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See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

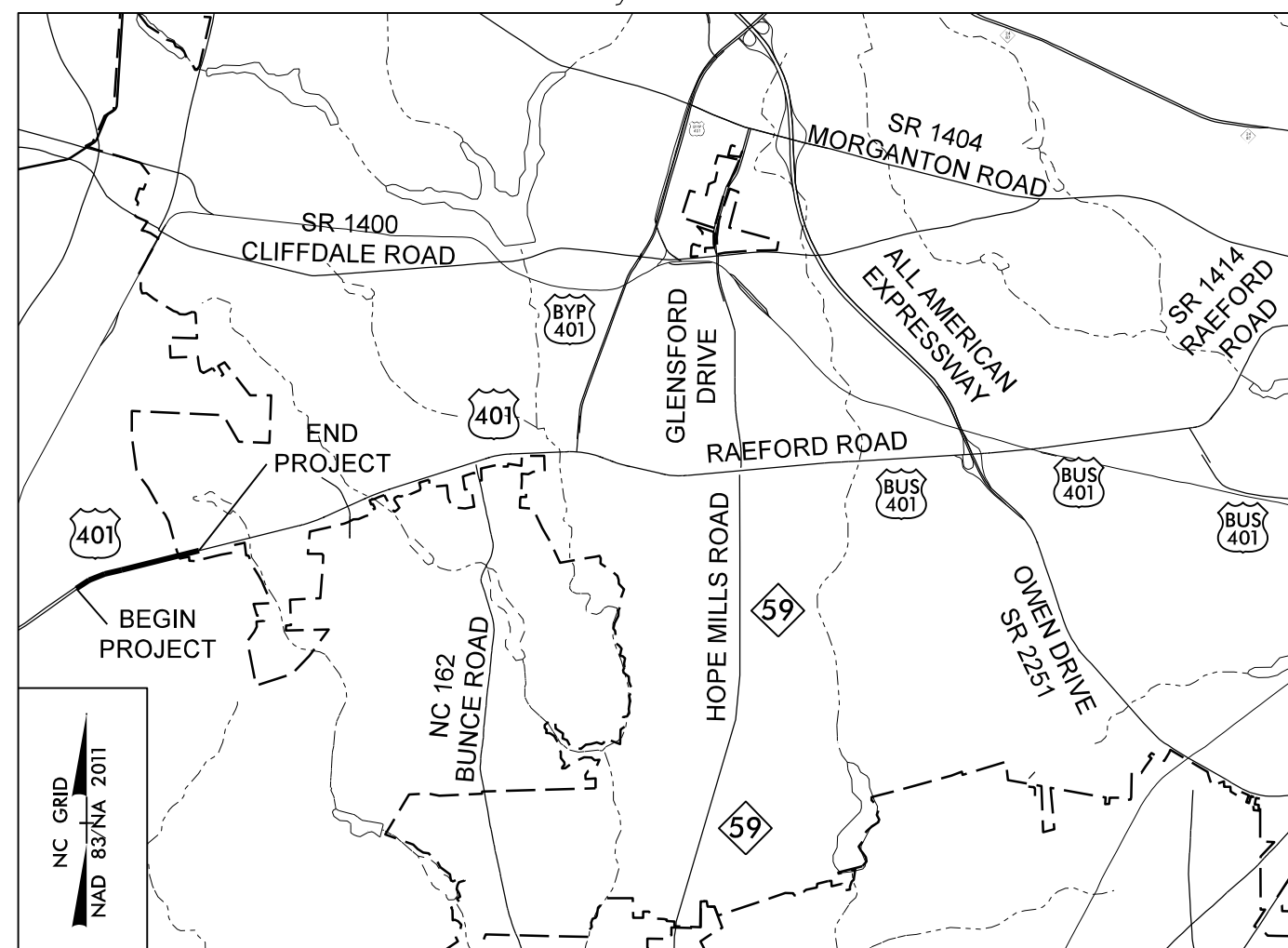
LOCATION: US 401 FROM OLD RAEFORD ROAD TO EAST OF NC 162 (BUNCE RD) IN FAYETTEVILLE

TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNALS, AND CULVERT

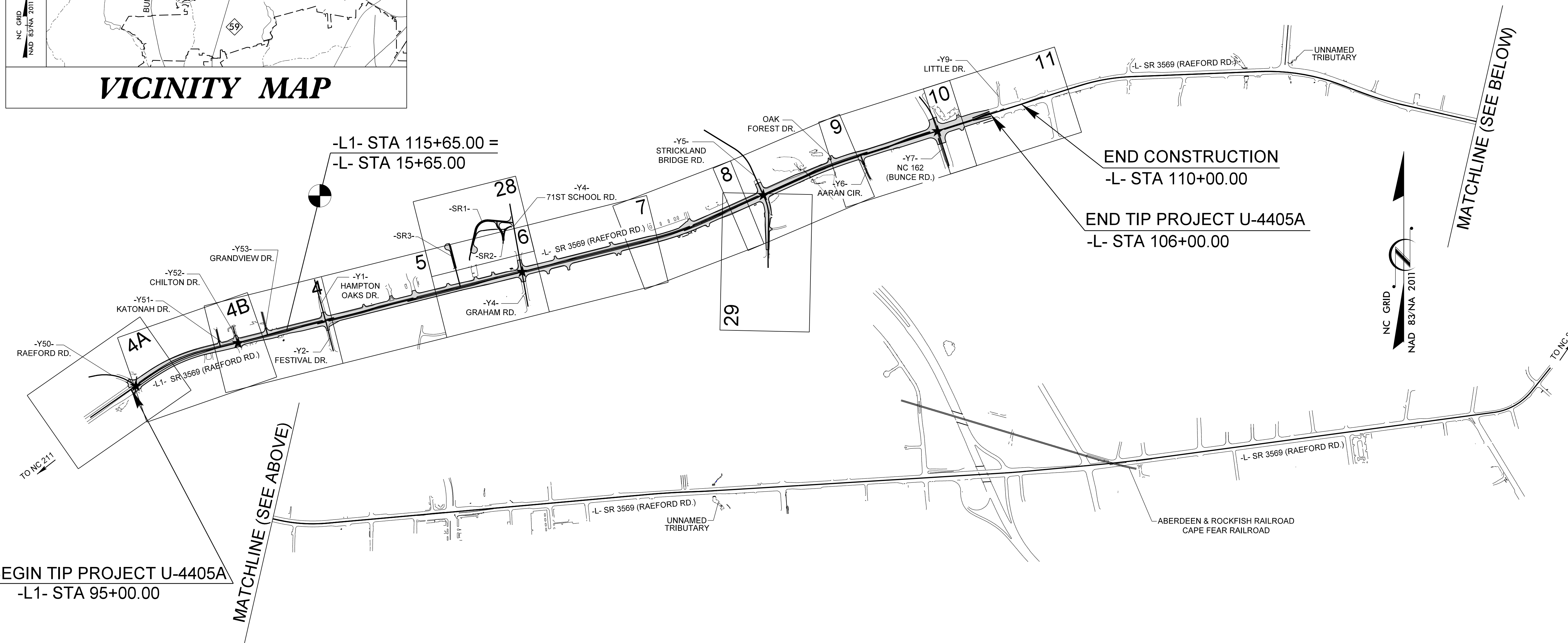
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4405A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
39049.1.FR2	STPDA-0401(300)	PE	
39049.2.2	STPDA-0401(300)	RW	
39049.2.4	STPDA-0401(300)	UTIL	
39049.3.2	STPDA-0401(300)	CONST	

TIP PROJECT: U-4405A

CONTRACT: C204404



VICINITY MAP



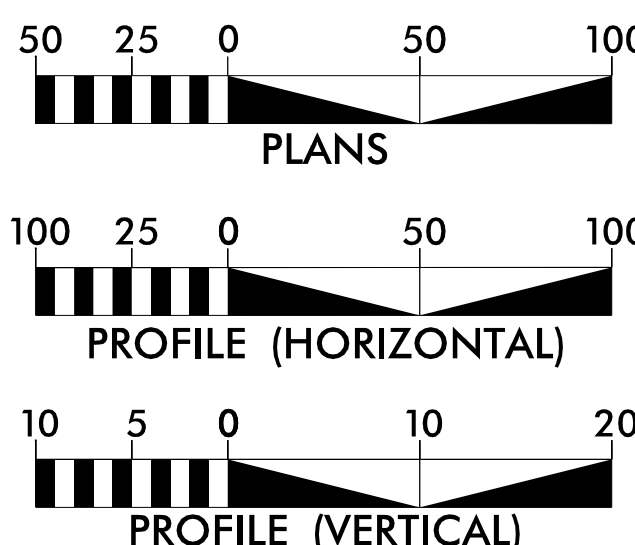
END CONSTRUCTION
-L- STA 110+00.00

END TIP PROJECT U-4405A
-L- STA 106+00.00

★ PROPOSED SIGNAL

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



ADT 2018 = 63,150
ADT 2038 = 70,975
K = 10 %
D = 60 %
T = 3 %*
V = 50 MPH
*(TTST = 1% & DUAL = 2%)
FUNC CLASS =
URBAN ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-4405A = 2.102 MILES
TOTAL LENGTH TIP PROJECT U-4405A = 2.102 MILES

NCDOT CONTACT: JOHN CONFORTI, REM

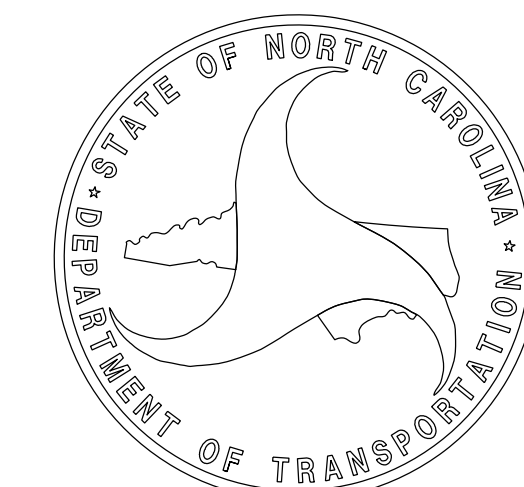
Prepared In the Office of:
KCA KISINGER CAMPO & ASSOCIATES
301 FAYETTEVILLE ST., SUITE 1500
RALEIGH, NC 27601 (919) 882-7839
NC FIRM LICENSE: C-1506

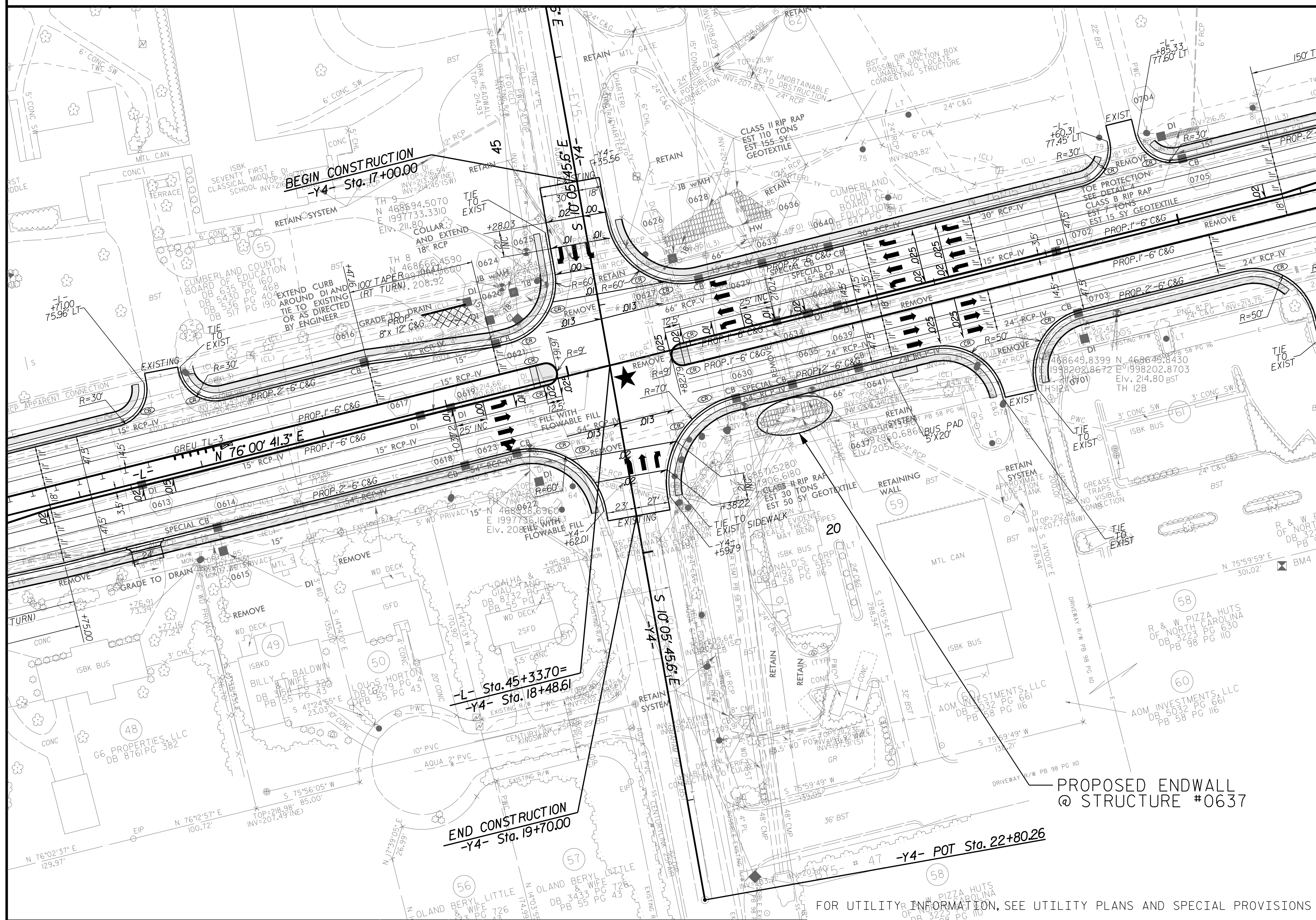
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: TIERRE R. PETERSON, PE
JULY 29, 2016
PROJECT ENGINEER

LETTING DATE: KANAK PUROHIT, PE
OCTOBER 19, 2021
PROJECT DESIGN ENGINEER

STRUCTURES MANAGEMENT UNIT





LOCATION SKETCH

NOTES:

- WORK THESE SHEETS WITH ROADWAY PLANS.
- FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTES SHEET.
- THE RESIDENT ENGINEER SHALL CHECK THE LOCATION OF ENDWALLS BEFORE STAKING THEM OUT TO MAKE CERTAIN THAT THEY WILL PROPERLY TAKE CARE OF THE FILL.
- THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS (360,000 KG) OF REINFORCING STEEL, ONE 30 INCH (760 MM) SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS (360,000 KG) OF REINFORCING STEEL, TWO 30 INCH (760 MM) SAMPLES OF EACH SIZE BAR USED. THE SAMPLE BARS SHOULD COME FROM STEEL ACTUALLY USED IN THE PROJECT AND THE SAMPLE BARS SHOULD BE REPLACED BY SPLICE BARS AS SPECIFIED IN THE SAMPLE BAR REPLACEMENT CHART. PAYMENT FOR THE SAMPLE BARS AND REPLACEMENT REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.
- IF APPROVED BY THE ENGINEER, THE CONTRACTOR MAY USE THE EXISTING ENDWALLS AS TEMPORARY SHORING FOR THE CONSTRUCTION OF THE PROPOSED ENDWALLS.
- 3" DIAMETER WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

SAMPLE BAR REPLACEMENT	
SIZE	LENGTH
#3	6'-2"
#4	7'-4"
#5	8'-6"
#6	9'-8"
#7	10'-10"
#8	12'-0"
#9	13'-2"
#10	14'-6"
#11	15'-10"

NOTE:
 SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND $f_y = 60$ ksi.

DRAWN BY : DIEGO A. AGUIRRE DATE : 2/22/2019
 CHECKED BY : JACOB H. DUKE DATE : 2/22/2019
 DESIGN ENGINEER OF RECORD: SAMUEL L. CULLUM DATE : 2/22/2019

8/23/2021
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 Samuel Cullum
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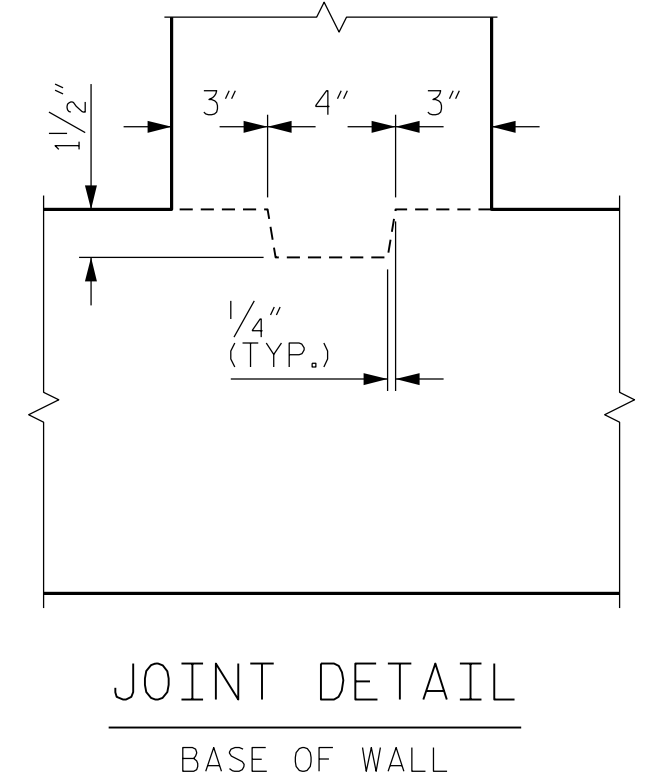
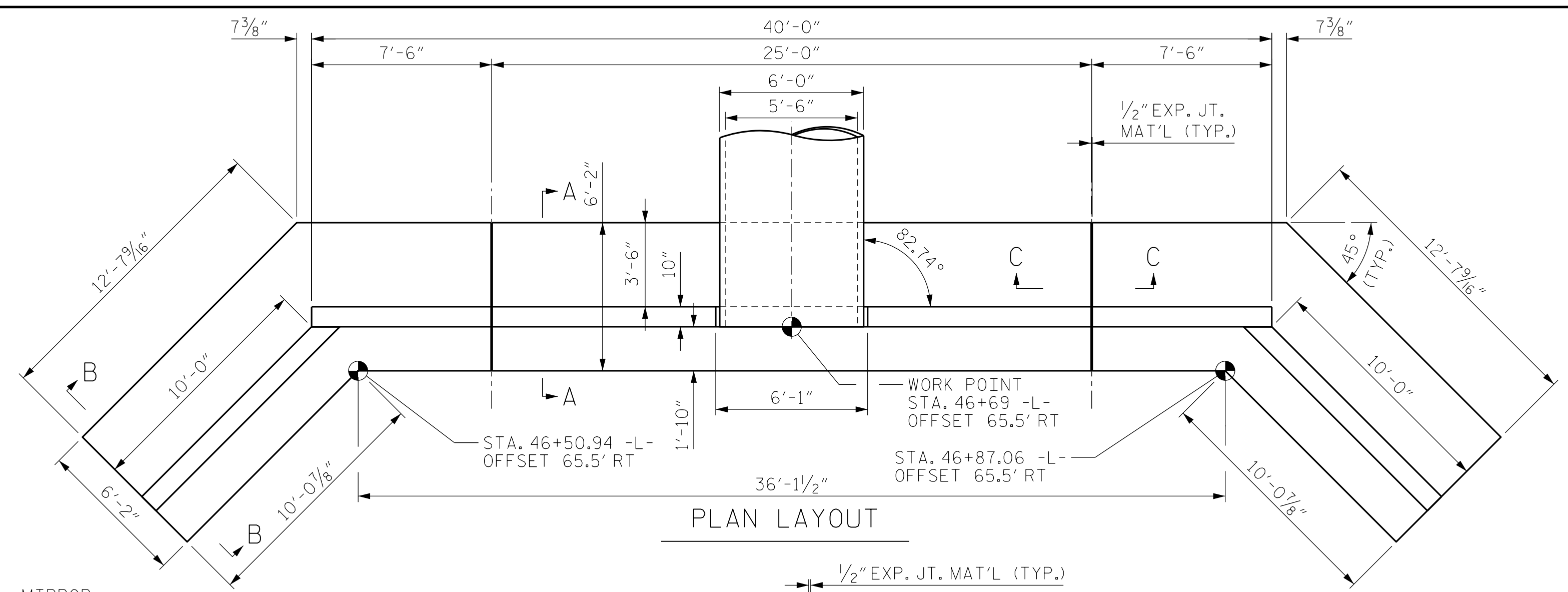
KCA
 KISINGER CAMPO & ASSOCIATES
 301 FAYETTEVILLE ST., SUITE 1500
 RALEIGH, NC 27601 (919) 882-7839
 NC FIRM LICENSE: C-1506

PROJECT NO. U-4405A
 CUMBERLAND COUNTY
 STATION: -L- 46+64 RT

SHEET 1 OF 3 ENDWALL AT DRAINAGE STRUCTURE #0637

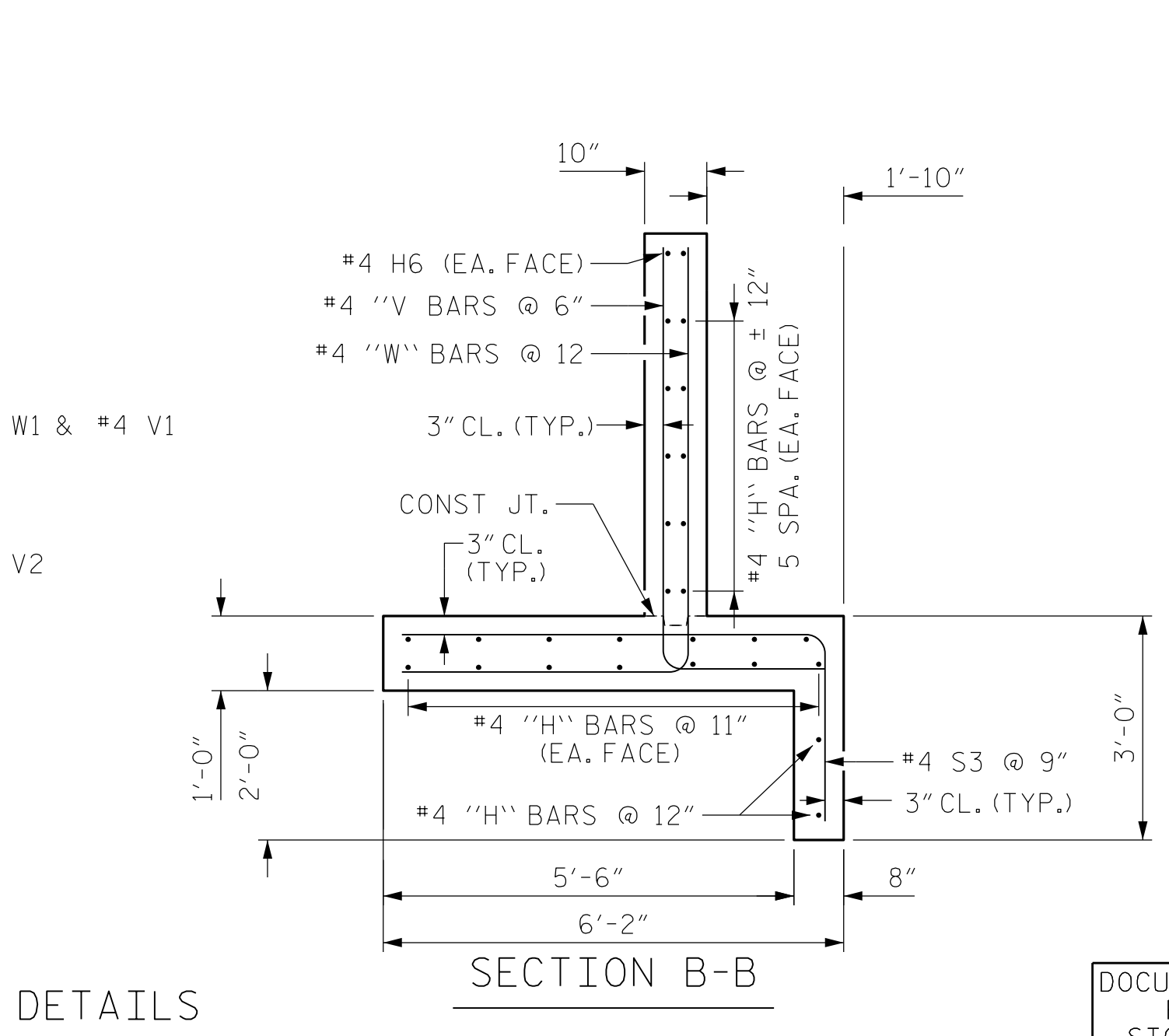
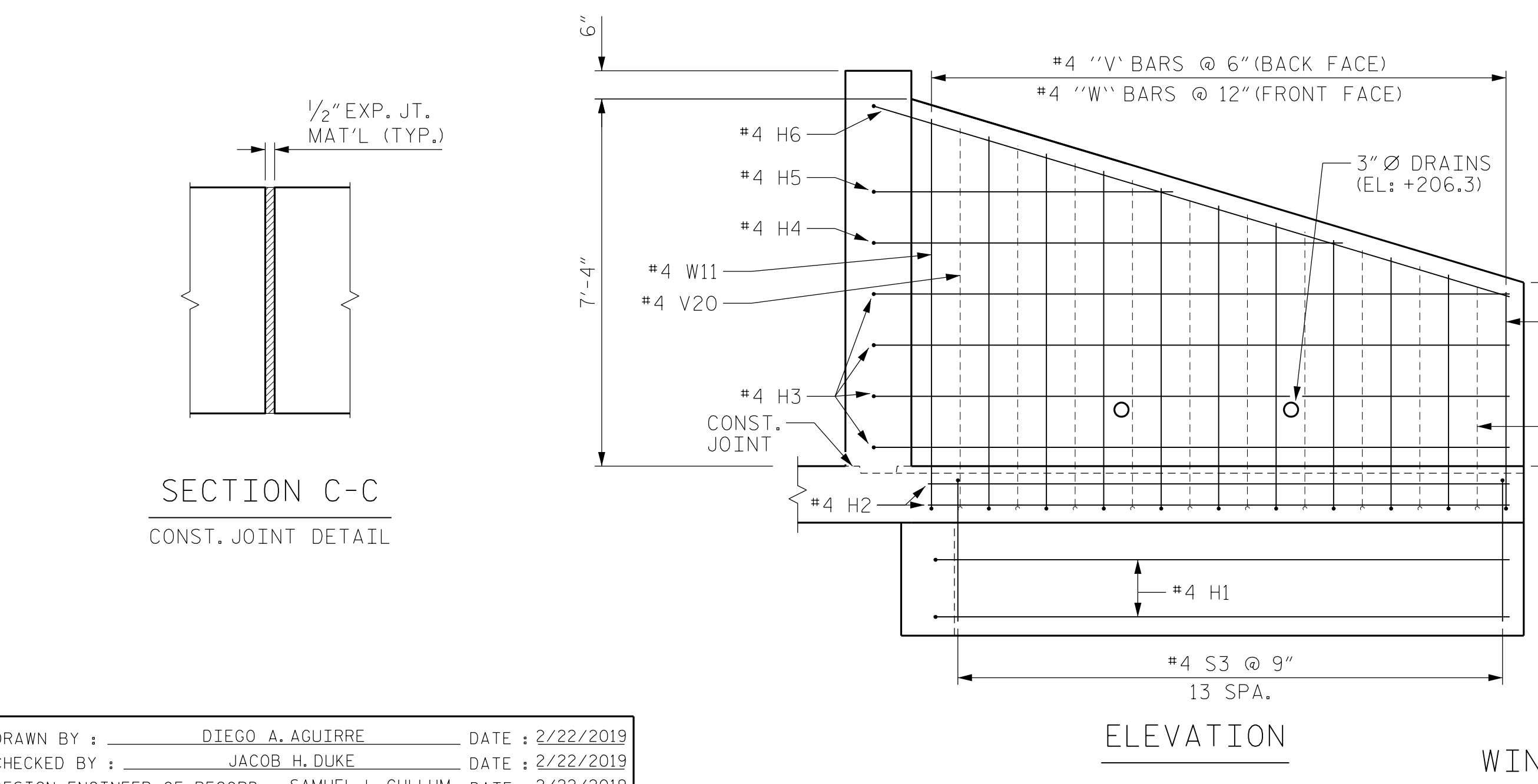
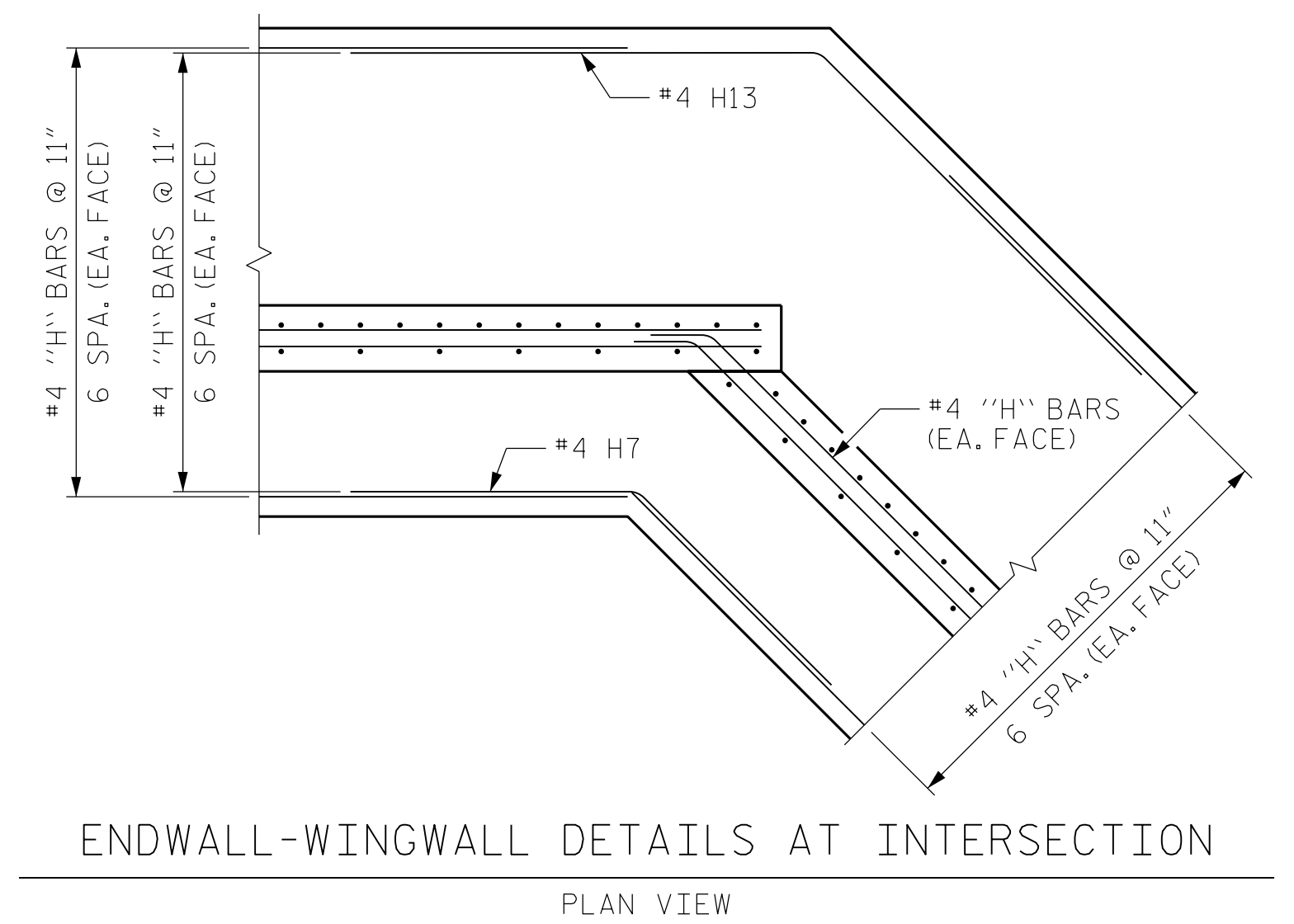
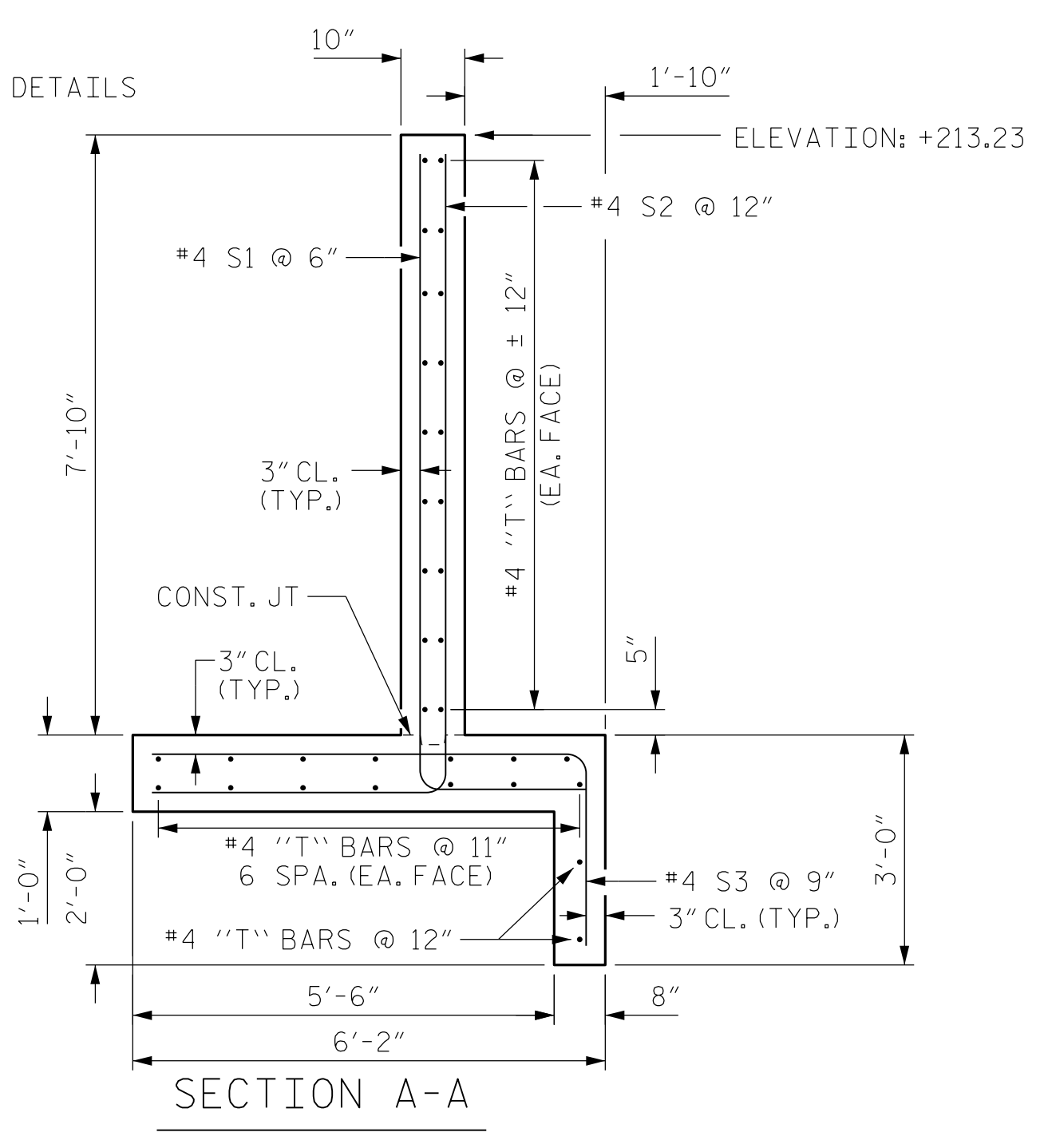
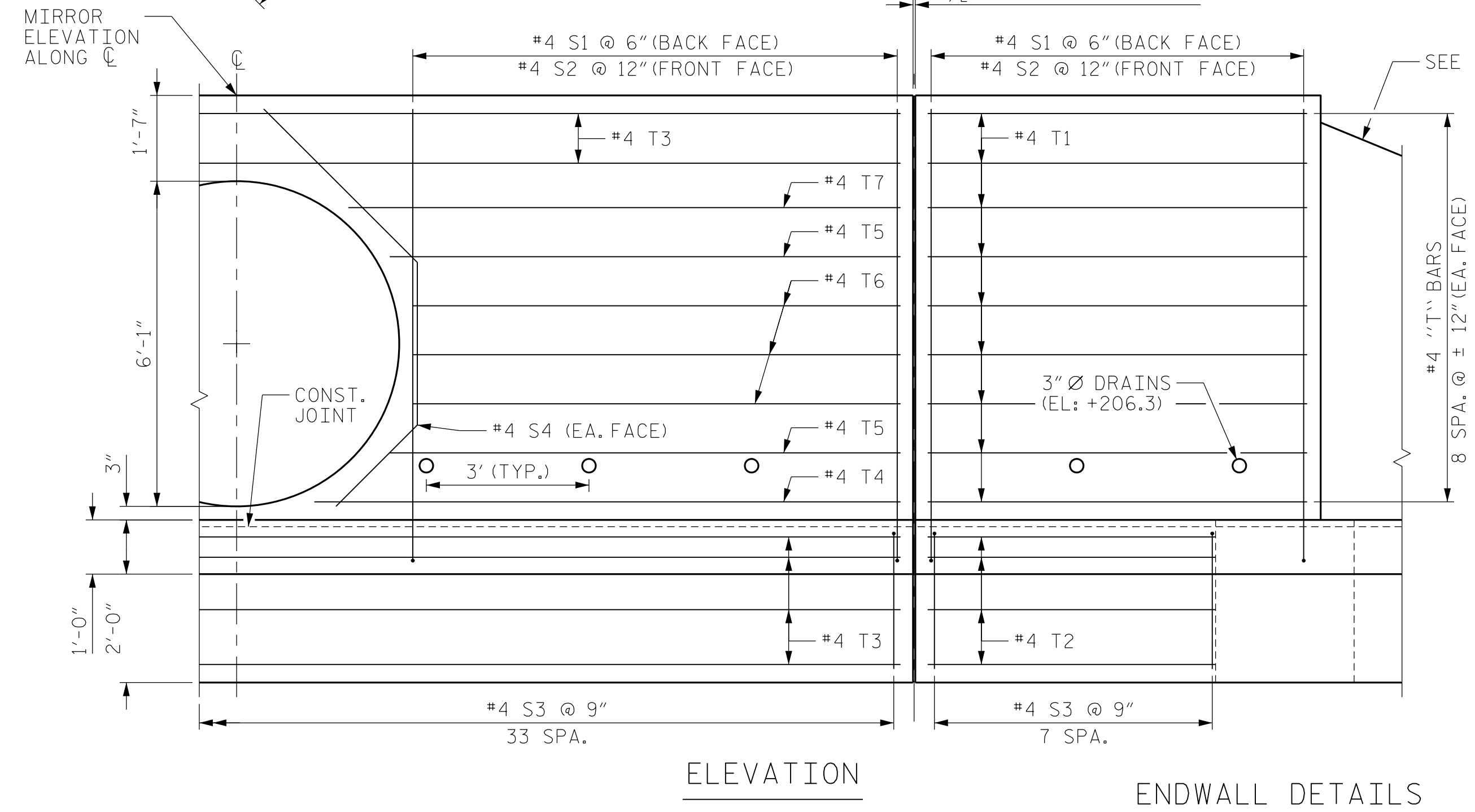
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STRUCTURE #0637
 REINFORCED CONCRETE
 END WALL
 LOCATION SKETCH

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			C2-1
2			4			TOTAL SHEETS 3



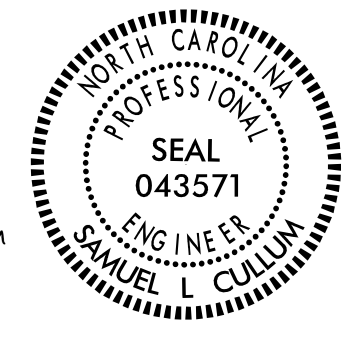
NOTES:

- USE CLASS "A" CONCRETE.
- CHAMFER ALL EXPOSED CORNERS 1".
- ALL DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING STEEL ARE TO CENTERS OF BARS.
- PLACE A STONE DRAIN CONSISTING OF ONE (1) CUBIC FOOT OF NUMBER 78M STONE CONTAINED IN A POROUS FABRIC AT EACH WEEP HOLE. PLACE SUBDRAIN FINE AGGREGATE BENEATH, AROUND AND OVER THE STONE DRAIN SO THE STONE DRAIN IS COMPLETELY COVERED BY A LAYER OF SUBDRAIN FINE AGGREGATE AT LEAST ONE (1) FOOT THICK. WHERE THERE IS MORE THAN A WEEP HOLE IN A WING WALL, PLACE A HORIZONTAL DRAIN OF SUBDRAIN FINE AGGREGATE AT LEAST ONE (1) FOOT SQUARE IN CROSS SECTION TO CONNECT ALL STONE DRAINS. PLACE A VERTICAL DRAIN OF SUBDRAIN FINE AGGREGATE AT LEAST ONE (1) FOOT SQUARE IN CROSS SECTION AT EACH WEEP HOLE TO AN ELEVATION OF TWO (2) FEET BELOW THE SURFACE OF THE EMBANKMENT.



PROJECT NO. U-4405A
CUMBERLAND COUNTY
 STATION: -L- 46+64 RT

SHEET 2 OF 3



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 Samuel Cullum
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 8/23/2021



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STRUCTURE #0637
 REINFORCED CONCRETE
 END WALL
 LAYOUT AND DETAILS

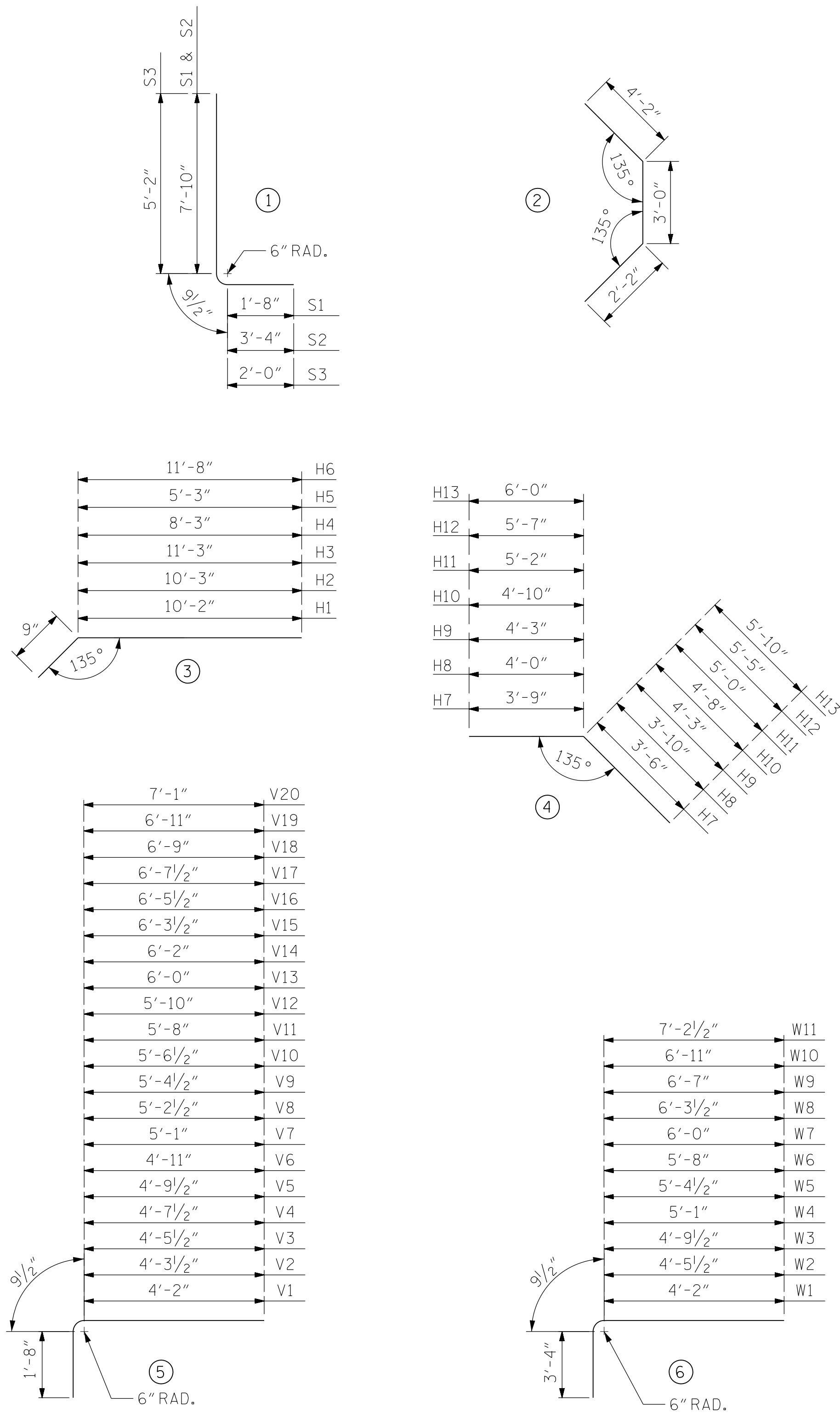
DRAWN BY : DIEGO A. AGUIRRE DATE : 2/22/2019
 CHECKED BY : JACOB H. DUKE DATE : 2/22/2019
 DESIGN ENGINEER OF RECORD: SAMUEL L. CULLUM DATE : 2/22/2019

8/23/2021
 U4405A_SMU_RW02.C2.0637.dgn
 daguirre

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REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	C2-2	
1			3			TOTAL SHEETS	3
2			4				

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ENDWALL & WINGWALLS

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
S1	68	#4	1	10'-3"	477
S2	36	#4	1	11'-11"	293
S3	80	#4	1	7'-11"	436
S4	4	#4	2	9'-4"	25
T1	36	#4	STR.	7'-0"	168
T2	32	#4	STR.	5'-3"	114
T3	20	#4	STR.	24'-6"	327
T4	4	#4	STR.	10'-9"	29
T5	8	#4	STR.	9'-5"	50
T6	12	#4	STR.	9'-0"	72
T7	4	#4	STR.	10'-2"	27
H1	4	#4	3	10'-11"	29
H2	28	#4	3	11'-0"	207
H3	16	#4	3	12'-0"	128
H4	4	#4	3	9'-0"	24
H5	4	#4	3	6'-0"	16
H6	4	#4	3	12'-5"	33
H7	4	#4	4	7'-3"	19
H8	4	#4	4	7'-10"	21
H9	4	#4	4	8'-6"	23
H10	4	#4	4	9'-6"	25
H11	4	#4	4	10'-2"	27
H12	4	#4	4	11'-0"	29
H13	4	#4	4	11'-10"	32
V1	2	#4	5	6'-7"	9
V2	2	#4	5	6'-9"	9
V3	2	#4	5	6'-11"	10
V4	2	#4	5	7'-1"	10
V5	2	#4	5	7'-3"	10
V6	2	#4	5	7'-4"	10
V7	2	#4	5	7'-6"	10
V8	2	#4	5	7'-8"	11
V9	2	#4	5	7'-10"	11
V10	2	#4	5	8'-0"	11
V11	2	#4	5	8'-1"	11
V12	2	#4	5	8'-3"	11
V13	2	#4	5	8'-5"	12
V14	2	#4	5	8'-7"	12
V15	2	#4	5	8'-9"	12
V16	2	#4	5	8'-11"	12
V17	2	#4	5	9'-1"	12
V18	2	#4	5	9'-2"	13
V19	2	#4	5	9'-4"	13
V20	2	#4	5	9'-6"	13
W1	2	#4	6	8'-3"	11
W2	2	#4	6	8'-7"	12
W3	2	#4	6	8'-11"	12
W4	2	#4	6	9'-2"	13
W5	2	#4	6	9'-6"	13
W6	2	#4	6	9'-10"	13
W7	2	#4	6	10'-1"	14
W8	2	#4	6	10'-5"	14
W9	2	#4	6	10'-8"	15
W10	2	#4	6	11'-0"	15
W11	2	#4	6	11'-4"	15
REINFORCING STEEL				LBS.	3002
CLASS "A" CONCRETE				CU. YDS.	28

PROJECT NO. U-4405A
 CUMBERLAND COUNTY
 STATION: -L- 46+64 RT

SHEET 3 OF 3



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STRUCTURE #0637
 REINFORCED CONCRETE
 END WALL
 BAR LIST

DRAWN BY : DIEGO A. AGUIRRE DATE : 2/22/2019
 CHECKED BY : JACOB H. DUKE DATE : 2/22/2019
 DESIGN ENGINEER OF RECORD: SAMUEL L. CULLUM DATE : 2/22/2019

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C2-3
1			3			TOTAL SHEETS
2			4			3

