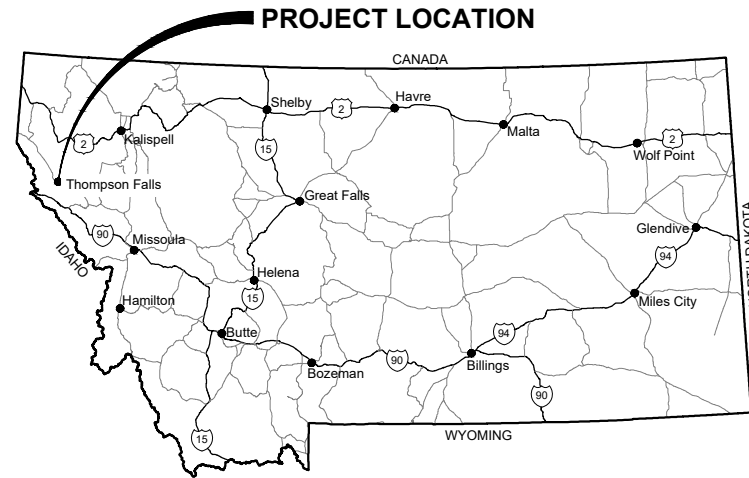


SHEET INDEX

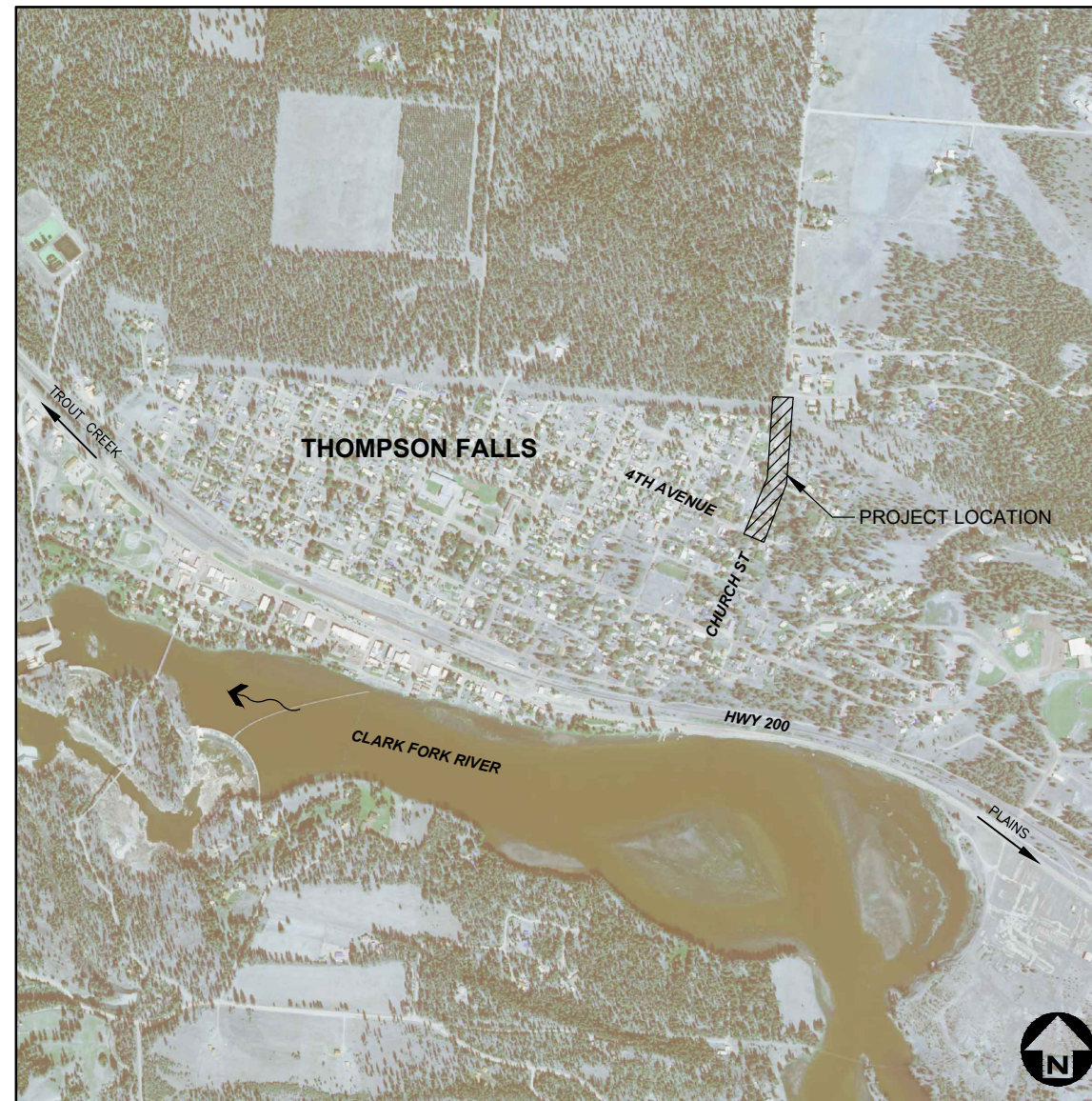
PROJECT: 1-21204-TO4
DATE: AUGUST 28, 2024

GENERAL SHEET 1	COVER
SHEET 2	GENERAL NOTES
SHEET 3	OVERALL SITE PLAN
WATER MAIN REPLACEMENT	
SHEET 4	PLAN AND PROFILE - STA. 0+00 TO STA. 7+00 - STA. 0+00 TO STA. 7+00
SHEET 5	PLAN AND PROFILE - STA. 7+00 TO STA. 13+00 - STA 7+00 TO 13+00
DETAILS	
SHEET 6	DETAILS
SHEET 7	DETAILS

CITY OF THOMPSON FALLS CHURCH STREET WATER MAIN REPLACEMENT CONSTRUCTION PLANS



SECTION 04, 05, 08, 09, TOWNSHIP 21N, AND RANGE 29W



NOT TO SCALE

PLANS PREPARED FOR:

RUSSLYN LEIVESTAD, MAYOR
CITY OF THOMPSON FALLS



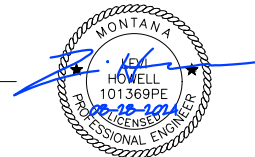
APPROVED BY:

CARRIE GARDNER, P.E.
GREAT WEST ENGINEERING



QA/QC BY:

LEVI HOWELL, P.E.
GREAT WEST ENGINEERING



PLANS PREPARED BY:

PAUL KARCHER, EI



RURAL DEVELOPMENT - CRDA #10.760
ARPA - AMC-23-0068

NO.	REVISION DESCRIPTION	BY	DATE	SET NO.
△				SHEET NO. 1
△				
△				
△				
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Y:\Shared\Helena Projects\1-21204-Thompson Falls On-Call 2021\TO 4 - Water PER Update\CADD 1-21204-TO4-Sheets\Emergency Water\1-21204-TO4-01-Cover.dwg

ABBREVIATIONS

⊙	AT	LPG	LIQUID PROPANE GAS
Δ	ANGLE OF DEFLECTION, DELTA ANGLE	LT	LEFT
<PT	ANGLE POINT	MAX	MAXIMUM
AB	ANCHOR BOLT	MD	MEASURE DOWN
ABDN	ABANDON	MFD	MANUFACTURED
AC	ASBESTOS CONCRETE	MFR	MANUFACTURE, MANUFACTURER
ADDN	ADDITIONAL	MH	MANHOLE
ADJ	ADJACENT	MIN	MINIMUM
AFF	ABOVE FINISHED FLOOR	MISC	MISCELLANEOUS
ALT	ALTERNATE	MJ	MECHANICAL JOINT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	MOV	MOTOR OPERATED VALVE
APPROX	APPROXIMATE	MPWSS	MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS
APVD	APPROVED	N	NORTH
ARCH	ARCHITECTURE, ARCHITECTURAL	NE	NORTHEAST
ASPH	ASPHALT	NG	NATURAL GAS
AVE	AVENUE	NIC	NOT IN CONTRACT
AVG	AVERAGE	NO	NUMBER
BFV	BUTTERFLY VALVE	NOM	NOMINAL
BLDG	BUILDING	NTS	NOT TO SCALE
BLK	BLOCK	NW	NORTHWEST
BLVD	BOULEVARD	OC	ON CENTER
BM	BEAM, BENCHMARK	OD	OUTSIDE DIAMETER
BOT	BOTTOM	OF	OVERFLOW
BRG	BEARING	OH	OVERHEAD
BRKT	BRACKET	OHP	OVERHEAD POWER
BVC	BEGIN VERTICAL CURVE	OHT	OVERHEAD TELEPHONE
C-C	CENTER TO CENTER	OPNG	OPENING
CHAN	CHANNEL	PC	POINT OF CURVATURE
CHK	CHECK	PCC	POINT OF COMPOUND CURVATURE
CI	CAST IRON	PE	PLAIN END, POLYETHYLENE
CIPC	CAST-IN-PLACE CONCRETE	PERP	PERPENDICULAR
CIRC	CIRCULAR	PI	POINT OF INTERSECTION
CJ	CONSTRUCTION JOINT, CONTROL JOINT	P	PROPERTY LINE
CL	CENTER LINE	PNL	PANEL
CLR	CLEAR, CLEARANCE	PRC	POINT OF REVERSE CURVATURE
CMP	CORRUGATED METAL PIPE	PREFAB	PREFABRICATED
CMU	CONCRETE MASONRY UNITS	PRELIM	PRELIMINARY
CO	CLEANOUT	PREP	PREPARE, PREPARATION
COL	COLUMN	PROP	PROPERTY
CONC	CONCRETE	PRV	PRESSURE REDUCING VALVE
CONSTR	CONSTRUCTION	PSF	POUNDS PER SQUARE FOOT
CONT	CONTINUE, CONTINUED, CONTINUOUS	PSI	POUNDS PER SQUARE INCH
CONTR	CONTRACTOR	PT	POINT, POINT OF TANGENCY
COORD	COORDINATE	PVC	POLYVINYL CHLORIDE
CP	CONTROL PANEL, CONTROL POINT	PVI	POINT OF VERTICAL INTERSECTION
CPLG	COUPLING	PVMT	PAVEMENT
CTR	CENTER	R, RAD	RADIUS
CTV	CABLE TELEVISION	RC	REINFORCED CONCRETE
CU	CUBIC, COPPER	RCP	REINFORCED CONCRETE PIPE
CF	CUBIC FEET	RD	ROAD
CULV	CULVERT	RDCR	REDUCER
CY	CUBIC YARD	REBAR	REINFORCEMENT BAR
DET	DETAIL	REF	REFERENCE
DI	DUCTILE IRON, DRAIN INLET	REINF	REINFORCE
DIA, ∅	DIAMETER	REQD	REQUIRED
DIAG	DIAGONAL	RR	RAILROAD
DIM	DIMENSION	RST	REINFORCING STEEL
DR	DRIVE	RT	RIGHT
DWG	DRAWING	R/W	RIGHT-OF-WAY
E	EAST	S	SOUTH, SANITARY SEWER
EA	EACH	SAN	SANITARY
EL, ELEV	ELEVATION	SCH	SCHEDULE
ELB	ELBOW	SD	STORM DRAIN
ELEC	ELECTRIC, ELECTRICAL	SDWK	SIDEWALK
ENCL	ENCLOSE	SE	SOUTHEAST
ENGR	ENGINEER	SECT	SECTION
EOP	EDGE OF PAVEMENT	SF	SQUARE FOOT
EQ	EQUAL, EQUALLY	SHT	SHEET
EQ SP	EQUALLY SPACED	SIM	SIMILAR
EQUIP	EQUIPMENT	SLP	SLOPE
EQUIV	EQUIVALENT	SPEC	SPECIFICATION
EVC	END VERTICAL CURVE	SQ	SQUARE
EW	EACH WAY	SSTL	STAINLESS STEEL
EXC	EXCAVATE	STA	STATION
EXP	EXPANSION	SS	SANITARY SEWER SERVICE
EXP JT	EXPANSION JOINT	STD	STANDARD
EXST	EXISTING	ST	STREET
FCV	FLOW CONTROL VALVE	STL	STEEL
FD	FLOOR DRAIN	STRUCT	STRUCTURE
FDN	FOUNDATION	SW	SOUTHWEST
FES	FLARED END SECTION	SYM	SYMMETRICAL
FET	FLARED END TERMINAL	TB	THRUST BLOCK
FF	FINISHED FLOOR	TBC	TOP BACK OF CURB
FG	FINISH GRADE	TBM	TEMPORARY BENCH MARK
FHYD	FIRE HYDRANT	TEL	TELEPHONE
FJ	FLANGE JOINT	TEMP	TEMPORARY
FL	FLOW LINE	THRU	THROUGH
FLEX	FLEXIBLE	TYP	TYPICAL
FM	FORCEMAIN	UG	UNDERGROUND
FT	FOOT, FEET	UGP	UNDERGROUND POWER
FO	FIBER OPTIC	UGT	UNDERGROUND TELEPHONE
FTG	FOOTING, FITTING	UTIL	UTILITY
G	NATURAL GAS	V	VALVE, VOLT
GA	GAGE, GAUGE	VB	VALVE BOX
GAL	GALLON	VERT	VERTICAL
GALV	GALVANIZED	VOL	VOLUME
GND	GROUND	W	WEST, WATER
GVL	GRAVEL	WTR	WATER
HB	HOSE BIB	WD	WOOD
HDPE	HIGH DENSITY POLYETHYLENE	W	WITH
HOR, HORIZ	HORIZONTAL	W/O	WITHOUT
HWY	HIGHWAY	WL	WETLAND
HYD	HYDRANT	WM	WIRE MESH, WATER METER
ID	INSIDE DIAMETER	WS	WATERSTOP, WATER SURFACE, WATER SERVICE
IE	INVERT ELEVATION	WT	WEIGHT
IN	INCH	WV	WATER VALVE
INV	INVERT	WWF	WELDED WIRE FABRIC
JB	JUNCTION BOX	WWM	WELDED WIRE MESH
JT	JOINT	XFMR	TRANSFORMER
K	RATE OF VERTICAL CURVATURE	X-ING	CROSSING
LBS	POUNDS	XS	CROSS SECTION
LF	LINEAR FEET	YD	YARD
LN	LANE		

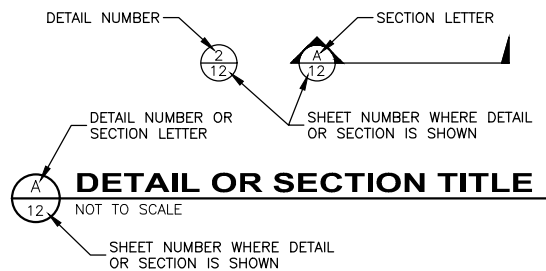
LEGEND

EXISTING	PROPOSED	DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION
---	---	MAJOR CONTOUR	⊙	⊙	STUMP
---	---	MINOR CONTOUR	☉	☉	SHRUB/BUSH
OHT	OHT	OVERHEAD TELEPHONE	☀	☀	TREE--CONIFER
UGT	UGT	UNDERGROUND TELEPHONE	☀	☀	TREE--DECIDUOUS
CTV	CTV	CABLE TELEVISION	~~~~~	~~~~~	TREE LINE
FO	FO	FIBER OPTIC	⊙	⊙	COMMUNICATION MANHOLE
G	G	NATURAL GAS	⊡	⊡	COMMUNICATION VAULT
OHP	OHP	OVERHEAD POWER	⊡	⊡	TELEPHONE RISER
UGP	UGP	UNDERGROUND POWER	⊡	⊡	CABLE TV RISER
S	S	SANITARY SEWER	⊡	⊡	NATURAL GAS METER
SS	SS	SANITARY SEWER SERVICE	⊡	⊡	NATURAL GAS RISER
FM	FM	SANITARY SEWER FORCEMAIN	⊡	⊡	NATURAL GAS VALVE
SD	SD	STORM DRAIN	☉	☉	LIGHT POLE
W	W	WATER	☉	☉	STREET LIGHT POLE
WS	WS	WATER SERVICE	☉	☉	POWER RISER
X	X	CHAINLINK FENCE	⊡	⊡	PAD MOUNTED TRANSFORMER
X	X	BARBED WIRE FENCE	⊡	⊡	POWER VAULT
□	□	WOOD FENCE	☉	☉	UTILITY POLE
▨	▨	PAVED ROAD	☉	☉	GUY WIRE
▨	▨	GRAVEL ROAD	☉	☉	SANITARY MANHOLE
---	---	PROPERTY/LOT LINE	☉	☉	SANITARY CLEANOUT
---	---	PROPERTY EASEMENT	☉	☉	SANITARY LAMPHOLE
---	---	PROPERTY SETBACK	☉	☉	STORM MANHOLE
---	---	RIGHT-OF-WAY	☉	☉	STORM ROUND INLET
---	---	CITY LIMIT/DISTRICT BOUNDARY	☉	☉	STORM SQUARE INLET
---	---	RAILROAD	☉	☉	STORM CATCH BASIN
---	---	DITCH	☉	☉	11.25° ELBOW
---	---	WATER EDGE	☉	☉	22.50° ELBOW
▨	▨	WETLAND	☉	☉	45° ELBOW
▨	▨	BUILDING	☉	☉	90° ELBOW
☉	☉	BENCHMARK	☉	☉	TEE
☉	☉	CONTROL POINT	☉	☉	CROSS
☉	☉	PROPERTY PIN	☉	☉	CAP
☉	☉	BORING	☉	☉	FIRE HYDRANT
☉	☉	MONITORING WELL	☉	☉	GATE VALVE
☉	☉	TEST PIT	☉	☉	REDUCER
☉	☉	BOLLARD	☉	☉	WATER METER
☉	☉	MAIL BOX	☉	☉	WELL
☉	☉	SIGN	☉	☉	CURB STOP
			☉	☉	FROST FREE HYDRANT

GENERAL NOTES:

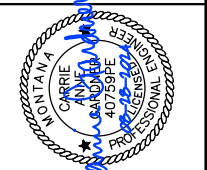
- THIS IS A STANDARD LEGEND AND ABBREVIATION LIST. THEREFORE, NOT ALL SYMBOLS AND ABBREVIATIONS MAY BE USED ON THIS PROJECT.
- UNLESS MODIFIED BY THE CONTRACT DOCUMENTS, ALL WORK WILL CONFORM TO THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS, SEVENTH EDITION, APRIL 2021 (REFERRED TO COLLECTIVELY AS MPWSS).
- EXISTING UNDERGROUND UTILITIES SHOWN ARE FROM THE BEST INFORMATION AVAILABLE. THIS INFORMATION IS APPROXIMATE AND MAY BE INCOMPLETE. FOR ACCURATE LOCATION, THE CONTRACTOR SHALL CONTACT, PRIOR TO EXCAVATION, THE UTILITIES UNDERGROUND LOCATION CENTER AT: 1-800-424-5555.

GENERAL DESIGN DESIGNATIONS:



NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-21204-T04
DESIGNED: BA
DRAWN: RLH
CHECKED: DMM
APPROVED: SEB
DATE: AUGUST 28, 2024

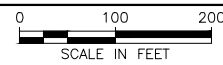


CITY OF THOMPSON FALLS
CHURCH STREET WATER MAIN
REPLACEMENT
 GENERAL NOTES

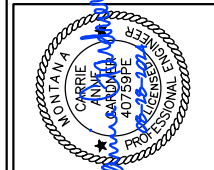
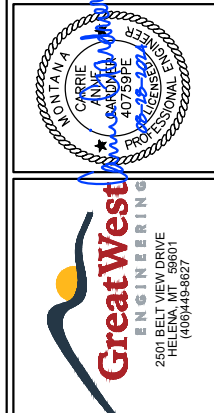
SHEET NO.
2
 OF 7



PLAN VIEW OF OVERALL SITE PLAN



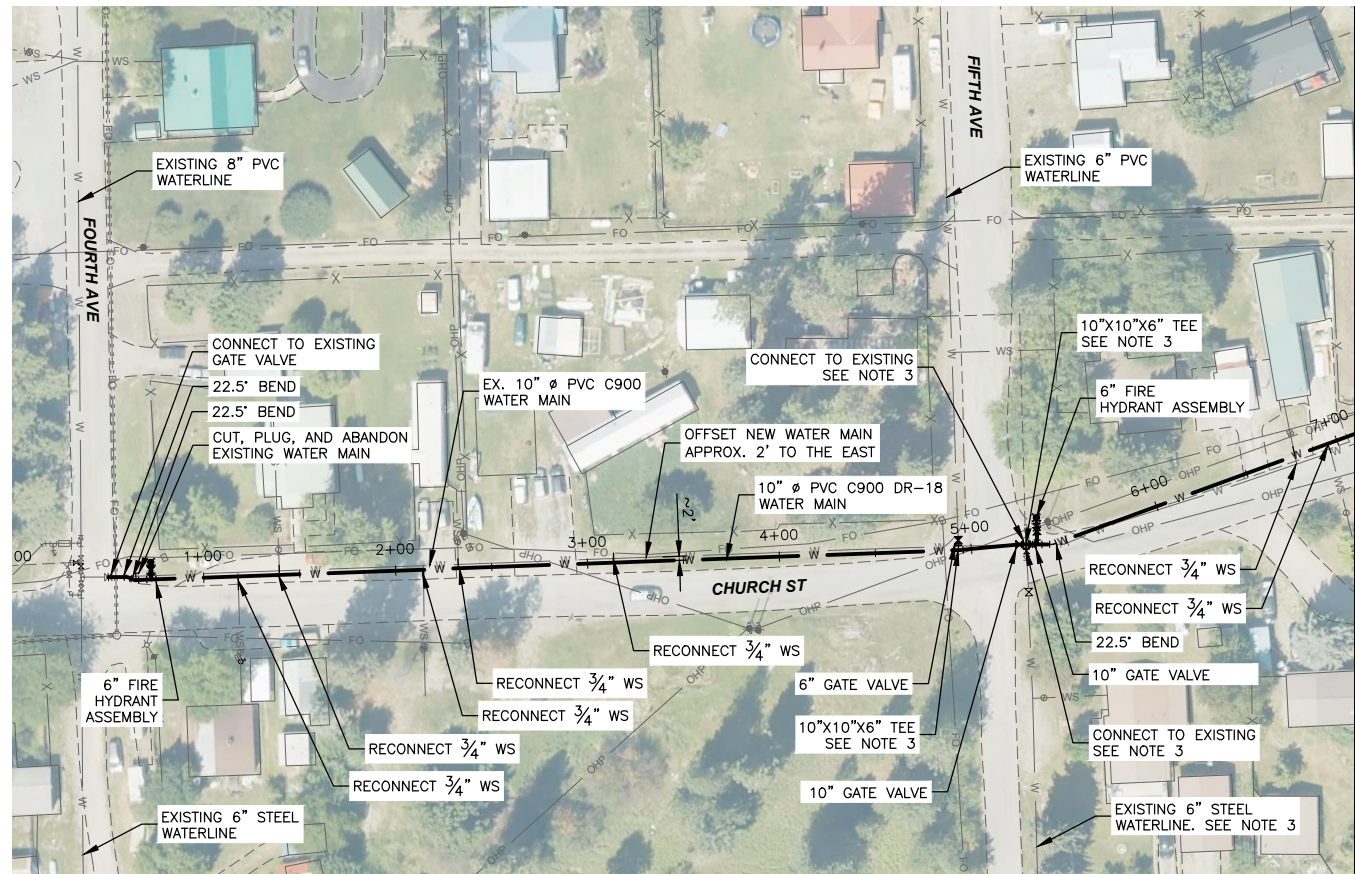
**CITY OF THOMPSON FALLS
CHURCH STREET WATER MAIN
REPLACEMENT
OVERALL SITE PLAN**



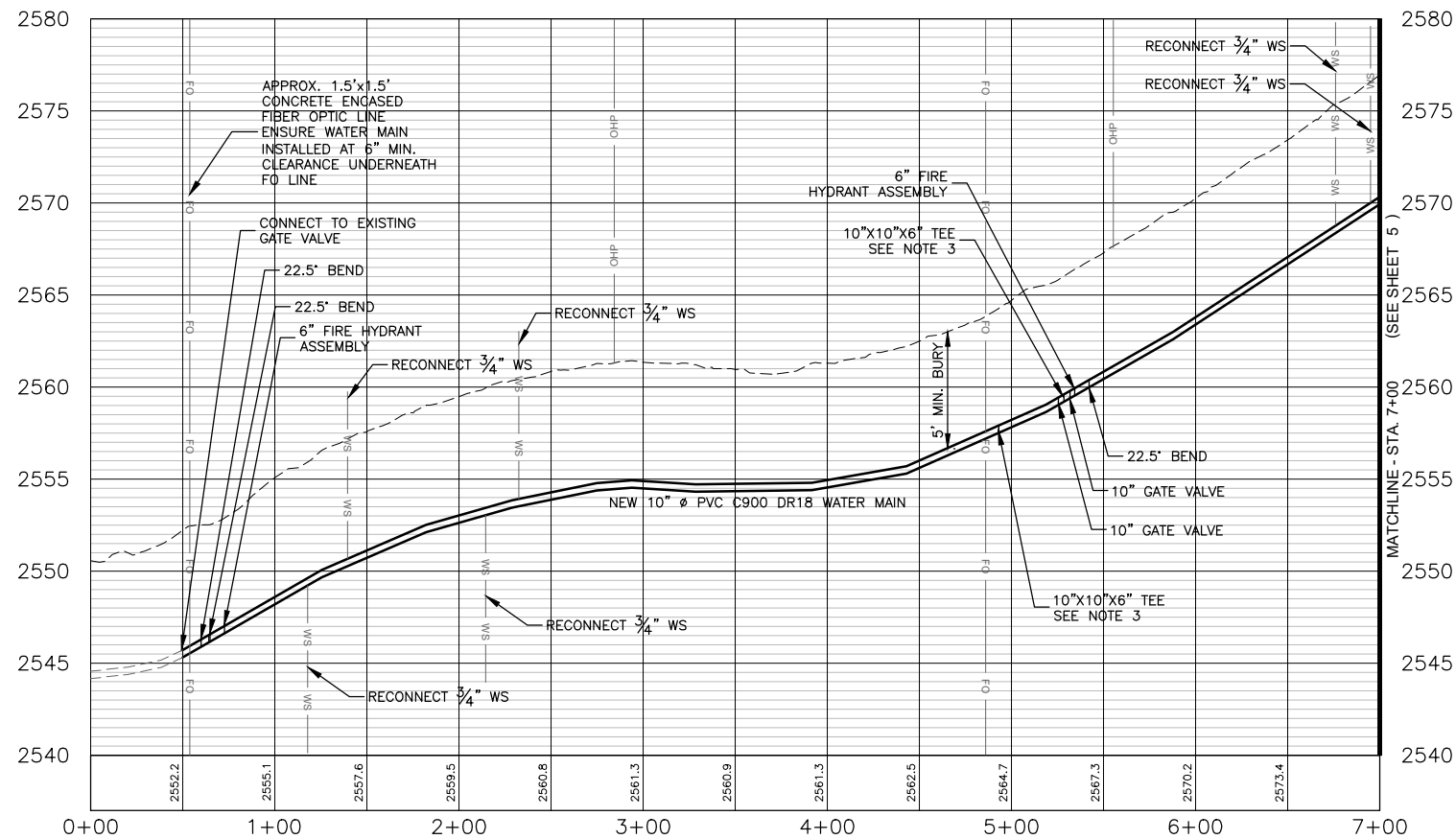
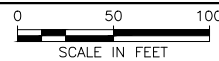
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DESIGNED: BA
DRAWN: RLH
CHECKED: DMM
APPROVED: SEB
DATE: AUGUST 28, 2024

NO.	REVISION DESCRIPTION	BY	DATE
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Y:\Shared\Helena Projects\1-21204-Thompson Falls On-Call 2021\TO 4 - Water PER Update\CADD 1-21204-TO4\Sheets\Emergency Water\1-21204-TO4-04--STA 0+00 TO 10+00.dwg



PLAN VIEW OF CHURCH STREET WATER MAIN - STA. 0+00 TO STA. 7+00



PROFILE VIEW OF CHURCH STREET WATER MAIN - STA. 0+00 TO STA. 7+00

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'

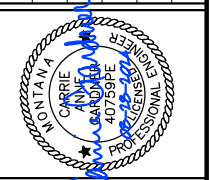
NOTES:

- EXISTING UNDERGROUND INSTALLATIONS & PRIVATE UTILITIES SHOWN ARE INDICATED ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF SUCH INFORMATION. SERVICE LINES (Water, Power, Gas, Television, Telephone) MAY NOT BE STRAIGHT LINES OR AS INDICATED ON THE PLANS. STATE LAW REQUIRES CONTRACTOR TO CALL ALL UTILITY COMPANIES BEFORE EXCAVATION FOR EXACT LOCATIONS.
- ALL WORK TO BE IN ACCORDANCE WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATION 7TH EDITION.
- CONTRACTOR TO VERIFY SIZE OF EXISTING WATERLINE, WATER SERVICES, FITTINGS AND APPURTENANCES WHEN INSTALLING NEW AND CONNECTING TO EXISTING.

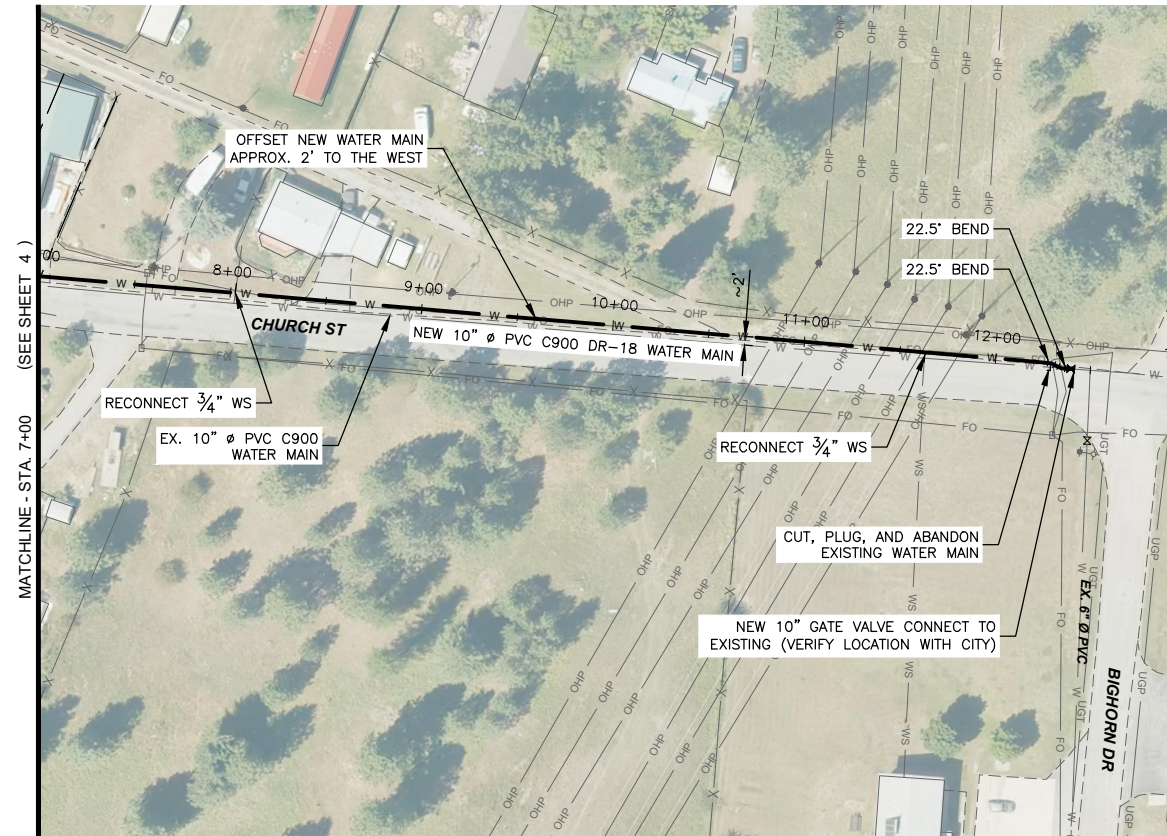


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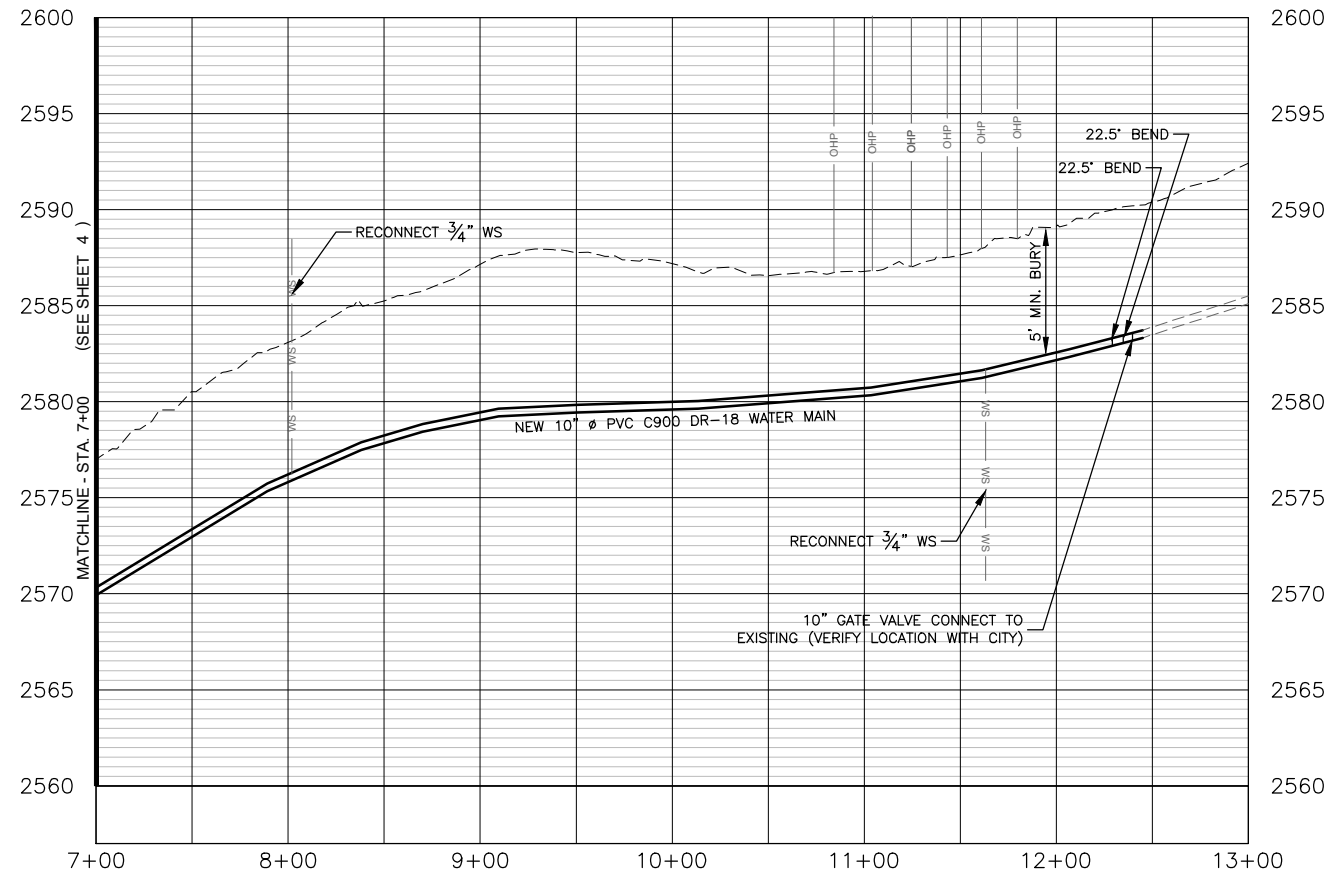
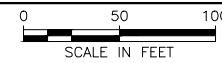
PROJECT: 1-21204-TO4
DESIGNED: BA
DRAWN: RLH
CHECKED: DMM
APPROVED: SEB
DATE: AUGUST 28, 2024



CITY OF THOMPSON FALLS
CHURCH STREET WATER MAIN
REPLACEMENT
PLAN AND PROFILE - STA. 0+00 TO STA. 7+00



PLAN VIEW OF CHURCH STREET WATER MAIN - STA 7+00 TO 13+00



PROFILE VIEW OF CHURCH WATER MAIN - STA. 7+00 TO STA. 13+00

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'

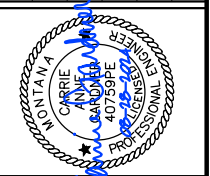


NOTES:

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NO.	REVISION DESCRIPTION	BY	DATE

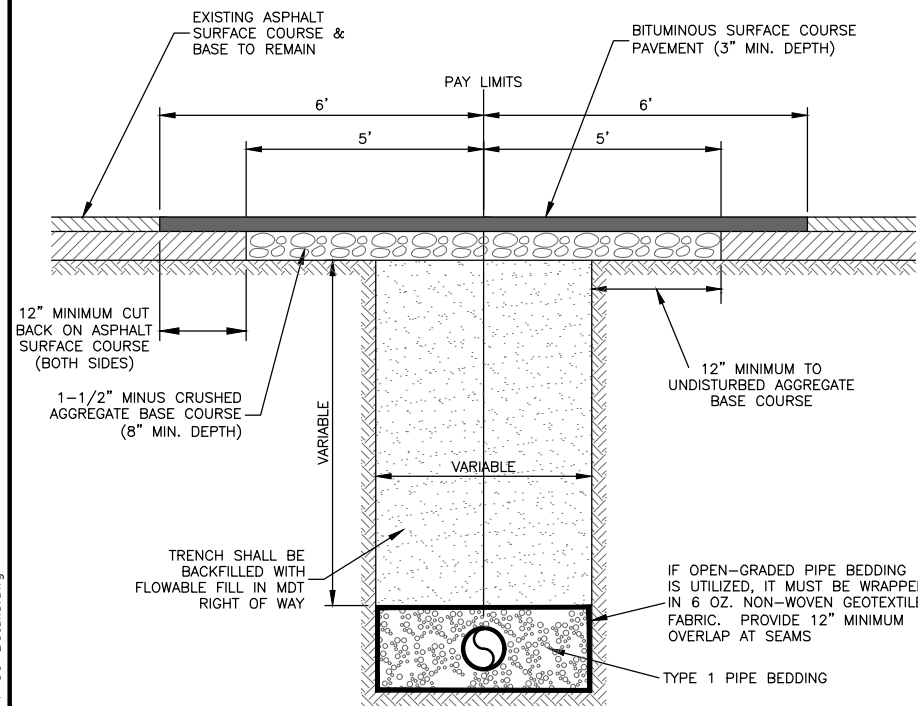
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DESIGNED: BA
DRAWN: RLH
CHECKED: DMW
APPROVED: SEB
DATE: AUGUST 28, 2024



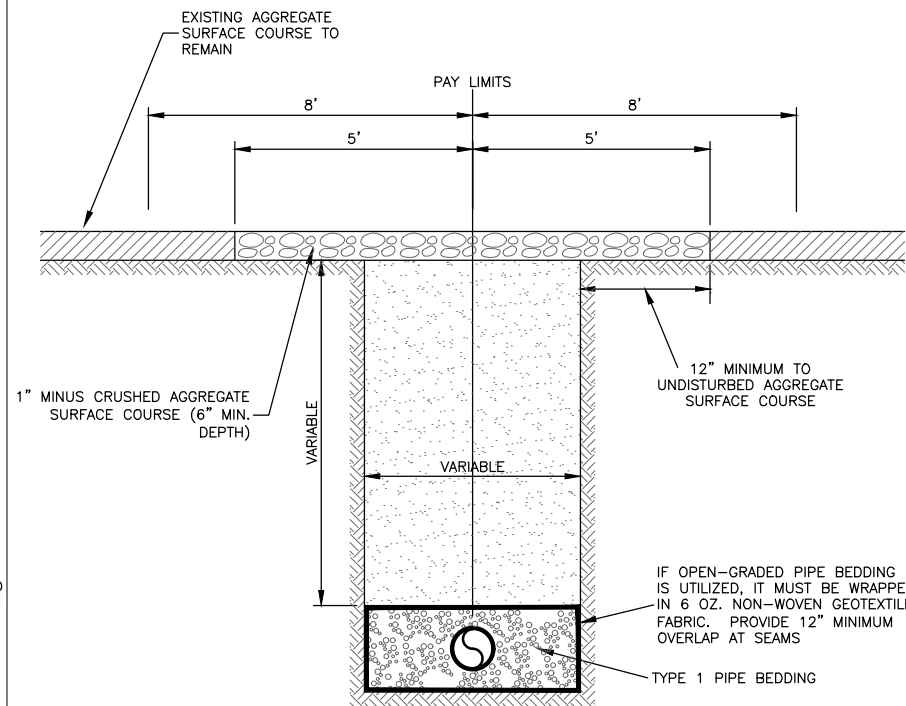
CITY OF THOMPSON FALLS
CHURCH STREET WATER MAIN REPLACEMENT
PLAN AND PROFILE - STA. 7+00 TO STA. 13+00

SHEET NO.
5
OF 7

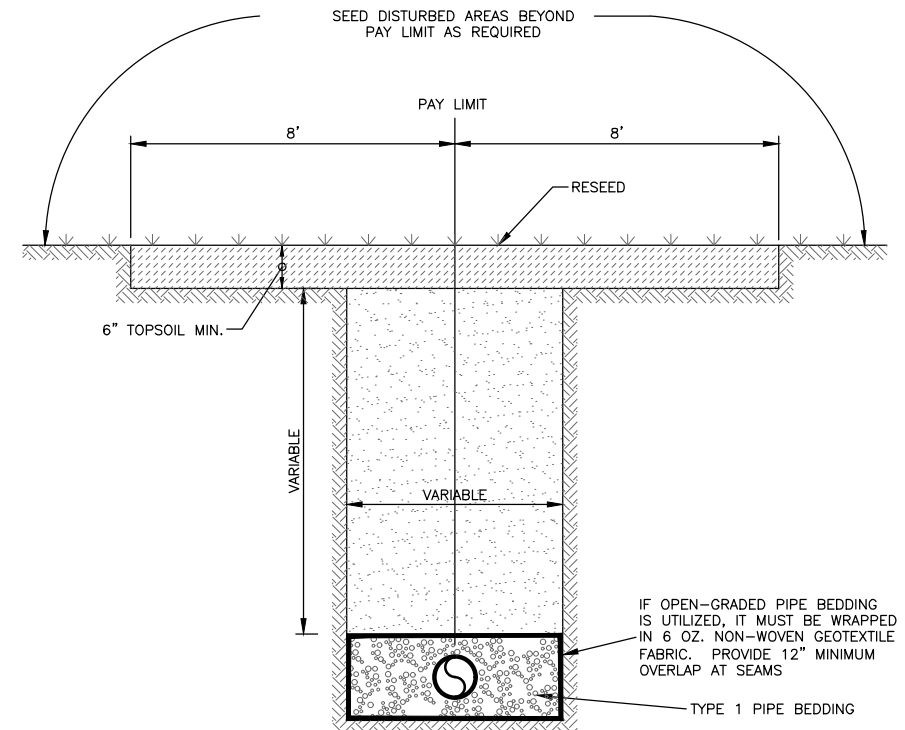
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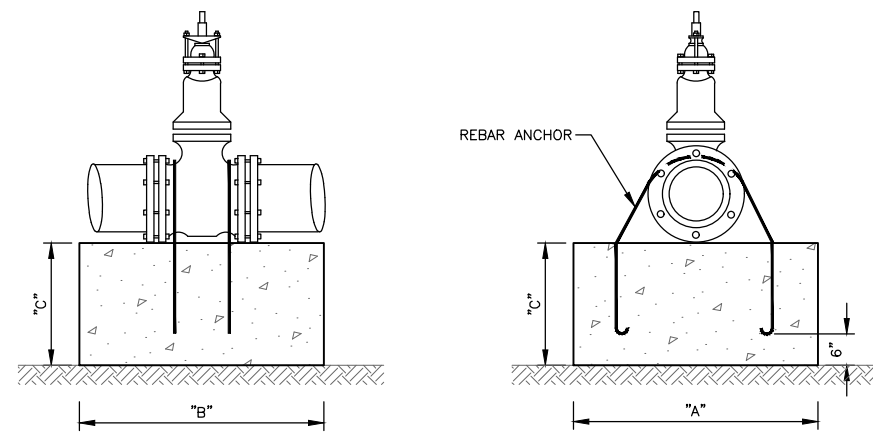
1 TYPE "A" SURFACE RESTORATION
6 NOT TO SCALE



2 TYPE "B" SURFACE RESTORATION
6 NOT TO SCALE



3 TYPE "C" SURFACE RESTORATION
6 NOT TO SCALE

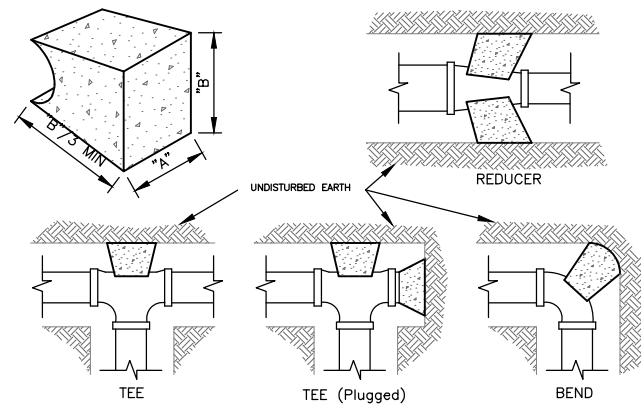


STANDARD THRUST BLOCK DIMENSIONS

ANCHOR ROD SIZE	VALVE SIZE	150 PSI		
		"A"	"B"	"C"
3/4"	6"	2'-0"	2'-0"	2'-0"
3/4"	8"	2'-0"	2'-0"	2'-0"
3/4"	10"	2'-6"	2'-6"	2'-0"
3/4"	12"	3'-0"	3'-0"	2'-8"

- NOTES:
1. COAT RODS WITH "KOPPERS" BITUMASTIC NO. 50 COATING OR EQUIVALENT.
 2. PRESSURES SHOWN IN TABLE ARE MAXIMUM OPERATING PRESSURES IN SYSTEM.
 3. CONCRETE COMPRESSIVE STRENGTH TO BE 3,000 PSI

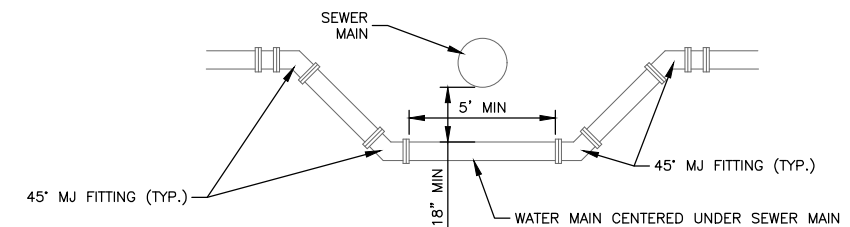
4 THRUST BLOCKING FOR VALVES
6 NOT TO SCALE



FITTING SIZES	TEES & PLUGS		90° BEND		45° BEND & WYES		REDUCERS & 22 1/2° BEND	
	A	B	A	B	A	B	A	B
4"	1'-7"	1'-2"	1'-9"	1'-6"	1'-8"	0'-10"	1'-7"	0'-6"
6"	2'-0"	1'-11"	2'-5"	2'-2"	1'-10"	1'-7"	1'-9"	0'-10"
8"	2'-8"	2'-6"	3'-2"	3'-0"	2'-5"	2'-1"	1'-9"	1'-6"
10"	3'-4"	3'-3"	4'-0"	3'-10"	3'-0"	2'-9"	2'-2"	1'-11"
12"	4'-0"	3'-10"	4'-8"	4'-8"	3'-8"	3'-3"	2'-7"	2'-3"

- NOTES:
1. TABLES BASED UPON 150 PSI MAIN PRESSURE AND 2,000 PSF SOIL BEARING PRESSURE.
 2. WRAP ALL FITTINGS WITH POLYETHYLENE.
 3. CONCRETE COMPRESSIVE STRENGTH TO BE 3,000 PSI

5 THRUST BLOCKING FOR FITTINGS
6 NOT TO SCALE



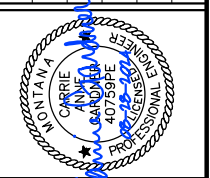
WATER MAIN ADJUSTMENT NOTES

1. ALL FITTINGS SHALL BE MECHANICAL JOINT RESTRAINT TYPE, MEGA LUG, OR APPROVED EQUAL.
2. THRUST BLOCKS SHALL BE INSTALLED PER MPW STANDARD DRAWING 02660-1.
3. WATER MAIN AND FITTINGS SHALL BE CLEANED AND DISINFECTED ACCORDING TO MPW SECTION 02660 WATER DISTRIBUTION.

6 SEWER-WATER VERTICAL SEPARATION
6 NOT TO SCALE

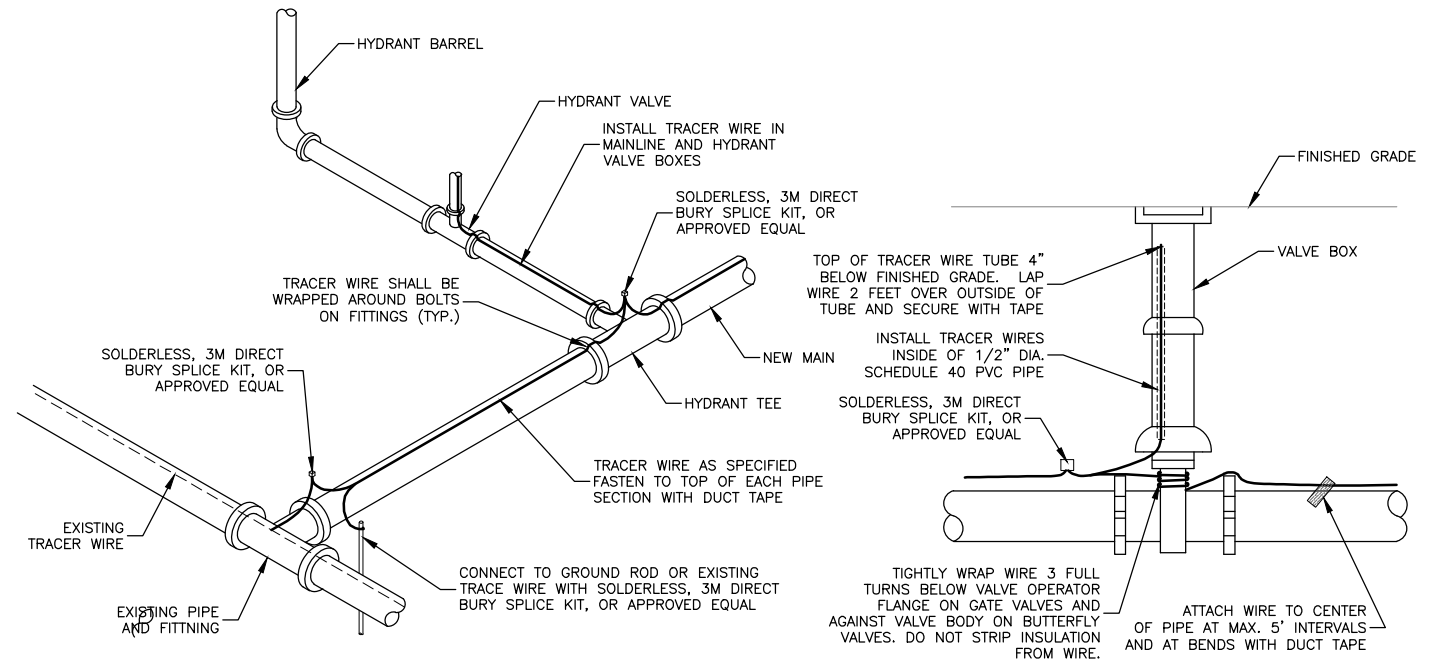
NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-21204-T04
DESIGNED: ---
DRAWN: PTK
CHECKED: ---
APPROVED: ---
DATE: AUGUST 28, 2024



**CITY OF THOMPSON FALLS
CHURCH STREET WATER MAIN
REPLACEMENT**

DETAILS



GENERAL NOTE:

- 1) TRACER WIRE SHALL TERMINATE INSIDE VALVE BOX WITH ENOUGH SLACK TO REACH 2' ABOVE GROUND SURFACE.
- 2) ALL WIRE AND CABLE SHALL BE JACKETED #14 COPPER WIRE. THE BORES AND DIRECTIONAL DRILLS SHALL USE JACKETED #12 COPPER WIRE.
- 3) ALL SPliced OR REPAIRED WIRE CONNECTIONS IN THE TRACER WIRE SYSTEM SHALL BE MADE USING SOLDERLESS, 3M DIRECT BURY SPLICE KIT, OR APPROVED EQUAL.
- 4) NO SPLICES ALLOWED FOR WIRE LENGTHS LESS THAN 500 FEET.

1 TRACER WIRE DETAIL
7 NOT TO SCALE

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-21204-T04
DESIGNED: PTK
DRAWN: PTK, AB
CHECKED: JSP
APPROVED: CAG
DATE: AUGUST 28, 2024



**CITY OF THOMPSON FALLS
CHURCH STREET WATER MAIN
REPLACEMENT**

DETAILS