

PLAN SYMBOLS

STATE LINE	----
COUNTY LINE	----
TOWNSHIP OR RANGE LINE	----
SECTION LINE	----
QUARTER LINE	----
SIXTEENTH LINE	----
RIGHT OF WAY LINE	----
SLOPE EASEMENT	SE
PRESENT RIGHT OF WAY LINE	----
CONTROL OF ACCESS LINE	----
PROPERTY LINES	----
VACATED PLATTED PROPERTY	----
CORPORATE HIGHWAY CENTER LINE	=====
TRUNK HIGHWAY CENTER LINE	=====
RETAINING WALL	=====
RAILROAD	=====
RAILROAD RIGHT OF WAY LINE	=====
RIVER OR CREEK	=====
DRY RUN	=====
DRAINAGE DITCH	=====
DRAIN TILE	=====
CULVERT	=====
DROP INLET	=====
GUARD RAIL	=====
BARBED WIRE FENCE	=====
WOVEN WIRE FENCE	=====
CHAIN LINK FENCE	=====
RAILROAD SNOW FENCE	=====
STONE WALL OR FENCE	=====
HEDGE	=====
RAILROAD CROSSING SIGN	X
RAILROAD CROSSING BELL	=====
ELECTRIC WARNING SIGN	=====
CROSSING GATE	=====
MEANDER CORNER	=====
SPRINGS	=====
MARSH	=====
TIMBER }	(TIMBER)
ORCHARD }	
BRUSH }	
NURSERY }	
CATCH BASIN	=====
FIRE HYDRANT	=====
CATTLE GUARD	=====
OVERPASS (HIGHWAY OVER)	=====
UNDERPASS (HIGHWAY UNDER)	=====
BRIDGE	=====
BUILDING (ONE STORY FRAME)	I-S-FB
F - FRAME	C - CONCRETE
S - STONE	T - TILE
B - BRICK	ST - STUCCO
IRON PIPE OR ROD	=====
MONUMENT (STONE, CONCRETE, OR METAL)	=====
WOODEN HUB	=====
GRAVEL PIT	(G)
SAND PIT	(S)
BORROW PIT	(B)
ROCK QUARRY	(Q)

UTILITIES SYMBOLS

POWER POLE LINE	=====
TELEPHONE POLE LINE	=====
JOINT TELEPHONE AND POWER ON POWER POLES	=====
ON TELEPHONE POLES	=====
ANCHOR	=====
STEEL TOWER	=====
STREET LIGHT	=====
PEDESTAL	=====
GAS MAIN	G
WATER MAIN	I
CONDUIT	=====
TELEPHONE CABLE IN CONDUIT	T
ELECTRIC CABLE IN CONDUIT	P
TELEPHONE MANHOLE	=====
ELECTRIC MANHOLE	=====
BURIED TELEPHONE CABLE	T-BUR
BURIED ELECTRIC CABLE	P-BUR
AERIAL TELEPHONE CABLE	T-AE
SEWER (SANITARY OR STORM)	=====
SEWER MANHOLE	=====

DATUM:

VERTICAL- NAVD 88
HORIZONTAL - NAD 83 (2011)

AREA II MINNESOTA RIVER BASIN PROJECTS
COUNTY OF LINCOLN

ALTA VISTA 27 ROAD RETENTION PROJECT PROJECT

CONSTRUCTION PLANS FOR 48" & 66" RCP MAIN, 108" RCP RISER AND EMBANKMENT
LOCATED BETWEEN SECTIONS 27 & 26 ALTA VISTA TOWNSHIP, 4.0 MILES WEST OF MINNEOTA MN, IN LINCOLN COUNTY



GSP 24-06

ALTA VISTA 27 ROAD RETENTION PROJECT

GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION
"STANDARD SPECIFICATION FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	QUANTITIES SHEET
SHEET NO. 3	DETAILS SHEET
SHEET NO. 4	DRAIN DIAPHRAGM SHEET
SHEET NO. 5	PREFORMED SCOUR HOLE SHEET
SHEET NO. 6	360TH STREET PLAN & PROFILE SHEET
SHEET NO. 7-9	360TH STREET CROSS SECTION SHEETS
SHEET NO. 10	260TH AVE. PLAN & PROFILE SHEET
SHEET NO. 11-13	260TH AVE. CROSS SECTION SHEETS

THIS PLAN CONTAINS 13 SHEETS

DESIGN DESIGNATION

ADT (CURRENT YEAR) 2024 = LESS THAN 50 ASSUMED
ADT (FUTURE YEAR) 2044 = LESS THAN 50 ASSUMED
DESIGN SPEED 40 MPH
BASED ON STOPPING SIGHT DISTANCE:
HEIGHT OF EYE: 3.5' HEIGHT OF OBJECT: 2.5'

NOTE:
EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY
THE UTILITY OWNER. STATE LAW AND NRCS POLICY REQUIRE THAT THE EXCAVATING
CONTRACTOR CONTACT GOPHER STATE ONE-CALL @ 1-800-252-1166
FOR UTILITY LOCATIONS 48 HOURS PRIOR TO THE START OF EXCAVATION WORK.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY
LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE
GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE
COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR
UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

Tyler A Conley
Tyler A Conley Bolton and Menk Inc. Lic. NO. 62291
DATE: 1/14/26

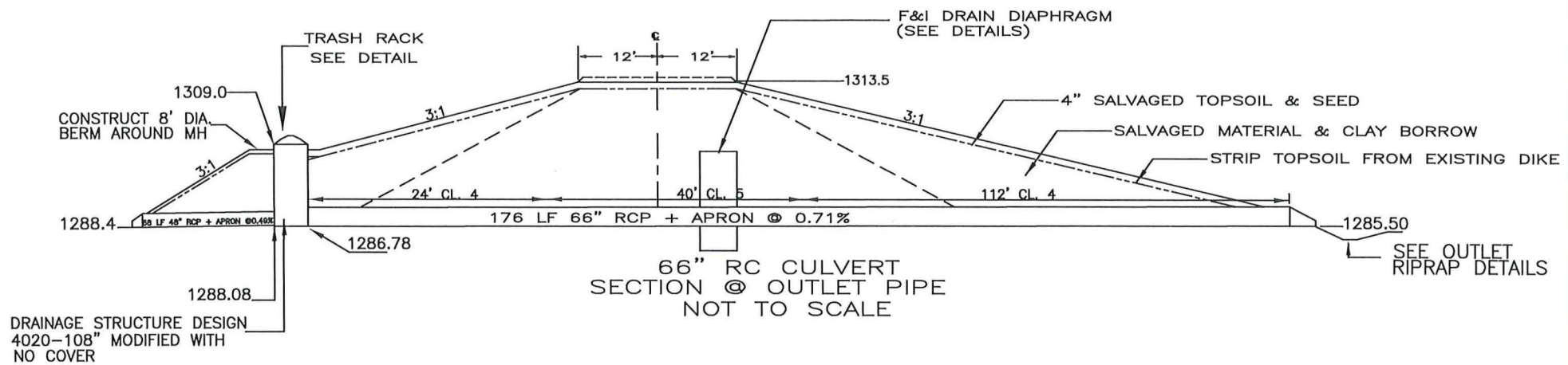
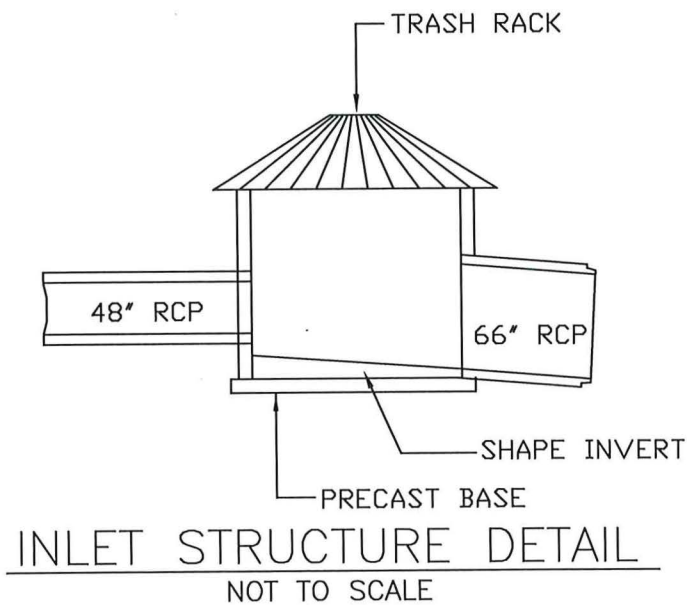
TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, JUDGEMENT, AND
BELIEF, THIS PRACTICE IS INSTALLED IN ACCORDANCE WITH THE
PLANS AND SPECIFICATIONS

Tyler A Conley Bolton and Menk Inc. Lic. NO. 62291
DATE: _____

AREA II MINNESOTA RIVER BASIN PROJECTS
1424 East College Drive
Marshall, MN 56258
507-537-6369

GSP 24-06
SHEET 1 OF 13 SHEETS

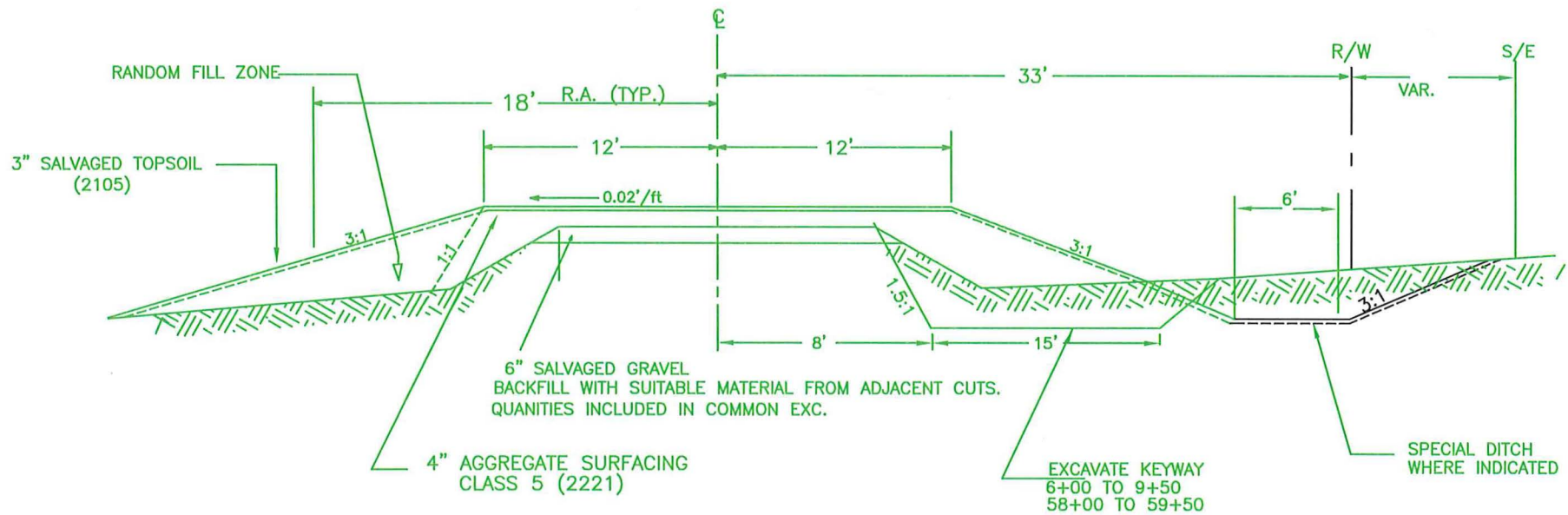
ESTIMATED QUANTITIES			
SPECIFICATIONS NUMBER	ITEM	UNIT	Approximate Quantity
2021.501	MOBILIZATION	LS	1
2101.501	CLEARING & GRUBBING	LS	1
2104.503	REMOVE CULVERT PIPE	L.F.	143
2104.503	REMOVE GUARD RAIL	L.F.	133
2106.600	EXCAVATION - COMMON	C.Y.	7825
2106.600	EXCAVATION - BORROW (CV)	C.Y.	59265
2106.600	SALVAGED GRAVEL (C.V)(P)	C.Y.	458
2118.509	AGGREGATE SURFACING, CLASS V	C.Y.	430
2123.510	1 C.Y. SHOVEL	hour	10
2123.510	DOZER	hour	10
2451.507	DRAINAGE DIAPHRAGM AGGREGATE (CV)(P)	C.Y.	204
2501.502	15" CS PIPE APRON	EACH	2
2501.502	15" RC PIPE APRON	EACH	2
2501.502	48" RC PIPE APRON	EACH	1
2501.502	66" RC PIPE APRON	EACH	1
2501.503	15" CS PIPE CULVERT	L.F.	100
2501.503	15" RC PIPE CULVERT, DESIGN 3006G, CLASS V	L.F.	136
2501.503	48" RC PIPE CULVERT, DESIGN 3006G, CLASS III	L.F.	68
2501.503	66" RC PIPE CULVERT, DESIGN 3006G, CLASS IV	L.F.	136
2501.503	66" RC PIPE CULVERT, DESIGN 3006G, CLASS V	L.F.	40
2501.600	GALVANIZED TRASH RACK	EACH	1
2506.503	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 4020-108"	L.F.	22.9
2511.507	RANDOM RIPRAP CL IV, QUARRY	C.Y.	540
2573.503	SILT FENCE, TYPE HAND INSTALLED	L.F.	1500
2573.503	FILTER BERM, TYPE 3 (ROCK WEEPER)	L.F.	40
2573.503	SEDIMENT CONTROL LOG, TYPE 6 STRAW BIOROLL	L.F.	600
2574.508	FERTILIZER TYPE 24-2-24	Lb.	2400
2575.504	ROLLED EROSION PREVENTION CATEGORY 20 (INCL. MAINT.)	S.Y.	2250
2575.505	SEEDING	ACRE	6.0
2575.505	DISK ANCHORING	ACRE	6.0
2575.508	SEED MIXTURE 25-141 MESIC GENERAL ROADSIDE	Lb.	360
2575.509	MULCH MATERIAL TYPE 1	TON	12



DIRT VOLUME SUMMARY (C.V.)		
	EXC.	EMBANK
DAM		57.065
IMPORTED SAND		(204)
SALVAGED TOPSOIL		5625
CLAY CUTOFF	2200	2200
FILL EXCAVATION		
CALCULATED BORROW	78.658	
TOTALS	80.858	64.686
EXC/EMB		1.25

STANDARD PLATES
THE FOLLOWING MN DOT STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PLAN.

PLATE NO.	DESCRIPTION
0005 A	SPECIFICATIONS REFERENCE TO STANDARD PLATES
3000 M	REINFORCED CONCRETE PIPE
3006 H	GASKET JOINT FOR R.C. PIPE
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133 D	RIPRAP AT R.C.P. OUTLETS
3145 G	CONCRETE PIPE TIES
4011 F	PRECAST CONCRETE BASE
4020 J	MANHOLE OR CATCH BASIN
8000 K	TEMPORARY CHANNELIZERS
9000 K	APPROACHES AND ENTRANCES



TYPICAL GRADING AND AGGREGATE SURFACING SECTIONS

NOT TO SCALE

CONSTRUCTION NOTES

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTRACT PROPER AUTHORITIES FOR LOCATIONS OF ALL BURIED STRUCTURES ON THIS PROJECT PRIOR TO COMMENCING ANY EXCAVATION OPERATIONS.
- TOPSOIL SHALL BE STRIPPED FROM DESIGNATED AREAS WITHIN THE CONSTRUCTION LIMITS AND USED TO COVER SLOPES. THIS WORK SHALL BE CONSIDERED AS PART OF ITEM 2105.535 SALVAGED TOPSOIL
- PIPE TIES WILL BE REQUIRED ON ALL JOINTS IN ACCORDANCE WITH STANDARD PLATE 3145 E UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
- BOTH ELASTOMERIC JOINT SEALS AND GEOTEXTILE FILTER FABRIC SHALL BE REQUIRED AT ALL PIPE JOINTS AND SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFICATIONS FOR CONSTRUCTION OR AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE INCIDENTAL TO ITEM 2501.561 RC PIPE CULVERT AND NO ADDITIONAL COMPENSATION WILL BE MADE THEREFORE.
- EQUIPMENT HOURS HAVE BEEN PROVIDED FOR CLEANING OF THE POND AND ADDITIONAL SHAPING AND OTHER UNANTICIPATED WORK.
- THE EXCAVATION OF THE SCOUR HOLE AND THE PLACING OF GEOTEXTILE FABRIC SHALL BE INCIDENTAL TO THE CONSTRUCTION OF RIPRAP AS SHOWN ON THIS SHEET.
- INCLUDES MAINTENANCE

NOTE: DETAILS ARE NOT TO SCALE

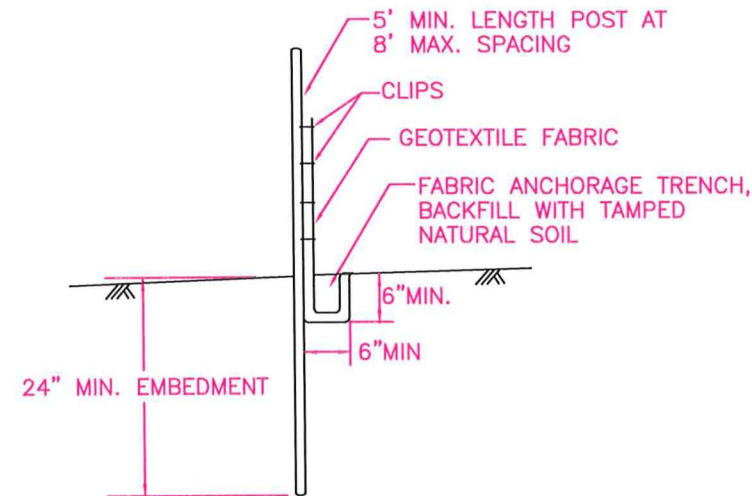
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
Signed: Tyler A Conley Date: 1/14/26
Tyler A Conley Bolton & Menk Reg. No. 62291

DESIGNED
TAC
DRAWN
JAD
CHECKED
TAC

AREA II MINNESOTA RIVER BASIN PROJECTS
1424 East College Drive
Marshall, MN 56258
507-537-6369

LINCOLN COUNTY, MINNESOTA
ALTA VISTA 27/28 ROAD RETENTION PROJECT 24-06
ESTIMATED QUANTIES SHEET

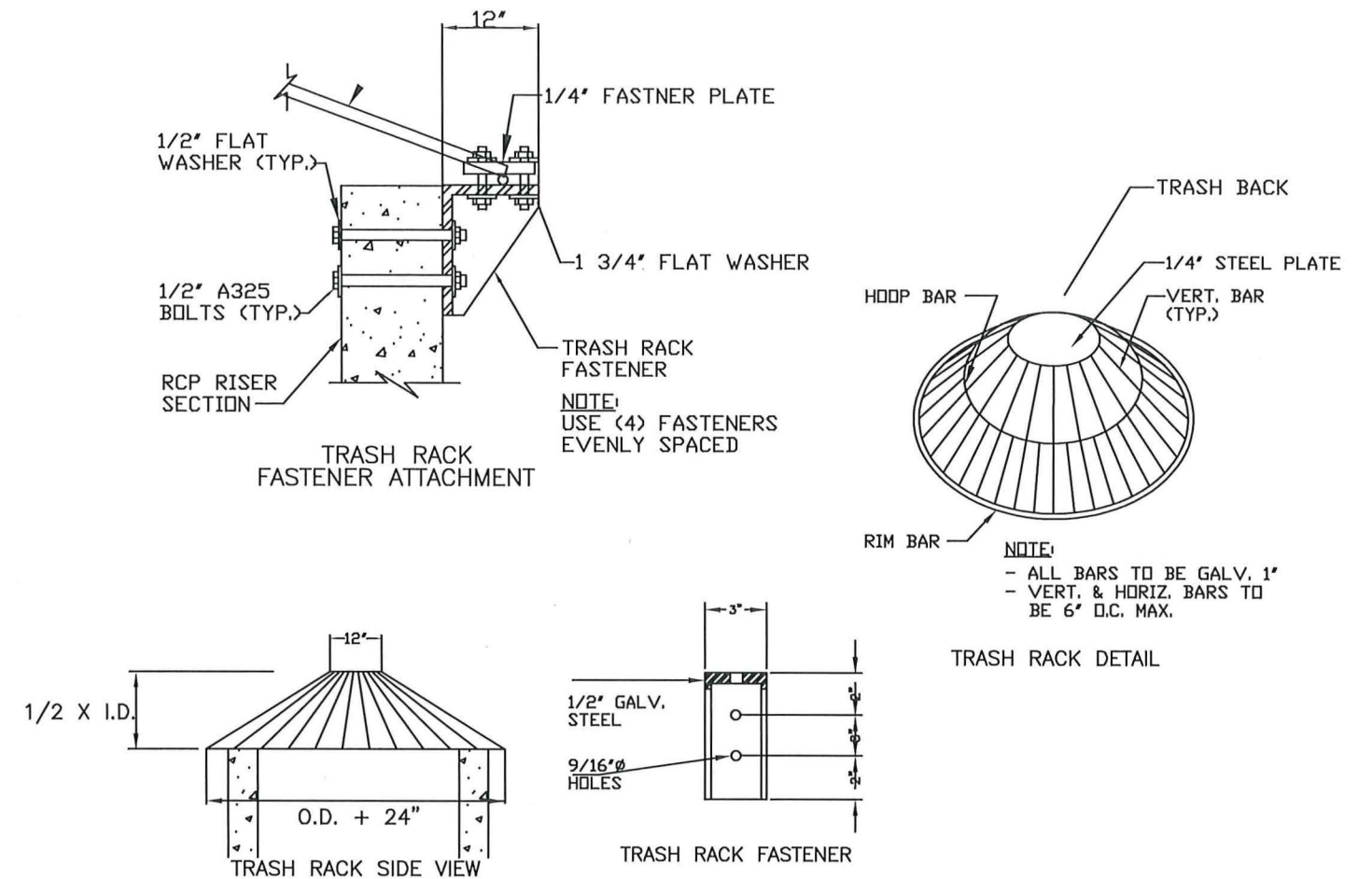
SHEET #
2
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13



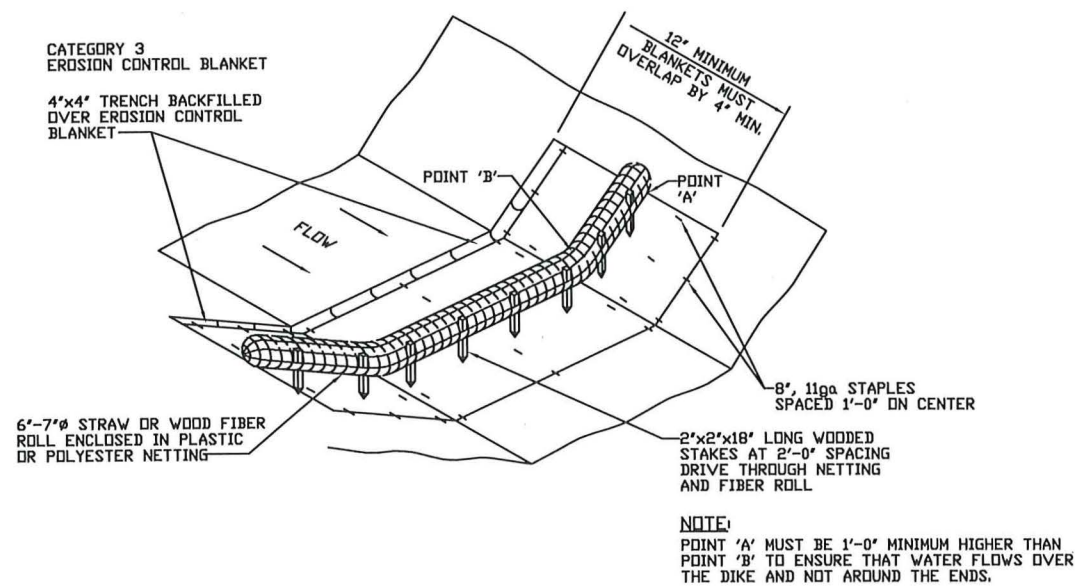
HAND INSTALLED
SILT FENCE DETAILS
NOT TO SCALE

NOTE:

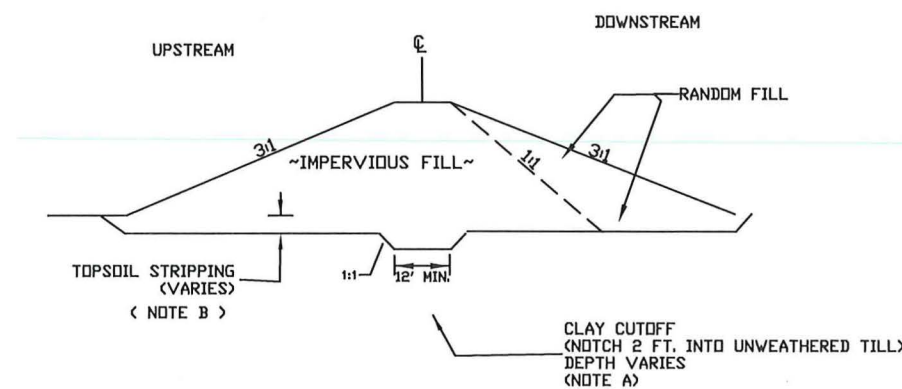
ALL SILT FENCE MATERIALS AND ASSEMBLY SHALL COMPLY WITH MN/DOT SPEC 3886 SILT FENCE EXCEPT AS MODIFIED BY THIS PLAN OR ON THE SPECIAL PROVISIONS. STAKING INTERVAL SHALL BE 6 FT MAXIMUM WITH THE OUTER 6 FT OF DITCH BLOCK ANGLED 45 DEGREES TO THE UPSTREAM DIRECTION.



TRASH RACK DETAILS
NOT TO SCALE



BIOROLL DITCH CHECK
NOT TO SCALE



TYPICAL DAM SECTION
NOT TO SCALE

NOTES:

NOTE A: SEE SHEET 7 FOR DEPTH OF KEYWAY
NOTE B: 18' DEPTH ASSUMED

NOTE: DETAILS ARE NOT TO SCALE

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Signed: Tyler A Conley Date: 11/19/26
Bolton & Menk Reg. No. 62291

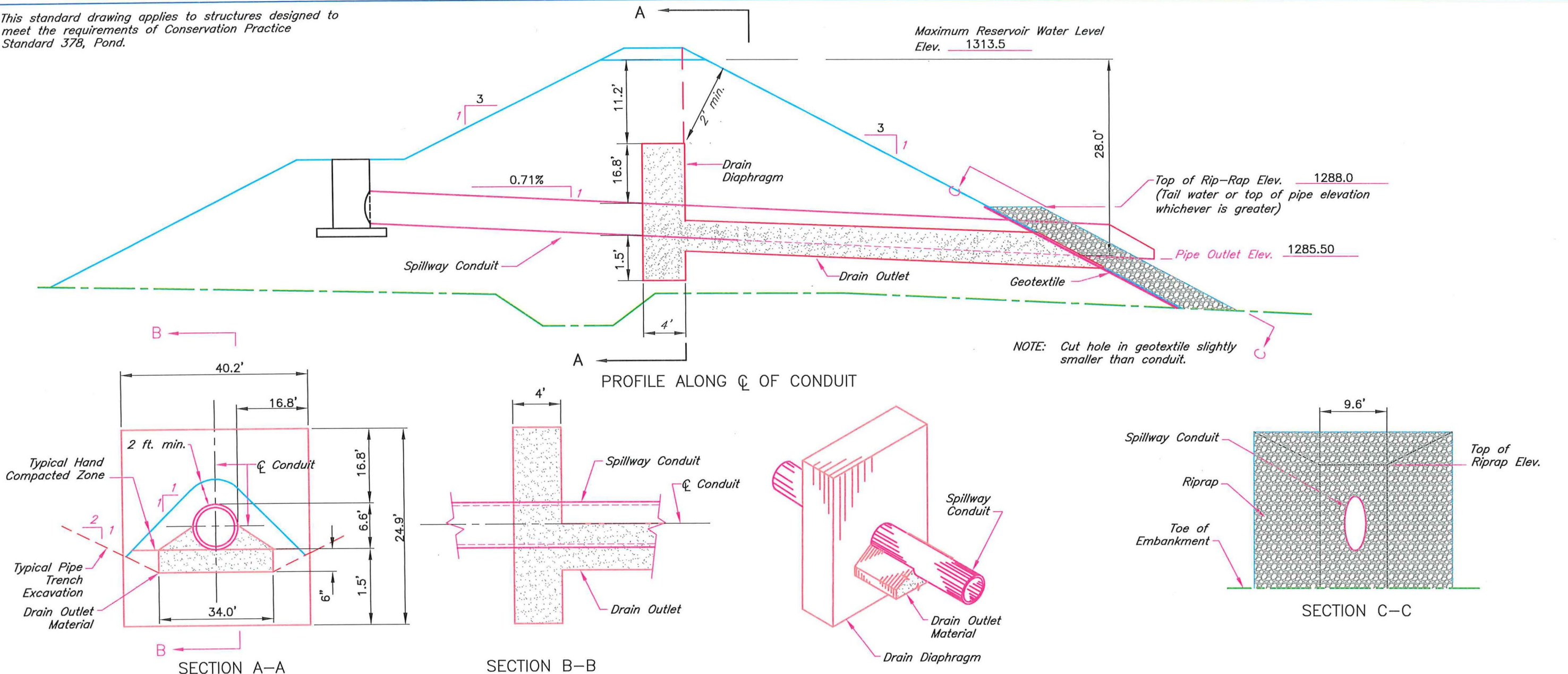
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LINCOLN COUNTY, MINNESOTA
ALTA VISTA 27 ROAD RETENTION PROJECT 24-06
DETAILS SHEET

SHEET #
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OF
13

This standard drawing applies to structures designed to meet the requirements of Conservation Practice Standard 378, Pond.



CONSTRUCTION NOTES:

- Placement of the drain filter material shall be by one of the following methods:
 - The drain filter material shall be placed in 12 inch lifts. Each lift shall be saturated uniformly with approximately 1.2 gallons of water per cubic foot of loose drain material.
 - Drain filter material shall be moist sand and shall be compacted using 6-inch lifts with at least 2 passes over the entire surface with a portable plate vibrator exerting a vertical vibrating force of not less than 700 pounds per square foot at least 4,000 times per minute.
- Rock riprap shall be placed without damaging underlying geotextile.
- When the drain outlet material is placed on bedrock, additional geotextile may be placed under the drain outlet to prevent migration of the drain outlet material into fractures in the bedrock.

MATERIAL NOTE

The geotextile shall conform to the Class IV requirements of MNDOT 3733

DRAIN FILTER GRADATION

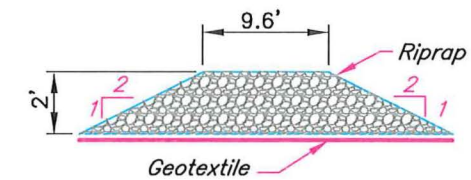
SIEVE SIZE	PERCENT PASSING
3/8	100
4	90-100
10	45-90
40	5-35
200	0-3

MNDOT 3149.2 J
FINE FILTER AGGREGATE

RIPRAP GRADATION

PERCENT SMALLER	WEIGHT RANGE (LBS.)	SIZE RANGE (IN.)
100	1000	24
75	250	15
50	120	12
10	5	4

Min. gradation
MNDOT Class IV



SECTION OF RIPRAP Perpendicular to Slope

ESTIMATED QUANTITIES

Drain Filter Material 204 Cubic Yards (C.V.)
Rip-Rap 540 Cubic Yards

NOTE: DETAILS ARE NOT TO SCALE

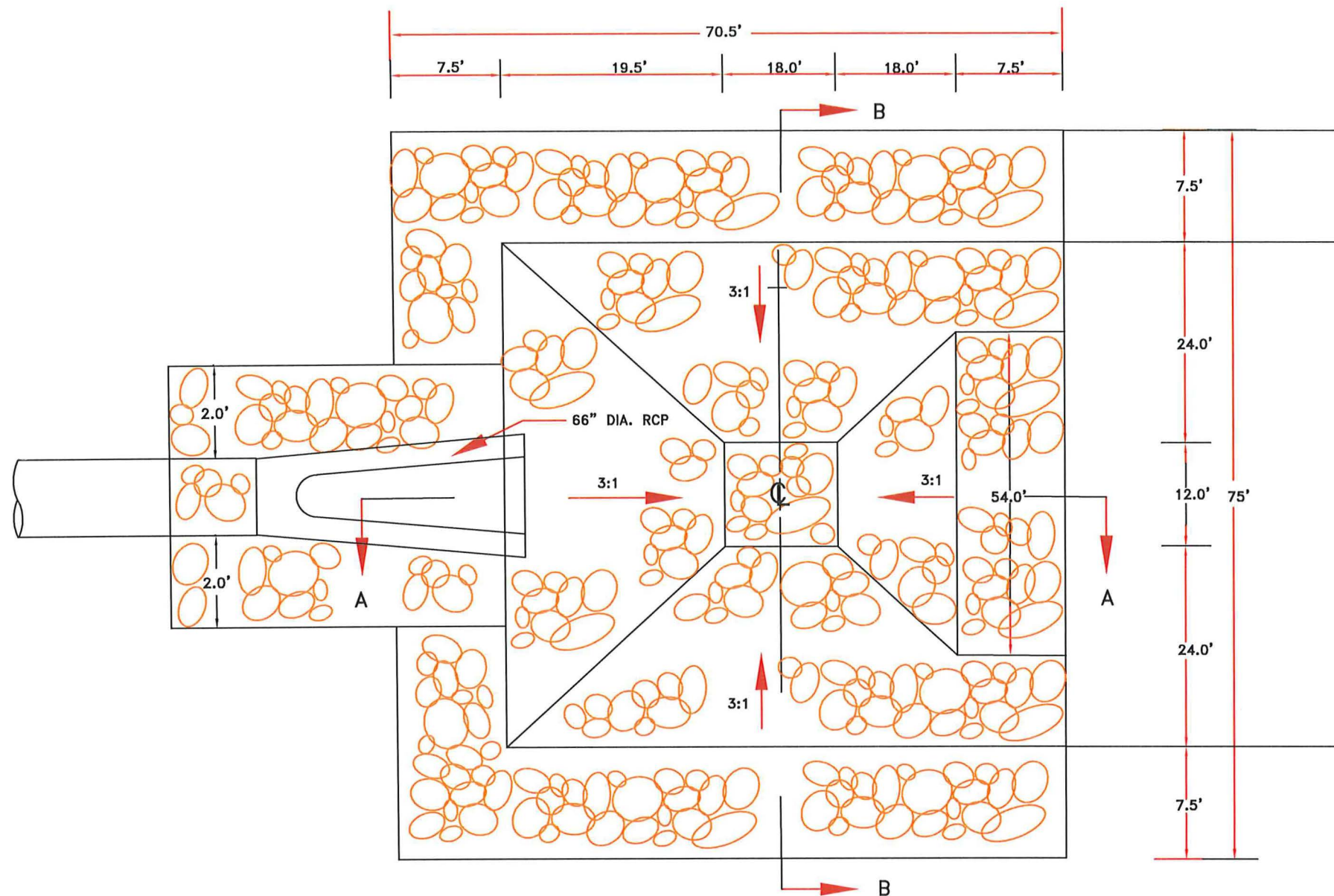
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LINCOLN COUNTY, MINNESOTA
ALTA VISTA 27 ROAD RETENTION PROJECT 24-06
DRAIN DIAPHRAGM DETAILS

SHEET #
4 OF 13

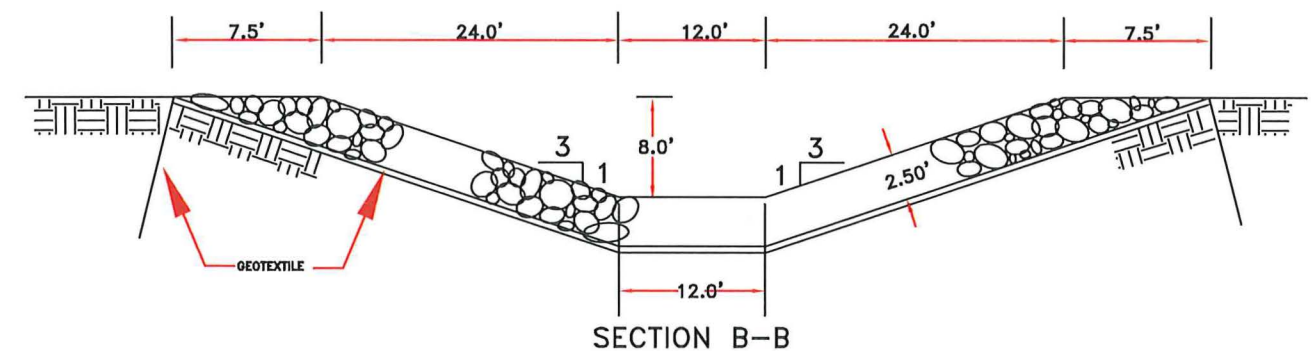
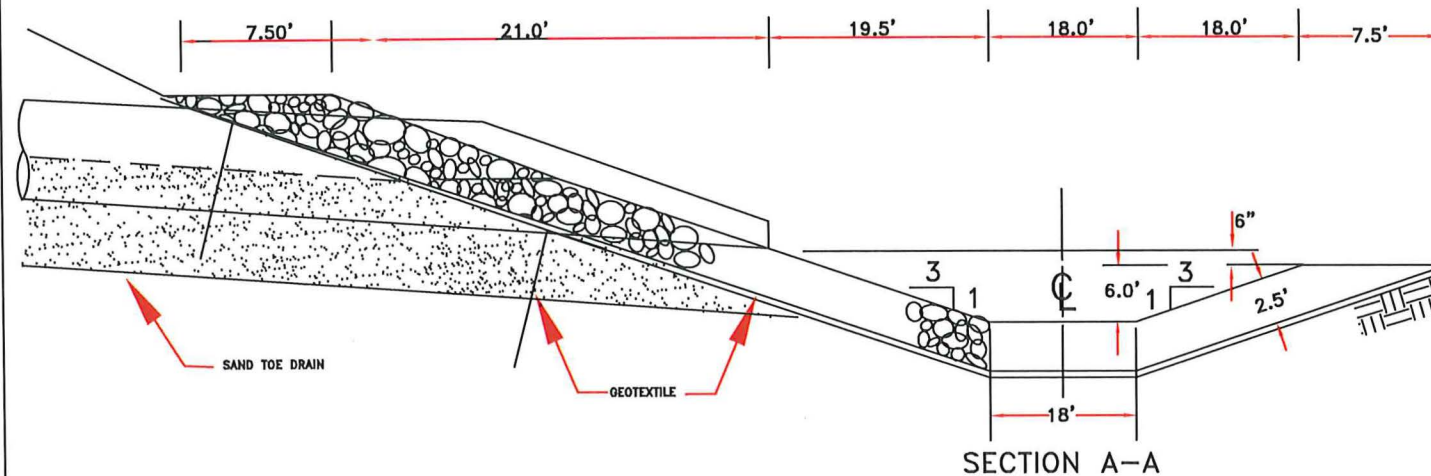


NOTES

RIPRAP MEETING THE GRADATION AND SPECIFICATION REQUIREMENTS OF MINNESOTA DEPARTMENT OF TRANSPORTATION CLASS IV RIPRAP WILL BE REQUIRED.

GEOTEXTILE SHALL BE NON-WOVEN, TYPE IV FILTER FABRIC. UNLESS OTHERWISE SPECIFIED GEOTEXTILE SHALL BE OVERLAPPED A MINIMUM OF 18 INCHES AT ALL SPLICES.

GEOTEXTILE SHALL BE ANCHORED IN TRENCH A MINIMUM OF 2 FEET.



NOTE: DETAILS ARE NOT TO SCALE

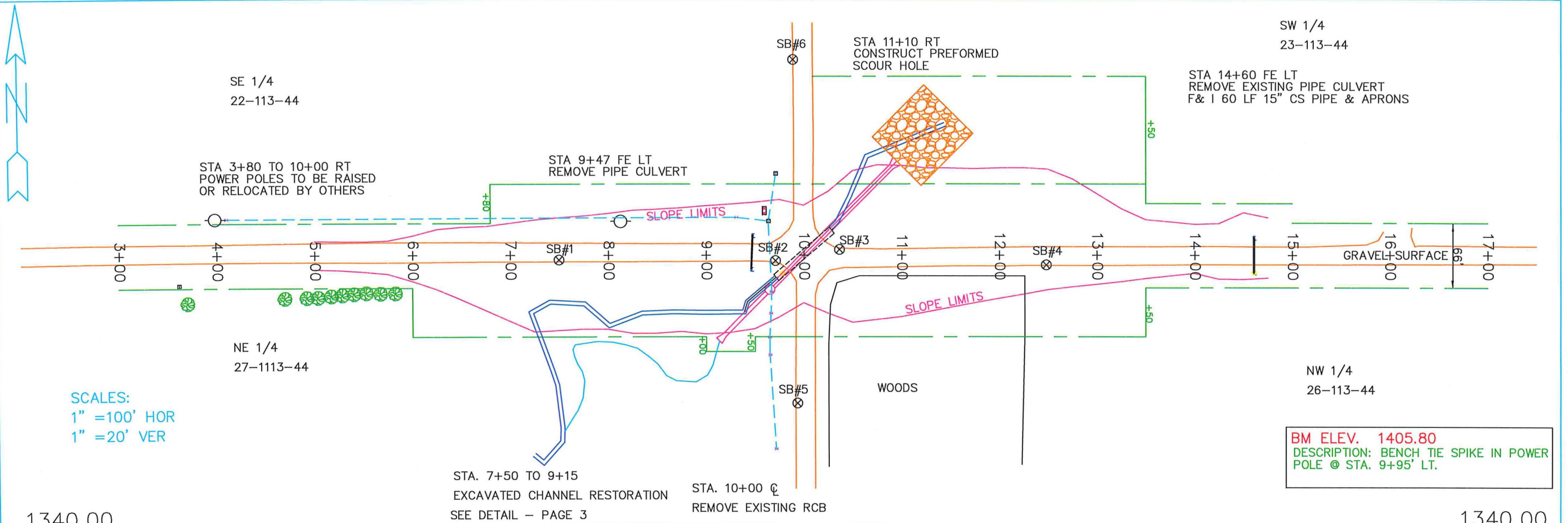
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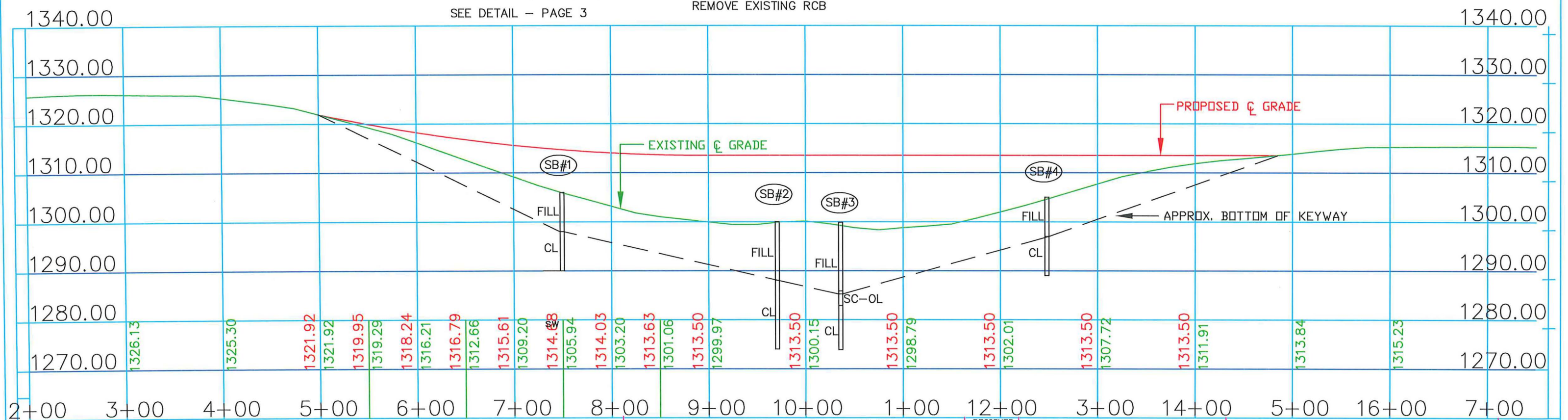
LINCOLN COUNTY, MINNESOTA
 ALTA VISTA 27 ROAD RETENTION PROJECT 24-06
 PREFORMED SCOUR HOLE DETAILS

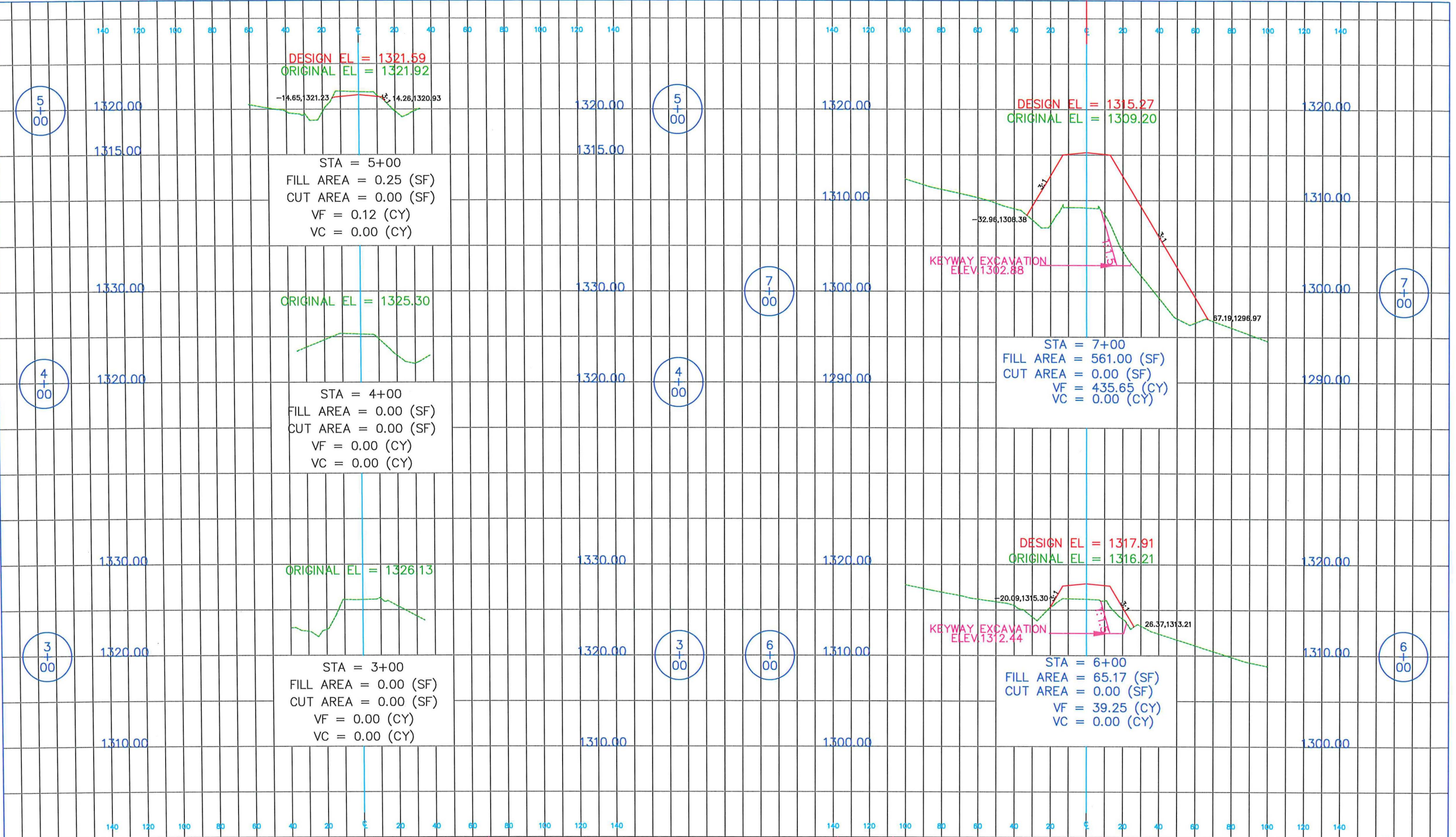
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 13

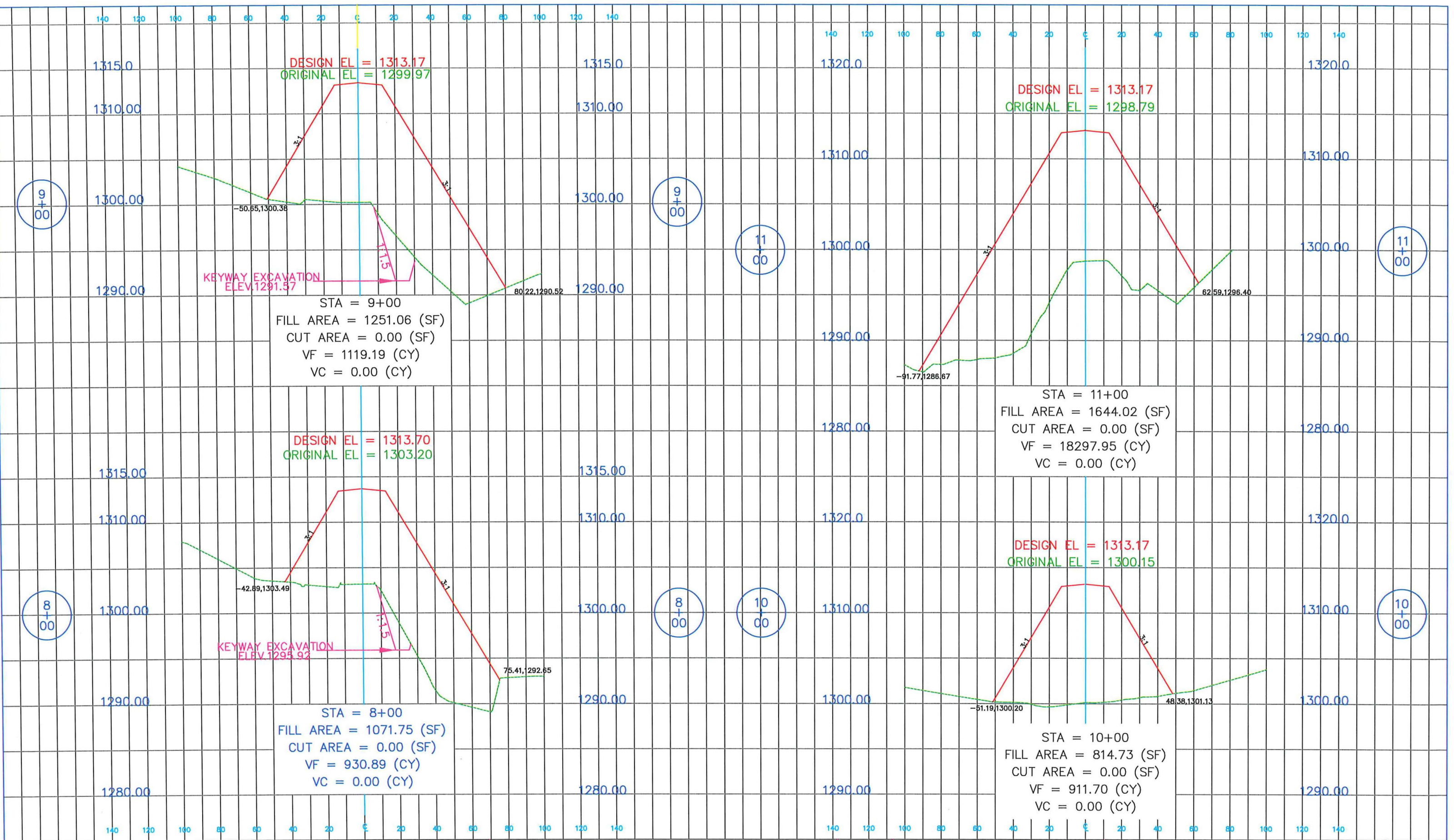


SCALES:
1" = 100' HOR
1" = 20' VER

BM ELEV. 1405.80
DESCRIPTION: BENCH TIE SPIKE IN POWER POLE @ STA. 9+95' LT.





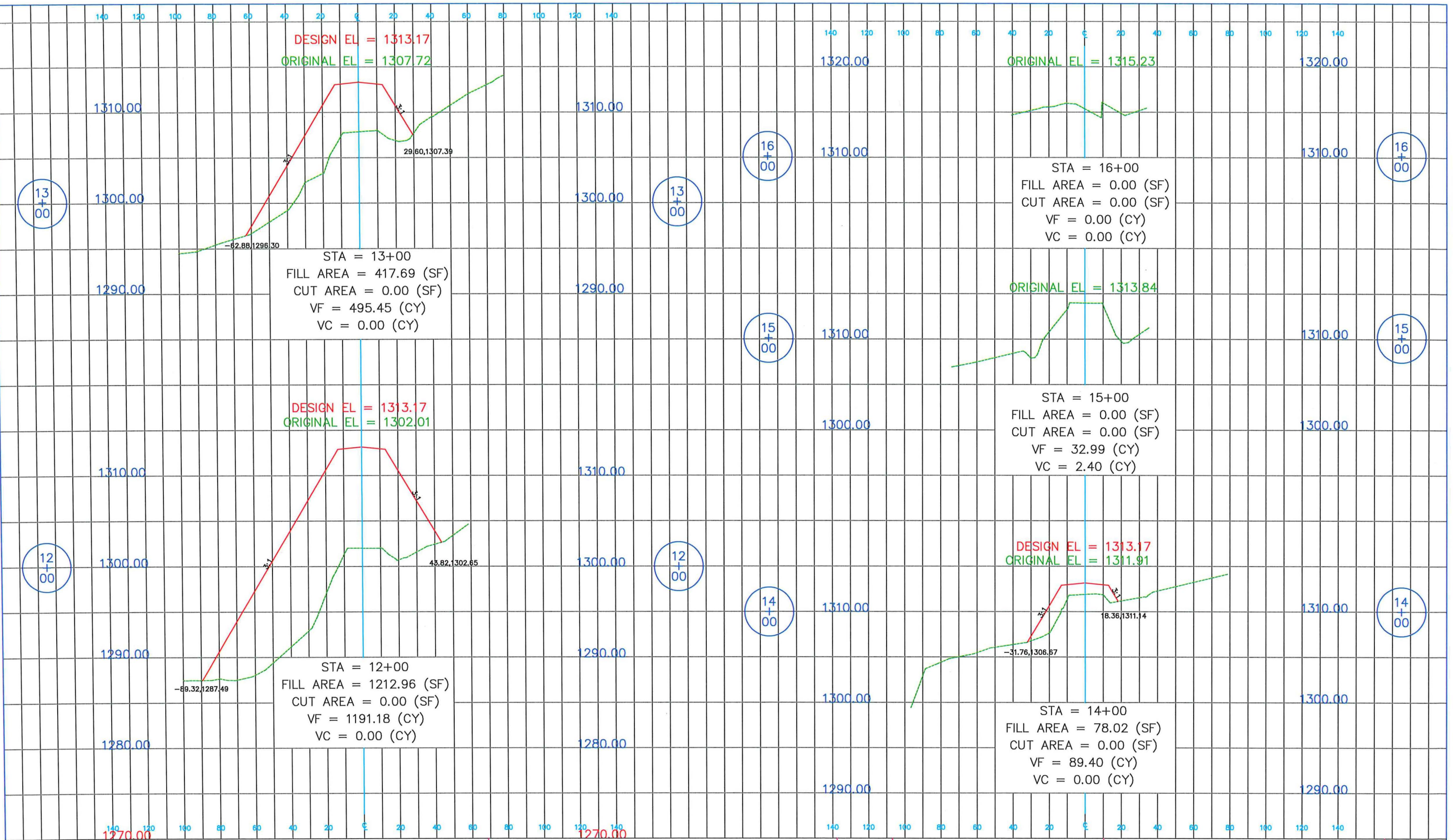


STA = 9+00
FILL AREA = 1251.06 (SF)
CUT AREA = 0.00 (SF)
VF = 1119.19 (CY)
VC = 0.00 (CY)

STA = 11+00
FILL AREA = 1644.02 (SF)
CUT AREA = 0.00 (SF)
VF = 18297.95 (CY)
VC = 0.00 (CY)

STA = 8+00
FILL AREA = 1071.75 (SF)
CUT AREA = 0.00 (SF)
VF = 930.89 (CY)
VC = 0.00 (CY)

STA = 10+00
FILL AREA = 814.73 (SF)
CUT AREA = 0.00 (SF)
VF = 911.70 (CY)
VC = 0.00 (CY)



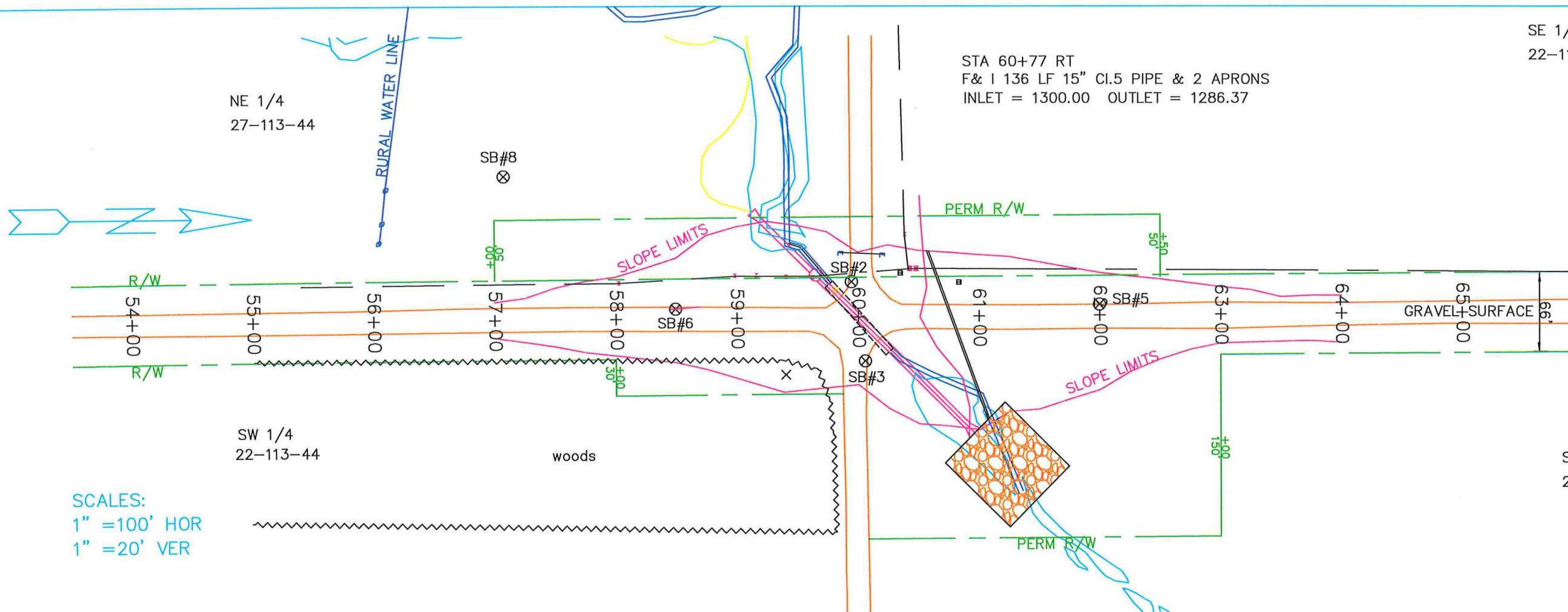
NE 1/4
27-113-44

SE 1/4
22-113-44

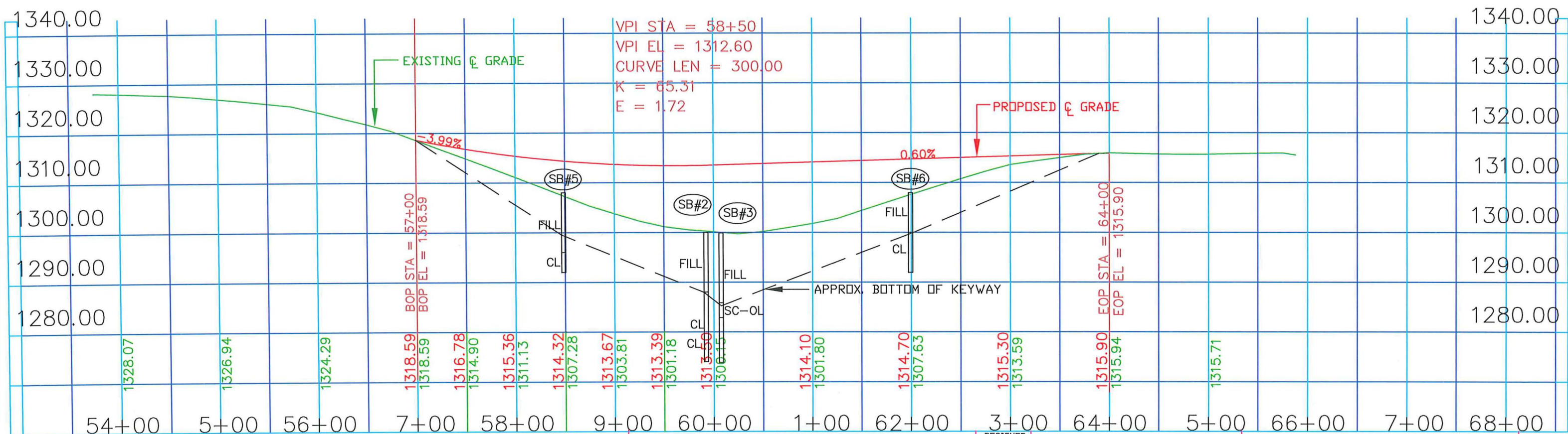
SW 1/4
22-113-44

SW 1/4
23-113-44

STA 60+77 RT
F& I 136 LF 15" CI.5 PIPE & 2 APRONS
INLET = 1300.00 OUTLET = 1286.37



SCALES:
1" = 100' HOR
1" = 20' VER



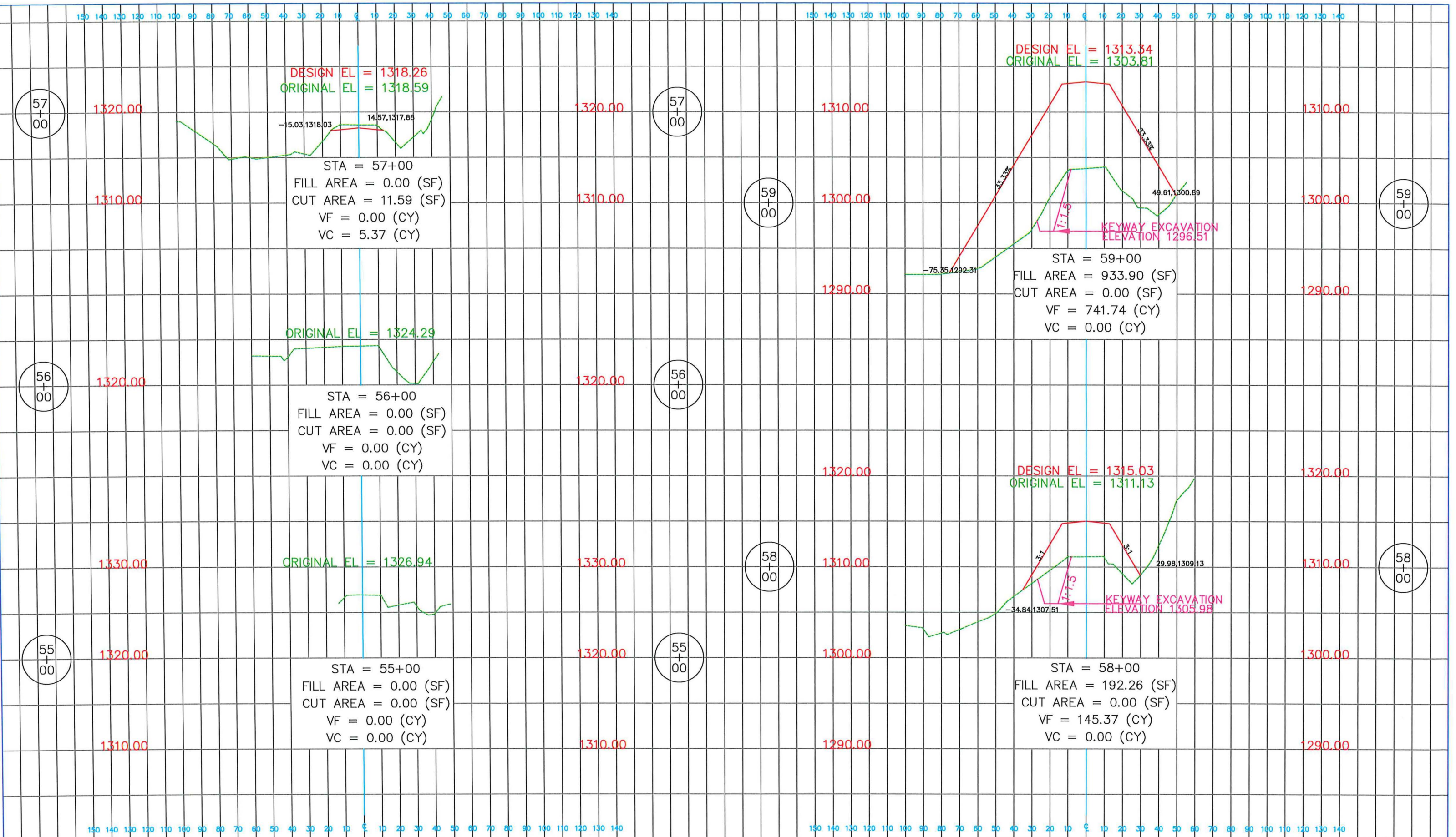
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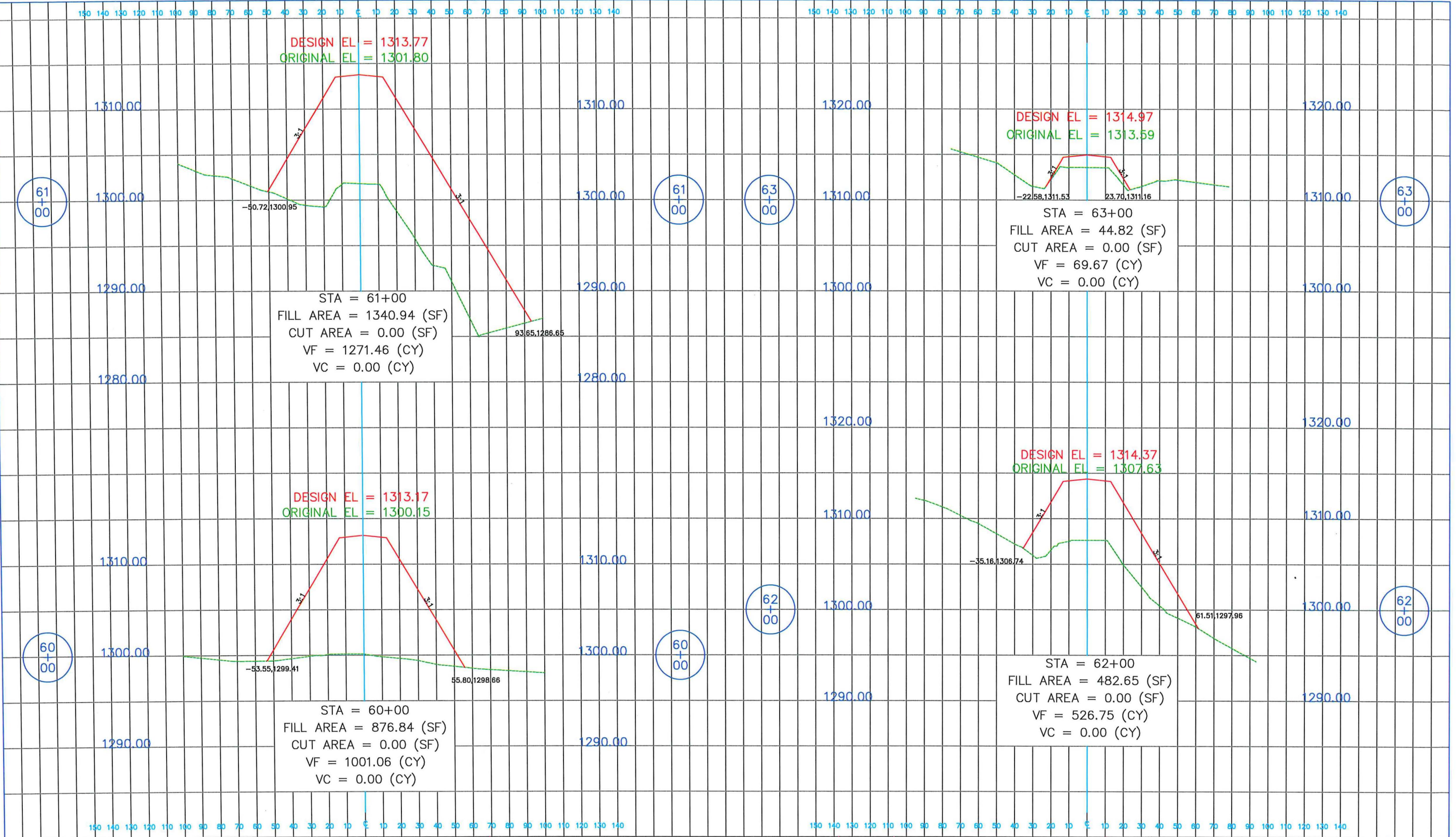
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1424 East College Drive
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LINCOLN COUNTY, MINNESOTA
ALTA VISTA 27 ROAD RETENTION PROJECT 24-06
260TH AVE. PLAN & PROFILE SHEET

SHEET #
10
OF
13





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LINCOLN COUNTY, MINNESOTA
ALTA VISTA 27 ROAD RETENTION PROJECT 24-06
260TH AVE. CROSS SECTION SHEETS

SHEET #
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OF
13

