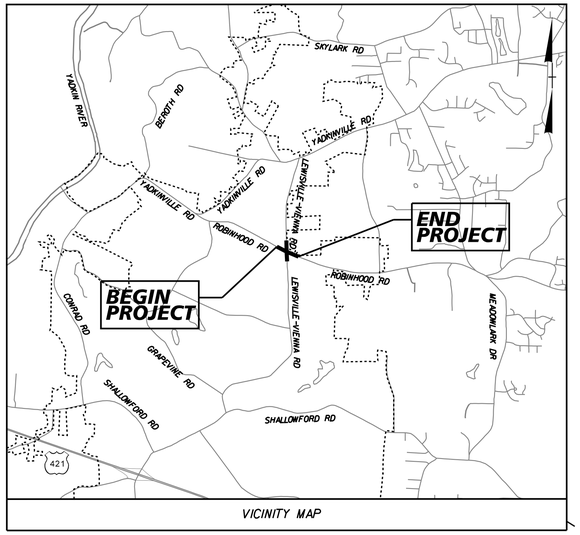
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TIP PROJECT: U-6154



VICINITY MAP

TOWN OF LEWISVILLE CITY LIMIT

TOWN OF LEWISVILLE
NORTH CAROLINA

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

FORSYTH COUNTY

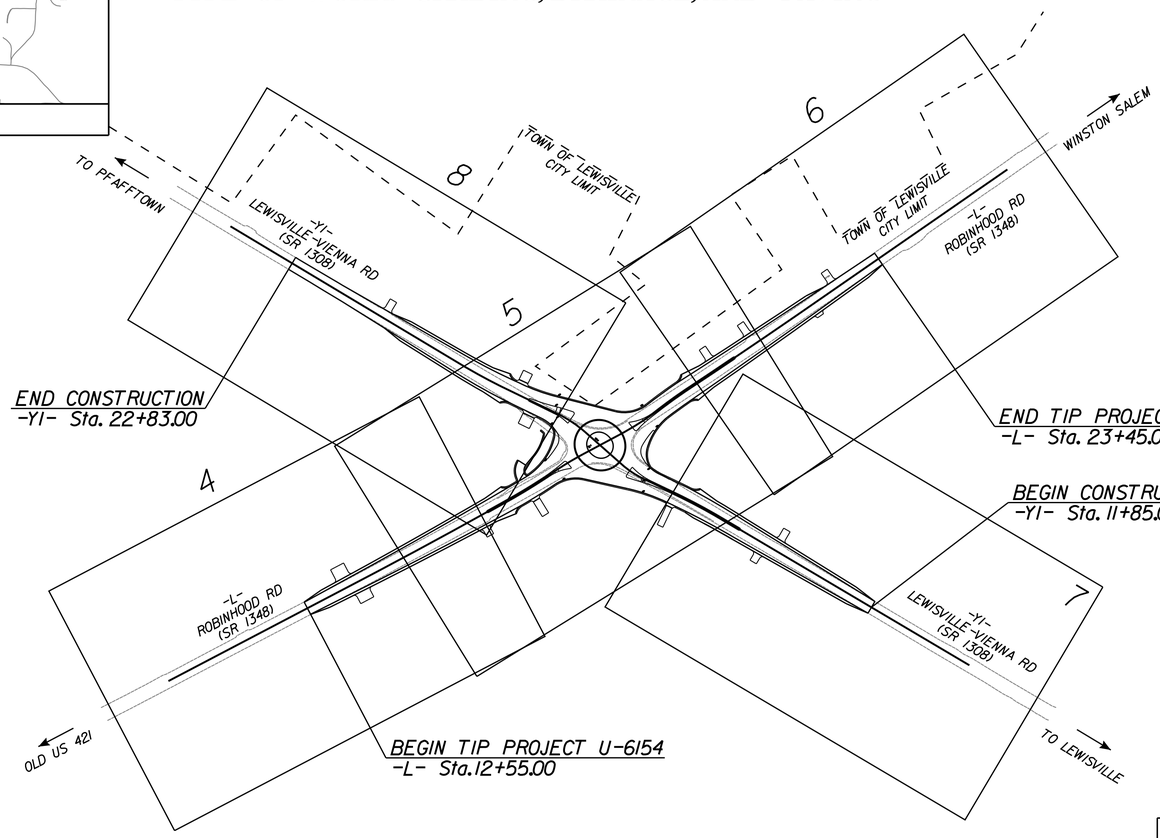
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6154	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
48436.1.1	STBG-1308(017)	P.E.
48436.2.1	STBG-1308(017)	RIGHT-OF-WAY
48436.2.1	STBG-1308(017)	UTILITIES
48436.3.1	STBG-1308(017)	CONSTRUCTION

LOCATION: ***INTERSECTION OF SR 1308 (LEWISVILLE-VIENNA ROAD) AND SR 1348 (ROBINHOOD ROAD)***

TYPE OF WORK: ***GRADING, DRAINAGE, AND PAVING***

NAD 83NA 2011 NC GRID



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GRAPHIC SCALES

20 10 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

AADT 2022 = 4,600
AADT 2040 = 9,800
V = 50/55 MPH
FUNCTIONAL CLASSIFICATION:
RURAL MAJOR COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-6154 = 0.253 MILES
TOTAL LENGTH TIP PROJECT U-6154 = 0.253 MILES

PLANS PREPARED FOR THE TOWN OF LEWISVILLE BY:

Kimley»Horn
NC LICENSE #C-0102
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 677-2000

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 27, 2022

LETTING DATE:

JEFFREY W. MOORE, P.E.
PROJECT ENGINEER

TYLER G. SPRING, P.E.
PROJECT DESIGN ENGINEER

STACY TOLBERT
LEWISVILLE TOWN MANAGER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038503 JEFFREY W. MOORE
DocuSigned by: Jeffrey W. Moore 378B5B8F0A6945C...
8/14/2025

SIGNATURE: *P.E.*

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	IA

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 049436 ENGINEER JEFFREY W. MOORE

7/11/2025

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U-6154
FORSYTH COUNTY

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
IA	INDEX OF SHEETS, GENERAL NOTES, LIST OF STANDARD DRAWINGS
IB	CONVENTIONAL SYMBOLS SHEET
2A-1 THRU 2A-3	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND MISCELLANEOUS DETAILS
2B-1	CONSTRUCTION DETAILS
2B-2	ROUNDABOUT ALIGNMENT
2B-3	ROUNDABOUT DETAIL
2C-1	MINIMUM DEPTH FOR CONCRETE CATCH BASIN
2C-2	MINIMUM DEPTH FOR BRICK CATCH BASIN
3B-1	EARTHWORK SUMMARY
3D-1 TO 3D-2	DRAINAGE SUMMARIES
4 THRU 8	PLAN SHEETS
9 THRU 13	PROFILE SHEETS
TMP-1 THRU TMP-18	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-7	PAVEMENT MARKING PLANS
EC-1A THRU EC-17	EROSION CONTROL PLANS
L1.0 THRU L2.0	LANDSCAPING PLANS
SIGN-1 THRU SIGN-7	SIGNING PLANS
SIG.1.0 THRU SIG.3.1	SIGNAL PLANS
UC-1 THRU UC-8	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-6	UTILITIES BY OTHERS PLANS
X-1 THRU X-20	CROSS-SECTIONS

2024 SPECIFICATIONS

EFFECTIVE: 01-01-24

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 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.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

SUBSURFACE DRAINS:

SUBSURFACE DRAINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FOOT RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

SUBSURFACE PLANS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE :

WINDSTREAM COMMUNICATIONS
DUKE ENERGY
FORSYTH COUNTY UTILITIES
CHARTER SPECTRUM
YADTEL TELECOM
ZIRRUS

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

CURB RAMPS:

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS.
CONSTRUCT ALL CURB RAMPS IN ACCORDANCE WITH STD 848.06.

2024 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, 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD.NO.	TITLE
200.03	METHOD OF CLEARING - METHOD III
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
225.04	METHOD OF OBTAINING SUPERELEVATION - TWO LANE PAVEMENT
300.01	METHOD OF PIPE INSTALLATION
654.01	PAVEMENT REPAIRS
840.00	CONCRETE BASE PAD FOR DRAINAGE STRUCTURES
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 - 12" THRU 30" PIPE
840.15	BRICK DROP INLET - 12" THRU 30" PIPE
840.16	DROP INLET FRAME AND GRATES - FOR USE WITH STD. DWG 840.14 AND 840.15
840.17	CONCRETE GRATED DROP INLET TYPE 'A' - 12" THRU 72" PIPE
840.18	CONCRETE GRATED DROP INLET TYPE 'B' - 12" THRU 36" PIPE
840.19	CONCRETE GRATED DROP INLET TYPE 'D' - 12" THRU 36" PIPE
840.24	FRAMES AND NARROW SLOT SAG GRATES
840.25	ANCHORAGE FOR FRAMES - BRICK OR CONCRETE OR PRECAST
840.26	BRICK GRATED DROP INLET TYPE 'A' - 12" THRU 72" PIPE
840.27	BRICK GRATED DROP INLET TYPE 'B' - 12" THRU 36" PIPE
840.28	BRICK GRATED DROP INLET TYPE 'D' - 12" THRU 36" PIPE
840.29	FRAMES AND NARROW SLOT SAG GRATES
840.66	DRAINAGE STRUCTURE STEPS
840.72	PIPE COLLAR
846.01	CONCRETE CURB, GUTTER AND CURB & GUTTER
848.01	CONCRETE SIDEWALK
848.02	DRIVEWAY TURNOUT - RADIUS TYPE
848.04	STREET TURNOUT
848.06	CURB RAMP
852.01	CONCRETE ISLANDS
852.04	METHOD FOR PLACEMENT OF DROP INLETS IN GRASSED MEDIAN - USING 1'-6" CURB & GUTTER
852.05	MEDIAN CURB FOR CATCH BASIN - FOR USE WITH 1'-6" CURB AND GUTTER
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS
876.04	DRAINAGE DITCHED WITH CLASS 'B' RIP RAP

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	1B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP)
- Computed Property Corner
- Existing Concrete Monument (ECM)
- Parcel/Sequence Number
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary
- Proposed Wetland Boundary
- Existing Endangered Animal Boundary
- Existing Endangered Plant Boundary
- Existing Historic Property Boundary
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY & PROJECT CONTROL:

- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Secondary Horiz and Vert Control Point
- Vertical Benchmark
- Existing Right of Way Monument
- Proposed Right of Way Monument (Rebar and Cap)
- Proposed Right of Way Monument (Concrete)
- Existing Permanent Easement Monument
- Proposed Permanent Easement Monument (Rebar and Cap)
- Existing C/A Monument
- Proposed C/A Monument (Rebar and Cap)
- Proposed C/A Monument (Concrete)
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Existing Control of Access Line — CA
- Proposed Control of Access Line — CA
- Proposed ROW and CA Line — RW CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage/Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed 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
- 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
- Storm Sewer — S

UTILITIES:

** SUE – Subsurface Utility Engineering*
LOS – Level of Service – A,B,C or D (Accuracy)

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhoole
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H–Frame Pole
- U/G Power Line Test Hole (SUE – LOS A)*
- U/G Power Line (SUE – LOS B)* — P
- U/G Power Line (SUE – LOS C)* — P
- U/G Power Line (SUE – LOS D)* — P

TELEPHONE:

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

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line Test Hole (SUE – LOS A)*
- U/G Water Line (SUE – LOS B)* — W
- U/G Water Line (SUE – LOS C)* — W
- U/G Water Line (SUE – LOS D)* — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Test Hole (SUE – LOS A)*
- U/G TV Cable (SUE – LOS B)* — TV
- U/G TV Cable (SUE – LOS C)* — TV
- U/G TV Cable (SUE – LOS D)* — TV
- U/G Fiber Optic Cable (SUE – LOS B)* — TV FO
- U/G Fiber Optic Cable (SUE – LOS C)* — TV FO
- U/G Fiber Optic Cable (SUE – LOS D)* — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line Test Hole (SUE – LOS A)*
- U/G Gas Line (SUE – LOS B)* — G
- U/G Gas Line (SUE – LOS C)* — G
- U/G Gas Line (SUE – LOS D)* — 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 Force Main Line Test Hole (SUE – LOS A)*
- SS Force Main Line (SUE – LOS B)* — FSS
- SS Force Main Line (SUE – LOS C)* — FSS
- SS Force Main Line (SUE – LOS D)* — FSS

MISCELLANEOUS:

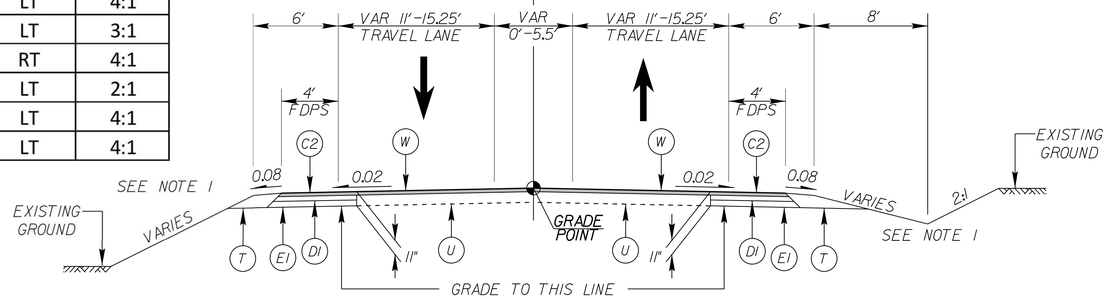
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line (SUE – LOS B)* — UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to Utility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

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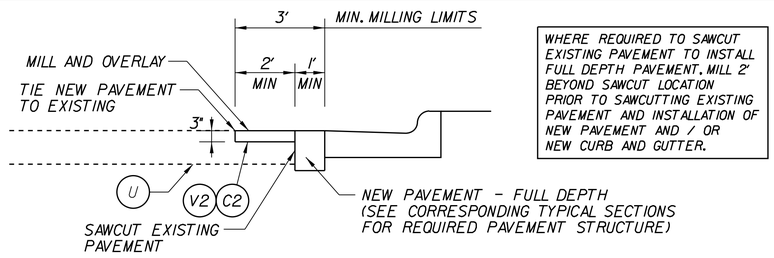
LINE	STA	STA	LT/RT	SLOPE
T.S. 1				
L	12+55.00	13+00.00	LT	4:1
L	12+55.00	16+26.00	RT	4:1
L	19+74.00	21+00.00	LT	6:1
L	21+50.00	22+17.00	LT	4:1
Y1	11+85.00	14+50.00	LT	3:1
Y1	11+85.00	12+00.00	RT	4:1
Y1	15+00.00	15+21.00	LT	2:1
Y1	18+79.00	18+84.46	LT	4:1
Y1	18+84.46	21+00.00	LT	4:1

℄ –L– ROBINHOOD RD (SR 1348)
–Y1– LEWISVILLE–VIENNA RD (SR 1308)

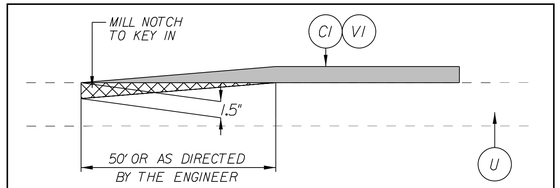


TYPICAL SECTION NO. 1

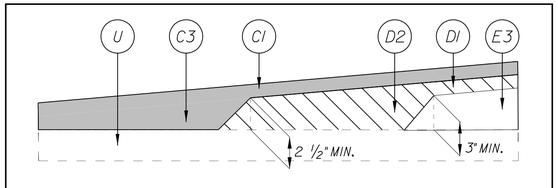
–L– STA 12+55.00 TO 16+26.00
–L– STA 19+74.00 TO 23+45.00
–Y1– STA 11+85.00 TO 15+21.00 RT
–Y1– STA 11+85.00 TO 15+25.00 LT
–Y1– STA 18+79.00 TO 21+00.00 LT
–Y1– STA 18+84.46 TO 21+00.00 RT



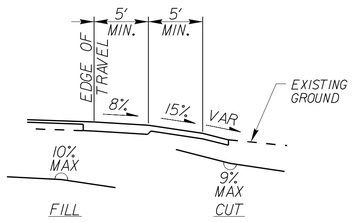
MILLING AND SAWCUT DIMENSION DETAIL



PROFILE KEY–IN DETAIL

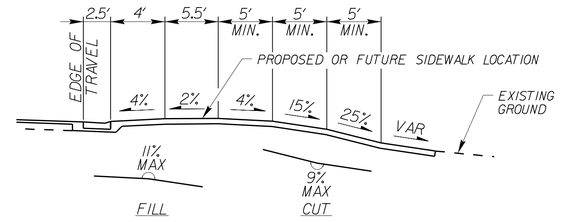


WEDGING DETAIL (W)



NOTE: SEE PLANS AND CROSS-SECTIONS FOR DRIVEWAY LOCATIONS AND EXCEPTIONS TO THIS DETAIL

DRIVEWAY GRADING DETAIL – PAVED SHOULDER



NOTE: SEE PLANS AND CROSS-SECTIONS FOR DRIVEWAY LOCATIONS AND EXCEPTIONS TO THIS DETAIL

DRIVEWAY GRADING DETAIL – CURB & GUTTER

NOTES:
1. SEE TABLE FOR SLOPES
2. CONCRETE SIDEWALK SHALL BE 6" ACROSS DRIVEWAYS.
3. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.

PAVEMENT SCHEDULE

A1	PROPOSED 8" COLORED CONCRETE VEHICULAR APRON (WITHOUT DOWELS) (SEE TRUCK APRON DETAIL SHEET 2A-2 & STAMPED CONCRETE APRON DETAIL SHEET L2.0)
C1	PROPOSED APPROX 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ.YD.
C2	PROPOSED APPROX 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ.YD. IN EACH OF TWO LAYERS.
C3	PROPOSED VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ.YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" OR GREATER THAN 1.5" IN DEPTH.
D1	PROPOSED APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ.YD.
D2	PROPOSED 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 LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.
E1	PROPOSED APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ.YD.
E2	PROPOSED APPROX. 5.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ.YD.
E3	PROPOSED 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" OR GREATER THAN 5.5" IN DEPTH.
R1	PROPOSED 1'-6" CONCRETE CURB & GUTTER
R2	PROPOSED 2'-6" CONCRETE CURB & GUTTER
R3	PROPOSED 8" X 12" CONCRETE CURB
R4	PROPOSED 5" MONOLITHIC CONCRETE ISLAND (KEYED-IN)
R5	PROPOSED 8" MONOLITHIC CONCRETE MOUNTABLE MEDIAN (SEE NCDOT RSD 852.02 DETAIL - A)
S1	PROPOSED 4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	MILLING ASPHALT PAVEMENT, 1.5" DEPTH
V2	MILLING ASPHALT PAVEMENT, 3" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	2A-1

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049236 JEFFREY W MOORE
Docusigned by: Jeffrey W Moore 7/11/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	2A-2

ROADWAY DESIGN ENGINEER

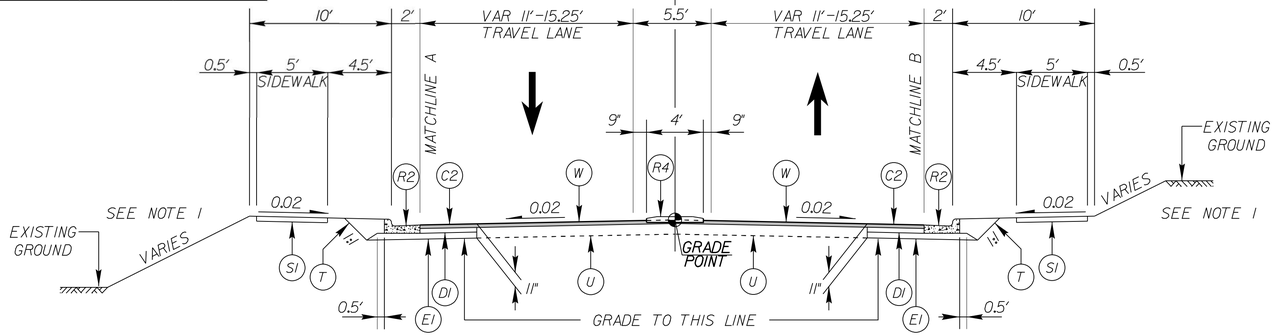
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042436 JEFFREY W. MOORE

7/11/2025

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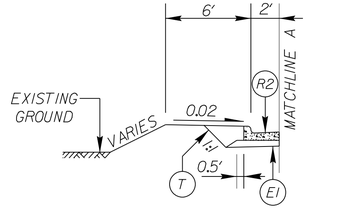
LINE	STA	STA	LT/RT	SLOPE
T.S. 2				
L	16+26.00	17+41.04	RT	4:1
L	18+58.65	18+70.00	LT	4:1
L	18+58.65	18+77.00	RT	4:1
L	19+00.00	19+74.00	LT	6:1
Y1	15+21.00	16+37.98	LT	2:1
Y1	17+88.00	18+79.00	LT	4:1
Y1	18+45.00	18+84.46	RT	4:1

℄ –L– ROBINHOOD RD (SR 1348)
–Y1– LEWISVILLE–VIENNA RD (SR 1308)



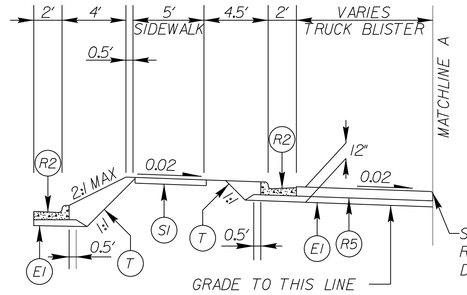
TYPICAL SECTION NO. 2

–L– STA 16+26.00 TO 17+41.04
–L– STA 18+58.65 TO 19+74.00
–Y1– STA 15+21.00 TO 16+37.98 RT
–Y1– STA 15+25.00 TO 16+37.98 LT
–Y1– STA 17+63.08 TO 18+79.00 LT
–Y1– STA 17+63.08 TO 18+84.46 RT



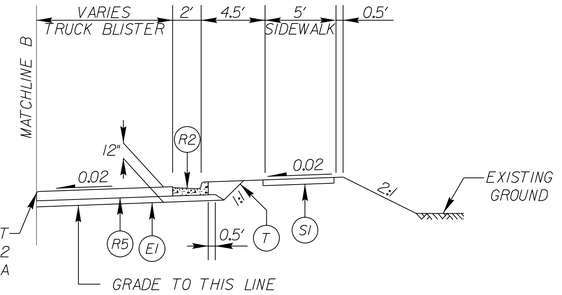
TYPICAL SECTION NO. 2A

–L– STA 16+26.00 TO 16+72.38 LT
–Y1– STA 18+00.00 TO 18+65.00 RT



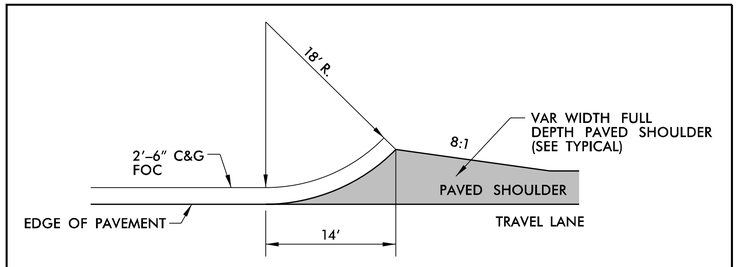
TYPICAL SECTION NO. 2B

–L– STA 16+72.38 TO 17+41.04 LT
–Y1– STA 17+63.08 TO 17+88.00 LT

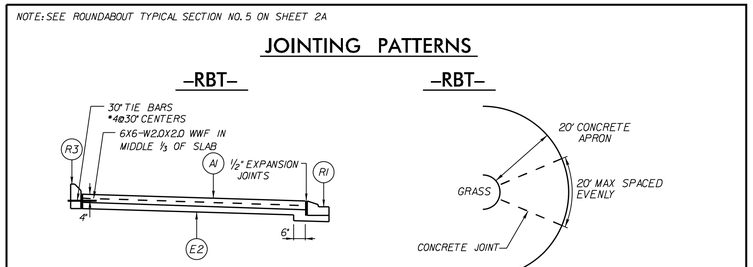


TYPICAL SECTION NO. 2C

–L– STA 18+58.65 TO 19+13.99 RT
–Y1– STA 16+08.99 TO 16+37.98 RT



STANDARD CURB & GUTTER FLARE DETAIL



TRUCK APRON DETAILS

NOTES:
1. SEE TABLE FOR SLOPES
2. CONCRETE SIDEWALK SHALL BE 6" ACROSS DRIVEWAYS.
3. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.

PAVEMENT SCHEDULE

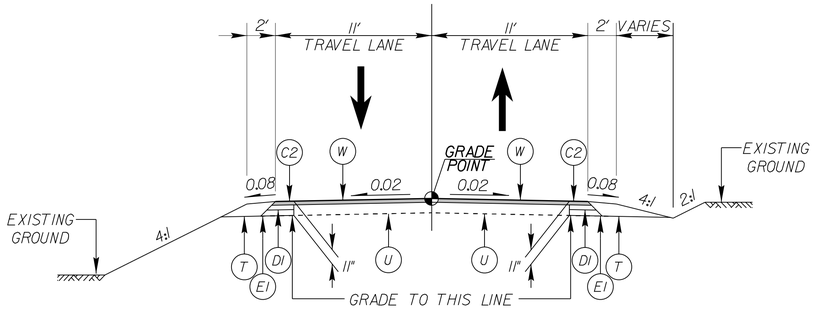
A1	PROPOSED 8" COLORED CONCRETE VEHICULAR APRON (WITHOUT DOWELS) (SEE TRUCK APRON DETAIL SHEET 2A-2 & STAMPED CONCRETE APRON DETAIL SHEET L2.0)
C1	PROPOSED APPROX 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ.YD.
C2	PROPOSED APPROX 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ.YD. IN EACH OF TWO LAYERS.
C3	PROPOSED VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ.YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" OR GREATER THAN 1.5" IN DEPTH.
D1	PROPOSED APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ.YD.
D2	PROPOSED 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 LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.
E1	PROPOSED APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ.YD.
E2	PROPOSED APPROX. 5.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ.YD.
E3	PROPOSED 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" OR GREATER THAN 5.5" IN DEPTH.
R1	PROPOSED 1'-6" CONCRETE CURB & GUTTER
R2	PROPOSED 2'-6" CONCRETE CURB & GUTTER
R3	PROPOSED 8" X 12" CONCRETE CURB
R4	PROPOSED 5" MONOLITHIC CONCRETE ISLAND (KEYED-IN)
R5	PROPOSED 8" MONOLITHIC CONCRETE MOUNTABLE MEDIAN (SEE NCDOT RSD 852.02)
SI	PROPOSED 4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	MILLING ASPHALT PAVEMENT, 1.5" DEPTH
V2	MILLING ASPHALT PAVEMENT, 3" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

5/14/99
10/18/2024
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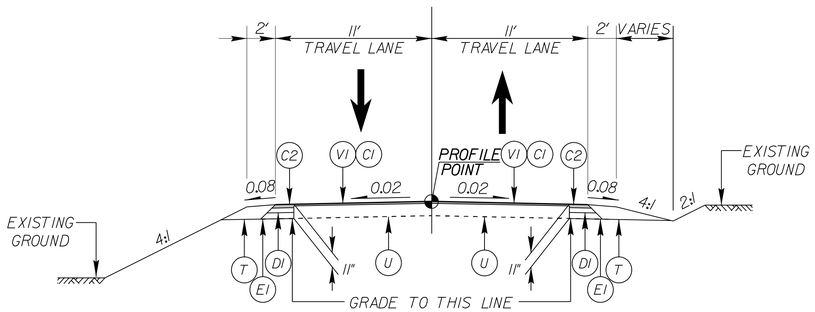
℄ –Y1– LEWISVILLE–VIENNA RD (SR 1308)



TYPICAL SECTION NO. 3

–Y1– STA 21+00.00 TO 22+15.00

℄ –Y1– LEWISVILLE–VIENNA RD (SR 1308)

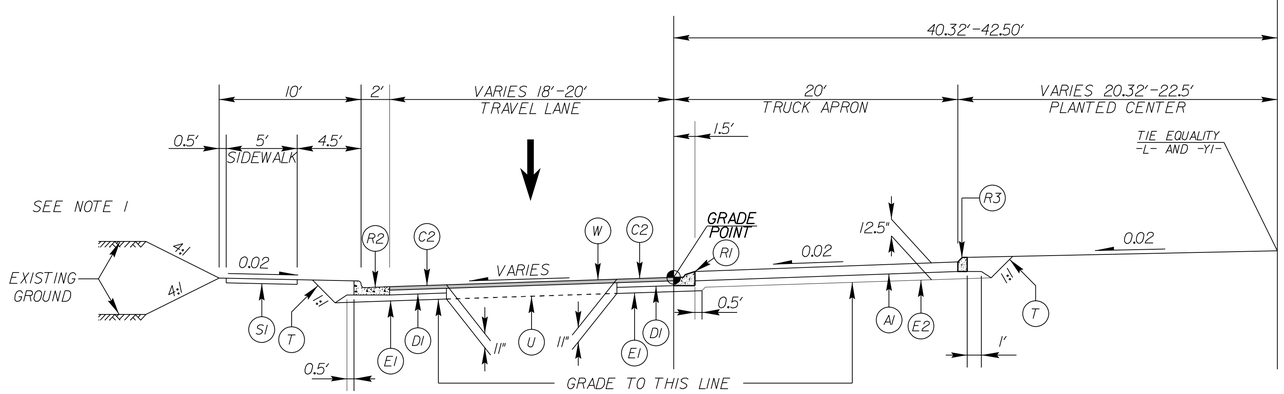


TYPICAL SECTION NO. 4

–Y1– STA 22+15.00 TO 22+83.00

ROUNDABOUT CENTER

℄ –RBT–



TYPICAL SECTION NO. 5

–RBT– STA 10+00.00 TO 12+61.43

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	2A-3

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER JEFFREY W MOORE

Docusigned by: Jeffrey W Moore 0A2A4B6 Mo...

7/11/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTES:
1. SEE TABLE FOR SLOPES
2. CONCRETE SIDEWALK SHALL BE 6" ACROSS DRIVEWAYS.
3. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.

PAVEMENT SCHEDULE

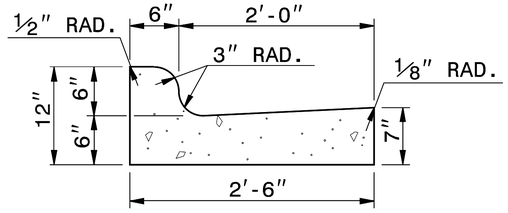
AI	PROPOSED 8" COLORED CONCRETE VEHICULAR APRON (WITHOUT DOWELS) (SEE TRUCK APRON DETAIL SHEET 2A-2 & STAMPED CONCRETE APRON DETAIL SHEET L2.0)
CI	PROPOSED APPROX 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROPOSED APPROX 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROPOSED VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" OR GREATER THAN 1.5" IN DEPTH.
DI	PROPOSED APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROPOSED 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 LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.
EI	PROPOSED APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROPOSED APPROX. 5.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E3	PROPOSED 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" OR GREATER THAN 5.5" IN DEPTH.
RI	PROPOSED 1'-6" CONCRETE CURB & GUTTER
R2	PROPOSED 2'-6" CONCRETE CURB & GUTTER
R3	PROPOSED 8" X 12" CONCRETE CURB
R4	PROPOSED 5" MONOLITHIC CONCRETE ISLAND (KEYED-IN)
R5	PROPOSED 8" MONOLITHIC CONCRETE MOUNTABLE MEDIAN (SEE NCDOT RSD 852.02 DETAIL – A)
SI	PROPOSED 4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
VI	MILLING ASPHALT PAVEMENT, 1.5" DEPTH
V2	MILLING ASPHALT PAVEMENT, 3" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

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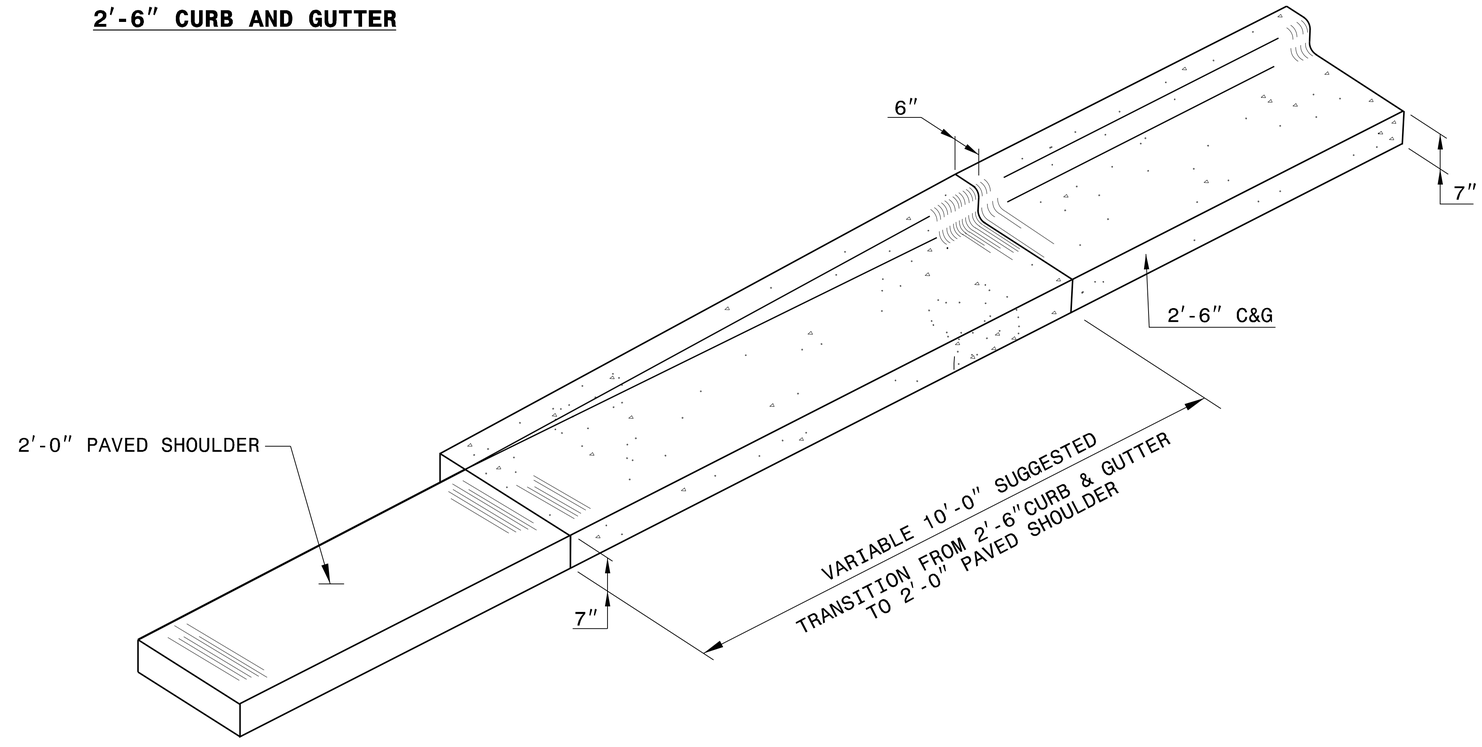
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PROJECT REFERENCE NO.	SHEET NO.
U-6154	2B-1



2'-6" CURB AND GUTTER

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



ISOMETRIC VIEW OF TRANSITION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33144 NICOLE M HACKLER

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

DETAIL OF 10' TRANSITION FROM 2'-6" CURB & GUTTER TO 2'-0" PAVED SHOULDER

ORIGINAL BY: _____ DATE: _____
MODIFIED BY: rnbritt DATE: 04-13-2016
CHECKED BY: _____ DATE: _____
FILE SPEC.: details/nbritt/english/misc/c&g transition sections.dgn

$$$$USERNAME$$$$
$$$$DGNFILE$$$$
$$$$SYSTIME$$$$

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	2B-2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042436 JEFFREY W MOORE
7/11/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NC GRID NAD 83(2011)

-EOT NW-

PI Sta 10+15.87
△ = 2° 00' 11.5" (LT)
D = 6° 18' 36.4"
L = 31.75'
T = 15.87'
R = 908.00'

PI Sta 10+67.81
△ = 27° 02' 25.1" (LT)
D = 38° 11' 49.9"
L = 70.79'
T = 36.07'
R = 150.00'

PI Sta 11+14.36
△ = 6° 10' 49.4" (LT)
D = 286° 28' 44.0"
L = 21.36'
T = 11.82'
R = 20.00'

PI Sta 11+42.13
△ = 33° 48' 32.5" (LT)
D = 95° 29' 34.7"
L = 35.40'
T = 18.23'
R = 60.00'

-RBT-

PI Sta 10+31.22
△ = 75° 56' 30.1" (RT)
D = 143° 14' 22.0"
L = 53.02'
T = 31.22'
R = 40.00'

PI Sta 10+65.93
△ = 28° 57' 18.1" (RT)
D = 114° 35' 29.6"
L = 25.27'
T = 12.91'
R = 50.00'

PI Sta 11+96.64
△ = 28° 57' 18.1" (RT)
D = 114° 35' 29.6"
L = 25.27'
T = 12.91'
R = 50.00'

PI Sta 12+33.20
△ = 151° 02' 41.9" (RT)
D = 143° 14' 22.0"
L = 105.45'
T = 154.92'
R = 40.00'

PI Sta 12+39.75
△ = 75° 06' 11.8" (RT)
D = 143° 14' 22.0"
L = 52.43'
T = 30.75'
R = 40.00'

-EOT NW- POT Sta. 12+17.38= -Y1- POT Sta.18+65.00 (18' LT)

END GRADE
-EOT NW- POT Sta. 11+60.00 = -Y1- POT Sta.18+07.62 (18' LT)
ELEV = 892.42'

-EOT NW- PT Sta. 11+59.30

-EOT NW- PCC Sta. 11+23.89

BEGIN GRADE
-EOT NW- PCC Sta. 10+31.75 = -L- POC Sta.16+72.38 (18' LT)
ELEV = 889.89'

-EOT NW- PCC Sta. 11+02.54

-EOT NW- PC Sta. 10+00.00 = -L- POC Sta.16+40.00 (18' LT)

-L- PRC Sta. 17+09.29

-L- PCC Sta. 16+27.96

-Y1- PC Sta. 18+80.96

-EOT NE- POT Sta. 10+00.00= -Y1- POT Sta.18+65.00 (18' RT)

S 7° 55' 10.2" E

BEGIN GRADE
-EOT NE- PC Sta. 10+03.13 = -Y1- POT Sta.18+61.87 (18' RT)
ELEV = 892.15'

-EOT NE- PT Sta. 10+64.22

-Y1- PT Sta. 17+86.37

-RBT- PC Sta.10+00.00 = -RBT- PT Sta.12+61.43 -Y1- POC Sta.17+43.00
ELEV= 893.13'

N 7° 55' 10.2" W

S 19° 35' 09.2" E

S 61° 58' 49.4" E

N 7° 36' 11.9" E

S 21° 12' 05.4" E

N 8° 15' 08.0" W

-EOT NE-

PI Sta 10+33.78
△ = 11° 39' 59.0" (LT)
D = 19° 05' 54.9"
L = 61.08'
T = 30.65'
R = 300.00'

PI Sta 11+93.07
△ = 52° 18' 25.2" (LT)
D = 95° 29' 34.7"
L = 54.78'
T = 29.46'
R = 60.00'

PI Sta 12+48.17
△ = 3° 36' 52.4" (RT)
D = 6° 04' 10.1"
L = 59.55'
T = 29.79'
R = 944.00'

-Y1- PC Sta. 17+32.18

-RBT- PCC Sta. 10+53.02

-EOT NE- PC Sta. 11+63.60

-L- PC Sta. 18+34.58

-RBT- PCC Sta. 10+78.29

-L- POC Sta. 18+40.65 = -RBT- POC Sta.10+80.05

-EOT NE- PRC Sta. 12+18.38

END GRADE
-EOT NE- POC Sta. 12+33.37 = -L- POC Sta.19+16.28 (18' LT)
ELEV = 895.50'

-L- PRC Sta. 19+16.28

-EOT NE- PT Sta. 12+77.93= -L- POC Sta.19+60.00 (18' LT)

-EOT NE-

-EOT SW-

BEGIN GRADE
-EOT SW- PRC Sta. 10+64.86 = -L- POC Sta.17+03.62 (18' RT)
ELEV = 890.74'

-EOT SW- PC Sta. 10+00.00 = -L- POC Sta.16+40.00 (18' RT)

-L- POC Sta. 17+59.05 = -RBT- POC Sta.12+10.72

-RBT- PCC Sta. 12+09.00

-L- PT Sta. 17+68.74

-EOT SW- PT Sta. 11+13.68

-RBT- PCC Sta. 11+83.73

-L- POT Sta. 17+99.84 = -Y1- POT Sta.17+00.50

-Y1- POT Sta. 16+58.00 = -RBT- POC Sta. 11+31.01

-Y1- PT Sta. 16+53.02

-EOT SW- PC Sta. 11+87.00

-Y1- PC Sta. 16+11.51

END GRADE
-EOT SW- PT Sta. 12+54.81 = -Y1- POT Sta.15+59.44 (18' LT)
ELEV = 892.59'

-Y1- PT Sta. 15+52.07

S 8° 15' 08.0" E

-EOT SW- PC Sta. 12+62.18

-EOT SW- PT Sta. 12+78.92 = -Y1- POC Sta.15+35.00 (18' LT)

-EOT SW-

PI Sta 10+32.44
△ = 3° 56' 11.2" (LT)
D = 6° 04' 10.1"
L = 64.86'
T = 32.44'
R = 944.00'

PI Sta 10+90.71
△ = 46° 37' 17.4" (RT)
D = 95° 29' 34.7"
L = 48.82'
T = 25.85'
R = 60.00'

PI Sta 12+21.05
△ = 12° 56' 57.4" (RT)
D = 19° 05' 54.9"
L = 67.80'
T = 34.05'
R = 300.00'

PI Sta 12+70.55
△ = 1° 03' 21.7" (RT)
D = 6° 18' 36.4"
L = 16.74'
T = 8.37'
R = 908.00'

-EOT SE-

-L- PRC Sta. 19+74.54

-EOT SE- PT Sta. 12+21.45= -L- POC Sta.19+60.00 (18' RT)

END GRADE
-EOT SE- POC Sta. 11+78.58 = -L- POC Sta.19+16.28 (18' RT)
ELEV = 895.50'

-EOT SE- PCC Sta. 11+75.80

-EOT SE- PCC Sta. 11+16.35

-EOT SE- PCC Sta. 10+97.06

BEGIN GRADE
-EOT SE- PC Sta. 10+56.08 = -Y1- POT Sta.15+90.75 (18' RT)
ELEV = 892.66'

-EOT SE- PT Sta. 10+17.40

-EOT SE- PC Sta. 10+00.00= -Y1- POC Sta.15+35.00 (18' RT)

-Y1- PC Sta. 14+70.48

-EOT SE-

PI Sta 10+08.70
△ = 1° 03' 21.7" (LT)
D = 6° 04' 10.1"
L = 17.40'
T = 8.70'
R = 944.00'

PI Sta 10+77.41
△ = 39° 08' 14.3" (RT)
D = 95° 29' 34.7"
L = 40.98'
T = 21.33'
R = 60.00'

PI Sta 11+07.53
△ = 55° 14' 53.1" (RT)
D = 286° 28' 44.0"
L = 19.29'
T = 10.47'
R = 20.00'

PI Sta 11+46.47
△ = 22° 42' 28.0" (RT)
D = 38° 11' 49.9"
L = 59.45'
T = 30.12'
R = 150.00'

PI Sta 11+98.63
△ = 2° 52' 50.6" (RT)
D = 6° 18' 36.4"
L = 45.65'
T = 22.83'
R = 908.00'

10+00
15+00
20+00

SEE SHEET NO.12 FOR -EOT- PROFILES
SEE SHEET NO.13 FOR -RBT- PROFILE

ROUNDABOUT ALIGNMENT PLAN

10/18/2024

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	2B-3

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042436 JEFFREY W MOORE

7/11/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

5/14/99

INSET A

41.5' R
+49.09 (EOT NW) 18.50' LT
+40.05 (EOT NW) 18.50' LT
+40.05 (EOT NW) 20.00' LT 1.5' R
+42.40 (EOT NW) 20.14' LT
+38.19 (EOT NW) 19.17' LT
81.5' R
+42.40 (EOT NW) 16.83' LT
-EOT NW-

-Y1- LEWISVILLE-VIENNA RD

10+00

+36.65(Y1) 0.5' RT 2.5' R
+36.65(Y1) 2' LT
+36.85(Y1) 3' RT
+92.68(Y1) 8.60' RT 1' R
+92.88(Y1) 9.58' RT
+91.69(Y1) 8.78' RT
+90.75(Y1) 3.49' RT
+84.65(Y1) 3.33' RT
16'
+92.84(Y1) 1' LT 1' R
+91.86(Y1) 1.23' LT
+92.84(Y1) 2' LT
+84.73(Y1) 2.01' LT
+85.64(Y1) 0.99' LT
+84.66(Y1) 1.21' LT 1' R
+65.46(Y1) 5.26' LT
+65.21(Y1) 4.29' LT 1' R
+64.19(Y1) 4.34' LT
+85.05(Y1) 11.21' RT
+85.85(Y1) 10.04' RT
+84.91(Y1) 10.22' RT 1' R
+63.47(Y1) 11.85' RT
+65.96(Y1) 14.92' RT
+66.30(Y1) 12.01' RT 3' R
10' R
6'
SEE INSET A
+40.05(EOT NW) = +88.00(Y1)
+33.90(EOT NW) 29.12' LT
+30.61(EOT NW) 6.74' LT
+31.75(EOT NW) = +72.38(L) 18' LT
+15.71(EOT NW) 4.52' LT
+75.69(EOT NW) 1' LT 1' R
+75.69(EOT NW) = +16.34(L) 23.43' LT
+19.97(EOT NW) 6.26' LT
+74.73(EOT NW) 3.04' LT
+74.69(EOT NW) 1.02' LT
+35.52(EOT NW) 0.02' LT
24' R
100' R
-EOT NW-
-EOT NE-
20+00
15+00
10+00
5' R
+10.77(EOT NW) = +50.98(L) 18' LT
+97.11(L) 2' LT
+13.43(L) 2.32' LT
+13.48(L) 1.33' LT 1' R
+20.59(L) 1.65' LT
+14.45(L) 1.56' LT
+21.46(L) 2.89' LT
+21.55(L) 1.89' LT 1' R
+36.40(L) 1.80' LT 3' R
+39.36(L) 2.21' LT
300' R
+40.97(L) 9.09' RT
+39.96(L) 9.23' RT 1' R
+39.53(L) 10.13' RT
+39.36(L) 2.21' LT
+13.57(L) 1.67' RT 1' R
+13.44(L) 2.66' RT
+14.86(L) 0.16' RT
+21.48(L) 3.05' RT 1' R
+14.55(L) 1.85' RT
+40.97(L) 9.09' RT
+40.97(L) 9.09' RT
16'
50'
-L- ROBINHOOD RD
+88.00(L) 2' R
+88.00(L) 2' LT
+88.00(L) 2' RT
+88.00(L) 2' RT
22.50'
20.32'
20.32'
22.50'
20'
+60.21(L) 9.67' LT
+59.78(L) 8.76' LT 1' R
+58.77(L) 8.63' LT
+79.98(L) 2.30' LT 1' R
+80.17(L) 3.28' LT
+80.97(L) 2.16' LT
+80.59(L) 0.42' RT 120' R
+60.68(L) 5.31' RT
+63.62(L) 4.92' RT 3' R
+64.54(L) 7.77' RT
+80.23(L) 3.06' RT 1' R
+80.37(L) 4.05' RT
+81.19(L) 2.82' RT
+86.92(L) 1.26' LT
+88.02(L) 2.09' LT
+87.91(L) 1.10' LT 1' R
+01.50(L) 1.67' LT
+87.24(L) 2.42' RT
+86.70(L) 0.14' RT
+88.21(L) 2.19' RT 1' R
+88.30(L) 3.19' RT
-L- ROBINHOOD RD
+60.00(L) 2.00' LT
+60.00(L) 2' R
+60.00(L) 2.00' RT
-EOT SE-
+76.22(EOT SE) = +14.00(L) 18' RT
+46.54(EOT SE) 3.12' RT
+35.92(Y1) 6.05' RT 1' R
+35.70(YY1) 7.03' RT
+36.96(Y1) 6.05' RT
+36.88(Y1) 8.58' LT
+34.04(Y1) 8.59' LT 3' R
+36.88(Y1) 8.58' LT
+13.07(Y1) 1.74' LT
+13.20(Y1) 2.14' RT 1' R
+12.22(Y1) 1.91' RT
+13.06(Y1) 3.13' RT
+06.14(Y1) 1.49' RT
+05.16(Y1) 1.25' RT 1' R
+05.09(Y1) 2.25' RT
+98.01(Y1) 2' RT
+13.40(Y1) 5.65' LT 1' R
+12.45(Y1) 5.48' LT
+13.25(Y1) 6.64' LT
+13.25(Y1) 6.64' LT
+13.25(Y1) 6.64' LT
+13.25(Y1) 6.64' LT
+05.57(Y1) 4.37' LT 1' R
+15.93(EOT SE) 9.13' RT
+74.62(EOT SE) = +08.99(Y1) 20.84' RT
+46.54(EOT SE) 3.12' RT
+45.58(EOT SE) = +84.81(L) 22.12' RT
+45.58(EOT SE) 1' RT 1' R
60' R
100' R
100' R
16'
-Y1- LEWISVILLE-VIENNA RD
10+00
MATCHLINE -Y1- STA 15+00 (SEE INSET B)

INSET B

-Y1- LEWISVILLE-VIENNA RD
+35.00(Y1) 2' LT
+35.00(Y1) 2' R
+35.00(Y1) 2' RT
MATCHLINE -Y1- STA 15+00 (THIS SHEET)

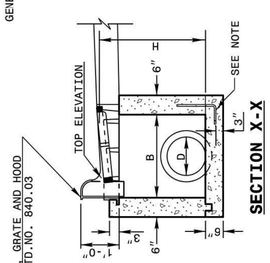
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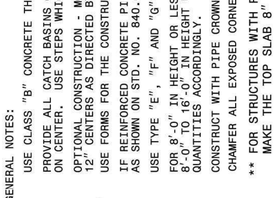
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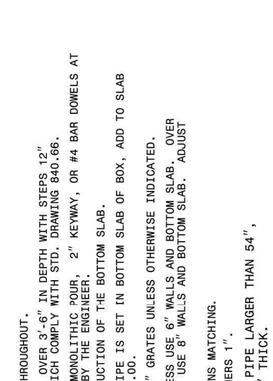
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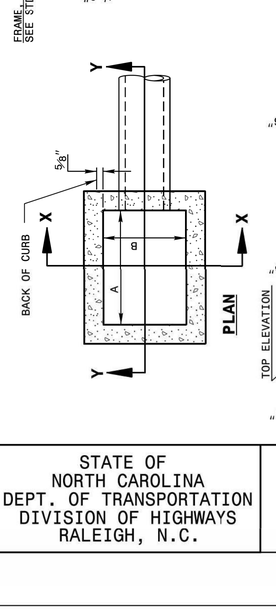
PROJECT REFERENCE NO.	SHEET NO.
U-6154	2C-1

GEWERAL NOTES:
USE CLASS "B" CONCRETE THROUGHOUT.
PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.
FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.
CONSTRUCT WITH PIPE CROWNS MATCHING.
CHAMFER ALL EXPOSED CORNERS 1".
** FOR STRUCTURES WITH PIPE LARGER THAN 54", MAKE THE TOP SLAB 8" THICK.







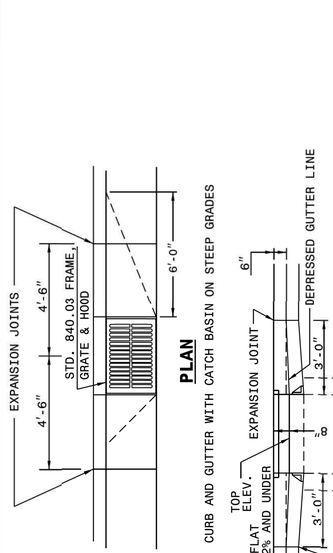


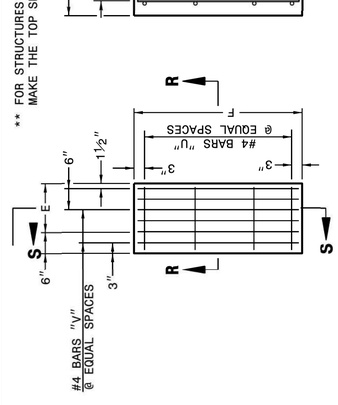
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR **MINIMUM DEPTH CONCRETE CATCH BASIN** 12" THRU 84" PIPE	SHEET 1 OF 2 **840D02**

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

ENGLISH DETAIL DRAWING FOR **MINIMUM DEPTH CONCRETE CATCH BASIN** 12" THRU 84" PIPE

SHEET 2 OF 2 **840D02**





* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER) *

PIPE D	DIMENSIONS OF BOX AND PIPE COVER DIMENSION SPAN A	WIDTH B	C	G	MIN. HEIGHT H	BARS-U NO.	LENGTH	E	F	TOTAL LBS.	CU.YDS. CONC. IN BOX TOP SLAB	BOTTOM SLAB	TOT. CONC. FOR MINIMUM HEIGHT	DEDUCTIONS ONE PIPE C.M.	R.C.
12"	3'-0"	2'-2"	--	--	2'-0"	4	1'-2"	4'-4"	--	39	0.123	0.347	1.433	0.092	0.127
15"	3'-0"	2'-2"			2'-3"	4	1'-8"	4'-10"	--	43	0.161	0.432	1.714	0.132	0.178
18"	3'-0"	2'-2"			2'-6"	5	2'-2"	5'-5"	--	47	0.200	0.543	1.738	0.180	0.243
24"	3'-0"	2'-2"			3'-1"	5	2'-10"	6'-0"	--	51	0.235	0.667	2.052	0.235	0.317
30"	3'-0"	2'-2"	3'-4"	3'-4"	3'-10"	6	3'-5"	6'-7"	--	56	0.289	0.802	2.387	0.297	0.401
36"	3'-0"	2'-2"	3'-10"	3'-10"	4'-6"	6	4'-1"	7'-3"	--	66	0.391	1.160	3.057	0.440	0.655
42"	3'-0"	2'-2"	4'-5"	4'-5"	4'-11"	7	4'-9"	7'-11"	--	72	0.442	1.340	3.392	0.524	0.774
48"	3'-0"	2'-2"	5'-0"	5'-0"	5'-6"	7	5'-3"	8'-6"	--	78	0.493	1.530	3.727	0.615	0.893
54"	3'-0"	2'-2"	5'-7"	5'-7"	6'-0"	8	5'-11"	9'-1"	--	84	0.544	1.760	4.062	0.713	1.010
60"	3'-0"	2'-2"	6'-3"	6'-3"	6'-6"	8	6'-7"	9'-9"	--	90	0.596	1.990	4.397	0.812	1.128
66"	3'-0"	2'-2"	6'-11"	6'-11"	7'-0"	8	7'-3"	10'-5"	--	96	0.647	2.220	4.732	0.911	1.246
72"	3'-0"	2'-2"	7'-6"	7'-6"	7'-6"	9	7'-11"	11'-1"	--	102	0.698	2.450	5.067	1.010	1.364
78"	3'-0"	2'-2"	8'-1"	8'-1"	8'-0"	9	8'-8"	11'-10"	--	108	0.749	2.680	5.402	1.109	1.482
84"	3'-0"	2'-2"	8'-9"	8'-9"	8'-6"	10	9'-4"	12'-6"	--	114	0.800	2.910	5.737	1.208	1.600

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

ENGLISH DETAIL DRAWING FOR **MINIMUM DEPTH CONCRETE CATCH BASIN** 12" THRU 84" PIPE

SHEET 2 OF 2 **840D02**

SEAL 33144 NORTH CAROLINA PROFESSIONAL ENGINEER J. HOWERTON

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

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ORIGINAL BY: 2002 Std.840.01 DATE:
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10-AUG-2017 10:11
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PROJECT REFERENCE NO.	SHEET NO.
U-6154	2C-2

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RALEIGH, N.C.

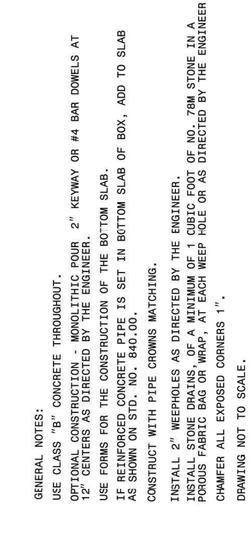
ENGLISH DETAIL DRAWING FOR

MINIMUM DEPTH CONCRETE DROP INLET

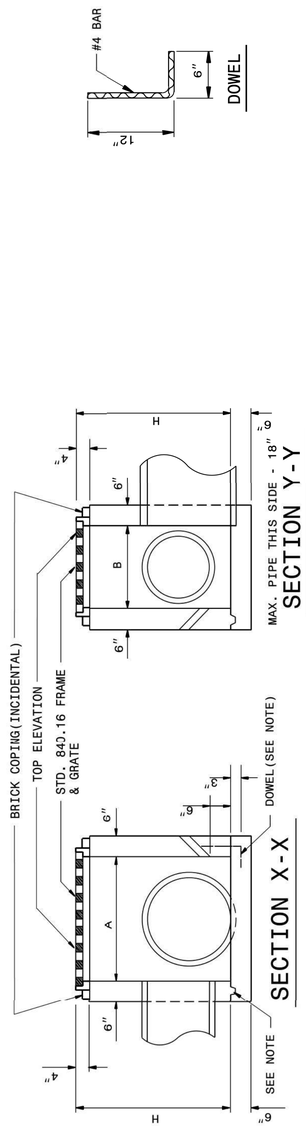
12" THRU 30" PIPE

SHEET OF **840D14**

GENERAL NOTES:
USE CLASS "B" CONCRETE THROUGHOUT.
OPTIONAL CONSTRUCTION - MONOLITHIC POUR 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
CONSTRUCT WITH PIPE CROWNS MATCHING.
INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.
INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 78M STONE IN A POROUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.
CHAMFER ALL EXPOSED CORNERS 1".
DRAWING NOT TO SCALE.



PLAN
WITH GRATE & FRAME REMOVED



SECTION X-X

DOWEL

MAX. PIPE THIS SIDE - 18"

SECTION Y-Y

DIMENSIONS AND QUANTITIES FOR DROP INLET(BASED ON MIN. HEIGHT, H)

DIMENSIONS OF BOX & PIPE					CUBIC YARDS CONC. IN BOX		DEDUCTIONS FOR ONE PIPE	
PIPE	SPAN	WIDTH	MIN. HEIGHT		BOTTOM SLAB	WALL PER FT. HT.	TOTAL CONCRETE FOR MINIMUM WALL HEIGHT, H	C.M.	R.C.
D	A	B	H						
12"	3'-0"	2'-0"	1'-8"		0.222	0.222	0.555	0.015	0.026
15"			1'-11"				0.611	0.023	0.036
18"			2'-1"				0.667	0.033	0.049
24"			2'-9"				0.814	0.059	0.085
30"	3'-0"	2'-0"	3'-2"		0.222	0.222	0.925	0.092	0.127

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ENGLISH DETAIL DRAWING FOR

MINIMUM DEPTH BRICK DROP INLET

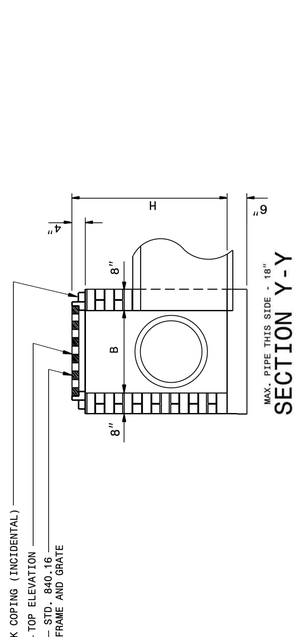
12" THRU 30" PIPE

SHEET 1 OF 1 **840D15**

GENERAL NOTES:
MORTAR JOINTS ½" TO ⅝" THICK.
USE CLASS "B" CONCRETE THROUGHOUT.
USE FORMS FOR CONSTRUCTION OF THE BOTTOM SLAB.
DEDUCT FOR PIPE(S) FROM TOTAL CU. YDS. OF BRICK MASONRY.
USE BRICK OR CONCRETE BLOCK WHICH COMPLIES WITH THE REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
CONSTRUCT WITH PIPE CROWNS MATCHING.
DO NOT USE BRICK MASONRY DROP INLET IN LOCATIONS SUBJECT TO TRAFFIC.
CHAMFER ALL EXPOSED CORNERS 1".
DRAWING NOT TO SCALE.



PLAN
WITH COPING REMOVED



SECTION X-X

MAX. PIPE THIS SIDE - 18"

SECTION Y-Y

DIMENSIONS AND QUANTITIES FOR DROP INLET(BASED ON MIN. HEIGHT, H)

DIMENSIONS OF BOX & PIPE				CUBIC YARDS CONCRETE	CUBIC YARDS BRICK MASONRY		DEDUCTIONS FOR ONE PIPE	
PIPE	SPAN	WIDTH	MIN. HEIGHT	BOTTOM SLAB	WALL PER FOOT HT.	TOTAL BRICK MASONRY FOR MIN. HEIGHT, H	C.S.	R.C.
D	A	B	H					
12"	3'-0"	2'-0"	1'-8"	0.268	0.313	0.470	0.020	0.032
15"			1'-11"	0.268	0.313	0.548	0.031	0.047
18"			2'-1"	0.268	0.313	0.626	0.044	0.065
24"			2'-9"	0.268	0.313	0.835	0.078	0.113
30"	3'-0"	2'-0"	3'-2"	0.268	0.313	0.991	0.122	0.170

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33144 NOTIN M. MILLER

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

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MODIFIED BY: E.E. WARD DATE: 3-4-02
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PROJECT REFERENCE NO.	SHEET NO.
U-6154	3B-1

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RALEIGH, NC 27601

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT EXCAVATION	EMBANKMENT +15%	BORROW	TOTAL WASTE
SECTION 1					
–L– (RT) 12+55.00 TO 17+41.04	40		278	238	
–RBT– 11+30.00 TO 12+10.00	13		208	195	
–Y1– (LT) 11+85.00 TO 16+37.98	60		286	226	
–Y1– (RT) 16+00.00 TO 16+37.98			15	15	
SECTION 2					
–L– (LT) 12+55.00 TO 17+41.04	8		83	75	
–L– (LT) 18+58.65 TO 23+45.00	81		199	118	
–RBT– 10+00.00 TO 10+80.00	12		206	194	
–Y1– (LT) 17+63.08 TO 22+83.00	264		106		158
SECTION 3					
–L– (LT) 12+55.00 TO 17+41.04	242		154		88
–RBT– 12+10.00 TO 12+61.43	14		58	44	
–Y1– (LT) 17+63.08 TO 22+83.00	98		68		30
SECTION 4					
–Y1– (RT) 11+85.00 TO 16+37.98	354		61		293
–RBT– 10+80.00 TO 11+30.00	1		144	143	
–Y2– 18+58.65 TO 23+45.00	130		300	170	
SUBTOTAL	1317		2163	1415	569
WASTE IN LIEU OF BORROW				–569	–569
EST. 5% TO REPLACE TOPSOIL ON BORROW PIT				42	
TOTALS	1317		2163	888	
SAY	1400			900	

NOTE: EARTHWORK QUANTITES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

10/18/2024 K:\RAL_Roadway\013813003 – U-6154 Lewisville Roundabout\Roadway\Proj\U6154_rdy_psh_3B-1.dgn

LL29512

COMPUTED BY: KLF DATE: 04/14/2022

CHECKED BY: JWM DATE: 11/13/2023

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
U-6154	3D-1

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

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

| LINE & STATION | OFFSET | | STRUCTURE NUMBER FROM | STRUCTURE NUMBER TO | TOP ELEVATION FT. | INVERT ELEVATION FT. | INVERT ELEVATION FT. | MINIMUM REQUIRED SLOPE % | Drainage Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) SIZE 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE | DO NOT USE PVC | DO NOT USE PP PIPE | R. C. PIPE CLASS III 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | R. C. PIPE CLASS IV 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | R. C. PIPE CLASS V 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | 24" SIDE DRAIN PIPE | ENDWALLS STD. 838.11 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY | REINFORCED ENDWALLS CY | DRAINAGE STRUCTURE MASONRY CY | QUANTITIES FOR DRAINAGE STRUCTURES NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B) A 0' THRU 5' EACH | B 5' THRU 10' LIN. FT. | B 10' AND ABOVE LIN. FT. | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E | F | G | CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06 | C.B. STD. 852.05 | OPEN THROAT C.B. STD. 840.04 OR STD. 840.05 | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATES STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26 | G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27 | G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28 | G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20 | G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22 | G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24 | G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29 | J.B. STD. 840.31 OR STD. 840.32 | T.B.J.B. STD. 840.34 | M.H. STD. 840.51, STD. 840.52, OR STD. 840.53 | M.H. FRAME AND COVER STD. 840.54 | ADJUST C.B. | ADJUST D.I. | FLARED END SECTION | FLOWABLE FILL CY | CONCRETE COLLARS CL. "B" STD. 840.72 CY | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---

LL25044

COMPUTED BY: KLF DATE: 04/14/2022

CHECKED BY: JWM DATE: 11/13/2023

PROJECT NO.	SHEET NO.
U-6154	3D-2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

LINE & STATION	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) SIZE 12	15	18	24	30	36	42	48	THICKNESS OR GAUGE: DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	DO NOT USE PP PIPE
L 16+81	32	LT	0527		888.4																	
			0527	0528		885.4	885.3															
L 16+60	39	LT	0528		888.6																	
			0528	0529		885.3	885.0															
L 19+20	20	RT	0530		895.3																	
			0530	0513		892.3	891.1															
L 21+80	28	RT	0601		898.9																	
			0601	0602		895.9	893.5															
L 13+28	33	LT	0403																			
L 22+62	25	LT	0603																			
Y1 13+68	29	RT	0701																			
Y1 21+12	24	RT	0801																			
L 13+26	21	RT																				
L 13+27	19	LT																				
L 14+93	18	RT																				
L 17+65	29	RT																				
L 18+42	21	RT																				
L 18+48	26	RT																				
L 18+52	21	RT																				
L 22+61	21	LT																				
L 23+27	21	LT																				
Y1 13+73	19	RT																				
Y1 18+60	12	RT																				
Y1 21+13	17	RT																				
SHEET TOTALS																						
PROJECT TOTALS																						

LINE & STATION	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48	R. C. PIPE CLASS V 12	15	18	24	30	36	42	48
L 16+81																								
										20														
L 16+60																								
										36														
L 19+20																								
										64														
L 21+80																								
											56													
L 13+28																								
L 22+62																								
Y1 13+68																								
Y1 21+12																								
L 13+26																								
L 13+27																								
L 14+93																								
L 17+65																								
L 18+42																								
L 18+48																								
L 18+52																								
L 22+61																								
L 23+27																								
Y1 13+73																								
Y1 18+60																								
Y1 21+13																								
SHEET TOTALS										120	56													
PROJECT TOTALS										680	116	572												

LINE & STATION	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B) A: 0' THRU 5' EACH	A: 5' THRU 10' LIN. FT.	B: 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05
L 16+81				1			1	1					
L 16+60				1			1	1					
L 19+20				1			1			1			
L 21+80				1									
L 13+28													
L 22+62													
Y1 13+68													
Y1 21+12													
L 13+26													
L 13+27													
L 14+93													
L 17+65													
L 18+42													
L 18+48													
L 18+52													
L 22+61													
L 23+27													
Y1 13+73													
Y1 18+60													
Y1 21+13													
SHEET TOTALS				4			3	2		1			
PROJECT TOTALS				29			20	5	8	7		2	4

LINE & STATION	D.I. STD. 840.04 OR STD. 840.05	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	J.B. STD. 840.31 OR STD. 840.32	T.B.J.B. STD. 840.34	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	ADJUST C.B.	ADJUST D.I.	FLARED END SECTION	FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	PIPE REMOVAL LIN. FT.	REMARKS
L 16+81																					
																				481	
SHEET TOTALS					1				1								2			481	
PROJECT TOTALS		2	2	3	3	1		4	3								2			481	

ABBREVIATIONS

C.A.A.	CORRUGATED ALUMINIUM ALLOY
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
H.D.P.E.	HIGH DENSITY POLYETHYLENE
J.B.	JUNCTION BOX
M.H.	MANHOLE
N.S.	NARROW SLOT
P.V.C.	POLYVINYL CHLORIDE
R.C.	REINFORCED CONCRETE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX
W.S.	WIDE SLOT

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	4

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER JEFFREY W. MOORE
DocuSigned by: Jeffrey W. Moore 57BD52F7D4824SC...
7/14/2025

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NAD 83/NA 2011

5/14/99

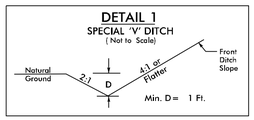
REVISIONS

K:\RAL_Roadway\01.38\3003 - U-6154 Lewisville Roundabout\Roadway\Proj\u6154_rdy_psh_4.dgn

7/14/2025

-L-
PI Sta 14+88.42
△ = 1° 38' 42.5" (LT)
D = 0° 35' 22.1"
L = 279.09'
T = 139.55'
R = 9,720.00'

DETAIL 1
SPECIAL 'V' DITCH
(Not to Scale)



FROM STA. 13+00 -L- TO STA. 16+26 -L- (LT)

ISBRD

10+00

BST

-L- POT Sta. 10+00.00

11'BST

10'BST

10'BST

-L-
ROBINHOOD RD
(SR 1348)

CONC

PUE

TP

15"RCP

6"DI

15" RCP

S 61° 29' 47.3" E

24"RCP

60.00'

11'

11'

GRADE TO DRAIN

2GI W/CONC. APRON

24" RCP-IV

REMOVE EXIST INLET

2GI W/CONC. APRON TIE TO EXIST 24" RCP

RETAIN

PDE

Ø403

Ø404

TOP=864.57
INV=860.48

GRADE TO DRAIN

EXISTING R/W

EXISTING R/W

INV=859.06

CONC

BLK HW

INV=855.49

24" RCP

RETAIN

EIP

RIB-R/W 1.00'

WOODS

S 00°41'50" W
210.41'

WILLIAM D. BAILEY HEIRS
DB 1040 PG 1430

1
CARL L. LANIER JR.
DB 1767 PG 1960

BEGIN TIP PROJECT U-6154
BEGIN CONSTRUCTION
-L- POT Sta. 12+55.00

2
CARL L. LANIER JR.
DB 1037 PG 377

-L- PC Sta. 13+48.87

385' LANE SHIFT (55:1)

151.25' MEDIAN SHIFT (55:1)

+55

+06.25

TOWN OF LEWISVILLE
DB 3792 PG 3654

15+00

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

TIE TO EXIST SWALE
15" W/FES
ON BOTH ENDS

24' DR

Ø403

PUE

DUE

E

C

F

REMOVE

4' PS

6"DI

15" RCP

8:1

SR 1348 ROBINHOOD RD

23' BST

5.5'

02 TYP

02 +66

02 +15

CLASS 'B' RIP RAP
EST. 5 TONS
EST. 14 SY GFD

24" RCP-IV

REMOVE

REMOVE

12" RCP

Ø402

Ø401 2GI-A

4' PS

18" RCP

18" RCP

24" RCP-IV

24' DR

EIP

R/W-EIP 0.35'

PORCH

ISFD

G

S

315' CMP

GATE

N 00°26'21" W
207.07'

N 08°56'37" E
275.36'

4
JAMES L. LANIER
DB 3182 PG 1800

5
CIP-R/W 2.84'

MATCHLINE -L- STA 15+20 (SHEET 5)

SEE SHEET NO.9 FOR -L- PROFILE

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-L-		
PI Sta 14+88.42	PI Sta 16+68.65	PI Sta 17+39.05
△ = 1° 38' 42.5" (LT)	△ = 5° 01' 56.2" (LT)	△ = 6° 11' 36.6" (RT)
D = 0° 35' 22.1"	D = 6° 11' 14.8"	D = 10° 25' 02.7"
L = 279.09'	L = 81.33'	L = 59.45'
T = 139.55'	T = 40.69'	T = 29.76'
R = 9,720.00'	R = 926.00'	R = 550.00'
PI Sta 18+75.51	PI Sta 19+45.42	PI Sta 20+94.01
△ = 9° 00' 10.3" (LT)	△ = 3° 36' 16.1" (RT)	△ = 1° 08' 26.8" (LT)
D = 11° 01' 06.3"	D = 6° 11' 14.8"	D = 0° 28' 38.9"
L = 81.71'	L = 58.25'	L = 238.93'
T = 40.94'	T = 29.14'	T = 119.47'
R = 520.00'	R = 926.00'	R = 12,000.00'

-Y1-		
PI Sta 15+11.30	PI Sta 16+32.39	PI Sta 17+59.44
△ = 5° 02' 52.3" (LT)	△ = 15° 51' 20.0" (RT)	△ = 15° 31' 22.1" (LT)
D = 6° 11' 14.8"	D = 38° 11' 49.9"	D = 28° 38' 52.4"
L = 81.58'	L = 41.51'	L = 54.18'
T = 40.82'	T = 20.89'	T = 27.26'
R = 926.00'	R = 150.00'	R = 200.00'
	PI Sta 19+21.61	
	△ = 5° 01' 37.1" (RT)	
	D = 6° 11' 14.8"	
	L = 81.24'	
	T = 40.65'	
	R = 926.00'	

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038180 JEFFREY W. MOORE
Docusigned by: Jeffrey W. Moore
7/11/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTES:
1. TRANSITION FROM 2'-6" C&G TO 2' PAVED SHOULDER

NAD 83/NA 2011 NC GRID

MATCHLINE -L- STA 15+20 (SHEET 4)
MATCHLINE -L- STA 19+00 (SHEET 8)
MATCHLINE -Y1- STA 19+00 (SHEET 8)
MATCHLINE -L- STA 20+80 (SHEET 6)
MATCHLINE -L- STA 15+00 (SHEET 7)

-Y1- PC Sta. 18+80.96
-Y1- PT Sta. 17+86.37
-Y1- PC Sta. 17+32.18
-L- PCC Sta. 16+27.96
-L- PRC Sta. 19+16.28
-L- PC Sta. 18+34.58
-L- PRC Sta. 17+09.29
-L- PT Sta. 17+68.74
-L- POT Sta. 17+99.84=
-Y1- POT Sta.17+00.50
-Y1- PT Sta. 16+53.02
-Y1- PC Sta. 16+11.51
-Y1- PT Sta. 15+52.07
-L- PRC Sta. 19+74.54

N 7°55'02" W
N 8°15'08" W
S 61°58'49" E
N 85°57'57" E 283.12'
N 89°01'13" E 242.36'
N 89°24'24" E 178.14'
N 05°28'26" E 180.32'

5 TOWN OF LEWISVILLE DB 3792 PG 3654
6 CMC FAMILY ENTERPRISES LLC DB 3615 PG 1887
7 REBECCA L. FORREST, TIM FORREST, DANIEL FORREST DB 3568 PG 2481, DB 1950 PG 3018, DB 1460 PG 423
8 DRSP PROPERTIES LLC DB 2353 PG 2988
12 BENNIE C. STONE DB 3361 PG 3437
13 RANDY DUGGINS DB 3196 PG 2369
4 JAMES L. LANIER DB 3182 PG 1800

TOWN OF LEWISVILLE CITY LIMIT

SPECIAL LATERAL 'V' DITCH SEE DETAIL 2
SPECIAL LATERAL 'V' DITCH SEE DETAIL 1
SPECIAL MIN. DEPTH CB-G SEE DETAIL 2C-1
SPECIAL MIN. DEPTH CB-F SEE DETAIL 2C-1
SPECIAL MIN. DEPTH DI SEE DETAIL 2C-2
SEE TRUCK APRON DETAIN SHEET 2A-2 & STAMPED CONCRETE APRON DETAIL SHEET L2.0
STANDARD C&G FLARE (TYP) SEE DETAIL SHEET 2A-2
CLASS 'B' RIP RAP EST. 2 TONS EST. 7 SY GFD (0522)
REMOVE
385' LANE SHIFT (55sl)
360' LANE SHIFT (55sl)
350' LANE SHIFT (55sl)
CONC MOUNT MED
6'BST CURB
4' MONO CONC ISLAND
2' R
18' DR
12' DR
2'-6" C&G
15' SIDEWALK
5' SIDEWALK
8' SIDEWALK
EXISTING R/W
4' PS
8:1
15.25'
5.5'
60.00'
24" RCP-IV
18" RCP-IV
15" RCP-IV
15" RCP
2GI-A
2GI-D
ISFD
ISBLK/STUCO B
ISBKD
CONC
CAR PORT
S
G

DETAIL 1
SPECIAL 'V' DITCH
(Not to Scale)
Natural Ground
2:1
D
4:1 or Flatter
Front Ditch Slope
Min. D= 1 Ft.
FROM STA. 10+30 TO STA. 10+60 -RBT- (LT)
FROM STA. 13+00 -L- TO STA. 16+26 -L- (LT)
FROM STA. 19+00 -L- TO STA. 21+50 -L- (RT)
FROM STA. 17+56.38 -Y1- TO STA. 18+45 -Y1- (RT)

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
2:1
D
4:1
Fill Slope
Min. D= 1.5 Ft.
FROM STA. 12+00 -Y1- TO STA. 16+05 -Y1- (RT)
FROM STA. 18+85 -Y1- TO STA. 22+15 -Y1- (RT)

DETAIL 3
SPECIAL 'V' DITCH
(Not to Scale)
Natural Ground
2:1
D
4:1 or Flatter
Front Ditch Slope
Tuck Geotextile a Minimum of 1ft (TYP)
Geotextile
d
Min. D= 1 Ft.
d= 1 Ft.
Type of Liner= Class 'B' Rip-Rap, Keyed-In
FROM STA. 18+77 -L- TO STA. 19+00 -L- (RT)

	POSTED SPEED	DESIGN SPEED	EXISTING VOLUME (2022)	PROJECTED VOLUME (2040)
ROBINHOOD RD (SR 1348)	50 MPH	55 MPH	4600*	9800
LEWISVILLE-VIENNA RD (SR 1308)	45 MPH	50 MPH	7100*	8100

*FORSYTH COUNTY TRAFFIC VOLUME GROWTH MODEL

SEE SHEET NO.9 FOR -L- PROFILE
SEE SHEET NO.11 FOR -Y1- PROFILE

REVISIONS
5/14/99
7/10/2025
K:\RAL_Roadway\01381003 - U-6154 Lewisville Roundabout\Roadway\Proj\u6154_rdy_psh_5.dgn

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	6

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038013 JEFFREY W. MOORE
Docusigned by: Jeffrey W. Moore
7/11/2025

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NAD 83 NC GRID 2011 NA

REVISIONS 5/14/99

K:\RAL_Roadway\0138\3003 - U-6154 Lewisville Roundabout\Roadway\Proj\u6154_rdy_psh_6.dgn

-L-
PI Sta 20+71.61
Δ = 5°01' 37.1" (RT)
D = 6°11' 14.8"
L = 81.24'
T = 40.65'
R = 926.00'

7
REBECCA L. FORREST
TIM FORREST
DANIEL FORREST
DB 3568 PG 2481
DB 1950 PG 3018
DB 1460 PG 423

9
MARCO RIVERA
MARIA RIVERA
DB 3673 PG 2003

SDKC NC PROPERTIES LLC
DB 3056 PG 1319

TOWN OF LEWISVILLE CITY LIMIT

-L- PT Sta. 22+13.46

-L- POT Sta. 26+00.00

-L- ROBINHOOD RD (SR 1348)

SR 1348 ROBINHOOD RD

-L- STA 20+80 (SHEET 5)

MATCHLINE -L- STA 20+80 (SHEET 5)

385' LANE SHIFT (55d)

151.25 MEDIAN SHIFT (55d)

CLASS 'B' RIP RAP EST. 3 TONS EST. 10 SY GFD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

TIE TO EXIST DITCH

RETAIN

REMOVE

EXISTING R/W

ISFD

ISBKD

CONC

WOODS

GR

ABANDONED

STEPS

HTR

LT

(2)BK PLANTERS

12" HDPE

12" RCP

15" RCP

18" RCP-IV

4' PS

12' DR

6"DI

23' BST

8d

5.5'

11'

S 68° 31' 10.5" E

60.00'

S 26°45'25" W 199.95'

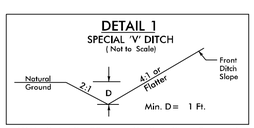
S 26°46'39" W 199.99'

N 21°23'05" E 200.00'

S 21°23'05" W 200.66'

DRSP PROPERTIES LLC
DB 2353 PG 2988
8

DETAIL 1
SPECIAL 'V' DITCH
(Not to Scale)



FROM STA. 19+00 -L- TO STA. 21+50 -L- (RT)
FROM STA. 22+17 -L- TO STA. 23+45 -L- (LT)
FROM STA. 22+25 -L- TO STA. 23+45 -L (RT)

END TIP PROJECT U-6154
END CONSTRUCTION
-L- POT Sta. 23+45.00

SEE SHEET NOS. 9 & 10 FOR -L- PROFILE

7/10/2025

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	7

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038180 ENGINEER JEFFREY W. MOORE
Docusigned by: Jeffrey W. Moore
7/11/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NC GRID
NAD 83/NA 2011

REVISIONS

5/14/99

K:\RAL_Roadway\013813003 - U-6154 Lewisville Roundabout\Roadway\Proj\U6154_rdy_psh_7.dgn

7/10/2025

-Y1-
PI Sta 15+11.30
△ = 5°02' 52.3" (LT)
D = 6°11' 14.8"
L = 81.58'
T = 40.82'
R = 926.00'

CMC FAMILY ENTERPRISES LLC
DB 3615 PG 1877

CMC FAMILY ENTERPRISES LLC
DB 3615 PG 1882

N 88°31'04" W 334.71'

12
BENNIE C. STONE
DB 3361PG 3437

10+00

S 86°42'46" W 190.00'

-Y1- POT Sta. 10+00.00

-Y1- PC Sta. 14+70.48

ISBKD

CONC STEP

PLANTER

R/W-EIP 0.39'

EIP

-Y1-
LEWISVILLE-VIENNA RD
(SR 1308)

+85

350' LANE SHIFT (50:1)

137.5' MEDIAN SHIFT (50:1)

+225

R/W-EIP 0.72'

12' CONC

PATIO PAVERS

TO METER

EOI

EXISTING R/W

8"DI

SR 1308 LEWISVILLE-VIENNA RD

N 3°12' 15.8" W

22' BST

11'

11'

18.00'

60.00'

8:1

4' PS

12' DR

5.5'

2' R 4' MONO CONC ISLAND

REMOVE

15" RCP

PDE EXISTING R/W

PDE

0701

EIP-R/W 3.2'

SPECIAL LATERAL 'V' DITCH SEE DETAIL 2

SPECIAL LATERAL 'V' DITCH SEE DETAIL 2

12'OR

MATCHLINE -Y1- STA 15+00 (SHEET 5)

PAVERS

CONC

GR

CARPORT

ISFD

PUE

BEGIN CONSTRUCTION
-Y1- POT Sta. 11+85.00

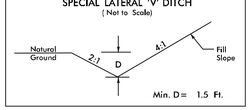
S 89°49'43" W 324.10'

8
DRSP PROPERTIES LLC
DB 2353 PG 2988

8
DRSP PROPERTIES LLC
DB 2353 PG 2988

HERBERT B. TUTEN
SABRINA R. TUTEN
DB 2973 PG 758

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM STA. 12+00 -Y1- TO STA. 16+05 -Y1- (RT)

SEE SHEET NO.10 FOR -Y1- PROFILE

Docusign Envelope ID: FF730164-6A03-422B-A7F8-BF14E49A48E7

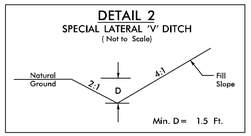
5/14/99

REVISIONS

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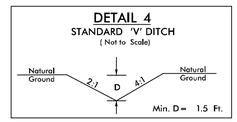
7/14/2025

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM STA. 18+85 -Y1- TO STA. 22+15 -Y1- (RT)

DETAIL 4
STANDARD 'V' DITCH
(Not to Scale)



FROM STA. 22+15 TO STA. 22+83 -Y1- (RT)

-Y1-
PI Sta 19+21.61
△ = 5° 01' 37.1" (RT)
D = 6° 11' 14.8"
L = 81.24'
T = 40.65'
R = 926.00'

NC GRID
NAD 83/NA 2011

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	8

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER JEFFREY W. MOORE
DocuSigned by: Jeffrey W. Moore 3780B2F70452410...
7/14/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y1- PT Sta. 19+62.21

350' LANE SHIFT (50:1)

137.50' MEDIAN SHIFT (50:1)

END GRADE
-Y1- POT Sta. 22+15.00

END CONSTRUCTION
-Y1- POT Sta. 22+83.00

-Y1- POT Sta. 24+00.00

-Y1-
LEWISVILLE-VIENNA RD
(SR 1308)

-Y1- STA 19+00 (SHEET 5)
MATCHLINE -Y1- STA 20+00

EXISTING R/W
60.00'
+77.5
20+00

PUE
PUE

8:1
4' PS
8:1
23' BST
8"DI
5.5'
SR 1308 LEWISVILLE-VIENNA RD
N 2° 53' 33.2" W
EXIST
EXIST
12' DR
8:1
REMOVE
12" RCP
4' PS
8:1
EIP
EXISTING R/W
15"
PDE
E
C
SPECIAL LATERAL 'V' DITCH
SEE DETAIL 2
12'GR
EIP-R/W CUT
WOODS
PUE
STANDARD 'V' DITCH
SEE DETAIL 4
RETAIN
15" HDPE
EIP
EIP
10'GR
18"CONC
36"WD SPLIT RAIL
FLAG POLE
GR
CONC
ISBKD
ISBKD
CONC
TOWN OF LEWISVILLE CITY LIMIT
TOWN OF LEWISVILLE CITY LIMIT

S 86°48'12" W
281.86'
S 86°48'14" W
200.00'
S 86°50'21" W
200.15'
N 86°48'18" E
199.99'

(2)
CARL L. LANIER JR.
DB 1037 PG 377

(13)
RANDY DUGGINS
DB 3196 PG 2369

(14)
JOHN E. FISHER
LAURA D. FISHER
DB 3302 PG 1783

(15)
GARLAND R. FEARRINGTON
MARY FEARRINGTON
DB 1419 PG 379

KATHY BELTON
JENNIFER BELTON
DB 3236 PG 626

SEE SHEET NO.11 FOR -Y1- PROFILE

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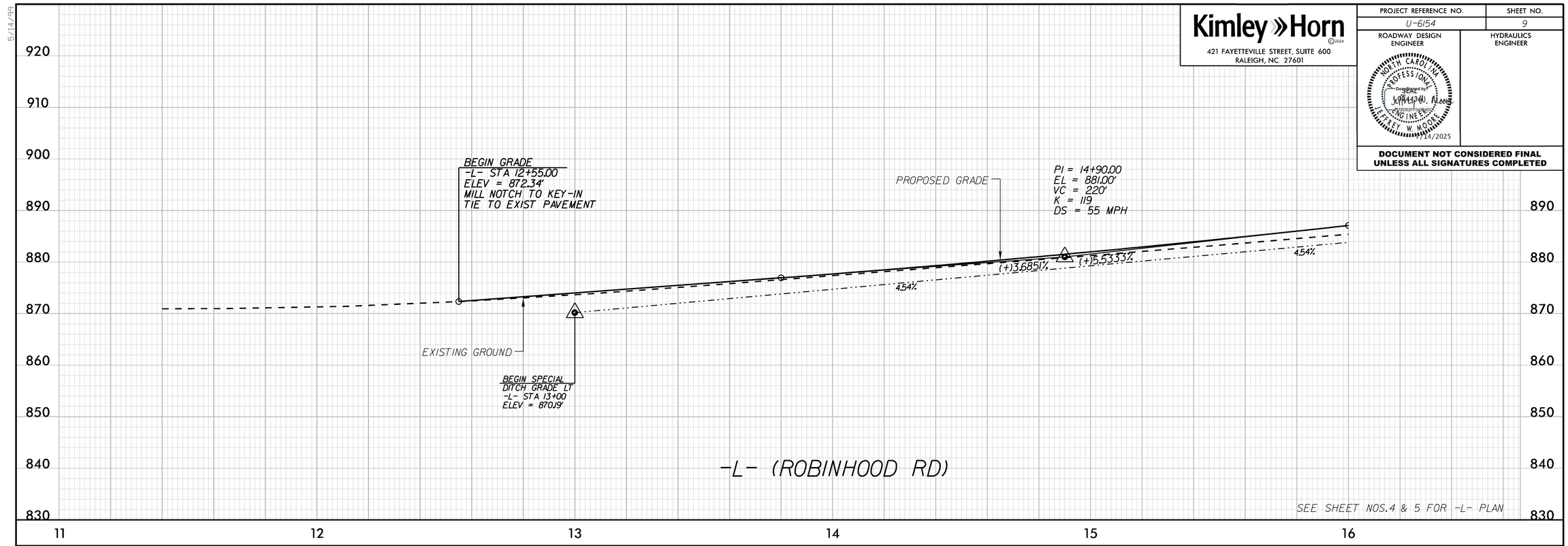
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U-6154	9

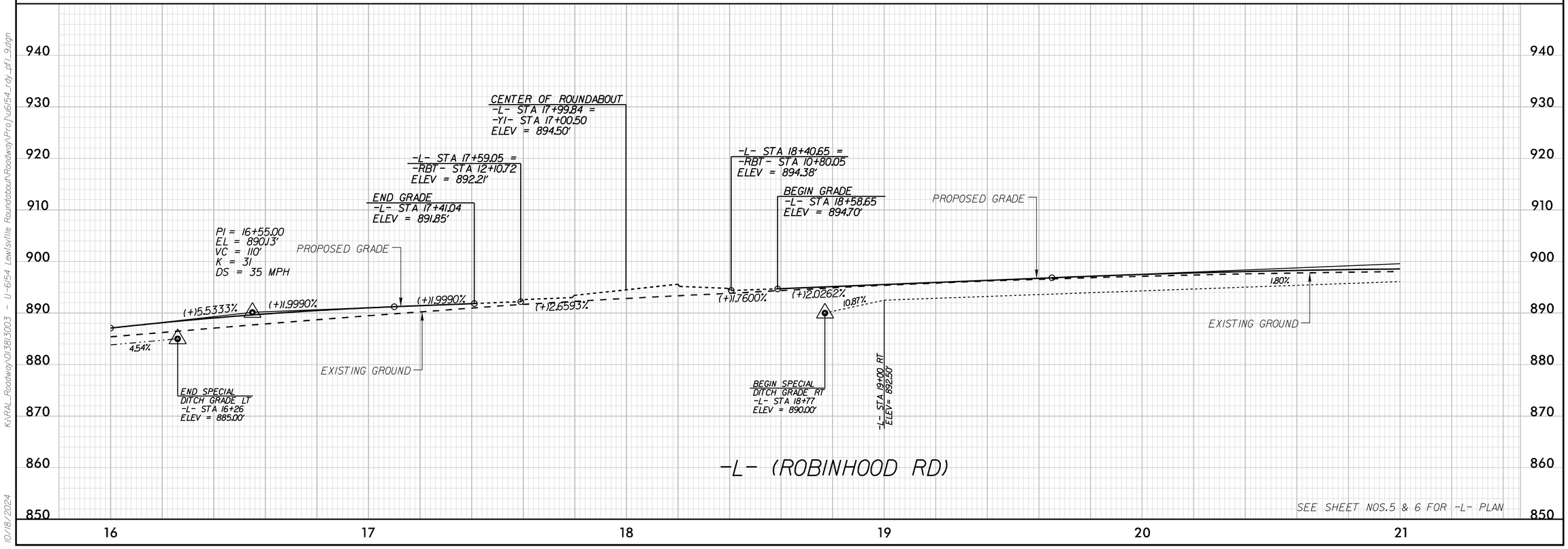
ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 049436 ENGINEER JEFFREY W. MOORE
Digitally signed by JEFFREY W. MOORE
DocuSigned by: 7/14/2025

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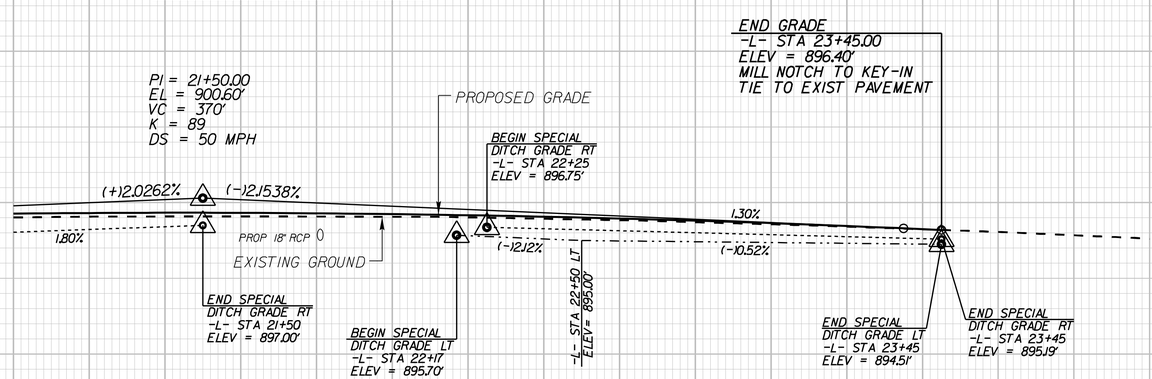


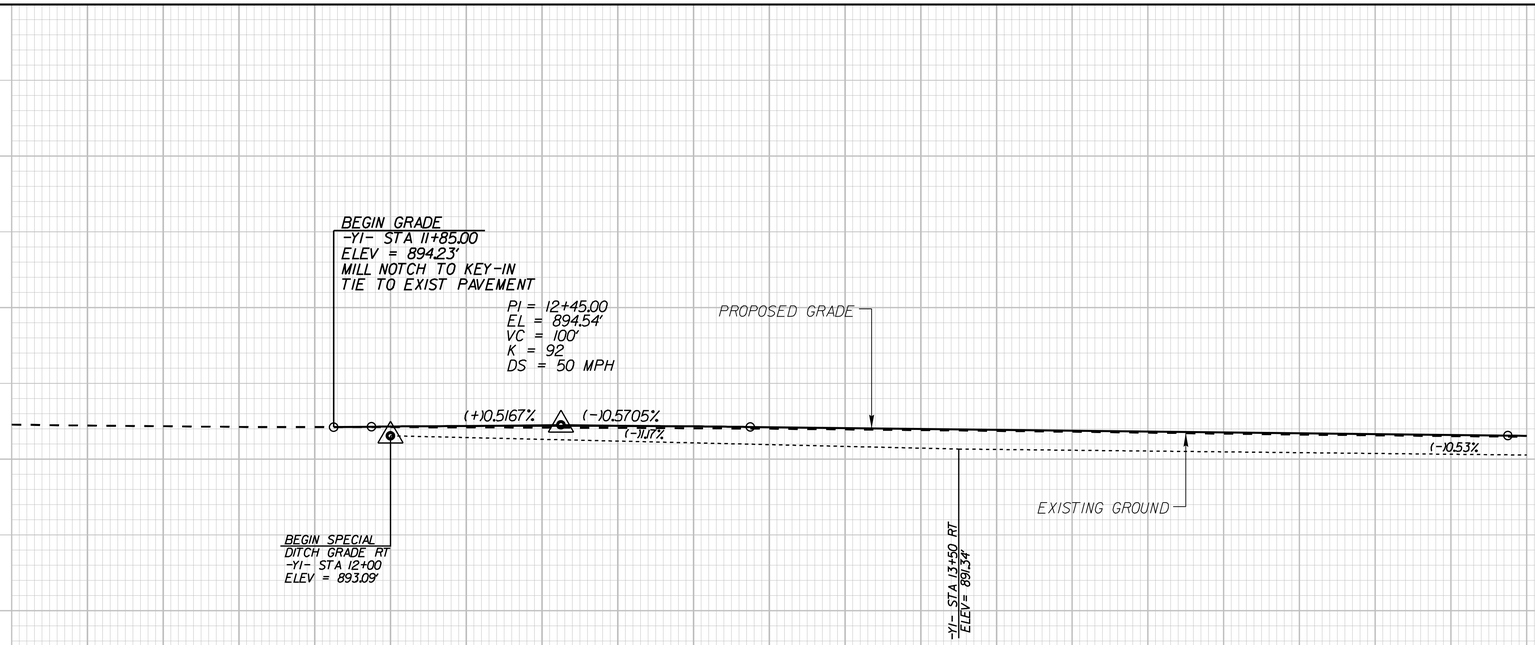
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10/18/2024

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5/14/99

PIPE HYDRAULIC DATA PROP 18" RCP	
DESIGN DISCHARGE	= 0.35 CFS
DESIGN FREQUENCY	= 10 YRS
DESIGN HW ELEVATION	= 896.80 FT
BASE DISCHARGE	= 0.43 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 896.84 FT
OVERTOPPING DISCHARGE	= N/A
OVERTOPPING FREQUENCY	= N/A
OVERTOPPING ELEVATION	= N/A





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PROJECT REFERENCE NO.	SHEET NO.
U-6154	10

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 049436 ENGINEER JEFFREY W. MOORE
Docusigned by: Jeffrey W. Moore
10/11/2025

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	11

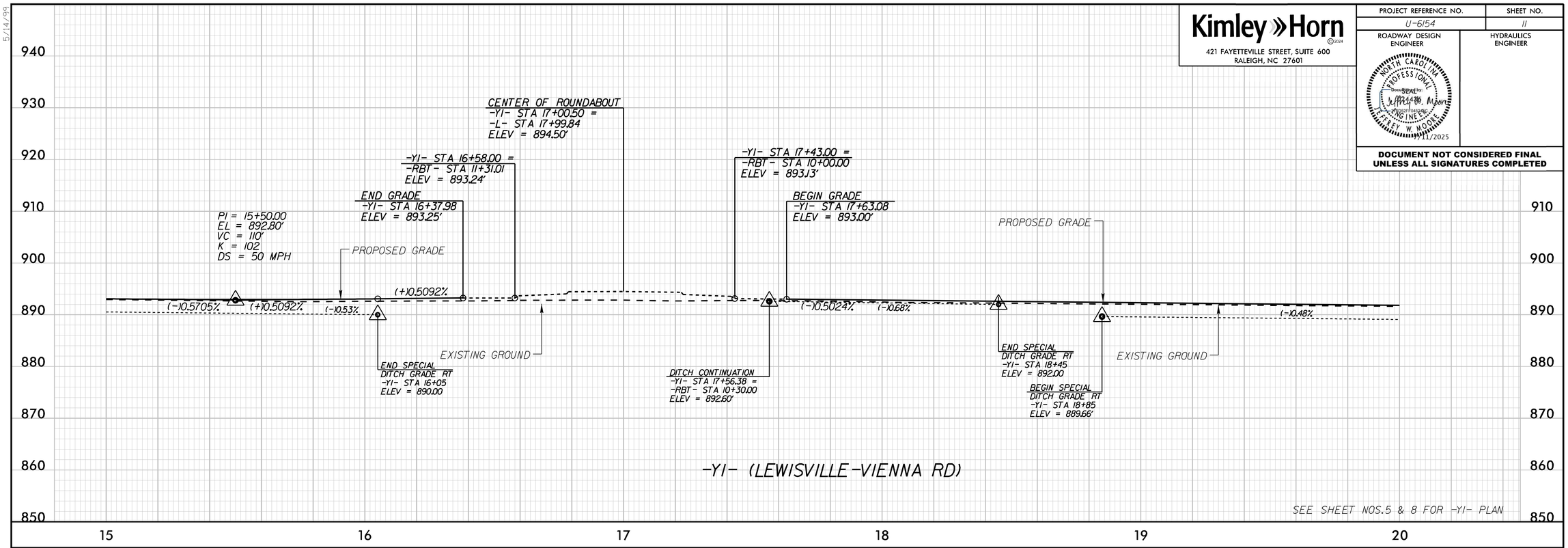
ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039438 JEFFREY W. MOORE
Digitally signed by Jeffrey W. Moore
10/11/2025

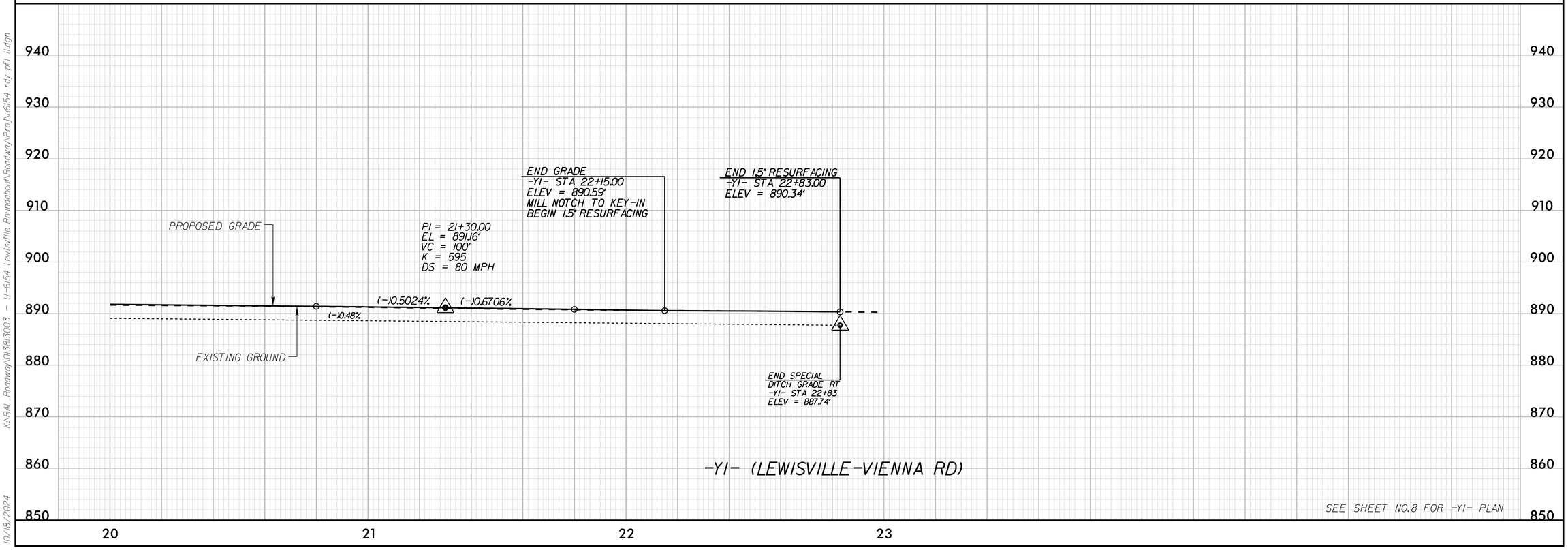
HYDRAULICS ENGINEER

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SEE SHEET NOS.5 & 8 FOR -Y1- PLAN



SEE SHEET NO.8 FOR -Y1- PLAN

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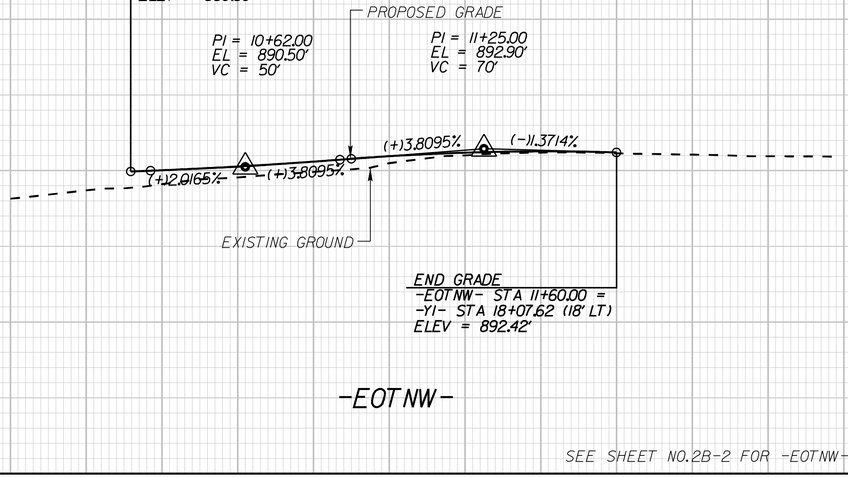
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U-6154	12

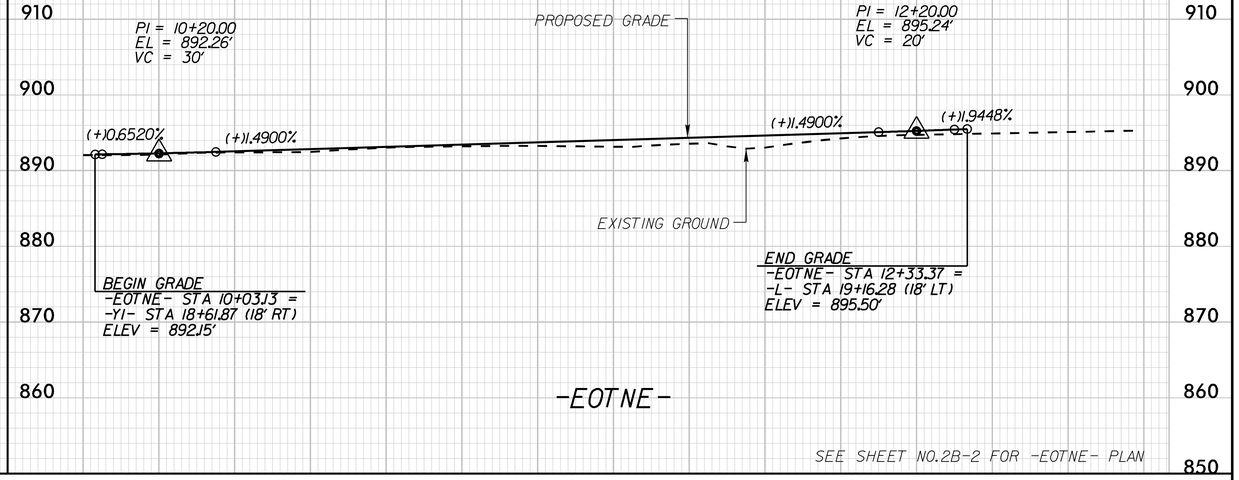
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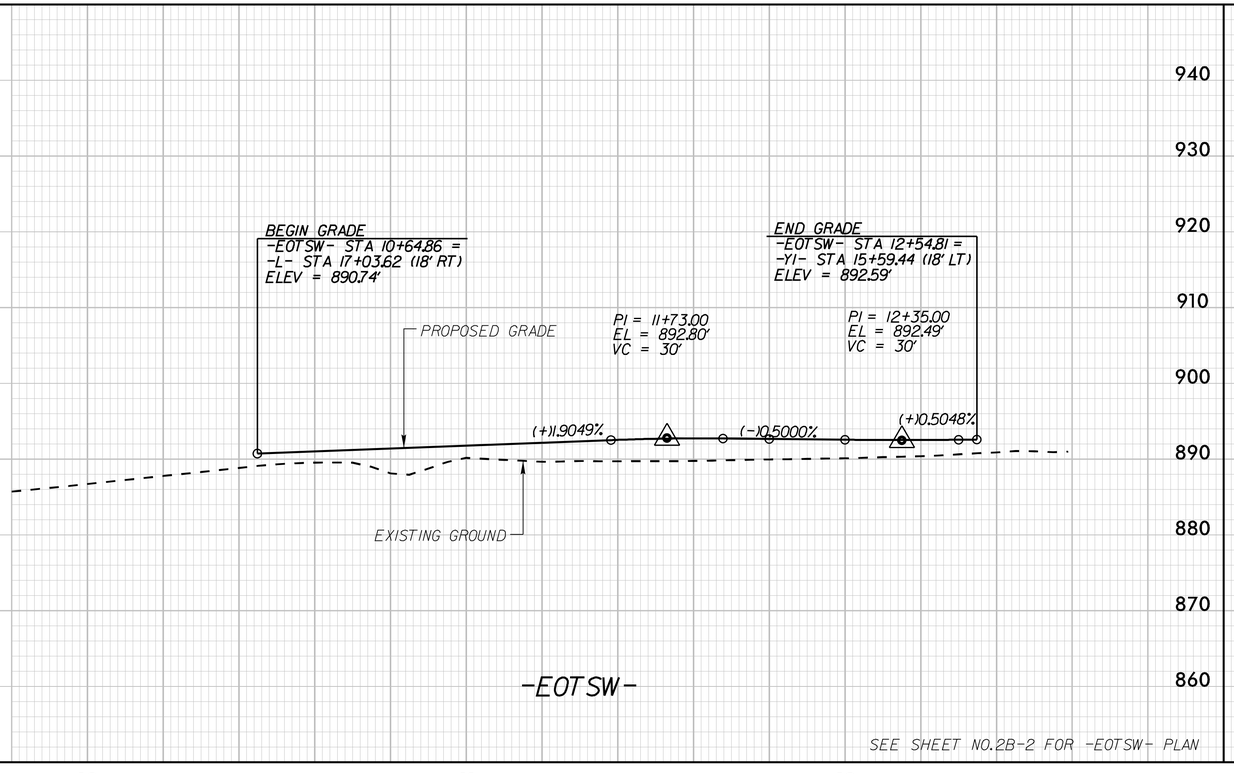
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049436 JEFFREY W. MOORE
Digitally signed by: Jeffrey W. Moore
11/2025

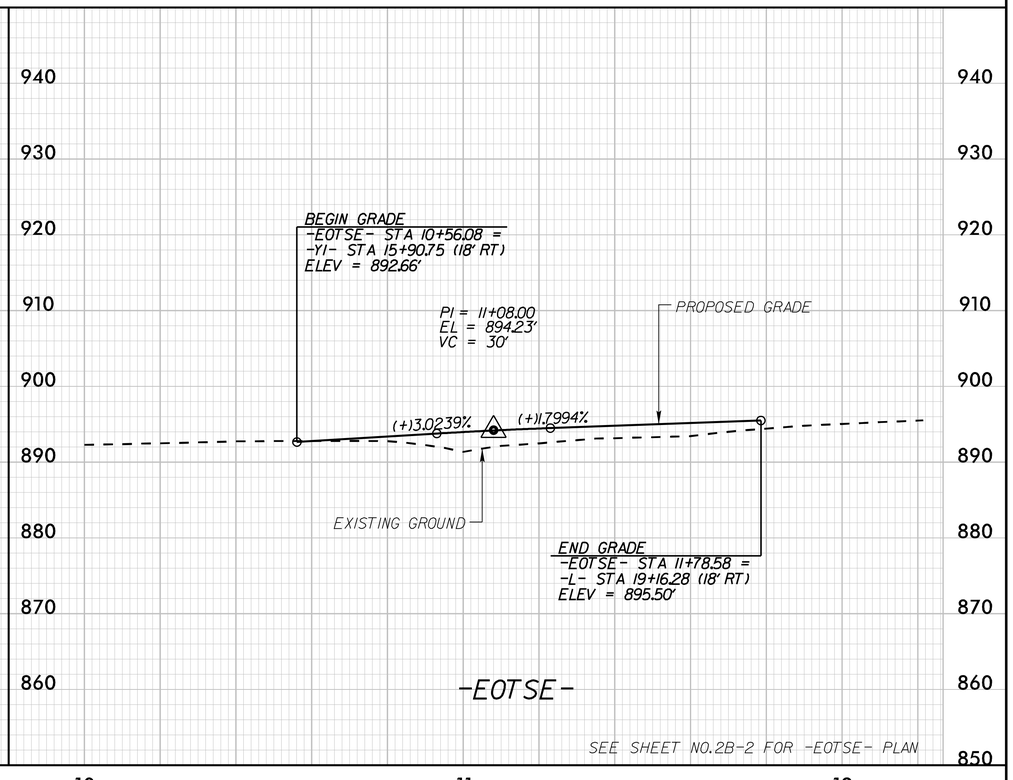
HYDRAULICS ENGINEER

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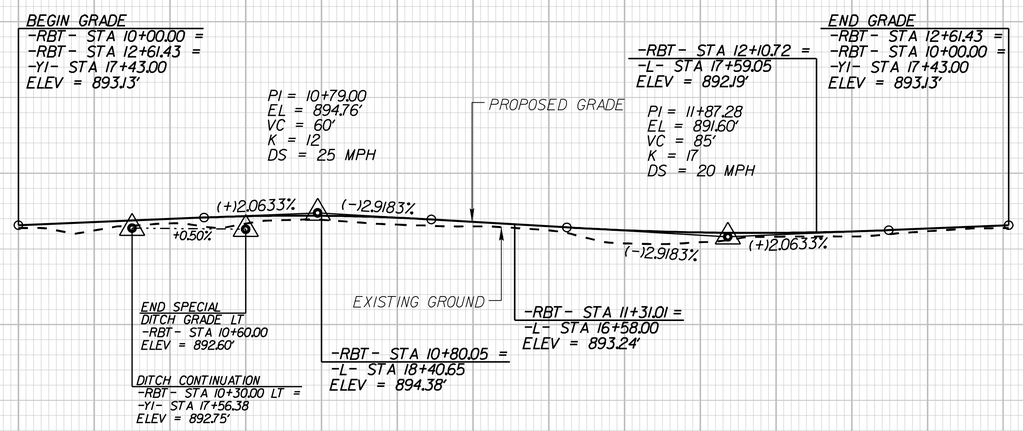




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-RBT-

SEE SHEET NO.2B-2 FOR -RBT- PLAN

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	13

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 049436 ENGINEER JEFFREY W. MOORE
Digitally signed by Jeffrey W. Moore
10/11/2025

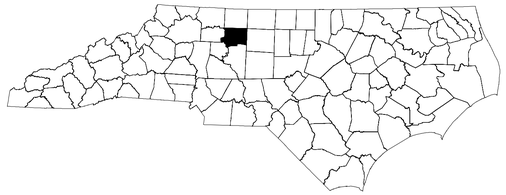
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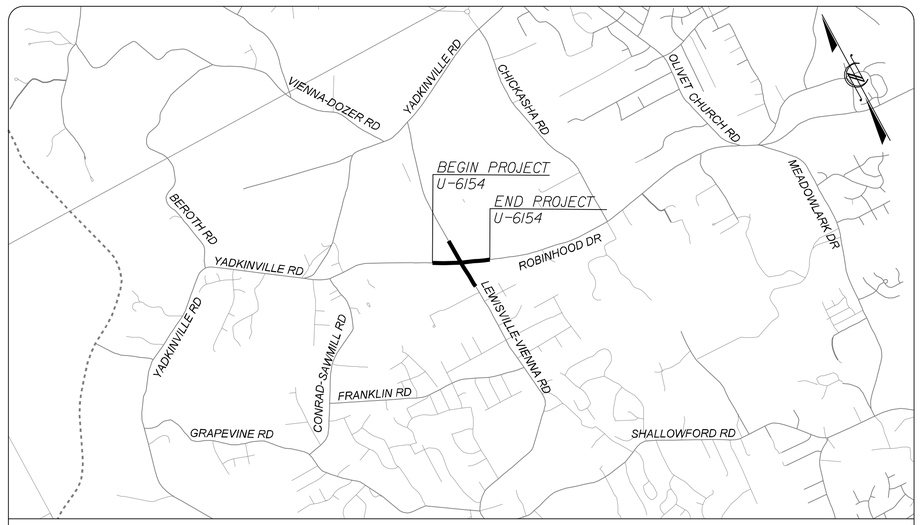
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

FORSYTH COUNTY





VICINITY MAP

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, AND INDEX OF SHEETS
TMP-1A	ROADWAY STANDARD DRAWINGS & LEGEND
TMP-1B	MANAGEMENT STRATEGIES AND GENERAL NOTES
TMP-3	PHASING NOTES
TMP-4 THRU TMP-8	PHASE I DETAILS
TMP-9 THRU TMP-13	PHASE II DETAILS
TMP-14 THRU TMP-18	PHASE III DETAILS

SHEET NO.
TMP-1

U-6154

TIP PROJECT:

03/01/24 DATE SUBMITTED
SUBMITTAL:
- [ ] STAGING CONCEPT
- [ ] MIDPOINT
- [ ] PRE-FINAL
- [X] FINAL

Kimley»Horn



WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

PLANS PREPARED BY:

JEFFREY W. MOORE, P.E.
PROJECT ENGINEER

CALEB D. LOWMAN, P.E.
PROJECT DESIGN ENGINEER

NCDOT CONTACTS:

JEFF TURNER
DIVISION 9 PROPOSAL ENGINEER

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

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APPROVED: _____

DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024486 JEFFREY W. MOORE
Docusigned by: 4/11/2025

K:\RAL_Roadway\0138\3003 - U-6154 Lewisville Roundabout\Traffic\Traffic Control\TCP\Plan Sheets\u6154_TMP_1sh.dgn

10/18/2024

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PROJ. REFERENCE NO.	SHEET NO.
U-6154	TMP-1A

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES - TYPE III
1150.01	FLAGGING DEVICES
1180.01	SKINNY DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS & WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS

LEGEND

GENERAL

DIRECTION OF TRAFFIC FLOW

DIRECTION OF PEDESTRIAN TRAFFIC FLOW

EXIST. PVMT.

NORTH ARROW

PROPOSED PVMT.

WORK AREA

REMOVAL

VARIABLE DEPTH WEDGING

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

CONE

DRUM SKINNY DRUM TUBULAR MARKER

TEMPORARY CRASH CUSHION

FLASHING ARROW PANEL (TYPE C)

FLAGGER

LAW ENFORCEMENT

TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)

CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

PORTABLE SIGN

STATIONARY SIGN

STATIONARY OR PORTABLE SIGN

SIGNALS

EXISTING PROPOSED TEMP TEMPORARY

PAVEMENT MARKINGS

EXISTING LINES

TEMPORARY LINES

PAVEMENT MARKERS

CRYSTAL/CRYSTAL

CRYSTAL/RED

YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

PAVEMENT MARKING LINES

P1 - PAINT (4" WHITE, 2X)	EDGELINE
P10 - PAINT (4" YELLOW, 2X)	EDGELINE
P13 - PAINT (4" YELLOW, 2X)	DOUBLE CENTER LINE
P40 - PAINT (8" WHITE, 2X)	GORELINE
P42 - PAINT (8" YELLOW, 2X)	DIAGONAL
P45 - PAINT (8" WHITE, 2X)	3'-3'/SP MINISKIP
P46 - PAINT (8" WHITE, 2X)	CROSSWALK
P61 - PAINT (24" WHITE, 2X)	STOPBAR
P103 - PAINT (24" WHITE,2X)	YIELD LINE TRIANGLE

PAVEMENT MARKING SYMBOLS

P72 - PAINT 2X (STRAIGHT ARROW)

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APPROVED:_____ DATE:_____

NORTH CAROLINA PROFESSIONAL SEAL 032436 ENGINEER JEFFREY W. MOORE

DocuSigned by: Jeffrey W. Moore 7/11/2025

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

Kimley»Horn

ROADWAY STANDARD DRAWINGS & LEGEND

10/18/2024

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PROJ. REFERENCE NO.	SHEET NO.
U-6154	TMP-1B

MANAGEMENT STRATEGIES

PROPOSED IMPROVEMENTS ALONG ROBINHOOD ROAD (SR 1348) AND LEWISVILLE-VIENNA ROAD (SR 1308) WILL BE CONSTRUCTED WHILE MAINTAINING TRAFFIC AND USING TEMPORARY TRAFFIC PATTERNS WITH TEMPORARY LANE CLOSURES. LOCAL ACCESS TO RESIDENTS AND BUSINESSES WILL BE MAINTAINED AT ALL POSSIBLE TIMES DURING CONSTRUCTION.

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

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.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
-L- ROBINHOOD RD (SR 1348) -Y1- LEWISVILLE-VIENNA RD (SR 1308)	MONDAY THRU FRIDAY (SCHOOL NOT IN SESSION) 6:00AM TO 8:00AM
-L- ROBINHOOD RD (SR 1348) -Y1- LEWISVILLE-VIENNA RD (SR 1308)	MONDAY THRU FRIDAY (SCHOOL IN SESSION) 6:00AM TO 8:00AM AND 1:00PM TO 3:00PM

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

-L- ROBINHOOD RD (SR 1348)
-Y1- LEWISVILLE-VIENNA RD (SR 1308)

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31ST TO 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 7:00P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00P.M. THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 7:00P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 7:00P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT CLOSE ROADS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
-L- ROBINHOOD RD (SR 1348) -Y1- LEWISVILLE-VIENNA RD (SR 1308)	ANYTIME

D) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

E) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

H) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

I) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

J) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPEN TRAVEL LANE THAT HAS A DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

K) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING *UNEVEN LANES* SIGNS (W8-11) 500FT IN ADVANCE AND A MINIMUM OF ONCE EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

SIGNING

L) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

M) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

N) INSTALL BLACK ON ORANGE ''DIP'' SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

PAVEMENT MARKINGS AND MARKERS

O) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
-L- ROBINHOOD RD (SR 1348)	PAINT	NONE
-Y1- LEWISVILLE-VIENNA RD (SR 1308)	PAINT	NONE

P) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

Q) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

R) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

TRAFFIC PATTERN ALTERATIONS

S) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

T) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

U) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

V) INSTALL BLACK ON ORANGE *DIP* SIGNS (W8-2) AND/OR *BUMP* SIGNS (W8-1) 500 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

W) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

MISCELLANEOUS

X) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

Y) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

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APPROVED: _____ DATE: _____

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049466 JEFFREY W. MOORE
DocuSigned by: Jeffrey W. Moore
8/13/2025

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

Kimley»Horn

TRANSPORTATION OPERATIONS PLAN

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U-6154	TMP-3

PHASING

PHASE I

WHILE MAINTAINING TRAFFIC IN THE EXISTING PATTERN USING RSD 1101.02 FOR TEMPORARY LANE CLOSURES, PERFORM THE FOLLOWING:

STEP 1: INSTALL ADVANCE WARNING SIGNS IN ACCORDANCE WITH RSD 1101.01

STEP 2: USING RSD 1101.02 AND 1101.04 FOR TEMPORARY LANE AND SHOULDER CLOSURED AS NECESSARY, BEGIN WATERLINE CONSTRUCTION ALONG -L- ROBINHOOD RD (SR 1348) AND -Y1- LEWISVILLE-VIENNA RD (SR 1308). SEE SEQUENCING NOTES FROM UTILITY CONSTRUCTION PLANS FOR ADDITIONAL DETAIL.

STEP 3: USING RSD 1101.02 AND 1101.04 FOR TEMPORARY LANE AND SHOULDER CLOSURES AS NECESSARY, BEGIN CONSTRUCTION OF WIDENING ALONG -L- ROBINHOOD RD (SR 1348) AND -Y1- LEWISVILLE-VIENNA RD (SR 1308) INCLUDING BUT NOT LIMITED TO: CURB AND GUTTER, TEMPORARY SHOULDER, ASSOCIATED DRAINAGE IMPROVEMENTS AND PAVING AND WEDGING UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE AS SHOWN ON SHEETS TMP-4 THRU TMP-8.

CONTRACTOR TO MAINTAIN TRAFFIC BY INSTALLING STEEL PLATES ON MASONRY DRAINAGE STRUCTURES AS NECESSARY.

NOTES:
- PROVIDE WEDGING AS NEEDED TO MAINTAIN POSITIVE DRAINAGE AND SMOOTH TRANSITIONS
- MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES WITHIN THE PROJECT LIMITS DURING CONSTRUCTION.

PHASE II

WHILE MAINTAINING TRAFFIC IN THE EXISTING PATTERN USING RSD 1101.02 FOR TEMPORARY LANE CLOSURES, PERFORM THE FOLLOWING:

STEP 1: INSTALL TEMPORARY SIGNAL AT THE INTERSECTION OF -L- ROBINHOOD RD (SR 1348) AND -Y1- LEWISVILLE-VIENNA RD (SR 1308), COVER HEADS AND DO NOT ACTIVATE.

INSTALL TEMPORARY PATTERN AS SHOWN ON SHEETS TMP-9 THRU TMP-13. ACTIVATE TEMPORARY SIGNAL AND SHIFT TRAFFIC ONTO NEW PATTERN.

STEP 2: USING RSD 1101.02 AND 1101.04 FOR TEMPORARY LANE AND SHOULDER CLOSURES AS NECESSARY, COMPLETE CONSTRUCTION OF WIDENING ALONG -L- ROBINHOOD RD (SR 1348) AND -Y1- LEWISVILLE-VIENNA RD (SR 1308) INCLUDING BUT NOT LIMITED TO: CURB AND GUTTER, ASSOCIATED DRAINAGE IMPROVEMENTS AND PAVING AND WEDGING UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE AS SHOWN ON SHEETS TMP-9 THRU TMP-13.

NOTES:
- PROVIDE WEDGING AS NEEDED TO MAINTAIN POSITIVE DRAINAGE AND SMOOTH TRANSITIONS
- MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES WITHIN THE PROJECT LIMITS DURING CONSTRUCTION.

PHASE III

WHILE MAINTAINING TRAFFIC IN THE TEMPORARY PATTERN USING RSD 1101.02 FOR TEMPORARY LANE CLOSURES, PERFORM THE FOLLOWING:

STEP 1: PLACE TEMPORARY SIGNAL ON FLASH AND USING FLAGGING OPERATIONS, INSTALL ROUNDABOUT PATTERN AS SHOWN ON SHEETS TMP-14 THRU TMP-18. SHIFT TRAFFIC ONTO NEW PATTERN.

DE-ACTIVATE AND REMOVE TEMPORARY SIGNAL AT THE INTERSECTION OF -L- ROBINHOOD RD (SR 1348) AND -Y1- LEWISVILLE-VIENNA RD (SR 1308).

STEP 2: USING RSD 1101.02 SHEET 18 OF 19 FOR TEMPORARY LANE CLOSURES AS NECESSARY, COMPLETE CONSTRUCTION OF THE ROUNDABOUT AND MEDIANS ALONG -L- ROBINHOOD RD (SR 1348) AND -Y1- LEWISVILLE-VIENNA RD (SR 1308) INCLUDING BUT NOT LIMITED TO: CURB AND GUTTER, CONCRETE ISLANDS: INSTALL ONE QUADRENT AT A TIME, AND ASSOCIATED DRAINAGE IMPROVEMENTS AS SHOWN ON SHEETS TMP-9 THRU TMP-13.

STEP 3: INSTALL FINAL ASPHALT SURFACE COURSE AND FINAL PAVEMENT MARKINGS, REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN ALL LANES TO TRAFFIC.

NOTES:
- MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES WITHIN THE PROJECT LIMITS DURING CONSTRUCTION.
- CONCRETE ISLANDS SHALL BE INSTALLED ONE QUADRANT AT A TIME.

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APPROVED:_____ DATE:_____

NORTH CAROLINA PROFESSIONAL SEAL 024486 ENGINEER JEFFREY W. MOORE
DocuSigned by:
7/11/2025

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

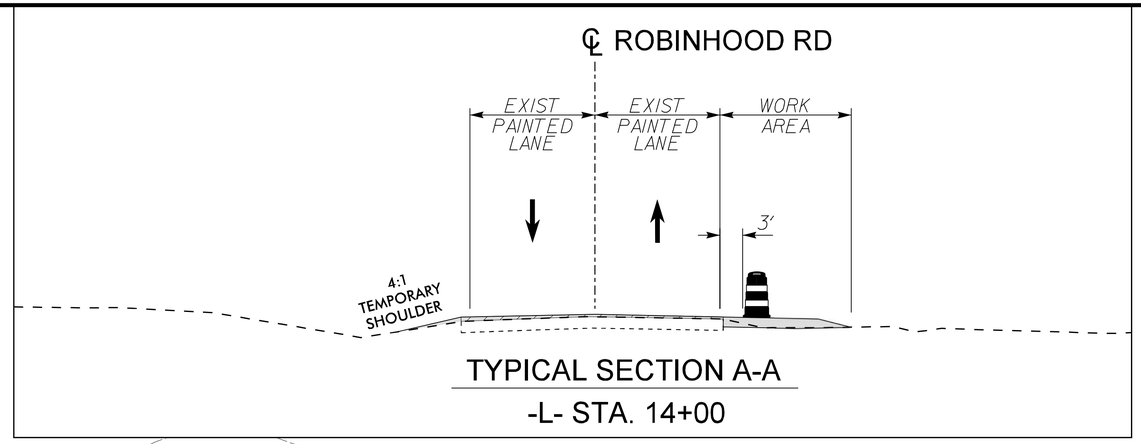
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PHASING

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10/18/2024

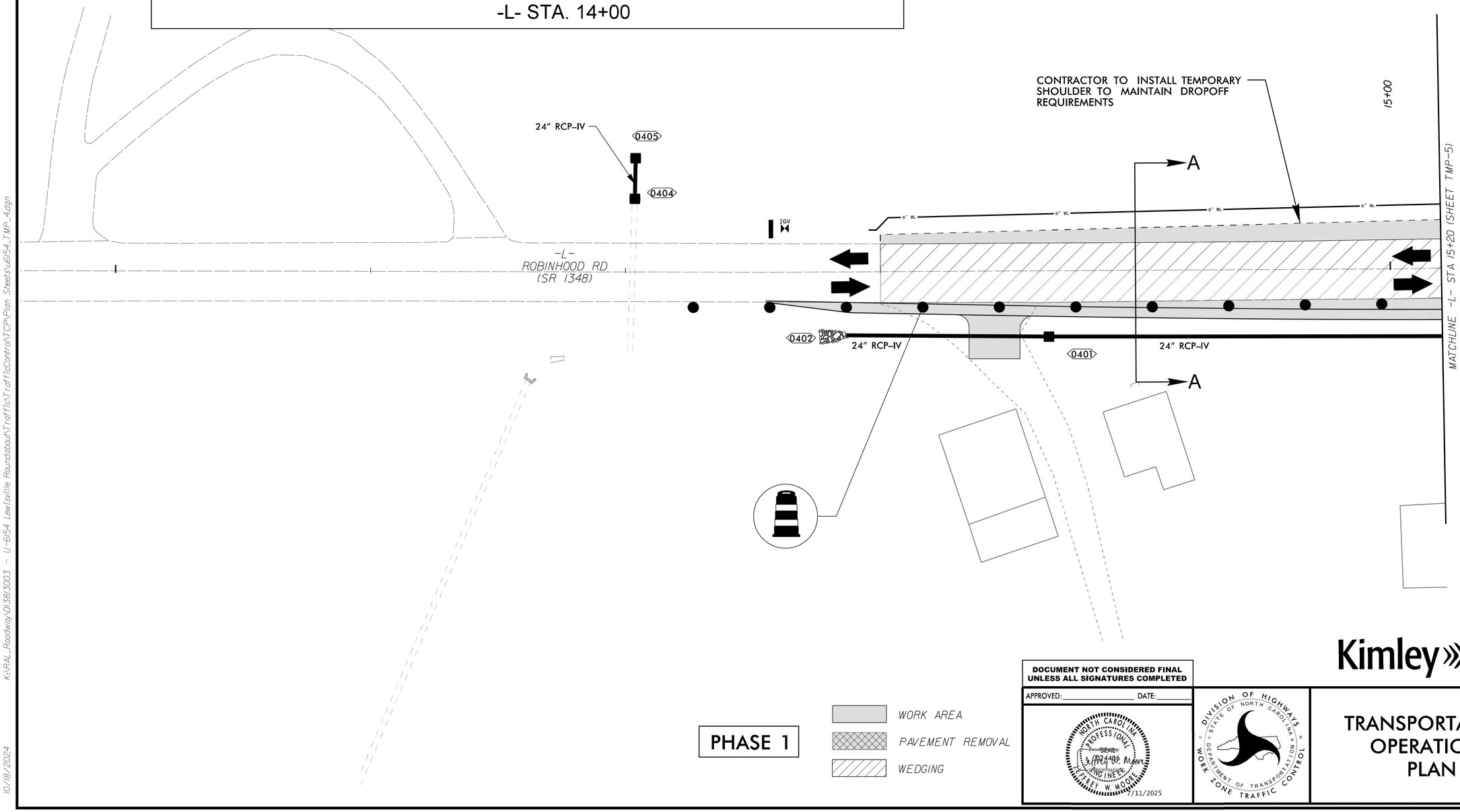
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U-6154	TMP-4



TYPICAL SECTION A-A
-L- STA. 14+00

NAD 83/NA 2011 NC GRID



PHASE 1

WORK AREA
PAVEMENT REMOVAL
WEDGING

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APPROVED:_____ DATE:_____

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024486 KEVIN W. MOORE
Docusigned by: Kevin W. Moore
7/11/2025

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

Kimley»Horn

TRANSPORTATION OPERATIONS PLAN

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PROJ. REFERENCE NO.	SHEET NO.
U-6154	TMP-5

MATCHLINE -Y1- STA 19+00 (SHEET TMP-8)

-Y1- LEWISVILLE-VIENNA RD (SR 1308)

NAD 83/NA 2011

15" RCP-IV 0522

0521

15" RCP-IV

0520

15" RCP-IV

0518

0519

CONTRACTOR TO MAINTAIN DRIVEWAY ACCESS DURING OPERATIONS

B

-L- ROBINHOOD RD (SR 1348)

GV

20+00

-L- ROBINHOOD RD (SR 1348)

0509

0508

15" RCP-IV

MATCHLINE -L- STA 15+20 (SHEET TMP-4)

24" RCP-IV 0501

24" RCP-IV 0502

24" RCP-IV 0503

0504

0505

24" RCP-IV

15" RCP-IV

0507

18" RCP-IV

0530

15" RCP-IV

0513

0512

0506

24" RCP-IV

15" RCP-IV

18" OEP

18" RCP-IV

0515

CONTRACTOR TO INSTALL STRUCTURES 0505, 0506, 0507, 0508, 0519 TO TEMPORARY ELEVATIONS AS REQUIRED TO MAINTAIN TRAFFIC AND COVER WITH STEEL PLATE

CONTRACTOR TO INSTALL TEMPORARY SHOULDER TO MAINTAIN DROPOFF REQUIREMENTS

15" RCP-IV

0516

-Y1- LEWISVILLE-VIENNA RD (SR 1308)

MATCHLINE -L- STA 20+80 (SHEET TMP-6)

MATCHLINE -Y1- STA 15+25 (SHEET TMP-7)

℄ ROBINHOOD RD

EXIST PAINTED LANE

EXIST PAINTED LANE

WORK AREA

3'

4:1 TEMPORARY SHOULDER

TYPICAL SECTION B-B

-L- STA. 17+00

PHASE 1

WORK AREA

PAVEMENT REMOVAL

WEDGING

Kimley»Horn

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL JEFFREY W. MOORE

Docusigned by: Jeffrey W. Moore 0224486 Engineer

7/11/2025

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

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U-6154	TMP-6

NAD 83/NA 2011 NC GRID

18" RCP TO BE INSTALLED USING TEMPROARY LANE CLOSURES

C

15"

0603

0602

6" WL

6" WL

6" WL

6" WL

IGV

18"
RCP-IV

0601

C

25+00

-L-
ROBINHOOD RD
(SR 1348)

MATCHLINE -L- STA 20+80 (SHEET TMP-5)

℄ ROBINHOOD RD

WORK AREA

EXIST PAINTED LANE

EXIST PAINTED LANE

3'

TYPICAL SECTION C-C

-L- STA. 22+00

PHASE 1

WORK AREA

PAVEMENT REMOVAL

WEDGING

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7/11/2025

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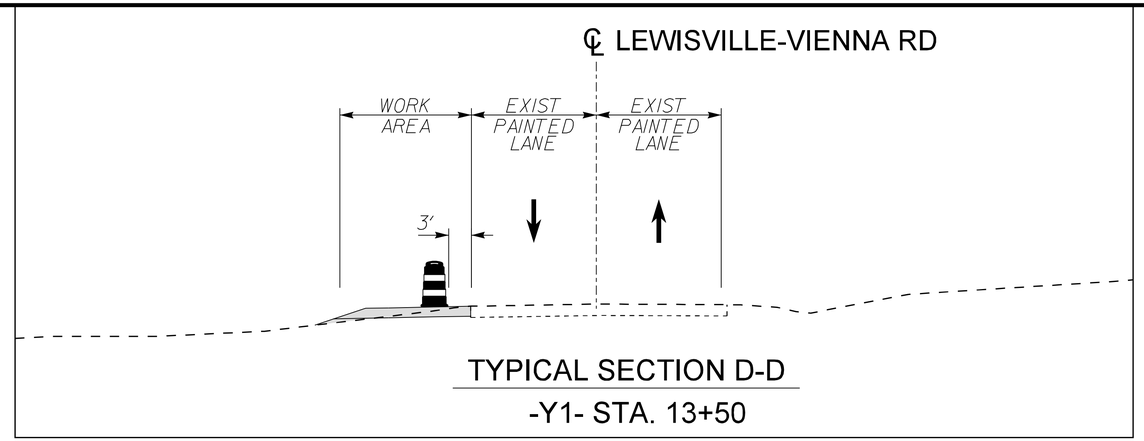
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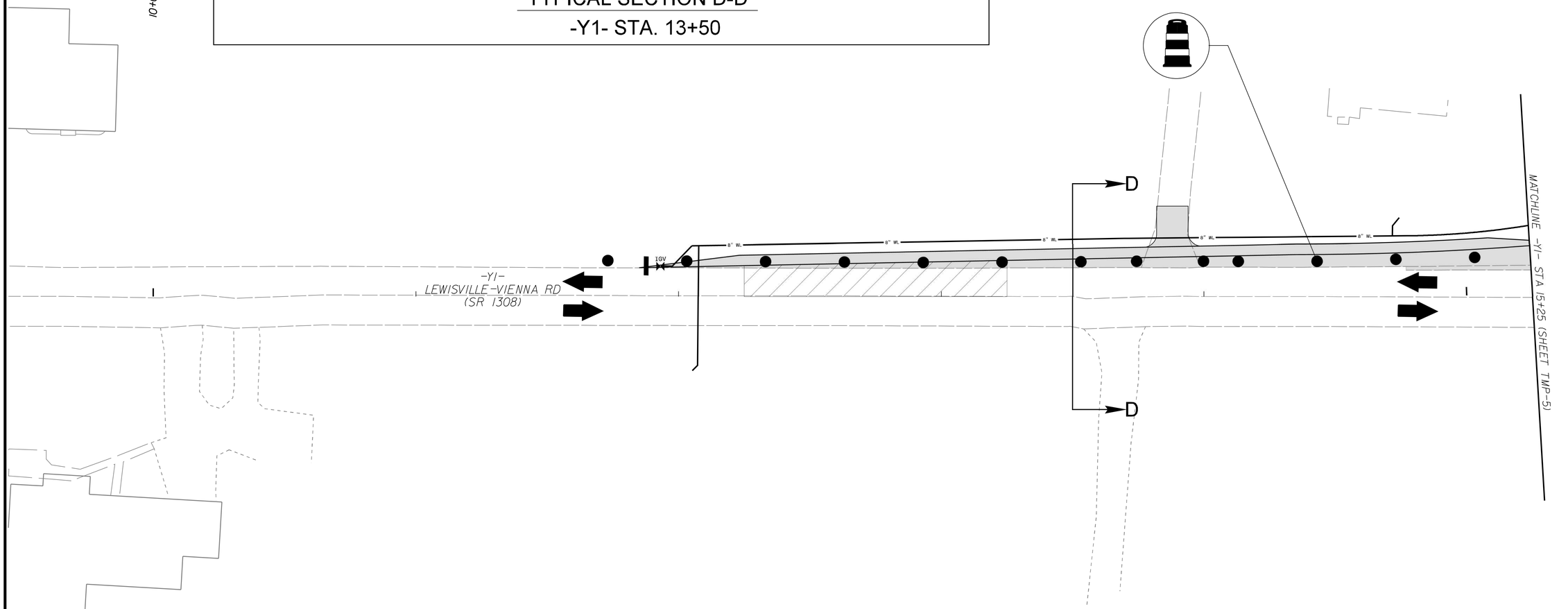


TYPICAL SECTION D-D

-Y1- STA. 13+50

NC GRID
NAD 83/NA 2011

10+00



PHASE 1

WORK AREA

PAVEMENT REMOVAL

WEDGING

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NORTH CAROLINA PROFESSIONAL ENGINEER JEFFREY W. MOORE 7/11/2025

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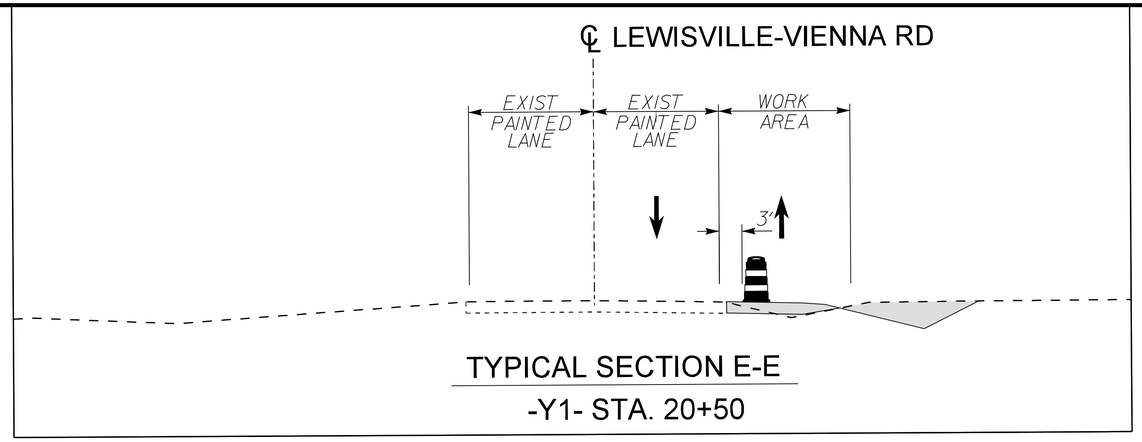
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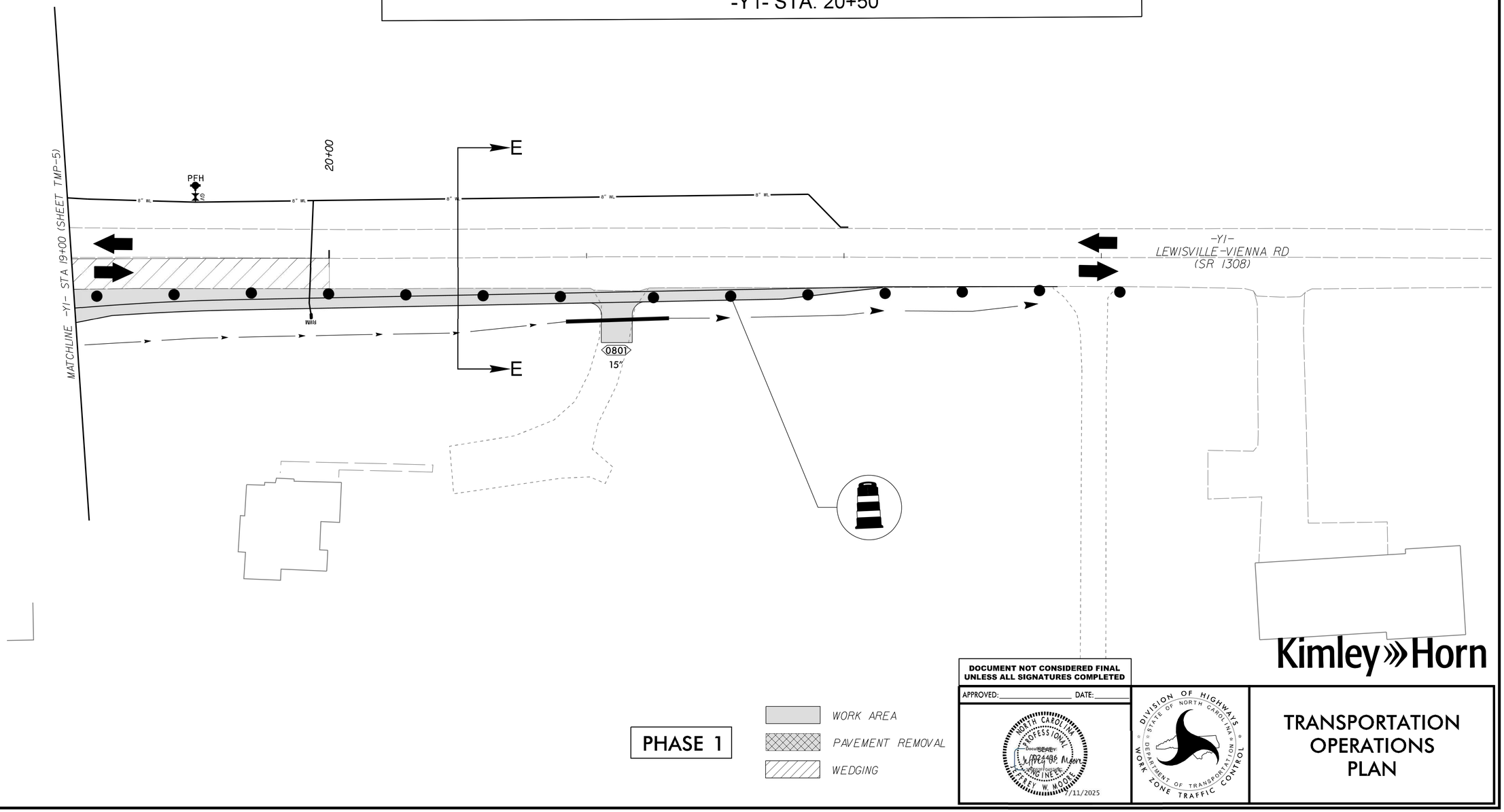
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U-6154	TMP-8



TYPICAL SECTION E-E

-Y1- STA. 20+50

NC GRID
NAD 83/NA 2011



PHASE 1

WORK AREA

PAVEMENT REMOVAL

WEDGING

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NORTH CAROLINA PROFESSIONAL SEAL 052486 ENGINEER JEFFREY W. MOORE

Docusigned by: 7/11/2025

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATIONS PLAN

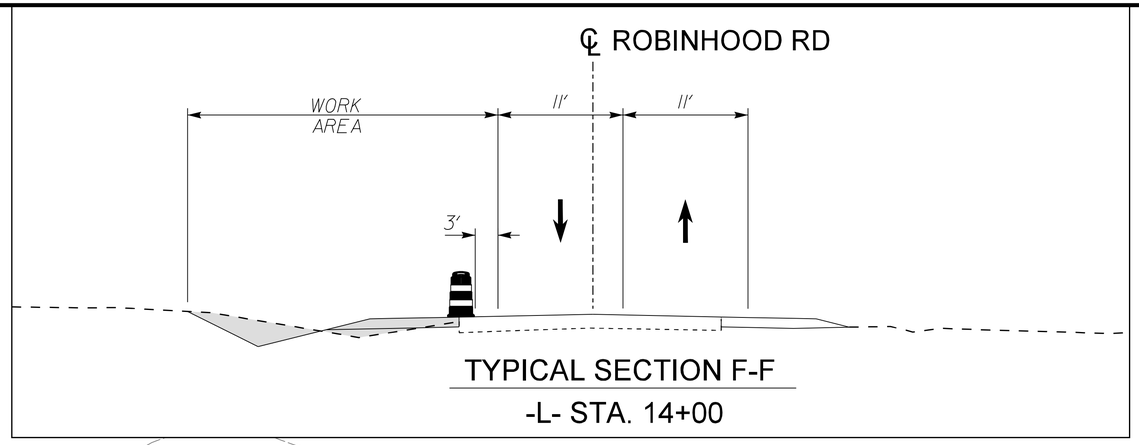
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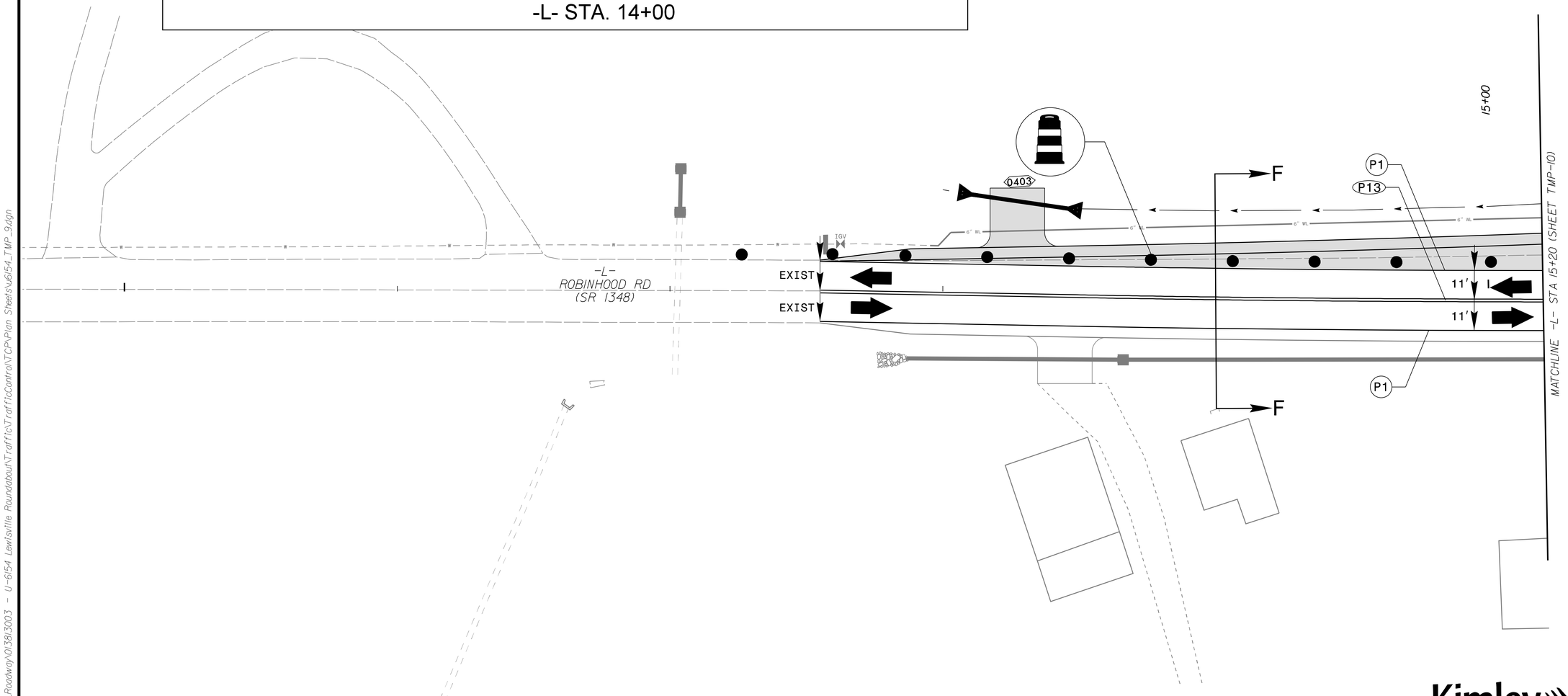
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U-6154	TMP-9



TYPICAL SECTION F-F
-L- STA. 14+00

NAD 83/NA 2011 NC GRID



PHASE 2

WORK AREA
PAVEMENT REMOVAL
WEDGING

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022486 JEFFREY W MOORE
7/11/2025

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

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TRANSPORTATION OPERATIONS PLAN

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PROJ. REFERENCE NO.	SHEET NO.
U-6154	TMP-10

MATCHLINE -Y1- STA 19+00 (SHEET TMP-13)

-Y1- LEWISVILLE-VIENNA RD (SR 1308)

-L- STA.18+08

-L- STA.17+87

-L- STA.18+38

TEMP.SIGNAL POLE

NAD 83/NA 2011

20+00

-L- ROBINHOOD RD (SR 1348)

MATCHLINE -L- STA 20+80 (SHEET TMP-11)

MATCHLINE -L- STA 15+20 (SHEET TMP-9)

R=933'

R=125'

-L- STA.17+66

-L- STA.16+77

-L- STA.15+99

MATCHLINE -Y1- STA 15+25 (SHEET TMP-12)

15" RCP-IV

0523 0524 0525 0526 0527 0528 0529 0517

P1 P13 P61

TEMP

11'

6" WL

8" WL

℄ ROBINHOOD RD

WORK AREA

11' 11'

3'

TYPICAL SECTION G-G

-L- STA. 17+00

PHASE 2

WORK AREA

PAVEMENT REMOVAL

WEDGING

Kimley»Horn

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APPROVED: _____ DATE: _____

NORTH CAROLINA PROFESSIONAL SEAL 024486 ENGINEER KELLEY W. MOORE

10/11/2025

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATIONS PLAN

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PROJ. REFERENCE NO.	SHEET NO.
U-6154	TMP-11

NAD 83 NC GRID 2011

MATCHLINE -L- STA 20+80 (SHEET TMP-10)

25+00

P1

P13

H

6" WL

IGV

11'

11'

EXIST

EXIST

-L-
ROBINHOOD RD
(SR 1348)

H

P1

℄ ROBINHOOD RD

11'

11'

WORK AREA

3'

TYPICAL SECTION H-H
-L- STA. 22+00

PHASE 2

WORK AREA

PAVEMENT REMOVAL

WEDGING

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

APPROVED: _____ DATE: _____

NORTH CAROLINA PROFESSIONAL ENGINEER
DocuSigned by:
Jeffrey W. Moore
0024486
JEFFREY W. MOORE
7/11/2025

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

Kimley»Horn

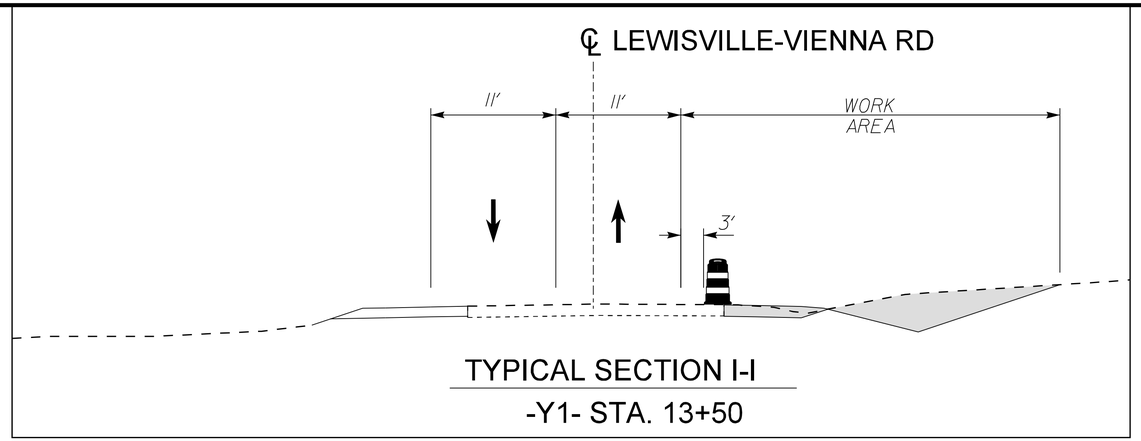
TRANSPORTATION OPERATIONS PLAN

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PROJ. REFERENCE NO.	SHEET NO.
U-6154	TMP-12



TYPICAL SECTION I-I

-Y1- STA. 13+50

NC GRID
NAD 83/NA 2011

10+00

-Y1-
LEWISVILLE-VIENNA RD
(SR 1308)

EXIST

EXIST

IGV

8" WL

I

P1

P13

11'

11'

MATCHLINE -Y1- STA 15+25 (SHEET TMP-10)

0701

15" RCP-IV

P1

PHASE 2

WORK AREA

PAVEMENT REMOVAL

WEDGING

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APPROVED: _____ DATE: _____

NORTH CAROLINA PROFESSIONAL SEAL 024486 ENGINEER JEFFREY W. MOORE

DocuSigned by: 7/11/2025

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

Kimley»Horn

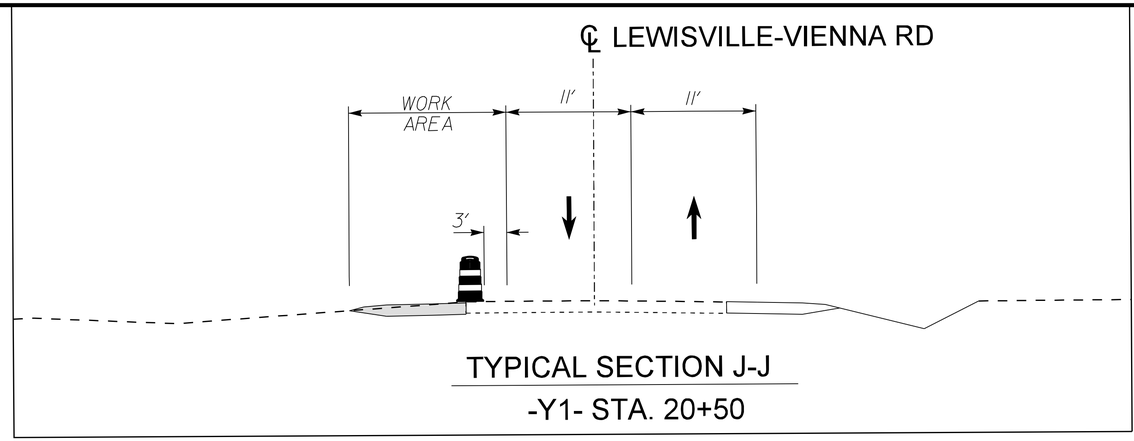
TRANSPORTATION OPERATIONS PLAN

10/18/2024

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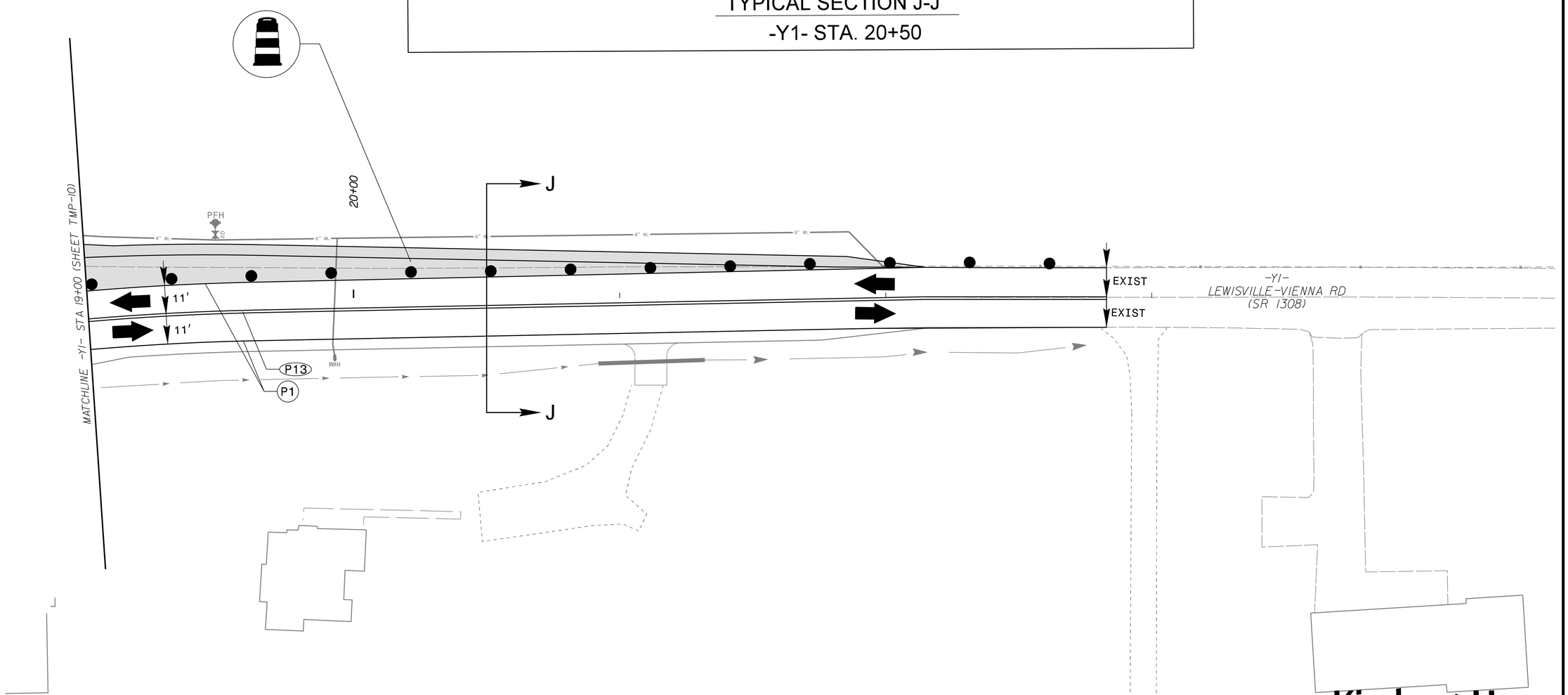
PROJ. REFERENCE NO.	SHEET NO.
U-6154	TMP-13



TYPICAL SECTION J-J

-Y1- STA. 20+50

NC GRID
NAD 83/NA 2011



PHASE 2

WORK AREA

PAVEMENT REMOVAL

WEDGING

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047602 JEFFREY W. MOORE
DocuSigned by: Jeffrey W. Moore 37B0502F1D4D24BC
7/14/2025

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

Kimley»Horn

TRANSPORTATION OPERATIONS PLAN

7/14/2025

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PROJ. REFERENCE NO.	SHEET NO.
U-6154	TMP-14

NAD 83/NA 2011
NC GRID

10+00

15+00

-L-
ROBINHOOD RD
(SR 1348)

IGV

EXIST

EXIST

11'

11'

P1

P13

P1

P42

6" WL

6" WL

6" WL

6" WL

MATCHLINE -L- STA 15+20 (SHEET TMP-15)

PHASE 3

WORK AREA

PAVEMENT REMOVAL

WEDGING

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

Kimley»Horn

TRANSPORTATION OPERATIONS PLAN

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PROJ. REFERENCE NO.	SHEET NO.
U-6154	TMP-15

MATCHLINE -Y1- STA 19+00 (SHEET TMP-18)

-Y1- LEWISVILLE-VIENNA RD (SR 1308)

NAD 83/NA 2011

20+00

CONTRACTOR TO REMOVE TEMPORARY PAVEMENT

-L- ROBINHOOD RD (SR 1348)

MATCHLINE -L- STA 15+20 (SHEET TMP-14)

MATCHLINE -L- STA 20+80 (SHEET TMP-16)

MATCHLINE -Y1- STA 15+25 (SHEET TMP-17)

CONTRACTOR TO INSTALL STRUCTURES 0505, 0506, 0507, 0508, 0519 TO FINAL ELEVATION

℄ ROBINHOOD RD

11′ WORK AREA 11′

2′ 2′

TYPICAL SECTION K-K

-L- STA. 17+00

PHASE 3

WORK AREA

PAVEMENT REMOVAL

WEDGING

Kimley»Horn

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DocuSigned by: Jeffrey W. Moore 376D52F7045245C...

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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATIONS PLAN

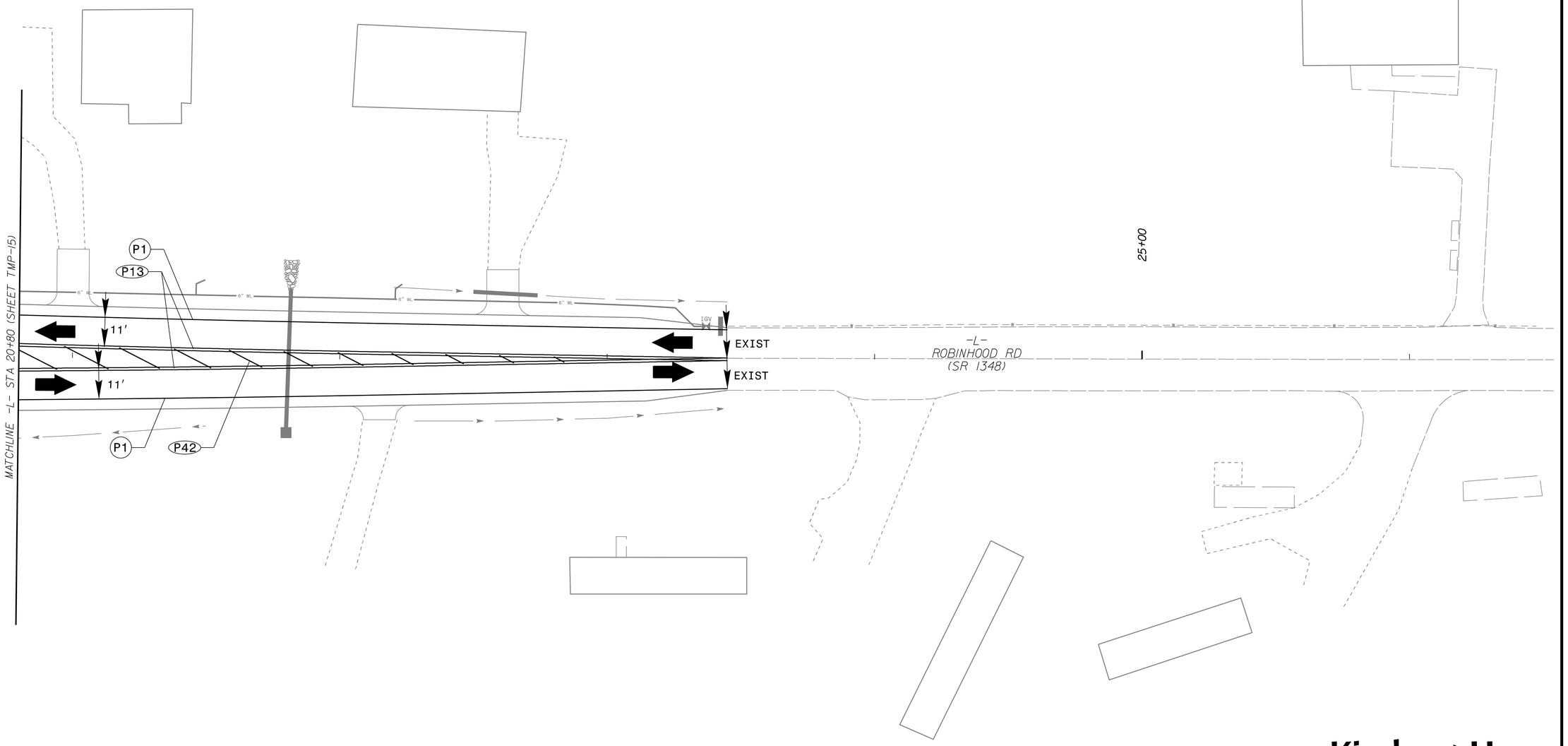
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PROJ. REFERENCE NO.	SHEET NO.
U-6154	TMP-16

NAD 83/NA 2011 NC GRID



PHASE 3

WORK AREA

PAVEMENT REMOVAL

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PROJ. REFERENCE NO.	SHEET NO.
U-6154	TMP-17

NC GRID
NAD 83/NA 2011

10+00

-Y1-
LEWISVILLE-VIENNA RD
(SR 1308)

EXIST
EXIST

IGV

8" WL

P1
P13
P10
P42

11'
11'

MATCHLINE -Y1- STA 15+25 (SHEET TMP-15)

PHASE 3

WORK AREA
PAVEMENT REMOVAL
WEDGING

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NORTH CAROLINA PROFESSIONAL ENGINEER
JEFFREY W. MOORE
DocuSigned by:
Jeffrey W. Moore
7/14/2025

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

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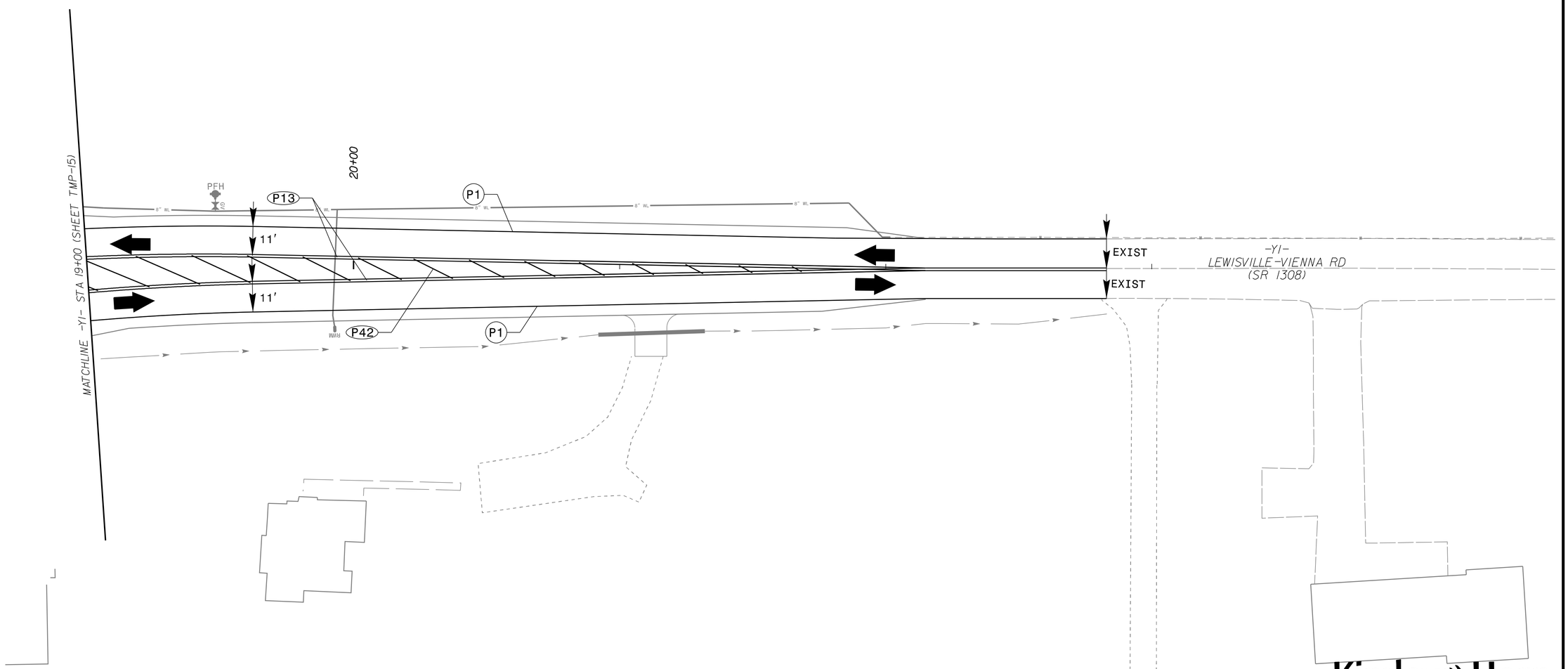
TRANSPORTATION OPERATIONS PLAN

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PROJ. REFERENCE NO.	SHEET NO.
U-6154	TMP-18

NC GRID
NAD 83/NA 2011



PHASE 3

WORK AREA
PAVEMENT REMOVAL
WEDGING

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APPROVED:_____ DATE:_____

NORTH CAROLINA PROFESSIONAL ENGINEER
JEFFREY W. MOORE
DocuSigned by: Jeffrey W. Moore
7/14/2025

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATIONS PLAN

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TIP PROJECT: U-6154

CONTRACT:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
U-6154	PMP-1

APPROVED: _____

DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049430 JEFFREY W. MOORE — Docusigned by: Jeffrey W. Moore — 7/11/2025

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PAVEMENT MARKING PLAN

FORSYTH COUNTY

LOCATION: INTERSECTION OF SR 1348 (ROBINHOOD RD) AND SR 1308 (LEWISVILLE–VIENNA RD)

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN AND SCHEDULE SHEET
PMP-2	N/A
PMP-3 THRU 8	PAVEMENT MARKING DETAILS

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 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 - 2 LANE AND MULTILANE ROADWAYS
1205.08	PAVEMENT MARKINGS - SYMBOL AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

U-6154 PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
	FINAL PAVEMENT MARKINGS
	THERMOPLASTIC (4", 90 MILS)
T1	WHITE EDGELINE
T10	YELLOW EDGELINE
T13	YELLOW DOUBLE CENTER
	THERMOPLASTIC (8", 90 MILS)
T40	WHITE GORELINE
T42	YELLOW DIAGONAL
T45	WHITE 3' - 3' /SP MINI-SKIP
	THERMOPLASTIC (24", 90 MILS)
T62	WHITE CROSSWALK LINE
	THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)
T72	STRAIGHT ARROW
T103	24" YEILD LINE TRIANGLE

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
ALL	THERMOPLASTIC	PERMANENT RAISED MARKERS

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

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

D) 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-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

E) MARKERS SHALL BE INSTALLED ACCORDING TO THE NCDOT ROADWAT STANDARD DRAWING 1250.01.

PLAN REVIEWED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

_____ SIGNING & DELINEATION REGIONAL ENGINEER

_____ SIGNING & DELINEATION PROJECT DESIGN ENGINEER

DIVISION OF HIGHWAYS — STATE OF NORTH CAROLINA — DEPARTMENT OF TRANSPORTATION — WORK ZONE TRAFFIC CONTROL UNIT

PLAN PREPARED BY: Kimley–Horn and Associates

TYLER SPRING, P.E. — PROJECT DESIGN ENGINEER

SPENCER STRINGFELLOW, E.I. — DESIGNER

Kimley»Horn

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	PMP-2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049236 JEFFREY W. MOORE

Docusigned by: Jeffrey W. Moore 0A2A4B6...

7/11/2025

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NC NAD 83/NA 2011

10+00

15+00

-L-
ROBINHOOD RD
(SR 1348)

BEGIN U-6154 PAVEMENT MARKINGS
TIE TO EXISTING
-L- STA 12+55

T1

T42

T13

+06.26(L)
2.25 LT

+06.24(L)
2.25 RT

T13

T1

MATCHLINE -L- STA 15+20 (SHEET 5)

5/14/99

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	PMP-3

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042476 JEFFREY W. MOORE

Docusigned by: Jeffrey W. Moore 0A2A4B6 Moore, Jeffrey W. 042476

7/11/2025

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NAD 83 NC GRID 2011

MATCHLINE -Y1- STA 19+00 (PMP-6)

LEWISVILLE-VIENNA RD (SR 1308) -Y1-

-L- ROBINHOOD RD (SR 1348)

MATCHLINE -L- STA 15+20 (PMP-2)

MATCHLINE -L- STA 20+80 (PMP-4)

MATCHLINE -Y1- STA 15+00 (PMP-5)

20+00

-L- STA 17+11 +/-

-L- STA 17+18 +/-

-L- STA 17+14 +/-

-L- STA 18+87 +/-

-L- STA 18+84 +/-

-L- STA 18+90 +/-

-Y1- STA 17+88 +/-

-Y1- STA 17+93 +/-

-Y1- STA 17+94 +/-

-Y1- STA 16+04 +/-

-Y1- STA 16+06 +/-

-Y1- STA 16+10 +/-

T1 T10 T13 T40 T42 T45 T62 T103 T110 T118

+45(Y1) 3.20'RT
+45(Y1) 2.75'LT
+98.12(Y1) 9.26'RT
+106.92(Y1) 2.75'LT
75.25' R
+64.66(Y1) 13.64'LT
+63.21(Y1) 18.36'RT
+57.46(Y1) 20.55'RT
+62.99(Y1) 14.43'LT
+41.49(L) 34.21'LT
+37.60(L) 15.10'LT
+40(L) 2.75'LT
9,717.25' R
+88(L) 2.75'LT
+40(L) 18'LT
+72.38(L) 2.75'LT
165.25' R
+40(L) 2.75'RT
9,722.75' R
+88(L) 2.75'RT
+40(L) 18'RT
+41.37(L) 11.84'RT
+42.30(L) 12.30'RT
+59.02(L) 43.56'RT
18'
20'
+57.47(L) 11.80'LT
+58.39(L) 11.35'LT
+56.10(L) 17.53'RT
+61.89(L) 14.57'RT
+57.80(L) 37.03'RT
+13.47(L) 2.76'RT
+60(L) 2.75'LT
+60(L) 2.75'RT
+38.70(Y1) 15.49'RT
+41.82(Y1) 17.64'LT
+37.02(Y1) 14.76'RT
+36.84(Y1) 15.23'LT
+28.76(Y1) 11.84'LT
+90.75(Y1) 2.75'RT

CURB RAMP CONSTRUCTION NOTES:
1 CONSTRUCT TYPE 3 CURB RAMP / SEE SHEET 2C-1
2 CONSTRUCT TYPE 7 CURB RAMP / SEE SHEET 2C-1

5/14/99
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PROJECT REFERENCE NO.	SHEET NO.
U-6154	PMP-4

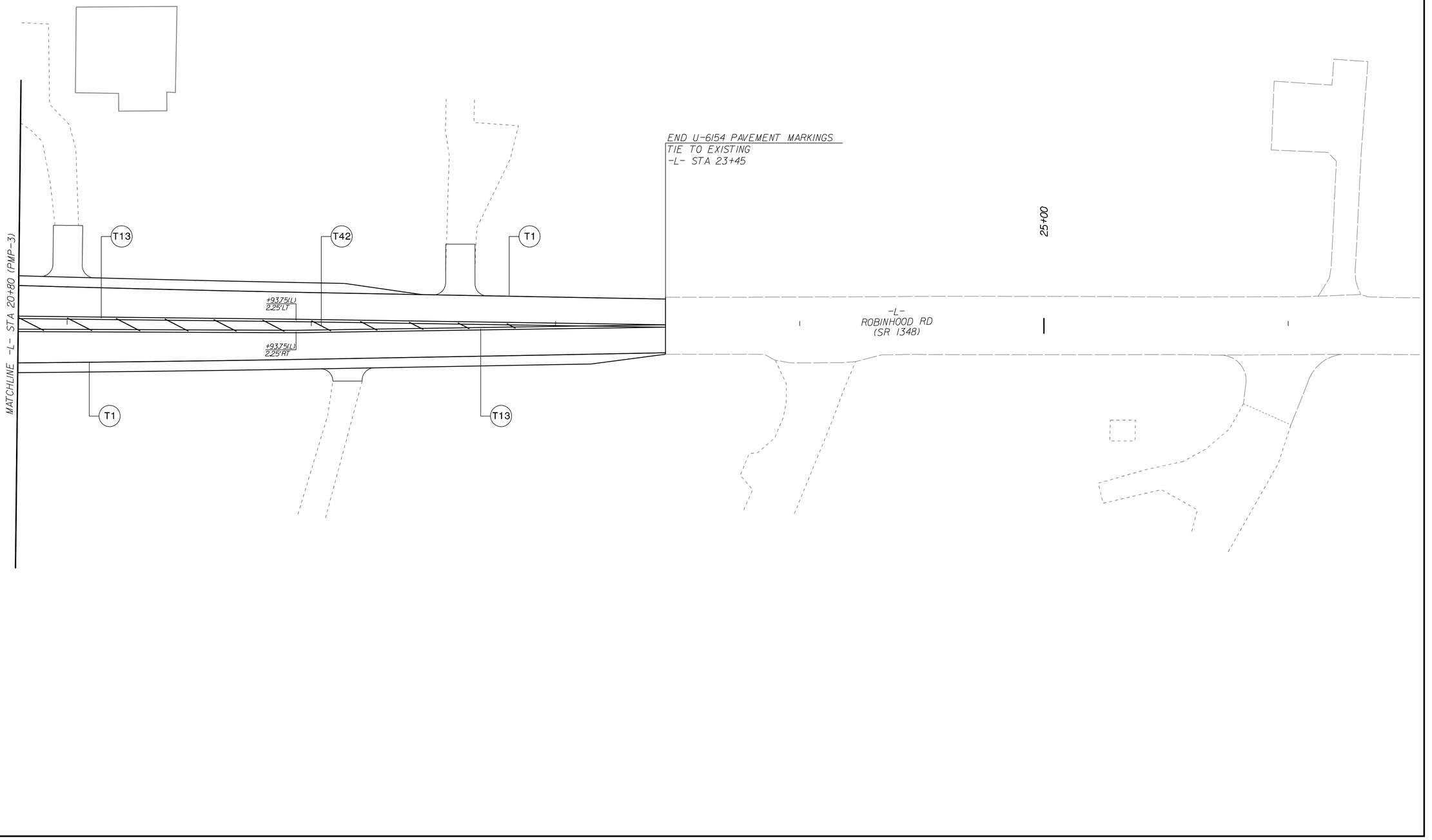
ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049235 JEFFREY W MOORE

Docusigned by: Jeffrey W Moore 7/11/2025

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	PMP-5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER JEFFREY W. MOORE

Docusigned by: Jeffrey W. Moore
DocuSigned by: 052A2E...

7/11/2025

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NC GRID
NAD 83/NA 2011

10+00

BEGIN U-6154 PAVEMENT MARKINGS
TIE TO EXISTING
-Y1- STA 11+85

-Y1-
LEWISVILLE-VIENNA RD
(SR 1308)

T1 T42 T13 T10

+22.5(Y1) 2.75'LT
+35(Y1) 2.75'LT
+22.5(Y1) 2.75'RT
+35(Y1) 2.75'RT

T13 T1 T10

MATCHLINE -Y1- STA 15+00 (PMP-3)

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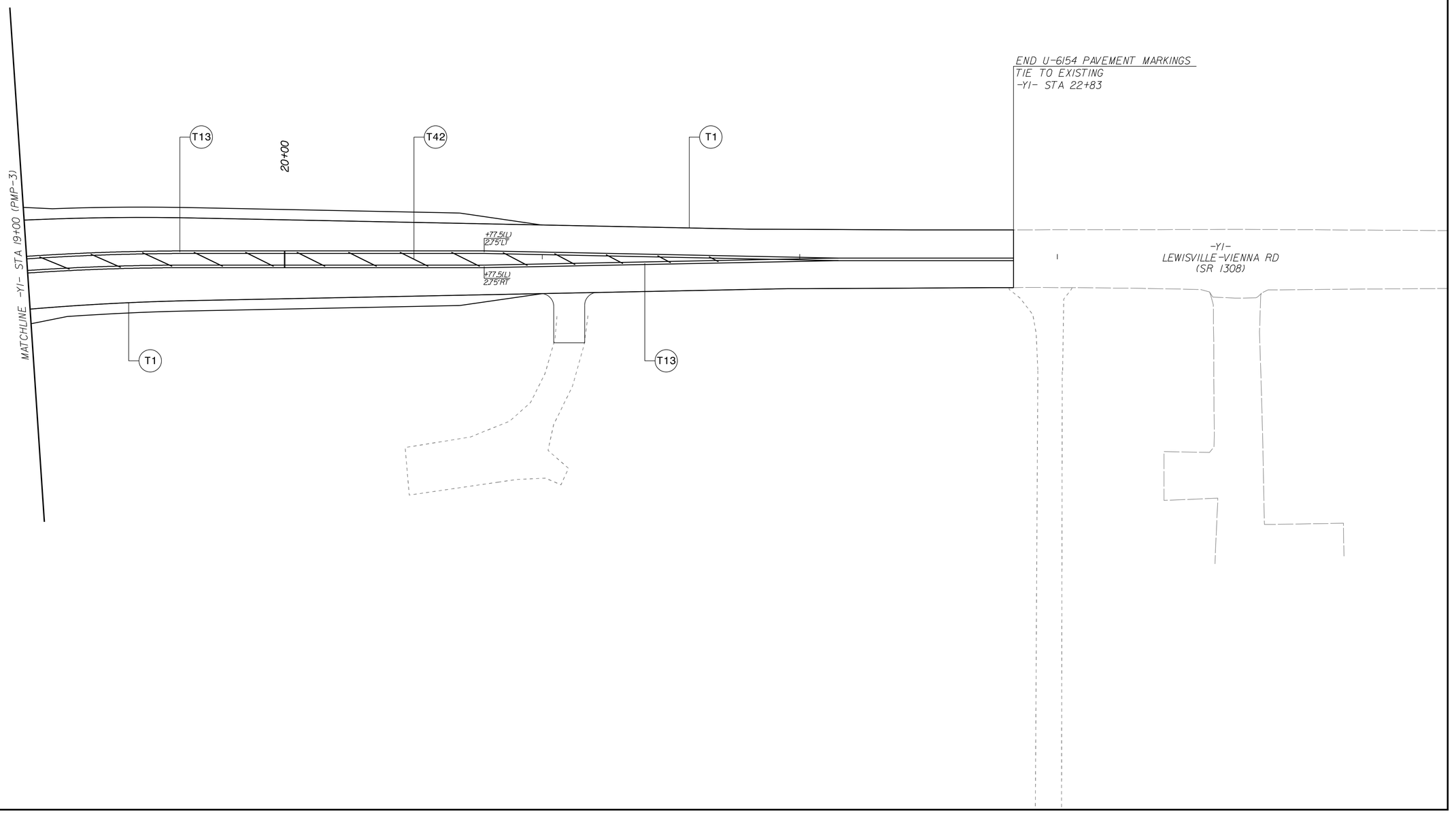
PROJECT REFERENCE NO.	SHEET NO.
U-6154	PMP-6

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049196 JEFFREY W. MOORE
DocuSigned by: Jeffrey W. Moore
7/14/2025

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NC GRID
NAD 83/NA 2011



5/14/99
7/14/2025
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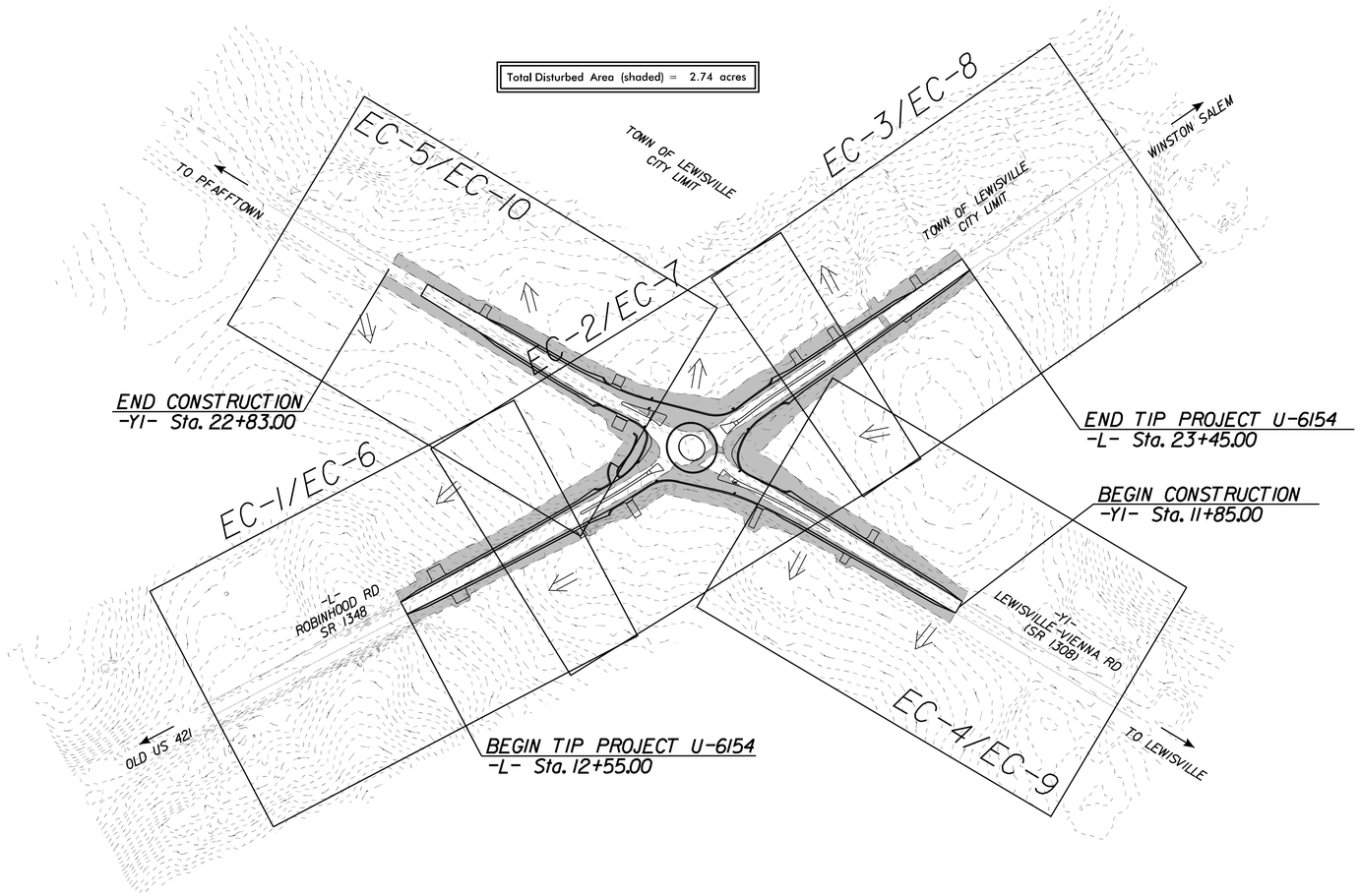
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5/14/99

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.	U-6154	EC-1A

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
48436.1.1	STBG-1308(017)	P.E.
48436.2.1	STBG-1308(017)	RIGHT-OF-WAY
48436.2.1	STBG-1308(017)	UTILITIES
48436.3.1	STBG-1308(017)	CONSTRUCTION

NAD 83/NA 2011
NC GRID



PROJECT DENUDED AREAS

DIRECTION OF FLOW

IMPERVIOUS AND PERVIOUS SURFACES IN U-6154 LEWISVILLE ROUNDABOUT DISTURBED AREAS

PROPOSED IMPERVIOUS SURFACE = 1.72 AC
PROPOSED PERVIOUS SURFACE = 1.02 AC

Project Description

The U-6154 Lewisville Rounabout Project consists of converting the existing signalized intersection to a single lane roundabout at SR1308 (Lewisville-Vienna Road) and SR 1348 (Robinhood Road) in the Town of Lewisville. Approximately 2.74 acres will be disturbed during the construction of this project. Also, approximately 1.02 acres will be vegetatively stabilized with grass and permanent plantings.

Site Description

Access to the site is generally rolling and contains few existing drainage structures. The land use along the project is mostly a rural residential area with a few commercial buildings. Drainage comparison from the pre-construction to post-construction runoff is a minimal increase. This is due to the increase in impervious areas at the roundabout creation and the widening of the roadway shoulders. No new drainage patterns will be introduced for this project.

Soils

The soil types throughout the project limits are mostly looms (CmC2 & TmB).

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GENERAL NOTES (TYPICAL ALL SHEETS):

1. ALL EROSION CONTROL MEASURES TO BE WITHIN LIMITS OF DISTURBANCE.
2. CONTRACTOR TO ENSURE THAT ALL ROADWAYS, PARKING LOTS, AND CURB LINES ADJACENT TO THIS PROJECT ARE FREE OF DEBRIS, DIRT, AND EQUIPMENT DURING THE PROJECT DURATION UNLESS DIRECTED BY CITY ENGINEER. ANY DAMAGE TO EXISTING CURB AND GUTTER, ROADS, OR PARKING LOTS AT CONSTRUCTION ENTRANCES MUST BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. PIPES SHALL BE INSTALLED/REPLACED IN THE DRY (WITH A MIN.3 DAYS OF DRY WEATHER DURING INSTALLATION) OR CONTRACTOR SHALL PLAN TO ISOLATE AND DEWATER EXCAVATED AREAS AS NEEDED USING SILT BAGS AND/OR COFFER DAM AND PUMP AROUND. IF SILT BAGS ARE UTILIZED, CONTRACTOR TO INSPECT BAG FOR DAMAGE AND BLOACKAGE. REPLACE BAG WHEN 3/4 FULL OF SEDIMENT, AND PROVIDE A SUFFICIENT QUANTITY OF BAGS TO CONTAIN SILT FROM PUMPED EFFLUENT DURING CONSTRUCTION. IF COFFER DAMS ARE UTILIZED, A COFFER DAM DETAIL MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION.
4. WHERE SILT FENCES ARE LOCATED BELOW STORM DRAIN OUTLETS, THEIR LOCATIONS MUST BE MODIFIED AS THE STORM DRAINS ARE INSTALLED SO THAT THE FENCES WILL PASS OVER THE PIPE OUTLETS.
5. SILT FENCE OUTLET MUST BE ADDED IN THE FIELD WHENEVER LOW POINTS ARE ENCOUNTERED ALONG SILT FENCE RUNS.
6. ALL EROSION CONTROL MEASURES MUST BE SELF-INSPECTED ONCE A WEEK OR WITHIN 24 HOURS OF ANY RAINFALL EVENT OF ONE INCH AND GREATER. SUBMIT SELF-INSPECTION REPORT WITHIN 15 DAYS OF THE INSPECTION. SELF-INSPECTIONS AND SELF-MONITORING SHALL BE CONDUCTED IN ACCORDANCE WITH THE CONDITIONS OF THE NPDES PERMIT NO.NCG010000 AND NORTH CAROLINA GENERAL STATUE 113A-54.1(e) AND 15A NCAC 04B.0131.
7. INSTALL ANY ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY TO PREVENT SEDIMENT RUNOFF.
8. NO BURNING WILL BE ALLOWED ON THE PROJECT.
9. SEE SHEET SHEET EC-21 FOR GENERAL CONSTRUCTION SCHEDULE/SEQUENCE
10. INLET PROTECTION TO BE INSTALLED AND MAINTAINED WHEN UNSTABLE AND SEDIMENT LADEN SOIL IS DRAINING TO STRUCTURES. MANY VERSIONS OF INLET PROTECTION HAVE BEEN PROPOSED ON THIS PROJECT DUE TO THE URBAN NATURE OF THE SITE. CONTRACTOR TO COORDINATE WITH CITY INSPECTOR TO DETERMINE THE BEST METHOD TO USE AT A GIVEN TIME.
11. ROCK CHECK DAMS TO BE INSTALLED AND MAINTAINED WHEN UNSTABLE AND SEDIMENT LADEN SOIL IS DRAINING IN DITCHES. CONTRACTOR TO COORDINATE WITH CITY INSPECTOR TO DETERMINE WHEN ROCK CHECK DAMS MAY BE REPLACED BY WATTLES UPON PARTIAL STABILIZATION OF SOIL.
12. USE ROLLED EROSION CONTROL PRODUCTS ON ALL CUT/FILL SLOPES INCLUDING BASINS AS NECESSARY FOR STABILIZATION
13. DO NOT ALLOW CONCRETE DUST/WASTE/WASTEWATER INTO STORM DRAIN OR OFF-SITE. ALL SEDIMENT MUST BE CLEANED OFF THE ROADWAY BY DRY SWEEPING METHODS ONLY. WATER MUST NOT BE USED TO WASH SEDIMENT OFF OF ROADS, DRIVEWAYS, OR PARKING LOTS.

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-1

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 049438 ENGINEER JEFFREY W. MOORE
Docusigned by: Jeffrey W. Moore
7/11/2025

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CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

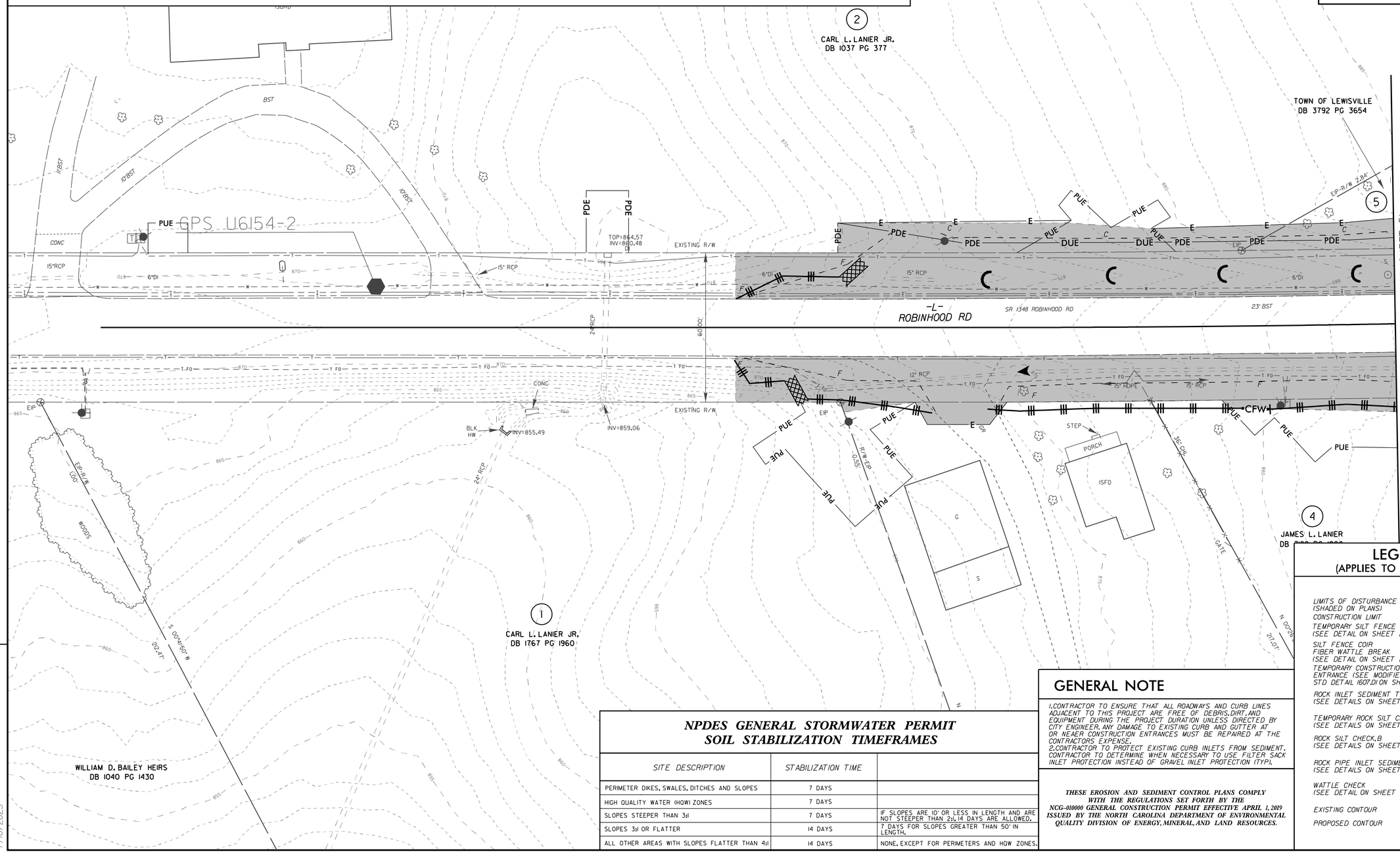
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REVISIONS

5/14/99

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7/10/2025



NPDES GENERAL STORMWATER PERMIT SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	
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.

GENERAL NOTE

1. CONTRACTOR TO ENSURE THAT ALL ROADWAYS AND CURB LINES ADJACENT TO THIS PROJECT ARE FREE OF DEBRIS, DIRT, AND EQUIPMENT DURING THE PROJECT DURATION UNLESS DIRECTED BY CITY ENGINEER. ANY DAMAGE TO EXISTING CURB AND GUTTER AT OR NEAR CONSTRUCTION ENTRANCES MUST BE REPAIRED AT THE CONTRACTORS EXPENSE.
2. CONTRACTOR TO PROTECT EXISTING CURB INLETS FROM SEDIMENT. CONTRACTOR TO DETERMINE WHEN NECESSARY TO USE FILTER SACK INLET PROTECTION INSTEAD OF GRAVEL INLET PROTECTION (TYP).

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES.

LEGEND
(APPLIES TO ALL SHEETS)

- LIMITS OF DISTURBANCE (SHADED ON PLANS)
- CONSTRUCTION LIMIT
- TEMPORARY SILT FENCE (SEE DETAIL ON SHEET EC-13)
- SILT FENCE COIR FIBER WATTLE BREAK (SEE DETAIL ON SHEET EC-15)
- TEMPORARY CONSTRUCTION ENTRANCE (SEE MODIFIED NCDOT STD DETAIL 1607.01 ON SHEET EC-13)
- ROCK INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)
- TEMPORARY ROCK SILT CHECK, A (SEE DETAILS ON SHEETS EC-14)
- ROCK SILT CHECK, B (SEE DETAILS ON SHEETS EC-14)
- ROCK PIPE INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)
- WATTLE CHECK (SEE DETAIL ON SHEET EC-13)
- EXISTING CONTOUR
- PROPOSED CONTOUR

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038180 ENGINEER JEFFREY W. MOORE

7/11/2025

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CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 5

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RALEIGH, NC 27601

NAD 83/NA 2011

REVISIONS

5/14/99

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MATCHLINE -L- STA 15+20 (SHEET 4)

MATCHLINE -L- STA 20+80 (SHEET 6)

MATCHLINE -Y1- STA 19+00 (SHEET 8)

MATCHLINE -Y1- STA 15+00 (SHEET 7)

LEWISVILLE-VIENNA RD -Y1-

-L- ROBINHOOD RD

PLACE PERMITS RECORD BOX HERE (OR LOCATION NEAR ENTRANCE TO CONSTRUCTION SITE)

ISBLK/STUCO B

STAGING, STORAGE, STOCKPILE, AND CONCRETE WASHOUT AREA

INSTALL GRAVEL CONSTRUCTION ENTRANCE

GPS U6154-1

5 TOWN OF LEWISVILLE DB 3792 PG 3654

13 RANDY DUGGINS DB 3196 PG 2369

7 REBECCA L. FORREST, TIM FORREST, DANIEL FORREST DB 3568 PG 2481, DB 1950 PG 3018, DB 1460 PG 423

8 DRSP PROPERTIES LLC DB 2353 PG 2988

6 CMC FAMILY ENTERPRISES LLC DB 3615 PG 1887

4 JAMES L. LANIER DB 3182 PG 1800

12 BENNIE C. STONE DB 3361 PG 3437

TOWN OF LEWISVILLE CITY LIMIT

LEGEND
(APPLIES TO ALL SHEETS)

- LIMITS OF DISTURBANCE (SHADED ON PLANS)
- CONSTRUCTION LIMIT
- TEMPORARY SILT FENCE (SEE DETAIL ON SHEET EC-13)
- SILT FENCE COIR FIBER WATTLE BREAK (SEE DETAIL ON SHEET EC-15) -CFW-
- TEMPORARY CONSTRUCTION ENTRANCE (SEE MODIFIED NCDOT STD DETAIL 1607.01 ON SHEET EC-13)
- ROCK INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)
- TEMPORARY ROCK SILT CHECK, A (SEE DETAILS ON SHEETS EC-14)
- ROCK SILT CHECK, B (SEE DETAILS ON SHEETS EC-14)
- ROCK PIPE INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)
- WATTLE CHECK (SEE DETAIL ON SHEET EC-13)
- EXISTING CONTOUR
- PROPOSED CONTOUR

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-3

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038303 ENGINEER JEFFREY W. MOORE

Docusigned by: Jeffrey W. Moore

7/11/2025

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CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 6

NAD 83 NC GRID 2011

7 REBECCA L. FORREST, TIM FORREST, DANIEL FORREST
DB 3568 PG 2481
DB 1950 PG 3018
DB 1460 PG 423

9 MARCO RIVERA, MARIA RIVERA
DB 3673 PG 2003

SDKC NC PROPERTIES LLC
DB 3056 PG 1319

TOWN OF LEWISVILLE CITY LIMIT

8 DRSP PROPERTIES LLC
DB 2353 PG 2988

-L- ROBINHOOD RD

SR 1348 ROBINHOOD RD

MATCHLINE -L- STA 20+80 (SHEET 5)

MATCHLINE -L- STA 23+00 (SHEET 7)

ISFD, ISBKD, CONC, (2)IBK PLANTERS, STEPS, HTR, LT, ABANDONED, EXISTING R/W, EIP, R/W EIP 0.50', EIP-R/W 0.40', EIP-R/W 0.20', INV= 893.50', INV=893.42', OTCB NO LID FULL OF DEBRIS, PUE, PDE, DUE, WOODS, GR, BST, 23' BST, 60.00', 200.00', N 21°23'05" E, S 26°45'25" W, S 26°46'39" W, 199.99', 199.95', 12" RCP, 15" RCP, 12" HDPE, 10"CMP, 6"DI, BL-4

LEGEND
(APPLIES TO ALL SHEETS)

- LIMITS OF DISTURBANCE (SHADED ON PLANS)
- CONSTRUCTION LIMIT — C — E —
- TEMPORARY SILT FENCE (SEE DETAIL ON SHEET EC-13) — C —
- SILT FENCE COIR FIBER WATTLE BREAK (SEE DETAIL ON SHEET EC-15) -CFW-
- TEMPORARY CONSTRUCTION ENTRANCE (SEE MODIFIED NCDOT STD DETAIL 1607.01 ON SHEET EC-13)
- ROCK INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)
- TEMPORARY ROCK SILT CHECK,A (SEE DETAILS ON SHEETS EC-14)
- ROCK SILT CHECK,B (SEE DETAILS ON SHEETS EC-14)
- ROCK PIPE INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)
- WATTLE CHECK (SEE DETAIL ON SHEET EC-13)
- EXISTING CONTOUR — 887 —
- PROPOSED CONTOUR —885—

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-4

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038301 JEFFREY W. MOORE
Docusigned by: Jeffrey W. Moore
7/11/2025

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CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7

REVISIONS

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NC GRID
NAD 83/NA 2011

CMC FAMILY
ENTERPRISES LLC
DB 3615 PG 1882

CMC FAMILY
ENTERPRISES LLC
DB 3615 PG 1877

BENNIE C. STONE
DB 3361 PG 3437

DRSP PROPERTIES LLC
DB 2353 PG 2988

DRSP PROPERTIES LLC
DB 2353 PG 2988

HERBERT B. TUTEN
SABRINA R. TUTEN
DB 2973 PG 758

SR 1308 LEWISVILLE-VIENNA RD

-Y1-
LEWISVILLE-VIENNA RD

MATCHLINE -Y1- STA 15+00 (SHEET 5)

22' BST

60.00'

EXISTING R/W

PDE EXISTING R/W

EIP R/W 3.3'

15" RCP

12"CMC

12"CMP

8"DI

PUE

CFW

ISBKD

CONC STEP

PLANTER

R/W-EIP 0.39'

R/W-EIP 0.72'

PATIO PAVERS

TO METER

PAVERS

CONC

GR

CARPORT

ISFD

14' GR

9' GR

S 86°42'46" W 190.00'

N 88°31'04" W 334.71'

S 69°46'46" W 324.10'

LEGEND
(APPLIES TO ALL SHEETS)

LIMITS OF DISTURBANCE (SHADED ON PLANS)	
CONSTRUCTION LIMIT	C E
TEMPORARY SILT FENCE (SEE DETAIL ON SHEET EC-13)	
SILT FENCE COIR FIBER WATTLE BREAK (SEE DETAIL ON SHEET EC-15)	-CFW-
TEMPORARY CONSTRUCTION ENTRANCE (SEE MODIFIED NCDOT STD DETAIL 1607.01 ON SHEET EC-13)	
ROCK INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)	
TEMPORARY ROCK SILT CHECK,A (SEE DETAILS ON SHEETS EC-14)	
ROCK SILT CHECK,B (SEE DETAILS ON SHEETS EC-14)	
ROCK PIPE INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)	
WATTLE CHECK (SEE DETAIL ON SHEET EC-13)	
EXISTING CONTOUR	887
PROPOSED CONTOUR	885

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ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038303 ENGINEER JEFFREY W. MOORE

Docusigned by: Jeffrey W. Moore

7/11/2025

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CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8

NC GRID
NAD 83/NA 2011

REVISIONS

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7/10/2025

MATCHLINE -Y1- STA 19+00 (SHEET 5)

-Y1-
LEWISVILLE-VIENNA RD

SR 1308 LEWISVILLE-VIENNA RD

EXISTING R/W

60.00'

2
CARL L. LANIER JR.
DB 1037 PG 377

13
RANDY DUGGINS
DB 3196 PG 2369

14
JOHN E. FISHER
LAURA D. FISHER
DB 3302 PG 1783

15
GARLAND R. FEARRINGTON
MARY FEARRINGTON
DB 1419 PG 379

TOWN OF LEWISVILLE CITY LIMIT

S 86°48'12" W 28.86'

S 86°48'14" W 200.00'

S 86°50'27" W 200.15'

N 86°48'18" E 199.99'

PUE

PUE

PDE

CFW

23' BST

8"DI

12" RCP

15" HDPE

EIP

EIP-R/W CUT

IPGR

IBCONC

35"MD SPLIT RAIL

FLAG POLE

CONC

ISBKD

GR

WOODS

TOWN OF LEWISVILLE CITY LIMIT

LEGEND
(APPLIES TO ALL SHEETS)

- LIMITS OF DISTURBANCE (SHADED ON PLANS)
- CONSTRUCTION LIMIT
- TEMPORARY SILT FENCE (SEE DETAIL ON SHEET EC-13)
- SILT FENCE COIR FIBER WATTLE BREAK (SEE DETAIL ON SHEET EC-15)
- TEMPORARY CONSTRUCTION ENTRANCE (SEE MODIFIED NCDOT STD DETAIL 1607.01 ON SHEET EC-13)
- ROCK INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)
- TEMPORARY ROCK SILT CHECK,A (SEE DETAILS ON SHEETS EC-14)
- ROCK SILT CHECK,B (SEE DETAILS ON SHEETS EC-14)
- ROCK PIPE INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)
- WATTLE CHECK (SEE DETAIL ON SHEET EC-13)
- EXISTING CONTOUR
- PROPOSED CONTOUR

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-6

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038361 JEFFREY W. MOORE
Docusigned by:
7/11/2025

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FINAL
EROSION CONTROL FOR CONSTRUCTION SHEET 4

NAD 83/NA 2011

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REVISIONS

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7/10/2025

ISBRD

BST

10'BST

11'BST

CONC

PUE

15"RCP

6"DI

GRADE TO DRAIN

2GI W/CONC. APRON

24" RCP-IV

REMOVE EXIST INLET

2GI W/CONC. APRON TIE TO EXIST 24" RCP

RETAIN

PDE

D403

D404

TOP=864.57
INV=860.48

EXISTING R/W

24"RCP

60.00'

T FO

CONC

BLK HW

INV=855.49

INV=859.06

EIP

EIP-R/W 4.00'

WOODS

24" RCP

RETAIN

S 00°41'50" W

216.47'

(1)

CARL L. LANIER JR.
DB 1767 PG 1960

WILLIAM D. BAILEY HEIRS
DB 1040 PG 1430

(2)

CARL L. LANIER JR.
DB 1037 PG 377

TOWN OF LEWISVILLE
DB 3792 PG 3654

TIE TO EXIST SWALE
15" W/FES ON BOTH ENDS

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 1

CIP-R/W 2.84'

(5)

E

C

DUE

REMOVE

F

SR 1348 ROBINHOOD RD

23' BST

CLASS 'B' RIP RAP
EST. 5 TONS
EST. 14 SY GFD

24" RCP-IV

REMOVE

D402

D403 2GI-A

CFW

24" RCP-IV

PUE

R/W EIP

0.55'

STEP

PORCH

ISFD

G

S

365' CFW

GATE

N 08°56'39" E

275.36'

N 02°28'

201.07'

(4)

JAMES L. LANIER
DB [illegible]

(3)

CARL L. LANIER JR.
DB 1767 PG 1960

MATCHLINE -L- STA 15+20 (SHEET 5)

LEGEND
(APPLIES TO ALL SHEETS)

LIMITS OF DISTURBANCE (SHADED ON PLANS)	
CONSTRUCTION LIMIT	-C-
TEMPORARY SILT FENCE (SEE DETAIL ON SHEET EC-13)	
SILT FENCE COIR FIBER WATTLE BREAK (SEE DETAIL ON SHEET EC-15)	-CFW-
TEMPORARY CONSTRUCTION ENTRANCE (SEE MODIFIED NCDOT STD DETAIL 1607.01 ON SHEET EC-13)	
ROCK INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)	
TEMPORARY ROCK SILT CHECK,A (SEE DETAILS ON SHEETS EC-14)	
ROCK SILT CHECK,B (SEE DETAILS ON SHEETS EC-14)	
ROCK PIPE INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)	
WATTLE CHECK (SEE DETAIL ON SHEET EC-13)	
EXISTING CONTOUR	887
PROPOSED CONTOUR	885

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-7

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038303 ENGINEER JEFFREY W. MOORE

Docusigned by:
7/11/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FINAL
EROSION CONTROL FOR CONSTRUCTION SHEET 5

NAD 83/NA GRID NC 2011

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7/10/2025

MATCHLINE -L- STA 15+20 (SHEET 4)

MATCHLINE -Y1- STA 19+00 (SHEET 8)

MATCHLINE -L- STA 20+80 (SHEET 6)

MATCHLINE -Y1- STA 15+00 (SHEET 7)

SPECIAL LATERAL 'V' DITCH SEE DETAIL 2

CLASS 'B' RIP RAP EST. 2 TONS EST. 7 SY GFD 0522

REMOVE

15" RCP-IV

0521 2GI-D

SPECIAL MIN. DEPTH CB-F SEE DETAIL 2C-1 0520

15" RCP-IV

SPECIAL MIN. DEPTH DI SEE DETAIL 2C-2 0519

SPECIAL MIN. DEPTH CB-F SEE DETAIL 2C-1 0518

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

15" RCP-IV

0523

SPECIAL MIN. DEPTH CB-G SEE DETAIL 2C-1

PLACE PERMITS RECORD BOX HERE (OR LOCATION NEAR ENTRANCE TO CONSTRUCTION SITE)

0524

SPECIAL MIN. DEPTH CB-G SEE DETAIL 2C-1

15" RCP-IV

STAGING, STORAGE, STOCKPILE, AND CONCRETE WASHOUT AREA

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

SPECIAL MIN. DEPTH CB-F SEE DETAIL 2C-1

CLASS 'B' RIP RAP EST. 2 TONS EST. 7 SY GFD

15" RCP-IV

15" RCP-IV

0527 CB-F

0525

0529

0528

0526 CB-F

15" RCP-IV

INSTALL GRAVEL CONSTRUCTION ENTRANCE

0508 CB-G

15" RCP-IV

0509 CB-F

0501 2GI-A

0502 2GI-A

0503 CB-G

CB-G 0504

CB-F 0505

CB-F 0506

24" RCP-IV

0507 CB-F

18" RCP-IV

REMOVE

0513 CB-G

0516

SPECIAL 'V' DITCH SEE DETAIL 2 CLASS 'B' RIP RAP EST. 10 TONS EST. 20 SY GFD

0514 DI

CB-F 0515

15" RCP-IV

18" RCP-IV

CLASS 'B' RIP RAP EST. 2 TONS EST. 7 SY GFD 0511

SPECIAL LATERAL 'V' DITCH SEE DETAIL 2

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

15" RCP-IV

0517 CB-E

24" RCP-IV

15" RCP-IV

CB-E 0516

PUE

DUE

PDE

CFW

(5) TOWN OF LEWISVILLE DB 3792 PG 3654

(13) RANDY DUGGINS DB 3196 PG 2369

(7) REBECCA L. FORREST TIM FORREST DANIEL FORREST DB 3568 PG 2481 DB 1950 PG 3018 DB 1460 PG 423

(8) DRSP PROPERTIES LLC DB 2353 PG 2988

(6) CMC FAMILY ENTERPRISES LLC DB 3615 PG 1887

(4) JAMES L. LANIER DB 3182 PG 1800

(12) BENNIE C. STONE DB 3361PG 3437

TOWN OF LEWISVILLE CITY LIMIT

N 85°57'53" E 283.12'

N 05°28'26" E 180.32'

S 87°10'38" E 178.14'

N 89°24'24" E

LEGEND
(APPLIES TO ALL SHEETS)

- LIMITS OF DISTURBANCE (SHADED ON PLANS)
- CONSTRUCTION LIMIT
- TEMPORARY SILT FENCE (SEE DETAIL ON SHEET EC-13)
- SILT FENCE COIR FIBER WATTLE BREAK (SEE DETAIL ON SHEET EC-15) -CFW-
- TEMPORARY CONSTRUCTION ENTRANCE (SEE MODIFIED NCDOT STD DETAIL 160T.01 ON SHEET EC-13)
- ROCK INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)
- TEMPORARY ROCK SILT CHECK,A (SEE DETAILS ON SHEETS EC-14)
- ROCK SILT CHECK,B (SEE DETAILS ON SHEETS EC-14)
- ROCK PIPE INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)
- WATTLE CHECK (SEE DETAIL ON SHEET EC-13)
- EXISTING CONTOUR 887
- PROPOSED CONTOUR 885

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-8

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038031 JEFFREY W. MOORE

Docusigned by: Jeffrey W. Moore

7/11/2025

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FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 6

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

NAD 83 NC GRID 2011

7 REBECCA L. FORREST, TIM FORREST, DANIEL FORREST, DB 3568 PG 2481, DB 1950 PG 3018, DB 1460 PG 423

9 MARCO RIVERA, MARIA RIVERA, DB 3673 PG 2003

SDKC NC PROPERTIES LLC, DB 3056 PG 1319

8 DRSP PROPERTIES LLC, DB 2353 PG 2988

TOWN OF LEWISVILLE CITY LIMIT

MATCHLINE -L- STA 20+80 (SHEET 5)

CLASS 'B' RIP RAP EST. 3 TONS EST. 10 SY GFD

SPECIAL LATERAL 'V' DITCH SEE DETAIL 1

TIE TO EXIST DITCH

RETAIN

REMOVE

18" RCP-IV

GRADE TO DRAIN

SR 1348 ROBINHOOD RD

EXISTING R/W

LEGEND
(APPLIES TO ALL SHEETS)

- LIMITS OF DISTURBANCE (SHADED ON PLANS)
- CONSTRUCTION LIMIT
- TEMPORARY SILT FENCE (SEE DETAIL ON SHEET EC-13)
- SILT FENCE COIR FIBER WATTLE BREAK (SEE DETAIL ON SHEET EC-15)
- TEMPORARY CONSTRUCTION ENTRANCE (SEE MODIFIED NCDOT STD DETAIL 1607.01 ON SHEET EC-13)
- ROCK INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)
- TEMPORARY ROCK SILT CHECK,A (SEE DETAILS ON SHEETS EC-14)
- ROCK SILT CHECK,B (SEE DETAILS ON SHEETS EC-14)
- ROCK PIPE INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)
- WATTLE CHECK (SEE DETAIL ON SHEET EC-13)
- EXISTING CONTOUR
- PROPOSED CONTOUR

REVISIONS

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-9

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036381 JEFFREY W. MOORE
Docusigned by: Jeffrey W. Moore
7/11/2025

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FINAL
EROSION CONTROL FOR CONSTRUCTION SHEET 7

NC GRID
NAD 83/NA 2011

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5/14/99

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7/10/2025

CMC FAMILY
ENTERPRISES LLC
DB 3615 PG 1877

CMC FAMILY
ENTERPRISES LLC
DB 3615 PG 1882

12
BENNIE C. STONE
DB 3361PG 3437

S 86°42'46" W 190.00'

R/W-EIP 0.39'

N 88°31'14" W 334.71'

R/W-EIP 0.72'

ISBKD
CONC STEP
PLANTER

EIP

8"DI

SR 1308 LEWISVILLE-VIENNA RD

22' BST

EXISTING R/W

EIP

12'CONC

PATIO PAVERS

TO METER

CFW

E

C

PDE

PUE

REMOVE

0701

15"

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 2

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 2

MATCHLINE -Y1- STA 15+00 (SHEET 5)

6' GR

9' GR

EIP

PAVERS

GR

CARPET

CONC

ISFD

HERBERT B. TUTEN
SABRINA R. TUTEN
DB 2973 PG 758

324.0'

N 89°46'48" S

8
DRSP PROPERTIES LLC
DB 2353 PG 2988

8
DRSP PROPERTIES LLC
DB 2353 PG 2988

LEGEND
(APPLIES TO ALL SHEETS)

LIMITS OF DISTURBANCE (SHADED ON PLANS)	
CONSTRUCTION LIMIT	C
TEMPORARY SILT FENCE (SEE DETAIL ON SHEET EC-13)	
SILT FENCE COIR FIBER WATTLE BREAK (SEE DETAIL ON SHEET EC-15)	-CFW-
TEMPORARY CONSTRUCTION ENTRANCE (SEE MODIFIED NCDOT STD DETAIL 1607.01 ON SHEET EC-13)	
ROCK INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)	
TEMPORARY ROCK SILT CHECK,A (SEE DETAILS ON SHEETS EC-14)	
ROCK SILT CHECK,B (SEE DETAILS ON SHEETS EC-14)	
ROCK PIPE INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)	
WATTLE CHECK (SEE DETAIL ON SHEET EC-13)	
EXISTING CONTOUR	887
PROPOSED CONTOUR	885

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-10

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER JEFFREY W. MOORE
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FINAL
EROSION CONTROL FOR CONSTRUCTION SHEET 8

NC GRID
NAD 83/NA 2011

REVISIONS

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7/14/2025

2
CARL L. LANIER JR.
DB 1037 PG 377

MATCHLINE -Y1- STA 19+00 (SHEET 5)

PUE
PUE
EXISTING R/W
CFW
F
23' BST
8"DI
SR 1308 LEWISVILLE-VIENNA RD
60'-00"
REMOVE
1080
15"
C
E
PDE
SPECIAL LATERAL 'V' DITCH SEE DETAIL 2
PUE
STANDARD 'V' DITCH SEE DETAIL 4
RETAIN
15" HDPE
EIP
EIP-R/W OUT
WOODS
12"DR
10"DR
18"CONC
36"MD SPLIT RAIL
FLAG POLE
CONC
GR
ISBKD
TOWN OF LEWISVILLE CITY LIMIT

13
RANDY DUGGINS
DB 3196 PG 2369
S 86°48'12" W
28.86'

14
JOHN E. FISHER
LAURA D. FISHER
DB 3302 PG 1783
S 86°48'14" W
200.00'

15
GARLAND R. FEARRINGTON
MARY FEARRINGTON
DB 1419 PG 379
S 86°50'27" W
200.15'
N 86°48'18" E
199.99'

LEGEND
(APPLIES TO ALL SHEETS)

- LIMITS OF DISTURBANCE (SHADED ON PLANS)
- CONSTRUCTION LIMIT — C — F —
- TEMPORARY SILT FENCE (SEE DETAIL ON SHEET EC-13)
- SILT FENCE COIR FIBER WATTLE BREAK (SEE DETAIL ON SHEET EC-15) -CFW-
- TEMPORARY CONSTRUCTION ENTRANCE (SEE MODIFIED NCDOT STD DETAIL 1607.01 ON SHEET EC-13)
- ROCK INLET SEDIMENT TRAP (SEE DETAILS ON SHEETS EC-14)
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- WATTLE CHECK (SEE DETAIL ON SHEET EC-13)
- EXISTING CONTOUR — 887 —
- PROPOSED CONTOUR ——885——

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-11

ROADWAY DESIGN ENGINEER



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5/14/99

CONSTRUCTION SEQUENCE

CONSTRUCTION SPECIFICATIONS

1. Hold preconstruction conference at least one week prior to starting construction and invite NCDEQ Regional LQS contact number is (336) 776-9654.

2. Per NPDES requirements, a rain gauge, self-inspections records, permit, Certificate of Coverage, and S&E plan are required to be maintained on site and accessible during inspection. It is recommended that these items be placed ina permits box at beginning or entrance of project.

3. Flag the work limits for protection.

4. Prior to any land disturbing (including demolition) activities, install silt/tree protection fence, construction entrance, temporary stream crossings, and all other erosion control devices.

5. In accordance with the erosion control plans, grade trail, install crosspipes, and place reinforced silt fence as shown. Place additional erosion control matting and stabilize 2:1 slopes as indicated. Modify silt fence placement around trail and outlets as necessary, place silt fence around all temporary crossings and culverts as needed.

6. Complete final grading for roadway.

7. Finish grading of slopes (if applicable), topsoil critical areas and permanently vegetate, seed and mulch.

8. All graded areas will be seeded, fertilized and mulched according to NCDOT specifications to maintain a vigorous, dense, vegetative cover within 7 to 14 days or sooner of completion of any phase of grading. Refer to the latest NPDES Rules dated August 2011 for more information on ground stabilization requirements. In summary, perimeter dikes, swales, ditches, slopes steeper than 3:1, and high quality (HQW) zones shall be stabilized within 7 days. All other areas and slopes shall be stabilized within 14 days. If work on the project ceases for more than the above mentioned length of time, all disturbed areas shall have temporary vegetative ground cover established and erosion control devices maintained.

9. All erosion and sediment control practices will be inspected weekly and after rainfall events. Needed repairs will be made immediately.

10. Estimated time before final stabilization is 12 months.

11. Site includes approximately X.XX acres of permanent vegetation area.

12. AFTER SITE IS STABILIZED, construction entrances, and construction staging and material area stockpile areas, and all other erosion control devices shall be removed, restored as existing, and permanently vegetated as described in the maintenance and vegetative plan.
Contractor must receive permission by project inspector before any measures are removed.

13. When the project is complete, the permittee shall contact DEMLR to close out the E&SC Plan. After DEMLR informs the permittee of the project close out, via Inspection report, the permittee shall visit deq.nc.gov/NCG01 to submit an electronic Notice of Termination (e-NOT). A $100 annual general permit fee will be charged until the e-NOT has been filled out.

MAINTENANCE

Follow the construction sequence throughout project development. Adequate erosion and sediment control measures must be installed, maintained and adjusted as needed during the demolition or clearing and grubbing phases as well as throughout the life of and until permanent vegetation on the project is established. When changes in construction activities are needed, amend the sequence schedule in advance to maintain management control.

Notification of Land Resources Sediment and Erosion Control Self-Inspection Program:

The Sedimentation Pollution Control Act was amended in 2006 to require that persons responsible for land-disturbing activities inspect a project after each phase of the project to make sure that the approved erosion and sedimentation control plan is being followed. Rules detailing the documentation of these inspections took effect October 1, 2010. The self-inspection program is separate from the weekly self-monitoring program of the NPDES Stormwater Permit for Construction Activities.

The focus of the self-inspection report is the installation/maintenance of erosion and sedimentation control measures according to the approved plan. The inspections must be conducted after each phase of the project, and continue until permanent ground cover is established in accordance with NCGS 113A-54.1 and 15A NCAC 4B.0131. The Self-Inspection Report form is available as a Word Document and PDF from at http://portal.ncdenr.org/web/lr/erosion. If you have questions or cannot access the form, please contact NCDEQ Land Quality Section at (919) 791-4200.

The NCG01 permit became effective on April 1, 2019 and added the following notes to the construction sequence:
1. Erosion and Sediment Control (E&SC) permit and a certificate of coverage must be obtained before any land disturbing activities occur. The COC can be obtained by filling out the electronic Notice of Intent (e-NOI) form at deq.nc.gov/ NCG01. Please note, the e-NOI form may be only be filled out once the plans have been approved. A copy of the E&SC permit, the COC, and a hard copy of the plan must be kept on site, preferably in a permits box, and accessible during inspection.
2. When the project is complete, the permittees shall contact DEMLR to close out the E&SC Plan. After DEMLR informs the permittee of the project close out, via Inspection report, the permittee shall visit deq.nc.gov/ NCG01 to submit an electronic Notice of Termination (e-NOT). A $100 annual general permit fee will be charged until the e-NOT has been filled out.
3. The Inspection, Recordkeeping, and Reporting Plan sheet is on sheet EC-24 of this plan set. Please note that any construction activities that have an ES&C Plan approved on or after April 1, 2019 are required to fill out and submit an electronic Notice of Intent (e-NOI) form. All construction activities are required to follow the new NCG01 permit regardless of when they are approved.

MAINTENANCE PLAN

1. The Contractor shall check all erosion and sediment control practices for stability and operation following every runoff producing rainfall but in no case less than once every week. Any needed repairs will be made immediately by the Contractor to maintain all practices as designed. Also per National Pollutant Discharge Elimination System (NPDES) general stormwater permit, a rain gauge must be installed on site. The rain gauge must be kept onsite and inspections by the Contractor must be made and logged after every one inch of rainfall and once a week.

2. The Contractor shall remove sediment from erosion control devices when storage capacity has been approximately 50% filled. Gravel will be cleaned or replaced when the sediment pools no longer drains properly.

3. The Contractor shall remove sediment from behind silt fence when it becomes 0.5 feet deep at the fence. Silt fence will be repaired as necessary to maintain a barrier.

4. The Contractor shall fertilize, reseed as necessary, and mulch all seeded areas according to specifications in the vegetative plan to maintain a vigorous, dense vegetative cover.

5. The Contractor shall provide ground cover on exposed slopes or other areas within 7 to 14 days or sooner of completion of any phase of grading. Refer to the latest NPDES Rules dated August 2011 for more information on ground stabilization requirements. Permanent ground cover is to be provided for all disturbed areas within 7 to 14 days or sooner following completion of construction or development.

6. The Town of Lewisville contact is Stacy Tolbert, (336)-945-1023.

RIP RAP (6.15)

CONSTRUCTION SPECIFICATIONS

Subgrade Preparation - Prepare the subgrade for riprap and filter to the required lines and grades shown on the plans. Compact any fill required in the subgrade to a density approximating that of the surrounding undisturbed material or overfill depressions with riprap. Remove brush, trees, stumps and other objectional material. Cut the subgrade sufficiently deep that the finished grade of the riprap will be at the elevation of the surrounding area. Channels should be excavated sufficiently to allow placement of the riprap in a manner such that the finished inside dimensions and grade of the riprap meet design specifications.

Sand and gravel filter blanket - Place the filter blanket immediately after the ground foundation is prepared. For gravel, spread filter stone in a uniform layer to the specified depth. Where more than one layer of filter material is used, spread the layers with minimal mixing.

Synthetic filter fabric - Place the cloth filter directly on the prepared foundation. Overlap the edges by at least 12 inches, and space anchor pins every 3 ft along the overlap. Bury the upstream end of the cloth a minimum of 12 inches below ground and where necessary, bury the lower end of the cloth or overlap with the next section as required. Take care not to damage the cloth when placing riprap. If damage occurs remove the riprap and repair the sheet by adding another layer of filter material with a minimum overlap of 12 inches around the damaged area. If extensive damage is suspected, remove and replace the entire sheet.

Where large stones are used or machine placement is difficult, a 4-inch layer of fine gravel or sand may be needed to protect the filter cloth.

Stone Placement - Placement of riprap should follow immediately after placement of the filter. Place riprap so that it forms a dense, well-graded mass of stone with a minimum of voids. The desired disbribution of stones throughout the mass may be obtained by selective loading at the quarry and controlled dumping during final placement. Place riprap to its full thickness in one operation. Do not place riprap by dumping through chutes or other methods that cause segregation of stone sizes. Take care not to dislodge the underlying base or filter when placing the stones.

The finished slope should be free of pockets of small stone or clusters of large stones. Hand placing may be necessary to achieve the proper distribution of stone sizes to produce a relatively smooth, uniform surface. The finished grade of the riprap should blend with the surrounding area. No overfall or protrusion of riprap should be apparent.

MAINTENANCE

Inspect channels at regular intervals as well as after major rains, and make repairs promptly. Give special attention to the outlet and inlet sections and other points where concentrated flow enters. Carefully check stability at road crossings and look for indications of piping, scour holes, or bank failures. Make repairs immediately. Maintain all vegetation adjacent to the channel in a healthy, vigorous condition to protect the area from erosion and scour during out-of-bank flow. Control of weed and brush growth may be needed in some locations.

LAND GRADING (6.02)

CONSTRUCTION SPECIFICATIONS

1. Construct and maintain all erosion and sedimentation control practices and measures in accordance with the approved sedimentation control plan and construction schedule.

2. Remove good topsoil from areas to be graded and filled, and preserve it for use in finishing the grading of all critical areas.

3. Scarify areas to be topsoiled to a minimum depth of 2 inches before placing topsoil.

4. Clear and grub areas to be filled to remove trees, vegetation, roots, or other objectionable material that would affect the planned stability of the fill.

5. Ensure that fill material is free of brush, rubbish, rocks, logs, stumps, building debris, and other materials inappropriate for constructing stable fills.

6. Place all fill in layers not to exceed 9 inches in thickness, and compact the layers as required to reduce erosion, slippage, settlement, or other related problems.

7. Do not incorporate frozen material or soft or highly compressible materials into fill slopes.

8. Do not place fill on a frozen foundation, due to possible subsidence and slippage.

9. Keep diversions and other water conveyance measures free of sediment during all phases of development.

10. Handle seeps or springs encountered during construction in accordance with approved methods.

11. Permanently stabilize all graded areas immediately after final grading is completed on each area in the grading plan. Apply temporary stabilization measures on all graded areas when work is to be interrupted or delayed for 15 working days or longer.

12. Show topsoil stockpiles, borrow areas, and spoil areas on the plans, and make sure they are adequately protected from erosion. Include final stabilization of these areas in the plan.

MAINTENANCE

Periodically check all graded areas and the supporting erosion and sedimentation control practices, especially after heavy rainfalls. Promptly remove all sediment from diversion and other water-disposal practices. If washouts or breaks occur, repair them immediately. Prompt maintenance of small eroded areas before they become significant gullies is an essential part of an effective erosion and sedimentation control plan.

GRASS-LINED CHANNELS (6.30)

CONSTRUCTION SPECIFICATIONS

1. Remove all trees, brush, stumps, and other objectionable material from the foundation area and dispose of properly.

2. Excavate the channel and shape it to neat lines and dimensions shown on the plans plus a 0.2-ft overcut around the channel perimeter to allow for bulking during seedbed
preparations and sod buildup.

3. Remove and properly dispose of all excess soil so that surface water may enter the channel freely.

VEGETATIVE PLAN (NCDENR 6.11)

SEEDING SCHEDULE

Shoulders, Side Ditches, Slopes (3:1)

Date	Type	Planting Rate
Aug.15-Nov.1	Tall Fescue	250 lbs./acre
Nov.1-Mar.1	Tall Fescue	250 lbs./acre
	& Abruzzi Rye	25 lbs./acre
Mar.1-Apr.15	Tall Fescue	250 lbs./acre
Apr.15-Jun.15	Hulled Common Bermudagrass	12 lbs./acre
Jun.15-Aug.15	Tall Fescue	250 lbs./acre
"	& Brownton Millet ***	35 lbs./acre
"	or Sorghum-Sudan Hybrids ***	30 lbs./acre
"	Slopes (3:1 to 2:1)	
Mar.1-Jun.1	Sericea Lespedeza (scarified)	50 lbs./acre
"	and	
(Mar.1-Apr.15)	Add Tall Fescue	250 lbs./acre
(Mar.1-Jun.30)	or Add Weeping Lovegrass	5 lbs./acre
(Mar.1-Jun.30)	or Add Hulled Common Bermudagrass	8 lbs./acre
Jun.1-Sep.1	Tall Fescue ***	250 lbs./acre
"	& Brownton Millet ***	35 lbs./acre
"	or Sorghum-Sudan Hybrids ***	30 lbs./acre
Sep.1-Mar.1	Sericea Lespedeza (unhulled-unscarified)	70 lbs./acre
"	& Tall Fescue	250 lbs./acre
(Nov.1-Mar.1)	Add Abruzzi Rye	25 lbs./acre

Consult Conservation Engineer or Soil Conservation Service for additional information concerning other alternatives for vegetation of denuded areas. The above vegetation rates are those which do well under local conditions; other seeding rate combinations are possible.

*** Temporary - Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow over 12 inches in height before mowing, otherwise, fescue may be shaded out.

SEEDING SPECIFICATIONS

1) After rough grading is completed, till soil in areas to be seeded and planted to a depth of six inches.

2) Apply agricultural lime, fertilizer, and superphosphate to disturbed areas to be vegetated.
90 lbs. limestone/1000 sq.ft. (2 tons/acre)
35 lbs. 10-10-10 fertilizer/1000 sq.ft. (1500 lbs/acre)
40 lbs. 50% superphosphate/1000 sq.ft. (1750 lbs/acre)

3) Disk nutrients into soil to a depth of six inches until surface is uniform and free of large dirt clods.

4) Seeding permanent grass.
3.0 lbs. KY-31 tall fescue/1000 sq.ft. (130 lbs./acre) during February 15 through May 15 or August 15 through November 15.
-OR-
3.0 lbs. KY-31 tall fescue and 2.0 lbs. annual ryegrass/1000 sq.ft. during November 15 through February 15.

5) Mulch seeded area with small grain straw at 90 lbs/1000 sq.ft. (2 tons/acre). Spread uniformly. Approximately½ of ground surface should be visible to avoid blocking sunlight to seedlings. On areas where the ground surface equals or exceeds a 3:1 slope, and in the inverts of all drainage swales, tack mulch with asphalt emulsion at a rate of 450 gallons emulsion per acre of straw.

6) Mulch around shubbery and trees with pine straw to depth of 3 inches.

7) Temporary cover
10 lbs. brown top millet/1000 sq.ft. May through August 25.
-OR-
10 lbs. annual ryegrass/1000 sq.ft. August 25 through April.

GRASS-LINED CHANNELS (6.30)

CONSTRUCTION SPECIFICATIONS

4. The procedure used to establish grass in the channel will depend upon the severity of the conditions and selection of species. Protect the channel with mulch or a temporary liner sufficient to withstand anticipated velocities during the establishment period.

MAINTENANCE

During the establishment period, check grass-lined channels after every rainfall. After grass is established, periodically check the channel; check it after every heavy rainfall event. Immediately make repairs. It is particularly important to check the channel outlet and all road crossings for bank stability and evidence of piping or scour holes. Remove all significant sediment accumulations to maintain the designed carrying capacity. Keep the grass in a healthy, vigorous condition at all times, since it is the primary erosion protection for the channel.

TOPSOILING (6.04)

CONSTRUCTION SPECIFICATIONS

MATERIALS

Determine whether the quality and quantity of available topsoil justifies selective handling. Quality topsoil has the following characteristics:

Texture - loam, sandy loam, and silt loam are best; sandy clay loam, silty clay loam, clay loam, and loamy sand are fair. Do not use heavy clay and organic soils such as peat or muck as topsoil.

Organic matter content - (sometimes referred to as "humic matter") should be greater than 1.5% by weight.

Acidity - pH should be greater than 3.6 before liming, and liming is required if it is less than 6.0.

Soluble salts - should be less than 500 ppm.

Sodium - sodium adsorption ratio should be less than 12.

The depth of material meeting the above qualifications should be at least 2 inches. Soil factors such as rock fragments, slope, depth to water table, and layer thickness affect the ease of excavation and spreading of topsoil.

Generally, the upper part of the soil, which is richest in organic matter, is most desirable; however, material excavated from deeper layers may be worth storing if it meets the other criteria listed above.

Organic soils such as mucks and peats do not make good topsoil. They can be identified by their extremely light weight when dry.

STRIPPING

Strip topsoil only from those areas that will be disturbed by excavation, filling, roadbuilding, or compaction by equipment. A 4 to 6-inch stripping depth is common, but depth varies depending on the site. Determine depth of stripping by taking soil cores at several locations within each area to be stripped. Topsoil depth generally varies along a gradient from hilltop to toe of the slope. Put sediment basins, diversions, and other controls into place before stripping.

STOCKPILING

Select stockpile location to avoid slopes and natural drainageways, avoiding traffic routes. On large sites, respreading is easier and more economical when topsoil is stockpiled in small piles located near areas where they will be used. All stockpile areas used shall be stabilized with silt fence and seeded.

Sediment barriers - Use sediment fences or other barriers where necessary to retain sediment.

Temporary seeding - Protect topsoil stockpiles by temporarily seeding as soon as possible, no more than 30 working days or 120 calendar days after the formation of the stockpile.

Permanent vegetation - If stockpiles will not be used within 12 months they must be stabilized with permanent vegetation to control erosion and weed growth.

SITE PREPARATION

Before spreading topsoil, establish erosion and sedimentation control practices such as diversions, berms, dikes, waterways, and sediment basins.

Grading - Maintain grades on the areas to be topsoiled according to the approved plan and do not alter them by adding topsoil.

Liming of subsoil - Where the pH of the existing subsoil is 6.0 or less, or the soil is composed of heavy clays, incorporate agricultural limestone in amounts recommended by soil tests or specified for the seeding mixture to be used. Incorporate lime to a depth of at least 2 inches by disking.

Roughening - Immediately prior to spreading the topsoil, loosen the subgrade by disking or scarifying to a depth of at least 4 inches, to ensure bonding of the topsoil and subsoil. If no amendments have been incorporated, loosen the soil to a depth of at least 6 inches before spreading topsoil.

SPREADING TOPSOIL

Do not spread topsoil while it is frozen or muddy or when subgrade is wet or frozen. Correct any irregularities in the surface that result from topsoiling or other operations to prevent the formation of depressions or water pockets.

Compact the topsoil enough to ensure good contact with the underlying soil, but avoid excessive compaction, as it increases runoff and inhibits seed germination. Light packing with a roller is recommended where high-maintenance turf is to be established.

On slopes and areas that will not be mowed, the surface may be left rough after spreading topsoil. A disk may be used to promote bonding at the interface between topsoil and subsoil.

After topsoil application, follow procedure for seedbed preparation, taking care to avoid excessive mixing of topsoil into the subsoil.

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-12

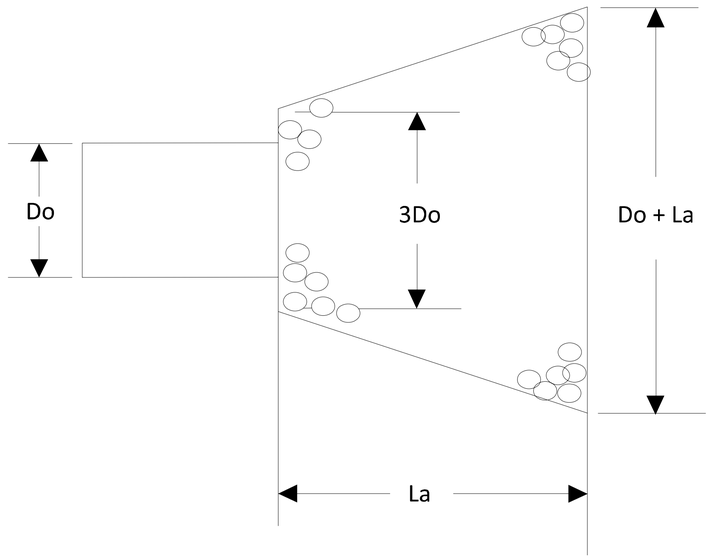
ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042436 JEFFREY W MOORE
Docusigned by: Jeffrey W Moore
7/11/2025

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RIP RAP OUTLET PROTECTION

ALIGNMENT	STATION	RT/LT	RIP RAP CLASS	RIP RAP (TONS)	LENGTH OF APRON (FT)	WIDTH OF APRON AT PIPE OUTLET (FT)	FILTER FABRIC (SY)
-L-	21+80	LT	CLASS B	3	6	4.5	10
-L-	12+80	RT	CLASS B	5	8	6	14
-Y1-	15+60	RT	CLASS B	2	5	3.75	7
-Y1-	18+85	RT	CLASS B	2	5	3.75	7



RIPRAP OUTLET PROTECTION

MAINTENANCE:
Inspect riprap outlet structures weekly and after significant (1/2 inch or greater) rainfall events to see if any erosion around or below the riprap has taken place, or if stones have been dislodged. Immediately make all needed repairs to prevent further damage.

NPDES GENERAL STORMWATER PERMIT 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.

5/14/99
10/18/2024
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Docusign Envelope ID: 31150416-DD6D-4FB8-9423-EE3BC424B4F4

Kimley»Horn
© 2024
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-13

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042476 JEFFREY W. MOORE

Docusigned by: Jeffrey W. Moore 10/24/2025 | 10:45:26 AM EDT

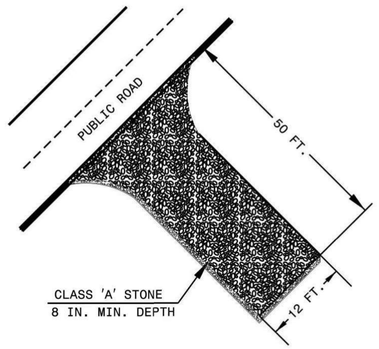
7/11/2025

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STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-24J

ROADWAY STANDARD DRAWING FOR
GRAVEL CONSTRUCTION ENTRANCE

SHEET 1 OF 1
1607.01



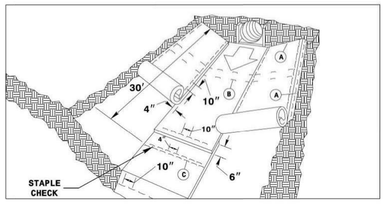
NOTES

1. PROVIDE TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS.
2. LOCATE ENTRANCES TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. LOCATE GRAVEL CONSTRUCTION ENTRANCE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. PROVIDE FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER.
7. USE CLASS 'A' STONE OR OTHER COARSE AGGREGATE APPROVED BY THE ENGINEER.
8. INSTALL CONSTRUCTION ENTRANCES IN A WAY TO PREVENT VEHICLES FROM BYPASSING CONSTRUCTION ENTRANCE LEAVING PROJECT SITE.

NOTE: PLACE GEOTEXTILE FOR DRAINAGE BENEATH STONE

MAINTENANCE:

Maintain the stone pad in a condition to prevent mud or sediment from leaving the construction site.This may require periodic topdressing with 2-inch stone. After each rainfall. Inspect any structure used to trap sediment and clean it out as necessary. Immediately remove all objectionable materials spilled,washed,or tracked onto public roadways.



MATTING IN DITCHES

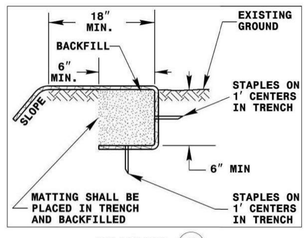
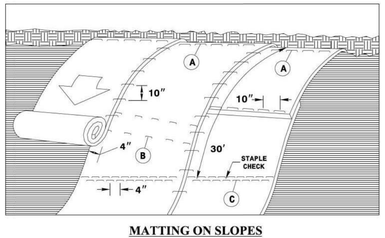


DIAGRAM (A)



MATTING ON SLOPES

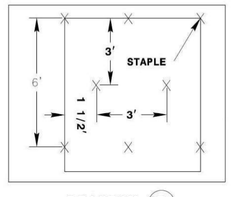


DIAGRAM (B)

STAPLE CHECK PATTERN

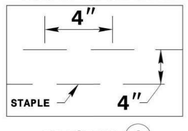


DIAGRAM (C)

NOTES

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, COIR FIBER MAT AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION AND AS DIRECTED.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

TRENCH ALL UPSLOPE EDGES OF MATTING THAT ARE NOT OVERLAPPED BY ANOTHER SECTION OF MATTING.

NOT TO SCALE

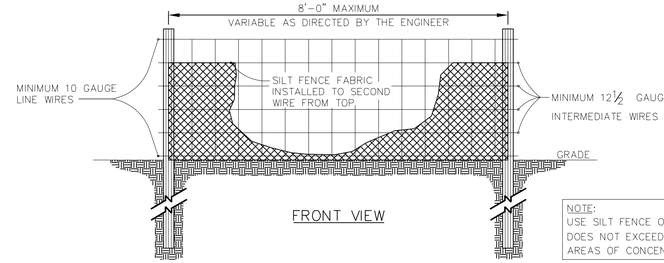
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-24

ROADWAY STANDARD DRAWING FOR
MATTING INSTALLATION

SHEET 1 OF 1
1631.01

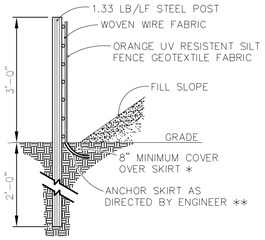
MAINTENANCE:

1. INSPECT ROLLED EROSION CONTROL PRODUCTS (RECP) AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAIN FALL EVENT. REPAIR IMMEDIATELY.
2. GOOD CONTACT WITH THE GROUND MUST BE MAINTAINED, AND EROSION MUST NOT OCCUR BENEATH THE RECP.
3. ANY AREAS OF THE RECP THAT ARE DAMAGED OR NOT IN CLOSE CONTACT WITH THE GROUND SHALL BE REPAIRED AND STAPLED.
4. IF EROSION OCCURS DUE TO POORLY CONTROLLED DRAINAGE, THE PROBLEM SHALL BE FIXED AND THE ERODED AREA PROTECTED.
5. MONITOR AND REPAIR THE RECP AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.



FRONT VIEW

NOTE:
USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.



SIDE VIEW

* FOR REPAIR OF SILT FENCE FAILURES USE SILT FENCE OUTLET DETAIL

** ANCHOR SKIRT FOLLOWING SKIRT TRENCH REQUIREMENTS, PER NCDENR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL FIGURE 6.62A (6.62.5). SKIRT MUST BE TRENCHED IN, AT A MINIMUM, 8" VERTICALLY AND 4" HORIZONTALLY.

NOTE:
USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.

MAINTENANCE:

Inspect sediment fences and fence outlets at least once a week and after each rainfall. Make any required repairs immediately.

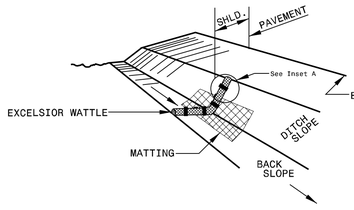
Should the fabric of a sediment fence collapse, tear, decompose or become ineffective, replace it promptly. Replace hardware cloth every 60 days.

Remove sediment deposits as necessary to provide adequate storage volume for the next rain and to reduce pressure on the fence. Take care to avoid undermining the fence during cleanout.

Remove all fencing materials and unstable sediment deposits and bring the area to grade and stabilize it after the contributing drainage area has been properly stabilized.

STANDARD TEMPORARY SILT FENCE

WATTLE DETAIL



ISOMETRIC VIEW

NOTES:

USE MINIMUM 18 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 18" IN LENGTH.

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

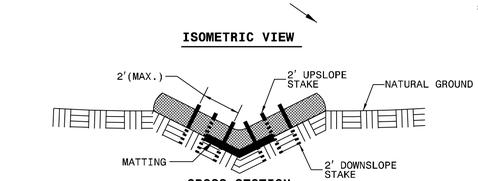
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

MAINTENANCE:

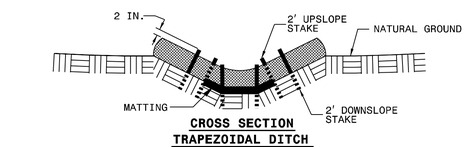
INSPECT WATTLES AND CHANNELS FOR DAMAGE AFTER EACH RUNOFF EVENT.

ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE WATTLE AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE DAM. CORRECT ALL DAMAGE IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS BETWEEN WATTLES, INSTALL A PROTECTIVE RIPRAP LINER IN THAT PORTION OF THE CHANNEL.

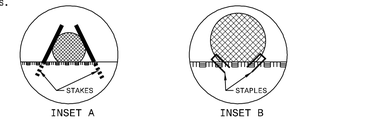
REMOVE SEDIMENT ACCUMULATED BEHIND THE WATTLES AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION, ALLOW THE CHANNEL TO DRAIN THROUGH THE WATTLE, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE WATTLE.



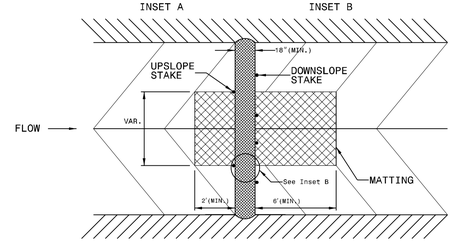
CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH



INSET A INSET B



TOP VIEW

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10/18/2024

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-14

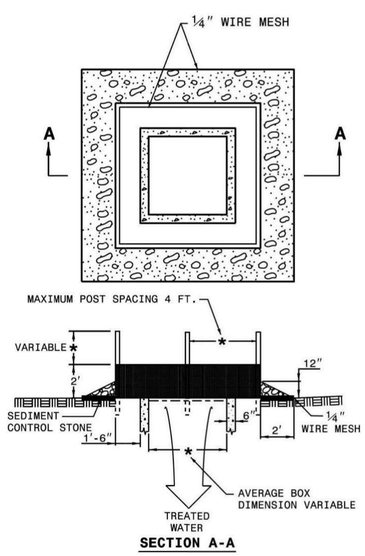
ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 045276 JEFFREY W. MOORE

7/11/2025

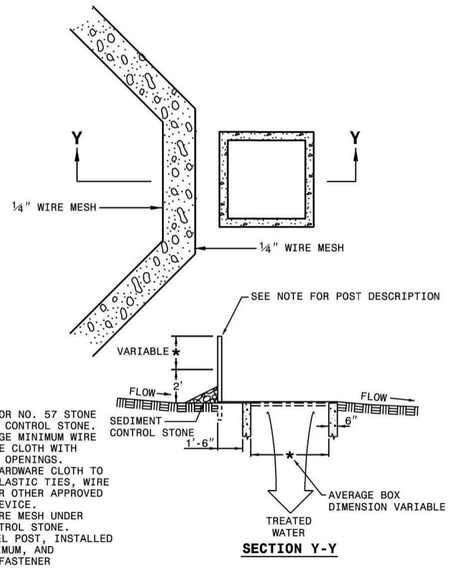
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

5/14/99



SECTION A-A

MULTI-DIRECTIONAL FLOW



SECTION Y-Y

SINGLE-DIRECTIONAL FLOW

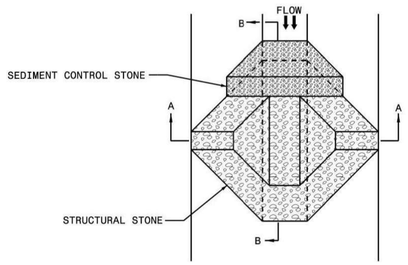
NOTES

USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.
USE 24 GAUGE MINIMUM WIRE MESH HARDWARE CLOTH WITH 1/4 INCH MESH OPENINGS.
ATTACH HARDWARE CLOTH TO POSTS WITH PLASTIC TIES, WIRE FASTENERS, OR OTHER APPROVED ATTACHMENT DEVICE.
INSTALL WIRE MESH UNDER SEDIMENT CONTROL STONE.
USE 5' STEEL POST, INSTALLED 2' DEEP MINIMUM, AND OF THE SELF-FASTENER ANGLE STEEL TYPE.
SPACE POST A MAXIMUM OF 4'.

1-24 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
ROCK INLET SEDIMENT TRAP TYPE C

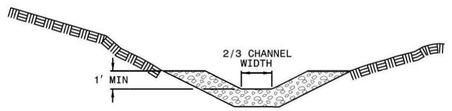
SHEET 1 OF 1
1632.03



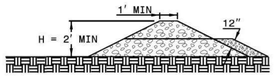
PLAN

NOTES

USE CLASS B EROSION CONTROL STONE FOR STRUCTURAL STONE.
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.



SECTION A-A

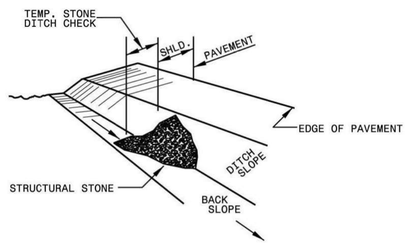


SECTION B-B

1-24 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
TEMPORARY ROCK SILT CHECK TYPE A

SHEET 1 OF 1
1633.01

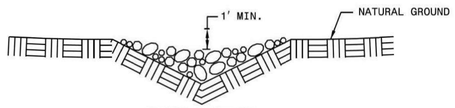


ISOMETRIC VIEW

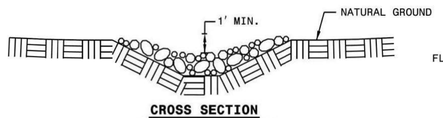
NOTES

USE CLASS B EROSION CONTROL STONE FOR STRUCTURAL STONE.

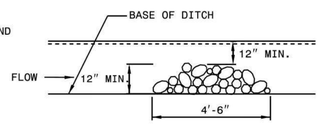
THE ENGINEER MAY DIRECT THE OPTION OF CLASS A STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH



ELEVATION VIEW

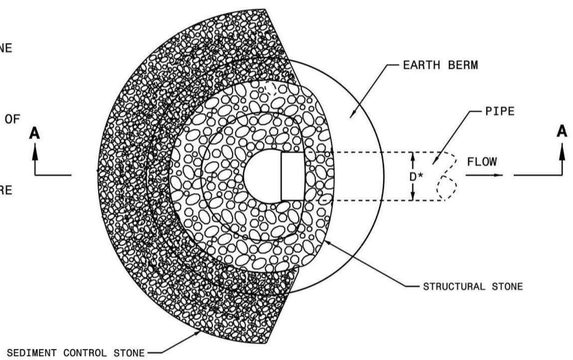
1-24 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
TEMPORARY ROCK SILT CHECK TYPE B

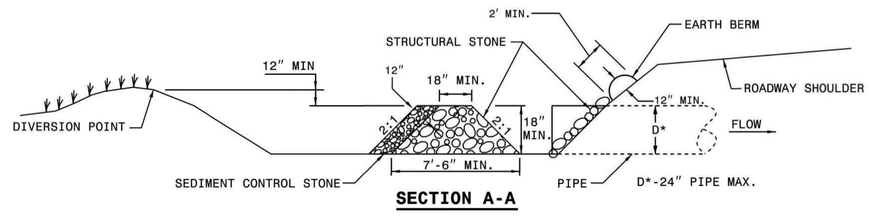
SHEET 1 OF 1
1633.02

NOTES

USE CLASS A EROSION CONTROL STONE FOR STRUCTURAL STONE.
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.
CONSTRUCT TOP OF BERM A MINIMUM OF ONE FOOT BELOW THE SHOULDER OR DIVERSION POINT.
PROVIDE A TOTAL SEDIMENT TRAP VOLUME OF 3600± CUBIC FEET PER ACRE OF DISTURBED AREA. SOME OF THE REQUIRED VOLUME MAY BE PROVIDED BY UP OR DOWNSTREAM CONTROLS.



PLAN



SECTION A-A

1-24 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

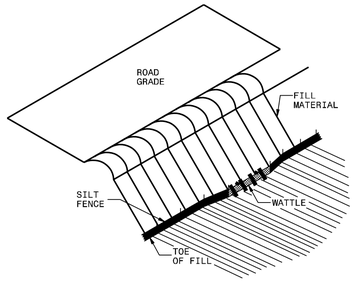
ROADWAY STANDARD DRAWING FOR
ROCK PIPE INLET SEDIMENT TRAP TYPE B

SHEET 1 OF 1
1635.02

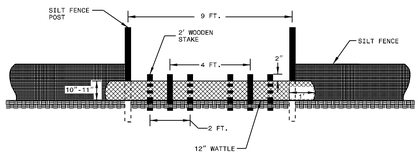
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SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW



VIEW FROM SLOPE

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

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

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

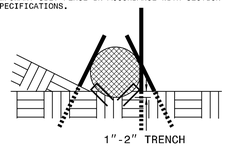
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

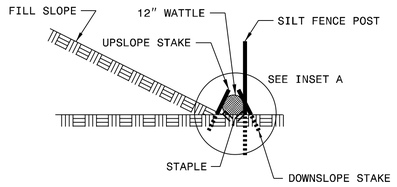
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A





SIDE VIEW

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

RIGHT-OF-WAY REV.

CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-15

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 052476 JEFFREY W. MOORE
Docusigned by: Jeffrey W. Moore 052476
7/11/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

5/14/99
10/18/2024
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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-16

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049206 JEFFREY W. MOORE
Signed by: Jeffrey W. Moore
7/11/2025

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GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes		
Site Area Description	**Stabilize within this many calendar days after ceasing land disturbance**	**Timeframe variations**
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

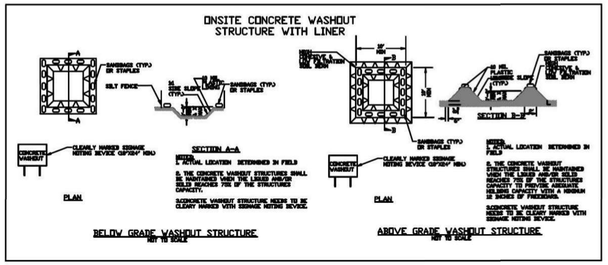
PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

NORTH CAROLINA Environmental Quality



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

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RIGHT-OF-WAY REV.

CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
U-6154	EC-17

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049436 JEFFREY W. MOORE
Docusigned by: Jeffrey W. Moore
7/11/2025

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PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual day rainfall information is available, record the cumulative rain measurement for those un-attended days (anc this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDCs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of gracing (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NORTH CAROLINA Environmental Quality

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

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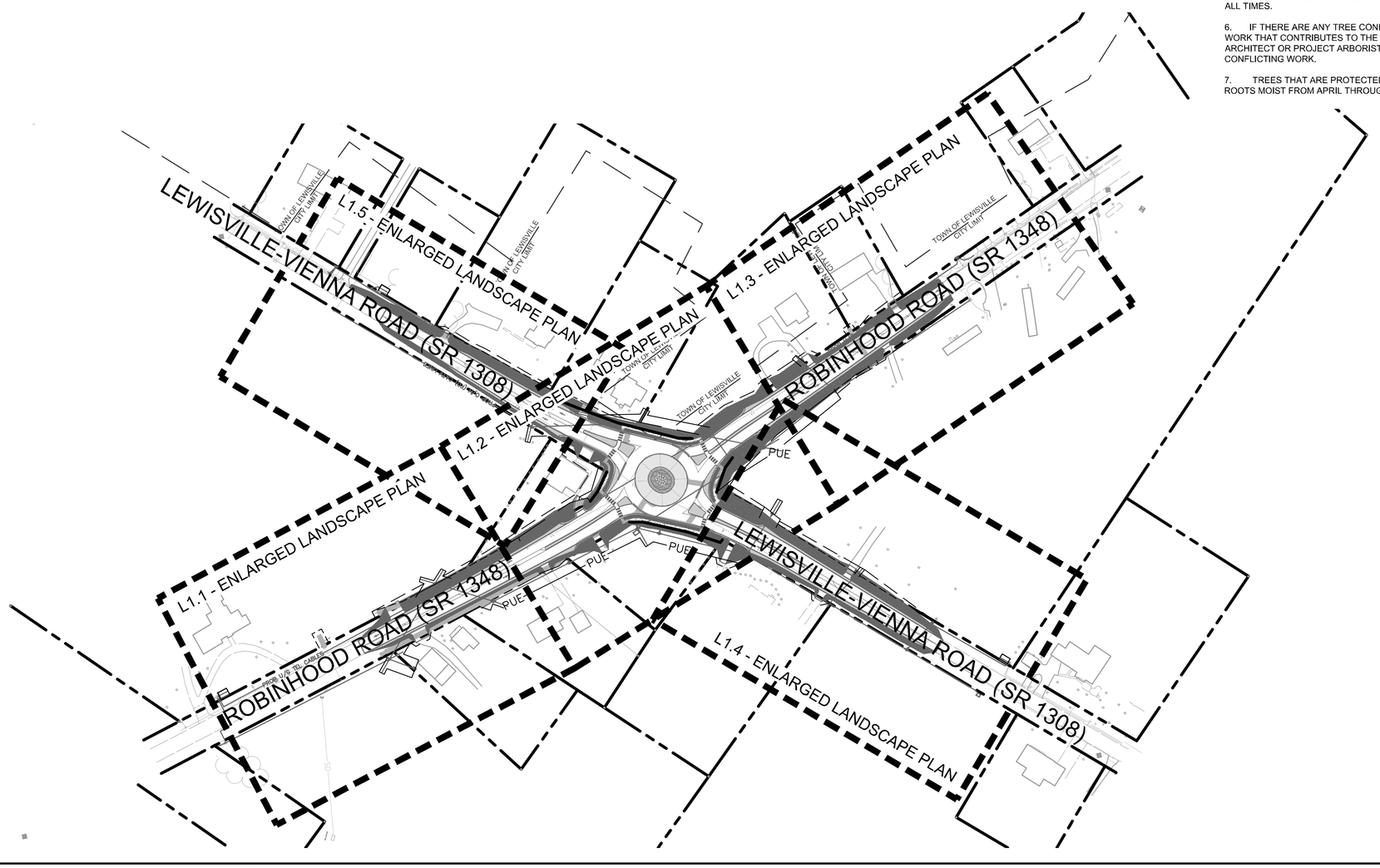
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GENERAL LANDSCAPE NOTES:

1. ALL PLANTS MUST BE HEALTHY, VIGOROUS MATERIAL, FREE OF PESTS AND DISEASE.
2. ALL PLANTS MUST BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE PLANT LIST.
3. ALL TREES MUST HAVE A STRAIGHT TRUNK AND FULL HEADED AND MEET ALL REQUIREMENTS SPECIFIED.
4. ALL PLANTS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION.
5. ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.
6. ALL TREES LOCATED WITHIN VEHICLE SIGHT TRIANGLES SHALL BE BRANCHED MIN. 8' (MEASURED FROM ADJACENT PROJECTED CURB LINE ELEVATION) PER ANSI Z60.1 STANDARDS FOR HEIGHT OF BRANCHING - STREET TREES.
7. ALL PLANTING AREAS MUST BE COMPLETELY MULCHED AS SPECIFIED. MULCH TO BE THREE(3) INCHES OF DOUBLE SHREDDED HARDWOOD DESIGNER MULCH IN DARK BROWN.
8. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE LANDSCAPE CONSTRUCTION. CONTRACTOR IS ALSO RESPONSIBLE FOR COORDINATING ALL UTILITY ADJUSTMENTS WITH FINAL FINISH GRADE. ALL UTILITIES SHALL SIT FLUSH WITH FINISH GRADES (BOTH PAVED AND LANDSCAPED SURFACES).
9. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THE LANDSCAPE PLANS BEFORE PRICING THE WORK. ANY DISCREPANCIES BETWEEN QUANTITIES ON PLAN AND PLANT LIST SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT LANDSCAPE ARCHITECT AND ANY FIELD ADJUSTMENTS OR QUANTITY ADJUSTMENTS MUST BE AUTHORIZED PRIOR TO ORDERING AND PLANTING.
10. THE CONTRACTOR IS RESPONSIBLE FOR FULLY MAINTAINING ALL PLANTING (INCLUDING BUT NOT LIMITED TO: WATERING, SPRAYING, MULCHING, WEEDING, FERTILIZING, ETC.) OF THE PLANTING AREAS AND LAWN UNTIL SUBSTANTIAL COMPLETION.
11. THE CONTRACTOR SHALL COMPLETELY WARRANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) YEAR BEGINNING ON THE DATE OF SUBSTANTIAL COMPLETION. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS BEFORE OR AT THE END OF THE WARRANTEE PERIOD.
12. THE LANDSCAPE ARCHITECT SHALL APPROVE THE STAKING LOCATION OF ALL PLANT MATERIAL PRIOR TO INSTALLATION. CONTRACTOR SHALL CONTACT THE PROJECT LANDSCAPE ARCHITECT A MINIMUM OF ONE (1) WEEK IN ADVANCE TO SCHEDULE STAKING.
13. ANY PLANT MATERIAL WHICH DIES, TURNS BROWN, OR DEFOLIATES (PRIOR TO SUBSTANTIAL COMPLETION OF THE WORK) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE MEETING ALL PLANT SCHEDULE SPECIFICATIONS.
14. ALL PLANTS PROVIDED BY CONTRACTOR SHALL MEET OR SURPASS THE SPECIFICATIONS GIVEN IN THE PLANT TABLE AND CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z601-1973 IN REGARD TO SIZING, GROWING AND B&B SPECIFICATIONS. PLANTS SHALL BE FULL AND HEAVY, AND IN HEALTHY CONDITION AT THE TIME OF PLANTING. LANDSCAPE ARCHITECT SHALL REJECT ANY PLANT NOT MEETING THESE GUIDELINES BEFORE, DURING OR AFTER INSTALLATION.
15. ALL PLANTING BEDS ARE TO BE COMPLETELY COVERED WITH DOUBLE SHREDDED HARDWOOD MULCH IN DARK BROWN OR CURRENT LEWISVILLE STANDARD TO A DEPTH OF THREE (3) INCHES. ANY EXISTING LANDSCAPE BEDS THAT ARE DISTURBED MUST BE MULCHED TO MATCH EXISTING MULCH FOUND WITHIN LANDSCAPE BED.
16. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF UTILITY LINES AND ADJACENT TO THE WORK AREA. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD.
17. SAFE, CLEARLY MARKED PEDESTRIAN AND VEHICULAR ACCESS TO ALL ADJACENT PROPERTIES MUST BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS.
18. ALL PLANT MATERIAL QUANTITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE COVERAGE OF ALL PLANTING BEDS AT SPACING SHOWN.
19. THE TOP OF ALL ROOT BALLS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE, AS BORN TO PREVIOUS GRADE AND GROWING CONDITIONS.
20. ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO BACKFILLING.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING TREES AND SHRUBS THAT WILL MEET BOTH MINIMUM SIZE AND SPACING FOR TREE AND THE LEWISVILLE UNIFIED DEVELOPMENT ORDINANCE (UDO). FAILURE TO INSTALL PLANT MATERIAL PER THIS PLAN WILL JEOPARDIZE ISSUANCE OF FINAL CERTIFICATE OF OCCUPANCY. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING INSPECTIONS OF PLANT MATERIAL.
22. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES & ORDINANCES REGARDING LANDSCAPING. GENERAL CONTRACTOR IS TO CLEAN THE ENTIRE SITE OF ALL CONSTRUCTION DEBRIS PRIOR TO FINAL INSPECTION.
23. THE CONTRACTOR SHALL INSTALL NON-WOVEN GE0TEXTILE UNDER PLANTING BED MULCH IN ALL LANDSCAPE BEDS TO PREVENT WEED GROWTH.

SOIL AMENDMENT NOTES:

1. SOIL INSTRUCTIONS FOR ALL NEW PLANTING AREAS (INCLUDING SEED AREAS) AT PREVIOUSLY PAVED LOCATIONS: REMOVE ALL PAVEMENT, GRAVEL SUB-BASE, AND CONSTRUCTION DEBRIS. FOR ALL AREAS TO RECEIVE TREES, SHRUBS, GROUNDCOVERS, AND / OR ORNAMENTAL GRASSES; THE CONTRACTOR SHALL REMOVE EXISTING SOIL AND ADD 12" OF NEW TOPSOIL TO MEET THE PLANTING MIX STANDARDS. TOPSOIL SHALL BE TESTED BY A CERTIFIED SOIL TESTING AGENCY AND SHALL BE AMENDED PER THE RECOMMENDATIONS FOUND WITHIN THE SOILS ANALYSIS. FOR ALL AREAS TO RECEIVE SOD AND / OR SEED; THE CONTRACTOR SHALL REMOVE EXISTING SOIL AND ADD 3" OF NEW TOPSOIL TO MEET THE PLANTING MIX STANDARDS. TOPSOIL SHALL BE TESTED BY A CERTIFIED SOIL TESTING AGENCY AND SHALL BE AMENDED PER THE RECOMMENDATIONS FOUND WITHIN THE SOILS ANALYSIS.
2. SOIL INSTRUCTIONS FOR ALL EXISTING PLANTING AREAS (NOT PREVIOUSLY PAVED LOCATIONS): THE CONTRACTOR SHALL TAKE A MINIMUM OF FOUR (4) SAMPLES THROUGHOUT THE PROJECT SITE AND SHALL SUBMIT THEM TO BE TESTED TO A CERTIFIED SOIL TESTING AGENCY. THE CONTRACTOR SHALL AMEND ALL EXISTING SOIL WITHIN EXISTING DISTURBED PLANTING AREAS PER THE RECOMMENDATIONS FOUND WITHIN THE SOILS ANALYSIS. AREAS TO RECEIVE TREES, SHRUBS, GROUNDCOVERS, AND / OR ORNAMENTAL GRASSES SHALL BE AMENDED TO A DEPTH OF 6" MINIMUM. AREAS TO RECEIVE SOD SHALL BE AMENDED TO A DEPTH OF 3" MINIMUM.



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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

NORTH

GRAPHIC SCALE IN FEET
0 50 100 200

PROJECT REFERENCE NO.	SHEET NO.
U-6154	L1.0

LANDSCAPE ARCHITECT

NORTH CAROLINA LANDSCAPE ARCHITECT
Signed by:
Trevor Hawkes
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TREVOR BRIAN HAWKES

7/14/2025

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TREE PROTECTION NOTES:

1. ALL TREES THAT ARE TO REMAIN, WITHIN OR DIRECTLY ADJACENT TO THE LIMITS OF WORK MUST BE PROTECTED WITH TREE PROTECTION FENCING AS REQUIRED BY THE TOWN OF LEWISVILLE. FENCING IS TO BE INSTALLED PRIOR TO CONSTRUCTION, MAINTAINED THROUGHOUT, AND REMOVED ONLY AT THE END OF THE PROJECT.
2. NONE OF THE FOLLOWING SHALL OCCUR WITHIN THE ROOT ZONE OF A TREE WITHOUT PERMISSION OF LANDSCAPE ARCHITECT OR PROJECT ARBORIST: ALTERATION OR DISTURBANCE TO EXISTING GRADE; STAGING OR STORAGE OF CONSTRUCTION MATERIALS, EQUIPMENT, SOIL OR DEBRIS; TRENCHING; OR DISPOSAL OF ANY LIQUIDS.
3. NO HEAVY EQUIPMENT SHALL BE USED WITHIN THE DRIP LINE OF AN EXISTING TREE.
4. APPROVED EXCAVATIONS WITHIN THE DRIP LINE SHALL PROCEED WITH CARE BY USE OF HAND TOOLS OR EQUIPMENT DESIGNED FOR PRUNING. ALL ROOTS ENCOUNTERED SHALL BE CUT CLEANLY WITHOUT RIPPING. CONTRACTOR SHALL SUBMIT TO PROJECT LANDSCAPE ARCHITECT DATA FOR PRUNING EQUIPMENT AND PRUNING METHODS FOR APPROVAL PRIOR TO TRENCHING.
5. NO ROOTS GREATER THAN 2 INCHES IN DIAMETER SHALL BE CUT WITHOUT PERMISSION OF LANDSCAPE ARCHITECT OR PROJECT ARBORIST. EXPOSED ROOTS 2 INCHES AND LARGER IN DIAMETER SHALL BE WRAPPED IN BURLAP OR OTHER APPROVED MATERIAL AND KEPT MOIST AT ALL TIMES.
6. IF THERE ARE ANY TREE CONFLICTS ON THIS JOB SITE PERMIT HOLDER MUST SUSPEND ALL WORK THAT CONTRIBUTES TO THE CONFLICT AND IMMEDIATELY CONTACT LANDSCAPE ARCHITECT OR PROJECT ARBORIST FOR DIRECTION AND CLEARANCE TO CONTINUE THE CONFLICTING WORK.
7. TREES THAT ARE PROTECTED SHALL BE THOROUGHLY WATERED AS REQUIRED TO KEEP ROOTS MOIST FROM APRIL THROUGH SEPTEMBER.

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PLANT SCHEDULE - L1.1

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
GROUND COVERS					
	FS	1,817 SF	FESTUCA ARUNDINACEA 'ELITE'	ELITE TALL FESCUE	HYDROSEED

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	L1.1

LANDSCAPE ARCHITECT

NORTH CAROLINA LANDSCAPE
Signed by: Trevor Hawkes
6858CF6855C646B...
1931 TREVOR BRIAN HAWKES 2021

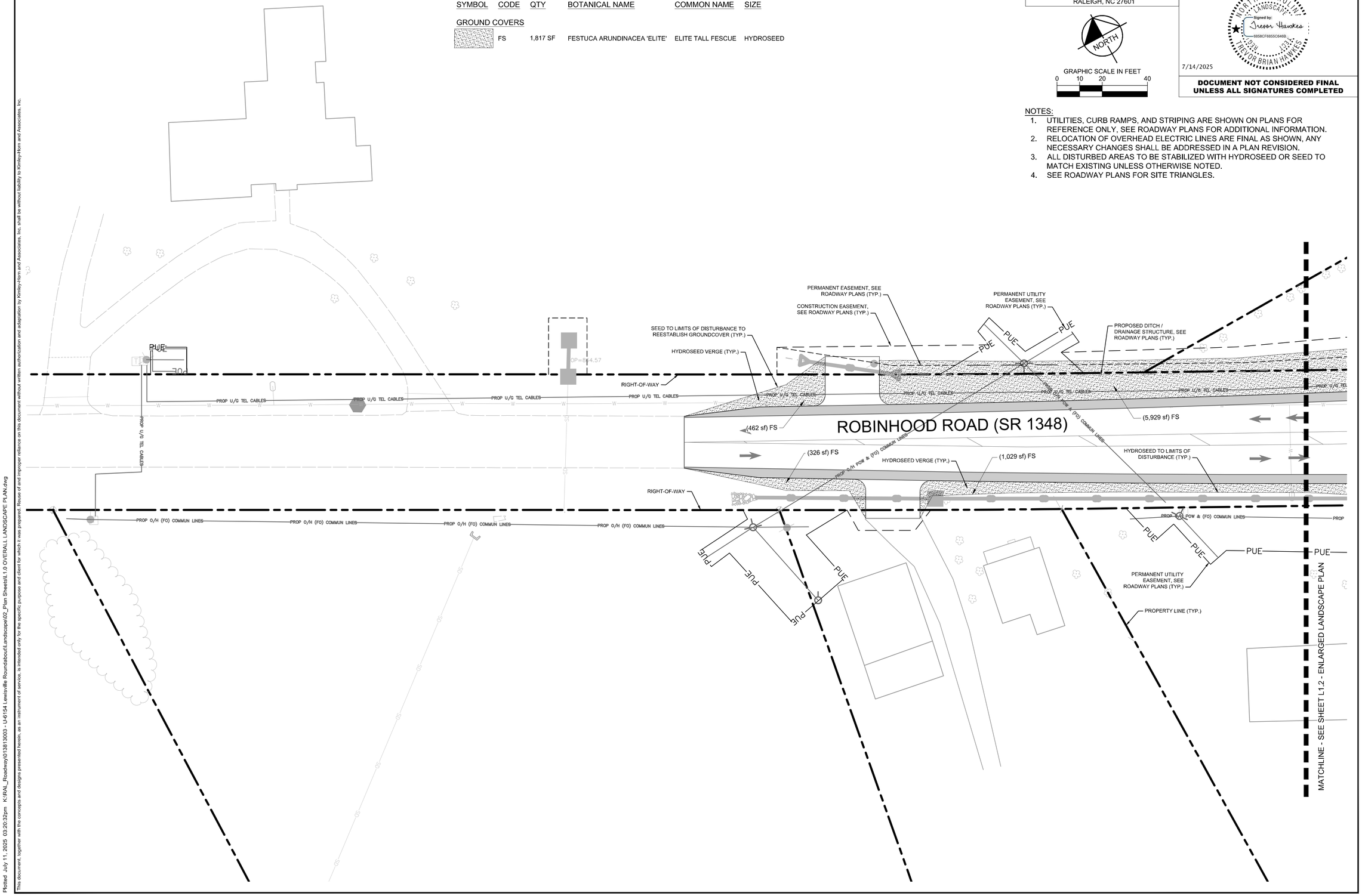
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NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

NOTES:
1. UTILITIES, CURB RAMPS, AND STRIPING ARE SHOWN ON PLANS FOR REFERENCE ONLY, SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.
2. RELOCATION OF OVERHEAD ELECTRIC LINES ARE FINAL AS SHOWN, ANY NECESSARY CHANGES SHALL BE ADDRESSED IN A PLAN REVISION.
3. ALL DISTURBED AREAS TO BE STABILIZED WITH HYDROSEED OR SEED TO MATCH EXISTING UNLESS OTHERWISE NOTED.
4. SEE ROADWAY PLANS FOR SITE TRIANGLES.



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PROJECT REFERENCE NO.	SHEET NO.
U-6154	L1.2

LANDSCAPE ARCHITECT

NORTH CAROLINA LANDSCAPE ARCHITECT
Signed by: Trevor Hawkes
6858CF6855C646B...
TREVOR BRIAN HAWKES 3431

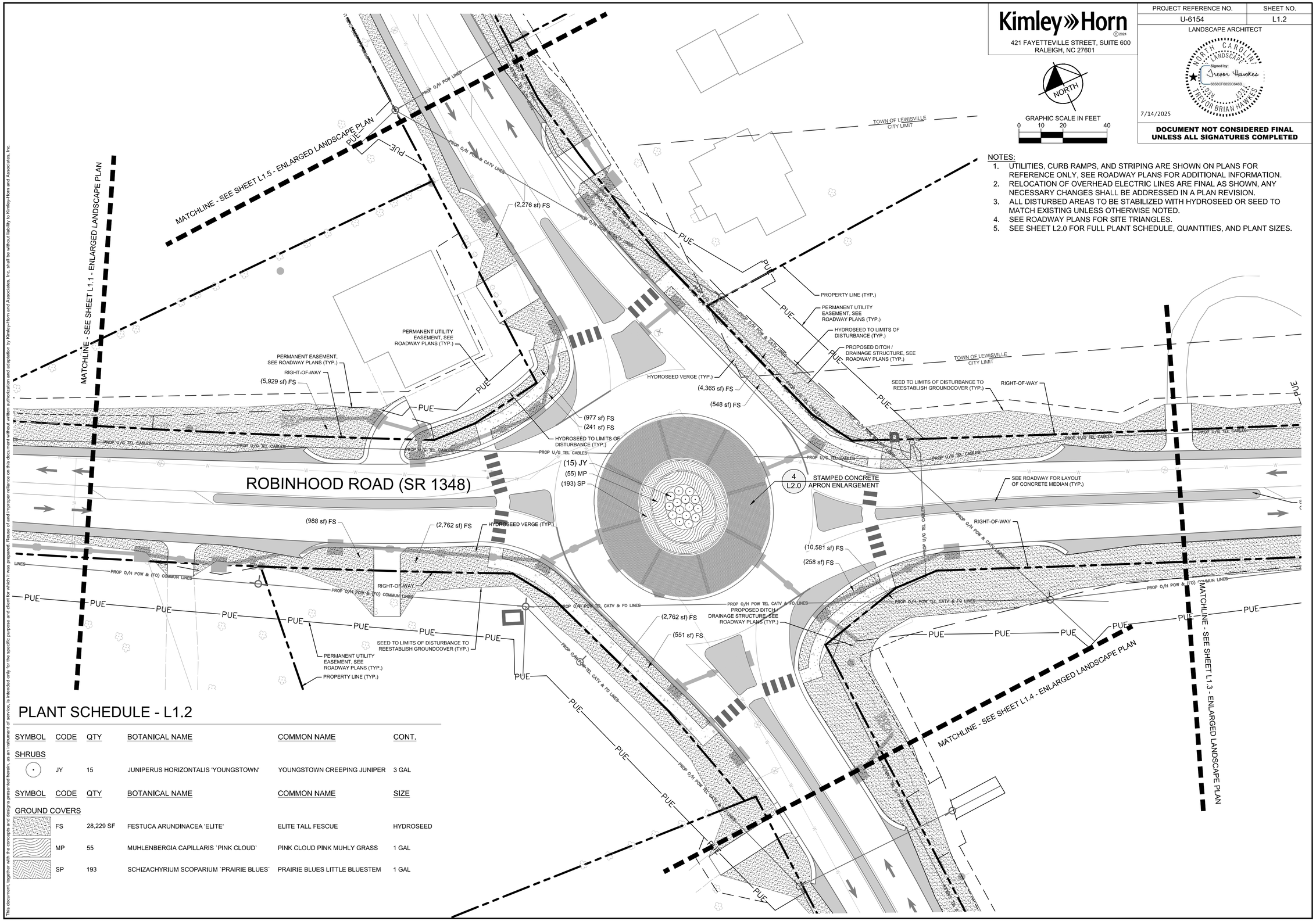
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NORTH

GRAPHIC SCALE IN FEET
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4. SEE ROADWAY PLANS FOR SITE TRIANGLES.
5. SEE SHEET L2.0 FOR FULL PLANT SCHEDULE, QUANTITIES, AND PLANT SIZES.



PLANT SCHEDULE - L1.2

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.
SHRUBS					
	JY	15	JUNIPERUS HORIZONTALIS 'YOUNGSTOWN'	YOUNGSTOWN CREEPING JUNIPER	3 GAL
SYMBOL	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**
GROUND COVERS					
	FS	28,229 SF	FESTUCA ARUNDINACEA 'ELITE'	ELITE TALL FESCUE	HYDROSEED
	MP	55	MUHLENBERGIA CAPILLARIS `PINK CLOUD`	PINK CLOUD PINK MUHLY GRASS	1 GAL
	SP	193	SCHIZACHYRIUM SCOPARIUM `PRAIRIE BLUES`	PRAIRIE BLUES LITTLE BLUESTEM	1 GAL

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PLANT SCHEDULE - L1.3

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
GROUND COVERS					
	FS	4,856 SF	FESTUCA ARUNDINACEA 'ELITE'	ELITE TALL FESCUE	HYDROSEED

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NORTH

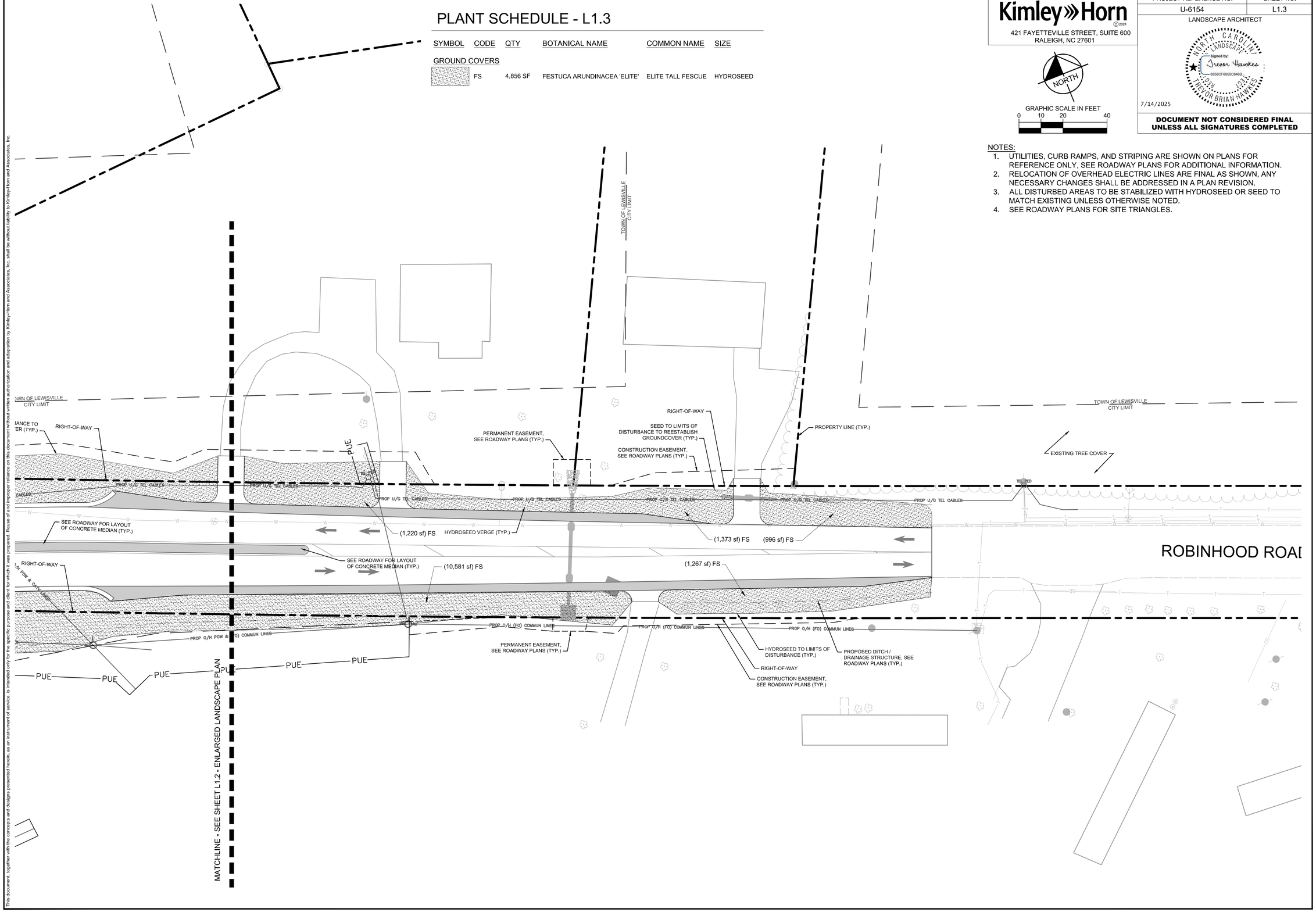
GRAPHIC SCALE IN FEET
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PROJECT REFERENCE NO.	SHEET NO.
U-6154	L1.3

LANDSCAPE ARCHITECT
NORTH CAROLINA LANDSCAPE
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REGISTERED TREVOR BRIAN HAWKES
7/14/2025

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NOTES:
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4. SEE ROADWAY PLANS FOR SITE TRIANGLES.



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PLANT SCHEDULE - L1.4

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
GROUND COVERS						
	FS	5,457 SF	FESTUCA ARUNDINACEA 'ELITE'	ELITE TALL FESCUE	HYDROSEED	

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NORTH

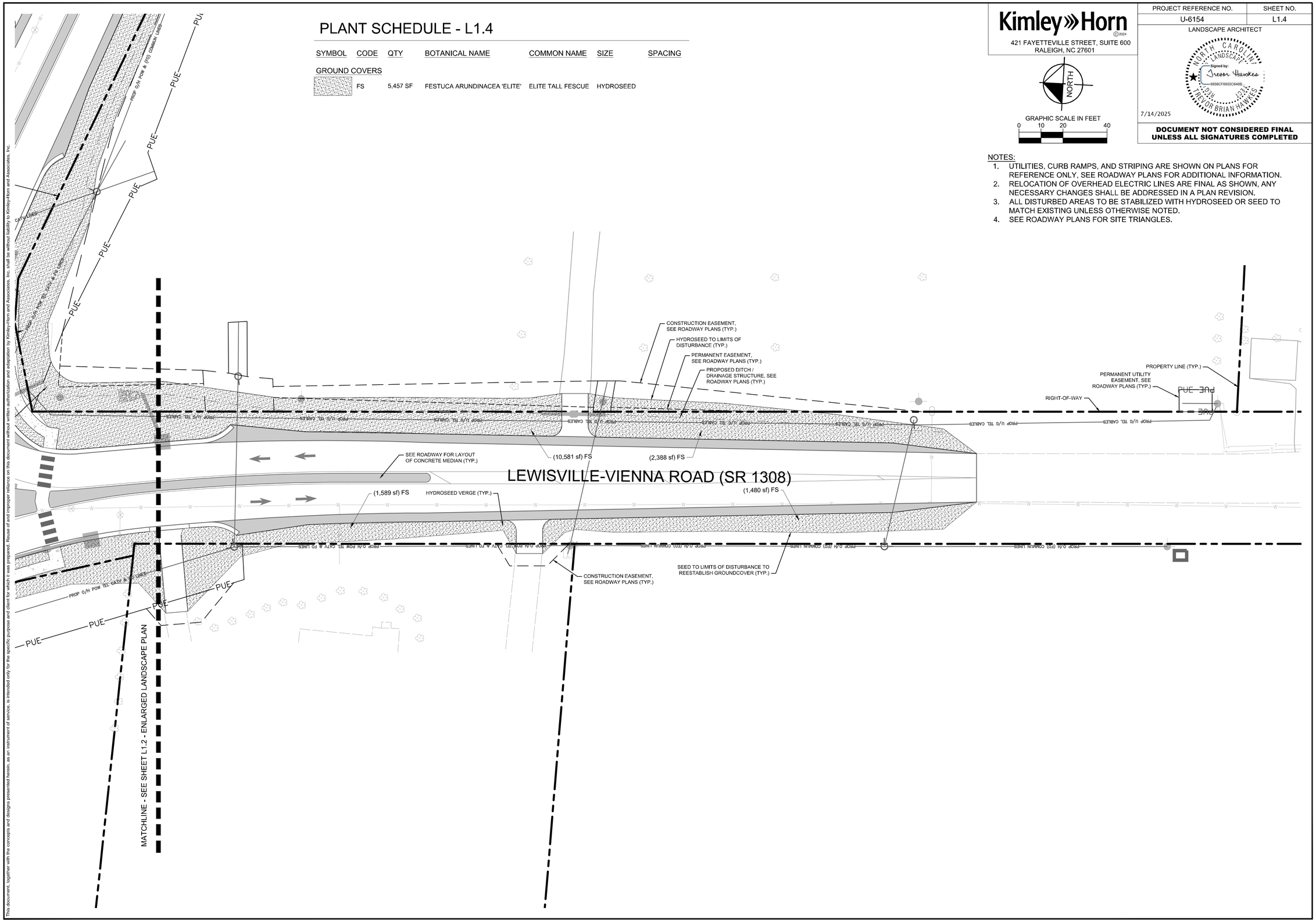
GRAPHIC SCALE IN FEET
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PROJECT REFERENCE NO.	SHEET NO.
U-6154	L1.4

LANDSCAPE ARCHITECT
NORTH CAROLINA LANDSCAPE ARCHITECT
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TREVOR BRIAN HAWKES
7/14/2025

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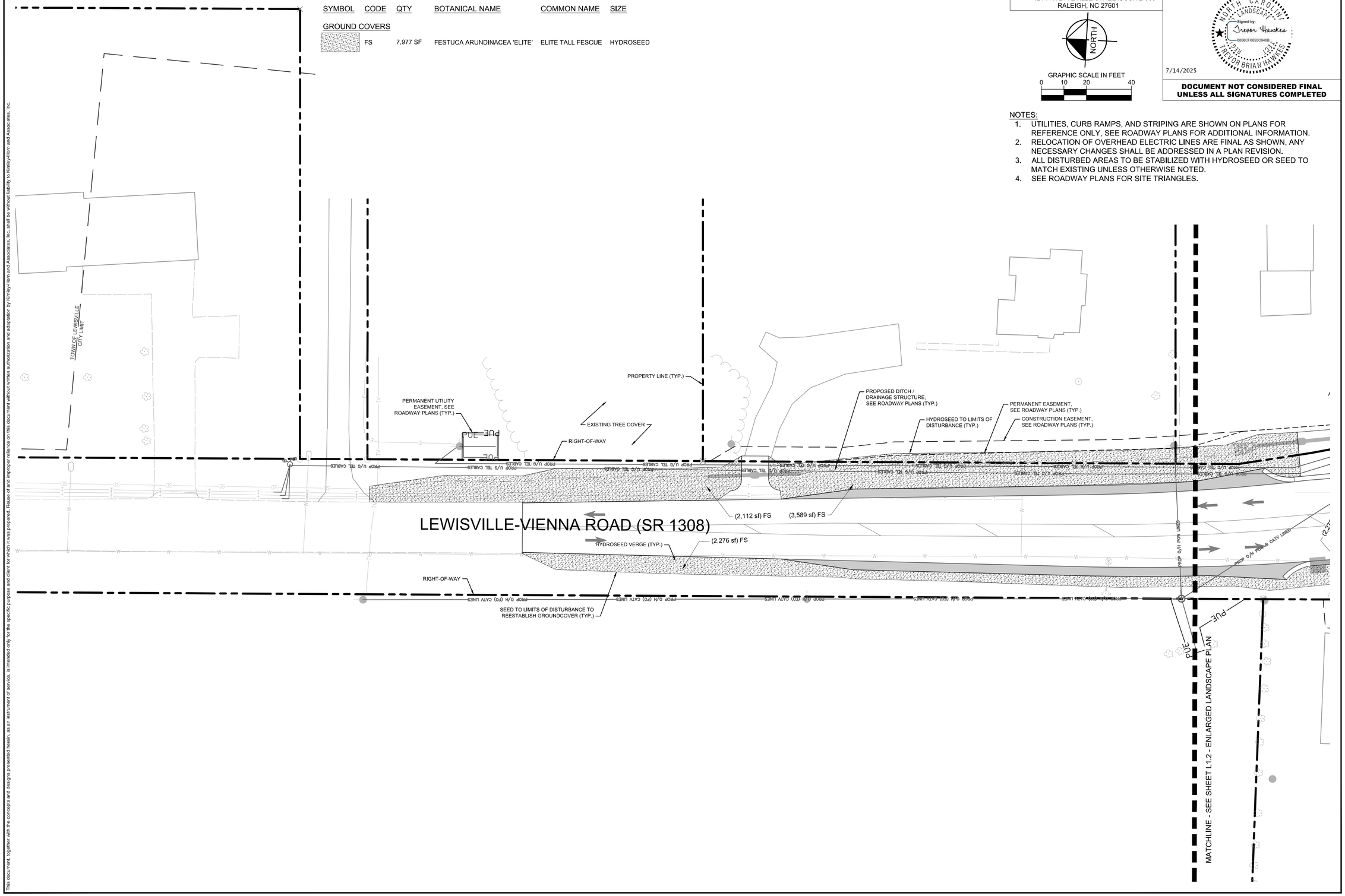


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PLANT SCHEDULE - L1.5

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
GROUND COVERS					
	FS	7,977 SF	FESTUCA ARUNDINACEA 'ELITE'	ELITE TALL FESCUE	HYDROSEED



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NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

PROJECT REFERENCE NO.	SHEET NO.
U-6154	L1.5

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NORTH CAROLINA LANDSCAPE
Signed by: Trevor Hawkes
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REGISTERED LANDSCAPE ARCHITECT
TREVOR BRIAN HAWKES
7/14/2025

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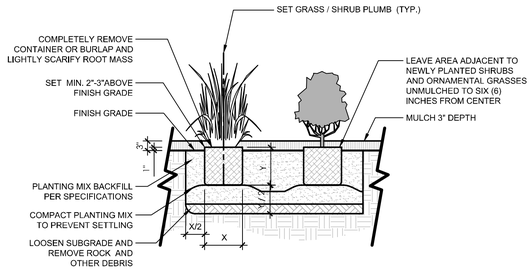
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PROJECT REFERENCE NO.	SHEET NO.
U-6154	L2.0

LANDSCAPE ARCHITECT

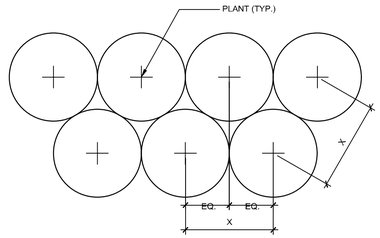
NORTH CAROLINA LANDSCAPE ARCHITECT
Signed by: Trevor Hawkes
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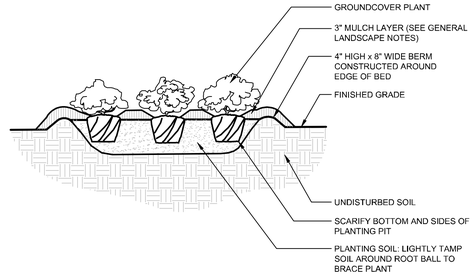
SHRUB AND ORNAMENTAL GRASS PLANTING NOTES:
1. ALL PLANT MATERIAL PRICING SHALL INCLUDE MULCH, BED PREPARATION, AND STAKING.
2. ALL PLANTING BEDS SHALL RECEIVE 3" (THREE INCHES) OF MULCH.
3. MULCH TYPE FOR PROJECT: DOUBLE SHREDDED HARDWOOD HARDWOOD DESIGNER MULCH IN DARK BROWN.
4. PLANT MATERIAL SPACING SHOWN ON LANDSCAPE PLANS SHALL OVERRIDE TYPICAL PLANT SPACING INDICATED ON PLANT SCHEDULE. LANDSCAPE CONTRACTOR RESPONSIBLE FOR VERIFYING ALL PLANT SPACING AND MAKING MINOR FIELD ADJUSTMENTS DUE TO UTILITY CONFLICTS.
5. ALL SHRUBS SHALL CONFORM TO THE STANDARDS SET FORTH IN THE MOST RECENT 'AMERICAN STANDARDS FOR NURSERY STOCK' PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN (A.A.N.)
6. SOIL ANALYSIS SHALL BE OBTAINED PRIOR TO PLANTING. SOIL SHALL BE AMENDED AS RECOMMENDED BY CERTIFIED TESTING AGENCY.
7. SEE PLAN FOR SPACING.

1 L2.0 SHRUB AND ORNAMENTAL GRASS PLANTING
1/2" = 1'-0" SECTION



PLANT SPACING NOTES:
1. SEE PLANTING PLAN FOR GROUNDCOVER PLANTING AREAS.
2. PLANTS SHALL BE INSTALLED IN STRAIGHT AND PARALLEL ROWS UNLESS OTHERWISE SHOWN ON DRAWINGS.
3. SEE PLANT SCHEDULE FOR PLANT SPACING REQUIREMENTS ("X" DIMENSION IN THIS DETAIL).

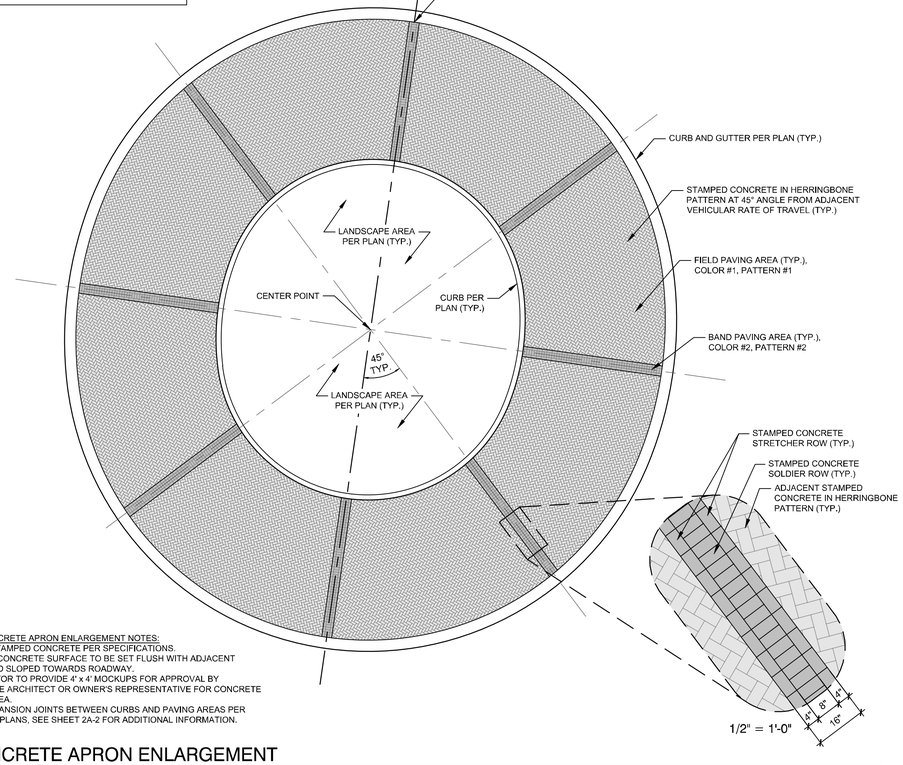
2 L2.0 PLANT SPACING
1/2" = 1'-0"



GROUNDCOVER NOTES:
1. SPLIT PLANT ROOTS WITH 2-3 EQUALLY SPACED VERTICAL CUTS

3 L2.0 GROUNDCOVER PLANTING
1/2" = 1'-0"

STAMPED CONCRETE APRON PRODUCT DATA:	
MANUFACTURER:	GAF
PRODUCT:	STREETBOND SB150 PAVEMENT COATING
COLOR #1:	TERRA COTTA
COLOR #2:	GRANITE
PATTERN #1:	HERRINGBONE
PATTERN #2:	SOLDIER ROW WITH SINGLE STRETCHER ROW ON EACH SIDE OF SOLDIER ROW



STAMPED CONCRETE APRON ENLARGEMENT NOTES:
1. INSTALL STAMPED CONCRETE PER SPECIFICATIONS.
2. STAMPED CONCRETE SURFACE TO BE SET FLUSH WITH ADJACENT CURBS AND SLOPED TOWARDS ROADWAY.
3. CONTRACTOR TO PROVIDE 4' x 4' MOCKUPS FOR APPROVAL BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE FOR CONCRETE APRON AREA.
4. ALIGN EXPANSION JOINTS BETWEEN CURBS AND PAVING AREAS PER ROADWAY PLANS, SEE SHEET 2A-2 FOR ADDITIONAL INFORMATION.

4 L2.0 STAMPED CONCRETE APRON ENLARGEMENT
1" = 10' PLAN

PLANT SCHEDULE - OVERALL

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	HEIGHT	SPACING	REMARKS
SHRUBS								
	JY	15	JUNIPERUS HORIZONTALIS 'YOUNGSTOWN'	YOUNGSTOWN CREEPING JUNIPER	3 GAL	10" HT.		
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE		SPACING	REMARKS
GROUND COVERS								
	FS	47,307 SF	FESTUCA ARUNDINACEA 'ELITE'	ELITE TALL FESCUE	HYDROSEED			5% OF SEED MIX IS TO BE WHITE CLOVER
	MP	55	MUHLENBERGIA CAPILLARIS `PINK CLOUD`	PINK CLOUD PINK MUHLY GRASS	1 GAL		36" o.c.	
	SP	193	SCHIZACHYRIUM SCOPARIUM 'PRAIRIE BLUES'	PRAIRIE BLUES LITTLE BLUESTEM	1 GAL		20" o.c.	

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TIP PROJECT: U-6154

CONTRACT:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

SIGNING PLAN
FORSYTH COUNTY

LOCATION: INTERSECTION OF SR 1348 (ROBINHOOD RD) AND SR 1308 (LEWISVILLE-VIENNA RD)

TIP NO.	SHEET NO.
U-6154	SIGN-1

APPROVED: _____

DATE: _____

SEAL



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ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
903.10	GROUND MOUNTED SIGN SUPPORTS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS
910.40	SINGLE LANE ROUNDABOUT SIGNING, WITH PEDESTRIANS
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

GENERAL NOTES

- IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.
- WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.
- CONTRACTOR TO SUPPLY ALL SIGNS.

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	TYPE E SIGNS
SIGN-3 THRU SIGN-7	SIGNING PLANS

PLAN REVIEWED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

_____ SIGNING & DELINEATION REGIONAL ENGINEER

_____ SIGNING & DELINEATION PROJECT DESIGN ENGINEER

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL UNIT

PLAN PREPARED BY: Kimley-Horn and Associates

TYLER SPRING, P.E. — PROJECT DESIGN ENGINEER

SPENCER STRINGFELLOW, E.I. — DESIGNER

Kimley»Horn

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5/14/99

401 QUANTITY REQ'D _4_



36" X 36" X 36"
R1-2

ONE "U" POST PER SIGN

402 QUANTITY REQ'D _4_



30" X 30"
W11-2

ONE "U" POST PER SIGN

403 QUANTITY REQ'D _4_



30" X 30"
W2-6

ONE "U" POST PER SIGN

405 QUANTITY REQ'D _2_



24" X 30"
R2-1

ONE "U" POST PER SIGN

406 QUANTITY REQ'D _2_



24" X 30"
R2-1

ONE "U" POST PER SIGN

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	SIGN-2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 042448 ENGINEER JEFFREY W. MOORE
Docusigned by: JEFFREY W. MOORE
7/11/2025

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407 QUANTITY REQ'D _4_



24" X 12"
W16-7P

MOUNT BELOW SIGN #402
IN 4 INSTALLATIONS

411 QUANTITY REQ'D _4_



36" X 12"
R6-1

ONE "U" POST PER SIGN

412 QUANTITY REQ'D _4_



18" X 18"
W13-1P

MOUNT BELOW SIGN #403
IN 4 INSTALLATIONS

TYPE "E" SIGNS

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	SIGN-3

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 052478 ENGINEER JEFFREY W. MOORE

Docusigned by: Jeffrey W. Moore

7/11/2025

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NAD 83/NA 2011

10+00

-L-
ROBINHOOD RD
(SR 1348)

15+00

SEE NOTE 1 & 3
-L- STA 15+19

SPEED LIMIT 50

MATCHLINE -L- STA 15+20 (SIGN-4)

SEE NOTE 2

-L- STA 13+06

412

403

20 MPH

K:\RAL_Roadway\0138\3003 - U-6154 Lewisville Roundabout\Traffic\Signing\CADD\Signing Layout Plans\U-6154_rdy_sgn_3.dgn

10/18/2024

PROJECT NOTES

1	REMOVE AND DISPOSE OF EXISTING "U" CHANNEL POST.
2	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
3	SIGN ERECTION, RELOCATE, SIGN TYPE E
4	PRIVATE ENTITY TO RELOCATE SIGN

SIGNING PLAN
-L- STA. 10+00 TO STA 15+20

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	SIGN-4

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 049486 ENGINEER JEFFREY W. MOORE
Docusigned by: Jeffrey W. Moore
7/11/2025

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NC GRID NAD 83/NA 2011

MATCHLINE -Y1- STA 19+00 (SIGN-7)

SEE NOTE 2

-Y1- STA 17+85

-Y1- STA 18+02

LEWISVILLE-VIENNA RD (SR 1308) -Y1-

-Y1- STA 17+18

ONE WAY

SEE NOTE 2

421 River Park

Robinhood

Lewisville-Vienna

SEE NOTE 2

BROOKSTOWN AVENUE METHODIST CHURCH

SEE NOTE 4

-L- STA 18+67

-L- STA 17+18

-Y1- STA 17+80

SEE NOTE 2

-L- STA 18+15

ONE WAY

20+00

MATCHLINE -L- STA 15+20 (SIGN-3)

-L- ROBINHOOD RD (SR 1348)

-L- STA 18+96

-L- ROBINHOOD RD (SR 1348)

MATCHLINE -L- STA 20+80 (SIGN-5)

-L- STA 17+06

-L- STA 17+85

-L- STA 17+33

-Y1- STA 16+83

-L- STA 18+83

SPEED LIMIT 50

SEE NOTE 1 & 3
-L- STA 20+78

-Y1- STA 16+19

-Y1- STA 15+96

SEE NOTE 2

Robinhood

Lewisville-Vienna

Lewisville-Vienna

Robinhood

SEE NOTE 4

SEE NOTE 4

LEWISVILLE-VIENNA RD (SR 1308) -Y1-

-Y1- STA 16+12

MATCHLINE -Y1- STA 15+00 (SIGN-6)

PROJECT NOTES

1	REMOVE AND DISPOSE OF EXISTING "U" CHANNEL POST.
2	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
3	SIGN ERECTION, RELOCATE, SIGN TYPE E
4	PRIVATE ENTITY TO RELOCATE SIGN

SIGNING PLAN
-L- STA. 15+20 TO STA 20+80
-Y1- STA. 15+00 TO STA 19+00

5/14/99

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10/18/2024

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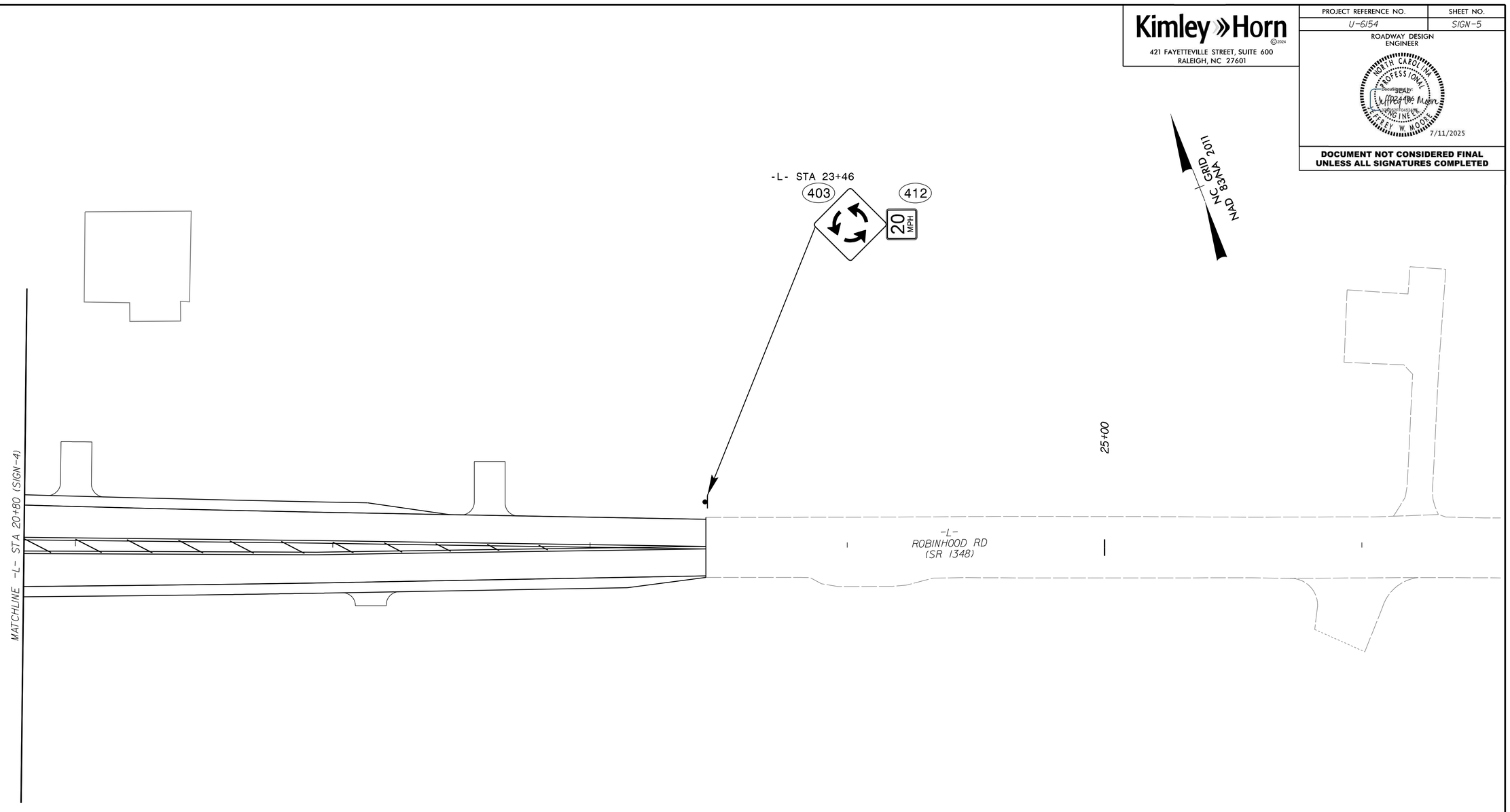
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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
U-6154	SIGN-5

ROADWAY DESIGN ENGINEER

7/11/2025

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PROJECT NOTES

1	REMOVE AND DISPOSE OF EXISTING "U" CHANNEL POST.
2	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
3	SIGN ERECTION, RELOCATE, SIGN TYPE E
4	PRIVATE ENTITY TO RELOCATE SIGN

SIGNING PLAN
-L- STA. 20+80 TO STA 26+00

5/14/99

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	SIGN-6

ROADWAY DESIGN ENGINEER



Docusigned by: Jeffrey W Moore
7/11/2025

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NC GRID
NAD 83/NA 2011

10+00

SEE NOTE 1 & 3
-Y1- STA 12+69

SPEED LIMIT 45

-Y1-
LEWISVILLE-VIENNA RD
(SR 1308)

REMOVE W3-3
SIGN SYSTEM
SEE NOTE 2

MATCHLINE -Y1- STA 15+00 (SIGN-4)

20 MPH
412
403
-Y1- STA 11+96

PROJECT NOTES

1. REMOVE AND DISPOSE OF EXISTING "U" CHANNEL POST.
2. DISPOSAL OF SIGN SYSTEM, U-CHANNEL
3. SIGN ERECTION, RELOCATE, SIGN TYPE E
4. PRIVATE ENTITY TO RELOCATE SIGN

SIGNING PLAN
-Y1- STA. 10+00 TO STA 15+00

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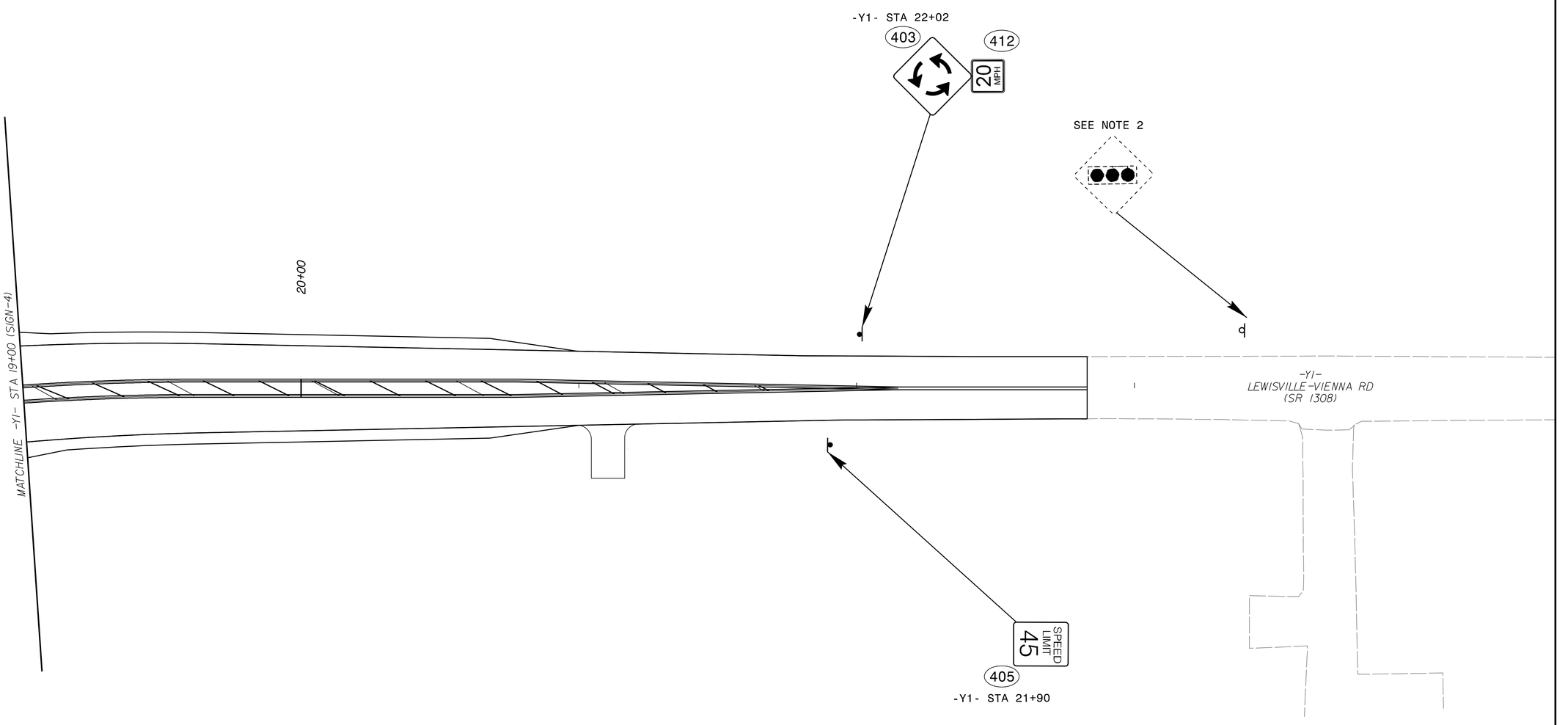
PROJECT REFERENCE NO.	SHEET NO.
U-6154	SIGN-7

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
DocuSigned by: Jeffrey W. Moore
376D52FF045245C...
JEFFREY W. MOORE
7/14/2025

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NC GRID
NAD 83/NA 2011



PROJECT NOTES

1	REMOVE AND DISPOSE OF EXISTING "U" CHANNEL POST.
2	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
3	SIGN ERECTION, RELOCATE, SIGN TYPE E
4	PRIVATE ENTITY TO RELOCATE SIGN

SIGNING PLAN
-Y1- STA. 19+00 TO STA 24+00

5/14/99
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7/14/2025

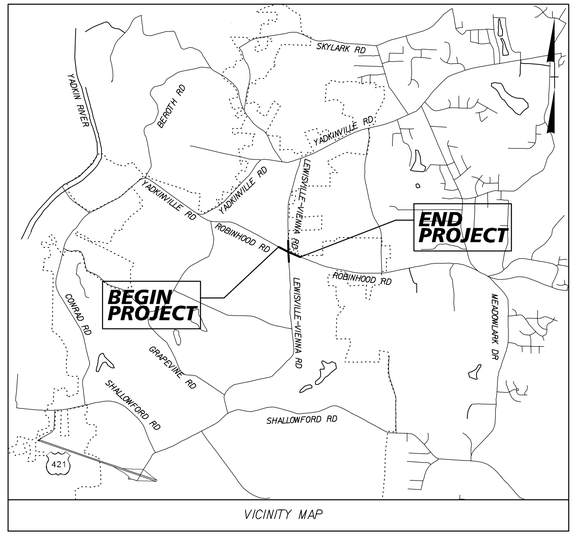
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TIP PROJECT: U-6154

Project No.	Sheet No.
U-6154	Sig. 1.0

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

FORSYTH COUNTY

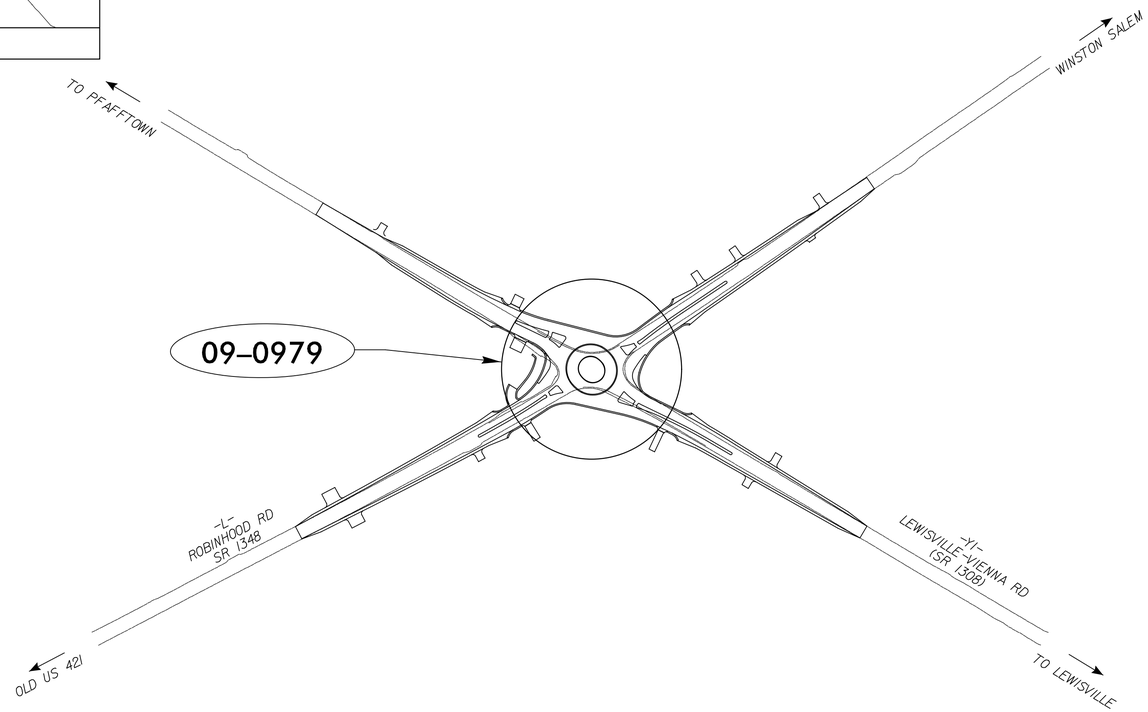


VICINITY MAP

LOCATION: ***INTERSECTION OF SR 1308 (LEWISVILLE-VIENNA ROAD) AND SR 1348 (ROBINHOOD ROAD)***

TYPE OF WORK: Traffic Signal

NAD 83/NA 2011
NC GRID



Refer to Roadway Standard Drawings NCDOT" dated January 2024 and Standard Specifications for Roads and Structures" dated January 2024.

Index of Plans

Sheet #	Reference #	Location/Description
Sig. 1.0	--------	Title Sheet
Sig. 2.0-3.1	09-0979	SR 1308 (Lewisville-Vienna Rd.) at SR 1348 (Robinhood Rd.)

NCDOT SIGNAL CONTACT:

Rob Ziemba, P.E.
CENTRAL REGION SIGNALS ENGINEER

Keith M. Mims, P.E.
SIGNAL EQUIPMENT DESIGN ENGINEER

PLANS PREPARED BY:

Kimley»Horn
421 Fayetteville Street, Suite 600
Raleigh, North Carolina 27601
PE NO. F-0102
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Kevin P. Baumann, P.E.
TRAFFIC SIGNAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 044434 ENGINEER KEVIN P. BAUMANN

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12/13/2023
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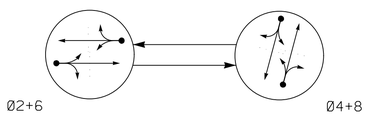
Prepared for:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION
TSMO UNIT
750 N.Greenfield Pkwy.Garner,NC 27529

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	Sig. 2.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

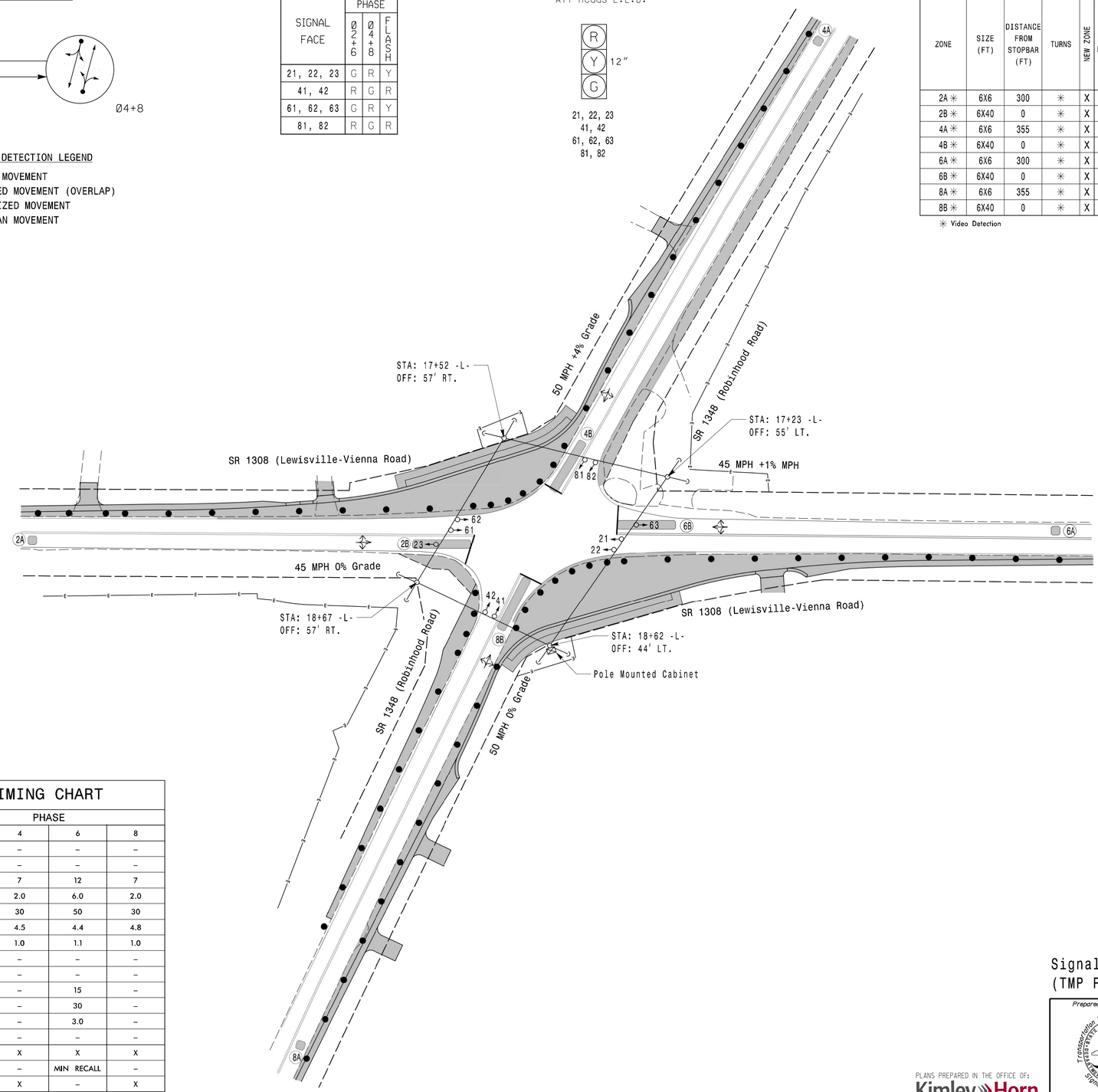
TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2+6	PHASE Ø4+8	FLASH
21, 22, 23	G	R	Y
41, 42	R	G	R
61, 62, 63	G	R	Y
81, 82	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.

21, 22, 23
41, 42
61, 62, 63
81, 82



MAXTIME VIDEO DETECTION INSTALLATION CHART

ZONE					PROGRAMMING						
ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW ZONE	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
2A ✳	6X6	300	✳	X	2	-	-	X	-	X	-	-
2B ✳	6X40	0	✳	X	2	5	2.0	X	-	X	X	-
4A ✳	6X6	355	✳	X	4	-	2.8	X	-	-	-	-
4B ✳	6X40	0	✳	X	4	10	-	X	-	X	-	-
6A ✳	6X6	300	✳	X	6	-	-	X	-	X	-	-
6B ✳	6X40	0	✳	X	6	5	2.0	X	-	X	X	-
8A ✳	6X6	355	✳	X	8	-	2.8	X	-	-	-	-
8B ✳	6X40	0	✳	X	8	10	-	X	-	X	-	-

✳ Video Detection

2 Phase
Fully Actuated
(Isolated)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
5. Pavement markings are existing.
6. This intersection uses video detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.

MAXTIME TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 6	PHASE 8
Walk *	–	–	–	–
Ped Clear *	–	–	–	–
Min Green	12	7	12	7
Passage *	6.0	2.0	6.0	2.0
Max 1 *	50	30	50	30
Yellow Change	4.5	4.5	4.4	4.8
Red Clear	1.0	1.0	1.1	1.0
Added Initial *	–	–	–	–
Maximum Initial *	–	–	–	–
Time Before Reduction *	15	–	15	–
Time To Reduce *	30	–	30	–
Minimum Gap	3.0	–	3.0	–
Advance Walk	–	–	–	–
Non Lock Detector	X	X	X	X
Vehicle Recall	MIN RECALL	–	MIN RECALL	–
Dual Entry	–	X	–	X

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
▭↓	Pedestrian Signal Head With Push Button & Sign	■↓
○	Signal Pole with Guy	●
○	Signal Pole with Sidewalk Guy	●
▭	Detector Zones	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
----------	2-in Underground Conduit	----------
N/A	Right of Way	----------
N/A	Temporary Easement	----------
→	Directional Arrow	→
●●●	Construction Zone Drums	●●●
▭	Construction Zone	▭

Signal Upgrade - Temporary Design 1
(TMP Phase 1)

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PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Prepared for the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
DEPARTMENT OF TRANSPORTATION
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1308 (Lewisville-Vienna Rd.)
at
SR 1348 (Robinhood Road)

Division 9 Forsyth County N. of Lewisville

PLAN DATE: October 2023 REVIEWED BY: KP Baumann
PREPARED BY: SP Pennington REVIEWED BY:

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

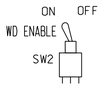
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SIGNATURE 12/13/2023 DATE
SIG. INVENTORY NO. 09-0979TI

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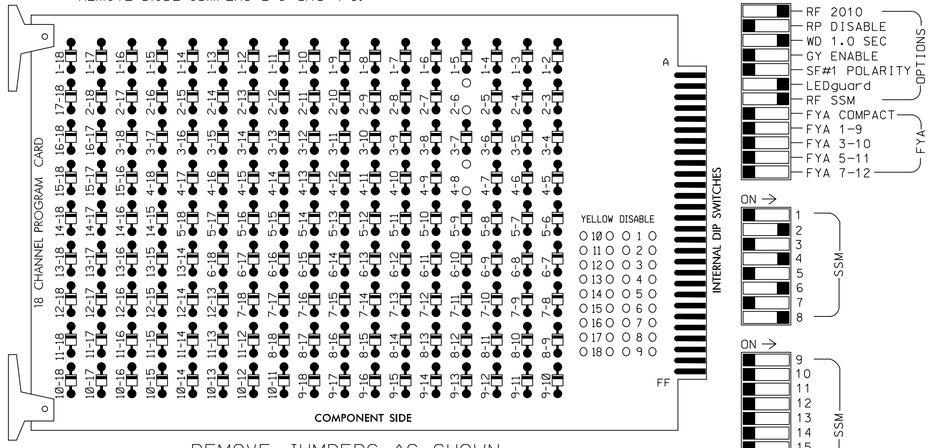
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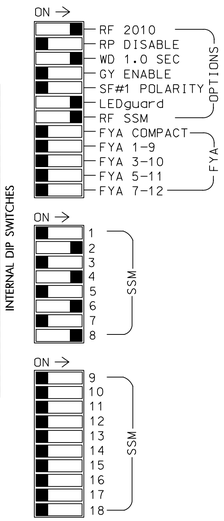
18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE DIODE JUMPERS 2-6 and 4-8.





■ = DENOTES POSITION OF SWITCH

REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program phases 4 and 8 for Dual Entry.
3. Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.
4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.

EQUIPMENT INFORMATION

CONTROLLER.....2070LX
CABINET.....336
SOFTWARE.....Q-FREE MAXTIME
CABINET MOUNT.....POLE
OUTPUT FILE POSITIONS...12
LOAD SWITCHES USED.....S2,S5,S8,S11
PHASES USED.....2,4,6,8
OVERLAPS.....NONE

PROJECT REFERENCE NO.	SHEET NO.
U-6154	Sig. 2.1

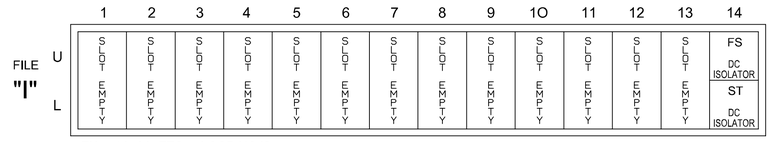
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED
SIGNAL HEAD NO.	NU	21,22 23	NU	NU	41,42	NU	NU	61,62 63	NU	NU	81,82	NU
RED		128			101			134			107	
YELLOW		129			102			135			108	
GREEN		130			103			136			109	
RED ARROW												
YELLOW ARROW												
GREEN ARROW												

NU = Not Used

INPUT FILE POSITION LAYOUT

(front view)



EX. : 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

VIDEO DETECTION

For all zones, install a video detection system for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer-approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 09-0979T1
DESIGNED: October 2023
SEALED: 12/13/2023
REVISED: N/A

PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Electrical Detail - Temporary Design 1

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ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1308 (Lewisville-Vienna Rd.)
at
SR 1348 (Robinhood Road)

Division 9 Forsyth County N. of Lewisville

Prepared for the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
IT S Signal Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

PLAN DATE:	October 2023	REVIEWED BY:	KP Baumann
PREPARED BY:	SP Pennington	REVIEWED BY:	

REVISIONS	INIT.	DATE

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NORTH CAROLINA PROFESSIONAL SEAL 044434 ENGINEER KEVIN P. BAUMANN

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12/13/2023
DATE

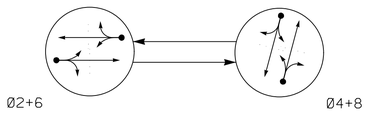
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PROJECT REFERENCE NO.	SHEET NO.
U-6154	Sig. 3.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

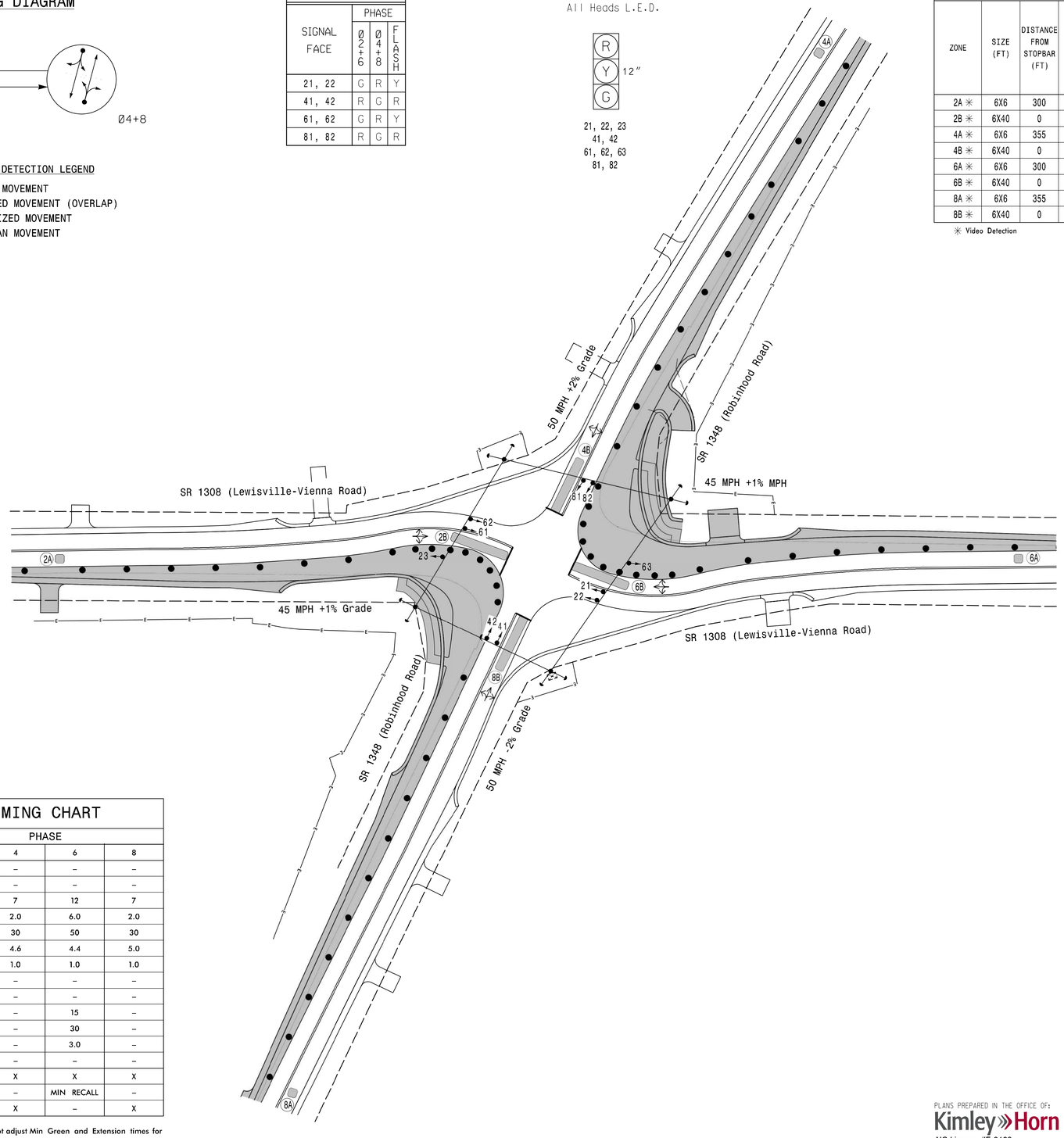
TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2+6	PHASE Ø4+8	FLASH
21, 22	G	R	Y
41, 42	R	G	R
61, 62	G	R	Y
81, 82	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.

21, 22, 23
41, 42
61, 62, 63
81, 82



MAXTIME VIDEO DETECTION INSTALLATION CHART

ZONE					PROGRAMMING						
ZONE	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW ZONE	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
2A ✳	6X6	300	✳	-	2	-	-	X	-	X	-	-
2B ✳	6X40	0	✳	-	2	5	2.0	X	-	X	X	-
4A ✳	6X6	355	✳	-	4	-	2.8	X	-	-	-	-
4B ✳	6X40	0	✳	-	4	10	-	X	-	X	-	-
6A ✳	6X6	300	✳	-	6	-	-	X	-	X	-	-
6B ✳	6X40	0	✳	-	6	5	2.0	X	-	X	X	-
8A ✳	6X6	355	✳	-	8	-	2.8	X	-	-	-	-
8B ✳	6X40	0	✳	-	8	10	-	X	-	X	-	-

✳ Video Detection

2 Phase
Fully Actuated
(Isolated)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. Reposition all existing signal heads.
5. Pavement markings are existing.
6. This intersection uses video detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.

MAXTIME TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 6	PHASE 8
Walk *	–	–	–	–
Ped Clear *	–	–	–	–
Min Green	12	7	12	7
Passage *	6.0	2.0	6.0	2.0
Max 1 *	50	30	50	30
Yellow Change	4.4	4.6	4.4	5.0
Red Clear	1.0	1.0	1.0	1.0
Added Initial *	–	–	–	–
Maximum Initial *	–	–	–	–
Time Before Reduction *	15	–	15	–
Time To Reduce *	30	–	30	–
Minimum Gap	3.0	–	3.0	–
Advance Walk	–	–	–	–
Non Lock Detector	X	X	X	X
Vehicle Recall	MIN RECALL	–	MIN RECALL	–
Dual Entry	–	X	–	X

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Detector Zones	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
N/A	Temporary Easement	
	Directional Arrow	
	Construction Zone Drums	
	Construction Zone	

Signal Upgrade - Temporary Design 2
(TMP Phase 2)

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PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Prepared for the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

SR 1308 (Lewisville-Vienna Rd.)
at
SR 1348 (Robinhood Road)

Division 9 Forsyth County N. of Lewisville

PLAN DATE: October 2023 REVIEWED BY: KP Baumann
PREPARED BY: SP Pennington REVIEWED BY:

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 044434 ENGINEER KEVIN P. BAUMANN

DocuSigned by: SDC709A68BCB447...
SIGNATURE 12/13/2023 DATE

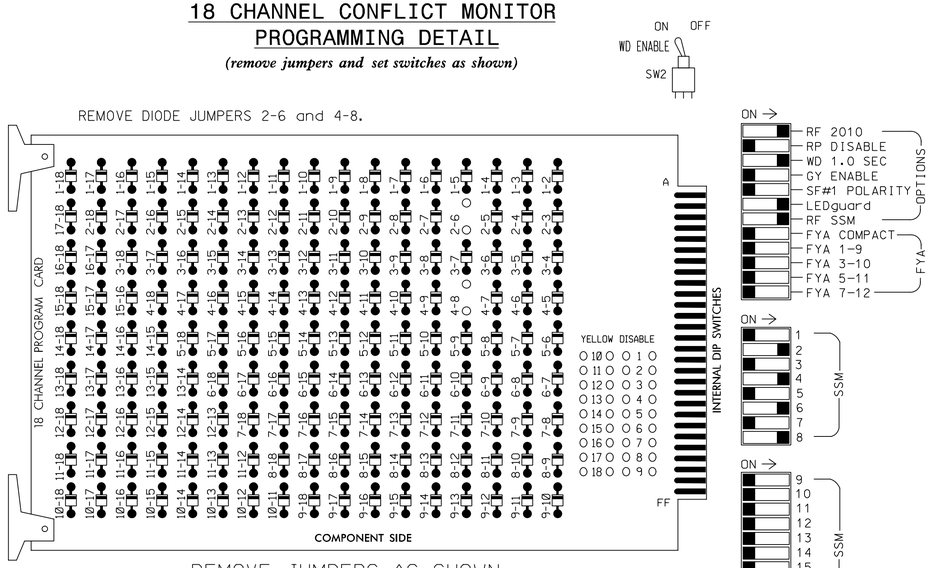
SIG. INVENTORY NO. 09-0979T2

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18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

■ = DENOTES POSITION OF SWITCH

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program phases 4 and 8 for Dual Entry.
3. Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.
4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.

EQUIPMENT INFORMATION

CONTROLLER.....2070LX
CABINET.....336
SOFTWARE.....Q-FREE MAXTIME
CABINET MOUNT.....POLE
OUTPUT FILE POSITIONS...12
LOAD SWITCHES USED.....S2,S5,S8,S11
PHASES USED.....2,4,6,8
OVERLAPS.....NONE

PROJECT REFERENCE NO.	SHEET NO.
U-6154	Sig. 3.1

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED
SIGNAL HEAD NO.	NU	21,22 23	NU	NU	41,42	NU	NU	61,62 63	NU	NU	81,82	NU
RED		128			101			134			107	
YELLOW		129			102			135			108	
GREEN		130			103			136			109	
RED ARROW												
YELLOW ARROW												
GREEN ARROW												

NU = Not Used

INPUT FILE POSITION LAYOUT

(front view)

FILE "I" U / L

1	2	3	4	5	6	7	8	9	10	11	12	13	14
SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	FS DC ISOLATOR / ST DC ISOLATOR

EX. : 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

VIDEO DETECTION

For all zones, install a video detection system for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer-approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 09-0979T2
DESIGNED: October 2023
SEALED: 12/13/2023
REVISED: N/A

PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Electrical Detail - Temporary Design 2

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ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1308 (Lewisville-Vienna Rd.)
at
SR 1348 (Robinhood Road)

Division 9 Forsyth County N. of Lewisville

Prepared for the Offices of:
Transportation Mobility and Safety Division
NCDEPARTMENT OF TRANSPORTATION
Traffic Engineering Branch
Signal Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

PLAN DATE:	October 2023	REVIEWED BY:	KP Baumann
PREPARED BY:	SP Pennington	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 044434 ENGINEER KEVIN D BAUMANN

DocuSigned by: 12/13/2023
5DC709A868CB447... DATE

SIG. INVENTORY NO. 09-0979T2

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TIP PROJECT: U-6154

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

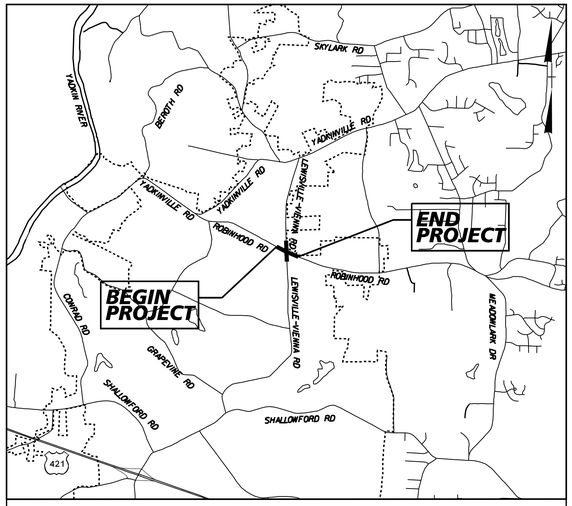
UTILITIES BY OTHERS PLANS
FORSYTH COUNTY

T.I.P. NO.	SHEET NO.
U-6154	UO-1

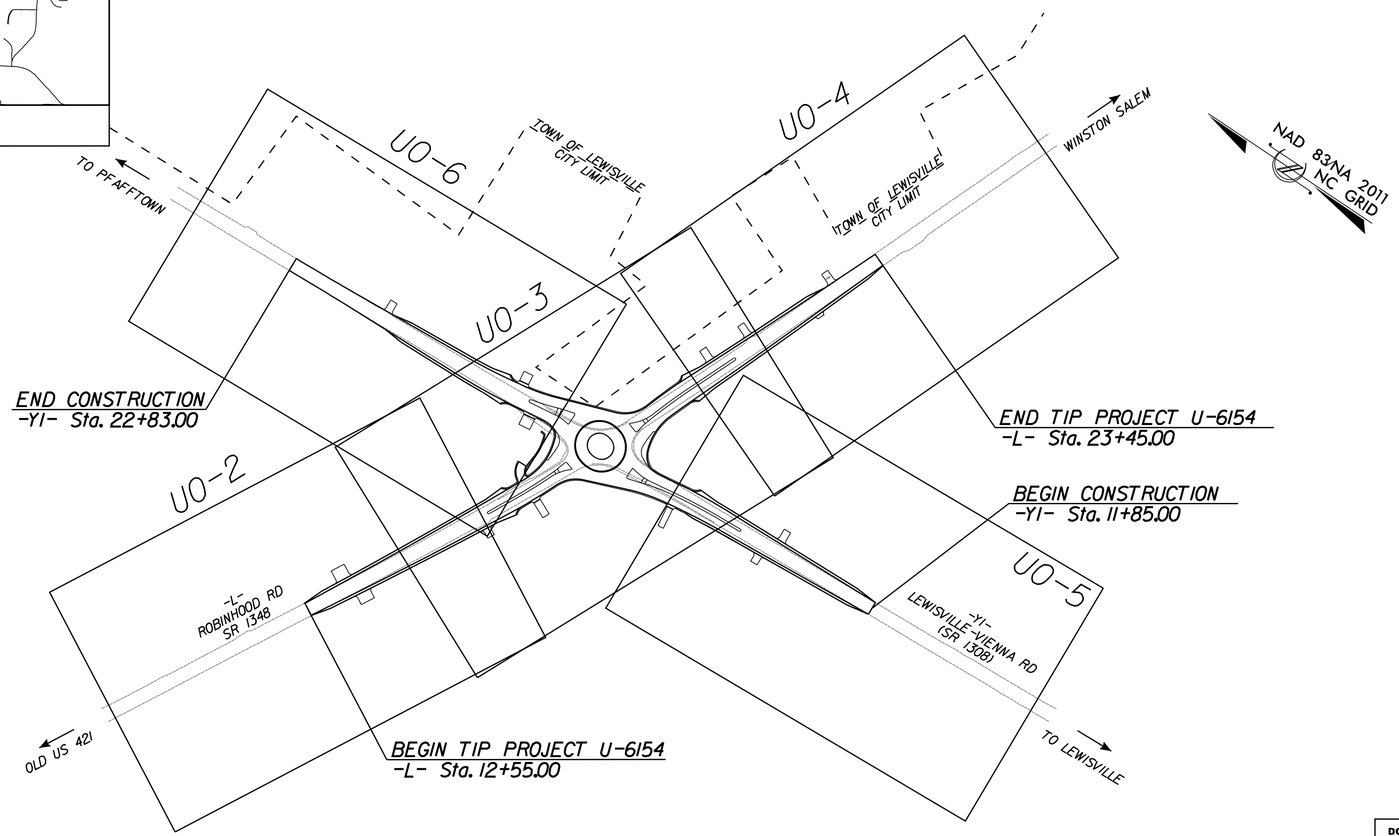
NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

LOCATION: INTERSECTION OF SR 1308 (LEWISVILLE-VIENNA ROAD) AND SR 1348 (ROBINHOOD ROAD)

TYPE OF WORK: DISTRIBUTION POWER AND COMMUNICATIONS RELOCATIONS BY OTHERS

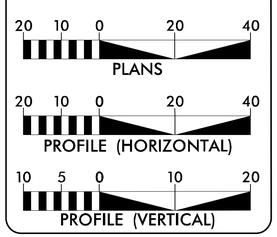


VICINITY MAP



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GRAPHIC SCALE



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2 THRU UO-6	UTILITIES BY OTHERS PLAN SHEETS

UTILITY OWNERS WITH CONFLICTS

(A) POWER – DUKE ENERGY: JAMES CARLTON 919-368-8765
(A) POWER – DUKE ENERGY LIGHTING: JASON HUGENDUBLER 336-880-4860
(B) COMM – ZIRRUS: PATRICK GRAY 336-463-5037
(C) COMM – CHARTER: DAVID HARDY 336-451-6818
(D) COMM – WINDSTREAM: CHARLIE MCCLELLAND 980-285-3036
(E) COMM – LUMOS: BURKE WALL 336-821-8813

PREPARED IN THE OFFICE OF:

Kimley»Horn ©2025

NC LICENSE #F-0102
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 677-2000

TYLER G. SPRING, PE — CONSULTANT CONTACT #1
JACK N. BAJERSKI, EI — CONSULTANT CONTACT #2

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

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7/14/2025

PROJECT REFERENCE NO.	SHEET NO.
U-6154	U0-2

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

NAD 83/NA 2011 NC GRID

ISBRD

10+00

BST

CARL L. LANIER JR.
DB 1037 PG 377

SEE UC SHEETS FOR WATER DESIGNS

TOWN OF LEWISVILLE
DB 3792 PG 3654

15+00

EIP-R/W 2.64'

REMOVE EXST. WINDSTREAM U/G

PROPOSED WINDSTREAM U/G

REMOVE EXST. WINDSTREAM U/G

REMOVE EXST. ZIRRUS U/G

TIE ZIRRUS U/G AND CHARTER O/H ONTO EXST. DUKE AERIAL POLE LINE

PROPOSED ZIRRUS VAULT

PROPOSED LUMOS U/G

PROPOSED DUKE O/H
PROPOSED ZIRRUS O/H
PROPOSED CHARTER O/H

PROPOSED WINDSTREAM U/G

-L- ROBINHOOD RD (SR 1348)

ROBINHOOD RD (SR 1348)

SR 1348 ROBINHOOD RD

EXISTING R/W

60.00'

24"RCP

15" RCP

PROP U/G TEL CABLES

PROP U/G (FO) TEL CABLES

PROP O/H POW TEL CATV & FO LINES

ABANDON 6" UTILITY PIPE

6" WL

6"DI

PUE

PDE

DUE

REM

CONC

EIP

EIP-R/W

BLK HW

INV=855.49

INV=859.06

TOP=864.57
INV=860.48

0403

0404

0405

0402

0401

GPS U6154-2

WOODS

ISFD

PORCH

STEP

GATE

G

S

25' BST

17' BST

10' BST

11' BST

36" CMP

JAMES L. LANIER
DB 3182 PG 1800

CARL L. LANIER JR.
DB 1767 PG 1960

CARL L. LANIER JR.
DB 1767 PG 1960

WILLIAM D. BAILEY HEIRS
DB 1040 PG 1430

S 00°41'50" W
202.47'

N 00°26'29" W
217.07'

N 08°56'31" E
215.36'

MATCHLINE -L- STA 15+20 (SHEET U0-3)

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7/14/2025

Kimley»Horn

PROJECT REFERENCE NO.	SHEET NO.
U-6154	U0-3

UTILITIES BY OTHERS

NOTE:
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NAD 83/NA 2011 GRID

MATCHLINE -L- STA 15+20 (SHEET U0-2)

MATCHLINE -Y1- STA 19+00 (SHEET U0-6)

MATCHLINE -L- STA 20+80 (SHEET U0-4)

MATCHLINE -Y1- STA 15+00 (SHEET U0-5)

LEWISVILLE-VIENNA RD (SR-1308)

ROBINHOOD RD (SR 1348)

SEE UC SHEETS FOR WATER DESIGNS

REMOVE EXST. WINDSTREAM U/G

PROPOSED WINDSTREAM U/G

REMOVE EXST. WINDSTREAM U/G

PROPOSED LUMOS HH

PROPOSED LUMOS HH

PROPOSED LUMOS HH

PROPOSED DUKE O/H
PROPOSED CHARTER O/H

PROPOSED WINDSTREAM U/G

PROPOSED LUMOS HH

PROPOSED WINDSTREAM HH

PROPOSED WINDSTREAM PEDESTAL

REMOVE EXST. WINDSTREAM U/G

REMOVE EXST. ZIRRUS U/G

REMOVE EXST. ZIRRUS U/G

PROPOSED LUMOS HH

PROPOSED LUMOS HH

PROPOSED DUKE O/H
PROPOSED ZIRRUS O/H
PROPOSED CHARTER O/H

PROPOSED DUKE O/H
PROPOSED ZIRRUS O/H
PROPOSED CHARTER O/H

SEE UC SHEETS FOR WATER DESIGNS

PROPOSED WINDSTREAM U/G

5 TOWN OF LEWISVILLE
DB 3792 PG 3654

7 REBECCA L. FORREST
TIM FORREST
DANIEL FORREST
DB 3568 PG 2481
DB 1950 PG 3018
DB 1460 PG 423

13 RANDY DUGGINS
DB 3196 PG 2369

6 CMC FAMILY ENTERPRISES LLC
DB 3615 PG 1887

4 JAMES L. LANIER
DB 3182 PG 1800

12 BENNIE C. STONE
DB 3361PG 3437

8 DRSP PROPERTIES LLC
DB 2353 PG 2988

TOWN OF LEWISVILLE CITY LIMIT

PROP O/H POW & CATV LINES

PROP U/G TEL CABLES

PROP U/G (FO) TEL CABLES

PROP O/H POW TEL CATV & FO LINES

ABANDON 6" UTILITY PIPE

EXISTING R/W

60.00'

REM

Kimley»Horn

PROJECT REFERENCE NO.	SHEET NO.
U-6154	U0-4

UTILITIES BY OTHERS

NOTE:
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7
REBECCA L. FORREST
TIM FORREST
DANIEL FORREST
DB 3568 PG 2481
DB 1950 PG 3018
DB 1460 PG 423

9
MARCO RIVERA
MARIA RIVERA
DB 3673 PG 2003

SDKC NC PROPERTIES LLC
DB 3056 PG 1319

NAD 83 GRID VALUE 2011

SEE UC SHEETS FOR WATER DESIGNS

PROPOSED WINDSTREAM PEDESTAL

TIE PROPOSED LUMOS U/G INTO EXSIT. HH

PROPOSED WINDSTREAM U/G

PROPOSED WINDSTREAM PEDESTAL

SPLICE INTO EXST. WINDSTREAM U/G

REMOVE EXST. ZIRRUS U/G

REMOVE EXST. WINDSTREAM U/G

PROPOSED DUKE O/H
PROPOSED ZIRRUS O/H
PROPOSED CHARTER O/H

PROPOSED ZIRRUS VAULT

TIE ZIRRUS U/G AND CHARTER O/H ONTO EXST. DUKE AERIAL POLE LINE

ROBINHOOD RD (SR 1348)

SR 1348 ROBINHOOD RD

TOWN OF LEWISVILLE CITY LIMIT

EXISTING R/W

ABANDON 8" UTILITY PIPE

PROP U/G TEL CABLES

PROP U/G (FO) TEL CABLES

PROP O/H POW LINES

PROP O/H POW TEL CATV & FO LINES

PROP O/H POW TEL CATV & FO LINES ABANDONED

MATCHLINE -L- STA 20+80 (SHEET U0-3)

DRSP PROPERTIES LLC
DB 2353 PG 2988
8

DRSP PROPERTIES LLC
DB 2353 PG 2988
8

Kimley»Horn

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PROJECT REFERENCE NO.	SHEET NO.
U-6154	U0-5

UTILITIES BY OTHERS

NOTE:
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NC GRID
NAD 83/NA 2011

CMC FAMILY
ENTERPRISES LLC
DB 3615 PG 1877

CMC FAMILY
ENTERPRISES LLC
DB 3615 PG 1882

12
BENNIE C. STONE
DB 3361 PG 3437

SEE UC SHEETS FOR WATER DESIGNS

PROPOSED ZIRRUS VAULT TO SPLICE FIBERS

TIE ZIRRUS U/G AND CHARTER O/H ONTO EXST. DUKE AERIAL POLE LINE

TIE EXIST. ZIRRUS PEDESTAL WITH NEW FIBER ON DUKE POLE

TIE PROPOSED LUMOS U/G INTO EXSIT. HH

REMOVE EXST. WINDSTREAM U/G

PROPOSED WINDSTREAM U/G

EXST. WINDSTREAM POLE TRANSFERRED TO DUKE

LEWISVILLE-VIENNA RD (SR-1308)

SR 1308 LEWISVILLE-VIENNA RD

MATCHLINE -Y1- STA 15+00 (SHEET U0-3)

8
DRSP PROPERTIES LLC
DB 2353 PG 2988

8
DRSP PROPERTIES LLC
DB 2353 PG 2988

HERBERT B. TUTEN
SABRINA R. TUTEN
DB 2973 PG 758

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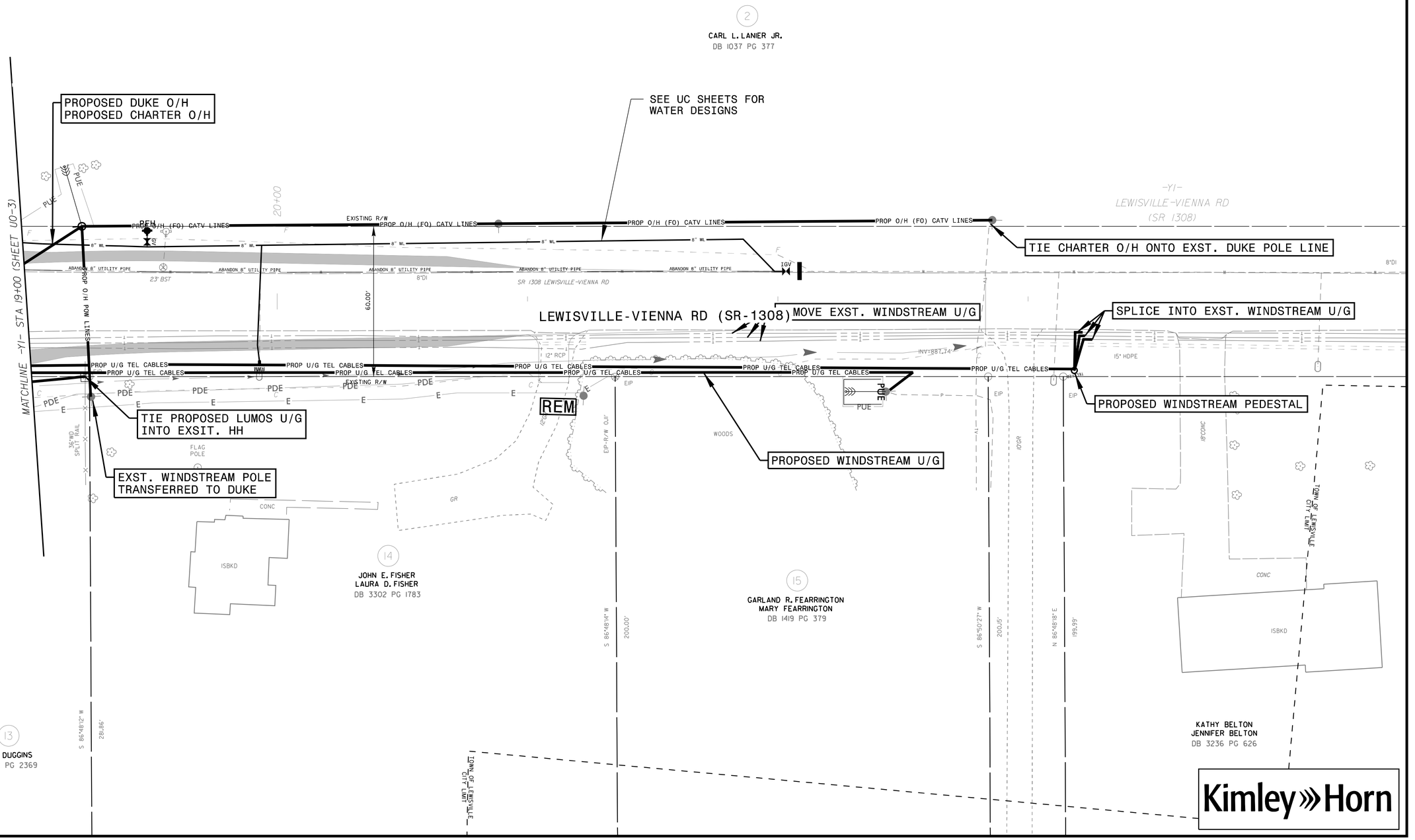
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PROJECT REFERENCE NO.	SHEET NO.
U-6154	U0-6

UTILITIES BY OTHERS

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NC GRID
NAD 83/NA 2011



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PROJ. REFERENCE NO.	SHEET NO.
U-6154	X-1A

U-6154
CROSS SECTION INDEX

-L- ROBINHOOD RD
-Y1- LEWISVILLE-VIENNA RD
-RBT-

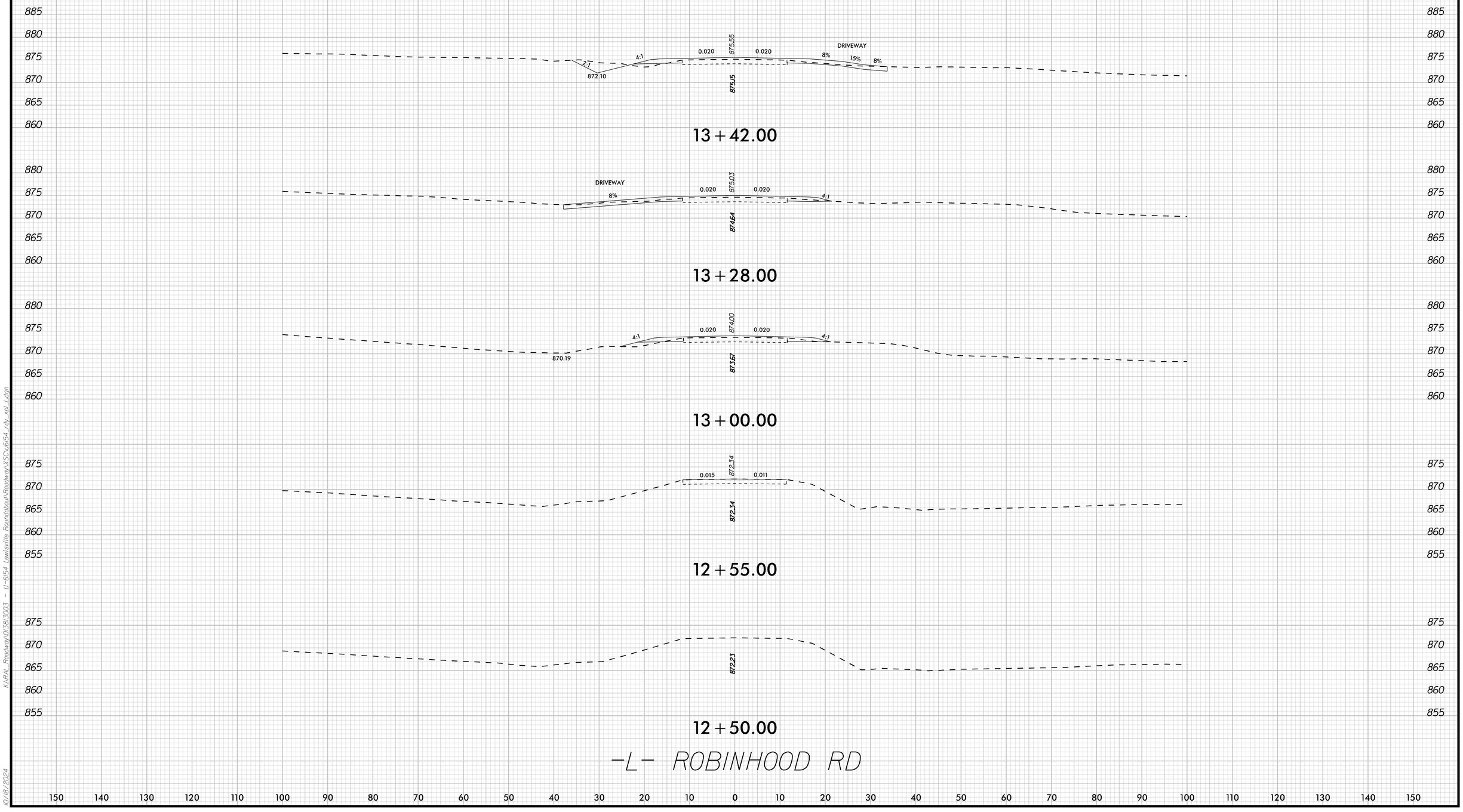
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X-8 THRU X-14
X-15 THRU X-19

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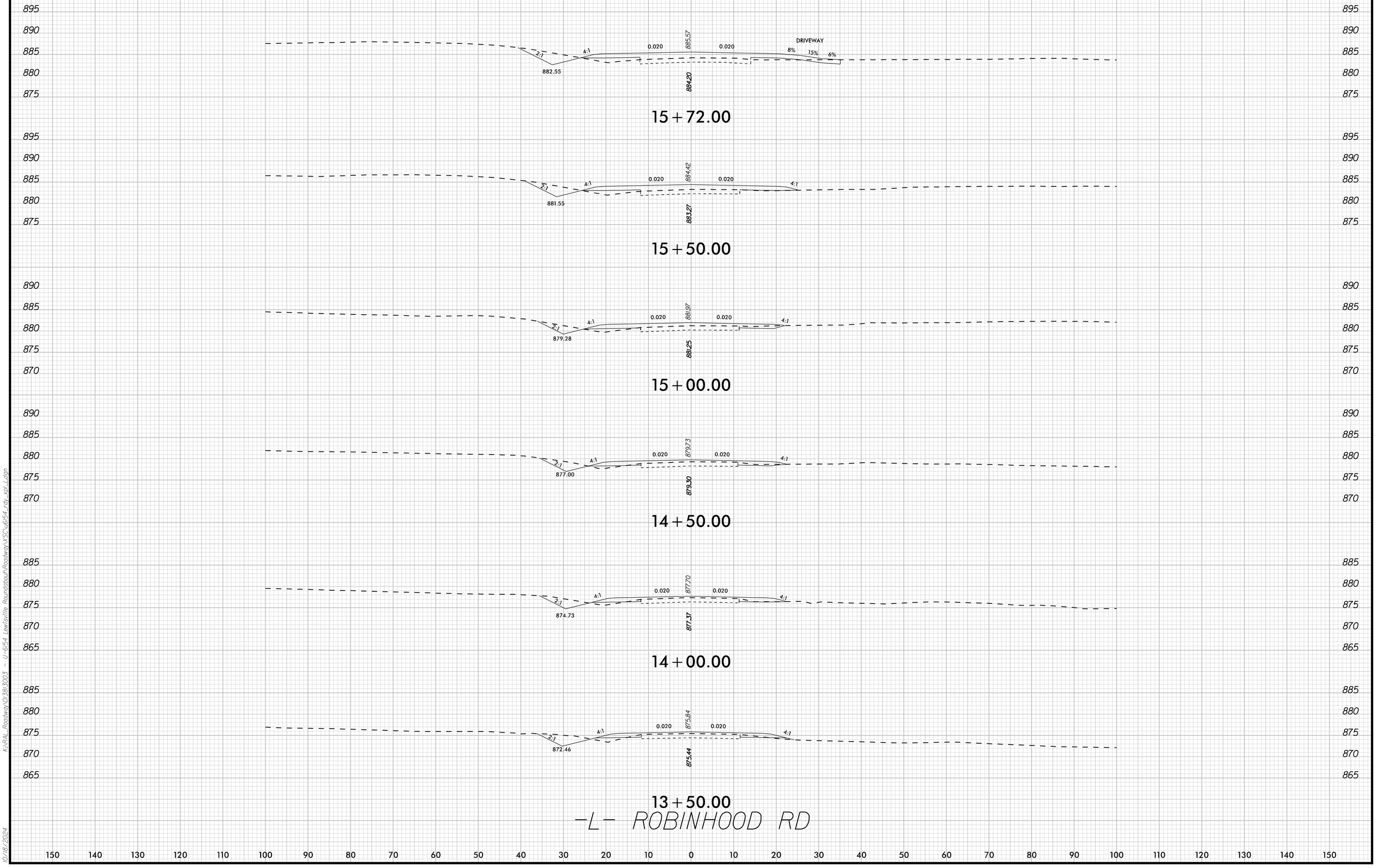
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U-6154	X-2



-L- ROBINHOOD RD

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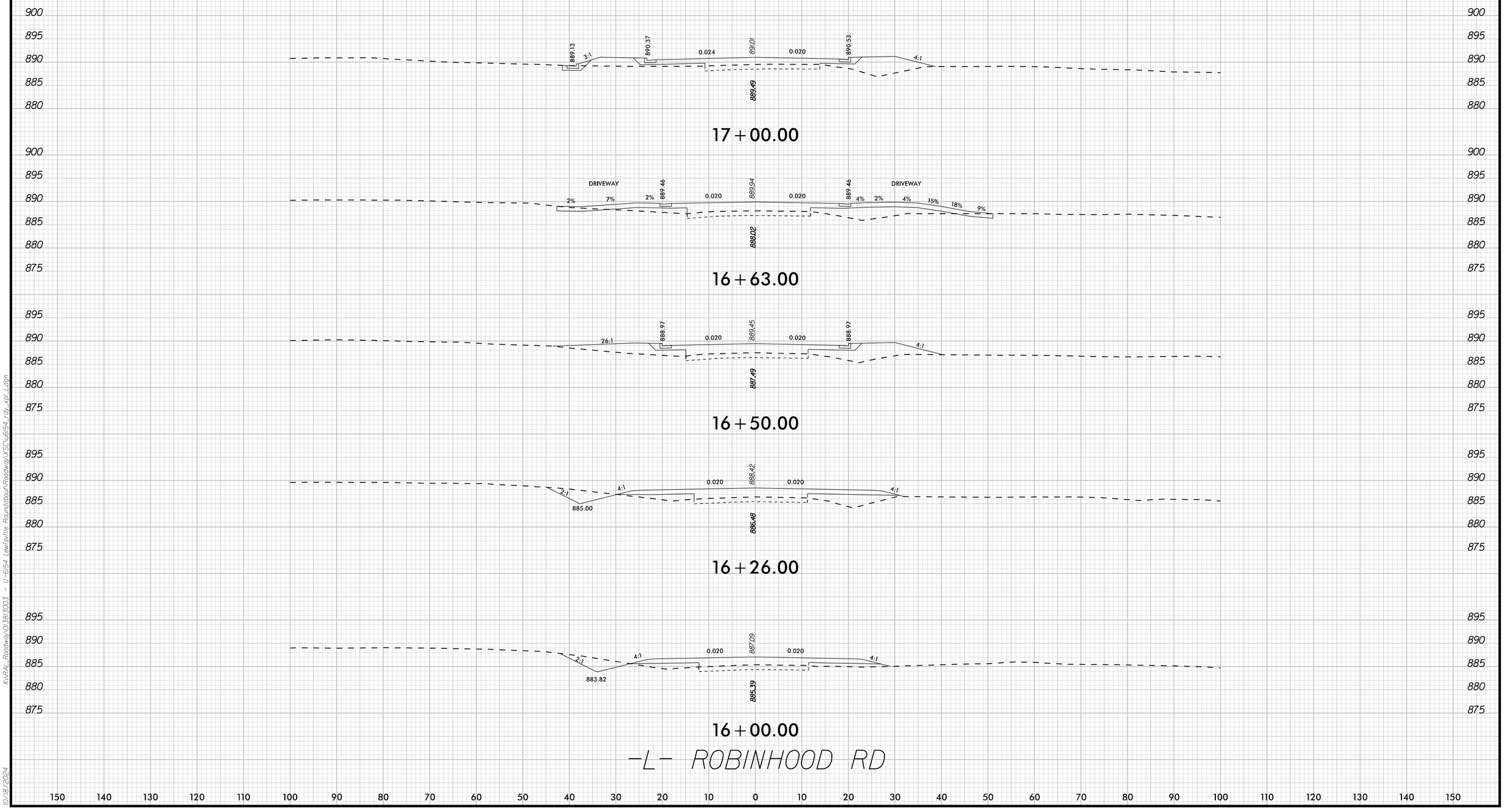
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U-6154	X-3



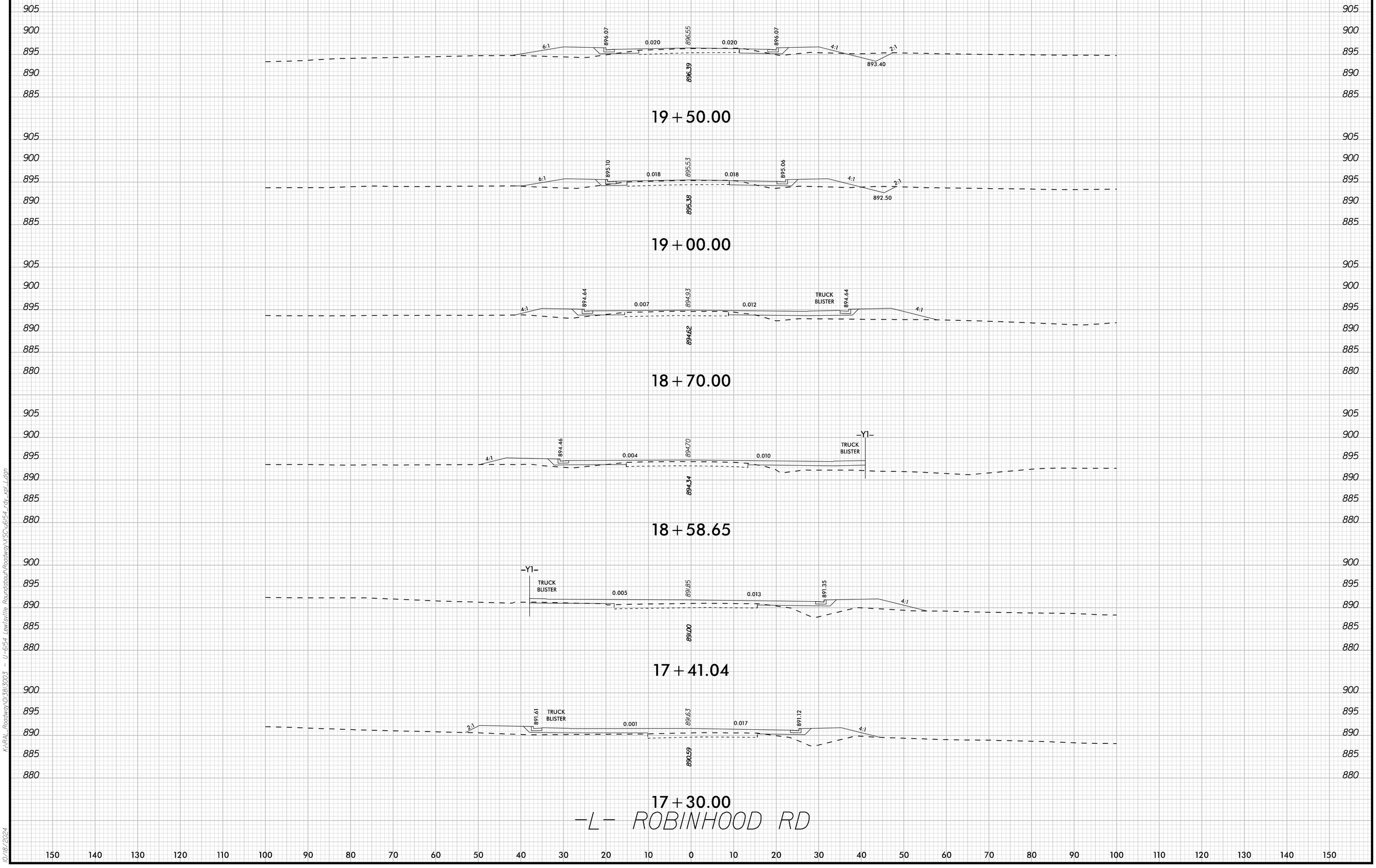
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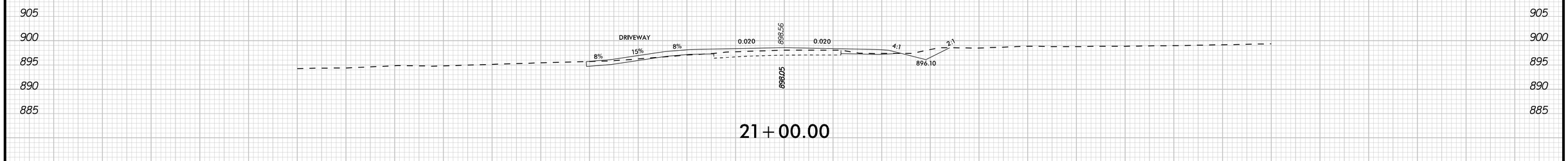


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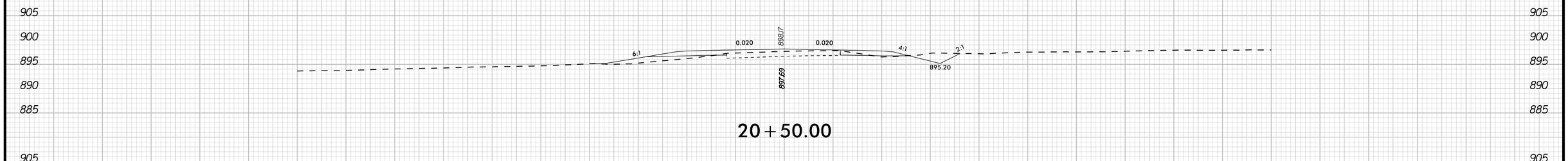
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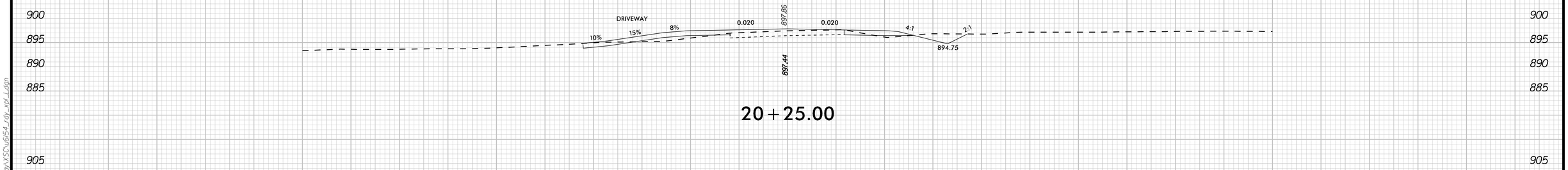
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	U-6154	X-5



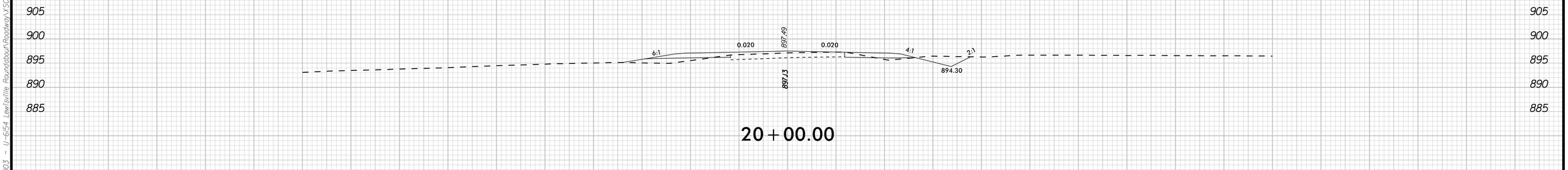
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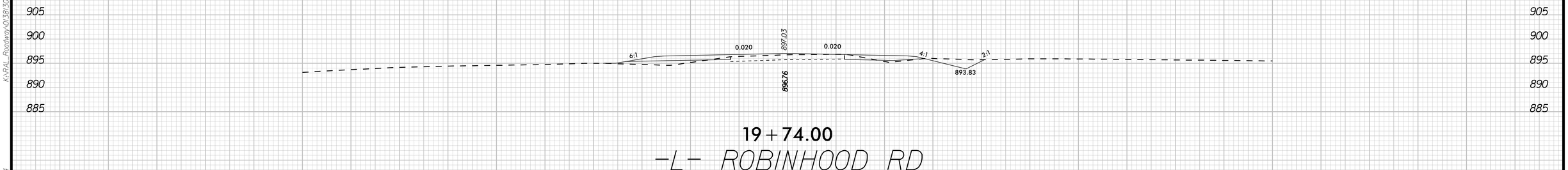
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20+25.00



20+00.00



19+74.00

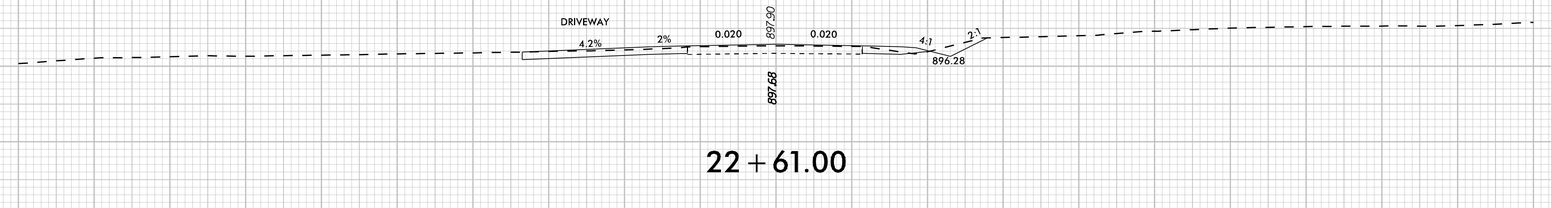
-L- ROBINHOOD RD

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

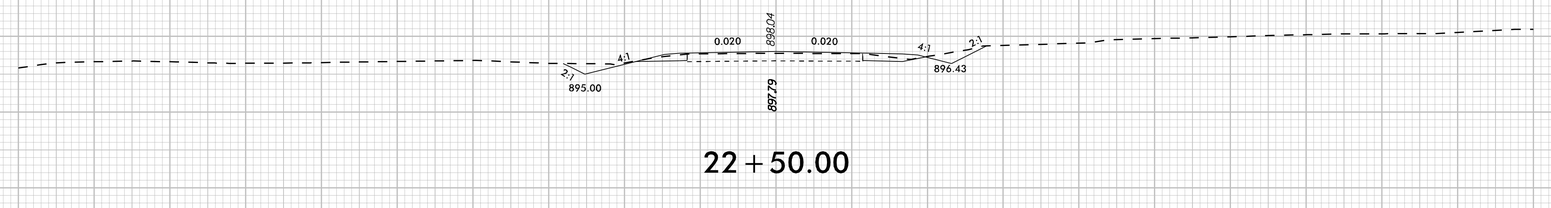
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10/18/2024

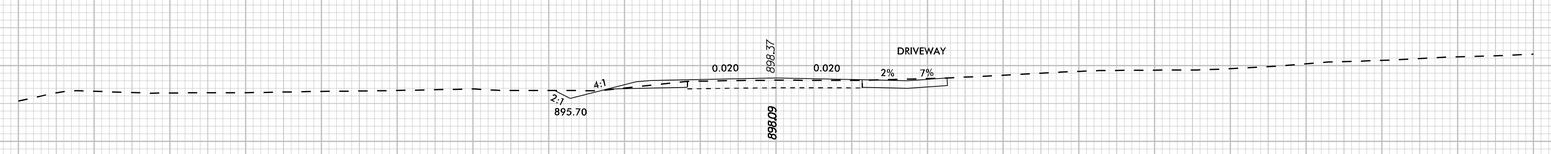
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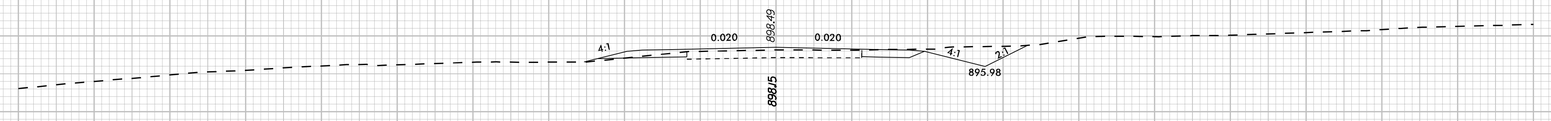
22 + 61.00



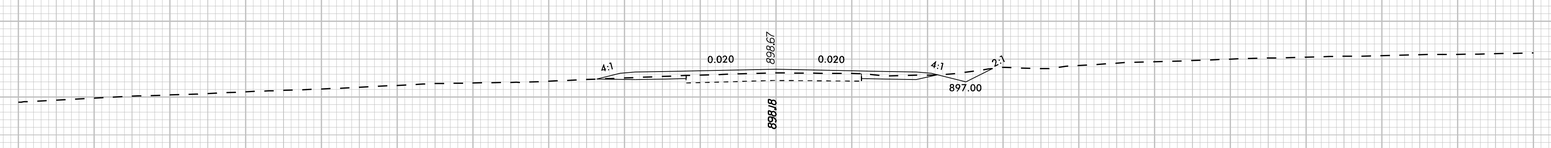
22 + 50.00



22 + 17.00



22 + 00.00



21 + 50.00

−L− ROBINHOOD RD

K:\RAL_Roadway\0.38\3003 - U-6154 Lewisville Roundabout\Roadway\XS\U6154_rdy_xpl_Ldgn
10/18/2024

Docusign Envelope ID: 31150416-DD6D-4FB8-9423-EE3BC424B4F4

5/14/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-6154	X-7

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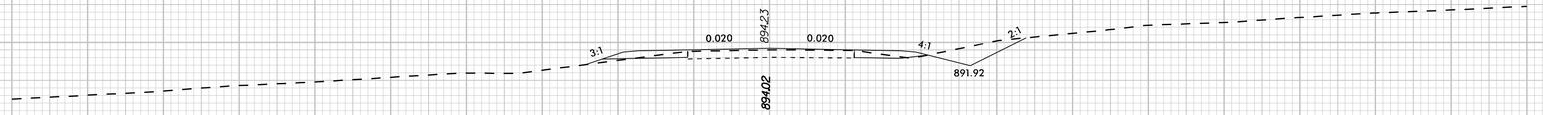
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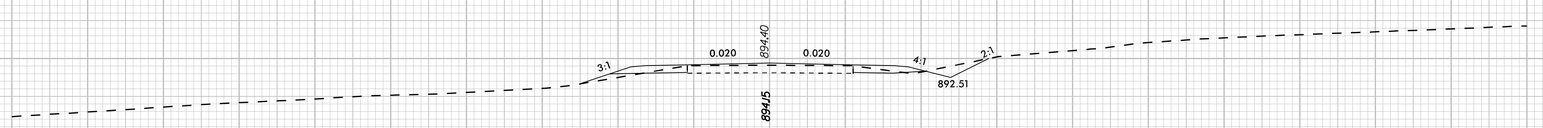
5/14/99

0 5 10

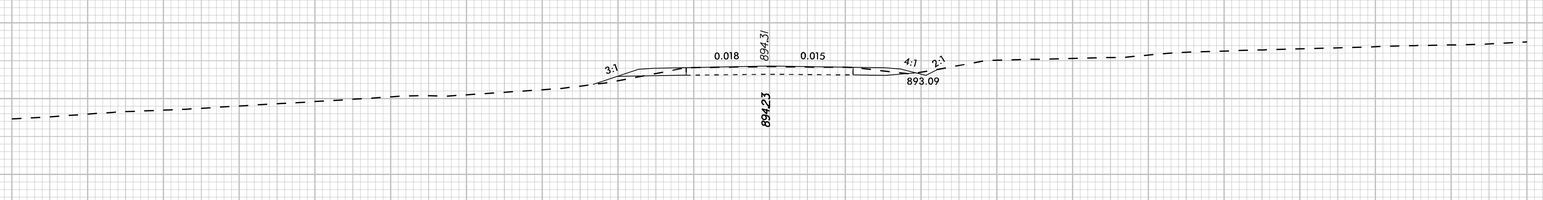
PROJ. REFERENCE NO.	SHEET NO.
U-6154	X-8



13+00.00



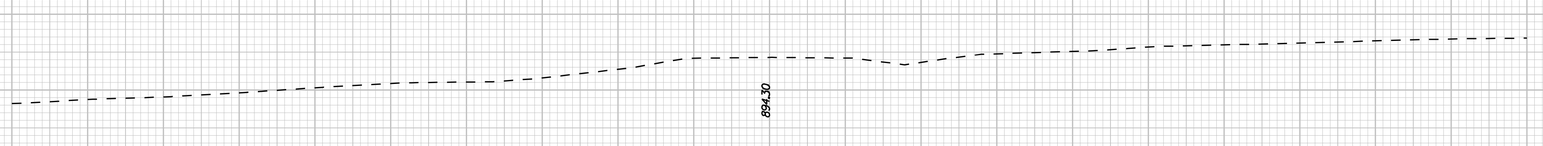
12+50.00



12+00.00



11+85.00



11+50.00

-YI- LEWISVILLE-VIENNA RD

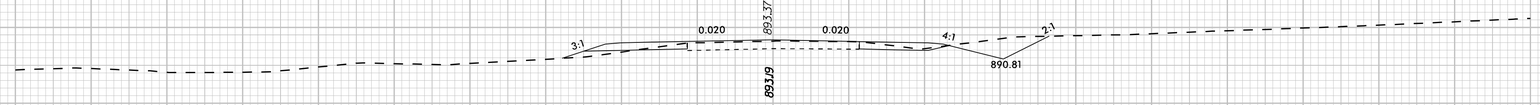
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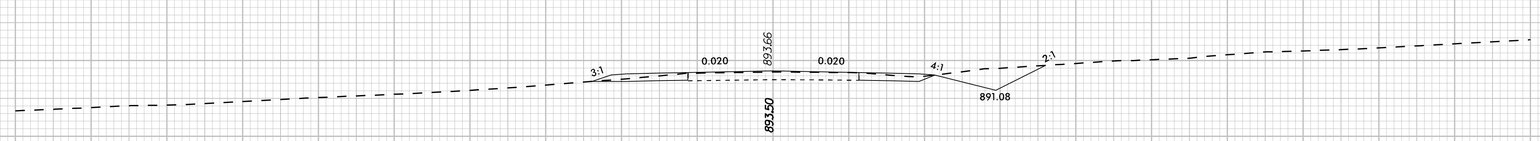
10/18/2024

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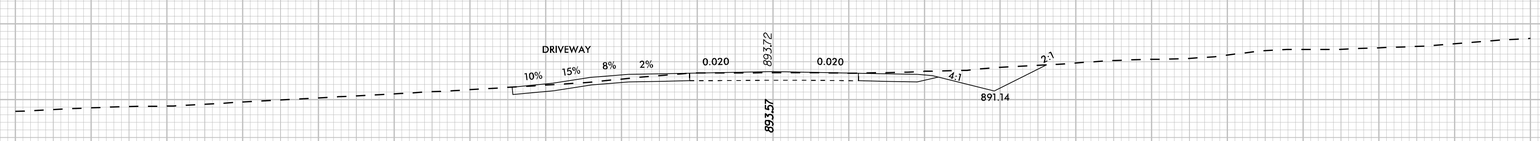
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	U-6154	X-9



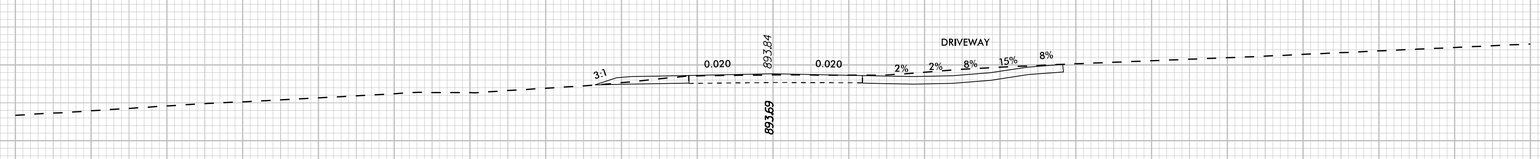
14+50.00



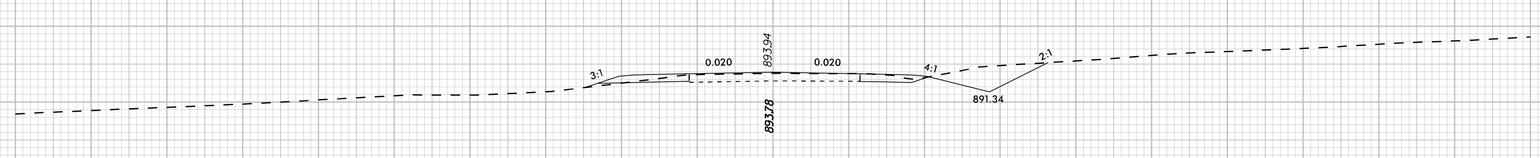
14+00.00



13+88.00



13+67.00



13+50.00

-Y1- LEWISVILLE-VIENNA RD

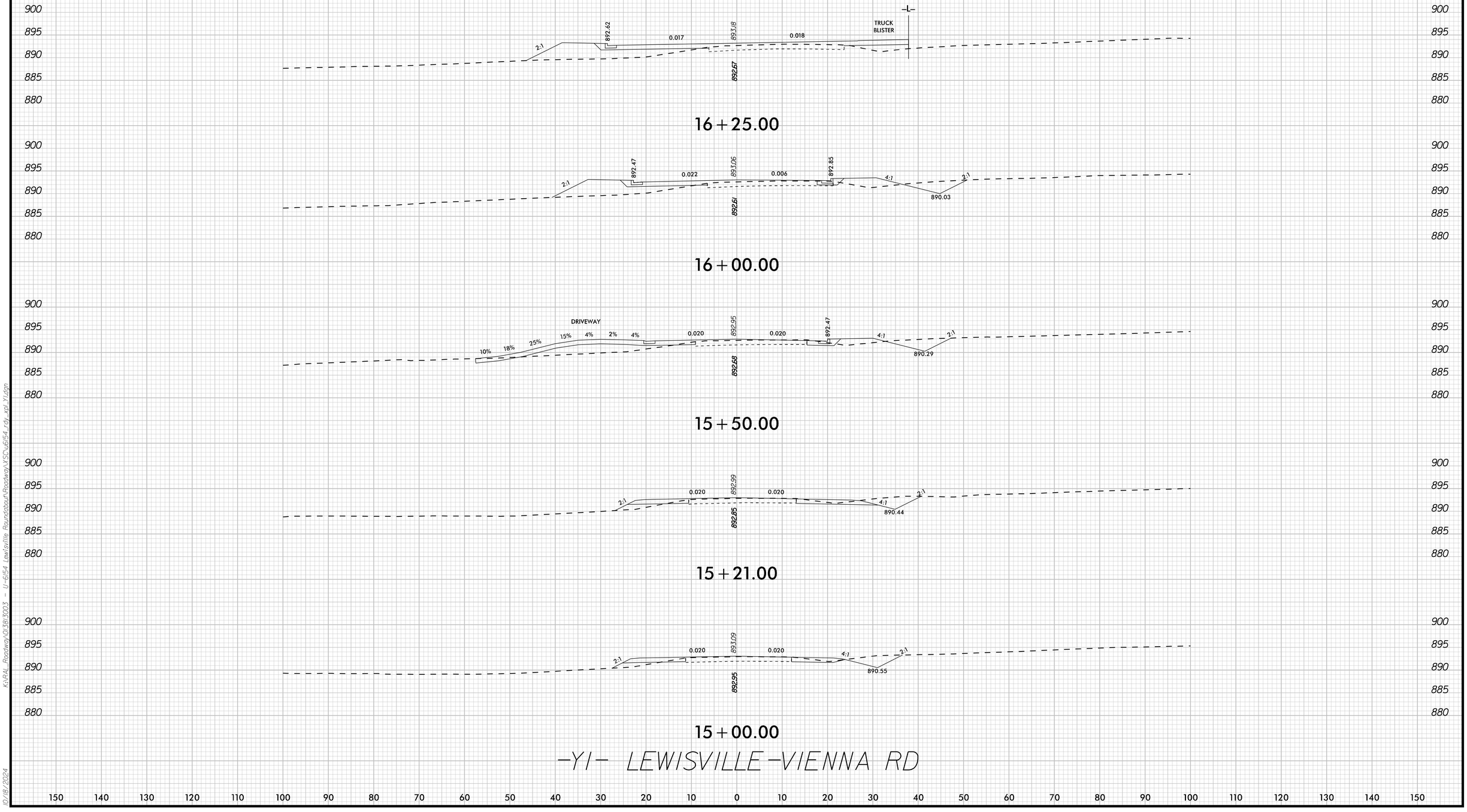
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10/18/2024

Docusign Envelope ID: 31150416-DD6D-4FB8-9423-EE3BC424B4F4

5/14/99

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	U-6154	X-10

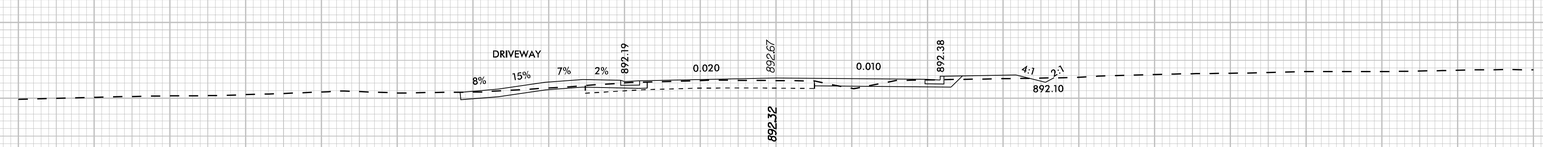


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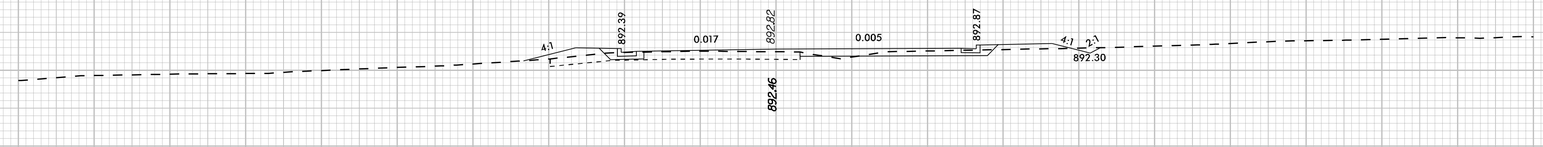
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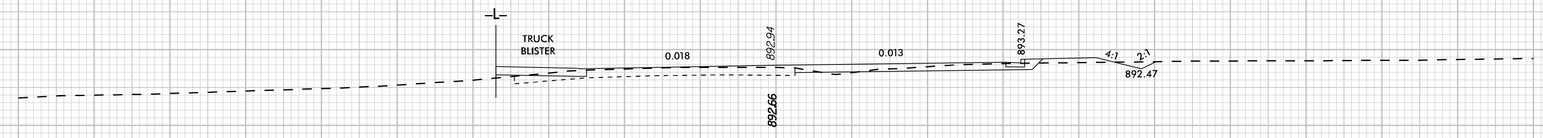
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	U-6154	X-11



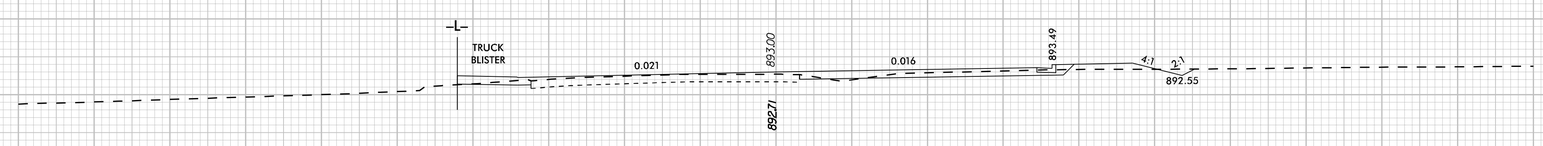
18+30.00



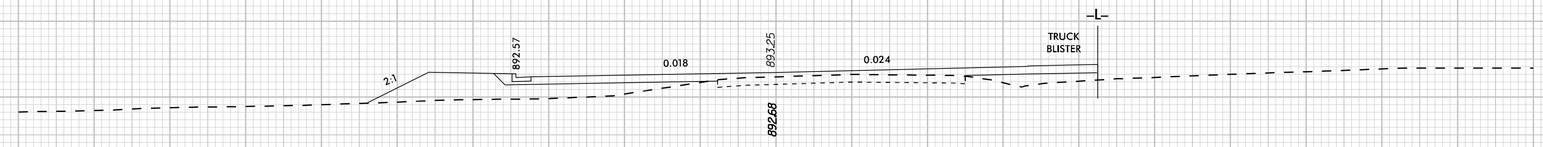
18+00.00



17+75.00



17+63.08



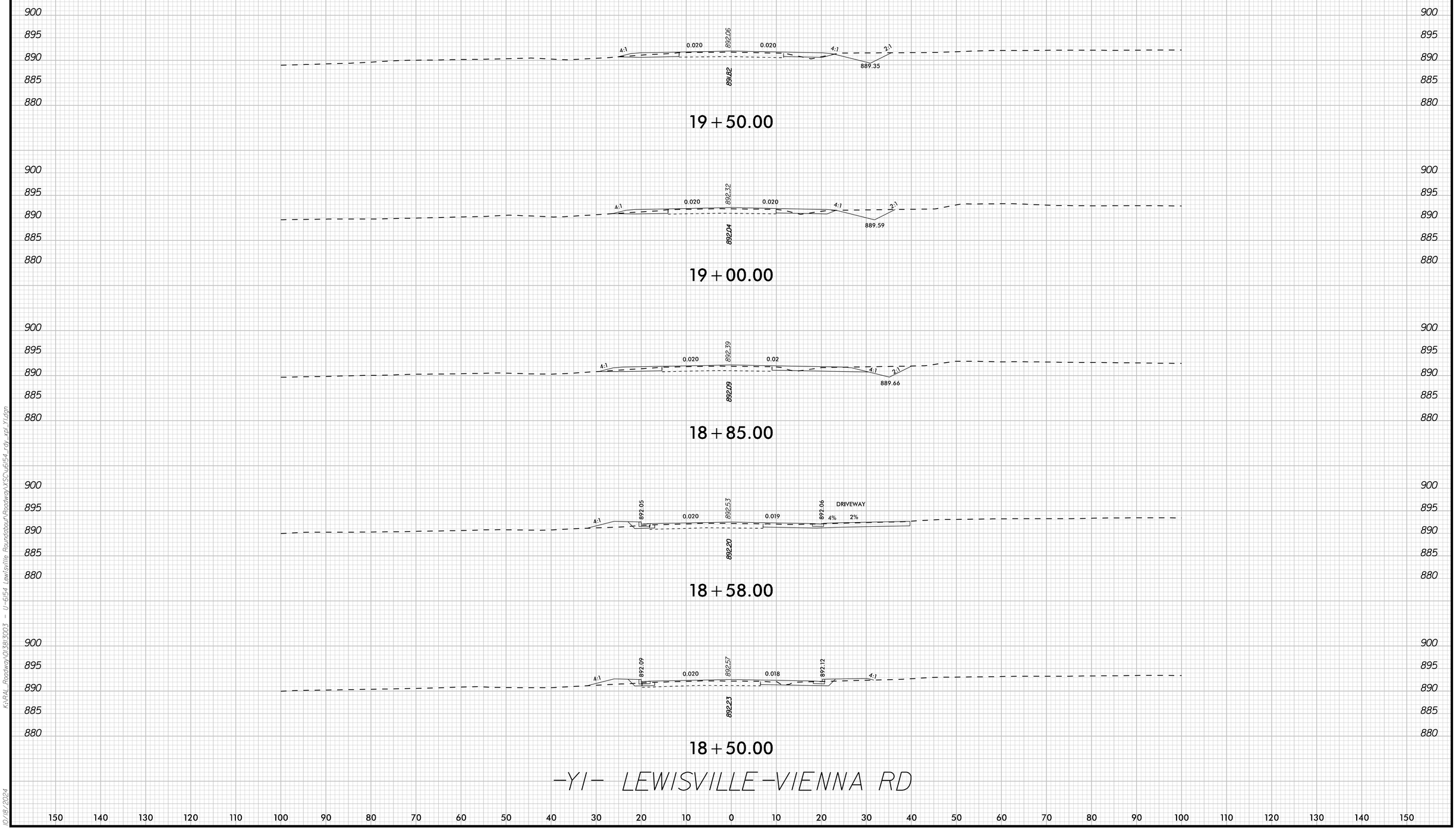
16+37.98

-Y1- LEWISVILLE-VIENNA RD

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

Docusign Envelope ID: 31150416-DD6D-4FB8-9423-EE3BC424B4F4

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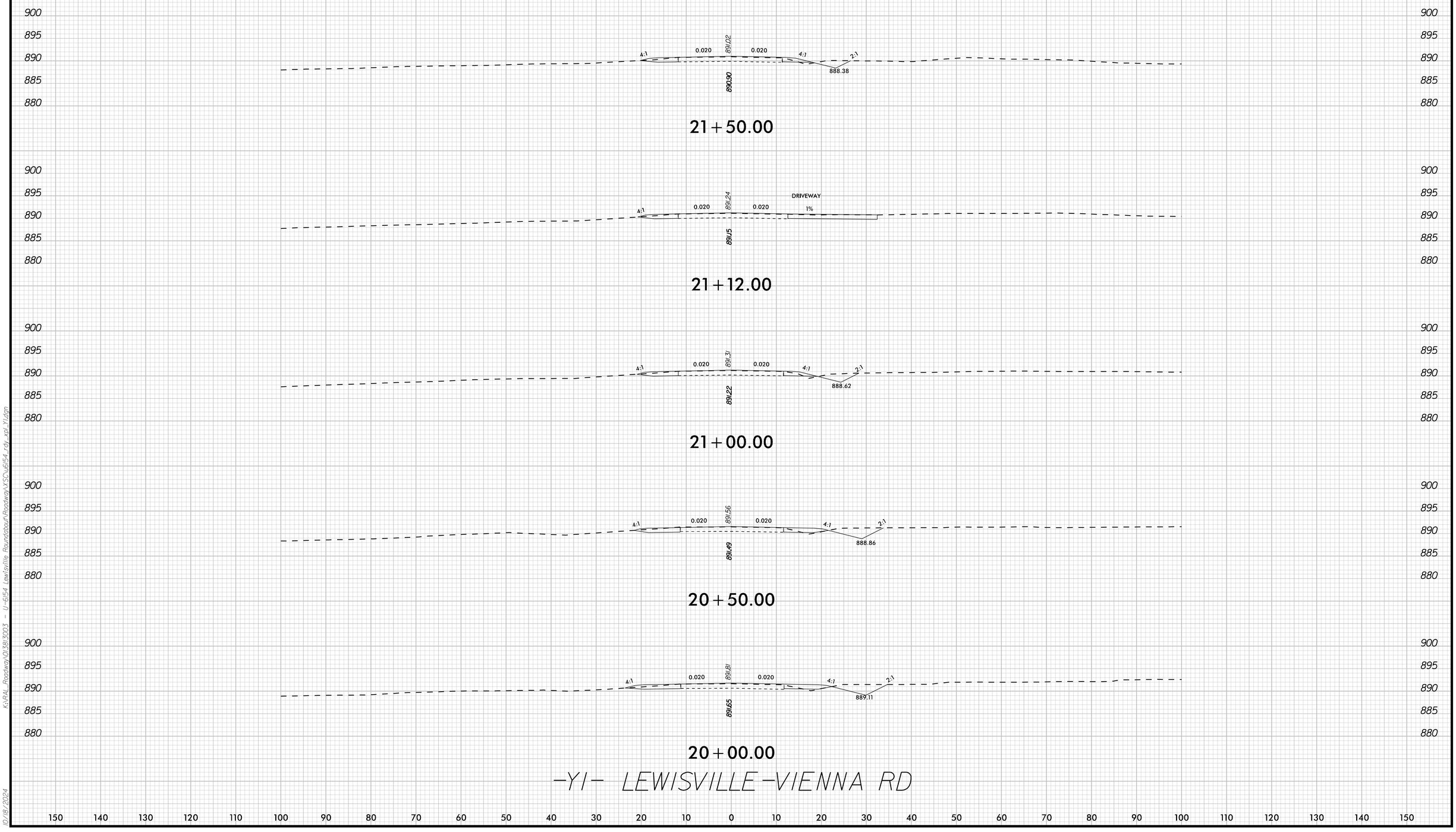


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10/18/2024

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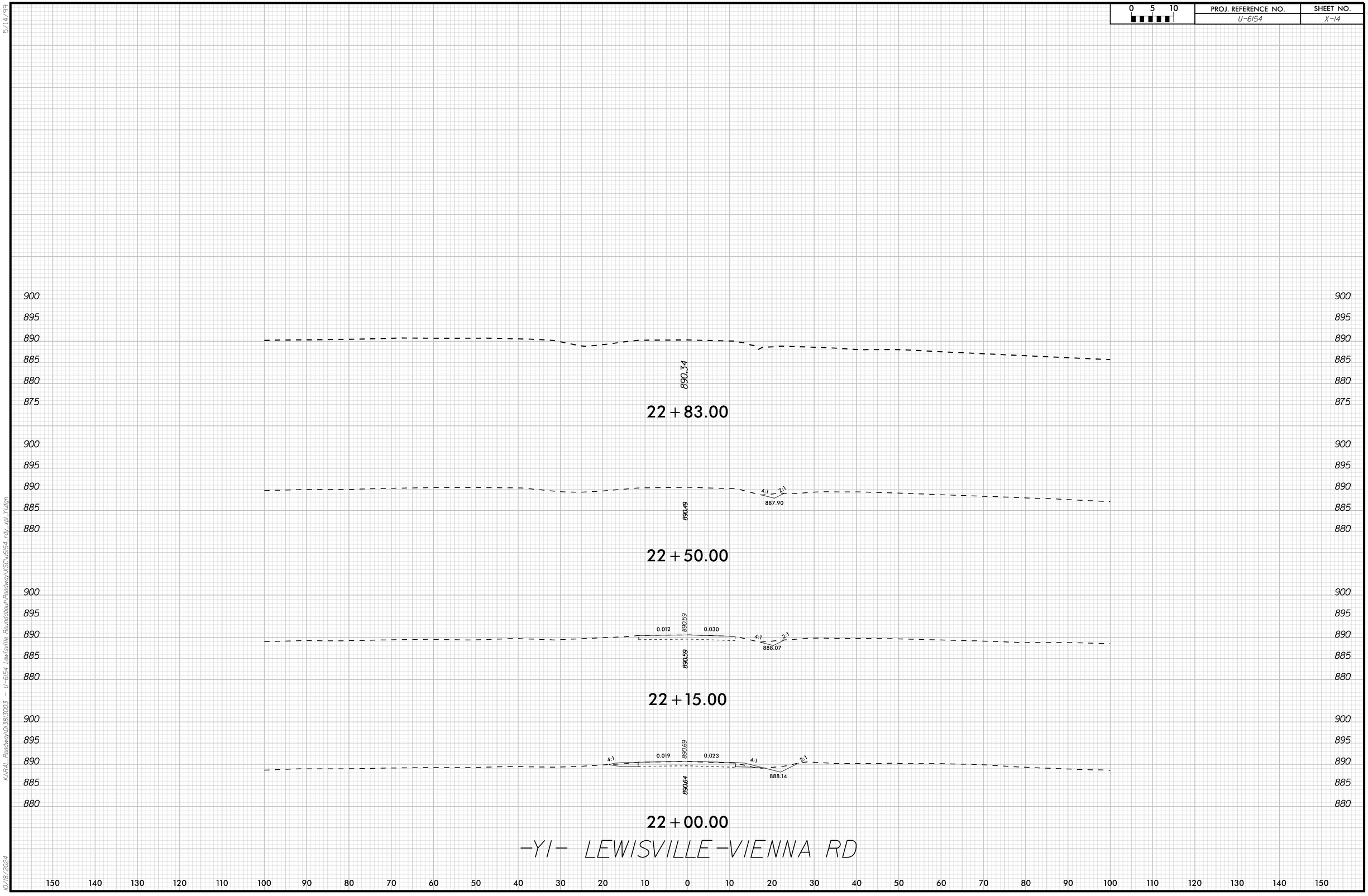
0 5 10

PROJ. REFERENCE NO.	SHEET NO.
U-6154	X-13



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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-6154	X-14



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10/18/2024

Docusign Envelope ID: 31150416-DD6D-4FB8-9423-EE3BC424B4F4

5/14/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-6154	X-15

905 900 895 890 885

CENTER ROUNDABOUT

2:1 4:1 894.28 0.010 894.46

892.70

892.87

10+50.00

905 900 895 890 885

CENTER ROUNDABOUT

2:1 4:1 894.06 0.008 893.96

892.65

893.37

10+40.00

905 900 895 890 885

CENTER ROUNDABOUT

2:1 4:1 893.82 0.006 893.75

892.60

893.07

10+30.00

905 900 895 890 885

CENTER ROUNDABOUT

–Y1– 0.001 893.54

892.43

10+20.00

905 900 895 890 885

CENTER ROUNDABOUT

–Y1– 0.003 893.34

892.46

10+10.00

905 900 895 890 885

CENTER ROUNDABOUT

–Y1– 0.006 893.34

892.76

10+00.00

–RBT–

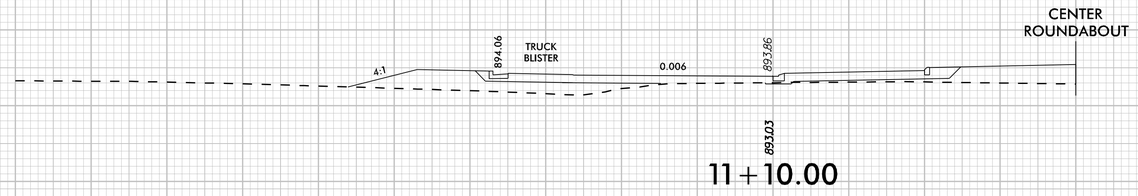
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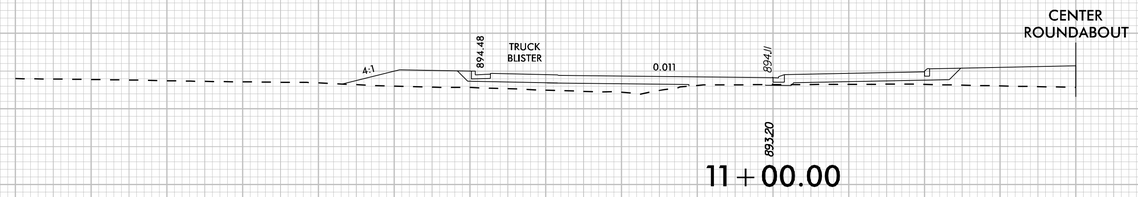
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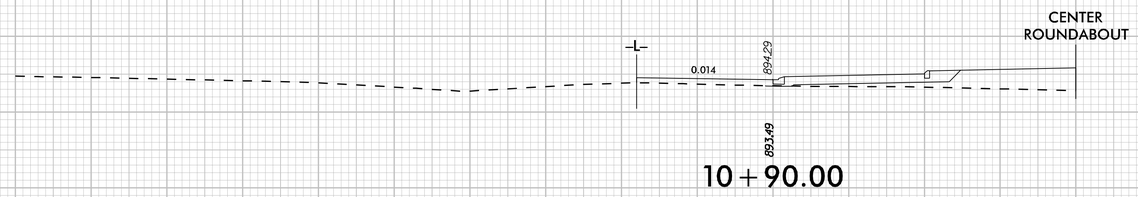
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	U-6154	X-16



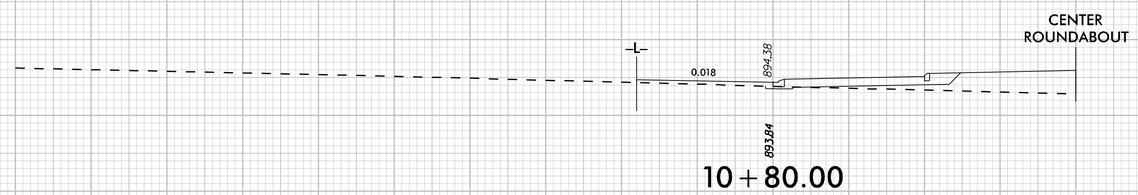
11+10.00



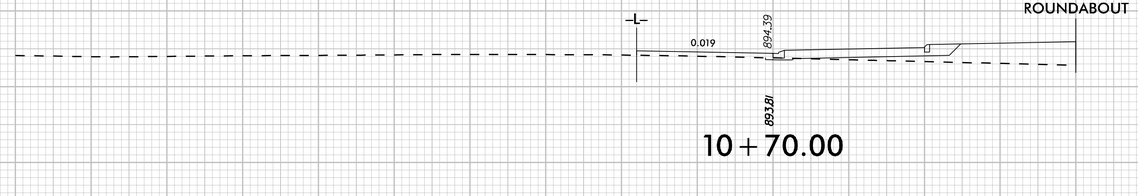
11+00.00



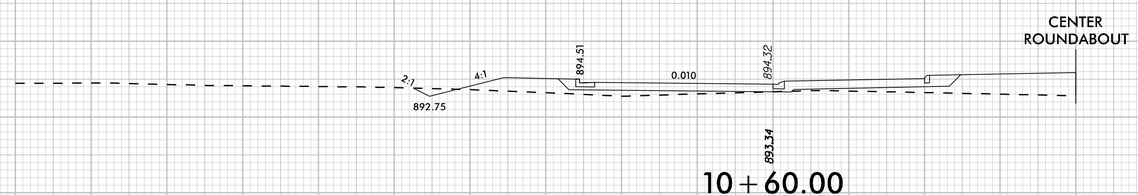
10+90.00



10+80.00



10+70.00



10+60.00

-RBT-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

K:\RAL_Roadway\0.38\3003 - U-6154 Lewisville Roundabout\Roadway\XS\Cu6154_rdy_xpl_ICD.dgn
10/18/2024

Docusign Envelope ID: 31150416-DD6D-4FB8-9423-EE3BC424B4F4

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-6154	X-17

905 900 895 890 885

CENTER ROUNDABOUT

4:1 892.27 0.004 892.46

892.73

11+60.00

905 900 895 890 885

CENTER ROUNDABOUT

–Y1– 0.004 892.70

891.46

11+50.00

905 900 895 890 885

CENTER ROUNDABOUT

–Y1– 0.004 892.98

892.45

11+40.00

905 900 895 890 885

CENTER ROUNDABOUT

–Y1– 0.000 893.27

892.80

11+30.00

905 900 895 890 885

CENTER ROUNDABOUT

–Y1– 0.004 893.56

892.97

11+20.00

–RBT–

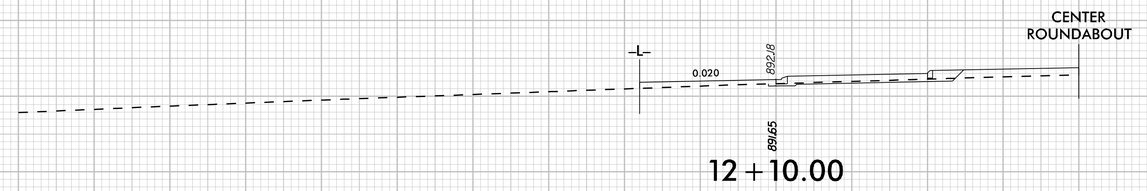
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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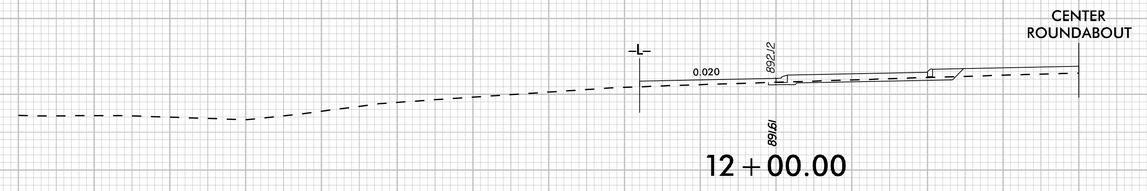
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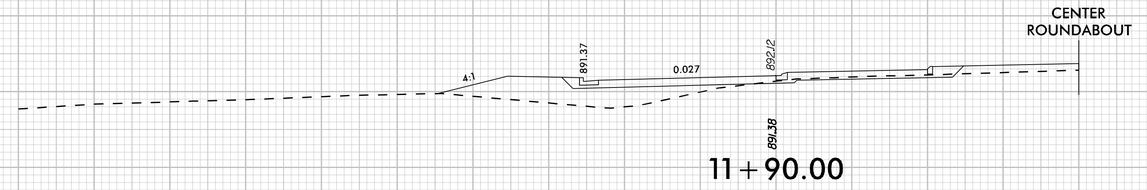
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-6154	X-18



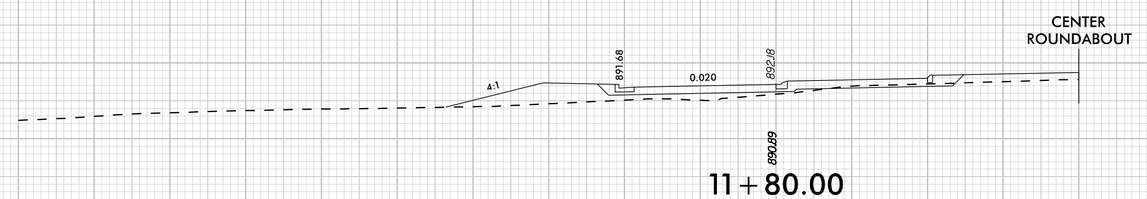
12+10.00



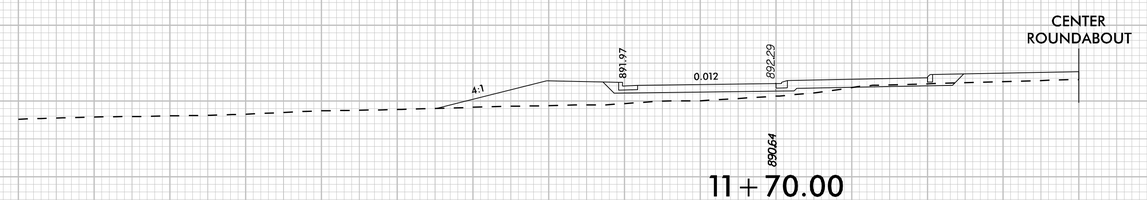
12+00.00



11+90.00



11+80.00



11+70.00

-RBT-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

Docusign Envelope ID: 31150416-DD6D-4FB8-9423-EE3BC424B4F4

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-6154	X-19

