

HORIZONTAL CONTROL
MODIFIED COORDINATE SYSTEM - SEE SHEETS IN DRAWINGS

VERTICAL DATUM
NAVD88

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PROJECT CONTACTS:

OWNER/DEVELOPER
D.R. HORTON
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ENGELWOOD, CO 80112
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EMAIL: RHILLEN@DRHORTON.COM AND
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APPLICANT
HR GREEN
5613 DTC PARKWAY | SUITE 950
GREENWOOD VILLAGE, CO 80111
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CIVIL ENGINEER
HR GREEN
5613 DTC PARKWAY | SUITE 950
GREENWOOD VILLAGE, CO 80111
TELE: (720) 602-4999
ATTN: GREGORY PANZA P.E.
EMAIL: GPANZA@HRGREEN.COM

GEOTECHNICAL ENGINEER
COMPANY: CTL | THOMPSON
ADDRESS: 5170 MARK DABLING BLVD
COLORADO SPRINGS, CO 80918
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EMAIL: COLORADOSPRINGS@CTLTHOMPSON.COM

TRAFFIC ENGINEER
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2504 EAST PIKES PEAK AVENUE, SUITE 304
COLORADO SPRINGS, CO 80909
TELE: 8719) 693-2888
ATTN: JEFFREY C. HODSON, P.E.
EMAIL: LSC@LSCTRANS.COM

SURVEYOR
EDWARD-JAMES SURVEYING, INC.
926 ELKTON DRIVE
COLORADO SPRINGS, CO 80907
TELE: (719) 576-1216
ATTN: JONATHAN W. TESSIN
EMAIL: JTessin@EJSURVEYING.COM

UTILITY CONTACTS

WATER
GRANDVIEW RESERVE METROPOLITAN DISTRICT
1272 KELLY JOHNSON BLVD. SUITE 100
COLORADO SPRINGS, CO 80921
TELE: (719) 499-8416
ATTN: PAUL HOWARD
EMAIL: PAULINFINITY1@MSN.COM

WASTEWATER / WATER
WOODMEN HILLS METRO DISTRICT
8046 EASTONVILLE ROAD
FALCON, CO 80831
TELE: (719) 495-2500
CONTACT: CODY RITTER
EMAIL: CODY@WHMD.ORG

ELECTRIC / FIBER
MOUNTAIN VIEW ELECTRIC ASSOCIATION
11140 E. WOODMEN RD.
FALCON, CO 80831
TELE: (800) 388-9881
ATTN: GINA PERRY
EMAIL: GINA.P@MVEA.COOP

NATURAL GAS
BLACK HILLS ENERGY
198 COUNTY LINE RD.
PALMER LAKE, CO 80133
TELE: (719) 332-5856
ATTN: BOB SWATEK
EMAIL: BOB.SWATEK@BLACKHILLSCORP.COM

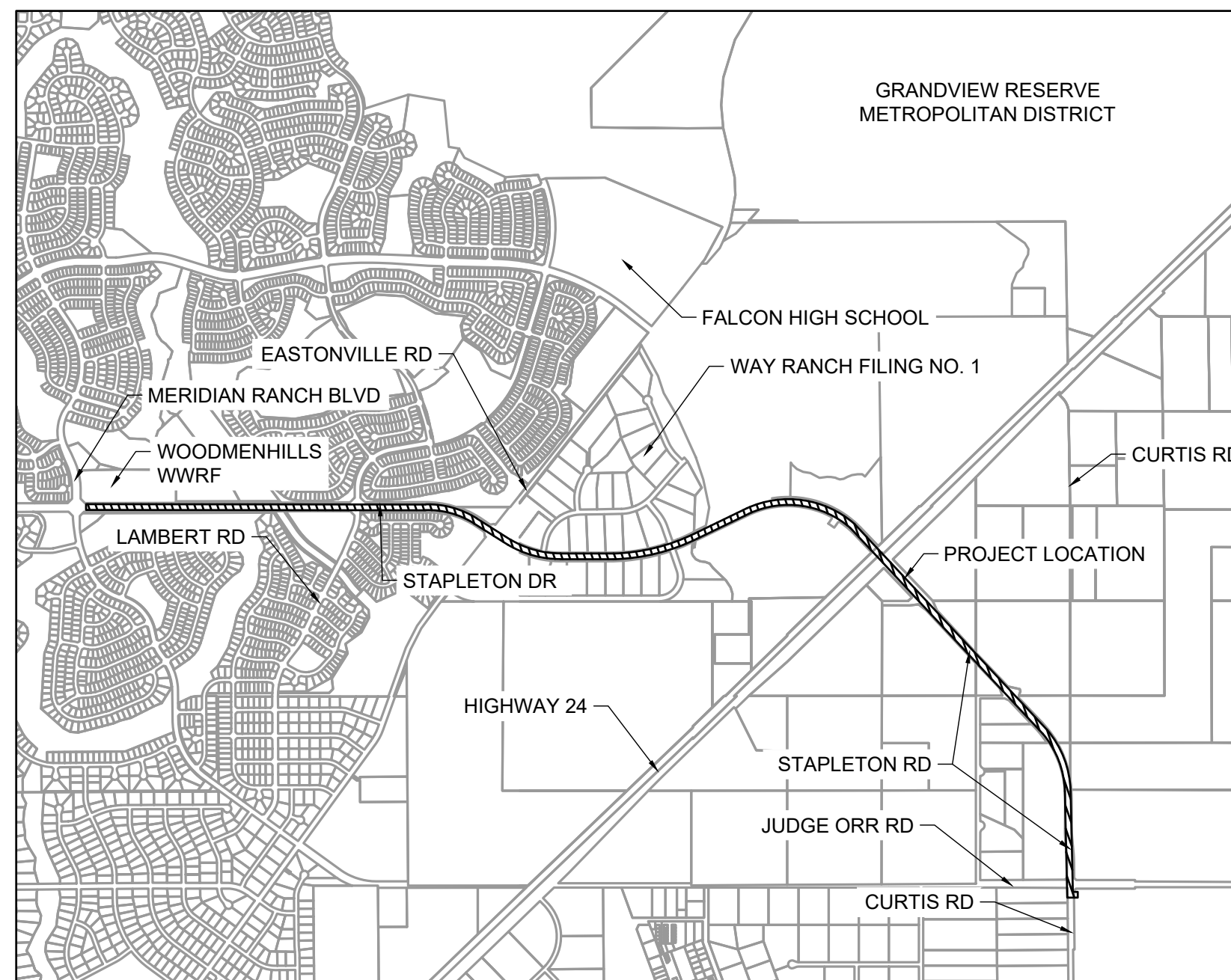
FIRE
FALCON FIRE PROTECTION DISTRICT
7030 OLD MERIDIAN RD.
FALCON, CO 80831
TELE: (719) 495-4050
ATTN: TRENT HARWIG
EMAIL: THARWIG@FALCONFIREPD.ORG

COMMUNICATIONS
CENTURY LINK
ZAYO
USWEST

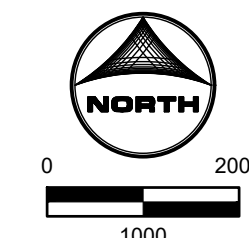
GRANDVIEW RESERVE DUAL FORCE MAINS CONSTRUCTION DOCUMENTS

AND EROSION CONTROL PLANS
COUNTY OF EL PASO, STATE OF COLORADO

LOCATION MAP



VICINITY MAP
1"=2000'



1975 RESEARCH PARKWAY, SUITE 230 | COLORADO SPRINGS, CO 80920
Phone: 719.300.4140 | Toll Free: 800.728.7805 | Fax: 713.965.0044 | HRGreen.com

EL PASO COUNTY:

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

JENNIFER IRVINE, P.E. _____ DATE _____
COUNTY ENGINEER / ECM ADMINISTRATOR

ENGINEER'S STATEMENT (FOR GEC PLAN WITHIN CONSTRUCTION DRAWING SET):

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

GREG PANZA, P.E. #37081 _____ DATE _____
FOR AND ON BEHALF OF HR GREEN, INC.

OWNER'S STATEMENT (FOR GEC PLAN WITHIN CONSTRUCTION DRAWING SET):

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN AND ALL OF THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATION

OWNER'S SIGNATURE _____ DATE _____

ENGINEERS STATEMENT:

THE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE STATE OF COLORADO.

GREG PANZA, P.E. #37081 _____ DATE _____
FOR AND ON BEHALF OF HR GREEN, INC. _____ DATE _____

SEWER MAIN EXTENSIONS:

ANY CHANGES OR ALTERATIONS AFFECTING THE GRADE, ALIGNMENT, ELEVATIONS AND/OR DEPTH OF COVER OF ANY WATER OR SEWER MAINS OR OTHER APPURTENANCE SHOWN ON THIS DRAWING SHALL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR ALL OPERATIONAL DAMAGES AND DEFECTS IN INSTALLATION AND MATERIAL FOR MAINS AND SERVICES FROM THE DATE OF APPROVAL UNTIL FINAL ACCEPTANCE IS ISSUED.

SIGNED _____ DATE _____

PRINT NAME _____

DBA _____

ADDRESS _____

DISTRICT APPROVALS:

THE WOODMEN HILLS METROPOLITAN DISTRICT RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN AND HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.

WOODMEN HILLS METROPOLITAN DISTRICT
WASTEWATER DESIGN APPROVAL:

DATE: _____ BY: _____

PROJECT NO. _____

IN CASE OF ERRORS OR OMISSIONS WITH THE WATER DESIGN AS SHOWN ON THIS DOCUMENT THE STANDARDS AS DEFINED IN THE RULES AND REGULATIONS FOR INSTALLATION OF WASTEWATER MAINS AND SERVICES SHALL RULE

APPROVAL EXPIRES 180 DAYS FROM DESIGN APPROVAL.

PCD # _____

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COLORADO SPRINGS CO 80920
PHONE: 719.300.4140
FAX: 713.965.0044

GRANDVIEW RESERVE M.D. -
DUAL FORCE MAINS
D.R. HORTON
EL PASO COUNTY, CO

CONSTRUCTION DOCUMENTS
COVER SHEET

SHEET
G000

LEGEND

	EXISTING	PROPOSED			
MATCH LINE					
PHASE LINE					
SECTION LINE					
PROPERTY LINE					
EASEMENT LINE					
RIGHT OF WAY					
CENTERLINE					
CHAIN LINK FENCE					
WOODEN FENCE					
ROD IRON FENCE					
GUARDRAIL					
CABLE TV					
U.G. ELECTRIC					
OVERHEAD ELECTRIC					
FIBER OPTIC					
GAS MAIN					
SANITARY SEWER					
STORM DRAIN					
TELEPHONE					
WATER MAIN					
SWALE					
TRAIL					
CURB & GUTTER					
DRAINAGE BASIN					
INDEX CONTOUR					
INTER. CONTOUR					
100-YR FLOODPLAIN					
FLOODWAY					
EDGE OF WETLANDS					
	EXISTING	PROPOSED			
DRAINAGE					
DRAINAGE BASIN					
BASIN TAG					
DESIGN POINT					
ASPHALT					
GRAVEL					
100 YR FLOOD					

STORM SEWER		
MANHOLE		
STORM INLET		
FLARED END SECTION		
RIPRAP		
SANITARY SEWER		
CLEAN OUT		
MANHOLE		
PLUG		
WATER		
FIRE HYDRANT		
FIRE DEPT. CONNECTION		
GATE VALVE		
MANHOLE		
METER		
TEE		
REDUCER		
DRY UTILITIES		
ELECTRIC METER		
ELECTRIC PEDESTAL		
ELECTRICAL CABINET		
ELECTRIC VAULT		
FIBER OPTIC PULL BOX		
FIBER OPTIC MANHOLE		
FIBER OPTIC PEDESTAL		
FIBER OPTIC SIGN		
FIBER OPTIC VAULT		
GAS METER		
GAS SIGN		
GAS VAULT		
TELEPHONE CABINET		
TELEPHONE MANHOLE		
TELEPHONE SIGNAL/MAST		
TELEPHONE SIGN		
TELEPHONE PEDESTAL		
TRANSFORMER		
LIGHT POLE		
FIBER OPTIC VAULT		
MISCELLANEOUS		
SIGN		
BOLLARD		
ACCESSIBLE PARKING		

C-1

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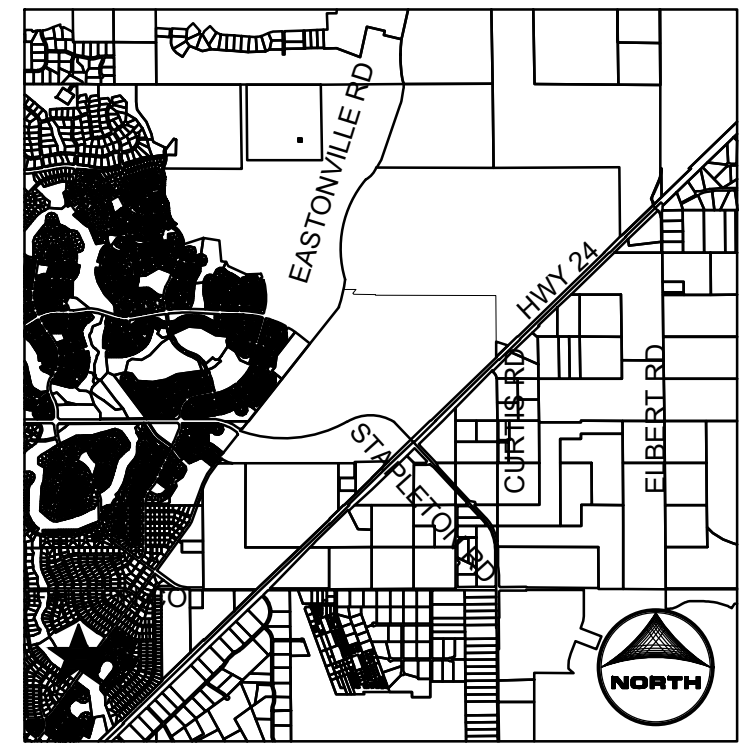
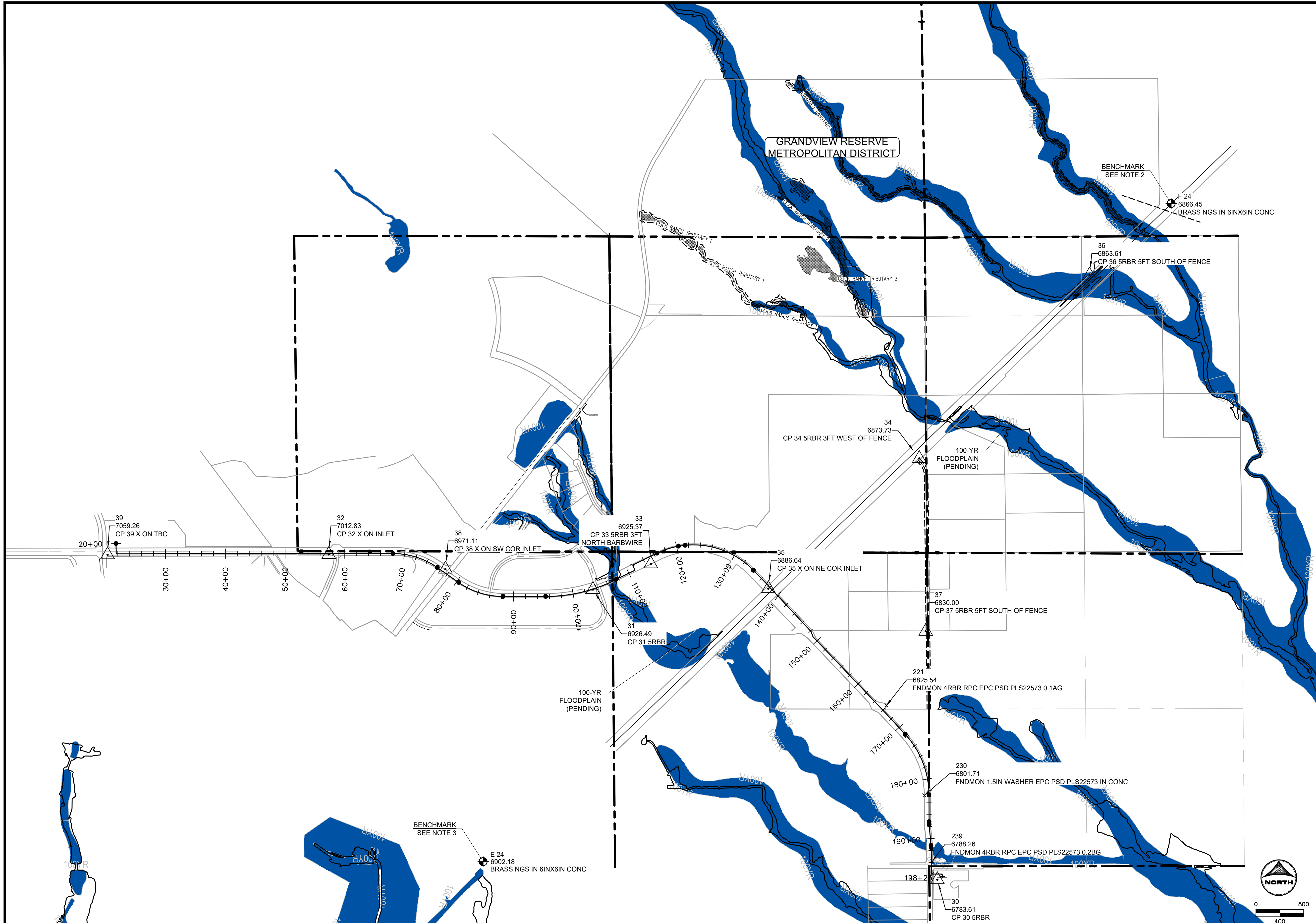
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 D.R. HORTON
 EL PASO COUNTY, CO

D-R HORTON
America's Builder

CONSTRUCTION DOCUMENTS
 LEGEND

SHEET
 G002



- PROJECT LEGEND:**
- PROPERTY LINE
 - SECTION LINE
 - BENCHMARK
 - CONTROL POINTS
 - FOUND MONUMENTS
 - 100 YR FLOOD PLAIN

- NOTES:**
1. BASIS OF BEARINGS: THE EAST LINE OF SECTION 21, BEING MONUMENTED AT THE SOUTHEAST CORNER BY A 3-1/4" ALUMINUM SURVEYOR'S CAP STAMPED "PS INC PLS 30087 1996", BEING APPROPRIATELY MARKED, AND BEING MONUMENTED AT THE NORTHEAST CORNER BY A 3-1/4" ALUMINUM SURVEYOR'S CAP STAMPED "PS INC PLS 30087 1996", BEING APPROPRIATELY MARKED, BEING ASSUMED TO BEAR NORTH 00 DEGREES 52 MINUTES 26 SECONDS WEST, A DISTANCE OF 5290.17 FEET.
 2. BENCHMARK: DESIGNATION = F 24
PID = JK0240
DESCRIPTION = DISK ON TOP OF CONCRETE MONUMENT
CONTROL POINT COORDINATE SYSTEM: NAVD88
NORTHING: 1421049.58
EASTING: 3273631.70
ELEVATION: 6866.33
 3. BENCHMARK: DESIGNATION = E 24
PID = JK0239
DESCRIPTION = DISK ON TOP OF CONCRETE MONUMENT
CONTROL POINT COORDINATE SYSTEM: NAVD88
NORTHING: 1410031.47
EASTING: 3262112.16
ELEVATION: 6902.18

811 UNCC
CALL BEFORE YOU DIG
811
OR
1-800-922-1987
Utility Notification
Center of Colorado

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 EL PASO COUNTY, CO

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CONSTRUCTION DOCUMENTS
 SURVEY CONTROL PLAN

SHEET
G003

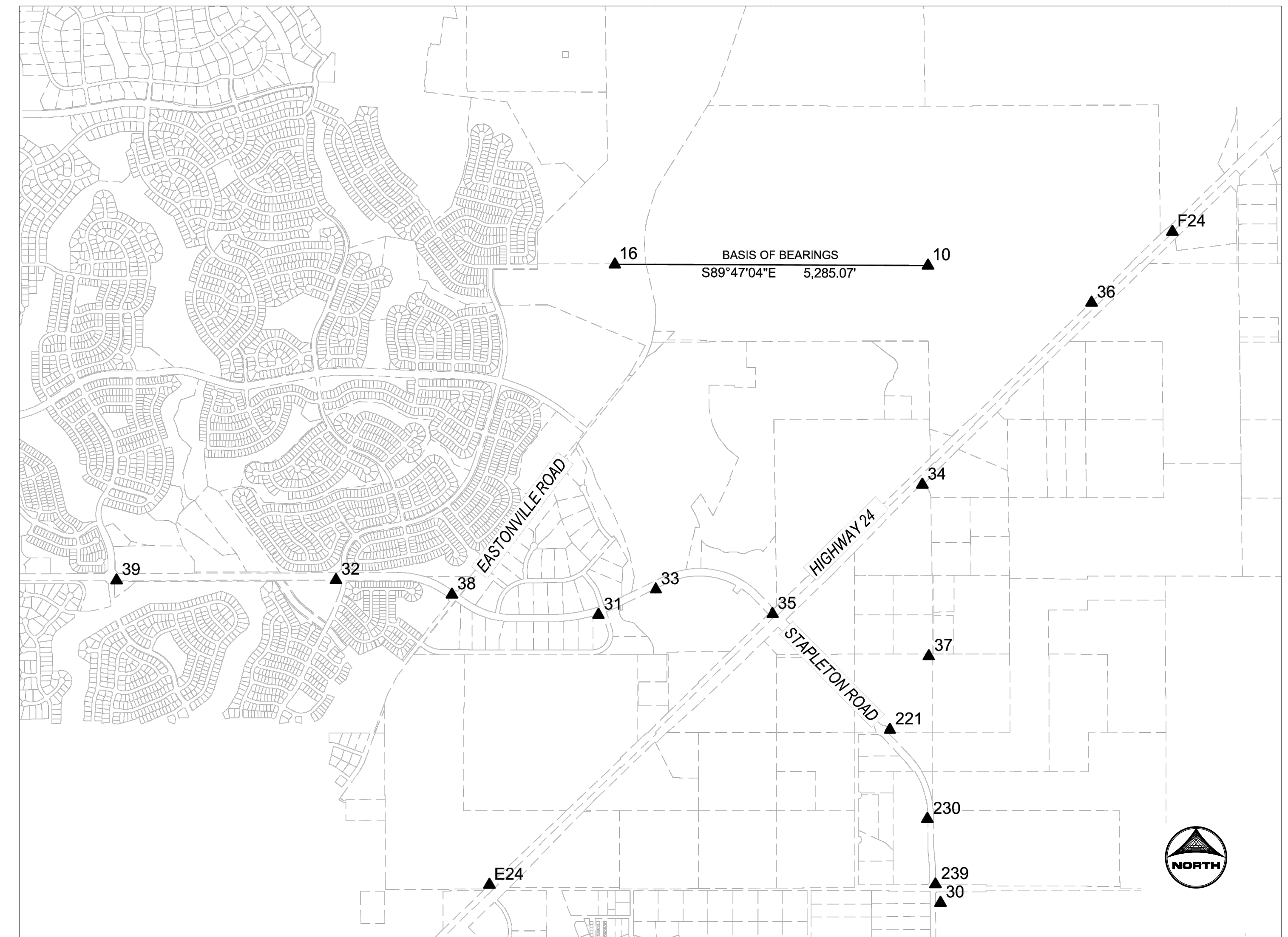
GRANDVIEW PROJECT COORDINATES

PROJECT COORDINATE NOTES:

THE PROJECT COORDINATES FOR GRANDVIEW WERE ESTABLISHED BY AN ENGINEERING AND SURVEYING CONSULTANT PRIOR TO EDWARD-JAMES SURVEYING'S (EJSI) INVOLVEMENT IN THE PROJECT. IN LATE 2005, EJSI WAS PROVIDED WITH PROJECT COORDINATES FOR SEVERAL SECTION CORNERS THROUGHOUT THE PROJECT AREA. EJSI CALIBRATED TO THE PROJECT COORDINATE SYSTEM AND BEGAN WORKING ON SEVERAL PROJECTS IN THE AREA. RECENTLY, IT HAS BEEN REQUESTED THAT A CORRELATION BETWEEN THE PROJECT COORDINATES AND STATE PLANE CENTRAL BE ESTABLISHED. IN ORDER TO ACCOMPLISH THIS, EJSI SURVEYED THE LOCATION OF TWO NGS MONUMENTS (E24 AND F24) USING THE PROJECT CALIBRATION. BELOW ARE THE STEPS REQUIRED TO CONVERT PROJECT COORDINATE TO STATE PLANE CENTRAL COORDINATES.

TO GET FROM STATE PLANE COORDINATES TO PROJECT COORDINATES, COMPLETE THE FOLLOWING STEPS:

1. SCALE THE STATE PLANE COORDINATES BY 1.0003921722 USING THE STATE PLANE COORDINATE FOR E24 AS THE POINT OF ORIGIN.
2. TRANSLATE THE SCALED COORDINATE FROM THE STATE PLANE COORDINATE FOR E24 TO THE PROJECT COORDINATE FOR E24.
3. ROTATE THE SCALED AND TRANSLATED COORDINATE HOLDING THE PROJECT COORDINATE FOR E24 AND ROTATING CLOCKWISE BY 0°00'26".



POINT NO.	CO STATE PLANE CENTRAL COORDINATES		GRANDVIEW PROJECT COORDINATES		NAVD 88 ELEVATION	DESCRIPTION	LATITUDE	LONGITUDE
	NORTHING	EASTING	NORTHING	EASTING				
E 24	1409946.25	3261914.04	1410031.47	3262112.16	6,902.18	NGS E 24 (PID JK0239) - 3-1/4" BRASS DISK IN CONCRETE MONUMENT	N38°57'19.11389"	W104°34'44.20466"
F 24	1420961.49	3273427.68	1421049.58	3273631.70	6,866.33	NGS F 24 (PID JK0240) - 3-1/4" BRASS DISK IN CONCRETE MONUMENT	N38°59'06.81100"	W104°32'16.97772"
10	1420391.37	3269307.86	1420479.76	3269510.19	6,920.40	NORTHEAST CORNER SECTION 28 (3-1/4" AL CAP "PS INC LS 30087 1996")		
16	1420410.59	3264024.90	1420499.65	3264225.16	7,011.44	NORTHWEST CORNER SECTION 28 (3-1/4" AL CAP "PS INC LS 30087 1996")		
30	1409644.75	3269516.52	1409728.89	3269717.58	6,783.61	CP 30 NO. 5 REBAR		
31	1414500.64	3263750.88	1414587.41	3263950.29	6,926.49	CP 31 NO. 5 REBAR		
32	1415086.52	3259329.87	1415174.09	3259527.63	7,012.83	CP 32 "X" ON INLET		
33	1414929.81	3264719.53	1415016.64	3264919.38	6,925.37	CP 33 NO. 5 REBAR		
34	1416695.18	3269211.50	1416782.13	3269413.33	6,873.73	CP 34 NO. 5 REBAR		
35	1414515.45	3266686.82	1414601.86	3266887.39	6,886.64	CP 35 "X" ON NE CORNER OF INLET		
36	1419764.51	3272060.60	1419852.30	3272263.94	6,863.61	CP 36 NO. 5 REBAR		
37	1413802.62	3269320.13	1413888.42	3269521.64	6,830.00	CP 37 NO. 5 REBAR		
38	1414841.57	3261282.31	1414928.79	3261480.80	6,971.11	CP 38 "X" ON SOUTHWEST CORNER INLET		
39	1415081.32	3255628.10	1415169.35	3255824.40	7,059.26	CP 39 "X" ON TBC		
221	1412563.13	3268665.62	1412648.52	3268866.71	6,825.54	NO. 4 REBAR AND RED PLASTIC CAP "EPC PSD PLS22573"		
230	1411056.50	3269297.63	1411141.23	3269498.78	6,801.71	NAIL AND 1-1/2" WASHER IN CONCRETE "EPC PSD PLS 22573"		
239	1409955.40	3269433.32	1410039.67	3269634.39	6,788.26	NO. 4 REBAR AND RED PLASTIC CAP "EPC PSD PLS 22573"		

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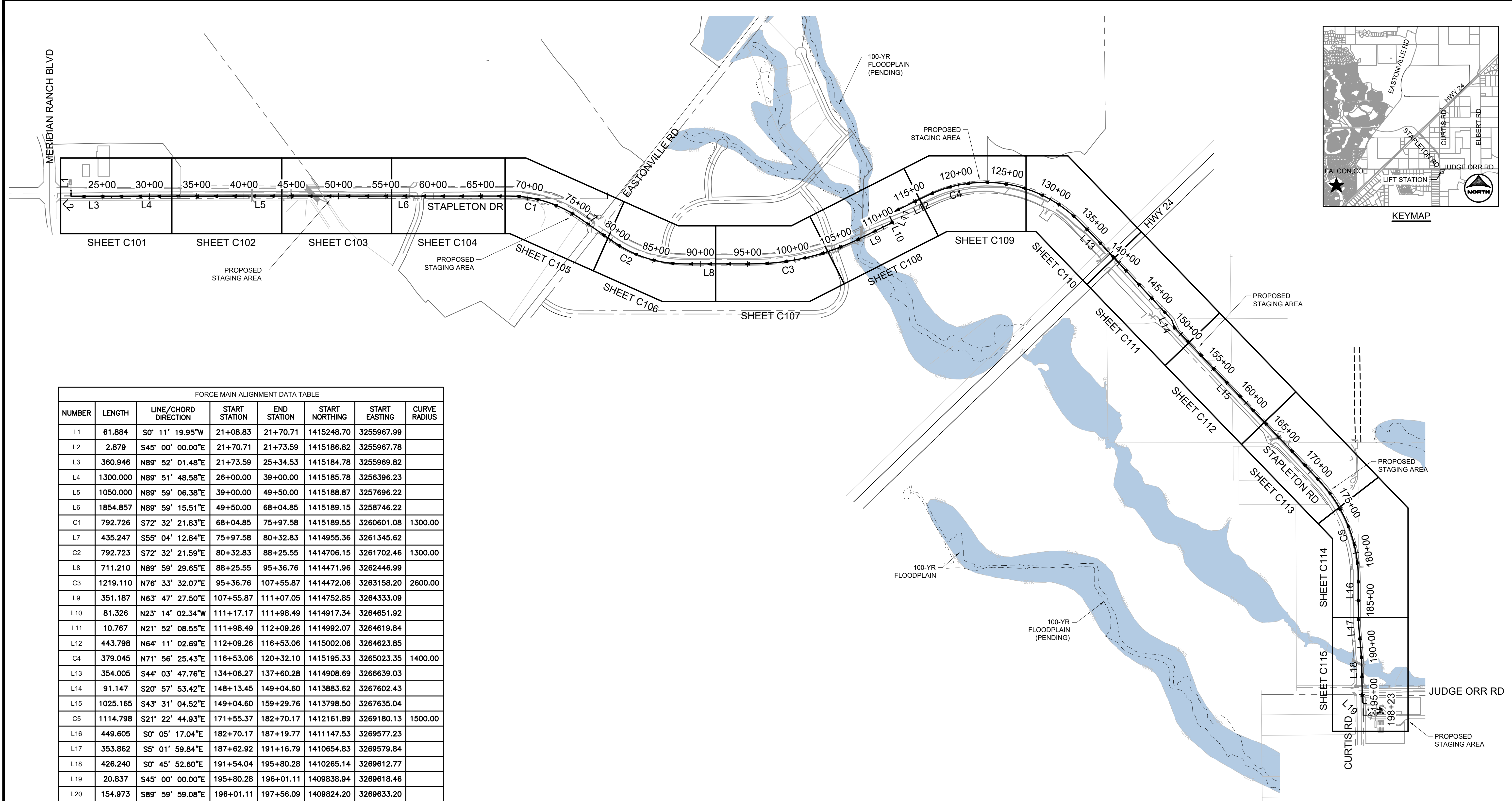
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 DUAL FORCE MAINS
 D.R. HORTON
 EL PASO COUNTY, CO



CONSTRUCTION DOCUMENTS
 SURVEY COORDINATES

SHEET
 G004

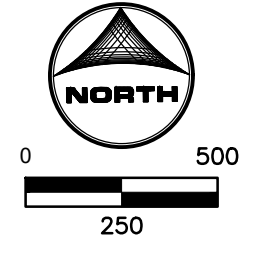
HR GREEN Xrefs: XV-Row; XV-Util; xgl-1-dh01-FM; XC-Lift-Station; XC-Electrical; XC-Driveway; XC-Util; P&P-Key; XC-Dagn; XC-Initial-EC; 01-DC-Align-Fm; 01-DC-San-Fm; XV-Dagn; XV-Femo



FORCE MAIN ALIGNMENT DATA TABLE

NUMBER	LENGTH	LINE/CHORD DIRECTION	START STATION	END STATION	START NORTHING	START EASTING	CURVE RADIUS
L1	61.884	S0° 11' 19.95"W	21+08.83	21+70.71	1415248.70	3255967.99	
L2	2.879	S45° 00' 00.00"E	21+70.71	21+73.59	1415186.82	3255967.78	
L3	360.946	N89° 52' 01.48"E	21+73.59	25+34.53	1415184.78	3255969.82	
L4	1300.000	N89° 51' 48.58"E	26+00.00	39+00.00	1415185.78	3256396.23	
L5	1050.000	N89° 59' 06.38"E	39+00.00	49+50.00	1415188.87	3257696.22	
L6	1854.857	N89° 59' 15.51"E	49+50.00	68+04.85	1415189.15	3258746.22	
C1	792.726	S72° 32' 21.83"E	68+04.85	75+97.58	1415189.55	3260601.08	1300.00
L7	435.247	S55° 04' 12.84"E	75+97.58	80+32.83	1414955.36	3261345.62	
C2	792.723	S72° 32' 21.59"E	80+32.83	88+25.55	1414706.15	3261702.46	1300.00
L8	711.210	N89° 59' 29.65"E	88+25.55	95+36.76	1414471.96	3262446.99	
C3	1219.110	N76° 33' 32.07"E	95+36.76	107+55.87	1414472.06	3263158.20	2600.00
L9	351.187	N63° 47' 27.50"E	107+55.87	111+07.05	1414752.85	3264333.09	
L10	81.326	N23° 14' 02.34"W	111+17.17	111+98.49	1414917.34	3264651.92	
L11	10.767	N21° 52' 08.55"E	111+98.49	112+09.26	1414992.07	3264619.84	
L12	443.798	N64° 11' 02.69"E	112+09.26	116+53.06	1415002.06	3264623.85	
C4	379.045	N71° 56' 25.43"E	116+53.06	120+32.10	1415195.33	3265023.35	1400.00
L13	354.005	S44° 03' 47.76"E	134+06.27	137+60.28	1414908.69	3266639.03	
L14	91.147	S20° 57' 53.42"E	148+13.45	149+04.60	1413883.62	3267602.43	
L15	1025.165	S43° 31' 04.52"E	149+04.60	159+29.76	1413798.50	3267635.04	
C5	1114.798	S21° 22' 44.93"E	171+55.37	182+70.17	1412161.89	3269180.13	1500.00
L16	449.605	S0° 05' 17.04"E	182+70.17	187+19.77	1411147.53	3269577.23	
L17	353.862	S5° 01' 59.84"E	187+62.92	191+16.79	1410654.83	3269579.84	
L18	426.240	S0° 45' 52.60"E	191+54.04	195+80.28	1410265.14	3269612.77	
L19	20.837	S45° 00' 00.00"E	195+80.28	196+01.11	1409838.94	3269618.46	
L20	154.973	S89° 59' 59.08"E	196+01.11	197+56.09	1409824.20	3269633.20	

NOTE:
 1. MAIN ALIGNMENT IS 14" FM CENTERLINE AND 3' LEFT OFFSET IS THE 8" FM CENTERLINE.
 2. EXCEPTION AT HWY 24 CROSSING, WHERE THE 8" FM CENTERLINE IS 7" OFFSET LEFT OF THE 14" FM CENTERLINE.



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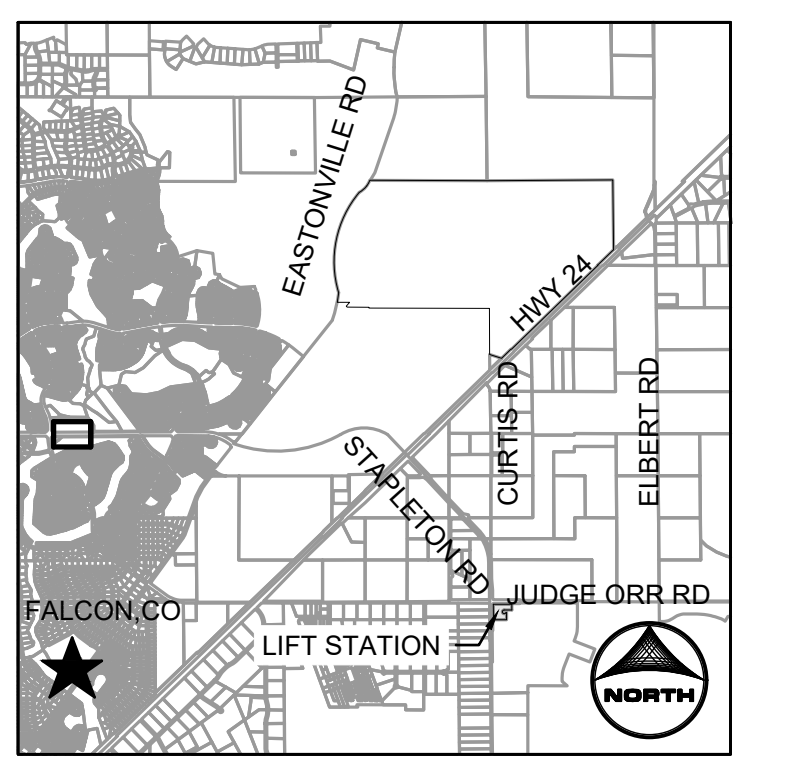
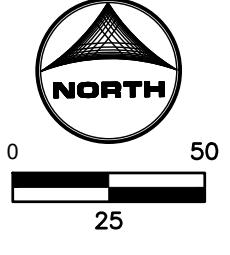
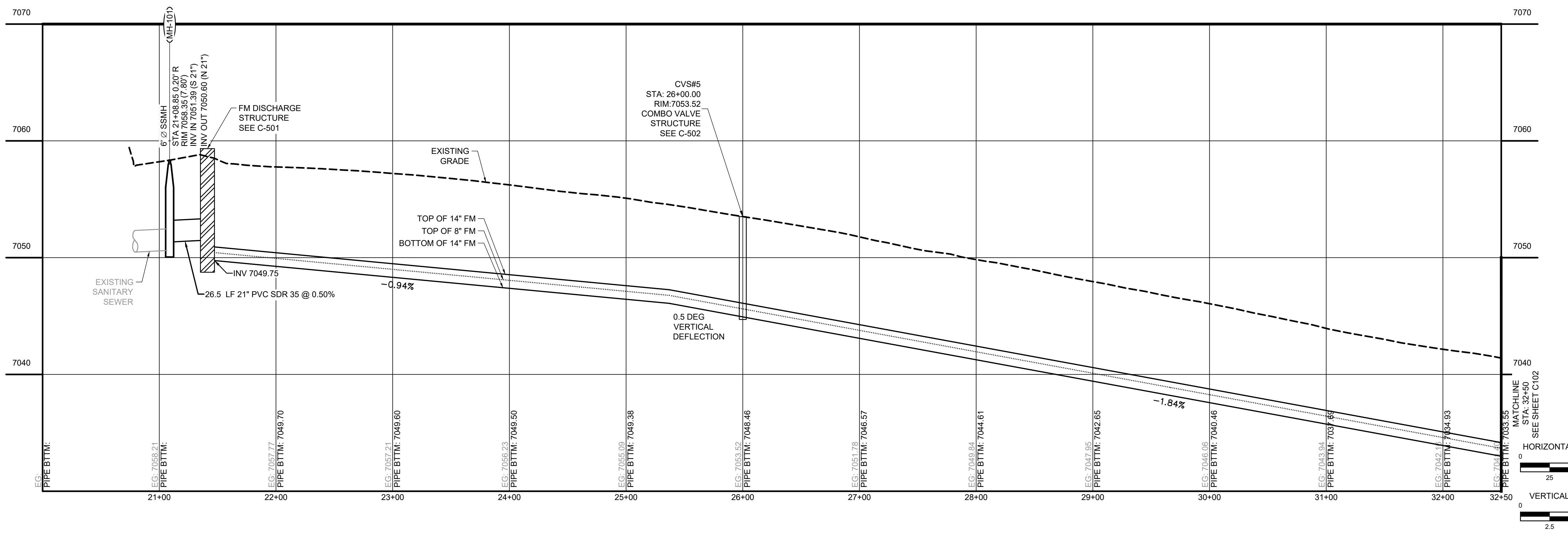
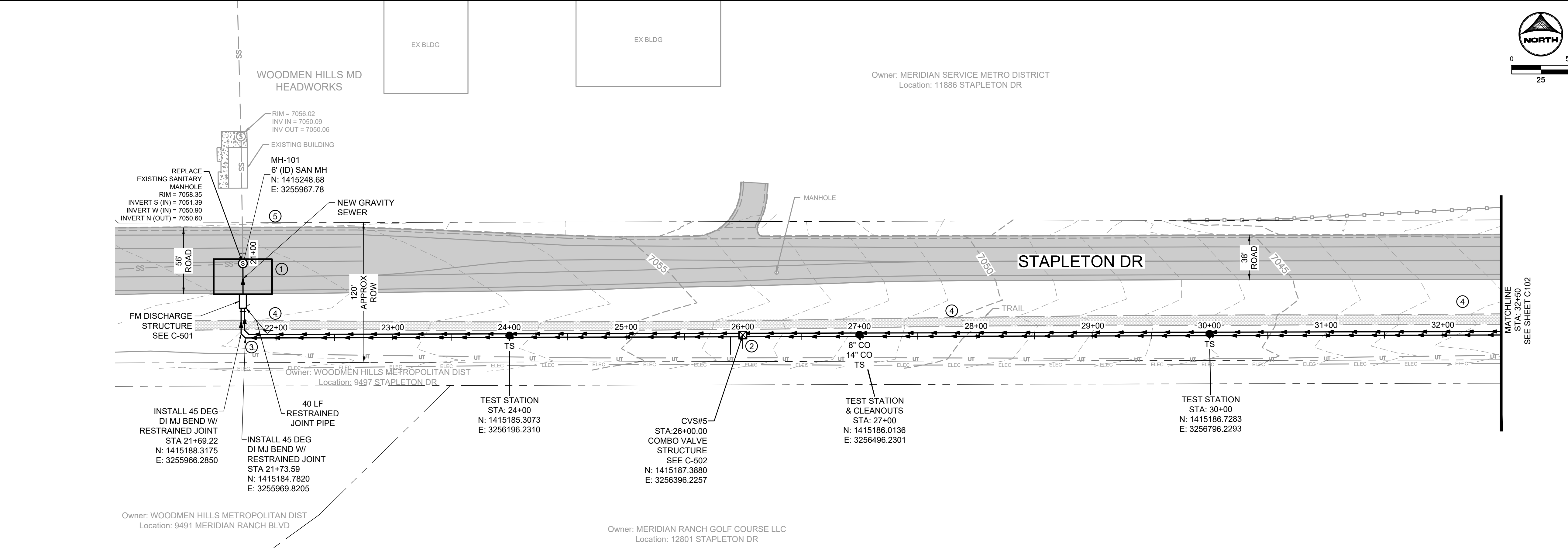
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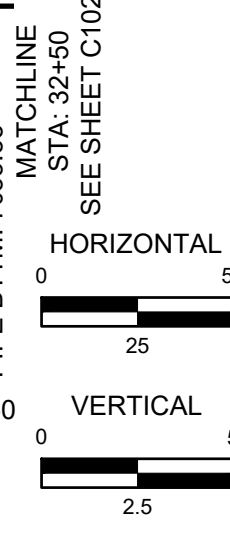
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C100

HR GREEN Xrns: XV-Row; XV-Util; xq1-1-dh01-FM; XC-Lift-Station; XC-Electrical; XC-Driveway; XC-Util; P&P-Key; XC-Dagn; XC-Initial-EC; 01-DC-San-Fm; XV-Degr; XV-Fema; Fm-Key Plan; XC-Row; XC-Hatching; Fm-Remove/Replace



- GENERAL NOTES:**
- NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
 - CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
 - EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.


- KEY NOTE:**
- REMOVE AND REPLACE ASPHALT PAVEMENT AND PAVEMENT MARKINGS.
 - INSTALL WARNING TAPE 1 FT ABOVE VENT PIPE EXTENSION FROM COMBO VALVE VAULT TO WHERE VENT PIPE DAYLIGHTS.
 - PROVIDE PE WRAP AND CATHODIC PROTECTION AT EACH DUCTILE IRON FITTING.
 - RESTORE GRAVEL TRAIL AND SURFACE TO ORIGINAL CONDITION.
 - CAUTION - WATER MAIN WITHIN THIS AREA. EXACT LOCATION UNKNOWN.




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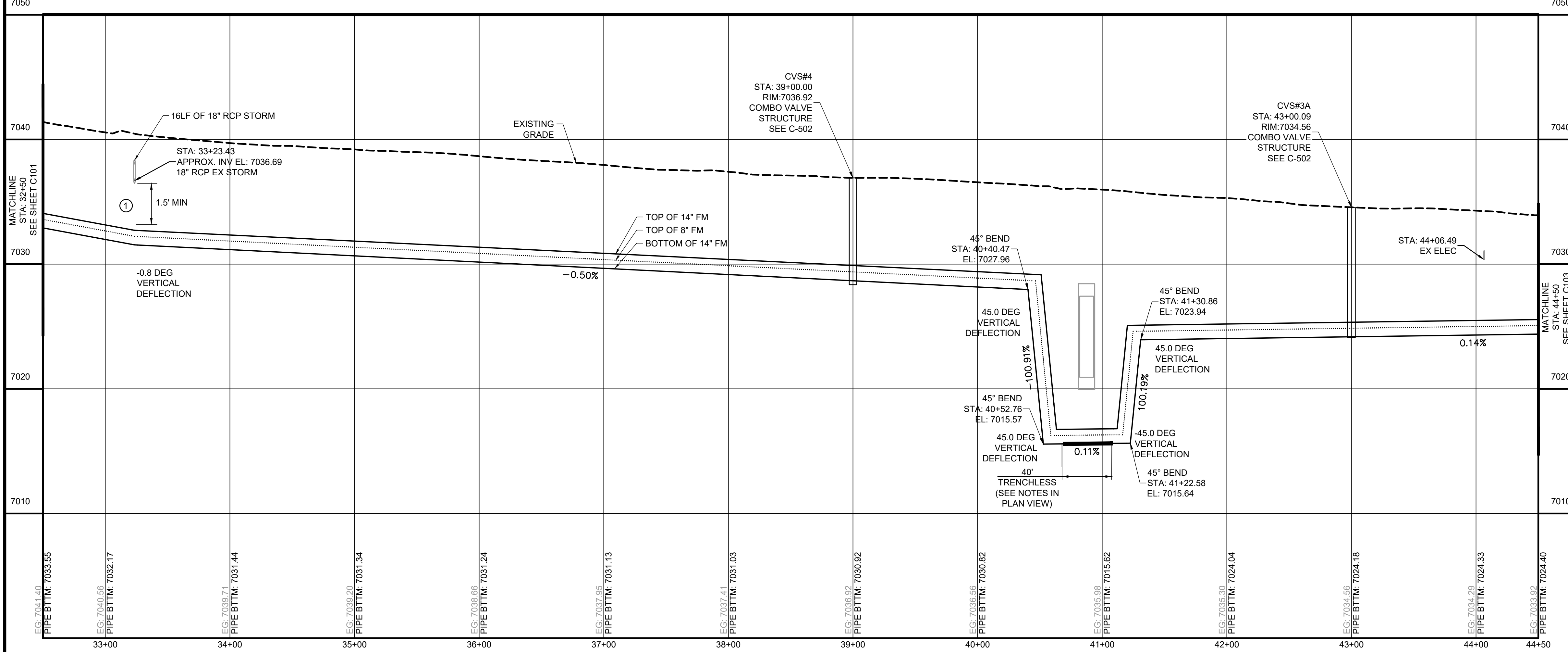
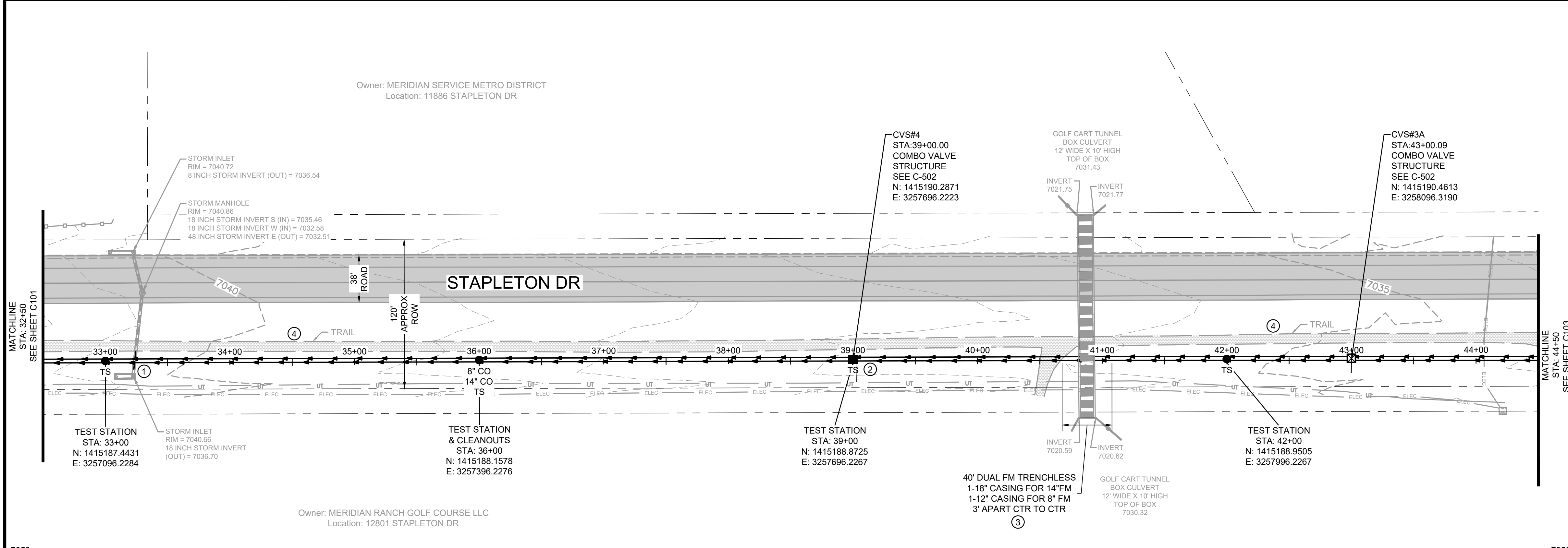

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HR GREEN Xr:ns: XV-Row: XV-Utl: xg:1-dh01-FM; XC-Lift-Station; XC-Electrical; XC-Driveway; XC-Utl; P&P-Key; XC-Degr: XC-Initial-EC; 01-DC-San-Fm; XV-Degr: XV-Fema; Fm-Key Plan; XC-Row; XC-Hatching; Fm-Remove/Replace



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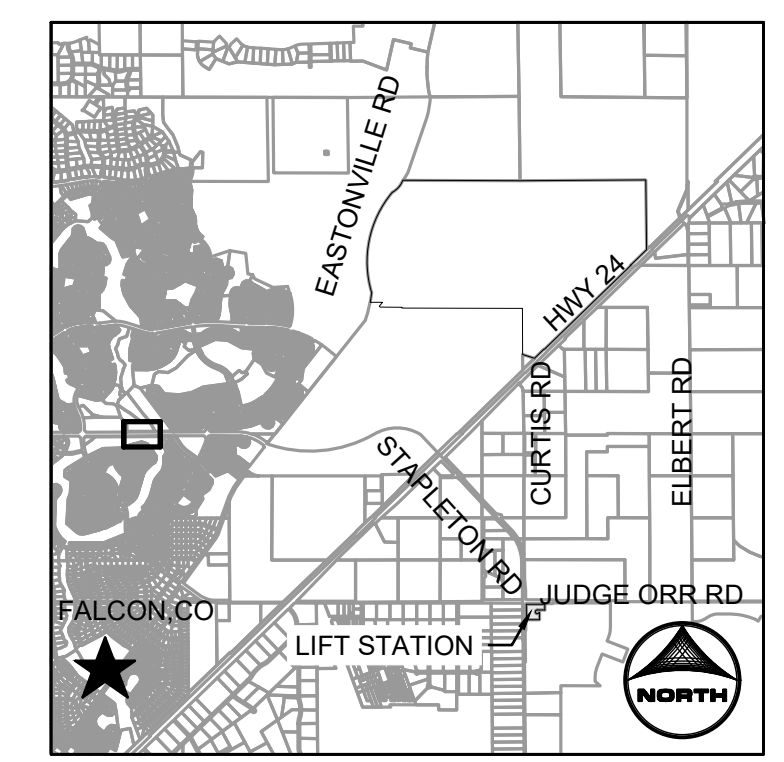
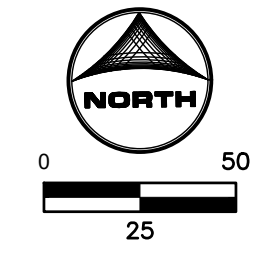
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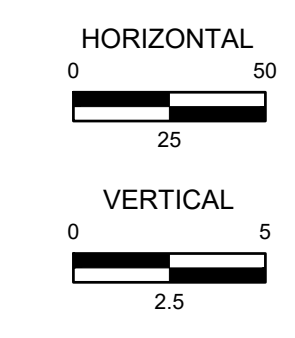
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KEYMAP

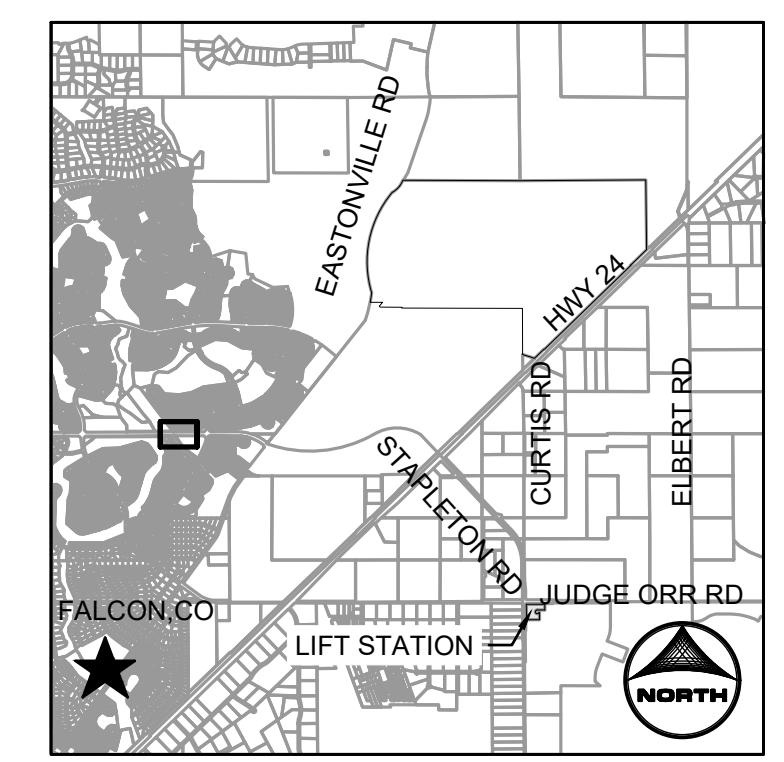
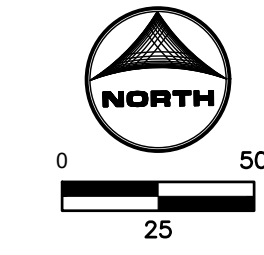
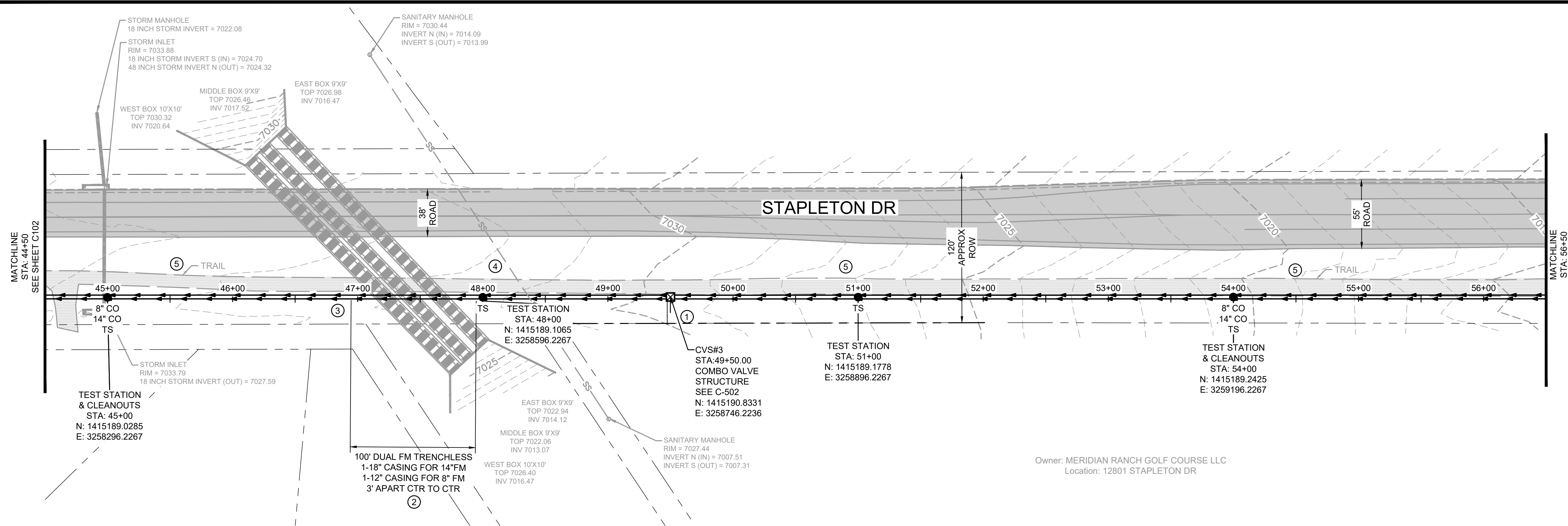
- GENERAL NOTES:
- NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
 - CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
 - EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.

- KEY NOTE:
- PROTECT IN-PLACE OR REMOVE AND REINSTALL 16 LF OF 18" RCP STORM PIPE AND JUNCTION BOX.
 - INSTALL WARNING TAPE 1 FT ABOVE VENT PIPE EXTENSION FROM COMBO VALVE VAULT TO WHERE VENT PIPE DAYLIGHTS.
 - STEEL CASING PIPES WITH CATHODIC PROTECTION, SEE MIN WALL THICKNESS PER CASING PIPE DETAIL ON C502.
 - RESTORE GRAVEL TRAIL AND SURFACE TO ORIGINAL CONDITION.



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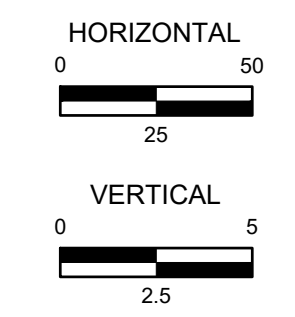
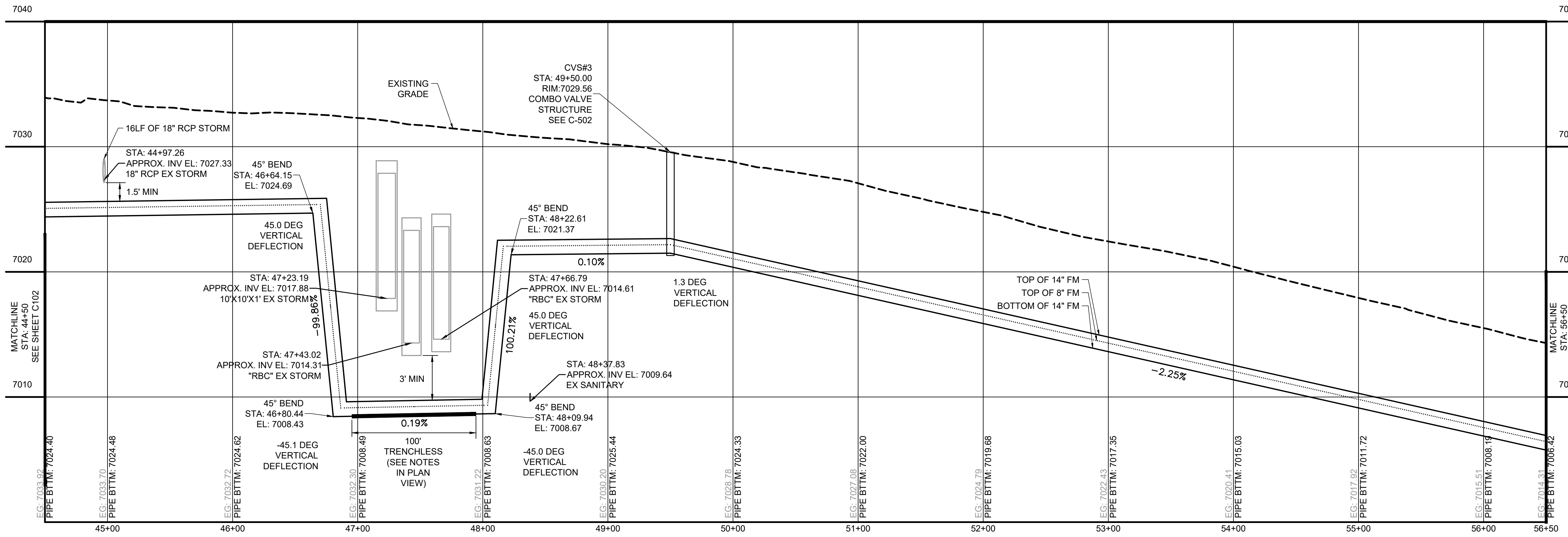
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KEYMAP

- GENERAL NOTES:
- NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
 - CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
 - EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.

- KEY NOTE:
- INSTALL WARNING TAPE 1 FT ABOVE VENT PIPE EXTENSION FROM COMBO VALVE VAULT TO WHERE VENT PIPE DAYLIGHTS.
 - STEEL CASING PIPES WITH CATHODIC PROTECTION, SEE MIN WALL THICKNESS PER CASING PIPE DETAIL ON C502.
 - CAUTION - FIBER OPTIC WITHIN THIS AREA. EXACT LOCATION UNKNOWN.
 - CAUTION - WATER MAIN WITHIN THIS AREA. EXACT LOCATION UNKNOWN.
 - RESTORE GRAVEL TRAIL AND SURFACE TO ORIGINAL CONDITION.



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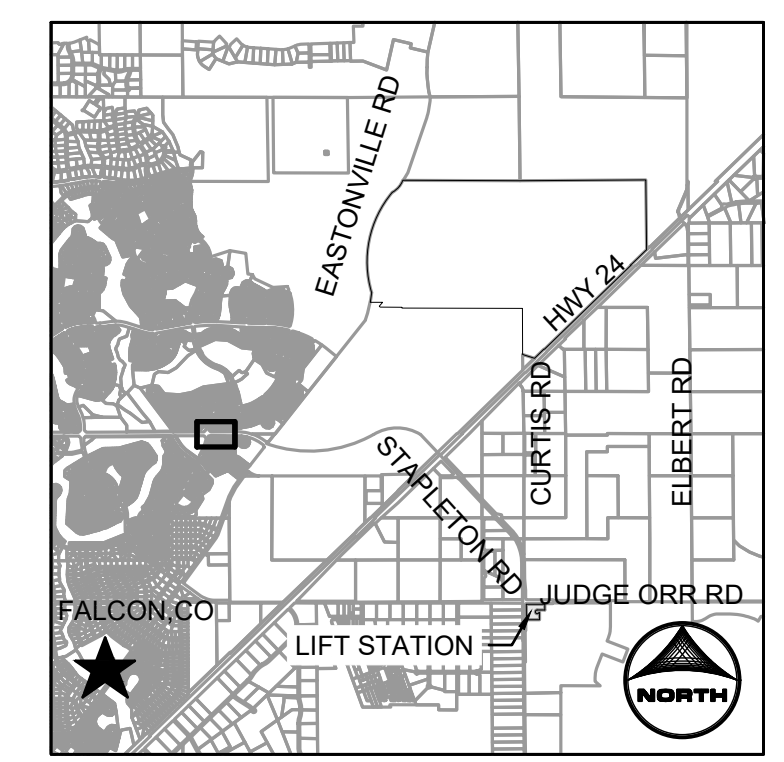
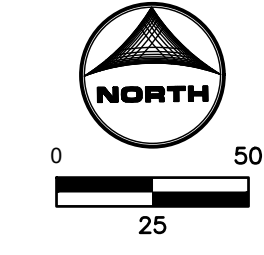
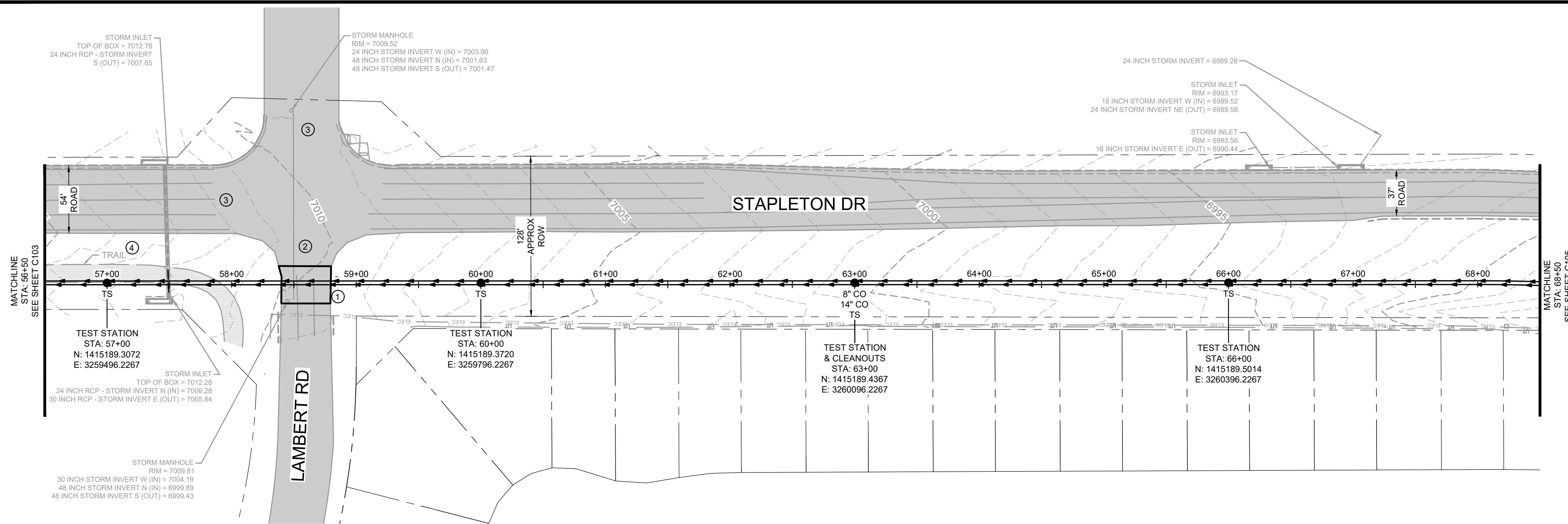
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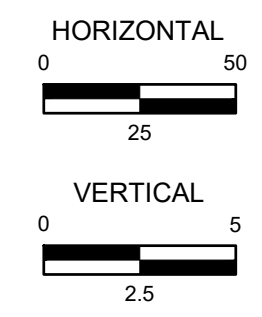
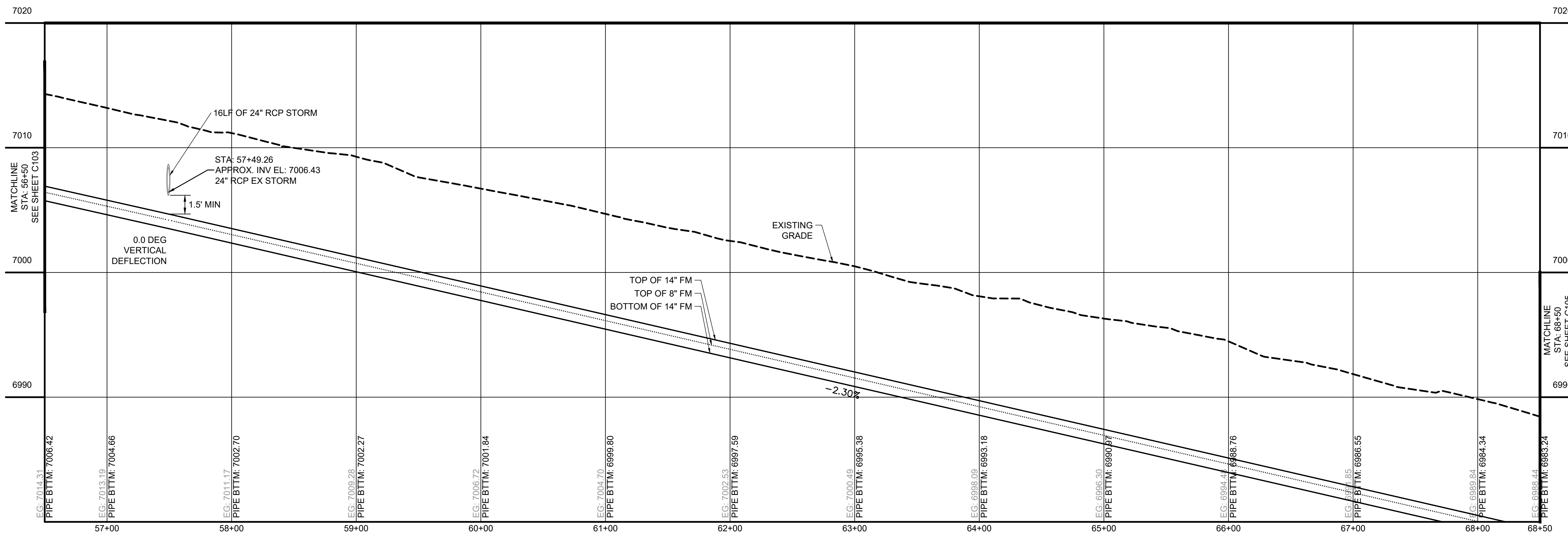
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KEYMAP

- GENERAL NOTES:
1. NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
 2. CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
 3. EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.

- KEY NOTE:
- ① REMOVE AND REPLACE ASPHALT PAVEMENT AND PAVEMENT MARKINGS.
 - ② CAUTION - FIBER OPTIC WITHIN THIS AREA. EXACT LOCATION UNKNOWN.
 - ③ CAUTION - WATER MAIN WITHIN THIS AREA. EXACT LOCATION UNKNOWN.
 - ④ RESTORE GRAVEL TRAIL AND SURFACE TO ORIGINAL CONDITION.



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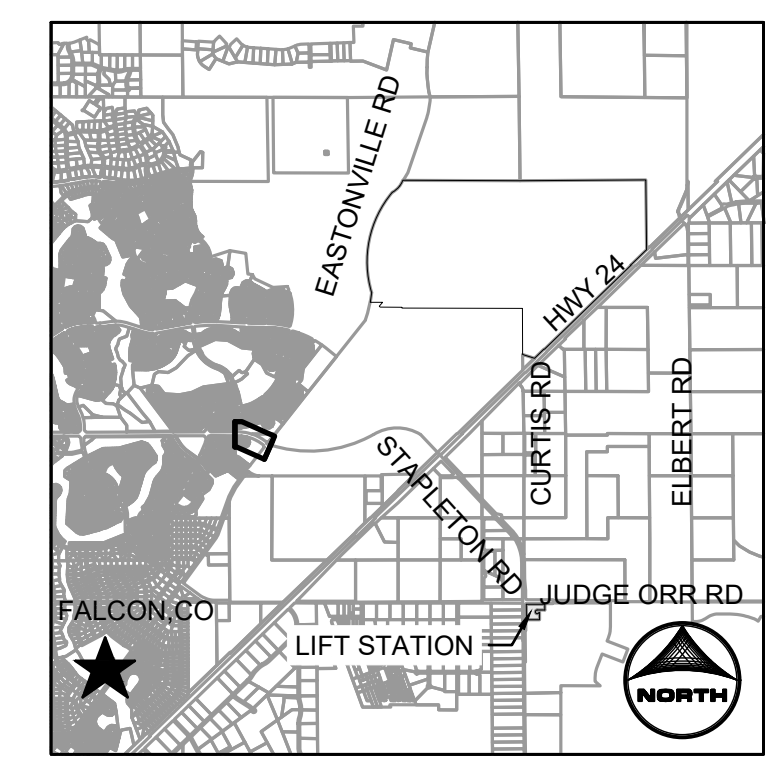
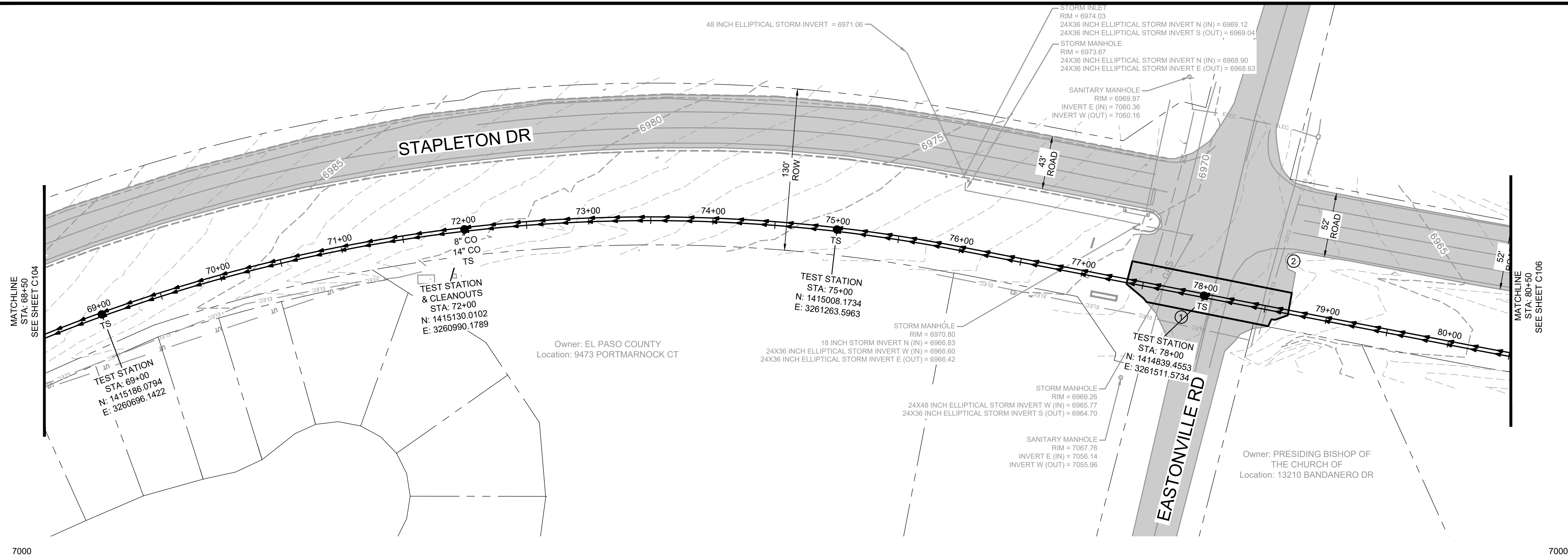
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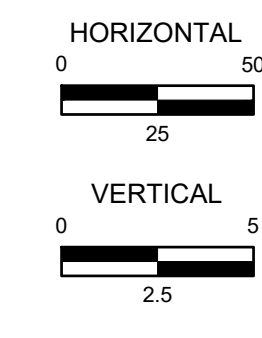
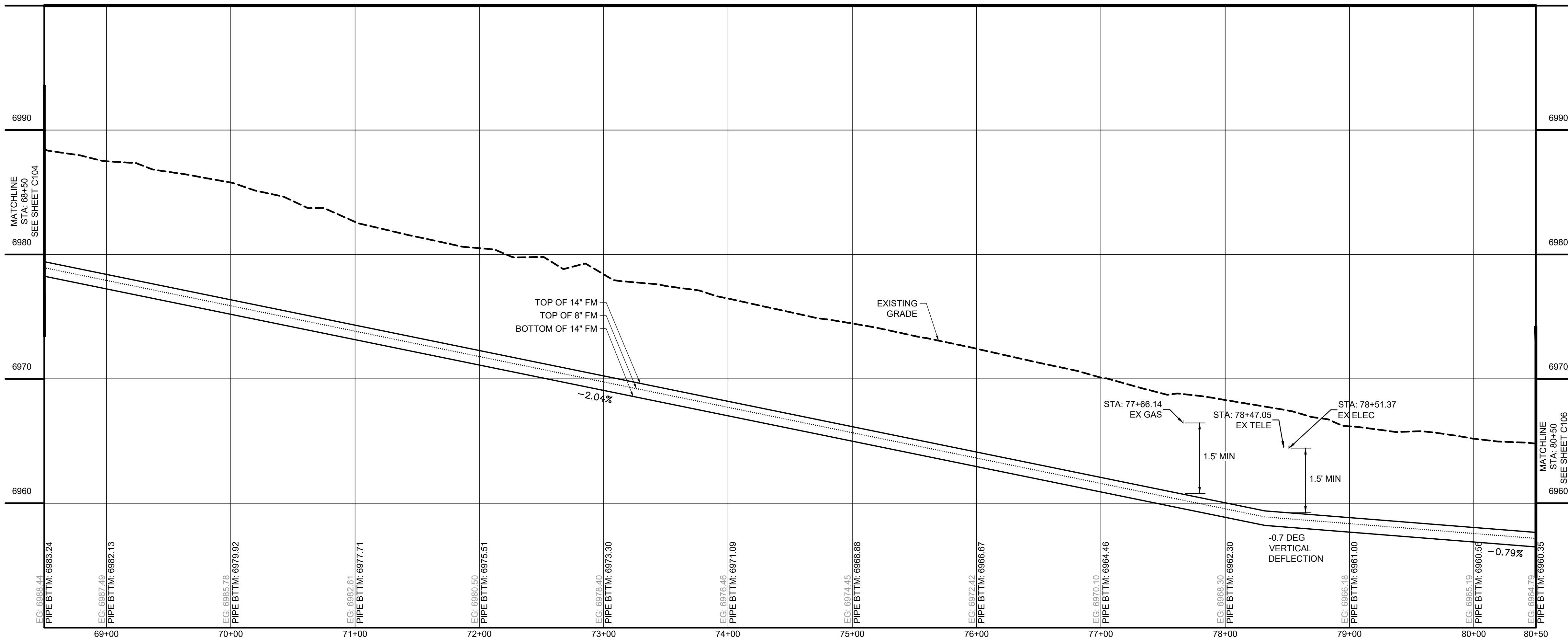
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KEYMAP

- GENERAL NOTES:
- NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
 - CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
 - EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.

- KEY NOTE:
- REMOVE AND REPLACE ASPHALT PAVEMENT AND PAVEMENT MARKINGS.
 - CAUTION - FIBER OPTIC WITHIN THIS AREA. EXACT LOCATION UNKNOWN.



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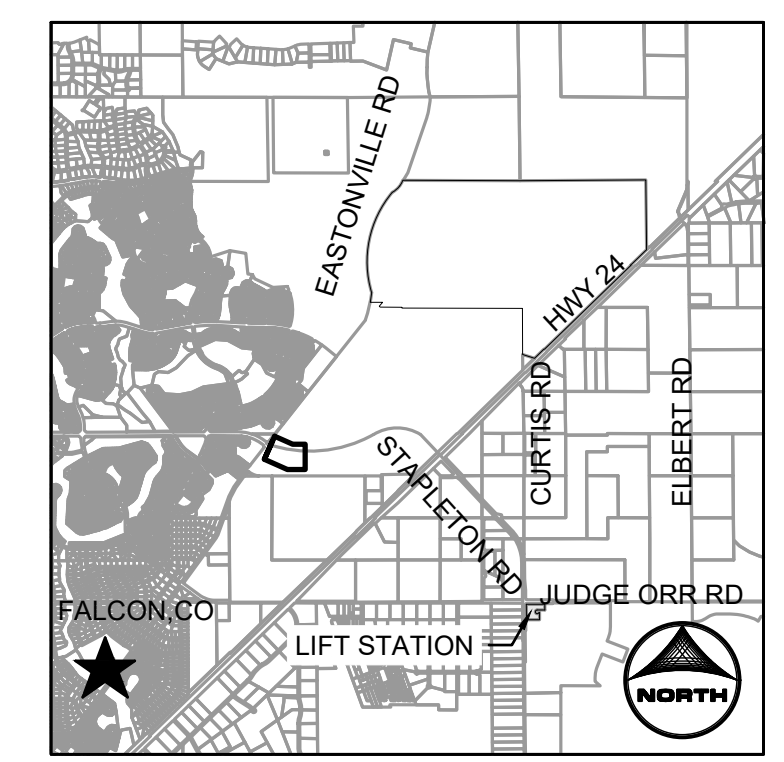
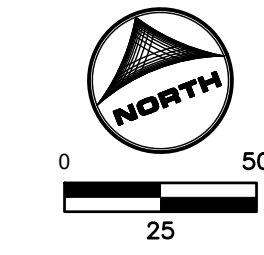
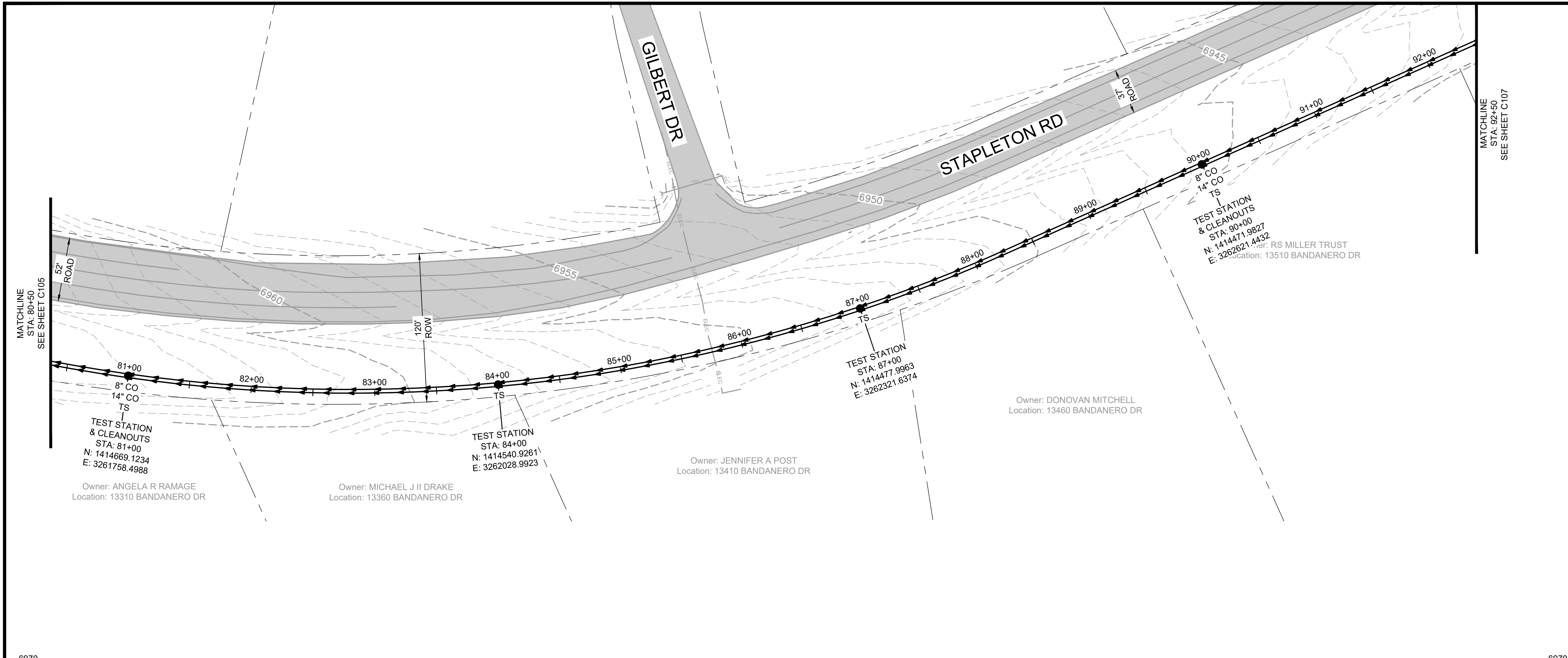
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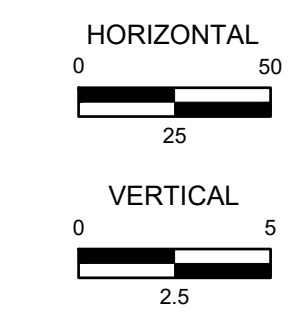
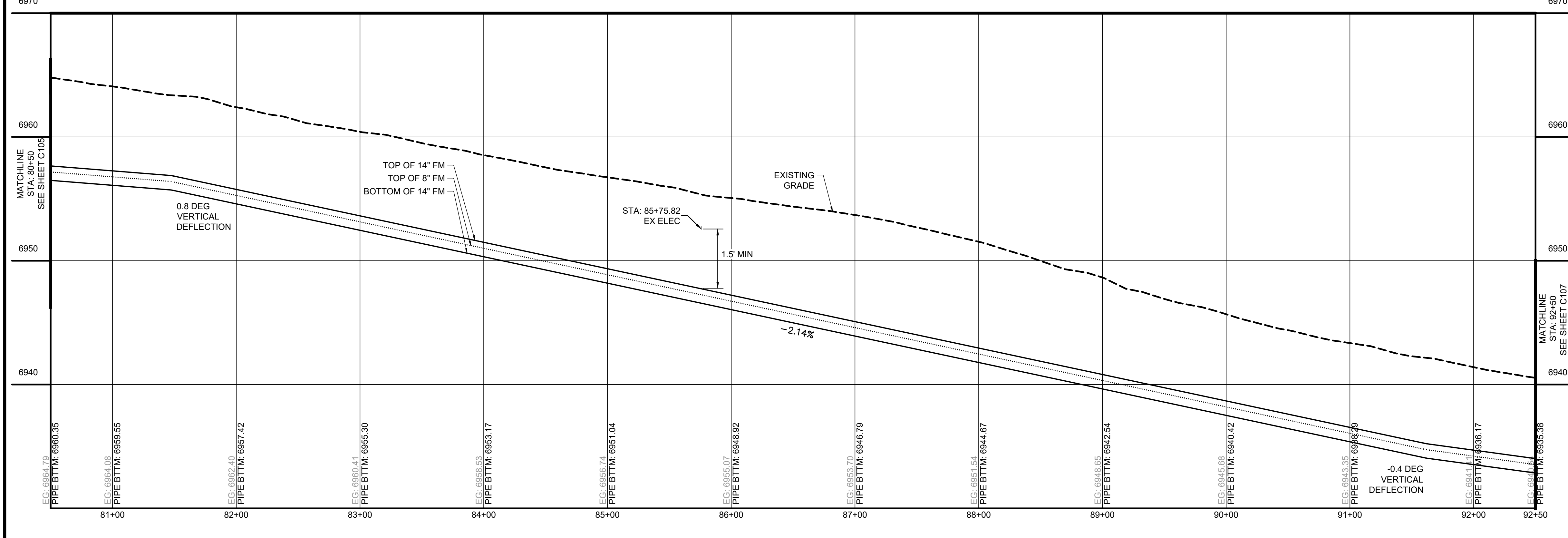
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HR GREEN Xrefs: XV-Row; XV-Utl; xgl-1-dh01-FM; XC-Lit-Station; XC-Electrical; XC-Driveway; XC-Utl; P&P-Key; XC-Degr; XC-Initial-EC; 01-DC-San-Fm; XV-Degr; XV-Fema; Fm-Key; Plan; XC-Row; XC-Hatching; Fm-Remove/Replace




KEYMAP


- GENERAL NOTES:
1. NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
 2. CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
 3. EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.



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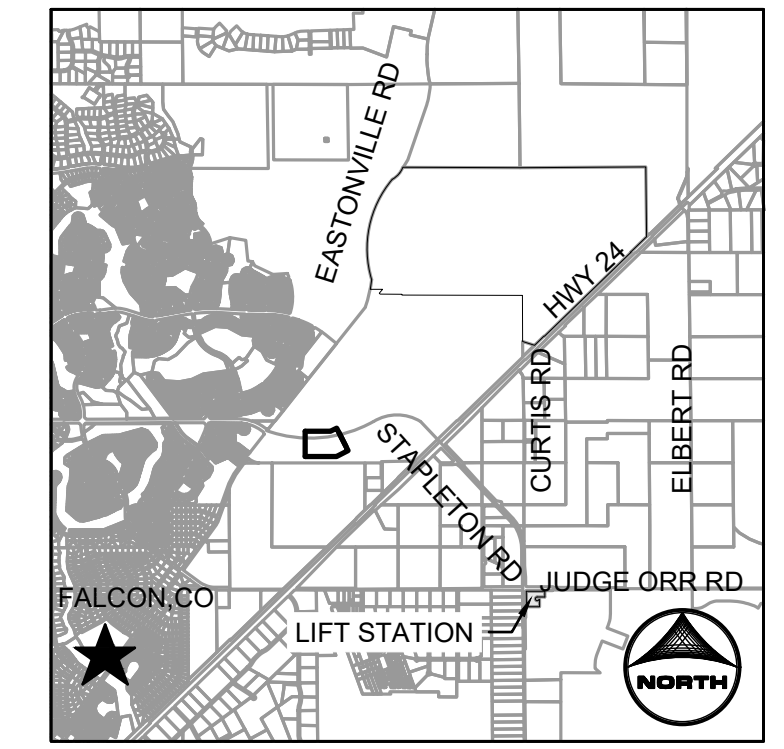
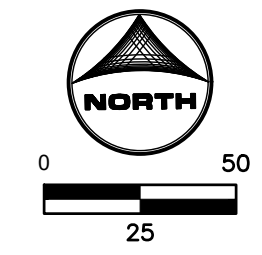
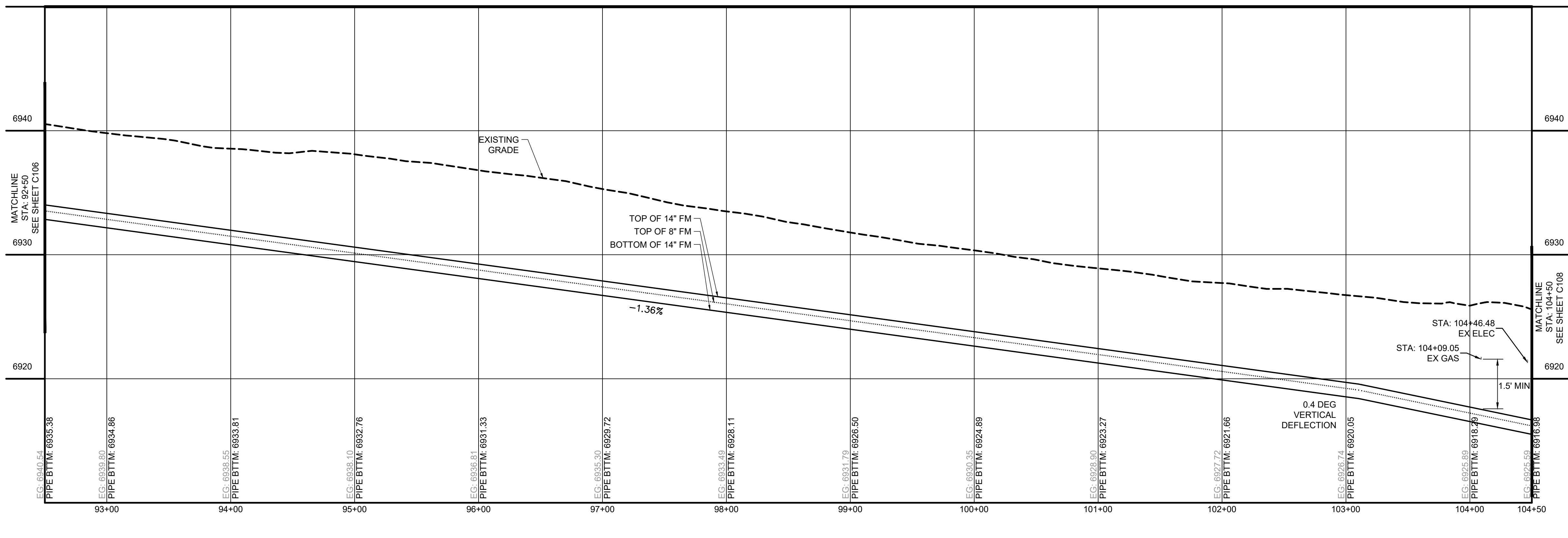
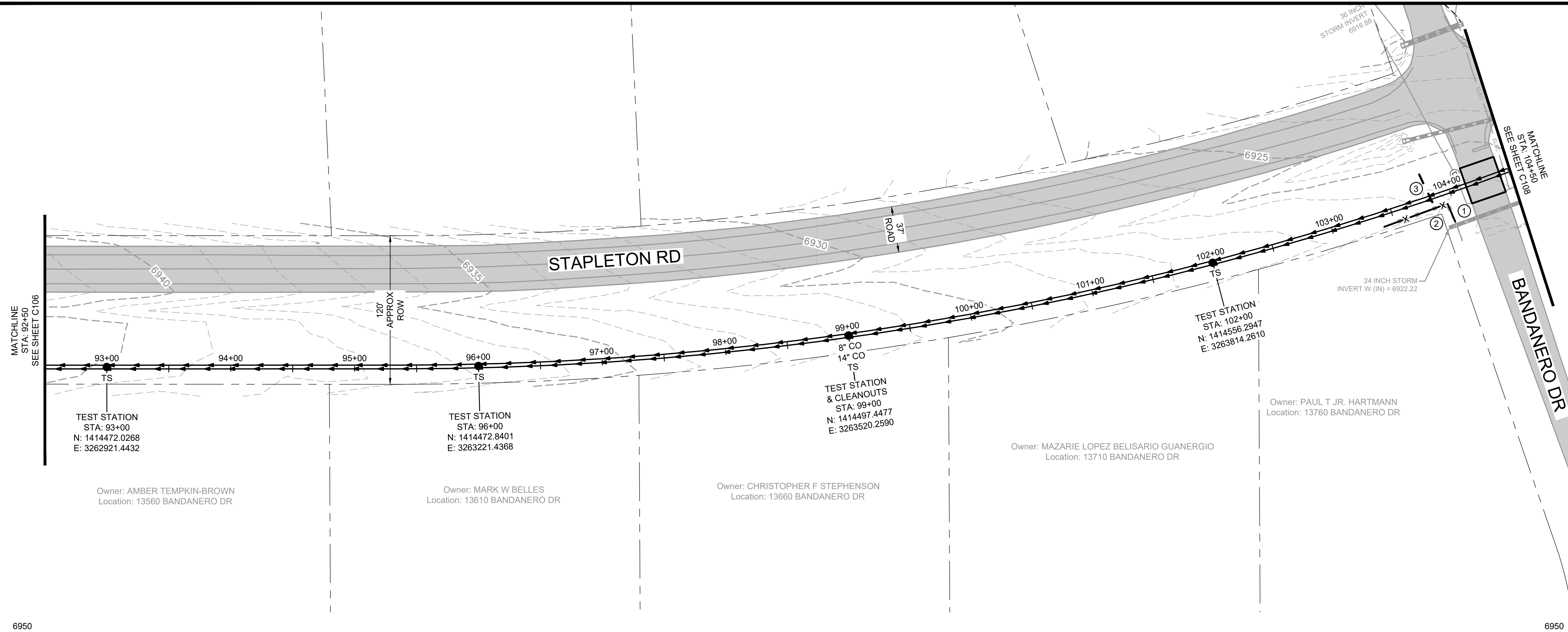
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HR GREEN Xrefs: XV-Row; XV-Util; xgl-1-dh01-FM; XC-Lift-Station; XC-Electrical; XC-Driveway; XC-Util; P&P-Key; XC-Degr; XC-Initial-EC; 01-DC-San-Fm; XV-Degr; XV-Fema; Fm-Key; Plan; XC-Row; XC-Hatching; Fm-Remove/Replace



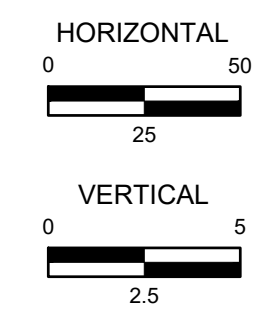
KEYMAP

GENERAL NOTES:

1. NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
2. CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
3. EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.

KEY NOTE:

- ① REMOVE AND REPLACE ASPHALT PAVEMENT.
- ② PROTECT IN PLACE OR REMOVE AND REINSTALL BARBED WIRE FENCING AND STEEL POSTS.
- ③ PROTECT IN PLACE OR REMOVE AND REINSTALL SIGNS.
- ④ CAUTION - ELECTRIC WITHIN THIS AREA. EXACT LOCATION UNKNOWN.



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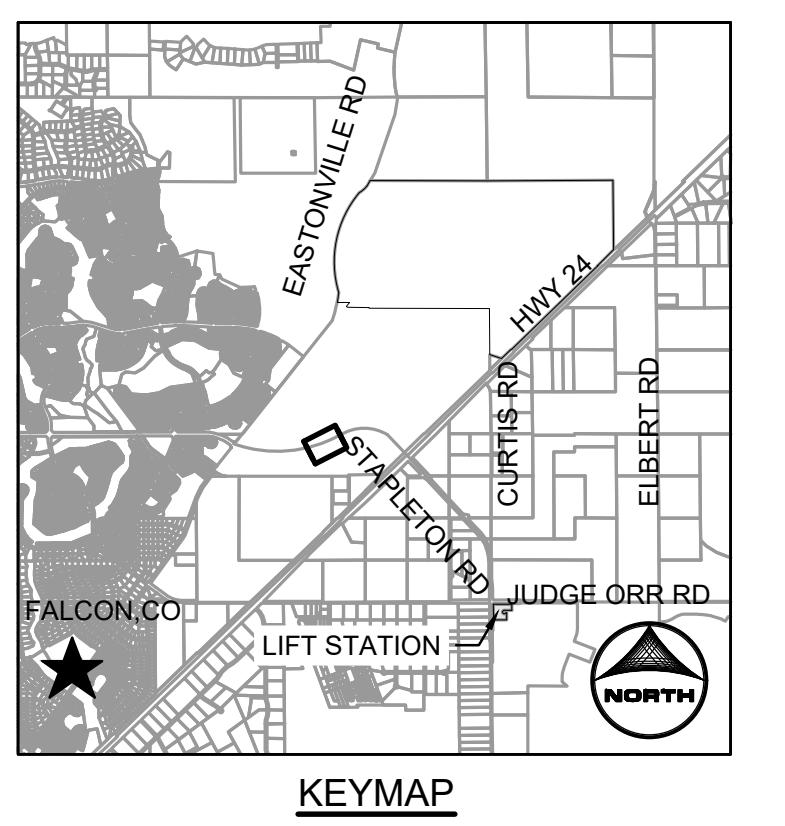
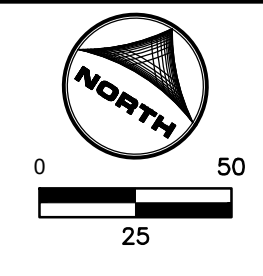
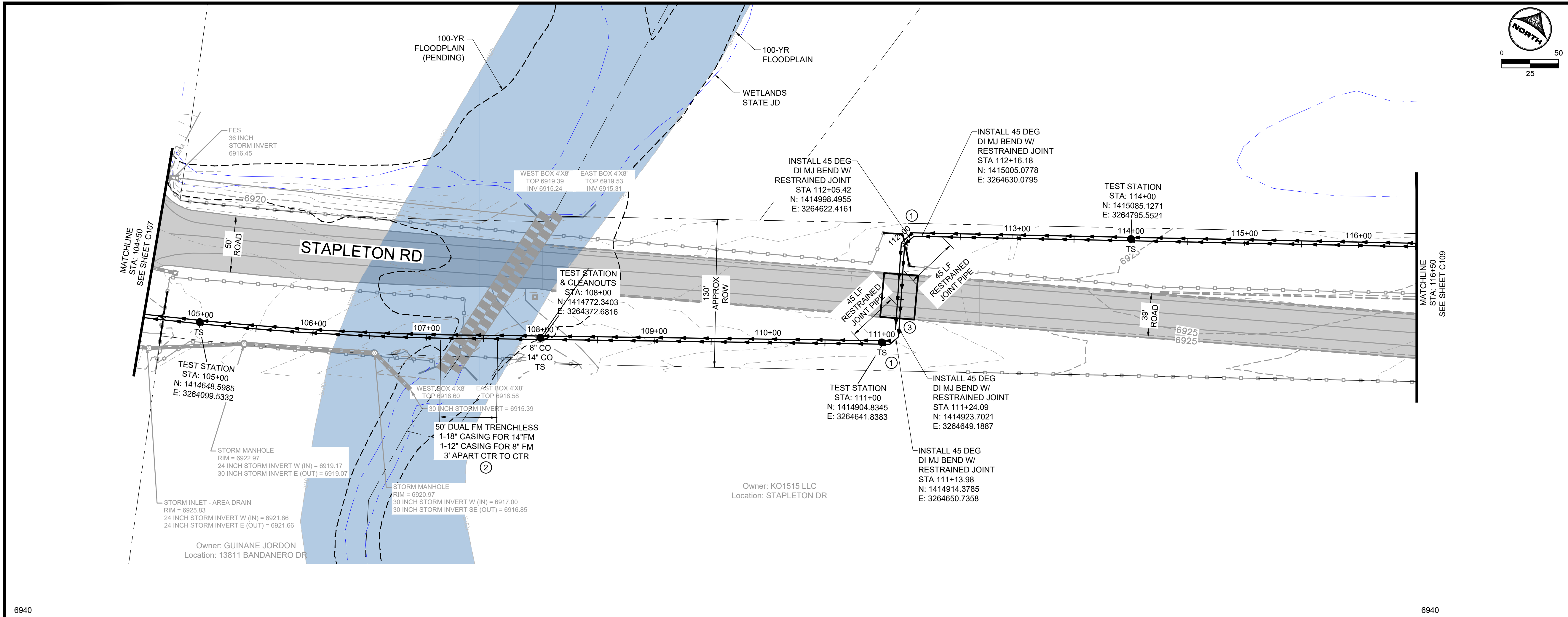
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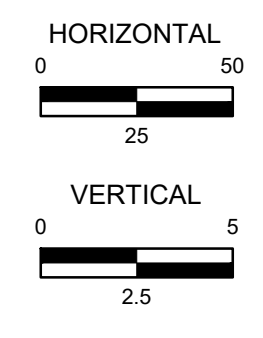
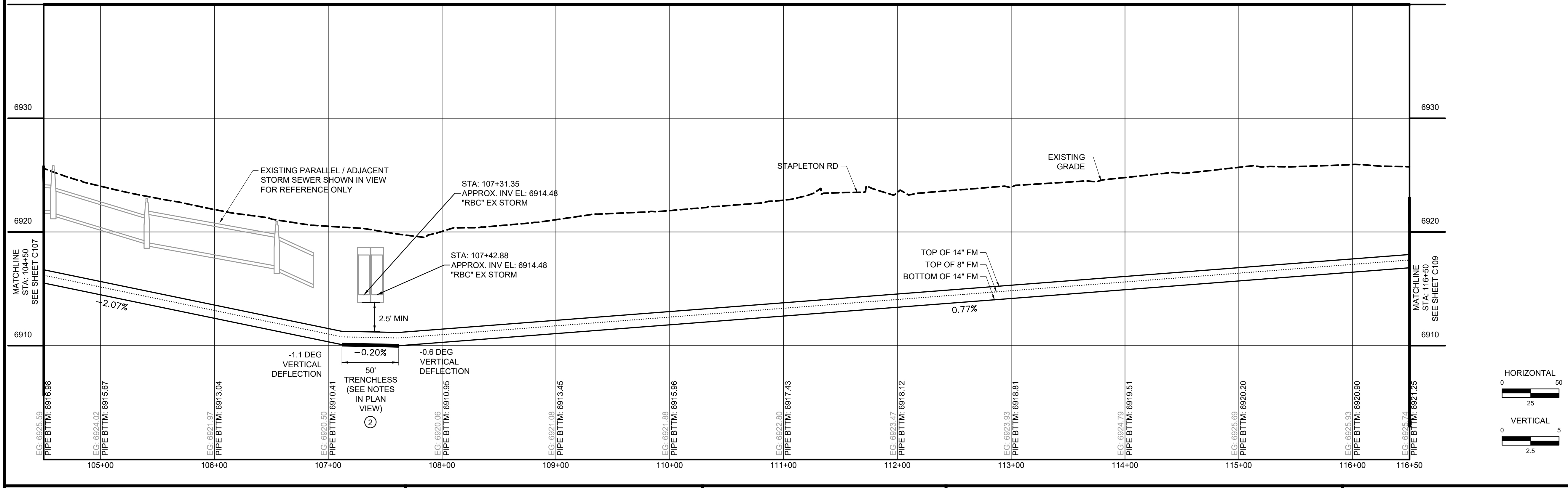
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SHEET
C107

HR GREEN X-ris: XV-Util; xgt-1-dh01-FM; XC-Lift-Station; XC-Electrical; XC-Driveway; XC-Util; P&P-Key; XC-Dgn; XC-Initial-EC; 01-DC-San-Fm; XV-Dgn; XV-Fema; Fm-Key-Plan; XC-Rew; XC-Hatching; Fm-Remove/Replace



- GENERAL NOTES:
- NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
 - CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
 - EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.
- KEY NOTE:
- INSTALL WARNING TAPE 1 FT ABOVE VENT PIPE EXTENSION FROM COMBO VALVE VAULT TO WHERE VENT PIPE DAYLIGHTS.
 - STEEL CASING PIPES WITH CATHODIC PROTECTION, SEE MIN WALL THICKNESS PER CASING PIPE DETAIL ON C502.
 - REMOVE AND REPLACE ASPHALT PAVEMENT AND PAVEMENT MARKINGS.



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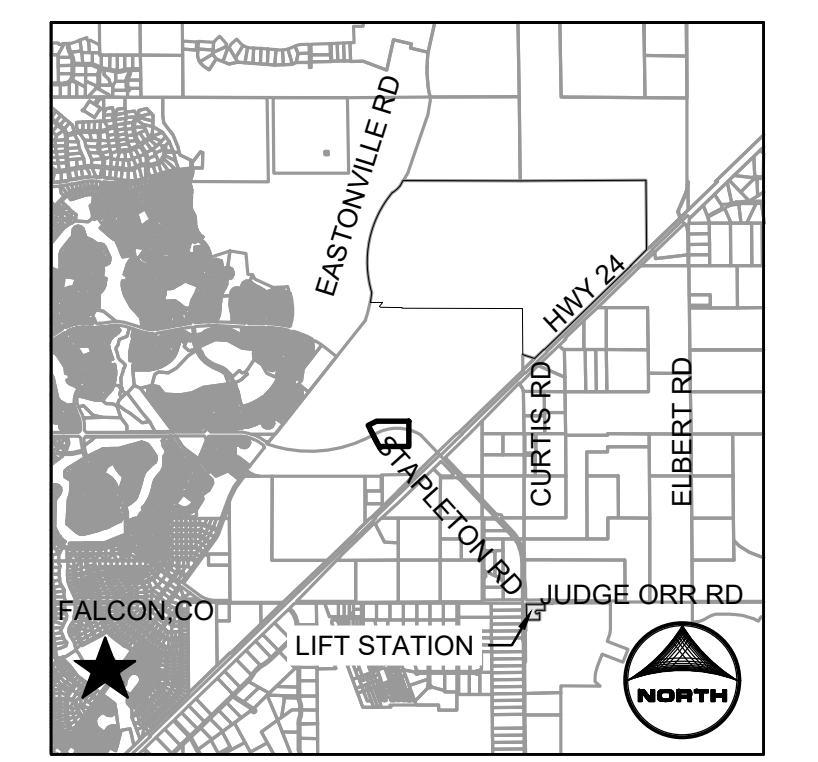
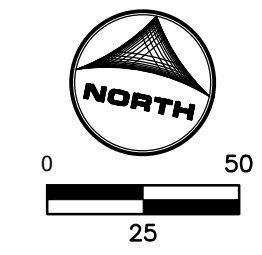
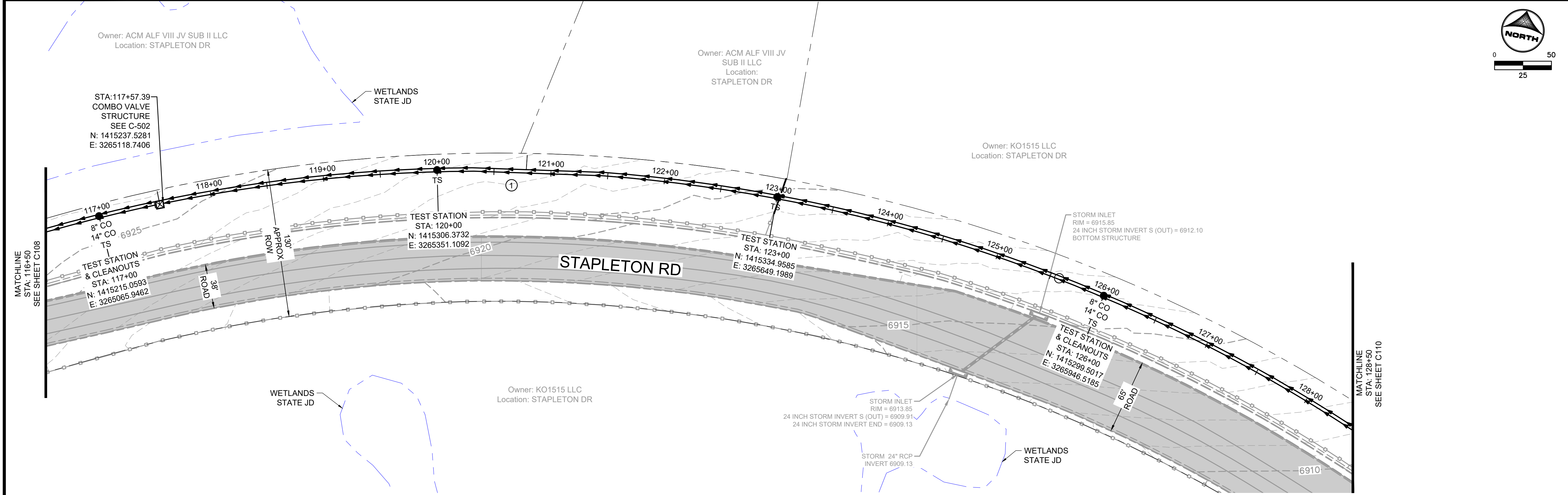
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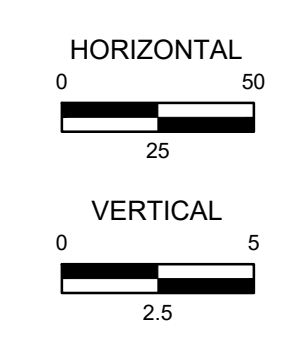
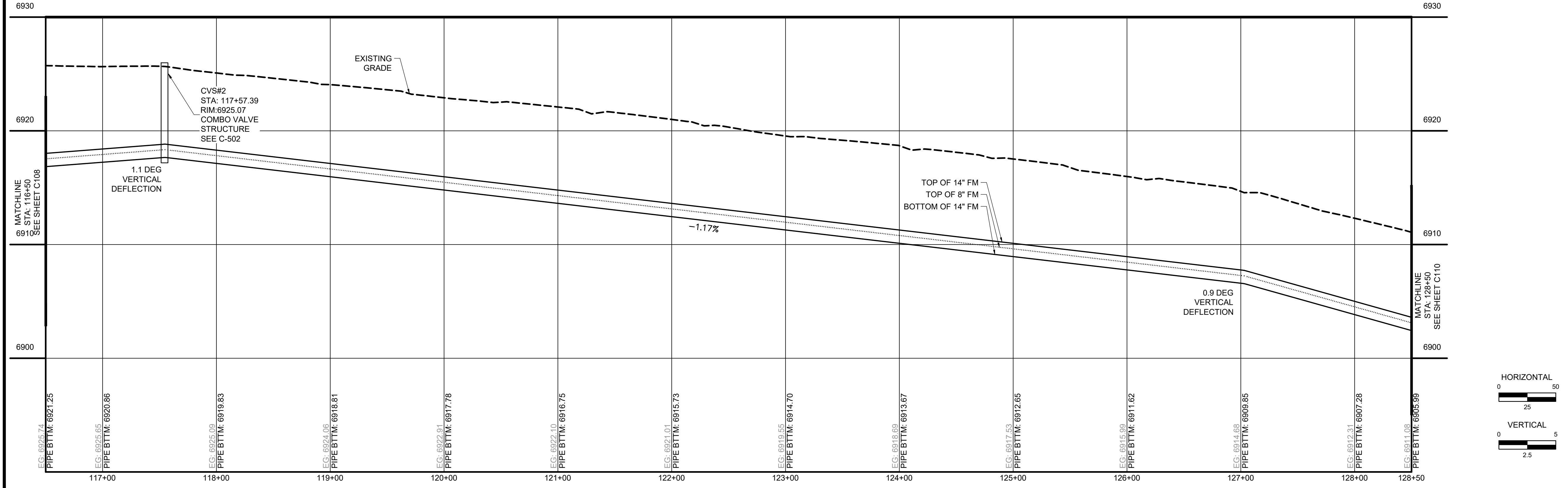
SHEET
C108



KEYMAP

- GENERAL NOTES:
- NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
 - CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
 - EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.

- KEY NOTE:
- INSTALL WARNING TAPE 1 FT ABOVE VENT PIPE EXTENSION FROM COMBO VALVE VAULT TO WHERE VENT PIPE DAYLIGHTS.



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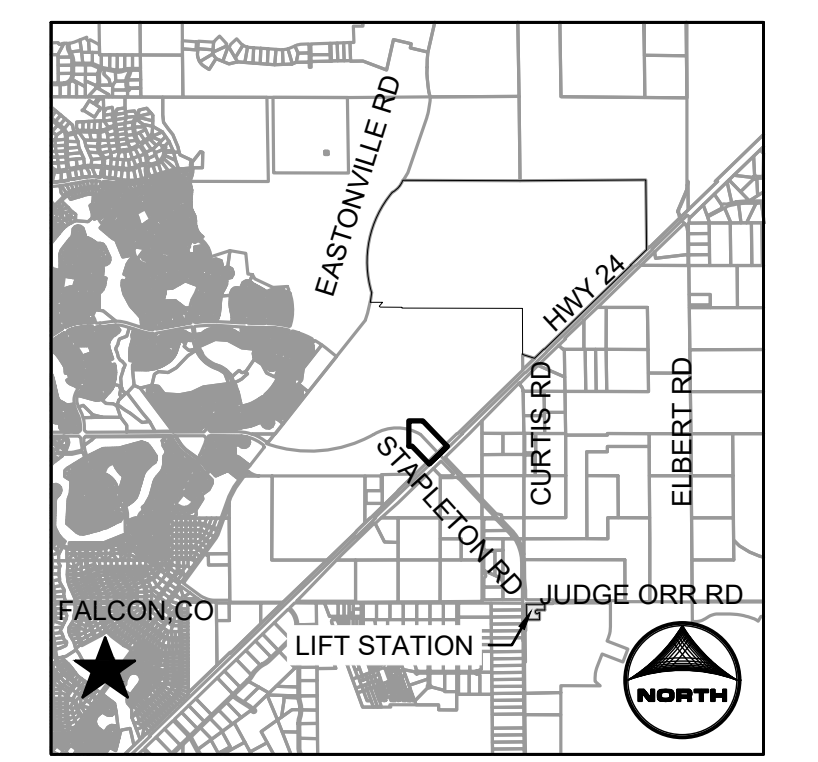
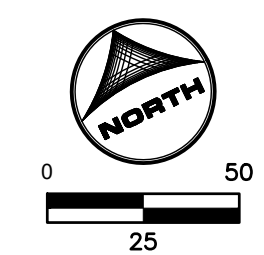
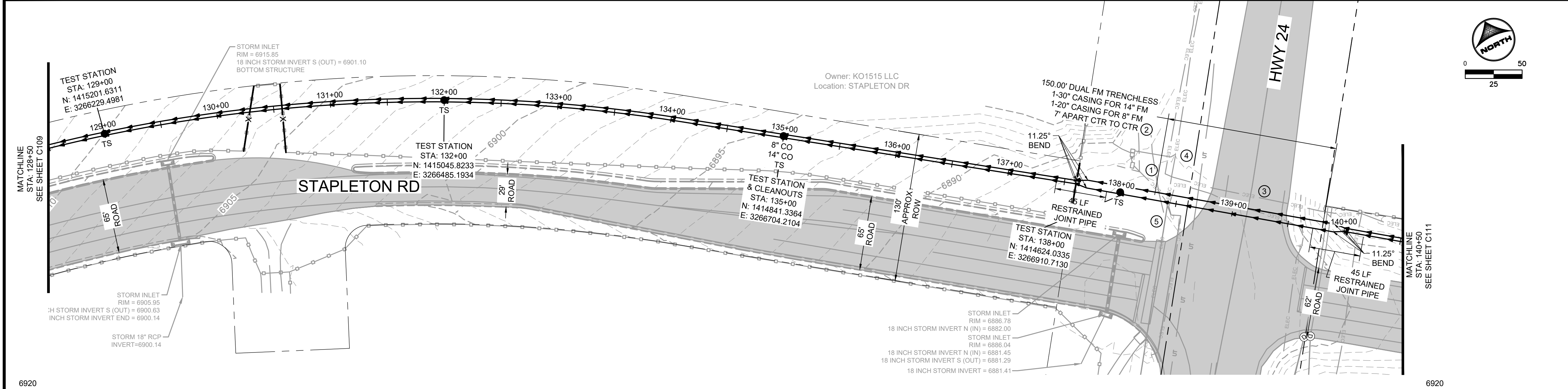
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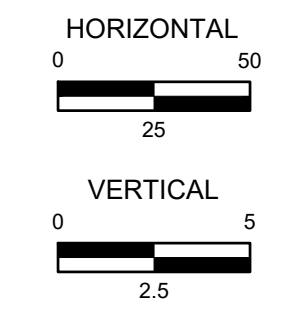
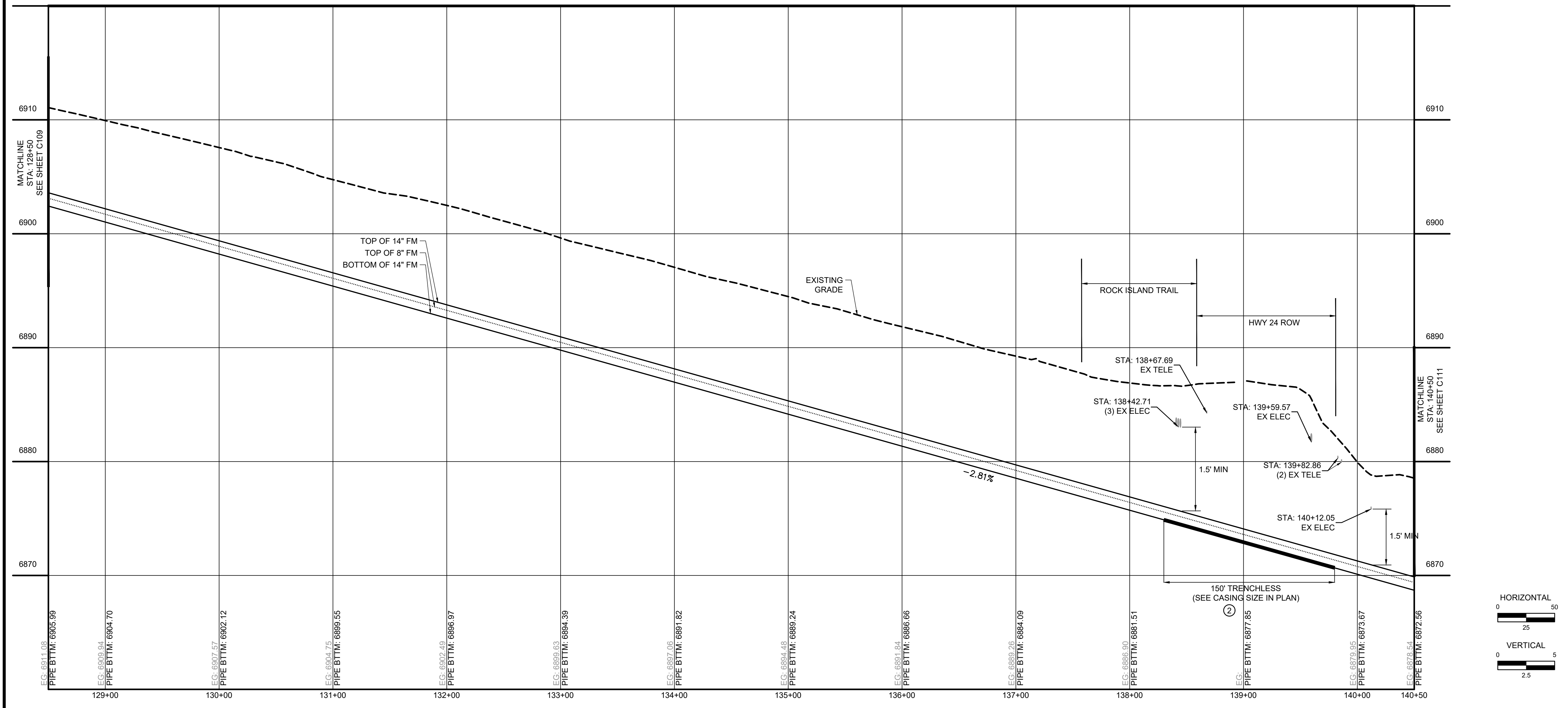
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SHEET
C109



KEYMAP

- GENERAL NOTES:
- NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
 - CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
 - EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.
- KEY NOTE:
- REMOVE AND REPLACE GRAVEL.
 - STEEL CASING PIPES WITH CATHODIC PROTECTION. SEE MIN WALL THICKNESS PER CASING PIPE DETAIL ON C502.
 - PROTECT HWY 24 FROM DAMAGE.
 - CAUTION - FIBER OPTIC WITHIN THIS AREA. EXACT LOCATION UNKNOWN.
 - CAUTION - WATER MAIN WITHIN THIS AREA. EXACT LOCATION UNKNOWN.



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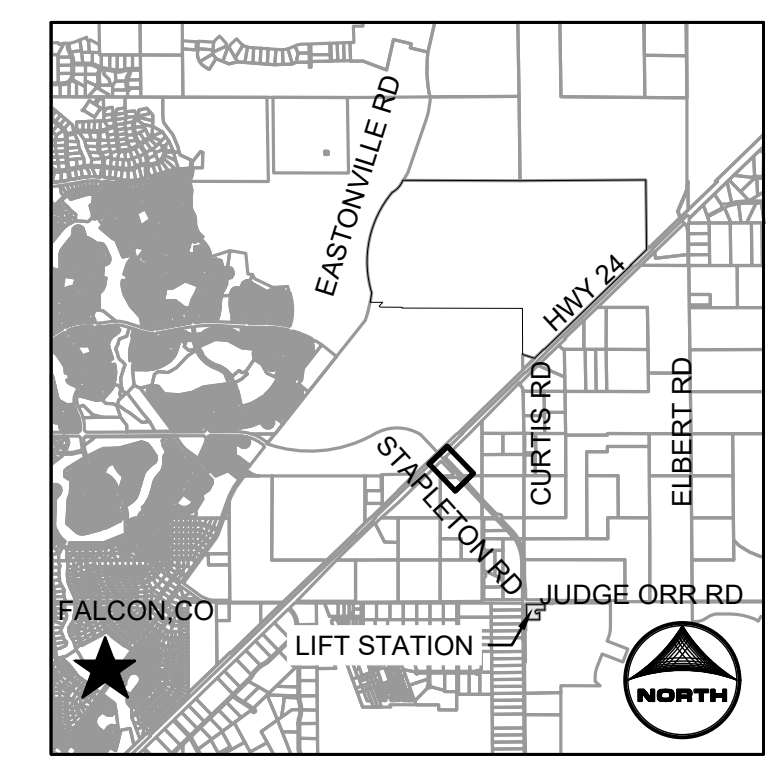
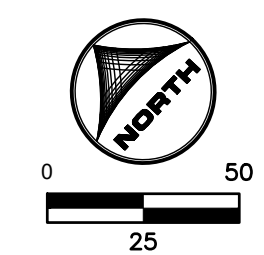
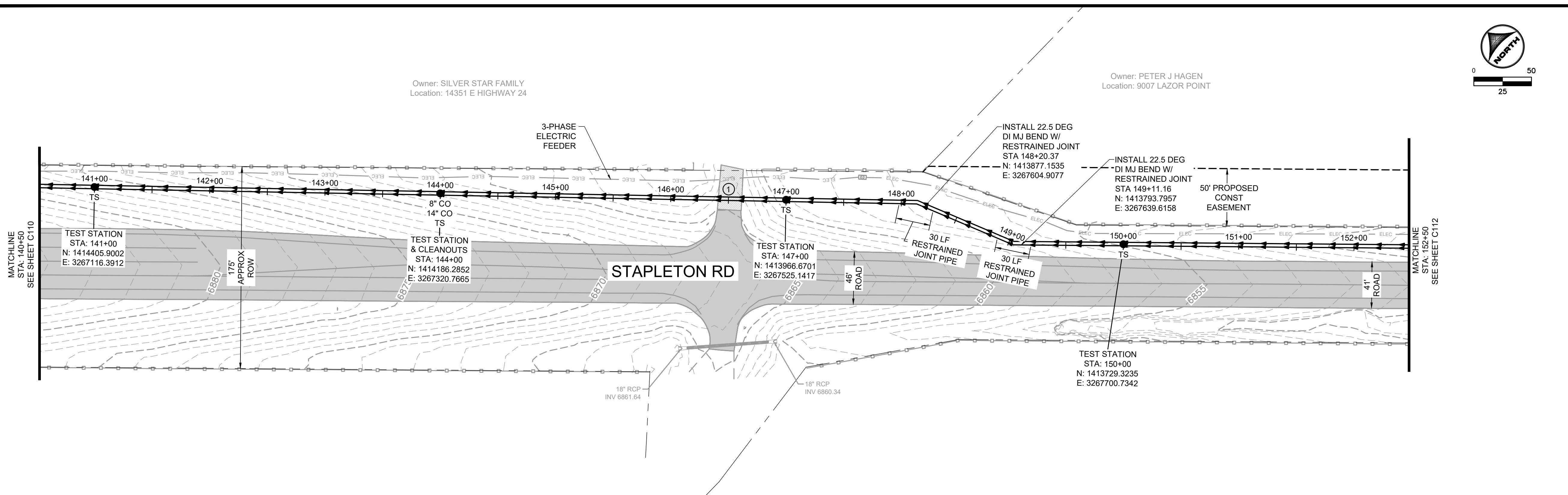
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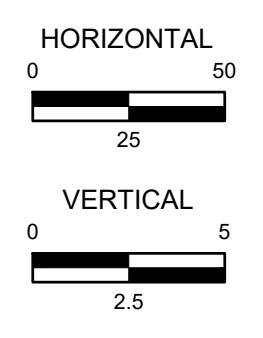
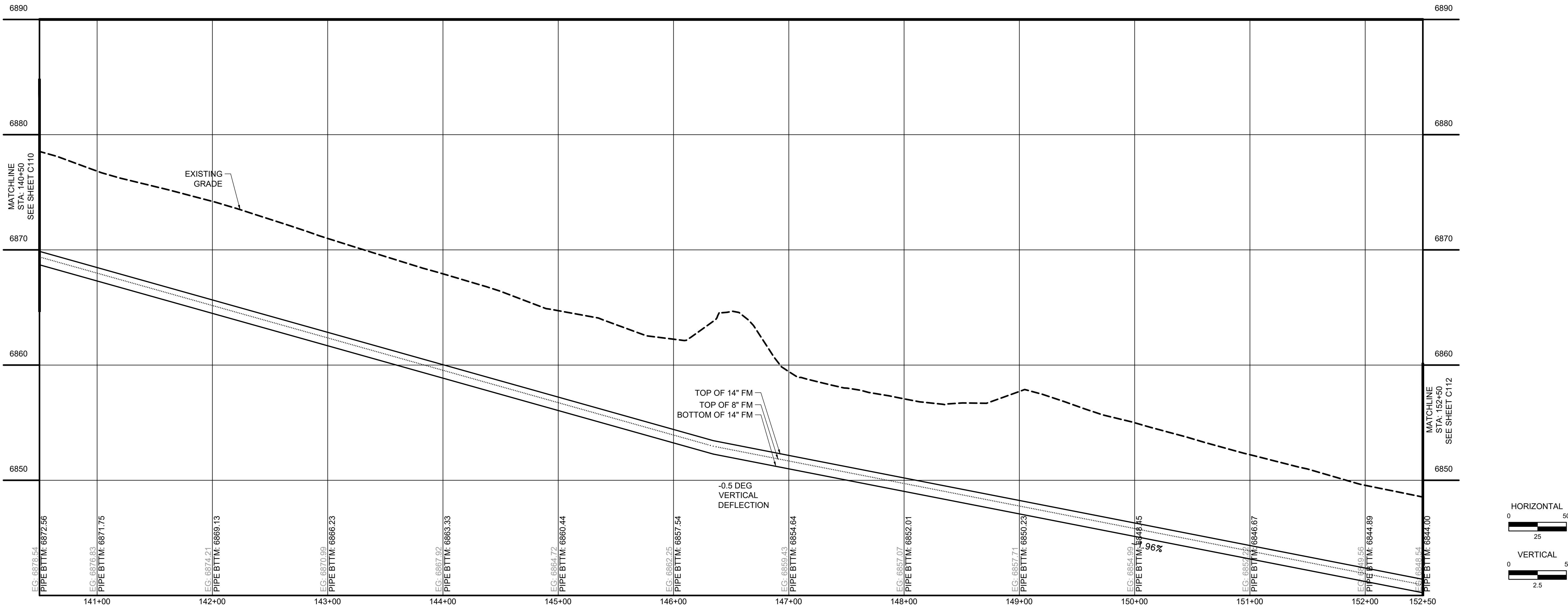
HR GREEN Xrefs: XV-Row, XV-Utit, xgl-1-dh01-FM; XC-Lit-Station; XC-Electrical; XC-Driveway; XC-Utit; P&P_Key; XC-Initial-EC; 01-DC-San-Fm; XV-Degr; XY-Fema; Fm_Key_Plan; XC-Row; XC-Hatching; Fm_RemoveReplace

HR GREEN Xrefs: XV-Row; XV-Utl; xgl-1-dh01-FM; XC-Lit-Station; XC-Lit-Station; XC-Electrical; XC-Driveway; XC-Utl; P&P_Key; XC-Degr; XC-Initial-EC; 01-DC-San-Fm; XV-Degr; XV-Fema; Fm-Key_Plan; XC-Row; XC-Hatching; Fm_RemoveReplace



KEYMAP

- GENERAL NOTES:
- NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
 - CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
 - EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.
- KEY NOTE:
- ① REMOVE AND REPLACE ASPHALT PAVEMENT AND GRAVEL SURFACING.



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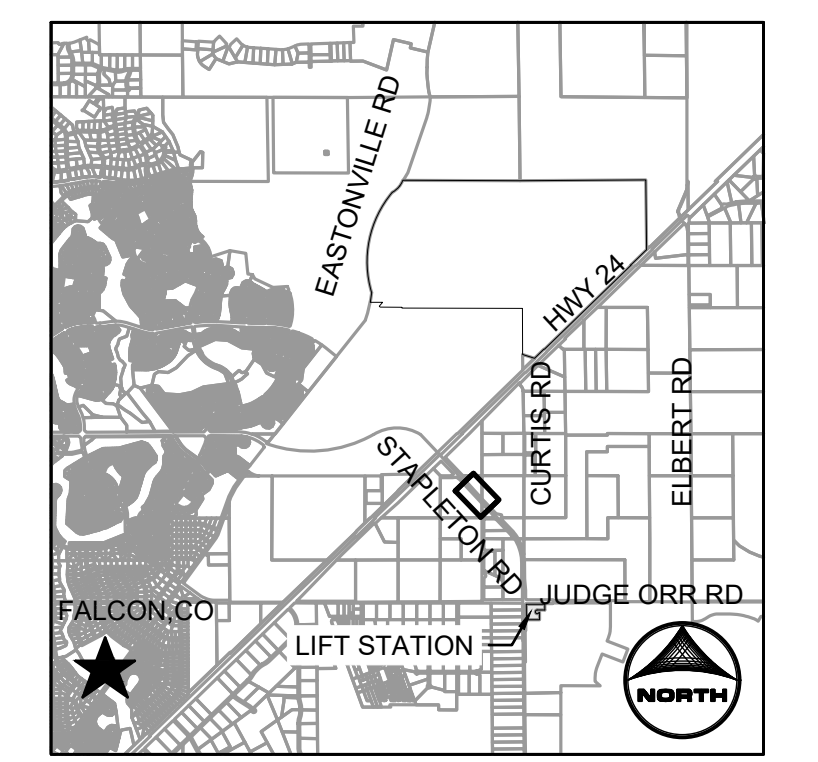
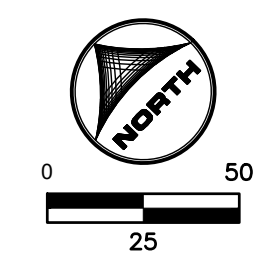
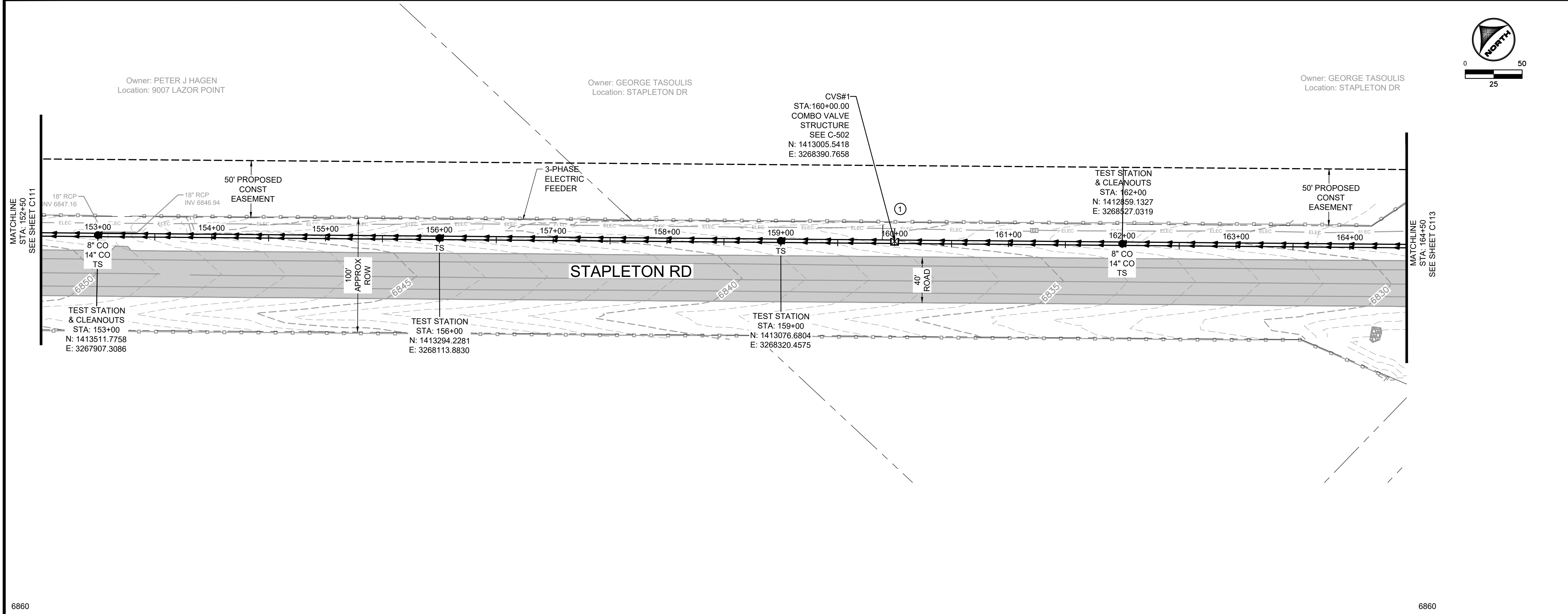
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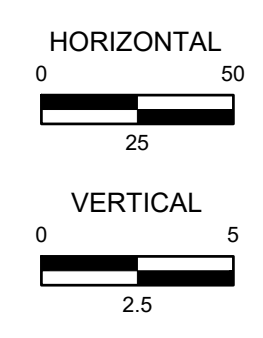
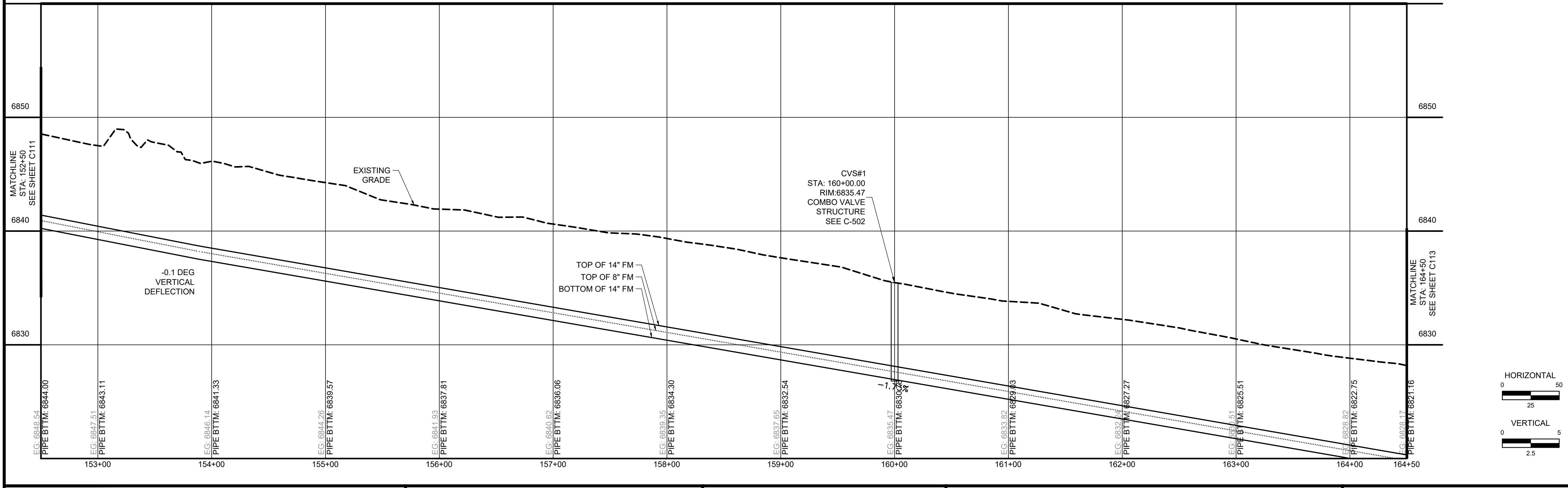
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SHEET
C111



KEYMAP

- GENERAL NOTES:
- NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
 - CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
 - EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.
- KEY NOTE:
- ① INSTALL WARNING TAPE 1 FT ABOVE VENT PIPE EXTENSION FROM COMBO VALVE VAULT TO WHERE VENT PIPE DAYLIGHTS.



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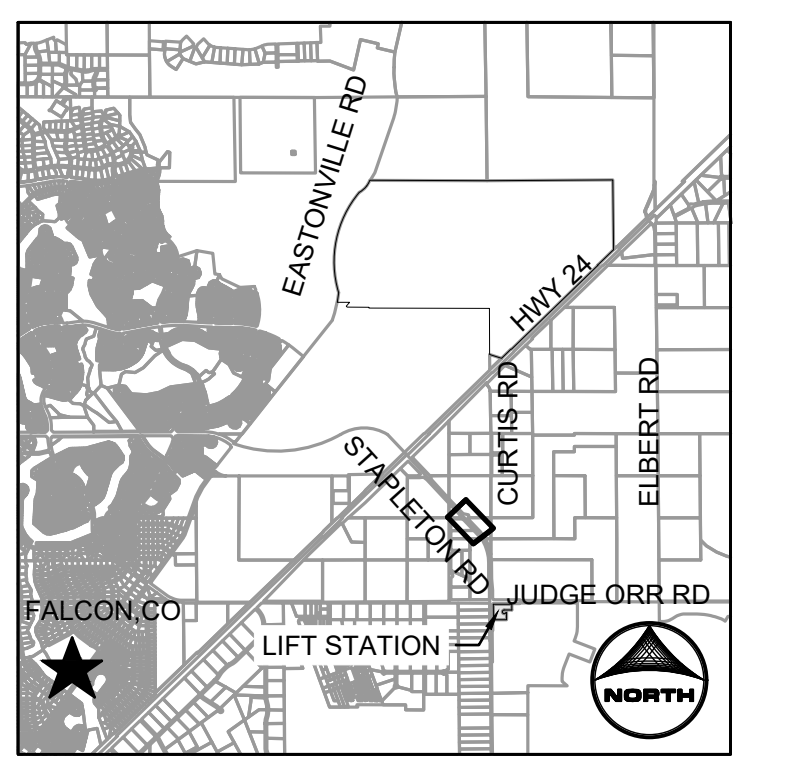
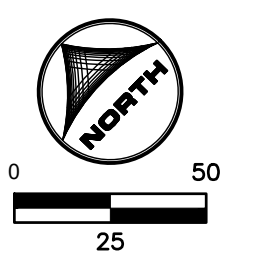
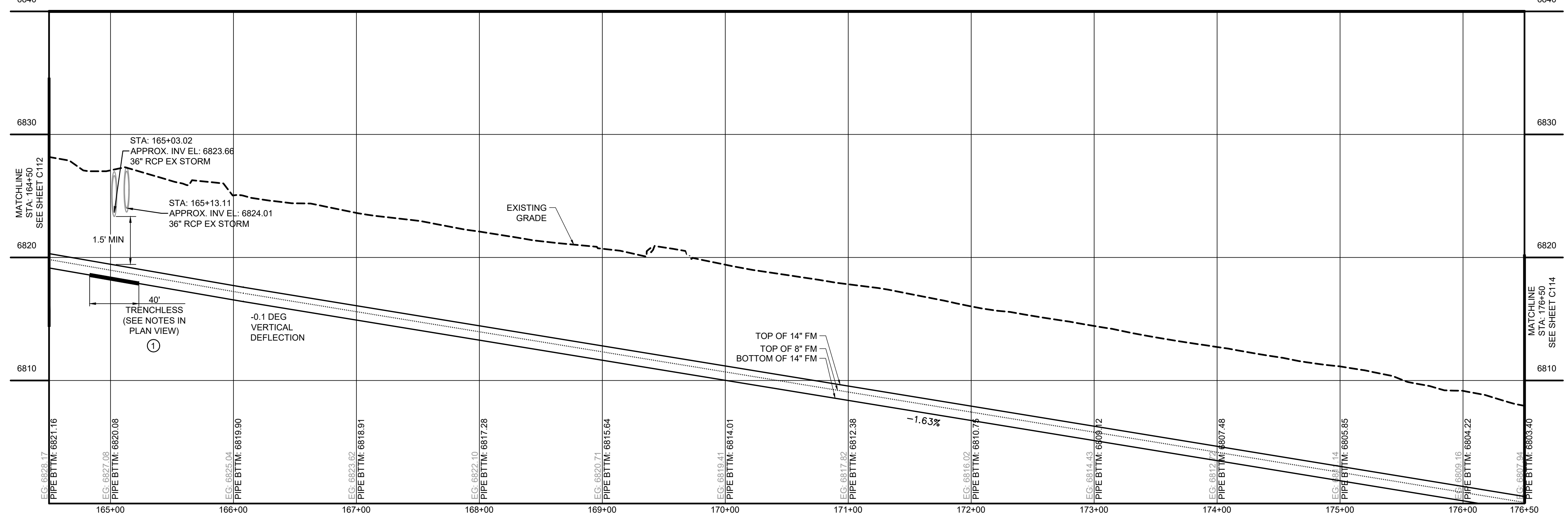
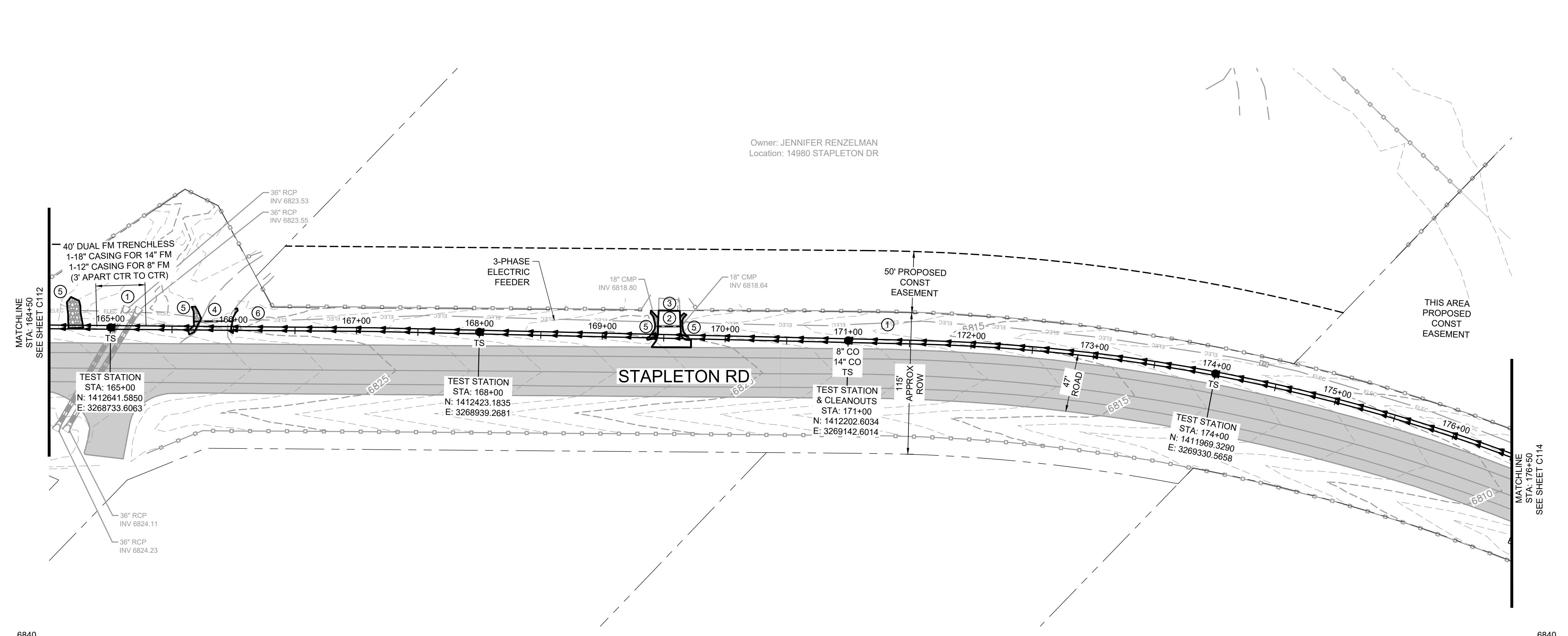
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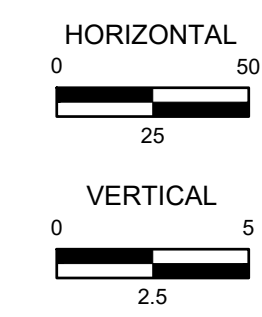
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C112

HR GREEN Xrefs: XV-Util; XV-Util; xg-1-dh01-FM; XC-Lift-Station; XC-Electrical; XC-Driveway; XC-Util; P&P-Key; XC-Degr; XC-Initial-EC; 01-DC-San-Fm; XV-Degr; XY-Fema; Fm-Key Plan; XC-Row; XC-Hatching; Fm-Removetoreplace

Owner: JENNIFER RENZELMAN
Location: 14980 STAPLETON DR



- KEYMAP**
- GENERAL NOTES:**
- NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
 - CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
 - EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.
- KEY NOTE:**
- STEEL CASING PIPES WITH CATHODIC PROTECTION, SEE MIN WALL THICKNESS PER CASING PIPE DETAIL ON C502.
 - PROTECT IN PLACE OR REMOVE AND REINSTALL 24 LF OF 18" CMP CULVERT.
 - REMOVE AND REPLACE CONCRETE DRIVEWAY.
 - REMOVE AND REPLACE GRAVEL SURFACING.
 - PROTECT IN PLACE OR REMOVE AND REINSTALL RIP RAP.
 - PROTECT IN PLACE OR REMOVE AND REINSTALL 32 LF OF 18" CULVERT.



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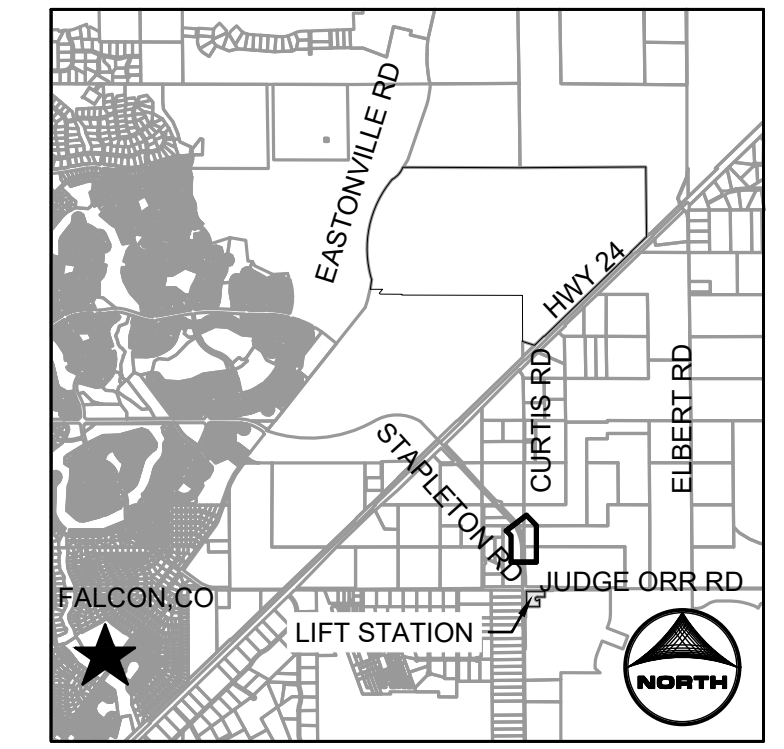
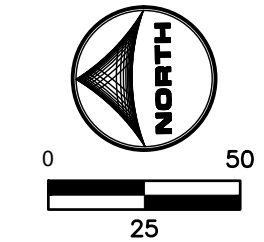
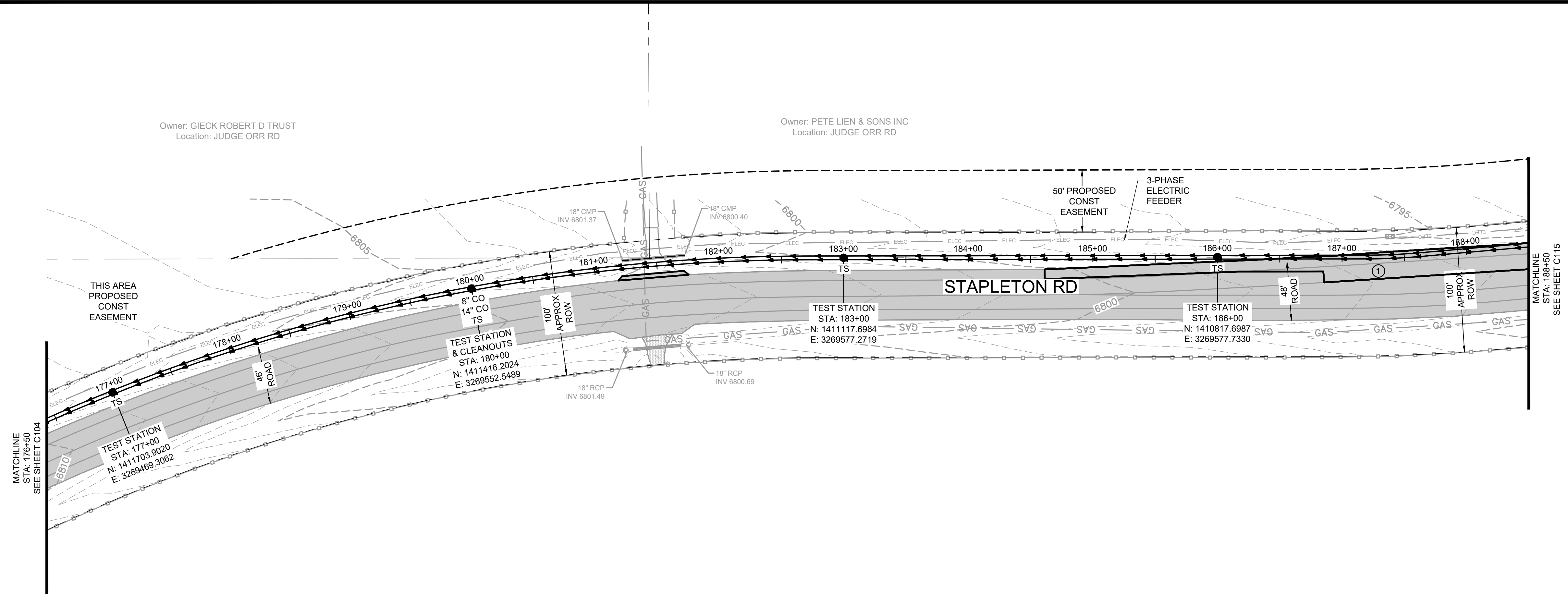
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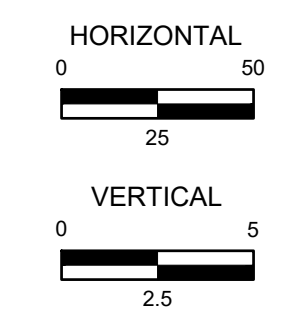
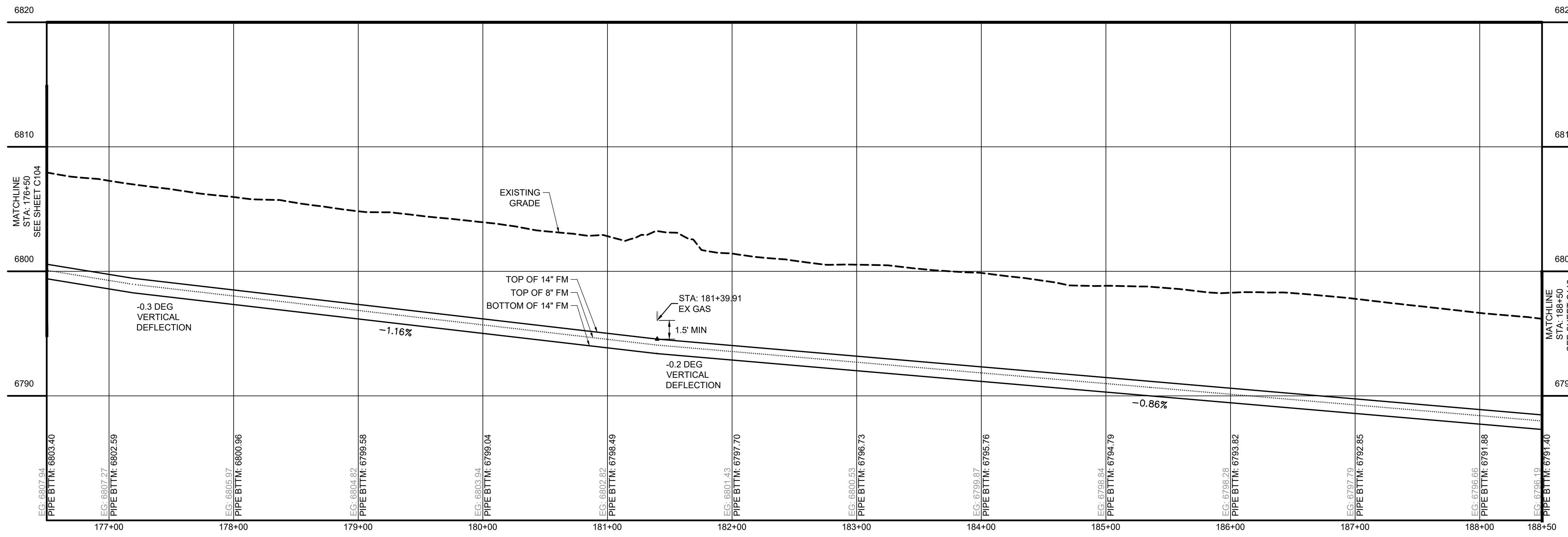
SHEET
C113

HR GREEN Xrefs: XV-Row, XV-Util, xg1-1-dh01-FM; XC-Lift-Station; XC-Electrical; XC-Driveway; XC-Util; P&P-Key; XC-Degr; XC-Initial-EC; 01-DC-San-Fm; XV-Degr; XV-Fema; Fm-Key; Plan; XC-Row; XC-Hatch; Fm-Remove/Replace



KEYMAP

- GENERAL NOTES:
- NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
 - CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
 - EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.
- KEY NOTE:
- ① REMOVE AND REPLACE ASPHALT PAVING.



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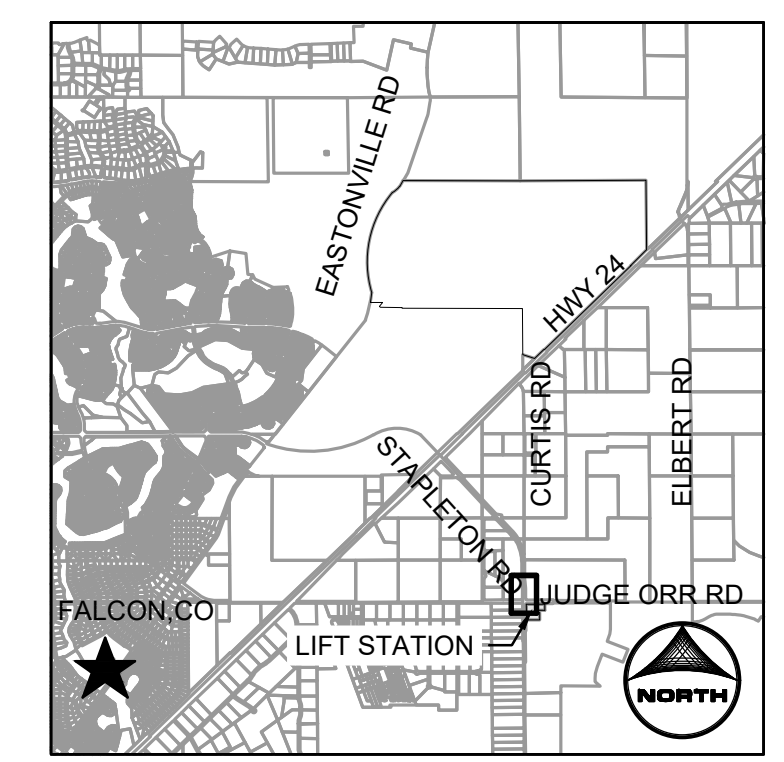
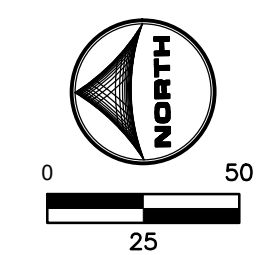
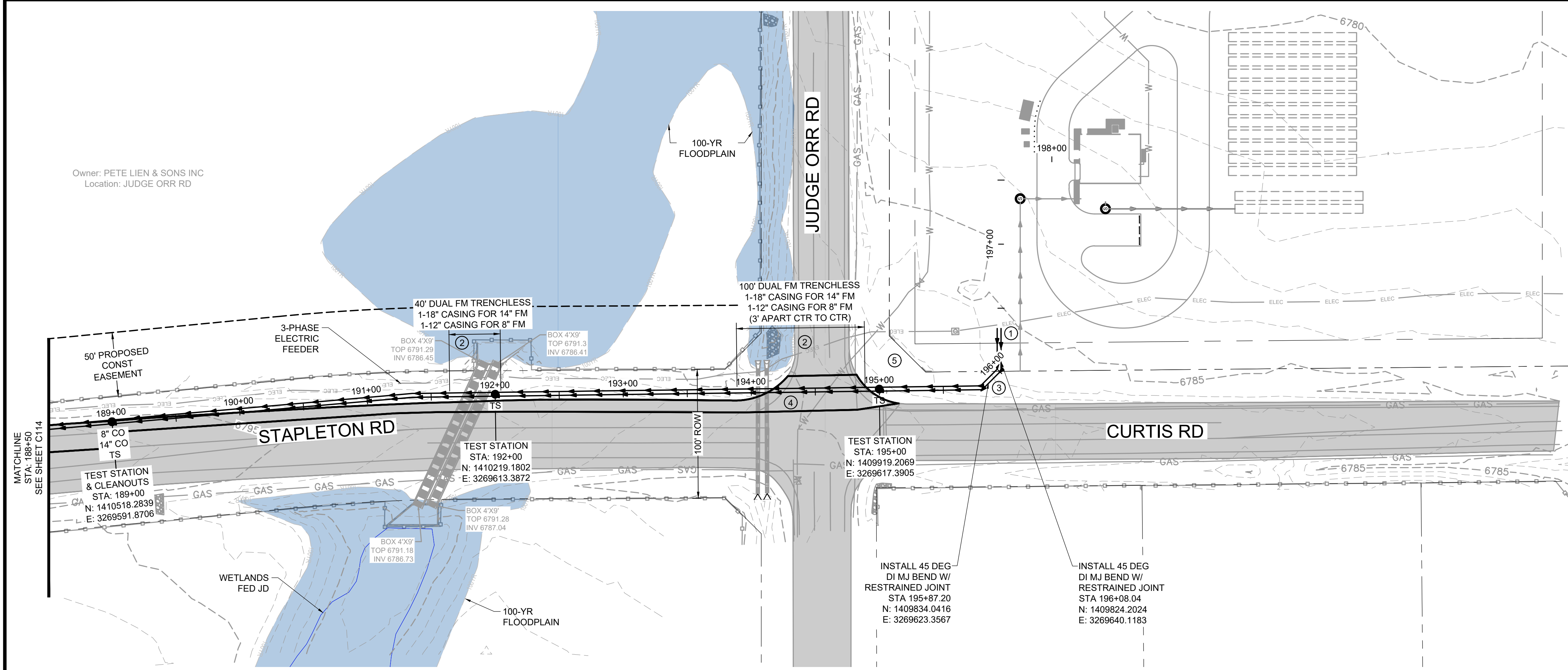
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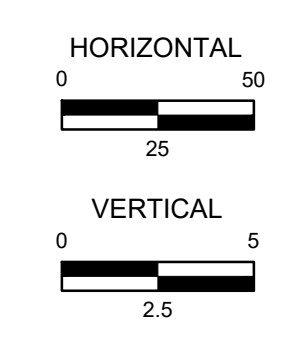
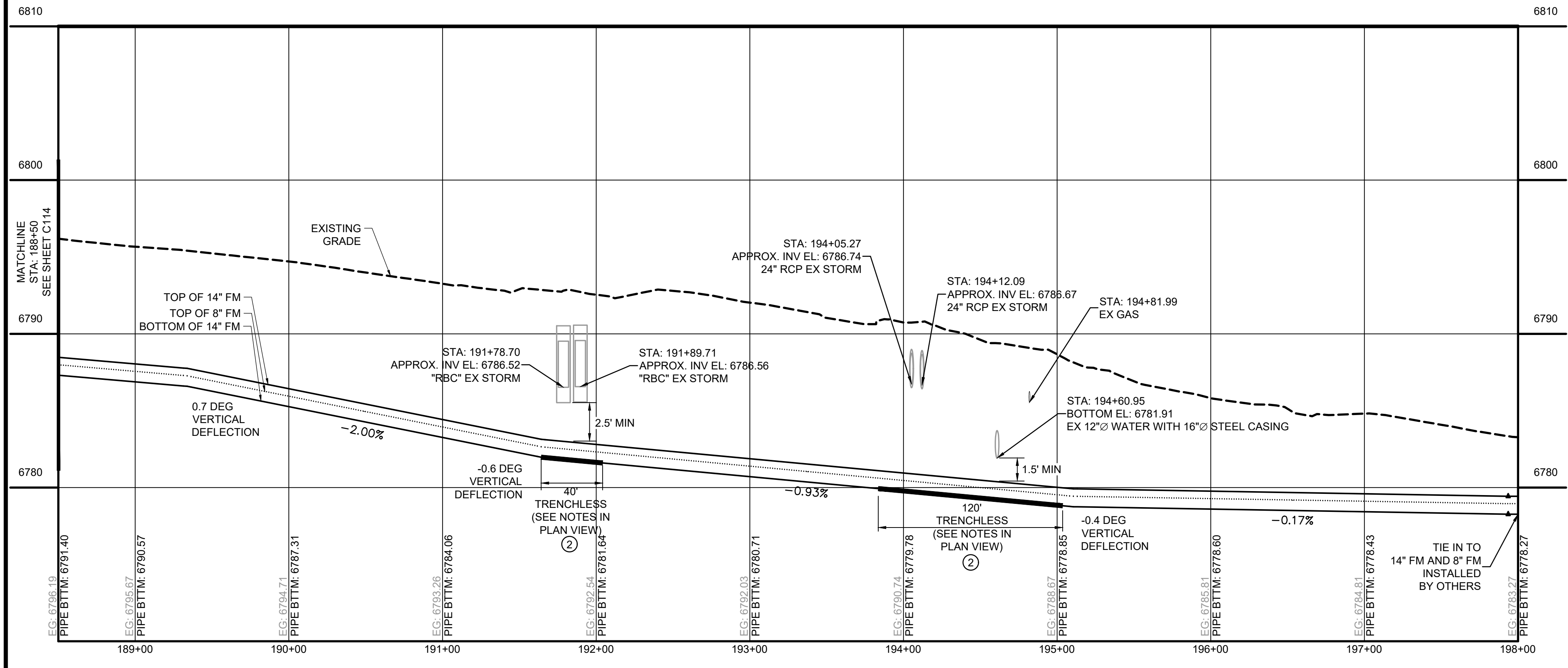
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C114

HR GREEN X-axis: XV-Row: XV-Utility: xgt-1-dh01-FM; XC-Lift-Station; XC-Electrical; XC-Driveway; XC-Utility; P&P-Key; XC-Degrn; XC-Initial-EC; 01-DC-San-Fm; XV-Degrn; XV-Fema; Fm-Key; Plan; XC-Row; XC-Hatching; Fm-Remove/Replace



- GENERAL NOTES:
- NO UNRESTRAINED JOINTS WITHIN 15' OF FITTINGS, ALL DIRECTIONS.
 - CONTRACTOR TO SUPPORT ALL UTILITY CROSSINGS THAT ARE NOT CALLED TO BE REMOVED AND REPLACED DURING CONSTRUCTION.
 - EXISTING UTILITY ELEVATIONS SHOWN ARE APPROXIMATE.
- KEY NOTE:
- TIE INTO 14" FORCE MAIN AND 8" FORCE MAIN INSTALLED BY OTHERS. PROVIDE PVC CAPS IF CONNECTIONS ARE NOT READY TO BE MADE. SEE GRANDVIEW LIFT STATION CONSTRUCTION DOCUMENTS.
 - STEEL CASING PIPES WITH CATHODIC PROTECTION, SEE MIN WALL THICKNESS PER CASING PIPE DETAIL ON C502.
 - PROVIDE PE WRAP AND CATHODIC PROTECTION AT FITTING.
 - REMOVE AND REPLACE ASPHALT PAVING.
 - CAUTION - FIBER OPTIC WITHIN THIS AREA. EXACT LOCATION UNKNOWN.



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STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL SHEETS:

- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
- A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
- ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.
- CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
- ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
- TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
- FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
- ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
- COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENEED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
- ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.
- CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
- DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER, SUCH WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
- EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES

- STEEPER THAN 3:1.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
- THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
- NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
- OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
- PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY _____ AND SHALL BE CONSIDERED A PART OF THESE PLANS.
- AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:


COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL DIVISION
WQCD - PERMITS
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80246-1530
ATTN: PERMITS UNIT

SEND MUD MAT SPECIFICATION TO MIKAYLA HARTFORD AT MIKAYLAHARTFORD@ELPASO.COM TO ENSURE MUD MAT USE IS ACCEPTABLE IN EL PASO COUNTY.


PERMANENT SEED SPECS

- SPECIAL SEED MIX #1 - TBD SPECIAL ON PRIVATE LAND - LANDOWNER WILL WATER.
- SEE LEGEND AND EROSION CONTROL DETAILS FOR SEED MIX/TYPE.

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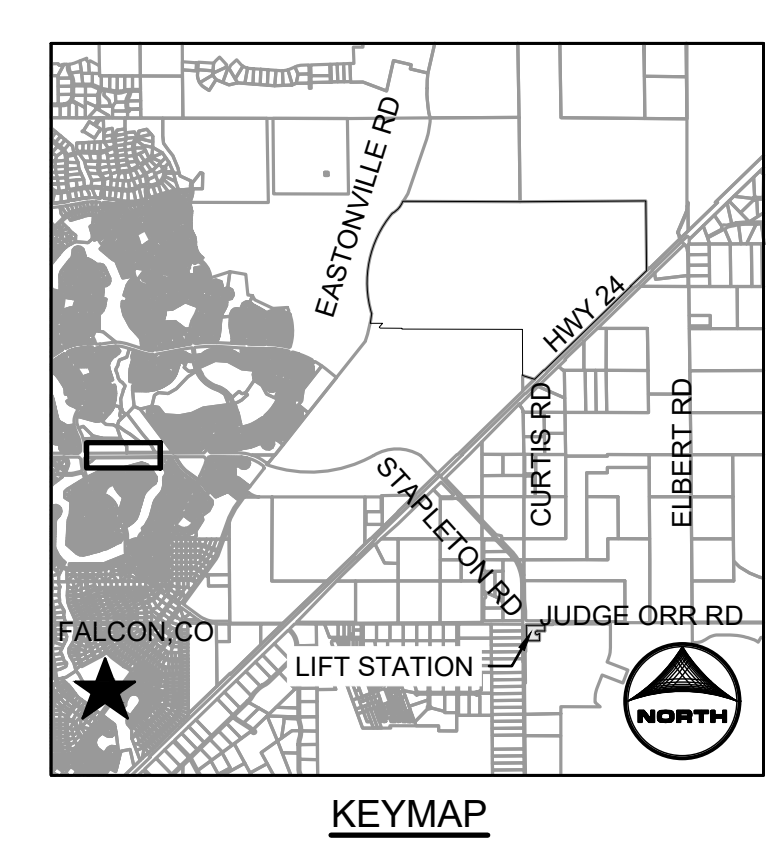
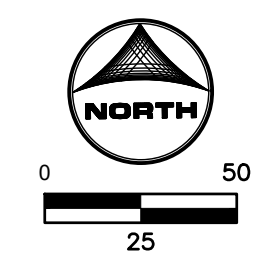
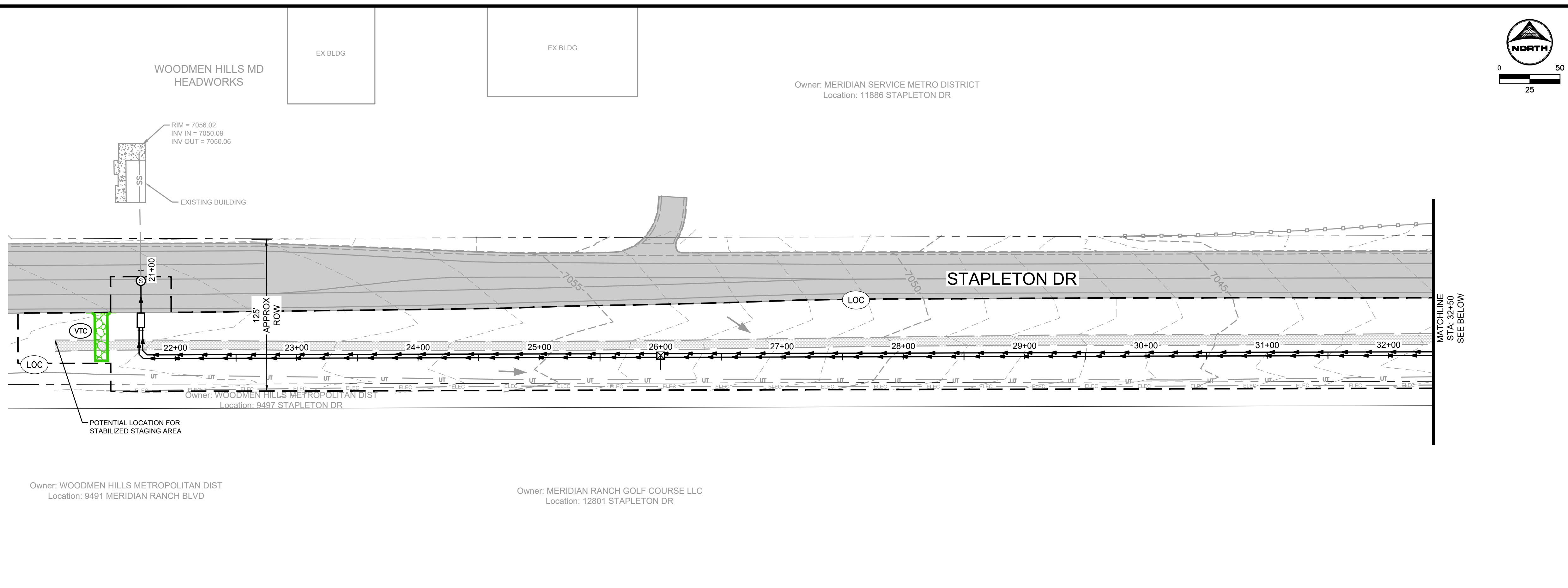
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CONSTRUCTION DOCUMENTS
 GRADING AND EROSION CONTROL NOTES

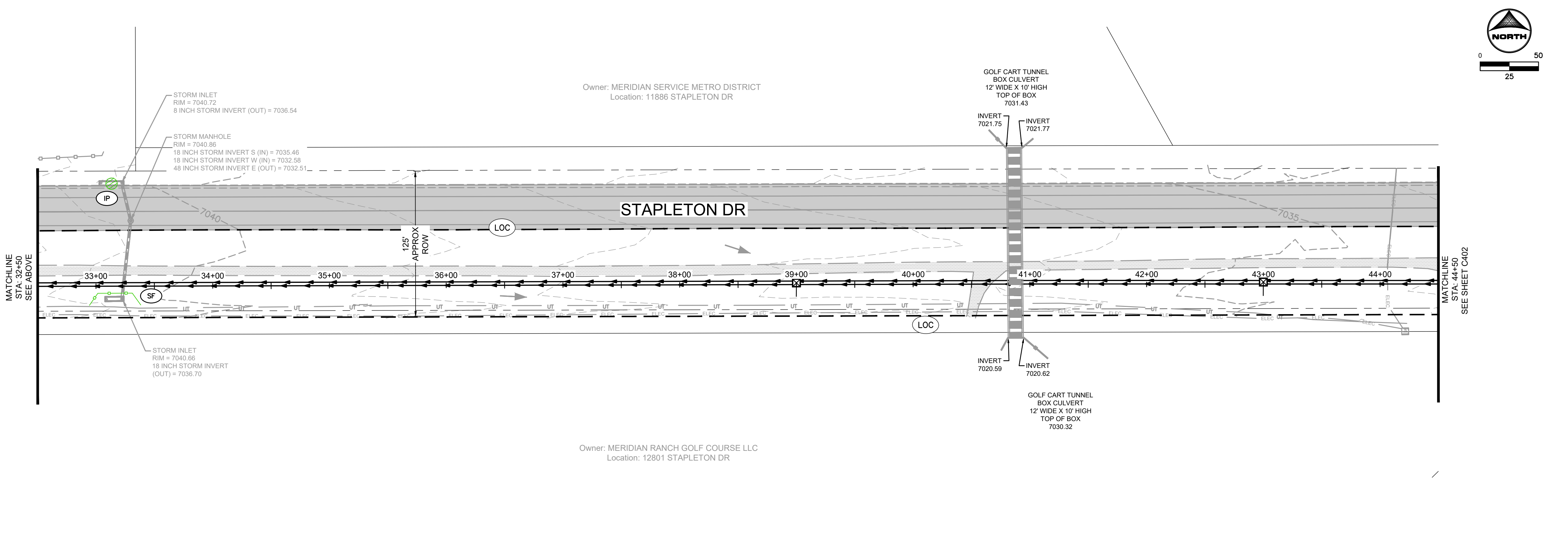
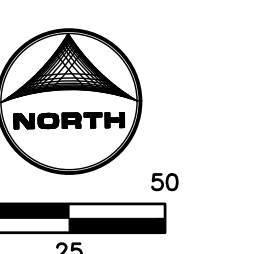
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GENERAL NOTE:
1. CONTRACTOR SHALL REPLACE THE AREA OF CONSTRUCTION TO THE EXISTING, PRE-CONSTRUCTION GRADE.

- GEC LEGEND:**
- CWA CONCRETE WASHOUT AREA
 - ED/DS EARTH DIKE & DRAINAGE SWALE
 - IP INLET PROTECTION
 - CIP CULVERT INLET PROTECTION
 - SF SILT FENCE
 - EL EROSION CONTROL LOG
 - SSA STABILIZED STAGING AREA
 - SP STOCKPILE PROTECTION
 - VTC MUD MATS/VEHICLE TRACKING CONTROL
 - LOC LIMITS OF CONSTRUCTION/DISTURBANCE
 - PSM PERMANENT SEEDING AND MULCHING UPLAND SEED MIX
 - PSM PERMANENT SEEDING AND MULCHING WETLAND SEED MIX
 - PSM PERMANENT SEEDING AND MULCHING SPECIAL SEED MIX #1, SEE NOTES
 - PT PORTABLE TOILET
 - CD CHECK DAM
 - ECB EROSION CONTROL BLANKET
 - NS NEW SURFACING
 - EX FLOW DIRECTION
 - EX FLOODPLAIN



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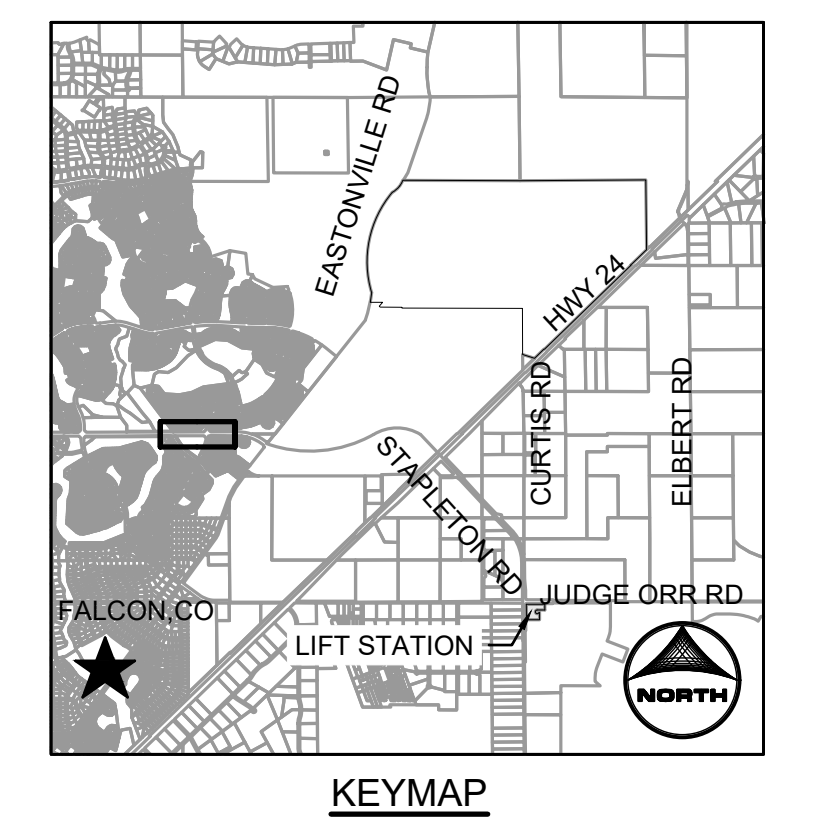
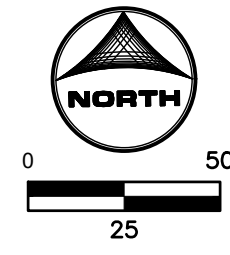
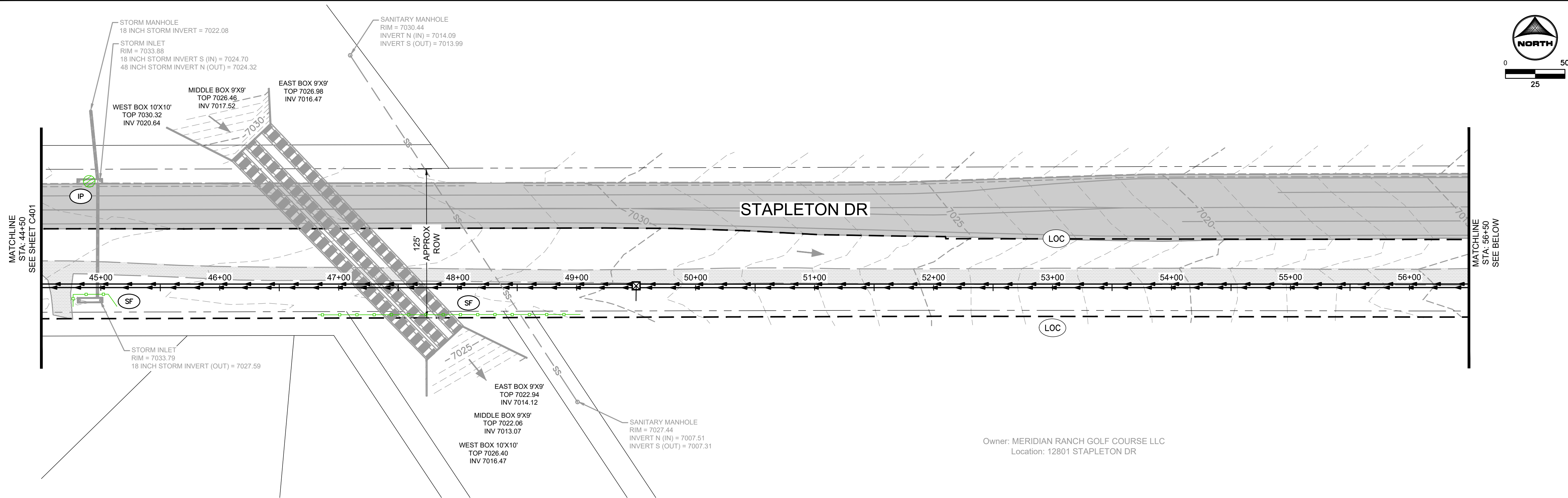
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CONSTRUCTION DOCUMENTS
EROSION CONTROL INITIAL-INTERIM PLAN

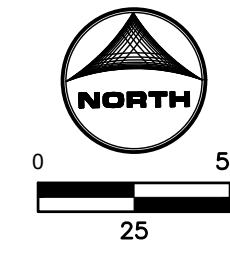
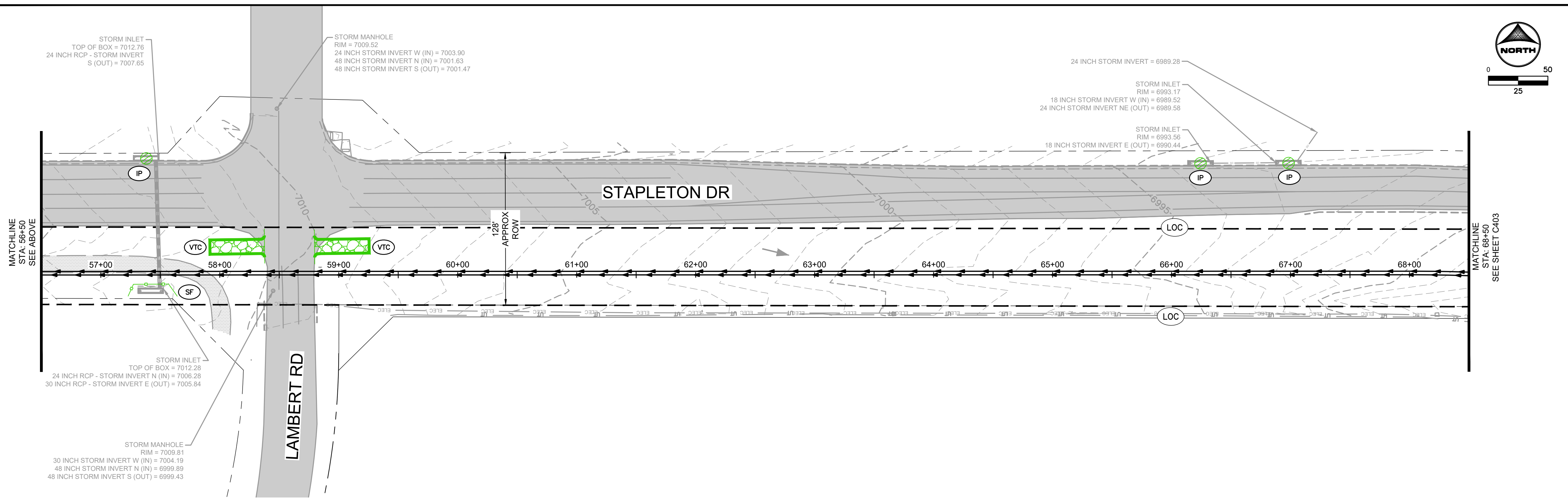
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GENERAL NOTE:
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Owner: MERIDIAN RANCH GOLF COURSE LLC
 Location: 12801 STAPLETON DR



- GEC LEGEND:**
- CWA CONCRETE WASHOUT AREA
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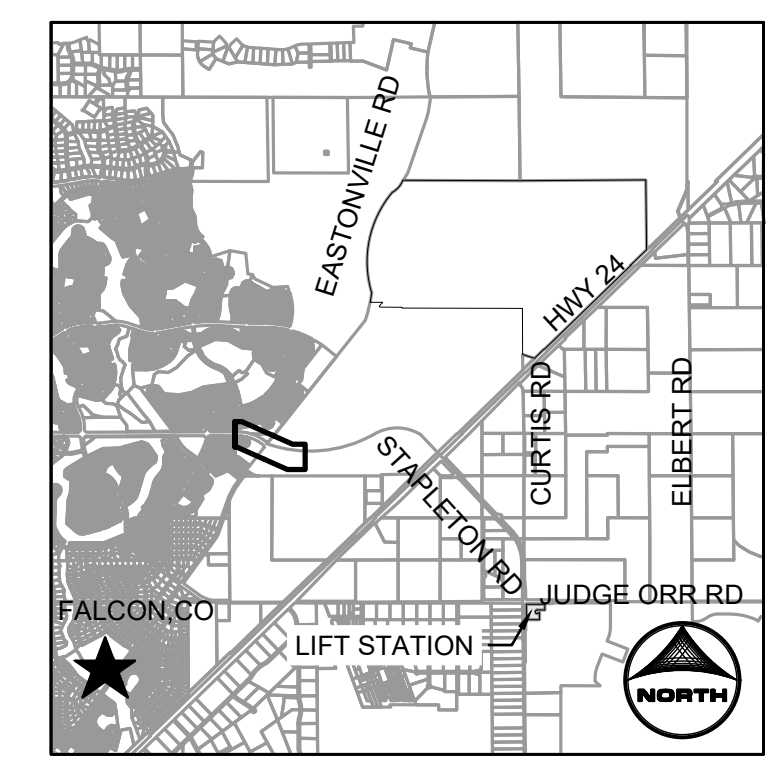
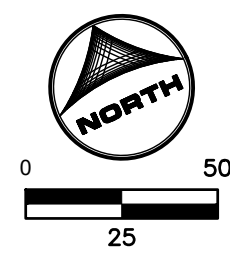
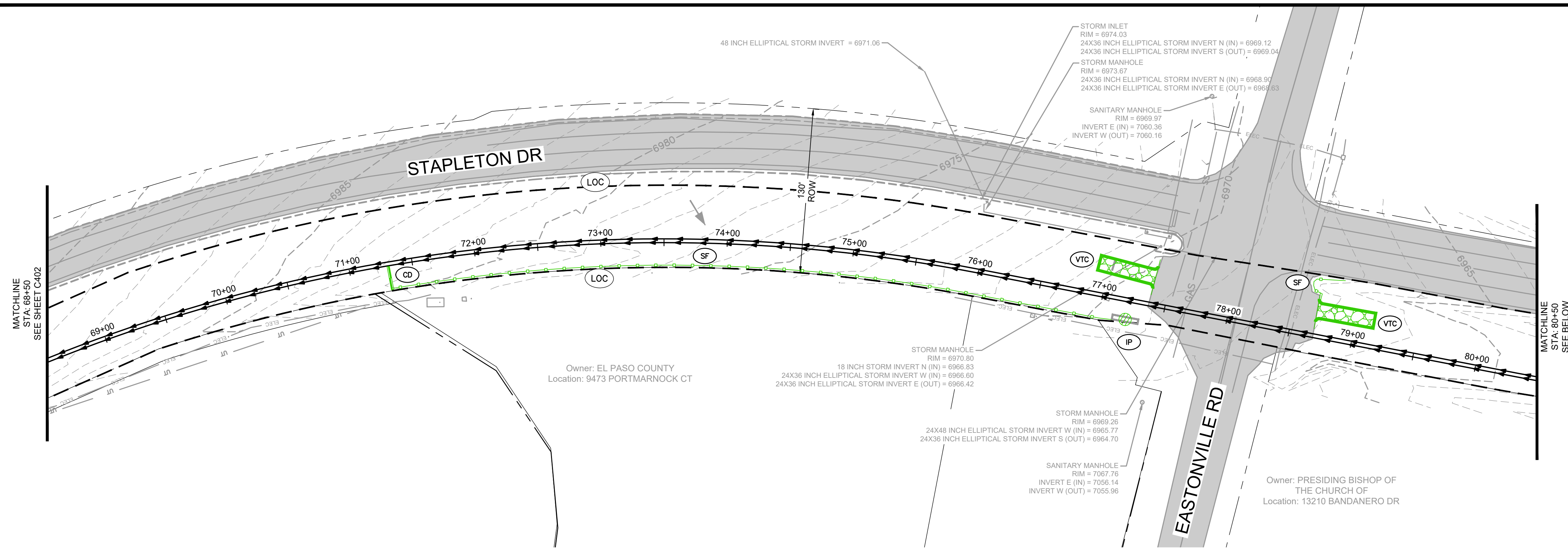
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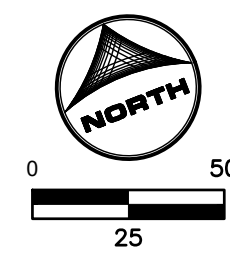
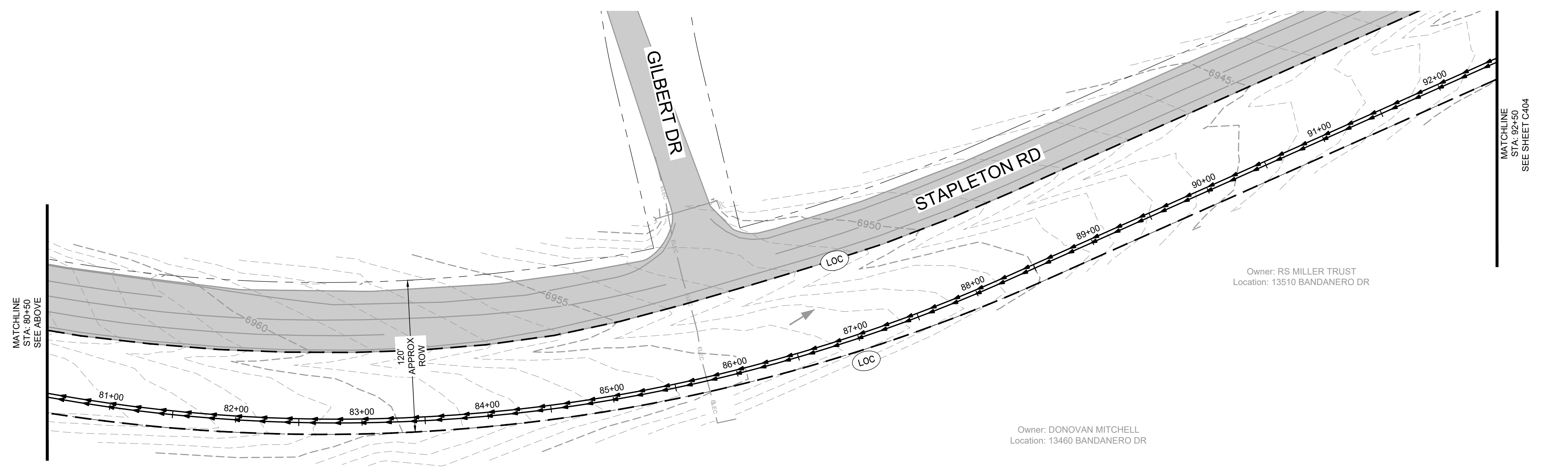


KEYMAP

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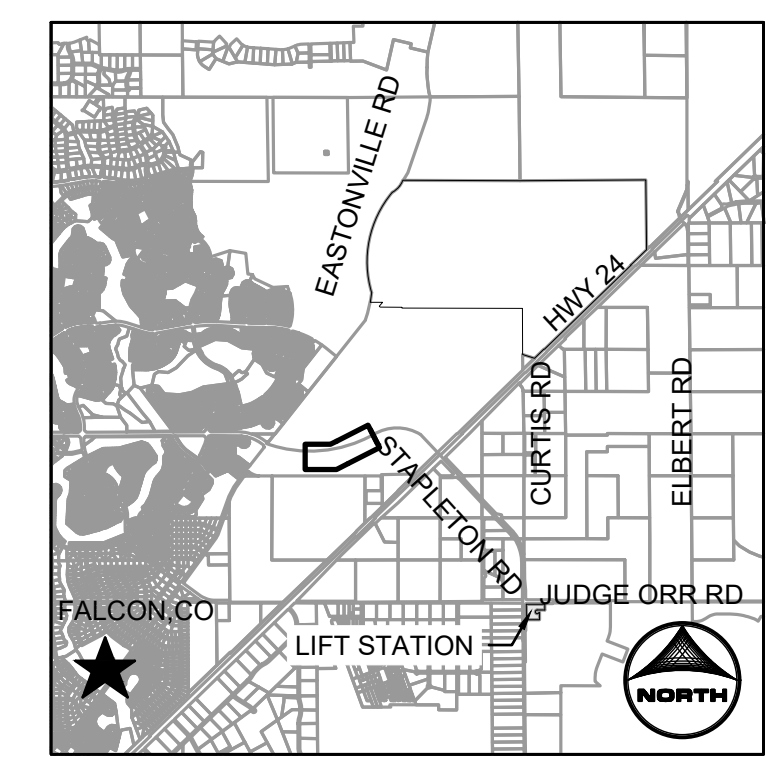
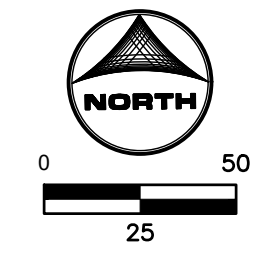
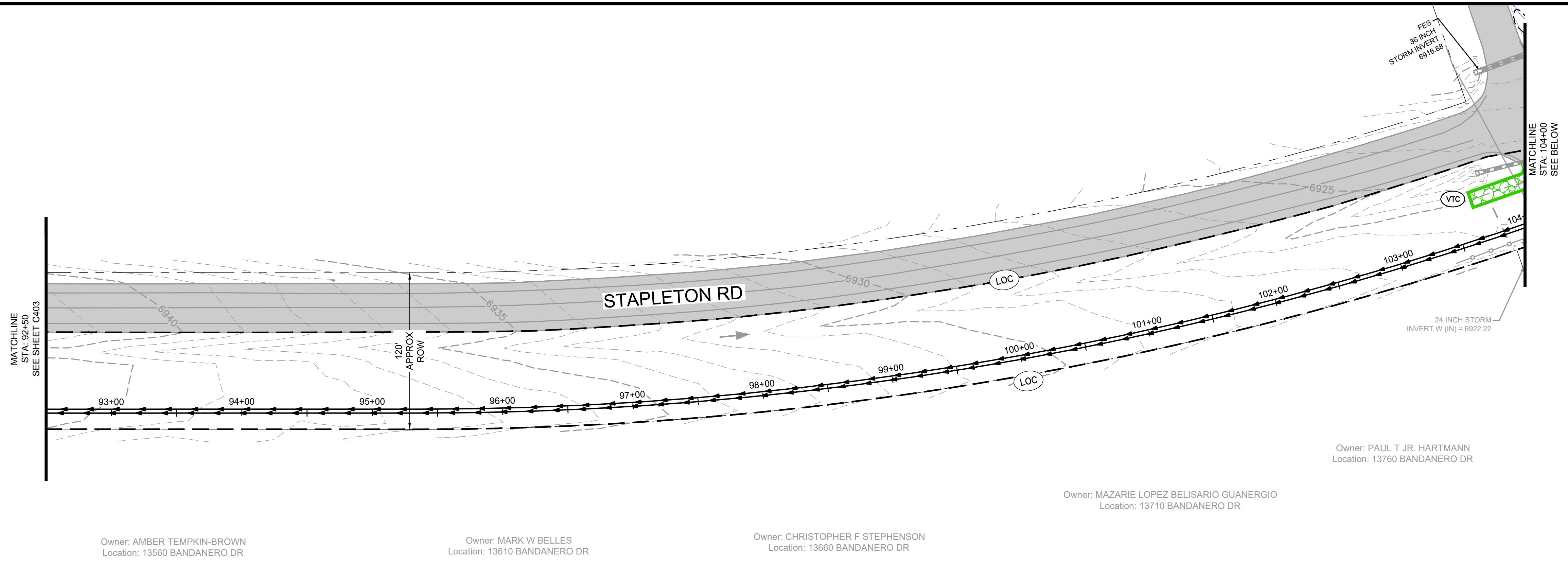
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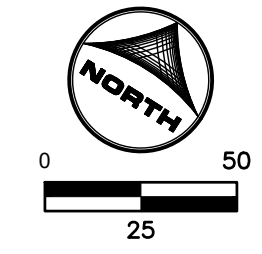
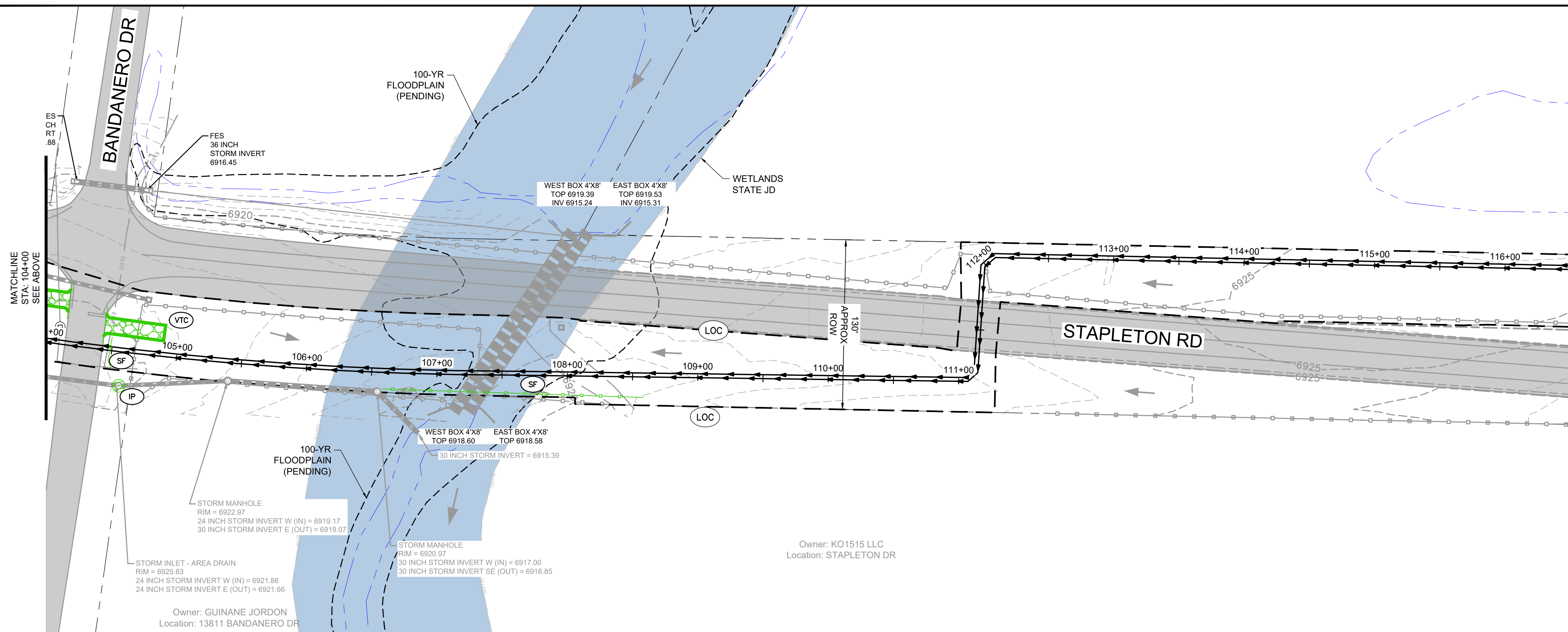


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CAD DATE: 6/12/2024		
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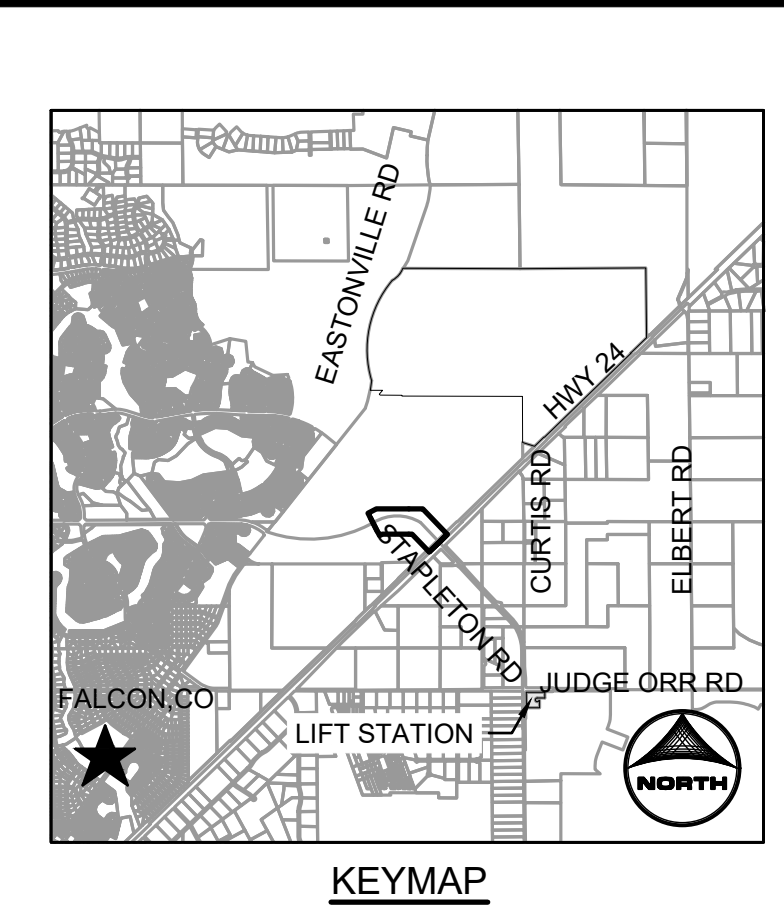
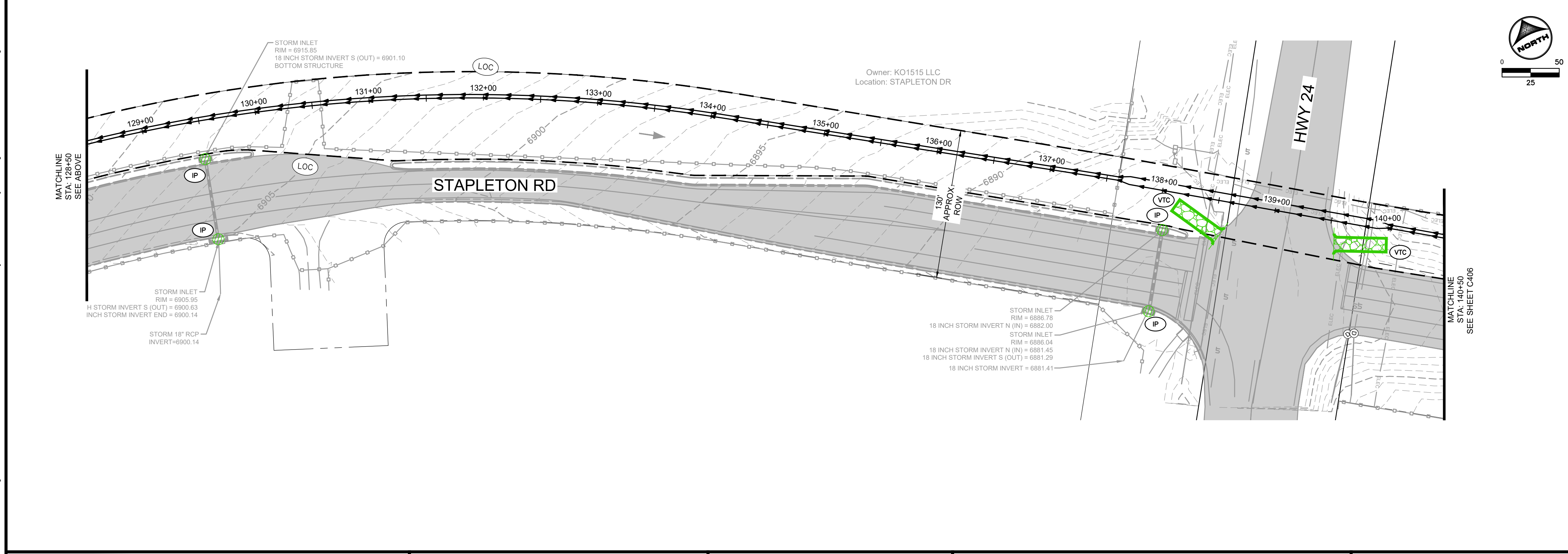
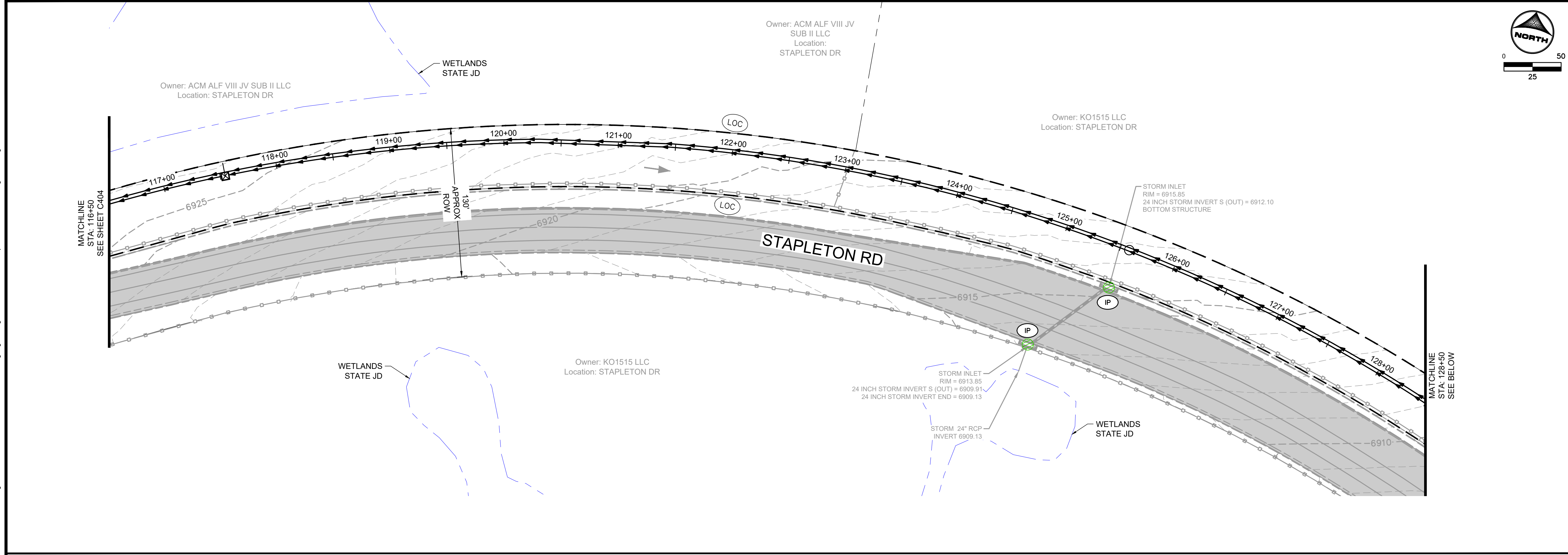
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HR GREEN Xrns: XV-Row: XV-Util: xgl-1-dh01-FM: XC-Lift-Station: XC-Electrical: XC-Driveway: XC-Util: P&P-Key: XC-Degr: XC-Initial-EC: 01-DC-Align-Fm: 01-DC-San-Fm: XV-Degr: XV-Fema: XC-Row: XC-Hatching: gce-Legend: Fm-Remove/Place: XC-Legend: XC-Hatching-Seedling



GENERAL NOTE:
 1. CONTRACTOR SHALL REPLACE THE AREA OF CONSTRUCTION TO THE EXISTING, PRE-CONSTRUCTION GRADE.

- GEC LEGEND:**
- CWA CONCRETE WASHOUT AREA
 - ED/DS EARTH DIKE & DRAINAGE SWALE
 - IP INLET PROTECTION
 - CIP CULVERT INLET PROTECTION
 - SF SILT FENCE
 - EL EROSION CONTROL LOG
 - SSA STABILIZED STAGING AREA
 - SP STOCKPILE PROTECTION
 - VTC MUD MATS/VEHICLE TRACKING CONTROL
 - LOC LIMITS OF CONSTRUCTION/DISTURBANCE
 - PSM PERMANENT SEEDING AND MULCHING UPLAND SEED MIX
 - PSM PERMANENT SEEDING AND MULCHING WETLAND SEED MIX
 - PSM PERMANENT SEEDING AND MULCHING SPECIAL SEED MIX #1, SEE NOTES
 - PT PORTABLE TOILET
 - CD CHECK DAM
 - ECB EROSION CONTROL BLANKET
 - NS NEW SURFACING
 - EX FLOW DIRECTION
 - EX FLOODPLAIN

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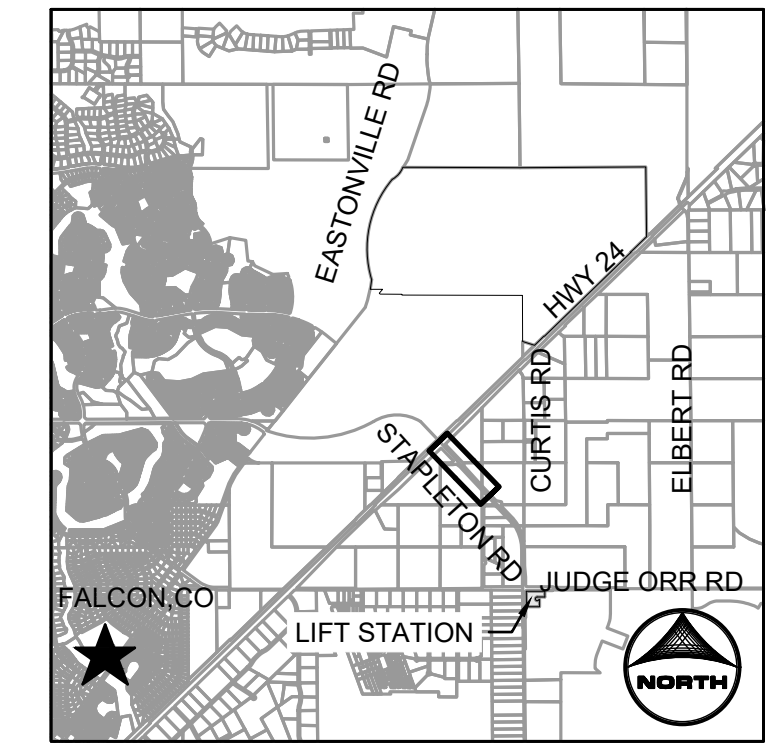
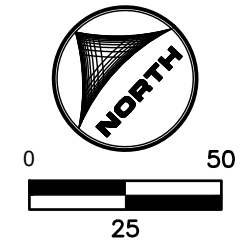
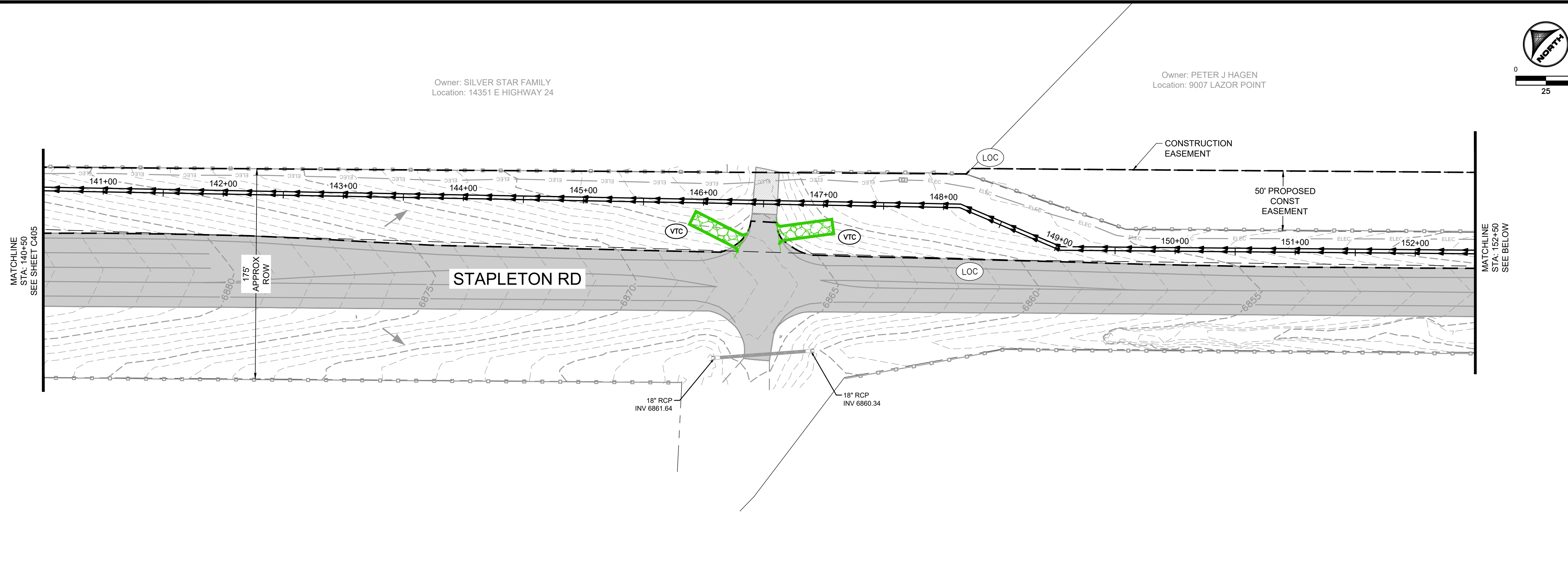
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HR GREEN Xrefs: XV-Row; XV-Util; xgl-1-dh01-FM; XC-Lift-Station; XC-Electrical; XC-Driveway; XC-Util; P&P-Key; XC-Initial-EC; 01-DC-Align-Fm; 01-DC-San-Fm; XV-Degr; XV-Fema; XC-Row; XC-Hatching; gce-Legend; Fm-Remove/Place; XC-Hatching-Seedling

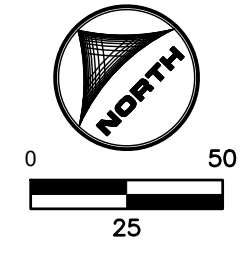
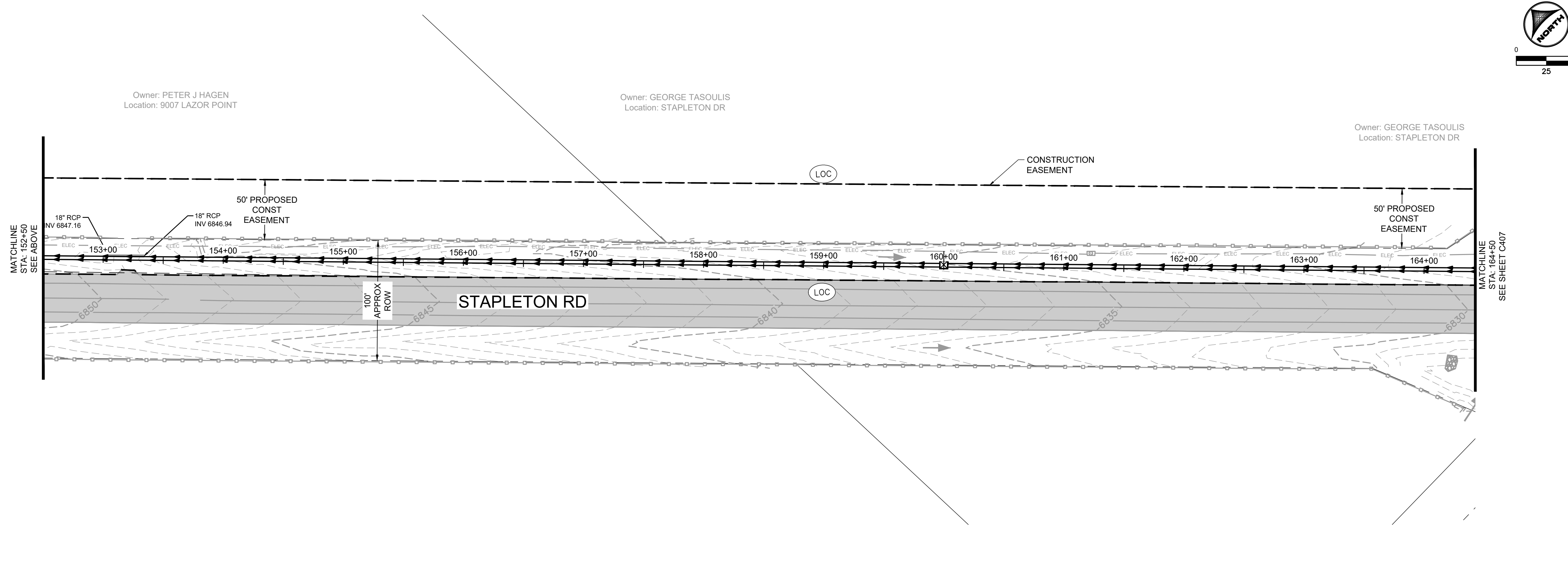


KEYMAP

GENERAL NOTE:
 1. CONTRACTOR SHALL REPLACE THE AREA OF CONSTRUCTION TO THE EXISTING, PRE-CONSTRUCTION GRADE.

GEC LEGEND:

	(CWA)	CONCRETE WASHOUT AREA
	(ED/DS)	EARTH DIKE & DRAINAGE SWALE
	(IP)	INLET PROTECTION
	(CIP)	CULVERT INLET PROTECTION
	(SF)	SILT FENCE
	(EL)	EROSION CONTROL LOG
	(SSA)	STABILIZED STAGING AREA
	(SP)	STOCKPILE PROTECTION
	(VTC)	MUD MATS/VEHICLE TRACKING CONTROL
	(LOC)	LIMITS OF CONSTRUCTION/DISTURBANCE
	(PSM)	PERMANENT SEEDING AND MULCHING UPLAND SEED MIX
	(PSM)	PERMANENT SEEDING AND MULCHING WETLAND SEED MIX
	(PSM)	PERMANENT SEEDING AND MULCHING SPECIAL SEED MIX #1, SEE NOTES
	(PT)	PORTABLE TOILET
	(CD)	CHECK DAM
	(ECB)	EROSION CONTROL BLANKET
	(NS)	NEW SURFACING
		EX FLOW DIRECTION
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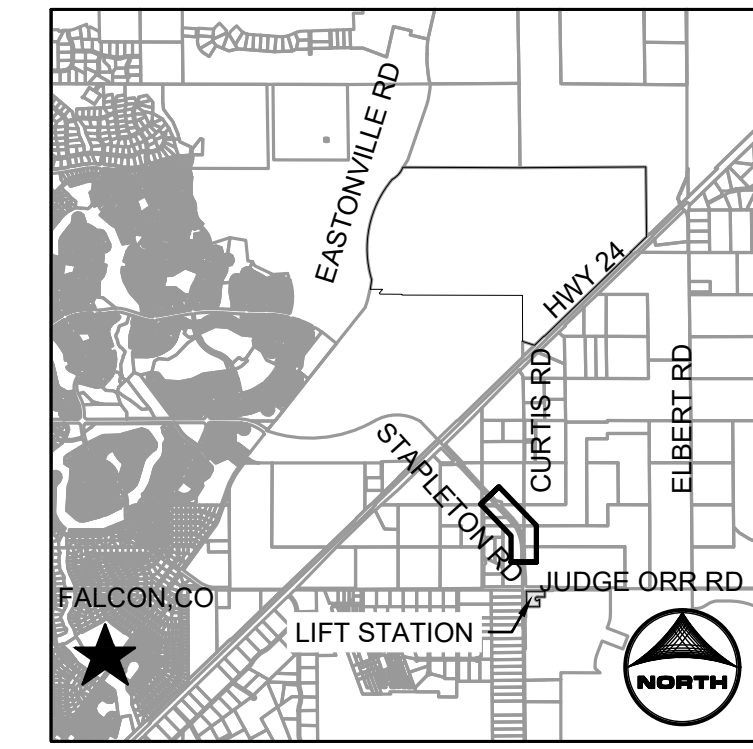
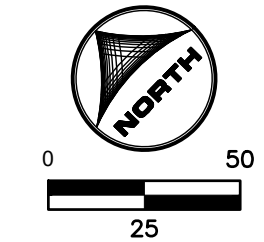
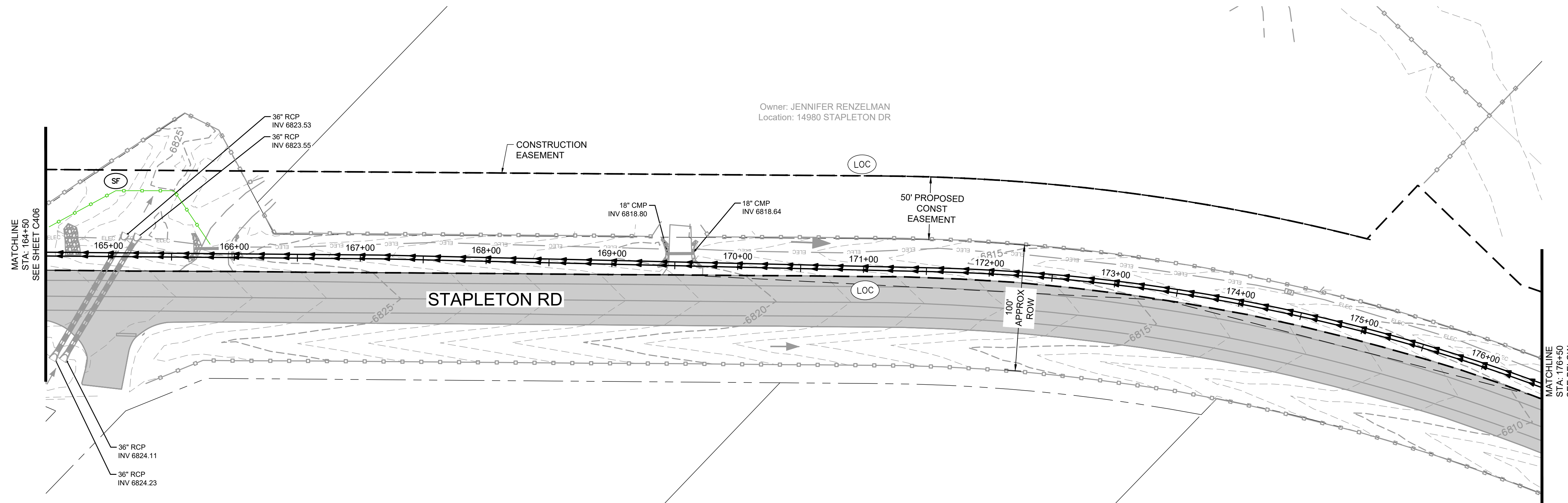
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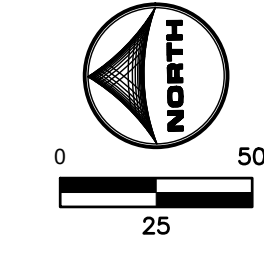
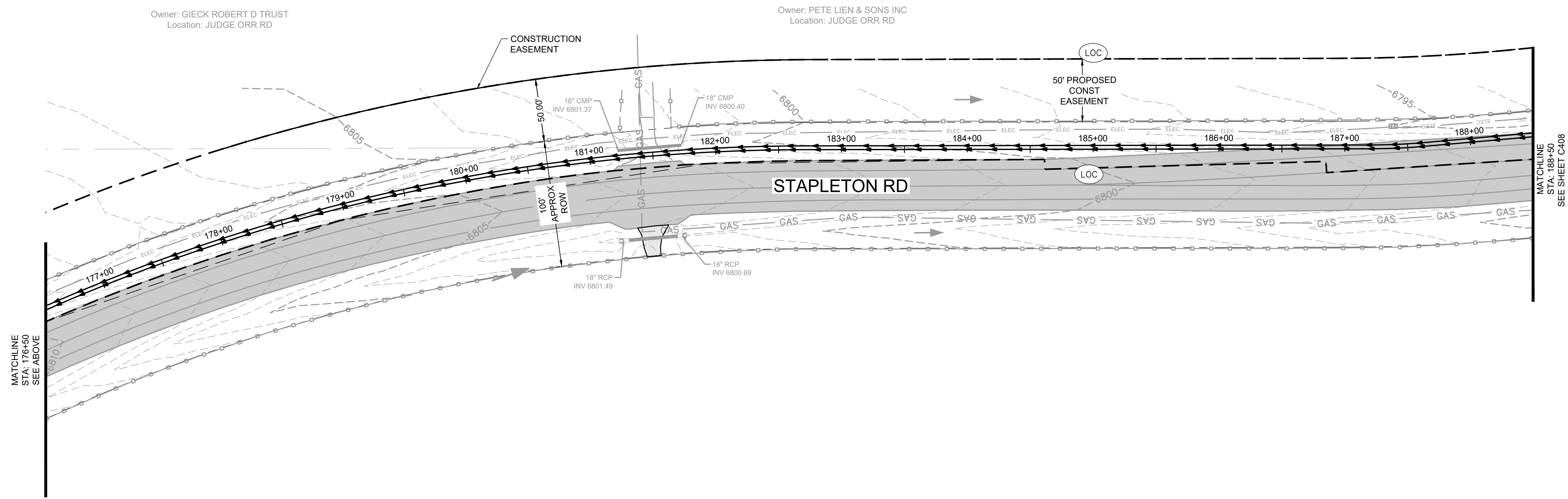


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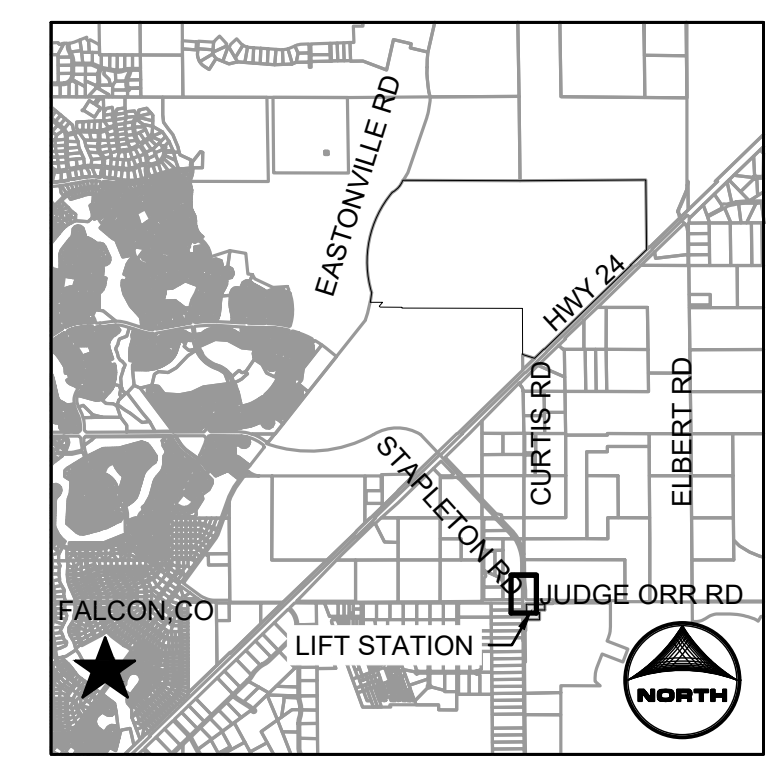
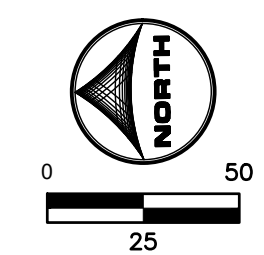
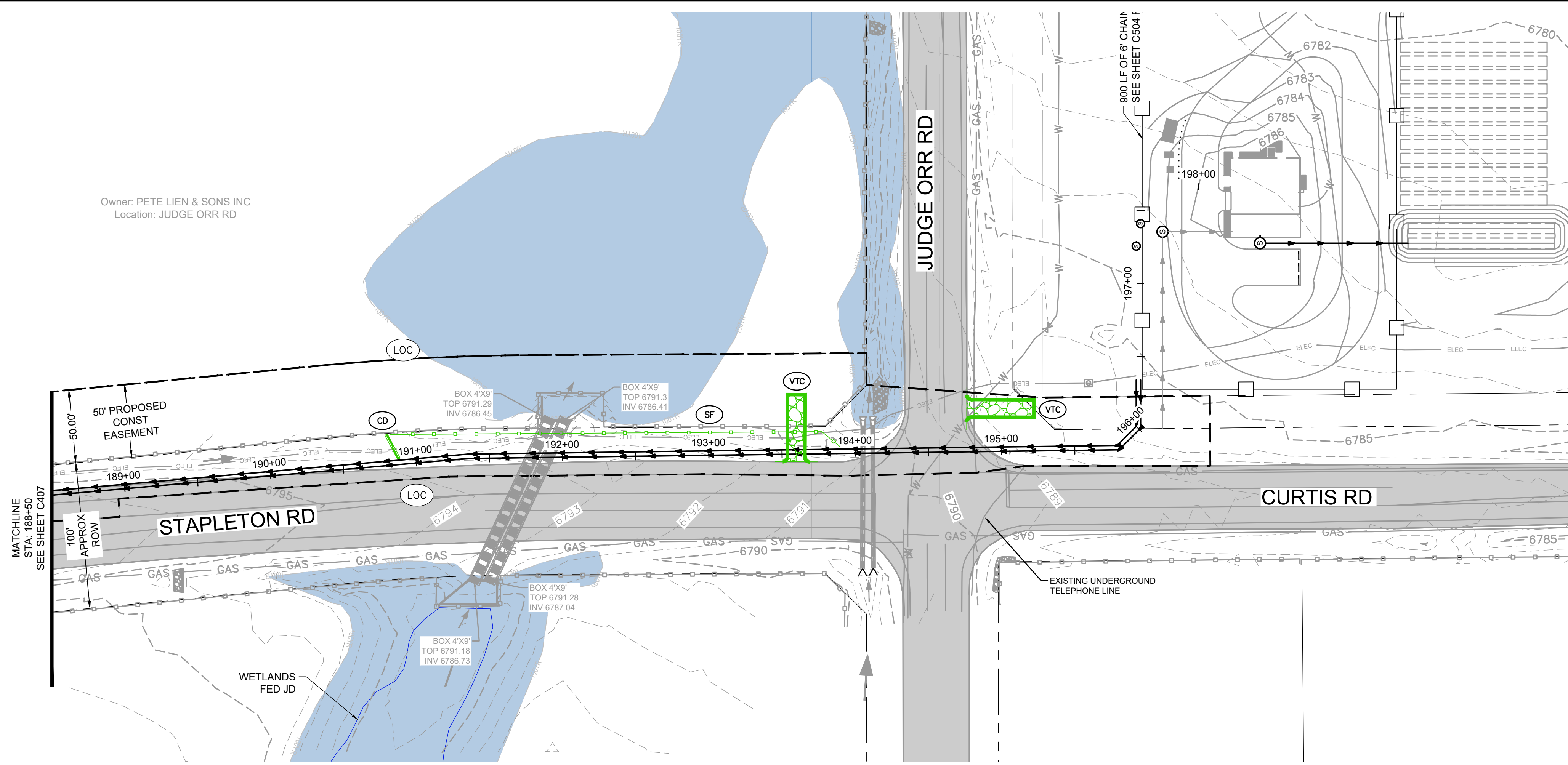
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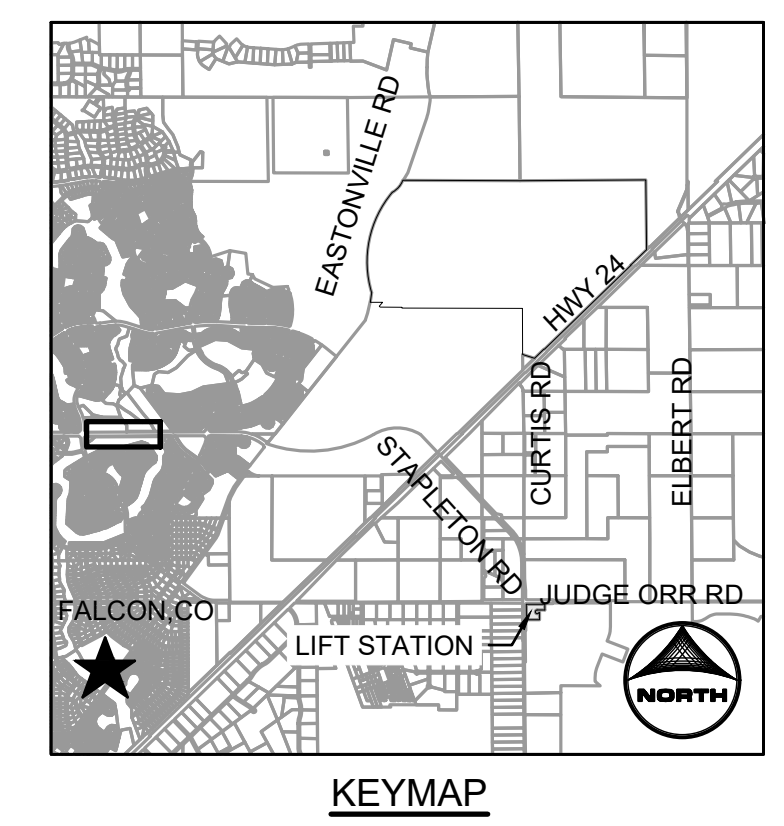
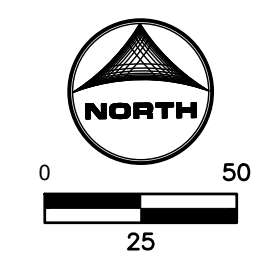
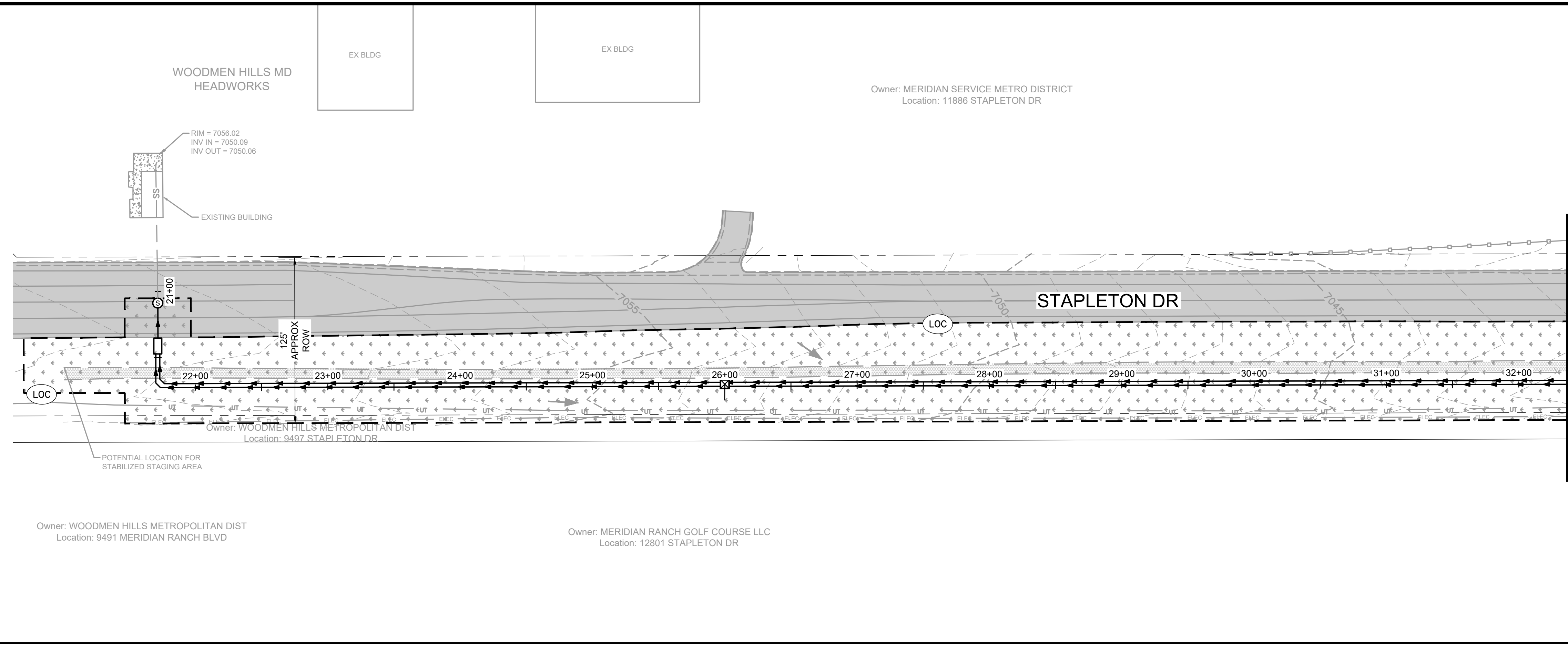
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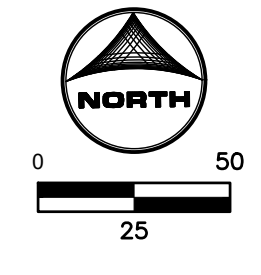
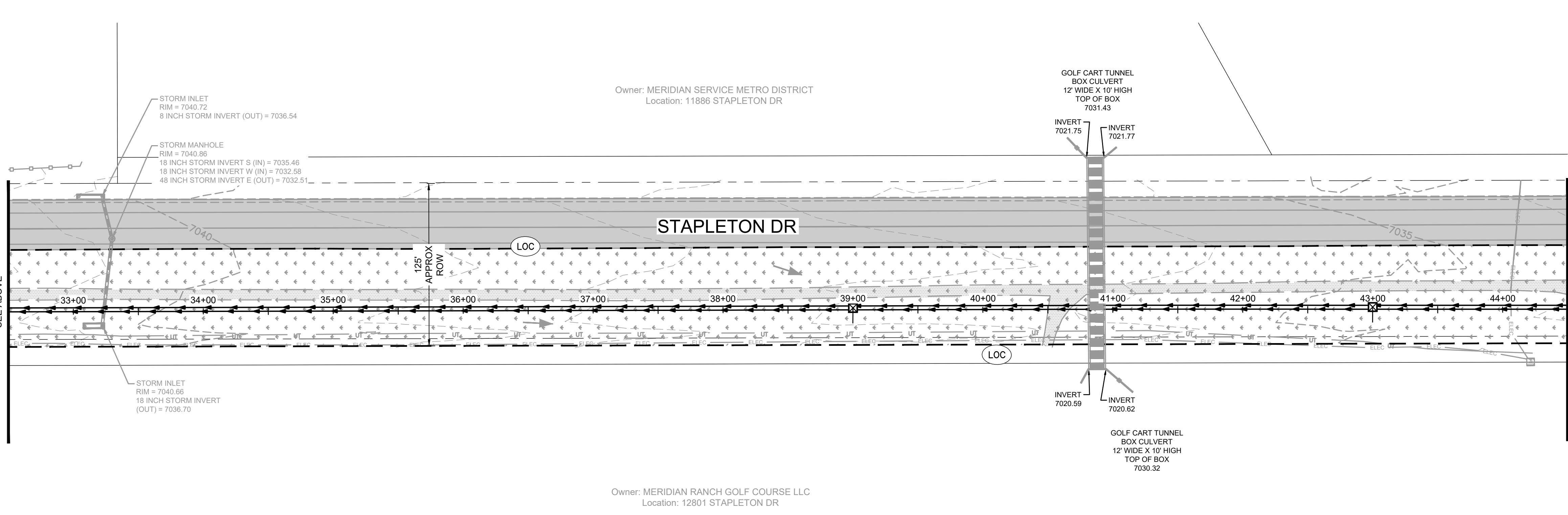
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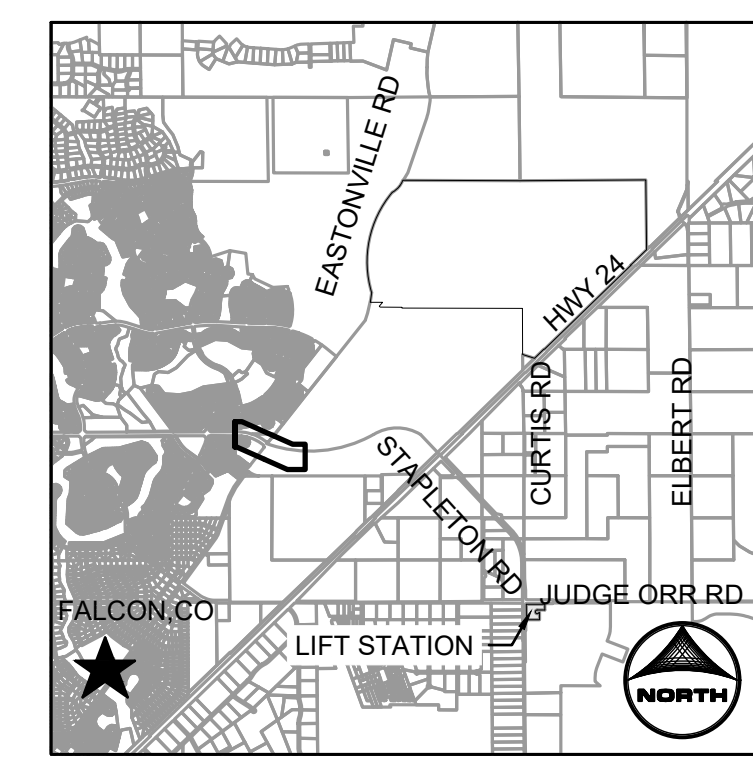
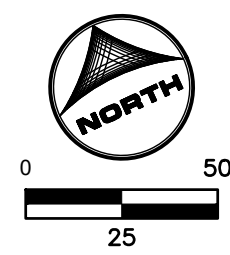
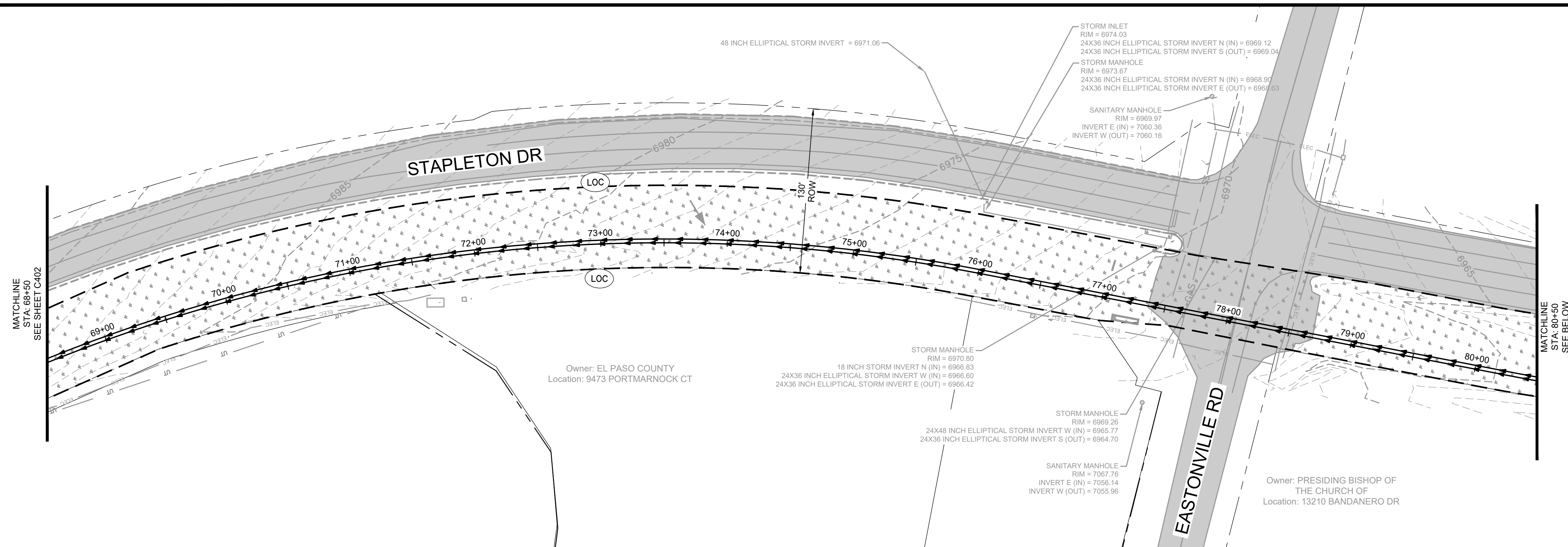
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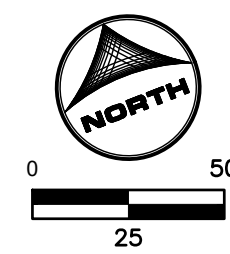
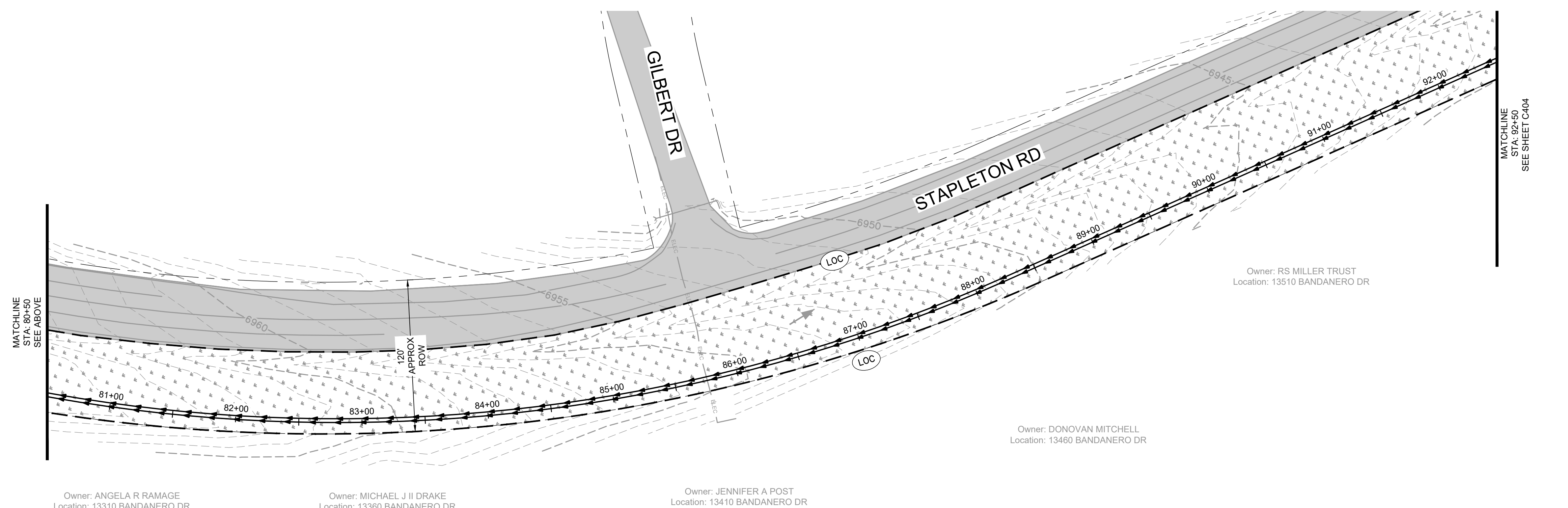


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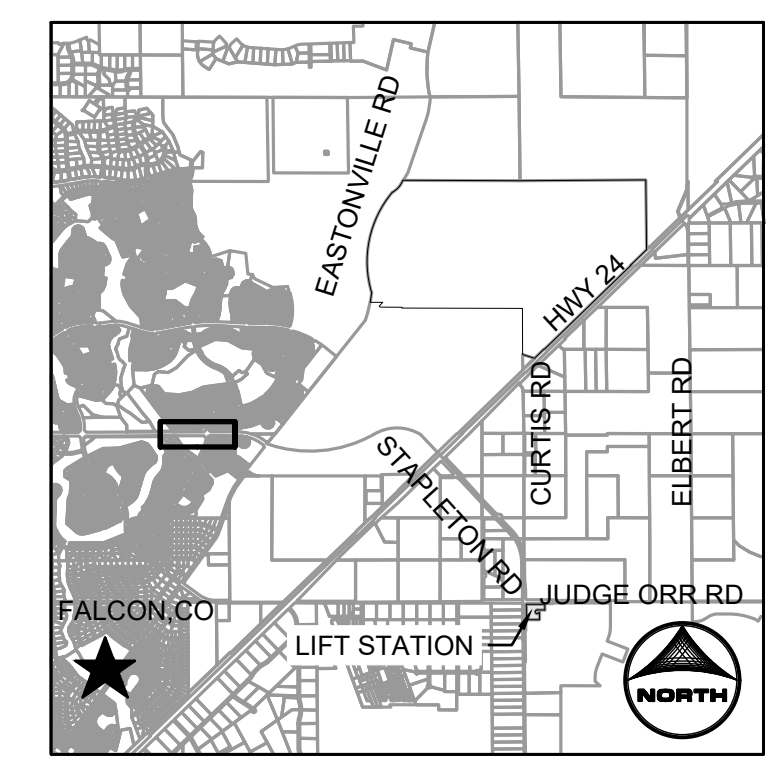
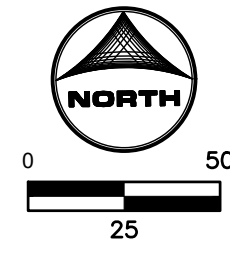
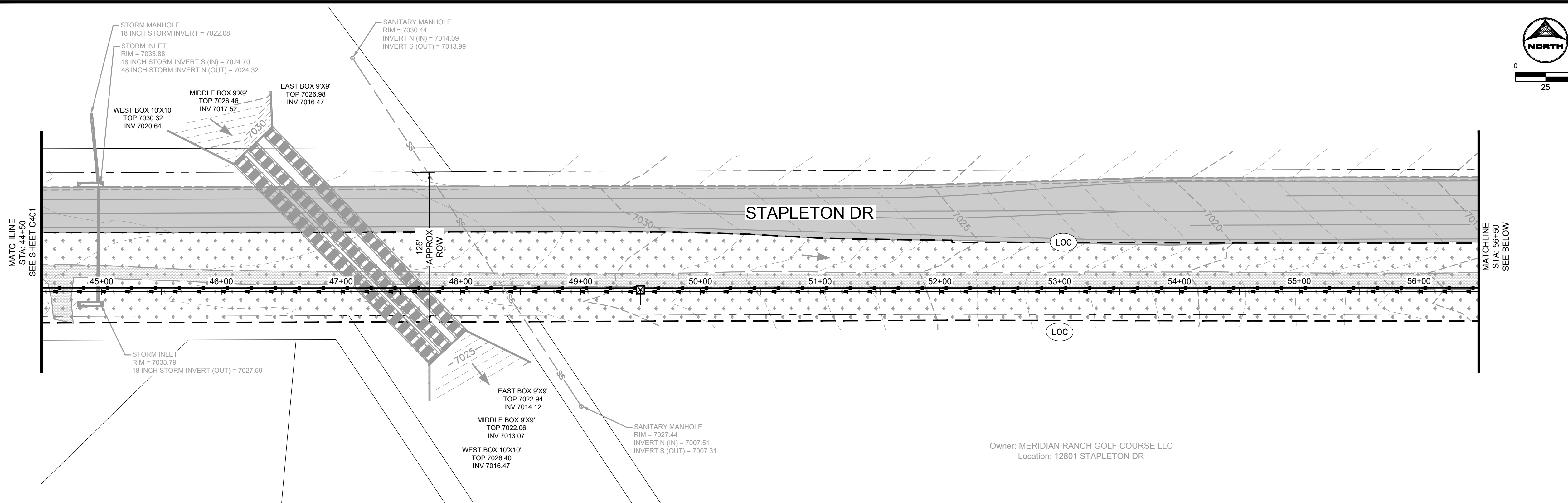
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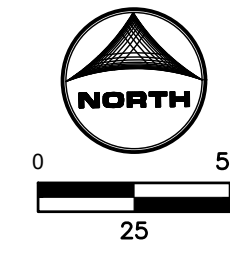
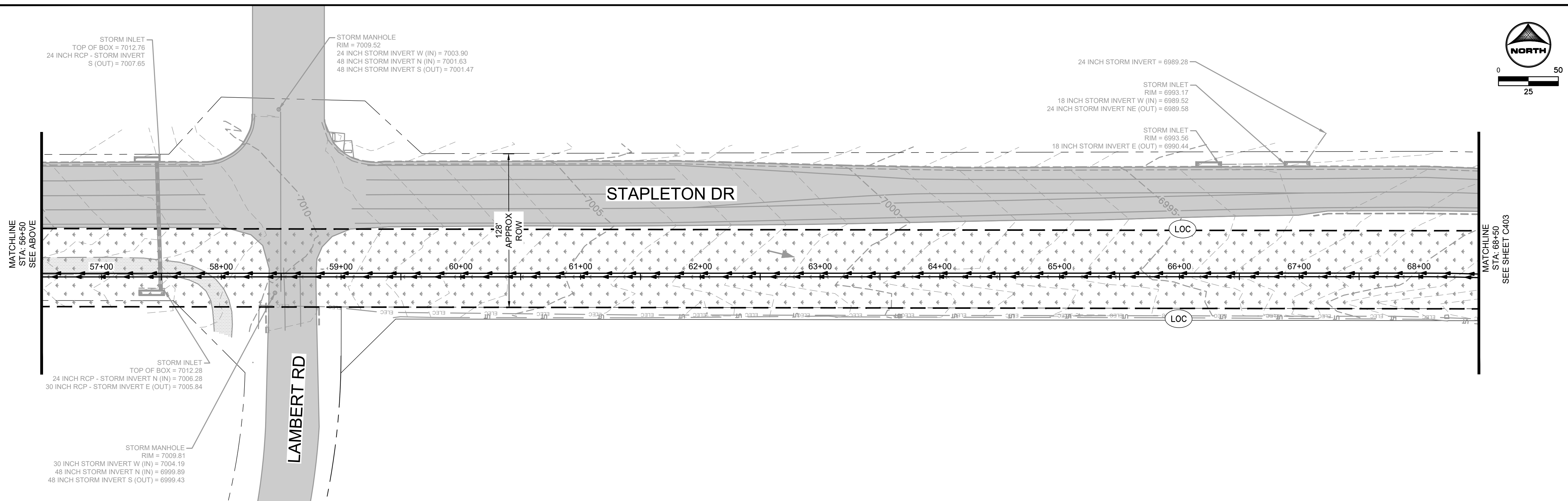
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Owner: MERIDIAN RANCH GOLF COURSE LLC
 Location: 12801 STAPLETON DR



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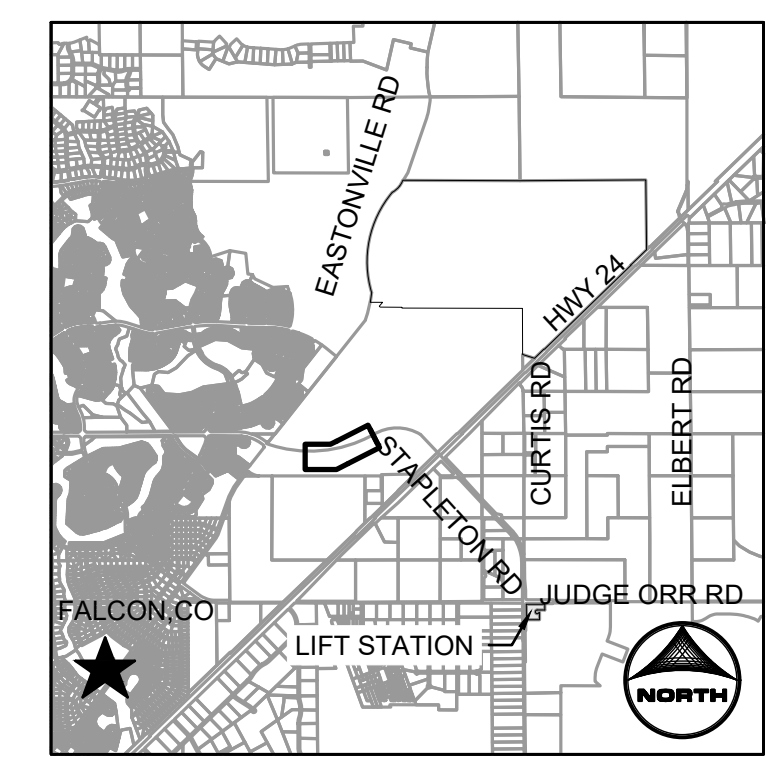
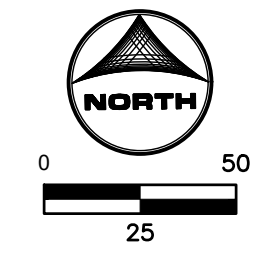
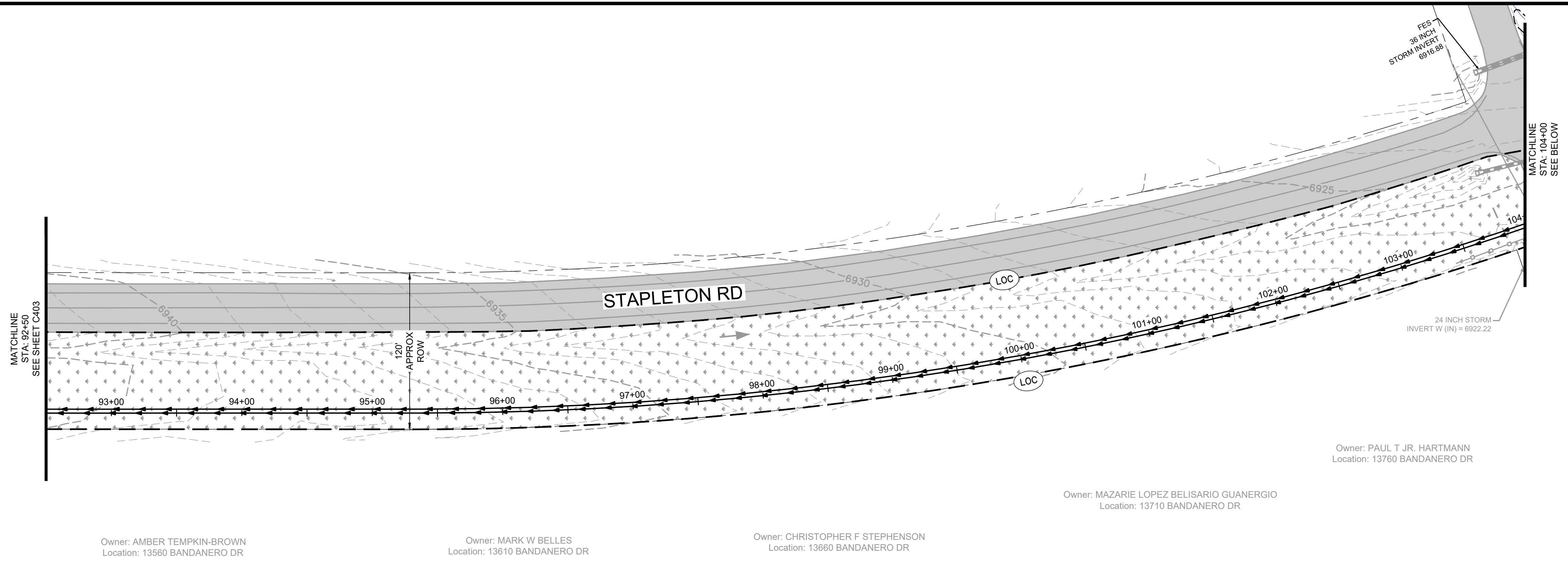
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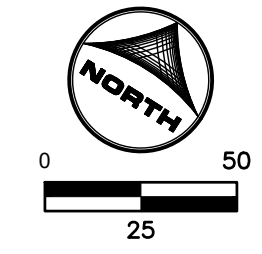
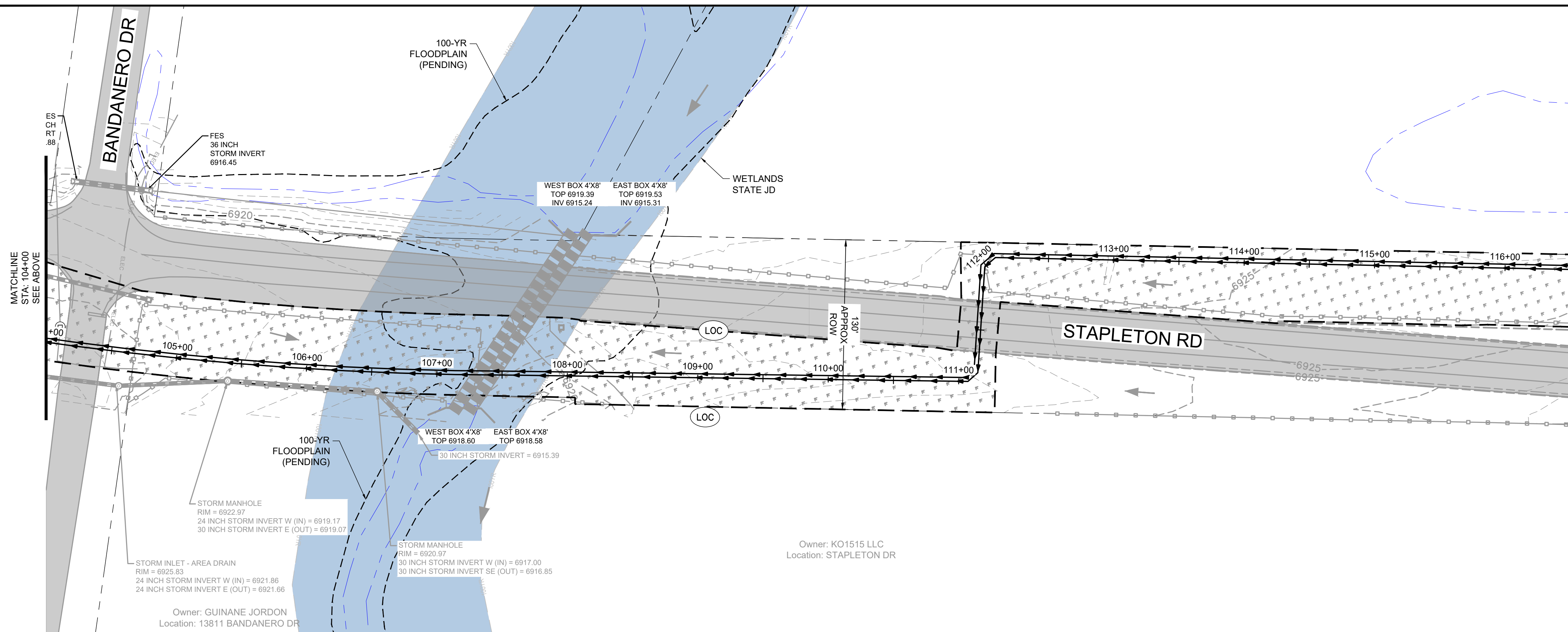
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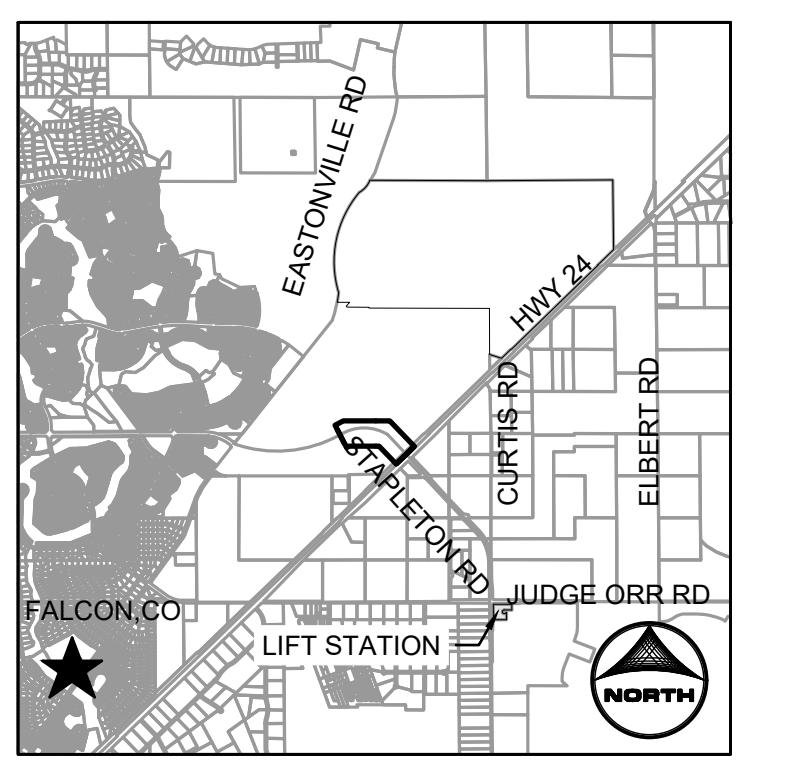
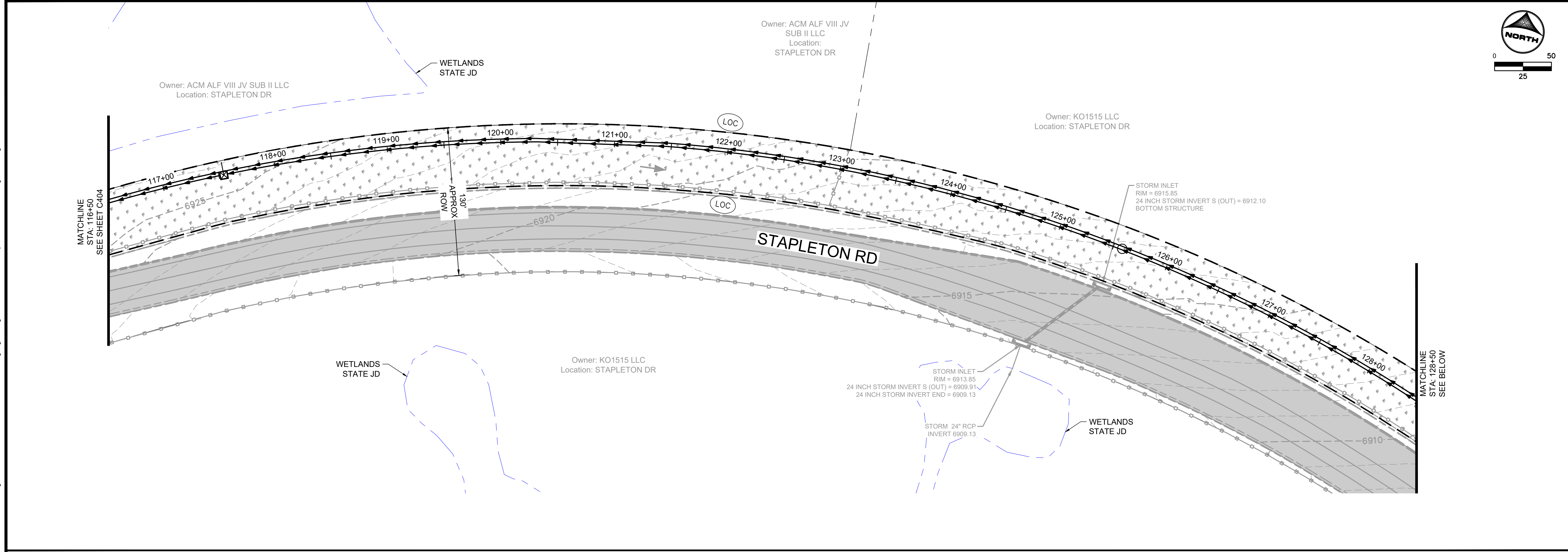
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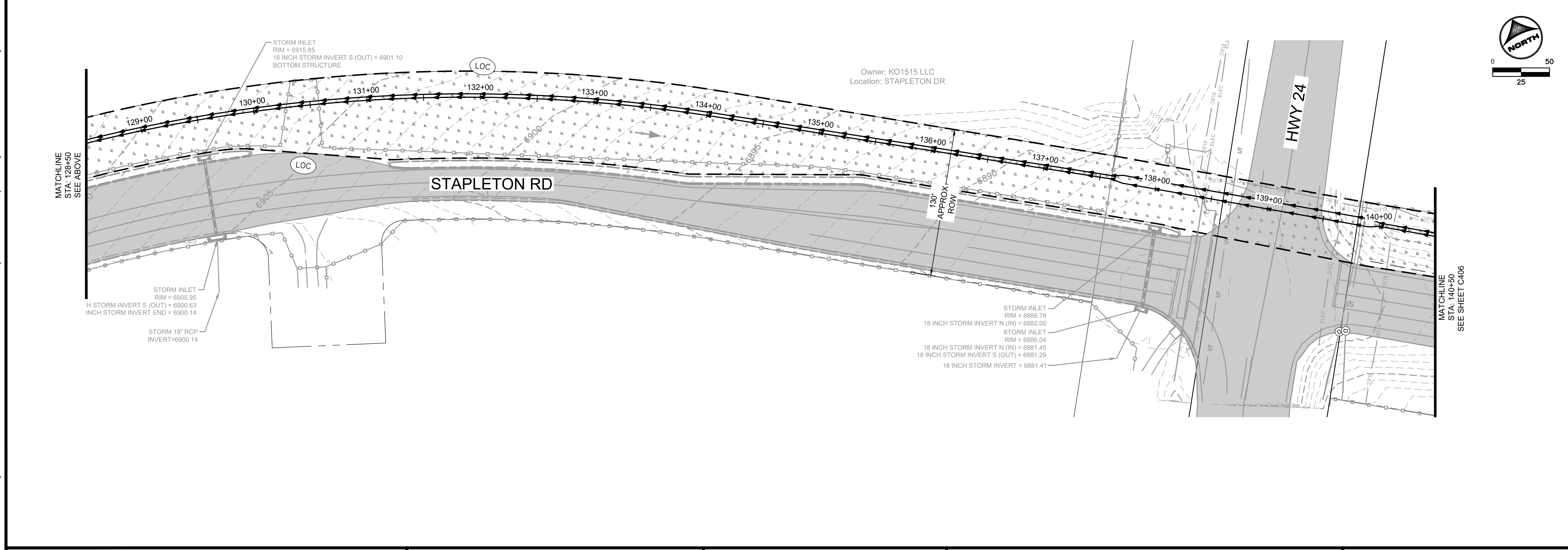


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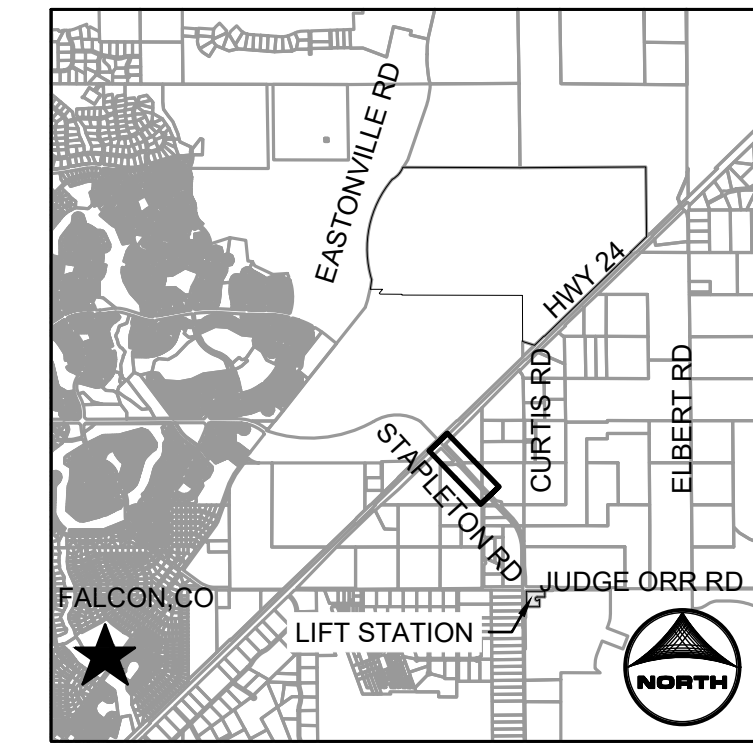
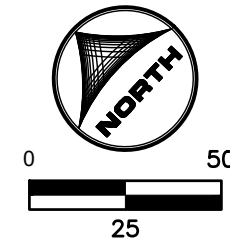
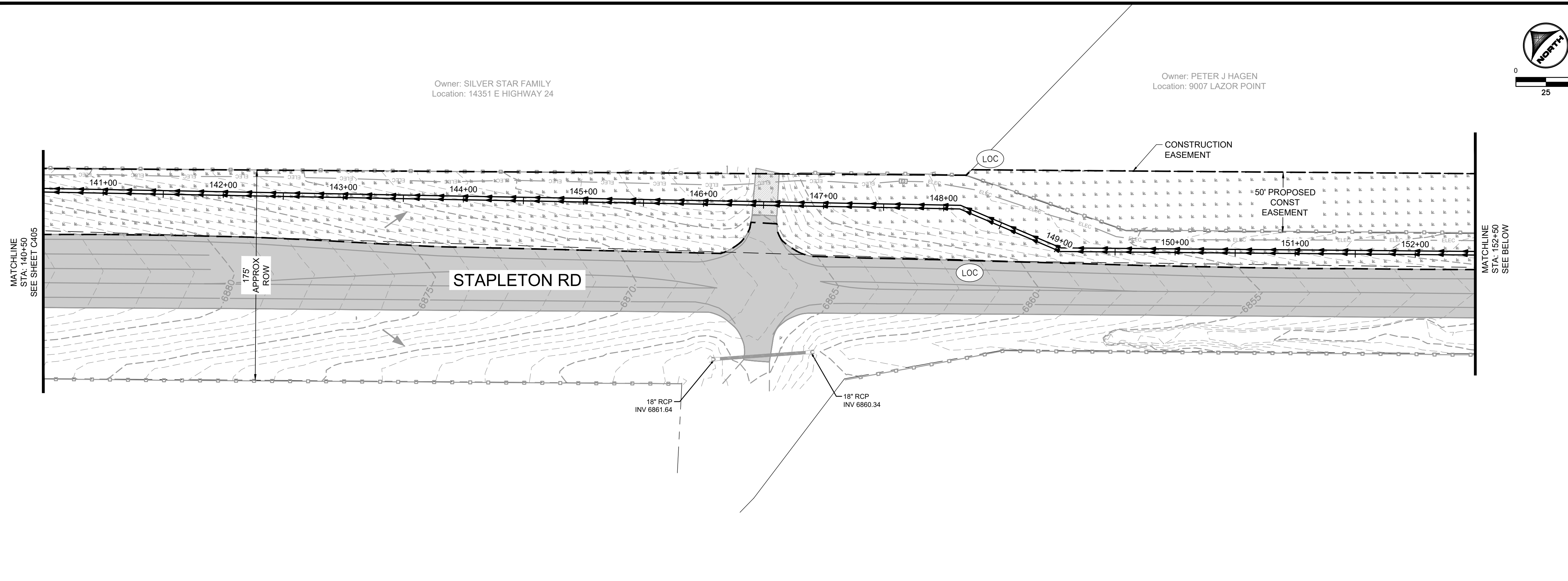
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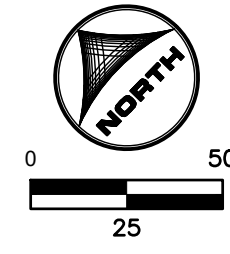
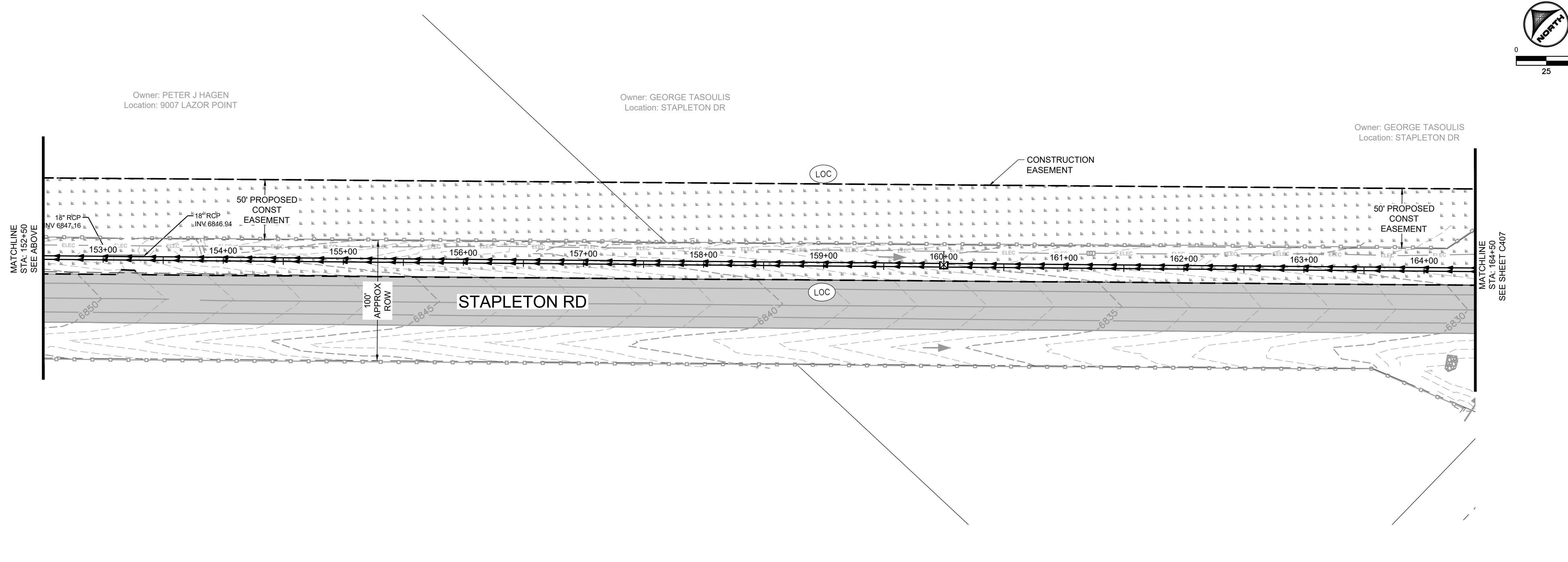


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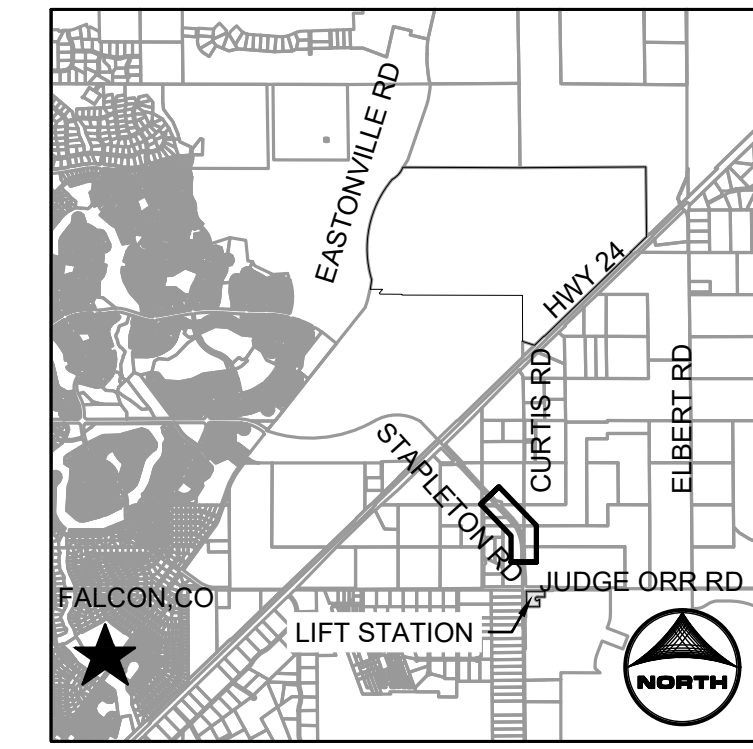
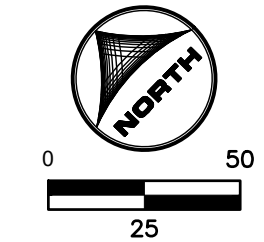
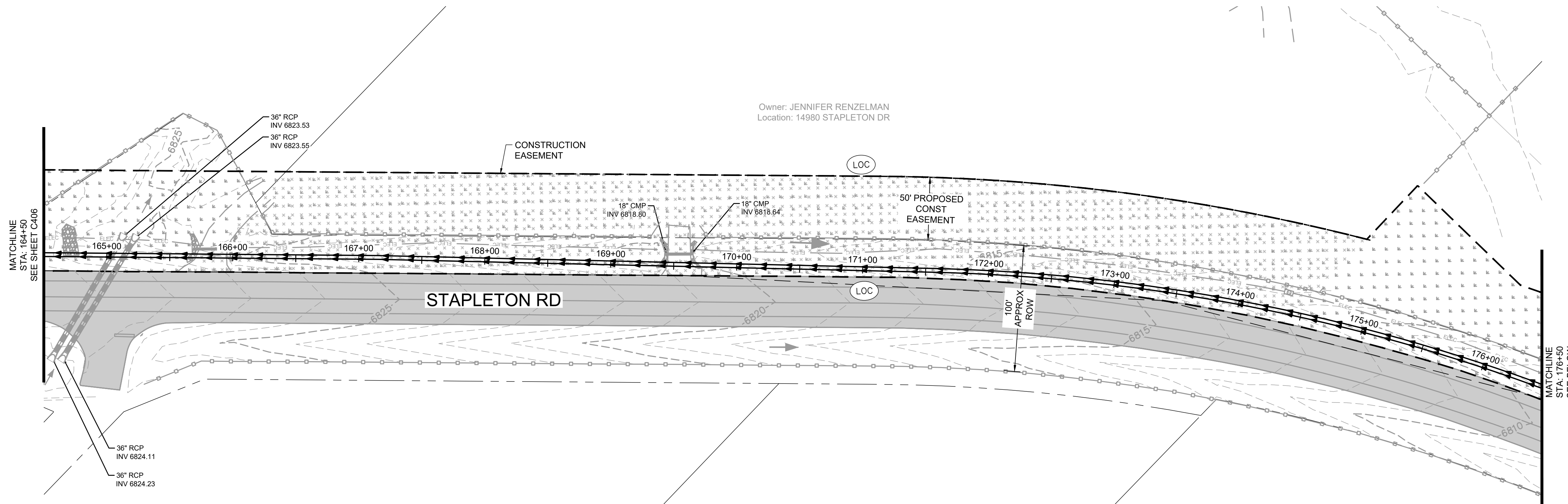
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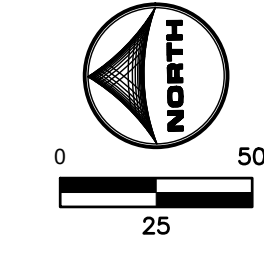
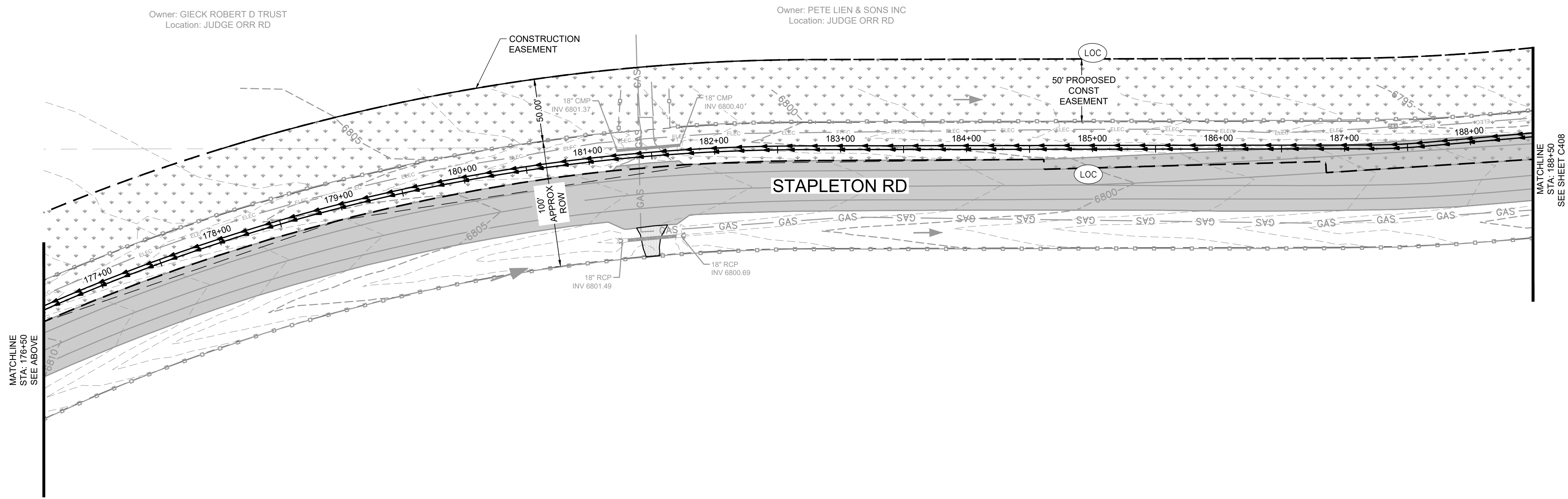


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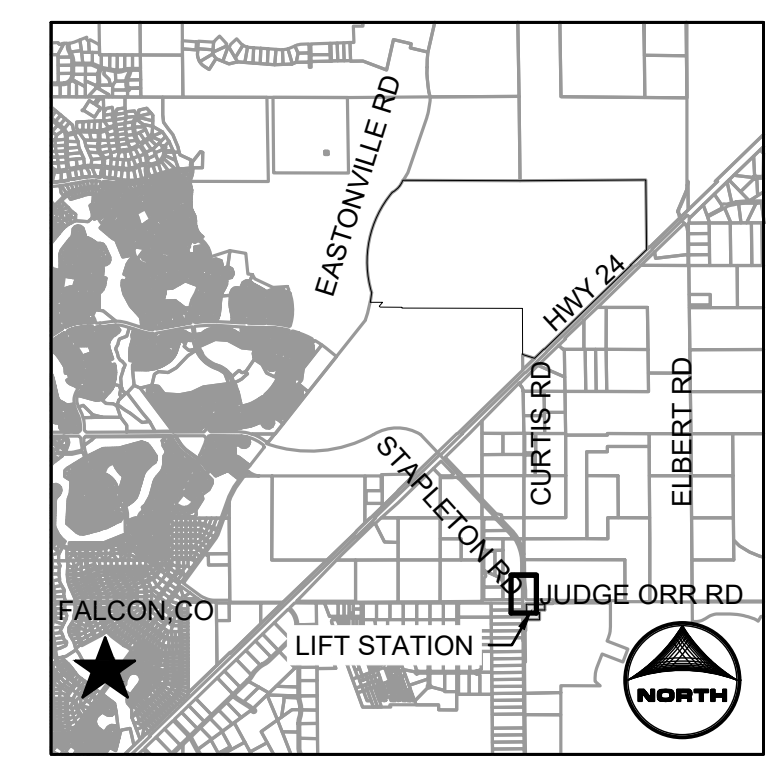
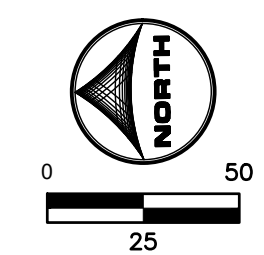
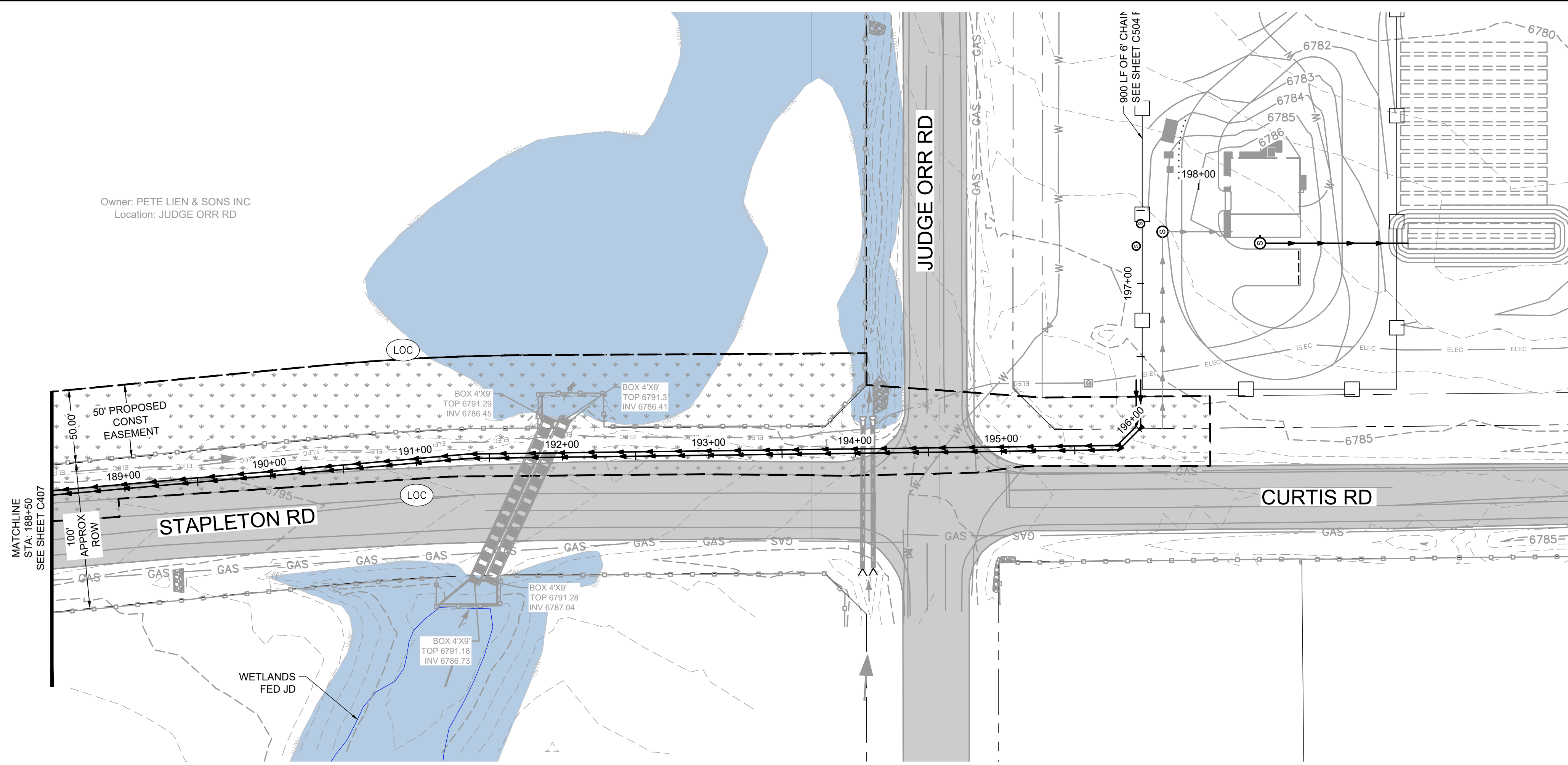
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Single Lot Access Vehicle Tracking Control Mats

Single Lot Access VTC (Mud Mats)

Description and Purpose
A stabilized construction access is defined by a point of entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles.

Suitable Applications
Use at construction sites:

- Where dirt on mud can be tracked onto public roads.
- Where a single-family lot needs a temporary access point.

Limitations

- Entrances and exits require periodic cleaning and maintenance.
- This BMP should be used in conjunction with street sweeping on adjacent public right of way.
- Entrances and exits should be constructed on level ground only or sloping away from paved surfaces.

Implementation

- Construct on level ground or sloping down and away from paved surfaces where possible.
- For individual lots VTC perimeter may be reduced to minimum 8' x 15' due to space limitation. This is for access to single family lots only.
- Limit the points of entrance/exit to the construction site.
- Properly grade each construction entrance/exit to prevent runoff from leaving the construction site.
- Route runoff from stabilized entrances/exits through a sediment trapping device before discharge.
- Require that all employees, subcontractors, and suppliers to utilize the stabilized construction access when lot access is necessary.
- Educate all employees, subcontractors, and suppliers on keeping vehicles off-site wherever possible.
- Limit access to only access that is absolutely necessary.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMPs are under way, inspect in accordance with the specified inspection schedule in the site SWMP.
- Visually inspect local roads adjacent to the site daily. Sweep or vacuum to remove visible accumulated sediment.
- Check for damage and repair as needed.
- Remove accumulated sediment as needed.
- Reset and regrade as needed.
- Remove any sediment deposited on paved roadways immediately.

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Lot Access-VTC (mud mats)

AGES Mud Mat Specifications
Each mat is made up of a double layer of high strength woven fabric that is stitched in such a way to encapsulate the reinforcing members that run perpendicular to the direction of traffic. These reinforcing ribs are secured individually within each pocket. There are approx. 24-30 pockets that each holds 1 bamboo post of approx. 2" diameter. This combination of reinforcing member and confining fabric result in a portable mat that can be rolled up for transport and ease of deployment. AGES Mud Mats can be used in construction site access, agriculture, golf & parks, other soft or sensitive ground condition areas where vehicle access is required.

PROPERTY	TEST PROCEDURE	VALUE
Grass Tensile Strength	ASTM D4242	302 lb
Apparent Breaking Elongation	ASTM D4242	29% / 15%
Resistance to Tearing	ASTM D4242	407 lb
Perforation Resistance	ASTM D4242	114.3 lbs
Water Absorbency	ASTM D5296	40.89 g
Permeability Coefficient	ASTM D4811	20 US Sperm 1/2" time
Compressive Strength	ASTM D4811	25 lb per sq ft
Moisture Content	ASTM D4811	408.17 lb per cu yd
Shrinkage	Visual	100% Retention

APPROXIMATE DIMENSIONS PER MAT
 Size (Overall approx): 15' x 15'
 Spacing (Rib-to-Rib): 1.5' dia. x 1.5' spacing
 Weight (approx): 60 lbs

Source: AGES Mud Mats

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Rubber Vehicle Tracking Control Pads

WRONG! Do not install over jagged/rocky ground or soil

BEST! Preferably installed over level ground

NOTES
 1. VERTICAL NO PICK (ROWS)
 2. INSTALL MAT RAISED TAB SIDE UP
 3. EXPANDIBLE AS NECESSARY

Tracking Pad Details
 Date: 10/28/2016 Page: 1 of 1

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Synthetic Sediment Control Log with Tailpiece

The Heavyweight Wattle

Description and Purpose
A synthetic sediment control log. Outer cover of silt filtration fabric surrounding an inner core of full rebound foam covered by a 6 mil plastic sleeve. Designed to be used where hard surfaces contact disturbed areas for ponding and on-site soil retention.

Suitable Applications — The Heavyweight Wattle may be suitable:

- Where hard surfaces contact soil.

Limitations

- The Heavyweight Wattle is not effective when the flap is not properly pinned and backfilled.
- The Heavyweight Wattle has a limited sediment capture zone and should only be used for lower volume sheet flows.
- The Heavyweight Wattle is not a substitute for adequate tracking pads and construction egress.

Installation

While crews remove concrete forms, install wattle immediately afterwards.

Wattle to be installed upon removal of concrete forms:
 1. Lay the Heavyweight wattle directly on top of sidewalk, dropping tail of wattle behind sidewalk area.
 2. Connect wattle together to form a continuous barrier.
 3. Pin tail section into soil with fasteners behind sidewalk approximately every three feet.
 4. Overlap the connection points and use ties fasteners in this area.
 5. Back-fill area behind sidewalk.
 6. Site in compliance.

Fastener Recommendation: Use 60d nails or The Heavyweight wattle pins

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Erosion Log Check Dams

REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE HALF OF EXPOSED LOG HEIGHT. INSPECTIONS SHALL BE PERFORMED FREQUENTLY FOR PROPER FUNCTION.

EROSION LOGS SHOULD BE KEYPED IN TO PREVENT UNDER-CUTTING

POINTS A SHALL BE HIGHER THAN POINT B

EROSION LOG DETAIL DITCH INSTALLATION
 NOTE: EROSION LOGS SHALL BE TIGHTLY ABUTTED WITH NO GAPS.

1/1/08
 John A. McCarty
 Standard Drawing
 SD_3-85

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Concrete Washout Structure

TRUCK ACCESS PLAN VIEW

SECTION A-A
 SIGN: 24" x 18"
 EXCAVATED AREA: 2 FT
 MAXIMUM STORAGE: (% OF VOLUME AREA)

NOTES:
 1. SIGN MATERIAL, EXCAVATION, AND RESTORATION ARE INCLUDED IN THE COST OF THE CONCRETE WASHOUT STRUCTURE.
 2. EROSION BALES MAY BE USED AS AN ALTERNATIVE FOR THE BERM.

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Erion Log Barrier

SECTION A-A
 EROSION LOG SHOULD BE KEYPED IN TO PREVENT UNDER-CUTTING

NOTES:
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Erosion Log Barrier

SECTION A-A
 EROSION LOG APPLICATION

TYPICAL STAKE INSTALLATION
 USE TWO WOOD STAKES 1/2" x 1/2" (NOMINAL) x SUFFICIENT LENGTH TO BE EMBEDDED AT LEAST 4" INTO THE SOIL AT ALL EROSION LOG ENDS OR JOINTS
 USE A STAKE EVERY 24" AND CONTINUE ALTERNATE ORIENTATION THROUGHOUT THE LENGTH OF THE EROSION LOG

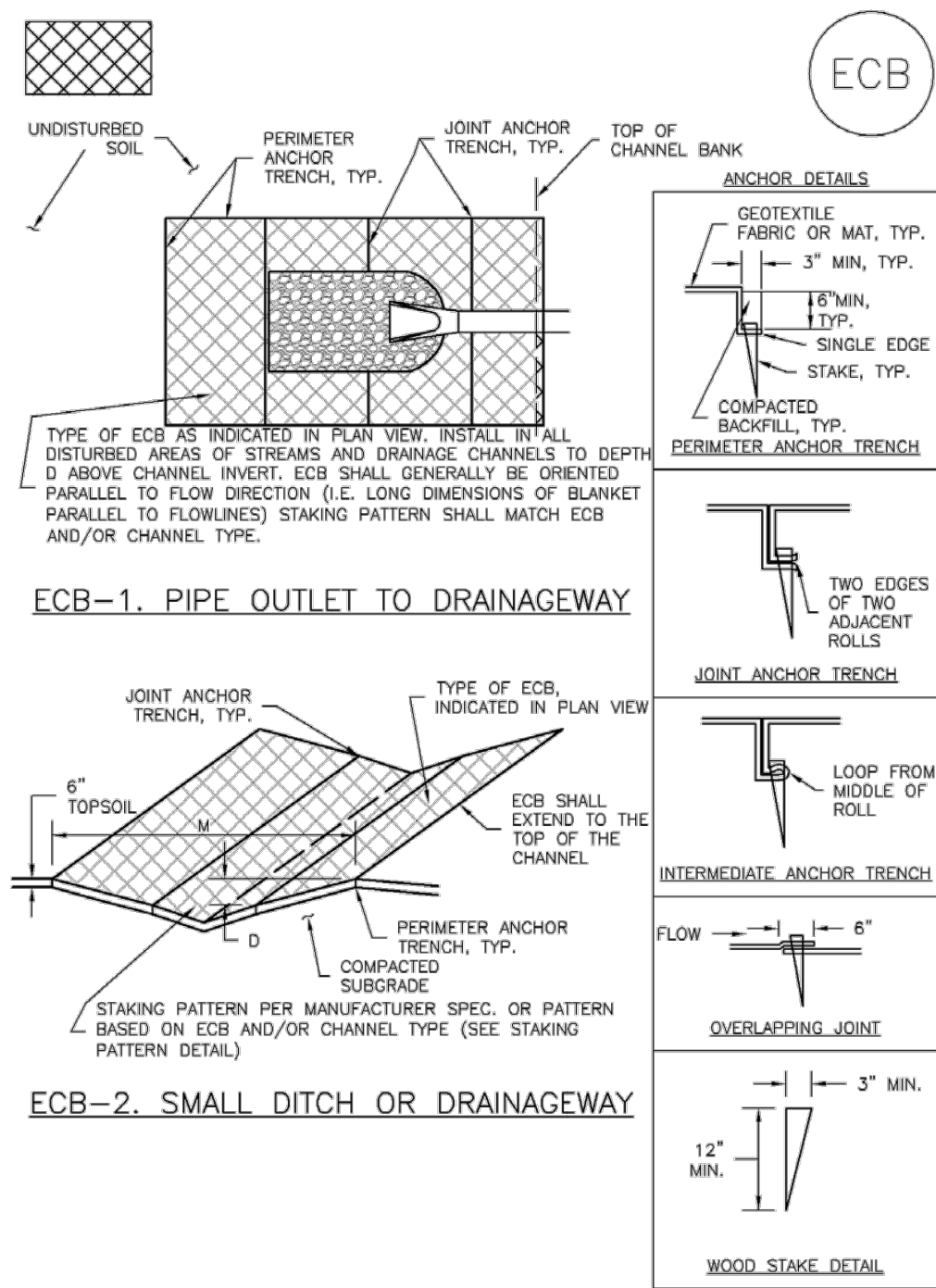
EROSION LOGS CAN ALSO BE USED ACROSS LONG SLOPES TO REDUCE EROSION AND SEDIMENT MOVEMENT

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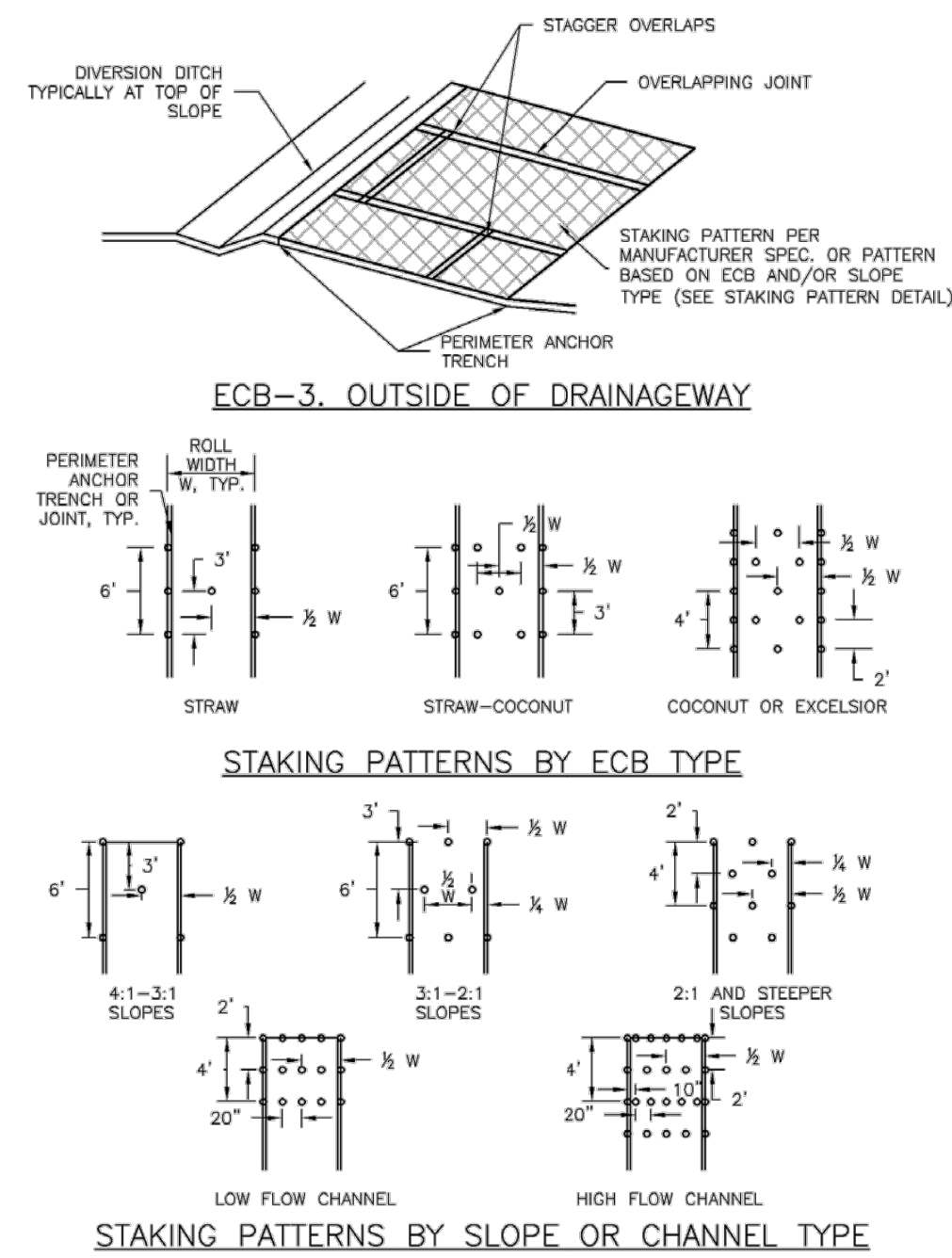


EC-6 Rolled Erosion Control Products (RECP)



RECP-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

Roller Erosion Control Products (RECP) EC-6



November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 RECP-7

EC-6 Rolled Erosion Control Products (RECP)

EROSION CONTROL BLANKET INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION OF ECB.
 - TYPE OF ECB (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR).
 - AREA A IN SQUARE YARDS OF EACH TYPE OF ECB.
- 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.
- IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
- PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
- JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.
- INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.
- OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.
- MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB-1.
- ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBs SHALL BE RESEEDED AND MULCHED.
- DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM THOSE SHOWN HERE.

TABLE ECB-1. ECB MATERIAL SPECIFICATIONS

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING*
STRAW**	-	100%	-	DOUBLE/NATURAL
STRAW-COCONUT	30% MIN	70% MAX	-	DOUBLE/NATURAL
COCONUT	100%	-	-	DOUBLE/NATURAL
EXCELSIOR	-	-	100%	DOUBLE/NATURAL

*STRAW ECBs MAY ONLY BE USED OUTSIDE OF STRIKE AND DRAINAGE CHANNEL.
**ALTERNATE NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS.

RECP-8 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

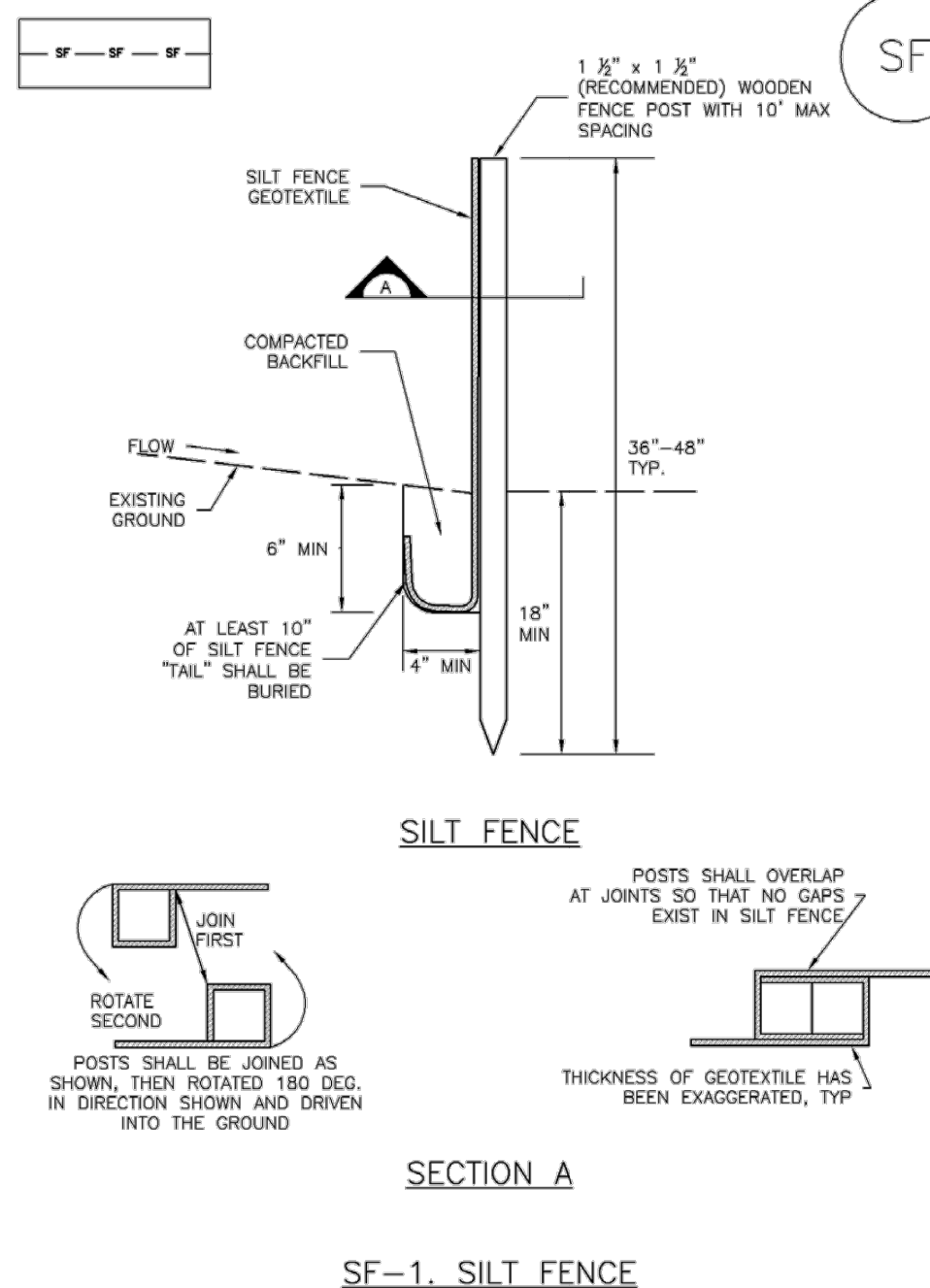
Roller Erosion Control Products (RECP) EC-6

EROSION CONTROL BLANKET MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.
 - ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW THE GEOTEXTILE THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE ECB REINSTALLED.
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.
- (DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO AND TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

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Silt Fence (SF) SC-1



November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SF-3

SC-1 Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
- A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
- COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTATION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
- SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
- SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
- AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK." THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENT IS APPROXIMATELY 6".
- REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
- SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
- WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF ALBUQU, NOT AVAILABLE IN AUTOCAD)
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

SF-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

DRAWN BY: JMM JOB DATE: 5/17/2024 BAR IS ONE INCH ON OFFICIAL DRAWINGS.
APPROVED: GP JOB NUMBER: 201662.07 0
CAD DATE: 6/12/2024 IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.
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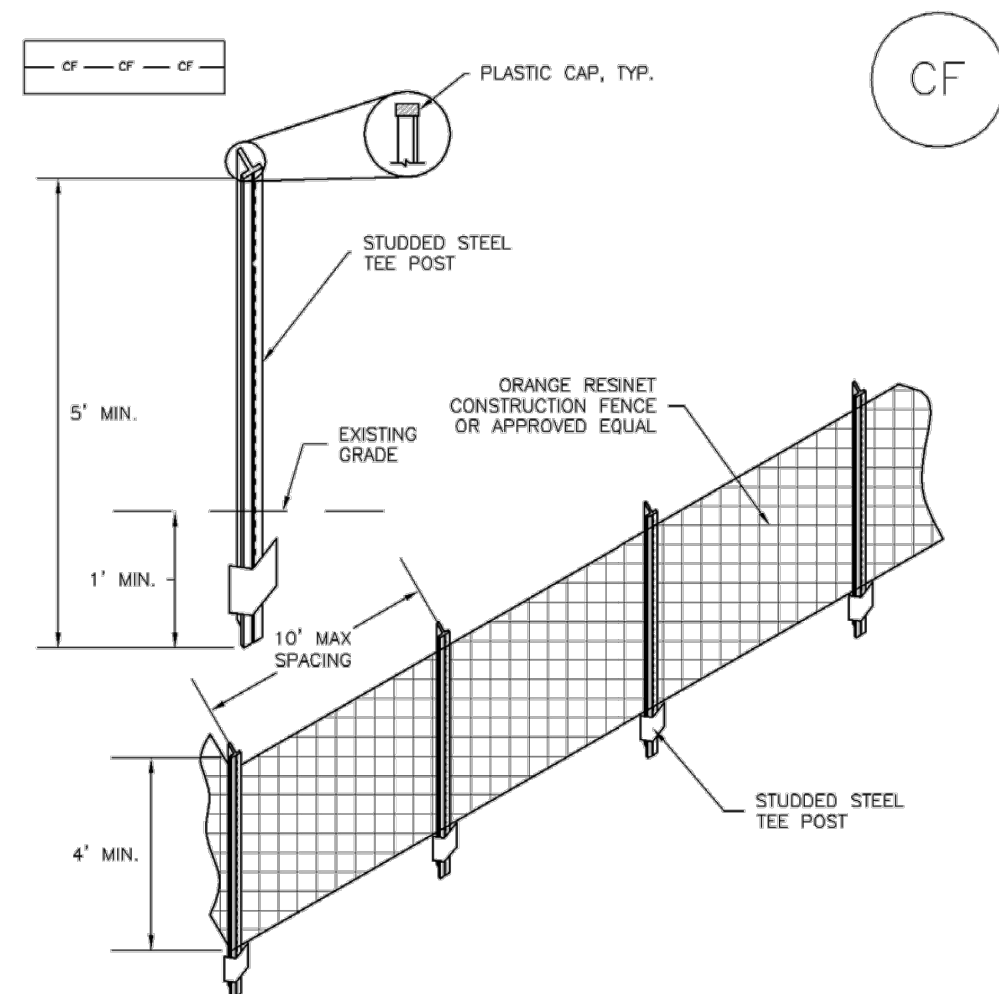
HRGreen
HR GREEN - COLORADO SPRINGS
1975 RESEARCH PARKWAY | SUITE 230
COLORADO SPRINGS CO 80920
PHONE: 719.300.4140
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GRANDVIEW RESERVE M.D. -
DUAL FORCE MAINS
D.R. HORTON
EL PASO COUNTY, CO



CONSTRUCTION DOCUMENTS
EROSION CONTROL DETAILS

SHEET
C418



CF-1. PLASTIC MESH CONSTRUCTION FENCE

CONSTRUCTION FENCE INSTALLATION NOTES

- 1. SEE PLAN VIEW FOR LOCATION OF CONSTRUCTION FENCE.
2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR-GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.
4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.
5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

CONSTRUCTION FENCE MAINTENANCE NOTES

- 1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS.
5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDC STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

Appendix A. Seed Mix Tables

Upland Native Seed Mixes (drill seed rates)

Table A-1. Upland area seed mix - loamy to clay soils

Table with 6 columns: Common Name, Scientific Name, Growth Season, Growth Form, % Mix, Lb/ac (PLS). Lists various grasses and herbaceous species with their respective seed rates.

PLS = Pure Live Seed - If broadcast seeding, double the rate

Table A-2. Upland area seed mix - sandy soil

Table with 6 columns: Common Name, Scientific Name, Growth Season, Growth Form, % Mix, Lb/ac (PLS). Lists various grasses and herbaceous species with their respective seed rates.

PLS = Pure Live Seed - If broadcast seeding, double the rate

Table A-3. Upland/transitional area seed mix - alkali soil

Table with 6 columns: Common Name, Scientific Name, Growth Season, Growth Form, % Mix, Lb/ac (PLS). Lists various grasses and herbaceous species with their respective seed rates.

PLS = Pure Live Seed - If broadcast seeding, double the rate

Wetland Native Seed Mixes

Table A-8. Wetland seed mix - loamy to sandy soils (Recommended for detention ponds and less eroding wetland areas.)

Table with 7 columns: Common Name, Scientific Name, Growth Season, Growth Form, % Mix, Wetland Indicator*, Lb/ac (PLS). Lists various wetland species with their respective seed rates.

PLS = Pure Live Seed - If broadcast seeding, double the rate

Table A-9. Wetland seed mix - clay and alkali soils (Recommended for detention ponds and wetland areas.)

Table with 7 columns: Common Name, Scientific Name, Growth Season, Growth Form, % Mix, Wetland Indicator*, Lb/ac (PLS). Lists various wetland species with their respective seed rates.

PLS = Pure Live Seed - If broadcast seeding, double the rate

Note: Wildflowers species not recommended for clay or alkali soils. Wetland Indicator Key for Tables A-8 and A-9: FAC = Facultative - Equally occurs in both wetlands and uplands.

Project information including Drawn By (JMM), Job Date (5/17/2024), Job Number (201662.07), and CAD file path.

Revision table with columns for NO., DATE, BY, and REVISION DESCRIPTION.

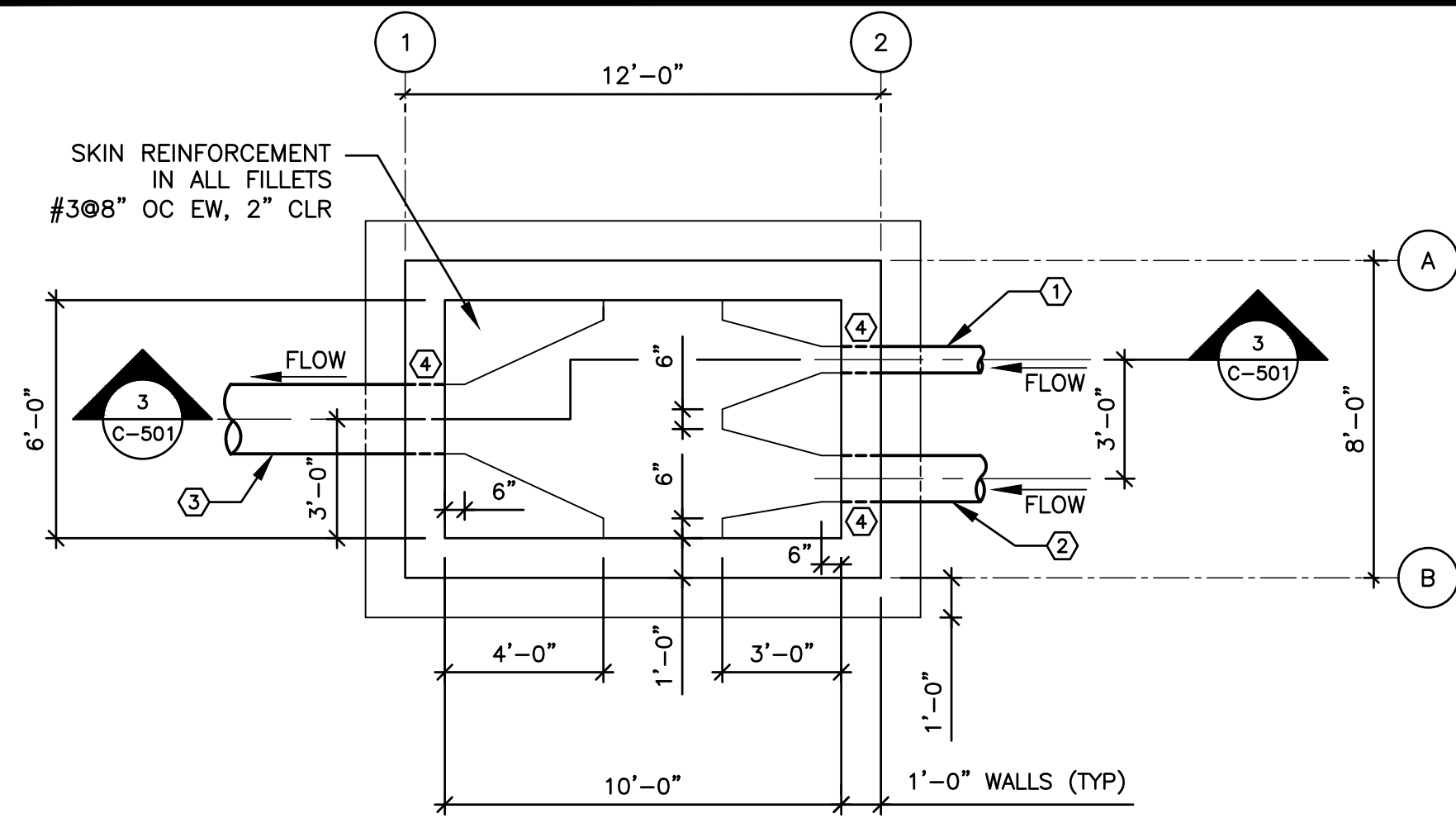
HRGreen logo and contact information for HR Green - Colorado Springs.

Contact information for Grandview Reserve M.D. - Dual Force Mains, D.R. Horton.

D-R Horton logo with the tagline 'America's Builder'.

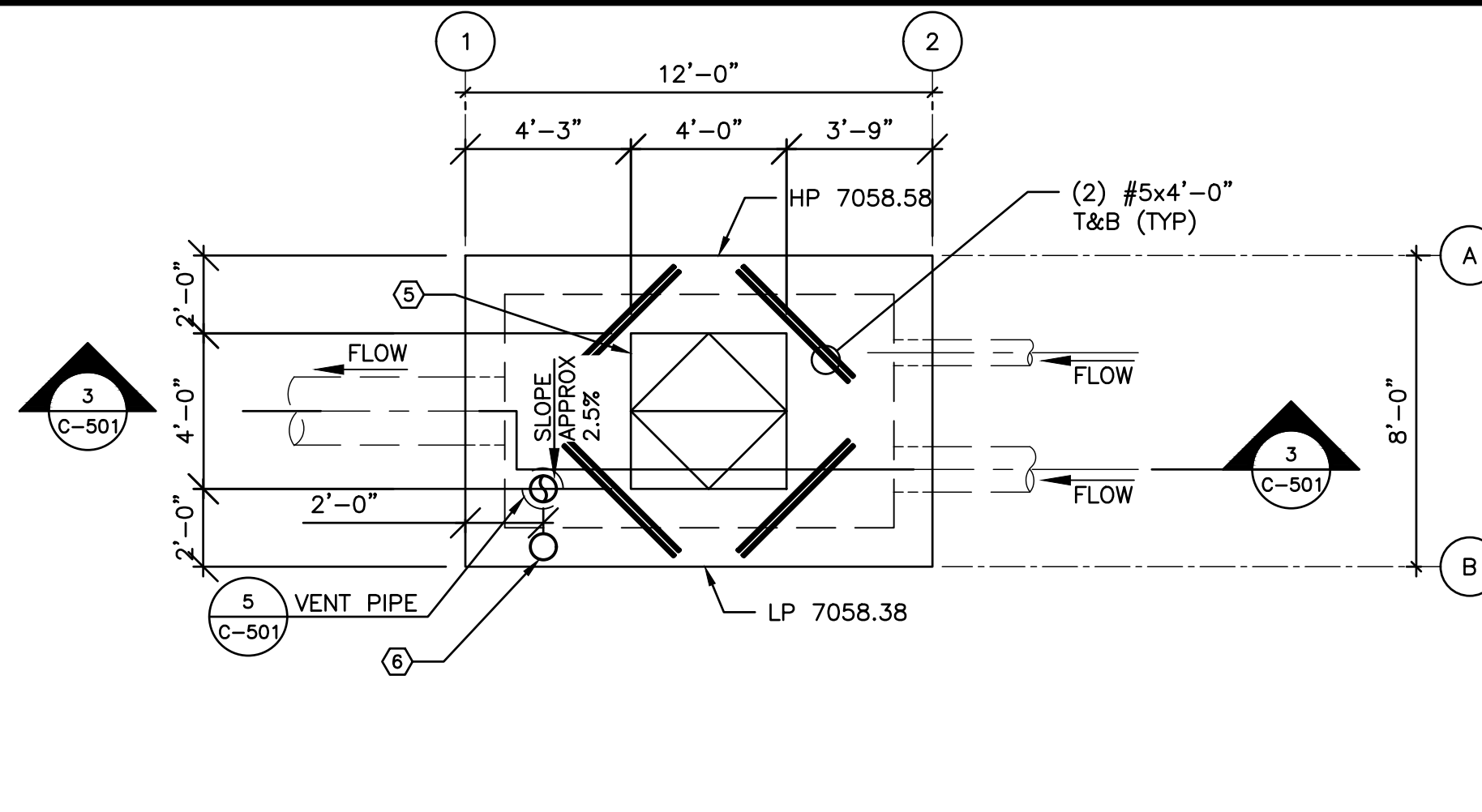
CONSTRUCTION DOCUMENTS EROSION CONTROL DETAILS

SHEET C419



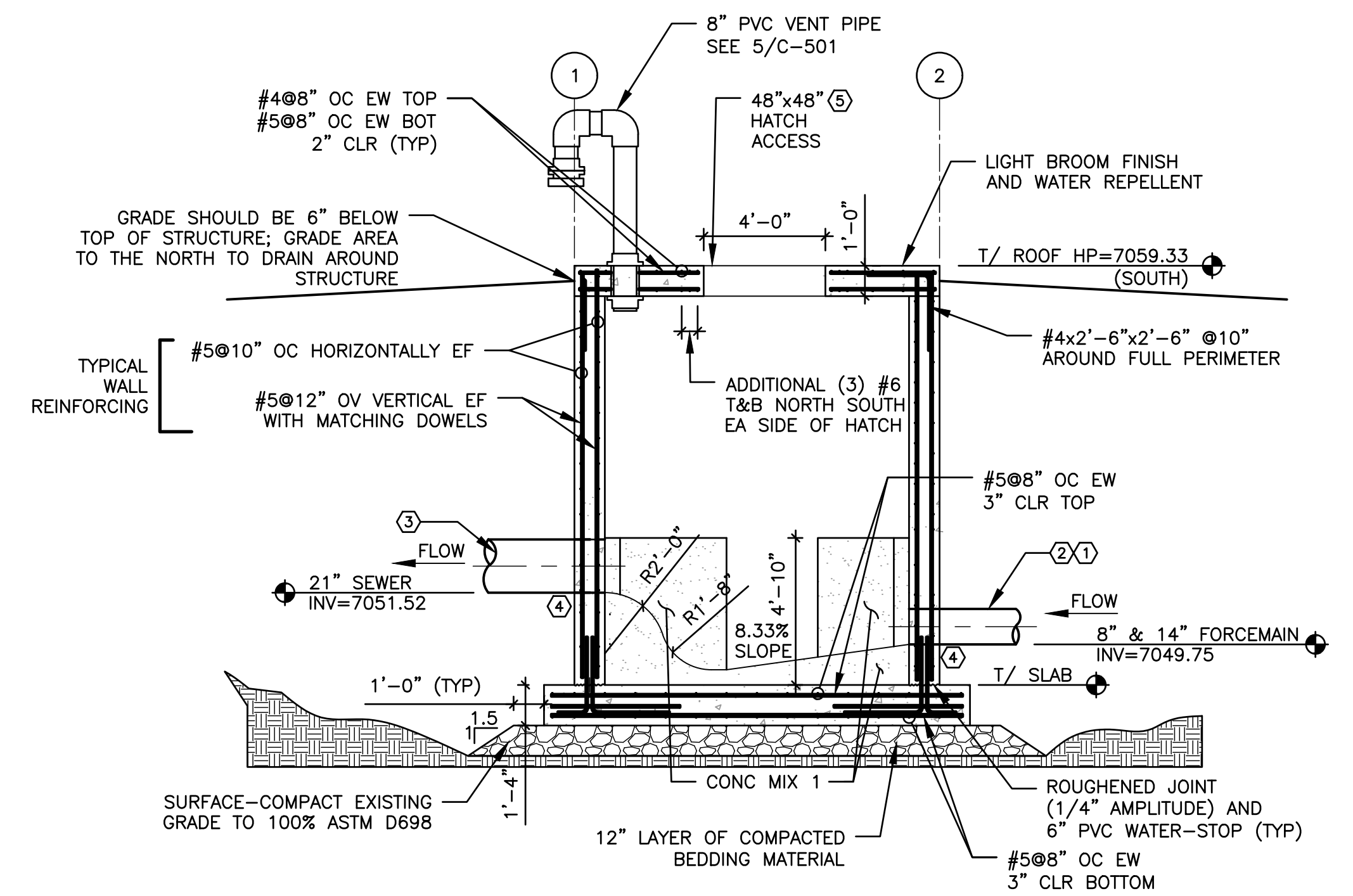
1 FORCE MAIN STILLING STRUCTURE FOUNDATION PLAN

SCALE: 1/4"=1'-0"



2 FORCE MAIN STILLING STRUCTURE ROOF PLAN

SCALE: 1/4"=1'-0"

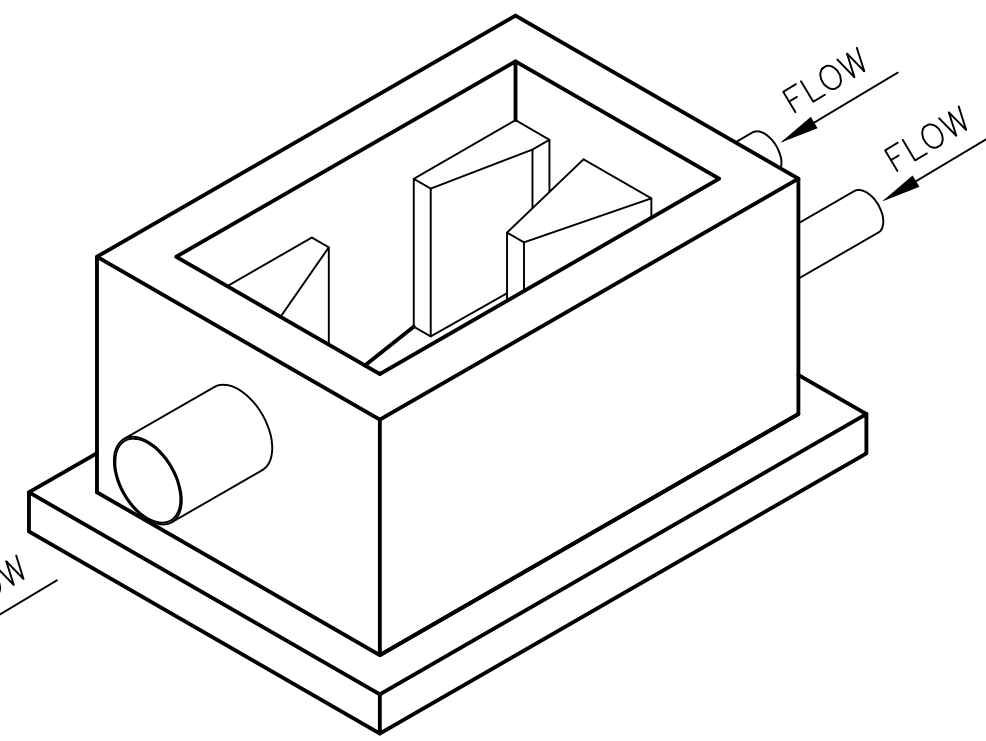


3 FORCE MAIN STILLING STRUCTURE SECTION

SCALE: 1/4"=1'-0"

- GENERAL NOTES:**
- STRUCTURE SHALL BE PRECAST FOR BEST WATERTIGHTNESS FLOW LINES/BENCHING AND FILLETS MAYBE CAST IN PLACE.
 - ALL INTERIOR SURFACES ARE TO BE LINED. SEE THIS SHEET FOR CORROSION PROTECTIVE LINING REQUIREMENTS. APPLY ALL AROUND ON ALL SURFACES FROM EFFLUENT PIPE INVERT ELEVATION TO TOP OF STRUCTURE INCLUDING UNDERSIDE OF ROOF, EXCEPT ON HATCH.
 - ALL PIPES ARE TO BE PVC C900 DR14.
 - SEE G001 FOR ADDITIONAL GENERAL NOTES.
 - DESIGN LIVE LOAD FOR STILLING STRUCTURE ROOF: 600 PSF/HS20 WHEEL LOAD.
 - PRIOR TO BACKFILLING AND INSTALLING ROOF, PERFORM VISUAL-ONLY WATERTIGHTNESS TEST TO A MAXIMUM WATER LEVEL OF 7057.13. HOLD FOR THREE 24-HOUR DAYS AND REPAIR ANY LEAKS UNTIL EXTERIOR OF STRUCTURE REMAINS DRY.
 - SEE C101 FOR PLAN AND PROFILE.

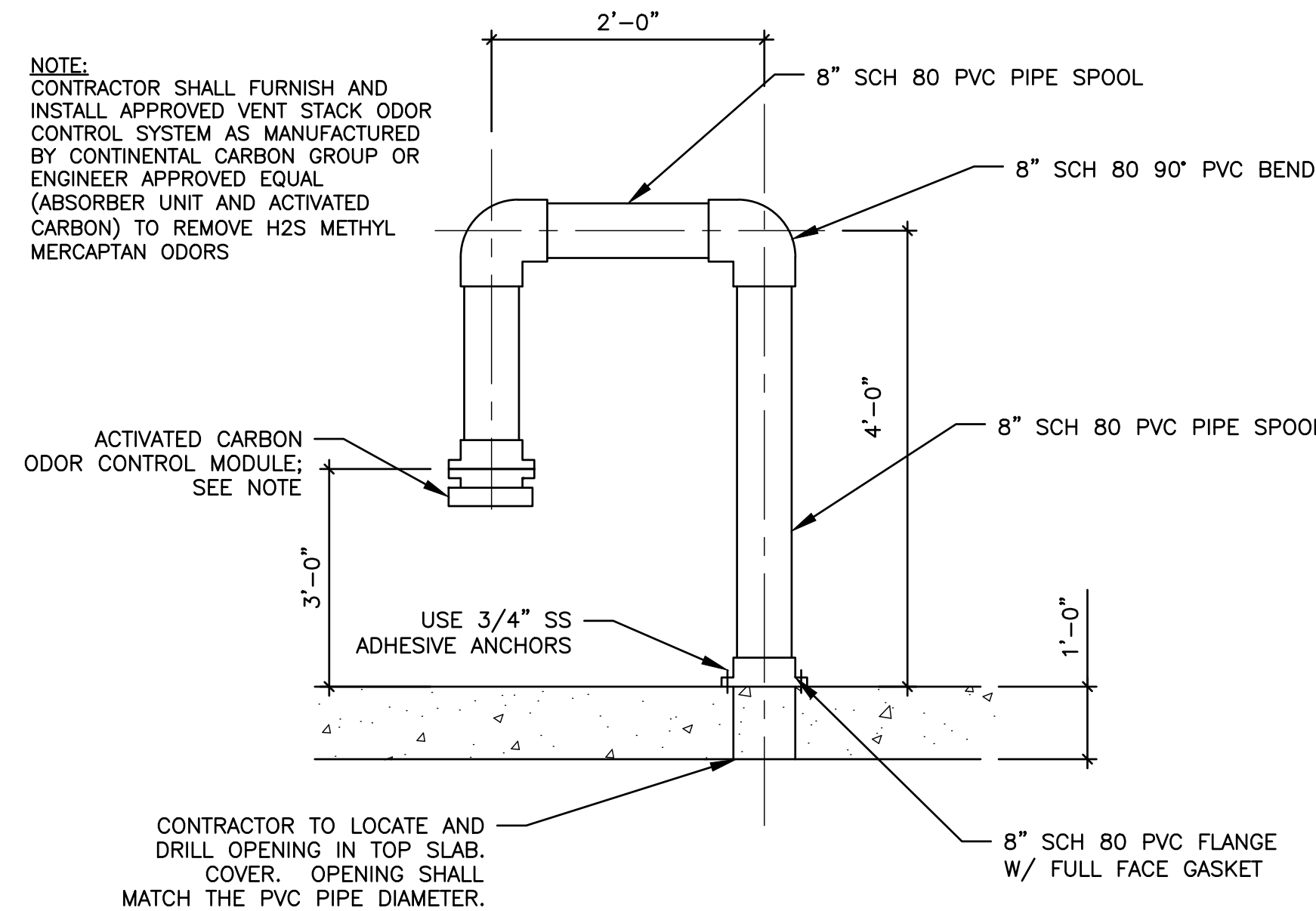
- KEY NOTES:**
- 8" Ø INFLUENT PIPE
 - 14" Ø INFLUENT PIPE
 - 21" Ø EFFLUENT PIPE. SEE PIPE SLOPE ON C101.
 - LINKED MODULAR RUBBER WALL SEALS AND WATER STOPS ALL AROUND.
 - PROVIDE LOCKABLE FLUSH MOUNTED STAINLESS STEEL EMBEDDED FRAME WITHOUT DRAIN FOR HATCHES. CAPABLE OF SUPPORTING HS20 LOADING. ALL HARDWARE SHALL BE 316 STAINLESS STEEL. DIMENSIONS ARE INDICATED ON DRAWING. PROVIDE FALL PROTECTION GRATING IN HATCH OPENING. HALLIDAY MODEL NO. H2R4848 OR ENGINEER APPROVED EQUAL.
 - 5.5" Ø HEAVY DUTY STEEL BOLLARD POST. PROVIDE 2 BOLLARDS. ULINE H-4970 OR ENGINEER APPROVED EQUAL. LOCATE ON ROOF SUCH THAT EPOXY ANCHORS ARE MIN 6" FROM EDGE OF CONCRETE.



4 ISOMETRIC VIEW

NTS

NOTE:
CONTRACTOR SHALL FURNISH AND INSTALL APPROVED VENT STACK ODOR CONTROL SYSTEM AS MANUFACTURED BY CONTINENTAL CARBON GROUP OR ENGINEER APPROVED EQUAL (ABSORBER UNIT AND ACTIVATED CARBON) TO REMOVE H2S METHYL MERCAPTAN ODORS



5 STILLING STRUCTURE VENT PIPE

NTS

CORROSION PROTECTIVE LINING SPECIFICATIONS - EPOXY LINER

- A. QUALITY ASSURANCE**
- ALL COATINGS SHALL CONFORM TO OSHA REQUIREMENTS FOR ALLOWABLE EXPOSURE TO LEAD AND OTHER HAZARDOUS SUBSTANCES.
 - MANUFACTURER SHALL BE A COMPANY THAT SPECIALIZES IN PRODUCING HIGH QUALITY INDUSTRIAL COATING MATERIALS.
 - APPLICATOR: COMPANY THAT HAS SUCCESSFULLY COMPLETED COATING SYSTEMS APPLICATIONS SIMILAR IN MATERIAL AND EXTENT TO THOSE INDICATED. APPLICATOR SHALL BE ABLE TO SUPPLY SUITABLE EQUIPMENT TO PREPARE THE SURFACES AND APPLY THE PROTECTIVE COATING SYSTEM SPECIFIED WITHIN THIS ARTICLE.
 - SINGLE SOURCE RESPONSIBILITY: PROVIDE COATING MATERIAL AND THINNERS PRODUCED BY THE SAME MANUFACTURER FOR EACH SYSTEM ON ALL SURFACES OF THE MANHOLE BENCH.
 - FIELD PAINTING PRE-APPLICATION MEETING: HOLD A PRE-APPLICATION MEETING BEFORE THE START OF FIELD SURFACE PREPARATION AND COATING APPLICATION. REQUIRE ATTENDANCE OF PARTIES DIRECTLY AFFECTING WORK OF THIS SPECIAL PROVISION, INCLUDING THE ENGINEER, APPLICATOR, INSPECTOR, AND COATING MANUFACTURER'S REPRESENTATIVE. REVIEW THE SPECIFICATIONS TO INSURE EACH PARTY'S RESPONSIBILITIES ARE UNDERSTOOD. SUBJECTS TO BE DISCUSSED ARE: ENVIRONMENTAL REQUIREMENTS, PROTECTION OF SURFACES NOT SCHEDULED TO BE COATED, SURFACE PREPARATION, APPLICATION, REPAIR, FIELD QUALITY CONTROL, CLEANING, PROTECTION OF COATING SYSTEMS, COORDINATION WITH OTHER WORK AND ANY OTHER AREAS OF CONCERN EXPRESSED AT THE MEETING.
 - DUST AND CONTAMINANTS: SCHEDULE COATING WORK TO AVOID EXCESSIVE DUST AND AIRBORNE CONTAMINANTS. PROTECT WORK AREAS FROM EXCESSIVE DUST AND AIRBORNE CONTAMINANTS DURING COATING APPLICATION AND CURING.
- B. WARRANTY: FULL WARRANTY AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR TWO YEARS AFTER SUBSTANTIAL COMPLETION, INCLUDING ALL PARTS, LABOR, AND EXPENSES**
- C. PRODUCTS**
- MANUFACTURERS: ITW POLYMER COATINGS, MAINSTAY, RAVEN, OR SAUERISEN
 - GENERAL:
 - APPLICATION METHOD SHALL BE DESIGNED AND INSTALLED USING TECHNIQUE RECOMMENDED BY THE MANUFACTURER.
 - COLORS SHALL BE AS SELECTED BY ENGINEER
 - UNLESS OTHERWISE NOTED, ITW POLYMERS COATINGS PRODUCTS ARE IDENTIFIED IN THIS EPOXY LINER SYSTEM TO ESTABLISH QUALITY AND TYPE DESIRED.
 - SYSTEM THICKNESS OR COVERAGE RATE IS RECOMMENDED BY ITW POLYMERS COATINGS. IF OTHER MANUFACTURERS ARE USED, MANUFACTURER REQUIREMENTS SHALL BE FOLLOWED, BUT IN NO CASE SHALL THICKNESS OR COVERAGE RATE BE LESS THAN ITW POLYMERS COATINGS.
 - PROPERTIES-MEET THE FOLLOWING:

PROPERTY	TEST METHOD	PERFORMANCE
COMPRESSIVE STRENGTH	ASTM C579	12,870 PSI
TENSILE STRENGTH	ASTM D838	6,690 PSI
FLEXURAL STRENGTH	ASTM D580	12,443 PSI
BOND STRENGTH	ASTM D4541	450 PSI

 - VOLUME OF SOLIDS: 100%
 - SURFACE PREPARATION:
 - CONCRETE SURFACES SHALL BE ABRASIVE BLASTED IN ACCORDANCE WITH SSPC-SP13 TO PRODUCE A CLEAN AND ROUGHENED SURFACE FINISH. ALTERNATIVE SURFACE PREPARATION METHODS INCLUDE WET GRIT BLASTING, AND HIGH OR ULTRA-HIGH PRESSURE WATER JETTING.
 - ALL LOOSE SURFACE CONTAMINATION SHALL BE COMPLETELY REMOVED BY VACUUMING OR HIGH PRESSURE WATER WASHING. THE SUBSTRATE MUST BE VISIBLY DRY BEFORE PROCEEDING. ANY SPECIFIC AREA THAT IS NOT VISIBLY DRY OR IS EXPERIENCING WATER PENETRATION (I.E., GROUND WATER SEEPAGE) SHALL BE SURFACE-DRIED UTILIZING FORCED AIR HEATING OR DEHUMIDIFICATION UNITS. MOISTURE VAPOR TRANSMISSION SHOULD BE 3 POUNDS OR LESS PER 1000 SQUARE FEET OVER A 24 HOUR TIME PERIOD, AS CONFIRMED THROUGH A CALCIUM CHLORIDE TEST PER ASTM E-1907. QUANTITATIVE RELATIVE HUMIDITY (RH) TESTING, ASTM F-2170, SHOULD CONFIRM CONCRETE RH RESULTS BELOW 75%.
 - PROVIDE A SURFACE PROFILE OF ICRI CSP-3 TO ICRI CSP-5.

- SYSTEM:
 - CONCRETE RESURFACING: ROUGH CONCRETE, SPALLED CONCRETE OR CONCRETE SURFACES WITH VOIDS AND/OR BUG HOLES MUST BE RESURFACED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
 - PRIMER COAT: 1 COAT/125 TO 175 SQUARE FEET PER GALLON (SFFG) "POLYSPEC MMP PRIMER, TRANSPARENT AMBER" BY ITW POLYMERS COATINGS.
 - INTERMEDIATE COAT: 1 COAT/40.0 TO 60.0 DRY FILM THICKNESS (MILS/COAT) "TUFFREZ 240, GRAY" BY ITW POLYMERS COATINGS.
 - TOP COAT: 1 COAT/40.0 TO 60.0 DRY FILM THICKNESS (MILS/COAT) "TUFFREZ 240, GRAY" BY ITW POLYMERS COATINGS.
- THINNING AND MIXING:
 - EPOXY LINER MATERIALS SHALL BE MIXED WITH A POWER MIXER OF SUFFICIENT SIZE TO ENSURE COMPLETE DISPERSION OF PIGMENTS AND BLENDING OF REACTIVE COMPONENTS.
 - EPOXY LINER MATERIALS SHALL NOT BE THINNED UNLESS SPECIFICALLY ALLOWED BY THE MANUFACTURER'S RECOMMENDATIONS.
- EPOXY INSTALLATION
 - EXAMINATION:
 - EXAMINE AREAS AND CONDITIONS UNDER WHICH THE EPOXY LINER SYSTEM IS TO BE APPLIED. NOTIFY CONTRACTOR AND ENGINEER OF AREAS OR CONDITIONS THAT ARE NOT ACCEPTABLE. DO NOT BEGIN SURFACE PREPARATION OR APPLICATION UNTIL UNACCEPTABLE AREAS OR CONDITIONS HAVE BEEN CORRECTED.
 - PROTECT SURROUNDING AREAS AND SURFACES NOT SCHEDULED TO BE COATED FROM DAMAGE DURING SURFACE PREPARATION AND APPLICATION OF EPOXY LINER SYSTEM. IMMEDIATELY REMOVE EPOXY LINER SYSTEM THAT FALL ON SURROUNDING AREAS AND SURFACES NOT SCHEDULED TO BE COATED.
 - ALL EPOXY LINER MATERIALS SHALL BE MIXED AND APPLIED AT TEMPERATURES IN ACCORDANCE WITH THESE SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATION.
 - EPOXY LINER MATERIALS SHALL NOT BE APPLIED IN INCLEMENT WEATHER CONDITIONS.
 - AMBIENT TEMPERATURES MUST BE BETWEEN 40°F AND 85°F DURING APPLICATION OF EPOXY LINER MATERIALS. RELATIVE HUMIDITY MUST BE BELOW 85%.
 - THE MINIMUM SUBSTRATE TEMPERATURE AT THE TIME OF APPLICATION SHALL BE 45°F. THE MAXIMUM SUBSTRATE TEMPERATURE AT THE TIME OF APPLICATION SHALL BE 100°F.
 - AT THE TIME OF APPLICATION, THE SUBSTRATE TEMPERATURE MUST BE AT LEAST 5°F ABOVE THE DEW POINT.
 - DURING APPLICATION, THE SUBSTRATE TEMPERATURE MUST BE DECLINING.
 - ADEQUATE LIGHTING SHALL BE PROVIDED TO SUFFICIENTLY LIGHT UP ALL AREAS TO BE WORKED ON WITHOUT INCLUSION OF SHADOW AREAS. ADEQUATE LIGHTING SHALL BE CONSIDERED A MINIMUM OF 20 FOOT CANDLES IN ALL AREAS IN WHICH WORK OR INSPECTION PROCESSES ARE OCCURRING.
 - EPOXY LINER MATERIALS SHALL NOT BE APPLIED WINDY CONDITIONS. CONTRACTOR SHALL ENSURE WINDBLOWN MATTER IS PREVENTED FROM CONTAMINATING FRESHLY COATED SURFACES.
 - KEEP CONTAINERS CLOSED WHEN NOT IN USE TO AVOID CONTAMINATION.
 - DO NOT USE MIXED EPOXY LINER MATERIALS BEYOND POT LIFE LIMITS.
 - APPLY MULTIPLE COATS WITHIN MANUFACTURER'S RECOMMENDED RECOAT TIMEFRAME.
 - USE APPLICATION EQUIPMENT, TOOLS, PRESSURE SETTINGS, AND TECHNIQUES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - UNIFORMLY APPLY EPOXY LINER MATERIALS AT SPREADING RATE REQUIRED TO ACHIEVE SPECIFIED DFT.
 - APPLY EPOXY LINER MATERIALS TO BE FREE OF FILM DEFECTS THAT WOULD ADVERSELY AFFECT PERFORMANCE OF THE LINER SYSTEM.
 - REPAIRS:
 - DAMAGED MATERIALS: REPAIR OR REPLACE DAMAGED MATERIALS AND SURFACES NOT SCHEDULED TO BE COATED.
 - DAMAGED LINER SYSTEM: REPAIR DAMAGED EPOXY LINER MATERIALS.
 - REPAIRS SHALL BE MADE WITH THE EPOXY LINER SYSTEM, SURFACE PREPARATION, AND COAT THICKNESS SPECIFIED IN ARTICLE 120141A.02, A.
 - COMPLETE REPLACEMENT OF THE EPOXY LINER MAY BE REQUIRED BY ENGINEER IF THE DAMAGED OR UNSATISFACTORY AREA EXCEEDS 2% OF THE TOTAL COATED SURFACE AREA.
 - PRIOR TO ANY REPAIR WORK, THE SURFACE SHALL BE CLEANED IN ACCORDANCE WITH SSPC-SP 1.
 - INTACT AREAS AROUND THE DAMAGED AREA SHALL BE FEATHERED BY EITHER HAND SANDING, POWER TOOL CLEANING, OR ABRASIVE BLAST CLEANING PRIOR TO THE APPLICATION OF THE EPOXY LINER.
 - LINER SYSTEM DEFECTS: COMPLETELY REPLACE THE DEFECTIVE EPOXY LINER WITH THE EPOXY LINER SYSTEM, SURFACE PREPARATION, AND COAT THICKNESS SPECIFIED IN ARTICLE 120141A.02, A.
- TESTING EQUIPMENT AND PROCEDURES
 - PROVIDE ON THE PROJECT SITE, TESTING EQUIPMENT NECESSARY TO TEST THE FOLLOWING. EQUIPMENT SHALL BE IN CALIBRATION AND PROPER WORKING ORDER. EQUIPMENT SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS OR AS DIRECTED BY THE ENGINEER. THE ENGINEER SHALL BE NOTIFIED OF TIME OF TESTING SO THAT HE MIGHT BE PRESENT TO WITNESS TESTING. KEEP A DAILY LOG OF ENVIRONMENTAL CONDITIONS, WORK SCHEDULE, AND ANY OTHER PERTINENT INFORMATION. THE LOG SHALL BE TURNED OVER TO THE ENGINEER AT THE END OF THE PROJECT TO BE INCLUDED IN THE PERMANENT RECORD. PROVIDE QUALIFIED PERSONNEL TO PERFORM THE FOLLOWING TESTING:
 - MONITORING AMBIENT TEMPERATURE.
 - DETECTING OIL OR WATER IN COMPRESSED AIR.
 - DETERMINING DEGREE OF CLEANLINESS FOR BLAST CLEANED SURFACES.
 - MEASURING NON-VISIBLE CONTAMINANTS ON CONCRETE SURFACES.
 - MEASURING CONCRETE SURFACE PROFILE.
 - MONITORING THE MIXING AND THINNING OF EPOXY LINER MATERIALS.
 - MEASURING WET FILM THICKNESS OF EPOXY LINER MATERIALS.
 - MEASURING EPOXY LINER MATERIAL ADHESION USING PORTABLE ADHESION TESTERS (DESTRUCTIVE TEST TO BE PERFORMED ONLY WHEN REQUIRED).
 - DISCONTINUITY OR HOLIDAY TESTING OF EPOXY LINER MATERIALS.
 - TESTING FOR CURE OF EPOXY LINER MATERIALS

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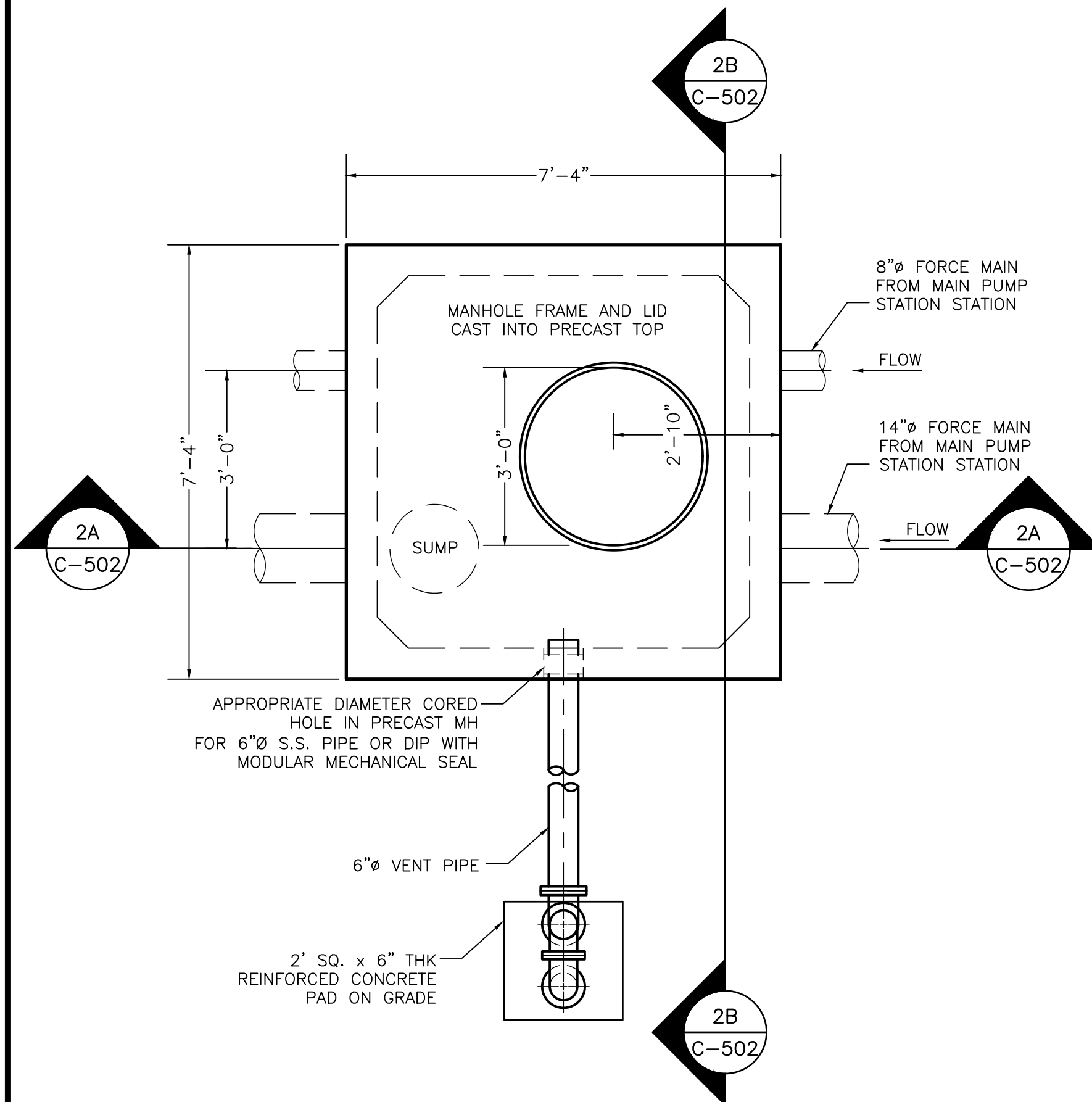
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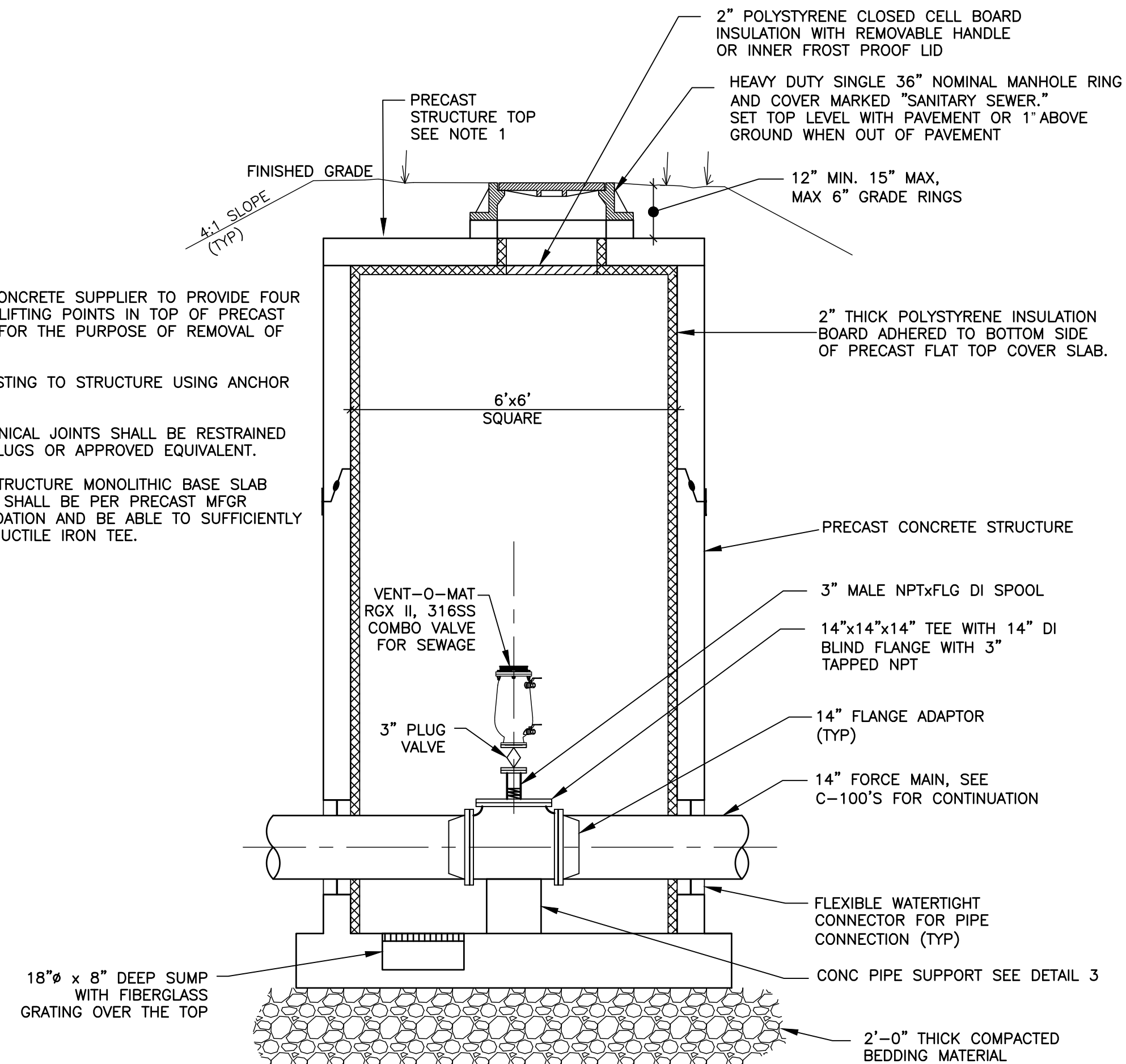


CONSTRUCTION DOCUMENTS
 STILLING STRUCTURE DETAILS
 SHEET
 C501

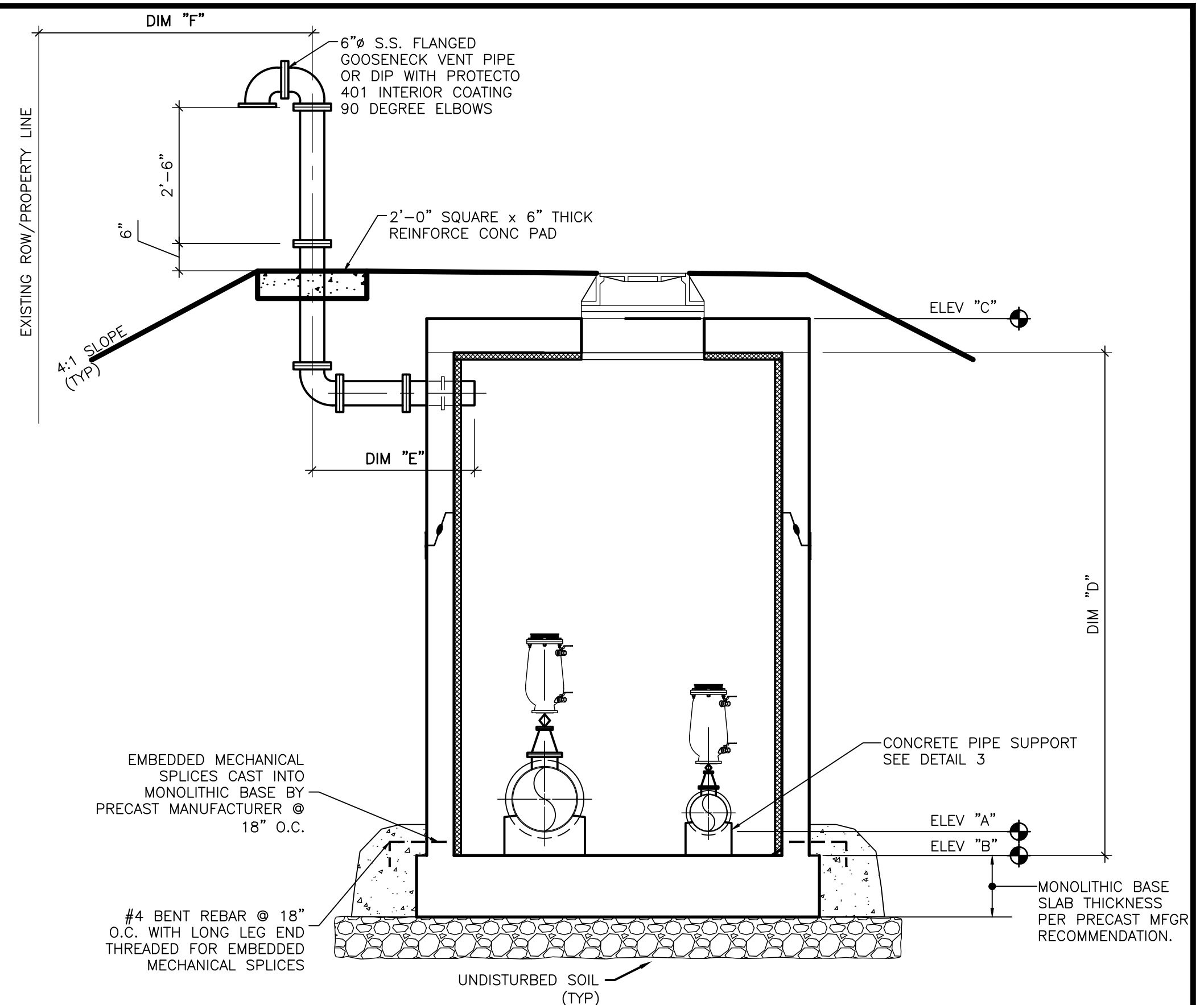


1 COMBO VALVE STRUCTURE DETAIL - SECTION 3
NTS

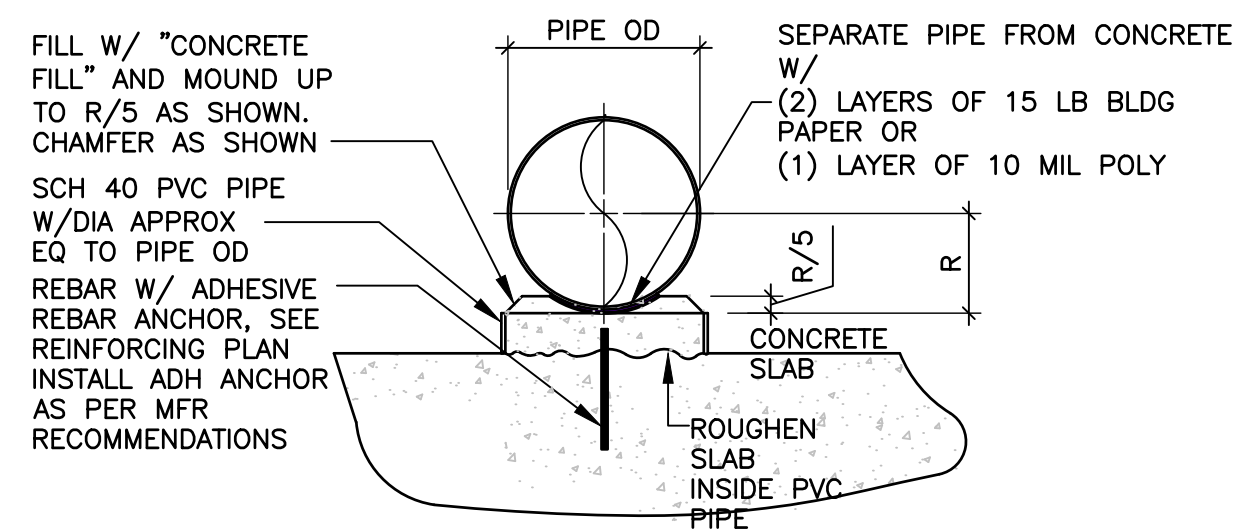
- NOTES:**
1. PRECAST CONCRETE SUPPLIER TO PROVIDE FOUR RECESSED LIFTING POINTS IN TOP OF PRECAST TOP SLAB FOR THE PURPOSE OF REMOVAL OF TOP SLAB.
 2. ATTACH CASTING TO STRUCTURE USING ANCHOR BOLTS.
 3. ALL MECHANICAL JOINTS SHALL BE RESTRAINED WITH MEGALUGS OR APPROVED EQUIVALENT.
 4. PRECAST STRUCTURE MONOLITHIC BASE SLAB THICKNESS SHALL BE PER PRECAST MFR RECOMMENDATION AND BE ABLE TO SUFFICIENTLY SUPPORT DUCTILE IRON TEE.



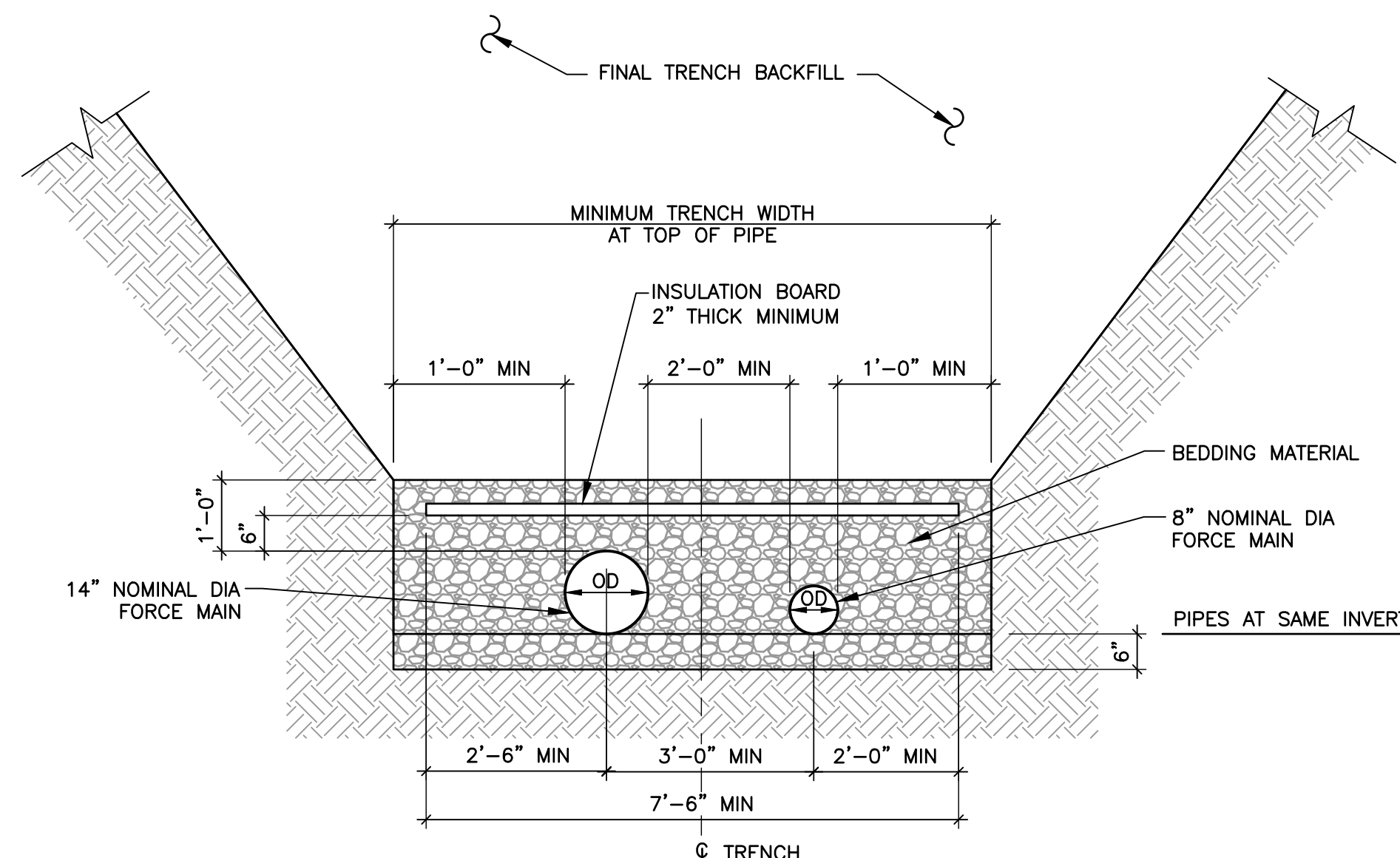
2A COMBO VALVE STRUCTURE DETAIL - SECTION 1
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2B COMBO VALVE STRUCTURE DETAIL - SECTION 2
NTS



3 TYPE 'D' PIPE SUPPORT
NTS

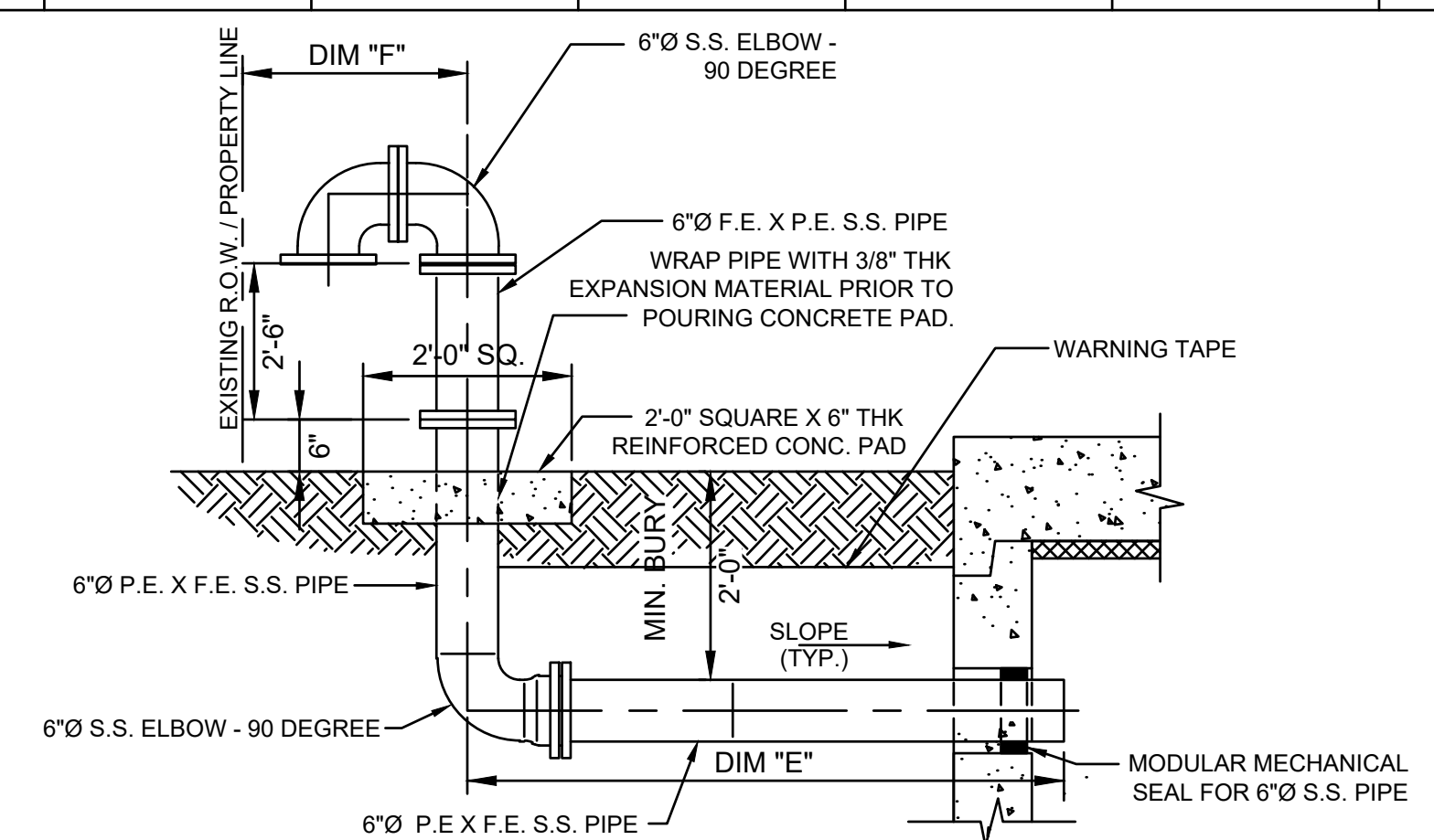


4 TYPICAL PARALLEL PIPING TRENCH LAYOUT
NTS

NOTE:

1. SPECIAL PRECAUTIONS SHALL BE TAKEN IN SLOPING OR SHORING THE SIDES OF EXCAVATIONS TO MAINTAIN EXCAVATION WITHIN THE DELINEATED LIMITS OF EXCAVATION.
2. SEE DETAIL WW-1 FOR ADDITIONAL REQUIREMENTS.

STRUCTURE ID	ELEV "A"	ELEV "B"	ELEV "C"	DIM "D"	DIM "E"	DIM "F"	COMBO VALVE SIZE
CVS#1							
CVS#2							
CVS#3							
CVS#4							
CVS#5							



5 SIDE WALL VENT
NTS

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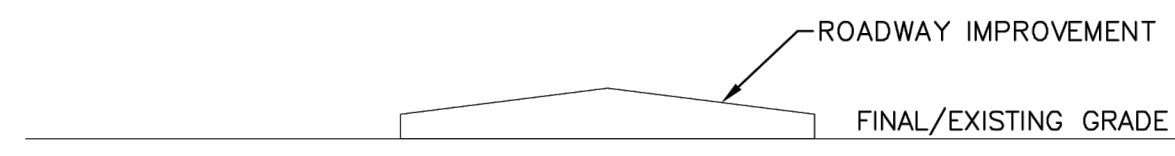
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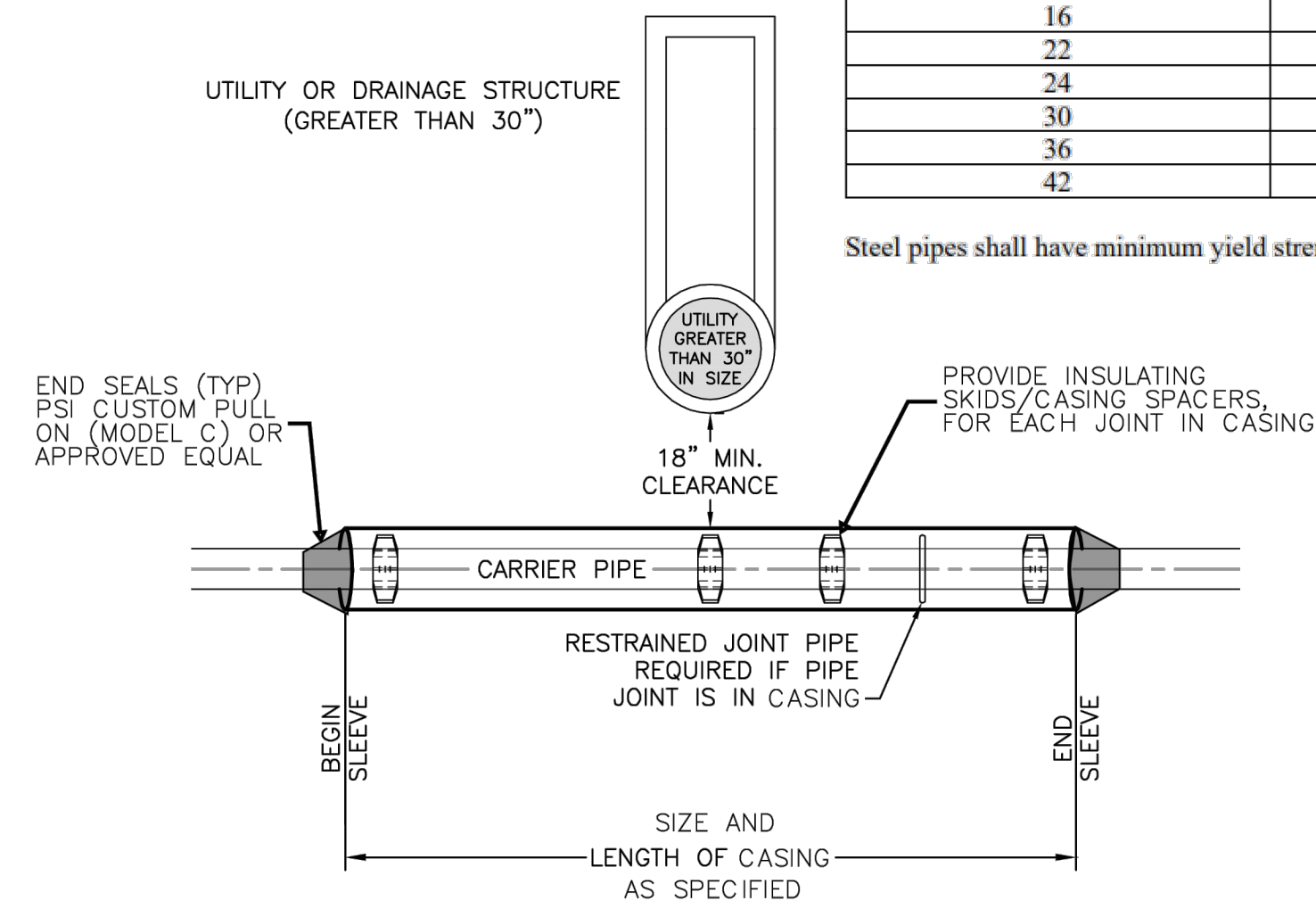
CONSTRUCTION DOCUMENTS
 DETAILS

SHEET
 C502



Casing Pipe Size (inch)	Minimum Steel Thickness (inch)
≤12	0.250
16	0.312
22	0.375
24	0.500
30	0.500
36	0.625
42	0.625

Steel pipes shall have minimum yield strength of 35,000 pounds per square inch.



NOTES:

- 3/4" ALL-THREAD TO BE USED FROM VALVE TO REVERSE ANCHOR AND FROM UPPER BEND TO VALVE.
- IF A JOINT IS LOCATED BETWEEN ANY FITTINGS INCORPORATED INTO THE LOWERING, BELL/JOINT RESTRAINTS MUST BE USED.
- CASING PIPE MUST BE CLEAN AND FREE OF ALL DIRT AND DEBRIS BEFORE INSTALLING CARRIER PIPE AND BEFORE INSTALLING END SEALS.
- CARRIER PIPE AS SPECIFIED.
- FURNISH AND INSTALL ONE 17 LB. MAGNESIUM ANODE PER 20 FEET OF CASING PIPE LENGTH.
- ENTIRE LENGTH OF LOWERING (FROM VERTICAL BEND TO LOWER VERTICAL BEND) SHALL REST ON 18" MINIMUM OF 3/4" ROCK BELOW CASING AND UP TO SPRINGLINE OF CASING AND CARRIER PIPE.

CASING PIPE DETAIL

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BAR IS ONE INCH ON OFFICIAL DRAWINGS.
 0" 1"
 IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

NO.	DATE	BY	REVISION DESCRIPTION



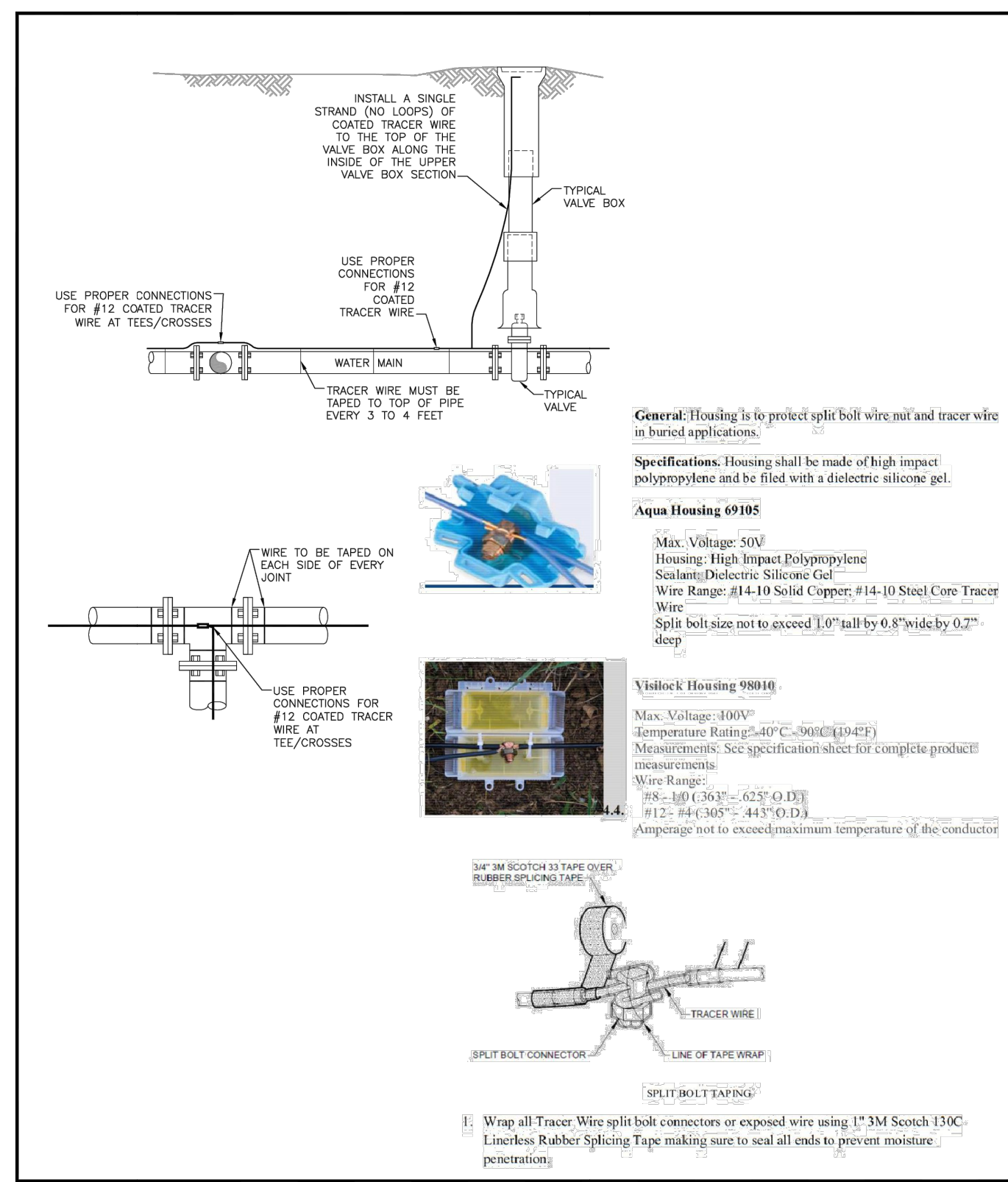
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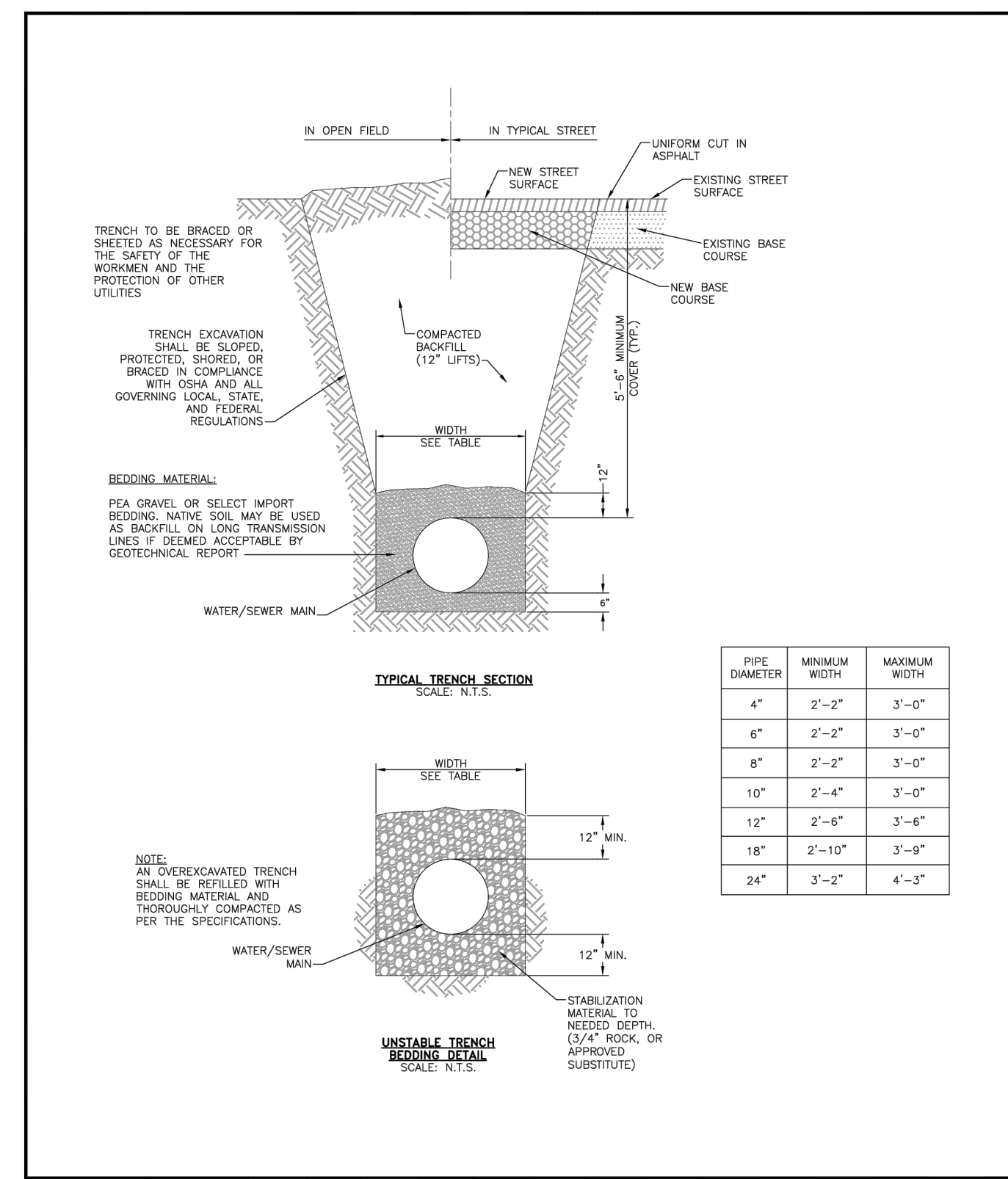
CONSTRUCTION DOCUMENTS
 DETAILS

SHEET
C503



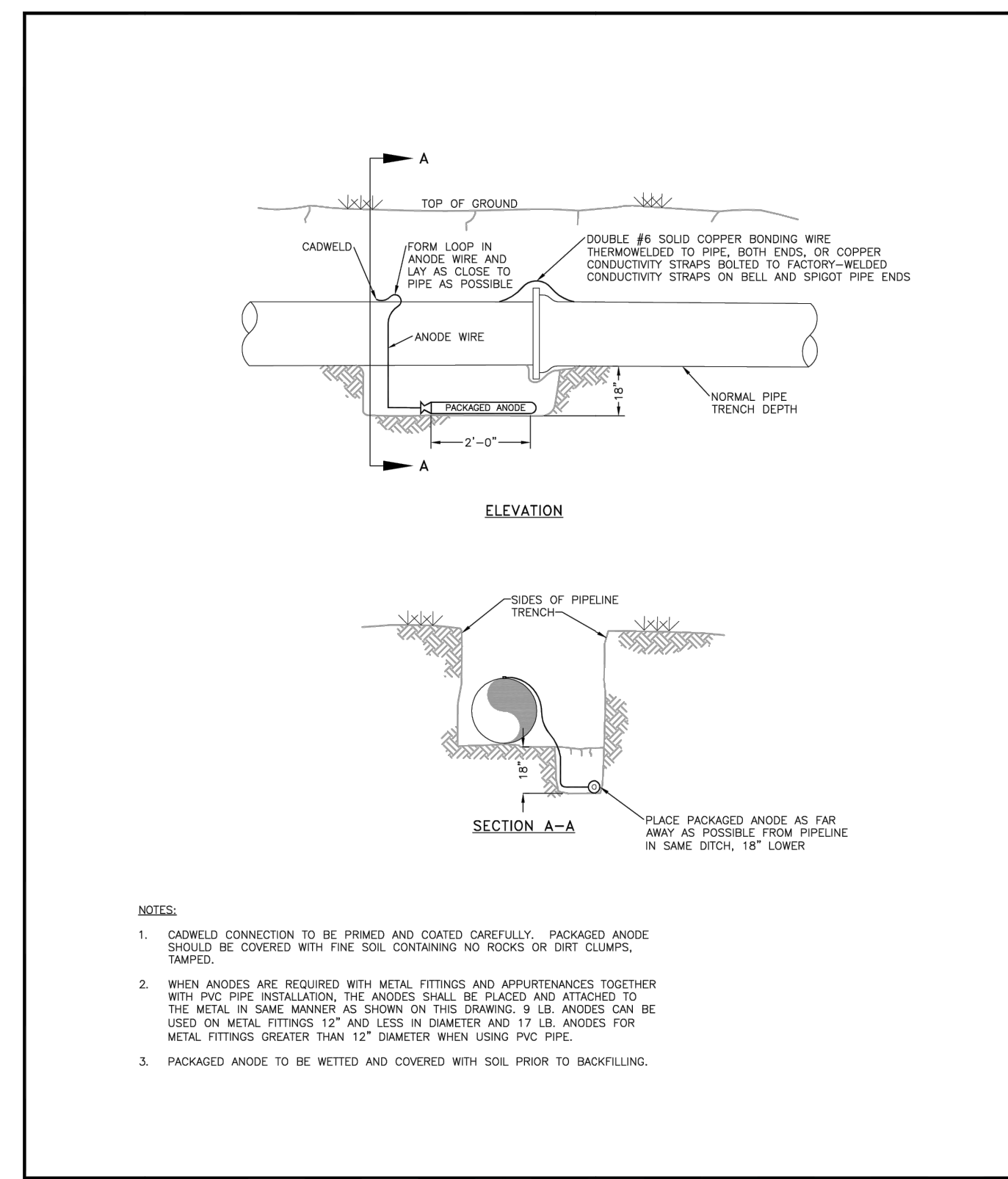
TRACER WIRE INSTALLATION DETAILS

Drawn: GJM/SKS	Revised: DECEMBER 2021	WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS	W-10
Date: MARCH 2011	Revised:		
Scale: N.T.S.	Revised:		



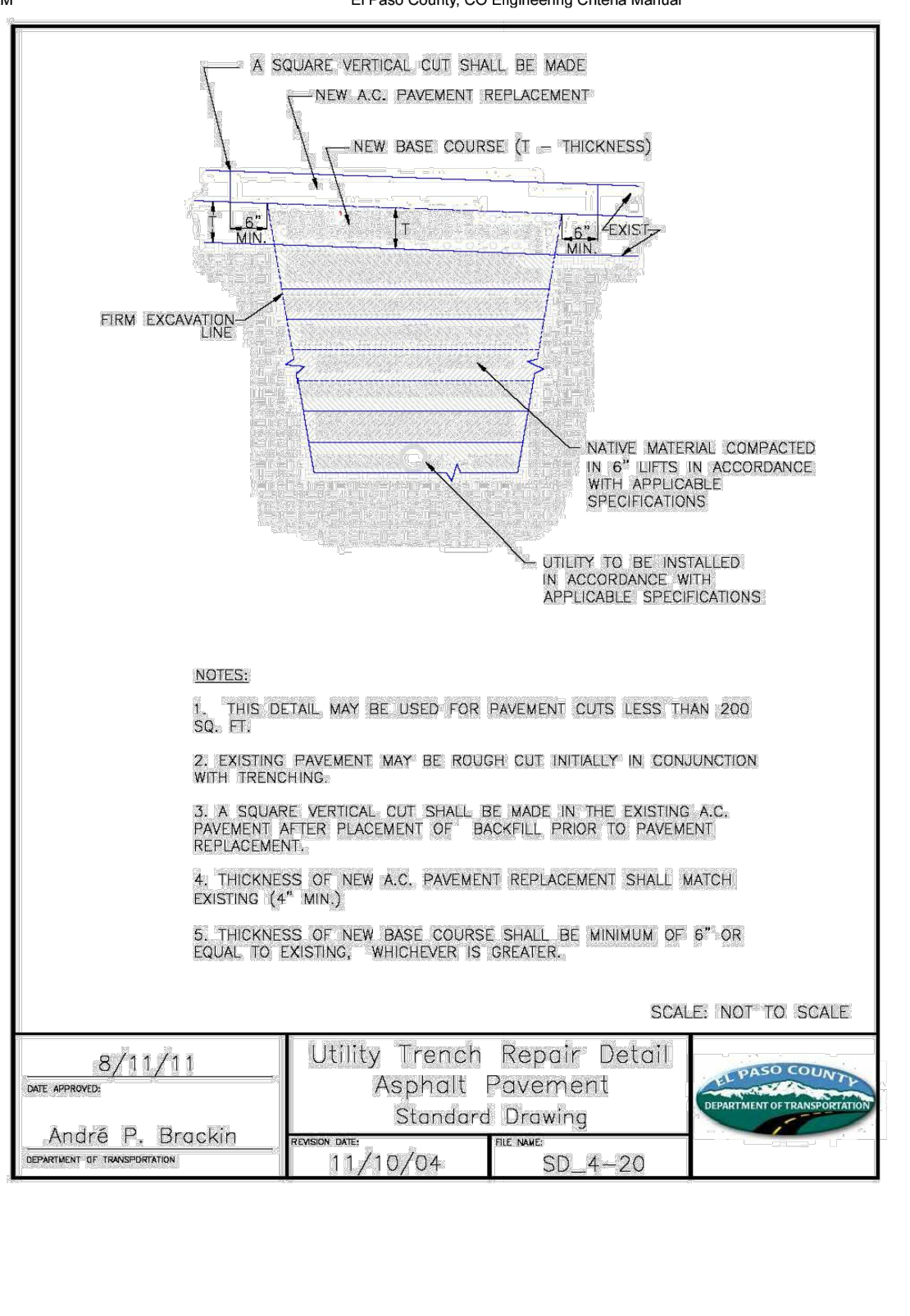
TYPICAL TRENCH CROSS-SECTION

Drawn: GJM/SKS	Revised: DECEMBER 2021	WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS	W-14
Date: MARCH 2011	Revised:		
Scale: N.T.S.	Revised:		



BONDING JOINT & ANODE INSTALLATION

Drawn: GJM	Revised: DECEMBER 2021	WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS	WW-10
Date: MARCH 2011	Revised:		
Scale: N.T.S.	Revised:		



Drawn: GJM	Revised: DECEMBER 2021	WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS	WW-10
Date: MARCH 2011	Revised:		
Scale: N.T.S.	Revised:		

NO.	DATE	BY	REVISION DESCRIPTION