

# TOWN OF HAYDEN

## HOSPITAL HILL VCP REPLACEMENT 2023

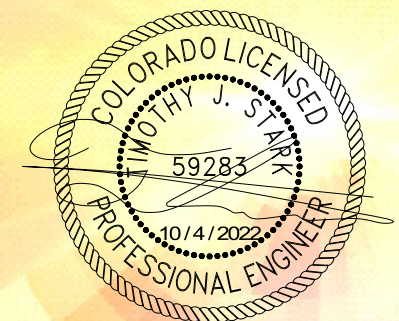
OWNER  
TOWN OF HAYDEN  
178 WEST JEFFERSON AVENUE  
HAYDEN, CO. 81639-0190

### TOWN ADMINISTRATION AND PUBLIC WORKS

RYAN BANKS ----- MAYOR  
MATHEW MENDISCO ----- TOWN MANAGER  
BRYAN RICHARDS ----- PUBLIC WORKS DIRECTOR  
TREVOR GANN ----- MAYOR PRO-TEM  
RYAN BELL ----- COUNCILMEMBER  
MELINDA CARLSON ----- COUNCILMEMBER  
CAMILLA HAIGHT ----- COUNCILMEMBER  
DANNY HAYDEN ----- COUNCILMEMBER  
ELAINE HICKS ----- COUNCILMEMBER

### ENGINEER

SUNRISE ENGINEERING, LLC  
201 COMMERCE DRIVE, UNIT 1  
FORT COLLINS, COLORADO 80524  
TEL (970) 372-2255



DATE: 12/7/2022



SHEET 1 OF 13

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TEL 970 372 2255

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# AREA MAP

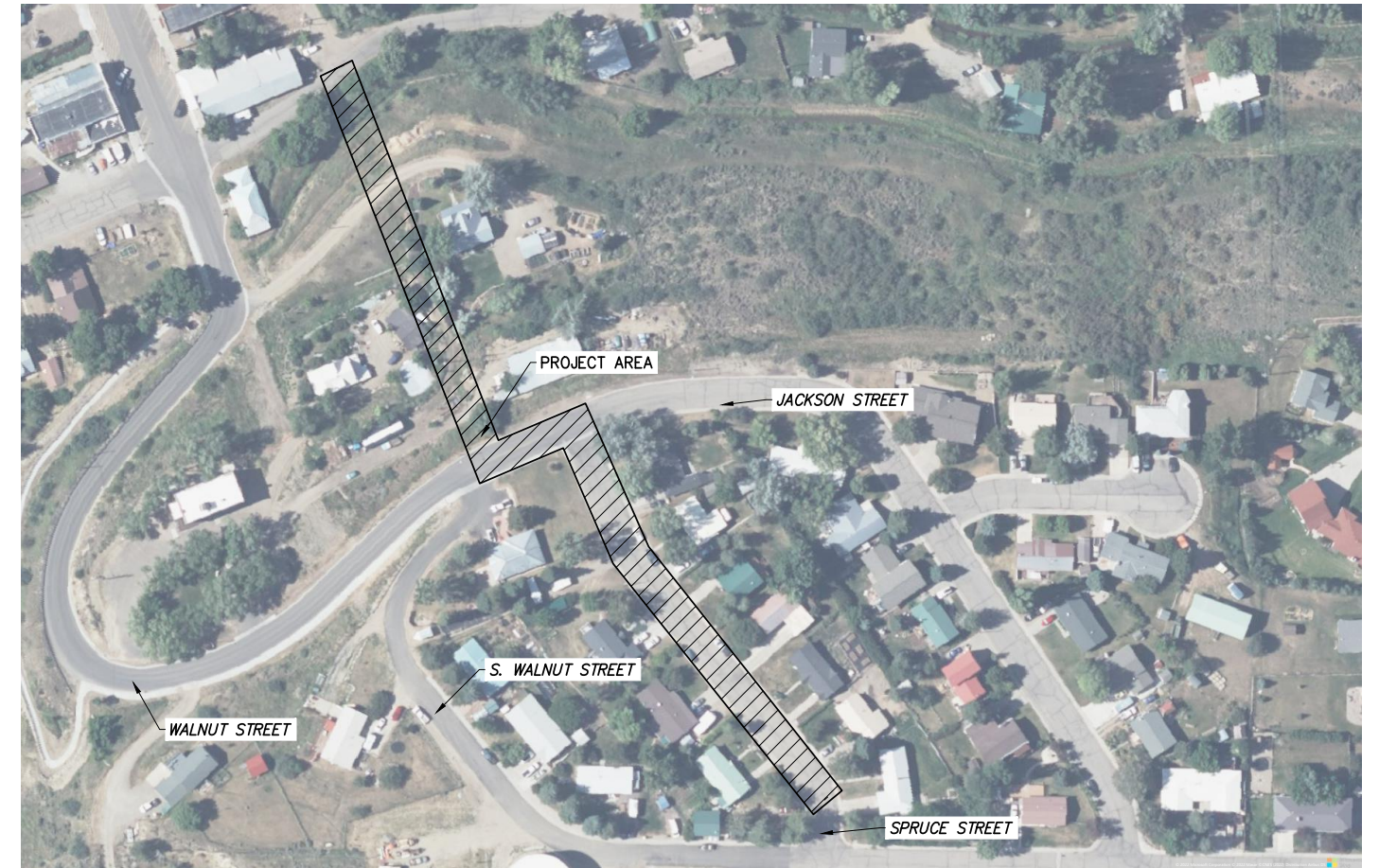
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## STATE OF COLORADO

# LOCATION MAP

NOT TO SCALE



## TOWN OF HAYDEN

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	COMMENT	
	DATE	

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 HOSPITAL HILL VCP REPLACEMENT 2023

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S08494	TJS	DBB	TJS	2 of 13	

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**GENERAL NOTES**

**SEWER DESIGN CRITERIA**

1. ALL WORK, TESTING AND MATERIALS SHALL CONFORM TO THE PROJECT CONSTRUCTION PLANS, SPECIFICATIONS, DETAILS, AND CONTRACT DOCUMENTS UNLESS SPECIFICALLY STATED OTHERWISE IN THESE PLANS. ALL WORK AND MATERIALS NOT IN CONFORMANCE WITH THESE PLANS AND SPECIFICATIONS ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
2. AN APPROVED SET OF PLANS AND SPECIFICATIONS SHALL BE AVAILABLE ON THE JOB SITE AT ALL TIMES AS WELL AS A COPY OF ALL PERMITS AND AGREEMENTS.
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING PERMITS, RENEWAL OF LAPSED PERMITS, AND OBTAINING ANY NEW PERMITS.
4. CONTRACTOR SHALL PROVIDE FOR INSPECTIONS AND TESTING AS REQUIRED BY THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL COORDINATE TESTING AND NOTIFY THE ENGINEER 24 HOURS PRIOR TO TESTS. ALL TESTING IS TO BE CONDUCTED BY A PROPERLY CERTIFIED, INDEPENDENT 3RD PARTY.
5. THE CONTRACTOR SHALL NOTIFY THE CLIENT AND THE ENGINEER AT LEAST 24 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION. CONSTRUCTION CONCEALED WITHOUT THE REQUIRED INSPECTIONS SHALL BE SUBJECT TO EXPOSURE AT THE CONTRACTOR'S EXPENSE.
6. A THOROUGH ATTEMPT HAS BEEN MADE TO SHOW THE LOCATIONS OF ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES IN THE WORK AREA. HOWEVER, THE ENGINEER WILL NOT GUARANTEE UTILITY ELEVATIONS OR LOCATIONS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, AND IF NECESSARY ANY NEEDED UTILITY ADJUSTMENTS. CALL ONE CALL OF COLORADO 811 OR 1-800-922-1987 AT LEAST 48 HOURS BEFORE ANY CONSTRUCTION BEGINS.
7. THE CONTRACTOR SHALL FOLLOW GUIDELINES AND REGULATIONS SET FORTH BY O.S.H.A. SUNRISE ENGINEERING, INC. WILL NOT BE RESPONSIBLE FOR JOB-SITE SAFETY PROCEDURES OR CONDITIONS.
8. THE CONTRACTOR IS RESPONSIBLE FOR HIS OWN TAKEOFF QUANTITIES. QUANTITIES SHOWN HEREON ARE ESTIMATES ONLY AND AS SUCH ARE NOT TO BE USED FOR BID PURPOSES.
9. THE CONTRACTOR IS RESPONSIBLE FOR THE NOTIFICATION OF THE PROPER AUTHORITY (OR AUTHORITIES) IF THERE ARE OBSTRUCTIONS TO PROPOSED IMPROVEMENTS AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY EXISTING ITEM REMOVED TO FACILITATE CONSTRUCTION SHALL BE REPLACED IN THE SAME OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE.
10. THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL ON AND AROUND THE CONSTRUCTION SITE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. ACCESS TO RESIDENTIAL BUILDINGS AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES
11. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING PUBLIC STREETS, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS, AND TAKE WHATEVER MEASURES ARE NECESSARY TO ENSURE THAT ALL ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES. NO WORK WILL BE CONSIDERED COMPLETE UNTIL ALL PAVEMENTS HAVE BEEN SWEEPED CLEAN OF DIRT AND DEBRIS.
12. FOR UNDERGROUND UTILITY WORK, CONTRACTOR SHALL EXPOSE (POT-HOLE) ALL TIE-IN POINTS TO VERIFY LOCATION AND ELEVATION PRIOR TO BEGINNING SUBSTANTIAL CONSTRUCTION ACTIVITIES.
13. THE CONTRACTOR IS RESPONSIBLE FOR THE SURVEYING/CONSTRUCTION STAKING OF ALIGNMENT AND GRADE FOR EACH MAIN AND/OR FACILITY AS SHOWN ON THE PLANS.
14. ANY AMBIGUITIES OR DEFICIENCIES DISCOVERED ON THESE PLANS ARE TO BE RESOLVED BY SUNRISE ENGINEERING OR ITS APPOINTED REPRESENTATIVE. IF ANYONE MODIFIES THESE DRAWINGS OTHER THAN SUNRISE ENGINEERING OR ITS APPOINTED REPRESENTATIVE, HE OR SHE IS SOLELY RESPONSIBLE FOR THOSE MODIFICATIONS.
15. THE CONTRACTOR CERTIFIES THAT THE CONTRACTOR HAS BEEN PROVIDED FULL OPPORTUNITY TO REVIEW THE CONSTRUCTION DOCUMENTS AND FIELD CONDITIONS SO AS TO ENSURE THAT THE CONTRACTOR FULLY UNDERSTANDS THE DESIGN INTENT SHOWN AND THAT ALL ELEMENTS FOR CONSTRUCTION SHOWN THEREON HAVE BEEN INCLUDED IN THE BID. BY SUBMITTING A BID ON THIS WORK THE CONTRACTOR AGREES THAT ALL LABOR AND MATERIAL EXPRESSLY OR IMPLICITLY REQUIRED FOR THE PROJECT, AND ANY ERRORS OR OMISSIONS IN THE CONSTRUCTION DOCUMENTS, HAVE BEEN BROUGHT TO THE ATTENTION OF THE ENGINEER IN A TIMELY MANNER TO ALLOW CORRECTIONS TO THE CONSTRUCTION DOCUMENTS BY WAY OF AN ADDENDUM. THE CONTRACTOR AGREES TO WAIVE ANY CLAIM FOR EXTRA COST OR DELAY RELATED TO ANY ERROR OR OMISSION ON THE CONSTRUCTION DOCUMENTS THAT REASONABLY SHOULD HAVE BEEN OBSERVED PRIOR TO BIDDING OR COMMENCING WORK ON THE PROJECT.

**INTRODUCTION / SCOPE OF WORK**

SUNRISE HAS BEEN CONTRACTED TO PROVIDE ENGINEERING DESIGN SERVICES FOR THE REPLACEMENT OF 1005 FEET VITRIFIED CLAY PIPE (VCP) SEWER LINE ALONG SPRUCE AND JACKSON AVENUE. THE REPLACEMENT WILL INCLUDE THE INSTALLATION OF A NEW 8-INCH PVC SEWER LINE, AND 7 NEW MANHOLES.

**EXISTING CONDITIONS**

THE EXISTING VITRIFIED CLAY PIPE (VCP) SEWER LINE CONSISTS IS IN NEED OF REPLACEMENT. THE REPLACEMENT WILL START ON WASHINGTON AVENUE GO THROUGH ROLLING TERRAIN THEN TURN WEST ON TO JACKSON AVENUE, THEN HEAD NORTH ON SOUTH SPRUCE STREET.

**SANITARY SEWER DESIGN REQUIREMENTS**

DESIGN REQUIREMENTS WERE BASED ON CDPHE REQUIREMENTS AND BEST MANAGEMENT PRACTICES.

- MANHOLE SPACING: MAX 400 FT
- MINIMUM SLOPE: .005 FT/FT
- MAXIMUM UNANCHORED SLOPE: 20%
- MINIMUM COVER: 48 INCHES
- MAX MANHOLE DEPTH: 15 FT

**SANITARY SEWER DESIGN PROCESS AND EQUATIONS**

1. EACH TYPE OF BUILDING WAS CONVERTED INTO A SINGLE FAMILY EQUIVALENT UNIT (SFE)
2. THE POPULATION WAS MULTIPLIED BY THE AVERAGE DAILY DEMAND PER PERSON TO PROVIDE AN ESTIMATE OF AVERAGE DAILY DEMAND (DEMAND = 75 \* POPULATION)
3. THE PIPES WERE SIZED USING MANNING'S EQUATION
  - 3.1. THE PIPES WERE SIZED USING THE FOLLOWING CRITERIA:
    - 3.1.1. MANNING'S COEFFICIENT n = 0.013
    - 3.1.2. d/D = 0.8

PEAK HOUR FACTOR (PHF) = 1.78  
AVERAGE DAILY DEMAND = 75 GALLONS PER CAPITA PER DAY (gpcd)

- 3.2. THE PIPES SIZES WERE CHECKED FOR COMPLIANCE WITH CDPHE REGULATIONS USING THE FOLLOWING CRITERIA:
  - 3.2.1. MINIMUM SERVICE LINE OF 4" DIAMETER
  - 3.2.2. MINIMUM MAIN LINE OF 8" DIAMETER
  - 3.2.1. MANNING'S COEFFICIENT n = 0.013
  - 3.2.2. d/D = 0.8
  - 3.2.3. MAX DAILY DEMAND = 1.78 \* 100 gpcd = 178 gpcd
  - 3.2.4. CDPHE REQUIREMENTS FOR FLOW VELOCITY > 2 ft/s

3.3.  $Q = \frac{1}{4} * A * R^{2/3} * S^{1/2}$

**GENERAL REQUIREMENTS**

1. PROJECT MEETING WITH AFFECTED RESIDENTS PRIOR TO CONSTRUCTION
2. PRESSURE TEST NEW SEWER LINE PRIOR TO RECONNECTING SERVICE LINES

**RECLAMATION AND REVEGETATION**

THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ANY DISTURBED AREAS TO CONDITIONS EQUAL TO OR SUPERIOR THAN WHAT WAS EXISTING PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REPAIR OR REPLACE ALL DISTURBED FENCES, UTILITIES, LANDSCAPING, OR STRUCTURES TO CONDITIONS AS GOOD AS OR BETTER THAN EXISTING.

WHILE TRENCHING, THE CONTRACTOR SHALL MAKE ALL REASONABLE EFFORT TO SEPARATE ONE FOOT (1') OF TOPSOIL AND STOCKPILE IT SEPARATE FROM THE TRENCH SPOILS. WHEN BACKFILLING, THE STOCKPILED TOPSOIL SHALL BE REPLACED ON TOP OF THE TRENCH.

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**GENERAL NOTES**

SET NO. S08494	DESIGNED TJS	DRAWN DDB	CHECKED TJS	SHEET NO. 3 of 13	<b>GN</b>
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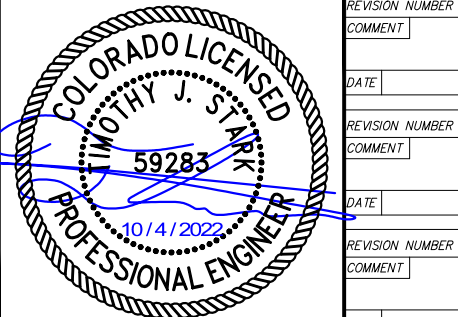



## LEGEND

## ABBREVIATIONS

EXISTING	PROPOSED	OTHER
EXISTING CONCRETE	PROPOSED CONCRETE	----- HIGH WATERLINE
EXISTING PAVEMENT	PROPOSED PAVEMENT	----- LOT LINE
--- irr --- EXISTING IRRIGATION LINE	--- X"IRR --- EXISTING IRRIGATION LINE	----- RIGHT-OF-WAY
--- x"s --- EXISTING SEWER LINE	--- X"S --- PROPOSED SEWER LINE	----- ROADWAY CENTERLINE
--- x"sd --- EXISTING STORM DRAIN	--- X"SD --- PROPOSED STORM DRAIN	----- SECTION LINE
--- x"w --- EXISTING WATER LINE	--- X"W --- PROPOSED WATER LINE	----- SETBACK LINE
--- ohe --- EXISTING OVERHEAD ELECTRIC	--- OHE --- PROPOSED OVERHEAD ELECTRIC	POINT OF VERTICAL INTERSECTION
--- uge --- EXISTING UNDERGROUND ELECTRIC	--- UGE --- PROPOSED UNDERGROUND ELECTRIC	PLAN, SECTION, OR DETAIL LABEL
--- c --- EXISTING CABLE (TV) LINE	--- C --- PROPOSED CABLE (TV) LINE	DRAWING TITLE/SHEET NUMBER
--- fo --- EXISTING FIBER OPTIC LINE	--- FO --- PROPOSED FIBER OPTIC LINE	BASIN ULTIMATE OUTFALL LOCATION AND DIRECTION
--- t --- EXISTING UNDERGROUND TELEPHONE	--- T --- PROPOSED UNDERGROUND TELEPHONE	GRADE BREAK, HIGH/LOW POINTS
--- g --- EXISTING GAS LINE	--- X"G --- PROPOSED GAS LINE	FLOW DIRECTION
--- x-x --- EXISTING BARBED WIRE FENCE	--- X-X --- PROPOSED BARBED WIRE FENCE	
----- EXISTING EASEMENT	----- PROPOSED EASEMENT	
----- EXISTING FLOWLINE	----- PROPOSED FLOWLINE	
----- EXISTING PROPERTY LINE	----- PROPOSED PROPERTY LINE	
X 1443.08 EXISTING SPOT ELEVATION	X 1443.08 PROPOSED SPOT ELEVATION	
-----1440----- EXISTING CONTOUR	-----1440----- PROPOSED CONTOUR	
EXISTING CAP MONUMENT	PROPOSED CAP MONUMENT	
EXISTING SIGN	PROPOSED SIGN	
EXISTING IRRIGATION MANHOLE	PROPOSED IRRIGATION MANHOLE	
EXISTING IRRIGATION VALVE	PROPOSED IRRIGATION VALVE	
EXISTING DRYWELL	PROPOSED DRYWELL	
EXISTING SEWER CLEANOUT	PROPOSED SEWER CLEANOUT	
EXISTING SEWER MANHOLE	PROPOSED SEWER MANHOLE	
EXISTING CATCH BASIN	PROPOSED CATCH BASIN	
EXISTING STORM DRAIN MANHOLE	PROPOSED STORM DRAIN MANHOLE	
EXISTING STORM DRAIN STRUCTURE	PROPOSED STORM DRAIN STRUCTURE	
EXISTING AIR VAC	PROPOSED AIR VAC	
EXISTING FIRE HYDRANT	PROPOSED FIRE HYDRANT	
EXISTING UNKNOWN MANHOLE	PROPOSED FITTINGS	
EXISTING GATE VALVE	PROPOSED GATE VALVE	
EXISTING REDUCER	PROPOSED REDUCER	
EXISTING WATER MANHOLE (OR WELL)	PROPOSED WATER MANHOLE (OR WELL)	
EXISTING WATER METER	PROPOSED WATER METER	
EXISTING CABLE MANHOLE	PROPOSED CABLE MANHOLE	
EXISTING ELECTRIC MANHOLE	PROPOSED ELECTRIC MANHOLE	
EXISTING GUY WIRE	PROPOSED GUY WIRE	
EXISTING LIGHT POLE	PROPOSED LIGHT POLE	
EXISTING POWER POLE	PROPOSED POWER POLE	
EXISTING TELEPHONE MANHOLE	PROPOSED TELEPHONE MANHOLE	
EXISTING GAS MANHOLE	PROPOSED GAS MANHOLE	
EXISTING GAS METER	PROPOSED GAS METER	
EXISTING GAS RISER	PROPOSED GAS RISER	
EXISTING GAS VALVE	PROPOSED GAS VALVE	
EXISTING VEGETATION	PROPOSED VEGETATION	

ABC	AGGREGATE BASE COURSE
AC	ASPHALT CONCRETE
BC	BACK OF CURB
BCF	BRASS CAP FLUSH
BCHH	BRASS CAP IN HAND HOLE
BCR	BEGIN CURB RETURN
BM	BENCHMARK
BTM	BOTTOM
CB	CATCH BASIN
C/L	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
CONC	(TOP OF) CONCRETE
CONST	CONSTRUCTION
CTR	CENTER
CY	CUBIC YARD
D/W	DRIVEWAY
DWG	DRAWING
DTL	DETAIL
E	EAST
ECR	END CURB RETURN
EG	EXISTING GROUND (ELEVATION)
ELEV	(PROPOSED) ELEVATION
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
EX, EXIST	EXISTING
FC	FACE OF CURB
FES	FLARED END SECTION
FF	FINISHED FLOOR (ELEVATION)
FG	FINISHED GRADE (ELEVATION)
FH	FIRE HYDRANT
FL	FLANGE, FLOW LINE (ELEVATION)
FND	FOUND
FO	FIBER OPTIC
FPS	FEET PER SECOND
FT	FOOT, FEET
G	GAS, GUTTER, GRADE
GB	GRADE BREAK
GPM	GALLONS PER MINUTE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
HW	HIGHWATER
IN.	INCH, INCHES
INV	INVERT
IRR, IRRIG	IRRIGATION
L	LENGTH
LF	LINEAR FEET
LT	LEFT
MH	MANHOLE
MJ	MECHANICAL JOINT
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO.	NUMBER
OHE	OVERHEAD ELECTRIC
OPNG	OPENING
P/L	PROPERTY LINE
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE
PCC	PORTLAND CEMENT CONCRETE
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
R/W	RIGHT-OF-WAY
RGRCP	RUBBER GASKETED REINFORCED CONCRETE PIPE
RJ	RESTRAINED JOINT
RT	RIGHT
S	SEWER, SLOPE, SOUTH
SDMH	STORM DRAIN MANHOLE
SF	SQUARE FEET
SSMH	SANITARY SEWER MANHOLE
STA	STATION
STD	STANDARD
SWK	SIDEWALK
SY	SQUARE YARD
TAN	TANGENT
TBC	TOP BACK OF CURB (ELEVATION)
T, TEL	TELEPHONE
TL	TRUE LENGTH
TTC	TOP TOE OF CURB (ELEVATION)
TYP	TYPICAL
UGE	UNDERGROUND ELECTRIC
UPRR	UNION PACIFIC RAILROAD
VNAE	VEHICLE NON-ACCESS EASEMENT
Vr	VOLUME REQUIRED
Vp	VOLUME PROVIDED
W	WATER, WEST, WITH
XFMR	TRANSFORMER





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TOWN OF HAYDEN

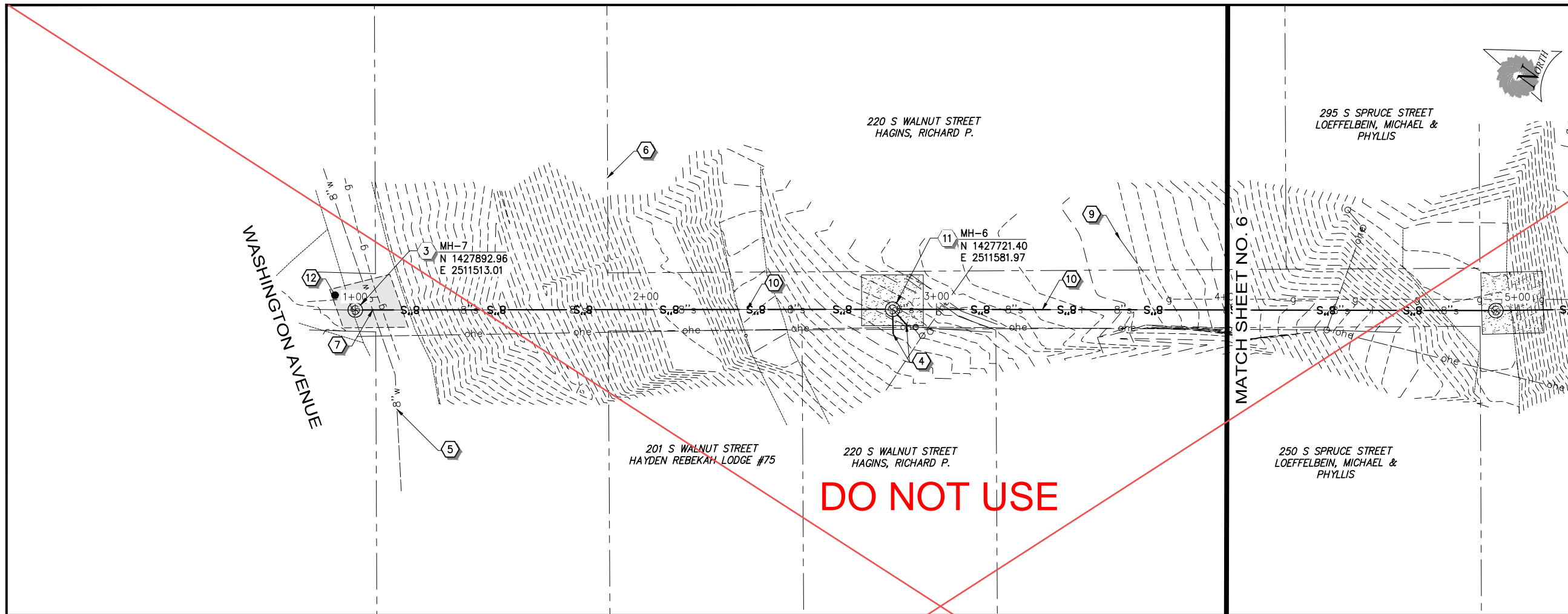
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LEGEND AND ABBREVIATIONS

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S08494	TJS	DBB	TJS	4 of 13	

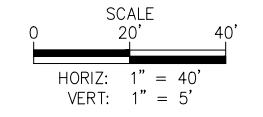
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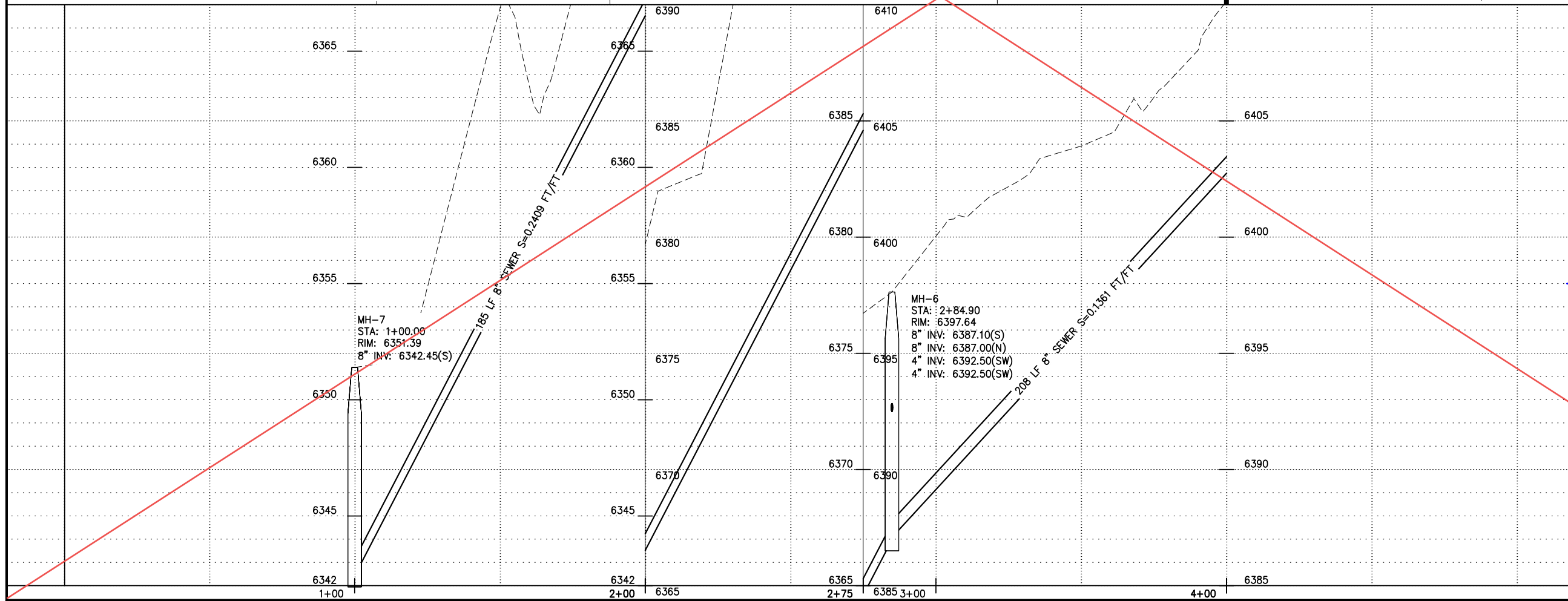


**CONSTRUCTION NOTES**

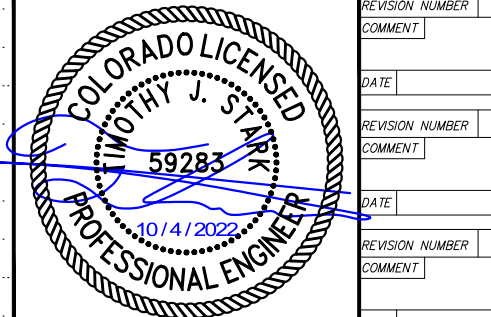
- 1 INSTALL 8" SDR 35 PIPE BY OPEN TRENCH WITH ANCHORING (E DT2)
- 2 INSTALL 8" SDR 35 PIPE BY OPEN TRENCH
- 3 INSTALL 4' PRECAST MANHOLE (B DT1)
- 4 EXISTING SEWER SERVICE LINE (D DT1)
- 5 EXISTING WATER LINE
- 6 PROPERTY LINE
- 7 SEWER-WATER CROSSING (A DT1)
- 8 FIBER OPTIC CABLE
- 9 EXISTING GAS LINE
- 10 INSTALL 8" IPS DR17, HDPE, OR C905 DR25 FUSIBLE PVC
- 11 INSTALL 5' DROP MANHOLE (F DT3)
- 12 PAVEMENT PATCH
- 13 CONCRETE PATCH



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REVISION NUMBER	COMMENT

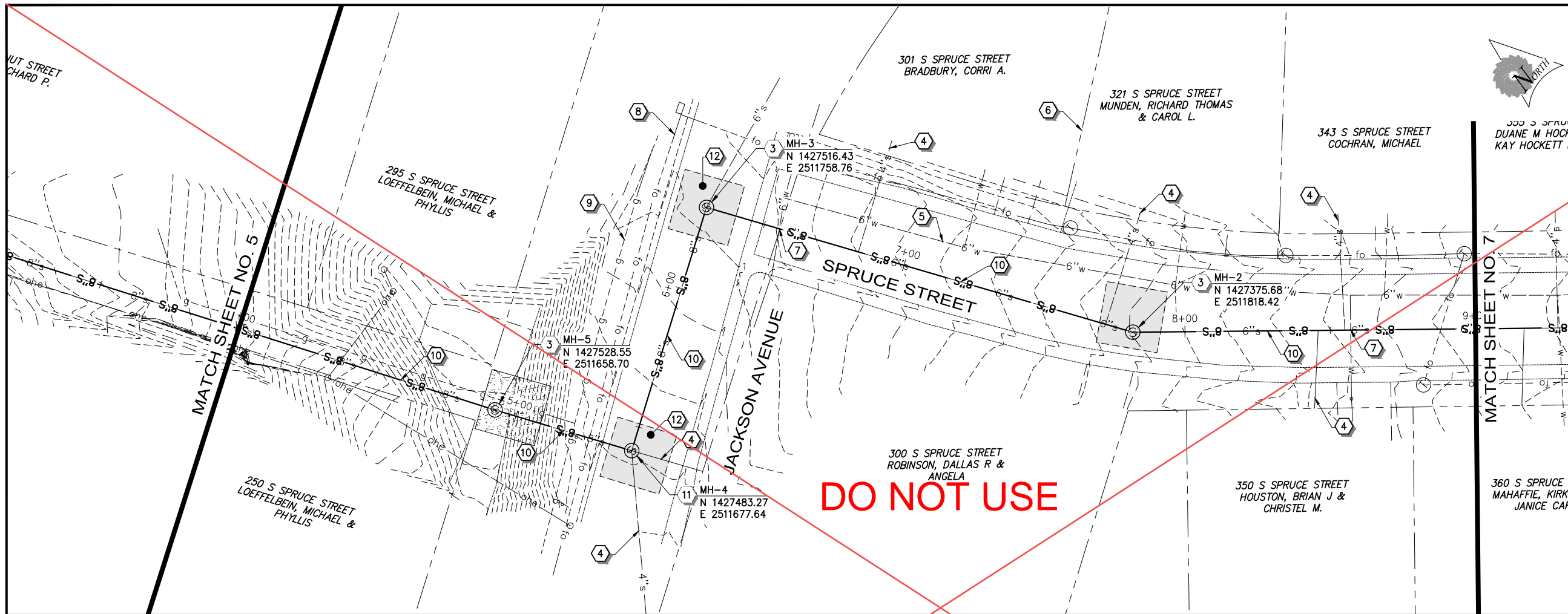


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PIPE BURST SEWER PLAN AND PROFILE

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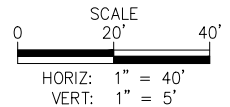
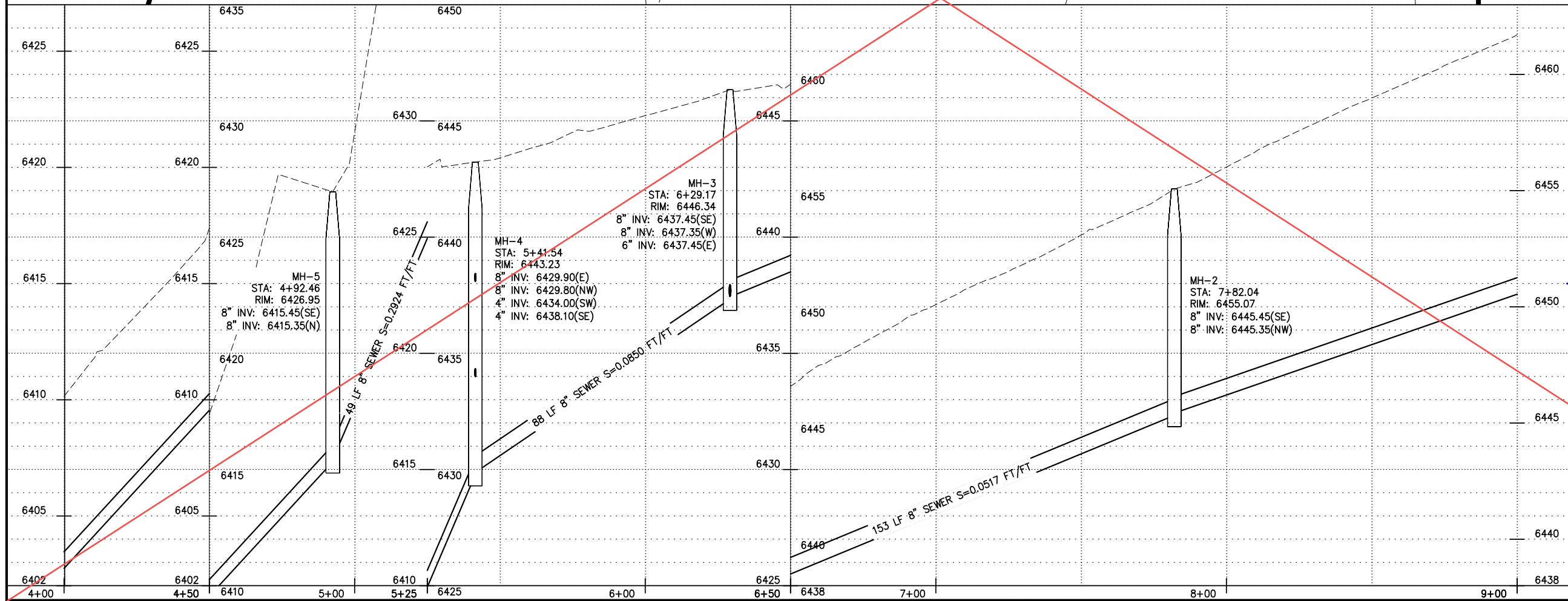


**CONSTRUCTION NOTES**

- 1 INSTALL 8" SDR 35 PIPE BY OPEN TRENCH WITH ANCHORING (E DT2)
- 2 INSTALL 8" SDR 35 PIPE BY OPEN TRENCH (B DT1)
- 3 INSTALL 4' PRECAST MANHOLE (D DT1)
- 4 EXISTING SEWER SERVICE LINE (A DT1)
- 5 EXISTING WATER LINE (F DT3)
- 6 PROPERTY LINE
- 7 SEWER-WATER CROSSING
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- 9 EXISTING GAS LINE
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- 12 PAVEMENT PATCH
- 13 CONCRETE PATCH



**DO NOT USE**



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**PROFESSIONAL ENGINEER**

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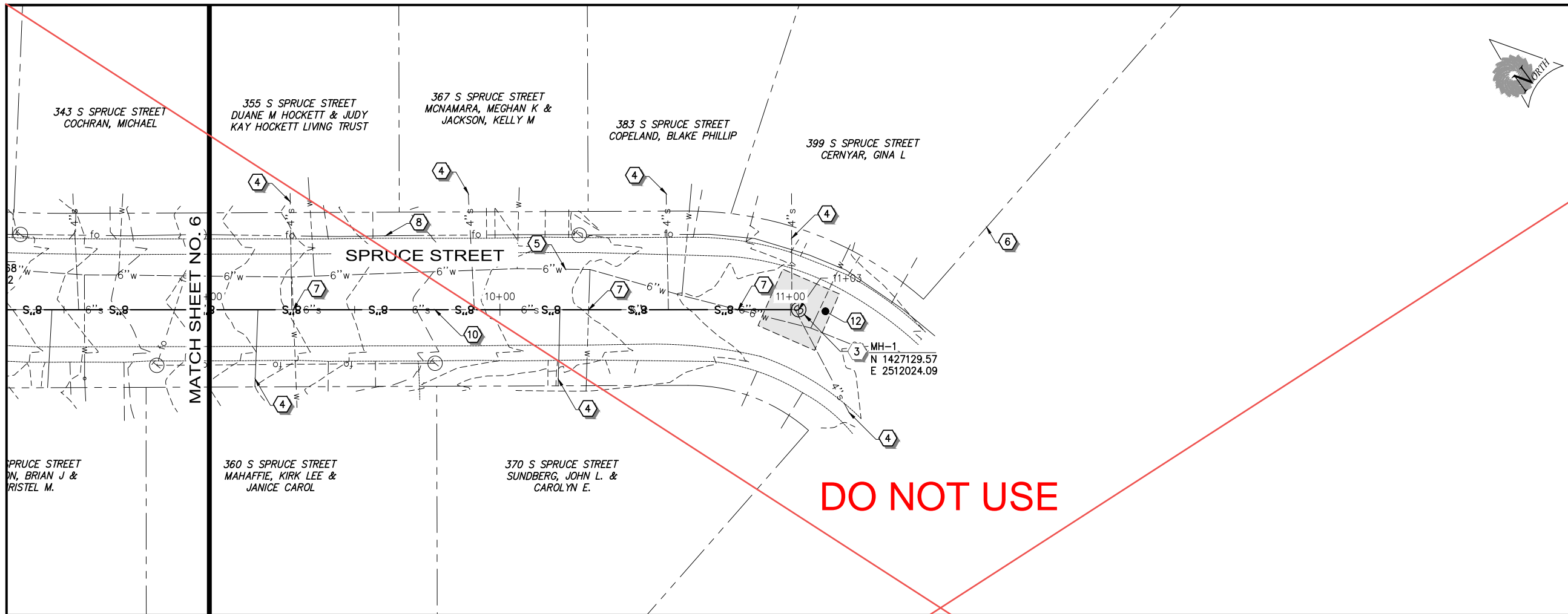
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TOWN OF HAYDEN  
 HOSPITAL HILL VCP REPLACEMENT 2023  
 PIPE BURST SEWER PLAN AND PROFILE

DESIGNED	DRAWN	CHECKED	SHEET NO.	SPP02.1
TJS	DBB	TJS	6 of 13	

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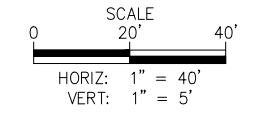


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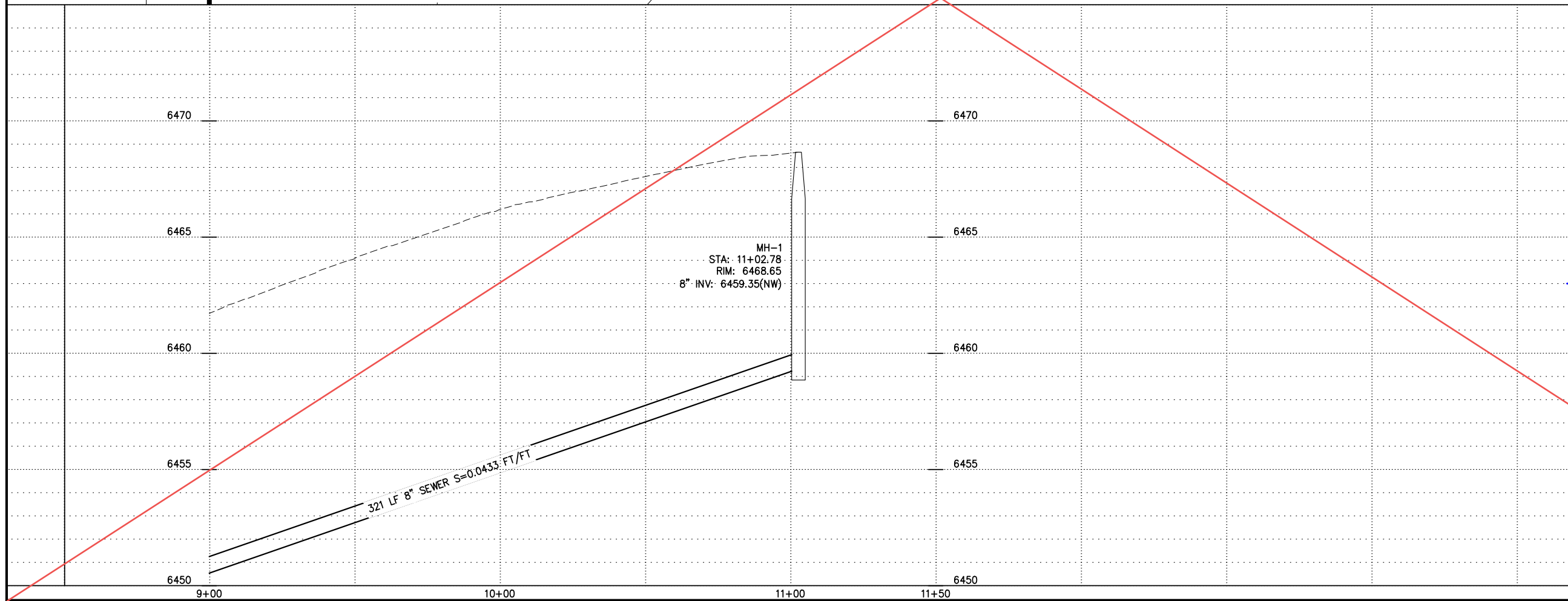


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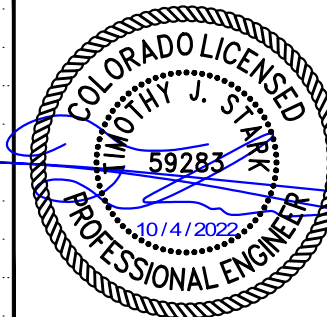


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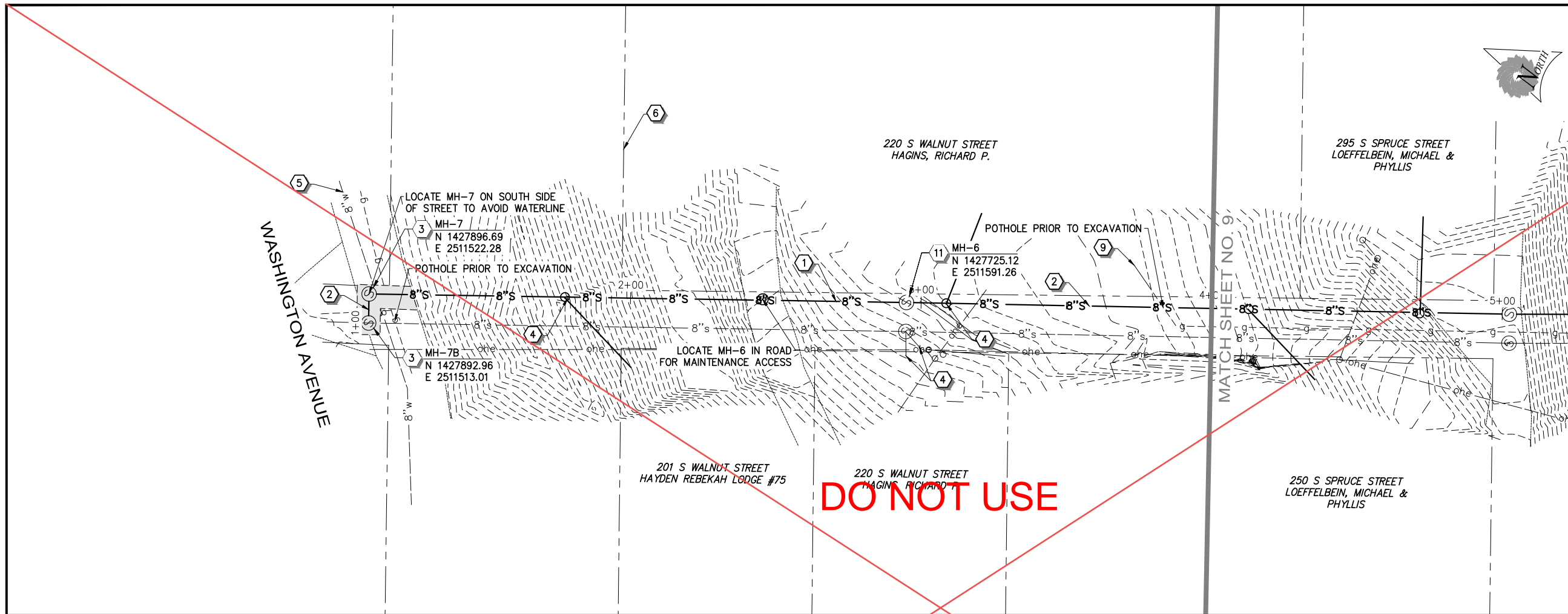
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TOWN OF HAYDEN  
HOSPITAL HILL VCP REPLACEMENT 2023  
PIPE BURST SEWER PLAN AND PROFILE

SEI NO. S08494	DESIGNED TJS	DRAWN DDB	CHECKED TJS	SHEET NO. 7 of 13	SPP03.1
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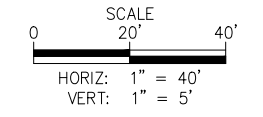
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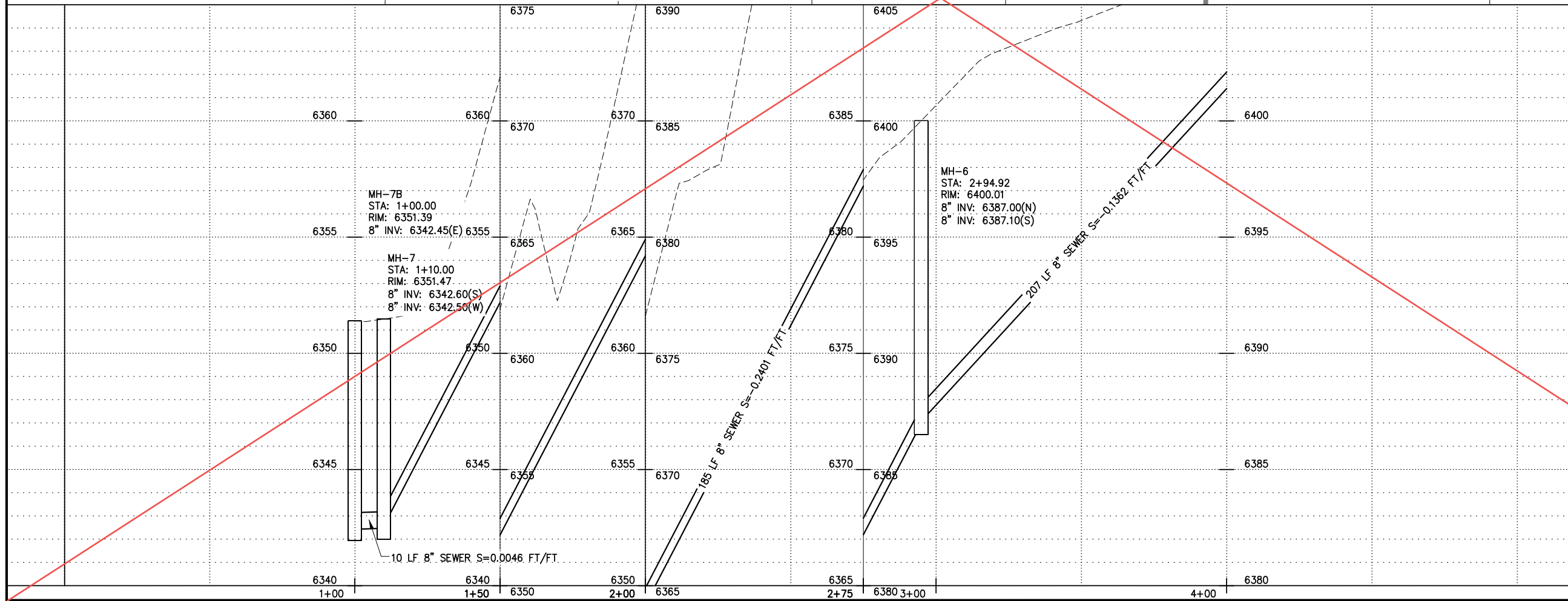
**CONSTRUCTION NOTES**

- 1 INSTALL 8" SDR 35 PIPE BY OPEN TRENCH WITH ANCHORING (E DT2)
- 2 INSTALL 8" SDR 35 PIPE BY OPEN TRENCH (E DT2)
- 3 INSTALL 4' PRECAST MANHOLE (B DT1)
- 4 EXISTING SEWER SERVICE LINE (D DT1)
- 5 EXISTING WATER LINE (E DT2)
- 6 PROPERTY LINE (E DT2)
- 7 SEWER-WATER CROSSING (A DT1)
- 8 FIBER OPTIC CABLE (E DT2)
- 9 EXISTING GAS LINE (E DT2)
- 10 INSTALL 8" IPS DR17, HDPE, OR C905 DR25 FUSIBLE PVC (E DT2)
- 11 INSTALL 5' DROP MANHOLE (F DT3)
- 12 PAVEMENT PATCH (E DT2)
- 13 CONCRETE PATCH (E DT2)

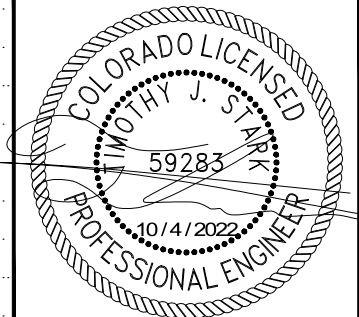
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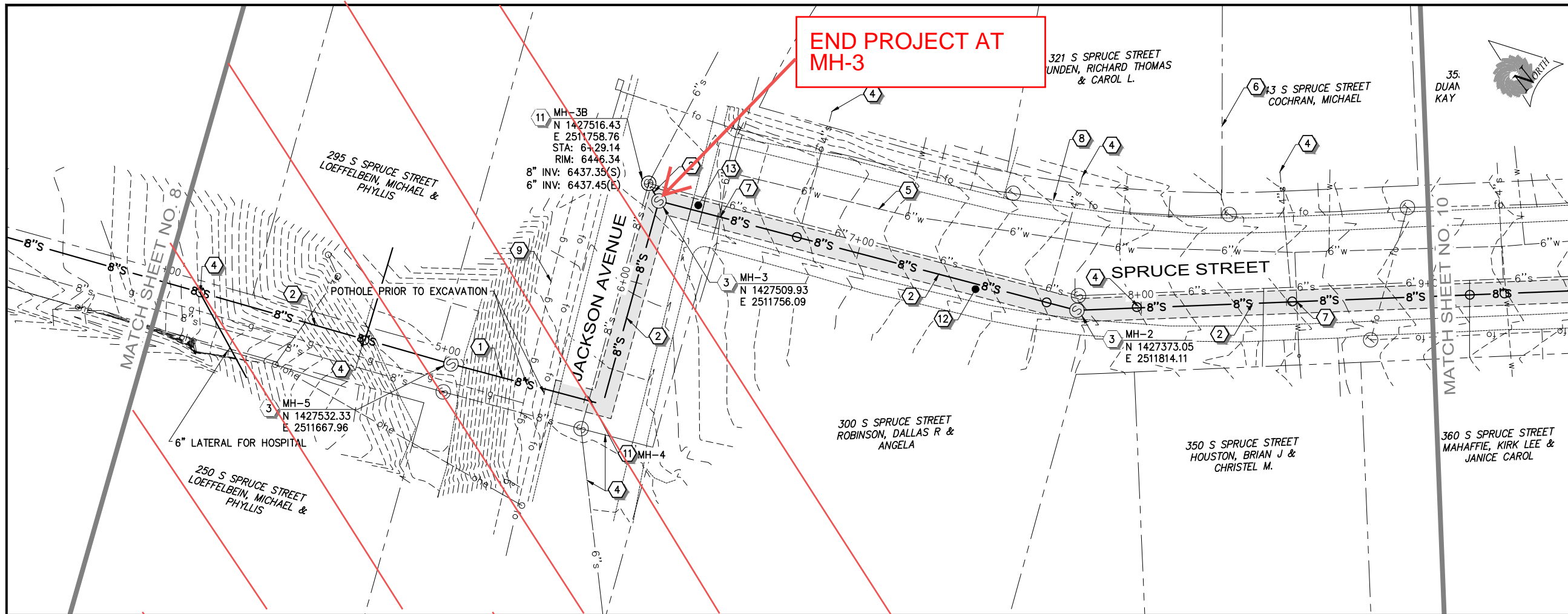
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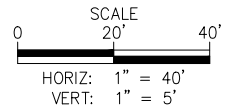
**OPEN TRENCH SEWER PLAN AND PROFILE**

DESIGNED	DRAWN	CHECKED	SHEET NO.	SPP01.2
TJS	DBB	TJS	8 of 13	

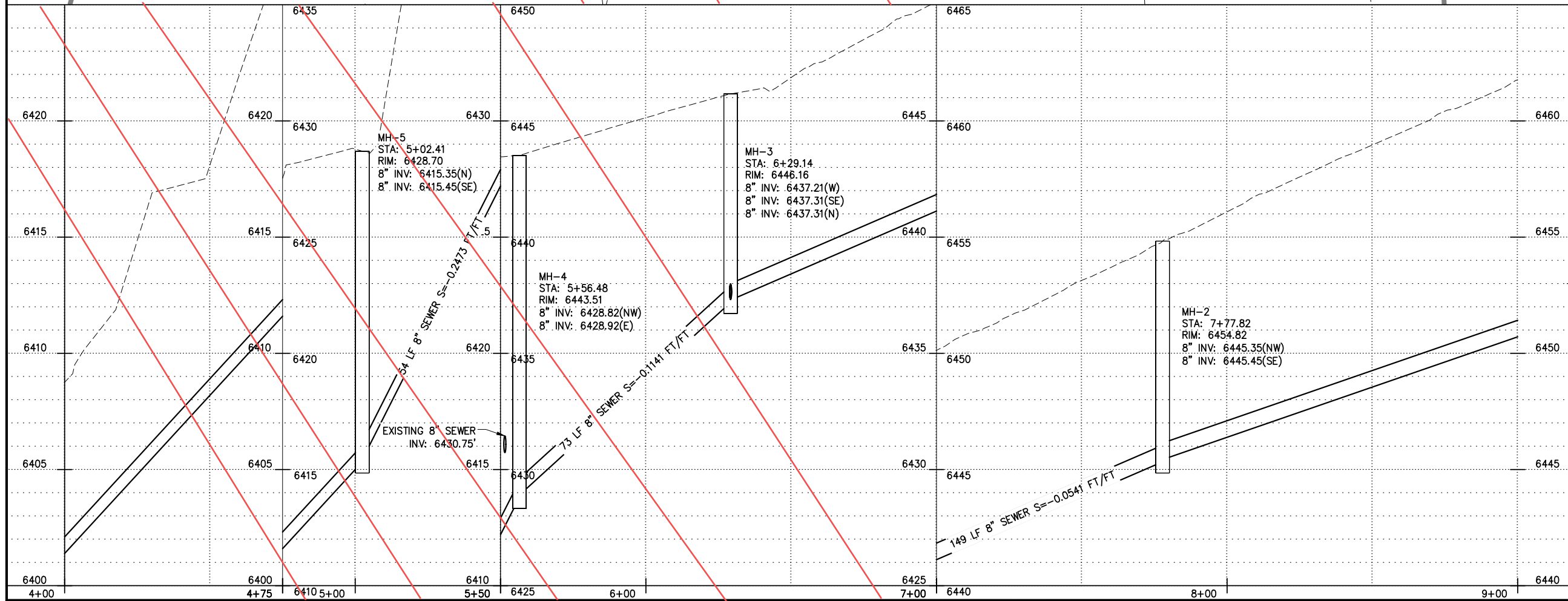




- CONSTRUCTION NOTES**
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  - 11 INSTALL 5' DROP MANHOLE
  - 12 PAVEMENT PATCH
  - 13 CONCRETE PATCH



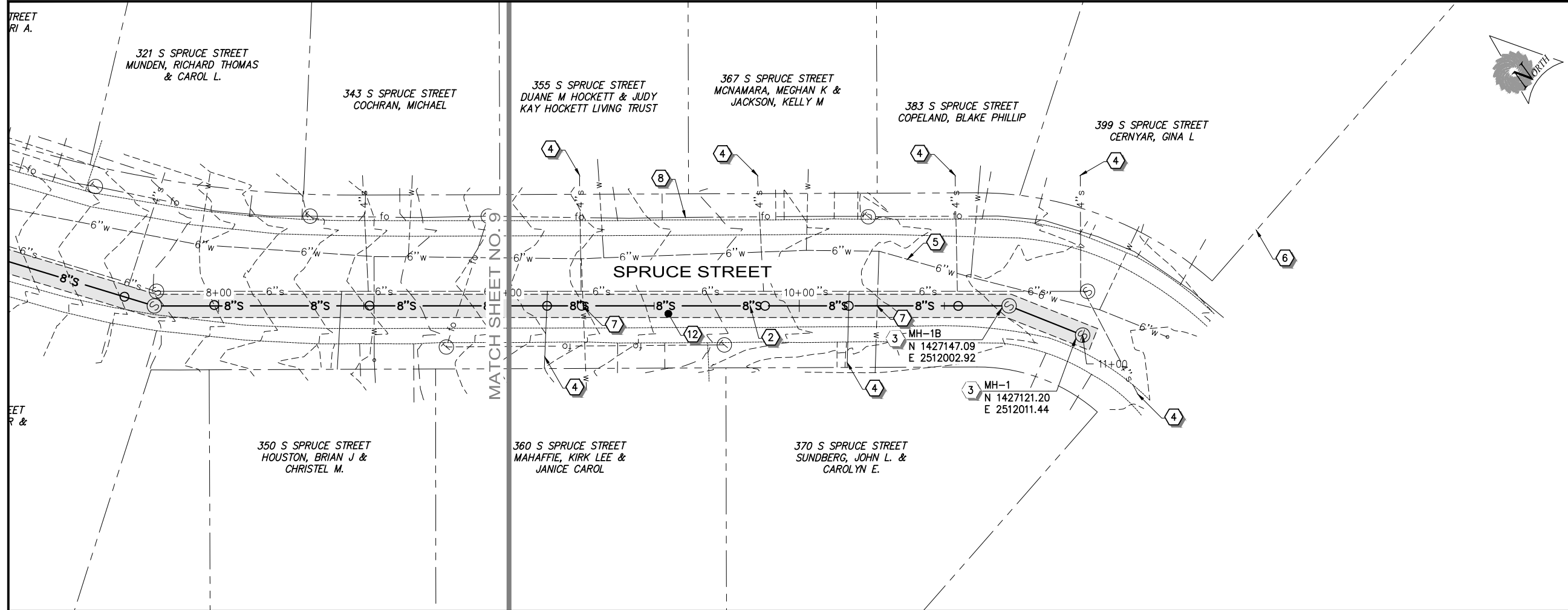
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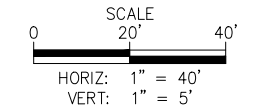
**COLORADO LICENSED**  
MOTHY J. STARK  
59283  
10/4/2022  
**PROFESSIONAL ENGINEER**

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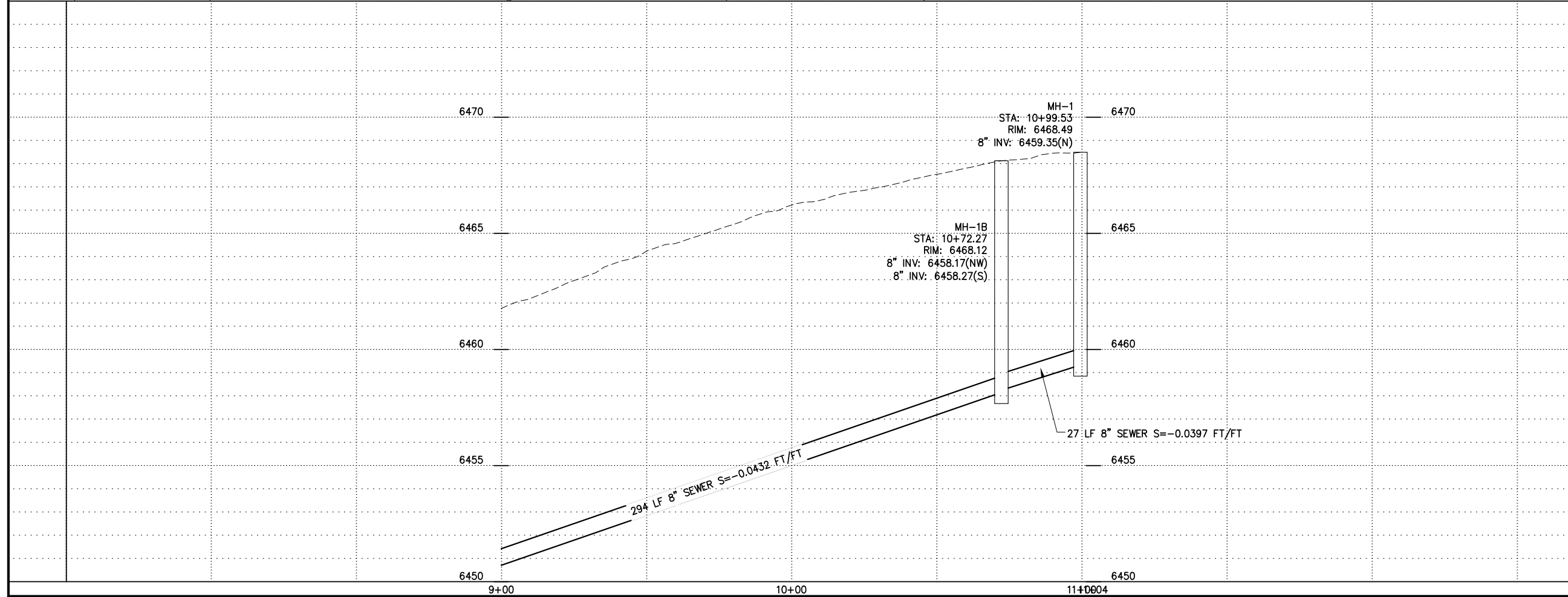


**CONSTRUCTION NOTES**

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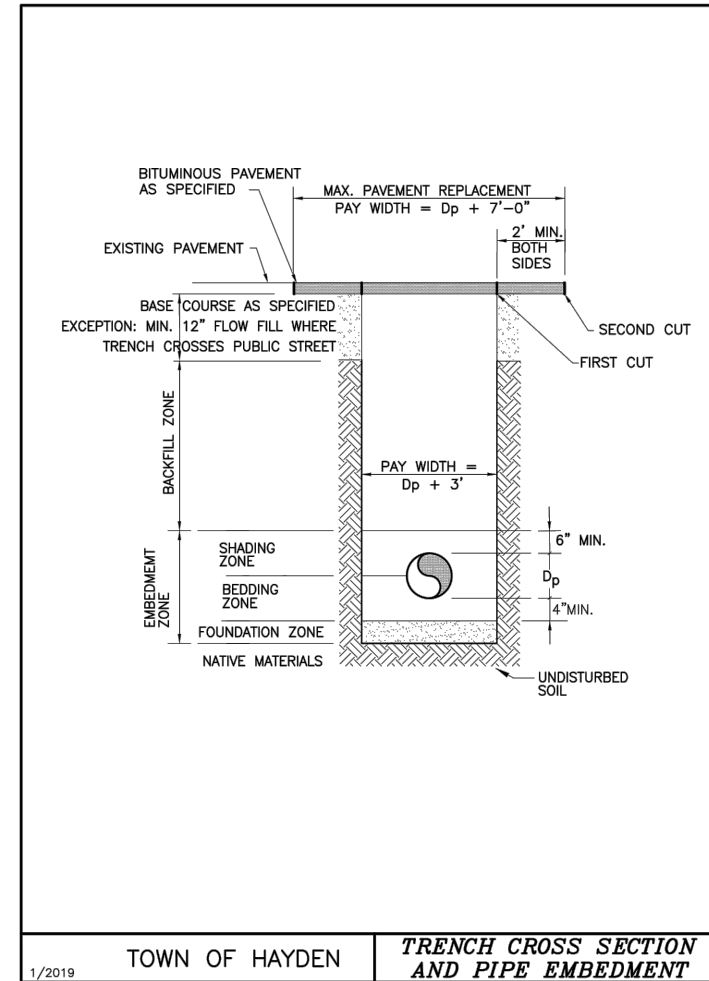
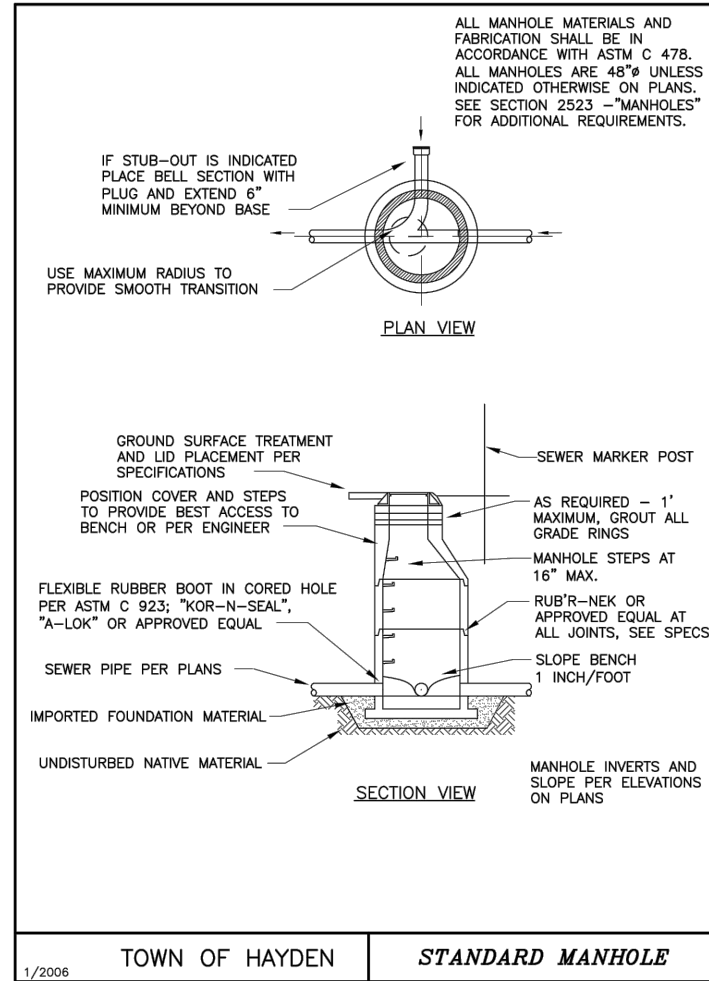
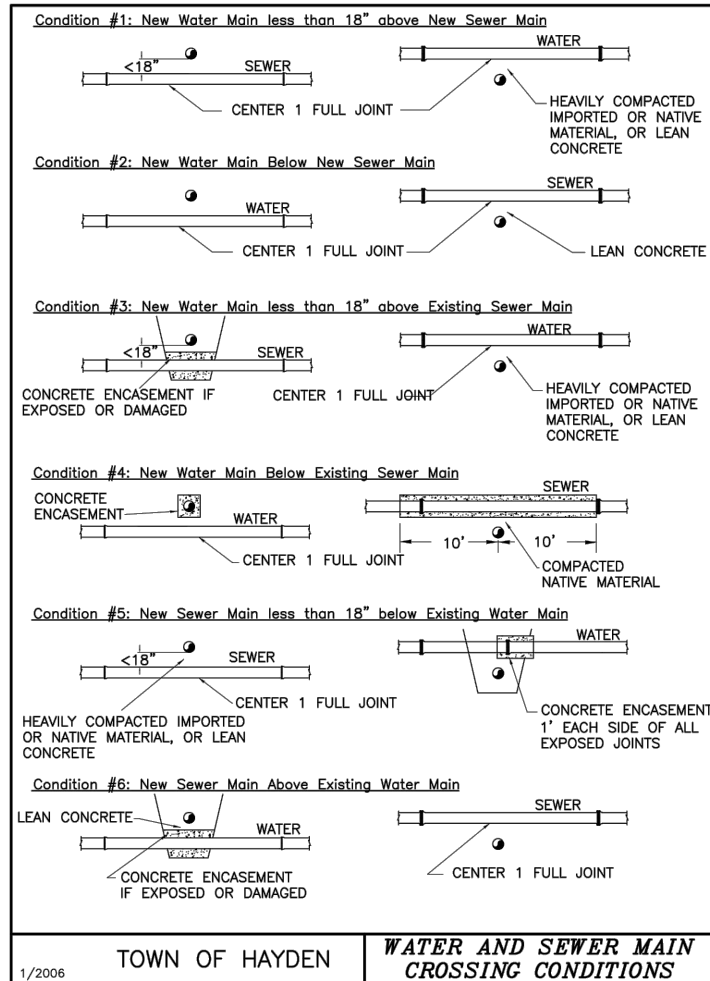
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OPEN TRENCH SEWER PLAN AND PROFILE

SEI NO.	DESIGNED	DRAWN	CHECKED	SHEET NO.
S08494	TJS	DBB	TJS	10 of 13

**SPP03.2**

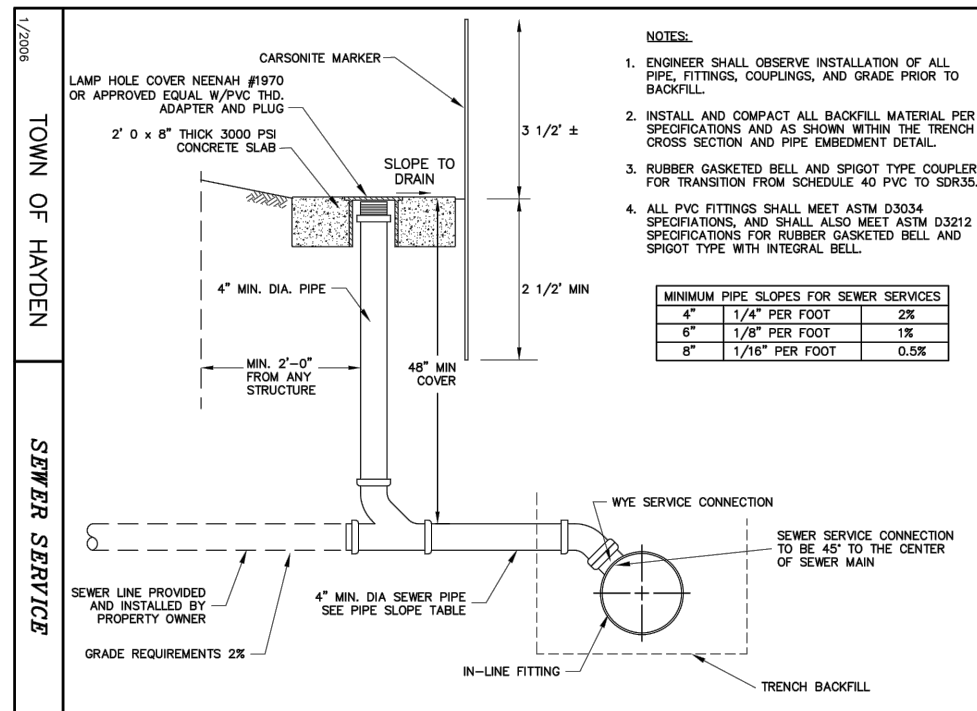
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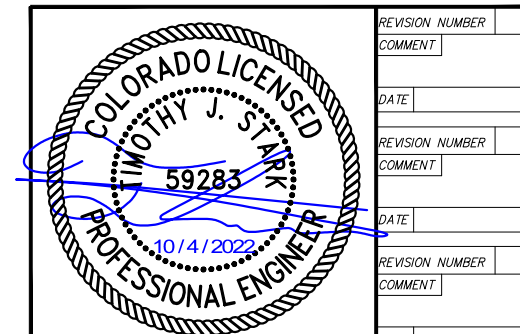
**A** WATER AND SEWER MAIN CROSSING CONDITIONS  
~ NOT TO SCALE

**B** STANDARD MANHOLE  
~ NOT TO SCALE

**C** TRENCH CROSS SECTION AND PIPE EMBEDMENT  
~ NOT TO SCALE



**D** SEWER SERVICE  
~ NOT TO SCALE



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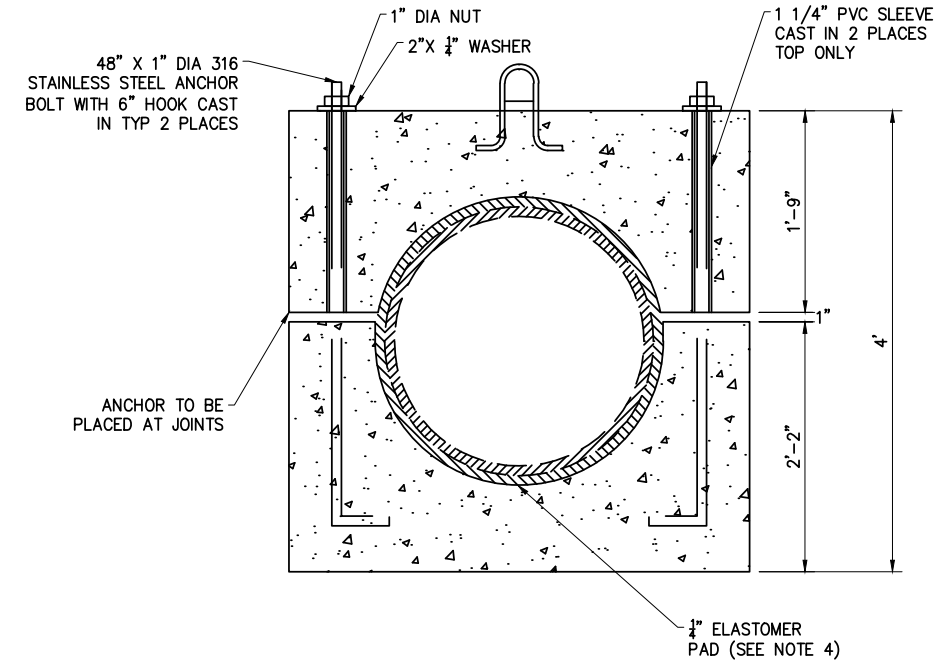
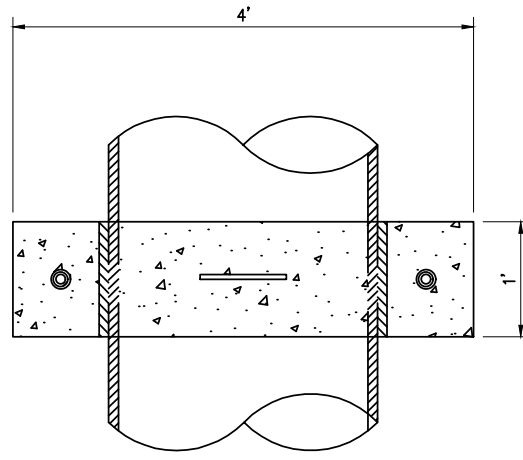
TOWN OF HAYDEN  
HOSPITAL HILL VCP REPLACEMENT 2023

SEWER DETAILS

SEI NO. S08494	DESIGNED TJS	DRAWN DDB	CHECKED TJS	SHEET NO. 11 of 13	DT1
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**PIPE ANCHOR NOTES**

1. CONCRETE F'C=4,000 PSI @ 28 DAYS MINIMUM. TYPE III PORTLAND CEMENT, 5% TO 8% ENTRAINED AIR, WATER/CEMENT RATIO NOT TO EXCEED 0.44
2. STAINLESS STEEL REINFORCEMENT CONFORMS TO LATEST ASTM SPECIFICATION ASTM A-615 GRADE 60 BLACK DEFORMED BARS 3" MINIMUM COVER.
3. ANCHOR BOLTS, NUTS, AND WASHERS ARE 316 STAINLESS STEEL OR GALVANIZED.
4. SUPPLIED WITH 2 PIECES COMMERCIAL GRADE NEOPRENE RUBBER (PER SIDE) 1,000 PSI TENSILE STRENGTH, BLACK, SHORE A50 DUROMETER HARDNESS.

**E PIPE ANCHORING**  
 NOT TO SCALE

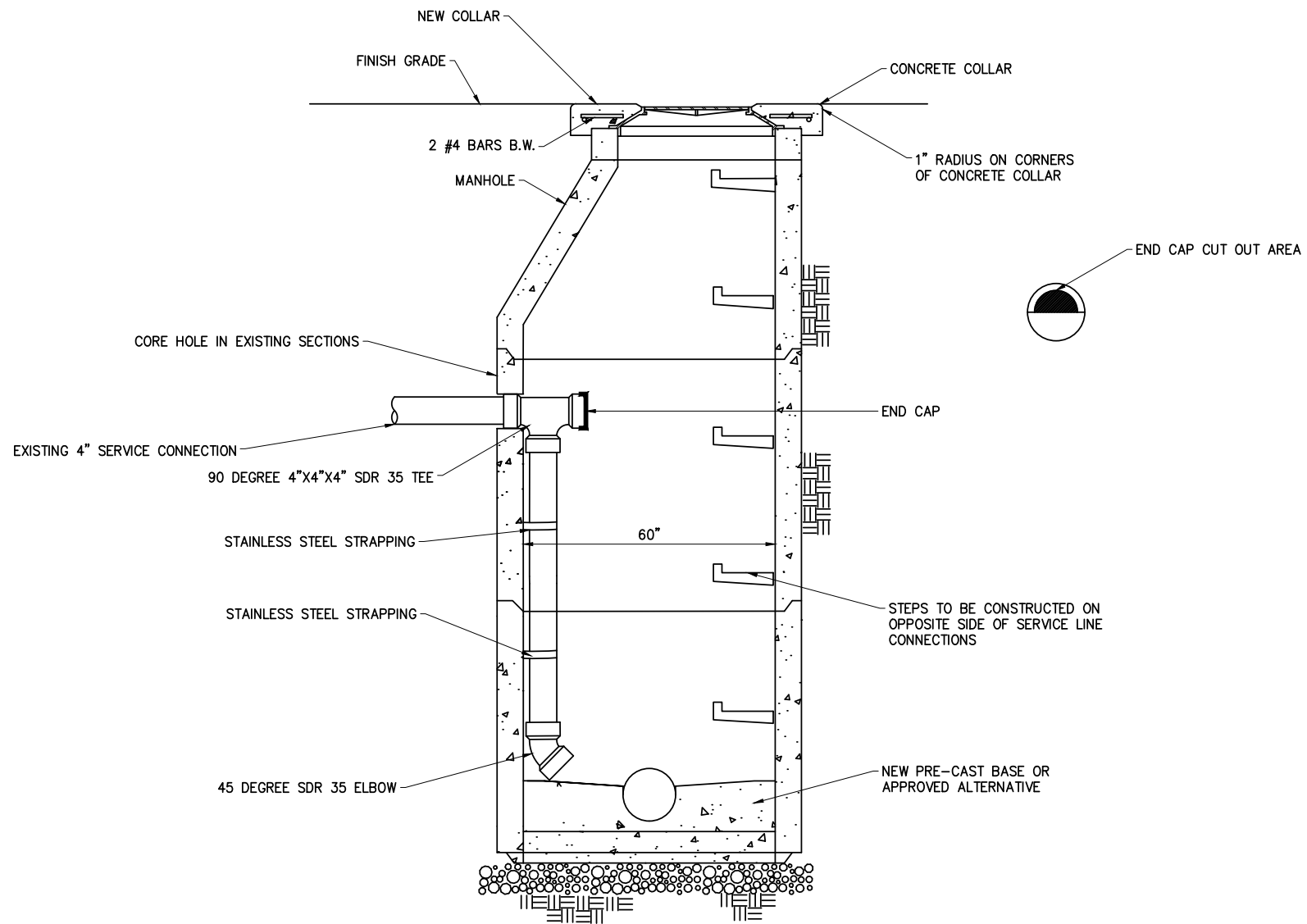
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SEI NO. S08494	DESIGNED TJS	DRAWN DDB	CHECKED TJS	SHEET NO. 12 of 13	<b>DT2</b>
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**CONSTRUCTION NOTES:**

1. ALL MANHOLE FLOW LINES SHALL BE CONSTRUCTED TO PROVIDE SMOOTH FLOW-THROUGH CHARACTERISTIC.
2. ALL CONCRETE PIPES (24" OR LESS IN DIA.) CONNECTED TO MANHOLES SHALL HAVE A BELL AND SPIGOT JOINT LOCATED WITHIN 24" OF THE OUTSIDE WALL OF STRUCTURE. THIS PROTRUDING PORTION OF PIPE SHALL BE SUPPORTED WITH CONCRETE UP TO, BUT NOT INCLUDING THE JOINT.
3. ALL SURFACES (AGAINST WHICH CONCRETE OR GROUT IS TO BE PLACED) SHALL FIRST BE COATED WITH AN EPOXY BONDING AGENT SUCH AS SONNO BOND (SONNE BORN CO.) PROBOND EPOXY ET-150 (PROTEX INDUSTRIES CO.) OR EQUAL.
4. JOINTS, ETC., THAT MUST BE GROUTED, SHALL BE "DRY PACKED" WITH A NON-SHRINKING, NON-METALLIC, TYPE GROUT SUCH AS THORITE (STANDARD DRY WALL PRODUCTS INC.) OR EQUAL.
5. ALL BROKEN PIPE FACES TO BE SMOOTHED OFF WITH GROUT.
6. FLOW LINE OF OUTLET PIPE SHALL BE 0.10 FT. BELOW FLOW LINE OF SAME SIZE INLET PIPE. IF PIPE IS INSTALLED THROUGH MANHOLE WITHOUT ANY JOINTS, PIPES CAN BE INSTALLED AT AT DESIGN GRADE.
7. MATCH TOP OF PIPES WHEN THE INLET IS SMALLER IN DIAMETER THAN THE OUTLET OR AS DIRECTED BY THE TOWN ENGINEER.
8. IF NEW PIPE IS CONCRETE, A SUPPORT BLOCK IS REQUIRED TO THE NEXT JOINT PAST THE CONCRETE BONDED JOINT.
9. GRADE RING HEIGHT SHALL NOT EXCEED 8".

**F** INTERNAL 5 FOOT DROP MANHOLE  
~ NOT TO SCALE

	REVISION NUMBER
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REVISION NUMBER	
COMMENT	
DATE	



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SEWER DETAILS

SET NO. S08494	DESIGNED TJS	DRAWN DDB	CHECKED TJS	SHEET NO. 13 of 13	<b>DT3</b>
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