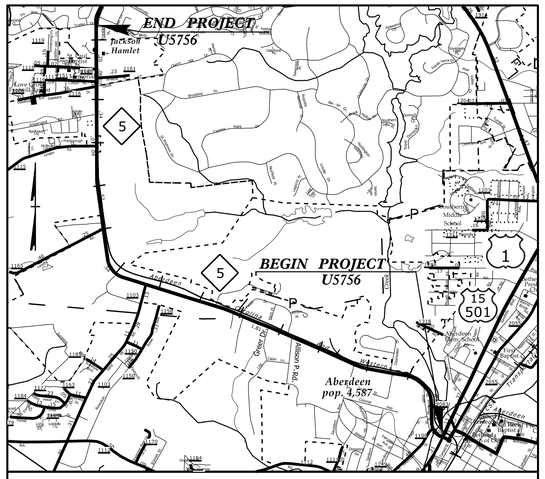
09/08/99

# TIP PROJECT: U-5756

See Sheet 1B For Conventional Symbols




## VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

# MOORE COUNTY

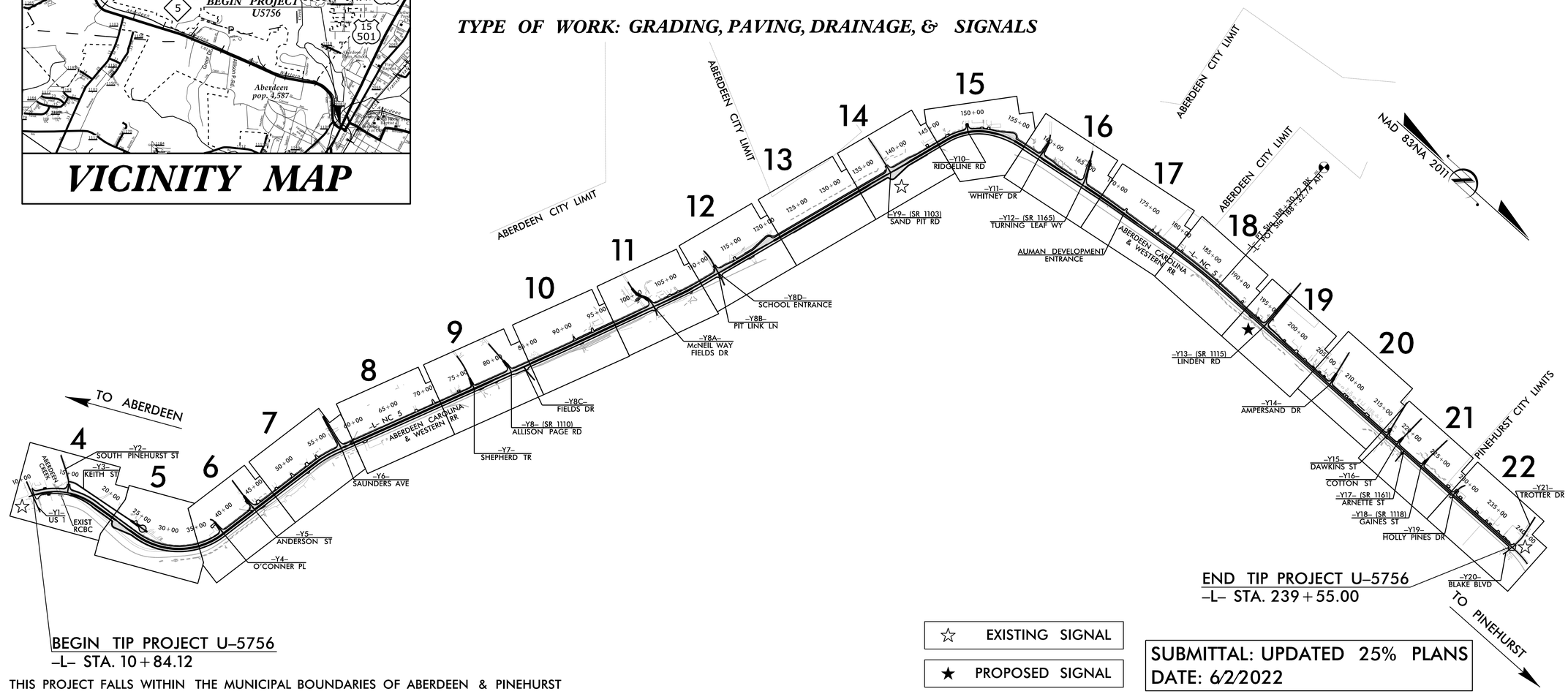
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|
| N.C. | U-5756 | 1 | |

| STATE PROJ. NO. | F. A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| 50171.1.1 | | PE |
| | | R/W & UTIL |
| | | CONST |

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

***LOCATION: NC 5 FROM US 1 ABERDEEN TO THE INTERSECTION OF TROTTER DR/BLAKE BLVD IN PINEHURST***

***TYPE OF WORK: GRADING, PAVING, DRAINAGE, & SIGNALS***




☆ EXISTING SIGNAL

★ PROPOSED SIGNAL

**SUBMITTAL: UPDATED 25% PLANS**
**DATE: 6/2/2022**

THIS PROJECT FALLS WITHIN THE MUNICIPAL BOUNDARIES OF ABERDEEN & PINEHURST
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II

DESIGN EXCEPTION REQUIRED FOR HORIZONTAL AND VERTICAL.

## CONTRACT:

### GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

### DESIGN DATA

ADT 2017 = 13,100
ADT 2040 = 24,200
K = 9%
D = 55%
T = 7% *
V = 40 – 50 MPH
* (TTST 1% = DUALS 6%)
FUNC CLASS=MINOR ARTERIAL
REGIONAL TIER

### PROJECT LENGTH

LENGTH ROADWAY PROJECT U-5756 = 4.332 MILES

NCDOT CONTACT: GREG S. DAVIS, PE
DIVISION PROJECT ENGINEER– DIVISION 8
PH: 910-773-8022

Prepared in the Office of:

RKA
RAMEY KEMP ASSOCIATES
5808 Faringdon Place
Raleigh, North Carolina 27609
Phone: 919-872-5115
NC License No. C-0910
www.rameykemp.com

2018 STANDARD SPECIFICATIONS

NOV. 18, 2022
RIGHT OF WAY DATE:
NOV. 19, 2024
LETTING DATE:

KAYLA M. POULOS, P.E.
PROJECT ENGINEER

HERB L. RIDGEWAY IV
PROJECT DESIGNER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

SIGNATURE:

ROADWAY DESIGN ENGINEER

SIGNATURE:

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

9/23/2022
...\Roadway\Proj\U5756_Rdy_tsh.dgn
User: hridgeway

12/2/2016

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 1B |

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

# CONVENTIONAL PLAN SHEET SYMBOLS

*Note: Not to Scale* **S.U.E. = Subsurface Utility Engineering*

## BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Computed Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil — S
- Potential Contamination Area: Soil — S
- Known Contamination Area: Water — W
- Potential Contamination Area: Water — W
- Contaminated Site: Known or Potential

## BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

## HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

## RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

## RIGHT OF WAY & PROJECT CONTROL:

- Secondary Horiz and Vert Control Point
- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Exist Permanent Easment Pin and Cap
- New Permanent Easement Pin and Cap
- Vertical Benchmark
- Existing Right of Way Marker
- Existing Right of Way Line
- New Right of Way Line — RW
- New Right of Way Line with Pin and Cap — RW
- New Right of Way Line with Concrete or Granite R/W Marker — RW
- New Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- New Control of Access — CA
- Existing Easement Line — E
- New Temporary Construction Easement — E
- New Temporary Drainage Easement — TDE
- New Permanent Drainage Easement — PDE
- New Permanent Drainage / Utility Easement — DUE
- New Permanent Utility Easement — PUE
- New Temporary Utility Easement — TUE
- New Aerial Utility Easement — AUE

## ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

## VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

## EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

## UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line LOS B (S.U.E.*) — P
- U/G Power Line LOS C (S.U.E.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- U/G Telephone Cable LOS B (S.U.E.*) — T
- U/G Telephone Cable LOS C (S.U.E.*) — T
- U/G Telephone Cable LOS D (S.U.E.*) — T
- U/G Telephone Conduit LOS B (S.U.E.*) — TC
- U/G Telephone Conduit LOS C (S.U.E.*) — TC
- U/G Telephone Conduit LOS D (S.U.E.*) — TC
- U/G Fiber Optics Cable LOS B (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS C (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS D (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E*) — W
- U/G Water Line LOS C (S.U.E*) — W
- U/G Water Line LOS D (S.U.E*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Cable LOS B (S.U.E.*) — TV
- U/G TV Cable LOS C (S.U.E.*) — TV
- U/G TV Cable LOS D (S.U.E.*) — TV
- U/G Fiber Optic Cable LOS B (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS C (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS D (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Forced Main Line LOS B (S.U.E.*) — FSS
- SS Forced Main Line LOS C (S.U.E.*) — FSS
- SS Forced Main Line LOS D (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line LOS B (S.U.E.*) — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole LOS A (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

8/17/99

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 2A-1 |
| ROADWAY DESIGN ENGINEER | PAVEMENT DESIGN ENGINEER |

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**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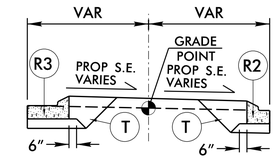
5808 Faringdon Place
Raleigh, North Carolina 27609
Phone: 919-872-5115
NC License No. C-0910
www.rameykemp.com


## PAVEMENT SCHEDULE

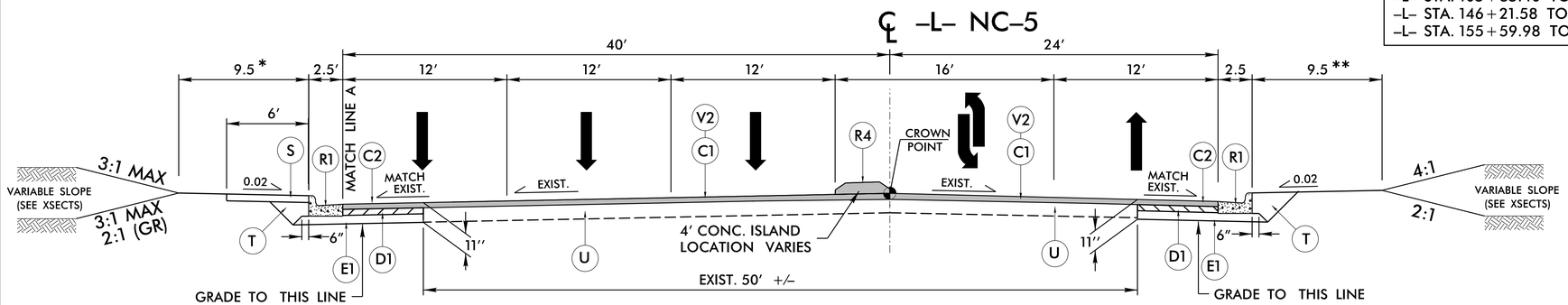
| | | | | | |
|---|---|---|---|---|---|
| C1 | PROP. APPROX. 1.5″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. | E2 | PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3″ IN DEPTH OR GREATER THAN 5.5″ IN DEPTH. | S | 4″ CONCRETE SIDEWALK |
| C2 | PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS. | R1 | 2′-6″ CURB AND GUTTER | T | COMPACTED EARTH MATERIAL |
| C3 | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1.5″ IN DEPTH. | R2 | 1′-6″ CURB AND GUTTER | U | EXISTING PAVEMENT |
| D1 | PROP. APPROX. 4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. | R3 | 2′-9″ CURB AND GUTTER SEE INSET - SHEET 2A-1 FOR DETAIL AND LOCATION | V1 | INCIDENTAL MILLING |
| D2 | PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NO LESS THAN 2.5″ IN DEPTH OR GREATER THAN 4″ IN DEPTH. | R4 | 5″ MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED) | V2 | 1.5″ MILLING |
| E1 | PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. | R5 | SHOULDER BERM GUTTER | W | VARIABLE DEPTH ASPHALT PAVEMENT SEE STANDARD WEDGING DETAIL) |

NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE SPECIFIED.

### INSTALL 2′-9″ CURB & GUTTER




USE IN CONJUNCTION WITH
TYPICAL SECTION NOS. 2 THRU 5
INSTALL 2′-9″ CURB & GUTTER
–L– STA. 15+67.52 TO –L– STA. 19+06.93 LT.
–L– STA. 25+27.25 TO –L– STA. 39+25.05 RT.
–L– STA. 52+55.25 TO –L– STA. 54+48.03 LT.
–L– STA. 105+85.40 TO –L– STA. 108+23.97 RT.
–L– STA. 146+21.58 TO –L– STA. 153+98.00 LT.
–L– STA. 155+59.98 TO –L– STA. 157+64.78 LT.




## TYPICAL SECTION NO. 1

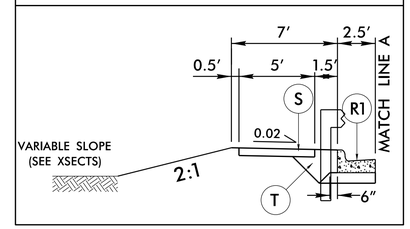
–L– STA. 10+84.12 TO –L– STA. 15+50.00

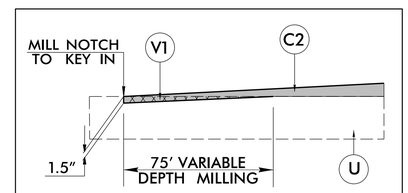
* REDUCE TO 7′ AT CULVERT
–L– STA. 13+40 TO –L– STA. 14+15 LT.

** REDUCE TO 5′ AT CULVERT
–L– STA. 13+00 TO –L– STA. 15+70 RT.

### REDUCED BERM WIDTH WITH GUARDRAIL

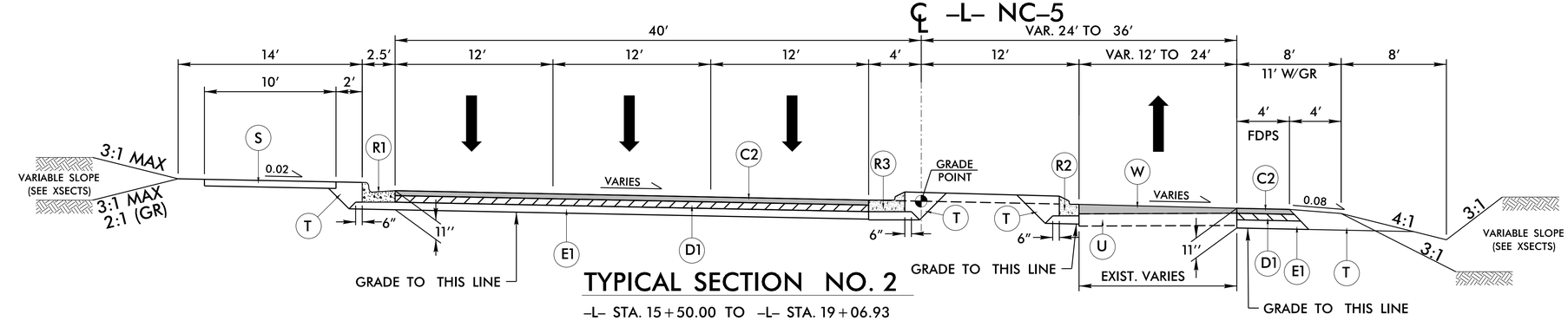
–L– STA. 13+47.00 TO –L– STA. 14+59.50 LT.



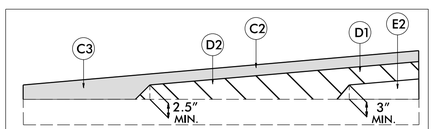

## INCIDENTAL MILLING DETAIL

–L– STA 10+00.00 TO –L– STA 10+75.00
–L– STA 46+45.00 TO –L– STA 47+20.00
–Y– STA 10+00.00 TO –Y– STA 10+75.00

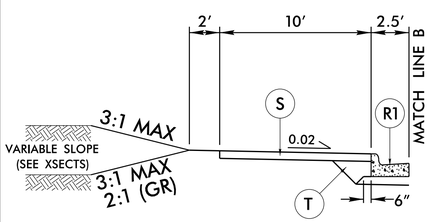



## TYPICAL SECTION NO. 2

–L– STA. 15+50.00 TO –L– STA. 19+06.93
NOTE: –L– STA. 17+75.00 END WEDGING & BEGIN FULL DEPTH PAVEMENT RT.

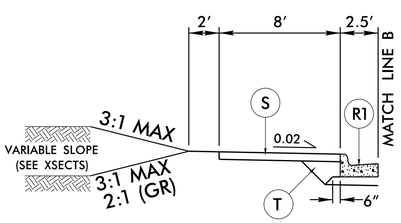



WEDGING DETAIL FOR RESURFACING



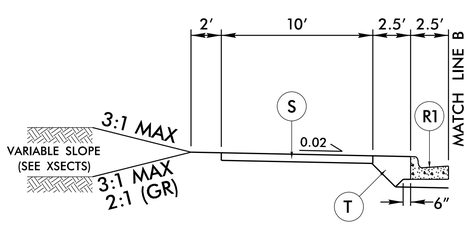

## PARTIAL TYPICAL NO. 1

USE IN CONJUNCTION WITH
TYPICAL SECTION NOS. 3–4
–L– STA. 25+50.00 TO –L– STA. 26+50.00
–L– STA. 63+00.00 TO –L– STA. 73+63.36
–L– STA. 74+97.36 TO –L– STA. 76+50.00



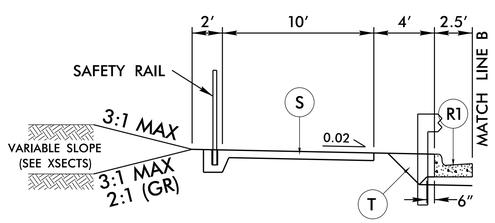

## PARTIAL TYPICAL NO. 2

USE IN CONJUNCTION WITH
TYPICAL SECTION NOS. 3–6
–L– STA. 16+24.70 TO –L– STA. 26+50.00
–L– STA. 36+00.00 TO –L– STA. 38+00.00
–L– STA. 146+80.57 TO –L– STA. 152+71.12
–L– STA. 195+78.18 TO –L– STA. 199+17.13
–L– STA. 208+02.26 TO –L– STA. 217+50.11



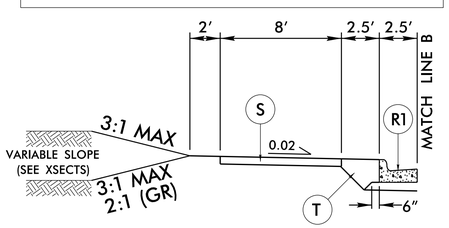

## PARTIAL TYPICAL NO. 3

USE IN CONJUNCTION WITH
TYPICAL SECTION NOS. 3–6
–L– STA. 73+63.36 TO –L– STA. 74+97.36
–L– STA. 177+14.45 TO –L– STA. 192+50.10




## PARTIAL TYPICAL NO. 4

USE IN CONJUNCTION WITH
TYPICAL SECTION NO. 4
–L– STA. 91+07.27 TO –L– STA. 96+52.49
–L– STA. 115+91.09 TO –L– STA. 137+43.22




## PARTIAL TYPICAL NO. 5

USE IN CONJUNCTION WITH
TYPICAL SECTION NOS. 4–6
–L– STA. 141+90.32 TO –L– STA. 146+37.08
–L– STA. 192+75.49 TO –L– STA. 195+64.35
–L– STA. 199+37.49 TO –L– STA. 207+42.17

9/23/2022
..\Roadway\Proj\U5756_Rdy_typ.dgn
User: bridgeway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 2A-2 |
| ROADWAY DESIGN ENGINEER | PAVEMENT DESIGN ENGINEER |

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

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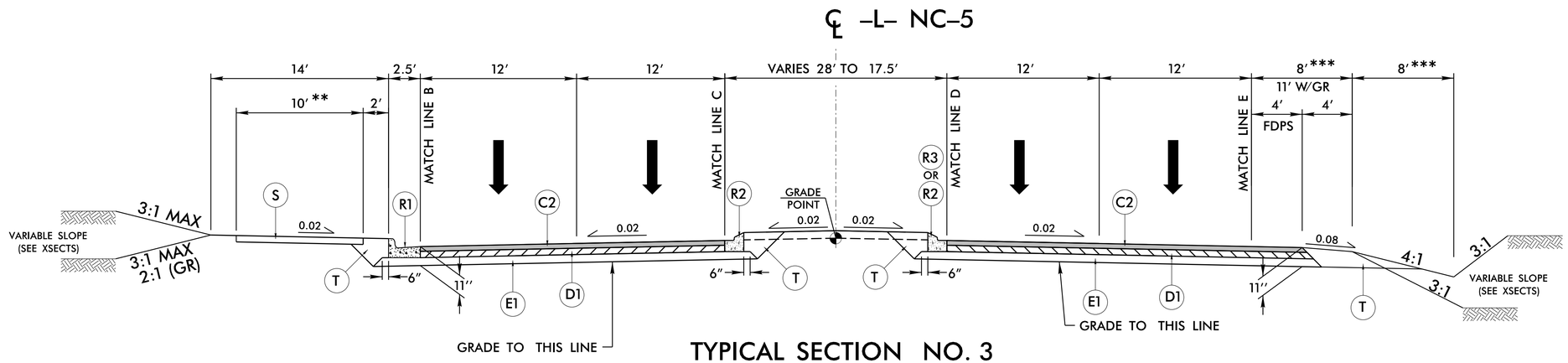
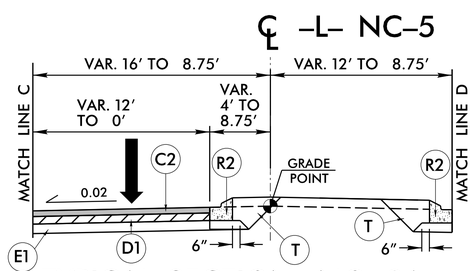



** MULTI-USE PATH – SEE PARTIAL TYPICALS NO. 1-4

## TYPICAL SECTION NO. 3

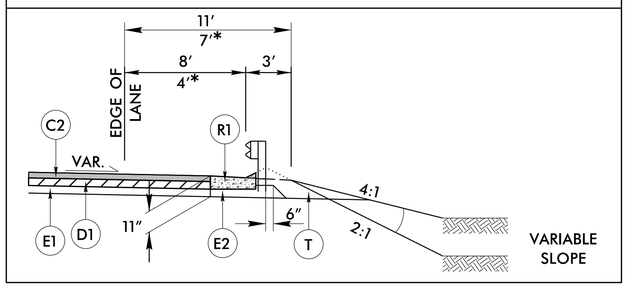
-L- STA. 19+06.93 TO -L- STA. 22+06.93 SEE TYPICAL SECTION 3A
-L- STA. 22+06.93 TO -L- STA. 32+00.00
-L- STA. 57+50.00 TO -L- STA. 63+00.00



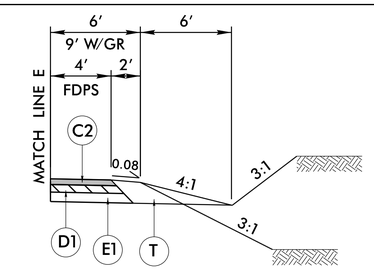

## TYPICAL SECTION NO. 3A

USE IN CONJUNCTION WITH TYPICAL SECTION NO. 3
-L- STA. 19+06.93 TO -L- STA. 22+06.93

SHOULDER BERM GUTTER
-L- STA. 19+07.00 TO -L- STA. 31+00.00
*-L- STA. 31+00.00 TO -L- STA. 38+63.02
-L- STA. 122+73.81 TO -L- STA. 143+11.56
USE IN CONJUNCTION WITH TYPICAL SECTION NOS. 3 THRU 5



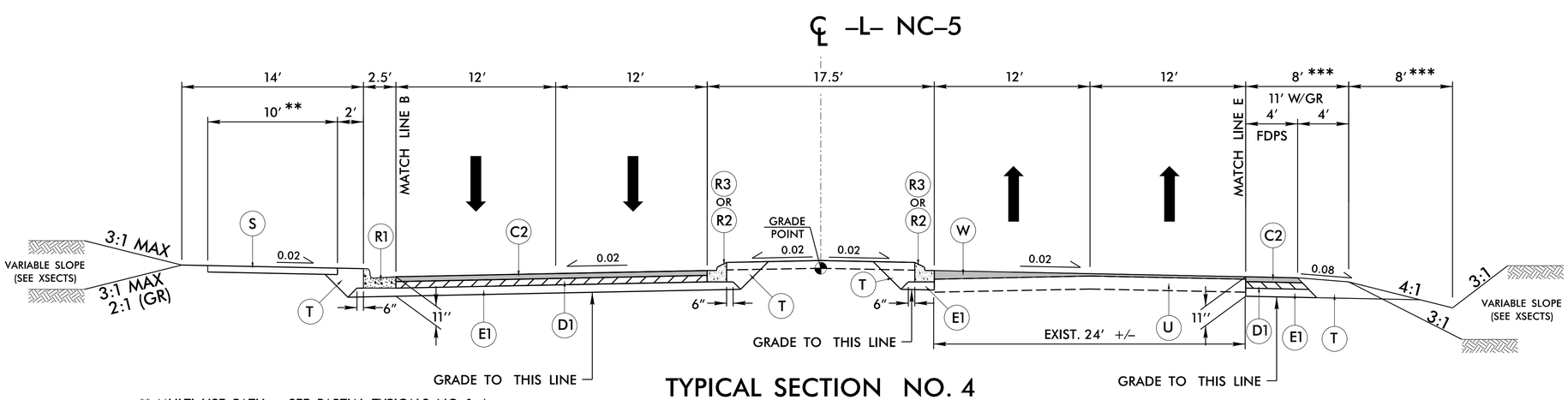

***REDUCE SHOULDER AND DITCH WIDTHS
-L- STA. 38+63.02 TO -L- STA. 111+50.00 RT.
-L- STA. 189+50.00 TO -L- STA. 239+55.00 RT.
USE IN CONJUNCTION WITH TYPICAL SECTION NOS. 3, 4 & 6




| | |
|---|---|
| C1 | 1.5″ S9.5C |
| C2 | 3″ S9.5C |
| C3 | VAR. DEPTH S9.5C |
| D1 | 4″ I19.0C |
| D2 | VAR. DEPTH I19.0C |
| E1 | 4″ B25.0C |
| E2 | VAR. DEPTH B25.0C |
| R1 | 2′-6″ CURB AND GUTTER |
| R2 | 1′-6″ CURB AND GUTTER |
| R3 | 2′-9″ CURB AND GUTTER |
| R4 | 5″ MONOLITHIC CONCRETE ISLAND |
| R5 | SHOULDER BERM GUTTER |
| S | 4″ CONCRETE SIDEWALK |
| T | EARTH MATERIAL |
| U | EXISTING PAVEMENT |
| V1 | INCIDENTAL MILLING |
| V2 | 1.5″ MILLING |
| W | VAR. DEPTH WEDGING |

PAVEMENT SCHEDULE

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE SPECIFIED.

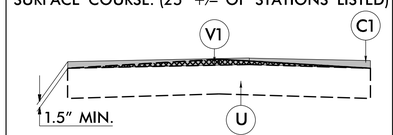



** MULTI-USE PATH – SEE PARTIAL TYPICALS NO. 1-4

## TYPICAL SECTION NO. 4

-L- STA. 32+00.00 TO -L- STA. 57+50.00
-L- STA. 63+00.00 TO -L- STA. 131+00.00
-L- STA. 131+00.00 TO -L- STA. 140+00.00 TRANSITION TO TYPICAL SECTION NO. 5
-L- STA. 155+00.00 TO -L- STA. 167+60.00

NOTE: USE TO OBTAIN THE MINIMUM 1.5″ OF SURFACE COURSE. (25′ +/- OF STATIONS LISTED)




## INCIDENTAL MILLING DETAIL

AS DIRECTED BY THE ENGINEER AT THE FOLLOWING LOCATIONS:
-L- STA. 37+50
-L- STA. 41+50 TO -L- STA. 43+50
-L- STA. 57+50
-L- STA. 63+00 TO -L- STA. 65+00
-L- STA. 70+50 TO -L- STA. 71+50
-L- STA. 96+00 TO -L- STA. 97+00
-L- STA. 99+50 TO -L- STA. 102+50
-L- STA. 107+50 TO -L- STA. 109+00
-L- STA. 144+50 TO -L- STA. 147+00
-L- STA. 150+00 TO -L- STA. 151+00
-L- STA. 158+50 TO -L- STA. 160+50
-L- STA. 183+00 TO -L- STA. 184+50
-L- STA. 194+00 TO -L- STA. 201+50
-L- STA. 217+00
-L- STA. 231+50 TO -L- STA. 235+00
-L- STA. 238+50 TO -L- STA. 239+00

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 2A-3 |
| ROADWAY DESIGN ENGINEER | PAVEMENT DESIGN ENGINEER |

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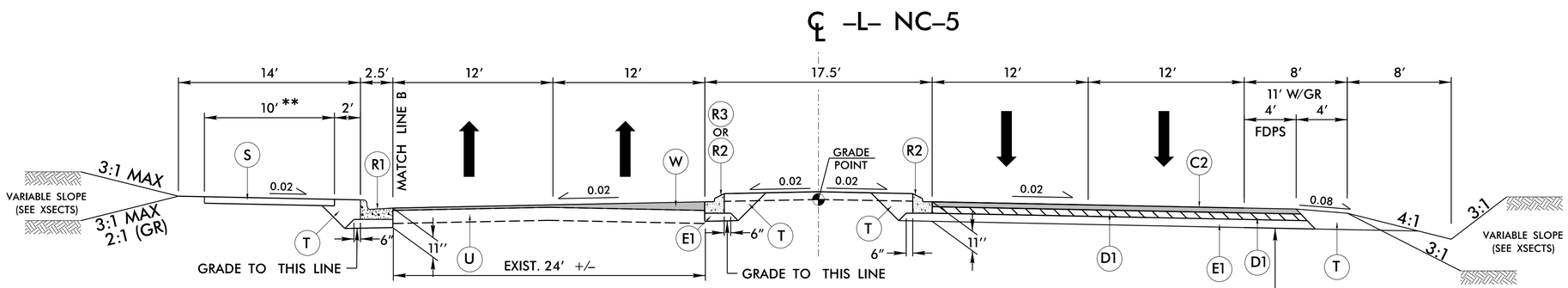
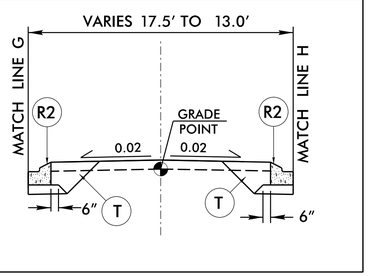


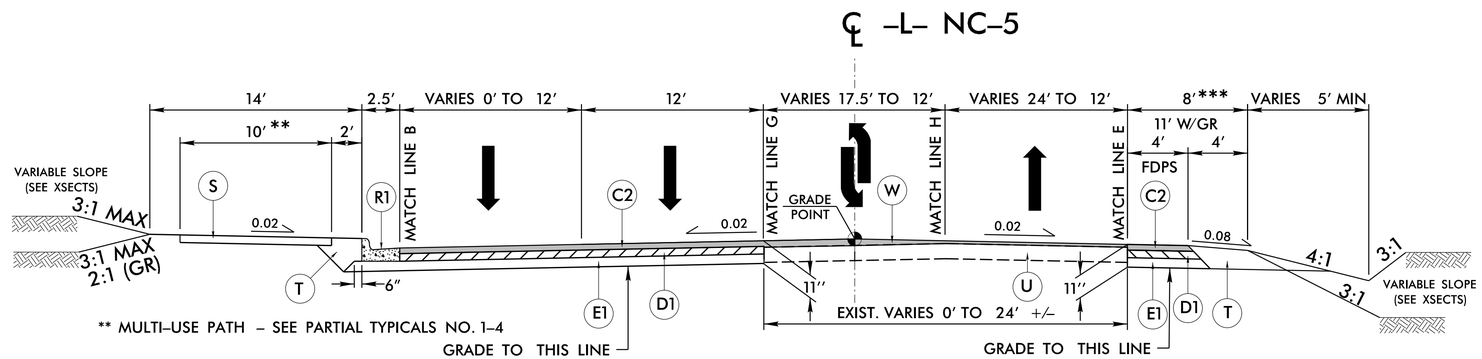

** MULTI-USE PATH – SEE PARTIAL TYPICALS NO. 1–4

## TYPICAL SECTION NO. 5

–L– STA. 140+00.00 TO –L– STA. 155+00.00 TRANSITION TO TYPICAL SECTION NO. 4

REDUCE GRASS MEDIAN
–L– STA. 167+60 TO –L– STA. 174+75.88

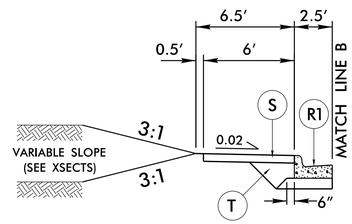



** MULTI-USE PATH – SEE PARTIAL TYPICALS NO. 1–4

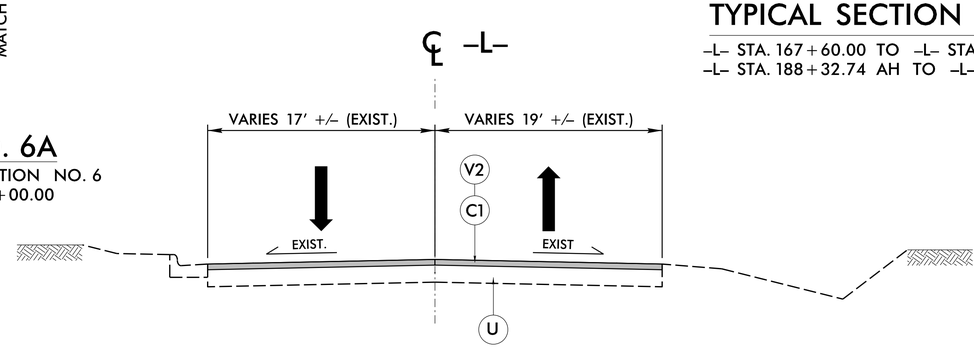
## TYPICAL SECTION NO. 6

–L– STA. 167+60.00 TO –L– STA. 188+30.72 BK
–L– STA. 188+32.74 AH TO –L– STA. 239+55.00



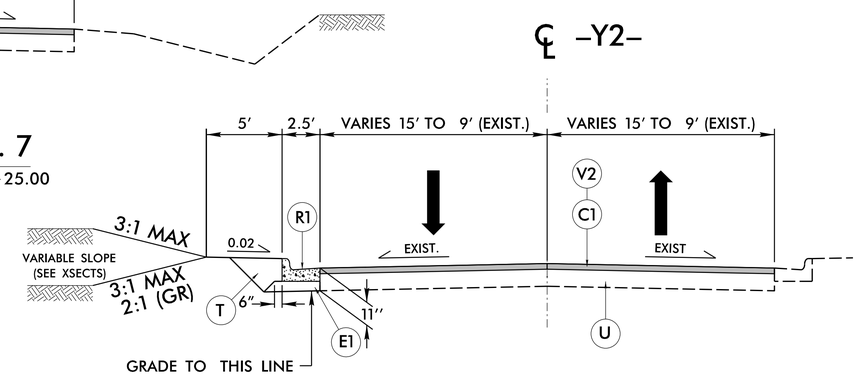

## TYPICAL SECTION NO. 6A

USE IN CONJUNCTION WITH TYPICAL SECTION NO. 6
–L– STA. 218+00.00 TO –L– STA. 238+00.00




## TYPICAL SECTION NO. 7

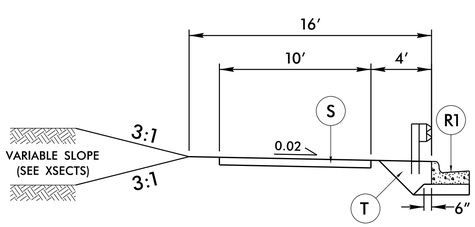
–L– STA. 239+55.00 TO –L– STA. 240+25.00




## TYPICAL SECTION NO. 8

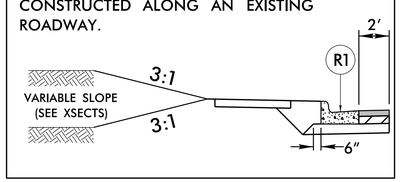
–Y2– STA. 13+96.75 TO –Y2– STA. 14+21.01
–Y4– STA. 9+96.06 TO –Y4– STA. 10+24.78 (NEW CURB & GUTTER RT. & LT.)

GUARDRAIL AT FACE OF CURB DETAIL




SAWCUT DETAIL

SAWCUT IS NECESSARY IN ORDER TO OBTAIN 2′ MIN. FULL DEPTH PAVEMENT WHEN CURB AND GUTTER IS CONSTRUCTED ALONG AN EXISTING ROADWAY.




PAVEMENT SCHEDULE

| | |
|---|---|
| C1 | 1.5″ S9.5C |
| C2 | 3″ S9.5C |
| C3 | VAR. DEPTH S9.5C |
| D1 | 4″ I19.0C |
| D2 | VAR. DEPTH I19.0C |
| E1 | 4″ B25.0C |
| E2 | VAR. DEPTH B25.0C |
| R1 | 2′-6″ CURB AND GUTTER |
| R2 | 1′-6″ CURB AND GUTTER |
| R3 | 2′-9″ CURB AND GUTTER |
| R4 | 5″ MONOLITHIC CONCRETE ISLAND |
| R5 | SHOULDER BERM GUTTER |
| S | 4″ CONCRETE SIDEWALK |
| T | EARTH MATERIAL |
| U | EXISTING PAVEMENT |
| V1 | INCIDENTAL MILLING |
| V2 | 1.5″ MILLING |
| W | VAR. DEPTH WEDGING |

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE SPECIFIED.

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| PROJECT REFERENCE NO. | SHEET NO. |
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| U-5756 | 2A-4 |
| ROADWAY DESIGN ENGINEER | PAVEMENT DESIGN ENGINEER |

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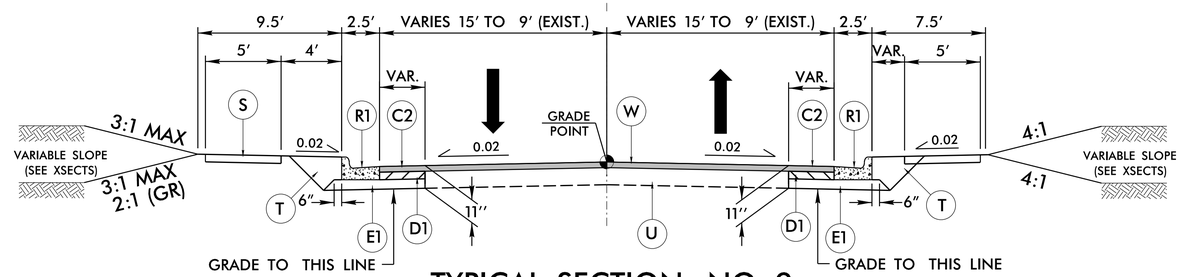
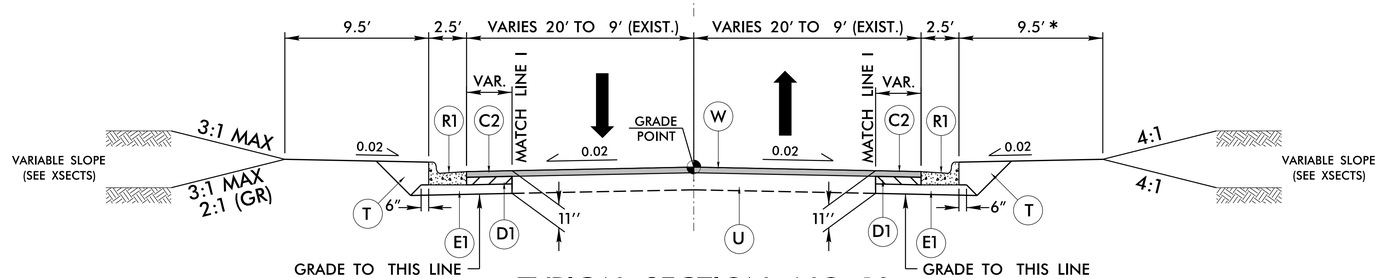
℄ –Y2–




## TYPICAL SECTION NO. 9

–Y2– STA. 14+21.01 TO –Y2– STA. 14+67.14

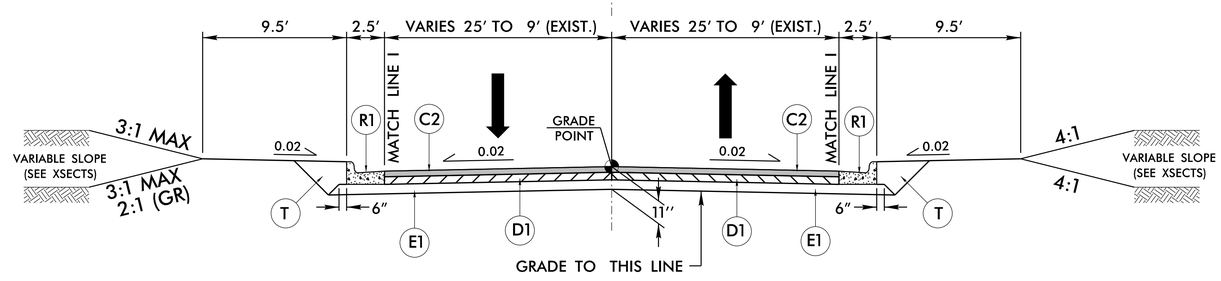
℄ –Y– LINES




## TYPICAL SECTION NO. 10

–Y3– STA. 19+66.36 TO –Y3– STA. 21+98.13
(–Y3– UP TO 45′ PVMT FOR CUL–DE–SAC)
* (–Y3– 7.5′ BERM FOR CUL–DE–SAC 21+18 TO 21+98 RT)
–Y4– STA. 10+24.78 TO –Y4– STA. 11+10.00
–Y5– STA. 13+77.54 TO –Y5– STA. 14+49.15
(–Y5– BEGIN CURB & GUTTER LT AT STA. 13+45.03)
–Y6– STA. 13+78.79 TO –Y6– STA. 14+47.38
(–Y6– BEGIN CURB & GUTTER LT AT STA. 13+48.00)
–Y7– STA. 14+15.70 TO –Y7– STA. 14+53.11
–Y8– STA. 13+72.10 TO –Y8– STA. 14+46.33
–Y10– STA. 10+22.14 TO –Y10– STA. 10+79.82
–Y11– STA. 12+25.11 TO –Y11– STA. 12+94.36
–Y12– STA. 13+52.08 TO –Y12– STA. 14+35.96
–Y13– STA. 16+56.38 TO –Y13– STA. 17+24.75
–Y14– STA. 14+15.93 TO –Y14– STA. 14+74.54
–Y15– STA. 14+51.75 TO –Y15– STA. 14+86.34
–Y16– STA. 14+11.59 TO –Y16– STA. 14+50.66
–Y18– STA. 14+20.13 TO –Y18– STA. 14+58.25

℄ –Y– LINES




## TYPICAL SECTION NO. 11

–Y4– STA. 11+10.00 TO –Y4– STA. 11+27.25
–Y8A– STA. 13+51.81 TO –Y8A– STA. 14+46.63
–Y9– STA. 14+35.80 TO –Y9– STA. 15+05.94
–Y19– STA. 11+60.99 TO –Y19– STA. 11+83.07

PAVEMENT SCHEDULE

| | |
|---|---|
| C1 | 1.5″ S9.5C |
| C2 | 3″ S9.5C |
| C3 | VAR. DEPTH S9.5C |
| D1 | 4″ I19.0C |
| D2 | VAR. DEPTH I19.0C |
| E1 | 4″ B25.0C |
| E2 | VAR. DEPTH B25.0C |
| R1 | 2′-6″ CURB AND GUTTER |
| R2 | 1′-6″ CURB AND GUTTER |
| R3 | 2′-9″ CURB AND GUTTER |
| R4 | 5″ MONOLITHIC CONCRETE ISLAND |
| R5 | SHOULDER BERM GUTTER |
| S | 4″ CONCRETE SIDEWALK |
| T | EARTH MATERIAL |
| U | EXISTING PAVEMENT |
| V1 | INCIDENTAL MILLING |
| V2 | 1.5″ MILLING |
| W | VAR. DEPTH WEDGING |

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE SPECIFIED.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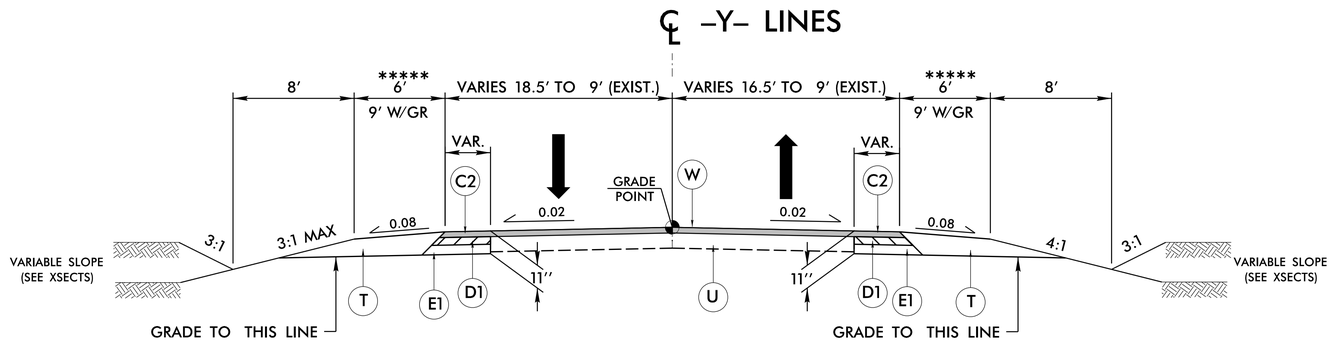
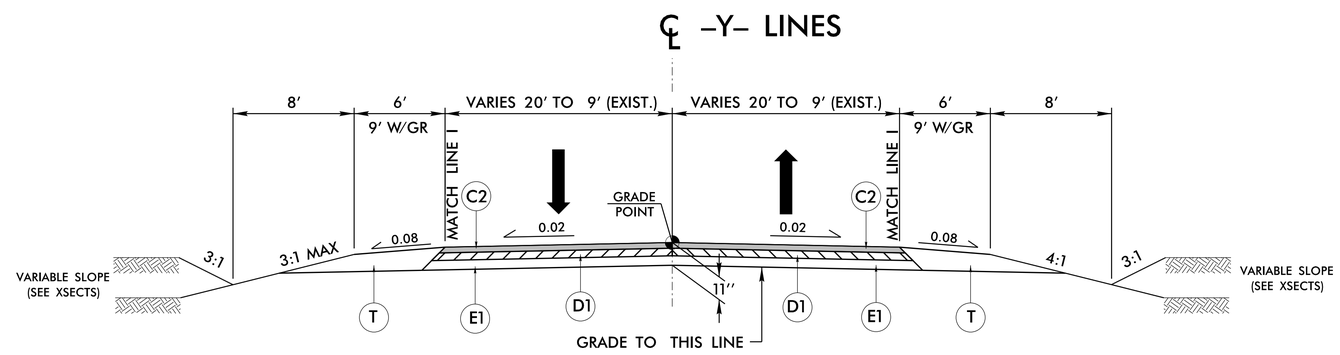


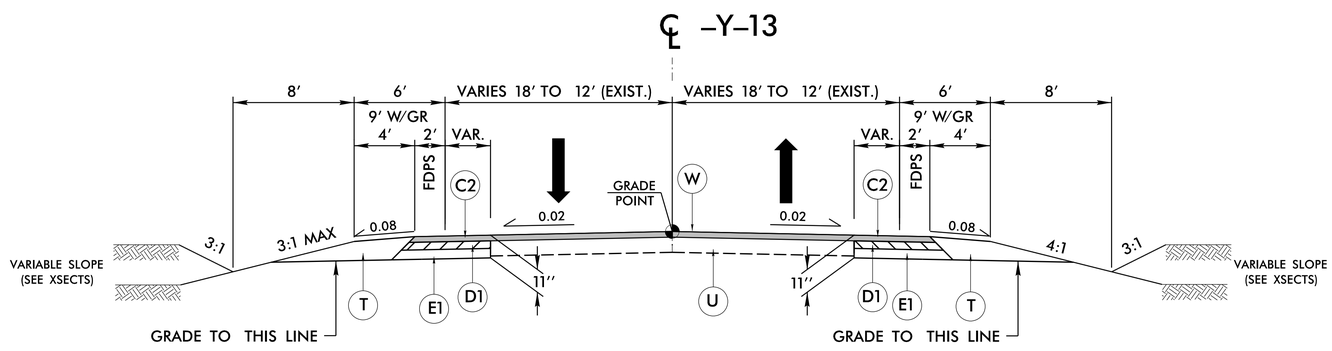

## TYPICAL SECTION NO. 12

–Y5– STA. 12+52.55 TO –Y5– STA. 13+77.54
–Y6– STA. 10+00.73 TO –Y6– STA. 13+78.79
–Y7– STA. 13+30.00 TO –Y7– STA. 14+15.70
–Y8– STA. 12+91.27 TO –Y8– STA. 13+72.10
–Y8A– STA. 10+99.16 TO –Y8A– STA. 11+71.64
–Y8A– STA. 15+12.23 TO –Y8A– STA. 15+31.65
–Y8B– STA. 10+32.75 TO –Y8B– STA. 10+77.00 FILL ISLAND WITH FULL DEPTH PAVEMENT
–Y8C– STA. 10+33.09 TO –Y8C– STA. 10+56.37
–Y8D– STA. 12+35.00 TO –Y8D– STA. 13+16.61
–Y10– STA. 10+00.00 TO –Y10– STA. 10+22.14
–Y11– STA. 10+92.12 TO –Y11– STA. 12+25.11
–Y12– STA. 11+27.96 TO –Y12– STA. 13+52.08
–Y14– STA. 13+23.71 TO –Y14– STA. 14+15.93
–Y15– STA. 13+92.41 TO –Y15– STA. 14+51.75
–Y16– STA. 13+43.72 TO –Y16– STA. 14+11.59 ***** 4′ GRASS SHOULDER
–Y17– STA. 10+18.02 TO –Y17– STA. 10+50.00
–Y18– STA. 13+52.20 TO –Y18– STA. 14+20.13




## TYPICAL SECTION NO. 13

–Y8A– STA. 11+71.64 TO –Y8A– STA. 13+51.81
–Y19– STA. 11+15.00 TO –Y19– STA. 11+60.99




## TYPICAL SECTION NO. 14

–Y13– STA. 12+16.55 TO –Y13– STA. 16+64.62

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|---|---|
| U–5756 | 2A–5 |
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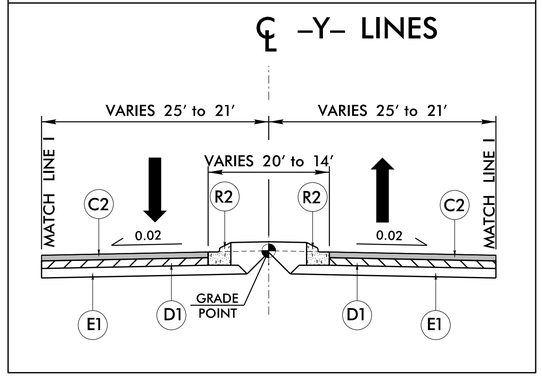
PAVEMENT SCHEDULE

| | |
|---|---|
| C1 | 1.5″ S9.5C |
| C2 | 3″ S9.5C |
| C3 | VAR. DEPTH S9.5C |
| D1 | 4″ I19.0C |
| D2 | VAR. DEPTH I19.0C |
| E1 | 4″ B25.0C |
| E2 | VAR. DEPTH B25.0C |
| R1 | 2′-6″ CURB AND GUTTER |
| R2 | 1′-6″ CURB AND GUTTER |
| R3 | 2′-9″ CURB AND GUTTER |
| R4 | 5″ MONOLITHIC CONCRETE ISLAND |
| R5 | SHOULDER BERM GUTTER |
| S | 4″ CONCRETE SIDEWALK |
| T | EARTH MATERIAL |
| U | EXISTING PAVEMENT |
| V1 | INCIDENTAL MILLING |
| V2 | 1.5″ MILLING |
| W | VAR. DEPTH WEDGING |

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE SPECIFIED.

MEDIAN ISLAND
–Y11– STA. 12+27.12 TO –Y11– STA. 12+69.23
–Y19– STA. 11+24.21 TO –Y19– STA. 11+77.06
USE IN CONJUNCTION WITH TYPICAL SECTION NOS. 10, 11 & 13

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 4 |
| R/W SHEET NO. | |
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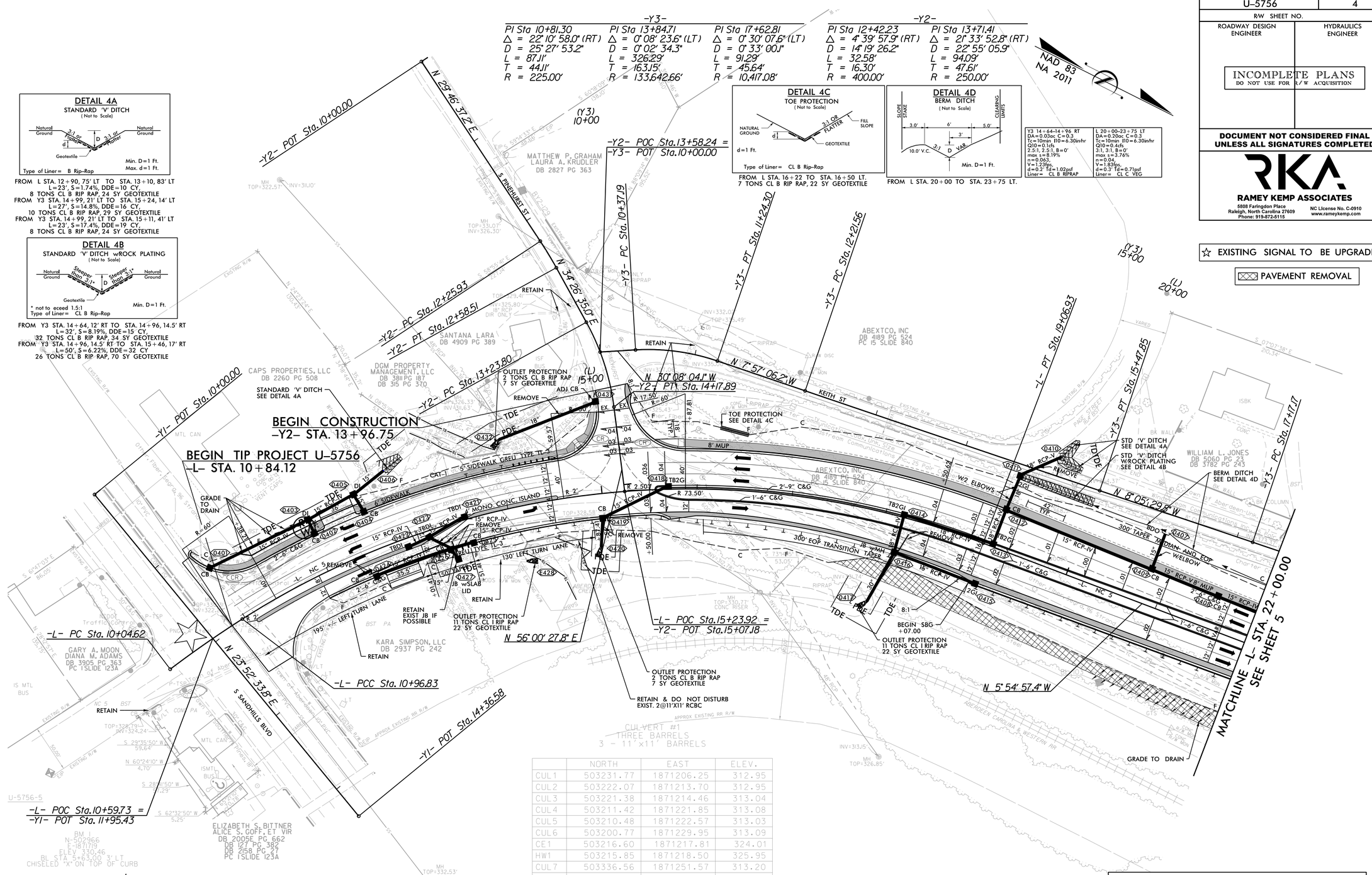
☆ EXISTING SIGNAL TO BE UPGRADED

PAVEMENT REMOVAL




| | NORTH | EAST | ELEV. |
|---|---|---|---|
| CUL1 | 503231.77 | 1871206.25 | 312.95 |
| CUL2 | 503222.07 | 1871213.70 | 312.95 |
| CUL3 | 503221.38 | 1871214.46 | 313.04 |
| CUL4 | 503211.42 | 1871221.85 | 313.08 |
| CUL5 | 503210.48 | 1871222.57 | 313.03 |
| CUL6 | 503200.77 | 1871229.95 | 313.09 |
| CE1 | 503216.60 | 1871217.81 | 324.01 |
| HW1 | 503215.85 | 1871218.50 | 325.95 |
| CUL7 | 503336.56 | 1871251.57 | 313.20 |
| CUL8 | 503326.73 | 1871259.03 | 313.09 |
| CUL9 | 503326.18 | 1871259.51 | 313.11 |
| CUL10 | 503316.33 | 1871267.18 | 313.12 |
| CUL11 | 503315.45 | 1871267.61 | 313.14 |
| CUL12 | 503305.38 | 1871275.48 | 313.10 |
| CE2 | 503321.32 | 1871263.32 | 324.08 |
| HW2 | 503320.45 | 1871263.60 | 326.04 |


FOR -L- PROFILE, SEE SHEET NO. 23
FOR -Y1- PROFILE, SEE SHEET NO. 32
FOR -Y2- PROFILE, SEE SHEET NO. 32
FOR -Y3- PROFILE, SEE SHEET NO. 33


REVISIONS

8/17/99

9/23/2022
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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 5 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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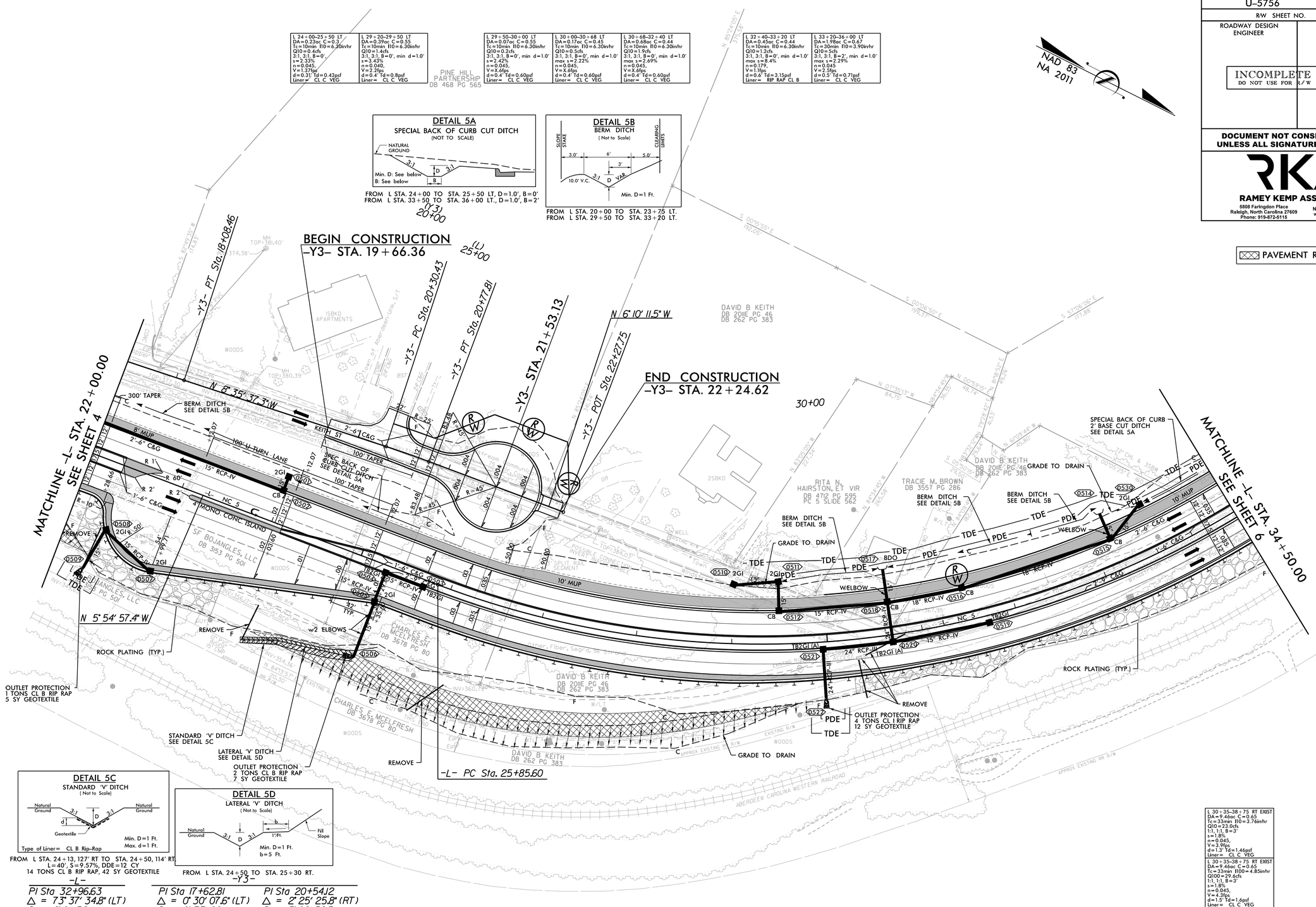
PAVEMENT REMOVAL




-L-

PI Sta 32+96.63
△ = 73° 37' 34.8" (LT)
D = 6° 01' 52.1"
L = 1,220.77'
T = 711.03'
R = 950.00'
e = 0.035
Runoff = 147'

-Y3-

PI Sta 17+62.81
△ = 0° 30' 07.6" (LT)
D = 0° 33' 00.1"
L = 91.29'
T = 45.64'
R = 10,417.08'

PI Sta 20+54.12
△ = 2° 25' 25.8" (RT)
D = 5° 06' 56.5"
L = 47.38'
T = 23.69'
R = 1,120.00'

L 24+13-24+50 RT
DA=0.85ac C=0.38
Tc=10min I10=6.40in/hr
Q10=2.0cfs
3:1, 3:1, B=0'
s=9.57%
n=0.063,
V=2.7fps,
d=0.5' Td=2.93psf
Liner= CL B RIP RAP

L 24+50-25+30 RT
DA=0.85ac C=0.38
Tc=10min I10=6.40in/hr
Q10=2.0cfs
3:1, 3:1, B=0'
max s=3.3%
n=0.040
V=2.6fps
d=0.5' Td=1.03psf
Liner= CL C VEG

TOE PROTECTION CK
L 28+77-29+50 RT
DA=0.10ac C=0.3
Tc=10min I10=6.40in/hr
Q10=0.2cfs
3:1, 14.6:1, B=0', s=4.87%
n=0.045,
V=1.22fps
d=0.14' Td=0.43psf
Liner= none required

FOR -L- PROFILE, SEE SHEET NO. 23

FOR -Y3- PROFILE, SEE SHEET NO. 33

REVISIONS

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 6 |
| R/W SHEET NO. | |
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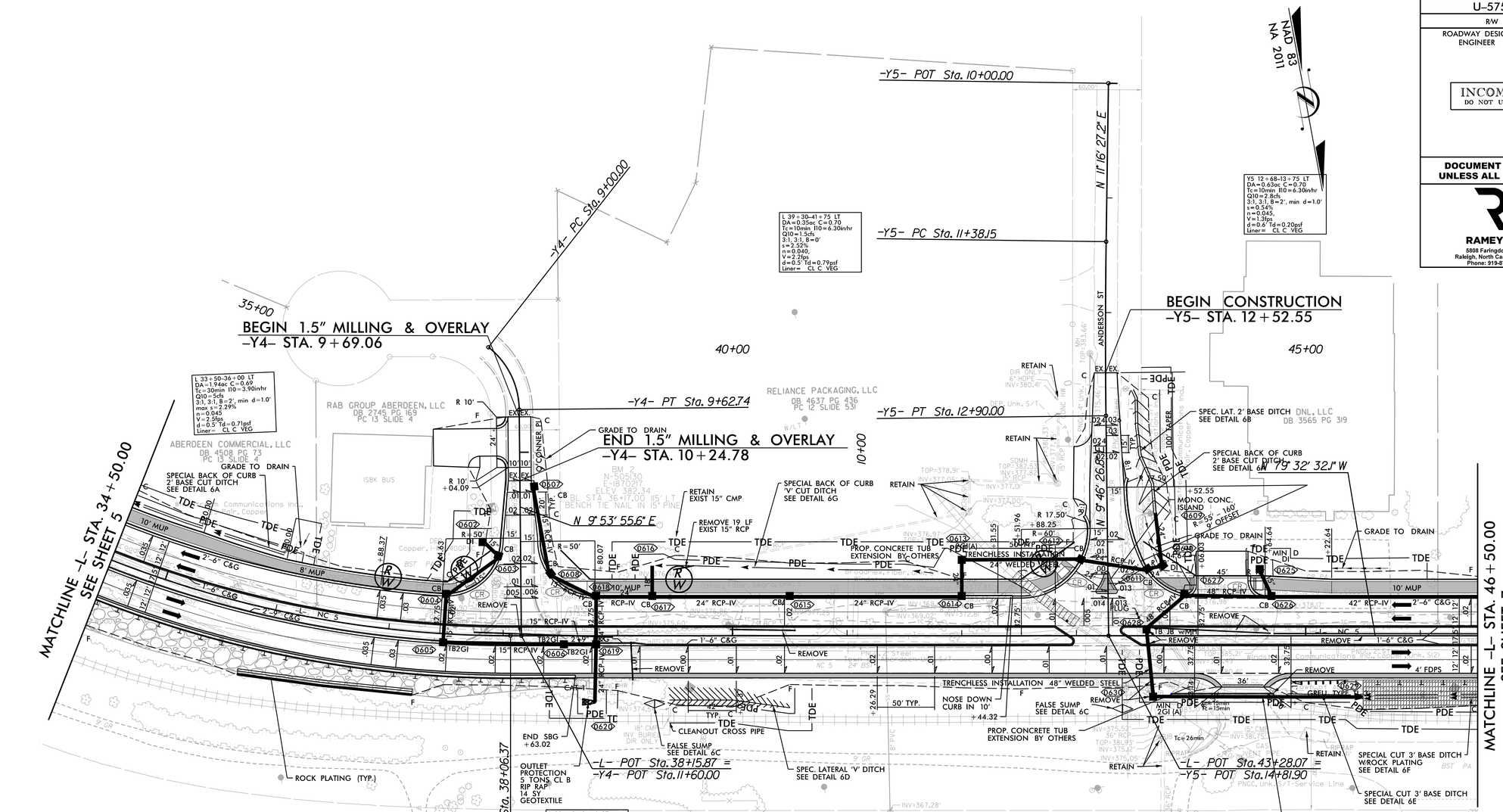



L 33+50-36+00 LT
DA=1.94ac C=0.69
Tc=30min I10=3.90in/hr
Q10=5cfs
3:1, 3:1, B=2', min d=1.0'
max s=2.29%
n=0.045
V=2.5fps
d=0.5' Td=0.71psf
Liner= CL C VEG

L 39+30-41+75 LT
DA=0.35ac C=0.70
Tc=10min I10=6.30in/hr
Q10=1.5cfs
3:1, 3:1, B=0'
s=2.52%
n=0.040,
V=2.2fps
d=0.5' Td=0.79psf
Liner= CL C VEG

Y5 12+68-13+75 LT
DA=0.63ac C=0.70
Tc=10min I10=6.30in/hr
Q10=2.8cfs
3:1, 3:1, B=2', min d=1.0'
s=0.54%
n=0.045,
V=1.3fps
d=0.6' Td=0.20psf
Liner= CL C VEG

L 39+45-43+40 RT
DA=0.64ac C=0.53
Tc=10min I10=6.30in/hr
Q10=2.1cfs
3:1, 3:1, B=0'
max s=2.81%
n=0.040,
V=2.5fps
d=0.5' Td=0.87psf
Liner= CL C VEG

L 39+45-43+40 RT RR
DA=0.64ac C=0.53
Tc=10min I100=7.98in/hr
Q100=2.7cfs
3:1, 3:1, B=0'
max s=2.81%
n=0.040,
V=2.6fps
d=0.6' Td=1.05psf
Liner= CL C VEG

L 43+76.88' E604-E603
DA=46.0ac C=0.63
Tc=30min I10=3.90in/hr
Q10=113cfs
4:1, 3:1, B=2', min d=1.0'
s=1.57%
n=0.040,
V=2.7fps
d=0.7' Td=0.69psf
Liner= CL C VEG

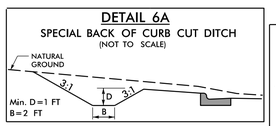
L 45+50-46+00 RT
DA=3.51ac C=0.65
Tc=14min I10=5.58in/hr
Q10=13cfs
1.5:1, 2:1, B=3'
s=2.73%
n=0.063
V=2.9fps
d=1.0' Td=1.70psf
Liner= CL B RIP RAP

L 46+00-49+00 RT
DA=3.51ac C=0.65
Tc=14min I10=5.58in/hr
Q10=13cfs
3:1, 3:1, B=3'
s=2.73%
n=0.045
V=3.4fps
d=0.8' Td=1.19psf
Liner= CL C VEG

L 45+50-46+00 RT RR
DA=3.51ac C=0.65
Tc=14min I100=6.76in/hr
Q100=16cfs
1.5:1, 2:1, B=3'
s=2.73%
n=0.056,
V=3.4fps
d=1.0' Td=1.70psf
Liner= CL B RIP RAP

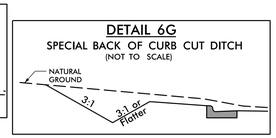
L 46+00-49+00 RT RR
DA=3.51ac C=0.65
Tc=14min I100=6.76in/hr
Q100=16cfs
3:1, 3:1, B=3'
s=2.73%
n=0.045,
V=3.6fps
d=0.8' Td=1.36psf
Liner= CL C VEG

## DETAIL 6A
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)



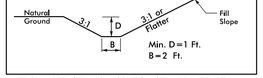

FROM L STA. 33+50 TO STA. 36+00 LT.
FROM Y5 STA. 13+50 TO STA. 13+75 LT.

## DETAIL 6G
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)



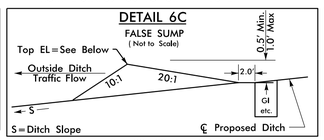

FROM L STA. 39+30 TO STA. 41+75 LT.

## DETAIL 6B
SPECIAL LATERAL BASE DITCH
( Not to Scale)



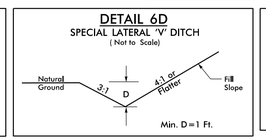

FROM Y5 STA. 12+68 TO STA. 13+75 LT.

## DETAIL 6C
FALSE SUMP
( Not to Scale)



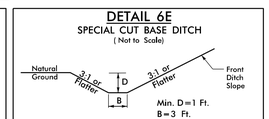

FROM L STA. 39+32 RT., TOP EL=376.5
FROM L STA. 43+40 RT., TOP EL=383.1

## DETAIL 6D
SPECIAL LATERAL 'V' DITCH
( Not to Scale)



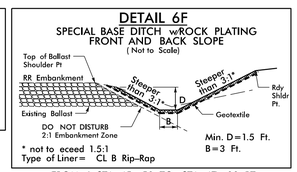

FROM L STA. 39+45 TO STA. 40+50 RT.

## DETAIL 6E
SPECIAL CUT BASE DITCH
( Not to Scale)




FROM L STA. 44+80 TO STA. 45+50 RT

## DETAIL 6F
SPECIAL BASE DITCH wROCK PLATING
FRONT AND BACK SLOPE
( Not to Scale)




FROM L STA. 45+50 TO STA. 47+00 RT

| -L- | -Y4- | -Y5- |
|---|---|---|
| PI Sta 32+96.63 | PI Sta 9+33.65 | PI Sta 12+14.08 |
| △ = 73° 37' 34.8" (LT) | △ = 51° 21' 03.9" (RT) | △ = 1° 30' 00.4" (LT) |
| D = 6° 01' 52.1" | D = 81° 51' 04.0" | D = 0° 59' 16.3" |
| L = 1,220.77' | L = 62.74' | L = 151.85' |
| T = 711.03' | T = 33.65' | T = 75.93' |
| R = 950.00' | R = 70.00' | R = 5,800.00' |
| e = 0.035 | | |
| Runoff = 147' | | |


FOR -L- PROFILE, SEE SHEET NO. 24
FOR -Y4- PROFILE, SEE SHEET NO. 33
FOR -Y5- PROFILE, SEE SHEET NO. 33


REVISIONS

8/17/99

9/23/2022
Proj:U5756_Rdy_psh06.dgn
User:hridgeway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 7 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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www.rameykemp.com


REVISIONS

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## DETAIL 7A
SPECIAL LATERAL 'V' DITCH
( Not to Scale)

Natural Ground, 3:1, D, 3:1 or Flatter, Fill Slope
Min. D=1 Ft.

FROM Y6 STA. 10+00 TO STA. 10+75 LT
FROM Y6 STA. 11+75 TO STA. 13+60 LT
FROM Y6 STA. 13+22 TO STA. 14+13 RT
FROM L STA. 52+13 TO STA. 56+50 RT

## DETAIL 7B
SPECIAL CUT DITCH
( Not to Scale)

Natural Ground, 3:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D=1 Ft.

FROM Y6 STA. 10+75 TO STA. 11+75 LT
FROM Y6 STA. 10+00 TO STA. 13+22 RT
FROM L STA. 51+00 TO STA. 51+50 RT

## DETAIL 7C
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)

NATURAL GROUND, 3:1, 3:1 or Flatter
Min. D=1.5 Ft.
B=3 Ft.

FROM L STA. 50+50 TO STA. 51+88 LT
FROM L STA. 52+68 TO STA. 53+23 LT
FROM L STA. 54+02 TO STA. 54+50 LT

## DETAIL 7D
STANDARD BASE DITCH
( Not to Scale)

Natural Ground, 3:1, D, d, B, 3:1, Natural Ground, Geotextile
Min. D=1 Ft.
Max. d=1 Ft.
B=5 Ft.
*When B is < 6.0'
Type of Liner= CL B Rip-Rap

FROM Y6 STA. 13+09, 75' LT TO STA. 13+74, 48' LT
L=56', S=7.14%, L=16', S=0.44%, DDE=168CY
43 TONS CL B RIP RAP, 116 SY GEOTEXTILE

## DETAIL 7E
SPECIAL BASE DITCH wROCK PLATING
FRONT AND BACK SLOPE
( Not to Scale)

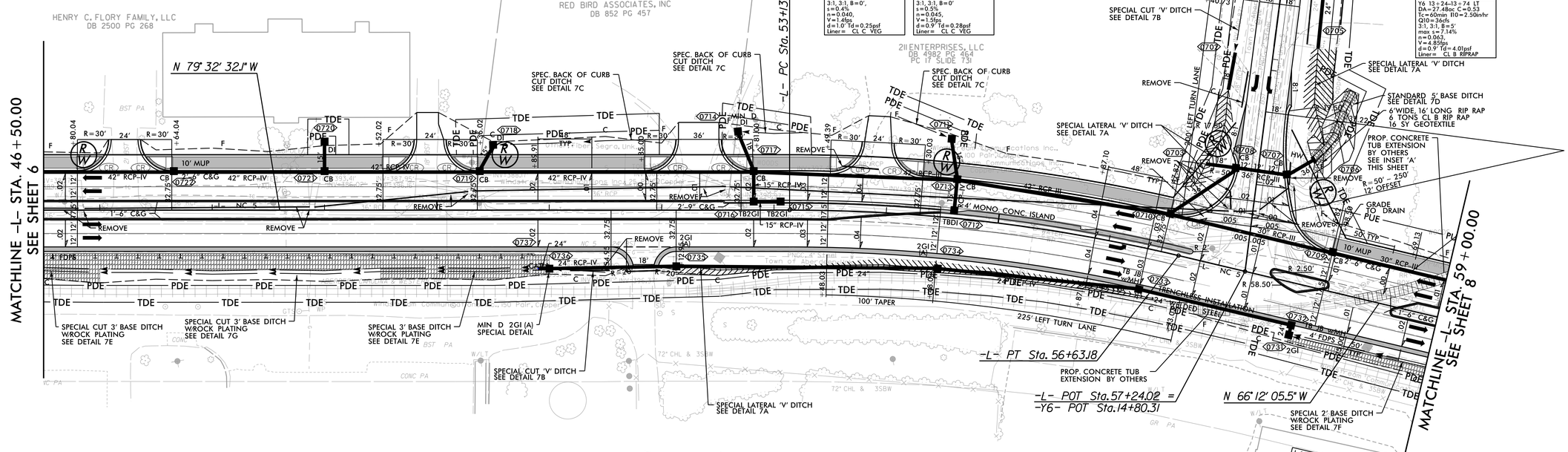
Top of Ballast Shoulder Pt, RR Embankment, Steeper than 3:1*, D, B, Steeper than 3:1*, Rdy. Shldr. Pt., Existing Ballast, Geotextile, DO NOT DISTURB 2:1 Embankment Zone
Min. D=1.5 Ft.
B=3 Ft.
* not to eceed 1.5:1
Type of Liner= CL B Rip-Rap

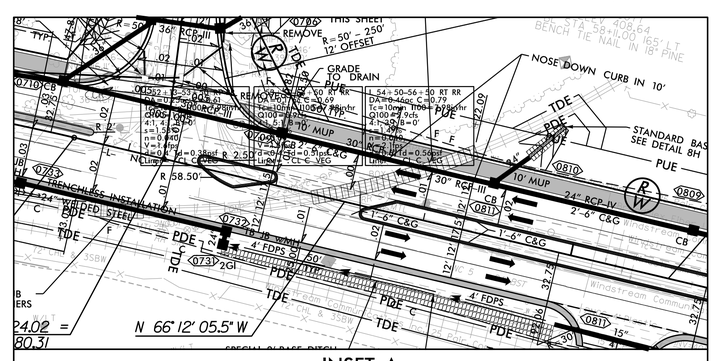
FROM L STA. 45+50 TO STA. 47+00 RT
FROM L STA. 49+50 TO STA. 51+00 RT

## DETAIL 7F
SPECIAL BASE DITCH wROCK PLATING
BACK SLOPE ONLY
( Not to Scale)

Top of Ballast Shoulder Pt, RR Embankment, Steeper than 3:1*, D, B, 3:1 or Flatter, Rdy. Shldr. Pt., Existing Ballast, Geotextile, DO NOT DISTURB 2:1 Embankment Zone
Min. D=1 Ft.
B=2'
* not to eceed 1.5:1
Type of Liner= CL B Rip-Rap

FROM L STA. 57+75 TO STA. 62+50 RT, B=2'




INSET A

-L-
PI Sta 54+89.35
Δ = 13° 20' 26.6" (RT)
D = 3° 49' 11.0"
L = 349.26'
T = 175.42'
R = 1,500.00'
e = 0.040
Runoff = 192'

FOR -L- PROFILE, SEE SHEET NO. 24

FOR -Y6- PROFILE, SEE SHEET NO. 33

9/23/2022
...\Proj\U5756_Rdy_psh07.dgn
User: fridgeway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 8 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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REVISIONS

8/17/99

## DETAIL 8H
STANDARD BASE DITCH
( Not to Scale)

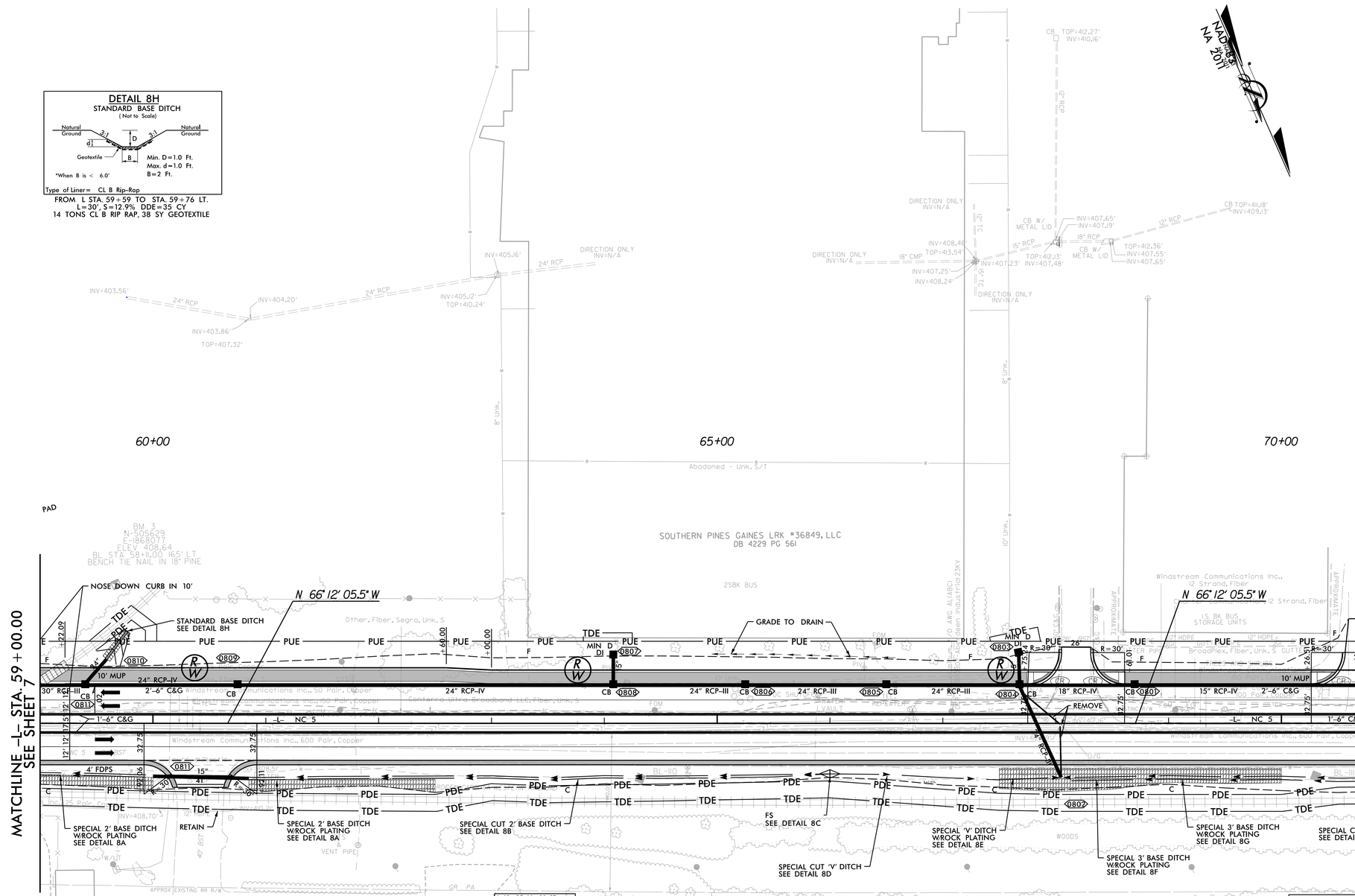
Natural Ground, 3:1, D, d, 3:1, Natural Ground; Geotextile; B

Min. D=1.0 Ft.
Max. d=1.0 Ft.
B=2 Ft.

*When B is < 6.0'

Type of Liner= CL B Rip-Rap

FROM L STA. 59+59 TO STA. 59+76 LT.
L=30', S=12.9% DDE=35 CY
14 TONS CL B RIP RAP, 38 SY GEOTEXTILE




L 60+85-66+00 RT
DA=0.81ac C=0.61
Tc=10min I10=6.30in/hr
Q10=3cfs
3:1, 2:1, B=2'
s=2.49%
n=0.045,
V=2.4fps
d=0.4' Td=0.62psf
Liner= CL C VEG

L 60+85-66+00 RT RR
DA=0.81ac C=0.61
Tc=10min I10=7.98in/hr
Q100=3.9cfs
3:1, 2:1, B=2'
s=2.49%
n=0.045,
V=2.5fps
d=0.5' Td=0.78psf
Liner= CL C VEG

## DETAIL 8D
SPECIAL CUT DITCH
( Not to Scale)

Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope

Min. D=1 Ft.

FROM L STA. 66+00 TO STA. 67+50 RT

L 68+05-70+00 RT
DA=2.41ac C=0.65
Tc=10min I10=6.30in/hr
Q10=10cfs
2:1, 2:1, B=3'
s=1.59%
n=0.063,
V=2.8fps
d=0.8' Td=0.79psf
Liner= CL B RIP RAP

L 68+05-70+00 RT RR
DA=2.41ac C=0.65
Tc=10min I10=7.98in/hr
Q100=13cfs
2:1, 2:1, B=3'
s=1.59%
n=0.063,
V=3.01fps
d=0.9' Td=0.89psf
Liner= CL B RIP RAP

L 70+00-76+00 RT
DA=2.41ac C=0.65
Tc=10min I10=6.30in/hr
Q10=10cfs
3:1, 3:1, B=3'
s=1.59%
n=0.045,
V=2.6fps
d=0.7' Td=0.70psf
Liner= CL C VEG

L 70+00-76+00 RT RR
DA=2.41ac C=0.65
Tc=10min I10=7.98in/hr
Q100=13cfs
3:1, 3:1, B=3'
s=1.59%
n=0.045,
V=2.8fps
d=0.8' Td=0.79psf
Liner= CL C VEG

## DETAIL 8A
SPECIAL BASE DITCH W/ROCK PLATING
BACK SLOPE ONLY
( Not to Scale)

Top of Ballast Shoulder Pt, RR Embankment, Steeper than 3:1*, D, 3:1 or Flatter, Rdy Shldr Pt., Existing Ballast, Geotextile, B, DO NOT DISTURB 2:1 Embankment Zone

Min. D=1 Ft.
B=2'

* not to exceed 1.5:1
Type of Liner= CL B Rip-Rap

FROM L STA. 57+75 TO STA. 62+50 RT, B=2'

## DETAIL 8B
SPECIAL CUT BASE DITCH
( Not to Scale)

Natural Ground, 3:1 or Flatter, D, B, 3:1 or Flatter, Front Ditch Slope

Min. D=1 Ft.
B=SEE BELOW

FROM L STA. 62+50 TO STA. 66+00 RT, B=2'
FROM L STA. 70+00 TO STA. 76+00 RT, B=3'

## DETAIL 8C
FALSE SUMP
( Not to Scale)

Outside Ditch Traffic Flow, 10:1, 20:1, 2.0', 0.5' Min. 1.0' Max, GI etc., S

S=Ditch Slope
℄ Proposed Ditch

FROM L STA. 66+00 RT.

## DETAIL 8E
SPECIAL BASE DITCH W/ROCK PLATING
FRONT AND BACK SLOPE
( Not to Scale)

Top of Ballast Shoulder Pt, RR Embankment, Steeper than 3:1*, D, Steeper than 3:1*, Rdy Shldr Pt., Existing Ballast, Geotextile, DO NOT DISTURB 2:1 Embankment Zone

Min. D=1 Ft.

* not to exceed 1.5:1
Type of Liner= CL B Rip-Rap

FROM L STA. 67+50 TO STA. 68+05 RT

## DETAIL 8F
SPECIAL BASE DITCH W/ROCK PLATING
FRONT AND BACK SLOPE
( Not to Scale)

Top of Ballast Shoulder Pt, RR Embankment, Steeper than 3:1*, D, Steeper than 3:1*, Rdy Shldr Pt., Existing Ballast, Geotextile, B, DO NOT DISTURB 2:1 Embankment Zone

Min. D=1 Ft.
B=3 Ft.

* not to exceed 1.5:1
Type of Liner= CL A Rip-Rap

FROM L STA. 68+05 TO STA. 68+50 RT

FOR -L- PROFILE, SEE SHEET NO. 25

9/23/2022
User: hridgway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 9 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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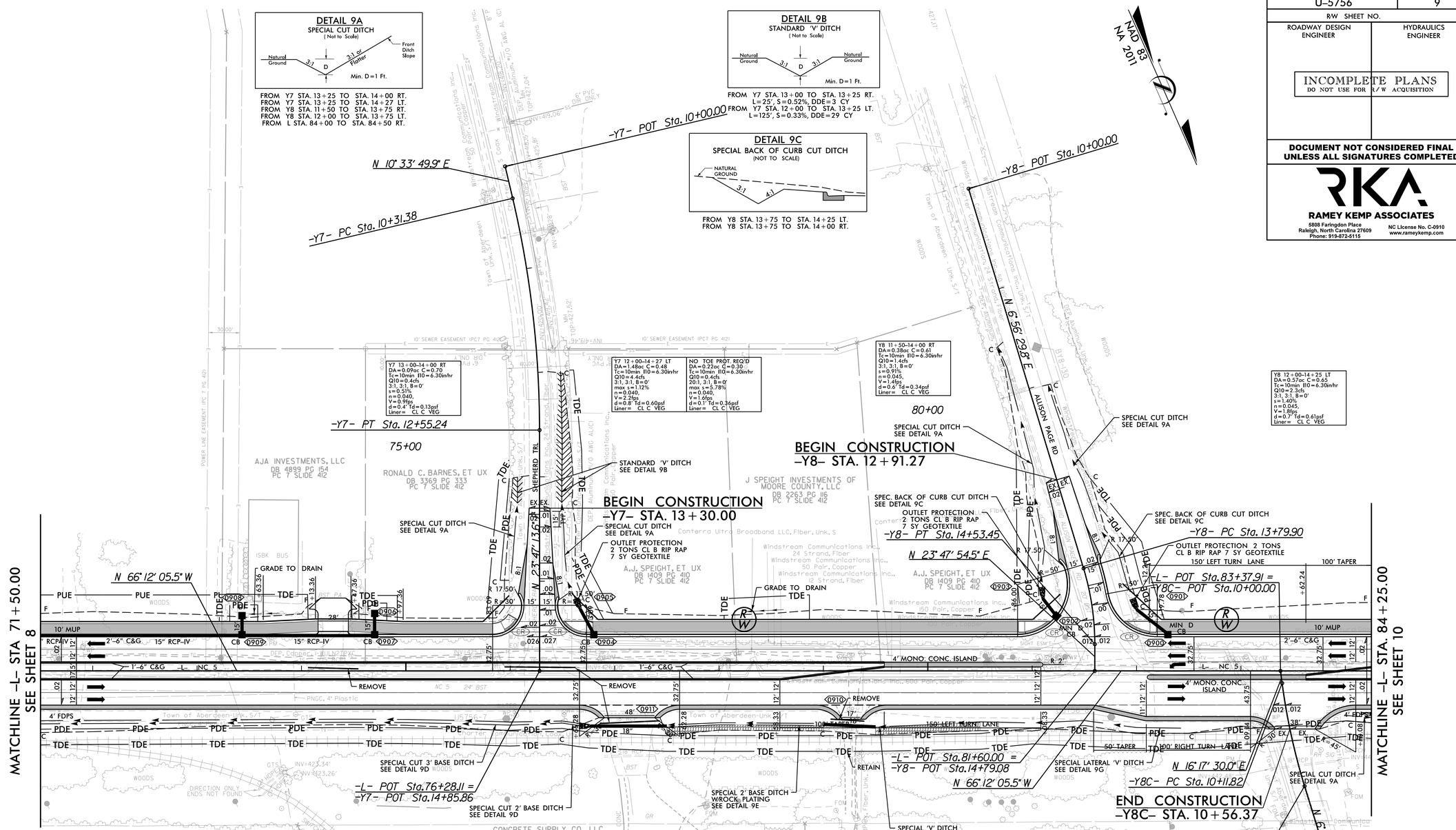



## DETAIL 9A
SPECIAL CUT DITCH
( Not to Scale)




FROM Y7 STA. 13+25 TO STA. 14+00 RT.
FROM Y7 STA. 13+25 TO STA. 14+27 LT.
FROM Y8 STA. 12+00 TO STA. 13+75 LT.
FROM L STA. 84+00 TO STA. 84+50 RT.

## DETAIL 9B
STANDARD 'V' DITCH
( Not to Scale)



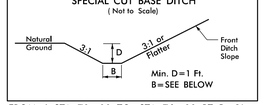

FROM Y7 STA. 13+00 TO STA. 13+25 RT.
L=25', S=0.52%, DDE=3 CY
FROM Y7 STA. 12+00 TO STA. 13+25 LT.
L=125', S=0.33%, DDE=29 CY

## DETAIL 9C
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)



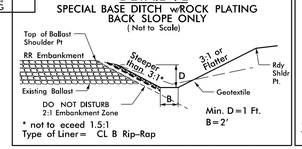

FROM Y8 STA. 13+75 TO STA. 14+25 LT.
FROM Y8 STA. 13+75 TO STA. 14+00 RT.

## DETAIL 9D
SPECIAL CUT BASE DITCH
( Not to Scale)



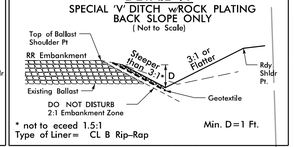

FROM L STA. 70+00 TO STA. 76+00 RT, B=3'
FROM L STA. 76+00 TO STA. 76+77 RT, B=2'

## DETAIL 9E
SPECIAL BASE DITCH W/ROCK PLATING BACK SLOPE ONLY
( Not to Scale)



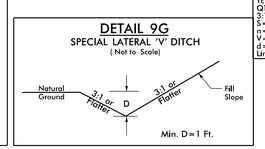

FROM L STA. 77+50 TO STA. 79+00 RT

## DETAIL 9F
SPECIAL 'V' DITCH W/ROCK PLATING BACK SLOPE ONLY
( Not to Scale)




FROM L STA. 79+50 TO STA. 82+50 RT

## DETAIL 9G
SPECIAL LATERAL 'V' DITCH
( Not to Scale)




FROM L STA. 80+50 TO STA. 82+50 RT

| -Y7- | -Y8- | -Y8C- |
|---|---|---|
| PI Sta 11+43.81 | PI Sta 14+16.94 | PI Sta 10+62.44 |
| △ = 13° 13' 23.7" (RT) | △ = 16° 51' 24.7" (RT) | △ = 9° 38' 38.2" (LT) |
| D = 5° 54' 24.4" | D = 22° 55' 05.9" | D = 9° 32' 57.5" |
| L = 223.87' | L = 73.55' | L = 100.99' |
| T = 112.43' | T = 37.04' | T = 50.62' |
| R = 970.00' | R = 250.00' | R = 600.00' |

FOR -L- PROFILE, SEE SHEET NO. 25

FOR -Y7- PROFILE, SEE SHEET NO. 34

FOR -Y8- PROFILE, SEE SHEET NO. 34

FOR -Y8C- PROFILE, SEE SHEET NO. 34

REVISIONS

8/17/99

9/23/2022
...\Proj\U5756_Rdy_psh09.dgn
User: hridgeway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 10 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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REVISIONS

8/17/99

## DETAIL 10A
SPECIAL BASE DITCH wROCK PLATING
FRONT AND BACK SLOPE
( Not to Scale)




* not to exceed 1.5:1
Type of Liner= CL B Rip-Rap
Min. D=1 Ft.
B=2 Ft.

FROM L STA. 94+15 TO STA. 95+36 LT

## DETAIL 10B
STANDARD 'V' DITCH wROCK PLATING
( Not to Scale)




* not to exceed 1.5:1
Type of Liner= CL B Rip-Rap
Min. D=1.5 Ft.

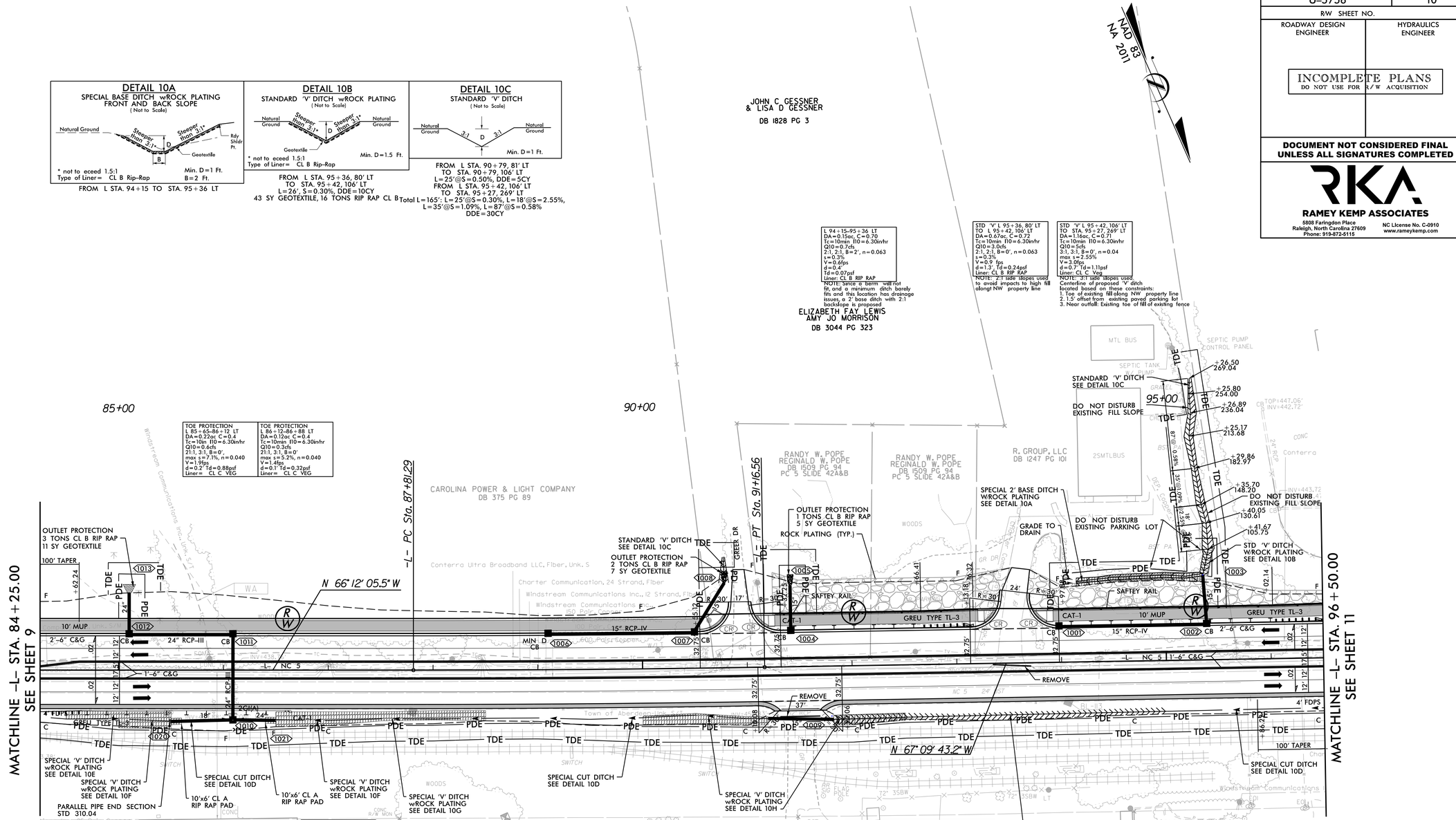
FROM L STA. 95+36, 80' LT
TO STA. 95+42, 106' LT
L=26', S=0.30%, DDE=10CY
43 SY GEOTEXTILE, 16 TONS RIP RAP CL B

## DETAIL 10C
STANDARD 'V' DITCH
( Not to Scale)




Min. D=1 Ft.

FROM L STA. 90+79, 81' LT
TO STA. 90+79, 106' LT
L=25'@S=0.50%, DDE=5CY
FROM L STA. 95+42, 106' LT
TO STA. 95+27, 269' LT
Total L=165': L=25'@S=0.30%, L=18'@S=2.55%,
L=35'@S=1.09%, L=87'@S=0.58%
DDE=30CY




| TOE PROTECTION | TOE PROTECTION |
|---|---|
| L 85+65-86+12 LT | L 86+12-86+88 LT |
| DA=0.22ac C=0.4 | DA=0.12ac C=0.4 |
| Tc=10in I10=6.30in/hr | Tc=10min I10=6.30in/hr |
| Q10=0.6cfs | Q10=0.3cfs |
| 2:1, 3:1, B=0', max s=7.1%, n=0.040 | 2:1, 3:1, B=0' max s=5.2%, n=0.040 |
| V=1.9fps | V=1.4fps |
| d=0.2' Td=0.88psf | d=0.1' Td=0.32psf |
| Liner= CL C VEG | Liner= CL C VEG |

| L 94+15-95+36 LT |
|---|
| DA=0.15ac, C=0.70 |
| Tc=10min I10=6.30in/hr |
| Q10=0.7cfs |
| 2:1, 2:1, B=2', n=0.063 |
| s=0.3% |
| V=0.6fps |
| d=0.4' |
| Td=0.07psf |
| Liner: CL B RIP RAP |

*NOTE: Since a berm will not fit, and a minimum ditch barely fits and this location has drainage issues, a 2' base ditch with 2:1 backslope is proposed

| STD 'V' L 95+36, 80' LT TO L 95+42, 106' LT |
|---|
| DA=0.67ac, C=0.72 |
| Tc=10min I10=6.30in/hr |
| Q10=3.0cfs |
| 2:1, 2:1, B=0', n=0.063 |
| s=0.3% |
| V=0.9' fps |
| d=1.3' Td=0.24psf |
| Liner: CL B RIP RAP |

*NOTE: 2:1 side slopes used to avoid impacts to high fill along NW property line

| STD 'V' L 95+42, 106' LT TO STA. 95+27, 269' LT |
|---|
| DA=1.16ac, C=0.71 |
| Tc=10min I10=6.30in/hr |
| Q10=5cfs |
| 3:1, 3:1, B=0', n=0.04 |
| max s=2.55% |
| V=3.0fps |
| d=0.7' Td=1.11psf |
| Liner: CL C Veg |

*NOTE: 3:1 side slopes used. Centerline of proposed 'V' ditch located based on these constraints:
1. Toe of existing fill along NW property line
2. 1.5' offset from existing paved parking lot
3. Near outfall: Existing toe of fill of existing fence

| L 84+00-86+09 RT |
|---|
| DA=0.38ac C=0.67 |
| Tc=10min I10=6.30in/hr |
| Q10=1.6cfs |
| 1.5:1, 2:1, B=0' |
| s=0.77% |
| n=0.063 |
| V=1.6fps |
| d=0.8' Td=0.38psf |
| Liner= CL B RIP RAP |

| L 84+00-86+09 RT RR |
|---|
| DA=0.38ac C=0.67 |
| Tc=10min I100=7.98in/hr |
| Q100=2.0cfs |
| 1.5:1, 2:1, B=0' |
| s=0.77% |
| n=0.063 |
| V=1.7fps |
| d=0.8' Td=0.38psf |
| Liner= CL B RIP RAP |

| L 86+09-88+50 RT |
|---|
| DA=1.85ac C=0.64 |
| Tc=11min I10=6.12in/hr |
| Q10=7cfs |
| 1.5:1, 2:1, B=0' |
| s=2.82% |
| n=0.056, |
| V=2.9fps |
| d=1.2' Td=2.11psf |
| Liner= CL B RIP RAP |

| L 86+09-88+50 RT RR |
|---|
| DA=1.85ac C=0.64 |
| Tc=11min I100=7.54in/hr |
| Q100=9cfs |
| 1.5:1, 2:1, B=0' |
| s=2.82% |
| n=0.056, |
| V=3.0fps |
| d=1.3' Td=2.29psf |
| Liner= CL B RIP RAP |

| L 88+50-92+00 RT |
|---|
| DA=1.85ac C=0.64 |
| Tc=10min I10=6.30in/hr |
| Q10=7cfs |
| 3:1, 3:1, B=0' |
| s=1.30% |
| n=0.040, |
| V=2.5fps |
| d=1.0' Td=0.81psf |
| Liner= CL C VEG |

| L 88+50-92+00 RR |
|---|
| DA=1.85ac C=0.64 |
| Tc=10min I100=7.98in/hr |
| Q100=9cfs |
| 3:1, 3:1, B=0' |
| s=1.30% |
| n=0.040, |
| V=2.7fps |
| d=1.1' Td=0.89psf |
| Liner= CL C VEG |

| L 92+00-92+50 RT |
|---|
| DA=1.05ac C=0.63 |
| Tc=10min I10=6.30in/hr |
| Q10=4.2cfs |
| 3:1, 3:1, B=0', |
| s=3.40% |
| n=0.063, |
| V=2.3fps |
| d=0.8' Td=1.70psf |
| Liner= CL B RIP RAP |

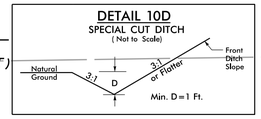
| L 92+00-92+50 RR |
|---|
| DA=1.05ac C=0.63 |
| Tc=10min I100=7.98in/hr |
| Q10=5.3cfs |
| 3:1, 3:1, B=0', |
| s=3.40% |
| n=0.063, |
| V=2.5fps |
| d=0.9' Td=1.91psf |
| Liner= CL B RIP RAP |

| L 92+50-99+00 RT |
|---|
| DA=1.05ac C=0.63 |
| Tc=10min I10=6.30in/hr |
| Q10=4.2cfs |
| 3:1, 3:1, B=0', |
| s=1.20% |
| n=0.040, |
| V=2.1fps |
| d=0.8' Td=0.60psf |
| Liner= CL C VEG |

| L 92+50-99+00 RT RR |
|---|
| DA=1.05ac C=0.63 |
| Tc=10min I100=7.98in/hr |
| Q10=5.3cfs |
| 3:1, 3:1, B=0', |
| s=1.20% |
| n=0.040, |
| V=2.2fps |
| d=0.8' Td=0.60psf |
| Liner= CL C VEG |

-L-
PI Sta 89+48.93
Δ = 0° 57' 37.7" (LT)
D = 0° 17' 11.3"
L = 335.27'
T = 167.64'
R = 20,000.00'
e = NC

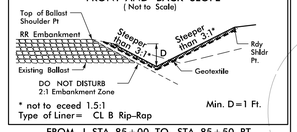
## DETAIL 10D
SPECIAL CUT DITCH
( Not to Scale)




Min. D=1 Ft.

FROM L STA. 84+00 TO STA. 84+50 RT.
FROM L STA. 88+50 TO STA. 90+00 RT.
FROM L STA. 95+00 TO STA. 99+00 RT.

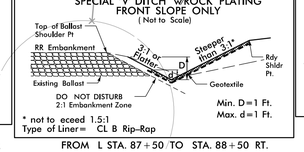
## DETAIL 10F
SPECIAL 'V' DITCH wROCK PLATING
FRONT AND BACK SLOPE
( Not to Scale)




* not to exceed 1.5:1
Type of Liner= CL B Rip-Rap
Min. D=1 Ft.

FROM L STA. 85+00 TO STA. 85+50 RT.
FROM L STA. 86+50 TO STA. 87+50 RT.

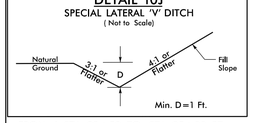
## DETAIL 10G
SPECIAL 'V' DITCH wROCK PLATING
FRONT SLOPE ONLY
( Not to Scale)




* not to exceed 1.5:1
Type of Liner= CL B Rip-Rap
Min. D=1 Ft.
Max. d=1 Ft.

FROM L STA. 87+50 TO STA. 88+50 RT.

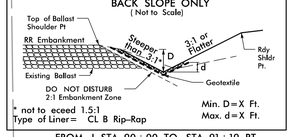
## DETAIL 10J
SPECIAL LATERAL 'V' DITCH
( Not to Scale)




Min. D=1 Ft.

FROM L STA. 92+50 TO STA. 95+00 RT.

## DETAIL 10H
SPECIAL 'V' DITCH wROCK PLATING
BACK SLOPE ONLY
( Not to Scale)




* not to exceed 1.5:1
Type of Liner= CL B Rip-Rap
Min. D=X Ft.
Max. d=X Ft.

FROM L STA. 90+00 TO STA. 91+19 RT.
FROM L STA. 91+82 TO STA. 92+50 RT.

FOR -L- PROFILE, SEE SHEET NO. 26

9/23/2022
...\Proj\U5756_Rdy_psh10.dgn
User: bridgeway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 11 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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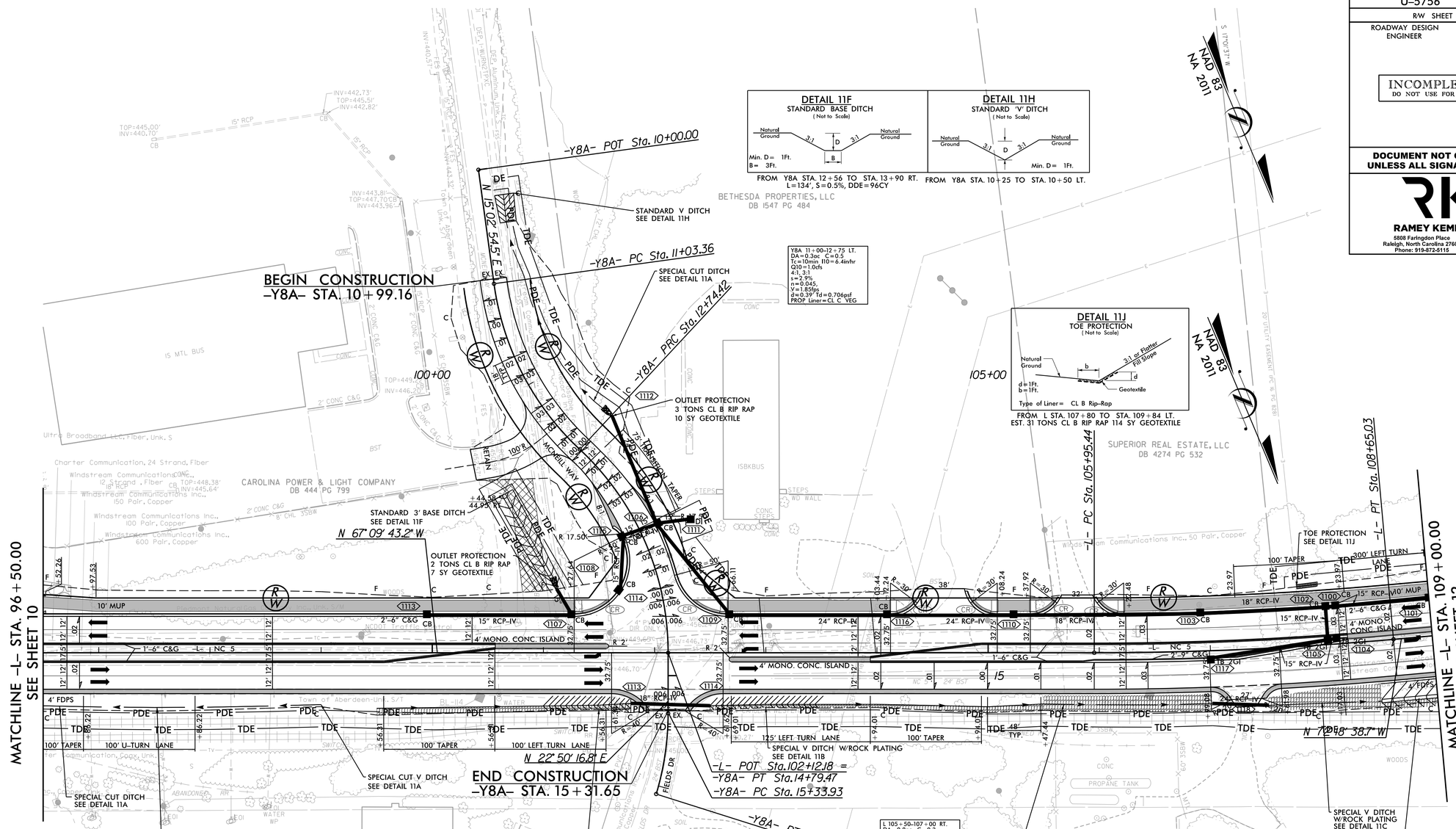
www.rameykemp.com


REVISIONS

8/17/99




**DETAIL 11F**
STANDARD BASE DITCH
( Not to Scale)




FROM Y8A STA. 12+56 TO STA. 13+90 RT.
L=134', S=0.5%, DDE=96CY

**DETAIL 11H**
STANDARD 'V' DITCH
( Not to Scale)




FROM Y8A STA. 10+25 TO STA. 10+50 LT.

**DETAIL 11J**
TOE PROTECTION
( Not to Scale)




FROM L STA. 107+80 TO STA. 109+84 LT.
EST. 31 TONS CL B RIP RAP 114 SY GEOTEXTILE

Y8A 11+00-12+75 LT.
DA=0.3ac C=0.5
Tc=10min I10=6.4in/hr
Q10=1.0cfs
4:1, 3:1
s=2.9%
n=0.045,
V=1.85fps
d=0.39' Td=0.706psf
PROP Liner=CL C VEG

L 99+50-104+50 RT.
DA=0.3ac C=0.5
Tc=10min I10=6.4in/hr
Q10=1.0cfs
3:1, 2:1
s=0.5%
n=0.045,
V=1.0fps
d=0.63' Td=0.197psf
PROP Liner=CL C VEG

L 107+50-108+00 RT.
DA=1.1ac C=0.5
Tc=10min I10=6.4in/hr
Q10=3.52cfs
1.5:1, 1.5:1, B=3',
s=0.5%
n=0.045,
V=1.51fps
d=1.3' Td=0.39psf
PROP Liner=CL C VEG

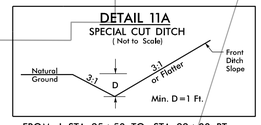
L 105+50-107+00 RT.
DA=0.8ac C=0.3
Tc=10min I10=6.4in/hr
Q10=1.54cfs
2:1, 2:1,
s=0.5%
n=0.045,
V=1.18fps
d=0.81' Td=0.253psf
PROP Liner=CL C VEG

L 108+00-108+50 RT.
DA=1.2ac C=0.5
Tc=10min I10=6.4in/hr
Q10=3.84cfs
3:1, 2:1
s=0.5%
n=0.045,
V=1.43fps
d=1.0' Td=0.312psf
PROP Liner=CL C VEG

L 108+50-109+50 RT.
DA=1.4ac C=0.5
Tc=10min I10=6.4in/hr
Q10=4.5cfs
3:1, 2:1, B=3',
s=0.5%
n=0.045,
V=1.42fps
d=0.68' Td=0.211psf
PROP Liner=CL C VEG

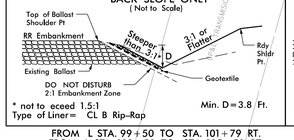
L 107+50-108+00 RT.
DA=1.0ac C=0.5
Tc=10min I10=6.4in/hr
Q10=3.3cfs
2:1, 2:1
s=0.5%
n=0.045,
V=1.43fps
d=1.08' Td=0.337psf
PROP Liner=CL C VEG

**DETAIL 11A**
SPECIAL CUT DITCH
( Not to Scale)



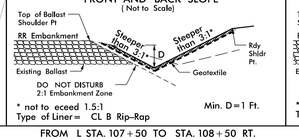

FROM L STA. 95+50 TO STA. 99+00 RT.
FROM Y8A STA. 10+50 TO STA. 12+75 LT.

**DETAIL 11B**
SPECIAL 'V' DITCH wROCK PLATING
BACK SLOPE ONLY
( Not to Scale)



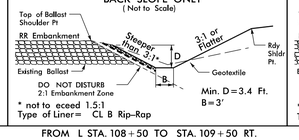

FROM L STA. 99+50 TO STA. 101+79 RT.
FROM L STA. 102+50 TO STA. 105+50 RT.

**DETAIL 11C**
SPECIAL 'V' DITCH wROCK PLATING
FRONT AND BACK SLOPE
( Not to Scale)



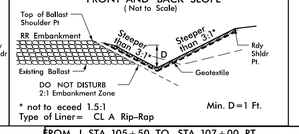

FROM L STA. 107+50 TO STA. 108+50 RT.

**DETAIL 11D**
SPECIAL BASE DITCH wROCK PLATING
BACK SLOPE ONLY
( Not to Scale)




FROM L STA. 108+50 TO STA. 109+50 RT.

**DETAIL 11E**
SPECIAL 'V' DITCH wROCK PLATING
FRONT AND BACK SLOPE
( Not to Scale)




FROM L STA. 105+50 TO STA. 107+00 RT.

| -L- | -Y8A- | | |
|---|---|---|---|
| PI Sta 107+30.33 | PI Sta 11+92.39 | PI Sta 13+83.11 | PI Sta 15+70.97 |
| Δ = 5° 08' 55.5" (LT) | Δ = 39° 12' 14.6" (LT) | Δ = 46° 59' 36.9" (RT) | Δ = 16° 51' 21.4" (RT) |
| D = 1° 54' 35.5" | D = 22° 55' 05.9" | D = 22° 55' 05.9" | D = 22° 55' 05.9" |
| L = 269.59' | L = 171.06' | L = 205.05' | L = 73.55' |
| T = 134.89' | T = 89.03' | T = 108.69' | T = 37.04' |
| R = 3,000.00' | R = 250.00' | R = 250.00' | R = 250.00' |
| e = 0.030 | e = 0.030 | e = 0.030 | |
| Runoff = 144' | Runoff = 54' | Runoff = 54' | |


FOR -L- PROFILE, SEE SHEET NO. 26

FOR -Y8A- PROFILE, SEE SHEET NO. 34


9/23/2022
...\Proj\U5756_Rdy_psh11.dgn
User: bridgeway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 12 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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Raleigh, North Carolina 27609
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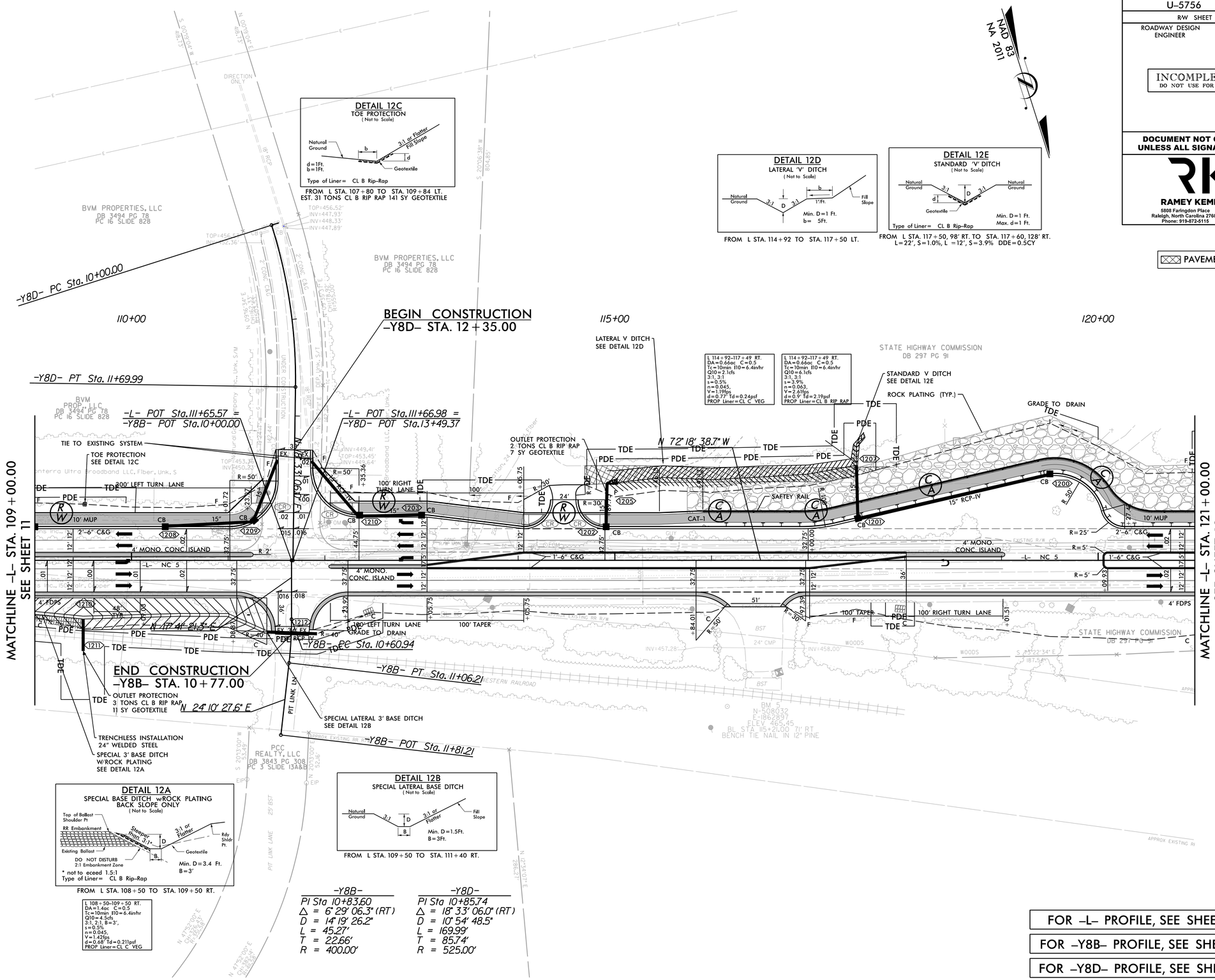
www.rameykemp.com


PAVEMENT REMOVAL




L 114+92-117+49 RT.
DA=0.66ac C=0.5
Tc=10min I10=6.4in/hr
Q10=2.1cfs
3:1, 3:1
s=0.5%
n=0.045,
V=1.19fps
d=0.77' Td=0.24psf
PROP Liner=CL C VEG

L 114+92-117+49 RT.
DA=0.66ac C=0.5
Tc=10min I10=6.4in/hr
Q10=6.1cfs
3:1, 3:1
s=3.9%
n=0.063,
V=2.61fps
d=0.9' Td=2.19psf
PROP Liner=CL B RIP RAP

### DETAIL 12C
TOE PROTECTION
( Not to Scale)




d=1Ft.
b=1Ft.
Type of Liner= CL B Rip-Rap

FROM L STA. 107+80 TO STA. 109+84 LT.
EST. 31 TONS CL B RIP RAP 141 SY GEOTEXTILE

### DETAIL 12D
LATERAL 'V' DITCH
( Not to Scale)




Min. D=1 Ft.
b= 5Ft.

FROM L STA. 114+92 TO STA. 117+50 LT.

### DETAIL 12E
STANDARD 'V' DITCH
( Not to Scale)




Type of Liner= CL B Rip-Rap
Min. D=1 Ft.
Max. d=1 Ft.

FROM L STA. 117+50, 98' RT. TO STA. 117+60, 128' RT.
L=22', S=1.0%, L =12', S=3.9% DDE=0.5CY

### DETAIL 12A
SPECIAL BASE DITCH w/ROCK PLATING
BACK SLOPE ONLY
( Not to Scale)




Min. D=3.4 Ft.
B=3'
* not to exceed 1.5:1
Type of Liner= CL B Rip-Rap

FROM L STA. 108+50 TO STA. 109+50 RT.

L 108+50-109+50 RT.
DA=1.4ac C=0.5
Tc=10min I10=6.4in/hr
Q10=4.5cfs
3:1, 2:1, B=3',
s=0.5%
n=0.045,
V=1.42fps
d=0.68' Td=0.211psf
PROP Liner=CL C VEG

### DETAIL 12B
SPECIAL LATERAL BASE DITCH
( Not to Scale)




Min. D=1.5Ft.
B=3Ft.

FROM L STA. 109+50 TO STA. 111+40 RT.

| -Y8B- | -Y8D- |
|---|---|
| PI Sta 10+83.60 | PI Sta 10+85.74 |
| △ = 6° 29' 06.3" (RT) | △ = 18° 33' 06.0" (RT) |
| D = 14° 19' 26.2" | D = 10° 54' 48.5" |
| L = 45.27' | L = 169.99' |
| T = 22.66' | T = 85.74' |
| R = 400.00' | R = 525.00' |


FOR -L- PROFILE, SEE SHEET NO. 27
FOR -Y8B- PROFILE, SEE SHEET NO. 34
FOR -Y8D- PROFILE, SEE SHEET NO. 34


REVISIONS

8/17/99

9/23/2022
Proj:U5756_Rdy_psh12.dgn
User:hridgeway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 13 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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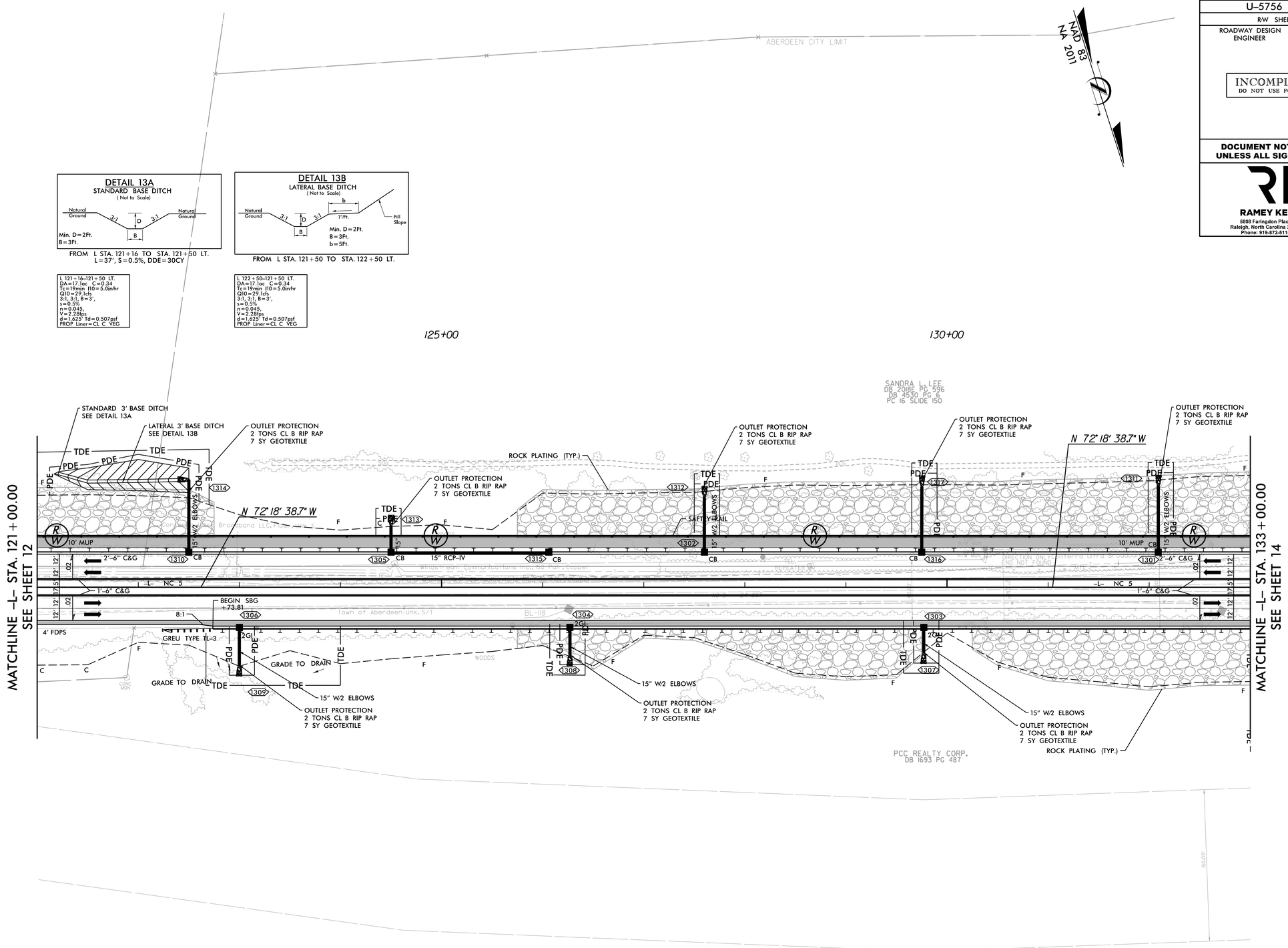
REVISIONS

8/17/99




FOR -L- PROFILE, SEE SHEET NO. 27

9/23/2022
...\Proj\U5756_Rdy_psh13.dgn
User: hridgway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 14 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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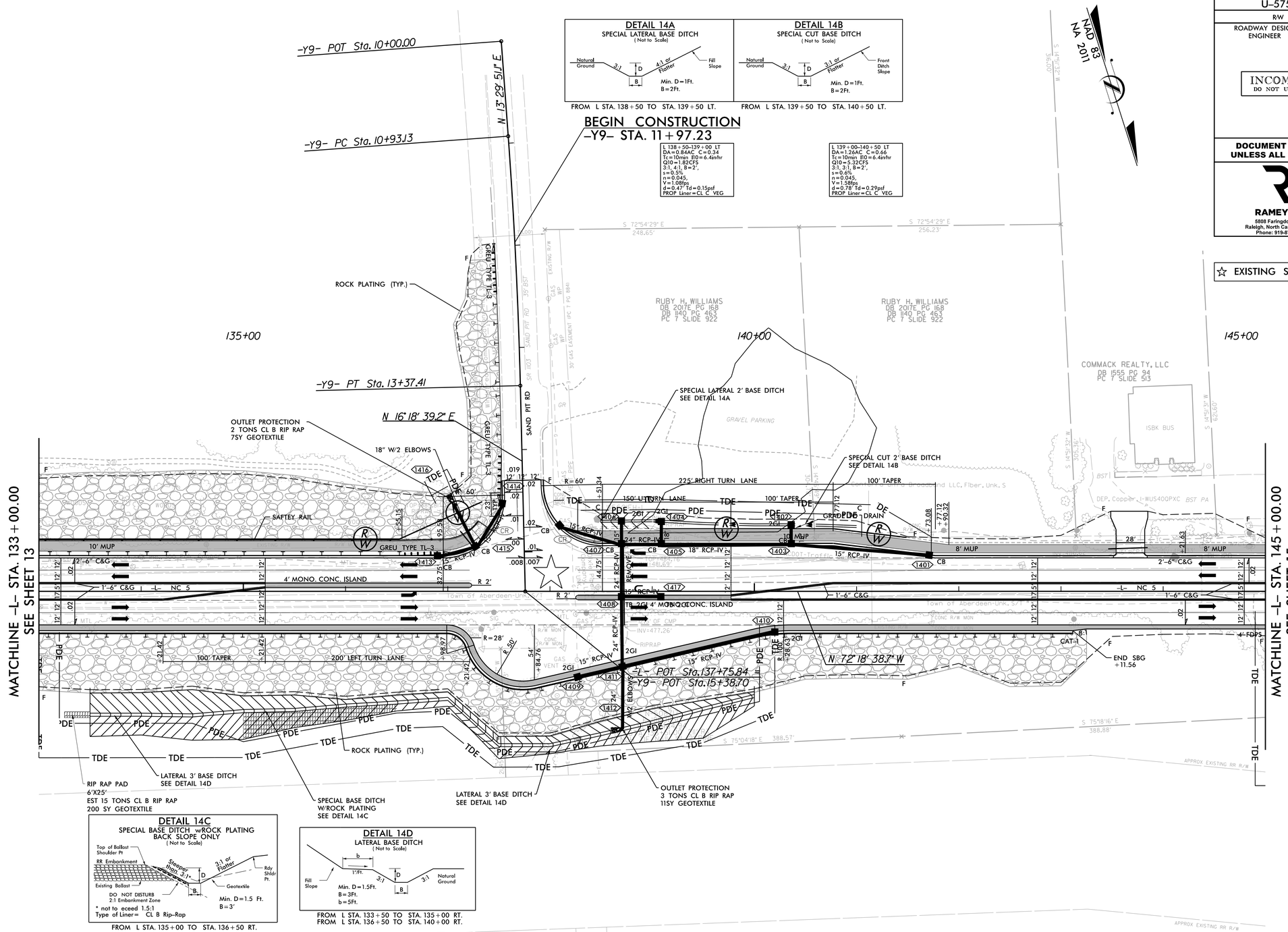
☆ EXISTING SIGNAL TO BE UPGRADED




## DETAIL 14A
SPECIAL LATERAL BASE DITCH
( Not to Scale)




FROM L STA. 138+50 TO STA. 139+50 LT.

## DETAIL 14B
SPECIAL CUT BASE DITCH
( Not to Scale)




FROM L STA. 139+50 TO STA. 140+50 LT.

L 138+50-139+00 LT
DA=0.84AC C=0.34
Tc=10min I10=6.4in/hr
Q10=1.82CFS
3:1, 4:1, B=2',
s=0.5%
n=0.045,
V=1.08fps
d=0.47' Td=0.15psf
PROP Liner=CL C VEG

L 139+00-140+50 LT
DA=1.26AC C=0.66
Tc=10min I10=6.4in/hr
Q10=5.32CFS
3:1, 3:1, B=2',
s=0.6%
n=0.045,
V=1.58fps
d=0.78' Td=0.29psf
PROP Liner=CL C VEG

## DETAIL 14C
SPECIAL BASE DITCH w/ROCK PLATING
BACK SLOPE ONLY
( Not to Scale)




* not to exceed 1.5:1
Type of Liner= CL B Rip-Rap

FROM L STA. 135+00 TO STA. 136+50 RT.

## DETAIL 14D
LATERAL BASE DITCH
( Not to Scale)




FROM L STA. 133+50 TO STA. 135+00 RT.
FROM L STA. 136+50 TO STA. 140+00 RT.

L 133+50-140+00 RT
DA=19AC, C=0.255
Tc=30min I10=3.9in/hr
Q10=19CFS
3:1, 3:1, B=3',
s=0.5%
n=0.045,
V=2.04fps
d=1.3' Td=0.41psf
PROP Liner=CL C VEG

-Y9-
PI Sta 12+15.29
Δ = 2° 48' 48.1" (RT)
D = 1° 09' 06.0"
L = 244.29'
T = 122.17'
R = 4,975.00'

FOR -L- PROFILE, SEE SHEET NO. 28

FOR -Y9- PROFILE, SEE SHEET NO. 34

REVISIONS

8/17/99

9/23/2022
...\Proj\U5756_Rdy_psh14.dgn
User: hridgway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 15 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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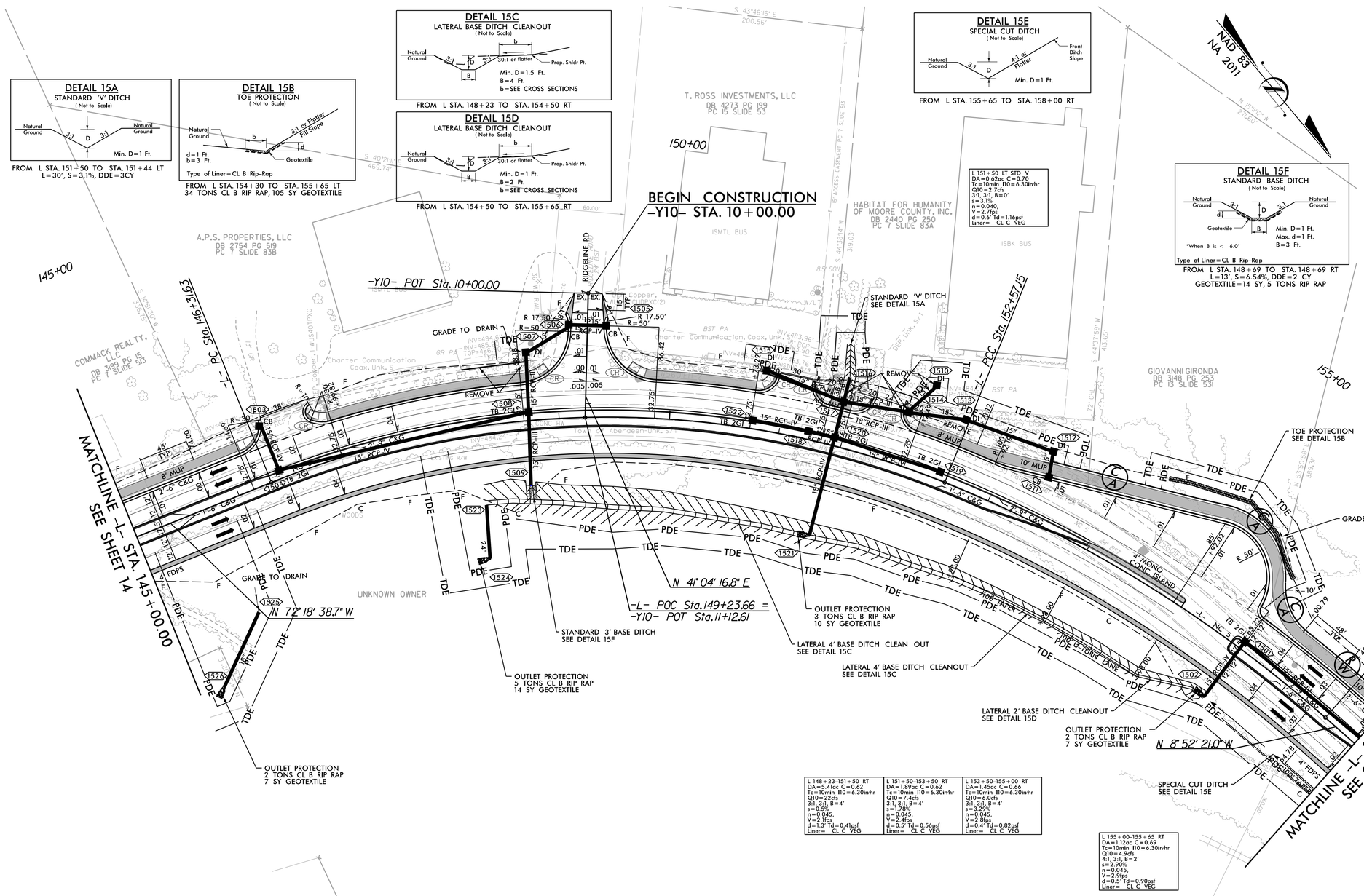


-L-

| PI Sta 149+60.70 | PI Sta 154+62.95 |
|---|---|
| Δ = 43° 58' 31.1" (RT) | Δ = 19° 27' 46.6" (RT) |
| D = 7° 01' 48.6" | D = 4° 46' 28.7" |
| L = 625.52' | L = 407.63' |
| T = 329.08' | T = 205.80' |
| R = 815.00' * | R = 1,200.00' |
| e = 0.040 | e = 0.040 |
| Runoff = 180' | Runoff = 192' |
| DS = 45 MPH | |

*DESIGN EXCEPTION REQUIRED

FOR -L- PROFILE, SEE SHEET NO. 28

FOR -Y10- PROFILE, SEE SHEET NO. 35

REVISIONS

8/17/99

9/23/2022
...\Proj\U5756_Rdy_psh15.dgn
User: hridgeway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 16 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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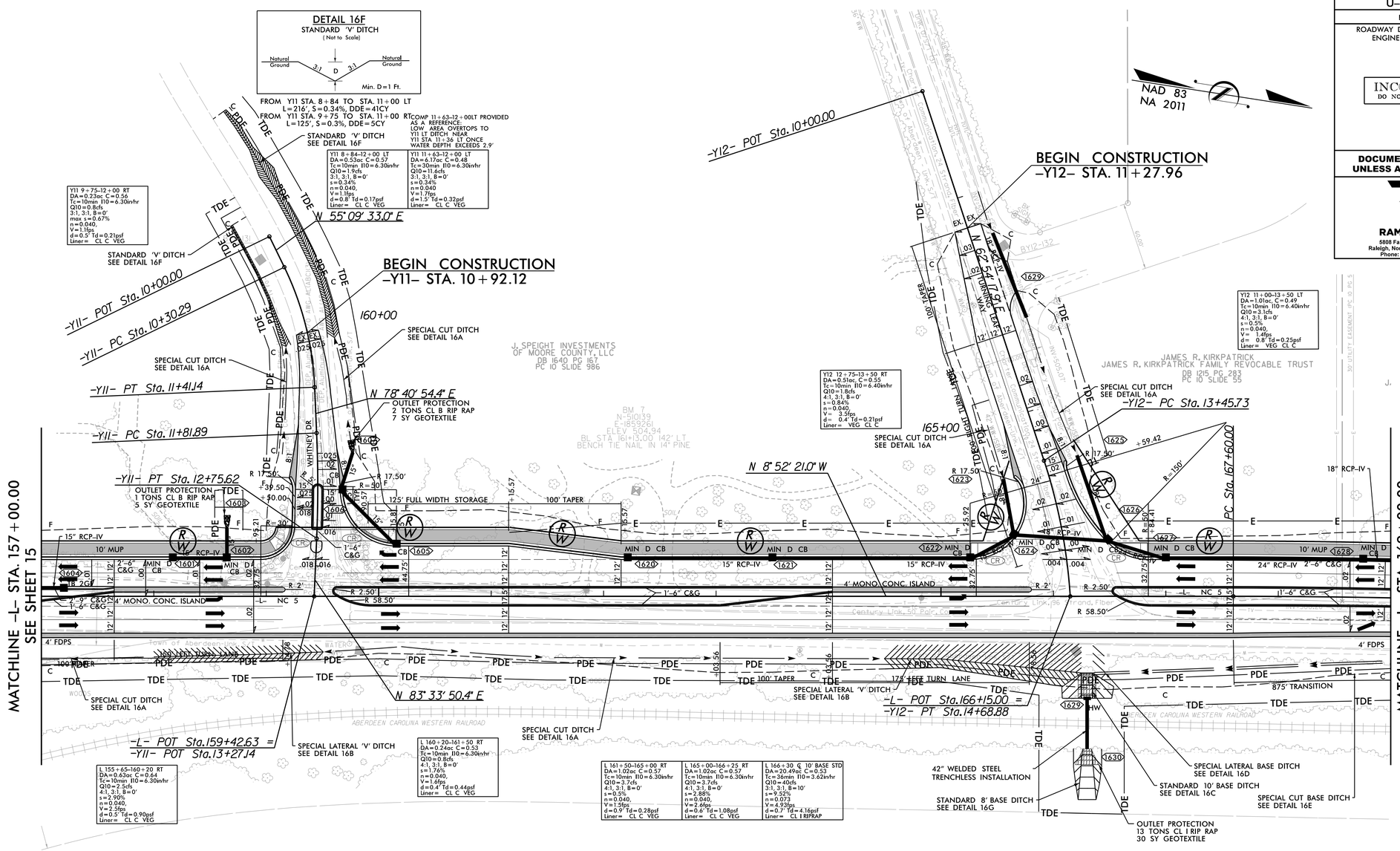
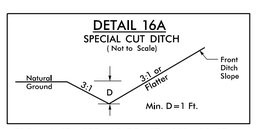
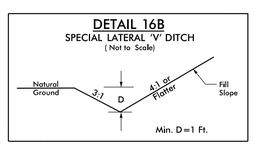
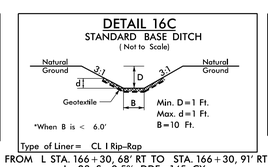


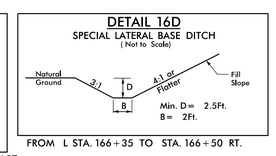

FROM L STA. 155+65 TO STA. 158+00 RT
FROM L STA. 159+50 TO STA. 164+50 RT
FROM L STA. 166+50 TO STA. 170+00 RT
FROM Y11 STA. 11+00 TO STA. 12+00 LT
FROM Y11 STA. 11+00 TO STA. 12+00 RT
FROM Y12 STA. 11+00 TO STA. 13+50 LT
FROM Y12 STA. 13+00 TO STA. 13+50 RT



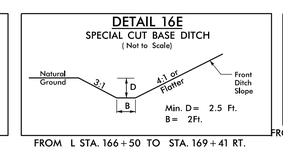

FROM L STA. 158+00 TO STA. 159+50 RT
FROM L STA. 164+50 TO STA. 166+25 RT



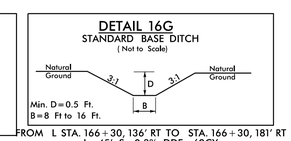

FROM L STA. 166+30, 68' RT TO STA. 166+30, 91' RT
L=23, S=9.5%, DDE=145 CY,
33 TONS CL I RIP RAP, 56 SY GEOTEXTILE




FROM L STA. 166+35 TO STA. 166+50 RT.




FROM L STA. 166+50 TO STA. 169+41 RT.




FROM L STA. 166+30, 136' RT TO STA. 166+30, 181' RT
L=45', S=0.3%, DDE=62CY

**-Y11-**

PI Sta 10+86.51
Δ = 23° 31' 21.5" (RT)
D = 21° 13' 14.4"
L = 110.85'
T = 56.22'
R = 270.00'

PI Sta 12+28.78
Δ = 4° 52' 55.9" (RT)
D = 5° 12' 31.3"
L = 93.73'
T = 46.89'
R = 1,100.00'

**-Y12-**

PI Sta 14+07.64
Δ = 14° 32' 51.5" (RT)
D = 11° 48' 48.8"
L = 123.14'
T = 61.90'
R = 485.00'

**-L-**

PI Sta 169+28.11
Δ = 2° 40' 03.4" (RT)
D = 0° 47' 36.9"
L = 336.15'
T = 168.11'
R = 7,220.00'
e = NC

L 166+35-169+40 RT
DA=24.1ac C=0.4
Tc=36min I10=3.6in/hr
Q10=28.7cfs
3:1, 4:1, 2' base
s=0.5%
n=0.045,
V=2.2fps
d=2.0' Td=0.62psf
PROP Liner=CL C VEG

FOR -L- PROFILE, SEE SHEET NO. 29

FOR -Y11- PROFILE, SEE SHEET NO. 35

FOR -Y12- PROFILE, SEE SHEET NO. 35

REVISIONS

8/17/99

9/23/2022
Proj:U5756_Rdy_psh16.dgn
User:hridgeway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 17 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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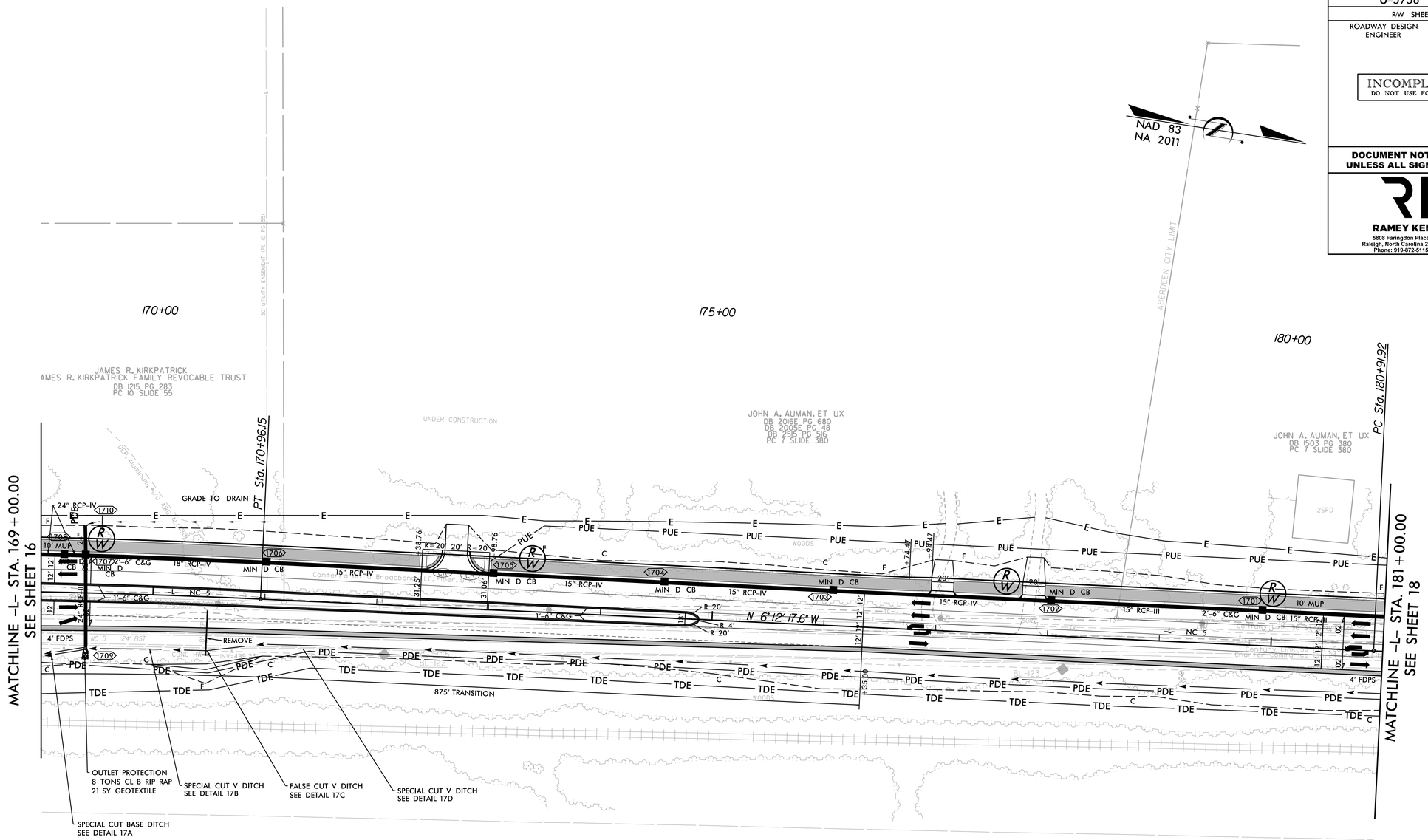
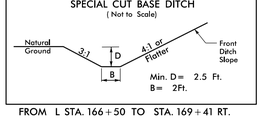


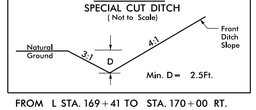

## DETAIL 17A
SPECIAL CUT BASE DITCH
( Not to Scale)




FROM L STA. 166+50 TO STA. 169+41 RT.

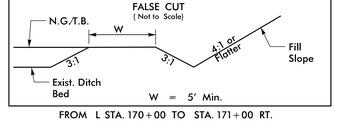
L 166+35-169+40 RT.
DA=24.1ac C=0.4
Tc=36min I10=3.6in/hr
Q10=28.7cfs
3:1, 4:1, 2' base
s=0.5%
n=0.045,
V=2.2fps
d=2.0' Td=0.62psf
PROP Liner=CL C VEG

## DETAIL 17B
SPECIAL CUT DITCH
( Not to Scale)




FROM L STA. 169+41 TO STA. 170+00 RT.

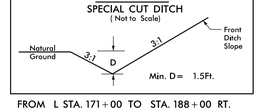
## DETAIL 17C
FALSE CUT
( Not to Scale)




FROM L STA. 170+00 TO STA. 171+00 RT.

L 169+40-188+50 RT.
DA=4.4ac C=0.4
Tc=10min I10=3.6in/hr
Q10=7.03cfs
2:1, 3:1
s=1.2%
n=0.045,
V=2.24fps
d=1.025' Td=0.768psf
PROP Liner=CL C VEG

## DETAIL 17D
SPECIAL CUT DITCH
( Not to Scale)




FROM L STA. 171+00 TO STA. 188+00 RT.

-L-
PI Sta 169+28.11
Δ = 2° 40' 03.4" (RT)
D = 0° 47' 36.9"
L = 336.15'
T = 168.11'
R = 7,220.00'
e = NC

FOR -L- PROFILE, SEE SHEET NO. 29

REVISIONS

8/17/99

9/23/2022
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User:hridgeway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 18 |
| R/W SHEET NO. | |
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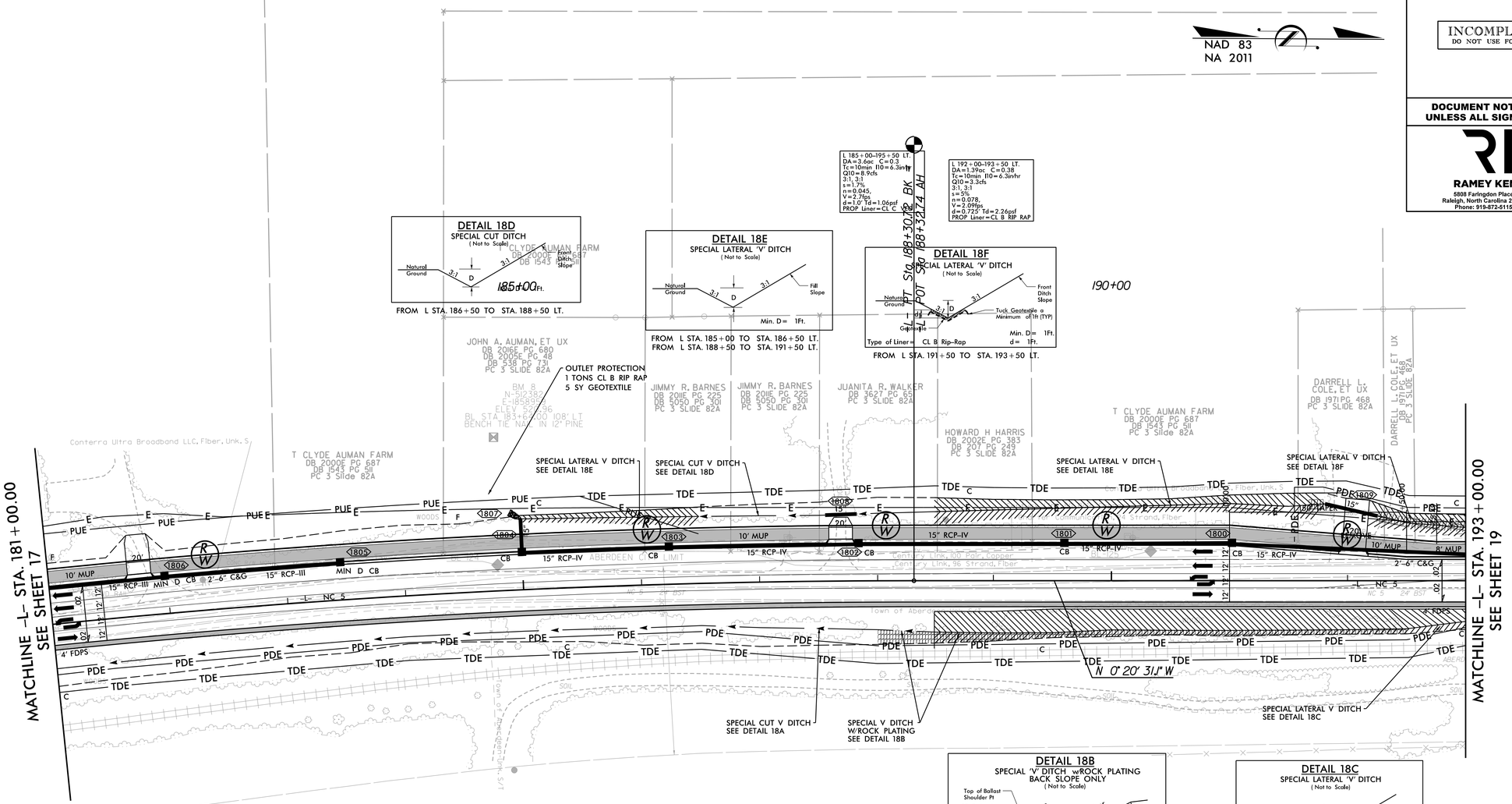


-L-
PI Sta 184+61.64
△ = 5° 51' 46.4" (RT)
D = 0° 47' 36.9"
L = 738.80'
T = 369.72'
R = 7,220.00'
e = NC

FOR -L- PROFILE, SEE SHEET NO. 30

9/23/2022
\\Pr.gj\U5756_Rdy_psh18.dgn
User: hrridgeway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 19 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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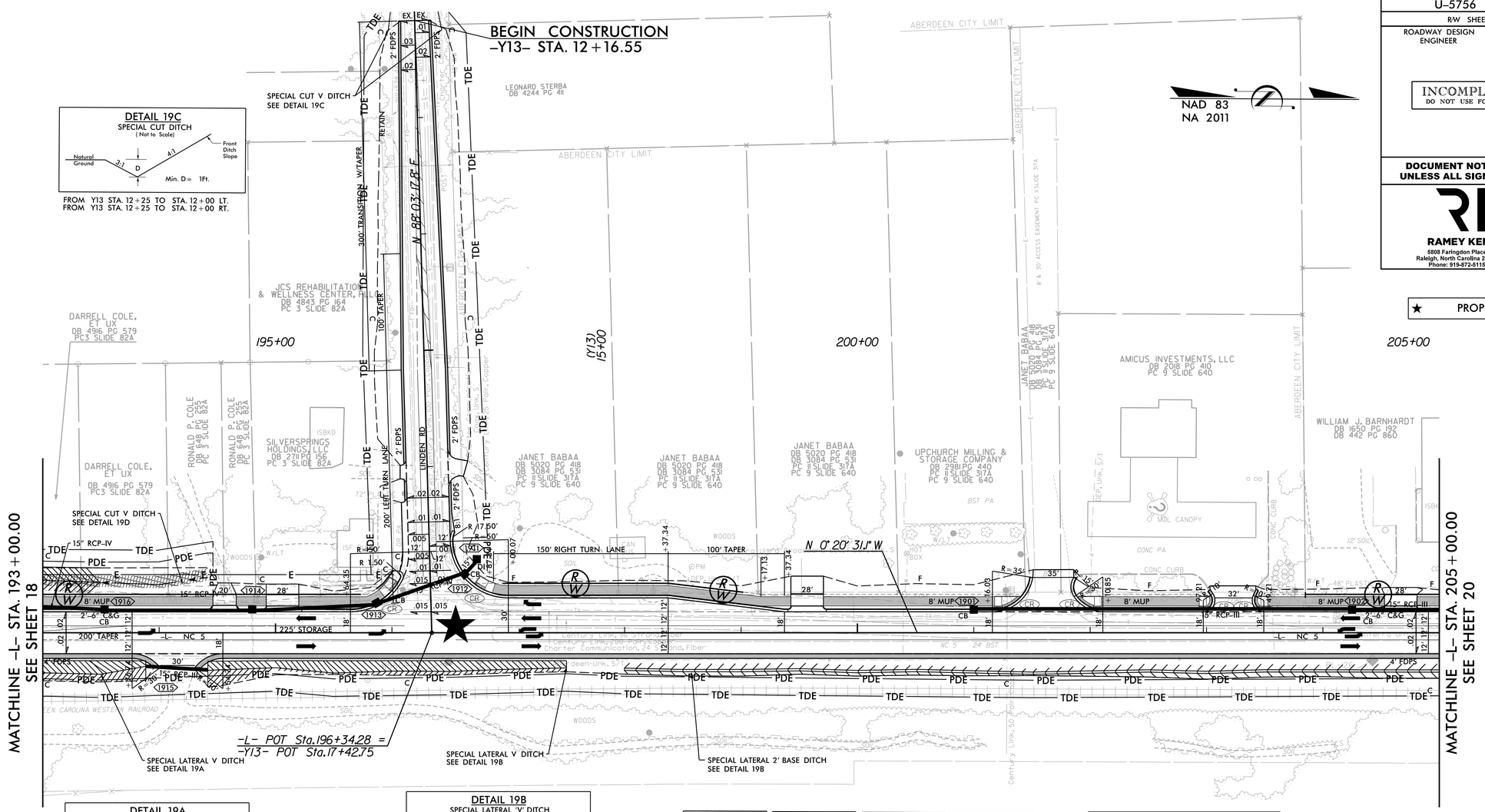
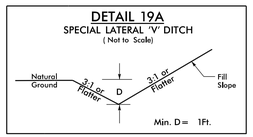
★ PROPOSED SIGNAL



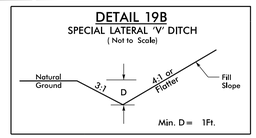




FROM Y13 STA. 12+25 TO STA. 12+00 LT.
FROM Y13 STA. 12+25 TO STA. 12+00 RT.




FROM L STA. 188+50 TO STA. 193+88 RT.




FROM L STA. 194+42 TO STA. 197+50 RT.

| -L- 198+00RT-199+50RT |
|---|
| DA=1.139ac, C=0.502 |
| Tc=10min I10=6.30in/hr |
| Q10=3.6cfs |
| 4:1, 3:1, B=2', min d=1.0' |
| max s=0.97% |
| n=0.045, |
| V= 1.65fps |
| d= 0.55' Td=0.33psf |
| Liner= VEG CL C |

| -L- 199+50RT-201+50RT |
|---|
| DA=1.139ac, C=0.502 |
| Tc=10min I10=6.30in/hr |
| Q10=3.6cfs |
| 4:1, 3:1, B=2', min d=1.0' |
| max s=2.12% |
| n=0.045, |
| V= 2.19fps |
| d= 0.46' Td=0.61psf |
| Liner= VEG CL C |

| -L- 201+50RT-203+50RT |
|---|
| DA=1.139ac, C=0.502 |
| Tc=10min I10=6.30in/hr |
| Q10=3.6cfs |
| 4:1, 3:1, B=2', min d=1.0' |
| max s=0.68% |
| n=0.045, |
| V= 1.45fps |
| d= 0.60' Td=0.25psf |
| Liner= VEG CL C |

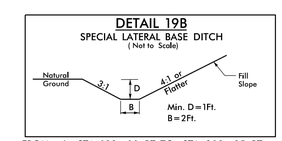
| -L- 203+50RT-208+95RT |
|---|
| DA=1.139ac, C=0.502 |
| Tc=10min I10=6.30in/hr |
| Q10=3.6cfs |
| 4:1, 3:1, B=2', min d=1.0' |
| max s=1.37% |
| n=0.045, |
| V= 1.87fps |
| d= 0.51' Td=0.44psf |
| Liner= VEG CL C |

| -L- 198+00RT-199+50RT |
|---|
| DA=1.139ac, C=0.502 |
| Tc=10min I100=7.8in/hr |
| Q100=4.5cfs |
| 4:1, 3:1, B=2', min d=1.0' |
| max s=0.97% |
| n=0.045, |
| V= 1.75fps |
| d= 0.60' Td=0.36psf |
| Liner= VEG CL C |

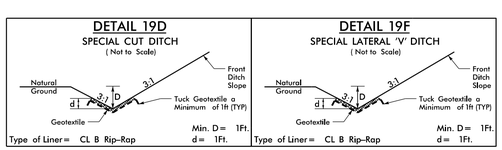
| -L- 199+50RT-201+50RT |
|---|
| DA=1.139ac, C=0.502 |
| Tc=10min I100=7.8in/hr |
| Q100=4.5cfs |
| 4:1, 3:1, B=2', min d=1.0' |
| max s=2.12% |
| n=0.045, |
| V= 2.34fps |
| d= 0.50' Td=0.66psf |
| Liner= VEG CL C |

| -L- 201+50RT-203+50RT |
|---|
| DA=1.139ac, C=0.502 |
| Tc=10min I100=7.8in/hr |
| Q100=4.5cfs |
| 4:1, 3:1, B=2', min d=1.0' |
| max s=0.68% |
| n=0.045, |
| V= 1.54fps |
| d= 0.70' Td=0.30psf |
| Liner= VEG CL C |

| -L- 203+50RT-208+95RT |
|---|
| DA=1.139ac, C=0.502 |
| Tc=10min I100=7.8in/hr |
| Q100=4.5cfs |
| 4:1, 3:1, B=2', min d=1.0' |
| max s=1.37% |
| n=0.045, |
| V= 1.99fps |
| d= 0.60' Td=0.51psf |
| Liner= VEG CL C |




FROM -L- STA. 198+00 RT TO STA. 208+95 RT




FROM L STA. 193+50 TO STA. 194+50 LT.




FROM L STA. 191+50 TO STA. 193+50 LT.

| L 188+50-193+88 RT. | L 194+42-197+50 RT. |
|---|---|
| DA=1.3ac C=0.6 | DA=0.40ac C=0.59 |
| Tc=10min I10=6.3in/hr | Tc=10min I10=6.3in/hr |
| Q10=5.0cfs | Q10=1.466cfs |
| 2:1, 3:1 | 3:1, 4:1 |
| s=2.14% | s=1.29% |
| n=0.045, | n=0.045, |
| V=2.64fps | V=1.5fps |
| d=0.875' Td=1.17psf | d=0.5' Td=0.4psf |
| PROP Liner=CL C VEG | PROP Liner=CL C VEG |


FOR -L- PROFILE, SEE SHEET NO. 30
FOR -Y13- PROFILE, SEE SHEET NO. 35


REVISIONS

8/17/99

9/23/2022
\\Pr-1\U5756_Rdy_psh19.dgn
User: hridgeway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 20 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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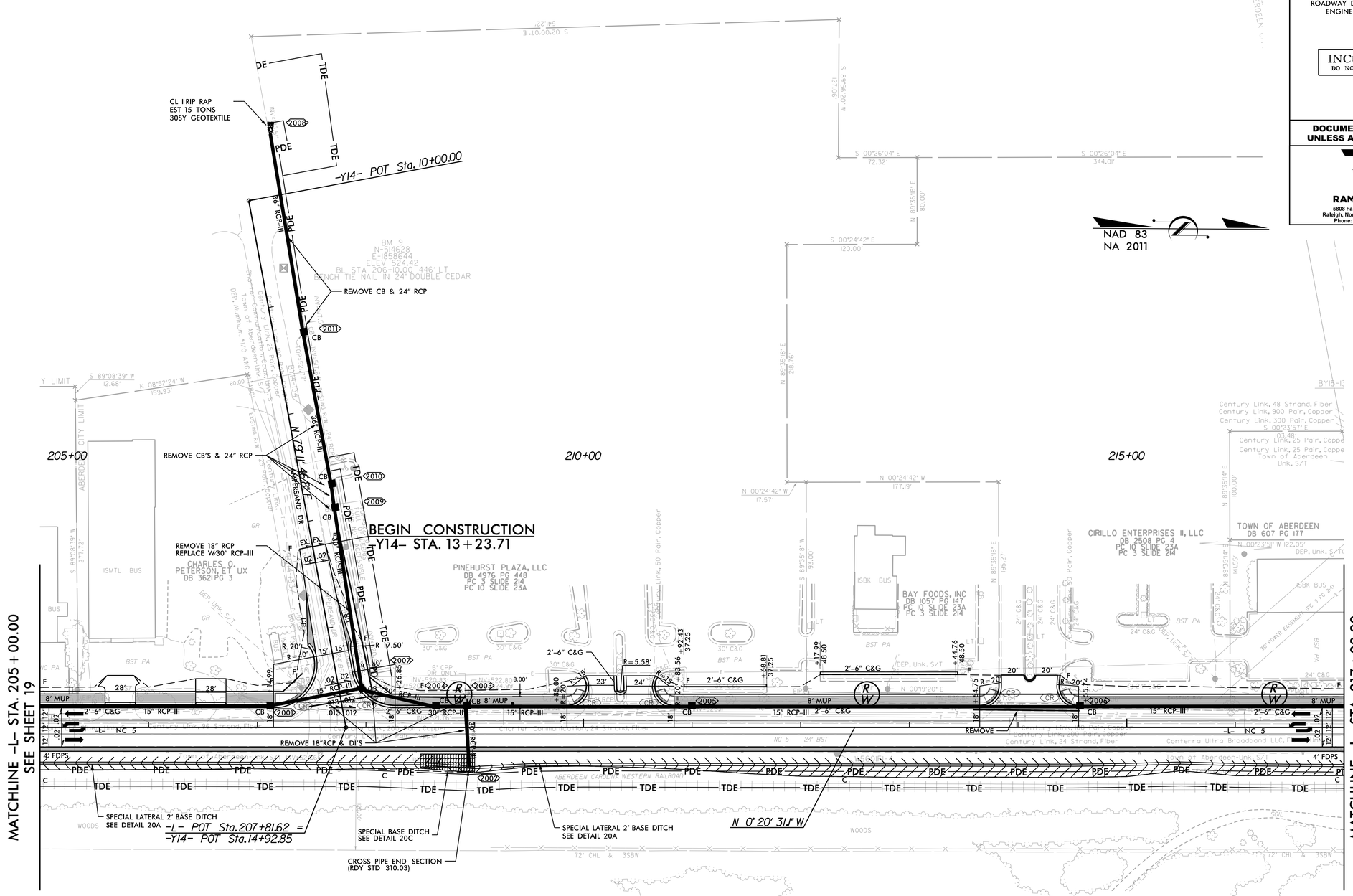
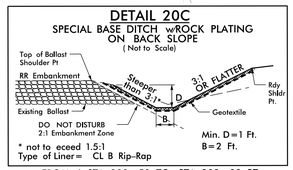
8/17/99




| | | | |
|---|---|---|---|
| -L- 203+50RT-208+50RT<br>DA=1.139ac, C=0.502<br>Tc=10min I10=6.30in/hr<br>Q10=3.6cfs<br>4:1, 3:1, B=2', min d=1.0'<br>max s=1.37%<br>n=0.045,<br>V= 1.87fps<br>d= 0.51' Td=0.44psf<br>Liner= VEG CL C | -L- 208+50-RT-208+95RT<br>DA=0.939ac, C=0.497<br>Tc=10min I10=6.30in/hr<br>Q10=2.9cfs<br>3.75:1, 1.5:1, B=2', min.d=1.0'<br>max s=2.33%<br>n=0.045,<br>V= 2.11fps<br>d= 0.40' Td=0.55psf<br>Liner= VEG CL C | -L- 209+50RT-215+50RT<br>DA=0.939ac, C=0.497<br>Tc=10min I10=6.30in/hr<br>Q10=2.9cfs<br>4:1, 3:1, B=2', min d=1.0'<br>max s=1.48%<br>n=0.045,<br>V= 1.82fps<br>d= 0.45' Td=0.42psf<br>Liner= VEG CL C | -L- 215+50RT-217+59RT<br>DA=0.939ac, C=0.497<br>Tc=10min I10=6.30in/hr<br>Q10=2.9cfs<br>4:1, 3:1, B=2', min d=1.0'<br>max s=0.28%<br>n=0.045,<br>V= 0.99fps<br>d= 0.68' Td=0.12psf<br>Liner= VEG CL C |
| -L- 203+50RT-208+95RT<br>DA=1.139ac, C=0.502<br>Tc=10min I100=7.8in/hr<br>Q100=4.5cfs<br>4:1, 3:1, B=2', min d=1.0'<br>max s=1.37%<br>n=0.045,<br>V= 2.25fps<br>d= 0.50' Td=0.95psf<br>Liner= VEG CL C | -L- 208+50RT-208+95RT<br>DA=0.939ac, C=0.497<br>Tc=10min I100=7.8in/hr<br>Q100=3.6cfs<br>3.75:1, 1.5:1, B=2', min.d=1.0'<br>max s=2.33%<br>n=0.045,<br>V= 2.35fps<br>d= 0.50' Td=0.95psf<br>Liner= VEG CL C | -L- 209+50RT-215+50RT<br>DA=0.939ac, C=0.497<br>Tc=10min I100=7.8in/hr<br>Q100=3.6cfs<br>4:1, 3:1, B=2', min d=1.0'<br>max s=1.48%<br>n=0.045,<br>V= 1.94fps<br>d= 0.50' Td=0.47psf<br>Liner= VEG CL C | -L- 215+50RT-217+59RT<br>DA=0.939ac, C=0.497<br>Tc=10min I100=7.8in/hr<br>Q100=3.6cfs<br>4:1, 3:1, B=2', min d=1.0'<br>max s=0.28%<br>n=0.045,<br>V= 1.05fps<br>d= 0.70' Td=0.12psf<br>Liner= VEG CL C |

NOTE:
DRIVEWAYS FOR SHOULDER SECTIONS: USE 16' MIN. WIDTH FOR RESIDENTIAL AND 24' MIN. WIDTH FOR COMMERCIAL WITH 5' MIN. RADII; OTHERWISE MATCH EXISTING. DRIVEWAYS FOR C&G SECTIONS: USE 20' MIN. WIDTH FOR RESIDENTIAL AND 28' MIN. WIDTH FOR COMMERCIAL, OTHERWISE MATCH EXISTING.

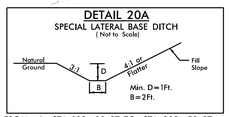
## DETAIL 20C
SPECIAL BASE DITCH wROCK PLATING ON BACK SLOPE
( Not to Scale)




* not to exceed 1.5:1
Type of Liner= CL B Rip-Rap

FROM L STA. 208+50 TO STA. 209+00 RT

## DETAIL 20A
SPECIAL LATERAL BASE DITCH
( Not to Scale)




FROM -L- STA. 198+00 RT TO STA. 208+50 RT
FROM -L- STA. 209+00 RT TO STA. 217+59 RT


FOR -L- PROFILE, SEE SHEET NO. 31
FOR -Y14- PROFILE, SEE SHEET NO. 35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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 21 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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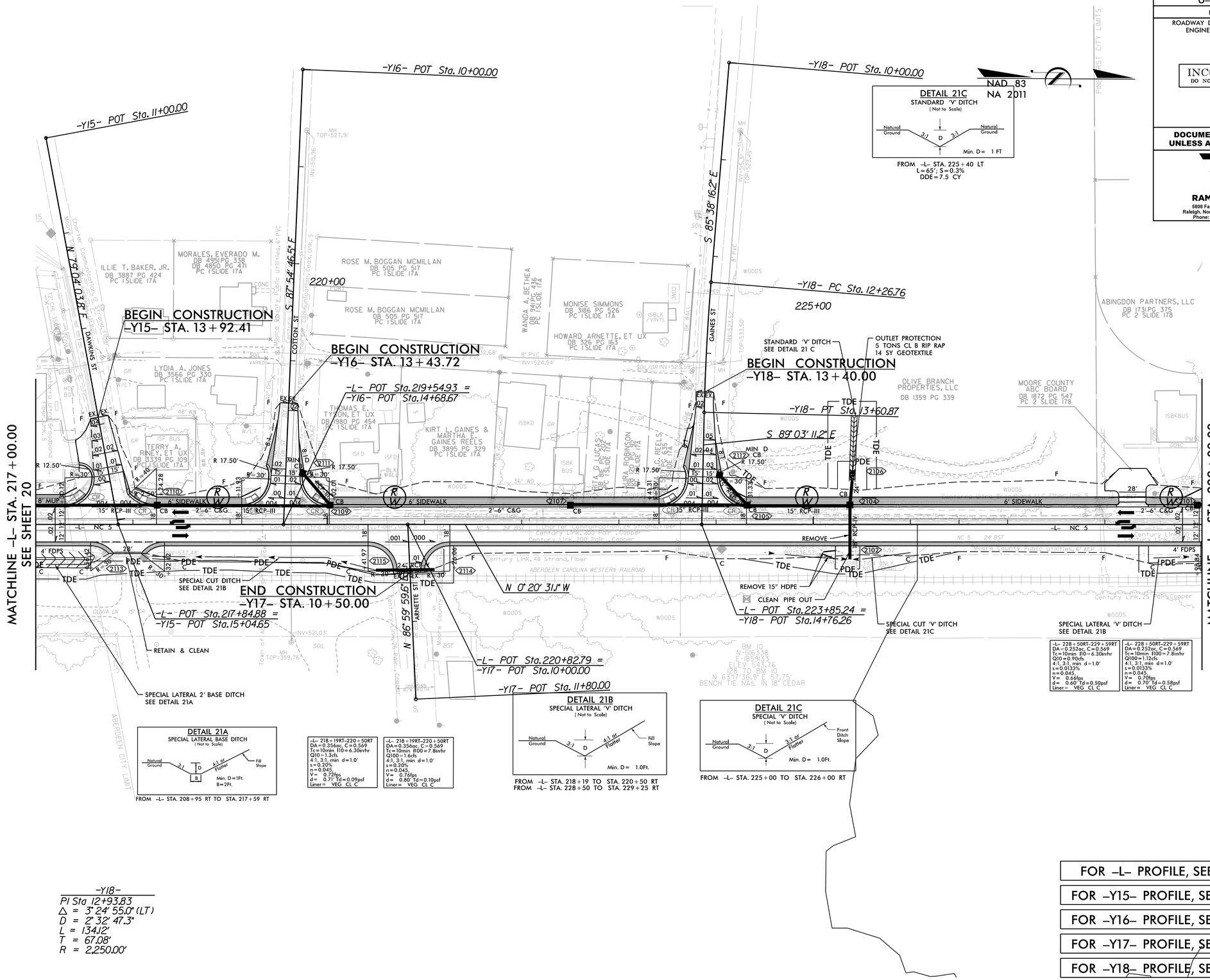


-Y18-
PI Sta 12+93.83
△ = 3° 24' 55.0" (LT)
D = 2° 32' 47.3"
L = 134.12'
T = 67.08'
R = 2,250.00'

FOR -L- PROFILE, SEE SHEET NO. 31
FOR -Y15- PROFILE, SEE SHEET NO. 36
FOR -Y16- PROFILE, SEE SHEET NO. 36
FOR -Y17- PROFILE, SEE SHEET NO. 36
FOR -Y18- PROFILE, SEE SHEET NO. 36

REVISIONS

8/17/99

9/23/2022
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User: hridgeway

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5756 | 22 |
| R/W SHEET NO. | |
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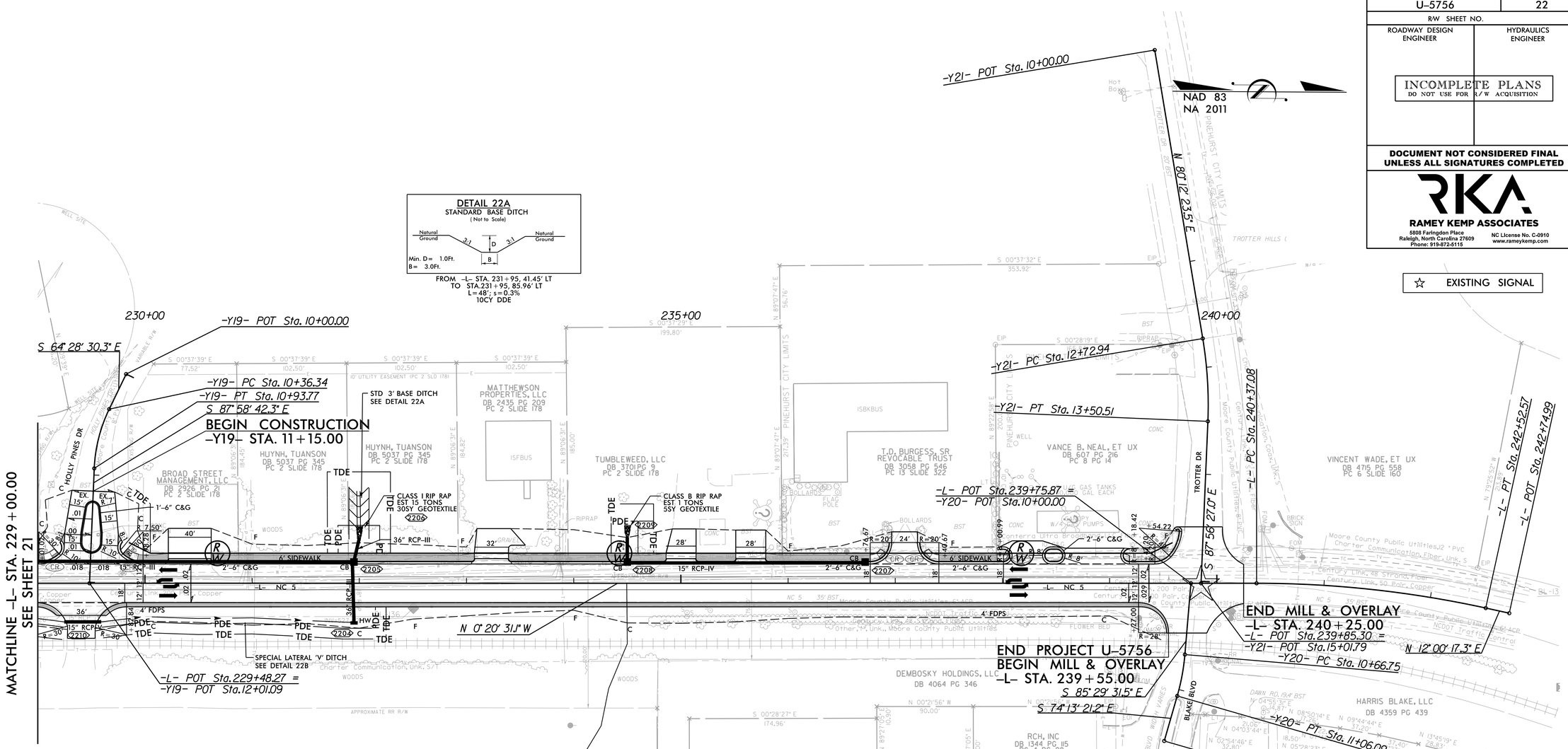
☆ EXISTING SIGNAL

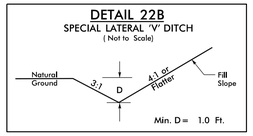



**DETAIL 22A**
STANDARD BASE DITCH
( Not to Scale)




FROM -L- STA. 231+95, 41.45' LT
TO STA.231+95, 85.96' LT
L=48', s=0.3%
10CY DDE

**DETAIL 22B**
SPECIAL LATERAL 'V' DITCH
( Not to Scale)




FROM -L- STA. 229+59 TO STA. 232+00 RT

-L- 229+59RT-230+00RT
DA=0.468ac, C=0.569
Tc=10min I10=6.30in/hr
Q10=1.7cfs
4:1, 3:1, min d=1.0'
s=0.0195%
n=0.045,
V= 1.82fps
d= 0.50' Td=0.61psf
Liner= VEG CL C

-L- 230+00RT-232+00RT
DA=0.468ac, C=0.569
Tc=10min I10=6.3in/hr
Q10=1.7cfs
4:1, 3:1, min d=1.0'
s=0.0242%
n=0.045,
V= 01.97fps
d= 0.50' Td=0.76psf
Liner= VEG CL C

-L- 229+59RT-230+00RT
DA=0.468ac, C=0.569
Tc=10min I100=7.8in/hr
Q100=2.1cfs
4:1, 3:1, min d=1.0'
s=0.0195%
n=0.045,
V= 1.92fps
d= 0.60' Td=0.73psf
Liner= VEG CL C

-L- 230+00RT-232+00RT
DA=0.468ac, C=0.569
Tc=10min I100=7.8in/hr
Q100=2.1cfs
4:1, 3:1, min d=1.0'
s=0.0242%
n=0.045,
V= 2.08fps
d= 0.50' Td=0.76psf
Liner= VEG CL C

| -L- | -Y19- | -Y20- | -Y21- |
|---|---|---|---|
| PI Sta 241+45.24 | PI Sta 10+65.46 | PI Sta 10+86.48 | PI Sta 13+11.86 |
| Δ = 12° 20' 48.5" (RT) | Δ = 23° 30' 12.0" (LT) | Δ = 11° 16' 10.3" (RT) | Δ = 11° 51' 09.5" (RT) |
| D = 5° 43' 46.5" | D = 40° 55' 32.0" | D = 28° 38' 52.4" | D = 15° 16' 43.9" |
| L = 215.49' | L = 57.43' | L = 39.34' | L = 77.58' |
| T = 108.17' | T = 29.12' | T = 19.73' | T = 38.93' |
| R = 1,000.00' | R = 140.00' | R = 200.00' | R = 375.00' |


FOR -L- PROFILE, SEE SHEET NO. 32
FOR -Y19- PROFILE, SEE SHEET NO. 36


REVISIONS

8/17/99

9/23/2022
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| U-5756 | 23 |
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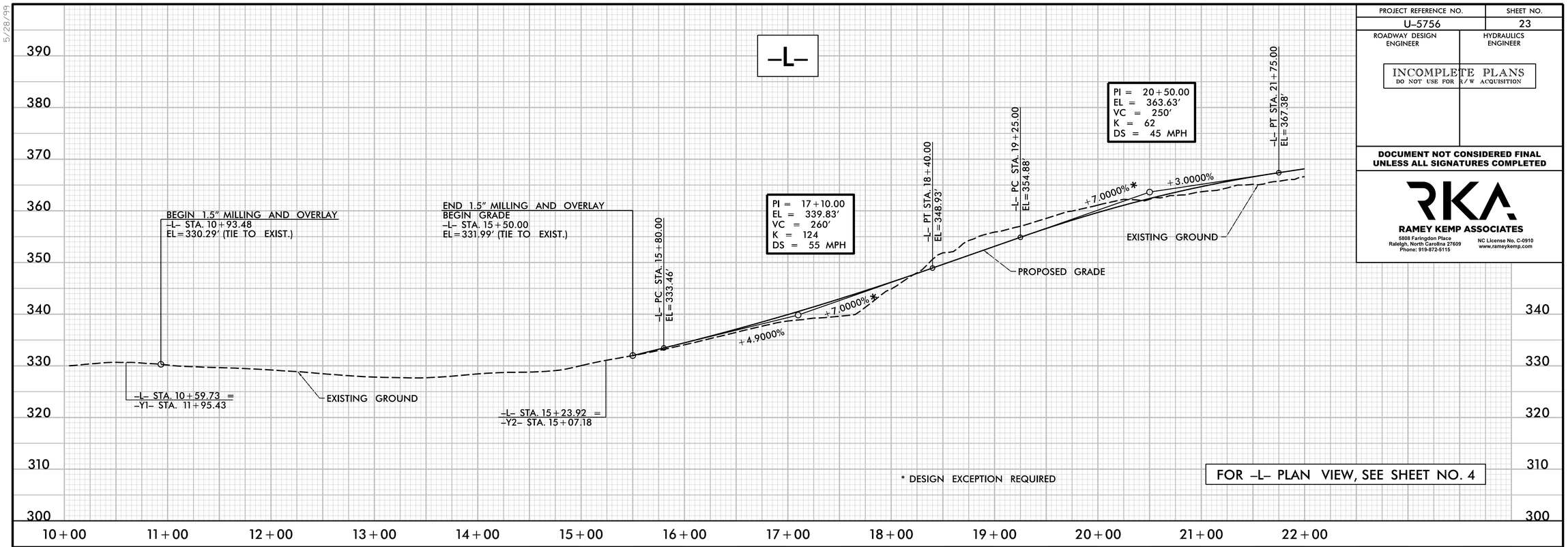


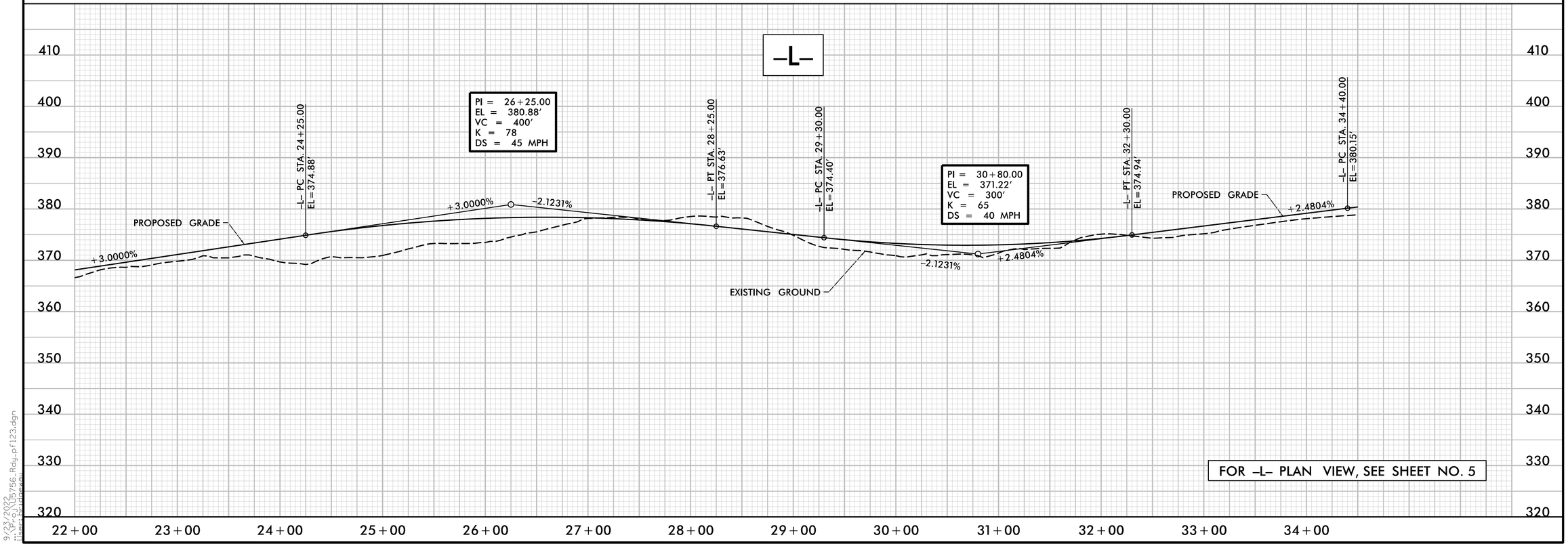


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U-5756_Rdy_pf123.dgn
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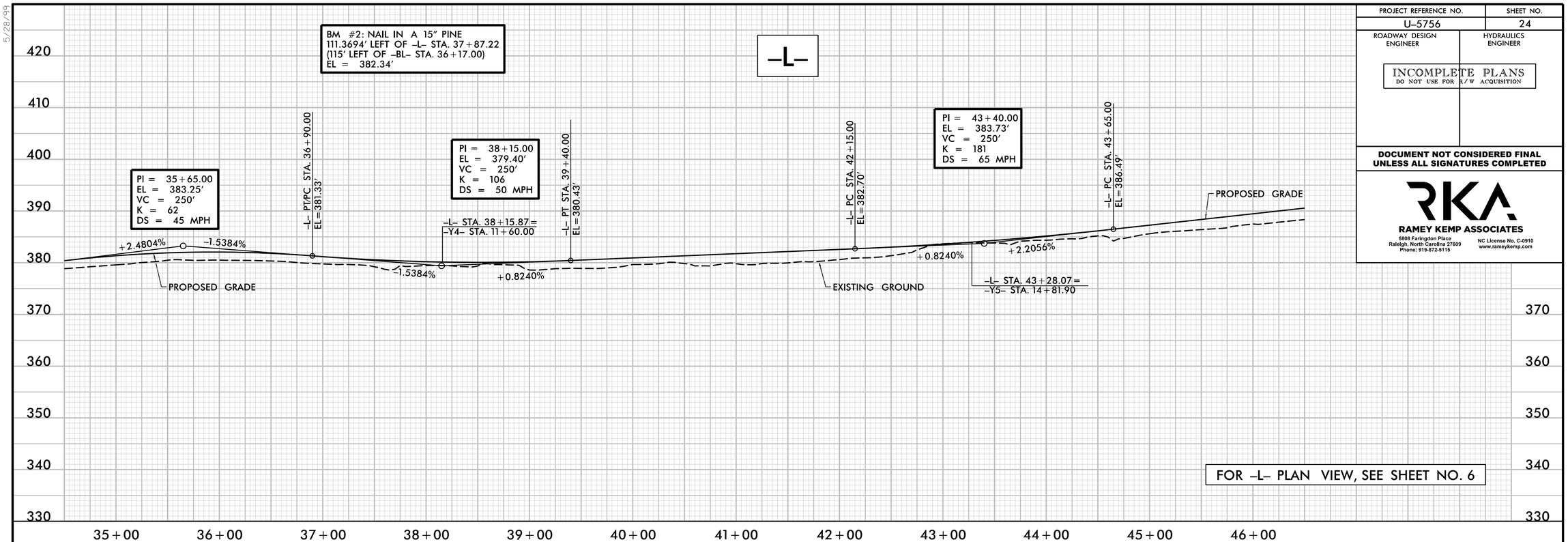


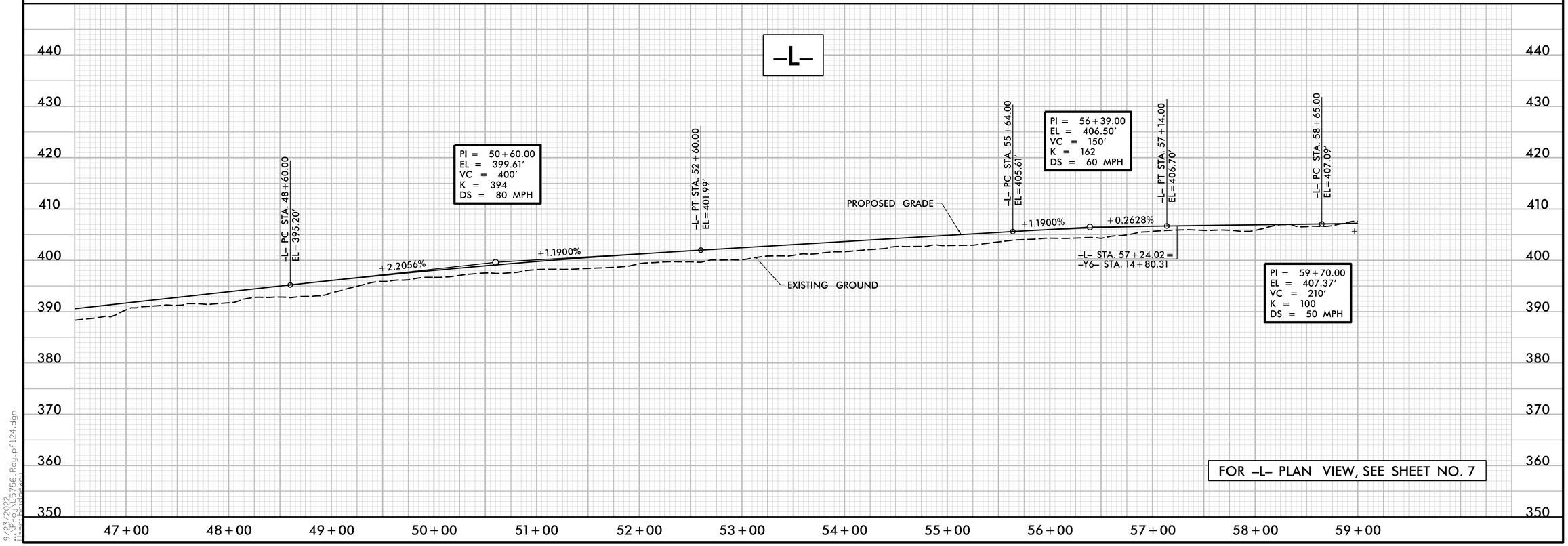


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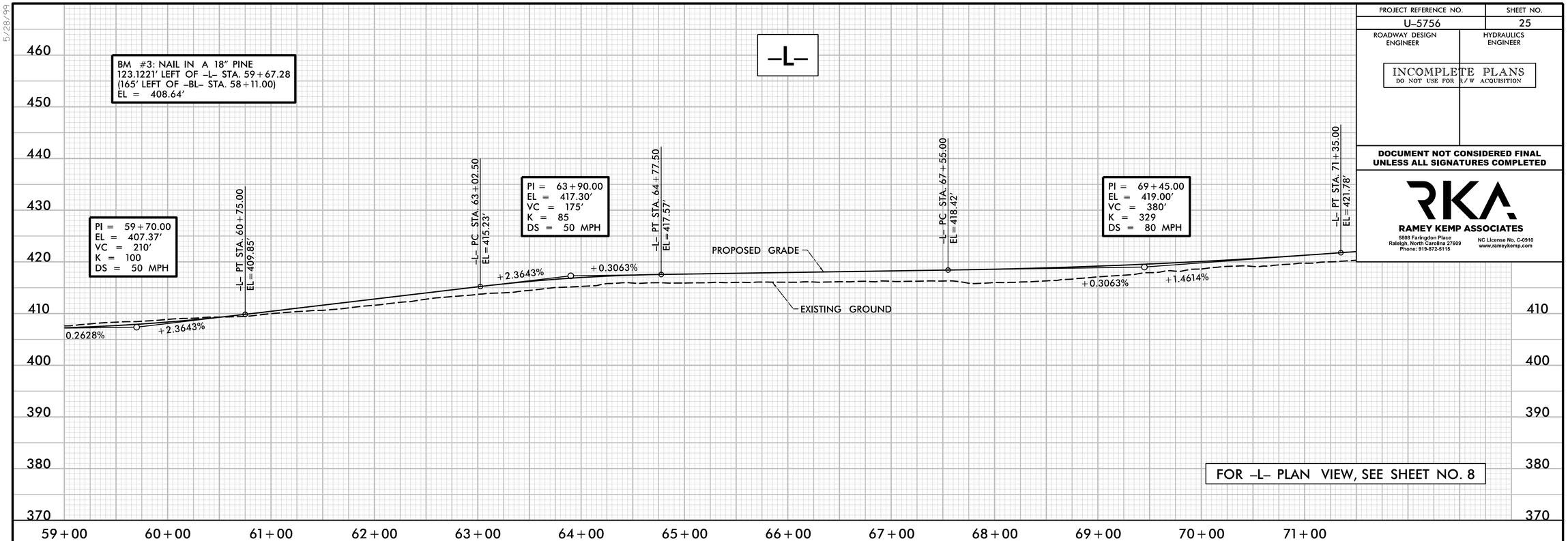


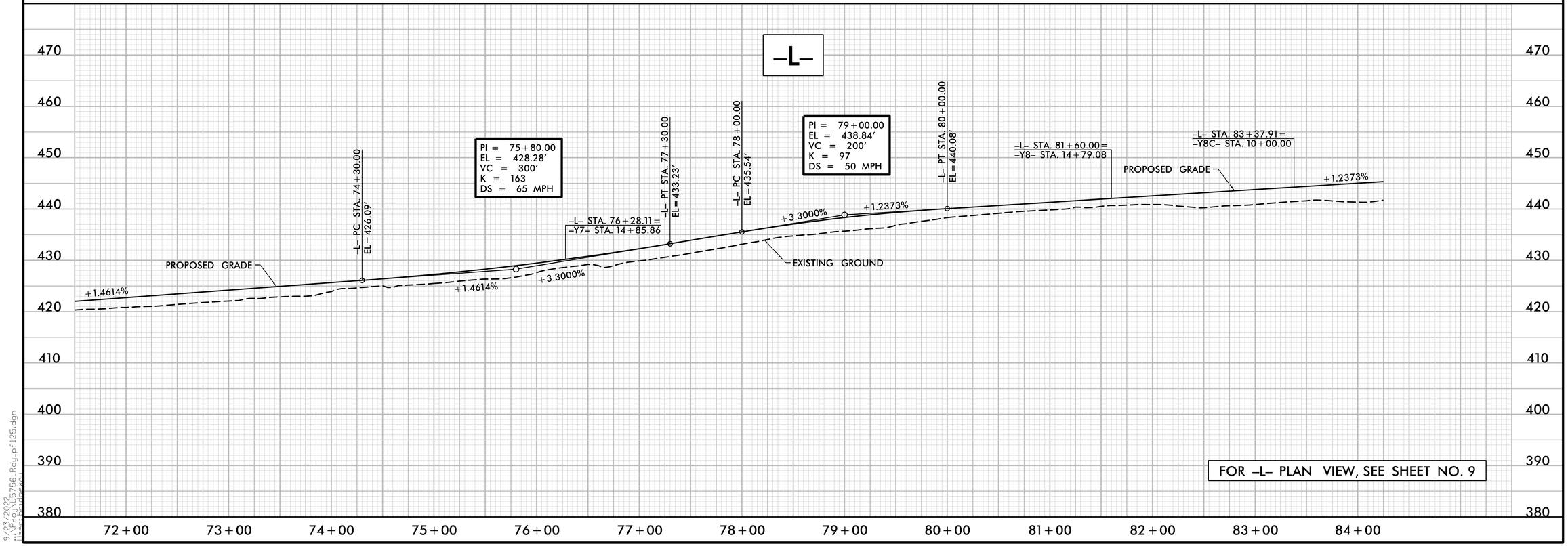


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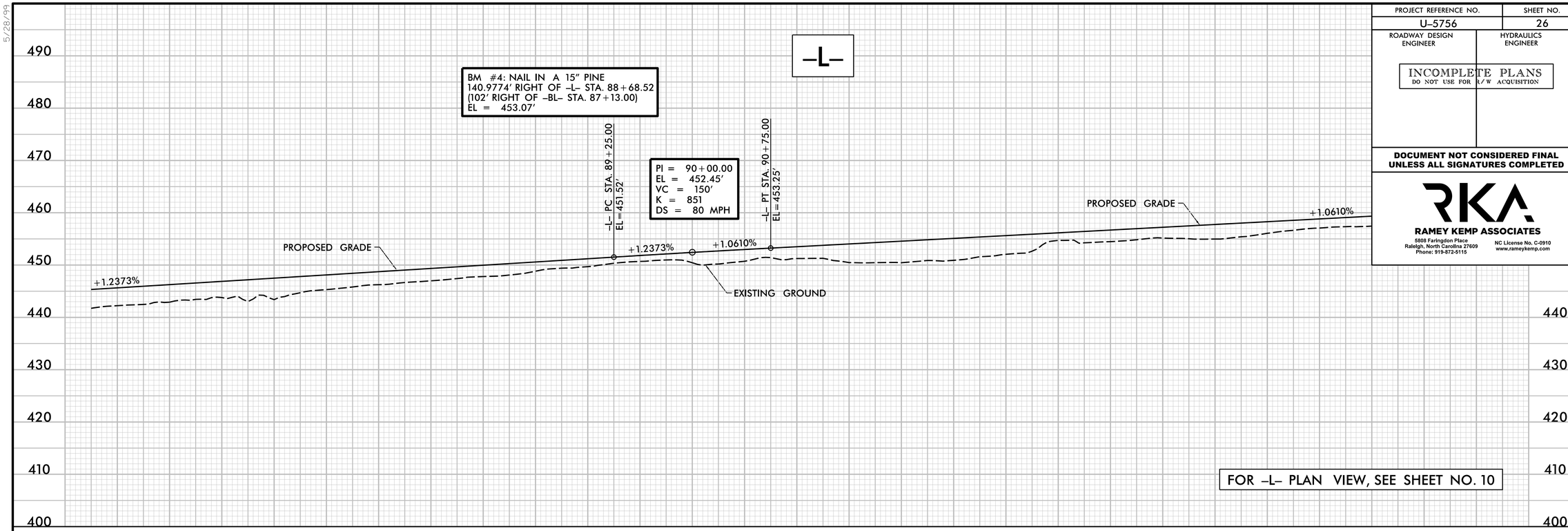
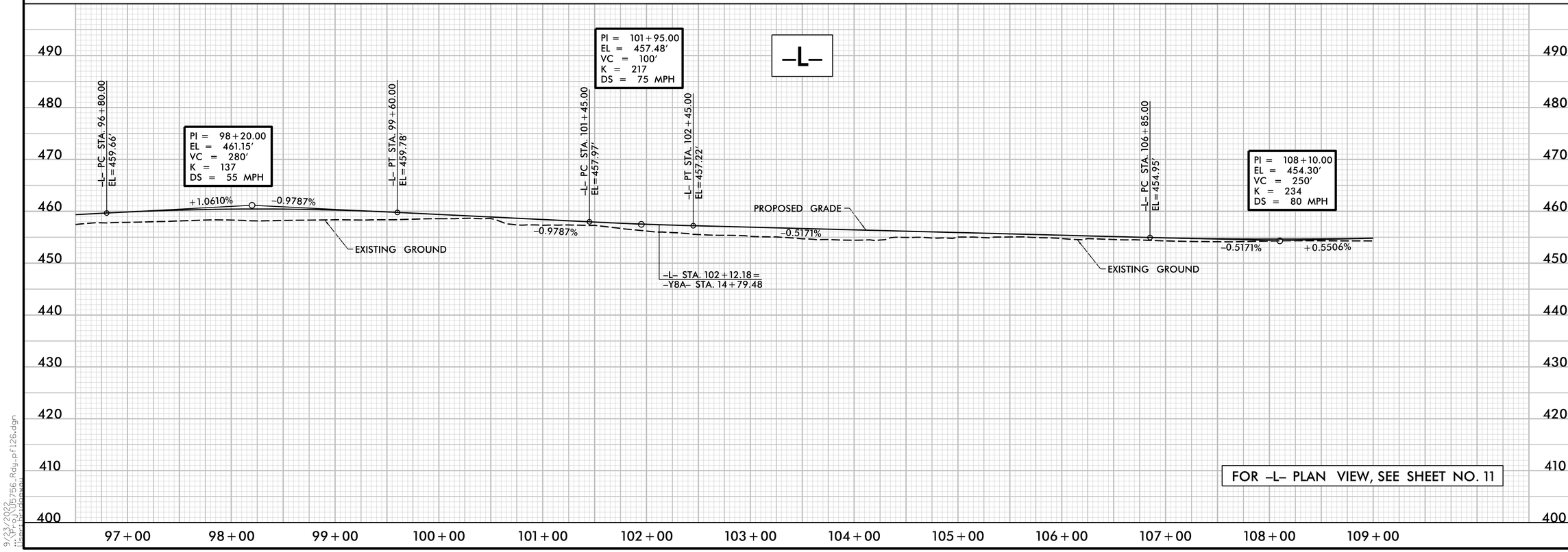



FOR -L- PLAN VIEW, SEE SHEET NO. 10

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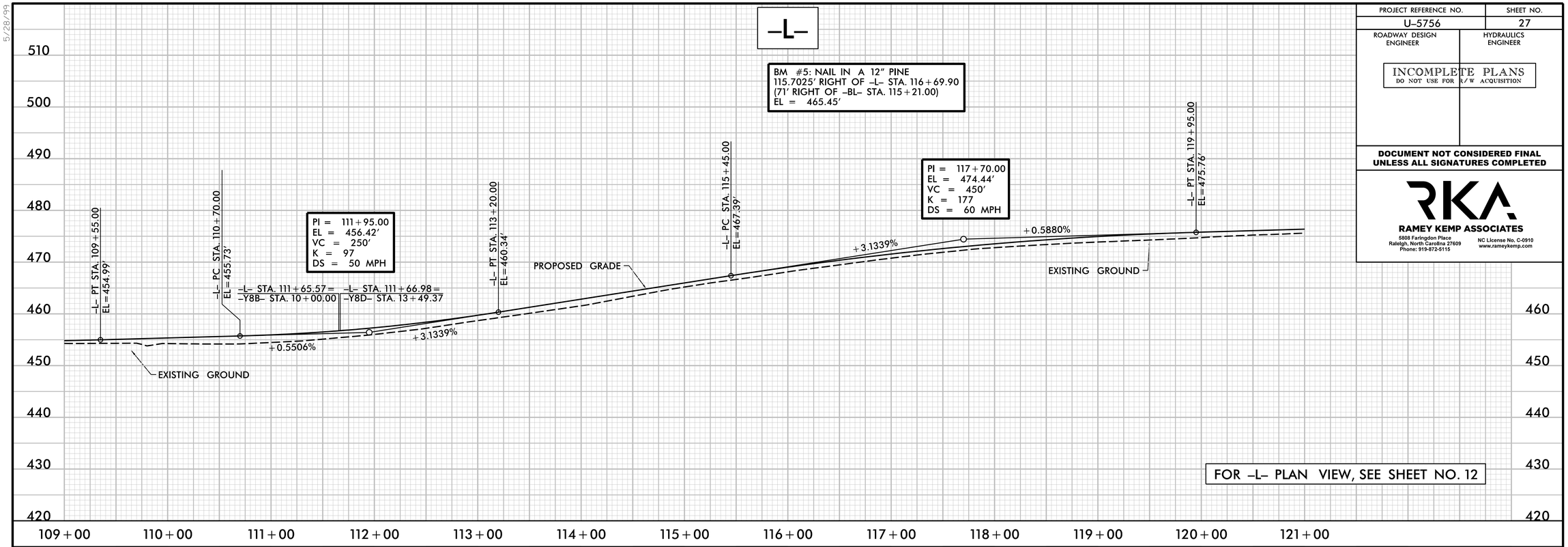


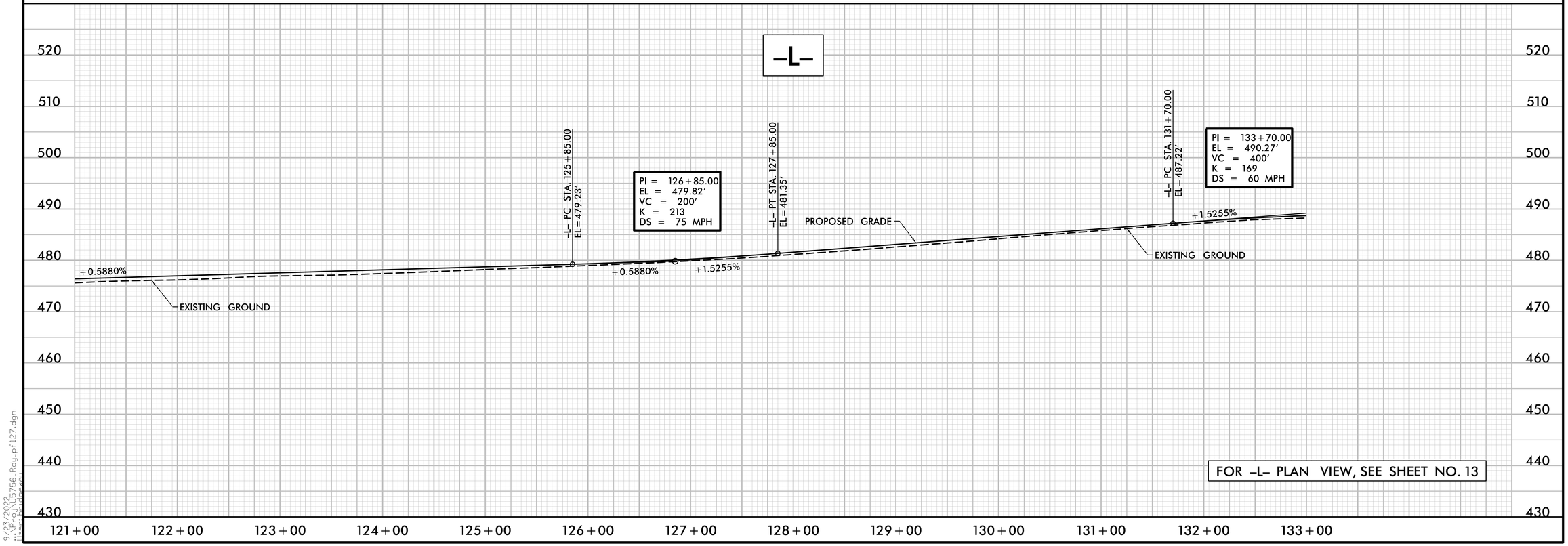


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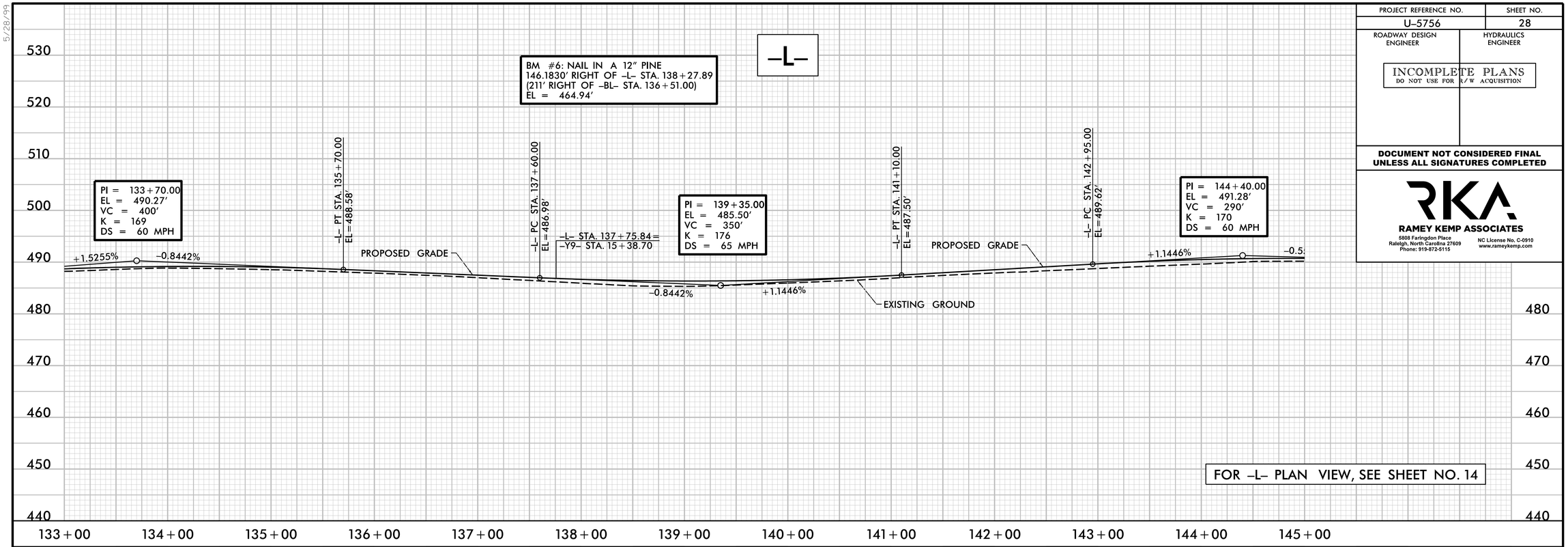
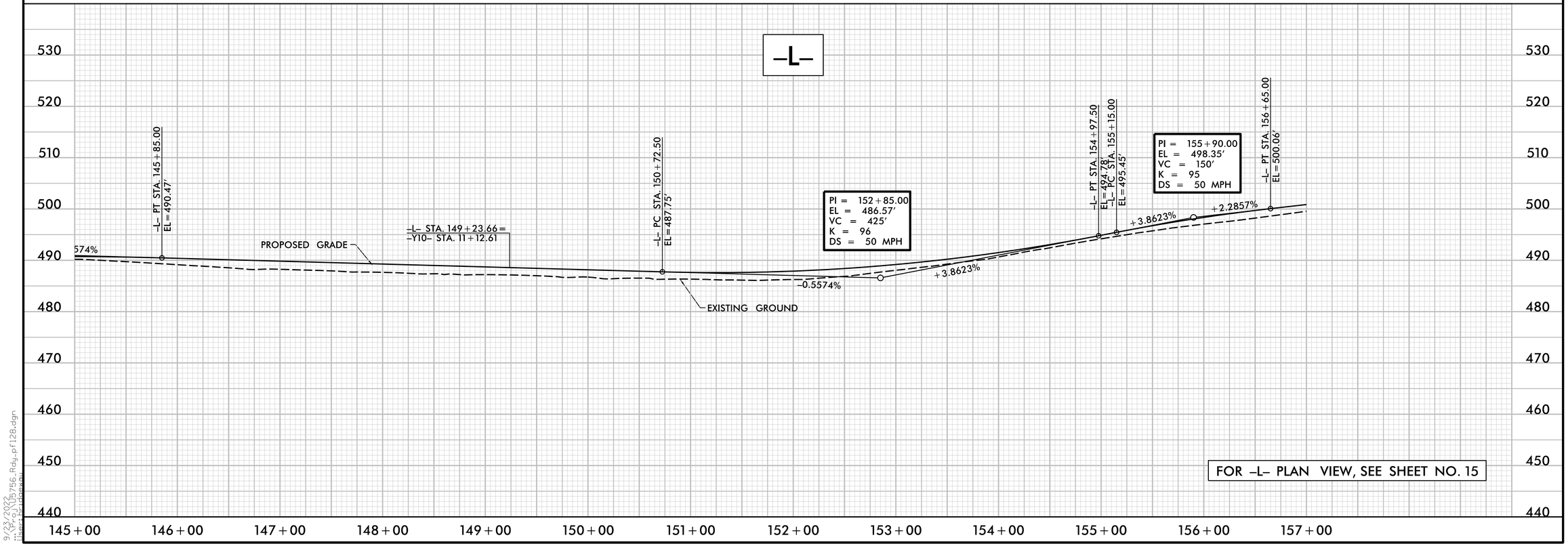



FOR -L- PLAN VIEW, SEE SHEET NO. 14

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| PROJECT REFERENCE NO. | SHEET NO. |
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| U-5756 | 29 |
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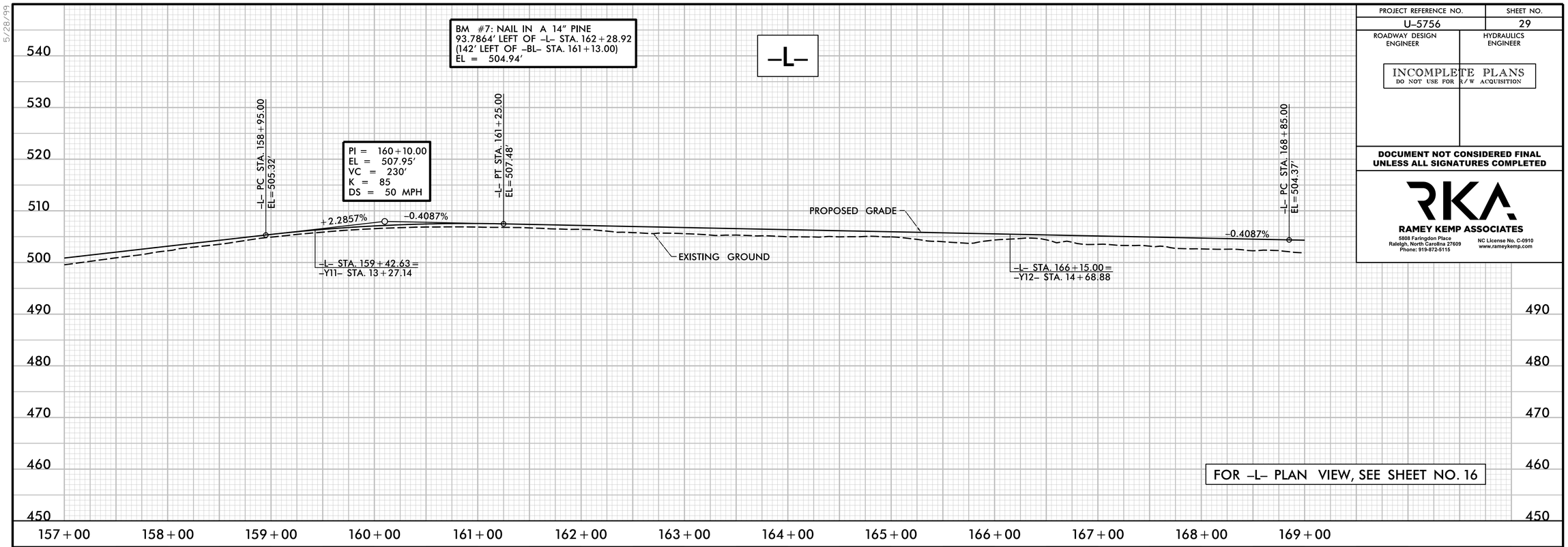


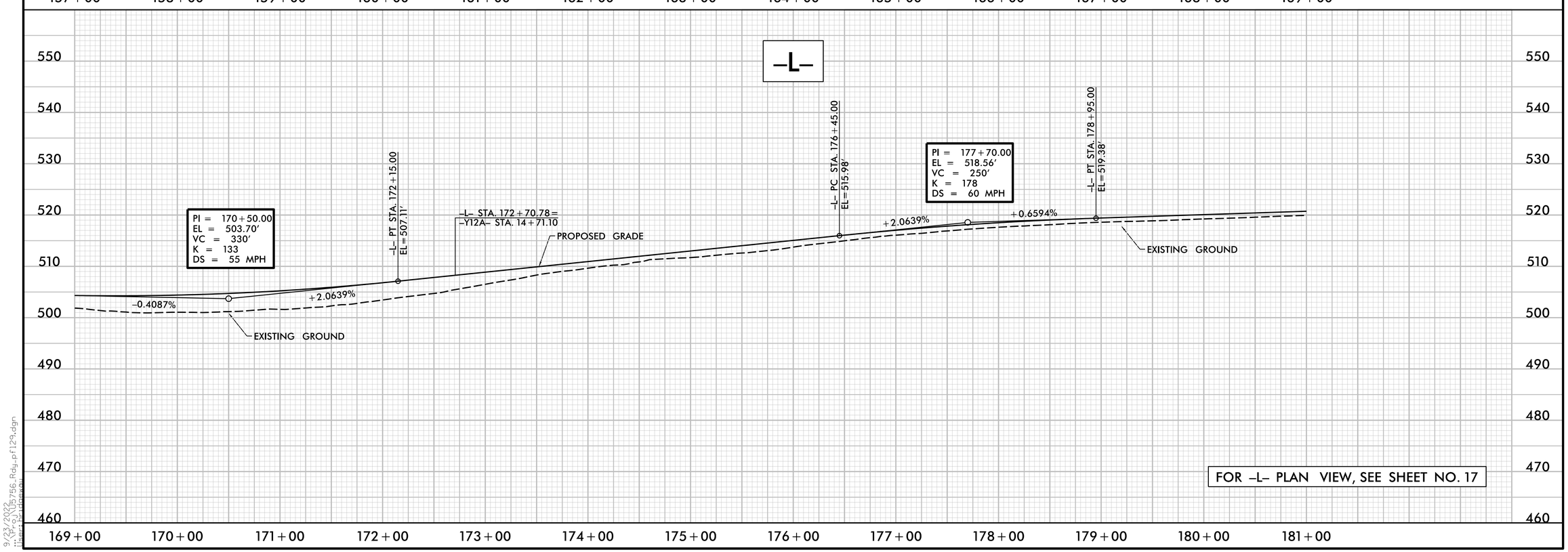


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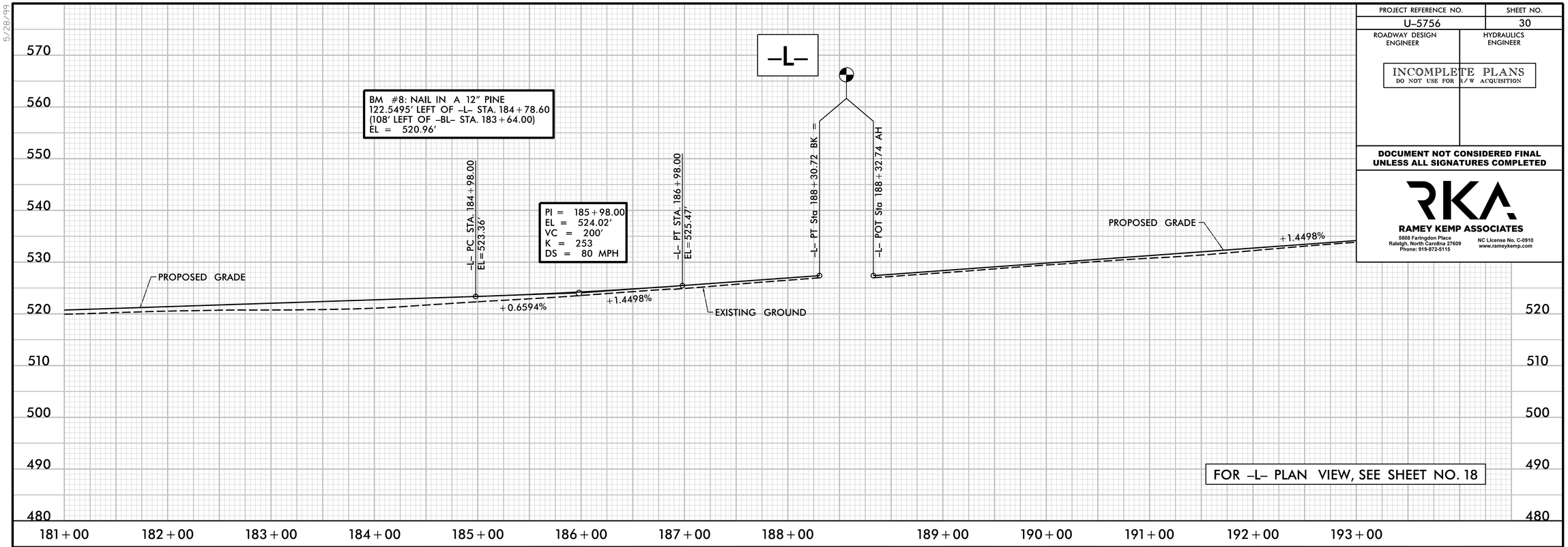
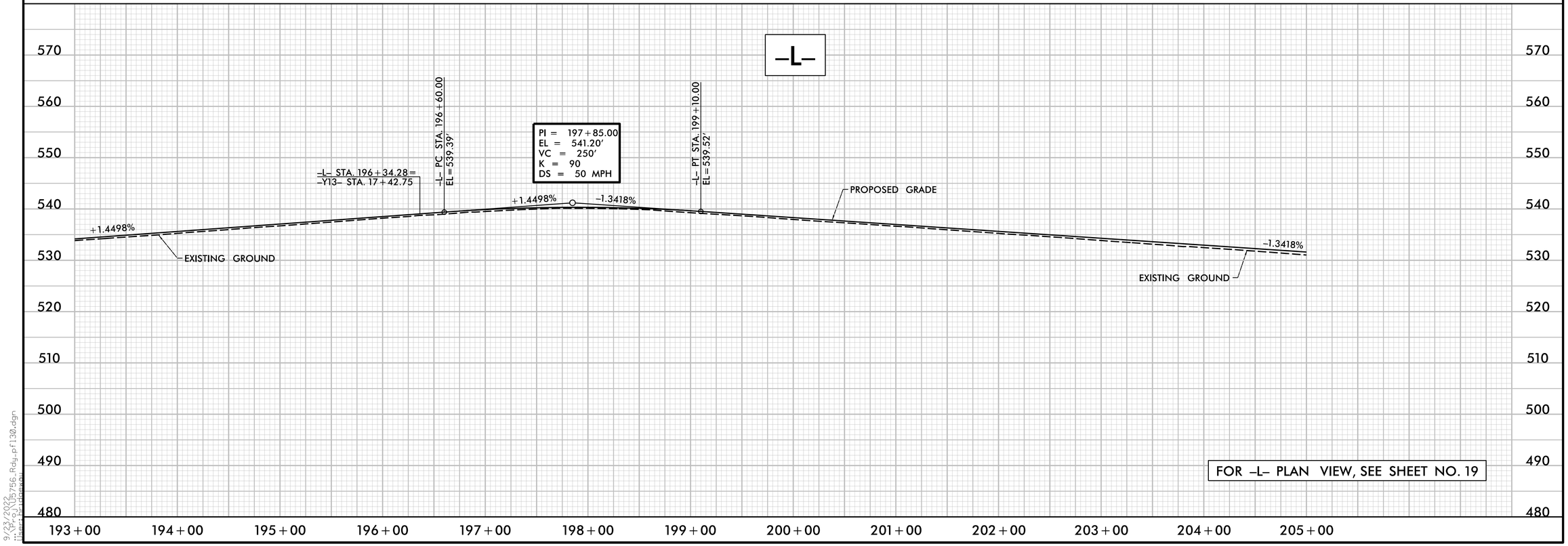



FOR -L- PLAN VIEW, SEE SHEET NO. 18




FOR -L- PLAN VIEW, SEE SHEET NO. 19

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User: bridgewo

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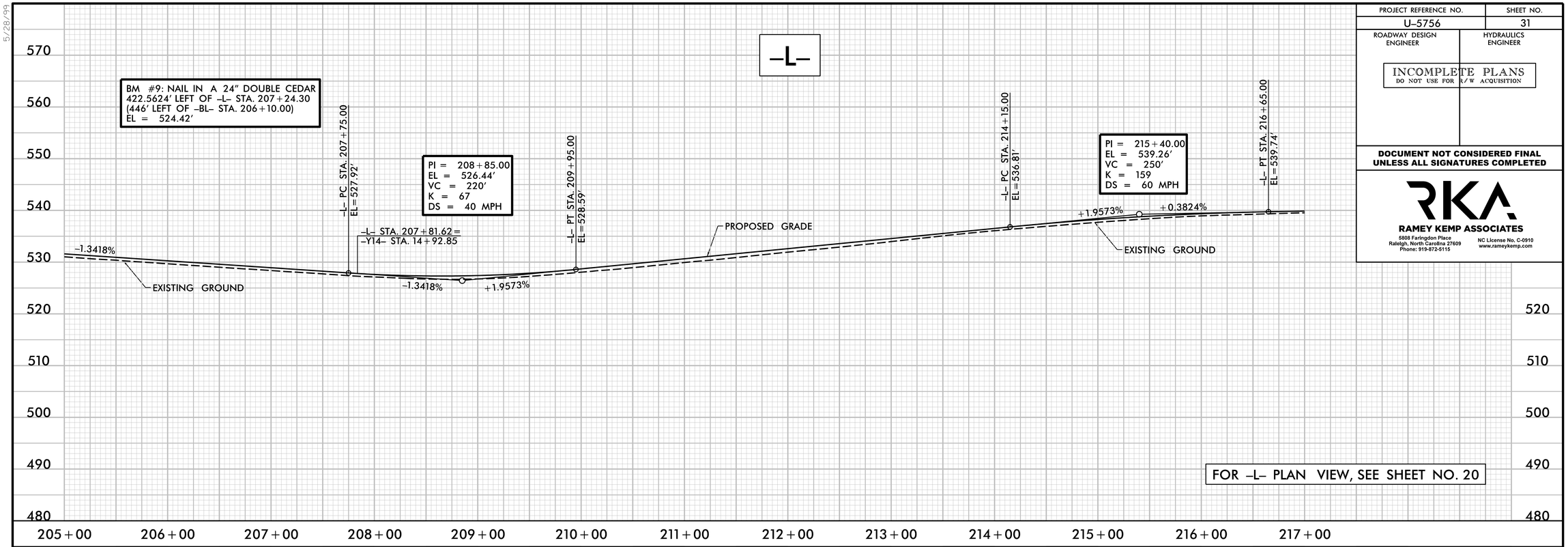


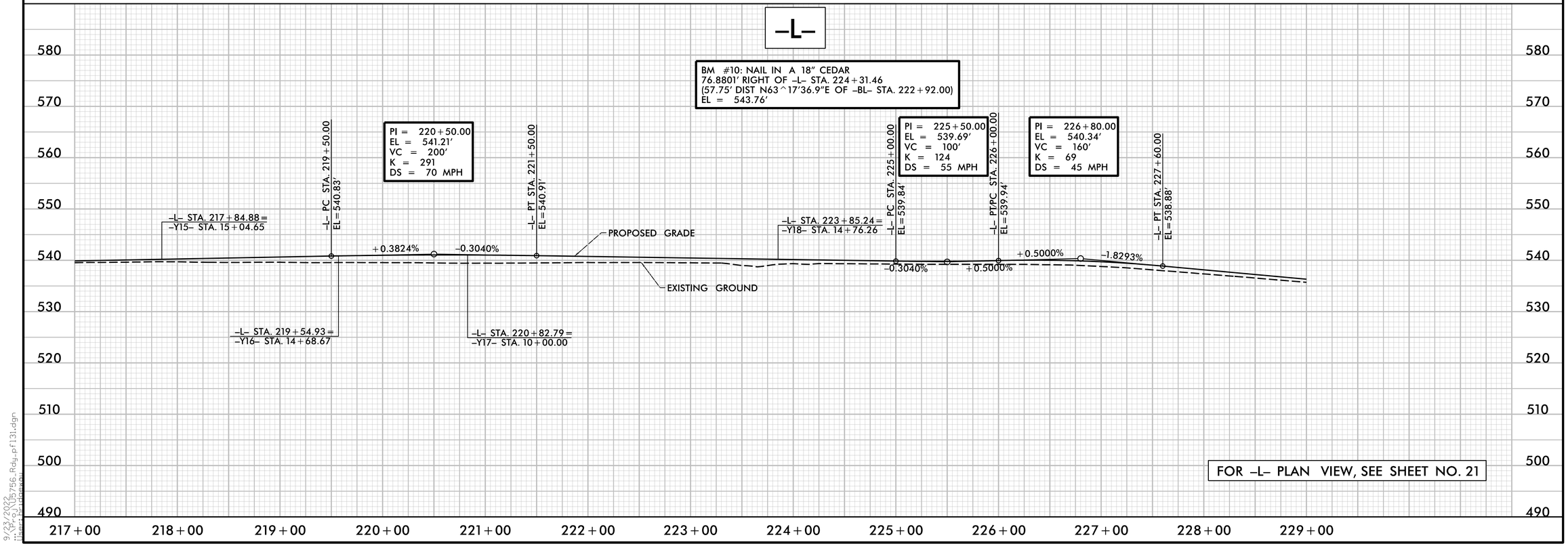


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| PROJECT REFERENCE NO. | SHEET NO. |
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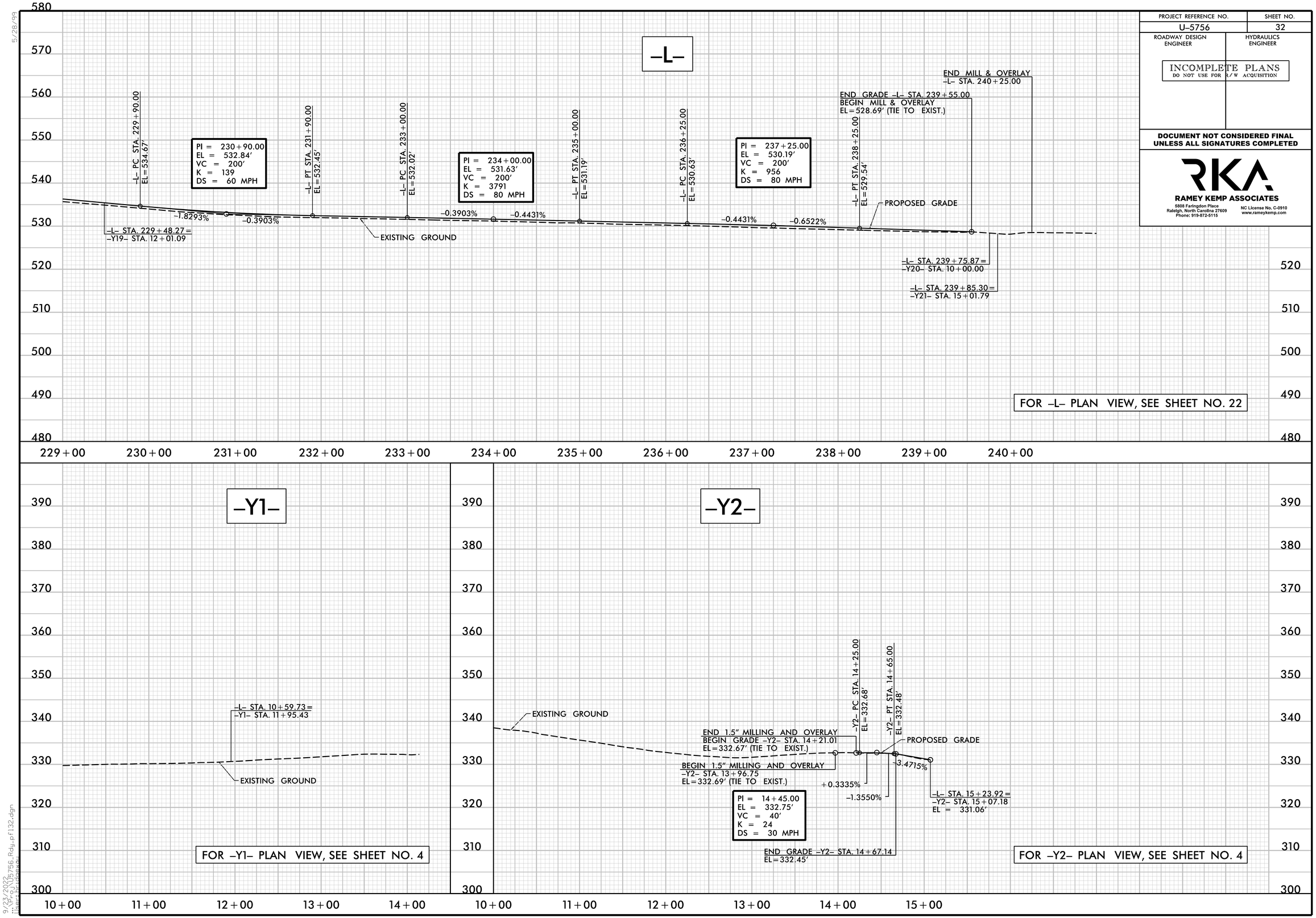


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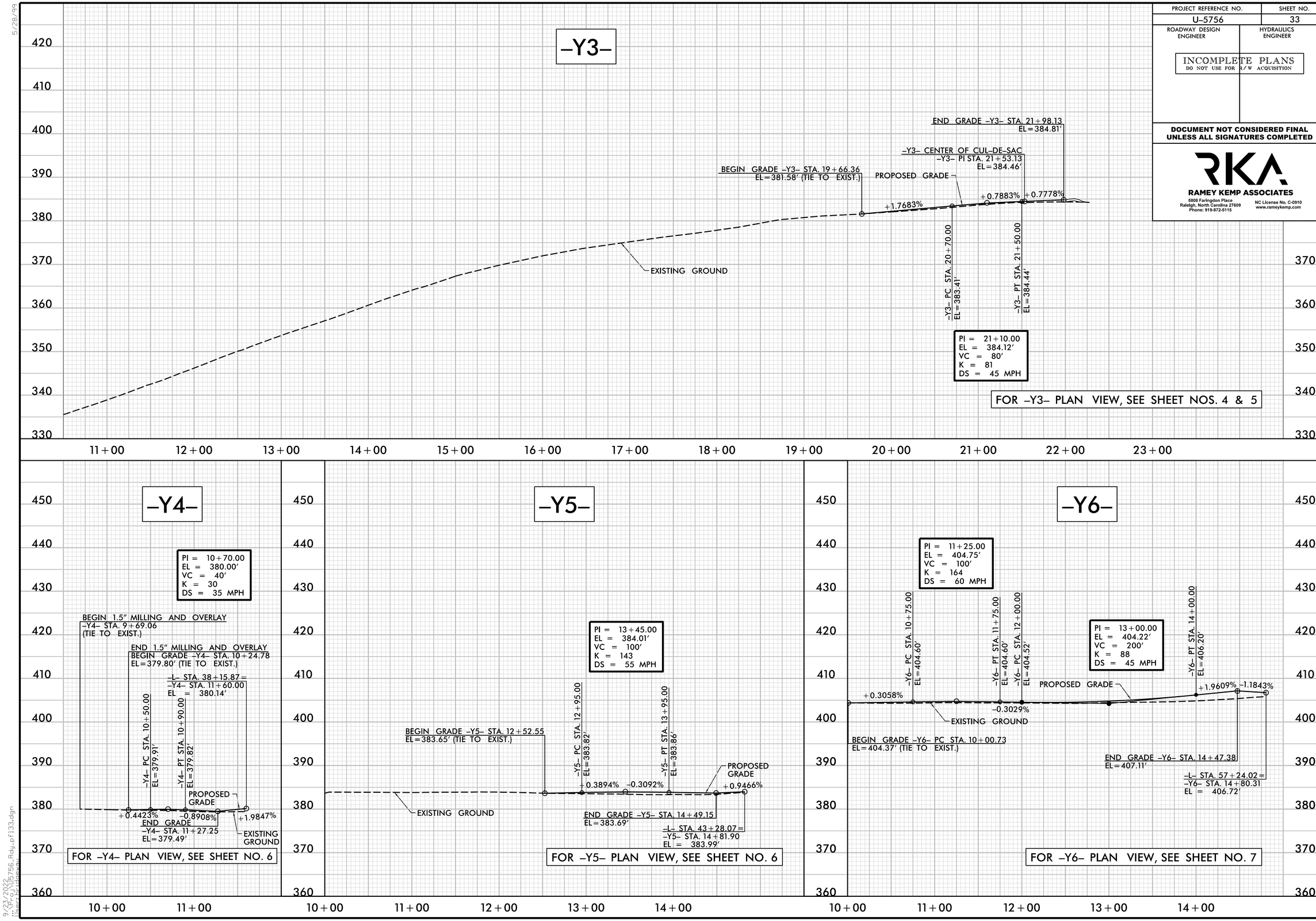


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| U-5756 | 34 |
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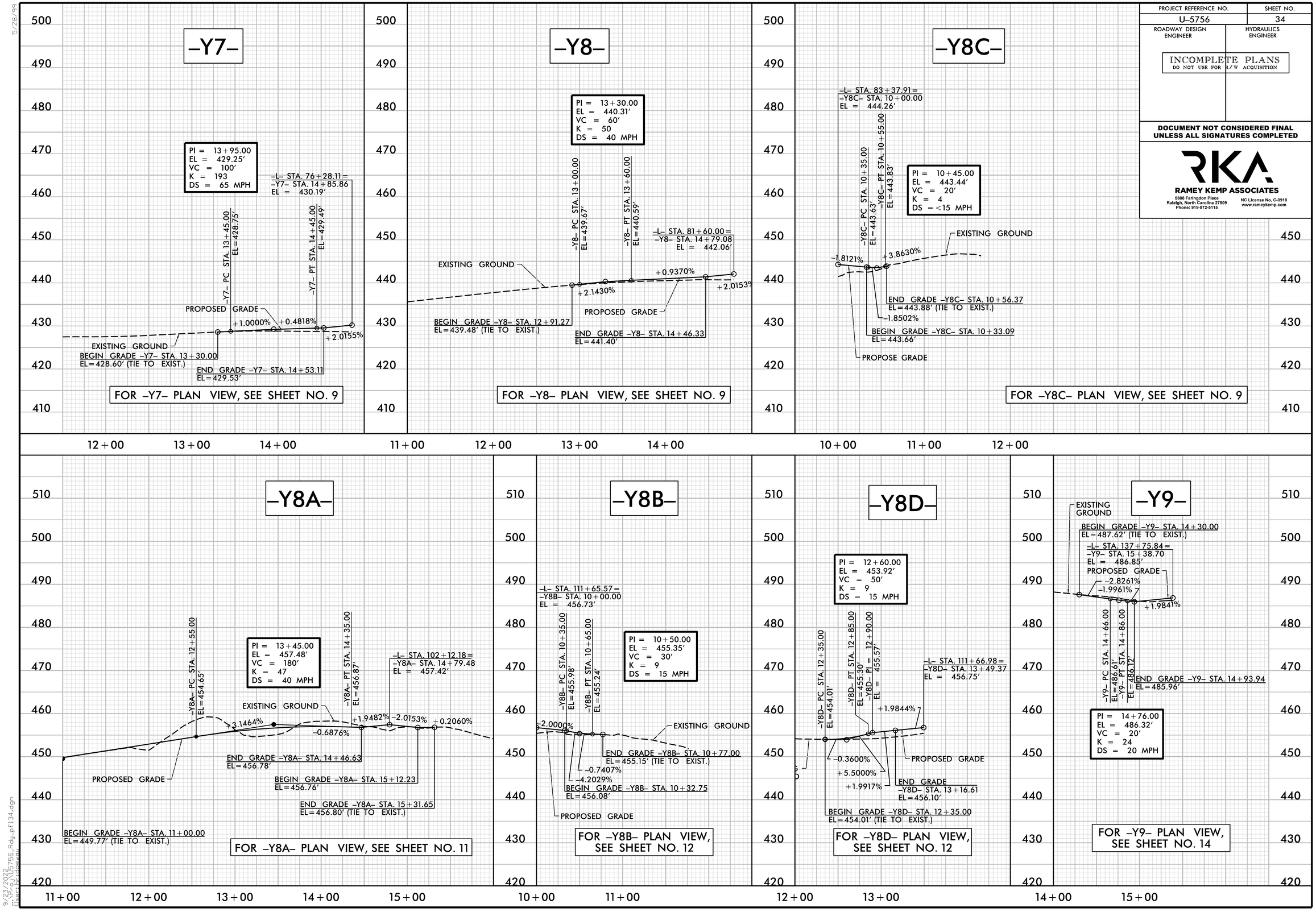


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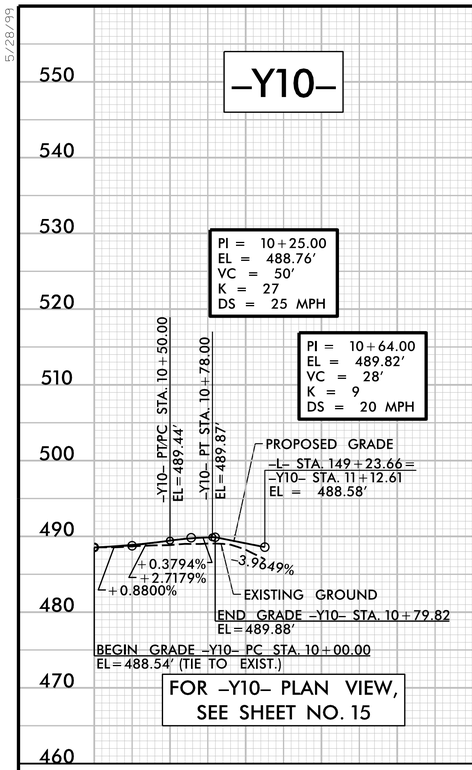
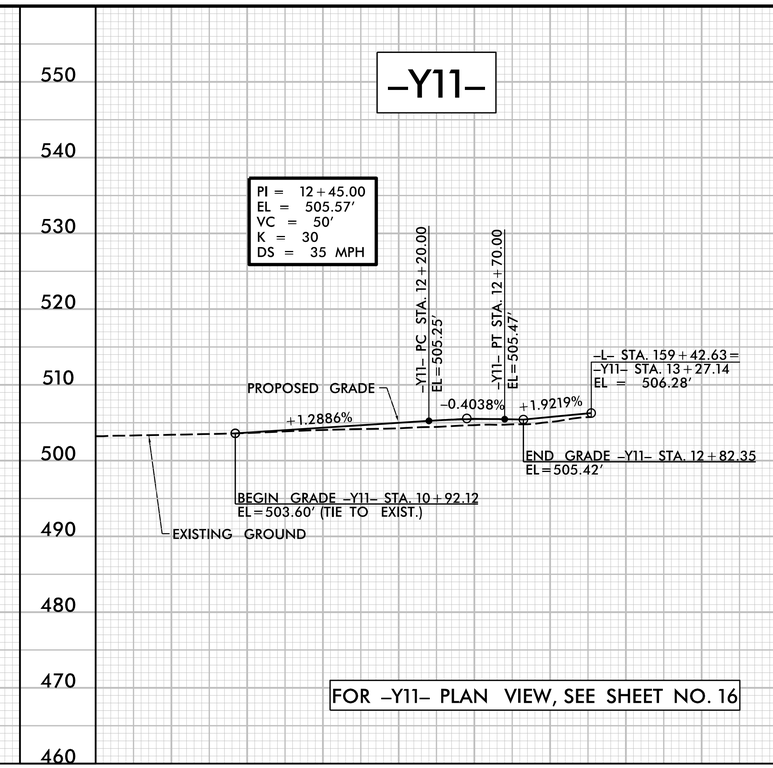
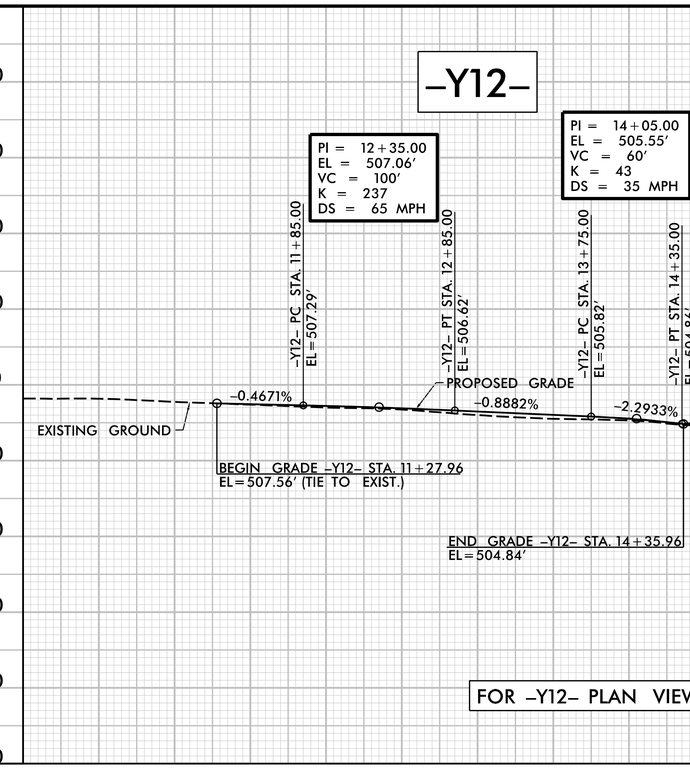


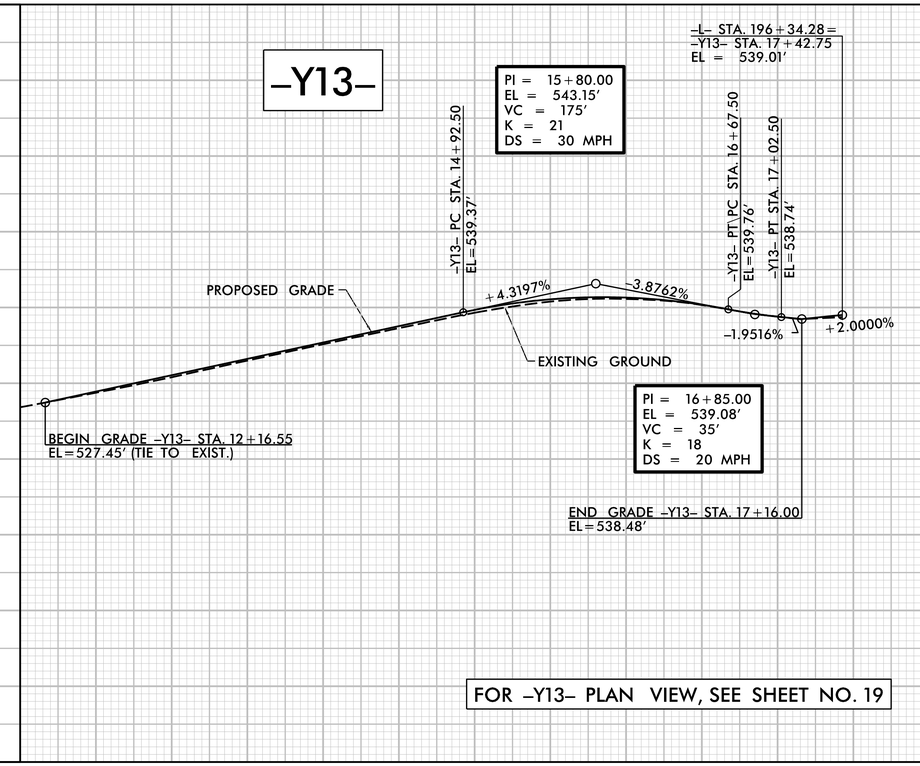

FOR -Y10- PLAN VIEW, SEE SHEET NO. 15



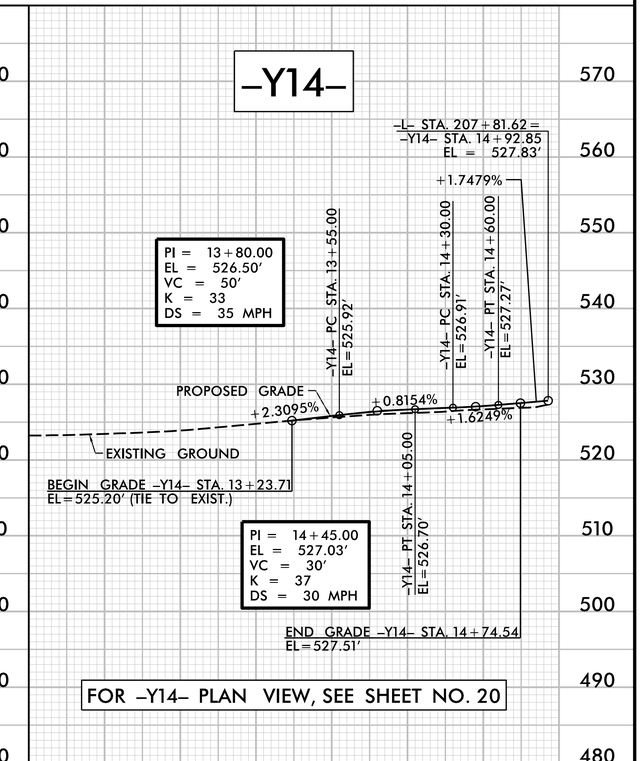

FOR -Y11- PLAN VIEW, SEE SHEET NO. 16




FOR -Y12- PLAN VIEW, SEE SHEET NO. 16




FOR -Y13- PLAN VIEW, SEE SHEET NO. 19




FOR -Y14- PLAN VIEW, SEE SHEET NO. 20

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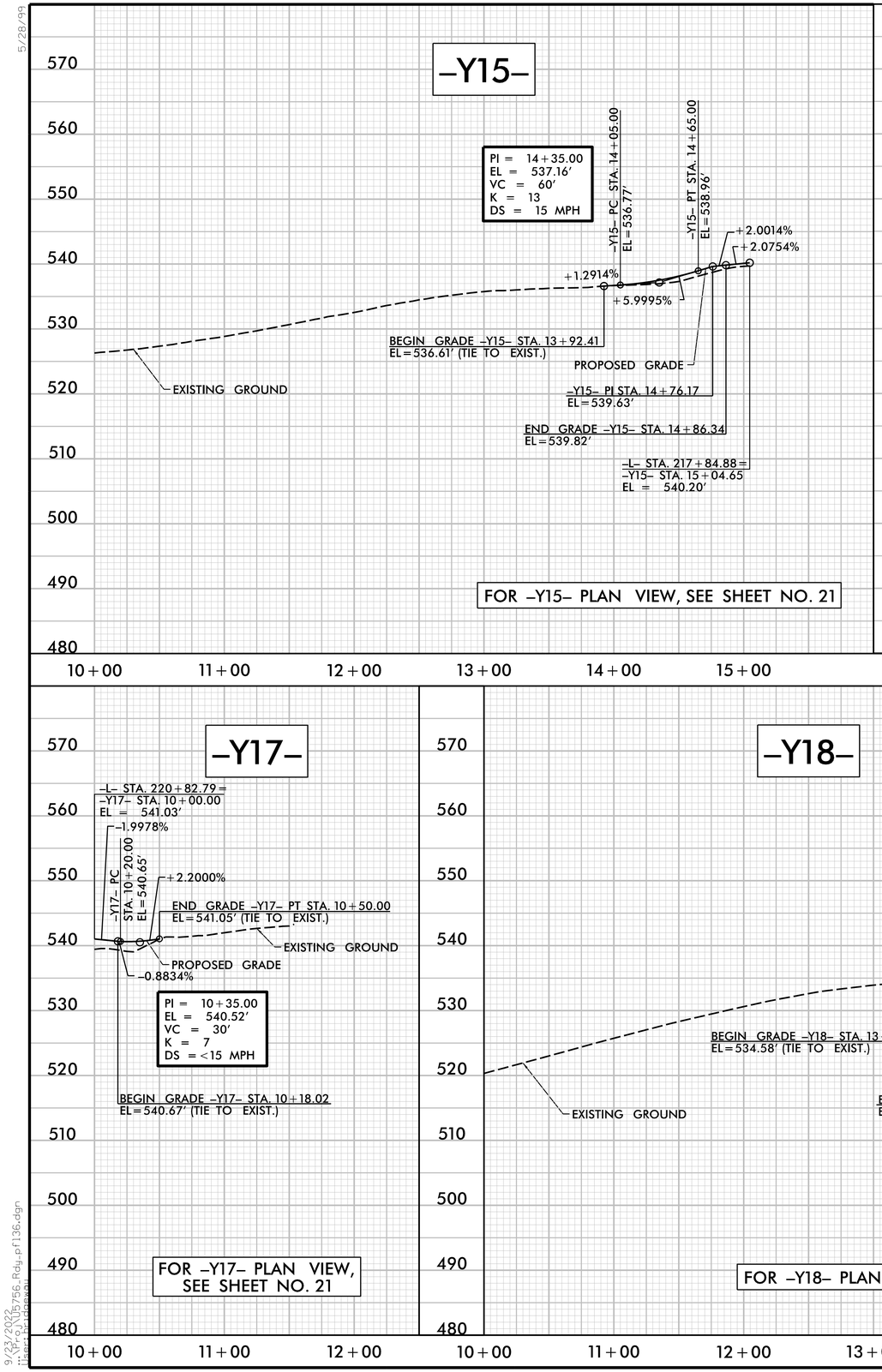


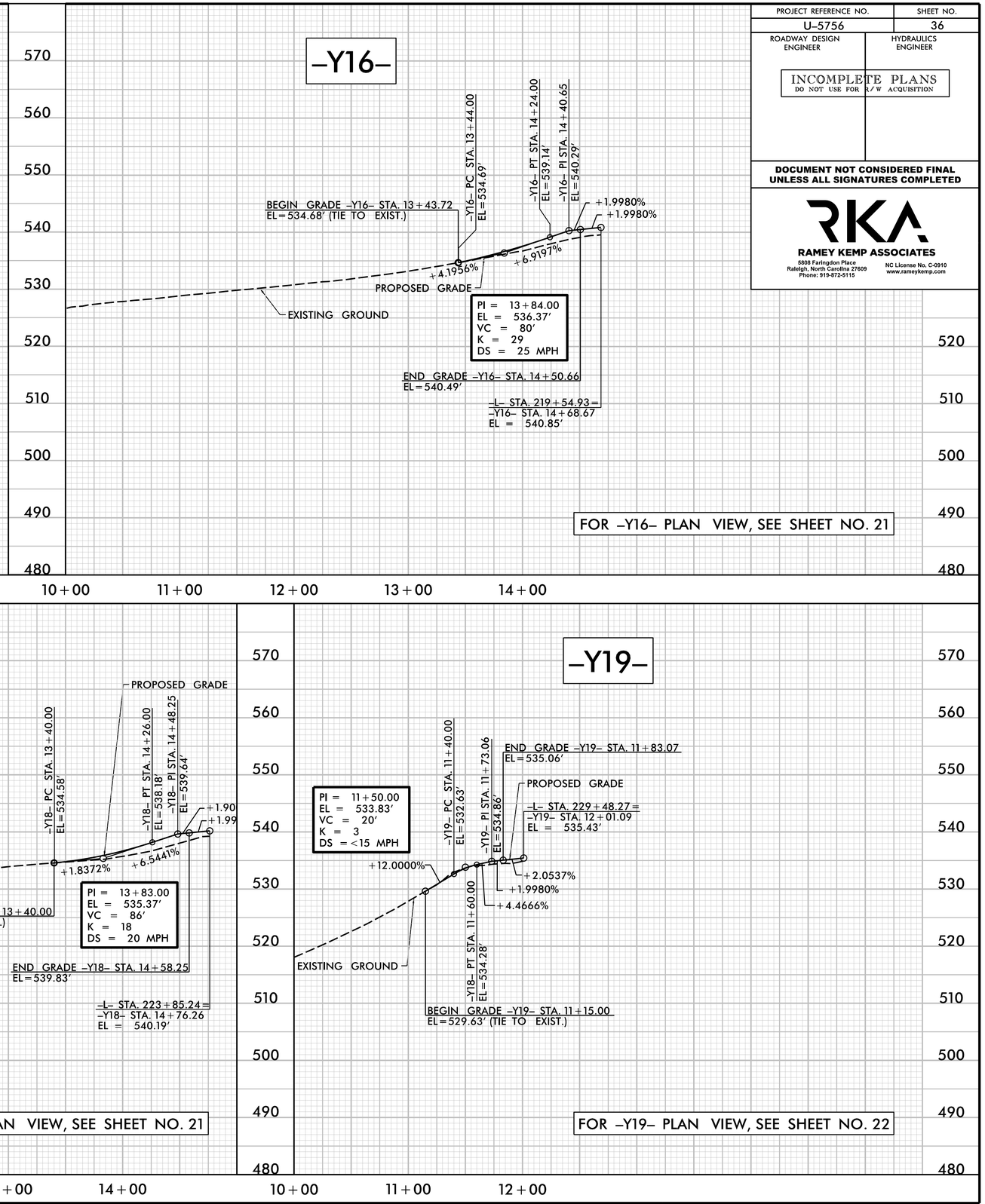





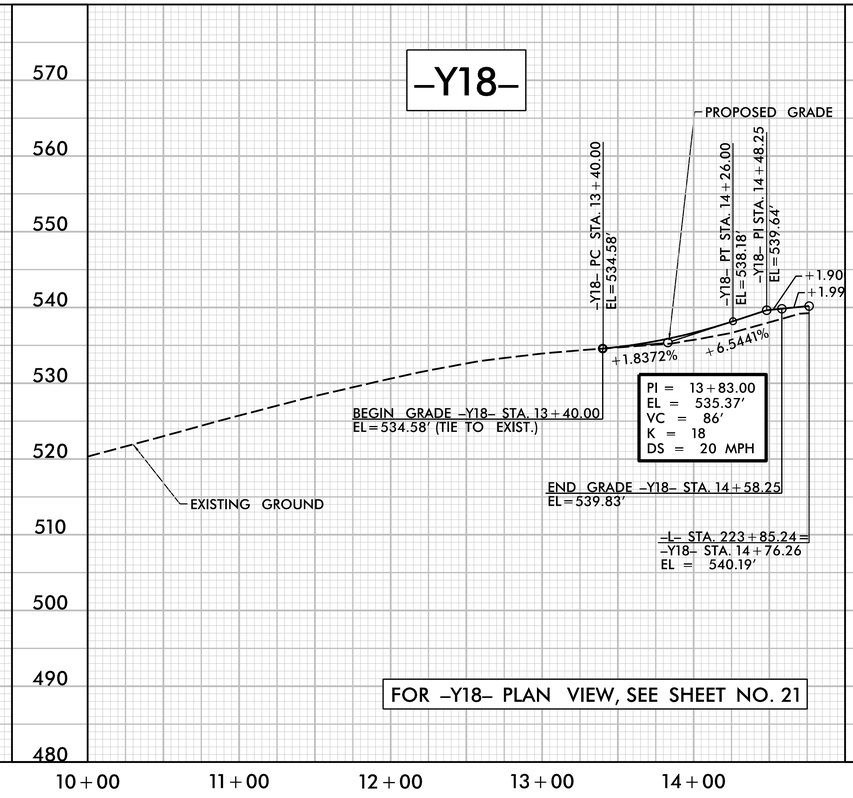





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