1-800-227-2600 AVOID CUTTING **UNDERGROUND UTILITIES**

CITY OF ELKO

EXIT 298 SEWER AND WATER DESIGN PHASE 2 SEWER CONSTRUCTION

OWNER/DEVELOPER:

CITY OF ELKO

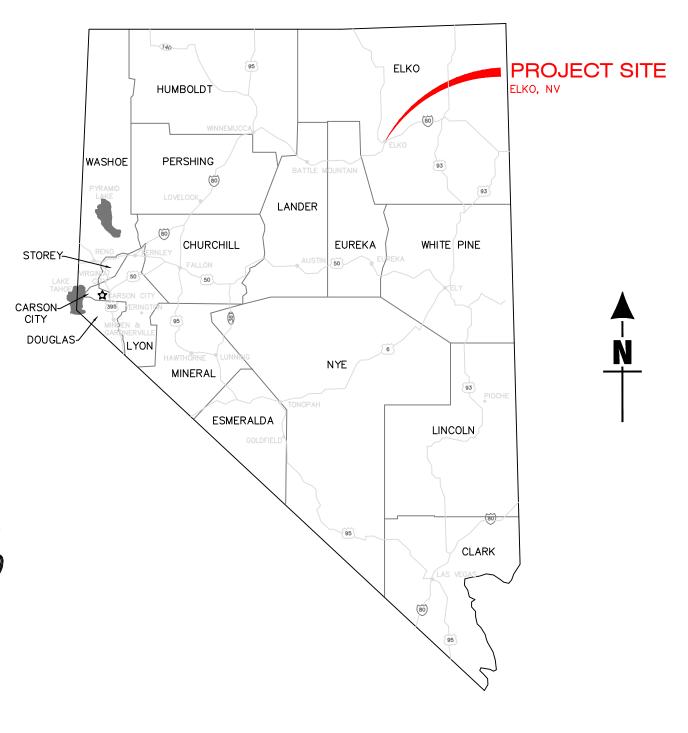
ATTN: MR. DALE JOHNSON 1550 STP ROAD. ELKO, NV 89801 PH.: (775) 777-7210

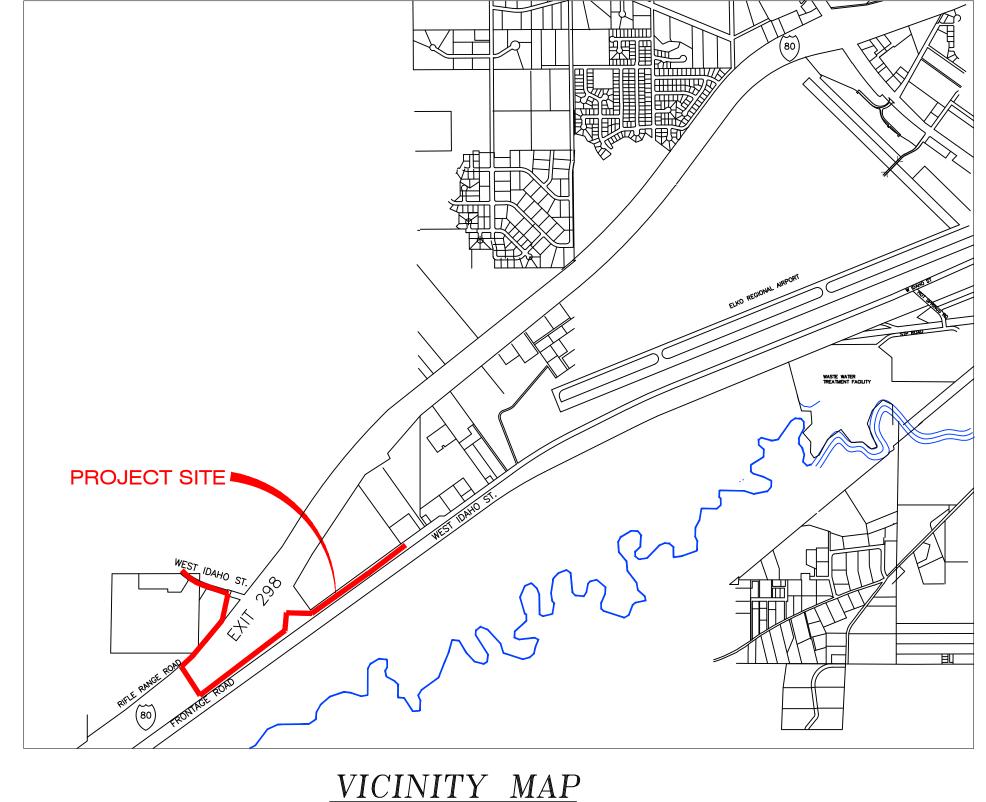
FAX: (775) 774-7388

ENGINEER



1751 COLLEGE AVE. ELKO, NV 89801 PH.: (775) 777-7210





BASIS OF BEARING:

PUBLISHED COORDINATES FOR NGS STATION "FUZZY", A STANDARD BRONZE DISK STAMPED "FUZZY 1957" SET IN THE TOP OF A ROUND CONCRETE POST WHICH PROJECTS 2 INCHES ABOVE THE GROUND, OF LATITUDE 40° 54' 25.01325"N, LONGITUDE 115° 41' 47.52810"W AND NEVADA STATE PLANE COORDINATE SYSTEM EAST ZONE GRID COORDINATES OF 28,488,522.75N, 624,878.27E. GROUND COORDINATES ARE USED HEREIN AND REFLECT GRID COORDINATES MULTIPLIED BY THE CITY OF ELKO ACCEPTED COMBINED GRID TO GROUND SCALE FACTOR OF 1.000357 WITH THE RESULTING GROUND COORDINATES FOR NGS

BASIS OF ELEVATION:

GEODETIC SURVEY'S (NGS) PUBLISHED ELEVATION FOR NGS BENCHMARK B 52, A STABILITY CLASS A MARK STAMPED "B 52 1934" SET VERTICALLY IN THE NORTHWEST WALL OF THE ELKO MAIN POST OFFICE (BRICK WITH STONE CORNERS), 0.9 FOOT SOUTHWEST OF

SHEET INDEX:

TITLE SHEET	
KEY SHEET	
PLAN AND PROFILE	
PLAN AND PROFILE	
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PLAN AND PROFILE	
PLAN AND PROFILE	
DETAIL SHEET	

GENERAL NOTES:

- 1. IN GENERAL HYDRANTS SHOULD BE LOCATED A MINIMUM DISTANCE OF SIX FEET FROM ABOVE GROUND
- 2. WATER TAPS ONTO THE WATER MAIN ARE TO BE IN ACCORDANCE WITH CITY DETAIL U-12.1 3. WATER TAPS ONTO THE WATER MAIN ARE TO BE A MINIMUM OF SIX FEET FROM HYDRANT TAPS
- 4. ABOVE GROUND UTILITIES ARE NOT PERMITTED WITHIN THE RIGHT-OF-WAY.
- 5. THE OWNER WILL PROVIDE AN AS-BUILT TO THE CITY OF ELKO AND N.D.O.T. THE AS-BUILT WILL INCLUDE ALL RELEVANT QUALITY ASSURANCE AND QUALITY CONTROL INFORMATION AND BE STAMPED BY A PROPERLY LICENSED PROFESSIONAL ENGINEER. THE CONTRACTOR SHALL WORK WITH THE PROJECT ENGINEER TO ENSURE ACCURATE AS-BUILT CAN BE GENERATED AND SUBMITTED TO THE CITY OF ELKO AND 15. CONTRACTOR TO OBTAIN A STREET CUT PERMIT FROM THE PUBLIC WORKS DEPARTMENT AND PAY ANY
- 6. THE CONTRACTOR SHALL HAVE A STAMPED AGENCY APPROVED SET OF PLANS AT THE WORK SITE DURING 16. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM N.D.O.T. PRIOR TO WORK IN THEIR CONSTRUCTION. CONSTRUCTION SHALL NOT PROCEED UNTIL THIS SET OF PLANS IS ISSUED WITH INCLUDED RIGHTS-OF-WAY.
- AREAS. DUST CONTROL PROGRAM SHALL BE IN COMPLIANCE WITH ALL FEDERAL, STATE, COUNTY AND CITY 445A.6715 TO SECTION 445A.6718 OF THE NEVADA ADMINISTRATIVE CODE FOR UTILITY SEPARATION AND
- 8. THE CONTRACTOR SHALL MAINTAIN AN ONGOING PROCESS FOR REMOVAL OF SPILLAGE OF EXCAVATED
- 9. ALL CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS & DETAILS FOR PUBLIC WORKS CONSTRUCTION-"ORANGE BOOK" AS PUBLISHED BY THE
- 10. ALL AREAS DISTURBED AND LEFT UNDEVELOPED FOR A PERIOD OF MORE THAN 30 DAYS SHALL BE STABILIZED BY THE APPLICATION OF A DUST PALLIATIVE. ALL AREAS LEFT UNDEVELOPED FOR A PERIOD OF MORE THAN 90 DAYS SHALL BE HYDRO-SEEDED WITH AN APPROVED SEED MIX AND TACKIFIER AND SHALL 20. ALL CONSTRUCTION TO BE AWWA C-600 OR AWWA C-605 COMPLIANT AS APPROPRIATE. BE IRRIGATED UNTIL FIRMLY ESTABLISHED AS APPROVED BY THE CITY OF ELKO.
- 11. THE CONTRACTOR SHALL VERIFY IN THE FIELD, ALL ELEVATIONS, DIMENSIONS, FLOW LINES, EXISTING CONDITIONS, AND POINTS OF CONNECTIONS WITH ADJOINING PROPERTY (PUBLIC OR PRIVATE), ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE PROJECT ENGINEER BEFORE PROCEEDING

- 12. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE SOILS ENGINEER, THE CITY OF ELKO, AND ALL UTILITY COMPANIES AT LEAST 48 HOURS PRIOR OF COMMENCEMENT OF WORK. 13. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICES ALERT AT 1.800.227.2600 AT LEAST 48 HOURS PRIOR TO
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION. IT SHALL BE THE CONTRACTOR RESPONSIBILITY TO CONTACT THE UTILITY COMPANIES FOR LOCATIONS PRIOR TO CONSTRUCTION. HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING
- UTILITIES ARE APPROXIMATE ONLY.
- APPLICABLE FEES TO THE CITY OF ELKO PRIOR TO EXCAVATING WITHIN THE CITY RIGHT OF WAY.
- 17. AT ALL POINTS WHERE SEWER (SANITARY OR STORM), WATER MAINS AND LATERALS CROSS, VERTICAL AND 7. THE CONTRACTOR SHALL MAINTAIN A 24-HOUR DUST CONTROL PROGRAM INCLUDING WATERING OF OPEN HORIZONTAL SEPARATION SHALL BE MAINTAINED PER NAC. ENGINEER AND CONTRACTOR TO REFERENCE SECTION
 - 18. ALL SANITARY SEWER MAINS SHALL BE A MINIMUM OF 8" SDR 35 PVC (GREEN) PIPE. ALL RESIDENTIAL SANITARY SEWER LATERALS SHALL BE 4" SDR 35 PVC PIPE WITH A 2% SLOPE MINIMUM UNLESS OTHERWISE SHOWN. ALL COMMERCIAL SANITARY SEWER LATERALS SHALL BE 6" SDR 35 PVC PIPE WITH A 2% SLOPE

19. ALL WATER MAINS SHALL BE A MINIMUM 10" DIAMETER, THICKNESS CLASS 50 OR PRESSURE CLASS 350 DUCTILE IRON PIPE, WITH POLYETHYLENE ENCASEMENT, OR DR 18 C900 PVC PIPE, UNLESS OTHERWISE

- MINIMUM COVER OVER THE WATER MAIN SHALL BE 42".
- THE CITY OF ELKO UTILITY DEPARTMENT SHALL BE CONTACTED TO PERFORM ALL TAPS ONTO CITY OF ELKO UTILITIES.

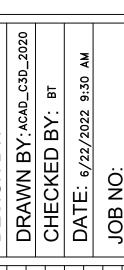
- 23. THE CITY OF ELKO UTILITY DEPARTMENT SHALL BE CONTACTED FOR AUTHORIZATION TO PLACE ANY NEW WATER SYSTEMS. EXTENSIONS. REPLACEMENTS IN EXISTING SYSTEMS AND VALVED SECTIONS INTO SERVICE FOR TESTING OR FINAL ACCEPTANCE.
- 24. ALL WATER SERVICE LINES SHALL BE 1" IRON PIPE SIZE (IPS), RATED 200 PSI POLYETHYLENE UNLESS 25. BEFORE BEING CERTIFIED BY AN ENGINEER OR ACCEPTED BY THE CITY OF ELKO, ANY NEW WATER
- SYSTEMS. EXTENSIONS. REPLACEMENTS IN EXISTING SYSTEMS AND VALVED SECTIONS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C-651, "DISINFECTING WATER MAINS".
- 26. BEFORE BEING CERTIFIED BY AN ENGINEER OR ACCEPTED BY THE CITY OF ELKO, ANY NEW WATER SYSTEMS, EXTENSIONS, REPLACEMENTS IN EXISTING SYSTEMS AND VALVED SECTIONS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH NAC445A.67145.7 (A) AND (B).
- 27. BEFORE BEING CERTIFIED BY AN ENGINEER OR ACCEPTED BY THE CITY OF ELKO, ANY NEW SEWER SYSTEMS, EXTENSIONS, REPLACEMENTS IN EXISTING SYSTEMS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION; LATEST EDITION. 28. A TRAFFIC CONTROL PLAN SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVED BY THE CITY OF ELKO AND N.D.O.T. PRIOR TO CONSTRUCTION.
- 29. ALL WATER MAIN EXTENSIONS ARE TO BE TESTED IN ACCORDANCE WITH AWWA STANDARD C651 REQUIRING TWO SETS OF CONSECUTIVE SAMPLES AT LEAST 24 HOURS APART FROM EVERY 1200 FEET OF MAIN.

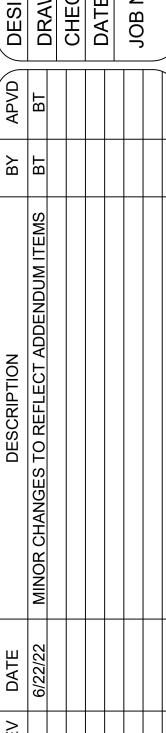
ABBREVIATION

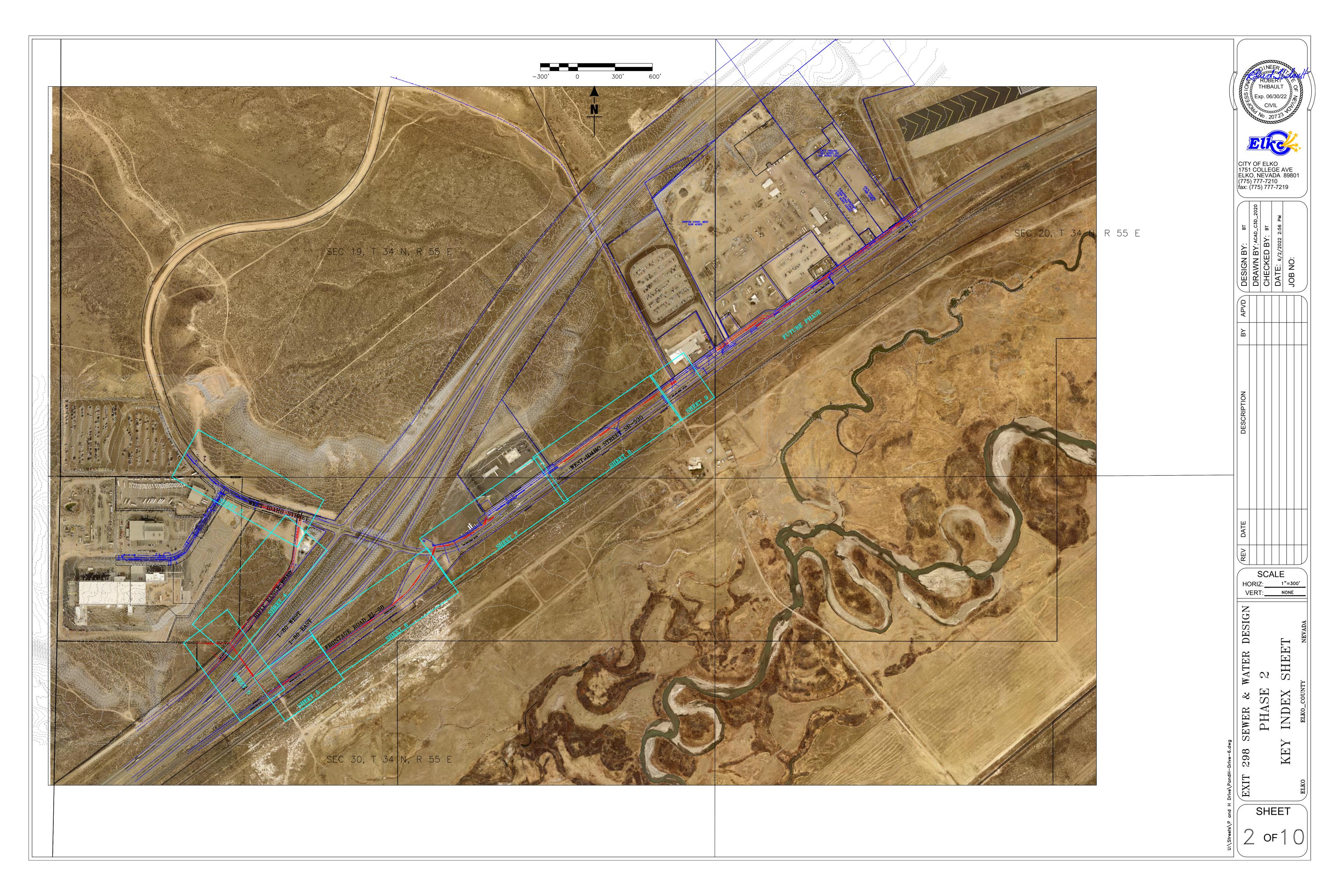
	ASPHALT CONCRETE	GB	GRADE BREAK GRAVEL DRIVEWAY GROUND GATE VALVE HANDICAPPED HYDRAULIC GRADE LINE HORIZONTAL HIGH POINT INSIDE DIAMETER INVERT ELEVATION INTERSECTION IRRIGATION LATERAL LINEAR FEET LOW POINT LEFT MAXIMUM MAXIMUM DRY DENSITY MANHOLE	R	RADIUS
		GDW	CRAVEL DRIVEWAY	DCD	REINFORCED CONCRETE PIPE
		GDW	GRAVEL DRIVEWAT	RCF DEE	
	AGGREGATE	GD	GROUND	KEF	REFERENCE
	BEGIN CURVE (HORIZONTAL)	GV	GATE VALVE	RET	CURB RETURN
	BACK OF WALK	Н	HANDICAPPED	RP	RADIUS POINT
BOF	BOTTOM OF FOOTING	H HGL	HYDRAULIC GRADE LINE	RT	RIGHT
	BUTTERFLY VALVE	HORIZ	HORIZONTAL	R/W, ROW	RIGHT-OF-WAY
	BEGIN VERTICAL CURVE	HP	HIGH POINT	S= .	SLOPE (FT./FT.)
	BACK OF WALK BOTTOM OF FOOTING BUTTERFLY VALVE BEGIN VERTICAL CURVE BOTH WAYS	HP ID	INSIDE DIAMETER	S	SOUTH
	CATCH BASIN	iF	INVERT ELEVATION	SD	STORM DRAIN
	CUBIC FEET PER SECOND	INT	INTERSECTION	SDMH	STORM DRAIN MANHOLE
	CATCH BASIN CUBIC FEET PER SECOND CURB AND GUTTER	IRR	IRRIGATION	SL	STREET LIGHT
	CENTED LINE	LAT	IATEDAL	SS	SANITARY SEWER
		LAI	LATERAL	SS SSCO SSMH	
		LF	LINEAR FEET	2200	SANITARY SEWER CLEAN OUT
_	CORRUGATED METAL PIPE	LP	LOW POINT	22MH	SANITARY SEWER MANHOLE
D	COMPACTION	LT	LEFT	SSPWC STA	STANDARD SPEC. for PUBLIC WORKS CONST.
0	CONCRETE	MAX	MAXIMUM	STA	STATION
TR/CTR	CONTRACTOR	MDD	MAXIMUM DRY DENSITY MANHOLE MINIMUM MECHANICAL JOINT	SW	SIDEWALK
	CONCRETE PAD	MH MIN MJ	MANHOLE	TELE	TELEPHONE
	CABLE TELEVISION	MIN	MINIMUM	IBO	TEMPORARY BLOW OFF VALVE
	DROP INLET	MJ	MECHANICAL JOINT	TC	TOP OF CURB
	DIAMETER	MMD	MAXIMUM MARSHALL DENSITY	TG	TO GRADE
	DRIVEWAY	MUTCD	MANUAL FOR TRAFFIC CONTROL DEVICES		TOP OF BERM
	CORROGATED METAL FIFE COMPACTION CONCRETE CONTRACTOR CONCRETE PAD CABLE TELEVISION DROP INLET DIAMETER DRIVEWAY EAST EACH	N	NORTH	TF, TOF	TOP OF FOOTING
	EACH	NAP	NOT A DADT	TW, TOW	TOP OF WALL
	END CURVE (HORIZONTAL)	NID	NOT IN PROJECT NOT TO SCALE ON CENTER OUTSIDE DIAMETER	TS	TRAFFIC SIGNAL
	ELBOW (HORIZONTAL)	NTS	NOT TO SCALE	TSCB	TRAFFIC SIGNAL CONTROL BOX
		1412	ON CENTER	TR	TOP OF RAIL
,	ELECTRICAL	OC	ON CENTER	TRANS	
•	ELEVATION	OD	OUTSIDE DIAMETER	TYP	TRANSITION
	END VERTICAL CURVE	UH	UVERHEAD		TYPICAL
EXIST, (E)	EXISTING	(P)	PROPOSED	UG/P	UNDER GROUND POWER
	EXTERIOR	PCC		UNO	UNLESS NOTED OTHERWISE
	EXTERIOR FLANGE COUPLING ADAPTER FINISH ELEVATION	PG	PAD GRADE	V ₅	VELOCITY AT 5 YEAR PEAK
	FINISH ELEVATION	PI	POINT OF INTERSECTION	VC	VERTICAL CURVE
	FLARED END SECTION	PIVC	POINT OF INTERSECTION VERTICAL CURVE	VEL	VELOCITY
	FINISH FLOOR	PL	PROPERTY LINE	VERT	VERTICAL
	FRONT FACE OF CURB	POCC	POINT OF COMPOUND CURVATURE POINT OF TANGENCY POWER POLE	VG	VALLEY GUTTER
	FINISH GRADE	POT	POINT OF TANGENCY	W	WEST
	FIRE HYDRANT	PP	POWER POLE	W/G	WATER AND GAS
	FLANGE COUPLING ADAPTER FINISH ELEVATION FLARED END SECTION FINISH FLOOR FRONT FACE OF CURB FINISH GRADE FIRE HYDRANT FLOW LINE FLANGE FEET PER SECOND FOOTING GAS	PRC	POINT OF REVERSE CURVE	WĹ	WATER LINE
	FLANCE	PRVC	POINT OF REVERSE VERTICAL CURVE	WM	WATER METER
	FEET DED SECOND	PVC	POLYVINYL CHLORIDE	WS	WATER SURFACE
	FOOTING	DVAT	PAVEMENT	WV	WATER VALVE
	CAC	Γ VIVI I	FAVENCINI FAVEAD DEAK FLOW	WWF	WELDED WIRE FABRIC
,	C / .C			VV VVF	WELDED WINE FADRIC
/	GALVANIZED	Q100	100 YEAR PEAK FLOW		

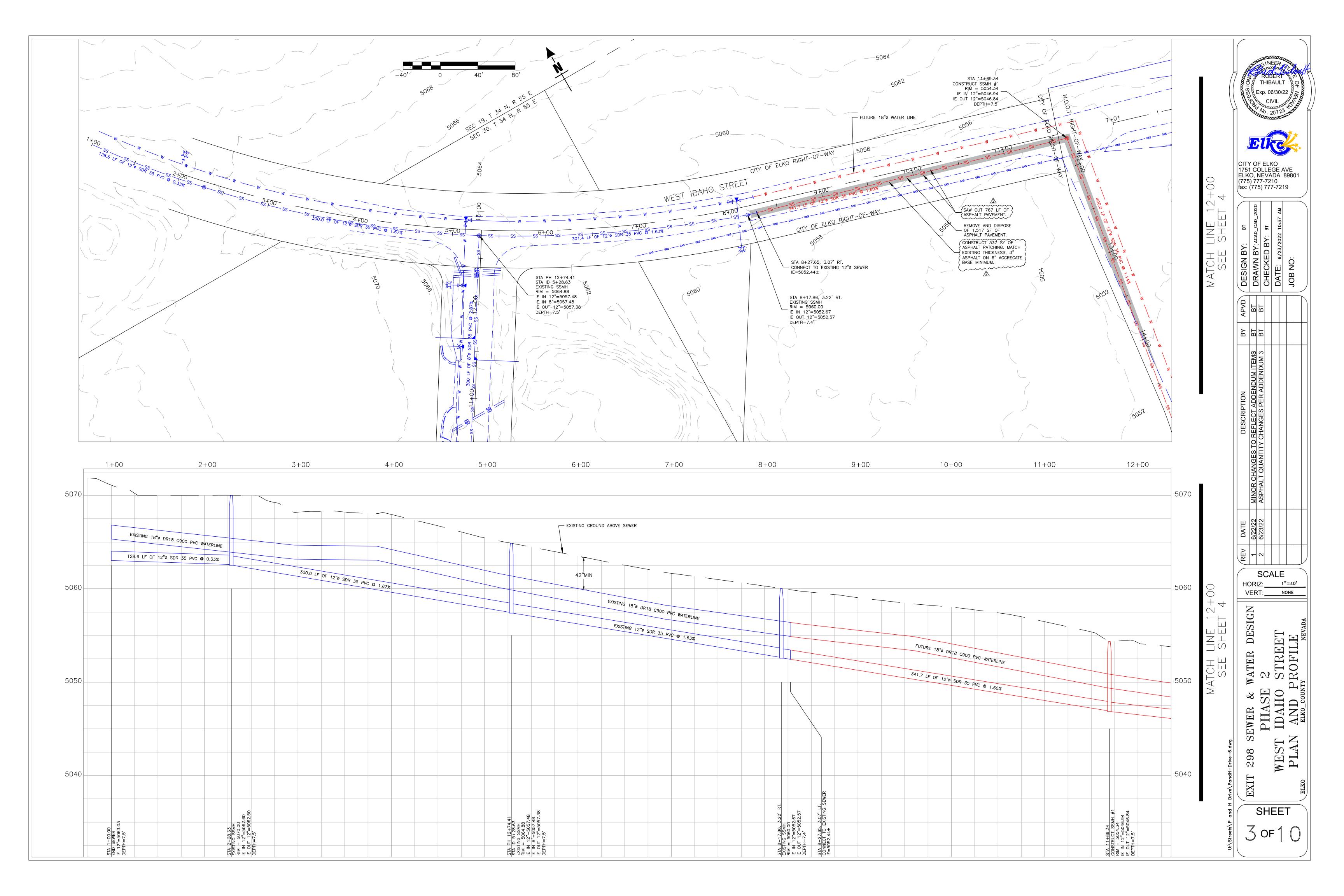


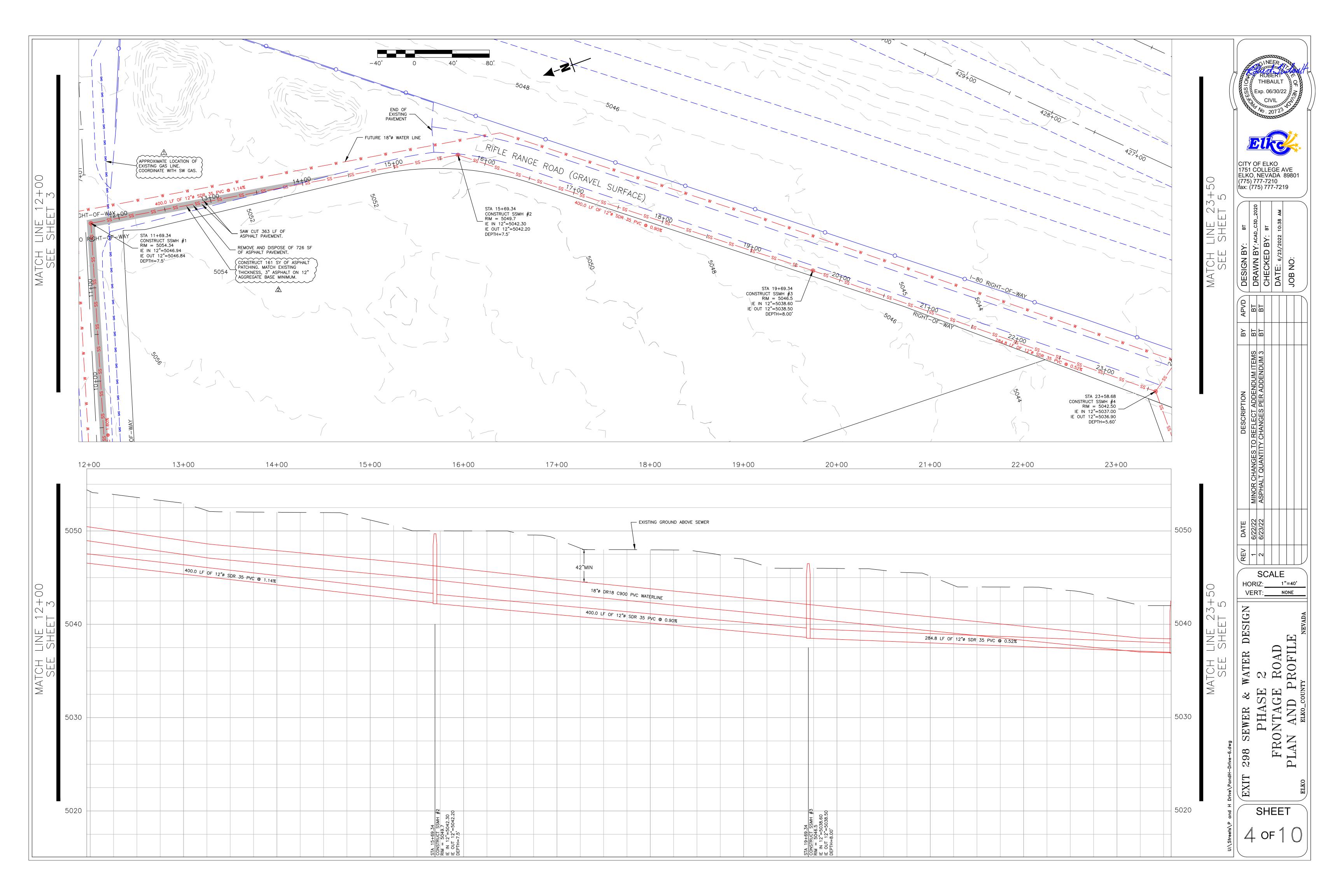


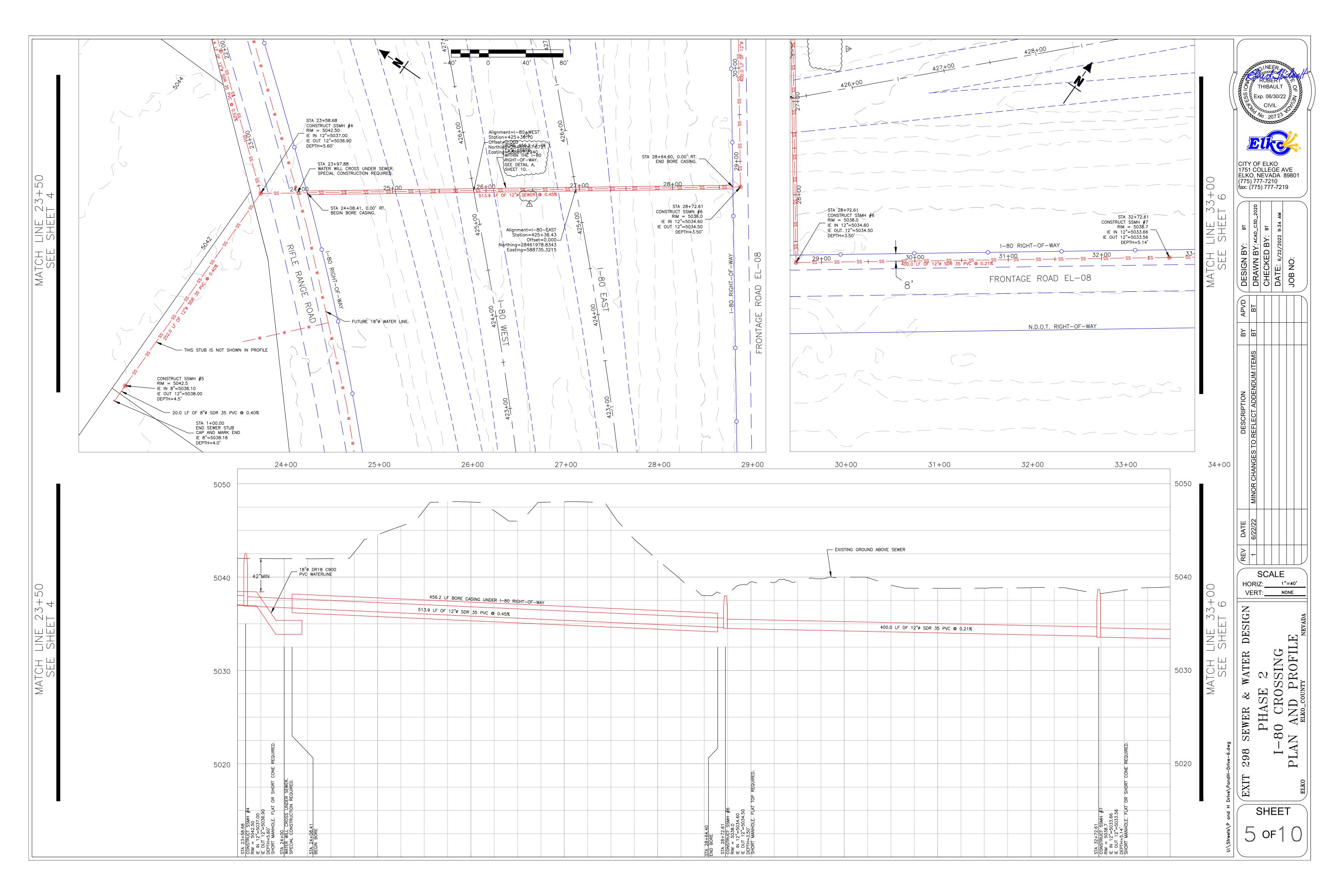


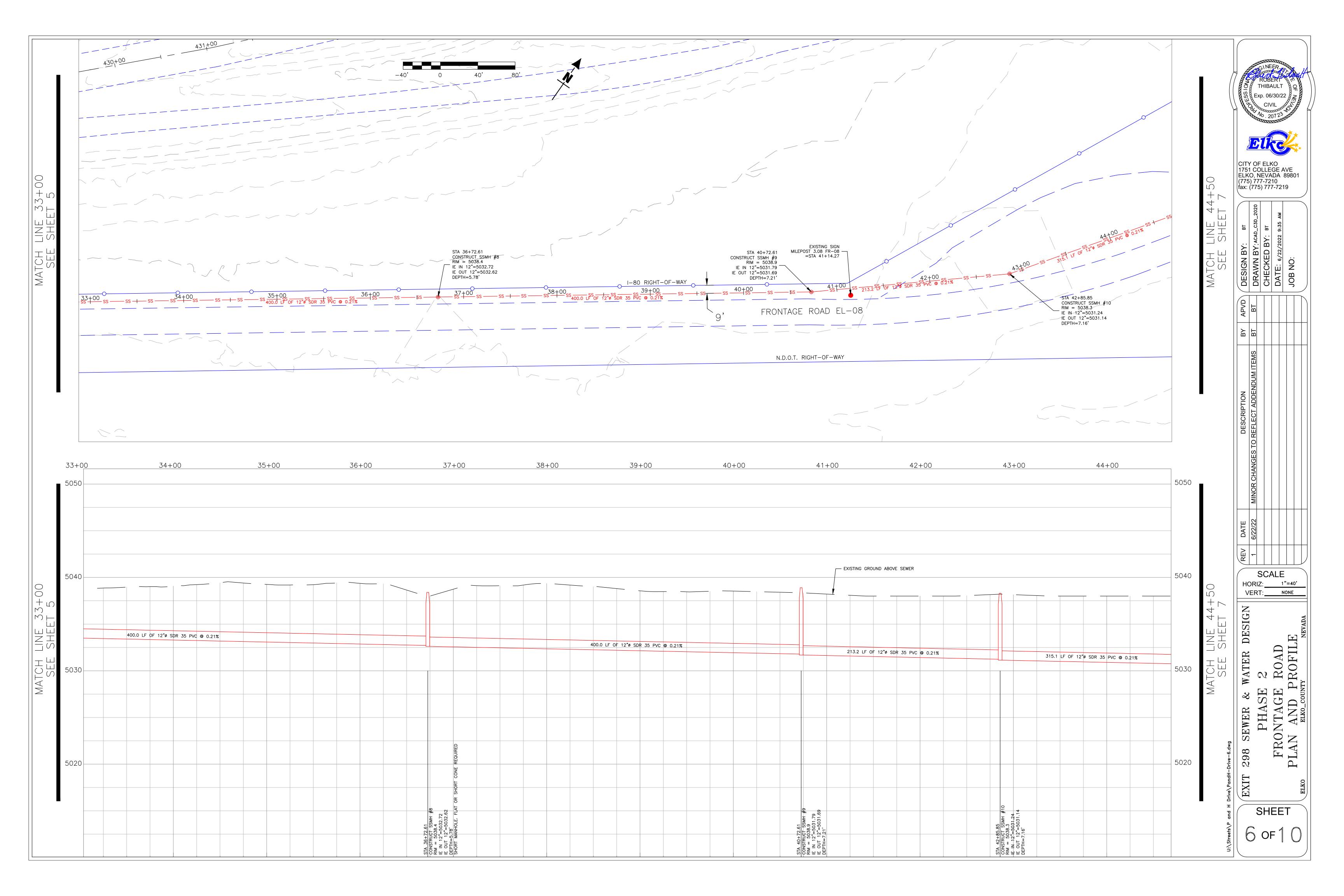


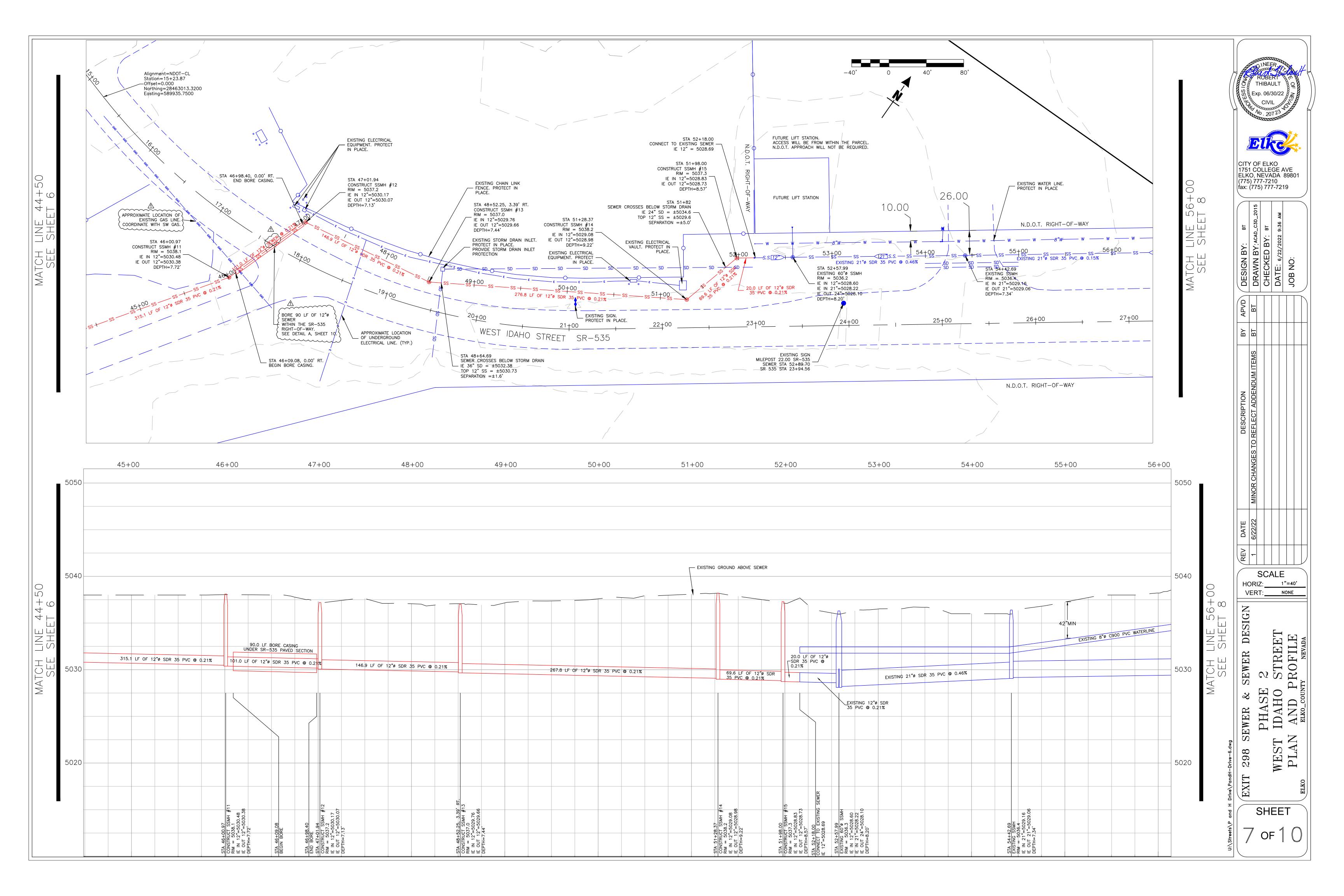


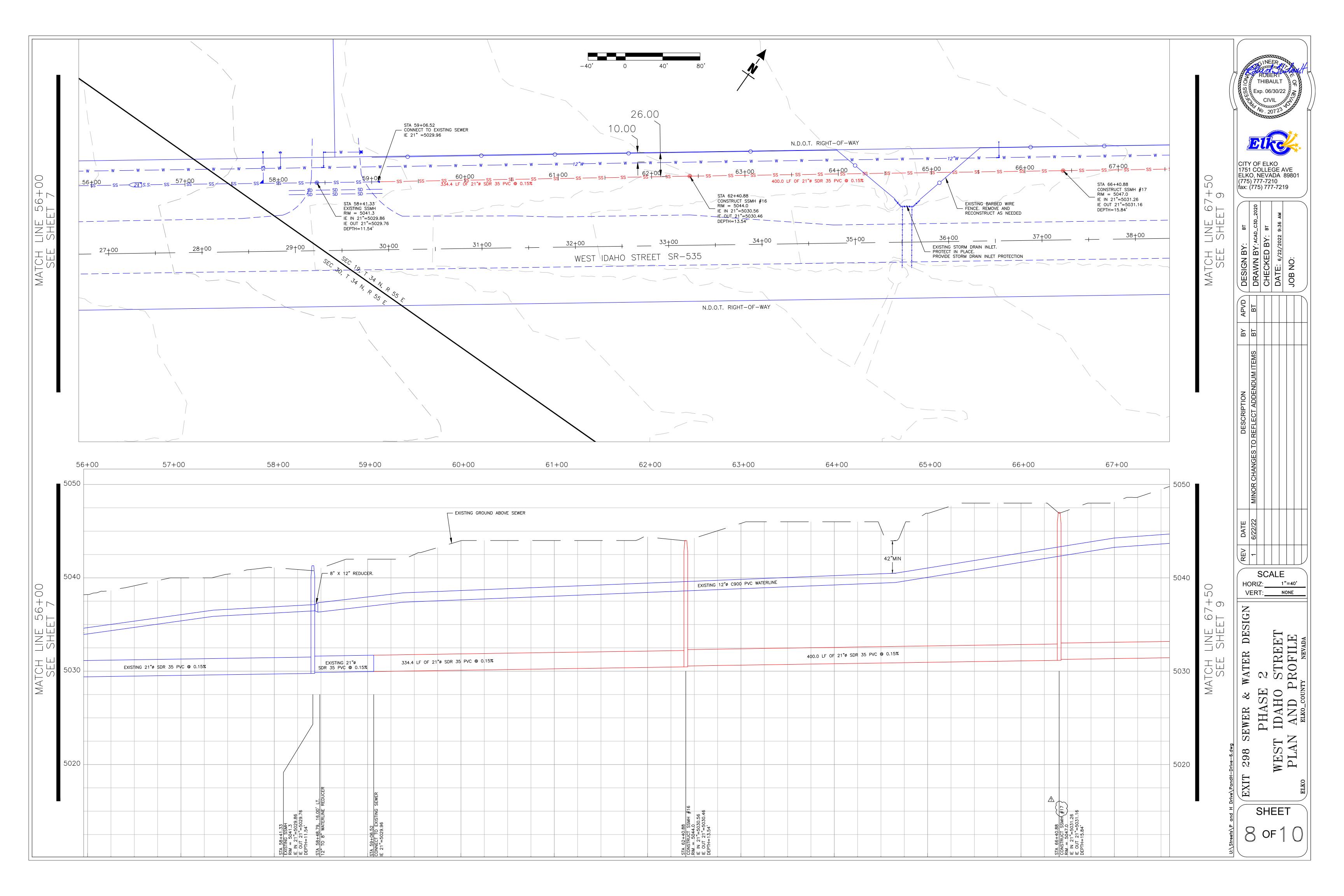


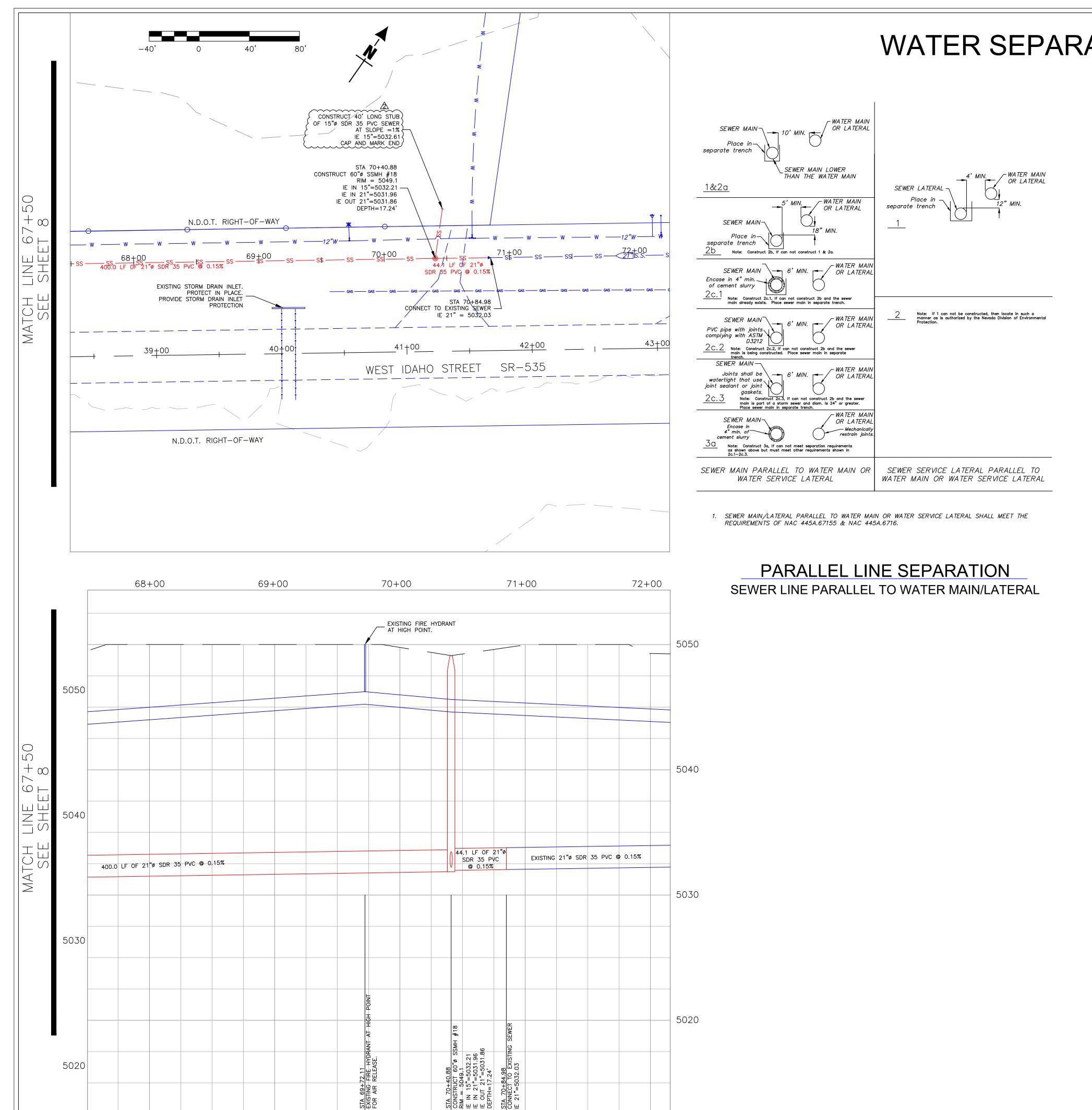




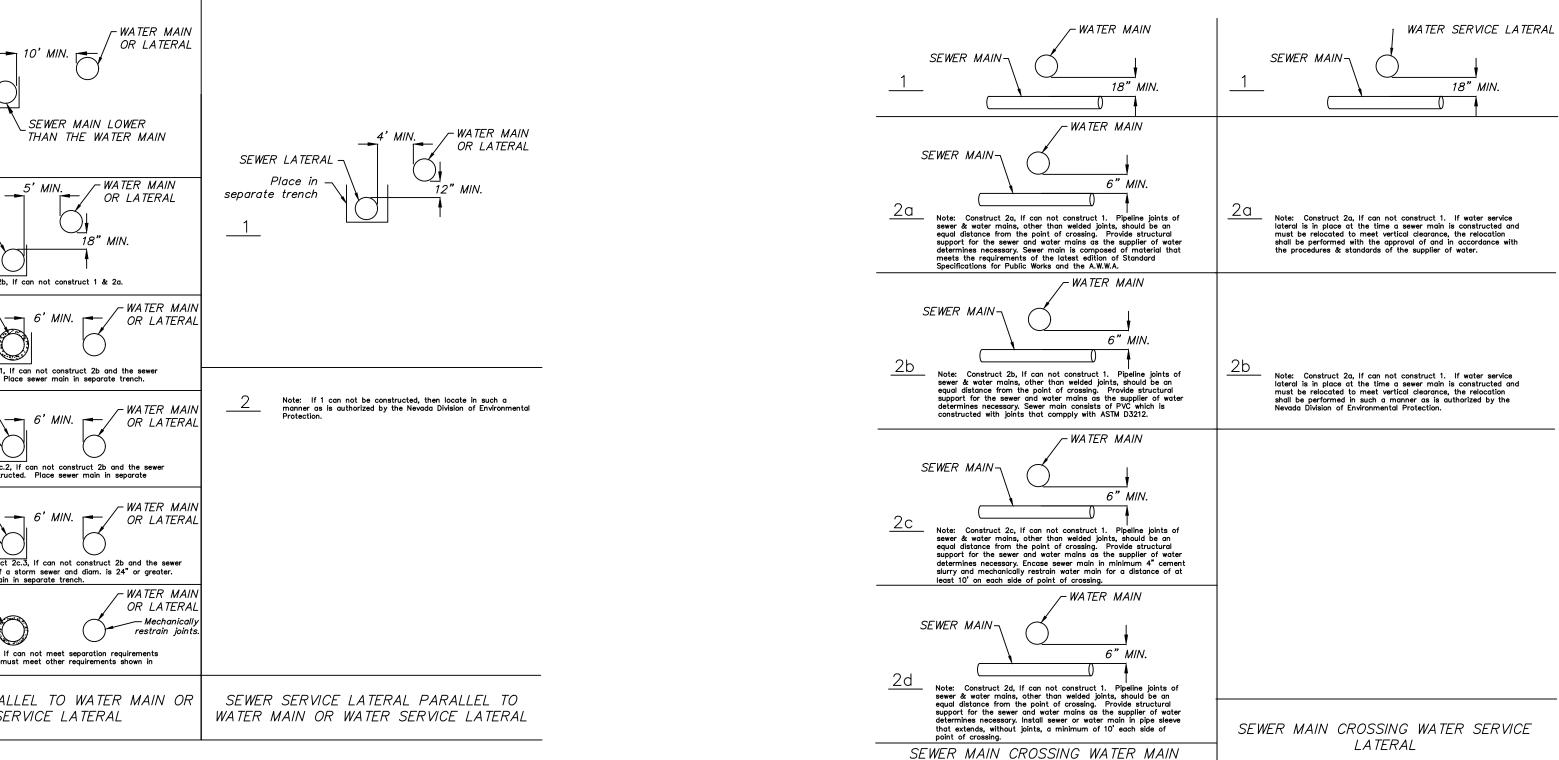








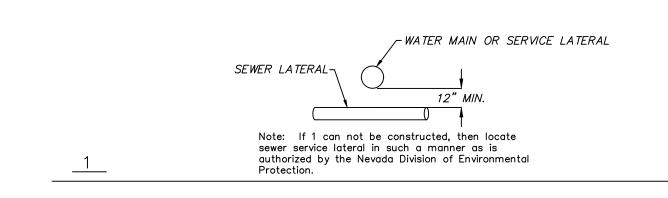
WATER SEPARATION REQUIREMENTS



UF NAC 445A.6/165 & NAC 445A.6/1/.

1. SEWER MAIN CROSSING WATER MAIN OR WATER SERVICE LATERAL SHALL MEET THE REQUIREMENTS

CROSSING LINE SEPARATION SEWER MAIN CROSSING WATER MAIN/LATERAL



Note: Construct 2a, If can not construct 1. If water main or water service lateral is in place at the time a sewer main is constructed and must be relocated to meet vertical clearance, the relocation shall be performed with the approval of and in accordance with the procedures & standards of the supplier of water.

Note: Construct 2b, If can not construct 1. If water main or water service lateral is in place at the time a sewer main is constructed and must be relocated to meet vertical clearance, the relocation shall be performed in such a manner as is authorized by the Nevada Division of Environmental Protection.

1. SEWER SERVICE LATERAL CROSSING WATER MAIN OR WATER SERVICE LATERAL SHALL MEET THE REQUIREMENTS OF NAC 445A.67175.

CROSSING LINE SEPARATION
SEWER LATERAL CROSSING WATER MAIN/LATERAL



CITY OF ELKO 1751 COLLEGE AVE ELKO, NEVADA 89801

(775) 777-7210

fax: (775) 777-7219

DESIGN BY: BT

DRAWN BY: ACAD_C3D_2020

CHECKED BY: BT

DATE: 6/23/2022 10:53 AM

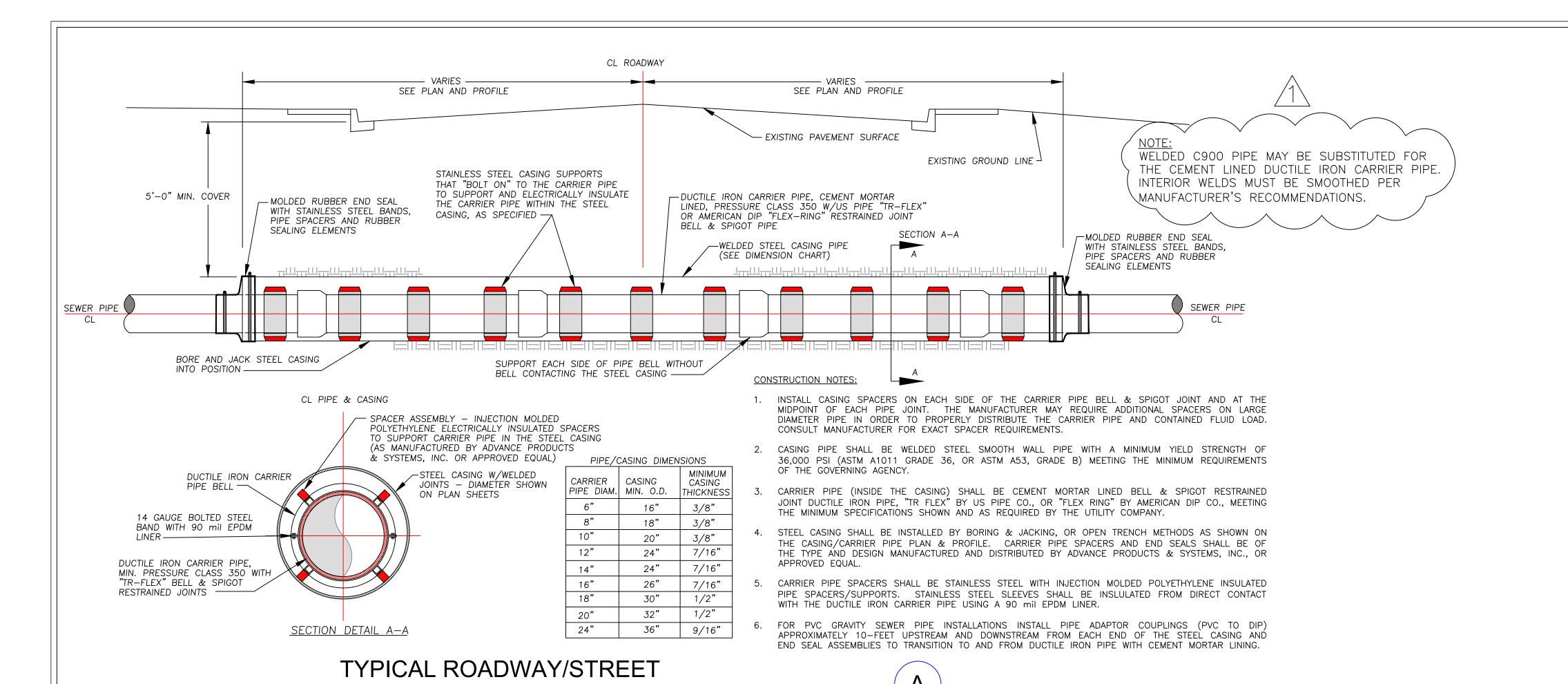
JOB NO:

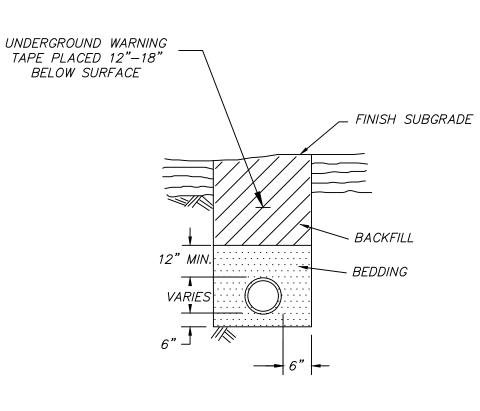
SCALE
HORIZ: 1"=40'
VERT: NONE

SEWER & WATER DESIGN
PHASE 2
ST IDAHO STREET
AN AND PROFILE
ELKO_COUNTY NEVADA

EXIT 298 SEWER PHA

SHEET



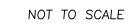


DUCTILE IRON PIPE, PVC, PE & HDPE PIPE

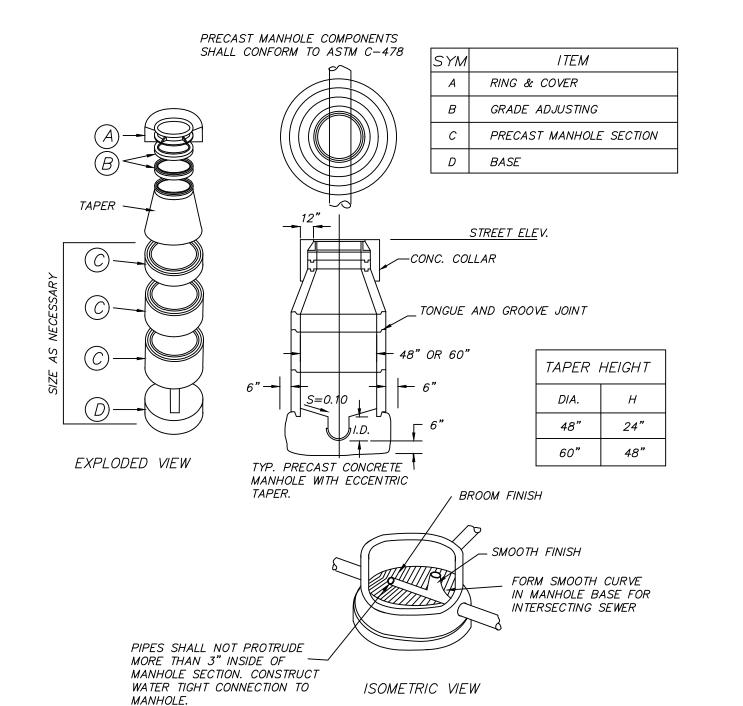
NOTES:

- 1. WATER DENSIFIED BACKFILL AND TUNNELING SHALL NOT BE ALLOWED.
- 2. BACKFILL SHALL MEET THE REQUIREMENTS FOR CLASS "E" BACKFILL WITH NO ROCKS SIZED OVER 4", COMPACTED IN 6" (MAX.) LIFTS TO 90% (MIN.) RELATIVE COMPACTION.
- 3. BEDDING MATERIAL FOR THE FOLLOWING PIPE SHALL MEET THE REQUIREMENTS OF SECTION 200 & 305 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND COMPACTED TO A MINIMUM 90% RELATIVE COMPACTION. A) DUCTILE IRON PIPE - CLASS "C" B) ALL OTHER PIPE - CLASS "A"
- 4. FOR TRENCHES & EXCAVATIONS LOCATED WITHIN ROADWAY SECTION, SEE PAVEMENT PATCH
- 5. ALL TRENCHES AND EXCAVATIONS SHALL CONFORM TO THE LATEST EDITION OF O.S.H.A. AND M.U.T.C.D. REQUIREMENTS.
- 6. NATIVE MATERIAL MUST BE APPROVED BY THE CITY OF ELKO ENGINEER PRIOR TO USING AS BACKFILL OR BEDDING.
- 7. UNDERGROUND WARNING TAPE SHALL BE METALLIC AND APPROPRIATLY LABELED AND COLORED.

TRENCH EXCAVATION AND BACKFILL







NOT TO SCALE

MANUFACTURER'S RECOMMENDATIONS. 5. TYPE & SIZE OF MANHOLE TO BE CONSTRUCTED IN A PARTICULAR LOCATION SHALL BE DETERMINED BY THE PIPE SIZE, ALIGNMENT AND GRADE AS FOLLOWS:

1. ALL MANHOLES SHALL MEET THE REQUIREMENTS OF SECTION 204 OF THE LATEST

3. ALL TRENCHES AND EXCAVATIONS SHALL CONFORM WITH THE LATEST EDITION OF

4. PRECAST MANHOLE SECTIONS, OTHER THAN GRADE RINGS, SHALL BE JOINED WITH FLEXIBLE PLASTIC GASKET MATERIAL SUCH AS "RAM-NEK" OR EQUAL AS PER

2. MANHOLE COVERS SHALL BE IDENTIFIED AS STORM DRAIN, WATER OR SEWER

EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

A. ALL CASES FOR PIPE 18" AND SMALLER. B. 24" AND SMALLER PIPE ON TANGENT LINE & GRADE.

- A. 27" THROUGH 36" PIPE ON TANGENT LINE AND GRADE. B. 21" THROUGH 27" PIPE AT ANGLE POINTS AND CHANGES IN GRADE OR PIPE SIZE. 6. EXCAVATABLE SLURRY BACKFILL MAY BE USED AS STRUCTURAL BACKFILL FOR MANHOLES AND MUST MEET THE REQUIREMENTS OF SECTIONS 305.16 & 337.08 OF
- CONSTRUCTION. 7. THE TOTAL HEIGHT OF MANHOLE GRADE RINGS SHALL NOT EXCEED 12 INCHES.

THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS

8. MANHOLE ACCESS DIAMETER SHALL BE 24" MINIMUM.

MANHOLES — GENERAL NOTES:

CLEARLY DISPLAYED ON THE COVER.

THE O.S.H.A. REQUIREMENTS.

TYPE 1 MANHOLE

2. PRECAST BASE MAY BE USED.

3. MANHOLE STEPS ARE NOT REQUIRED.

1. PIPE SECTION LENGTHS ARRANGED TO FIT DEPTH.

4. REFER TO DETAIL SHEET (MANHOLE - GENERAL NOTES) FOR ADDITIONAL INFORMATION.

NOT TO SCALE

NOTES: 1. CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 337.10 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. 2. MANHOLE COVER & FRAME SHALL BE SET 1/4" TO 1/2" BELOW FINISHED CONCRETE OR BITUMINOUS SURFACE. MANHOLE COLLARS IN ALL OTHER AREAS SHALL BE SET FLUSH WITH FINISHED GRADE, UNLESS OTHERWISE SPECIFIED.

SECTION A-A

Place Manhole Cover & Frame —

1/4" - 1/2" Below

Finished Roadway Surface

Score 4 Lines on Top of

Concrete Collar at a

depth equal to $\frac{1}{4}$ the

Place Collar Flush with—

GRADE RINGS

Areas Other than

Finished Roadway

Surface

concrete thickness. Edge the score lines at

 $a \frac{1}{2}$ " Radius. Two

Parallel & Two Perpendicular to Centerline of Roadway

3. CONCRETE COLLAR IS REQUIRED WHEN MANHOLE IS NOT LOCATED IN CONCRETE OR BITUMINOUS

4. REFER TO DETAIL SHEET (MANHOLE - GENERAL NOTES) FOR ADDITIONAL INFORMATION.

CONCRETE COLLAR

NOT TO SCALE

- ROUGH BROOM FINISH

CONCRETE COLLAR

├── MANHOLE TAPER

ADDITIONAL CITY OF ELKO DETAILS CAN BE FOUND AT:

https://www.elkocity.com/departments/engineering_department/standard_details/index.php

DESIGN BY: EDRAWN BY: ACAD_CHECKED BY: BDATE: 6/22/2022 99

THIBAULT g Exp. 06/30/22

CITY OF ELKO

(775) 777-7210 fax: (775) 777-7219

1751 COLLEGE AVE ELKO, NEVADA 89801

SCALE VERT:_ NONE

SHEE

MANHOLE GENERAL NOTES

NOT TO SCALE

BORE, JACK & CASING DETAIL