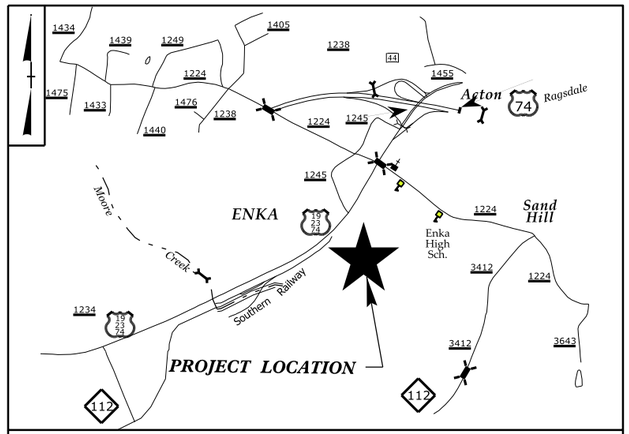
09/08/99

TIP PROJECT: U-6251A

CONTRACT: DM00323

See Sheet 1A For Index of Sheets



VICINITY MAP N.T.S.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

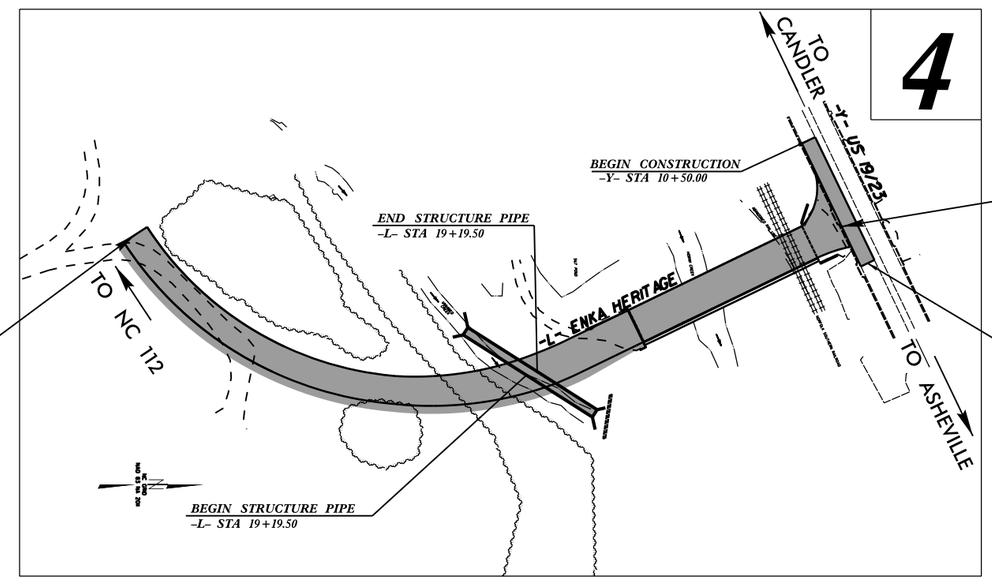
BUNCOMBE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6251A	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
49281.1.2	0019(066)	PE
49281.2.2	0019(066)	ROW
49281.3.2	0019(066)	CONST

LOCATION: ENKA HERITAGE

TYPE OF WORK: GRADING, DRAINAGE, PAVING, GUARDRAIL, AND STRUCTURES



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

V = 40 MPH

FUNC CLASS =

TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT U-6251 = 0.25 MILES

Prepared In the Office of:
NCDOT DIVISION 13
55 Orange Street Asheville NC, 28801

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUG 11, 2021

LETTING DATE:
NOVEMBER 3, 2021

MICHAEL G CLARK
PROJECT ENGINEER

WILLIAM C CARVER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
10/12/2021
DocuSigned by:
Marc T. Shown
4B024AEC0A0B4C2...P.E.
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 020870 ENGINEER Marc T. Shown

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARVER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

12-OCT-2021 13:59
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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-6251A	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CAMPER

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
RW02C-1 THRU RW02C-2	SURVEY CONTROL SHEET
2 THRU 2A	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B THRU 2D	ROADWAY DETAILS
3A	DRAINAGE & GUARDRAIL SUMMARY
3B	EARTHWORK SUMMARY
4 THRU 5	PLAN AND PROFILE SHEET
PM-1 THRU PM-2	PAVEMENT MARKING PLAN
EC-1 THRU EC-6	EROSION CONTROL PLANS
X-0	CROSS SECTION SUMMARY SHEET
X-1 THRU X-16	CROSS SECTION SHEETS
S-1 THRU S-3	STRUCTURE PLANS

GENERAL NOTES:

2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
REVISED:

GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER TO SECURE A PROPER TIE-IN

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. 560.01 AND 560.02 PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE
NONE

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

EFF. 01-16-2018
REV.

2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
240.01	Guide for Berm Ditch Construction
275.01	Rock Plating
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 5 - SUBGRADE, BASES, AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevation Curve - Method I
DIVISION 8 - INCIDENTALS	
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates, and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - for 12" thru 30" Pipe
840.15	Brick Drop Inlet - for 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.02	Drop Inlet Installation in Expressway Gutter
848.01	Concrete Sidewalk
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class "B" Rip Rap

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$$$$USERNAME$$$$

12/2/2016

PROJECT REFERENCE NO.	SHEET NO.
U-6251A	1-B

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.*)
- U/G Water Line LOS C (S.U.E.*)
- 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.

6/2/99

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

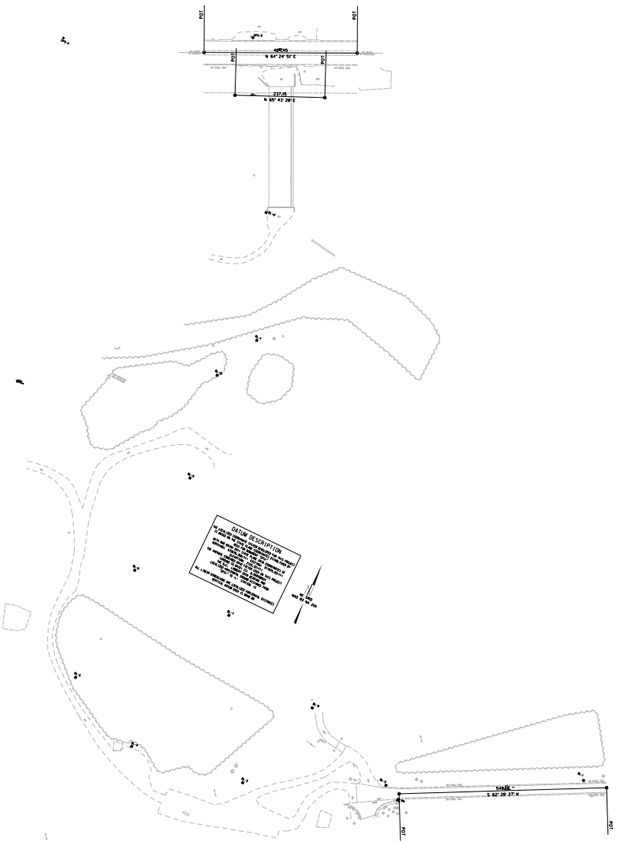
PROJECT REFERENCE NO.	SHEET NO.
U-6230 & U-6251	rw02c-1

Location and Surveys

INSERT CONSULTANT'S NAME

PROJECT SURVEYOR

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED


PNT
PNT
PNT

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
U-6230 & U-6251	rw02c-2

Location and Surveys

INSERT CONSULTANT'S NAME

PROJECT SURVEYOR

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

I, _____, PLS, certify that the Project Control was [performed/verified] under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: ***AA***
Type of GPS field procedure: [Static, OPUS, RTN]
Dates of survey: _____
Datum/Epoch:_____
Published/Fixed-control use: [Project Control if applicable, N/A for RTN]
Localized around: _____
Northing:_____
Easting:_____
Combined grid factor:_____
Geoid model:_____
Units:_____

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from _____ to _____, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This __ day of _____, 20_.

_____
Professional Land Surveyor L-XXXX

BL

POINT	DESC.	NORTH	EAST	ELEVATION
1	BL-1	673574.3560	916647.9580	2084.67
2	BL-2	673335.3410	916184.0910	2101.30
3	BL-3	673176.7300	915840.6190	2125.03
4	BL-4	673135.1420	915535.0630	2117.58
5	BL-5	673234.5030	915322.5130	2104.64
6	BL-6	673557.0330	915339.5630	2126.66
7	BL-7	673558.2750	915615.1250	2135.87
8	BL-8	673434.4830	915919.7940	2119.05
9	BL-9	673839.8050	915364.6460	2120.99
10	BL-10	674115.3150	915311.1720	2100.42
11	BL-11	674243.8300	915365.0780	2085.98
12	BL-12	674558.3050	915240.0460	2087.73
GPS3	GPS3	674958.3980	915007.5040	2083.47
GPS4	GPS4	674739.4960	914557.5980	2061.96

EY

POINT	DESC.	NORTH	EAST	ELEVATION
6002		674801.2060	915031.1435	UNKNOWN
6003		674898.7050	915247.3260	UNKNOWN

EL

POINT	DESC.	NORTH	EAST	ELEVATION
5006		673583.6802	916711.2092	UNKNOWN
5007		673330.3512	916225.1030	UNKNOWN

EY1

POINT	DESC.	NORTH	EAST	ELEVATION
6000		674867.1325	914908.3795	UNKNOWN
6001		675041.7990	915273.1670	UNKNOWN

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

REVISIONS

6/2/99

07-SEP-2021 15:49
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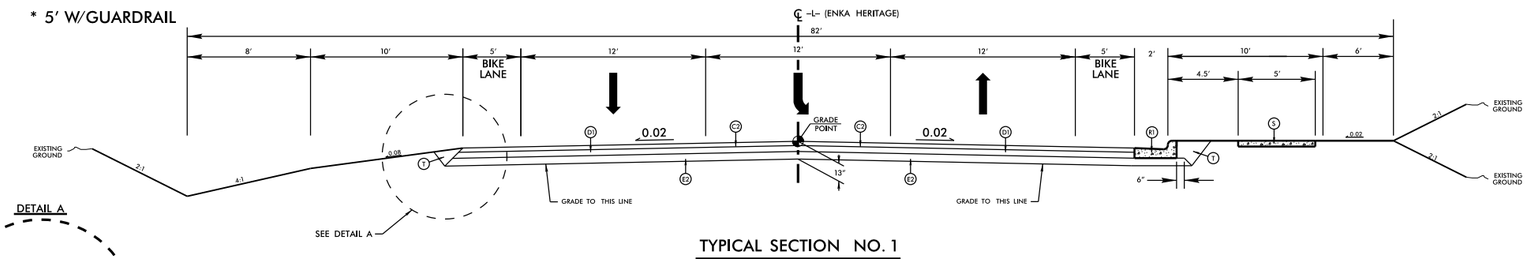
jlhouse
AT LS-300032

PROJECT REFERENCE NO.	SHEET NO.
U-6251A	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARVER

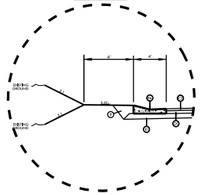
* 5' W/GUARDRAIL



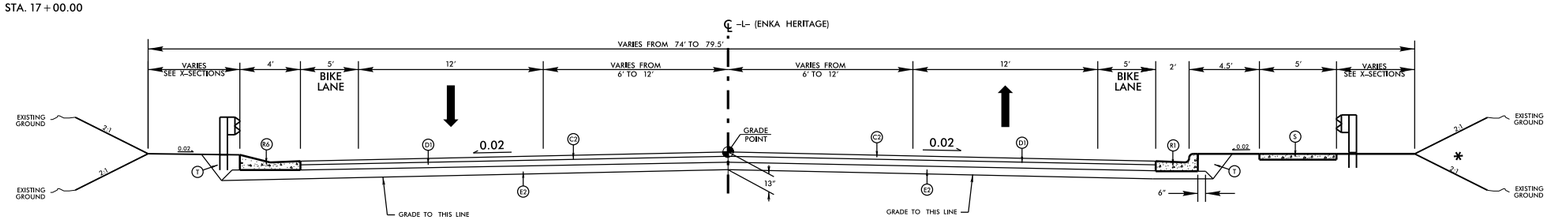
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- STA. 11+82.73 TO STA. 17+00.00

DETAIL A.



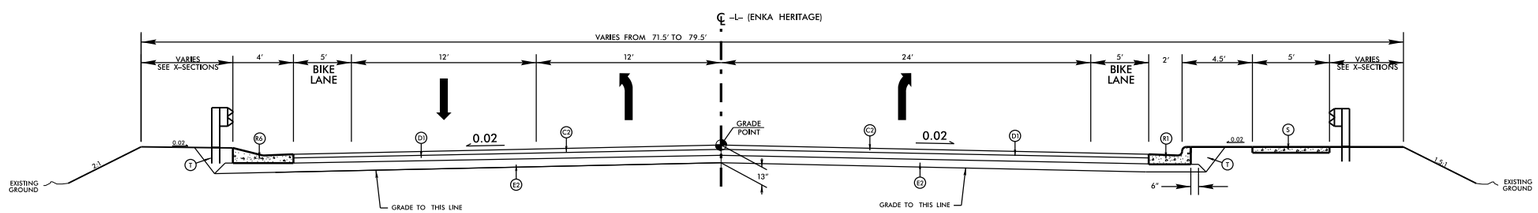
-L- STA. 16+50.00 TO STA. 17+00.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
-L- STA. 17+00.00 TO STA. 19+50.00

*NOTE: USE 1.5:1 SLOPE BETWEEN STA. 19+00 TO 19+50 RT



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
-L- STA. 19+50.00 TO STA. 21+03.13

A1	8" PORTLAND CEMENT CONCRETE PAVEMENT
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. OER SQ. YARD
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 336 LBS. PER SQ. YARD
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
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 NOT TO EXCEED 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
J1	6" AGGREGATE BASE COARSE
R1	2'-6" CONCRETE CURB AND GUTTER
R6	EXPRESSWAY GUTTER
S	5' CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	1.5" MILLING

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

6/2/99

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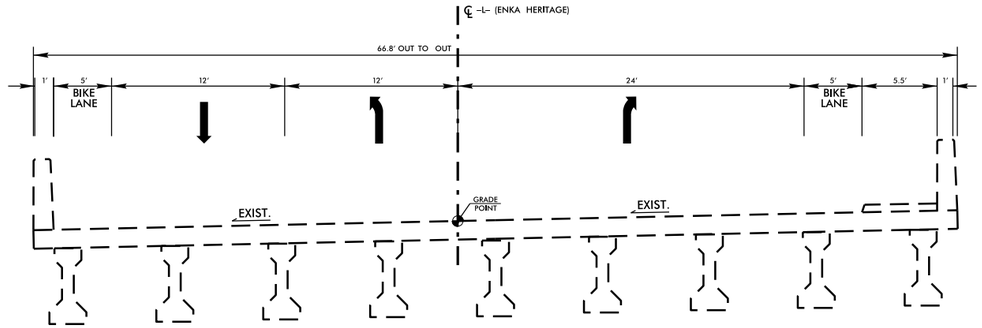
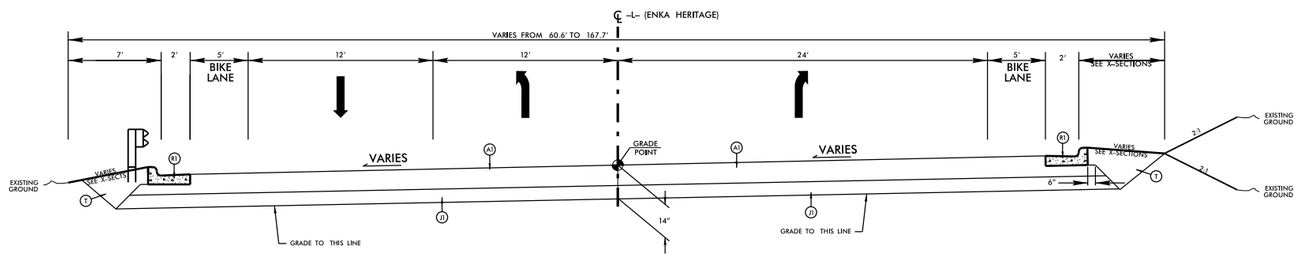
PROJECT REFERENCE NO.	SHEET NO.
U-6251A	2A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARVER



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
-L- STA. 21+03.13 TO STA. 24+52.13



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5
-L- STA. 24+52.13 TO STA. 24+94.81

A1	8" PORTLAND CEMENT CONCRETE PAVEMENT
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. OER SQ. YARD
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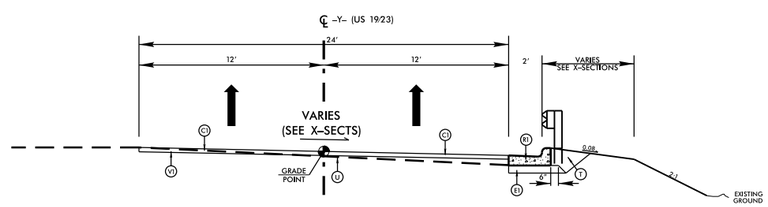
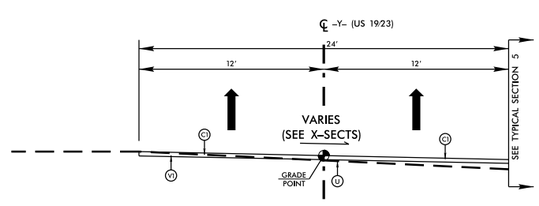
J1	6" AGGREGATE BASE COARSE
R1	2'-6" CONCRETE CURB AND GUTTER
R6	EXPRESSWAY GUTTER
S	5' CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	1.5" MILLING



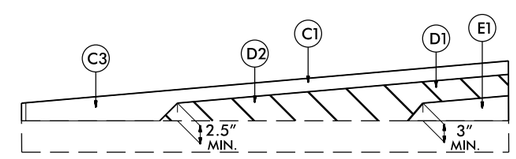
TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6
-Y- STA. 10+50.00 TO STA. 10+88.24
-Y- STA. 12+38.60 TO STA. 12+25.00



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7
-Y- STA. 10+88.24 TO STA. 12+38.60



Wedging Detail For Resurfacing

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

6/2/99
12-OCT-2021 15:09
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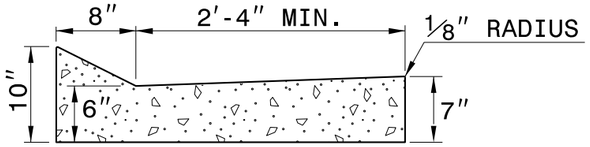
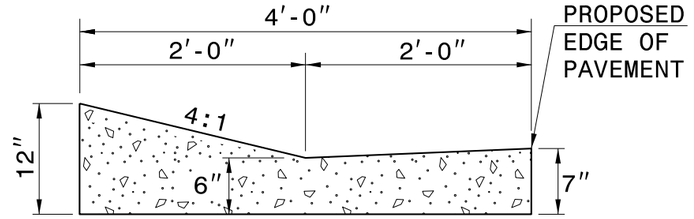


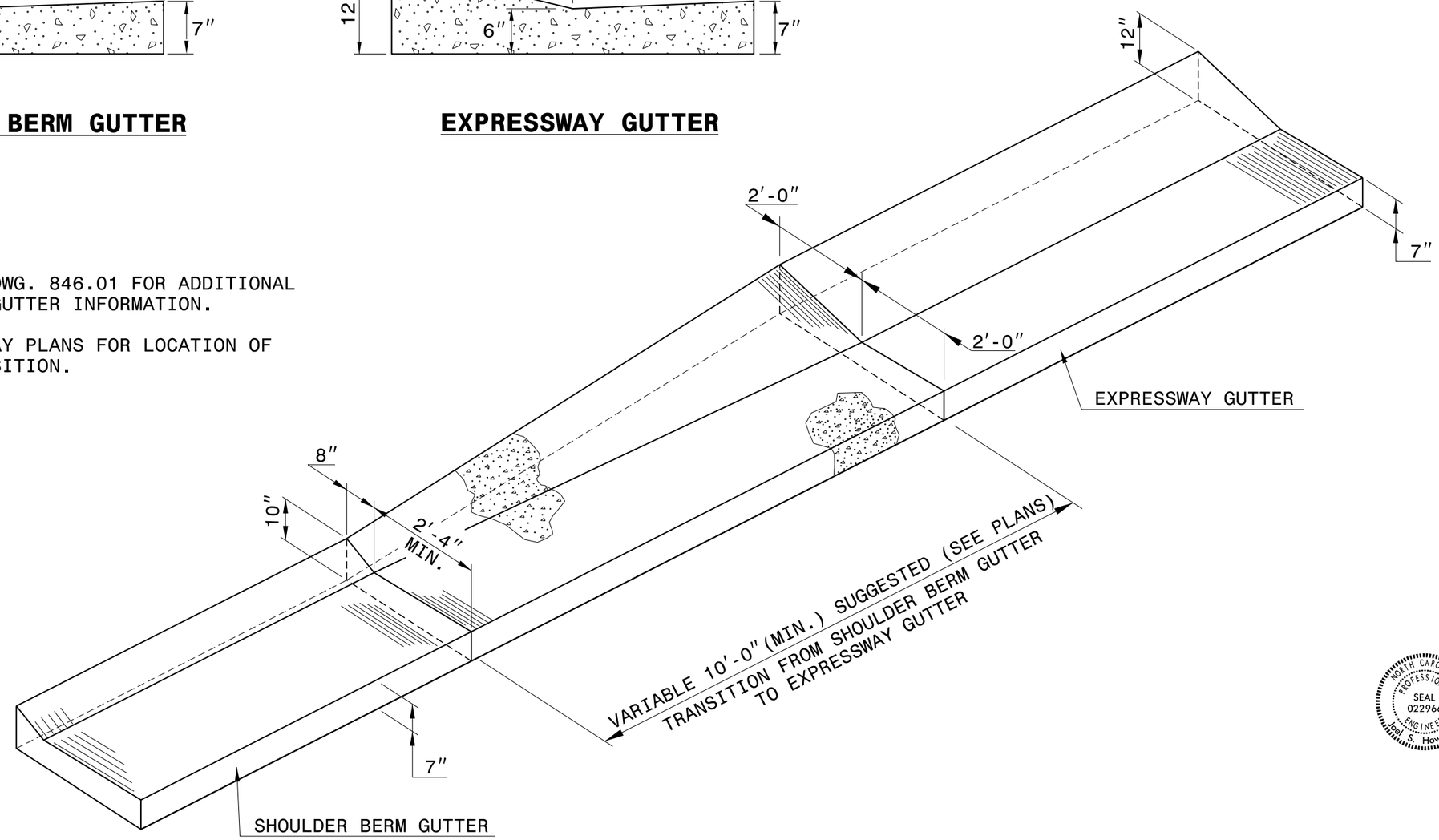
SHOULDER BERM GUTTER



EXPRESSWAY GUTTER

NOTE: SEE STD. DWG. 846.01 FOR ADDITIONAL CURB AND GUTTER INFORMATION.

SEE ROADWAY PLANS FOR LOCATION OF CURB TRANSITION.



ISOMETRIC VIEW OF TRANSITION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022966 Joel S. Howerton

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

DETAIL OF SHOULDER BERM GUTTER TO EXPRESSWAY GUTTER TRANSITION SECTION

ORIGINAL BY: T.S.Spell DATE: 8-13-02
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: w:usr/details/stand/cgtransit.dgn

5/14/99
04-JUN-2019 10:25
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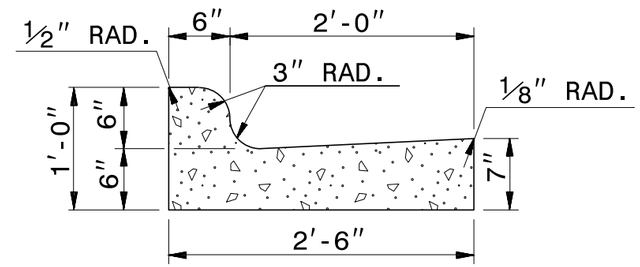
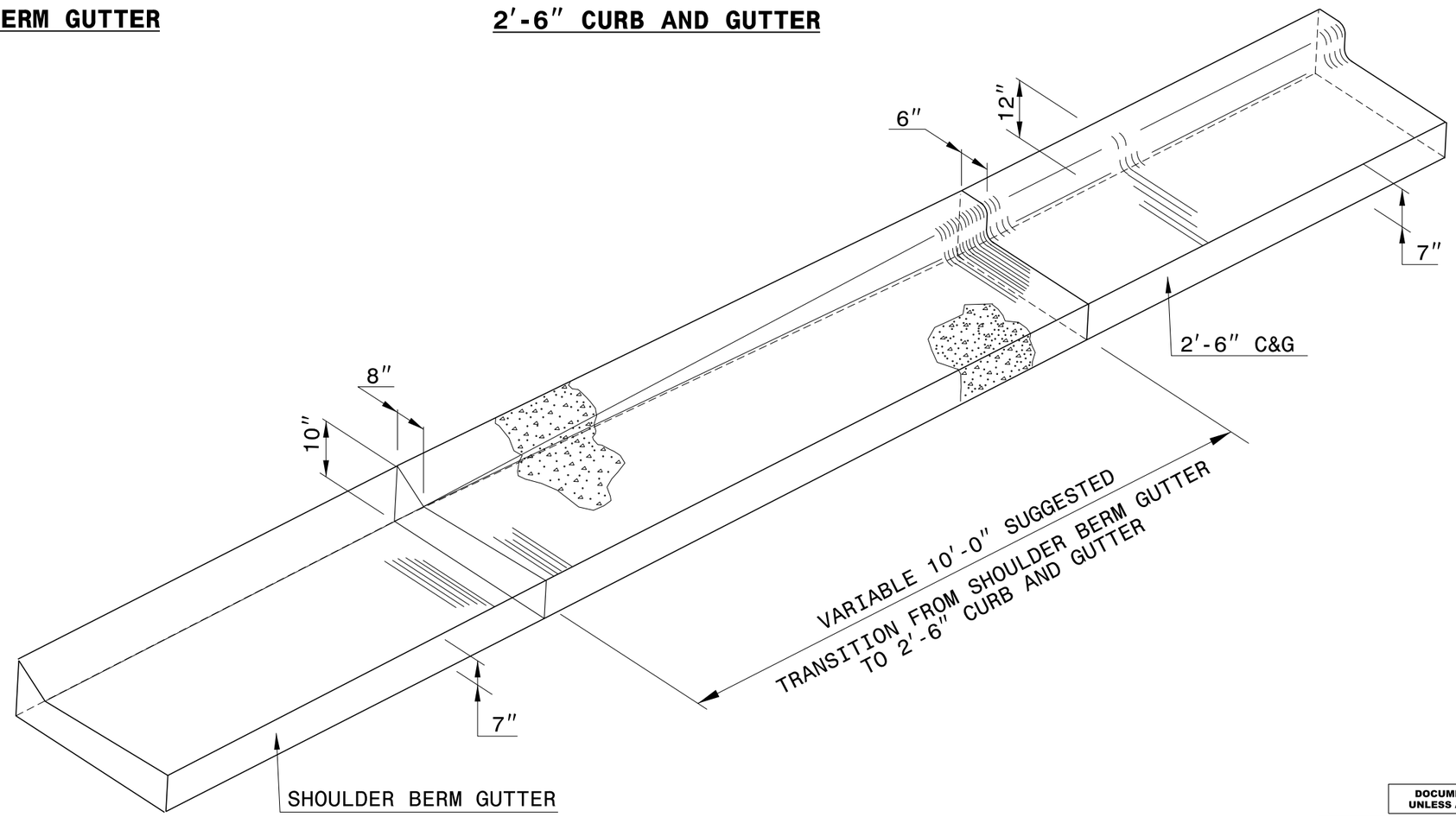
jhowerton AT CSD-292595

SHOULDER BERM GUTTER



2′-6″ CURB AND GUTTER

*NOTE: SEE STD. DWG. 846.01
FOR GENERAL NOTES



ISOMETRIC VIEW OF TRANSITION

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

**DETAIL OF SHOULDER BERM GUTTER
TO 2′-6″ CURB & GUTTER
TRANSITION SECTION**

ORIGINAL BY: E.E. WARD DATE: 5-29-02
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: /usr/details/stand/cgtransit.dgn

5/14/99
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jhowerton AT CSD-292595

14-DEC-2017 10:36
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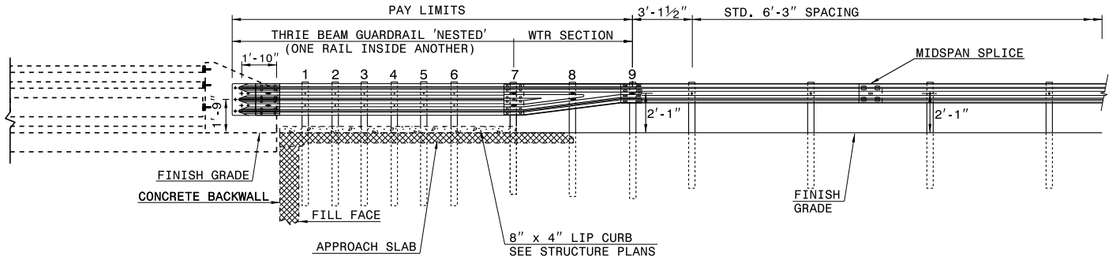
jhowerton AT CSD-292595

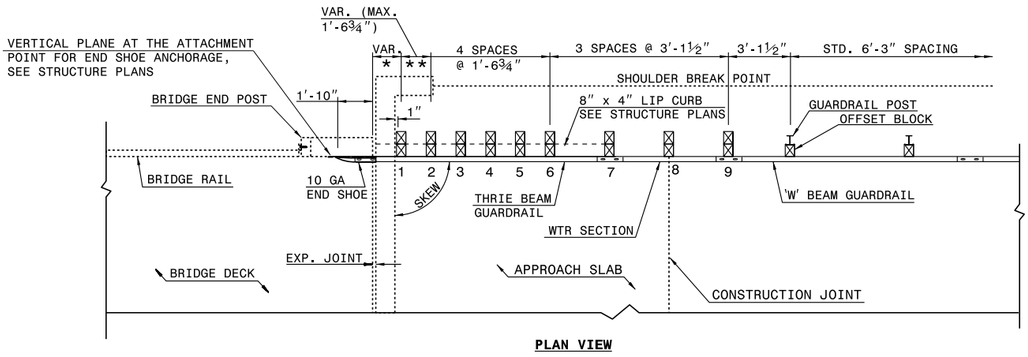
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III
FOR ATTACHMENT TO RAIL ON BRIDGE



ELEVATION

NOTE:
**POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
-SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
-MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
-LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
-SEE SHEET 3 FOR POST SECTIONS 1 THRU 9.



PLAN VIEW

GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE

SHEET 1 OF 7
862D03

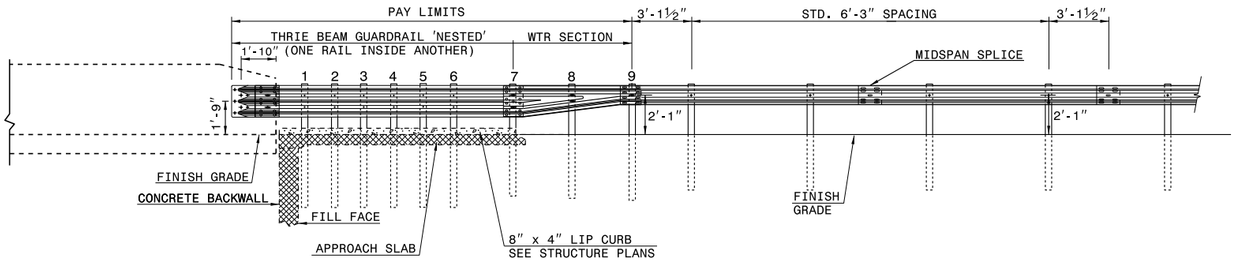
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III
FOR ATTACHMENT TO RAIL ON BRIDGE

SHEET 1 OF 7
862D03

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON BRIDGE - SUB REGIONAL TIER



ELEVATION

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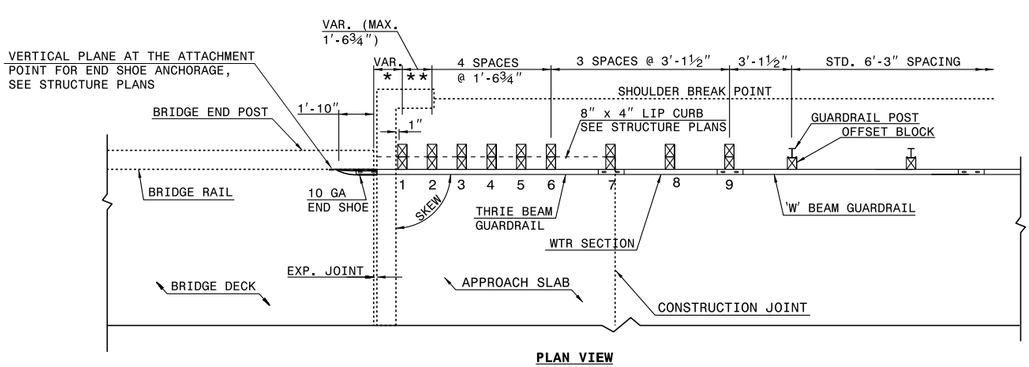
-MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
-LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
-SEE SHEET 3 FOR POST SECTIONS 1 THRU 9.



PLAN VIEW

GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862D03

U-6251A

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862D03

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON DATE: 06-22-12
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER
John S. Howerton

PROJECT REFERENCE NO. U-6251A
SHEET NO. 2D

COMPUTED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____

PROJECT REFERENCE NO.	SHEET NO.
U-6251A	3A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
STATEWIDE
LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300–5".

| STATION | LOCATION (LT,RT, OR CL) | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | SLOPE CRITICAL | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE | C.S. PIPE 12" | 15" | 18" | 24" | 36" | 42" | 48" | R.C. PIPE (CLASS III) 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE (CLASS IV) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | 180" CAA STRUCTURAL PLATE PIPE, 0.25" THICK | "*" R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') PER EACH (0' THRU 5.0') | LIN. *FT. A 5.0' THRU 10.0' | LIN. *FT. B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | | CONCRETE TRANSITIONAL SECTION CATCH BASIN | DROP INLET | D.I. STD 840.16 | G.D.I. FRAME (N.S. FLAT) W/2 GRATES STD 840.29 | | | | | CORR. STEEL ELBOWS NO. & SIZE | CONC. COLLARS CL. "B" C.Y. STD 840.72 | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | PIPE REMOVAL LIN.FT. | REMARKS |
|---|---|---

Earthwork Balance Sheet

Volumes in Cubic Yards

PROJECT U-6251A COUNTY: Buncombe DATE: 7/7/2021 COMPILED BY: WCC SHEET 3B

STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE			
		TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMBANK. +15%		ROCK	SUITABLE	UNSUIT.	TOTAL
(-L-)	(-L-)														
11+82.73	21+18.56	58,529				58,529	28,572		28,572	32,858			25,671		25,671
24+63.11	24+94.81	234				234	30		30	35			200		200
	SUBTOTAL	58,763				58,763	28,602		28,602	32,892			25,870		25,870
(-Y-)	(-Y-)														
10+50	12+75	6				6	116		116	133	127				
	SUBTOTAL	6				6	116		116	133	127				
	SHEET TOTAL	58,769				58,769	28,718		28,718	33,025	127		25,870		25,870
	SAY	58,000									130				

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, and clearing and grubbing will be paid for the contract lump sum price for "grading"

CONTINGENCY ITEMS

INCIDENTAL STONE = 50 TONS
SHALLOW UNDERCUT = 200 CY
SELECT GRANULAR MATERIAL = 50 CY
GEOTEXTILE FOR SOIL STABILIZATION = 300 SY
CLASS IV SUBGRADE STABILIZATION = 200 TONS

PROJECT REFERENCE NO.	SHEET NO.
U-6251A	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARVER

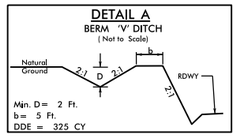
NORTH CAROLINA PROFESSIONAL SEAL 028870 ENGINEER Marc Shown

10/12/2021

DocuSigned by: Marc Shown 4B024AEC0A0B4C2...

SEE S-1 THRU S-3 FOR STRUCTURE PLANS

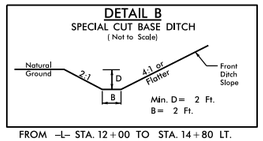
DETAIL A
BERM 'V' DITCH
(Not to Scale)



Min. D= 2 Ft.
b= 5 Ft.
DDE = 325 CY

FROM –L– STA. 13+00 TO STA. 14+00 RT.
–L– STA. 14+00 TO STA. 14+77 RT.
–L– STA. 14+77 TO STA. 15+00 RT.
–L– STA. 16+00 TO STA. 17+38 RT.

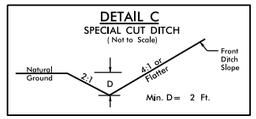
DETAIL B
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D= 2 Ft.
B= 2 Ft.

FROM –L– STA. 12+00 TO STA. 14+80 LT.

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 2 Ft.

FROM –L– STA. 14+80 TO STA. 16+00 LT.

–L–
PI Sta 16+80.11
Δ = 94° 28' 44" (LT)
D = 10° 08' 27"
L = 931.67'
T = 610.99'
R = 565'
SE = .04
DS = 40 MPH

BEGIN TIP PROJECT U-6251A
–L– STA. 11+82.73

–L– POT Sta.10+00.00

–L– PC Sta.10+69.12

–L– POT Sta.14+06.19

BEGIN CONSTRUCTION
–Y– STA. 10+50.00

END TIP PROJECT U-6251A
–L– STA. 24+94.81

–L– POT Sta.25+07.03
–Y– POT Sta.12+01.84

END CONSTRUCTION
–Y– STA. 12+75.00

ENKA YOUTH SPORTS ORGANIZATION, INC.
DB 5785 PG 122

ENKA PARTNERS OF ASHEVILLE, LLC
PB 168 PG 117
DB 4590 PG 161

ENKA YOUTH SPORTS ORGANIZATION, INC.
PB 168 PG 119
DB 5499 PG 1811

FLETCHER PARTNERS, INC.
DB 4622 PG 146
PB 141 PG 166

ACTON WOODS LLC
DB 4500 PG 110

J CALDWELL PROPERTIES LLC
DB 4156 PG 925
PB 140 PG 187
LOT B

48" CHAIN LINK FENCE TO BE INSTALLED ON THE EXISTING STRUCTURE WING WALLS

–L– STA. 24+37 +/– TO STA. 24+59 +/– LT. = 35 LF
–L– STA. 24+37 +/– TO STA. 24+67 +/– RT. = 35 LF

250' TAPER (LT AND RT)

NC GRID NAD 83 NA 2011

SEE SHEET 5 FOR PROFILE

NOTE: ALL RIGHT OF WAY FOR PROJECT IS TO BE AQUIRED BY PERMANENT EASEMENT

REVISIONS

8/17/99

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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-6251A	5

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARPER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 020870 ENGINEER
10/12/2021
DocuSigned by: Matthew P. Shown
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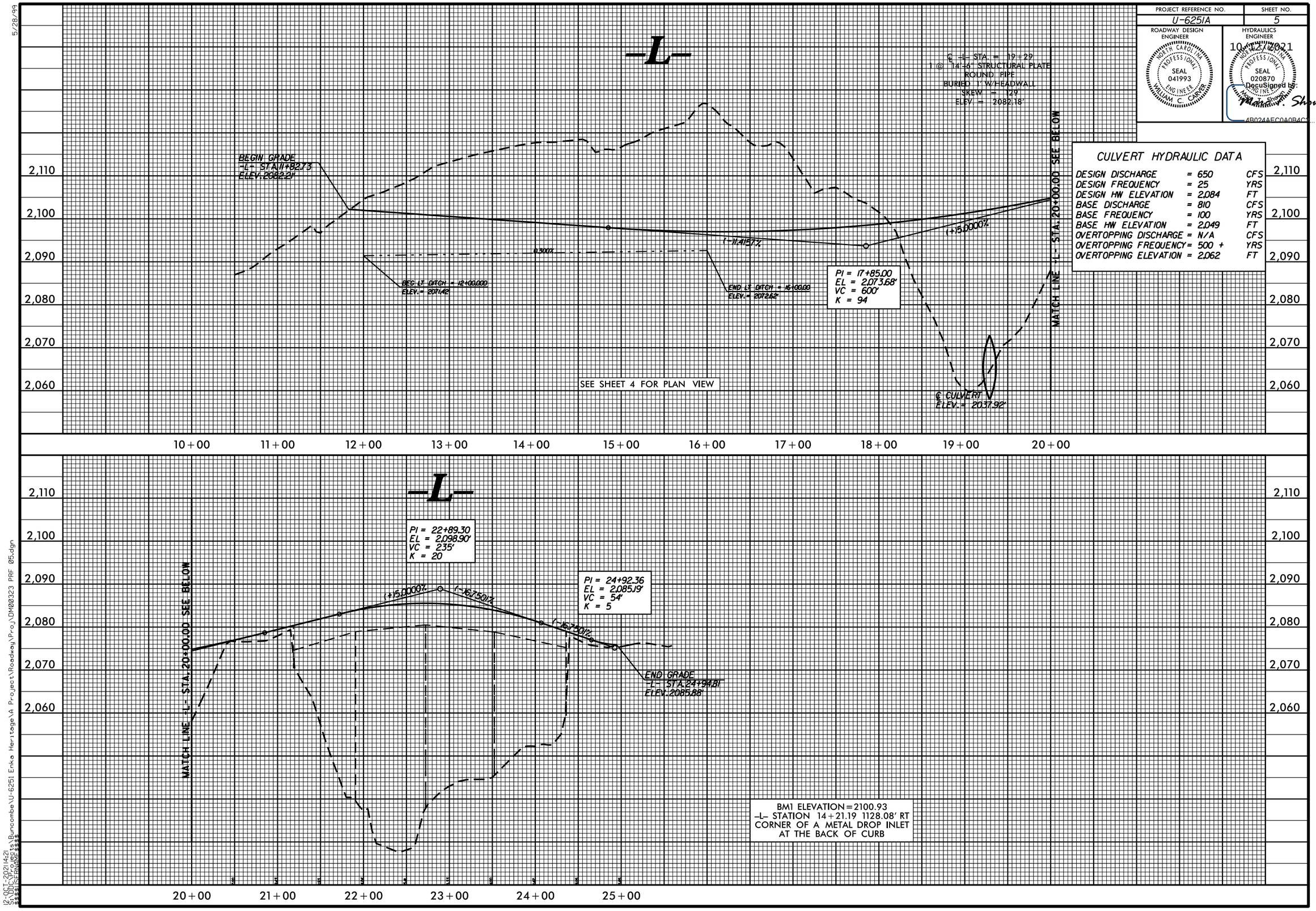

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 650	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 2,084	FT
BASE DISCHARGE	= 810	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 2,049	FT
OVERTOPPING DISCHARGE	= N/A	CFS
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING ELEVATION	= 2,062	FT

5/28/99

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PAVEMENT MARKING PLAN
BUNCOMBE COUNTY

TIP NO.	SHEET NO.
U-6251A	PMP-1

APPROVED: _____

DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARVER

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATE JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1253.01	RAISED PAVEMENT MARKERS - SNOWPLOWABLE

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE, INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, GENERAL NOTES, AND FINAL PAVEMENT MARKING SCHEDULE
PMP-2	FINAL PAVEMENT MARKING PLAN

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ENKA HERITAGE (-L-)	PAINT	NONE
US 19-23	POLYUREA	SNOWPLOWABLE RAISED

USE THEROMPLASTICS FOR STOP BARS, SYMBOLS, CHARACTERS, AND DIAGONALS ALL ROADS.

B) TIE PROPOSED PAVEMENT MARKINGS LINES TO EXISTING PAVEMENT MARKING LINES.

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

D) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

E) REMOVE ALL RESIDUE AND SURFACE LAITANCE BY ACCEPTABLE METHODS ON CONCRETE BRIDGE DECKS PRIOR TO PLACING PAVEMENT MARKING MATERIAL. IN ACCORDANCE WITH APPROVED METHODS AND THE 2012 STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, THE CONTRACTOR SHALL REMOVE CURING COMPOUND FROM ALL OTHER CONCRETE SURFACES PRIOR TO PLACING FINAL PAVEMENT MARKING MATERIAL.

F) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS, AND DIAGONALS. IF HEATED-IN-PLACED IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

FINAL PAVEMENT MARKING SCHEDULE

PAVEMENT MARKINGS

THERMOPLASTICS (24", 90 MILS)

T2	WHITE STOP

PAINT (4")

VA	WHITE EDGELINE
VB	YELLOW EDGELINE
VC	10 FT. WHITE SKIP
VD	3 T. - 9FT/SP WHITE MINISKIP
VF	10 FT. YELLOW SKIP
VH	YELLOW SINGLE CENTER
VI	YELLOW DOUBLE CENTER

THERMOPLASTIC (8", 90 MILS)

TQ	WHITE CROSSWALK LINE

THERMOPLASTIC (8", 90 MILS)

TP	YELLOW DIAGONAL

PAVEMENT MARKINGS

THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)

UA	LEFT TURN ARROW
UB	RIGHT TURN ARROW
UC	STRAIGHT ARROW

SNOWPLOWABLE RAISED PAVEMENT MARKERS

ME	YELLOW & YELLOW
MF	CRYSTAL & RED

21-SEP-2021 17:06
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$$$$USERNAME$$$$

TIP NO.	SHEET NO.
U-6251A	PMP-2

APPROVED: _____

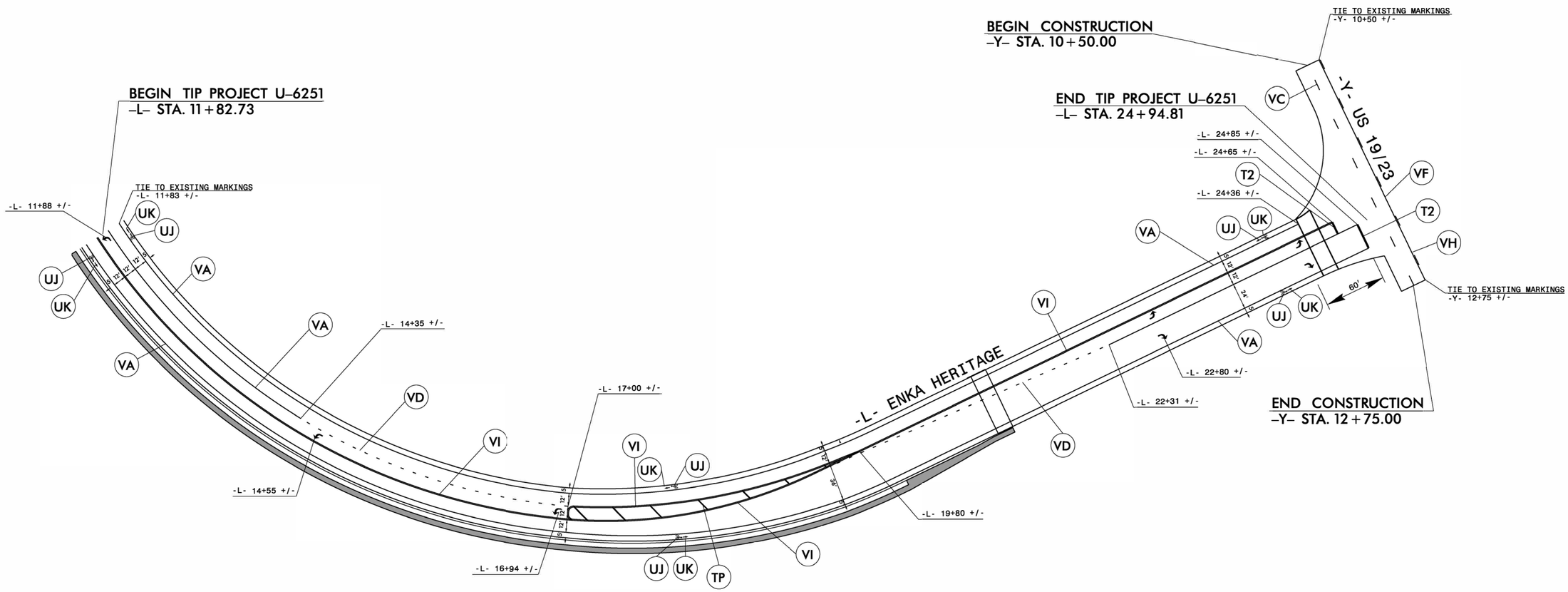
DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARKER

NOTES:

- SEE SHEET PMP-1 FOR FINAL PAVEMENT MARKING SCHEDULE
- SEE NCDOT 2018 STANDARD DRAWING 1205.08 FOR BICYCLE LANE AND SHARED LANE SYMBOLS.
- BICYCLE LANE WIDTH IS 5'.
- BICYCLE LANE SYMBOLS SHOULD BE PLACED AT 600' SPACING.
- SEE NCDOT 2018 STANDARD DRAWING 1250.01 FOR PLACEMENT OF MARKERS (ME) AND (MF).



NC GRID
NAD 83 NA 2011

50 25 0 50 100
SCALE

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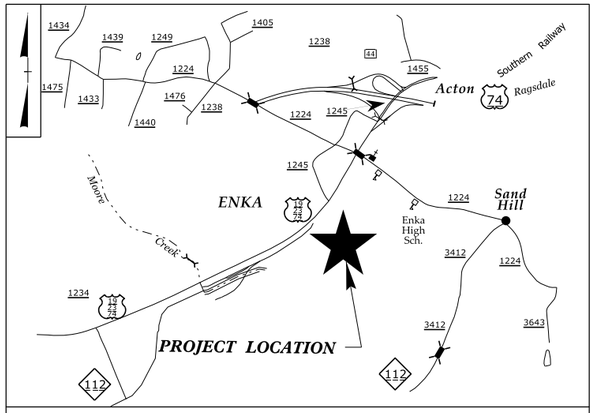
TIP PROJECT: U-6251A

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6251A	EC-1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

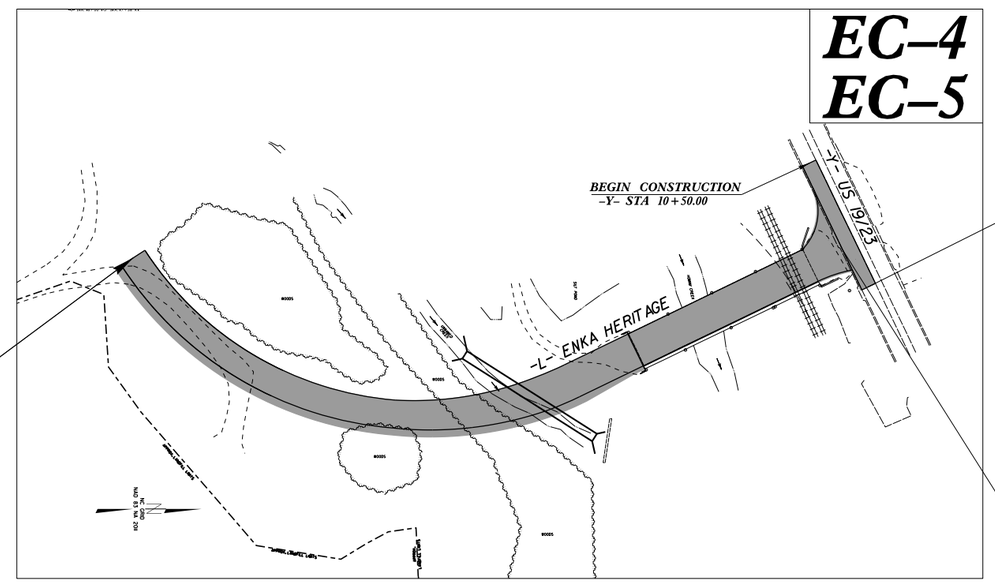


VICINITY MAP
N.T.S.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

EC–4
EC–5



BEGIN TIP PROJECT U–6251A
–L– STA 11+82.73

END TIP PROJECT U–6251A
–L– STA 24+94.81

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	SW CFW
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

GRAPHIC SCALE

25 0 50
PLANS

25 0 50
PROFILE (HORIZONTAL)

5 0 10
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG–010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared in the Office of:

ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2018 STANDARD SPECIFICATIONS

Designed by:

Hampton Fletcher — *3382*
NAME — *LEVEL III CERTIFICATION NO.*

Roadway Standard Drawings

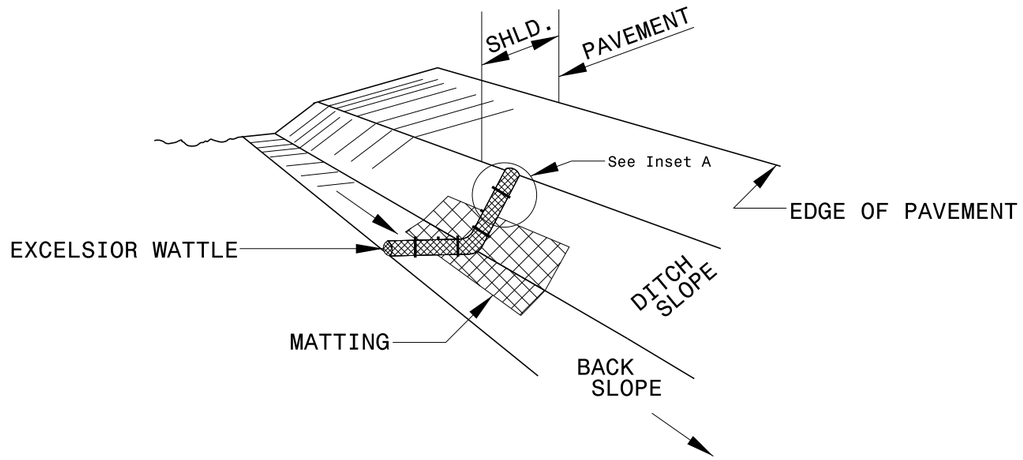
The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

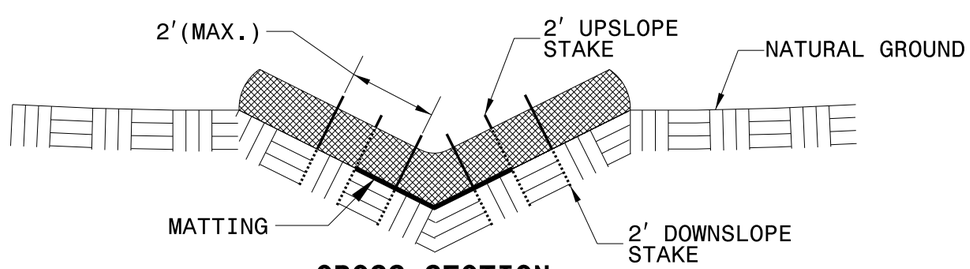
U-6251_EC_tsh.dgn 21-SEP-2021 17:10 P:\project\Environmental\Design\U-6251_ddc_EC_tsh.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-6251A	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

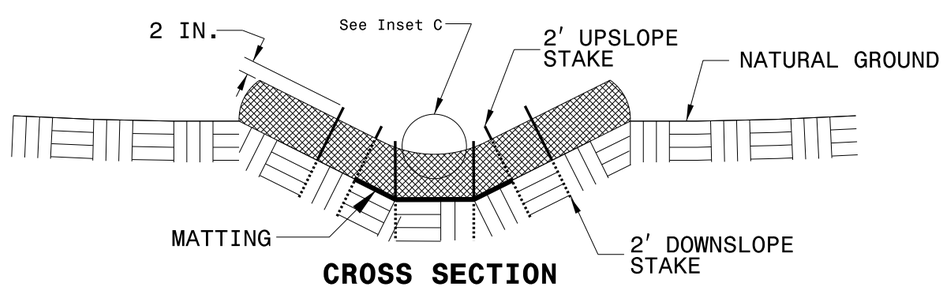
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

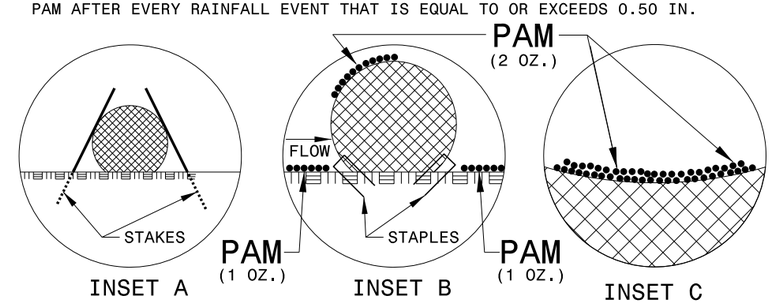
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

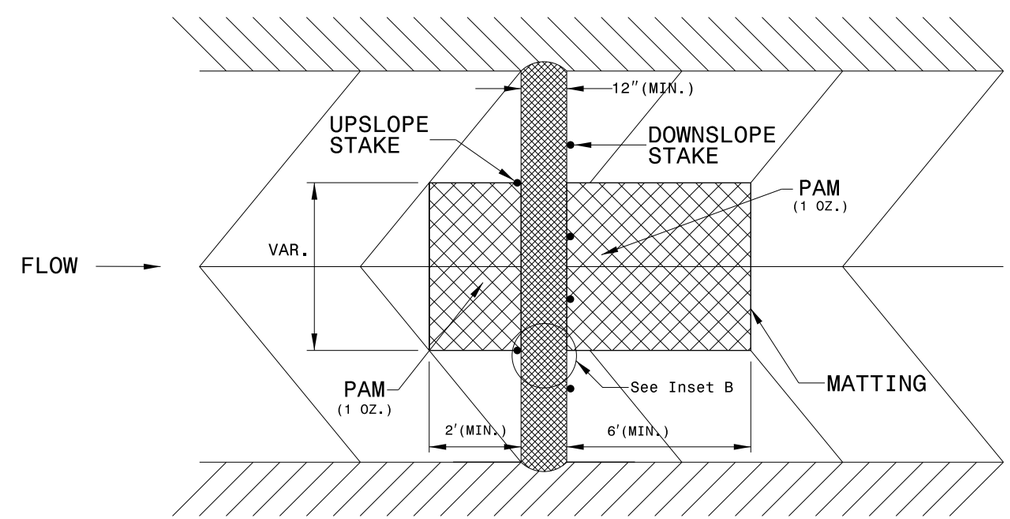
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.





TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
U-6251A	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO.	SHEET NO.
U-6251A	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	L	17+50	21+00	LT	3250
4	L	17+50	21+00	RT	1500
4	L	24+50	25+00	LT	250
				SUBTOTAL	
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					
				TOTAL	
				SAY	

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)

PROJECT REFERENCE NO.	SHEET NO.
U-6251	EC-4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SEE S-1 THRU S-3 FOR STRUCTURE PLAN

-L-
PI Sta 16+80.11
Δ = 94° 28' 44" (LT)
D = 10° 08' 27"
L = 931.67'
T = 610.99'
R = 565'
SE = .04
DS = 40 MPH

BEGIN TIP PROJECT U-6251A
-L- STA. 11+82.73

-L- POT Sta.10+00.00

-L- PC Sta.10+69.12

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

BEGIN CONSTRUCTION
-Y- STA. 10+50.00

END TIP PROJECT U-6251A
-L- STA. 24+94.81

-L- POT Sta.25+07.03
-Y- POT Sta.12+01.84

POT Sta.14+06.19

END CONSTRUCTION
-Y- STA. 12+75.00

-L- PT Sta.20+00.79

N 25° 49' 42" W

N 64° 20' 00" E

ENKA PARTNERS OF ASHEVILLE, LLC
PB 168 PG 117
DB 4590 PG 161

ENKA YOUTH SPORTS ORGANIZATION, INC.
DB 5785 PG 122

FLETCHER PARTNERS, INC.
DB 4622 PG 146
PB 141 PG 166

ACTON WOODS LLC
DB 4500 PG 110

ENKA YOUTH SPORTS ORGANIZATION, INC.
PB 168 PG 119
DB 5499 PG 181

J CALDWELL PROPERTIES LLC
DB 4156 PG 925
PB 140 PG 187
LOT B

250' TAPER (LT AND RT)

DO NOT DISTRUB MONITORING WELL

APPROX. LANDFILL LIMITS

NC GRID
NAD 83 NA 2011

SEE SHEET 5 FOR PROFILE

NOTE: ALL RIGHT OF WAY FOR PROJECT IS TO BE AQUIRED BY PERMANENT EASEMENT

REVISIONS

8/17/99

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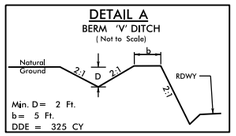
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-6251	EC-5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SEE S-1 THRU S-3 FOR STRUCTURE PLAN

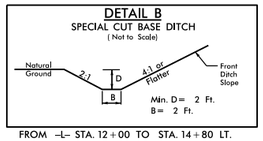
DETAIL A
BERM 'V' DITCH
(Not to Scale)



Min. D= 2 Ft.
b= 5 Ft.
DDE = 325 CY

FROM -L- STA. 13+00 TO STA. 14+00 RT.
-L- STA. 14+00 TO STA. 14+77 RT.
-L- STA. 14+77 TO STA. 15+00 RT.
-L- STA. 16+00 TO STA. 17+38 RT.

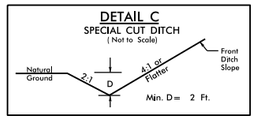
DETAIL B
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D= 2 Ft.
B= 2 Ft.

FROM -L- STA. 12+00 TO STA. 14+80 LT.

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 2 Ft.

FROM -L- STA. 14+80 TO STA. 16+00 LT.

-L-
PI Sta 16+80.11
Δ = 94° 28' 44" (LT)
D = 10° 08' 27"
L = 931.67'
T = 610.99'
R = 565'
SE = .04
DS = 40 MPH

FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 4

BEGIN TIP PROJECT U-6251A
-L- STA. 11+82.73

-L- POT Sta.10+00.00

-L- PC Sta.10+69.12

END TIP PROJECT U-6251A
-L- STA. 24+94.81

-L- POT Sta.20+00.79

BEGIN CONSTRUCTION
-Y- STA. 10+50.00

-L- POT Sta.25+07.03
-Y- POT Sta.12+01.84

POT Sta.14+06.19

END CONSTRUCTION
-Y- STA. 12+75.00

ENKA PARTNERS OF ASHEVILLE, LLC
PB 168 PG 117
DB 4590 PG 161

ENKA YOUTH SPORTS ORGANIZATION, INC.
DB 5785 PG 122

ENKA YOUTH SPORTS ORGANIZATION, INC.
PB 168 PG 119
DB 5499 PG 1811

FLETCHER PARTNERS, INC.
DB 4622 PG 146
PB 141 PG 166

FLETCHER PARTNERS, INC.
DB 4622 PG 146
PB 141 PG 152

ACTON WOODS LLC
DB 4500 PG 110

J CALDWELL PROPERTIES LLC
DB 4156 PG 925
PB 140 PG 187
LOT B

48" CHAIN LINK FENCE TO BE INSTALLED ON THE EXISTING STRUCTURE WING WALLS

-L- STA. 24+37 +/- TO STA. 24+59 +/- LT. = 35 LF
-L- STA. 24+37 +/- TO STA. 24+67 +/- RT. = 35 LF

250' TAPER (LT AND RT)

NC GRID NAD 83 NA 2011

SEE SHEET 5 FOR PROFILE

NOTE: ALL RIGHT OF WAY FOR PROJECT IS TO BE AQUIRED BY PERMANENT EASEMENT

REVISIONS

8/17/99

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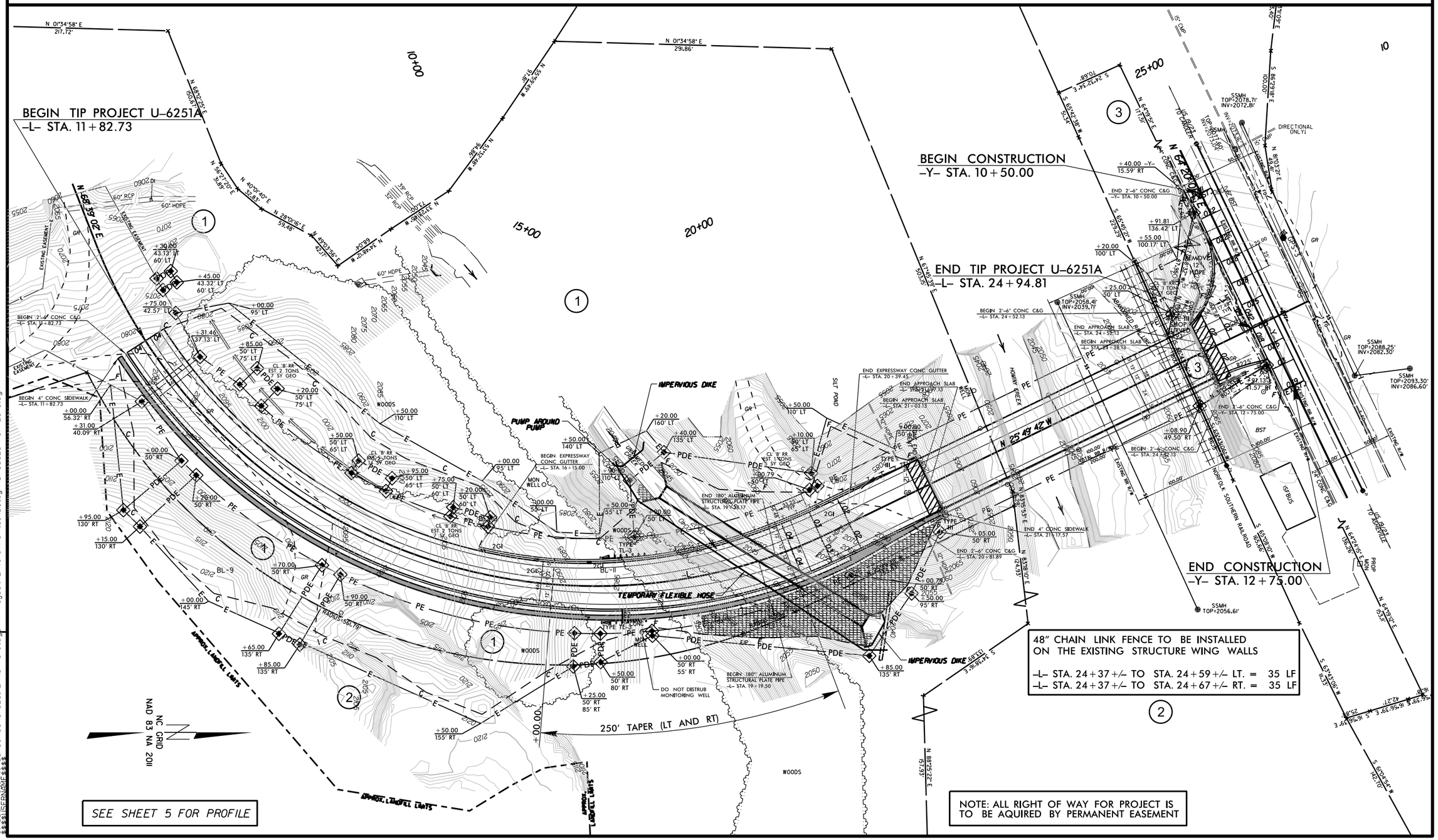
UT TO HOMINEY CREEK
CULVERT CONSTRUCTION SEQUENCE STA. 19 + 00 –L–

PROJECT REFERENCE NO.	SHEET NO.
U-6251A	EC-6
R/W SHEET NO.	

1. CONSTRUCT AN UPSTREAM AND DOWNSTREAM IMPERVIOUS DIKE AND INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
2. INSTALL PUMPING APPARATUS FOR DEWATERING OF WORK AREA. AREA TO BE DEWATERED SHALL EQUAL ONE DAY'S WORK.
3. INSTALL PROPOSED PIPE AND HEADWALLS IN ACCORDANCE WITH THE PLANS.
4. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKE. STABILIZE DISTURBED AREA AND BACKFILL ACCORDINGLY.



COMPUTED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____

PROJECT REFERENCE NO.	SHEET NO.
U-6251A	X-0

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

STATION -L-	UNCLASSIFIED EXCAVATION	EMBT
11+82.73 (BEGIN PROJECT)	0	0
12+00	150	4
12+50	1925	0
13+00	4002	0
13+50	5549	0
14+00	6379	0
14+50	6214	0
15+00	5844	0
15+50	6756	0
16+00	7641	0
16+50	6366	0
17+00	4076	0
17+50	2405	0
18+00	982	349
18+50	143	3060
19+00	0	6634
19+50	0	7760
20+00	0	6008
20+50	48	2654
21+00	49	2086
21+18.56 (BEGIN BRIDGE)	0	21
24+36.11 (END BRIDGE)	0	0
24+50	2	7
24+94.81 (END PROJECT)	232	23

STATION -Y-	UNCLASSIFIED EXCAVATION	EMBT
10+50	0	0
10+75	0	2
11+00	1	19
11+25	1	40
11+50	4	54
11+75	0	0
12+00	0	0
12+25	0	0
12+50	0	0
12+75	0	1

Approximate quantities only. Unclassified excavation, borrow, excavation, shoulder borrow, fine grading, clearing and grubbing, breaking of existing pavement and removal of existing pavement will be paid for at the lump sum for "Grading".

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

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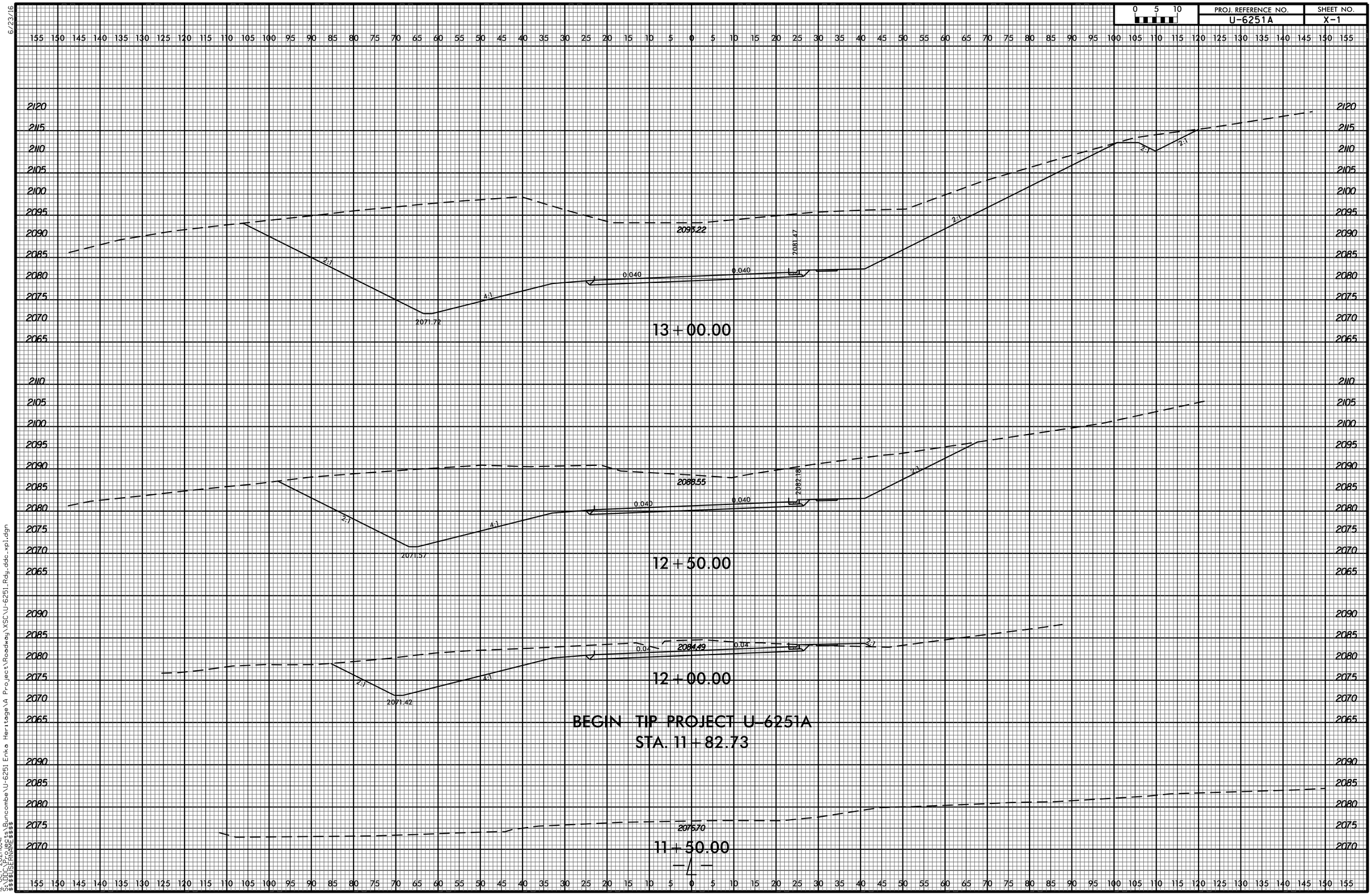
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-6251A	X-1



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6/23/16

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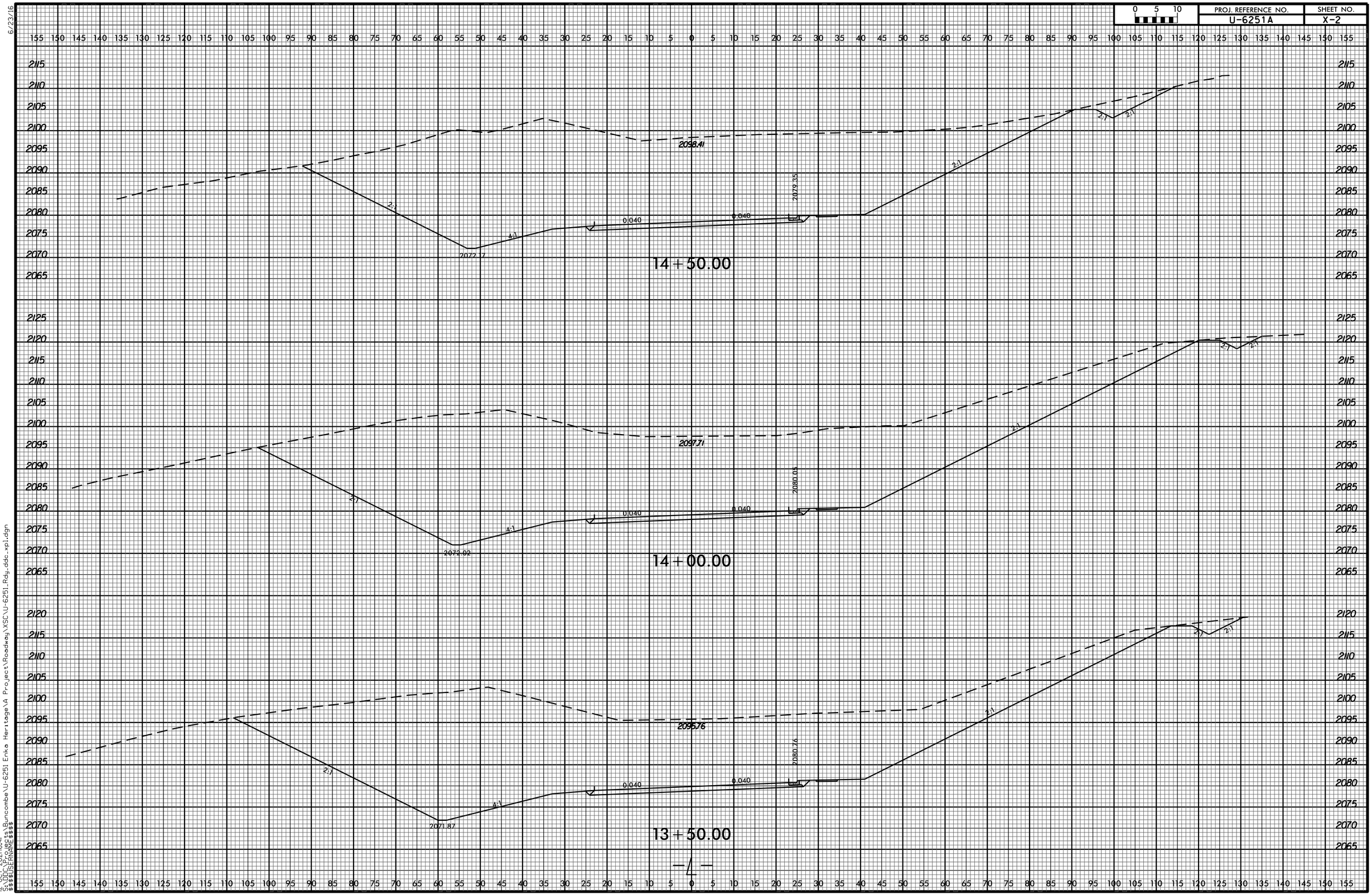

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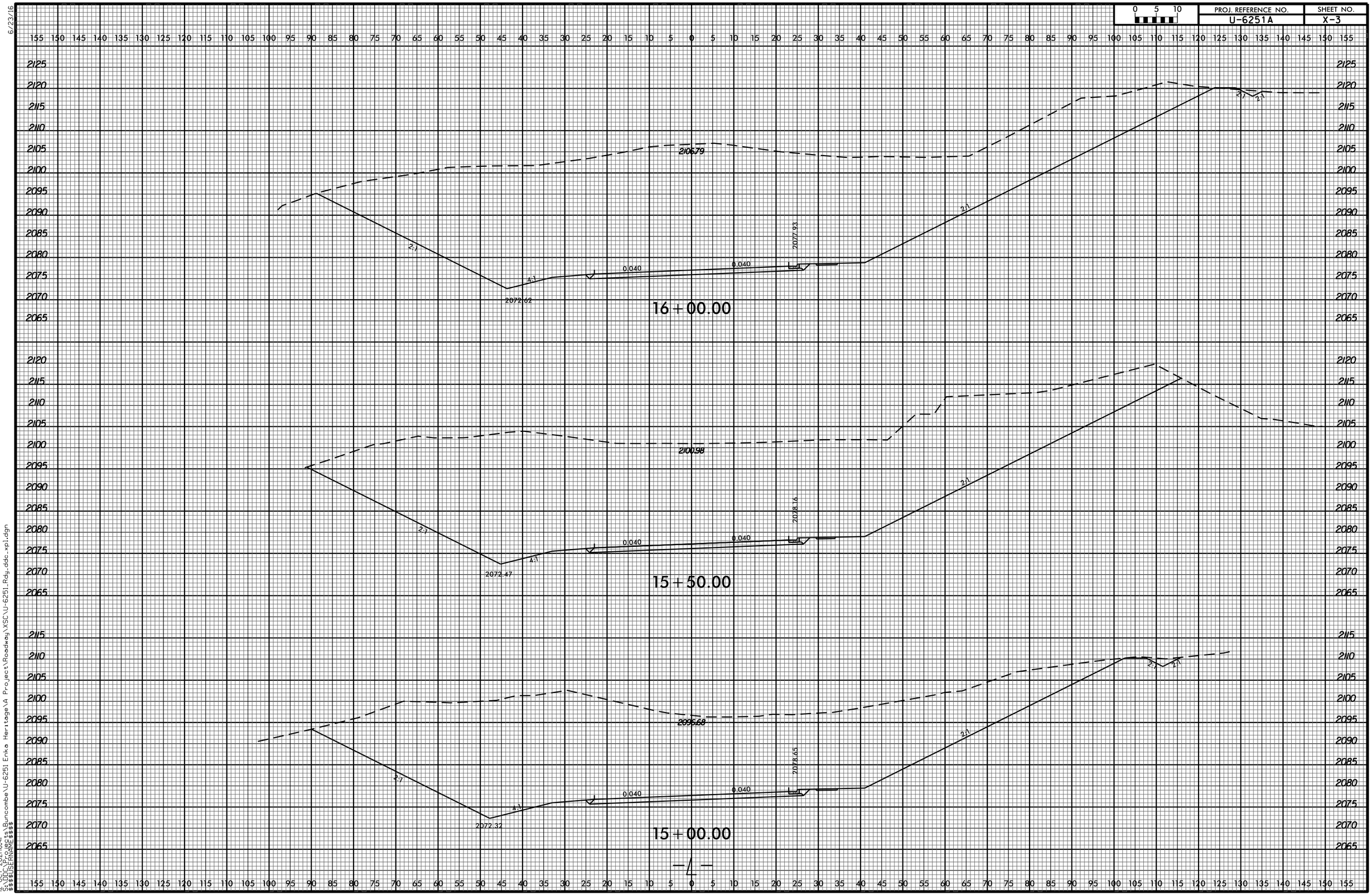
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-6251A	X-3



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6/23/16

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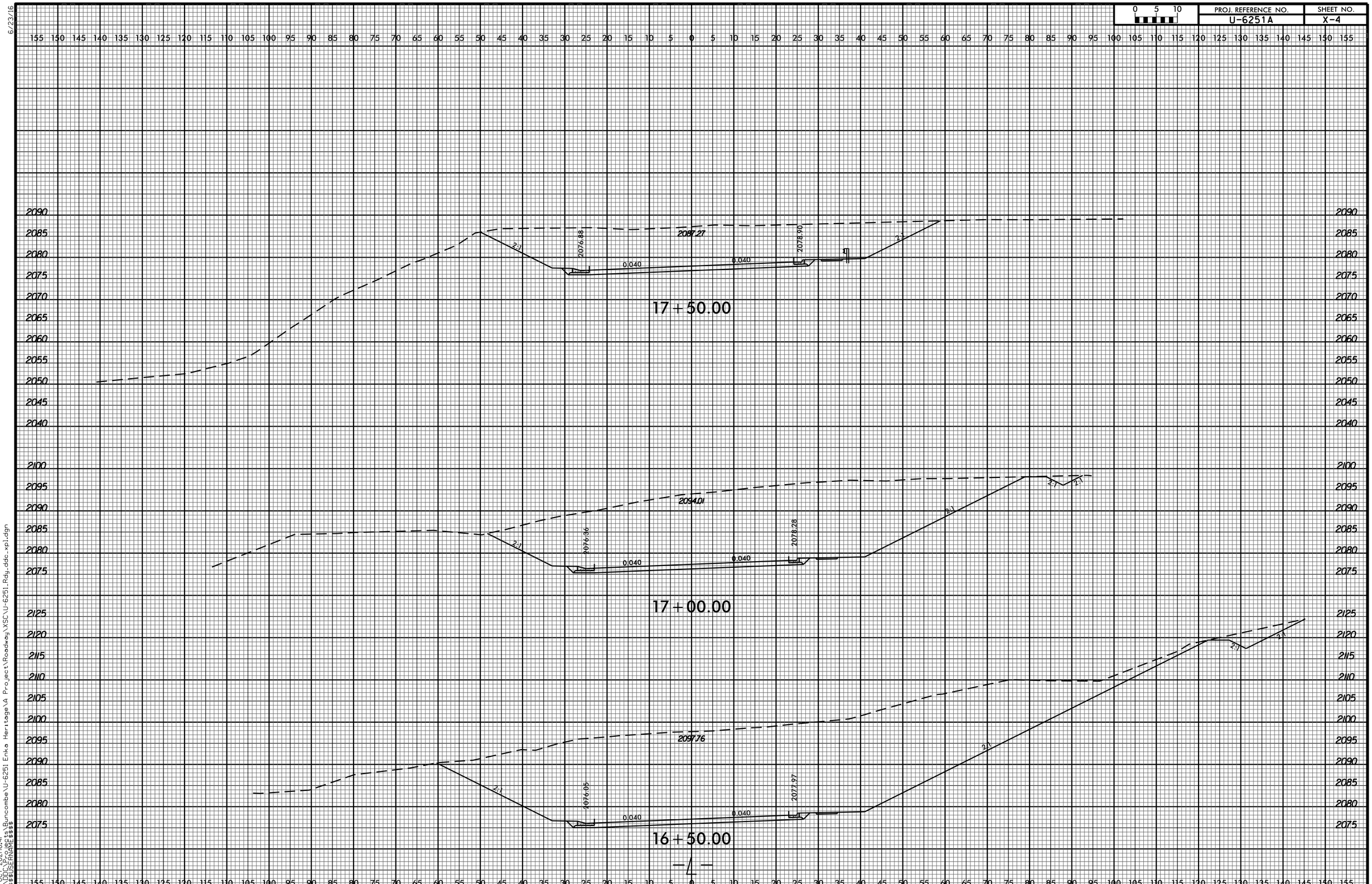
	U-6251A	X-4



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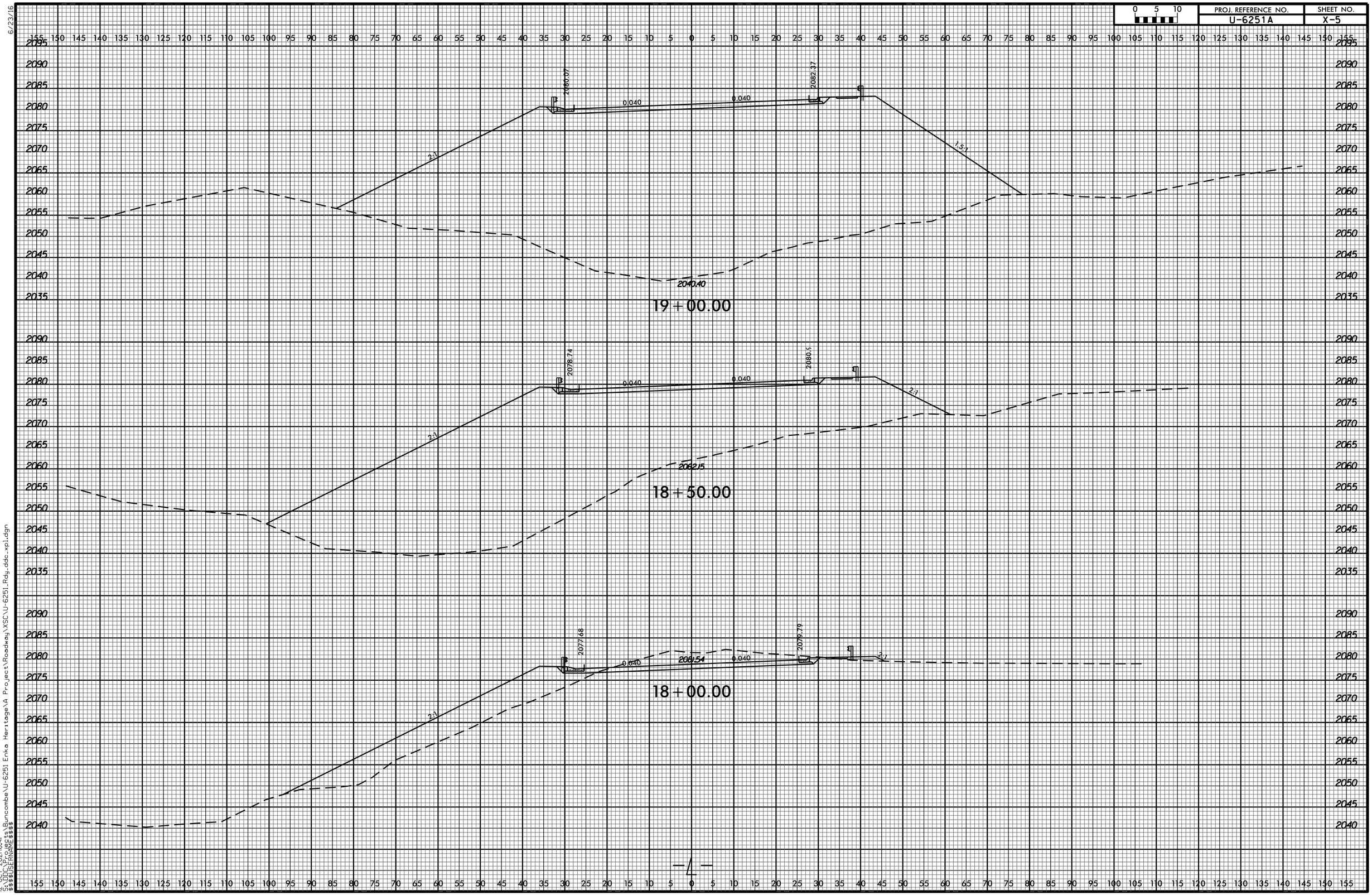
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-6251A	X-5



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6/23/16

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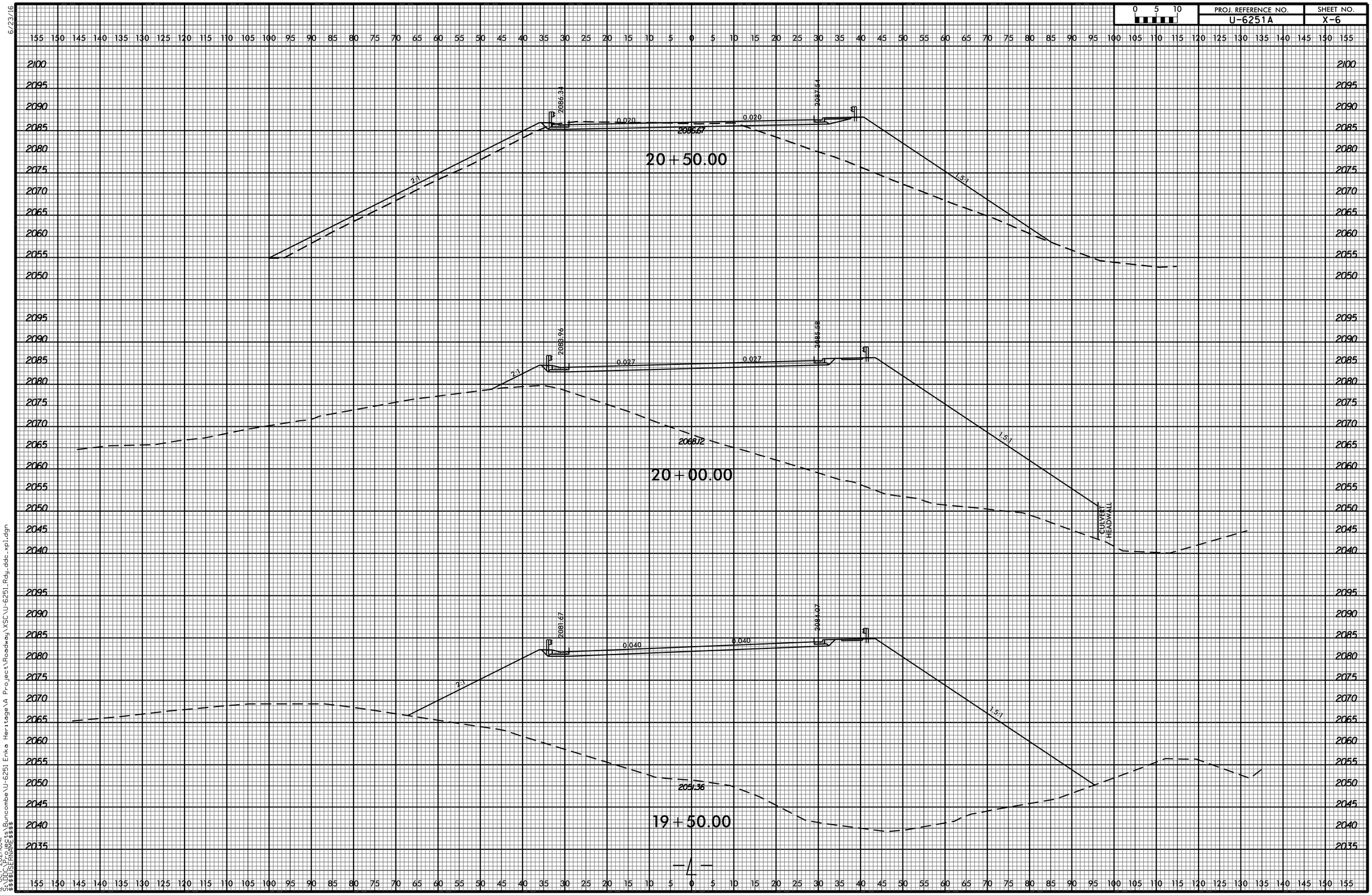

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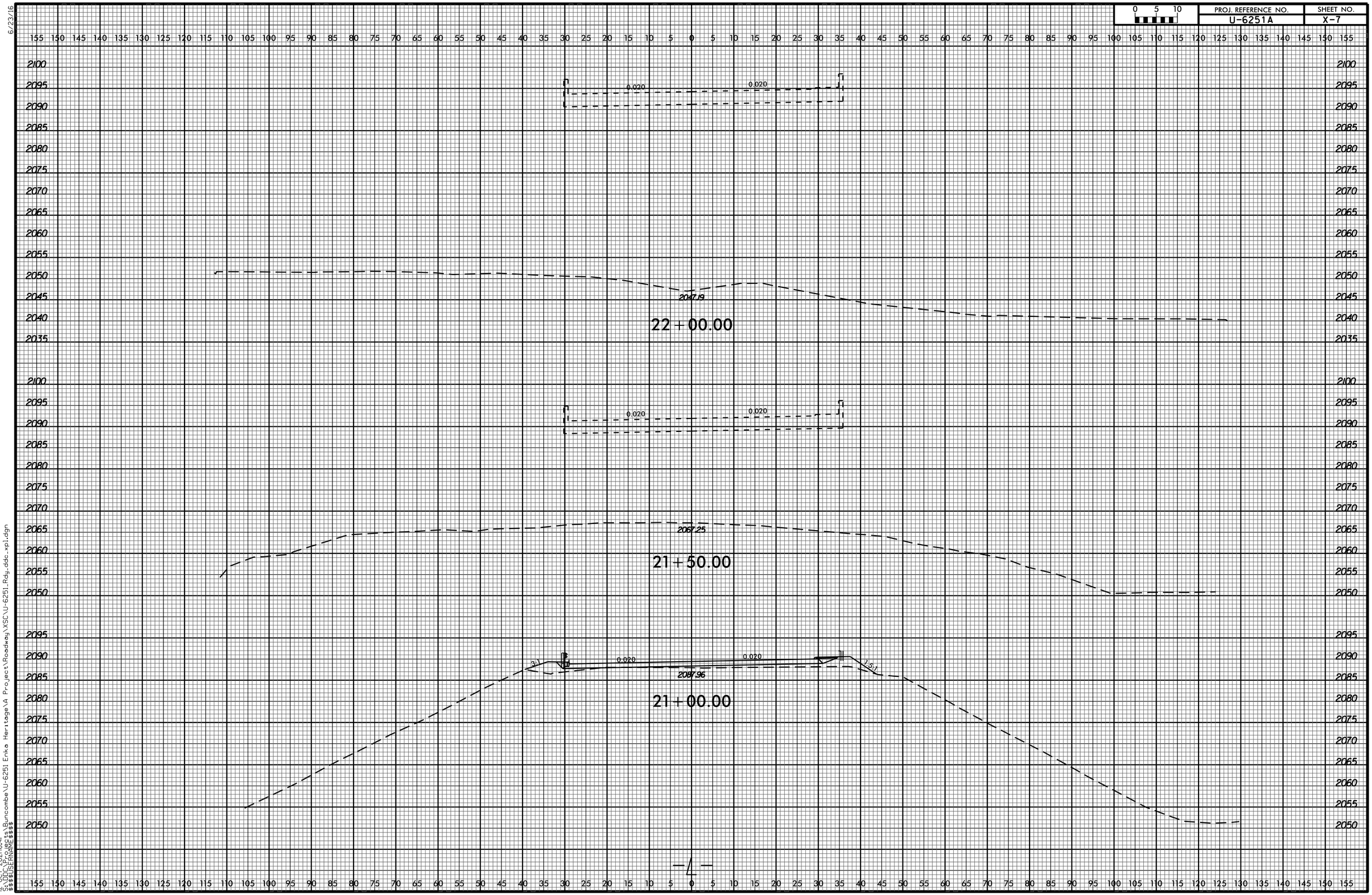
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-6251A	X-7



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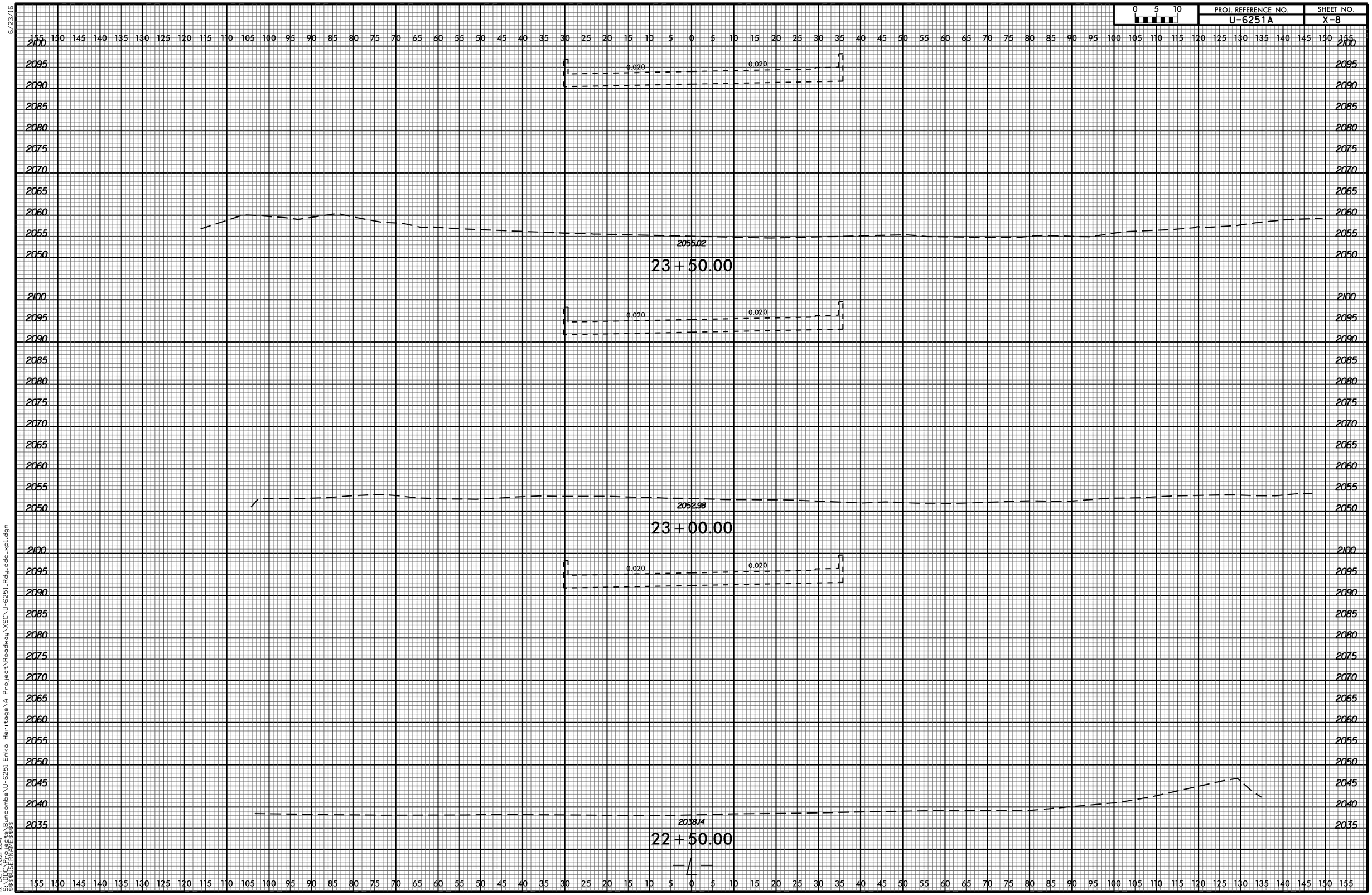

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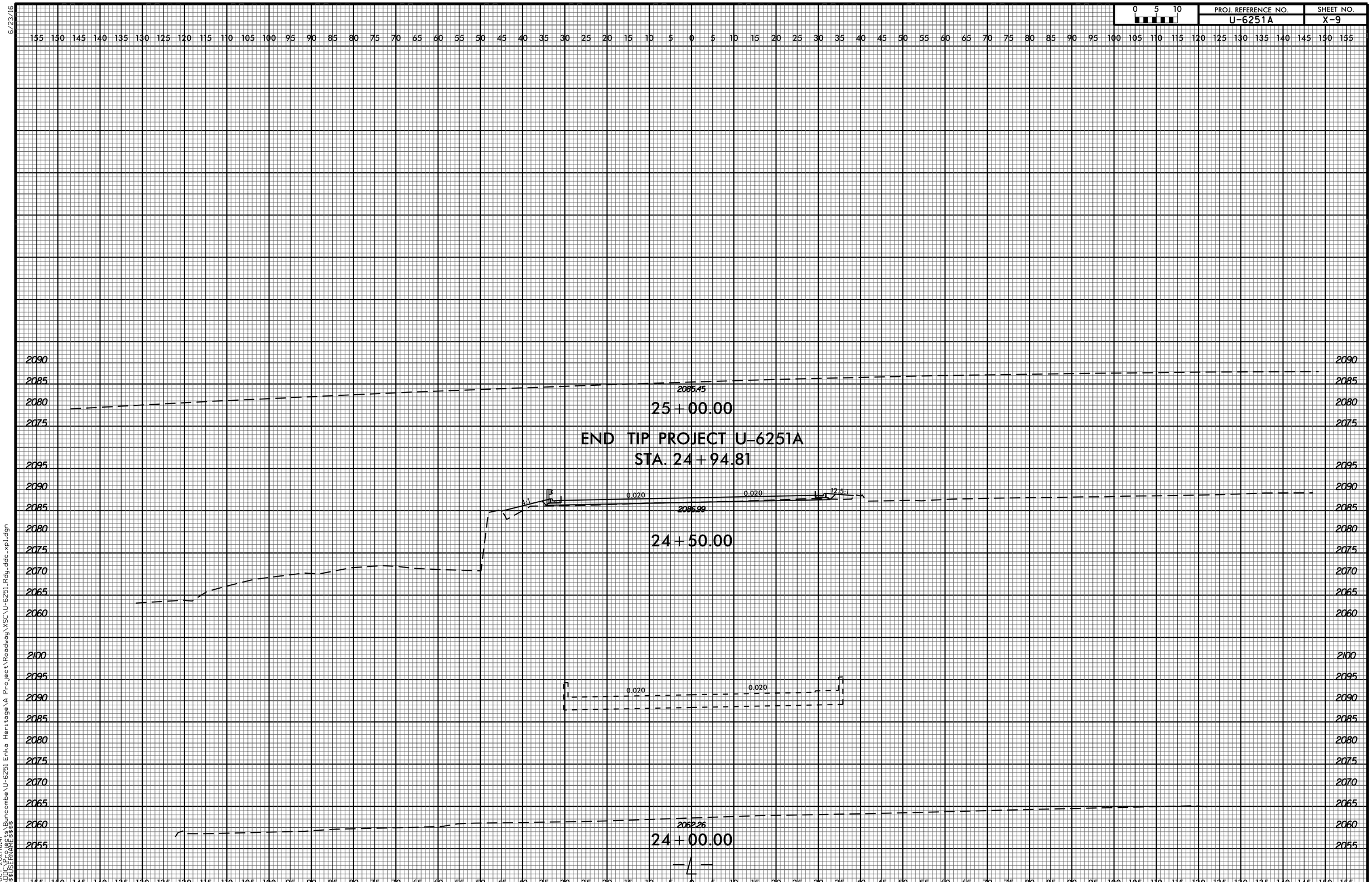

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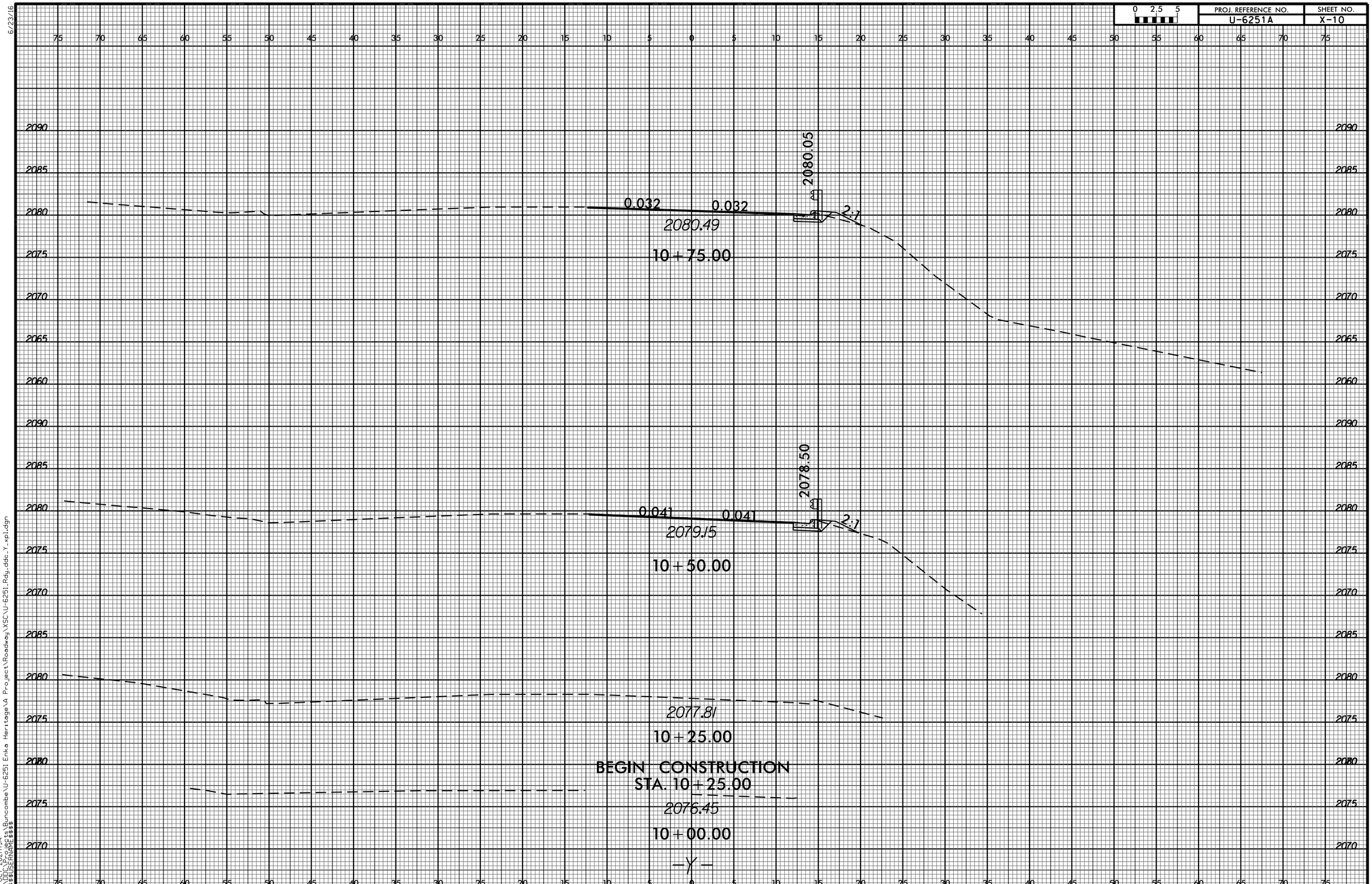

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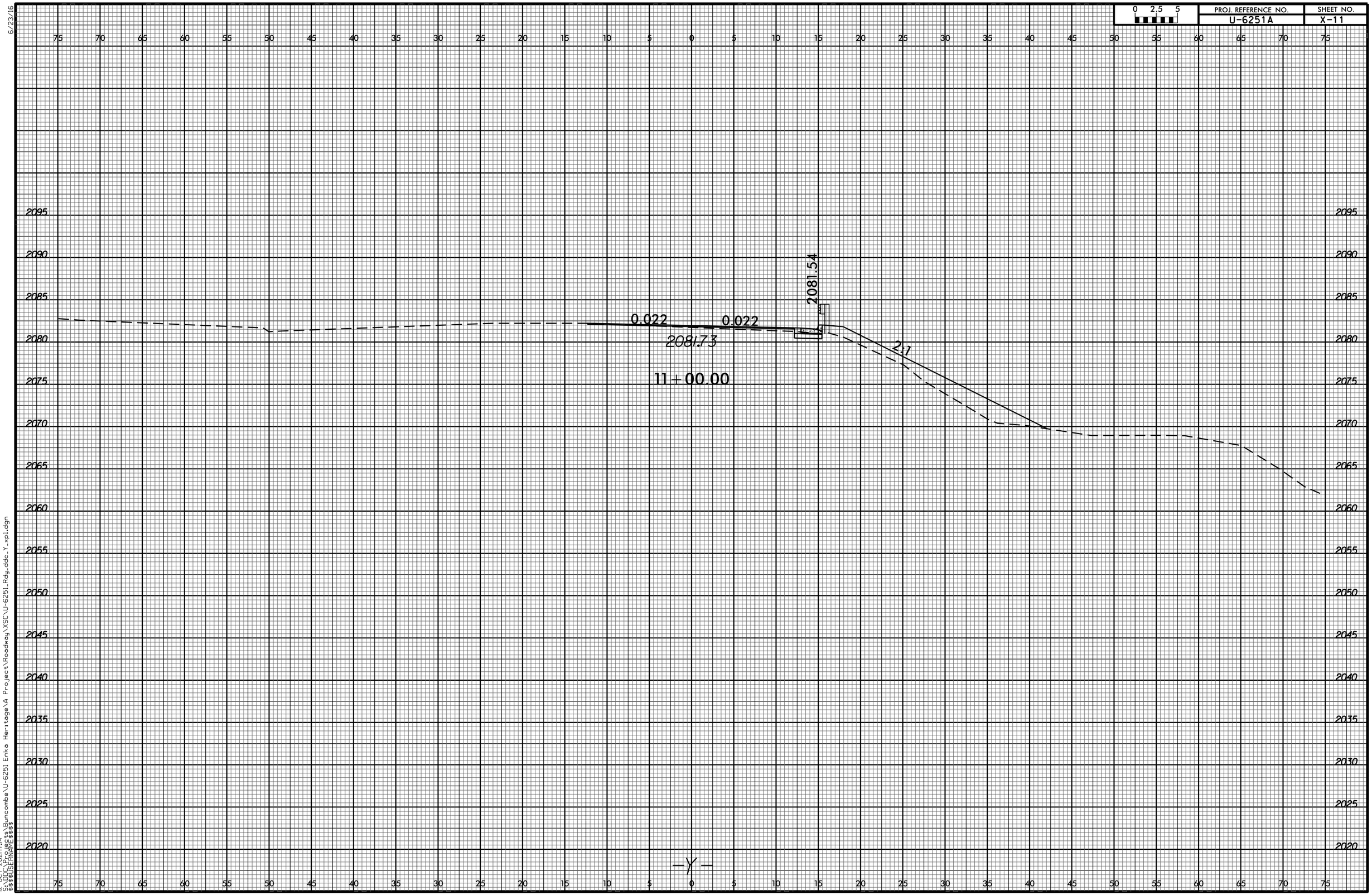

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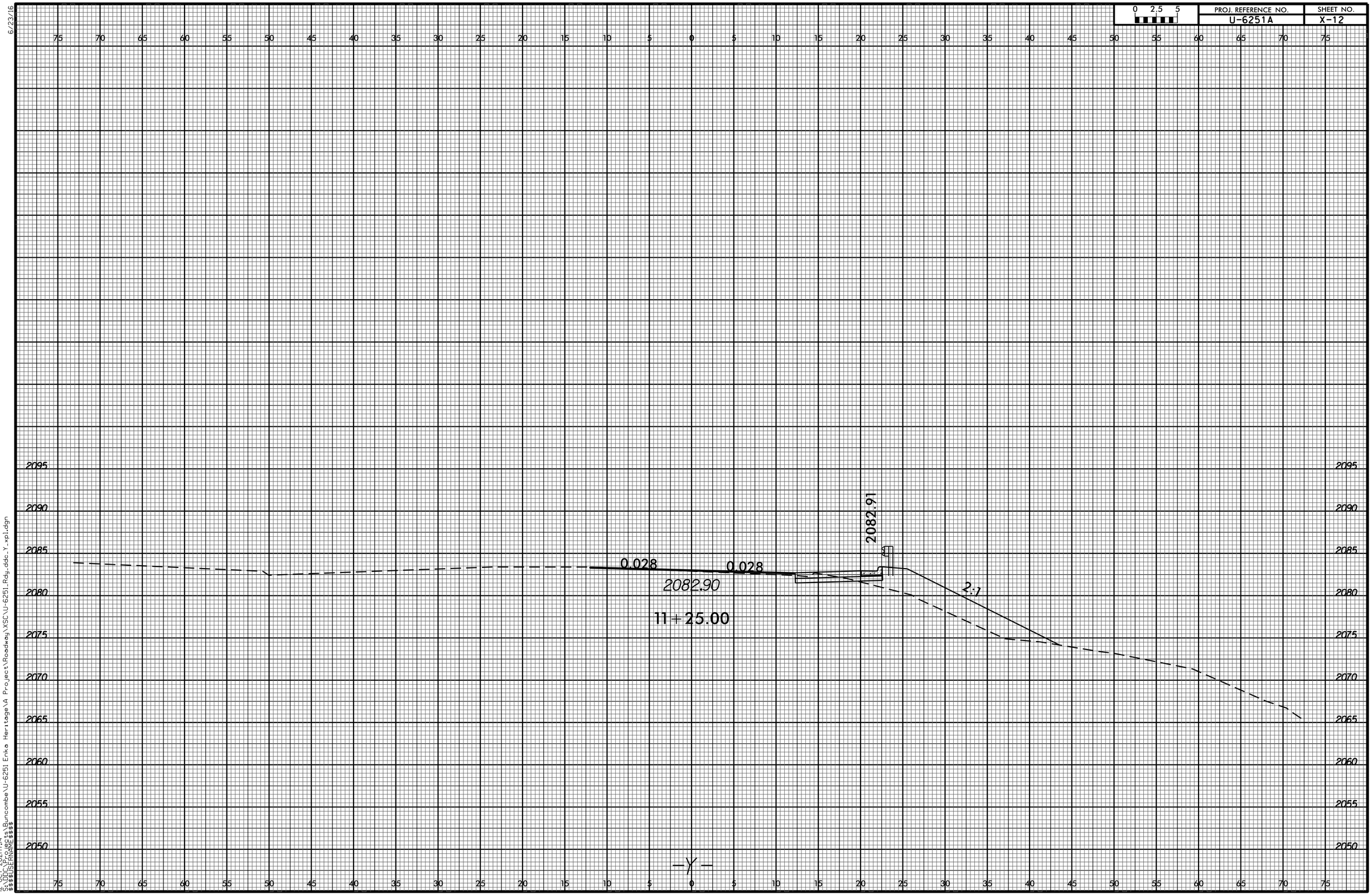

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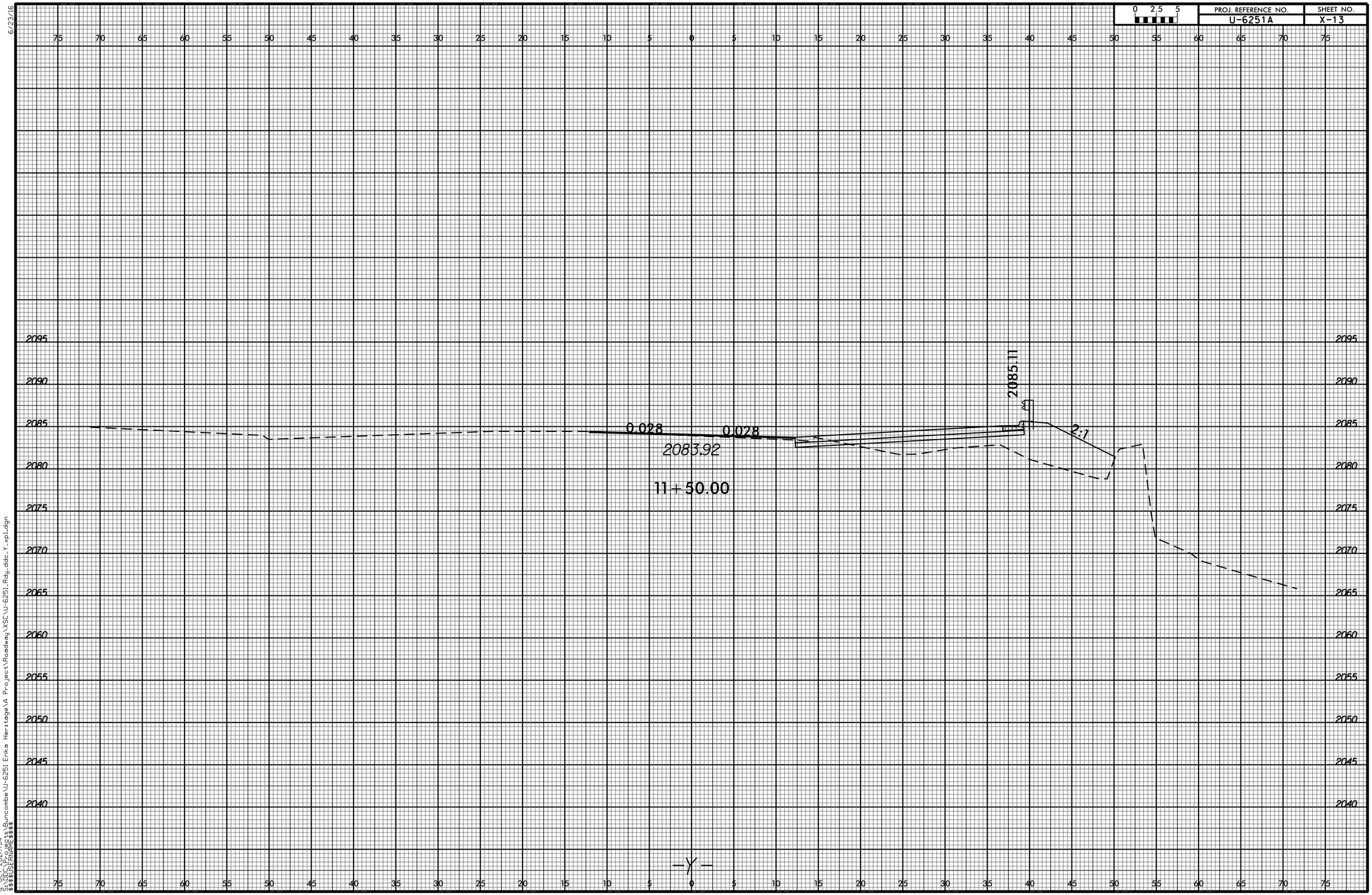

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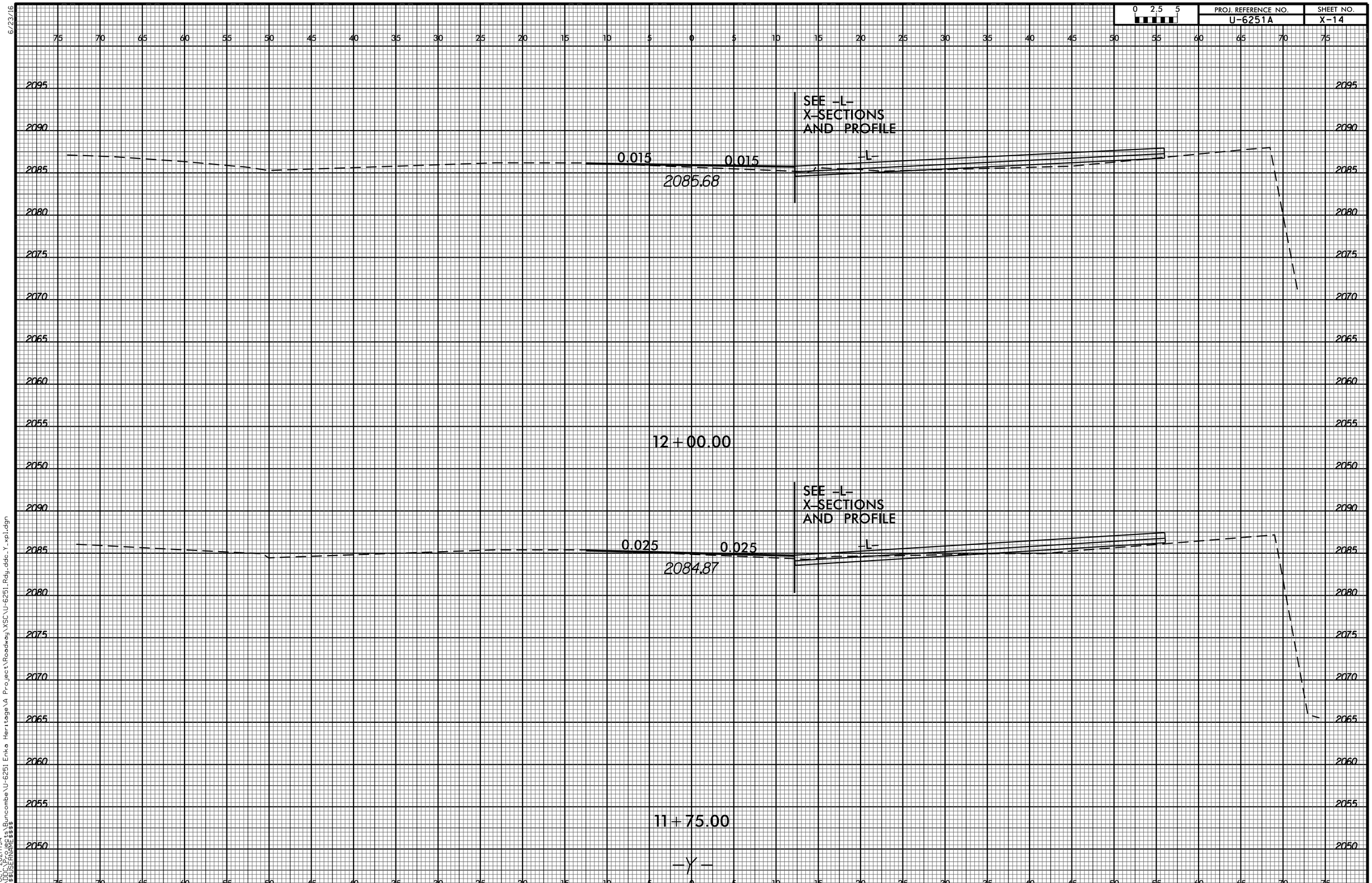

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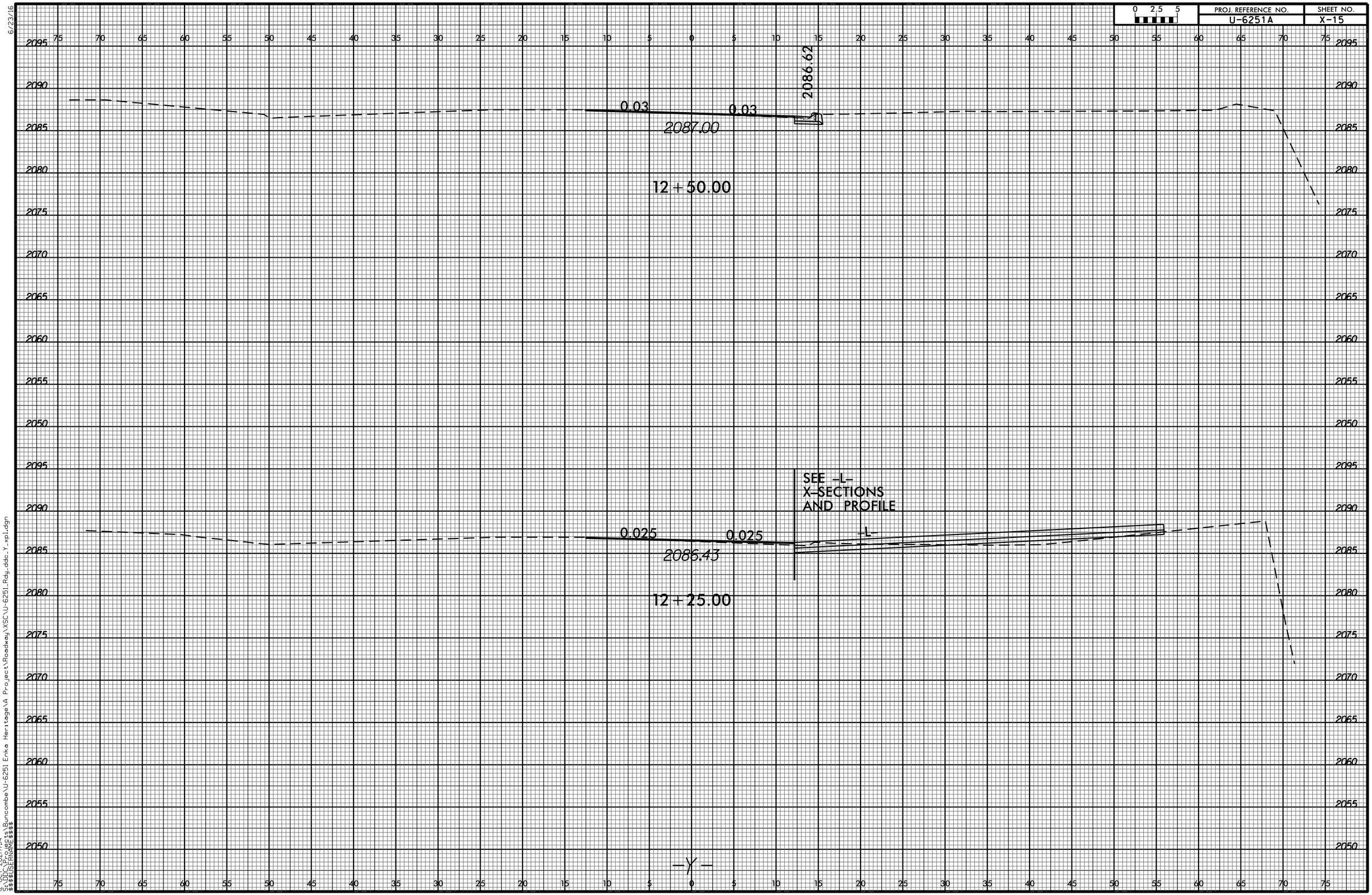

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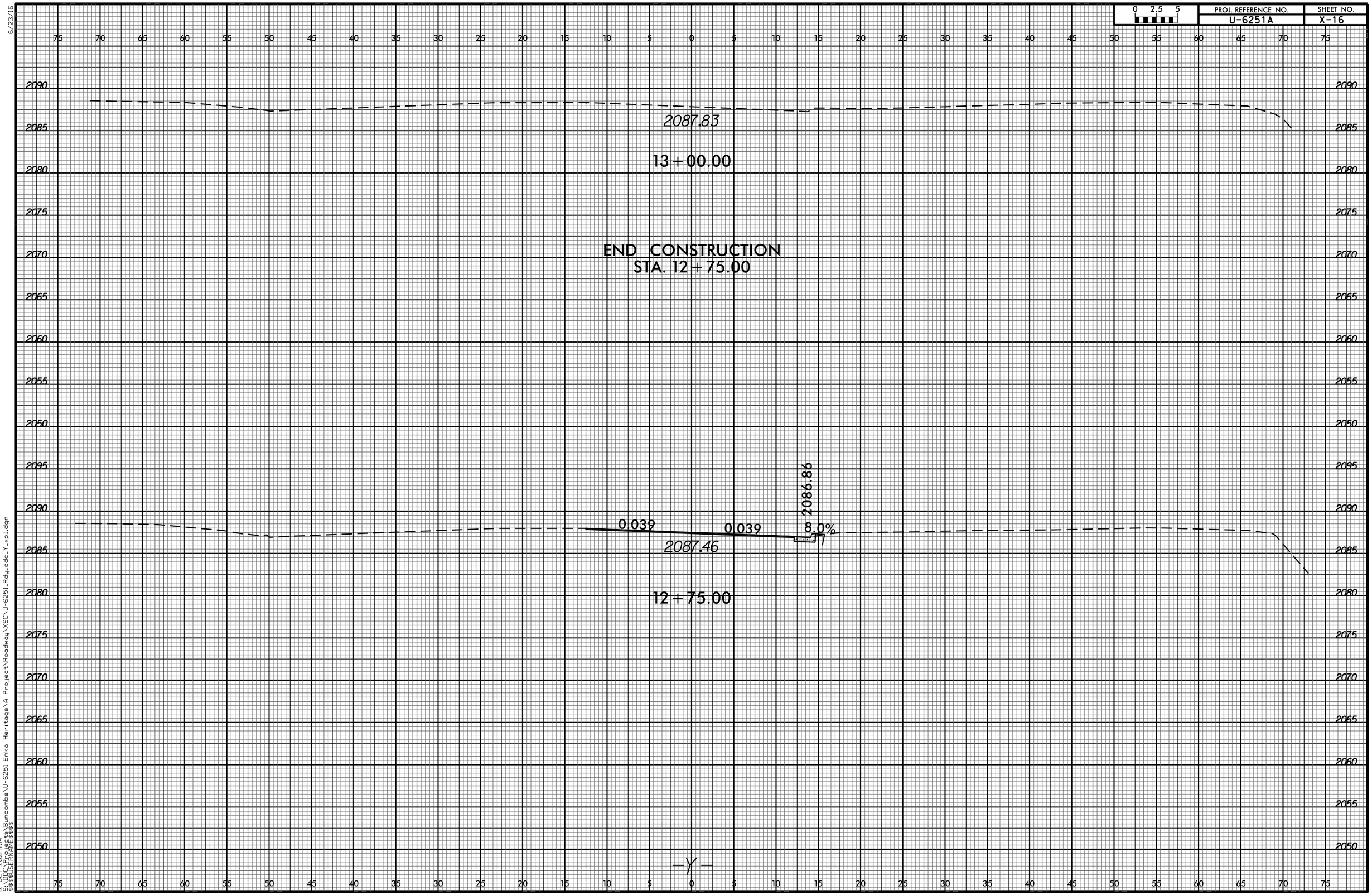

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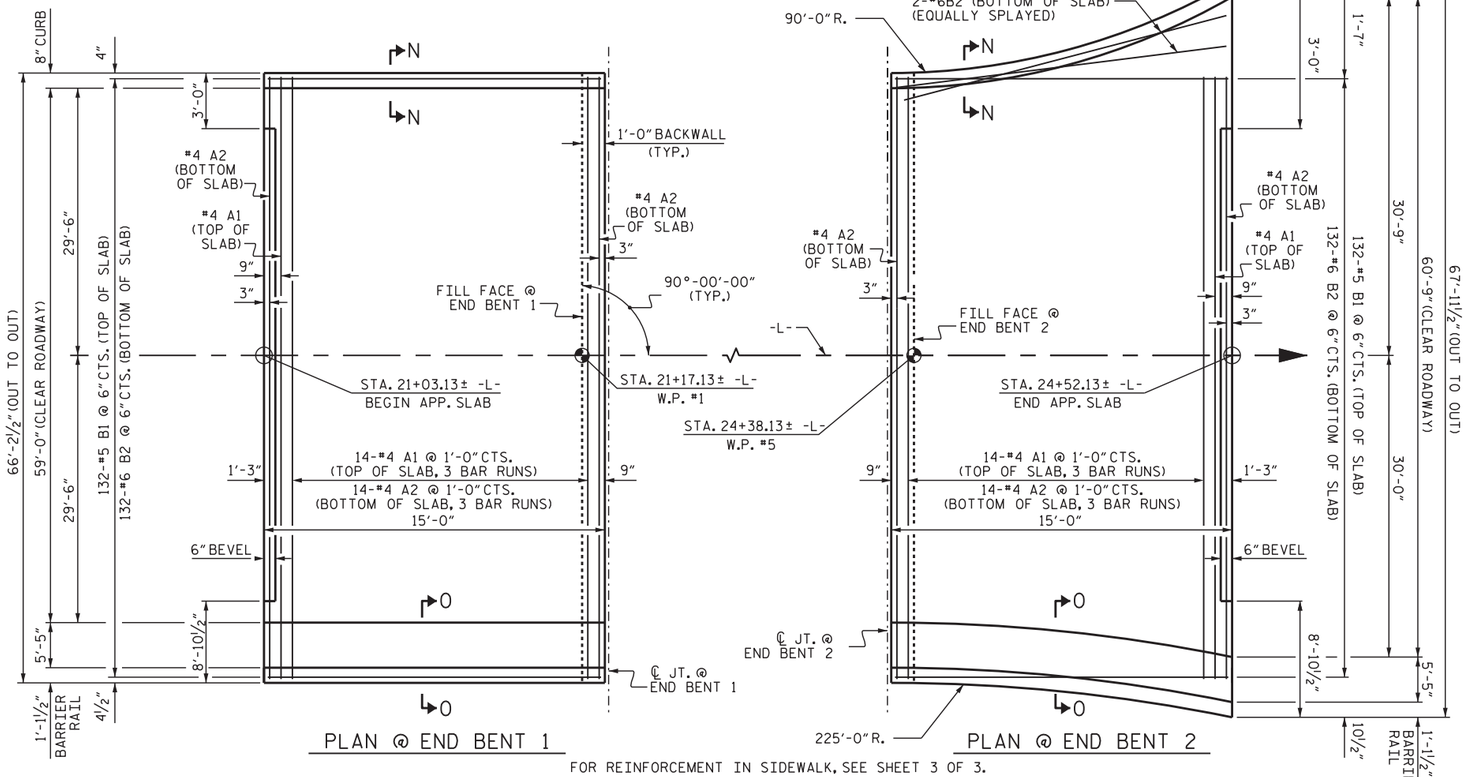
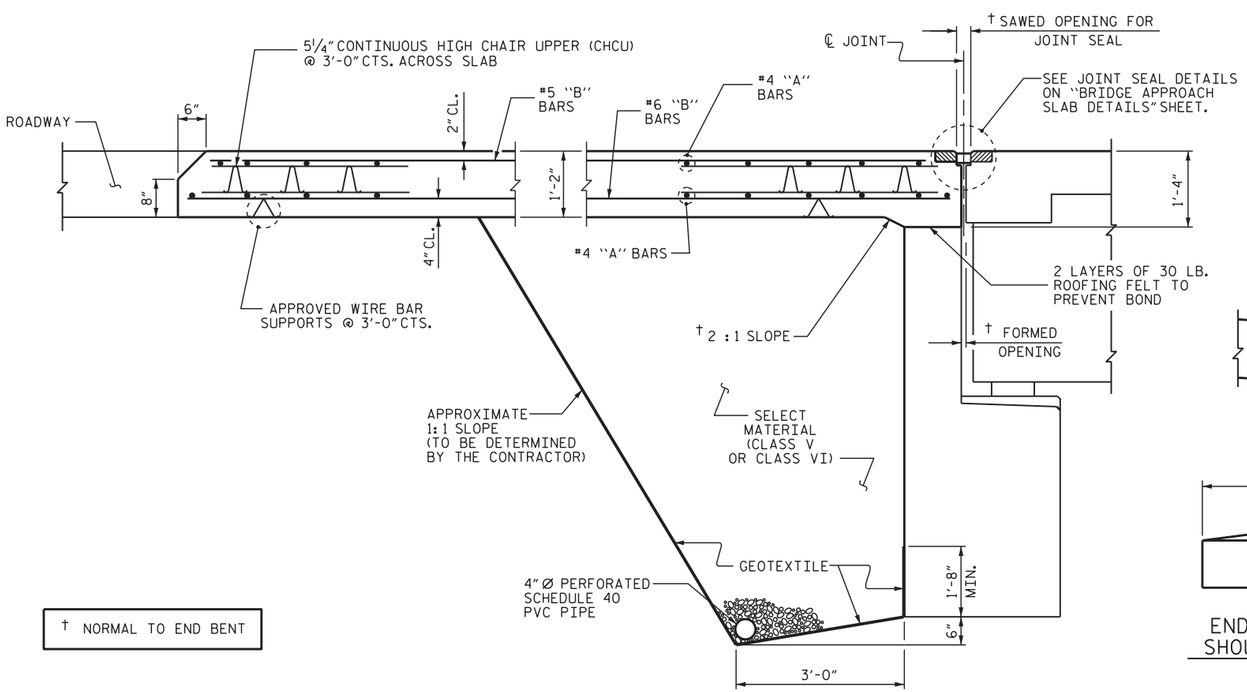


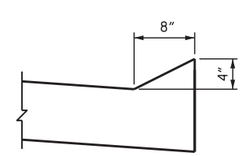
FOR REINFORCEMENT IN SIDEWALK, SEE SHEET 3 OF 3.



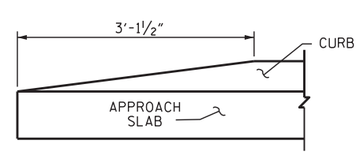
† NORMAL TO END BENT

SECTION THRU SLAB

(TYPE II - MODIFIED APPROACH FILL)



SECTION N-N



END OF CURB WITHOUT SHOULDER BERM GUTTER

CURB DETAILS

NOTES

FOR BRIDGE APPROACH FILL INCLUDING GEOTEXTILE, 4" Ø DRAINAGE PIPE, AND SELECT MATERIAL BACKFILL, SEE ROADWAY PLANS.

GEOTEXTILE SHALL BE TYPE 1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1056.

SELECT MATERIAL BACKFILL (CLASS V OR CLASS VI) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016.

SELECT MATERIAL BACKFILL IS TO BE CONTINUOUS ALONG FILL FACE OF BACKWALL FROM OUTSIDE EDGE TO OUTSIDE EDGE OF APPROACH SLAB.

APPROACH SLAB SHALL NOT BE CONSTRUCTED PRIOR TO COMPLETION OF THE BRIDGE DECK.

THE JOINT SHALL BE SAWED PRIOR TO THE CASTING OF THE BARRIER RAIL OR PARAPET AND END POST.

FOR THE 4" Ø DRAINAGE PIPE OUTLET(S), SEE ROADWAY STANDARD DRAWINGS.

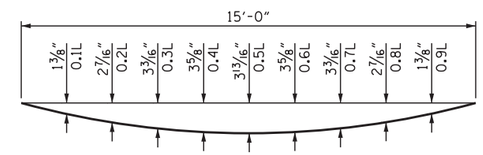
AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.

WITH FOAM JOINT SEAL

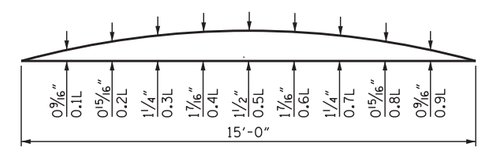
FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2".

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.



ARC OFFSET - LEFT SIDE



ARC OFFSET - RIGHT SIDE

BILL OF MATERIAL

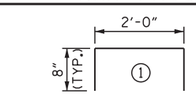
APPROACH SLAB AT BENT 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	42	#4	STR	23'-7"	662
A2	42	#4	STR	23'-5"	657
* B1	132	#5	STR	14'-0"	1927
B2	132	#6	STR	14'-7"	2891
* B3	6	#4	STR	14'-8"	59
* G1	15	#4	STR	6'-0"	60
* U1	6	#4	1	3'-4"	13
REINFORCING STEEL				LBS.	3548
* EPOXY COATED REINFORCING STEEL				LBS.	2721
CLASS AA CONCRETE (SIDEWALK)				C. Y.	1.8
CLASS AA CONCRETE (APPROACH SLAB)				C. Y.	43.2

APPROACH SLAB AT BENT 2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	42	#4	STR	23'-7"	662
A2	42	#4	STR	23'-5"	657
* B1	134	#5	STR	14'-0"	1957
B2	134	#6	STR	14'-7"	2935
* B3	6	#4	STR	14'-8"	59
* G1	15	#4	STR	6'-0"	60
* U1	6	#4	1	3'-4"	13
REINFORCING STEEL				LBS.	3592
* EPOXY COATED REINFORCING STEEL				LBS.	2751
CLASS AA CONCRETE (SIDEWALK)				C. Y.	1.8
CLASS AA CONCRETE (APPROACH SLAB)				C. Y.	43.2

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

SPLICE LENGTHS

BAR SIZE	EPOXY COATED	UNCOATED
#4	1'-11"	1'-7"
#5	2'-5"	2'-0"
#6	3'-7"	2'-5"

PROJECT NO. U-6251A

BUNCOMBE COUNTY

STATION: 22+77.63 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

BRIDGE APPROACH SLAB FOR FLEXIBLE PAVEMENT

NORTH CAROLINA PROFESSIONAL SEAL 031021 ENGINEER AMBER M. LEE

DocuSigned by: Amber Lee
B4485A F27FD434...
10/12/2021

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS							SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:		S-01
1			3				TOTAL SHEETS
2			4				3

STD. NO. BAS2

ASSEMBLED BY : A. SORSENGINH	DATE : 8/2021		
CHECKED BY : A.M. LEE	DATE : 9/2021		
DRAWN BY : EEM 3/95	REV. 6/13	MAA/GM	
CHECKED BY : VAP 3/95	REV. 12/17	MAA/THC	
	REV. 06/19	BNB/THC	

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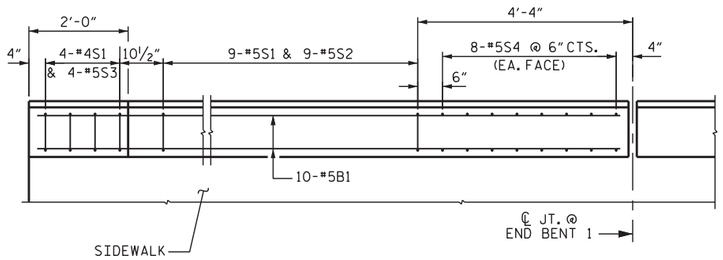
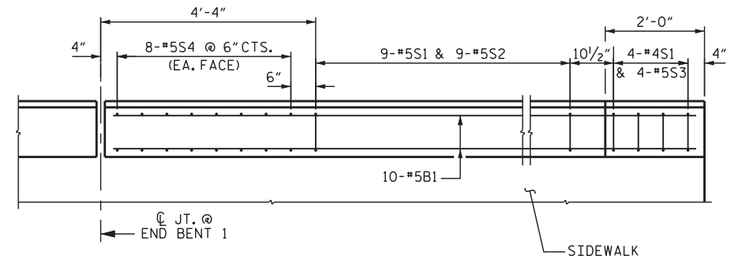


END BENT 1



END BENT 2

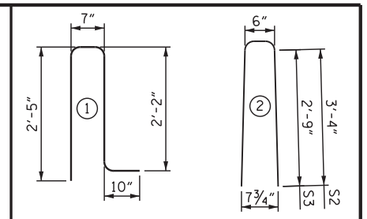
PLAN OF BARRIER RAIL

NOTES

THE COST OF THE BARRIER RAIL ON THE APPROACH SHALL BE INCLUDED IN THE LINEAR FOOT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.

THE BARRIER RAIL ON EACH APPROACH SLAB NOT BE CAST UNTIL ALL APPROACH SLAB CONCRETE HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

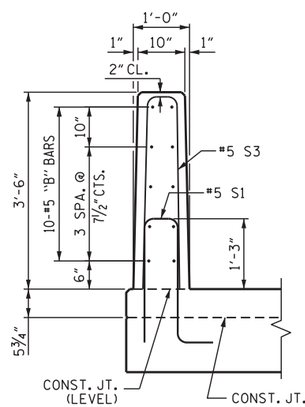


ALL BAR DIMENSIONS ARE OUT TO OUT

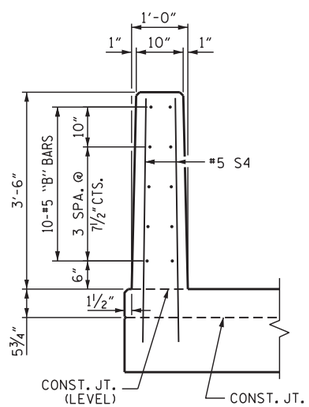
BILL OF MATERIAL

BARRIER RAIL @ END BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	10	#5	STR	14'-7"	152
* S1	13	#5	1	6'-0"	81
* S2	9	#5	2	7'-2"	67
* S3	4	#5	2	6'-0"	25
* S4	16	#5	STR	4'-6"	75
* EPOXY COATED REINFORCING STEEL				LBS.	400
CLASS AA CONCRETE				C. Y.	1.8
CONCRETE BARRIER RAIL				15.0 LIN. FT.	

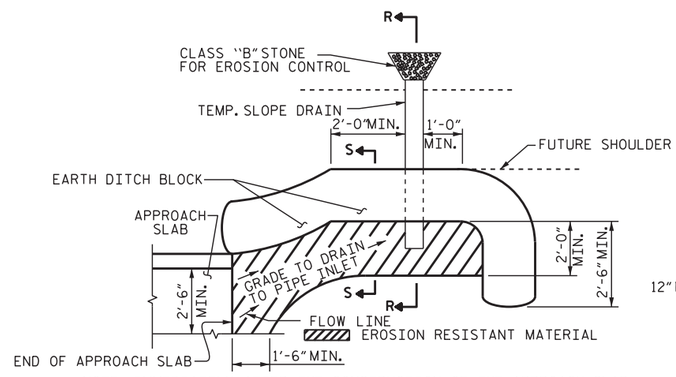
BARRIER RAIL @ END BENT 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	10	#5	STR	14'-7"	152
* S1	13	#5	1	6'-0"	81
* S2	9	#5	2	7'-2"	67
* S3	4	#5	2	6'-0"	25
* S4	16	#5	STR	4'-6"	75
* EPOXY COATED REINFORCING STEEL				LBS.	400
CLASS AA CONCRETE				C. Y.	1.8
CONCRETE BARRIER RAIL				15.0 LIN. FT.	



SECTION THRU RAIL

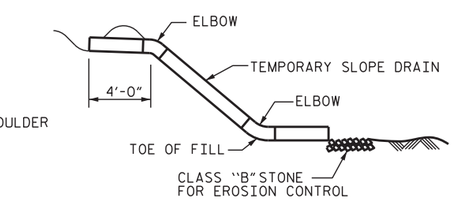


SECTION AT JOINT

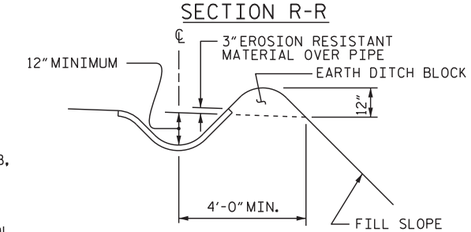


NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN. 2" DEPTH, 2) EROSION CONTROL MAT, OR 3) CONCRETE, AS DIRECTED BY THE ENGINEER. THE SLOPE DRAIN SHALL CONSIST OF A NON-PERFORATED TEMPORARY DRAINAGE PIPE, 12 INCHES IN DIAMETER.

PLAN VIEW



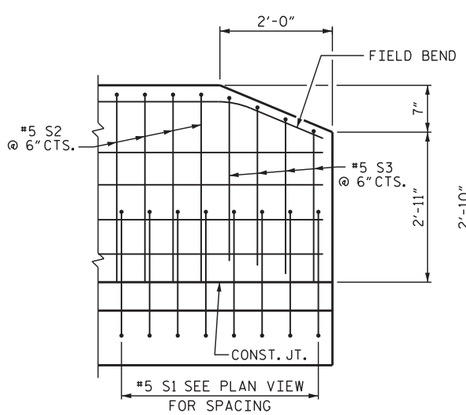
SECTION R-R



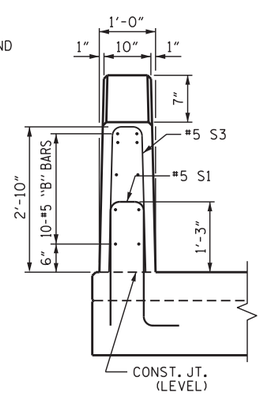
SECTION S-S

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)

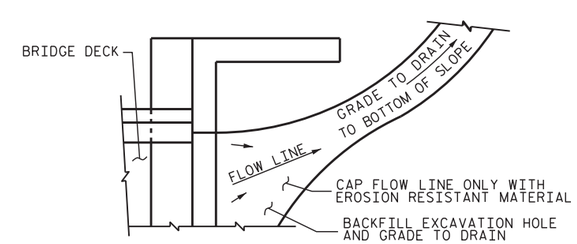


SIDE VIEW



END VIEW

END OF RAIL DETAILS



NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT TO THE STRUCTURE. THE CONTRACTOR WILL BE REQUIRED TO REMOVE THESE MATERIALS PRIOR TO CONSTRUCTION OF THE APPROACH SLAB.

TEMPORARY DRAINAGE DETAIL

PROJECT NO. U-6251A
BUNCOMBE COUNTY
STATION: 22+77.63 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

BRIDGE APPROACH SLAB DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 031021 ENGINEER AMBER M. LEE

DocuSigned by: Amber Lee
B0485AF72F7D484...
10/12/2021

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS							SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:		S-02
1			3				TOTAL SHEETS
2			4				3

ASSEMBLED BY :	A. SORSENGINH	DATE :	8/2021
CHECKED BY :	A.M. LEE	DATE :	9/2021
DRAWN BY : FCJ	11/88	REV. 6/13	MAA/GM
CHECKED BY : ARB	11/88	REV. 12/17	MAA/THC
		REV. 5/18	MAA/THC

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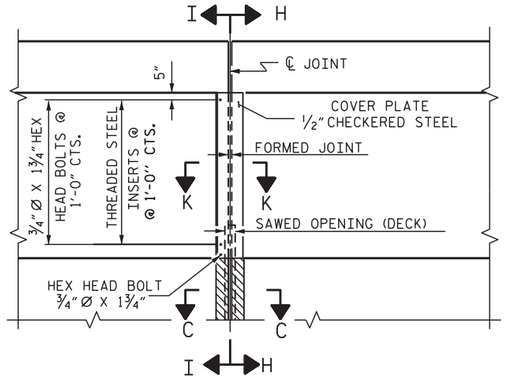
STD. NO. BAS4

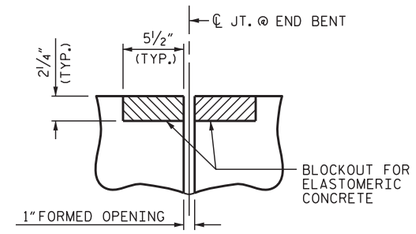


PLAN OF FOAM JOINT SEAL @ END BENT

THE STEEL PLATES SHALL CONFORM TO AASHTO M270 GRADE 36 OR APPROVED EQUAL. AFTER FABRICATION, THE PLATES SHALL BE COMMERCIALLY BLAST CLEANED AND EITHER COATED WITH A MINIMUM THICKNESS OF 4 MILS (DRY) OF ZINC-RICH PAINT, GALVANIZED OR METALLIZED TO A MINIMUM THICKNESS OF 6 MILS INACCORDANCE WITH THE STANDARD SPECIFICATIONS. FOR THERMAL SPRAYED COATINGS (METALLIZATION), SEE SPECIAL PROVISIONS.

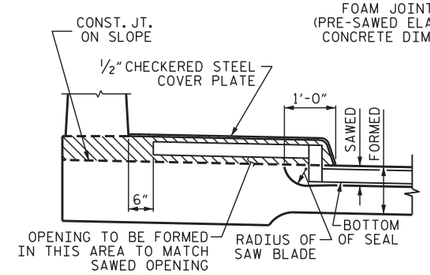
THE ¾" DIAMETER HEX HEAD BOLTS SHALL CONFORM TO ASTM F593 ALLOY 304 STAINLESS STEEL.

NO SEPARATE PAYMENT WILL BE MADE FOR FURNISHING AND INSTALLING THE COVER PLATE. THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR "FOAM JOINT SEALS".

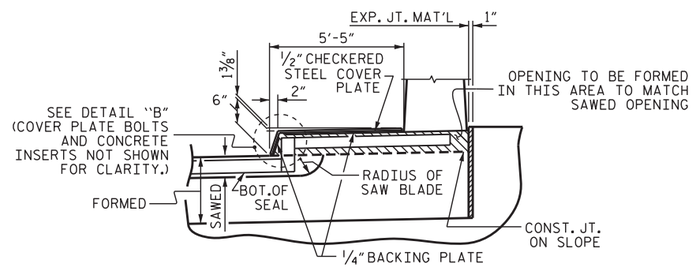


SECTION C-C

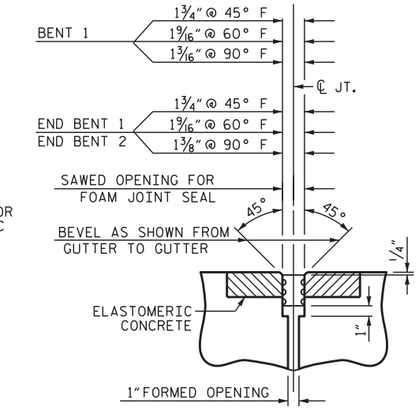
FOAM JOINT SEAL
(PRE-SAWED ELASTOMERIC CONCRETE DIMENSIONS)



SECTION H-H



SECTION I-I

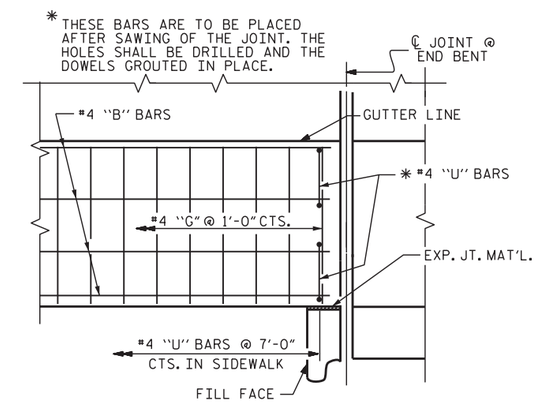


SECTION C-C

FOAM JOINT SEAL
(EXPANSION)

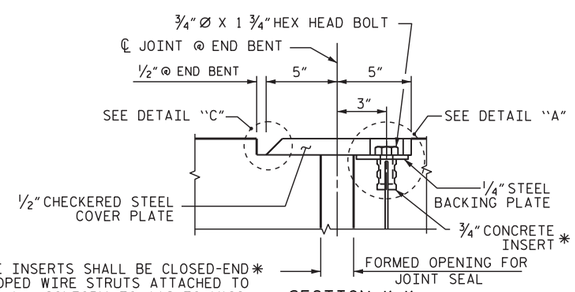
ELASTOMERIC CONCRETE	
END BENT NO.	ELASTOMERIC CONCRETE ✱ (CU. FT.)
1	10.1
2	10.1
TOTAL	20.2

✱ BASED ON THE MINIMUM BLOCKOUT SHOWN.



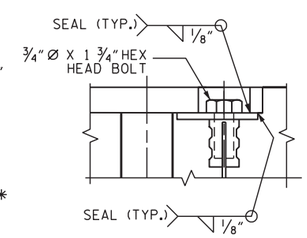
PLAN

DETAILS OF SIDEWALK ON APPROACH SLAB

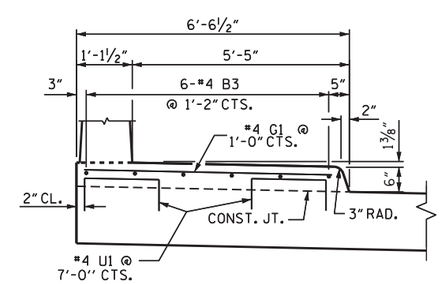


THE ¾" CONCRETE INSERTS SHALL BE CLOSED-END ✱ FERRULES WITH LOOPED WIRE STRUTS ATTACHED TO THEM. THE INSERTS SHALL CONFORM TO AASHTO M169, GRADE 12L14 AND SHALL HAVE A TENSILE WORKING LOAD CAPACITY OF 3000 LBS.

SECTION K-K

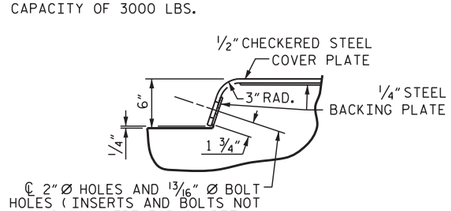


DETAIL "A"

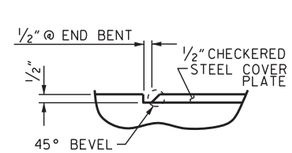


SECTION O-O

SIDEWALK DETAILS



DETAIL "B"



DETAIL "C"

JOINT SEAL DETAILS @ END BENT

PROJECT NO. U-6251A
BUNCOMBE COUNTY
STATION: 22+77.63 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

BRIDGE APPROACH SLAB DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 031021 ENGINEER AMBER M. LEE

DocuSigned by: Amber Lee
B04B5A6F2FFD484...
10/12/2021

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

SHEET NO. S-03
TOTAL SHEETS 3

ASSEMBLED BY :	A. SORSENGINH	DATE :	8/2021
CHECKED BY :	A.M. LEE	DATE :	9/2021
DRAWN BY : FCJ	11/88	REV. 6/13	MAA/GM
CHECKED BY : ARB	11/88	REV. 12/17	MAA/THC
		REV. 5/18	MAA/THC

12-OCT-2021 12:56
S:\DPG3\U-6251\400_005_U6251A_SMU_AS_003_10XXXX.dgn
amlee

STD. NO. BAS4 (SHT 2)