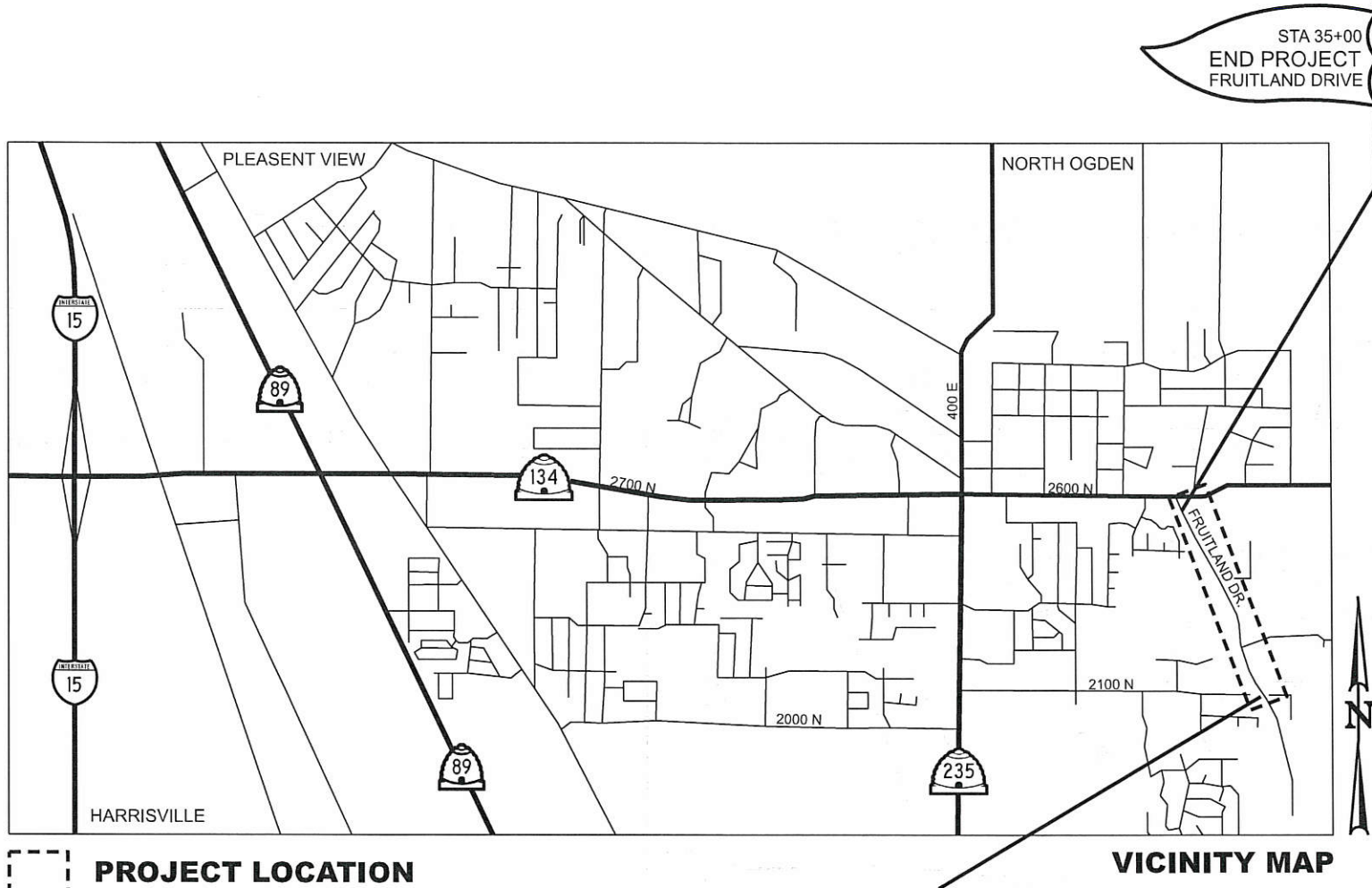
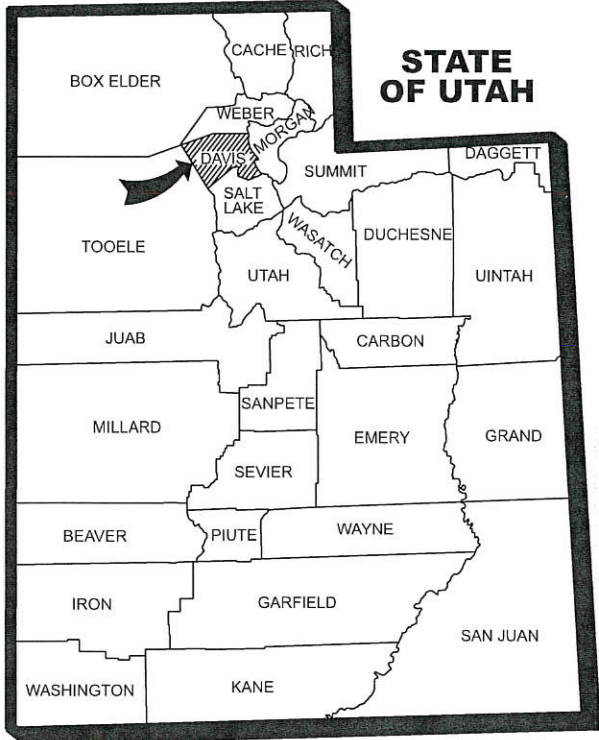


NORTH OGDEN PUBLIC WORKS

FRUITLAND DRIVE WATER LINE REPLACEMENT



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ESI ENGINEERING
CONSULTING ENGINEERS AND LAND SURVEYORS
3500 SOUTH MAIN STREET SUITE 206
SALT LAKE CITY, UTAH 84115
TEL: (801) 263-1752

DESIGN	CDP	01/2020	CHECK	BFC	01/2020
DRAWN	KB	01/2020	CHECK	CDP	01/2020
QUANT.	CDP	01/2020	CHECK	BFC	01/2020

APPROVED
FEB 24 2022

By: *Joanne Gardner*

- LIMITATIONS OF OPERATIONS:
- A. TRAFFIC LIMITATIONS
1. LANE SHIFTS ARE ALLOWED FROM 9:00 AM TO 3:00 PM.
 2. SHOULDER CLOSURES ARE ALLOWED ANYTIME.
 3. PROVIDE ADA ACCESSIBLE ROUTES THROUGH OR AROUND THE WORK ZONE AT ALL TIMES.
 4. PROVIDE SIGNAGE FOR ALL ALTERNATE ROUTES.

NO	BY	DATE	REMARKS
REVISIONS			

APPROVED _____ DATE _____ CITY ENGINEER _____

PROJECT NUMBER 21-129 OF 12

GENERAL

1. ALL CONSTRUCTION SHALL COMPLY WITH THE STANDARD DRAWINGS AND SPECIFICATIONS OF THE DISTRICT UNLESS OTHERWISE NOTED.
2. EXISTING UTILITY LOCATIONS SHOWN MAY NOT BE EXACT AND ALL UTILITIES MAY NOT BE SHOWN. CONTACT BLUE STAKES, SEWER DISTRICT, IRRIGATION COMPANY & ANY OTHER REQUIRED UTILITY COMPANY PRIOR TO EXCAVATION.
3. THE CONTRACTOR SHALL HAVE ON SITE AT ALL TIMES AT LEAST ONE COPY OF THE SIGNED APPROVED PLANS & SPECIFICATIONS, AS WELL AS ALL PERMITS AS REQUIRED TO PERFORM THE WORK.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A TRAFFIC CONTROL PLAN & PROVIDING ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED FOR CONSTRUCTION, INCLUDING FLAGGING. TRAFFIC CONTROL PLANS SHALL BE REVIEWED AND ACCEPTED BY THE DISTRICT. ALL TRAFFIC SHALL CONFIRM TO THE MOST RECENT VERSION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND CITY STANDARDS.
5. UTILITY TRENCHES ARE TO BE SLOPED OR BRACED & SHEETED AS PER STATE & FEDERAL REQUIREMENTS FOR SAFETY & PROTECTION OF WORKERS & OTHER UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ALL PROJECT SAFETY, INCLUDING BUT NOT LIMITED TO: EXCAVATION & SHORING, TRAFFIC CONTROL & SECURITY.
6. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE & COOPERATE WITH ALL UTILITY COMPANIES WITH REGARD TO RELOCATIONS OR ADJUSTMENTS OF EXISTING UTILITIES DURING CONSTRUCTION TO ASSURE THAT THE WORK IS ACCOMPLISHED IN A TIMELY MANNER & WITH MINIMUM DISRUPTION OF SERVICE.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORD DRAWING INFORMATION & SUBMIT TO THE ENGINEER PRIOR TO FINAL PAYMENT.
8. CONTRACTOR SHALL PROTECT & NOT DISTURB PROPERTY ADJACENT TO PROJECT I.E. FENCE, LANDSCAPING, MAILBOXES, ETC. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY BY CONTRACTOR SHALL BE RESTORED TO EQUAL CONDITION AT CONTRACTORS EXPENSE.
9. EXISTING DRAINS FROM ADJACENT PROPERTIES ARE TO BE MAINTAINED AND PROTECTED.
10. THE CONTRACTOR(S) SHALL REMOVE ALL OBSTRUCTIONS, BOTH ABOVE AND BELOW GROUND, AS REQUIRED FOR THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS. THIS SHALL INCLUDE CLEARING AND GRUBBING WHICH CONSISTS OF CLEARING THE GROUND SURFACE OF ALL TREES, STUMPS, BRUSH, UNDERGROWTH, HEDGES, HEAVY MATERIAL WHICH IN THE OPINION OF THE ENGINEER, IS SUITABLE FOR THE FOUNDATION OF PAVEMENTS OR CONCRETE. ALL MATERIAL NOT SUITABLE FOR FUTURE USE ON SITE SHALL BE DISPOSED OF OFF SITE.
11. ALL MATERIALS TO BE REMOVED SHALL BE HAULED AWAY & DISPOSED OF IN A SAFE & LEGAL MANNER BY THE CONTRACTOR.
12. CONTRACTOR IS RESPONSIBLE FOR DEWATERING AND DIVERSION OF GROUND WATER AS NECESSARY TO COMPLETE WORK.
13. THE CONTRACTOR SHALL EXAMINE THE DRAWING AND SHALL NOTIFY THE OWNER OF ANY DISCREPANCIES OR CONFLICTS BEFORE PROCEEDING WITH THE WORK.
14. THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS AT THE SITE AND SHALL NOTIFY THE ENGINEER OF DISCREPANCIES BETWEEN THE ACTUAL CONDITIONS AND INFORMATION SHOWN ON THE DRAWINGS BEFORE PROCEEDING WITH THE WORK.
15. PROPERTY IMPACTED BY PROJECT SHALL BE RESTORED TO EQUAL CONDITION, MATCHING EXISTING MATERIALS. REPLACING SPRINKLERS, DECORATIVE CURBING, ETC.
16. NEW UTILITY ALIGNMENTS SHALL BE ESTABLISHED IN THE FIELD ACCORDING TO POTHOLE FINDINGS OF EX. UTILITY LINES. ENGINEER TO VERIFY NEW UTILITY ALIGNMENT, PRIOR TO MILLING OR SAW-CUTTING OF ASPHALT.
17. THE CONTRACTOR IS REQUIRED TO CONTACT THE ENGINEER AT LEAST 24 HOURS PRIOR TO STARTING CONSTRUCTION.

UTILITY CONTACTS

NATURAL GAS DOMINION ENERGY JASON MCGEE (801) 324-3640	INTERNET CENTURY LINK (801) 685-2105 TAYLOR CONSTANCE	IRRIGATION PINEVIEW WATER SYSTEMS DOUG JEPPESEN (801) 621-6555 EXT. 1351	WATER NORTH OGDEN CITY JASON RENEY WATER SYSTEMS SUPERINTENDENT (801) 782-8111
POWER PACIFICORP (503) 813-6993 JOEL B SIMMONS	COMMUNICATION LUMEN (801) 685-2105 TAYLOR CONSTANCE	INTERNET COMCAST (435) 224-2356 JEFF HOUSTON	SEWER NORTH OGDEN CITY TRENT WILKINS SANITARY SEWER SUPERINTENDENT (801) 782-8111

CAUTION: NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. IF A CONFLICT IS IDENTIFIED, THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY, PRIOR TO ANY FURTHER WORK BEING DONE RELATED TO THE ISSUE.

UTILITY NOTES

WATER

1. RAISE ALL UTILITIES, SUCH AS MANHOLES, METER SETTERS, FIRE HYDRANTS, WATER VALVE LIDS, ETC. TO ROADWAY OR PROJECT FINISHED GRADE AS MAY BE APPLICABLE.
2. ALL BACK FLOW ASSEMBLY INSTALLATION AND TESTING SHALL COMPLY WITH THE BACK FLOW REQUIREMENTS OF THE JURISDICTIONAL ENTITY.
3. 12 GAUGE COPPER LOCATE WIRE SHALL BE TAPED TO ALL WATER LINES FOR LOCATION PURPOSES. THE WIRE SHALL BE BROUGHT UP AT EACH VALVE BOX, HYDRANT, AND METER.
4. ALL REMOVED EXISTING WATER UTILITIES SHALL EITHER BE SALVAGED OR PROPERLY DISPOSED OF ACCORDING TO GOVERNING REGULATIONS.
5. CULINARY WATER MAIN LINE SHALL BE C900 DR14 AND CULINARY WATER SERVICE LINES SHALL BE HDPE AS PER CITY.
6. MECHANICAL BENDS: APPLY POLY-FM GREASE TO ALL BURIED METAL SURFACES. WRAP WITH 8-MIL POLYETHYLENE SHEET AND TAPE.
7. CHECK NORTH OGDEN CITY WEBSITE FOR MOST CURRENT CITY STANDARDS.



PROJECT SPECIFICATIONS AND STANDARDS

1. NORTH OGDEN CITY STANDARDS & SPECIFICATIONS LATEST EDITION
2. UTAH DIVISION OF WATER QUALITY(DWQ) UAC R317-2
3. APWA STANDARDS AND SPECIFICATIONS LATEST EDITION

APPROVED

FEB 24 2022

By: S. Gardner

PROJECT	NORTH OGDEN CITY WATER MAIN REPLACEMENT FRUITLAND DR. - 2100 N TO 2500 N		ESI ENGINEERING, INC. CONSULTING ENGINEERS AND LAND SURVEYORS 3500 SOUTH MAIN STREET, SUITE 206 SALT LAKE CITY, UTAH 84115 TEL. 801.263.1752 FAX 801.263.1780		07/26/2021		REVISIONS						
					DATE								
SHEET	NOTES & CONTACTS				DRAWN BY	KB	QC	CHECKED BY	CDP	NO.	DATE	APPROVED BY	REMARKS

UTILITIES

EXISTING		PROPOSED
swr	SANITARY SEWER	SWR
sd	STORM DRAIN	SD
wtr	CULINARY WATER	WTR
ir	IRRIGATION WATER	IR
g	GAS	G
be	ELECTRICAL BELOW	BE
e	ELECTRICAL OVERHEAD	E
fo	INTERNET	FO
btel	COMMUNICATIONS BELOW	BTel
tel	COMMUNICATIONS OVERHEAD	Tel

ROW

EXISTING/PROPOSED	
_____ R _____	PROPERTY LINE
_____ 1/4 _____	QUARTER CORNER SECTION LINE
_____	BOUNDARY LINE
_____	TOWNSHIP LINE
_____ SEC _____	SECTION LINE
_____ pe _____	UTILITY EASEMENT

HATCH PATTERNS

The diagram illustrates the proposed construction layers for a road project. It consists of five horizontal rectangular sections stacked vertically, each with a unique pattern or color. To the right of each section is a text label identifying the material. A vertical dashed line runs through the center of the diagram, separating the visual representation from the labels. A horizontal cyan line is positioned below the 'PROPOSED CURB AND GUTTER' layer, indicating a boundary or existing ground level.

	PROPOSED ASPHALT
	PROPOSED ASPHALT REPLACEMENT
	PROPOSED CONCRETE
	PROPOSED CURB AND GUTTER
	PROPOSED PED RAMP

SURFACE FEATURES

EXISTING/PROPOSED	
	WOOD FENCE
	CHAINLINK/WIRE FENCE
	INTERMEDIATE CONTOUR
	MAJOR CONTOUR
	BREAKLINE
	CURB & GUTTER
	TOP OF DITCH
	FLOW LINE
	CONCRETE

STANDARD SYMBOLS

EXISTING/PROPOSED	
	FIRE HYDRANT
	WATER METER
	CULINARY WATER VALVE
	IRRIGATION VALVE
	IRRIGATION JUNCTION BOX/ METER BOX
	CATCH BASIN
	STORM DRAIN MANHOLE
	SANITARY SEWER MANHOLE
	TELECOMM. JUNCTION BOX
	TV/PHONE PEDESTAL
	ELECTRICAL POLE
	LIGHT POLE
	ELECTRICAL BOX
	GUY WIRE
	GAS METER
	GAS VALVE
	MAILBOX
	SURVEY MONUMENT
	OIL/WATER-SEDIMENT/GREASE TRAP
	TEE
	90° BEND
	45° BEND
	22.5° BEND
	11.25° BEND
	THRUST BLOCK

ABBREVIATIONS

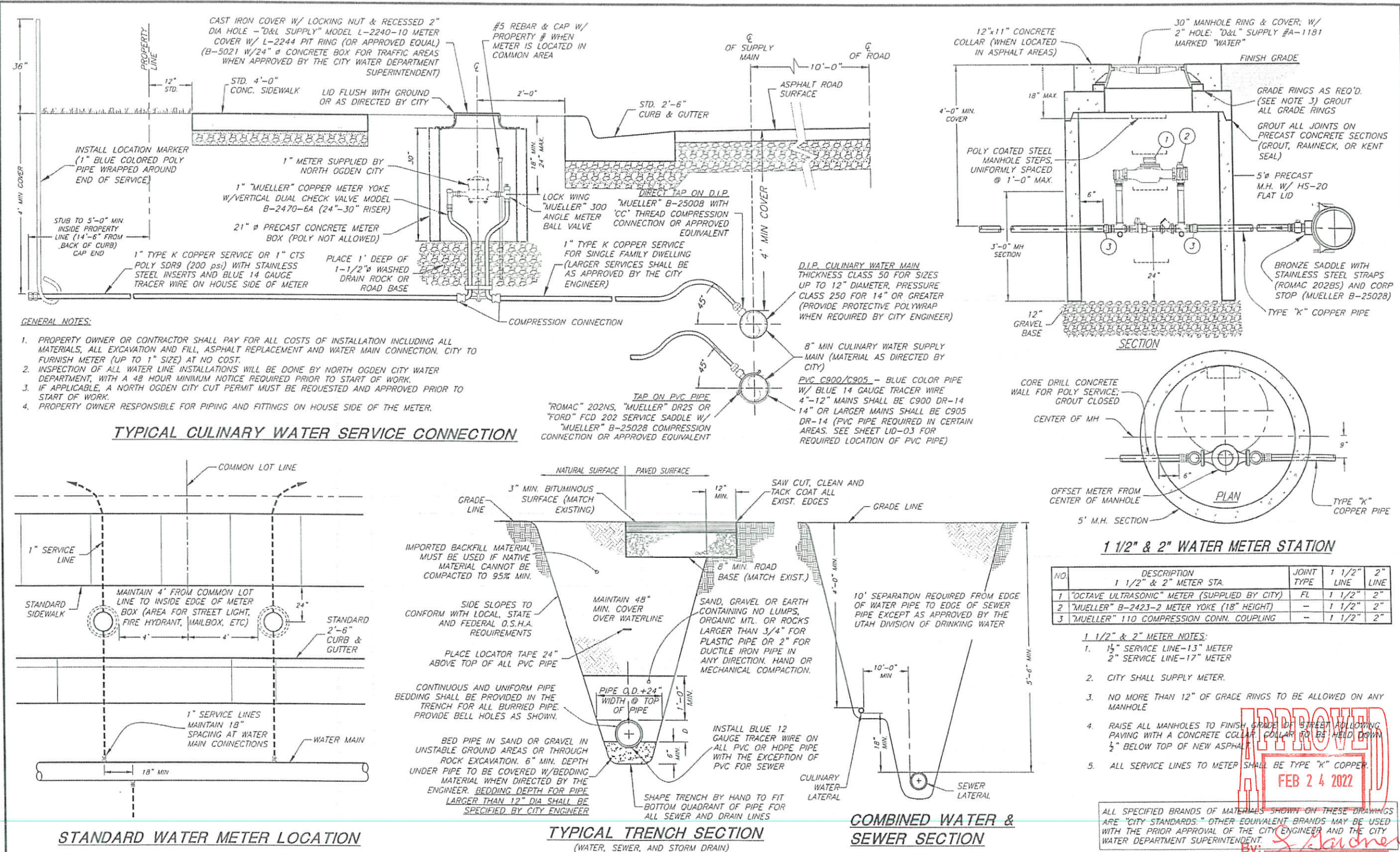
'	DEGREES
"	MINUTES, FEET
ADA	SECONDS, INCHES
ARCH	AMERICAN DISABILITIES ACT
ARCH	ARCHITECT, ARCHITECTURAL
BH	BORE HOLE
BLDG	BUILDING POINT
BM	BENCHMARK
BOB	BOTTOM OF BANK
BOW	BOTTOM OF WALL
BOXCULV	BOX CULVERT
BS	BLUE STAKE
BW	BROKEN WHITE STRIPE
CB	CATCH BASIN
CG	CURB AND GUTTER
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COB	CLEANOUT BOX
COMBO	COMBINATION (BOX)
CONC	CONCRETE
CPP	CORRUGATED PLASTIC PIPE
CW	CURB WALL
DA	DRIVE APPROACH
DIA	DIAMETER
DRIVE	DRIVEWAY
DW	DOUBLE WHITE STRIP
DY	DOUBLE YELLOW STRIPE
E	ELECTRICITY, ELECTRICAL
EB	ELECTRICAL BOX
EBL	EAST BOUND LANE
ECB	ELECTRIC CONTROL BOX
EG	EXISTING GRADE
ELEC	ELECTRICAL
EOA	EDGE OF ASPHALT
EOB	EDGE OF BRUSH
EOC	EDGE OF CONCRETE
EOG	EDGE OF GRASS
EOGR	EDGE OF GRAVEL
EOL	EDGE OF LANE
EOW	EDGE OF WALK
EX	EXISTING
FG	FINISH GRADE
FIH	FIRE HYDRANT
FL	FLOWLINE
FNC	FENCE
FT	FEET
GAS	GAS, NATURAL GAS
GB	GRADE BREAK
GR	GUARD RAIL
GV	GAS VALVE
HDPE	HIGH-DENSITY POLYETHYLENE PIPE
H2O	WATER
IE	INVERT ELEVATION
IR	IRRIGATION
IRRBOX	IRRIGATION (SPRINKLER) BOX
IRRVLV	IRRIGATION VALVE
L	LENGTH
LIP	LIP OF GUTTER
LF	LINEAL FEET
LP	LIGHT POLE
MH	MANHOLE
MHGAS	NATURAL GAS MANHOLE
MHSD	STORM DRAIN MANHOLE
MHSS	SANITARY SEWER MANHOLE
MHTELE	TELEPHONE MANHOLE
MHWTR	WATER MANHOLE
MON	MONUMENT
NBL	NORTHBOUND LANE
NG	NATURAL GROUND
NOTE	NOTE TO FOLLOW (ATTRIBUTE)
PC	CONTROL CODE: STARTS A TANGENTIAL CURVE
PCC	POINT OF COMPOUND CURVATURE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PP	POWER POLE
POC	POINT OF CONNECTION
PROP	PROPERTY
PT	CONTROL CODE: ENDS A TANGENTIAL CURVE
R	RADIUS
RAMP	FREEWAY ON/OFF RAMP
RC	REBAR & CAP
RCP	REINFORCED CONCRETE PIPE
RMP	ROCKY MOUNTAIN POWER
ROW	RIGHT OF WAY
RW	RETAINING WALL
RWM	RIGHT OF WAY MARKER
SD	STORM DRAIN
SEC	SECTION
SF	SQUARE FEET
SPEC	SPECIFICATION
SPECS	SPECIFICATIONS
SS	SANITARY SEWER
STD	STANDARD
SW	SOLID WHITE STRIPE
SY	SOLID YELLOW STRIPE
TBC	TOP BACK OF CURB
TBS	TOP BACK OF SIDEWALK
TBW	TOP BACK OF WATER WAY
TELE	TELEPHONE
TFS	TOP FRONT OF SIDEWALK
TL	TRAVEL LANE
TOA	TOP OF ASPHALT
TOB	TOP OF BANK
TOC	TOP OF CONCRETE
TOE	BREAKLINE
TOR	TOP OF RAIL
TOW	TOP OF WALL
TYP	(TYPICAL) REPRESENTATIVE OF ALL SIMILARLY NOTED ITEMS
UTIL	UTILITY
UP	UTILITY POLE
W	WATER
WALK	SIDEWALK
WG	WALK & GUTTER (CONCRETE POURED AS ONE UNIT)
WM	WATER METER
WV	WATER VALVE

APPROVED

FEB 24 2022

By: J Gardner

PROJECT		NORTH OGDEN CITY WATER MAIN REPLACEMENT FRUITLAND DR. - 2100 N TO 2500 N			ESI ENGINEERING, INC. CONSULTING ENGINEERS AND LAND SURVEYORS 3300 SOUTH MAIN STREET, SUITE 206 SALT LAKE CITY, UTAH 84115 TEL. 801.263.1752 FAX 801.263.1760		07/26/2021						REVISIONS				
SHEET		LEGEND & ABBREVIATIONS					DATE										
PROJECT NO.		21-129						DRAWN BY		KB							
SHEET NO.		3 OF 12						QC CHECKED BY		CDP				NO.		DATE	
														APPROVED BY			



PROJECT ENGINEER		SCALE		DESIGNED: RFP		DRAWN: JJA		CHECKED: JJA		NORTH OGDEN CITY CORPORATION		SHEET: CW-01	
DATE		REV. DATE		N.T.S.		JONES & ASSOCIATES		6080 Fashion Point Drive South Ogden, Utah 84403 (801) 476-9767		PUBLIC WORKS STANDARDS		OF 26 SHEETS	
CULINARY WATER - RESIDENTIAL WATER SERVICE, 1", 1 1/2" & 2" METER STATION, & PIPE TRENCH DETAILS												0	

07/26/2021
DATE

KB
DRAWN BY

CDP
CHECKED BY

APPROVED BY

NO.

REVISIONS

ESI ENGINEERING, INC.
CONSULTING ENGINEERS
AND LAND SURVEYORS
3500 SOUTH MAIN STREET, SUITE 206
SALT LAKE CITY, UT 84115
TEL 801.263.1752 FAX 801.263.1780

NORTH OGDEN CITY
WATER MAIN REPLACEMENT
FRUITLAND DR. - 2100 N TO 2500 N

CITY STANDARD DETAILS

PROJECT

21-129

SHEET

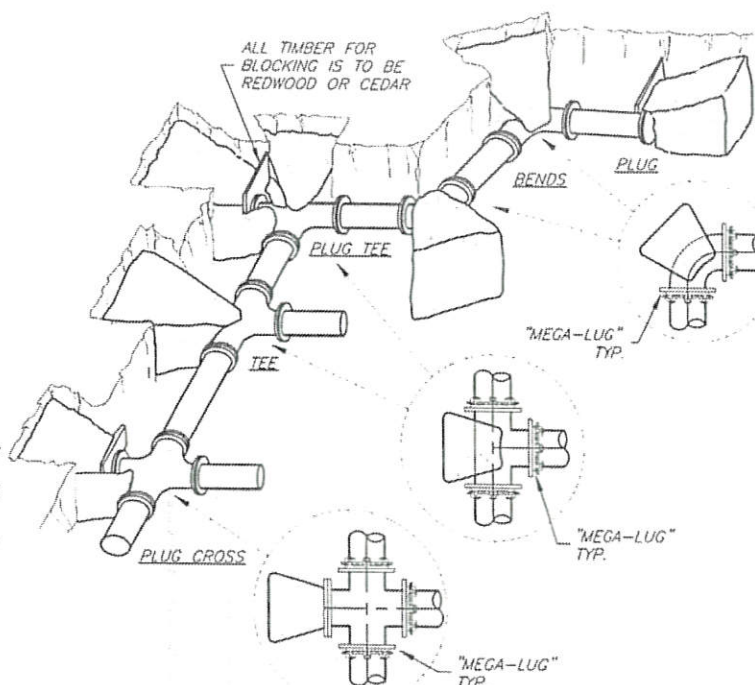
9 of 12

THRUST BLOCK TABLE NOTES:

- EXAMPLE:**

8-INCH 90° ELBOW, PRESSURE 200 LB./SQ. IN.
FROM TABLE: THRUST = $94 \times 200 = 18,800$ LB.
ASSUME BEARING STRENGTH = 2,000 LB./SQ. FT.

18,8000 AREA OF BEARING REQUIRED
2,000 = 9.4 SQ. FT. FOR THRUST BLOCK

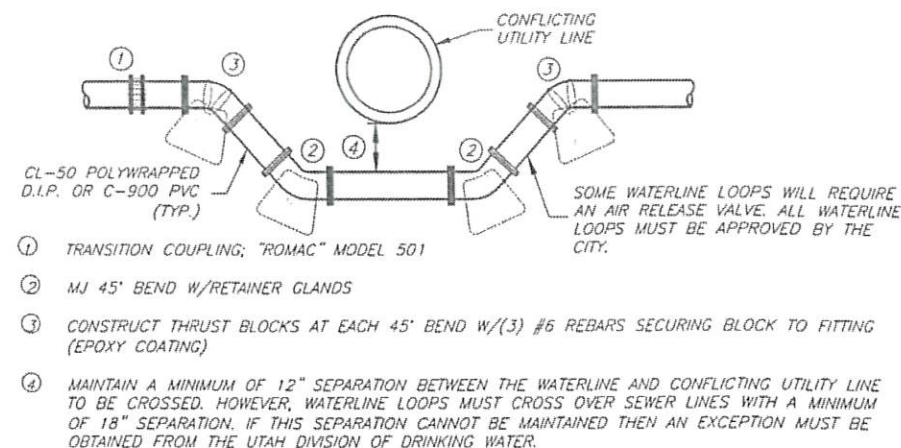


PIPE RESTRAINT

1. ALL BENDS, CROSSES, TEES, REDUCERS, AND VALVES SHALL BE INSTALLED WITH RESTRAINING JOINTS ("MEGA-LUG" OR APPROVED EQUAL).
2. DESIGN SHALL ALSO BE REQUIRED TO ENSURE ADEQUATE RESTRAINT FOR PIPING JOINTS NEAR FITTINGS BASED ON PIPE DIAMETER AND PIPE PRESSURE.

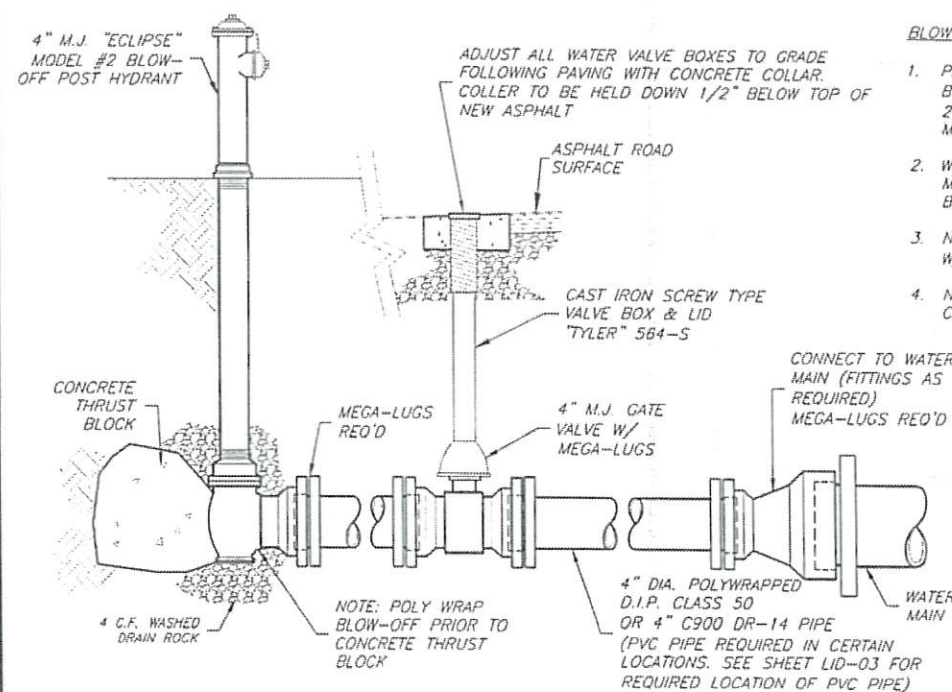
THRUST BLOCKING NOTES:

1. CONCRETE SHALL NOT BE PLACED WITHIN 1-1/2" OF JOINTS AND BOLTS. COVER ALL METAL CONTACT AREAS WITH A POLY WRAP PRIOR TO CONCRETE PLACEMENT.
2. IN THE ABSENCE OF A SOILS REPORT, ALL THRUST BLOCKS SHALL BE SIZED ON THE BASIS OF A MAXIMUM LATERAL BEARING VALUE FOR 2000 P.S.F. AND A THRUST RESULTING FROM 200% OF THE WATER LINE STATIC LINE TEST.
3. THRUST BLOCKS ARE REQUIRED AT ALL BENDS OF 22-1/2" OR MORE.
4. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF NOT LESS THAN 2500 PSI IN 28 DAYS.



FIRE LINE NOTES:

1. NO WATER SERVICE OR FIRE LINES TO BUILDINGS ARE PERMITTED TO CONNECT TO AUXILIARY LINES SERVICING FIRE HYDRANTS.
2. COMMERCIAL FIRE LINES FROM THE MAIN TO BUILDING SHALL BE SEPARATE LINES AND NOT PART OF THE WATER SERVICE LATERAL.
3. FIRE LINES ARE TO BE MAINTAINED BY THE PROPERTY OWNER UP TO THE VALVE AT THE MAIN. THE CITY SHALL OWN AND MAINTAIN THE FIRE SUPPRESSION LINE VALVE AT THE MAIN.
4. FIRE HYDRANTS AND FIRE LINES ON PRIVATE PROPERTY SHALL BE OWNED AND MAINTAINED BY THE PROPERTY OWNER UNLESS OTHERWISE SPECIFIED.
5. FIRE HYDRANTS ARE TO BE INSTALLED IN LOCATIONS AS REQUIRED BY THE FIRE CODE AND APPROVED BY THE FIRE CHIEF AND CITY ENGINEER.
6. FIRE HYDRANTS SHALL NOT BE CONNECTED TO, OR LOCATED WITHIN, 10 FEET OF SANITARY SEWERS, WHERE POSSIBLE. HYDRANT DRAINS SHALL NOT BE LOCATED WITHIN 10 FEET OF STORM DRAINS.

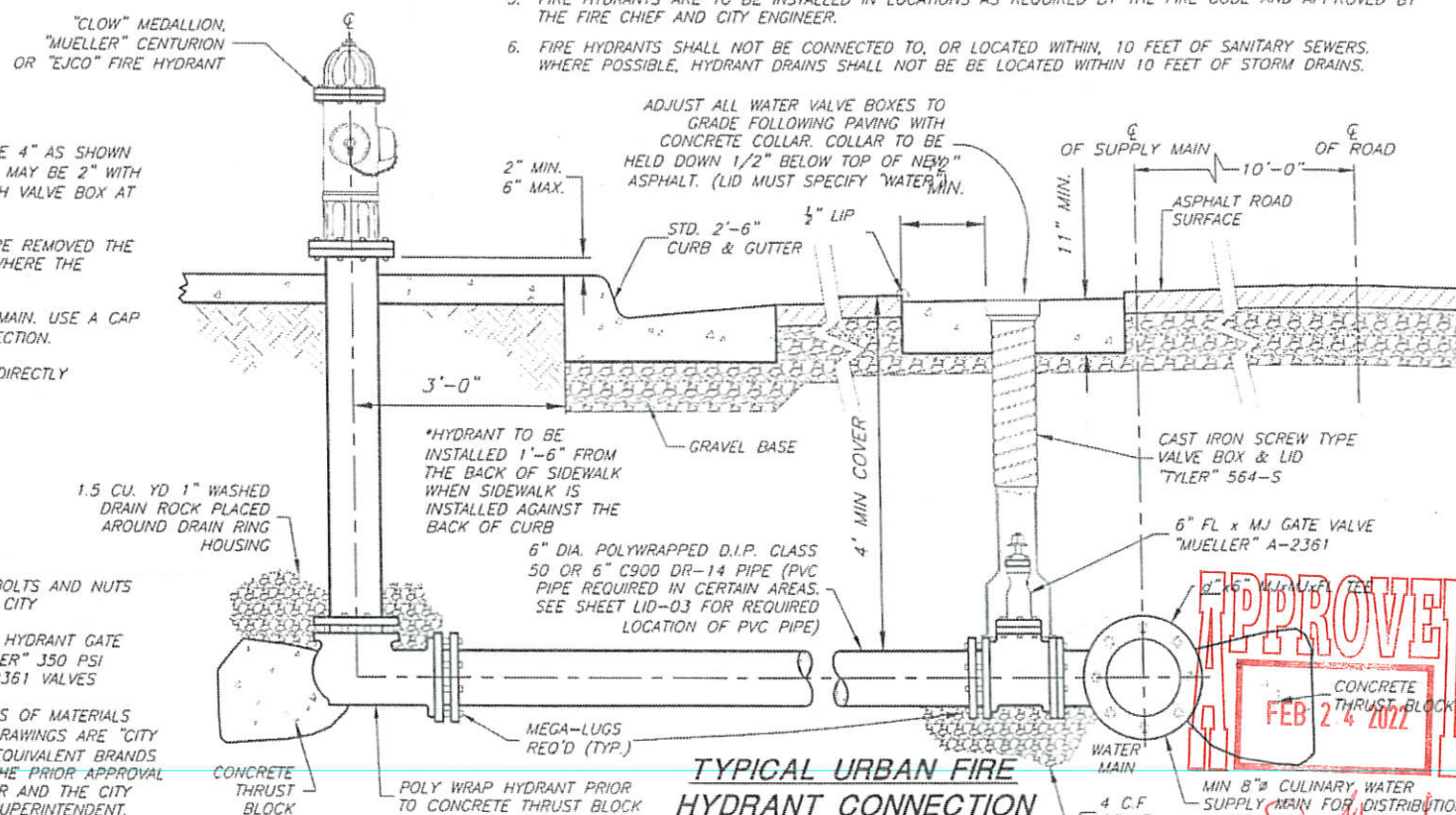


BLOW-OFF NOTES:

1. PERMANENT BLOW-OFFS SHALL BE 4" AS SHOWN BELOW. TEMPORARY BLOW-OFFS MAY BE 2" WITH 2" POLY AND 2" GATE VALVE WITH VALVE BOX AT MAIN.
2. WHEN TEMPORARY BLOW-OFFS ARE REMOVED THE MAIN SHALL ALSO BE REMOVED WHERE THE BLOW-OFF IS CONNECTED.
3. NO TAPS ARE ALLOWED ON THE MAIN. USE A CAP W/ THREADED CORP STOP CONNECTION.
4. NO FLUSHING DEVICE SHALL BE DIRECTLY CONNECTED TO A SEWER LINE.

GENERAL NOTES:

1. THE USE OF "BLUE" BOLTS AND NUTS IS APPROVED BY THE CITY
2. ALL WATER MAIN AND HYDRANT GATE VALVES TO BE "MUELLER" J50 PSI RESILIENT WEDGE A-2361 VALVES
3. ALL SPECIFIED BRANDS OF MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS MAY BE USED WITH THE PRIOR APPROVAL OF THE CITY ENGINEER AND THE CITY WATER DEPARTMENT SUPERINTENDENT.



TYPICAL URBAN FIRE
HYDRANT CONNECTION

2" x 6" MIN. W.P. TEE

APPROVED

CONCRETE
THRUS-BLOCK

FEB 24 2022

MIN 8" CULINARY WATER
SUPPLY MAIN FOR DISTRIBUTION
SYSTEM SERVING FIRE HYDRANT

By: *[Signature]*

PROJECT ENGINEER			
DATE	REV.	DATE	APPR.

SCALE:

NTS

253A-004

Q1500

ACKNOWLEDGMENTS



**JONES &
ASSOCIATES**

CONSULTING ENGINEERS

6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9761

NORTH OGDEN CITY CORPORATION

PUBLIC WORKS STANDARDS

CULINARY WATER - THRUST BLOCK, WATERLINE LOOP
FLUSH VALVE & FIRE HYDRANT DETAILS

Abstract

CW-02

OF 25 SHEETS

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REVISIONS

07/00/0001

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RESI ENGINEERING, INC.
CONSULTING ENGINEERS
AND LAND SURVEYORS
6500 SOUTH MAIN STREET, SUITE 206
SALT LAKE CITY, UTAH 84115
TEL. 801.263.1752 FAX 801.263.1780

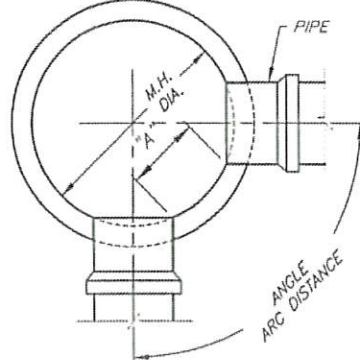


NORTH OGDEN CITY
WATER MAIN REPLACEMENT
FRUITLAND DR. - 2100 N TO 2500 N

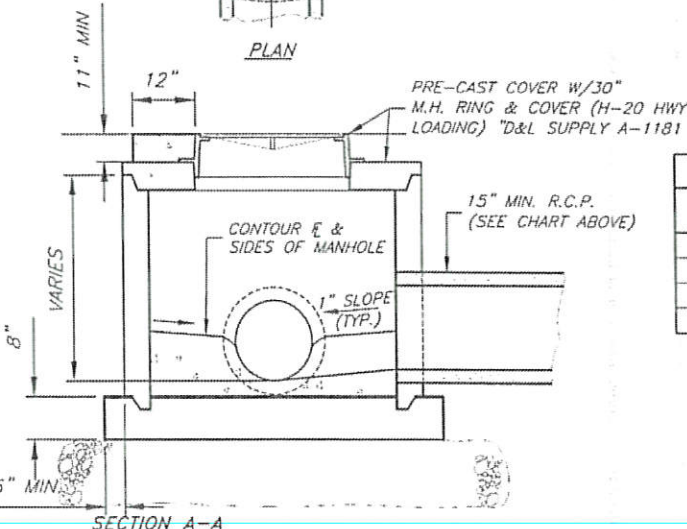
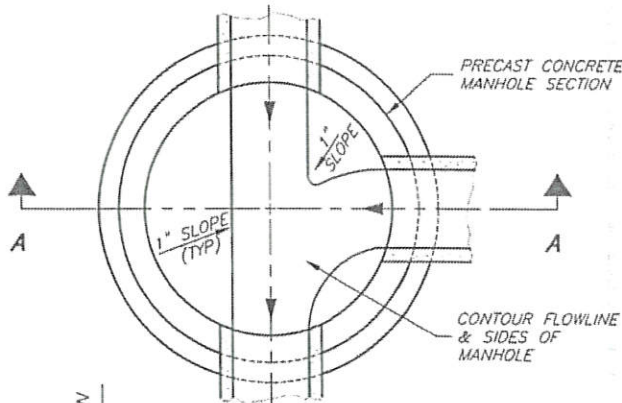
PROJECT NO. 21-129

SHEET NO. 10 of 12

PIPE SIZES											
M.H. SIZE	IN-LINE M.H. 180"	JUNCTION MANHOLE (ANGLE / ARC DISTANCE)									
		90°	85°	80°	75°	70°	65°	60°	55°	50°	45°
4" M.H.	15"-24"	15"-18"	15"-18"	15"	15"	15"-18"	15"-18"	15"	15"	15"	15"
5" M.H.	27"-30"	21"-24"	21"-24"	18"-21"	18"-21"	15"-18"	15"-18"	15"	15"	15"	15"
6" M.H.	36"-48"	27"-30"	27"-30"	24"-27"	24"	21"-24"	21"	18"	15"-18"	15"	15"
7" M.H.	54"	36"	36"	30"	27"-30"	27"	24"	21"-24"	21"	18"	15"
8" M.H.	60"	42"	42"	36"	36"	30"	27"-30"	27"	24"	21"	18"



- SIZING NOTES:**
- SUGGESTED "A" DISTANCE IS 6" OR GREATER FOR 48", 60" AND 72" DIAMETER MANHOLES
 - SUGGESTED "A" DISTANCE IS 8" OR GREATER FOR 84" AND 96" DIAMETER MANHOLES

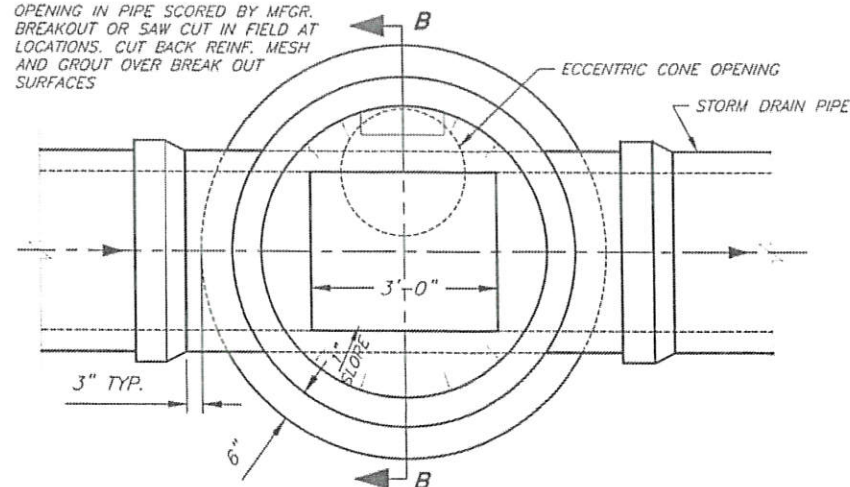


CLEANOUT MANHOLE

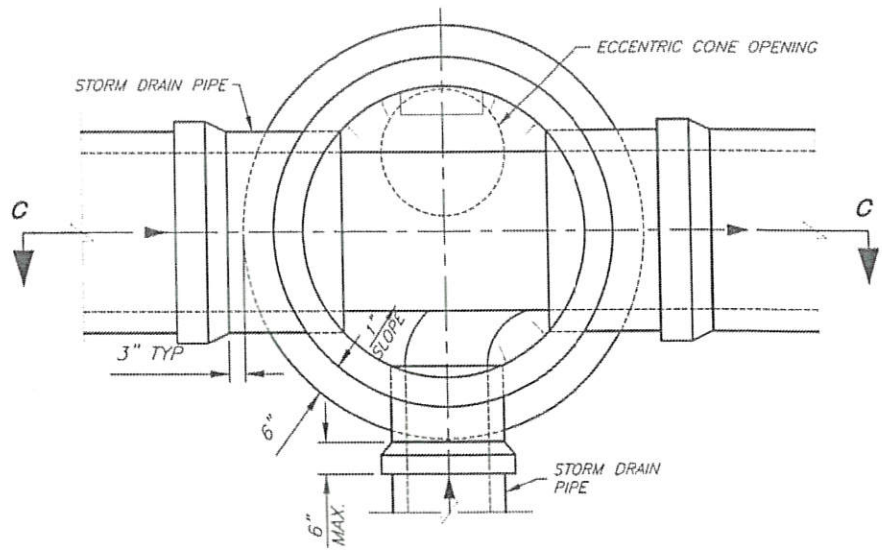
GENERAL NOTES:

- STORM DRAIN MANHOLE DIAMETER TO BE DETERMINED BY THE DESIGN ENGINEER AFTER EVALUATION OF THE NUMBER, SIZE, AND PIPE ENTRY ANGLE OF THE PIPES THAT CONNECT TO THE MANHOLE.
- NO MORE THAN 12" OF GRADE RINGS TO BE ALLOWED ON ANY MANHOLE
- PLYWOOD COVERS SHALL BE USED AT MANHOLE FLOOR TO COVER FLOWLINE DURING CONSTRUCTION AND MAINTENANCE ACTIVITIES.
- ALL INTERIOR JOINTS SHALL BE SMOOTH AND EVENLY GROUTED WITH NON-SHRINK GROUT MIX.
- MANHOLE STEPS UNIFORMLY SPACED (1'-0" MAX.) POLYPROPYLENE COVERED STEEL STEPS, MODEL PSI-PF AS MANUFACTURED BY "M.A. INDUSTRIES" OR APPROVED EQUAL - INSTALLATION OF STEPS SHALL BE WATERPROOF.

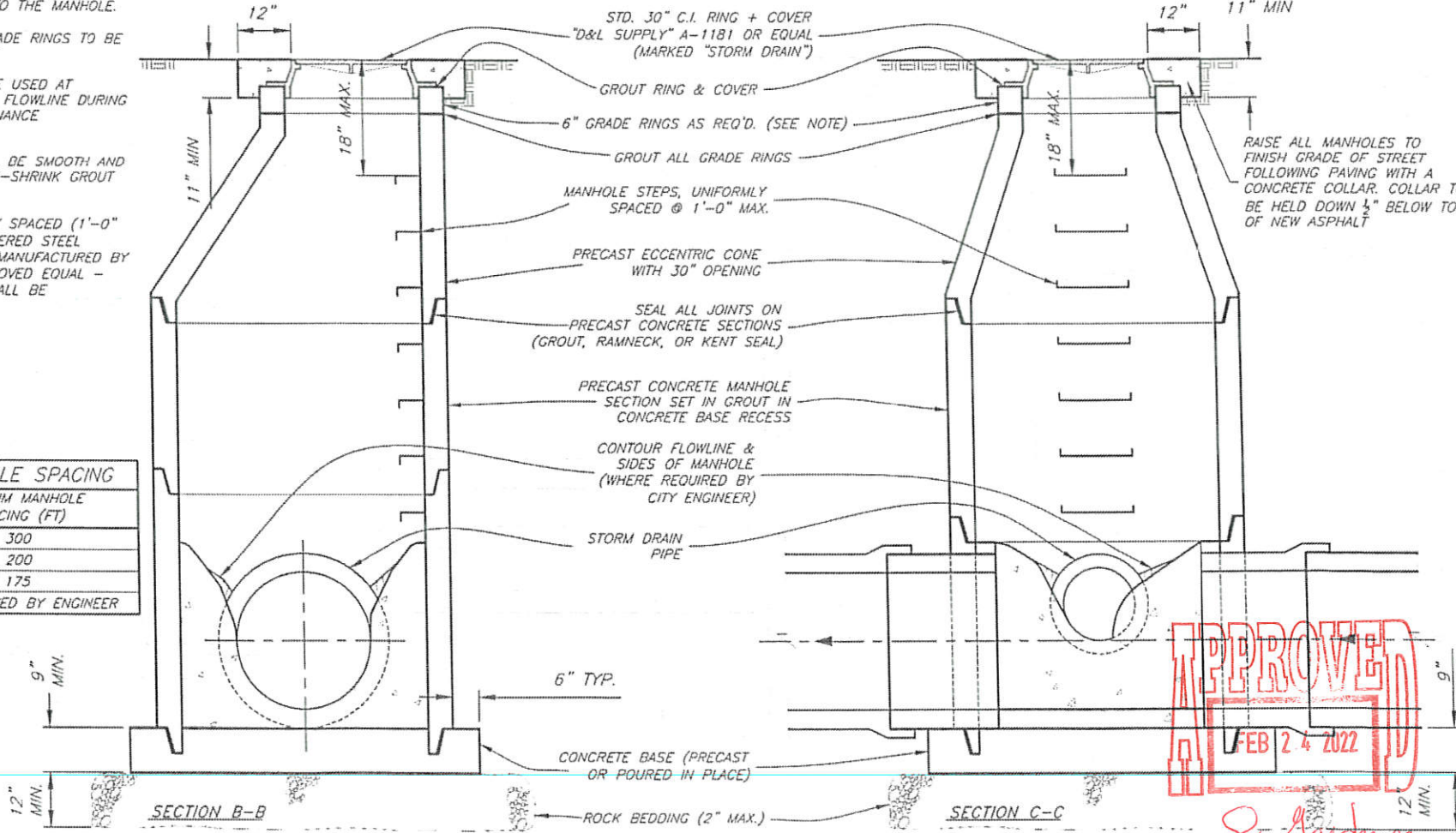
STORM DRAIN MANHOLE SPACING	
PIPE GRADE (%)	MAXIMUM MANHOLE SPACING (FT)
LESS THAN 8%	300
8% TO 10%	200
10% TO 12%	175
ABOVE 12%	AS APPROVED BY ENGINEER



TYPICAL LINE MANHOLE



TYPICAL JUNCTION MANHOLE



APPROVED
FEB 24 2022
By: J. Gardner

PROJECT ENGINEER	DATE	REV.	DATE	APPR.

SCALE	N.T.S.
DESIGNED	
DRAWN	
CHECKED	

JONES & ASSOCIATES
CONSULTING ENGINEERS
6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9767

NORTH OGDEN CITY CORPORATION
PUBLIC WORKS STANDARDS
STORM DRAIN - MANHOLE DETAILS
SHEET: SD-04
OF 24 SHEETS

ESI ENGINEERING, INC. CONSULTING ENGINEERS AND LAND SURVEYORS 3500 SOUTH MAIN STREET, SUITE 206 SALT LAKE CITY, UTAH 84115 TEL 801.263.1752 FAX 801.263.1780		07/26/2021 DATE KB DRAWN BY CDP CHECKED BY NO. DATE APPROVED BY	REVISIONS
NORTH OGDEN CITY WATER MAIN REPLACEMENT FRUITLAND DR. - 2100 N TO 2500 N		CITY STANDARD DETAILS	
PROJECT		SHEET	
PROJECT NO. 21-129		SHEET NO. 12 OF 12	