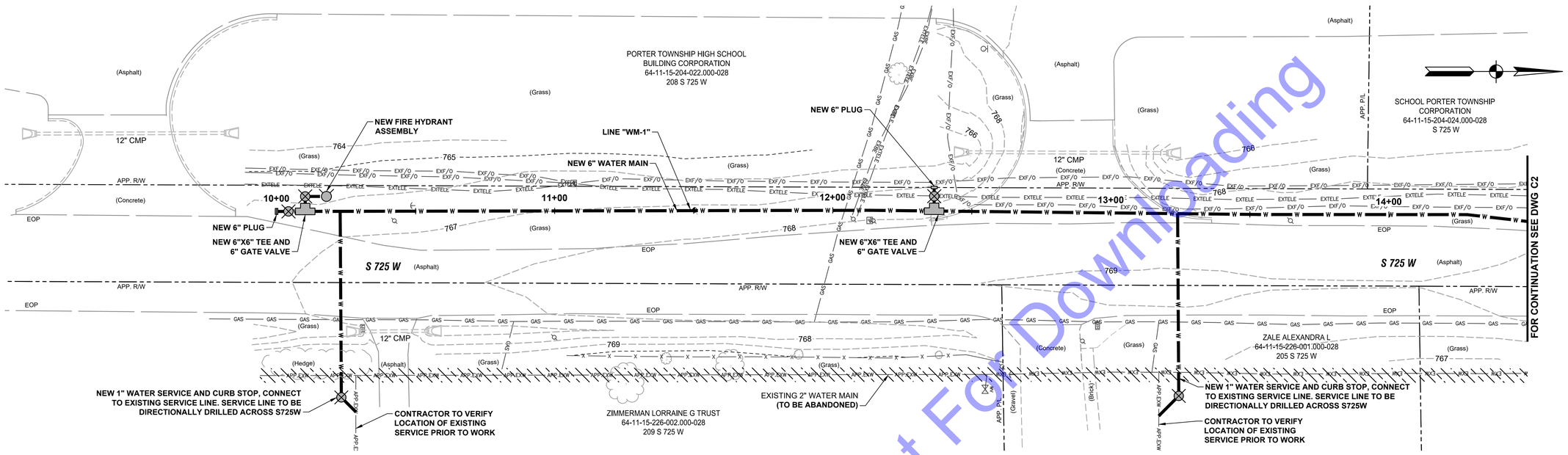
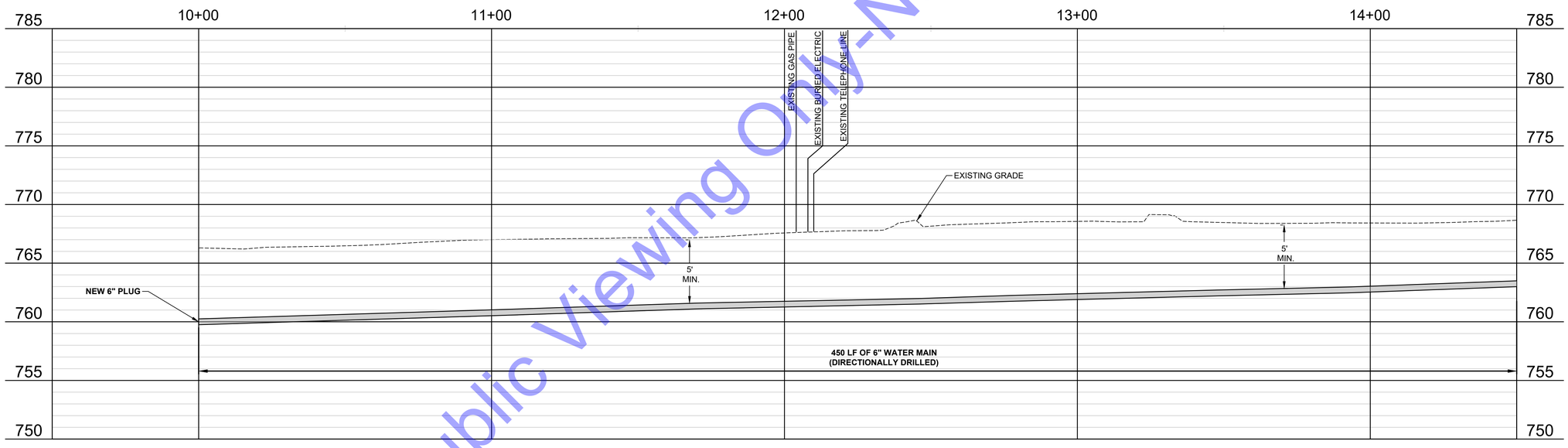


PLAN VIEW



PROFILE VIEW

NOTES:

1. CONTRACTOR TO AVOID AND PROTECT ANY EXISTING STORM MANHOLES, SEWER, OR CULVERTS. IF DISTURBED OR DAMAGED, CONTRACTOR TO REPLACE TO A CONDITION EQUAL TO OR BETTER THAN EXISTING.
2. CONTRACTOR TO FIELD VERIFY LOCATION OF ALL WATER SERVICES. LOCATIONS SHOWN ARE APPROXIMATE.
3. CONTRACTOR TO KEEP EXISTING WATER MAIN IN SERVICE DURING TESTING/CHLORINATION OF NEW WATER MAIN AND DURING WATER SERVICE TRANSFERS.

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VERTICAL SCALE: 1"=5'
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PLAN AND PROFILE VIEWS - LINE "WM-1"

Drawing No: C1

Sheet: 09 OF 13

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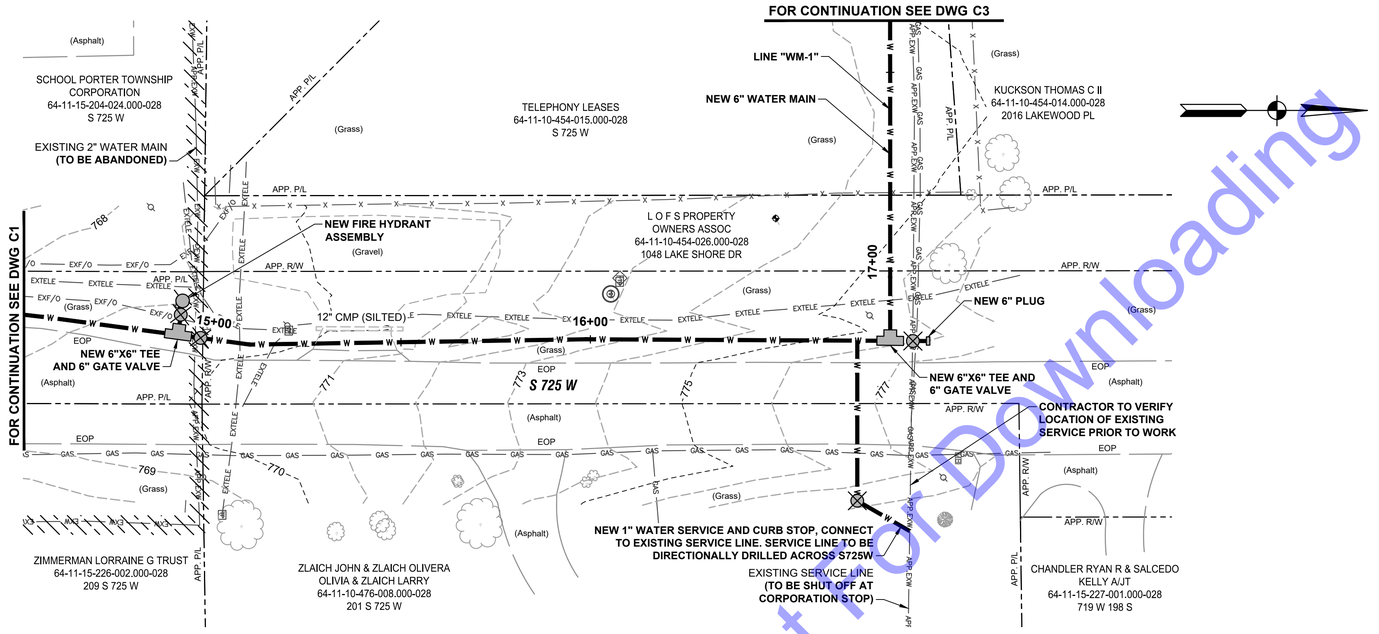
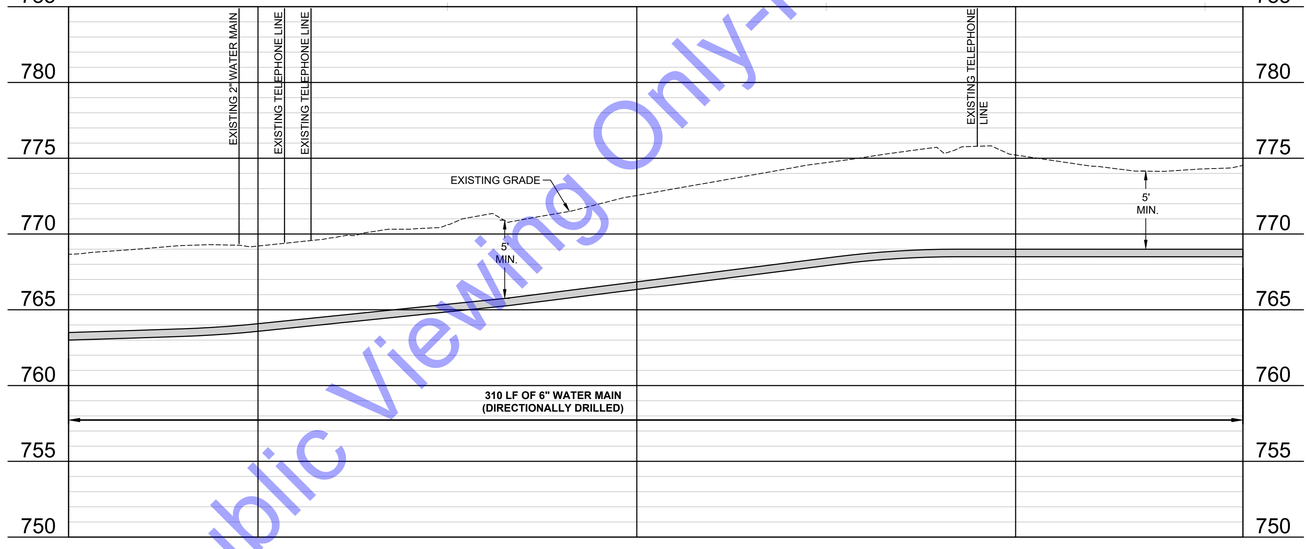


PLAN VIEW



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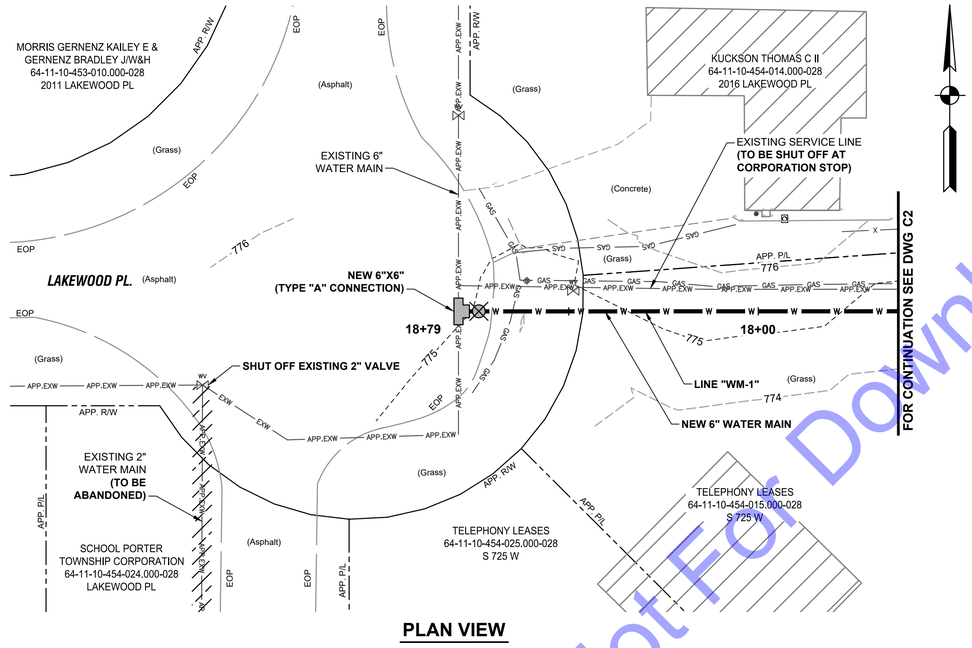
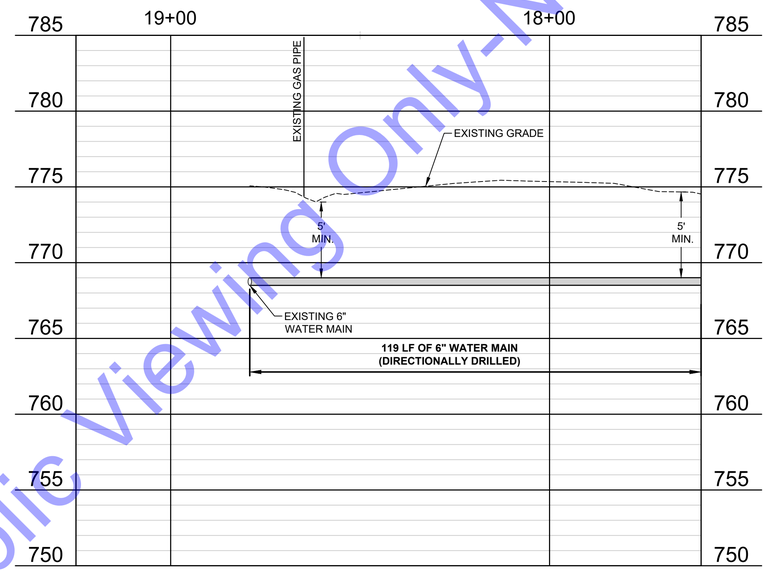
PLAN AND PROFILE VIEWS - LINE "WM-1"

Drawing No: C2
Sheet: 10 OF 13



PLAN VIEW



PROFILE VIEW

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PROFESSIONAL ENGINEER

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COMMUNITY UTILITIES OF INDIANA, INC.
PORTER COUNTY, INDIANA
TWIN LAKES 2025 WATER MAIN REPLACEMENT

Indiana 811 Know what's below. 811 before you dig. 1-800-382-5544 (ITS THE LAW)

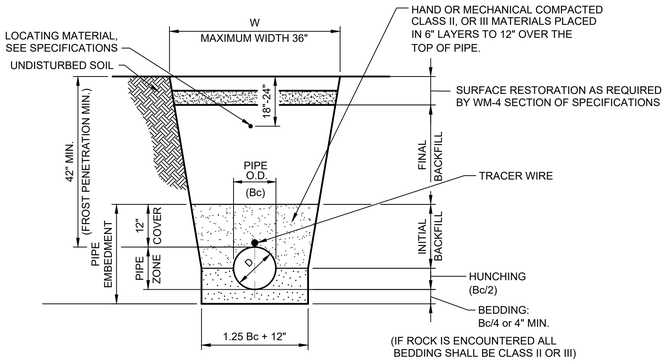
No.	Submittal / Revision	By	Date

Designed By:	Drawn By:	Checked By:
RML	JML	AMR
Issue Date:	Project No:	Scale:
--	W24200	AS SHOWN

PLAN AND PROFILE VIEWS - LINE "WM-1"

Drawing No: C3

Sheet: 11 OF 13



W = MAX. ALLOWABLE TRENCH WIDTH FOR PIPE SHALL NOT TO EXCEED 30 INCHES FOR 4" THROUGH 8" PIPE, 36" FOR 8" THROUGH 12" PIPE.

D = PIPE DIAMETER (INTERNAL)

Bc = PIPE DIAMETER (EXTERNAL)

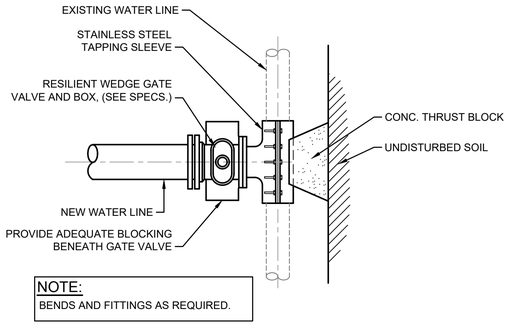
APPLICATION	BEDDING & HUNCHING INITIAL BACKFILL	FINAL BACKFILL
GRASSY AREA OR NEW PAVED AREAS	CLASS I, OR II MATERIAL (REFER TO WORKMANSHIP & MATERIALS SPECIFICATIONS	SELECTED EXCAVATED MATERIAL
PAVEMENT AREA OR ANY AREA SUBJECT TO VEHICULAR TRAFFIC	CLASS I, II OR III MATERIAL (REFER TO WORKMANSHIP & MATERIALS SPECIFICATIONS	COMPACTED GRANULAR MATERIAL

NOTES:

1. INITIAL BACKFILL STOPS AT A POINT 12" ABOVE THE TOP OF THE PIPE. BACKFILLING ABOVE THIS POINT SHALL BE IN ACCORDING WITH THE SPECIFICATIONS AND AS REQUIRED BY HEREIN.
2. BEDDING, HUNCHING AND INITIAL BACKFILL SHALL BE CLASS I, II, OR III MATERIALS ACCORDING TO THE WORKMANSHIP AND MATERIALS SPECIFICATIONS.
3. WORK FALLING UNDER THE JURISDICTION OF THE INDIANA DEPARTMENT OF TRANSPORTATION (INDOT) SHALL UTILIZE COMPACTED GRANULAR BACKFILL MATERIAL FOR INITIAL AND FINAL BACKFILL ANYWHERE WITHIN 12 FEET OF THE EDGE OF PAVEMENT.
4. WORK NOT FALLING UNDER THE JURISDICTION OF INDIANA DEPT. OF TRANSPORTATION SHALL UTILIZE COMPACTED GRANULAR BACKFILL MATERIAL FOR INITIAL AND FINAL BACKFILL ANYWHERE WITHIN 5 FEET OF THE EDGE OF PAVEMENT.

TRENCH DETAIL FOR WATER MAIN

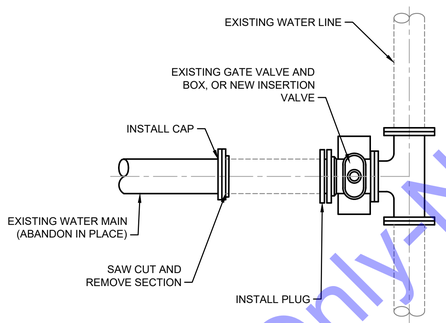
NOT TO SCALE



NOTE:
BENDS AND FITTINGS AS REQUIRED.

TYPE "A" CONNECTION TO EXISTING WATER MAIN

NOT TO SCALE



CUT AND CAP/PLUG DETAIL

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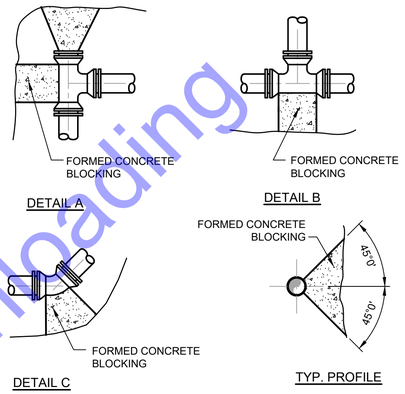


TABLE OF DIMENSIONS FOR CONCRETE BLOCKING

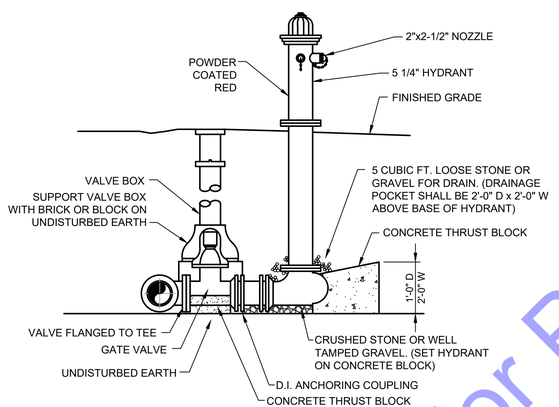
SIZE	TEE				PLUG				90° BEND				45° BEND				22° BEND				11° BEND			
PIPE	L	T	W	D	L	T	W	D	s	L	T	W	D	L	T	W	D	L	T	W	D	L	T	W	
4"	18"	12"	12"	8"	18"	12"	18"	18"	2"	24"	12"	24"	8"	18"	8"	12"	8"	18"	8"	12"	8"	15"	8"	12"	
6"	18"	12"	12"	8"	18"	12"	18"	18"	2"	24"	15"	24"	8"	18"	10"	12"	8"	18"	10"	12"	8"	18"	10"	18"	6"
8"	30"	12"	24"	8"	30"	18"	30"	24"	4"	36"	16"	30"	8"	24"	12"	18"	8"	24"	18"	18"	8"	24"	12"	18"	8"
10"	36"	18"	30"	10"	36"	18"	36"	24"	4"	48"	20"	36"	10"	30"	14"	24"	10"	30"	14"	24"	10"	24"	14"	18"	8"
12"	48"	18"	36"	10"	42"	18"	42"	24"	4"	54"	24"	48"	10"	36"	16"	30"	10"	36"	16"	30"	10"	30"	16"	24"	10"
14"	54"	24"	42"	12"	48"	18"	48"	30"	6"	60"	28"	60"	12"	42"	16"	42"	12"	42"	16"	42"	12"	33"	16"	27"	12"
16"	60"	24"	48"	12"	54"	18"	54"	30"	6"	66"	32"	63"	12"	48"	18"	48"	12"	48"	18"	48"	12"	36"	18"	30"	12"
18"	66"	30"	60"	14"	60"	24"	60"	36"	6"	66"	36"	66"	14"	54"	18"	54"	14"	54"	18"	54"	14"	39"	18"	33"	14"
20"	72"	30"	60"	14"	66"	24"	66"	36"	8"	72"	40"	69"	14"	60"	20"	60"	14"	60"	20"	60"	14"	42"	20"	36"	14"
24"	84"	36"	72"	18"	78"	30"	78"	42"	8"	84"	48"	75"	18"	72"	22"	72"	18"	72"	22"	72"	18"	48"	22"	42"	18"
30"	96"	42"	78"	24"	96"	36"	78"	48"	10"	108"	54"	96"	24"	84"	24"	72"	24"	72"	26"	72"	24"	54"	26"	48"	24"
42"	144"	48"	96"	36"	144"	42"	96"	60"	10"	180"	66"	144"	36"	120"	36"	96"	36"	84"	34"	72"	36"	60"	34"	48"	36"

NOTES:

1. FOR TEE WITH BRANCH UNEQUAL TO RUN USE TEE TYPE KICKER WITH D, L, AND W DIMENSIONS THE SAME AS THOSE FOR PLUG WITH SAME DIAMETER AS BRANCH OF TEE, SELECT "T" DIMENSIONS FROM TEE TABLE UNDER COLUMN HEADED BY THE SIZE OF THE BRANCH
2. IF EXACT SIZE PIPE BLOCKING IS NOT SHOWN USE NEXT LARGER SIZE
3. DEPTH "D" MAY BE GREATER THAN SPECIFIED TO ALLOW WORKING SPACE
4. BLOCKING MUST BE PLACED AGAINST UNDISTURBED EARTH OR ROCK
5. CONCRETE BLOCKING SHALL BE CLASS "B"

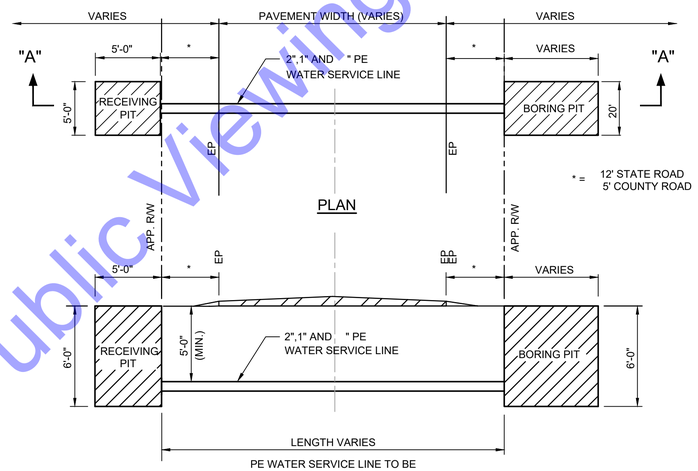
THRUST BLOCKING DETAIL

NOT TO SCALE



CLOW MEDALLION HYDRANT ASSEMBLY DETAIL

NOT TO SCALE

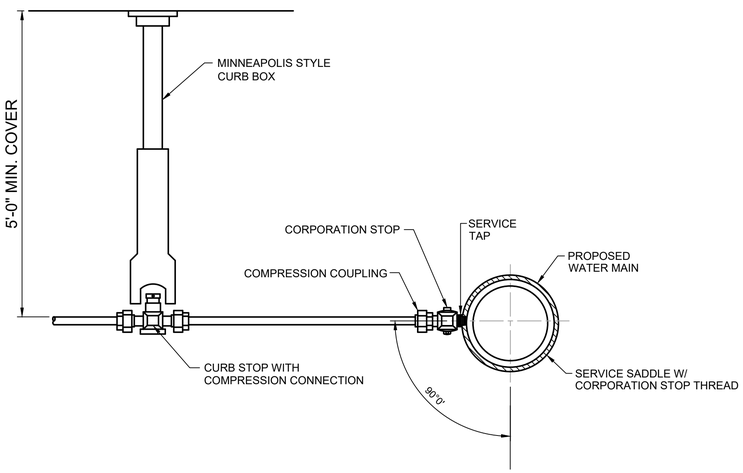


SECTION "A"-"A"

CONSTRUCTION NOTE:
ANY DISTURBED AREAS WITHIN RIGHT-OF-WAY TO BE RESTORED TO SAME OR BETTER CONDITION AS PRIOR TO CONSTRUCTION.

PUSH/PULL DETAIL

NOT TO SCALE



NEW SERVICE CONNECTION DETAIL

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RYAN M. LAREAU REGISTERED No. 11800145 STATE OF INDIANA PROFESSIONAL ENGINEER

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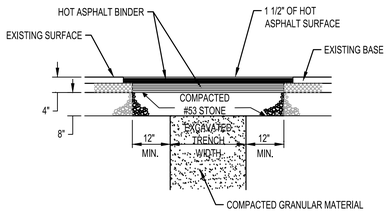
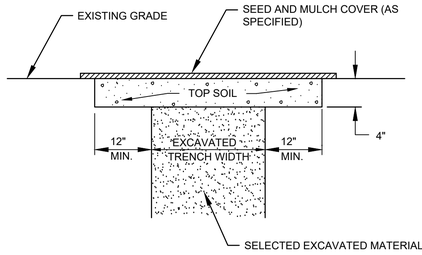
MISCELLANEOUS DETAILS

Drawing No:
MD1
Sheet: 12 OF 13



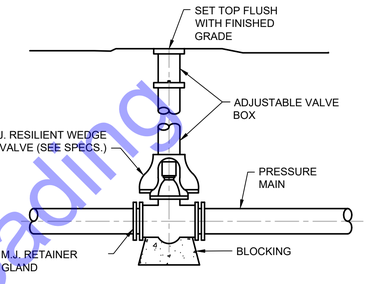
SURFACE RESTORATION DETAIL FOR ASPHALT PAVEMENT - ROAD

NOT TO SCALE



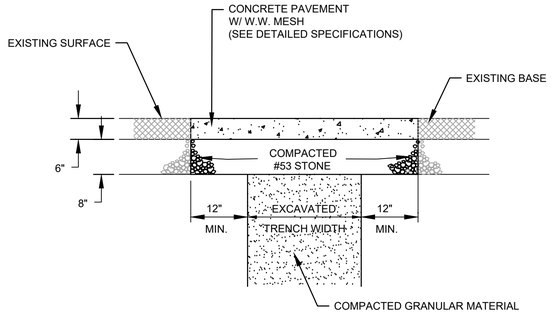
SURFACE RESTORATION DETAIL FOR GRASS AREAS

NOT TO SCALE



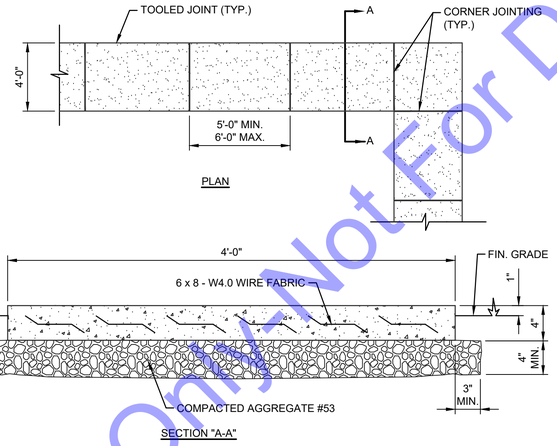
GATE VALVE AND BOX DETAIL

NOT TO SCALE



SURFACE RESTORATION DETAIL FOR CONCRETE PAVEMENT - DRIVE

NOT TO SCALE

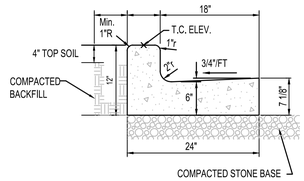


GENERAL NOTES:

1. TRANSVERSE JOINTS SHALL BE CUT WITH A JOINTER HAVING A RADIUS OF ¼" AT SPACING AT A MINIMUM OF 6'-0"
2. SIDEWALK SHALL BE 6" THICK WITH 8" OF COMPACTED AGGREGATE No. 53 AT ALL DRIVEWAY CROSSINGS
3. SIDE SLOPE SHALL BE ¼" / FT.

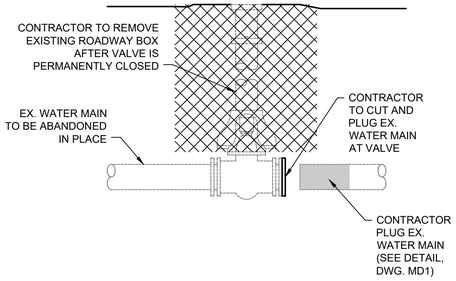
CONCRETE SIDEWALK DETAIL

NOT TO SCALE



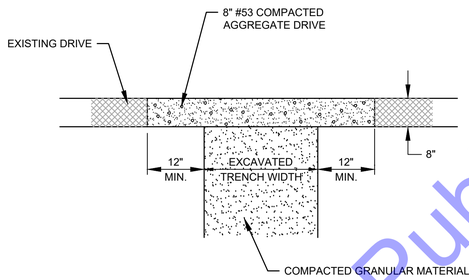
TYPICAL CONCRETE CURB AND GUTTER DETAIL

NOT TO SCALE



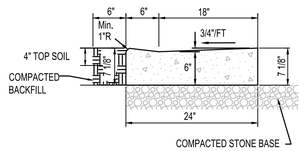
EXISTING GATE VALVE AND BOX TO BE ABANDONED DETAIL

NOT TO SCALE



SURFACE RESTORATION DETAIL FOR GRAVEL PAVEMENT - ROAD

NOT TO SCALE



TYPICAL CONCRETE DEPRESSED CURB AND GUTTER DETAIL

NOT TO SCALE

DESIGN CRITERIA FOR RESTRAINT JOINT REQUIREMENTS					
PIPE	SOIL	SAFETY FACTOR	TRENCH TYPE	DEPTH	TEST PRESSURE
PVC	CL	2	5	5'	200 PSI

HORIZONTAL BENDS			
11.25	22.5	45	90
10'	10'	12'	29'

VERTICAL OFFSET					
45		22.5		11.25	
HIGH	LOW	HIGH	LOW	HIGH	LOW
48'	10'	23'	10'	12'	10'

TEE					
8" RUN x 6" BRANCH		12" RUN X 8" BRANCH			
10'	51'	10'	69'		

DEAD END	
8"	82'

REDUCERS		
8"x6"	12"X8"	8"X6"
35'	63'	35'

RESTRAINED JOINT REQUIREMENTS

NOT TO SCALE

NOTE:
ALL JOINTS WITHIN THE ABOVE DISTANCES SHALL BE RESTORED IN ACCORDANCE WITH SPECIFICATIONS

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Drawing No: MD2

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