Town of Indian Trail

ADDENDUM NUMBER 01

Indian Trail Complete Project
(EB-5931)

Addendum Issue Date: May 04, 2022

Purpose: The purpose of this Addendum is to make changes, additions, deletions, revisions and clarifications to the bidding documents dated March 10, 2022, for the project referenced above. Firms shall review the Addendum work and requirements in detail and incorporate any effects the Addendum may have in their bid price.

Acknowledgement: Addendum will be issued through Duncan Parnell and the Town of Indian Trail will rely on them for verification purposes. The Town will not be held liable if a particular Firm didn't receive this addendum. All requirements of the RFQ remain unchanged except as cited herein.

RFQ ADDITONS:

No changes need to occur on this RFQ. The following is the 65% plans for (EB-5931) Indian Trail Complete Street Project to help assist planholders with this RFQ submittal.

Advertised: **April 27, 2022**

TOWN OF INDIAN TRAIL

REQUEST for LETTERS of INTEREST (RFLOI)

INDIAN TRAIL COMPLETE STREET

TITLE: **Indian Trail Complete Street (EB-5931)**

ISSUE DATE: **April 27, 2022**

SUBMITTAL DEADLINE: **May 18, 2022**

ISSUING AGENCY: **Town of Indian Trail**

SYNOPSIS

This contract shall be partially reimbursed with Federal-aid funding through the North Carolina Department of Transportation (hereinafter referred to as the Department). The solicitation, selection, and negotiation of a contract shall be conducted in accordance with all Department requirements and guidelines.

The primary and/or subconsultant firm(s) (*if Subconsultants are allowed under this RFLOI*) **shall be pre-qualified by the Department to perform ALL / ANY COMBINATION of the Discipline Codes listed below for the Town of Indian Trail. The Discipline Codes required are:**

- **00013 Appraisal Review**
- **00168 Project Management**
- **00170 Property Management**
- **00185 Relocation Review**
- **00186 Relocation Assistance**
- **00192 Right of Way Appraisals**
- **00194 Right of Way Negotiators**

This RFLOI is to solicit responses (LETTERS of INTEREST, or LOIs) from qualified firms to provide professional consulting services to:

The Town of Indian Trail ("Town") is seeking Statement of Qualifications (SOQ) from Firms and plans to contract with one Firm to provide Right-of-Way Acquisition Services ("Services") for Indian Trail Complete Street Project. The Town is seeking a Firm whose combination of experience and expertise will provide timely, cost-effective services to the Town.

The selected firm shall perform services in accordance with all applicable Town, state, and federal laws.

The selected firm will report directly to the Town. The selected firm is to administer the contract and to ensure that all work is performed in accordance with the contract requirements.

The selected firm will be responsible for providing staff with the appropriate skills and qualifications to ensure contract compliance. The selected firm will be directly responsible for oversight of all right of way services for the Town. The selected firm shall indemnify and save harmless the Town for claims and liabilities resulting from negligence, errors or omissions of the selected firm; including, but not limited to, the selected firms staff and/or subconsultants.

Electronic LOIs should be submitted in .pdf format using software such as Adobe, CutePDF PDF Writer, Docudesk deskPDF, etc.

LOIs **SHALL** be received by mail or hand-delivery **no later than May 18, 2022:**

The address for mailings is:

Town of Indian Trail
PO Box 2430
Indian Trail, NC 28079

The address for hand-deliveries is:

Town of Indian Trail
315 Matthews-Indian Trail Road
Indian Trail, NC 28079

Information related to this solicitation, including any addenda, will be posted on Duncan Purnell website (www.dpibidroom.com). For questions related to this RFQ please email: Todd Huntsinger, Director of Engineering at tdh@indiantrail.org

LOIs received after this deadline will not be considered.

Except as provided below any firm wishing to be considered must be properly registered with the Office of the Secretary of State and with the North Carolina Board of Examiners for Engineers and Surveyors. Any firm proposing to use corporate subsidiaries or subcontractors must include a statement that these companies are properly registered with the North Carolina Board of Examiners for Engineers and Surveyors and/or the NC Board for Licensing of Geologists. The Engineers performing the work and in responsible charge of the work must be registered Professional Engineers in the State of North Carolina and must have a good ethical and professional standing. It will be the responsibility of the selected private firm to verify the registration of any corporate subsidiary or subcontractor prior to submitting a Letter of Interest. Firms which are not providing engineering services need not be registered with the North Carolina Board of Examiners for Engineers and Surveyors. Some of the services being solicited may not require a license. It is the responsibility of each firm to adhere to all laws of the State of North Carolina.

The firm must have the financial ability to undertake the work and assume the liability. The selected firm(s) will be required to furnish proof of Professional Liability insurance coverage in the minimum amount of $1,000,000.00. The firm(s) must have an adequate accounting system to identify costs chargeable to the project.

SCOPE OF WORK

The Town of Indian Trail is soliciting proposals for the services of a firm/team for the following contract scope of work:

Data Review/Collection – Consultant will review plats and plans for errors and omissions, research GIS, Register of Deeds, Secretary of State, etc.

Acquisition Services - Consultant will contact property owners to explain project effects and benefits. They will also fully advise of how the project is affecting their property and be advised of their legal rights and alternatives if necessary.

Submittals - Consultant will provide documents that are fully described in NCDOT Right of Way Manual. This includes but is not limited to the following: Right of way tracking reports and quality control plan. Current title certificate for each parcel as of the date of closing or the date of filing of condemnation, unless required otherwise in the NCDOT April 2015 Right of Way Manual. Consultant will prepare final condemnation report, maps, and exhibits for litigation purposes. They may prepare red-line adjustments for parcels that are not condemned. Consultant shall prepare, execute, and record template documents conveying title to acquired properties to the local agency with the register of deeds. They will provide deed/easement templates for use in securing rights of way and easements. Consultant will provide legal descriptions and deliver all executed and recorded deeds and easements to the local agency. They shall prepare appraisals for all right of way, control of access, and easement acquisitions. Claim reports (appraisal waiver) will be allowed but must be submitted to NCDOT for review/approval. Consultant shall be expected to perform other duties required by NCDOT Right of Manual that may not have been described above as well.

PROPOSED CONTRACT TIME: 9 Months

PROPOSED CONTRACT PAYMENT TYPE: Itemized Breakdown (Lump Sum per Service Provided)

SUBMITTAL REQUIREMENTS

All LOIs are limited to **FIFTEEN (15)** pages (RS-2 forms are not included in the page count) inclusive of the cover sheet and shall be typed on 8-1/2" x 11" sheets, single-spaced, one-sided.

Fold out pages are not allowed. In order to reduce costs and to facilitate recycling; binders, dividers, tabs, etc. are prohibited. One staple in the upper left-hand corner is preferred.

LOIs containing more than 20 pages will not be considered.

One (1) hard copy of the LOI should be submitted.

Firms submitting LOIs are encouraged to carefully check them for conformance to the requirements stated above. If LOIs do not meet ALL of these requirements they will be disqualified. No exception will be granted.

SELECTION PROCESS

Following is the selection process:

- The LGA's Selection Committee will review all qualifying LOI submittals.
- Project-Specific Contract (non On-Call), the LGA's Selection Committee will select one consultant firm with no interviews being warranted. SUBMISSION SCHEDULE AND KEY DATES at the end of this RFLOI.
- In order to be considered for selection, consultants must submit a complete response to this RFLOI prior to the specified deadlines. Failure to submit all information in a timely manner will result in disqualification.

TITLE VI NONDISCRIMINATION NOTIFICATION

The LGA in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 US.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all RESPONDENTS that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit LETTERS of INTEREST (LOIs) in response to this ADVERTISEMENT and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

SMALL PROFESSIONAL SERVICE FIRM (SPSF) PARTICIPATION

The Department encourages the use of Small Professional Services Firms (SPSF). Small businesses determined to be eligible for participation in the SPSF program are those meeting size standards defined by Small Business Administration (SBA) regulations, 13 CFR Part 121 in Sector 54 under the North American Industrial Classification System (NAICS). The SPSF program is a race, ethnicity, and gender neutral program designed to increase the availability of contracting opportunities for small businesses on federal, state or locally funded contracts. SPSF participation is not contingent upon the funding source.

The Firm, at the time the Letter of Interest is submitted, shall submit a listing of all known SPSF firms that will participate in the performance of the identified work. The participation shall be submitted on the Department's Subconsultant Form RS-2. RS-2 forms may be accessed on the Department's website at NCDOT Connect Guidelines & Forms.

The SPSF must be qualified with the Department to perform the work for which they are listed.

PREQUALIFICATION

The Department maintains on file the qualifications and key personnel for each approved discipline, as well as any required samples of work. Each year on the anniversary date of the company, the firm shall renew their prequalified disciplines. If your firm has not renewed its application as required by your anniversary date or if your firm is not currently prequalified, please submit an application to the Department **prior to submittal of your LOI**. An application may be accessed on the Department's website at Prequalifying Private Consulting Firms -- Learn how to become Prequalified as a Private Consulting Firm with NCDOT. Having this data on file with the Department eliminates the need to resubmit this data with each letter of interest.

Professional Services Contracts are race and gender neutral and do not contain goals. However, the Respondent is encouraged to give every opportunity to allow Disadvantaged, Minority-Owned and Women-Owned Business Enterprises (DBE/MBE/WBE) subconsultant utilization on all LOIs, contracts and supplemental agreements. The Firm, subconsultant and subfirm shall not discriminate on the basis of race, religion, color, national origin, age, disability or sex in the performance of this contract.

DIRECTORY OF FIRMS AND DEPARTMENT ENDORSEMENT

Real-time information about firms doing business with the Department, and information regarding their prequalifications and certifications, is available in the Directory of Transportation Firms. The Directory can be accessed on the Department's website at Directory of Firms -- Complete listing of certified and prequalified firms.

The listing of an individual firm in the Department's directory shall not be construed as an endorsement of the firm.

SELECTION CRITERIA

All prequalified firms who submit responsive letters of interest will be considered.

In selecting a firm/team, the selection committee will take into consideration qualification information including such factors as:

1. Firm's experience, knowledge, familiarity and past performance similar federally funded municipal acquisition and relocation projects. – 35%

2. The experience of the firm's proposed staff to perform the type of work required – 35%

3. Firm's understanding of the project specific issues and their responsibility in delivering services for the advertised project – 30%

After reviewing qualifications, if firms are equal on the evaluation review, then those qualified firms with proposed SPSF participation will be given priority consideration.

SUBMISSION ORGANIZATION AND INFORMATION REQUIREMENTS

The LOI should be addressed to Todd Huntsinger, Director of Engineering, and must include the name, address, telephone number, and e-mail address of the prime consultant's contact person for this RFLOI.

The LOI must also include the information outlined below:

Chapter 1 - Introduction

The Introduction should demonstrate the consultant's overall qualifications to fulfill the requirements of the scope of work and should contain the following elements of information:

- Expression of firm's interest in the work;
- Statement of whether firm is on register;
- Date of most recent private engineering firm qualification;
- Statement regarding firm's(') possible conflict of interest for the work; and
- Summation of information contained in the letter of interest.

Chapter 2 - Team Qualifications

This chapter should elaborate on the general information presented in the introduction, to establish the credentials and experience of the consultant to undertake this type of effort. The following must be included:

1. Identify recent, similar projects the firm, acting as the prime contractor, has conducted which demonstrates its ability to conduct and manage the project. Provide a synopsis of each project and include the date completed, and contact person.
2. If subconsultants are involved, provide corresponding information describing their qualifications as requested in bullet number 1 above.

Chapter 3 - Team Experience

This chapter must provide the names, classifications, and location of the firm's North Carolina employees and resources to be assigned to the advertised work; and the professional credentials and experience of the persons assigned to the project, along with any unique qualifications of key personnel. Although standard personnel resumes may be included, identify pertinent team experience to be applied to this project. Specifically, the Department is interested in the experience, expertise, and total quality of the consultant's proposed team. If principals of the firm will not be actively involved in the study/contract/project, do not list them. The submittal shall clearly indicate the Consultant's Project Manager, other key Team Members and his/her qualifications for the proposed work. Also, include the team's organization chart for the Project / Plan. A Capacity Chart / Graph (available work force) should also be included. Any other pertinent information should also be listed in this section.

Note: If a project team or subconsultant encounters personnel changes, or any other changes of significance dealing with the company, NCDOT should be notified immediately.

Chapter 4 - Technical Approach

The consultant shall provide information on its understanding of, and approach to accomplish, this project, including their envisioned scope for the work and any innovative ideas/approaches, and a schedule to achieve the dates outlined in this RFLOI (if any project-specific dates are outlined below).

APPENDICES-

CONSULTANT CERTIFICATION Form RS-2

Completed Form RS-2 forms SHALL be submitted with the firm's letter of interest. This section is limited to the number of pages required to provide the requested information.

Submit Form RS-2 forms for the following:

- **Prime Consultant firm**
  - Prime Consultant Form RS-2 Rev 1/14/08; and
- **ANY/ALL Subconsultant firms** (*If Subconsultants are allowed under this RFLOI*) to be, or anticipated to be, utilized by your firm.
  - Subconsultant Form RS-2 Rev 1/15/08.

- In the event the firm has no subconsultant, it is required that this be indicated on the Subconsultant Form RS-2 by entering the word "None" or the number "ZERO" and signing the form.

Complete and sign each Form RS-2 (instructions are listed on the form).

The required forms are available on the Department's website at:
https://connect.ncdot.gov/business/consultants/Pages/Guidelines-Forms.aspx

Prime Consultant Form RS-2

Subconsultant Form RS-2

All questions concerning this RFLOI should be directed to Todd Huntsinger, Director of Engineering (tdh@indiantrail.org) at Town of Indian Trail.

SUBMISSION SCHEDULE AND KEY DATES

RFLOI Release – **April 27, 2022**

Deadline for Questions – **May 13, 2022**

Issue Final Addendum – **May 16, 2022**

Deadline for LOI Submission – **May 18, 2022**

Shortlist Announced * - **May 19, 2022**

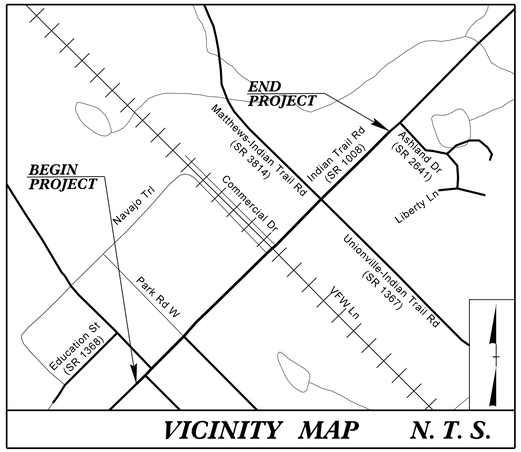
Interviews – **Town has chosen not to perform interviews**

Firm Selection and Notification ** - **May 27, 2022**

Anticipated Notice to Proceed – **June 29, 2022**

* Notification will **ONLY** be sent to shortlisted firms.

** Notification will **ONLY** be sent to selected firms.



VICINITY MAP N. T. S.

65% PLANS

TOWN OF INDIAN TRAIL
DEPARTMENT OF ENGINEERING AND PUBLIC WORKS

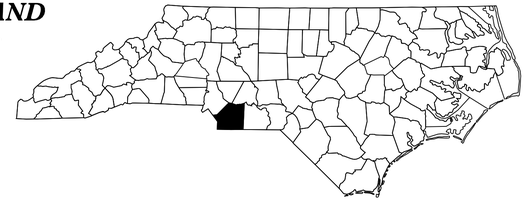
UNION COUNTY

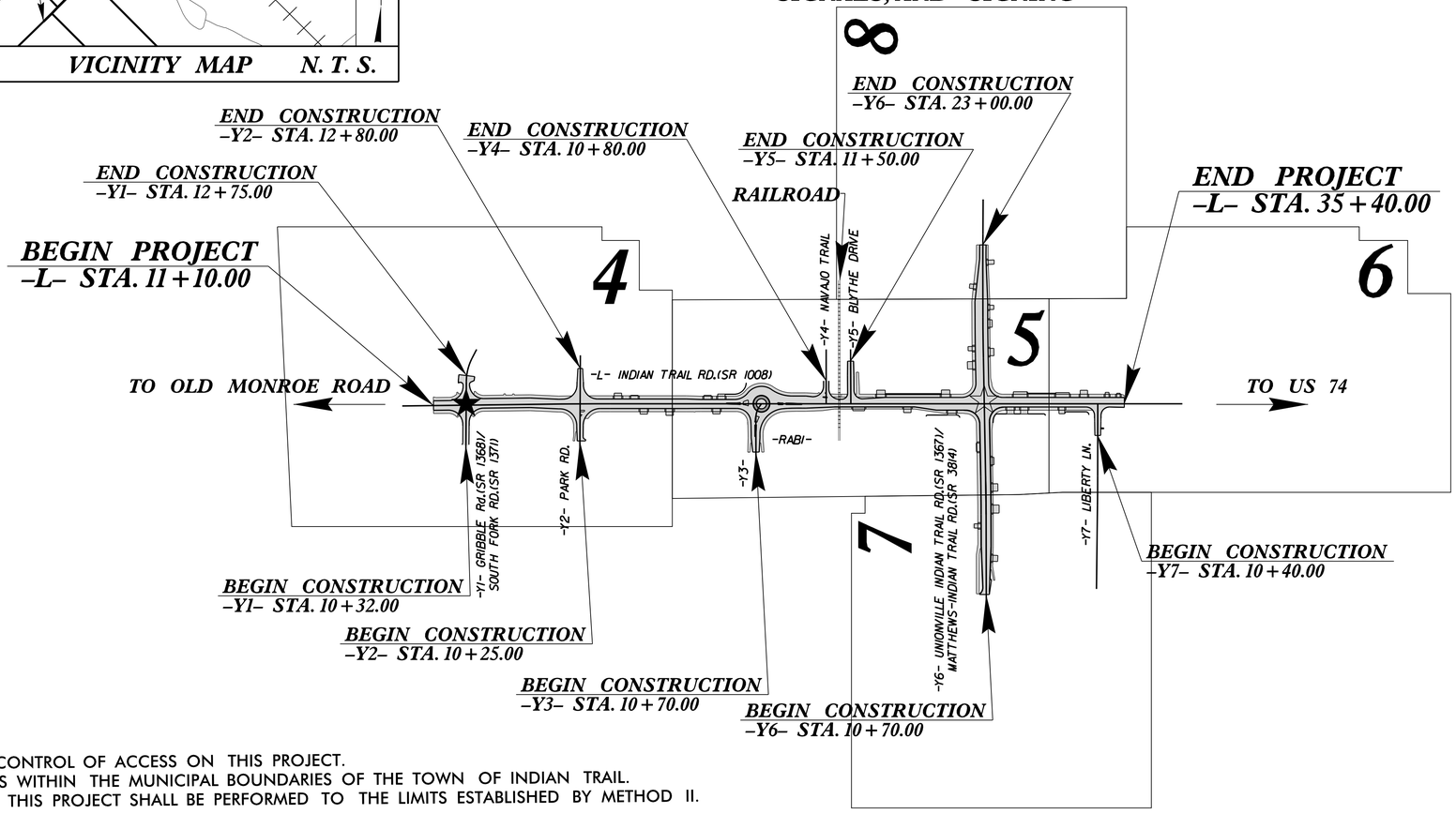
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	EB–5931	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
47696.3.1	STBGDA–1003(171)	P.E.
47696.3.2	STBGDA–1003(171)	ROW, UTIL

LOCATION: INDIAN TRAIL ROAD (SR 1008) COMPLETE STREETS AND SURROUNDING AREA INTERSECTION IMPROVEMENTS

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





THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF INDIAN TRAIL.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

★ PROPOSED SIGNAL
☆ EXISTING SIGNAL

RS&H
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT: TIP PROJECT: EB–5931

GRAPHIC SCALES

50 0 50 100 PLANS

50 0 50 100 PROFILE (HORIZONTAL)

10 0 10 20 PROFILE (VERTICAL)

DESIGN DATA

ADT 2022 = 20,900
ADT 2045 = 31,350
K = 7 %
D = 60 %
T = 2 %
V = 30 MPH

FUNC CLASS = (MINOR ARTERIAL) REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT EB–5931 = 0.460 MILES

TOTAL LENGTH TIP PROJECT EB–5931 = 0.460 MILES

–L– USED TO CALCULATE PROJECT LENGTH

TODD HUNTSINGER
TOWN OF INDIAN TRAIL CONTACT

PREPARED IN THE OFFICE OF:
RS&H
FOR THE TOWN OF INDIAN TRAIL
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: APRIL 1, 2022

LETTING DATE: MAY 23, 2023

ALLISON DRAKE, PE
PROJECT ENGINEER

IAN BERDEAU, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ *P.E.*

TOWN SEAL OF INDIAN TRAIL NORTH CAROLINA 1907

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	1A

ROADWAY DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

INDEX OF SHEETS

1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-7	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3B-1	SUMMARY OF EARTHWORK AND PAVEMENT REMOVAL SUMMARY
3D-1 THRU 3D-4	DRAINAGE SUMMARY SHEETS
3P-1	PARCEL INDEX SHEET
4 THRU 8	PLAN SHEETS
RW 4 THRU RW 8	RIGHT OF WAY SHEETS
9 THRU 11	PROFILE SHEETS
TMP-1B THRU TMP-13	TRAFFIC MANAGEMENT PLANS
EC-1 THRU EC-13	EROSION CONTROL PLANS
X-1A THRU X-1B	CROSS-SECTION SUMMARY SHEETS
X-1 THRU X-26	CROSS-SECTIONS

GENERAL NOTES

GENERAL NOTES AND STANDARD DRAWINGS TO BE ADDED AFTER TOWN APPROVAL.

STANDARD DRAWINGS

31-MAR-2022 15:15
R:\Design\Roadway\Proj\Indian Trail_Rdy_tsh.dgn
$$$$USERNAME$$$$

9/10/2021

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	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) — EIP
- Computed Property Corner
- Existing Concrete Monument (ECM) — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil — S
- Potential Contamination Area: Soil — S
- Known Contamination Area: Water — W
- Potential Contamination Area: Water — W
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY & PROJECT CONTROL:

- 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
- Hedge

- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

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

MINOR:

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

UTILITIES:

** 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 Manhole — P
- 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 — T
- Telephone Pedestal — T
- 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.

Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

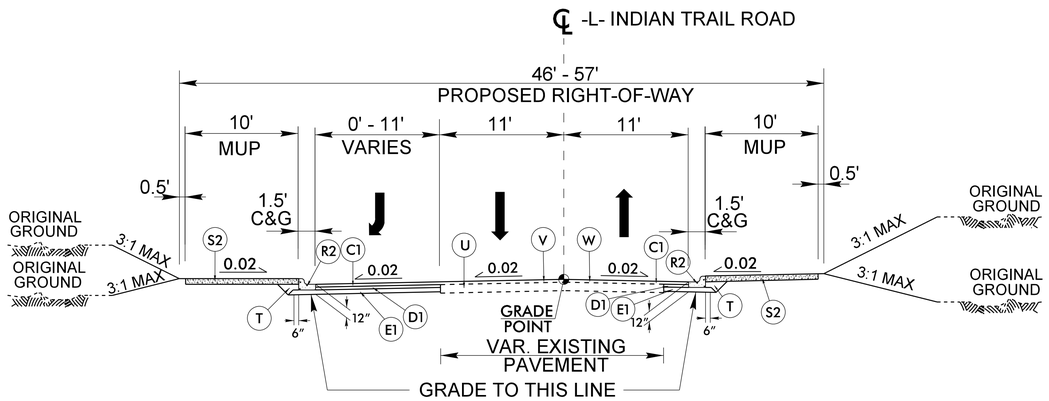
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

PAVEMENT SCHEDULE

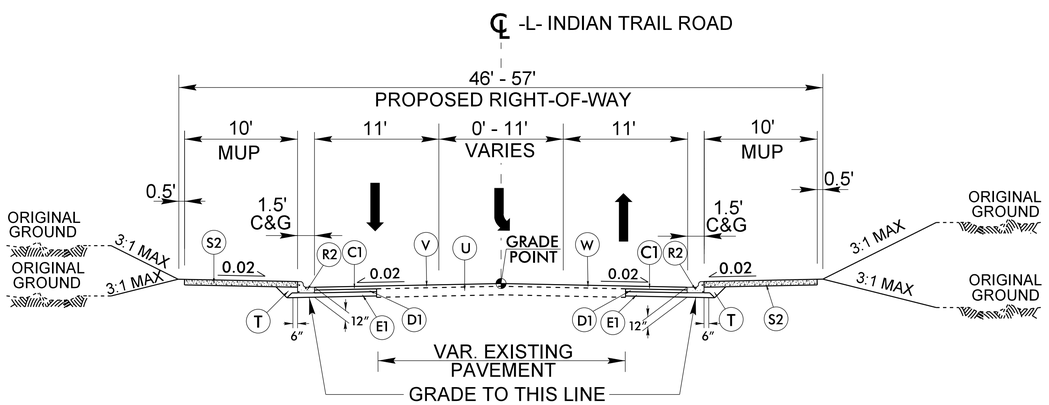
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	2'-6" CONCRETE CURB AND GUTTER	S1	4" CONCRETE SIDEWALK
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" OR GREATER THAN 1½" IN DEPTH.	R2	1'-6" CONCRETE CURB AND GUTTER	S2	4" CONCRETE MULTI-USE PATH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R3	1'-6" MOUNTABLE CONCRETE CURB AND GUTTER	T	EARTH MATERIAL
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2½" OR GREATER THAN 4" IN DEPTH.	R5	5" MONOLITHIC ISLAND	U	EXISTING PAVEMENT
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	R6	7" JOINTED CONCRETE (CLASS AA)	V	3" MILLING
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5½" IN DEPTH.	R7	9" x 18" CONCRETE CURB	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-1).

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



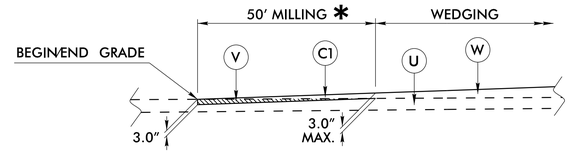
TYPICAL SECTION NO. 1

-L- STA. 11+10.00 TO STA. 14+50.00



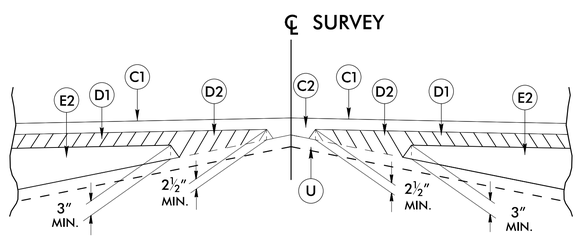
TYPICAL SECTION NO. 2

-L- STA. 14+50.00 TO STA. 22+18.63



Detail of 3" Milling at Pavement Tie-ins

✱ NOTE: OR AS DIRECTED BY ENGINEER



Detail Showing Method of Wedging

31-MAR-2022 15:15
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Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	2A-2

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

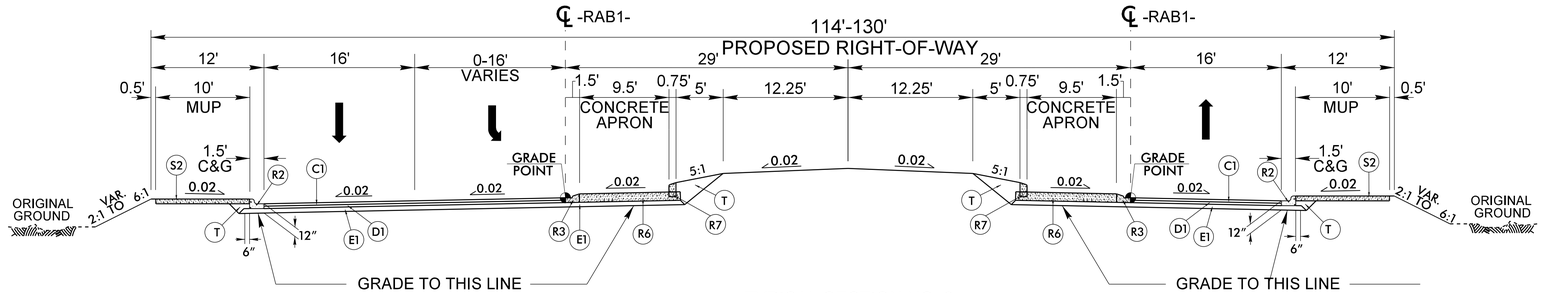
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

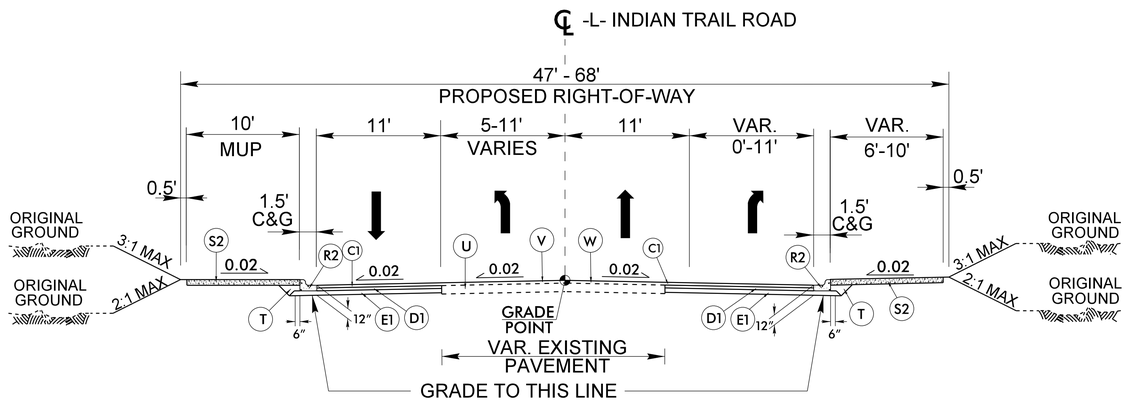
PAVEMENT SCHEDULE

C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	2'-6" CONCRETE CURB AND GUTTER	S1	4" CONCRETE SIDEWALK
C2	PROP. 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 1½" IN DEPTH.	R2	1'-6" CONCRETE CURB AND GUTTER	S2	4" CONCRETE MULTI-USE PATH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R3	1'-6" MOUNTABLE CONCRETE CURB AND GUTTER	T	EARTH MATERIAL
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2½" OR GREATER THAN 4" IN DEPTH.	R5	5" MONOLITHIC ISLAND	U	EXISTING PAVEMENT
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	R6	7" JOINTED CONCRETE (CLASS AA)	V	3" MILLING
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5½" IN DEPTH.	R7	9" x 18" CONCRETE CURB	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-1).

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



TYPICAL SECTION NO. 3
-RAB1- STA. 10+00.00 TO STA. 11+82.21



TYPICAL SECTION NO. 4
-L- STA. 23+18.63 TO STA. 30+47.49

Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	2A-3
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

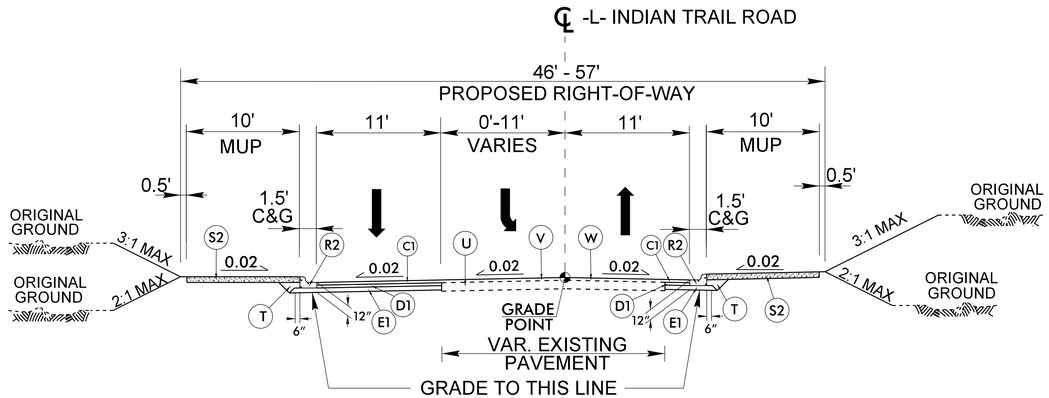
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

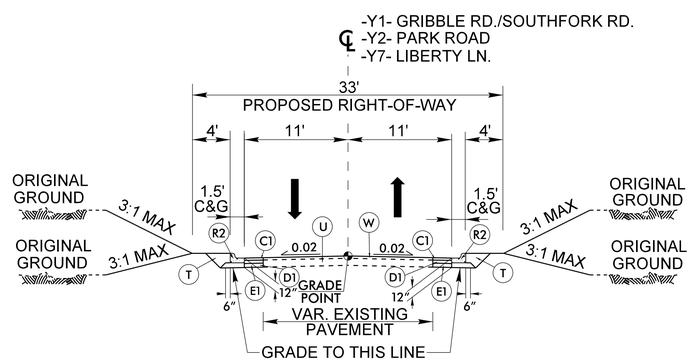
PAVEMENT SCHEDULE

C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	2'-6" CONCRETE CURB AND GUTTER	S1	4" CONCRETE SIDEWALK
C2	PROP. 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 1½" IN DEPTH.	R2	1'-6" CONCRETE CURB AND GUTTER	S2	4" CONCRETE MULTI-USE PATH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R3	1'-6" MOUNTABLE CONCRETE CURB AND GUTTER	T	EARTH MATERIAL
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2½" OR GREATER THAN 4" IN DEPTH.	R5	5" MONOLITHIC ISLAND	U	EXISTING PAVEMENT
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	R6	7" JOINTED CONCRETE (CLASS AA)	V	3" MILLING
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5½" IN DEPTH.	R7	9" x 18" CONCRETE CURB	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-1).

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



TYPICAL SECTION NO. 5
-L- STA. 30+47.49 TO STA. 35+40.00



TYPICAL SECTION NO. 6
-Y1- STA. 10+98.82 TO STA. 11+60.02
-Y1- STA. 11+93.03 TO STA. 12+75.00
-Y2- STA. 11+71.96 TO STA. 12+32.51
-Y7- STA. 11+00.35 TO STA. 11+40.41

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$$$$USERNAME$$$$

Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	2A-4

ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
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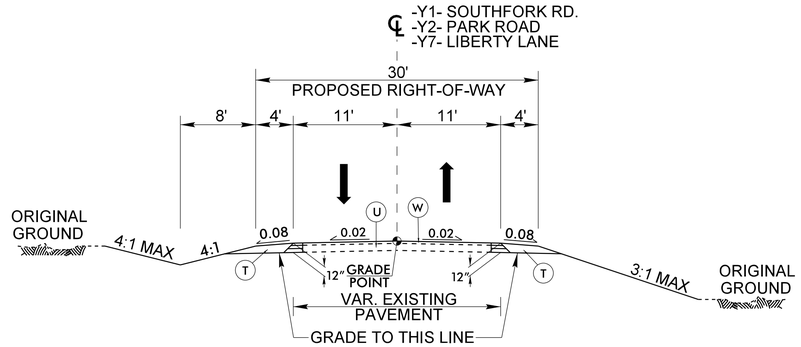
RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

PAVEMENT SCHEDULE

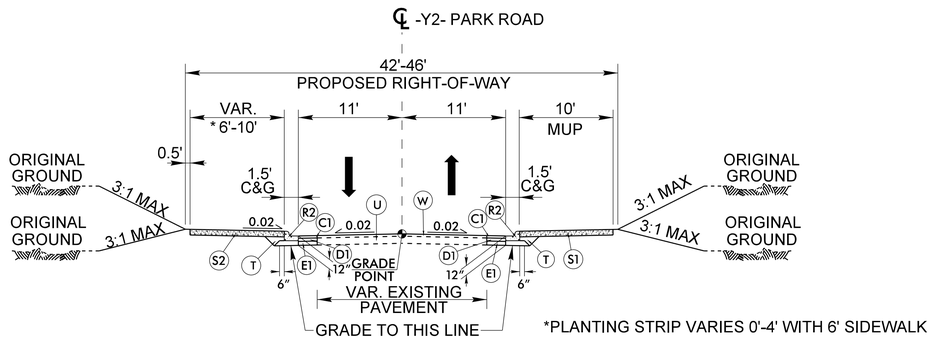
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	2'-6" CONCRETE CURB AND GUTTER	S1	4" CONCRETE SIDEWALK
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" OR GREATER THAN 1½" IN DEPTH.	R2	1'-6" CONCRETE CURB AND GUTTER	S2	4" CONCRETE MULTI-USE PATH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R3	1'-6" MOUNTABLE CONCRETE CURB AND GUTTER	T	EARTH MATERIAL
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2½" OR GREATER THAN 4" IN DEPTH.	R5	5" MONOLITHIC ISLAND	U	EXISTING PAVEMENT
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	R6	7" JOINTED CONCRETE (CLASS AA)	V	3" MILLING
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5½" IN DEPTH.	R7	9" x 18" CONCRETE CURB	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-1).

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



TYPICAL SECTION NO. 7

-Y1- STA. 10+32.00 TO STA. 10+98.82
-Y2- STA. 12+32.51 TO STA. 12+80.00
-Y7- STA. 10+40.00 TO STA. 11+00.35



TYPICAL SECTION NO. 8

-Y2- STA. 10+25.00 TO STA. 11+38.96

Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	2A-5

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

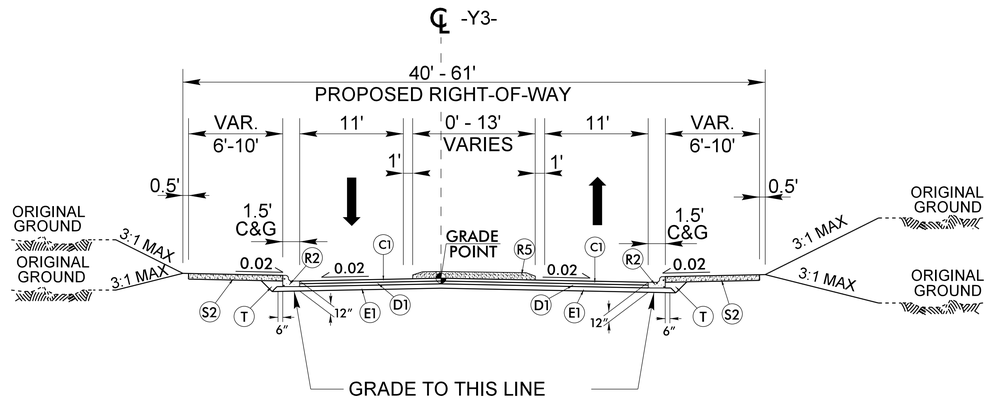
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

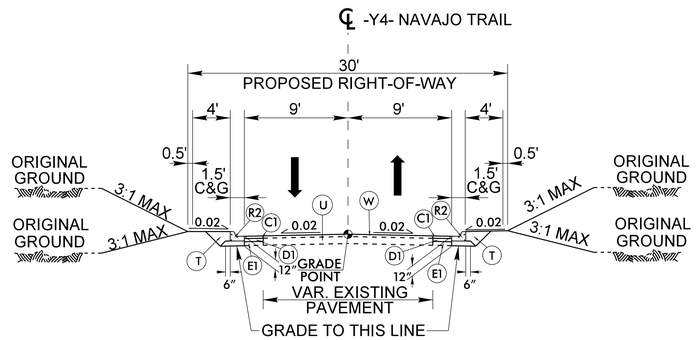
PAVEMENT SCHEDULE

C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	2'-6" CONCRETE CURB AND GUTTER	S1	4" CONCRETE SIDEWALK
C2	PROP. 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 1½" IN DEPTH.	R2	1'-6" CONCRETE CURB AND GUTTER	S2	4" CONCRETE MULTI-USE PATH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R3	1'-6" MOUNTABLE CONCRETE CURB AND GUTTER	T	EARTH MATERIAL
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2½" OR GREATER THAN 4" IN DEPTH.	R5	5" MONOLITHIC ISLAND	U	EXISTING PAVEMENT
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	R6	7" JOINTED CONCRETE (CLASS AA)	V	3" MILLING
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5½" IN DEPTH.	R7	9" x 18" CONCRETE CURB	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-1).

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



TYPICAL SECTION NO. 9
-Y3- STA. 10+70.00 TO STA. 11+99.37



TYPICAL SECTION NO. 10
-Y4- STA. 10+19.16 TO STA. 10+80.00

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Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	2A-6
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

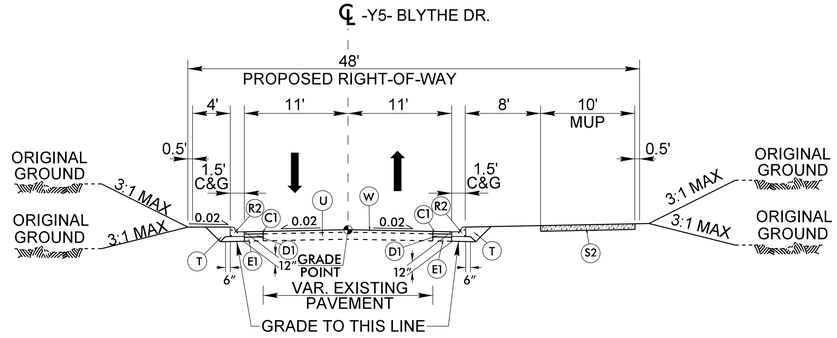
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

PAVEMENT SCHEDULE

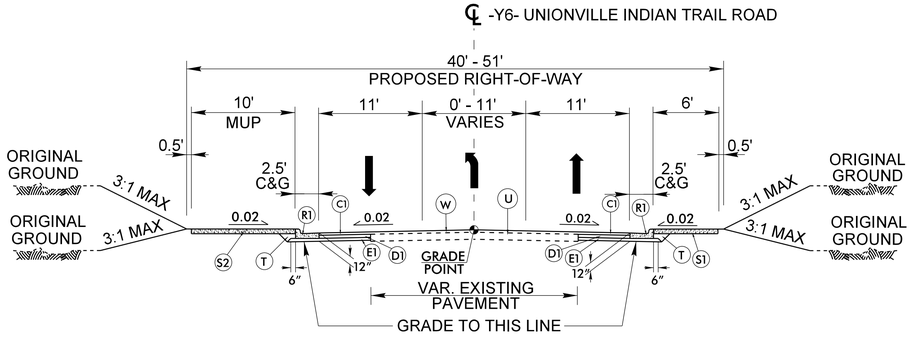
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	2'-6" CONCRETE CURB AND GUTTER	S1	4" CONCRETE SIDEWALK
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" OR GREATER THAN 1½" IN DEPTH.	R2	1'-6" CONCRETE CURB AND GUTTER	S2	4" CONCRETE MULTI-USE PATH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R3	1'-6" MOUNTABLE CONCRETE CURB AND GUTTER	T	EARTH MATERIAL
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2½" OR GREATER THAN 4" IN DEPTH.	R5	5" MONOLITHIC ISLAND	U	EXISTING PAVEMENT
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	R6	7" JOINTED CONCRETE (CLASS AA)	V	3" MILLING
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5½" IN DEPTH.	R7	9" x 18" CONCRETE CURB	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-1).

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



TYPICAL SECTION NO. 11

-Y5- STA. 10+16.00 TO STA. 11+50.00



TYPICAL SECTION NO. 12

-Y6- STA. 10+70.00 TO STA. 17+29.95

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$$$$USERNAME$$$$

Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	2A-7
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

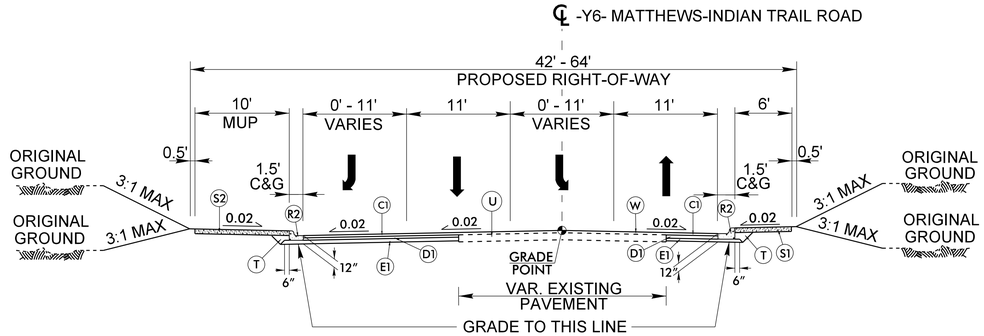
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

PAVEMENT SCHEDULE

C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	2'-6" CONCRETE CURB AND GUTTER	S1	4" CONCRETE SIDEWALK
C2	PROP. 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 1½" IN DEPTH.	R2	1'-6" CONCRETE CURB AND GUTTER	S2	4" CONCRETE MULTI-USE PATH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R3	1'-6" MOUNTABLE CONCRETE CURB AND GUTTER	T	EARTH MATERIAL
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2½" OR GREATER THAN 4" IN DEPTH.	R5	5" MONOLITHIC ISLAND	U	EXISTING PAVEMENT
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	R6	7" JOINTED CONCRETE (CLASS AA)	V	3" MILLING
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5½" IN DEPTH.	R7	9" x 18" CONCRETE CURB	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-1).

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



TYPICAL SECTION NO. 13
-Y6- STA. 17+62.96 TO STA. 23+00.00

12/06/07

COMPUTED BY: EWB DATE: 03/25/2022
CHECKED BY: IWB DATE: 03/25/2022

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	3B-1

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	UNDERCUT	EMBANK. +20%	BORROW	WASTE
–L– 11+10.00	–L– 35+40.00	657		3,107	2,450	0
–Y1– 10+32.00	–Y1– 12+75.00	54		49	0	5
–Y2– 10+25.00	–Y2– 12+80.00	72		62	0	10
–Y3– 10+70.00	–Y3– 11+99.37	37		126	89	0
–Y4– 10+19.16	–Y4– 10+80.00	16		8	0	8
–Y5– 10+16.00	–Y5– 11+50.00	32		52	20	0
–Y6– 10+70.00	–Y6– 23+00.00	291		1,922	1,631	0
–Y7– 10+40.00	–Y7– 11+40.41	35		34	0	1
–RAB1– 10+00.00	–RAB1– 11+50.00	0		680	0	0
SUBTOTAL:						
PROJECT TOTALS:		1,194		6,040	4,870	24
LOSS DUE TO CLEARING & GRUBBING						
ADDITIONAL UNDERCUT						
WASTE IN LIEU OF BORROW					–24	–24
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT					226	
GRAND TOTALS:		1,194		6,040	5,088	0
SAY:		1,200			5,100	

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	YD^2
–L–	25+65	25+85	93.35
		TOTAL:	93.35
		SAY:	95

7-MAR-2022 15:15
R:\Design\Roads\Proj\Indian Trail_Rdy_sum.dgn
$$$$IFRNAME$$$$

COMPUTED BY: BJF DATE: 4/1/2022

CHECKED BY: CMB DATE: 4/1/2022

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
EB-5931 (Indian Trail Rd. Complete Streets)	3D-1

RD24621

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 | INVERT ELEVATION | INVERT ELEVATION | MINIMUM REQUIRED SLOPE | DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE | | | | | | | | DO NOT USE: RCP | DO NOT USE: CSP | DO NOT USE: CAAP | DO NOT USE: HDPE | C.S. PIPE THICKNESS OR GAUGE | | | | | | | | | | | | R.C. PIPE CLASS III | | | | | | | | | | | | R.C. PIPE CLASS IV or CLASS V (SEE PLANS) | | | | | | | | | | | | ENDWALLS STD. 838.01 OR STD.838.11 (UNLESS OTHERWISE NOTED) | REINFORCED ENDWALLS | MASONRY DRAINAGE STRUCTURE | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) | | QUANTITIES FOR DRAINAGE STRUCTURES "TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') | | | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 | | | CONCRETE TRANSITIONAL SECTION | | D.I. STD. 852.04 OR STD. 852.06 | C.B. STD. 852.05 | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | T.B. G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.29 | 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. (W.S. SAG) FRAME W/ 3 GRATES STD. 840.22 | G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | T.B. J.B. STD. 840.34 | T.B.G.D.I. STD. 840.36 | STEEL FRAME AND TWO GRATES STD. 840.37 | STEEL FRAME AND GRATE STD. 840.37 | M.H. STD. 840.51, STD. 840.52, OR STD.53 | M.H. FRAME AND COVER STD. 840.54 | Town of Indian Trail Curb Inlet (See Sheet 2D-1) | CONCRETE OPEN THROAT CATCH BASIN STD. 846.04 | CONVERT EXISTING D.I. TO J.B. | CONVERT EXISTING J.B. TO 2 G.I. | CONVERT C.B. TO D.I. | ADJUST EXISTING MANHOLE | ADJUST EXISTING C.B. | ADJUST D.I. | ADJUST 2GI | 15" C.S. ELBOW | 18" C.S. ELBOW | 24" C.S. ELBOW | 30" C.S. ELBOW | 36" C.S. ELBOW | 42" C.S. ELBOW | 48" C.S. ELBOW | BERM DITCH OUTLET STD. 850.10 (PER EACH) | BERM DITCH OUTLET STD. 850.11 (PER EACH) | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | FLOWABLE FILL, C.Y. | CONC. & BRICK PLUG, C.Y. STD. 840.71 | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---

COMPUTED BY: BJF DATE: 4/1/2022

CHECKED BY: CMB DATE: 4/1/2022

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
EB-5931 (Indian Trail Rd. Complete Streets)	3D-2

RD24621

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, or PVC) 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
								THICKNESS OR GAUGE											
L 31+15	13 RT	507		695.36															
		507	508		692.36	689.64													
Y6 16+96	22 RT	508		692.54															
		508	504		689.54	686.37													
Y6 16+11	18 LT	509		690.13															
		509	510		687.01	686.42													
Y6 15+64	18 LT	510		689.32															
		510	506		686.32	686.10													
Y6 15+16	37 LT	511		690.14															
		511	506		687.60	686.42													
Y6 14+63	19 LT	512		689.43															
		512	505		685.98	685.85													
L 29+11	23 RT	513		691.46															
		513	522		687.40	687.00													
L 28+80	24 LT	514		691.85															
		514	523		688.70	687.80													
L 25+77	24 RT	517		697.15															
		517	518		694.15	694.10													
L 25+77	12 RT	518		697.30															
		518	519		694.00	692.10													
L 27+44	12 RT	519		695.00															
		519	521		692.00	690.33													
L 28+03	27 RT	520		692.30															
		520	521		690.05	689.90													
L 28+03	13 RT	521		693.33															
		521	554		689.80	688.72													
L 29+67	24 RT	522		691.72															
		522	523		686.90	686.45													
L 29+67	24 LT	523		692.60															
		523	530		685.95	685.70													
Y6 18+15	29 LT	524		693.32															
		524	525		685.20	684.30													
Y6 19+21	29 LT	525		689.01															
		525	527		684.20	680.54													
Y6 19+23	59 LT	526		688.64															
		526	525		686.10	685.76													
Y6 20+61	29 LT	527		683.79															
		527	802		679.54	678.35													
Y6 19+65	18 RT	528		687.02															
		528	529		684.02	680.64													
Y6 20+99	18 RT	529		683.54															
		529	805		680.54	680.20													
L 30+03	37 LT	530		693.21															
		530	524		685.60	685.30													
L 23+33	34 LT	531		693.50															
		531	533		690.50	690.10													
				SHEET TOTAL															

C.S. PIPE SIZE 12	15	18	24	30	36	42	48
THICKNESS OR GAUGE							
0.064	0.064	0.064	0.064	0.079	0.079	0.109	0.109

COMPUTED BY: BJF DATE: 4/1/2022

CHECKED BY: CMB DATE: 4/1/2022

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
EB-5931 (Indian Trail Rd. Complete Streets)	3D-3

RD24621

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 | INVERT ELEVATION | INVERT ELEVATION | MINIMUM REQUIRED SLOPE | DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 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 | C.S. PIPE THICKNESS OR GAUGE 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | R.C. PIPE CLASS III 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | R.C. PIPE CLASS IV or CLASS V (SEE PLANS) 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | ENDWALLS STD. 838.01 OR STD.838.11 (UNLESS OTHERWISE NOTED) CY | REINFORCED ENDWALLS CY | MASONRY DRAINAGE STRUCTURE CY | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES "TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') PER EACH (0' THRU 5.0') | LIN.FT. A 5.0' THRU 10.0' | LIN.FT. B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION D.I. STD. 852.06 | C.B. STD. 852.04 OR STD. 852.05 | D.I. STD. 840.14 OR STD. 840.15 | D.I. STD. 840.16 | D.I. FRAME AND GRATE STD. 840.18 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.29 | T.B. 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. (W.S. SAG) FRAME W/ 3 GRATES STD. 840.22 | G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | T.B. J.B. STD. 840.34 | T.B.G.D.I. STD. 840.36 | STEEL FRAME AND TWO GRATES STD. 840.37 | STEEL FRAME AND GRATE STD. 840.37 | M.H. STD. 840.51, STD. 840.52, OR STD.53 | M.H. FRAME AND COVER STD. 840.54 | Town of Indian Trail Curb Inlet (See Sheet 2D-1) | CONCRETE OPEN THROAT CATCH BASIN STD. 840.04 | CONVERT EXISTING D.I. TO J.B. | CONVERT EXISTING J.B. TO 2 G.I. | CONVERT C.B. TO D.I. | ADJUST EXISTING MANHOLE | ADJUST EXISTING C.B. | ADJUST D.I. | ADJUST 2GI | 15" C.S. ELBOW | 18" C.S. ELBOW | 24" C.S. ELBOW | 30" C.S. ELBOW | 36" C.S. ELBOW | 42" C.S. ELBOW | 48" C.S. ELBOW | BEEMI DITCH OUTLET STD. 850.10 (PER EACH) | BEEMI DITCH OUTLET STD. 850.11 (PER EACH) | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | FLOWABLE FILL, C.Y. | CONC. & BRICK PLUG, C.Y. STD. 840.71 | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---

COMPUTED BY: BJF DATE: 4/1/2022

CHECKED BY: CMB DATE: 4/1/2022

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
EB-5931 (Indian Trail Rd. Complete Streets)	3D-4

RD2462I

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, or PVC) 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
								THICKNESS OR GAUGE											
		603	604		688.88	688.60													
Y6 12+47	19 RT	702		690.93															
		702	704		686.11	685.05													
Y6 12+45	18 LT	703		690.93															
		703	702		687.18	686.11													
Y6 14+01	18 RT	704		690.03															
		704	711		684.55	683.30													
Y6 13+98	376 RT	705		687.00															
		705	706		681.70	677.50													
Y6 11+22	14 LT	707		690.63															
		707	703		687.61	687.18													
		708			677.30	676.89													
		709			677.30	676.89													
		710			677.30	676.89													
Y6 14+00	79 RT	711		686.30															
		711	705		683.30	681.70													
Y6 21+30	44 LT	801		681.80															
		801	802		678.80	678.70													
Y6 21+29	26 LT	802		683.22															
		802	805		678.25	677.80													
Y6 21+68	21 LT	803		683.51															
		803	802		679.10	678.70													
Y6 21+70	38 LT	804		681.30															
		804	803		679.38	679.20													
Y6 21+29	17 RT	805		683.40															
		805	806		677.70	676.90													

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	3P-1
R/W SHEET NO.	

RS&H 1520 SOUTH BOULEVARD, SUITE 200 CHARLOTTE, NC 28203 NC FIRM LICENSE No: F-0493

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4	INDIAN TRAIL PRESBYTERIAN CHURCH
2	4	INDIAN TRAIL PRESBYTERIAN CHURCH
3	4	INDIAN TRAIL PRESBYTERIAN CHURCH
4	4	HARTIST GROVE BAPTIST CHURCH OF UNION COUNTY, NORTH CAROLINA
5	4 & 5	CHARLES ROWE STINE & BETTYE NEWTON STINE
6	5	CHARLES ROWE STINE & BETTYE NEWTON STINE
7	5	LIQUID MANAGEMENT, LLC
8	5	RUSHING CONSTRUCTION COMPANY, INC
9	5	RUSHING CONSTRUCTION COMPANY, INC
10	5	GOLD CREST PARTNERS. LLC
11	5	LAMAR D. WINGO & KAREN W. WINGO
12	5	THE KAREN W. WINGO REVOCABLE TRUST
13	6	THE KAREN W. WINGO REVOCABLE TRUST
14	6	DONALD A. MCINNIS
15	6	CURTIS LEE POLK & BRENDA G. POLK
16	6	LOUIS H. TAYLOR & JACOB LOUIS TAYLOR
17	6	RUCHING CONSTRUCTION COMPANY
18	6	UNITED CAROLINE BANK C/O BB&T
19	5	RUSHING CONSTRUCTION COMPANY
20	5	TRAIL DEPOT, LLC
21	5	INDIAN TRAIL TOWNE CENTRE, LLC
22	4 & 5	INDIAN TRAIL UNITED METHODIST CHURCH
23	4	INDIAN TRAIL UNITED METHODIST CHURCH
24	4	A & S DEVELOPMENT, LLC
25	4	DBC CONTRACTING, LLC
26	4	DBC CONTRACTING, LLC
27	4	DBC CONTRACTING, LLC
28	4	WISTERIA DEVELOPMENT, LLC
29	7	124 UNIONVILLE, LLC
30	7	NEW RIVER FINANCIAL, INC
31	5 & 7	LR & FR, LLC
32	5	HERMELANDO GUADARRAMA PEREZ & GRICELDA ITURBE BERNAL
33	5 & 8	JONATHAN H. BENTON & ANN STARR EAST
34	8	TOWN OF INDIAN TRAIL
35	8	DANIEL H. BENTON
36	8	ANTONIO RIVERA & ANGELICA M. URBINA
37	8	SMITH HORTON PROPERTIES, LLC
38	8	K&J PROPERTIES, LLC
39	5 & 8	DAVIS ANDREW FARYNYK & RACHEL DIANE FARYNYK
40	5	UNION COUNTY FARM BUREAU, INC
41	5 & 7	DAVID R. HUFFSTETLER & TESSA D. HUFFSTETLER
42	7	115 UNIONVILLE, LLC
43	7	UNION COUNTY
44	7	116 UNIONVILLE, LLC
45	4	
46	4	

PARCEL No.	SHEET No.	PROPERTY OWNER NAME

Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

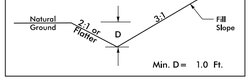
PROJECT REFERENCE NO.	SHEET NO.
EB-5931	4
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

DETAIL B
SPECIAL LATERAL "V" DITCH
(Not to Scale)



FROM –Y1– STA. 10+37 TO STA. 11+20 LT
FROM –Y1– STA. 10+50 TO STA. 11+17 RT
FROM –L– STA. 13+50 TO STA. 15+97 RT
FROM –L– STA. 15+25 TO STA. 16+02 LT
FROM –L– STA. 18+50 TO STA. 19+50 LT
FROM –Y2– STA. 10+25 TO STA. 10+85 LT
FROM –Y2– STA. 10+85 TO STA. 11+00 LT
FROM –Y2– STA. 12+00 TO STA. 12+50 LT

DETAIL G
STANDARD BASE DITCH
(Not to Scale)

FROM –Y2– STA. 9+62 TO STA. 10+19 RT

–L– CURVE DATA
PI Sta 16+19.05
Δ = 0° 42' 57.7" (RT)
D = 0° 19' 05.9"
L = 224.95'
T = 112.47'
R = 18,000.00'
SE = N/A
RO = N/A

–Y1– CURVE DATA
PI Sta 12+97.14
Δ = 26° 44' 43.4" (RT)
D = 30° 58' 14.5"
L = 86.36'
T = 43.98'
R = 185.00'
SE = N/A
RO = N/A

–Y2– CURVE DATA
PI Sta 9+68.74
Δ = 0° 52' 32.6" (RT)
D = 0° 57' 17.7"
L = 91.71'
T = 45.85'
R = 6,000.00'

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR GPS MONUMENT "BM#2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 487326.0889(ft) EASTING: 1500901.0309(ft)

ELEVATION 695.87'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

FOR –L– PROFILE, SEE SHEET NO. 9
FOR –Y1– PROFILE, SEE SHEET NO. 10
FOR –Y2– PROFILE, SEE SHEET NO. 10

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$$$$DNorris

Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	5
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

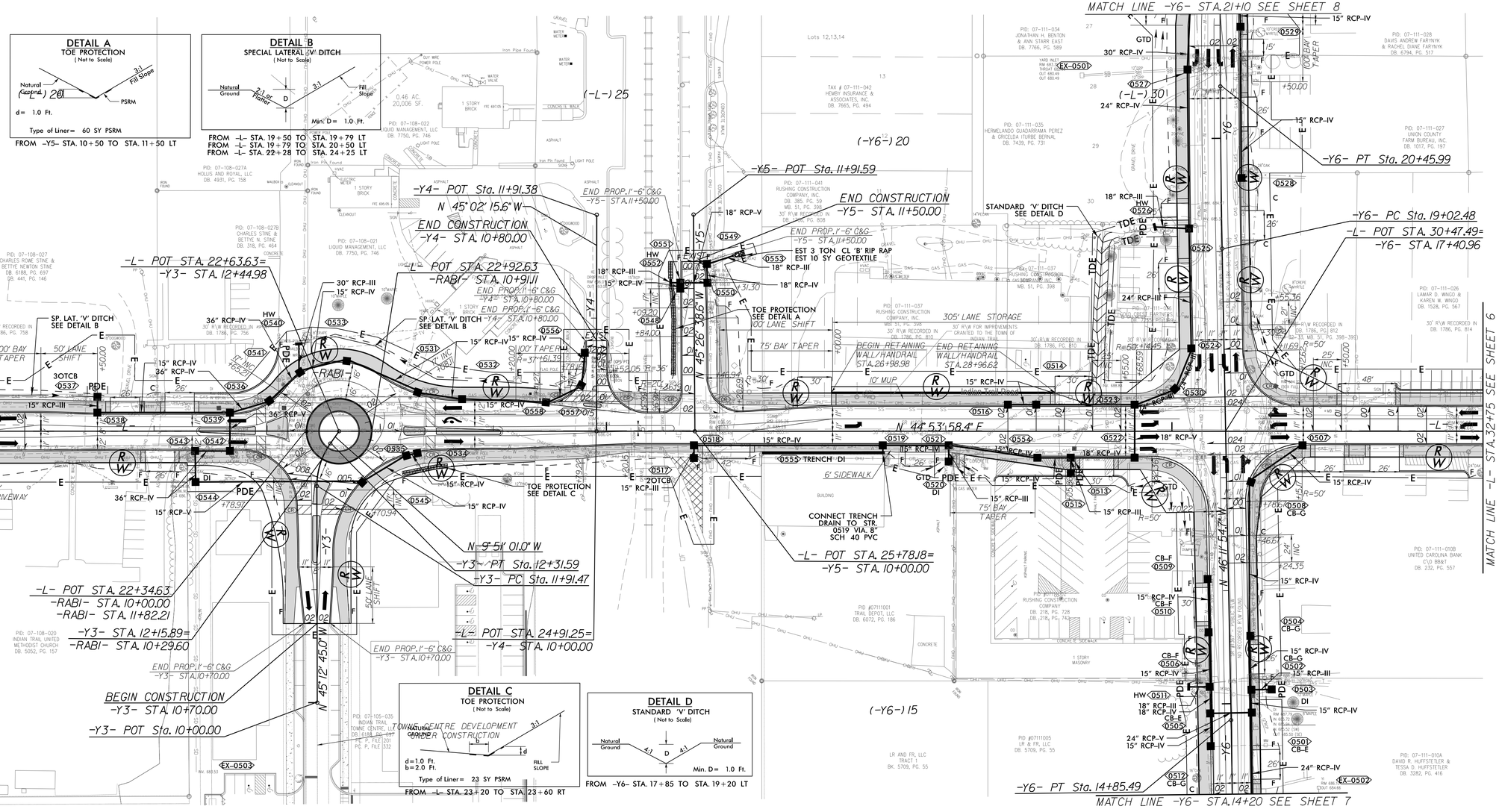
RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

-RABI- CURVE DATA
PI Sta 10+00.00
Δ = 359° 59' 56.6" (LT)
D = 197° 34' 18.0"
L = 182.21'
T = 0.00'
R = 29.00'
SE=
RO=

-Y3- CURVE DATA
PI Sta 12+12.19
Δ = 35° 21' 44.0" (RT)
D = 88° 08' 50.5"
L = 40.12'
T = 20.72'
R = 65.00'
SE=
RO=

-Y6- CURVE DATA
PI Sta 14+18.13
Δ = 0° 57' 53.5" (LT)
D = 0° 42' 58.3"
L = 134.72'
T = 67.36'
R = 8,000.00'
SE=
RO=

-Y6- CURVE DATA
PI Sta 19+74.23
Δ = 0° 54' 49.0" (RT)
D = 0° 38' 11.8"
L = 143.51'
T = 71.76'
R = 9,000.00'
SE=
RO=



FOR -L- PROFILE, SEE SHEET NO. 9	FOR -Y3- PROFILE, SEE SHEET NO. 10
	FOR -Y4- PROFILE, SEE SHEET NO. 11
	FOR -Y5- PROFILE, SEE SHEET NO. 11
	FOR -Y6- PROFILE, SEE SHEET NO. 11

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Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	6
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

-Y6- CURVE DATA
PI Sta 8+46.03
△ = 0° 35' 26.0" (LT)
D = 0° 34' 22.6"
L = 103.07'
T = 51.54'
R = 10,000.00'

(-L-) 35

END PROJECT
-L- STA. 35+40.00

POT Sta. 37+44.24

-L- POT STA. 34+46.78=
-Y7- STA. 11+51.41

MATCH LINE -L- STA.32+75 SEE SHEET 5

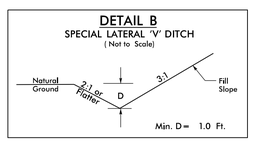
165' LANE SHIFT
75' BAY TAPER
10' MUP
50.00'
48'
26'
+60.00
5.0 SY PSRM
N 44° 53' 58.4" E
Indian Trail Road
15" RCP-III
0601
0602
R=10'
20'
0603
10' MUP
END PROP.-T-6' C&G
-Y7- STA.11+00.35
3OTCB
+68.90
6.0 SY PSRM
SP. LAT. 'V' DITCH
SEE DETAIL B
EST 2 TON CL 'B' RIP RAP
EST 7 SY GEOTEXTILE
0604
END PROP.'-6' C&G
-Y7- STA.11+00.35
+50.20
15" RCP-V
EXIST
BEGIN CONSTRUCTION (-Y7-) 10
-Y7- Sta. 10+40.00
-Y7- Liberty Lane
N 45° 01' 26.8" W
-Y7- PT Sta. 8+97.57

MATCH LINE -Y7- STA.8+40 SEE SHEET 7

PID: 07-111-023 THE KAREN W. WINGO REVOCABLE TRUST DB. 3866, PG. 572
PID: 07-111-025 THE KAREN W. WINGO REVOCABLE TRUST DB. 3375, PG. 253
PID: 07-111-022 DONALD A. MONNIS DB. 1371, PG. 466
PID: 07-111-021A CURTIS LEE POLK & BRENDA G. POLK DB. 311, PG. 455
PID: 07-111-018B DONALD A. MONNIS DB. 1302, PG. 93
PID: 07-111-018C PANAGIOTIS A. KARAGOUNIS & LAMPRINA KARAGOUNIS DB. 450, PG. 49
PID: 07-111-020A DONALD A. MONNIS DB. 1371, PG. 466
PID: 07-111-013 LOUIS H. TAYLOR & JACOB LOUIS TAYLOR MB. 51, PG. 400
PID: 07-111-014A CHARLES E. DIERKING & TRACEY L. DIERKING DB. 6491, PG. 772
PID: 07-111-012 LOUIS H. TAYLOR & JACOB LOUIS TAYLOR MB. 51, PG. 400
PID: 07-111-010D RUCHING CONSTRUCTION COMPANY DB. 291, PG. 153

30' R\W RECORDED IN DB. 1786, PG. 816
30' R\W RECORDED IN DB. 1786, PG. 784
30' R\W RECORDED IN DB. 1786, PG. 817
30' R\W RECORDED IN DB. 1786, PG. 819
30' R\W RECORDED IN DB. 1786, PG. 821
30' R\W RECORDED IN DB. 1786, PG. 773
30' R\W RECORDED IN DB. 1786, PG. 822
30' R\W RECORDED IN DB. 1786, PG. 826
30' R\W FOR IMPROVEMENTS GRANTED TO THE TOWN OF INDIAN TRAIL

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



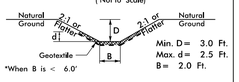
Min. D= 1.0 Ft.

FROM -Y7- STA. 10+80 TO STA. 11+20 RT
FROM -L- STA. 34+81 TO STA. 35+29 RT

FOR -L- PROFILE, SEE SHEET NO. 9
FOR -Y7- PROFILE, SEE SHEET NO. 11

31-MAR-2022 15:15
C:\Users\...\Proj\Indian Trail_Rdy_psh_6.dgn

DETAIL E
STANDARD BASE DITCH
(Not to Scale)

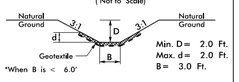


Min. D= 3.0 Ft.
Max. d= 2.5 Ft.
B= 2.0 Ft.
*When B is < 6.0'

Type of Liner= 26 TONS CLASS "B" RIP-RAP
45 SY OF GEOTEXTILE

FROM –Y7– STA. 6+31 TO STA. 6+73 LT

DETAIL F
STANDARD BASE DITCH
(Not to Scale)



Min. D= 2.0 Ft.
Max. d= 2.0 Ft.
B= 3.0 Ft.
*When B is < 6.0'

Type of Liner= 25 TONS CLASS "B" RIP-RAP
44 SY OF GEOTEXTILE

FROM –Y7– STA. 5+47 TO STA. 5+78 LT

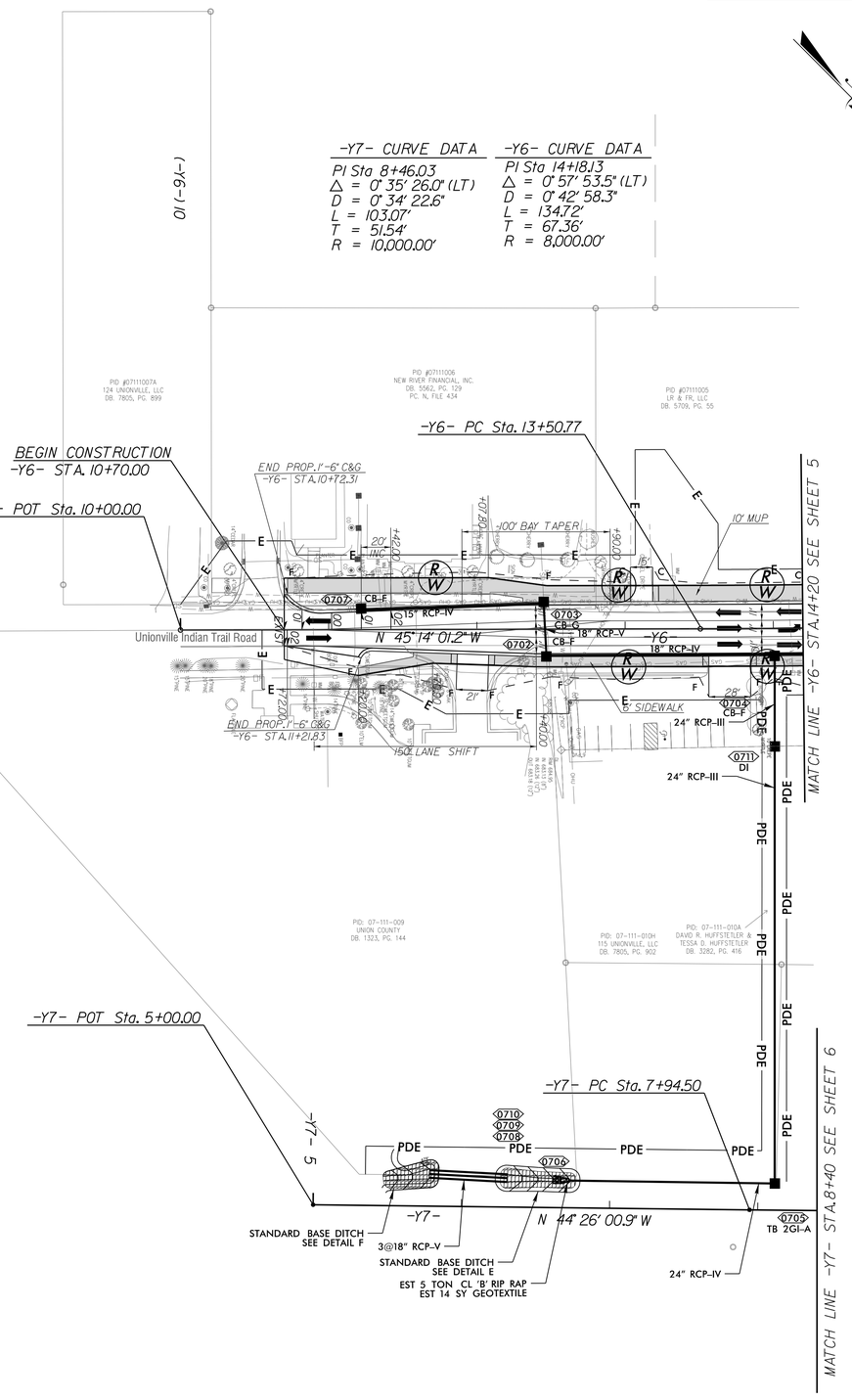
Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	7
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493



FOR –Y6– PROFILE, SEE SHEET NO. 11

31-MAR-2022 15:15
C:\Users\RPMorgan\Desktop\Proj\Indian Trail_Rdy_psh_7.dgn
$$$$USERNAME$$$$

Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

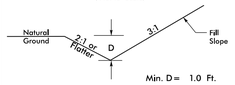
PROJECT REFERENCE NO.	SHEET NO.
EB-5931	8
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

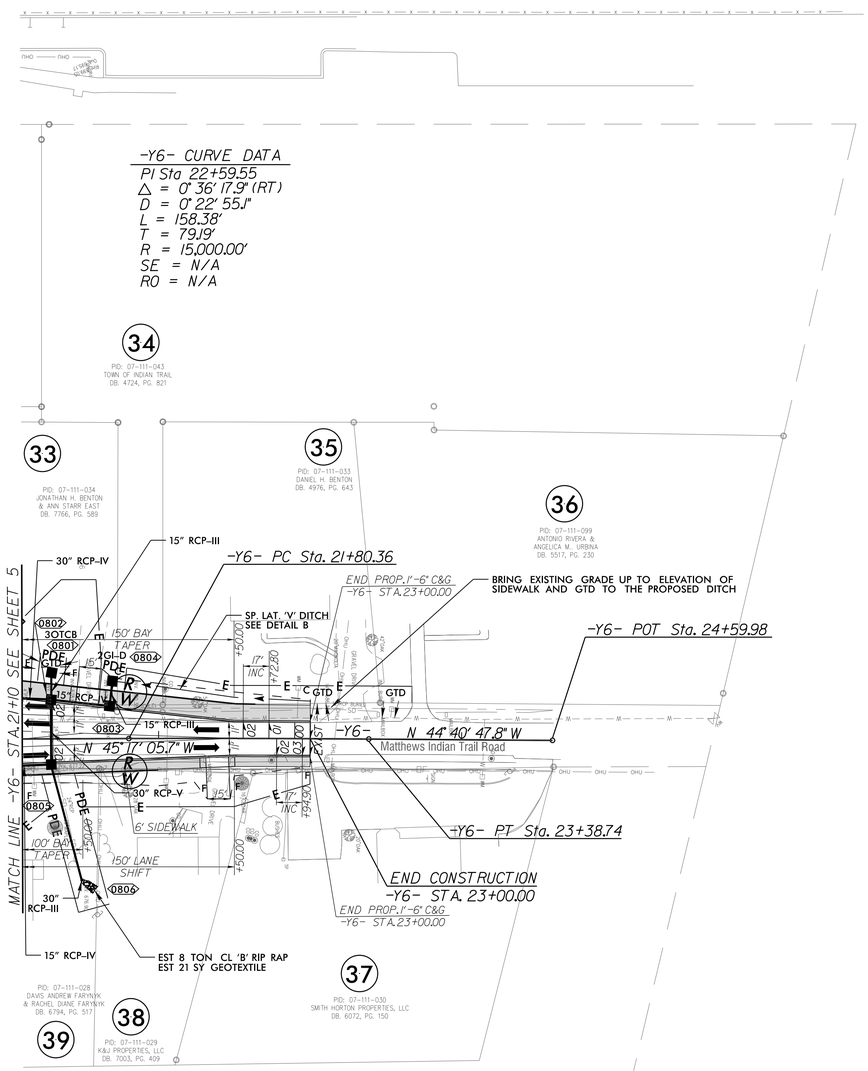
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

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



FROM –Y6– STA. 21+70 TO STA. 23+00 LT



FOR –Y6– PROFILE, SEE SHEET NO. 11

31-MAR-2022 15:15
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Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	RW4
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

(-L-) 10

(-L-) 15

1
PID: 07-108-038
INDIAN TRAIL PRESBYTERIAN CHURCH
DB. 166, PG. 1
MB. 3, PG. 5

2
PID: 07-108-038
INDIAN TRAIL PRESBYTERIAN CHURCH
DB. 166, PG. 1
MB. 3, PG. 5

3
PID: 07-108-029
INDIAN TRAIL PRESBYTERIAN CHURCH

4
PID: 07-108-028
HARTIS GROBE BAPTIST CUURCH OF UNION COUNTY NORTH CAROLINA
DB. 547, PG. 684

5
PID: 07-108-027
CHARLES ROWE STINE & BETTYE NEWTON STINE
DB. 6188, PG. 697
DB. 441, PG. 146

PID: 07-108-057
INDIAN TRAIL PRESBYTERIAN CHURCH
DB. 363, PG. 939

Gribble Road

Park Road E.

Indian Trail Road
SR #1008 - (60' PUBLIC R/W)

Southfork Road

-Y1- +83.00 40.00' LT
-Y1- +32.00 25.00' LT
-L- +83.00 56.97' LT
-L- +55.00 50.00' LT PL
-Y1- +88.00 40.00' RT
-L- +66.00 60.32' LT
-L- +84.00 60.00' LT PL
-L- +84.00 48.00' LT
-L- +91.13 PL
-L- PL 28.50' RT
-L- +62.52 28.5' RT
-L- +79.53 47.00' RT
-Y1- +06.04 28.00' LT
-Y1- +95.00 PL
-Y1- +31.00 25.00' LT
-Y1- +87.00 30.22' RT
-Y1- +70.00 PL
-Y1- +48.00 25.00' RT
-Y1- +30.00 PL
(-Y1-) 10
-L- +82.00 40.00' RT 23.00' RT
-L- +49.67 23.00' RT
-Y2- +80.00 16.00' LT PL
-Y2- +21.00 16.00' LT
-Y2- +14.00 31.12' LT
-L- +96.00 PL
-L- +71.00 48.00' LT PL
-Y2- +80.00 16.00' RT PL
-Y2- +23.00 16.00' RT
-L- +52.00 46.42' LT
-Y2- +14.00 33.00' RT
-L- +59.00 PL
-L- +66.00 45.00' LT
-L- +58.00 40.00' RT
-L- +79.36 36.00' RT
-Y2- +94.00 38.72' LT 25.73' LT
-Y2- +75.96 37.87' LT 19.11' LT
-Y2- +48.00 23.00' LT
-Y2- +15.00 35.00' LT PL
-Y2- +25.00 25.00' LT PL
-L- +77.00 PL
-L- +24.00 45.00' LT PL
-L- +45.00 45.00' LT PL
-L- +41.00 45.00' LT PL
-L- +59.00 45.00' LT PL
-L- +50.00 45.00' RT 28.51' RT
-L- +30.00 28.51' RT
-L- +30.00 45.00' RT
-L- +02.60 28.48' RT
-L- +71.00 45.00' RT
-Y2- +05.00 36.96' RT
-Y2- +80.30 30.00' RT
-Y2- +25.00 30.00' RT 22.71' PL
-Y2- +54.08 130.00' RT 12.00' RT
-Y2- +36.74 130.00' RT 110.00' RT
-Y2- +70.00 105.00' RT 23.00' RT
-Y2- PL 30.00' LT
-Y2- +22.00 30.00' LT PL
-Y2- +48.00 PL

15" RCP-III

2QTCB

MATCH LINE -L- STA.9+50 SEE SHEET 5

PID: 07-108-001
GSCT ENTERPRISES, LLC
DB. 5075, PG. 660

PID: 07-108-001A
GSCT ENTERPRISES, LLC
DB. 5075, PG. 663

PID: 07-108-002
COUNTY SOUTH ASSOCIATES, INC.
DB. 5562, PG. 136

PID: 07-108-003
WISTERIA DEVELOPMENT, LLC
DB. 7261, PG. 471
PC. B, FILE 48A

PID: 07-108-014
DBC CONTRACTING, LLC
DB. 7562, PG. 590

PID: 07-108-014A
DBC CONTRACTING, LLC
DB. 7562, PG. 586

PID: 07-108-014B
DBC CONTRACTING, LLC
DB. 7562, PG. 586

PID: 07-108-019
INDIAN TRAIL UNITED METHODIST CHURCH
DB. 232, PG. 288

PID: 07-108-020
INDIAN TRAIL UNITED METHODIST CHURCH
DB. 5052, PG. 157

SSMH RIM 705.31 IN 696.62 OUT 696.42
SSMH RIM 705.24 IN 691.15 OUT 691.05
SSMH RIM 696.65 IN 689.35 (SE) IN 689.48 (SE) OV 689.28 (NE)
SSMH RIM 697.06 IN 688.38 OUT 688.24
SSMH RIM 699.09 IN 691.67 OUT 691.55

31-MAR-2022 15:15
User:RSandH
$$$$USERPROFILE$$$$
C:\Users\RSandH\Desktop\Proj\Indian Trail Rdy_ROW4.dgn

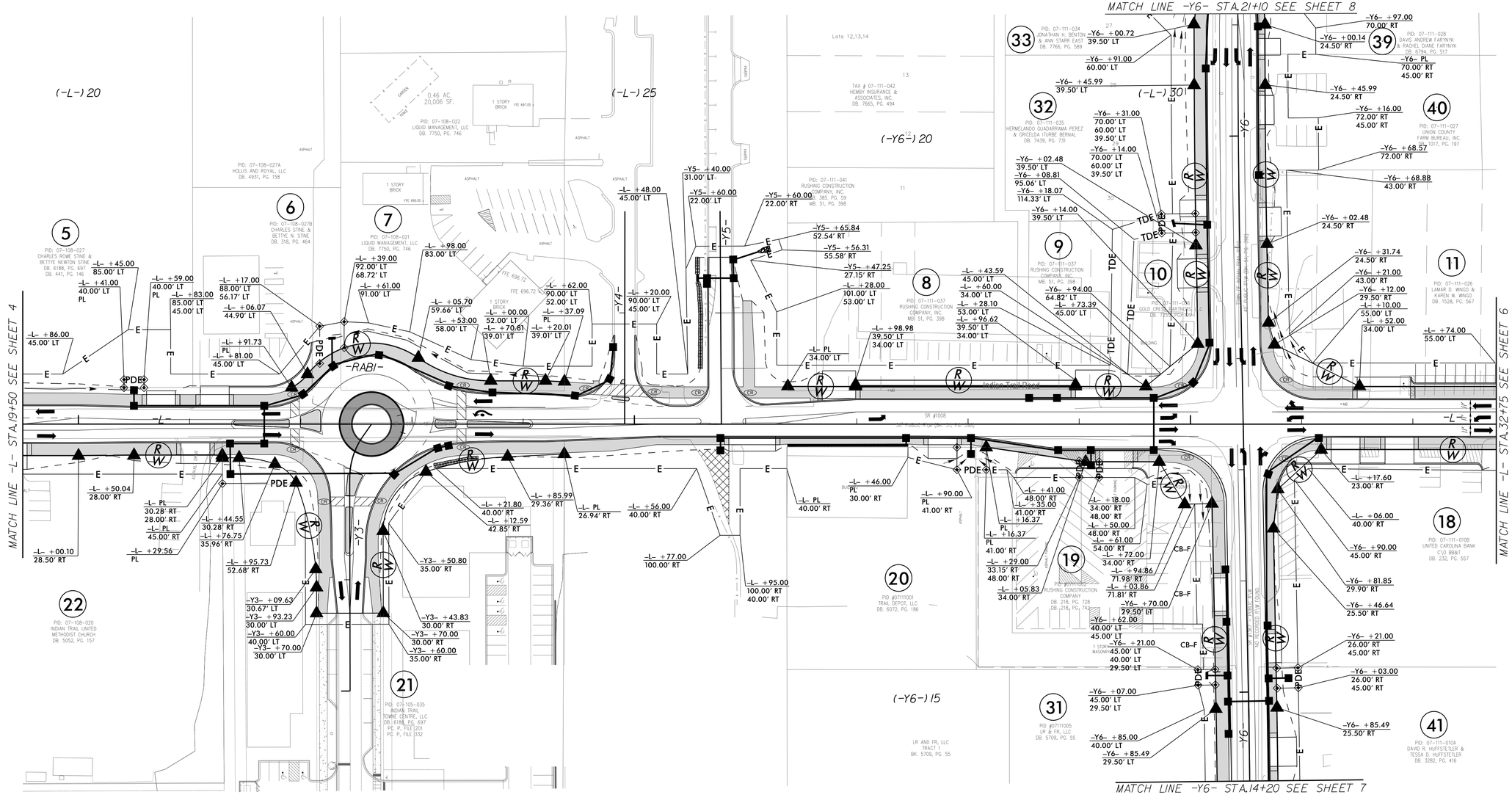
Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	RW5
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493



31-MAR-2022 15:15
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Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	RW6
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

(-L-) 35

MATCH LINE -L- STA.32+75 SEE SHEET 5

12
PID: 07-111-025
THE KAREN W. WINGO REVOCABLE TRUST
DB. 3375, PG. 253

13
PID: 07-111-023
THE KAREN W. WINGO REVOCABLE TRUST
DB. 3866, PG. 572

14
PID: 07-111-022
DONALD A. MONNIS
DB. 1371, PG. 466

15
PID: 07-111-021A
CURTIS LEE POLK & BRENDA G. POLK
DB. 311, PG. 455

16
PID: 07-111-012
LOUIS H. TAYLOR & JACOB. LOUIS TAYLOR
MB. 51, PG. 400

17
PID: 07-111-010D
RUCHING CONSTRUCTION COMPANY
DB. 291, PG. 153

PID: 07-111-018B
DONALD A. MONNIS
DB. 1302, PG. 93

PID: 07-111-018C
PANAGIOTIS A. KARAGOUNIS & LAMBRINA KARAGOUNIS
DB. 450, PG. 49

PID: 07-111-020A
DONALD A. MONNIS
DB. 1371, PG. 466

PID: 07-111-013
LOUIS H. TAYLOR & JACOB. LOUIS TAYLOR
MB. 51, PG. 400

PID: 07-111-014A
CHARLES E. DIERKING & TRACEY L. DIERKING
DB. 6491, PG. 772

30' R\W RECORDED IN DB. 1786, PG. 816
30' R\W RECORDED IN DB. 1786, PG. 784
30' R\W RECORDED IN DB. 1786, PG. 817
30' R\W RECORDED IN DB. 1786, PG. 819
30' R\W RECORDED IN DB. 1786, PG. 821
30' R\W RECORDED IN DB. 1786, PG. 773
30' R\W RECORDED IN DB. 1786, PG. 822
30' R\W RECORDED IN DB. 1786, PG. 826

30' R/W FOR IMPROVEMENTS GRANTED TO THE TOWN OF INDIAN TRAIL

-L- +17.00
61.00' LT
45.00' LT

-L- +52.00
61.00' LT
PL

-L- +40.00
34.00' LT
PL

-L- +02.00
23.00' RT

-L- +17.04
43.00' RT

-Y7- +94.00
PL

-Y7- +40.00
30.00' LT
PL

-L- +55.00
PL

-L- +05.00
PL

-Y7- +00.00
40.00' RT

-Y7- +01.00
PL

-Y7- +40.00
PL

Indian Trail Road

Liberty Lane

(-Y7-) 10

MATCH LINE -Y7- STA.8+40 SEE SHEET 7

31-MAR-2022 15:15
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$$$$USERNAME$$$$

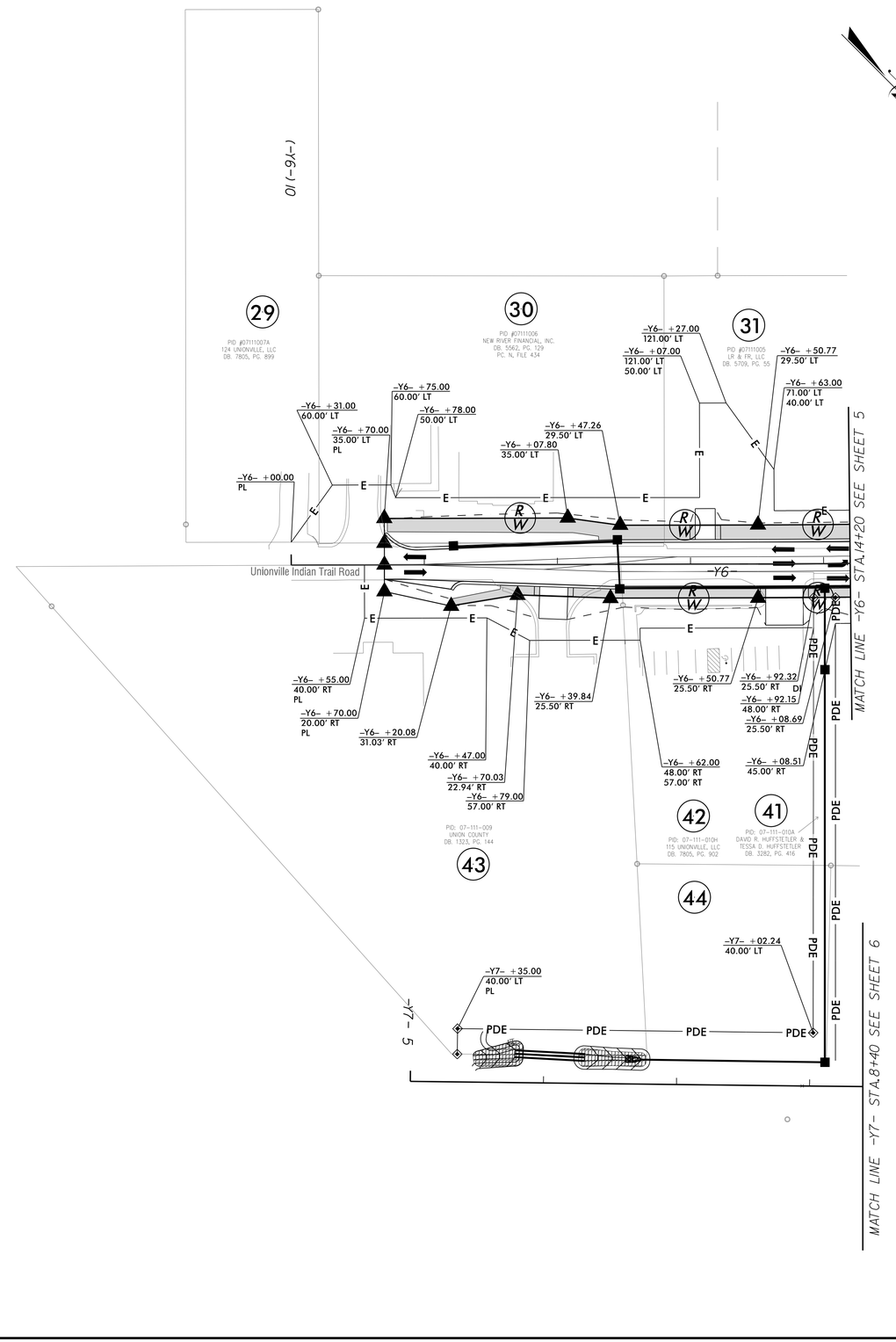
Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	RW7
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493



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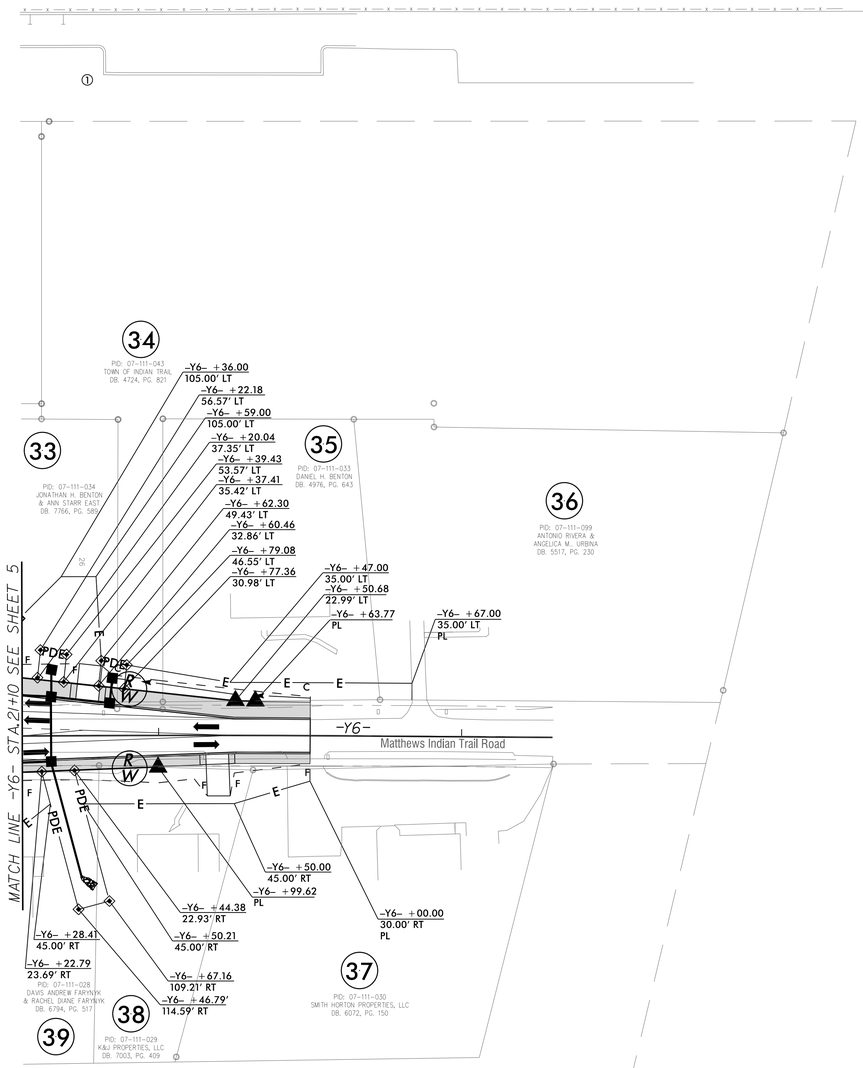
$$$$USERNAME$$$$



Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	RW8
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

BEGIN GRADE
-L- STA.11+10.00
ELEV.= 705.95'

EXISTING GROUND

(+)1.5600%

PI = 12+25.00
EL = 707.74'
VC = 90'
K = 29

(-)11.5274%

PROPOSED GRADE

(+)11.5274%

PI = 14+32.00
EL = 704.58'
VC = 111'
K = 37

(-)14.4944%

-L- Sta. 12+24.83 =
-Y1- Sta.11+71.03

(+) 0.5600%

BEGIN SPECIAL LATERAL
'V' DITCH GRADE
-L- STA.13+50 RT
EL = 703.08'

PI =14+00.000
EL = 702.80'
(-)11.8200%

PI =14+50.000
EL = 701.99'
(-)13.1500%

BEGIN SPECIAL LATERAL
'V' DITCH GRADE
-L- STA.15+26 LT
EL = 700.00'

PI =15+00.000
EL = 698.84'
(-)14.1900%

PI =15+50.000
EL = 698.25'
(-)13.6400%

(-)17.0000%

-L- Sta. 16+25.67 =
-Y2- Sta.11+55.46

PI = 16+70.00
EL = 693.88'
VC = 355'
K = 54

(-)14.4944%

(+)2.0298%

END SPECIAL LATERAL
'V' DITCH GRADE
-L- STA.16+02 LT
EL = 696.27'

END SPECIAL LATERAL
'V' DITCH GRADE
-L- STA.15+97 RT
EL = 696.43'

BEGIN SPECIAL LATERAL
'V' DITCH GRADE
-L- STA.18+50 LT
EL = 696.89'

END/BEGIN SPECIAL
LATERAL 'V' DITCH GRADE
-L- STA.19+79 LT
EL = 700.00'

(+)1.2020%

PI =19+50.000
EL = 698.91'
(+)3.1758%

PI = 20+11.00
EL = 700.80'
VC = 130'
K = 20

(-)3.1761%

PI =20+00.000
EL = 699.21'
(-)1.1820%

(+)2.0298%

(-)14.4000%

END SPECIAL LATERAL
'V' DITCH GRADE
-L- STA.20+50 LT
EL = 698.30'

PI = 21+45.00
EL = 694.91'
VC = 135'
K = 38

(-)14.4000%

(-)10.8780%

END GRADE
-L- STA.22+18.63=
-RABI- STA.10+00.00
ELEV.= 694.26'

BEGIN SPECIAL LATERAL
'V' DITCH GRADE
-L- STA.22+28 LT
EL = 690.00'

-L- Sta. 22+63.63 =
-Y3- Sta.12+44.98

PI = 23+70.00
EL = 694.51'
VC = 90'
K = 41

(+)3.2059%

(-)12.9400%

(+)10.0000%

BEGIN GRADE
-L- STA.23+18.63=
-RABI- STA.10+91.11
ELEV.= 694.00'

PI =24+00.000
EL = 694.14'
(+)13.2059%

BM #1
-L- STA 12+63.16
SPIKE NAIL
32.72' LT.
ELEV.=706.13'

-L-

LEFT DITCH -·-·-·-·-·-

RIGHT DITCH ----------

FOR -L- ALIGNMENT, SEE SHEETS 4, 5, AND 6

PI = 24+80.00
EL = 698.04'
VC = 90'
K = 33

(+)3.2059%

END GRADE
PI = 25+35.09
EL = 698.32'

(+)10.5000%

PI =24+00.000
EL = 694.14'
(+)15.4400%

BEGIN GRADE
PI = 25+39.76
EL = 698.32'

END SPECIAL LATERAL
'V' DITCH GRADE
-L- STA.24+25 LT
EL = 695.50'

(-)2.2000%

-L- Sta. 25+78.18 =
-Y5- Sta.10+00.00

PI = 26+46.00
EL = 696.19'
VC = 90'
K = 58

PI = 27+36.00
EL = 695.80'
VC = 90'
K = 30

(-)10.4386%

EXISTING GROUND

PROPOSED GRADE

PI = 28+55.00
EL = 691.73'
VC = 148'
K = 40

(-)13.4206%

(+)10.3150%

PI = 30+20.00
EL = 692.25'
VC = 180'
K = 56

(+)10.3150%

-L- Sta. 30+47.49 =
-Y6- Sta.17+40.96

(+)13.5307%

PI = 31+87.00
EL = 698.14'
VC = 90'
K = 22

(-)10.5519%

PI = 33+00.00
EL = 697.52'
VC = 136'
K = 36

(-)14.2864%

END GRADE
-L- STA.35+40.00
ELEV.= 686.54'

PI = 34+50.00
EL = 691.09'
VC = 120'
K = 156

(-)14.2864%

(-)15.0552%

(-)16.0417%

END SPECIAL LATERAL
'V' DITCH GRADE
-L- STA.35+29 RT
EL = 685.20'

-L- Sta. 34+46.78 =
-Y7- Sta.11+51.41

BEGIN SPECIAL LATERAL
'V' DITCH GRADE
-L- STA.34+81 RT
EL = 688.10'

BM #2
-L- STA 24+58.24
SPIKE NAIL
41.43' LT.
ELEV.=695.87'

-L-

LEFT DITCH -·-·-·-·-·-

RIGHT DITCH ----------

FOR -L- ALIGNMENT, SEE SHEETS 4, 5, AND 6

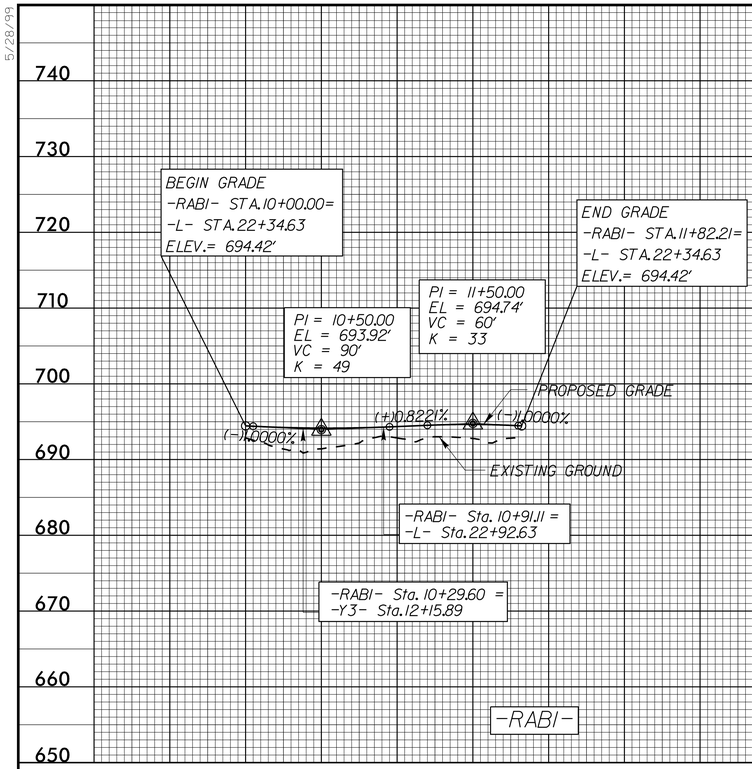
5/28/99

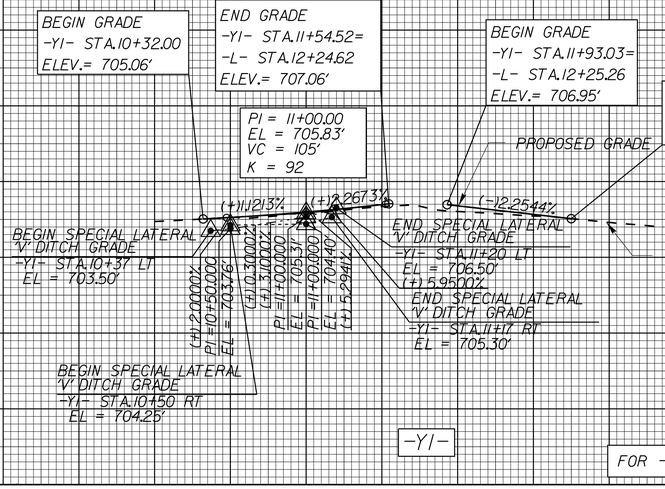
PROJECT REFERENCE NO.	SHEET NO.
EB-5931	10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

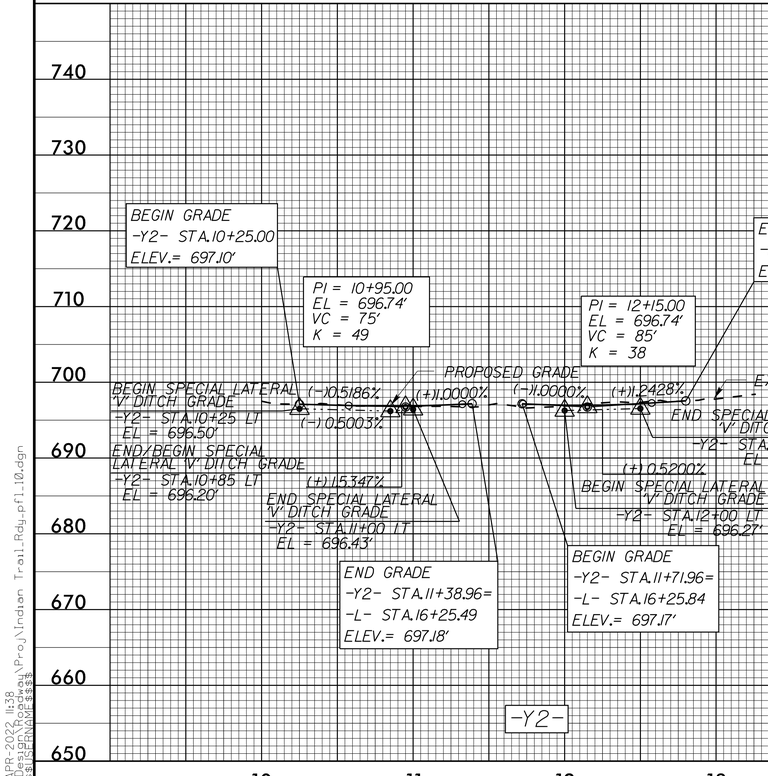
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

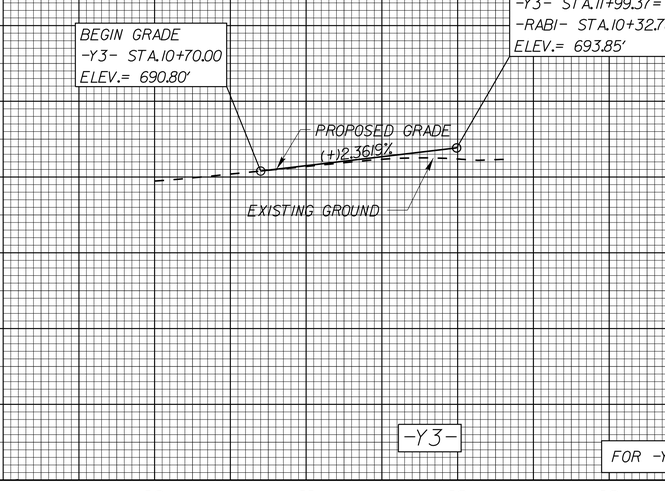
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493









5/28/99

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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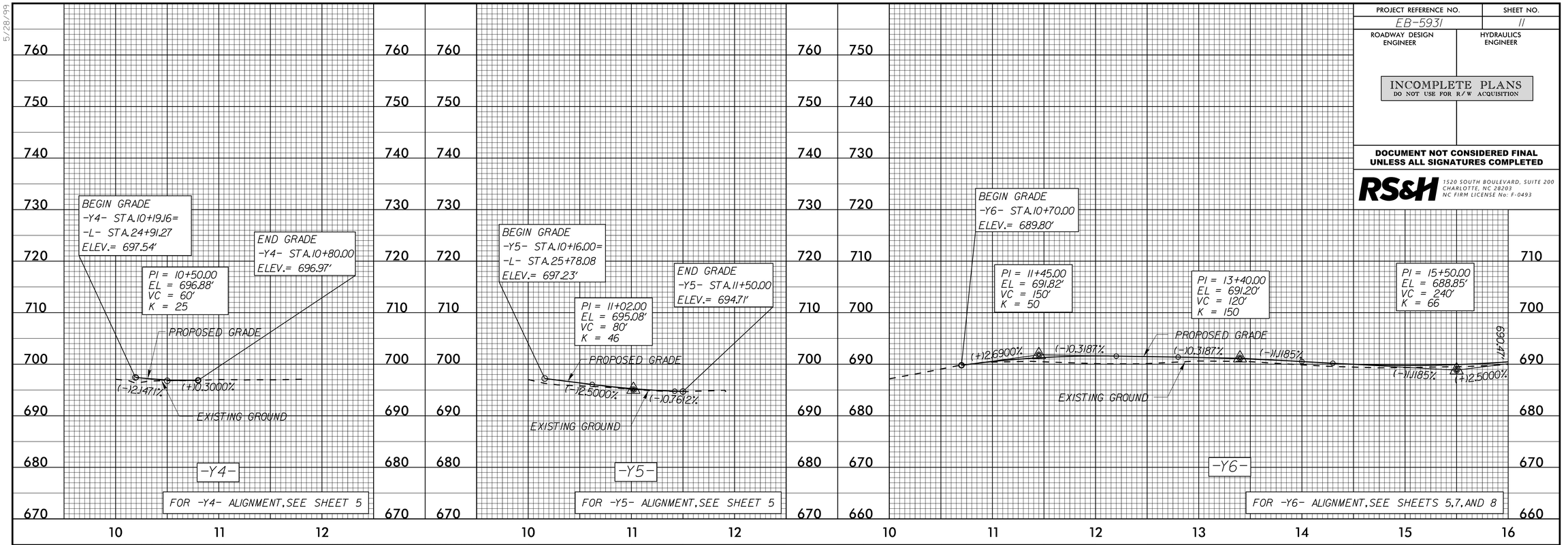
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493



01APR-2022 11:38
N:\Active Projects\Proj\Indian Trail Rdy_pf1_11.dgn
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	TMP-1B

TRAFFIC NARRATIVE

PHASE I:

STEP 1

ADD TEMP PAVEMENT WIDENING TO LT OF -L- (INDIAN TRAIL RD) AS NEEDED.

STEP 2

SHIFT TRAFFIC TO TEMP PAVEMENT, USING NIGHT-TIME LANE CLOSURES, CONSTRUCT RT OF -L- (INDIAN TRAIL RD), -Y7- (SR 2643 LIBERTY LN), -Y6- (SR 1367 UNIONVILLE-INDIAN TRAIL RD), -Y3- (TOWNE CENTRE DRIVEWAY), -Y2- (E PARK RD) & -Y1- (SR 1371 SOUTHFORK RD). ADD TEMP PAVEMENT TO -L- (INDIAN TRAIL RD).

PHASE II:

USING NIGHT-TIME LANE CLOSURES, CONSTRUCT LT OF -L- (INDIAN TRAIL RD), -Y6- (SR 3814 MATTHEWS-INDIAN TRAIL RD), -Y5- (BLYTHE DR), -Y4- (NAVAJO TRL), -Y2- (W PARK RD) & -Y1- (GRIBBLE RD).

PHASE III:

STEP 1:

USING ROAD CLOSURES AND NAVAJO TRAIL AS AN OFF-SITE DETOUR, COMPLETE CONSTRUCTION OF -RAB1- (ROUNDABOUT).

STEP 2:

USING NIGHT-TIME LANE CLOSURES, CONSTRUCT -Y4- (NAVAJO TRL) MONOLITHIC ISLANDS.

PHASE IV:

USING NIGHT-TIME ROAD CLOSURES, PLACE THE FINAL LAYER OF SURFACE COURSE, FINAL MARKINGS AND MARKERS, AND OPEN TRAFFIC TO THE FINAL PATTERN.

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APPROVED: _____

DATE: _____

SEAL

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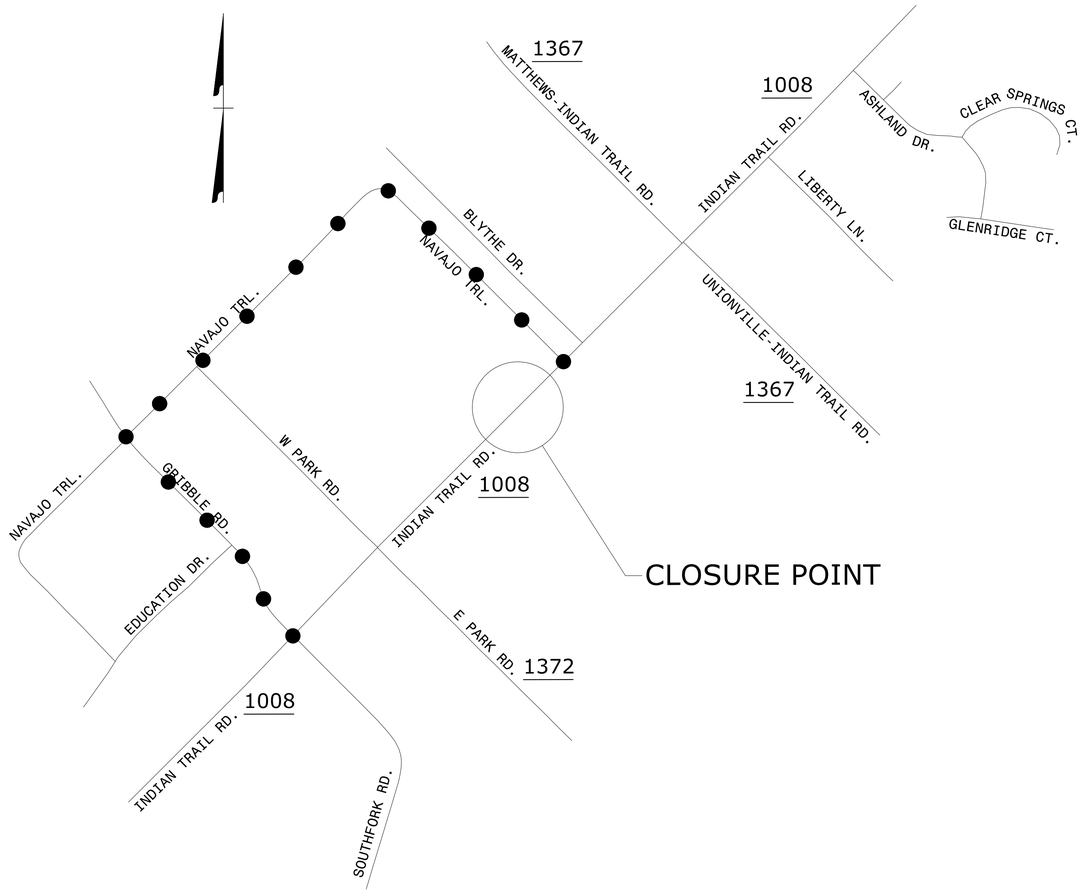
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

TRAFFIC NARRATIVE

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	TMP-2A



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NC FIRM LICENSE No: F-0493

APPROVED: _____

DATE: _____

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

PHASE III
STEP 1
DETOUR

3/30/2022
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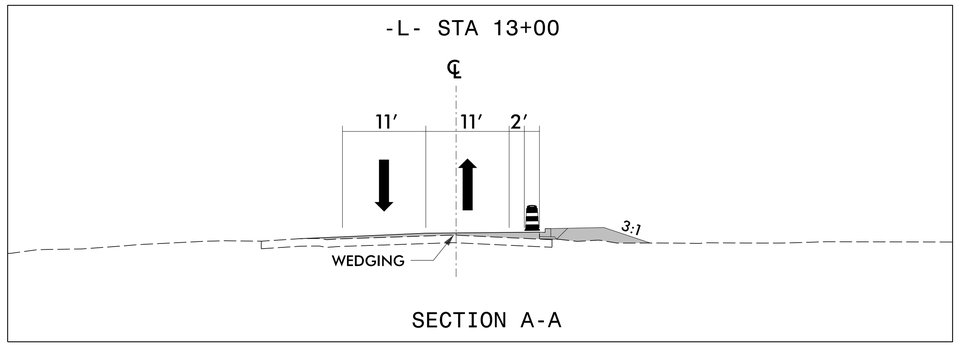
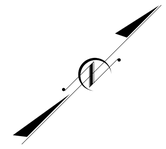
User:AvgerinN

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	TMP-4



SECTION A-A

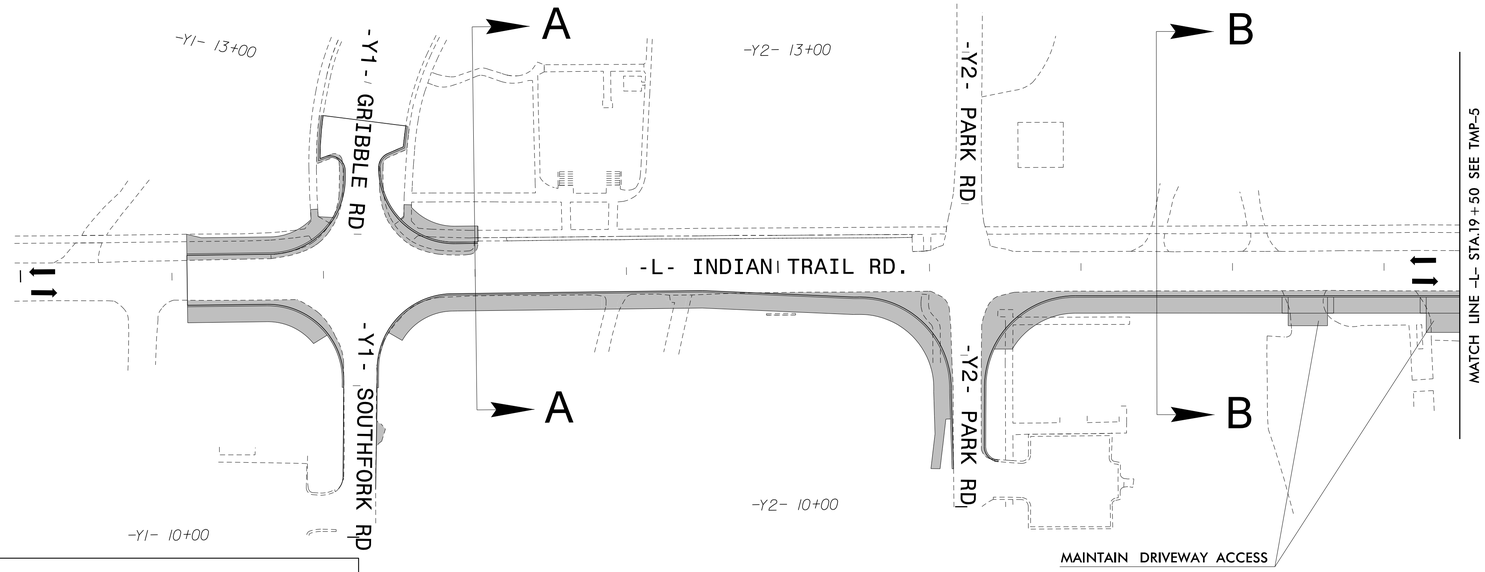


-Y1- 10+00

-Y1- 13+00

-Y2- 15+00

-Y2- 13+00



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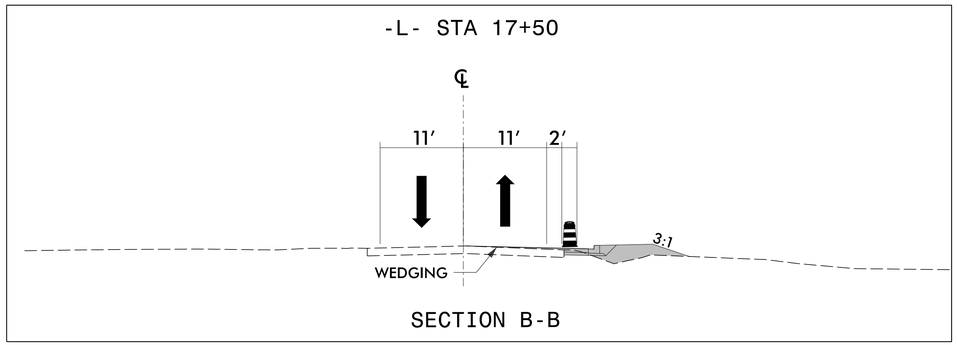

SECTION B-B

RS&H
NC FIRM LICENSE No: F-0493

APPROVED: _____

DATE: _____

SEAL

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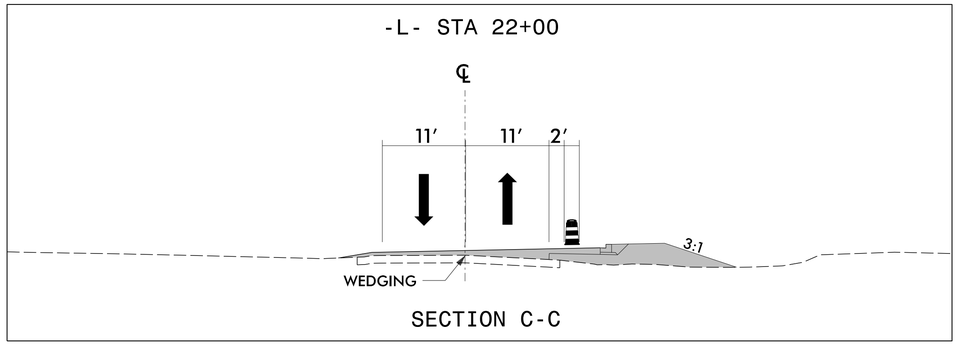
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

PHASE I
STEP 2
DETAIL

3/30/2022
R:\Design\Traffic\TrafficControl\TCP\Indian_Trail_Rd_tmp_dsn_p1_dtl_0.dgn
User:AvgerinN

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	TMP-5



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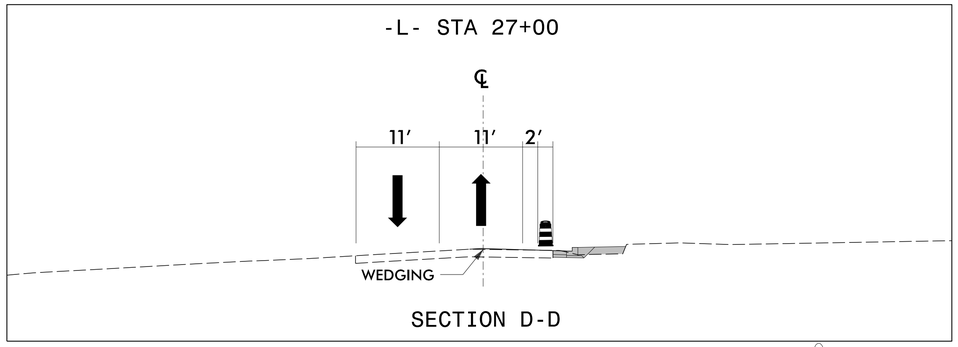

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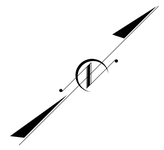

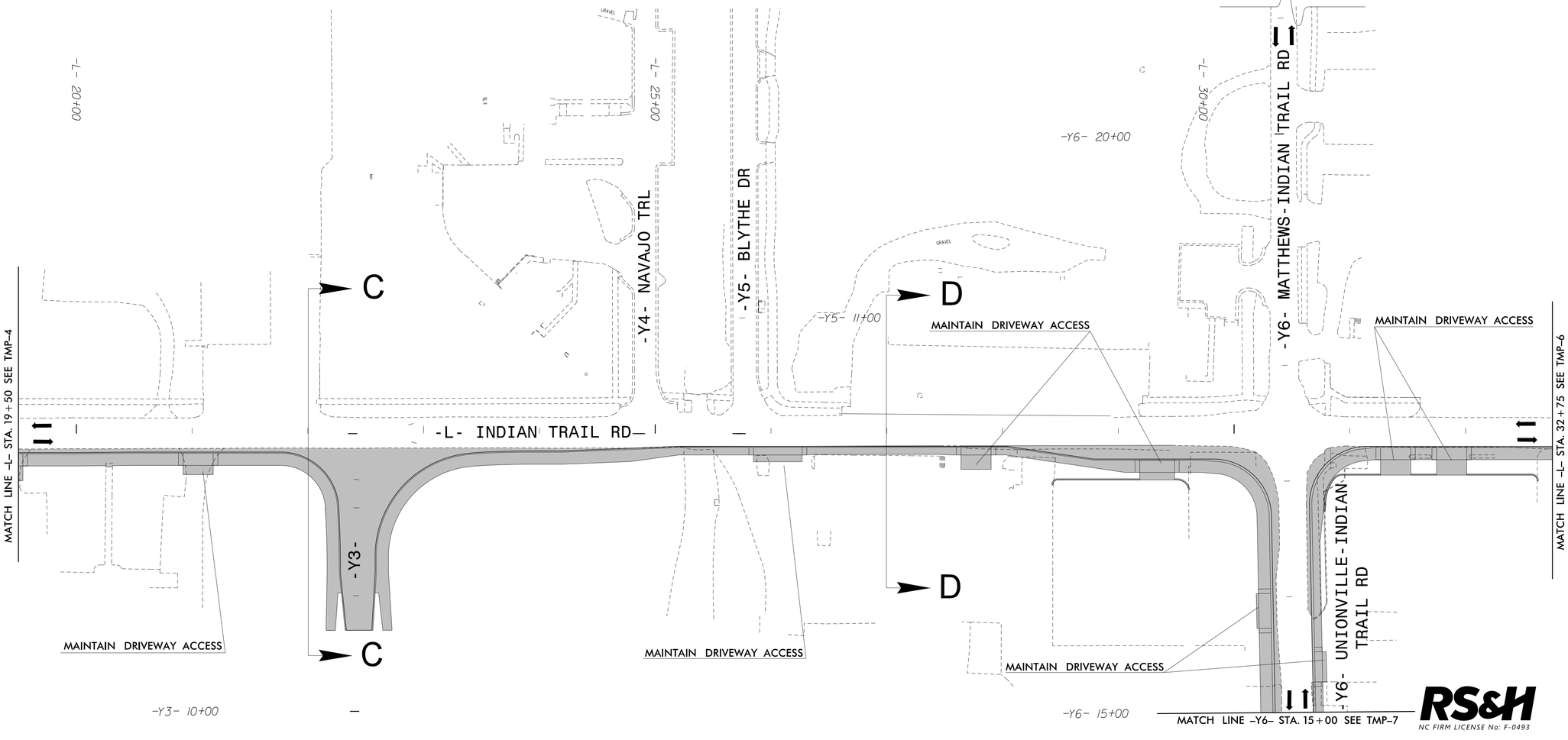

RS&H
NC FIRM LICENSE No: F-0493

APPROVED: _____

DATE: _____

SEAL

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UNLESS ALL SIGNATURES COMPLETED

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

PHASE I
STEP 2
DETAIL

3/30/2022
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User:AvgerinN

PROJ. REFERENCE NO.	SHEET NO.
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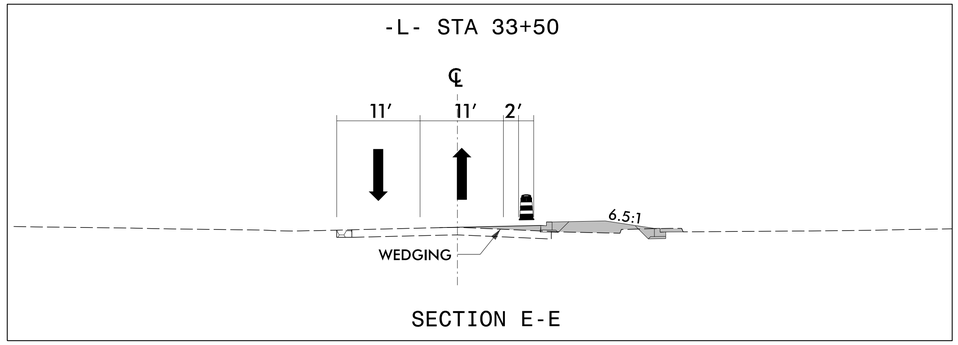

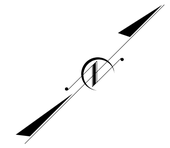

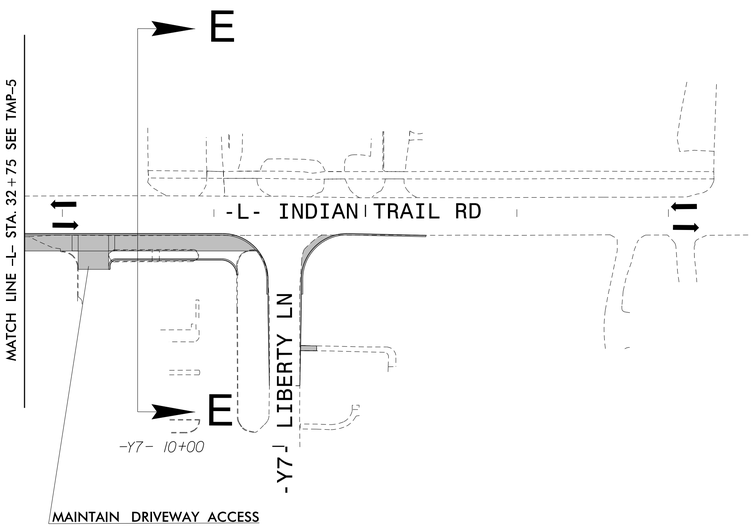

-7- 35+00

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

PHASE I
STEP 2
DETAIL

3/30/2022
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PROJ. REFERENCE NO.	SHEET NO.
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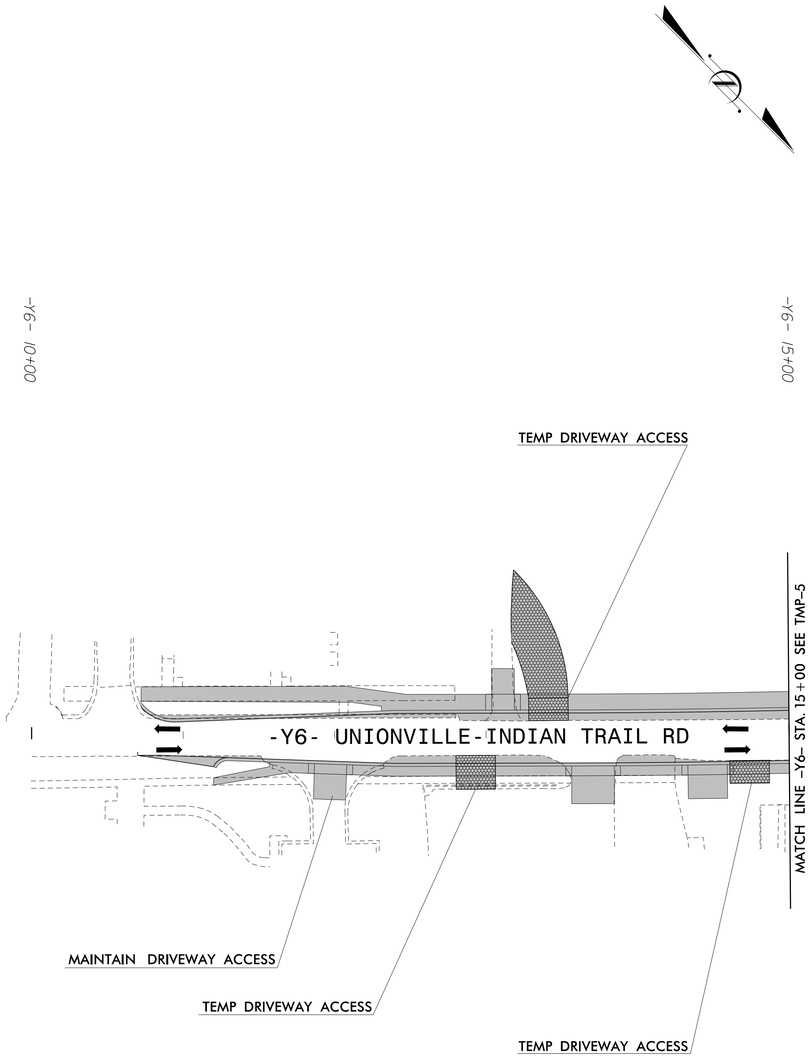

RS&H
NC FIRM LICENSE No: F-0493

APPROVED: _____

DATE: _____

SEAL

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

PHASE I
STEP 2
DETAIL

3/30/2022
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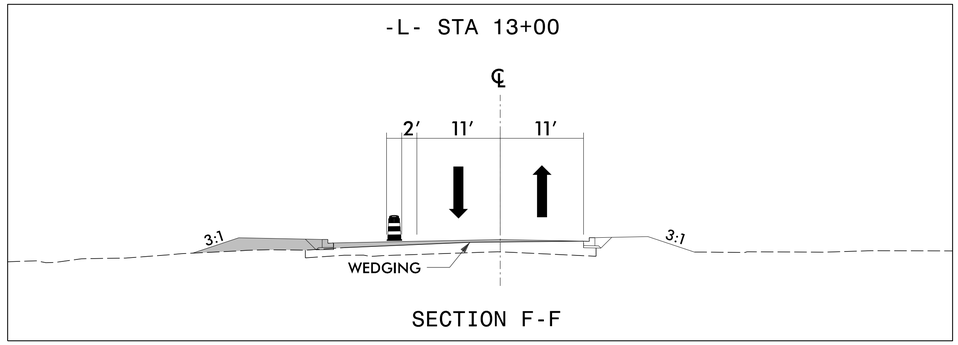
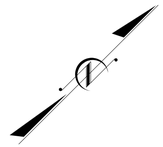
PROJ. REFERENCE NO.	SHEET NO.
EB-5931	TMP-8



SECTION F-F

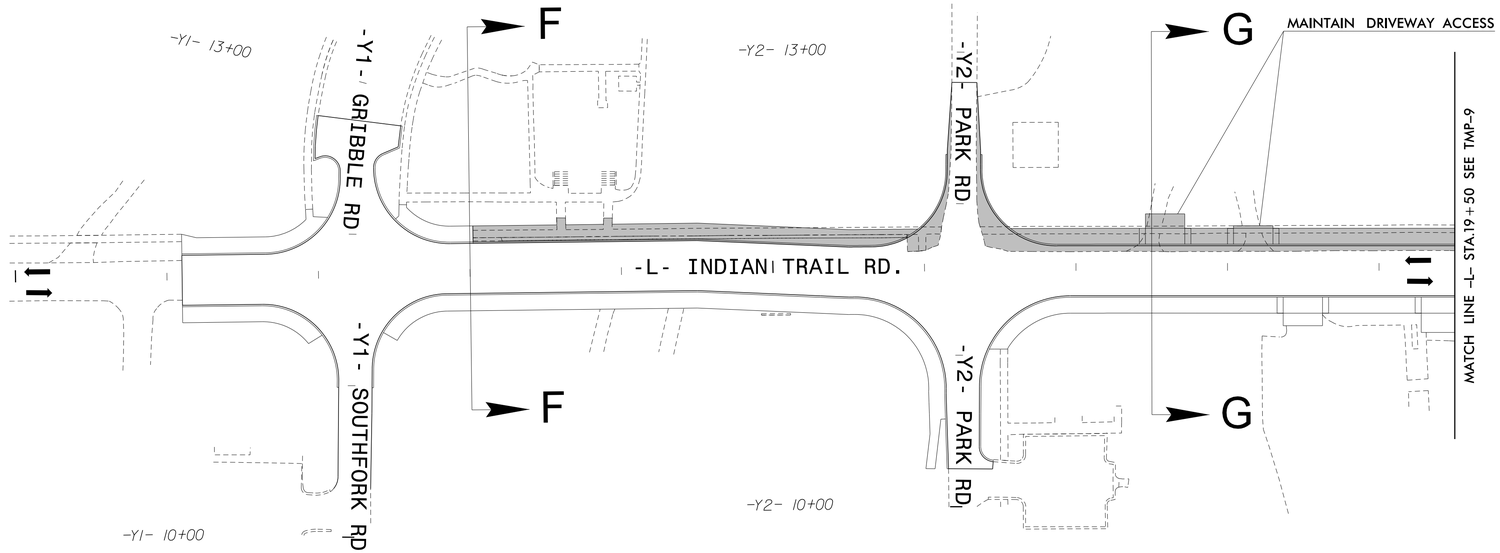


-L- 10+00

-L- 15+00

-Y1- 13+00

-Y2- 13+00



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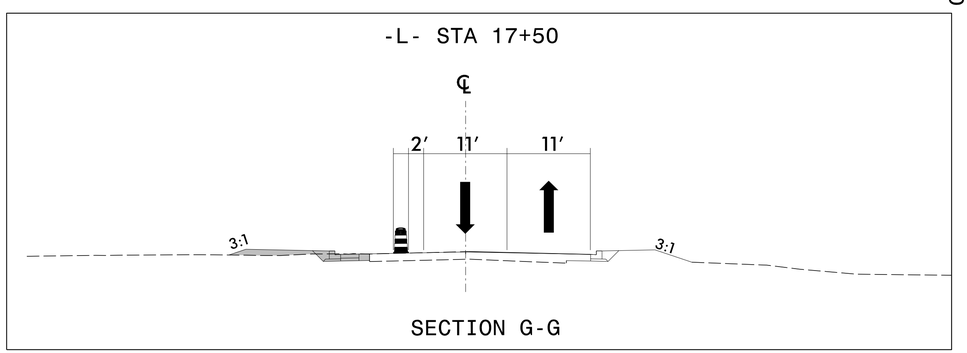

SECTION G-G

RS&H
NC FIRM LICENSE No: F-0493

APPROVED: _____

DATE: _____

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

PHASE II
DETAIL

3/30/2022
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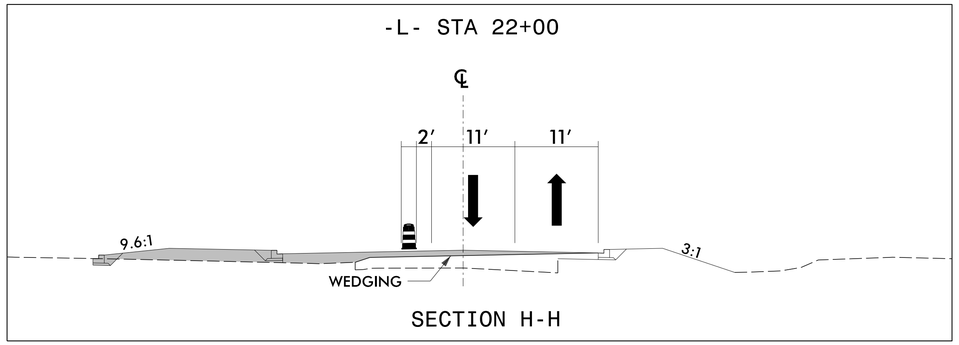
EB-5931	TMP-9



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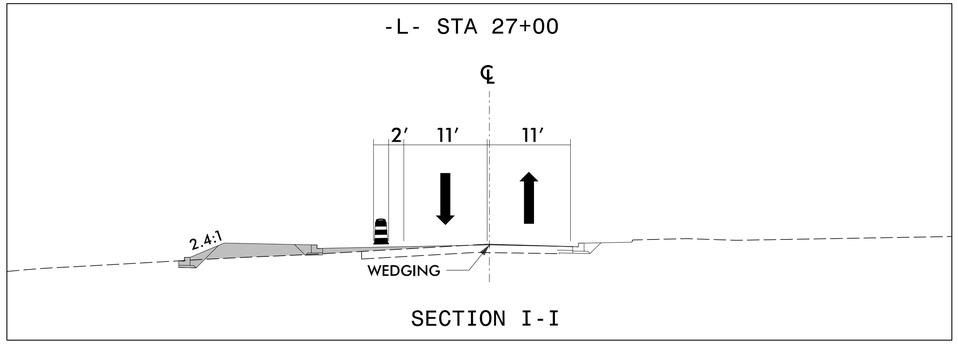

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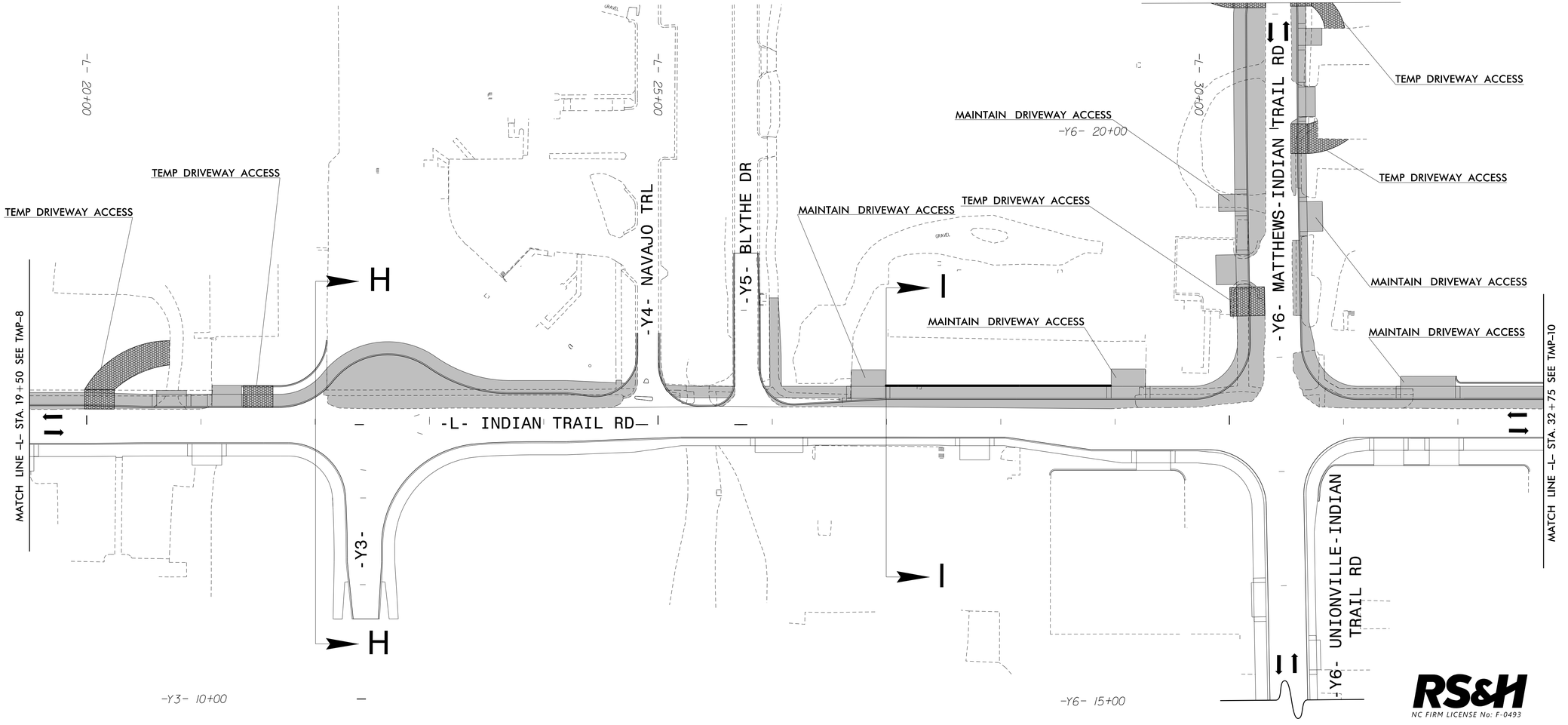

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NC FIRM LICENSE No: F-0493

APPROVED: _____

DATE: _____

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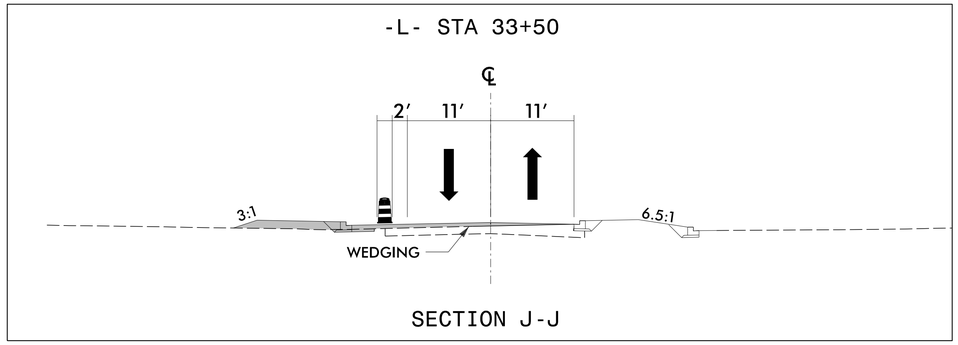
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

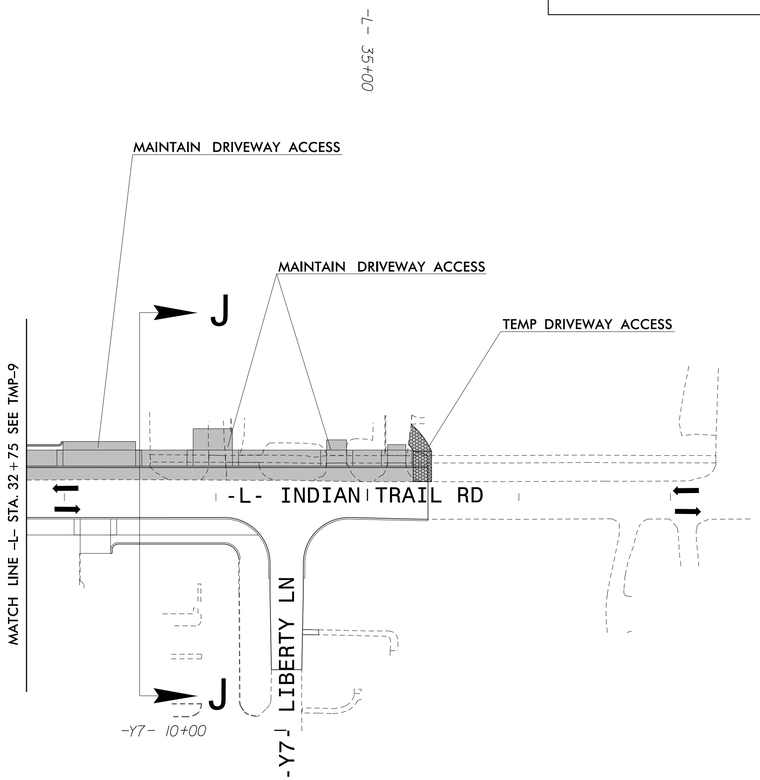
PHASE II
DETAIL

3/30/2022
R:\Design\Traffic\TrafficControl\TCP\Indian_Trail_Rd_tmp_dsn_pii_dtl_02.dgn
User:AVgerinN

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	TMP-10



SECTION J-J



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NC FIRM LICENSE No: F-0493

APPROVED: _____

DATE: _____

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

PHASE II
DETAIL

3/30/2022
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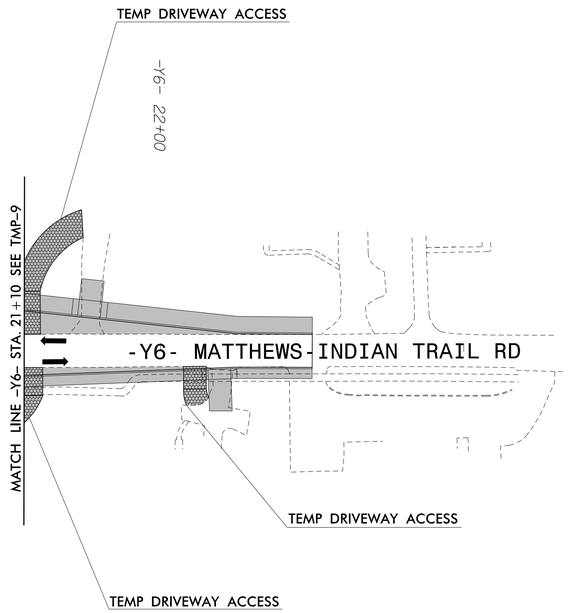
User:AvgerinN

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	TMP-11



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NC FIRM LICENSE No: F-0493

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DATE: _____

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

PHASE II
DETAIL

3/30/2022
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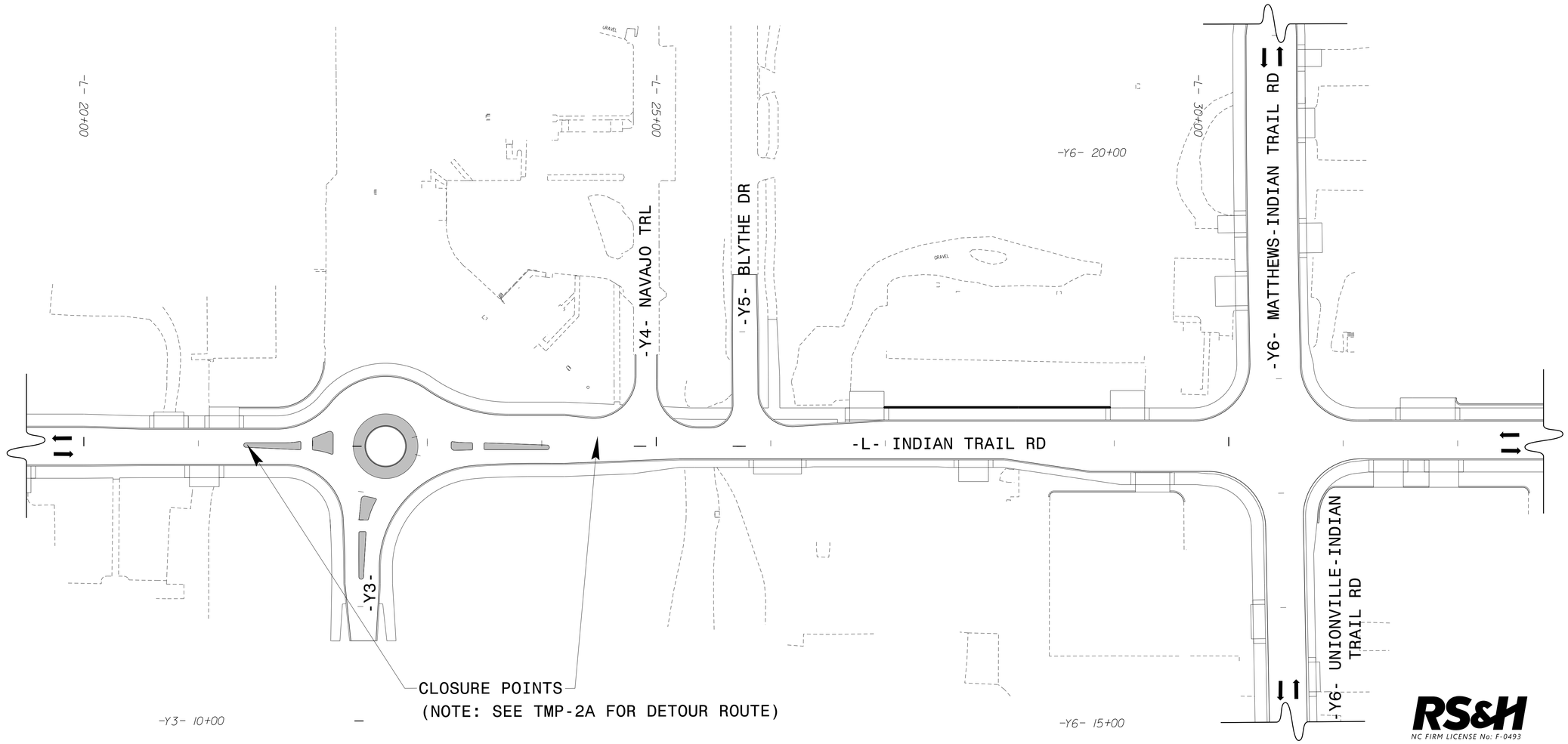
User:AvgerInN

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	TMP-12



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NC FIRM LICENSE No: F-0493

APPROVED: _____

DATE: _____

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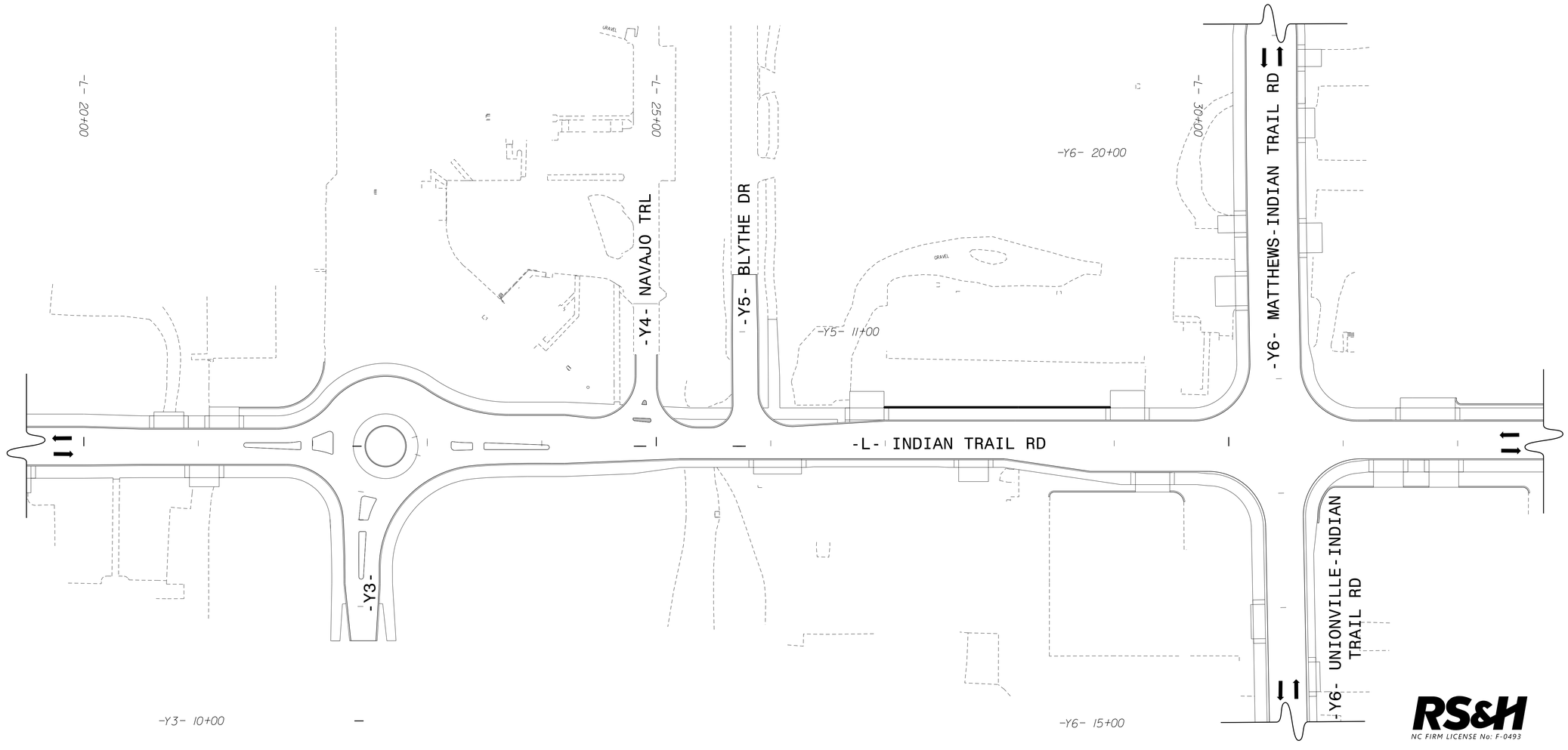
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

PHASE III
STEP 1
DETAIL

3/30/2022
R:\Design\Traffic\TrafficControl\TCP\Indian_Trail_Rd_tmp_dsn_piii_dtl_02.dgn
User:AVgerinN

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	TMP-13



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NC FIRM LICENSE No: F-0493

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DATE: _____

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

PHASE III
STEP 2
DETAIL

3/30/2022
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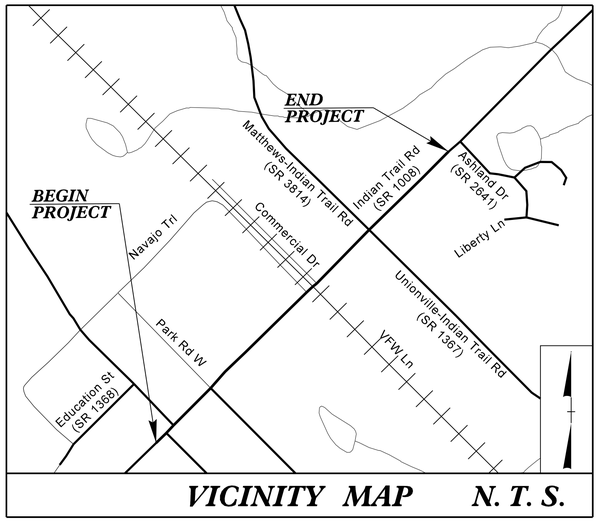
User:AVgerinN

TIP PROJECT: EB-5931



VICINITY MAP N. T. S.

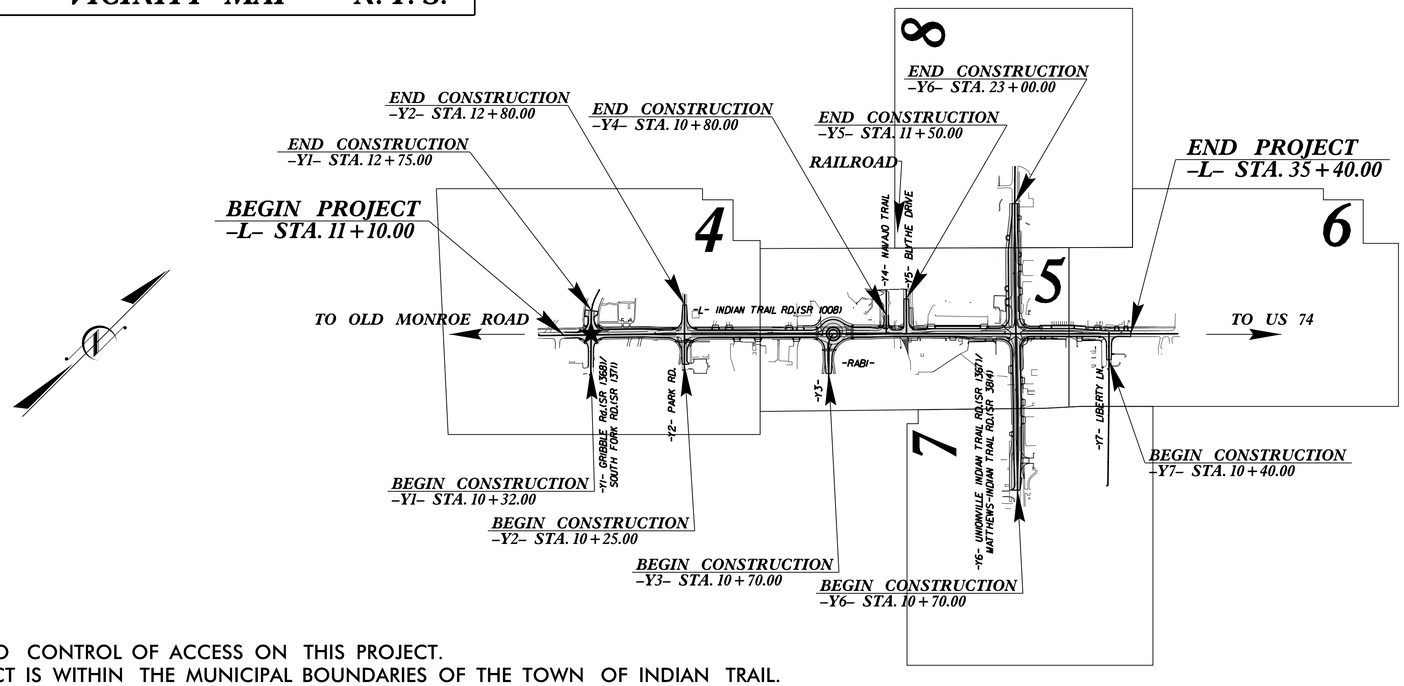
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

UNION COUNTY

LOCATION: INDIAN TRAIL ROAD (SR 1008) COMPLETE STREETS AND SURROUNDING AREA INTERSECTION IMPROVEMENTS

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



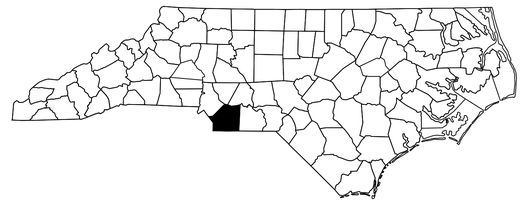
THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF INDIAN TRAIL.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	EB-5931	EC-1	16
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
47696.3.1	STBGDA-1003(171)	P.E.	

EROSION AND SEDIMENT CONTROL MEASURES

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

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



GRAPHIC SCALE

50 25 0 50 100
PLANS

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

RS&H

Prepared in the Office of:

RS&H

8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE NO: F-0493

Designed by:

BENJAMIN FULLENWIDER ***4240***
NAME *LEVEL III CERTIFICATION NO.*

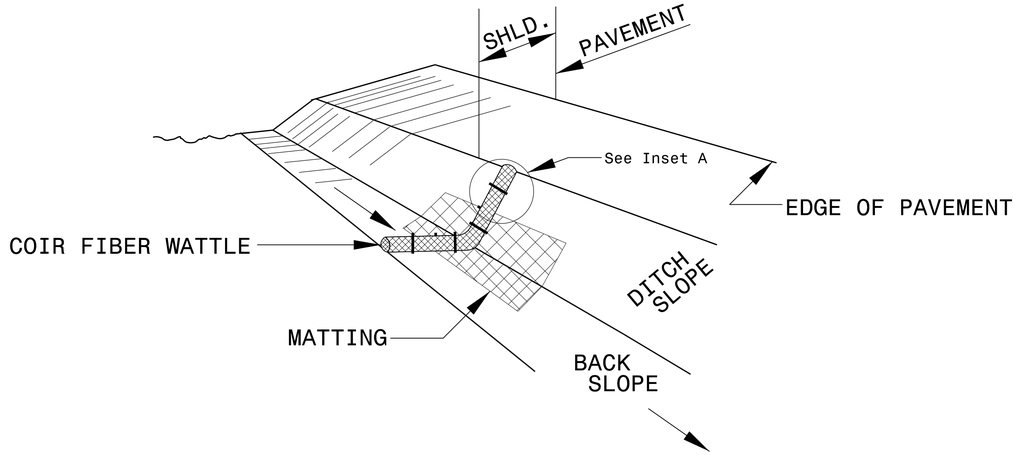
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2018 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

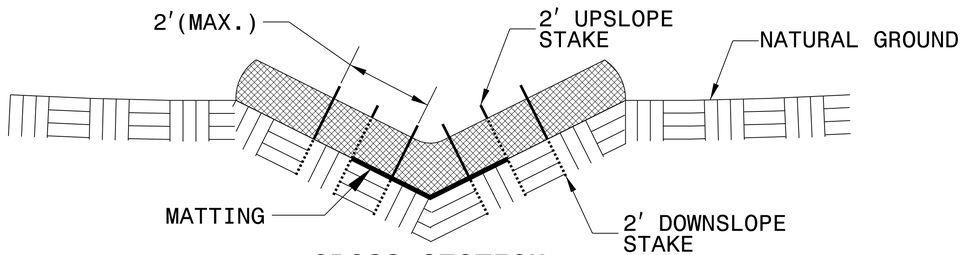
1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type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

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-2

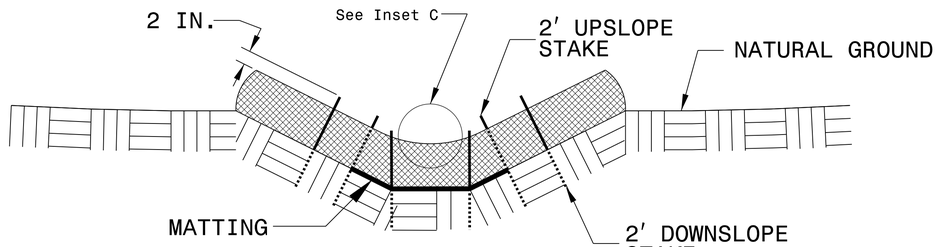
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

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

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

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

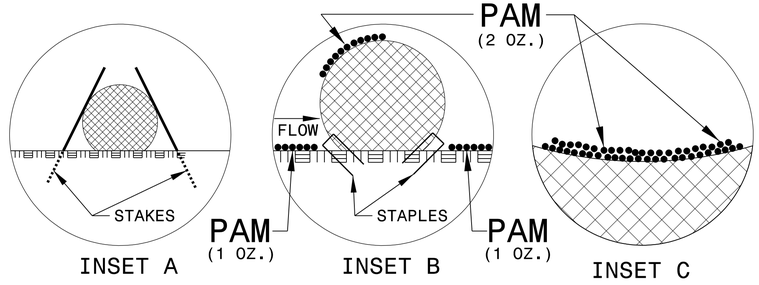
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

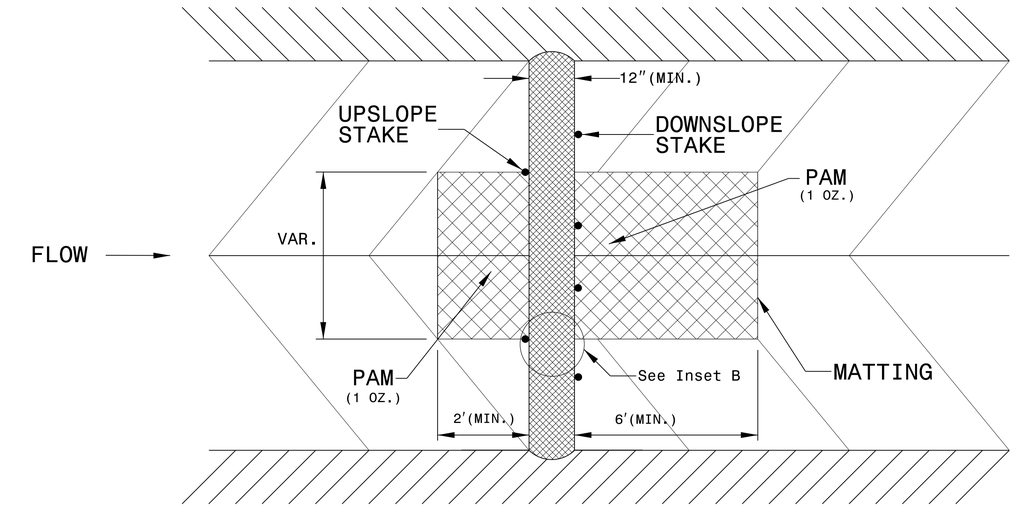
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

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

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

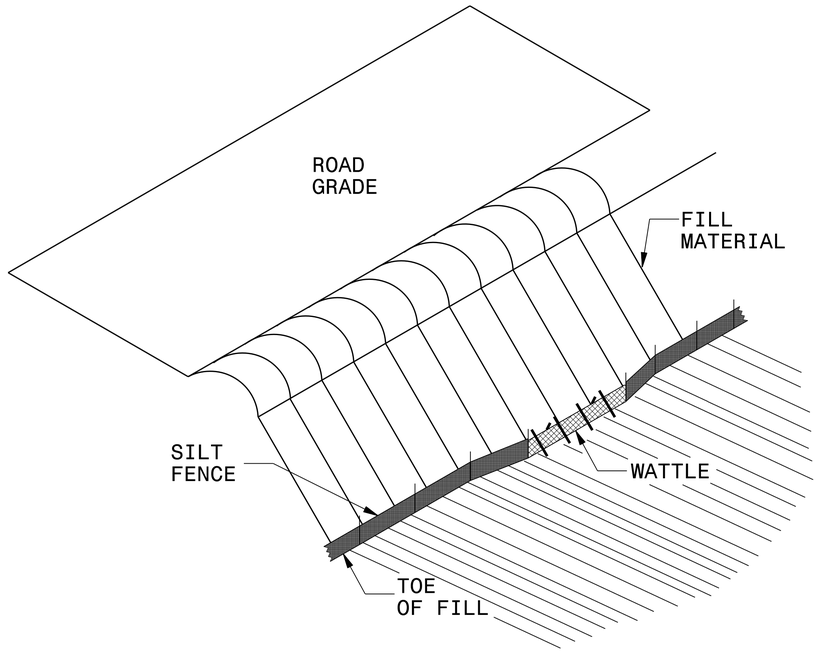




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-2A

SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW

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.

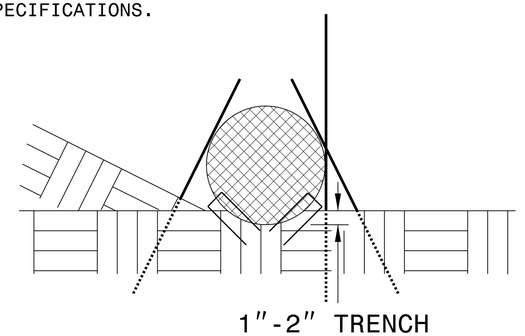
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

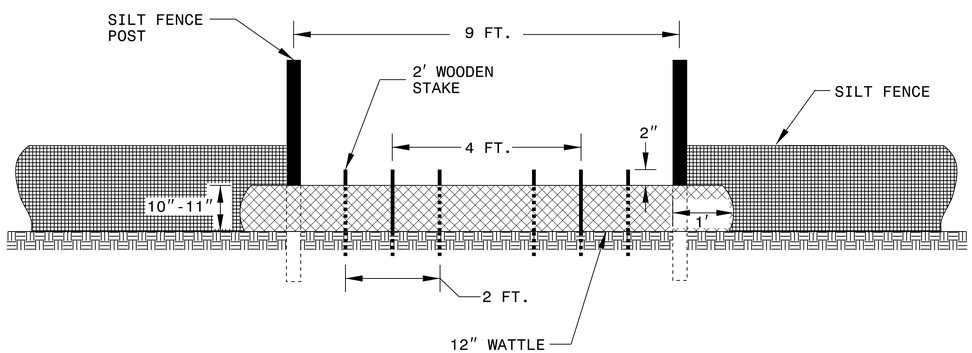
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

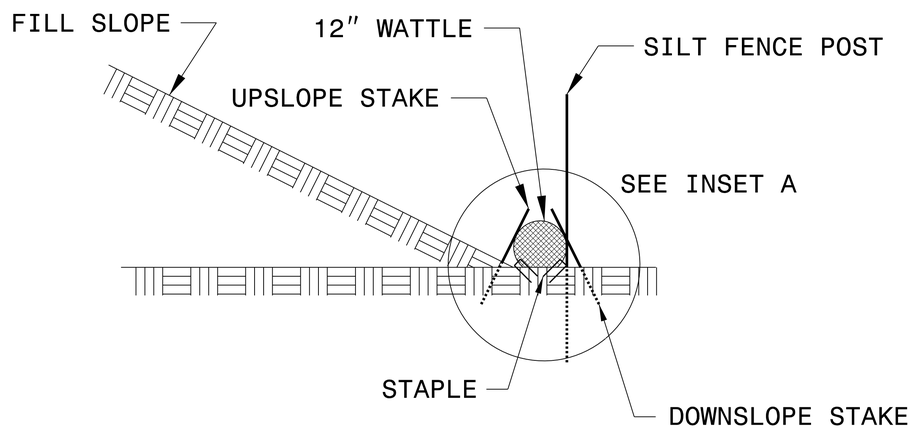
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A





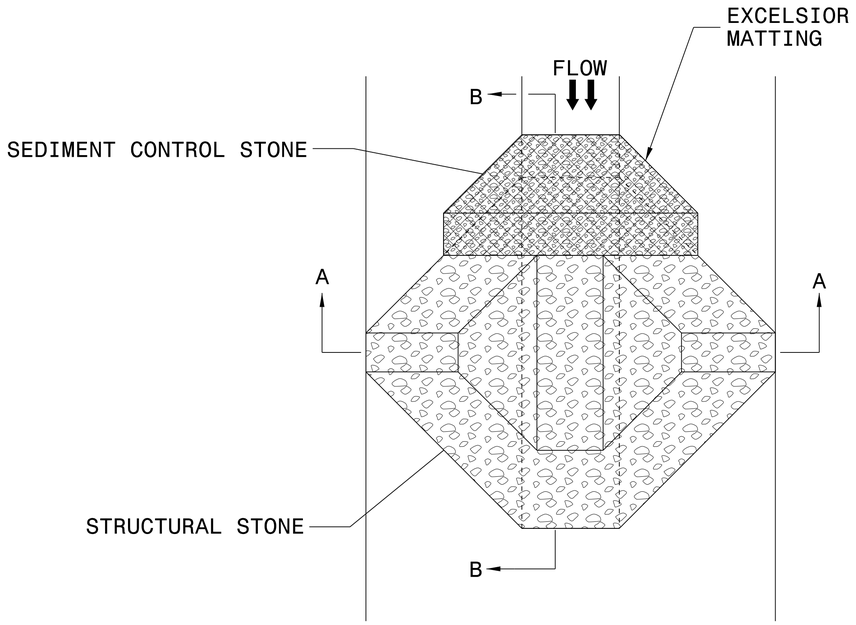
VIEW FROM SLOPE



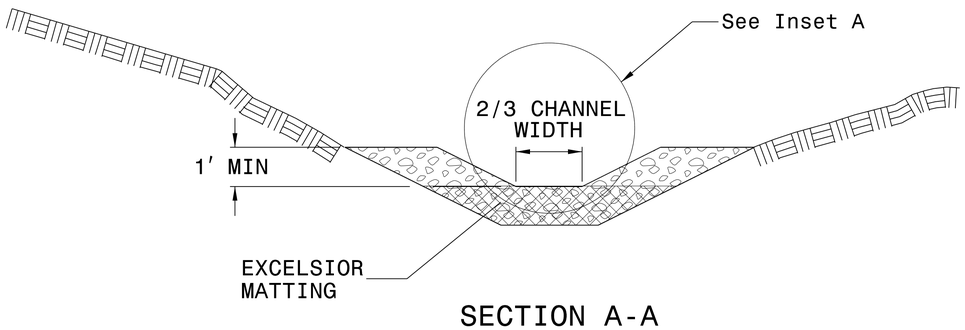
SIDE VIEW

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-2B

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



PLAN



SECTION A-A

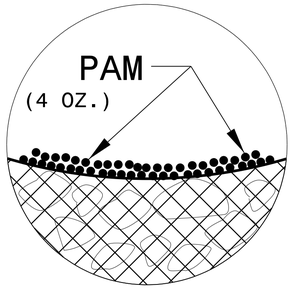
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

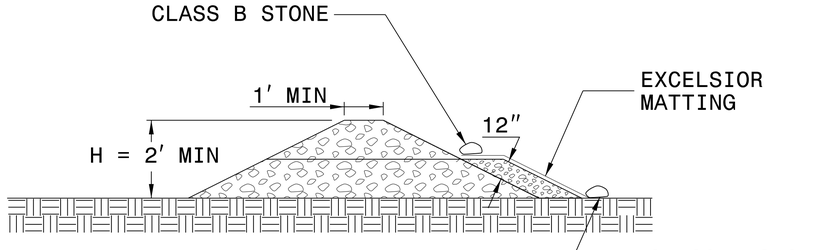
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION B-B

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-3

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-Y1-	10+37	11+20	LT	50
4	-Y1-	11+00	11+17	RT	15
4	-L-	13+50	15+97	RT	155
4	-Y2-	10+25	11+00	LT	50
4	-Y2-	12+00	12+50	LT	40
4	-L-	15+25	16+02	LT	50
4	-L-	18+50	19+50	LT	60
4	-Y2-	9+62	10+19	RT	70
5	-L-	19+50	20+50	LT	65
5	-L-	22+28	24+25	LT	120
5	-Y6-	17+85	19+20	LT	130
6	-Y7-	10+80	11+20	RT	35
6	-L-	34+81	35+29	RT	55
8	-Y6-	21+70	23+00	LT	80
				SUBTOTAL	975
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					98
				TOTAL	1073
				SAY	1100

MATTING FOR EROSION CONTROL

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

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-3A

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

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

Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

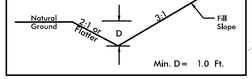
PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-4/CONST.4
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

DETAIL B
SPECIAL LATERAL "V" DITCH
(Not to Scale)



FROM -Y1- STA. 10+37 TO STA. 11+20 LT
FROM -Y1- STA. 10+50 TO STA. 11+17 RT
FROM -L- STA. 13+50 TO STA. 15+97 RT
FROM -L- STA. 15+25 TO STA. 16+02 LT
FROM -L- STA. 18+50 TO STA. 19+50 LT
FROM -Y2- STA. 10+25 TO STA. 10+85 LT
FROM -Y2- STA. 10+85 TO STA. 11+00 LT
FROM -Y2- STA. 12+00 TO STA. 12+50 LT

DETAIL G
STANDARD BASE DITCH
(Not to Scale)

FROM -Y2- STA. 9+62 TO STA. 10+19 RT

-L- CURVE DATA
PI Sta 16+19.05
Δ = 0° 42' 57.7" (RT)
D = 0° 19' 05.9"
L = 224.95'
T = 112.47'
R = 18,000.00'
SE = N/A
RO = N/A

-Y1- CURVE DATA
PI Sta 12+97.14
Δ = 26° 44' 43.4" (RT)
D = 30° 58' 14.5"
L = 86.36'
T = 43.98'
R = 185.00'
SE = N/A
RO = N/A

-Y2- CURVE DATA
PI Sta 9+68.74
Δ = 0° 52' 32.6" (RT)
D = 0° 57' 17.7"
L = 91.71'
T = 45.85'
R = 6,000.00'

LEGEND
① RETAIN
② PLUG & FILL
③ REMOVE
GTD = GRADE TO DRAIN

(-L-) 10
-Y1- POT Sta. 13+74.05

-L- POT Sta. 10+00.00

BEGIN PROJECT
-L- STA. 11+10.00

-Y1- PT Sta. 13+39.52
END CONSTRUCTION
-Y1- STA. 12+75.00
-Y1- PC Sta. 12+53.16

-L- POT STA.12+24.83=
-Y1- STA. 11+71.03

-Y2- POT Sta. 13+26.20

(-L-) 15

END CONSTRUCTION
-Y2- STA. 12+80.00

-L- POT STA. 16+25.67=
-Y2- STA. 11+55.46

-L- PT Sta. 17+31.52

-L- PC Sta. 15+06.58

(-Y1-) 10

-Y1- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y1- STA. 10+32.00

BEGIN CONSTRUCTION
-Y2- STA. 10+25.00
-Y2- PT Sta. 10+14.59

-Y2- PC Sta. 9+22.88

-Y2- POT Sta. 9+00.00

MATCH LINE -L- STA.9+50 SEE SHEET 5

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE–C AS DIRECTED TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC.

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

4/1/2022
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Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-5/CONST.5
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

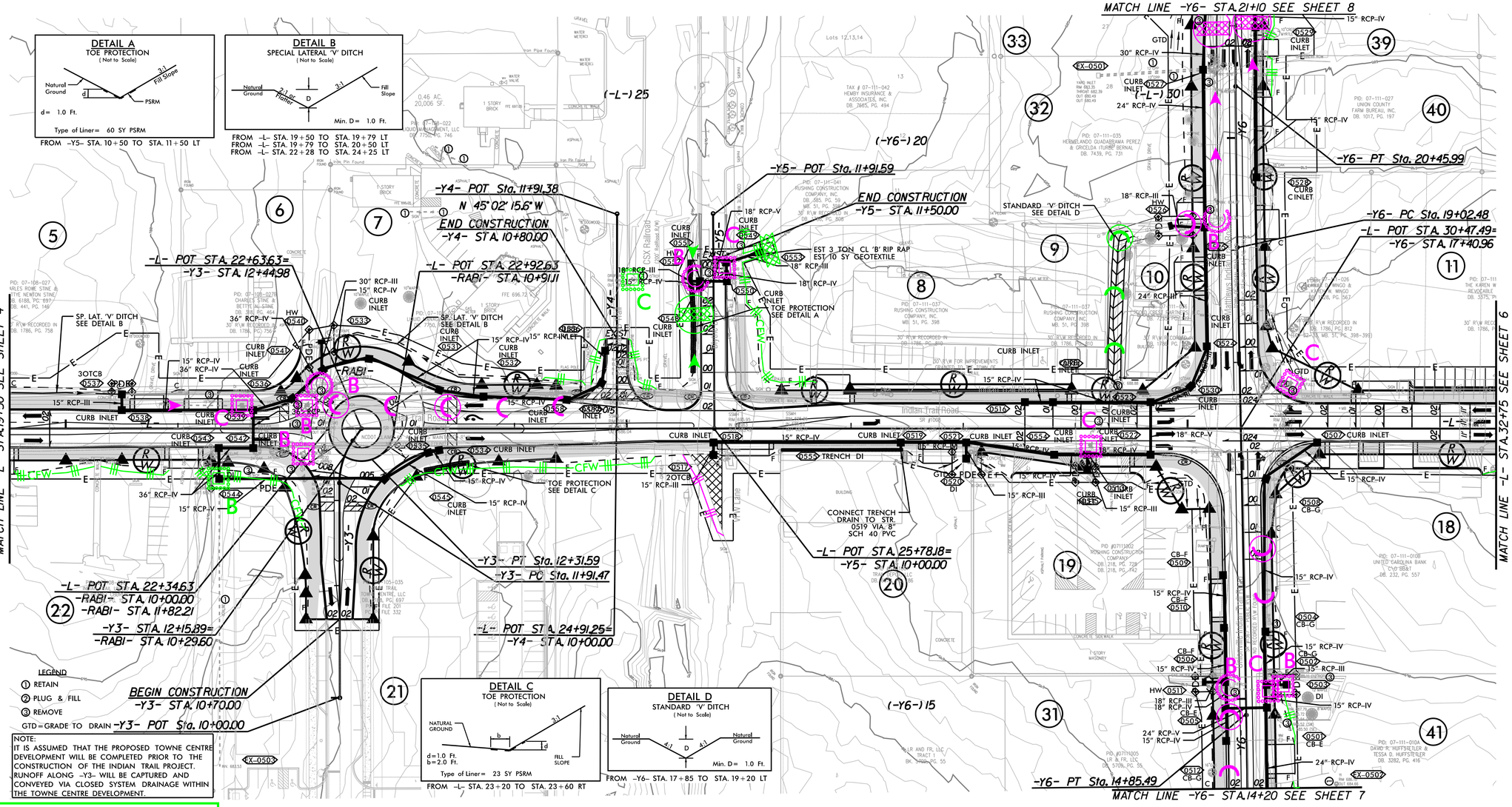
RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

-RABI- CURVE DATA
PI Sta 10+00.00
Δ = 359° 59' 56.6" (LT)
D = 197° 34' 18.0"
L = 182.21'
T = 0.00'
R = 29.00'
SE =
RO =

-Y3- CURVE DATA
PI Sta 12+12.19
Δ = 35° 21' 44.0" (RT)
D = 88° 08' 50.5"
L = 40.12'
T = 20.72'
R = 65.00'
SE =
RO =

-Y6- CURVE DATA
PI Sta 14+18.13
Δ = 0° 57' 53.5" (LT)
D = 0° 42' 58.3"
L = 134.72'
T = 67.36'
R = 8,000.00'
SE =
RO =

-Y6- CURVE DATA
PI Sta 19+74.23
Δ = 0° 54' 49.0" (RT)
D = 0° 38' 11.8"
L = 143.51'
T = 71.76'
R = 9,000.00'
SE =
RO =



NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE-C AS DIRECTED TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC.

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

4/1/2022
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Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-6/CONST.6
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

-Y6- CURVE DATA
PI Sta 8+46.03
Δ = 0° 35' 26.0" (LT)
D = 0° 34' 22.6"
L = 103.07'
T = 51.54'
R = 10,000.00'

(-L-) 35

END PROJECT
-L- STA. 35+40.00

POT Sta. 37+44.24

-L- POT STA. 34+46.78=
-Y7- STA. 11+51.41

10' MUP

5.0 SY PSRM

6.0 SY PSRM

SP. LAT. 'V' DITCH SEE DETAIL B

EST 2 TON CL 'B' RIP RAP
EST 7 SY GEOTEXTILE

18" RCP-III

15" RCP-III

15" RCP-V

3OTCB

C-CURB INLET

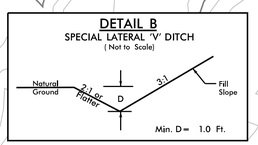
BEGIN CONSTRUCTION (-Y7-) 10
-Y7- Sta. 10+40.00

-Y7- PT Sta. 8+97.57

MATCH LINE -L- STA.32+75 SEE SHEET 5

MATCH LINE -Y7- STA.8+40 SEE SHEET 7

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



FROM -Y7- STA. 10+80 TO STA. 11+20 RT
FROM -L- STA. 34+81 TO STA. 35+29 RT

LEGEND
① RETAIN
② PLUG & FILL
③ REMOVE
GTD = GRADE TO DRAIN

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 6

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

NOTE:
UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE–C AS DIRECTED TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

4/1/2022
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Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

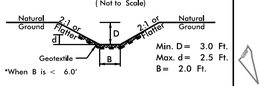
PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-7/CONST.7
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

DETAIL E
STANDARD BASE DITCH
(Not to Scale)

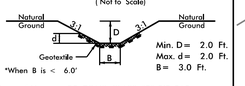


Min. D= 3.0 Ft.
Max. d= 2.5 Ft.
B= 2.0 Ft.
*When B is < 6.0'

Type of Liner= 26 TONS CLASS "B" RIP-RAP
45 SY OF GEOTEXTILE

FROM –Y7– STA. 6+31 TO STA. 6+73 LT

DETAIL F
STANDARD BASE DITCH
(Not to Scale)



Min. D= 2.0 Ft.
Max. d= 2.0 Ft.
B= 3.0 Ft.
*When B is < 6.0'

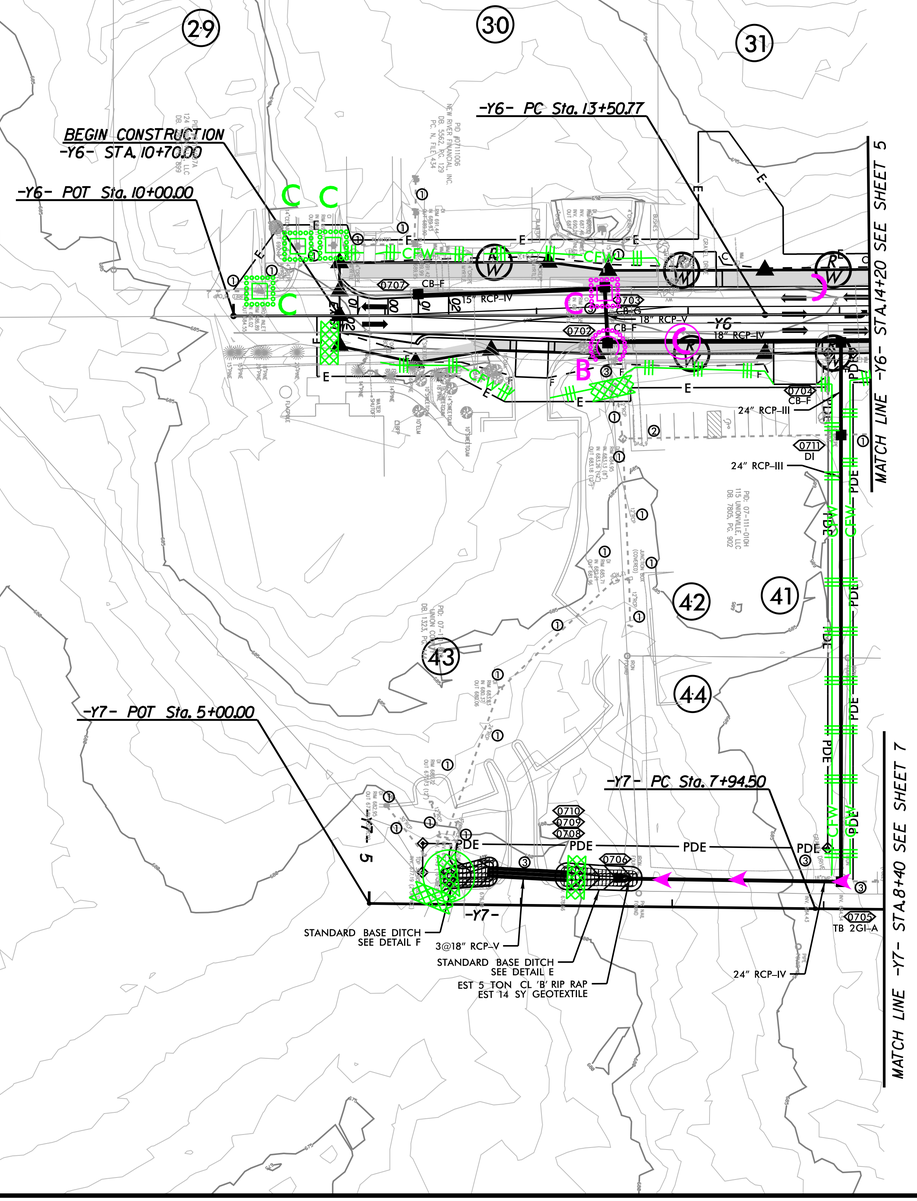
Type of Liner= 25 TONS CLASS "B" RIP-RAP
44 SY OF GEOTEXTILE

FROM –Y7– STA. 5+47 TO STA. 5+78 LT

LEGEND
① RETAIN
② PLUG & FILL
③ REMOVE
GTD=GRADE TO DRAIN

–Y7– CURVE DATA
PI Sta 8+46.03
Δ = 0° 35' 26.0" (LT)
D = 0° 34' 22.6"
L = 103.07'
T = 51.54'
R = 10,000.00'

–Y6– CURVE DATA
PI Sta 14+18.13
Δ = 0° 57' 53.5" (LT)
D = 0° 42' 58.3"
L = 134.72'
T = 67.36'
R = 8,000.00'



CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 7

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

NOTE:
UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE–C AS DIRECTED TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

4/1/2022
9:10:59 AM
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Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

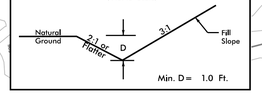
PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-8/CONST.8
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

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



FROM -Y6- STA. 21+70 TO STA. 23+00 LT

LEGEND
① RETAIN
② PLUG & FILL
③ REMOVE
GTD = GRADE TO DRAIN

-Y6- CURVE DATA
PI Sta 22+59.55
△ = 0° 36' 17.9" (RT)
D = 0° 22' 55.1"
L = 158.38'
T = 79.19'
R = 15,000.00'
SE = N/A
RO = N/A

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

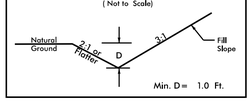
PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-9/CONST.4
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

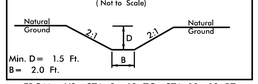
RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

DETAIL B
SPECIAL LATERAL "V" DITCH
(Not to Scale)



FROM –Y1– STA. 10+37 TO STA. 11+20 LT
FROM –Y1– STA. 10+50 TO STA. 11+17 RT
FROM –L– STA. 13+50 TO STA. 15+97 RT
FROM –L– STA. 15+25 TO STA. 16+02 LT
FROM –L– STA. 18+50 TO STA. 19+50 LT
FROM –Y2– STA. 10+25 TO STA. 10+85 LT
FROM –Y2– STA. 10+85 TO STA. 11+00 LT
FROM –Y2– STA. 12+00 TO STA. 12+50 LT

DETAIL G
STANDARD BASE DITCH
(Not to Scale)



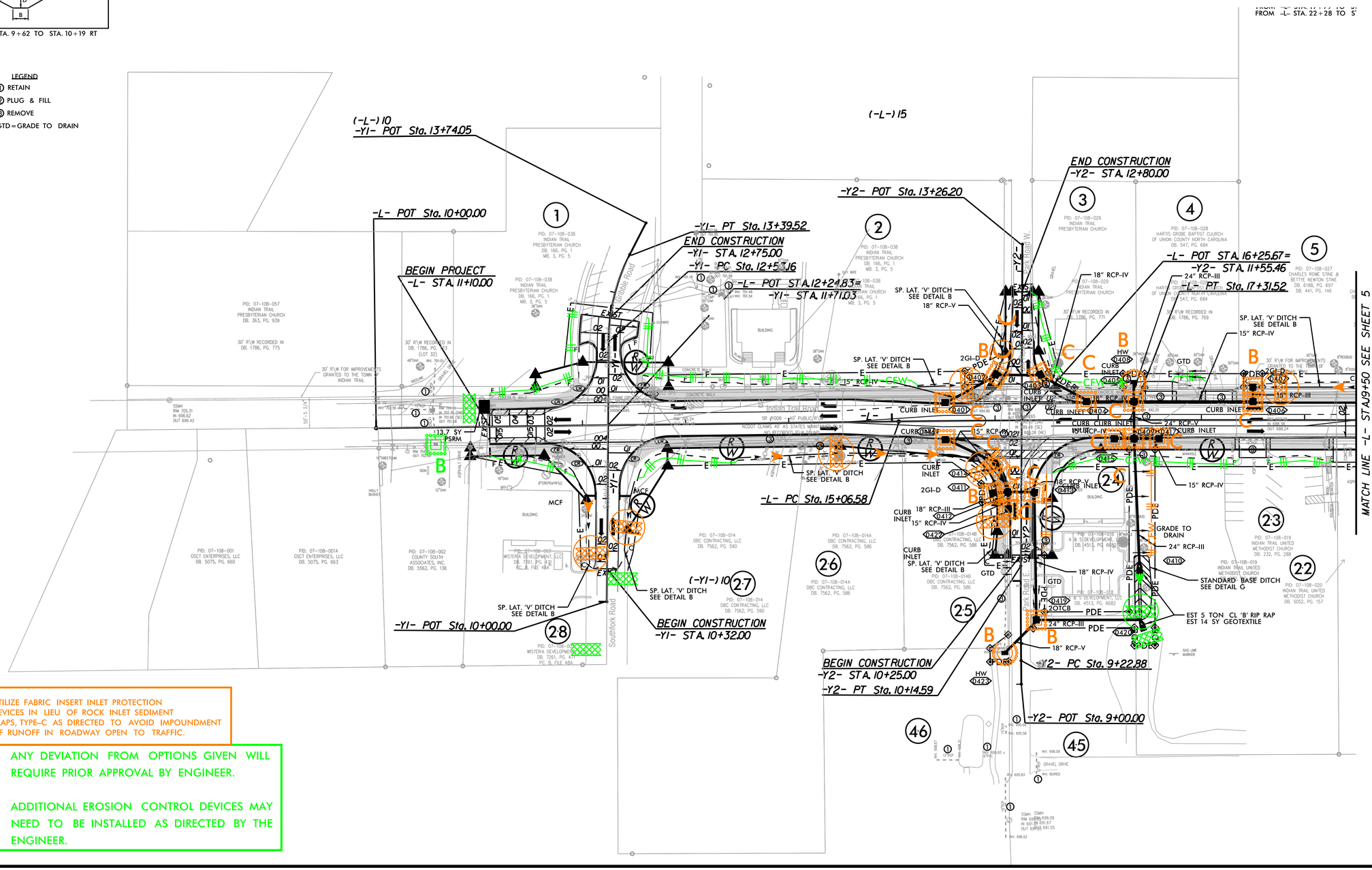
FROM –Y2– STA. 9+62 TO STA. 10+19 RT

-L- CURVE DATA
PI Sta 16+19.05
Δ = 0° 42' 57.7" (RT)
D = 0° 19' 05.9"
L = 224.95'
T = 112.47'
R = 18,000.00'
SE = N/A
RO = N/A

-Y1- CURVE DATA
PI Sta 12+97.14
Δ = 26° 44' 43.4" (RT)
D = 30° 58' 14.5"
L = 86.36'
T = 43.98'
R = 185.00'
SE = N/A
RO = N/A

-Y2- CURVE DATA
PI Sta 9+68.74
Δ = 0° 52' 32.6" (RT)
D = 0° 57' 17.7"
L = 91.71'
T = 45.85'
R = 6,000.00'

LEGEND
① RETAIN
② PLUG & FILL
③ REMOVE
GTD = GRADE TO DRAIN



NOTE:
UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE-C AS DIRECTED TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-10/CONST.5
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

-RABI- CURVE DATA
PI Sta 10+00.00
Δ = 359° 59' 56.6" (LT)
D = 197° 34' 18.0"
L = 182.21'
T = 0.00'
R = 29.00'
SE=
RO=

-Y3- CURVE DATA
PI Sta 12+12.19
Δ = 35° 21' 44.0" (RT)
D = 88° 08' 50.5"
L = 40.12'
T = 20.72'
R = 65.00'
SE=
RO=

-Y6- CURVE DATA
PI Sta 14+18.13
Δ = 0° 57' 53.5" (LT)
D = 0° 42' 58.3"
L = 134.72'
T = 67.36'
R = 8,000.00'
SE=
RO=

-Y6- CURVE DATA
PI Sta 19+74.23
Δ = 0° 54' 49.0" (RT)
D = 0° 38' 11.8"
L = 143.51'
T = 71.76'
R = 9,000.00'
SE=
RO=

DETAIL A
TOE PROTECTION
(Not to Scale)
Natural Ground, d, 3:1 Fill Slope, PSRM
d= 1.0 Ft.
Type of Liner= 60 SY PSRM
FROM -Y5- STA. 10+50 TO STA. 11+50 LT

DETAIL B
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 2:1 or Flatter, D, 3:1 Fill Slope
Min. D= 1.0 Ft.
FROM -L- STA. 19+50 TO STA. 19+79 LT
FROM -L- STA. 19+79 TO STA. 20+50 LT
FROM -L- STA. 22+28 TO STA. 24+25 LT

MATCH LINE -Y6- STA.21+10 SEE SHEET 8

-Y4- POT Sta. 11+91.38
N 45° 02' 15.6" W
END CONSTRUCTION
-Y4- STA. 10+80.00

-L- POT STA. 22+63.63=
-Y3- STA. 12+44.98

-L- POT STA. 22+92.63
-RABI- STA. 10+91.11

-Y5- POT Sta. 11+91.59
END CONSTRUCTION
-Y5- STA. 11+50.00

-Y6- PT Sta. 20+45.99

-Y6- PC Sta. 19+02.48
-L- POT STA. 30+47.49=
-Y6- STA. 17+40.96

-Y3- PT Sta. 12+31.59
-Y3- PC Sta. 11+91.47

-L- POT STA. 22+34.63
-RABI- STA. 10+00.00
-RABI- STA. 11+82.21

-Y3- STA. 12+15.89=
-RABI- STA. 10+29.60

-L- POT STA. 24+91.25=
-Y4- STA. 10+00.00

-L- POT STA. 25+78.18=
-Y5- STA. 10+00.00

-Y6- PT Sta. 14+85.49

BEGIN CONSTRUCTION
-Y3- STA. 10+70.00
-Y3- POT Sta. 10+00.00

LEGEND
① RETAIN
② PLUG & FILL
③ REMOVE
GTD = GRADE TO DRAIN

NOTE:
IT IS ASSUMED THAT THE PROPOSED TOWNE CENTRE DEVELOPMENT WILL BE COMPLETED PRIOR TO THE CONSTRUCTION OF THE INDIAN TRAIL PROJECT. RUNOFF ALONG -Y3- WILL BE CAPTURED AND CONVEYED VIA CLOSED SYSTEM DRAINAGE WITHIN THE TOWNE CENTRE DEVELOPMENT.

DETAIL C
TOE PROTECTION
(Not to Scale)
NATURAL GROUND, b, d, 3:1, FILL SLOPE
d=1.0 Ft.
b=2.0 Ft.
Type of Liner= 23 SY PSRM
FROM -L- STA. 23+20 TO STA. 23+60 RT

DETAIL D
STANDARD 'V' DITCH
(Not to Scale)
Natural Ground, 4:1, D, 4:1, Natural Ground
Min. D= 1.0 Ft.
FROM -Y6- STA. 17+85 TO STA. 19+20 LT

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE-C AS DIRECTED TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC.

PAVEMENT REMOVAL

MATCH LINE -L- STA.19+50 SEE SHEET 4
MATCH LINE -L- STA.32+75 SEE SHEET 6
MATCH LINE -Y6- STA.14+20 SEE SHEET 7

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Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-11/CONST.6
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

-Y6- CURVE DATA
PI Sta 8+46.03
△ = 0° 35' 26.0" (LT)
D = 0° 34' 22.6"
L = 103.07'
T = 51.54'
R = 10,000.00'

(-L-) 35

END PROJECT
-L- STA. 35+40.00

POT Sta. 37+44.24

-L- POT STA. 34+46.78=
-Y7- STA. 11+51.41

10' MUP

5.0 SY PSRM

6.0 SY PSRM

SP. LAT. 'V' DITCH SEE DETAIL B

EST 2 TON CL 'B' RIP RAP
EST 7 SY GEOTEXTILE

15" RCP-III

15" RCP-V

3OTCB

INLET

Indian Trail Road East

BEGIN CONSTRUCTION (-Y7-) 10
-Y7- Sta. 10+40.00

-Y7- PT Sta. 8+97.57

MATCH LINE -L- STA. 32+75 SEE SHEET 5

MATCH LINE -Y7- STA. 8+40 SEE SHEET 7

PID: 07-111-023 THE KAREN W. WINGO DB. 1371, PG. 466

PID: 07-111-022 DONALD A. MCINNIS DB. 1371, PG. 466

PID: 07-111-021A CURTIS LEE HICK & BRENDA G. HICK DB. 311, PG. 455

PID: 07-111-018B DONALD A. MCINNIS DB. 1302, PG. 93

PID: 07-111-018C PANAGIOTIS A. KARAGOUNIS & LAMBRINA KARAGOUNIS DB. 450, PG. 49

PID: 07-111-020A DONALD A. MCINNIS DB. 1371, PG. 466

PID: 07-111-010D RYCHING CONSTRUCTION COMPANY DB. 291, PG. 53

PID: 07-111-012 LOUIS H. TAYLOR & JACOB. LOUIS TAYLOR MB. 51, PG. 400

PID: 07-111-013 LOUIS H. TAYLOR & JACOB. LOUIS TAYLOR MB. 51, PG. 400

PID: 07-111-014A CHARLES E. DIERKING & TRACEY L. DIERKING DB. 6491, PG. 772

30' R\W RECORDED IN DB. 1786, PG. 816

30' R\W RECORDED IN DB. 1786, PG. 784

30' R\W RECORDED IN DB. 1786, PG. 817

30' R\W RECORDED IN DB. 1786, PG. 819

30' R\W RECORDED IN DB. 1786, PG. 821

30' R\W RECORDED IN DB. 1786, PG. 773

30' R\W RECORDED IN DB. 1786, PG. 822

30' R\W RECORDED IN DB. 1786, PG. 826

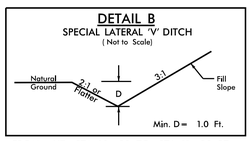
30' R\W FOR IMPROVEMENTS GRANTED TO THE TOWN OF INDIAN TRAIL

SSMH RIM 689.94 IN 680.27 OUT 680.06

SSMH RIM 685.54 IN 677.92 OUT 676.15

SSMH RIM 680.13 IN 676.53 OUT 677.83

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



FROM -Y7- STA. 10+80 TO STA. 11+20 RT
FROM -L- STA. 34+81 TO STA. 35+29 RT

LEGEND
① RETAIN
② PLUG & FILL
③ REMOVE
GTD = GRADE TO DRAIN

NOTE:
UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE-C AS DIRECTED TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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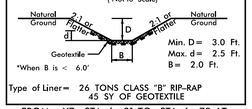
DETAIL E
STANDARD BASE DITCH
(Not to Scale)

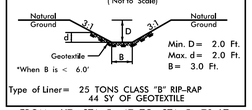


Min. D = 3.0 Ft.
Max. d = 2.5 Ft.
B = 2.0 Ft.
*When B is < 6.0'

Type of Liner = 26 TONS CLASS "B" RIP-RAP
45 SY OF GEOTEXTILE

FROM –Y7– STA. 6+31 TO STA. 6+73 LT

DETAIL F
STANDARD BASE DITCH
(Not to Scale)



Min. D = 2.0 Ft.
Max. d = 2.0 Ft.
B = 3.0 Ft.
*When B is < 6.0'

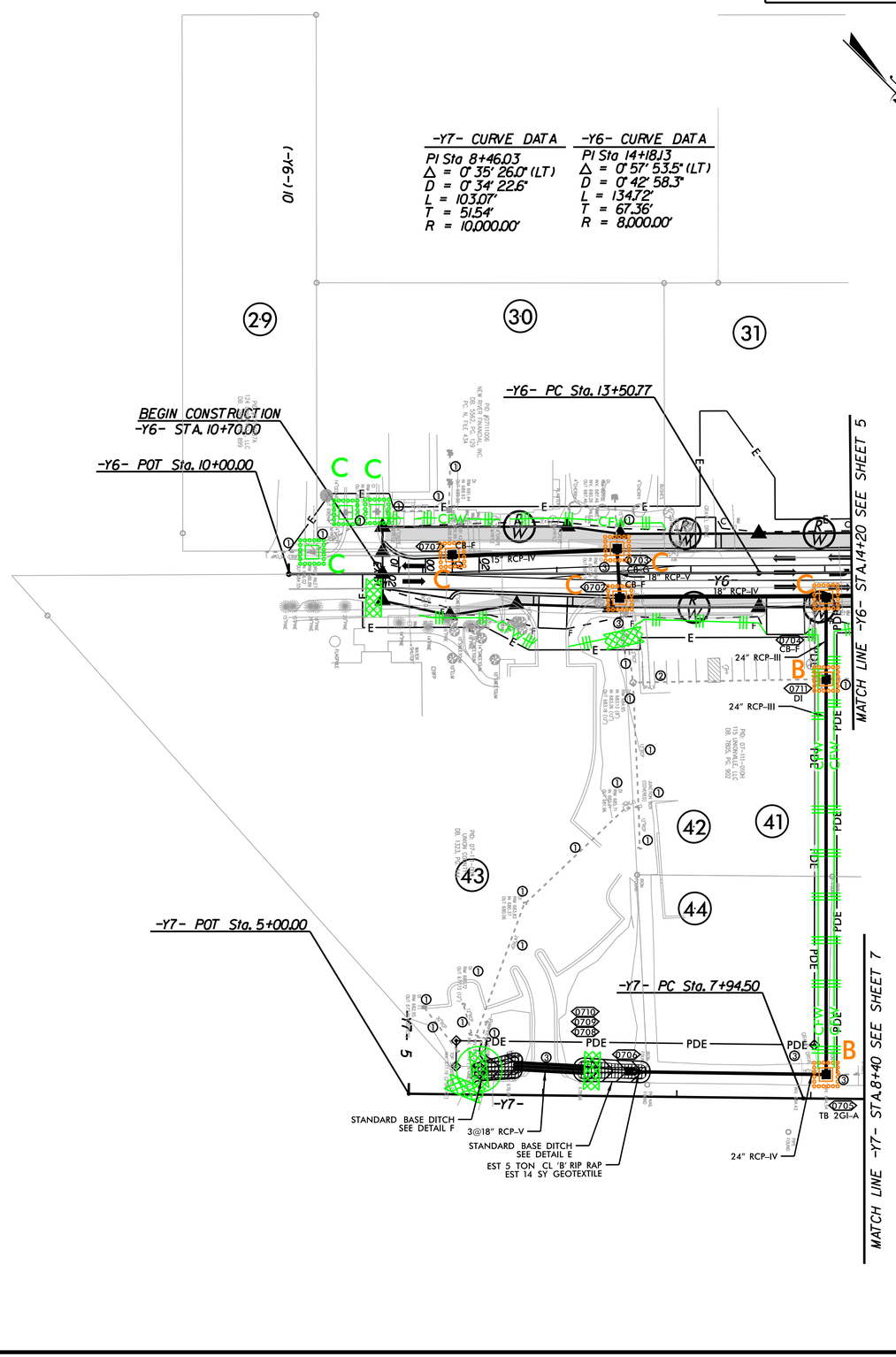
Type of Liner = 25 TONS CLASS "B" RIP-RAP
44 SY OF GEOTEXTILE

FROM –Y7– STA. 5+47 TO STA. 5+78 LT

LEGEND
① RETAIN
② PLUG & FILL
③ REMOVE
GTD = GRADE TO DRAIN

-Y7- CURVE DATA
PI Sta 8+46.03
Δ = 0° 35' 26.0" (LT)
D = 0° 34' 22.6"
L = 103.07'
T = 51.54'
R = 10,000.00'

-Y6- CURVE DATA
PI Sta 14+18.13
Δ = 0° 57' 53.5" (LT)
D = 0° 42' 58.3"
L = 134.72'
T = 67.36'
R = 8,000.00'



NOTE:
UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE-C AS DIRECTED TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-12/CONST.7
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

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Town of Indian Trail
315 Matthews Indian Trail Rd.
Indian Trail, NC 28079

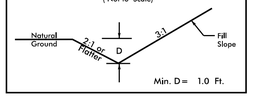
PROJECT REFERENCE NO.	SHEET NO.
EB-5931	EC-13/CONST.8
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

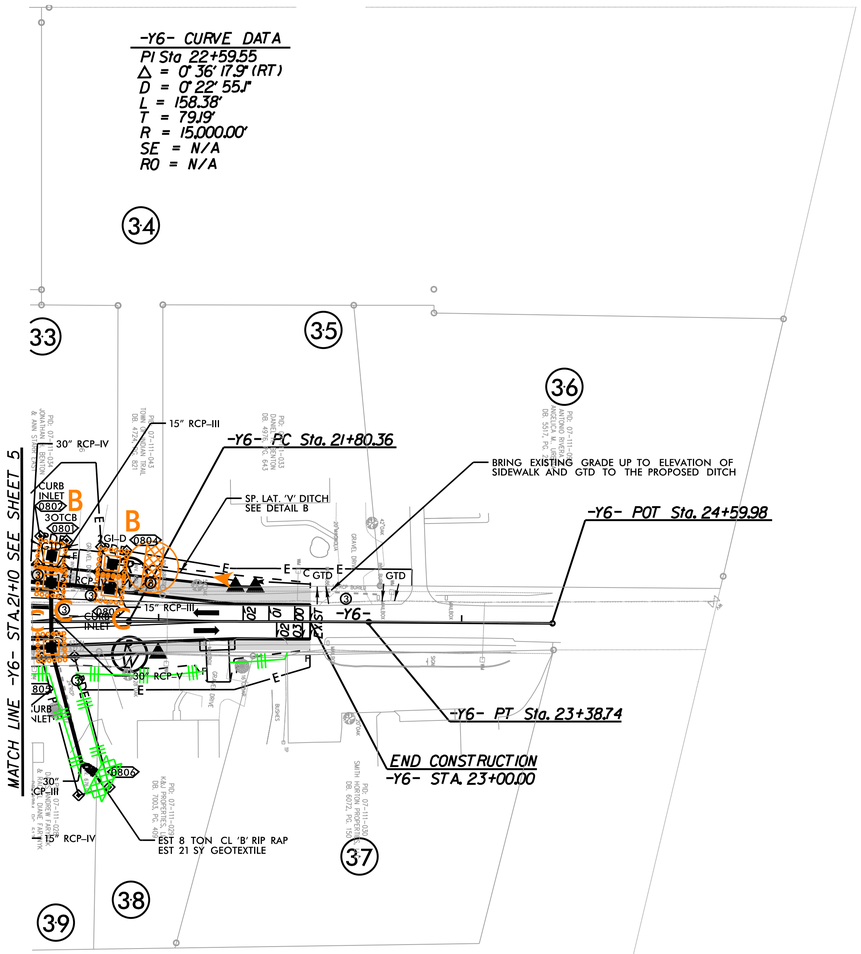
DETAIL B
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM -Y6- STA. 21+70 TO STA. 23+00 LT

LEGEND
① RETAIN
② PLUG & FILL
③ REMOVE
GTD = GRADE TO DRAIN

-Y6- CURVE DATA
PI Sta 22+59.55
△ = 0° 36' 17.9" (RT)
D = 0° 22' 55.1"
L = 158.38'
T = 79.19'
R = 15,000.00'
SE = N/A
RO = N/A



NOTE:
UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE-C AS DIRECTED TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
EB-5931	X-1A	X-26

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

CROSS SECTION INDEX

ALIGNMENT	SHEET NUMBERS
-L-	X-1 THRU X-11
-Y1-	X-12 THRU X-13
-Y2-	X-14 THRU X-15
-Y3-	X-16
-Y4-	X-17
-Y5-	X-18
-Y6-	X-19 THRU X-24
-Y7-	X-25
-RABI-	X-26

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-1B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
11+50.00	0	0
13+00.00	44	152
13+50.00	5	81
14+00.00	11	67
14+50.00	16	52
15+00.00	16	45
15+50.00	15	39
16+00.00	21	19
16+50.00	37	13
17+00.00	26	42
17+50.00	9	53
18+00.00	9	60
18+17.21	3	21
18+50.00	8	23
19+00.00	13	40
19+50.00	15	42
20+00.00	18	34
20+50.00	14	43
20+76.91	5	23
21+00.00	2	22
21+21.55	1	24
21+50.00	2	51
22+00.00	4	141
23+50.00	55	286
24+00.00	34	26
24+50.00	19	37
25+00.00	3	40
25+50.00	7	31
26+00.00	9	42
26+50.00	7	49
26+80.04	6	29
27+00.00	3	17
27+50.00	5	37
27+77.84	2	30
28+00.00	2	25
28+50.00	5	49
29+00.00	31	64
29+33.47	19	58
29+50.00	3	31
31+50.00	39	334
31+70.12	1	29
32+00.00	6	35
32+50.00	20	43
33+00.00	18	39
33+20.05	3	19
33+50.00	7	29
34+00.00	17	52
34+50.00	13	37
34+79.51	9	11
35+00.00	10	11
35+20.85	10	12

Station Y1	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+50.00	0	0
11+00.00	17	4
11+50.00	12	12
12+00.00	6	15
12+50.00	10	9

Station Y2	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+50.00	6	7
11+00.00	20	24
11+50.00	19	10
12+00.00	15	5
12+50.00	13	5

Station Y3	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
11+00.00	0	0
11+50.00	20	7
11+99.37	10	98

Station Y4	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+41.25	0	0
10+50.00	2	1
10+80.00	9	3

Station Y5	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+50.00	0	0
11+00.00	12	16
11+50.00	18	21

Station Y6	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
11+00.00	0	0
11+50.00	13	28
12+00.00	3	85
12+50.00	3	107
13+00.00	15	77
13+10.75	7	12
13+50.00	21	38
13+69.47	4	26
14+00.00	4	43
14+50.00	7	67
15+00.00	7	61
15+50.00	9	25
16+00.00	12	6
16+50.00	14	11
17+00.00	21	22
18+00.00	38	117
18+50.00	17	73
18+77.15	13	34
19+00.00	12	31
19+31.89	25	34
19+50.00	17	18
20+00.00	22	65
20+27.21	1	50
20+50.00	0	48
20+78.90	0	83
21+00.00	0	78
21+50.00	0	157
22+00.00	2	114
22+37.04	2	72
22+50.00	2	20

Station Y7	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+50.00	0	0
11+00.00	13	16
11+40.41	22	13

Station RAB1	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+00.00	0	0
10+50.00	0	147
11+00.00	0	166
11+50.00	0	253

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NC FIRM LICENSE No: F-0493

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-1

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

720
710

–Y1– INTERSECTION 0.020 0.020 –Y1– INTERSECTION
706.56
12+50.00

720
710

–Y1– INTERSECTION 0.020 0.020 –Y1– INTERSECTION
707.05
12+00.00

720
710

3:1 706.07 0.024 0.0150 706.22 3:1
706.56
11+50.00

710

0.052 0.019
705.95
11+10.00

710

705.84
11+00.00

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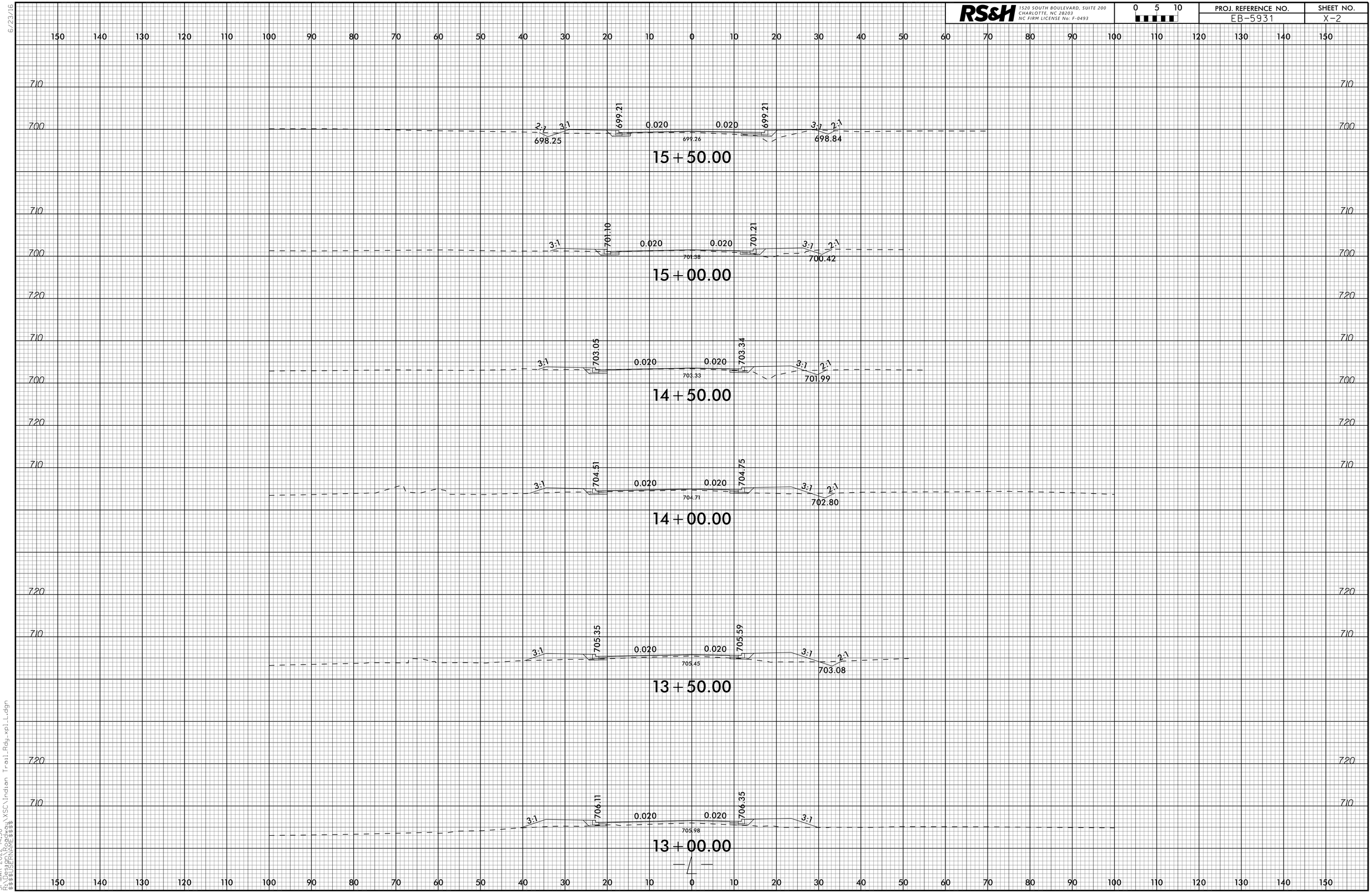
0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-2



6/23/16

31-MAR-2022 14:58
R:\Design\Roadway\XSC\Indian Trail Rdy_xpl_L.dgn
$$$$USERNAME$$$$

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

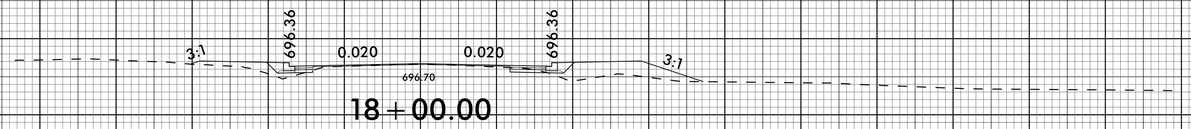
0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-3

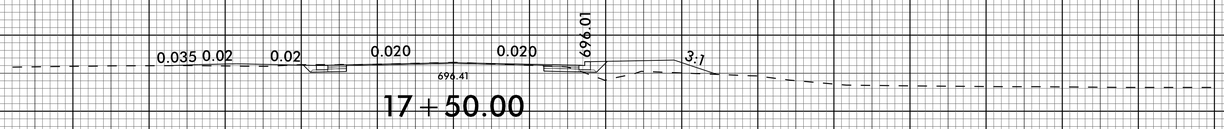
6/23/16

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

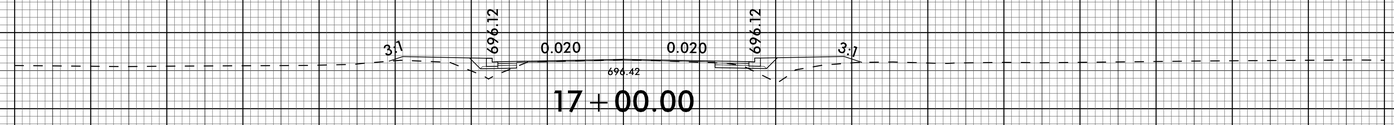
710
700



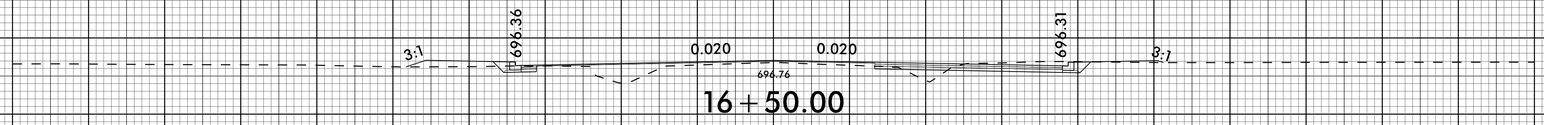
18+00.00



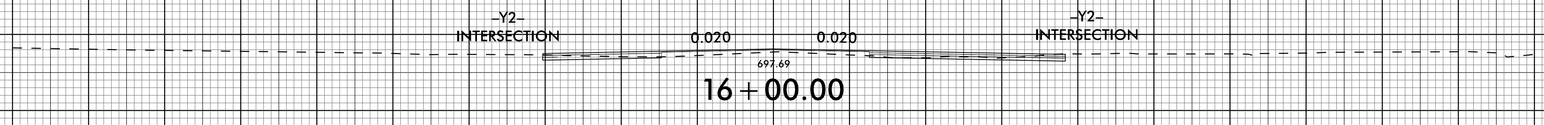
17+50.00



17+00.00



16+50.00



16+00.00

31-MAR-2022 14:58
R:\Design\Roadway\XSC\Indian Trail_Rdy_xpl_L.dgn
$$$$USERNAME$$$$

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1520 SOUTH BOULEVARD, SUITE 200
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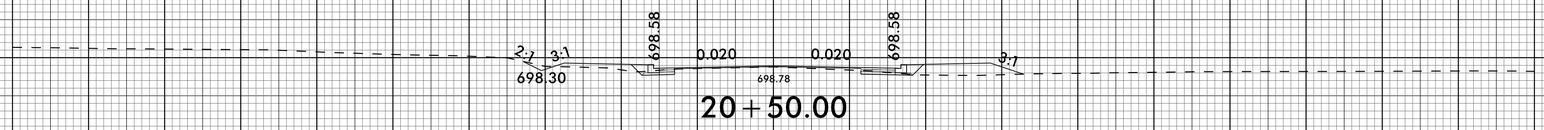
NC FIRM LICENSE No: F-0493

0 5 10

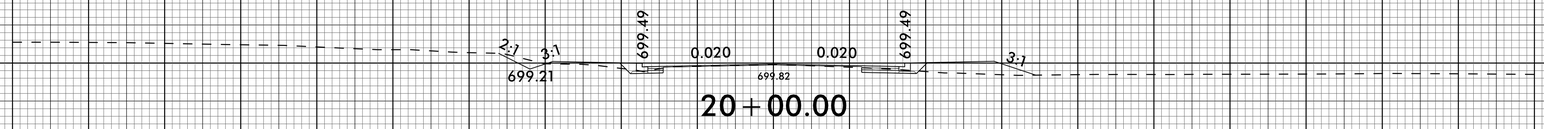
PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-4

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

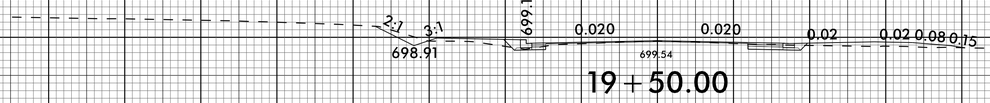
710
700



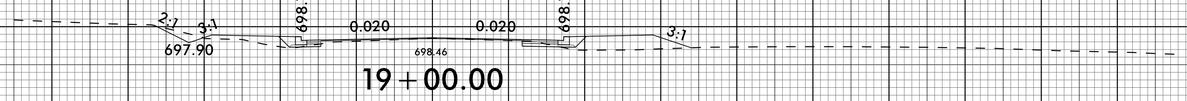
20+50.00



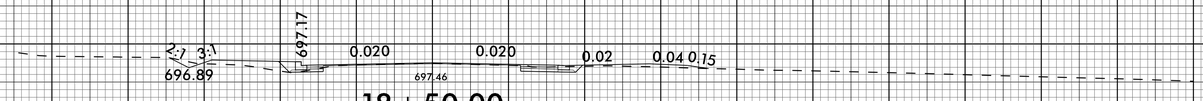
20+00.00



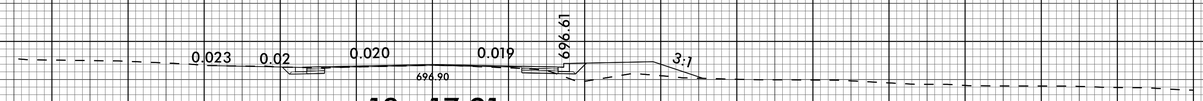
19+50.00



19+00.00



18+50.00



18+17.21

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0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-5

6/23/16

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

710
700

693.30
9.6:1
693.93
0.020
0.020
694.05
3:1
693.11

22+00.00

694.42
6:1
695.03
0.020
0.020
695.03
3:1
694.35

21+50.00

0.06 0.02 0.02
0.020
0.019
695.85
3:1
695.50

21+21.55

19:1
696.61
0.020
0.020
0.02
0.02 0.08
696.56

21+00.00

0.02 0.02
0.019
0.019
697.56
3:1
697.65

20+76.91

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0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-6

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

710
700

3:1 697.75 0.020 0.020 697.85 3:1
697.87
25+50.00

710
700

-Y4-
INTERSECTION 0.020 0.020 697.77 3:1
697.30
25+00.00

710
700

3:1 696.53 0.020 0.020 696.73 3:1
696.31
24+50.00

710
700

2:1 3:1 694.92 0.020 0.020 695.16 3:1
694.14 695.40
24+00.00

710
700

2:1 3:1 693.78 0.020 0.020 694.03 3:1
692.94 694.24
23+50.00

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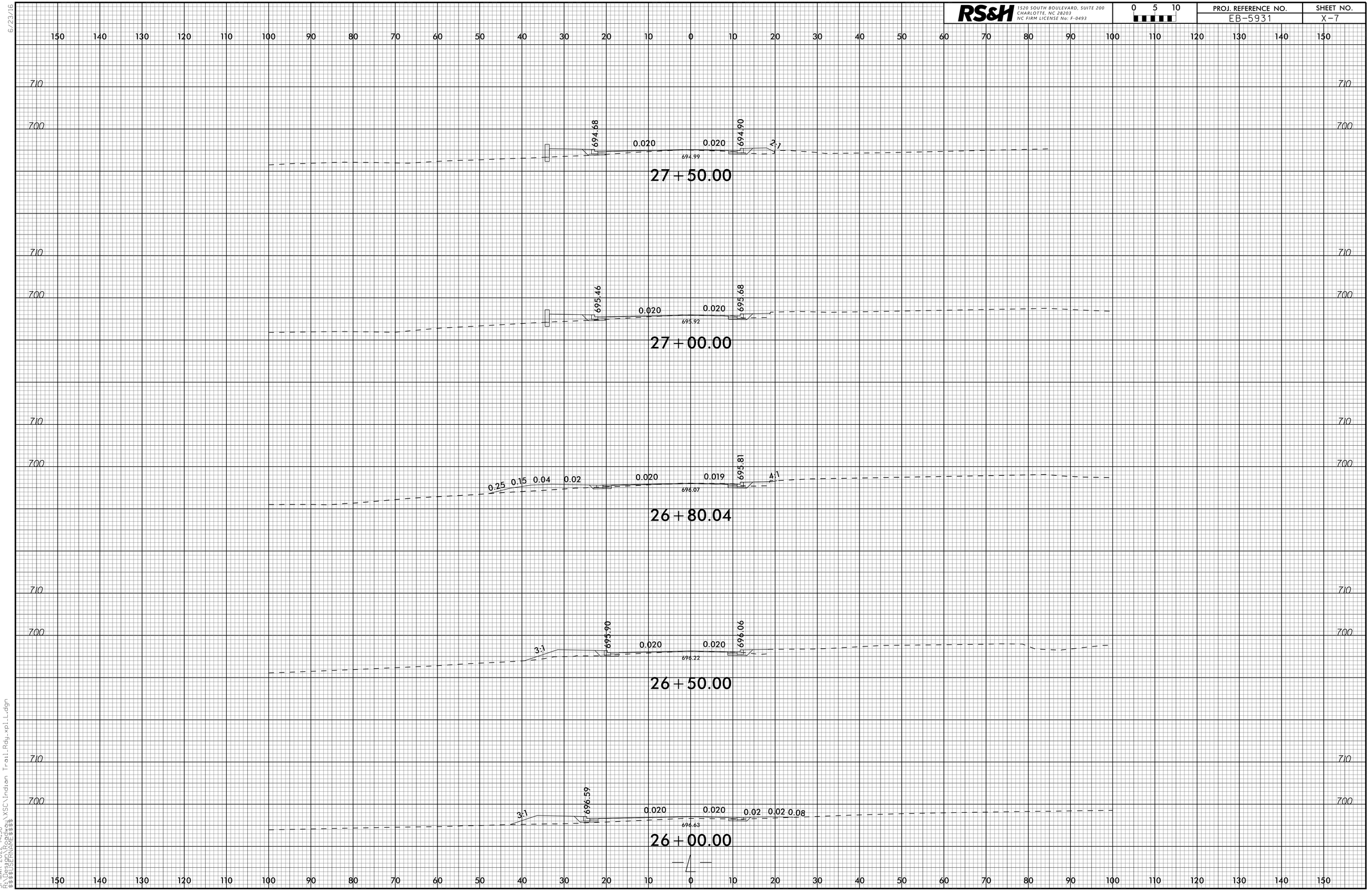
0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-7



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0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-8

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

700
690

690.31 2:1 692.49 0.018 0.020 691.61 3:1 691.12
691.85

29+50.00

700
690

692.24 3:1 0.011 0.019 0.02 0.04 0.14
691.78

29+33.47

700
690

0.25 0.15 0.04 0.02 0.002 0.020 691.52 10:1 691.23
691.75

29+00.00

700
690

692.02 0.020 0.020 692.12 0.73 692.17
692.07

28+50.00

710
700

693.17 0.020 0.020 693.39 3:1
693.38

28+00.00

710
700

693.89 3:1 0.020 0.019 0.02 0.04 0.15 0.25
694.14

27+77.84

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0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-9

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

710
700

0.15 0.04 0.02 0.002 0.019 697.12 3:1
697.09
31+70.12

710
700

3:1 697.06 0.010 0.020 0.02 0.04 0.15 0.25
696.53
31+50.00

710
700

–Y6– INTERSECTION 0.020 0.020 –Y6– INTERSECTION
694.91
31+00.00

710
700

–Y6– INTERSECTION 0.020 0.020 –Y6– INTERSECTION
693.31
30+50.00

700
690

–Y6– INTERSECTION 0.020 0.020 –Y6– INTERSECTION
692.30
30+00.00

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0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-10

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

710
700

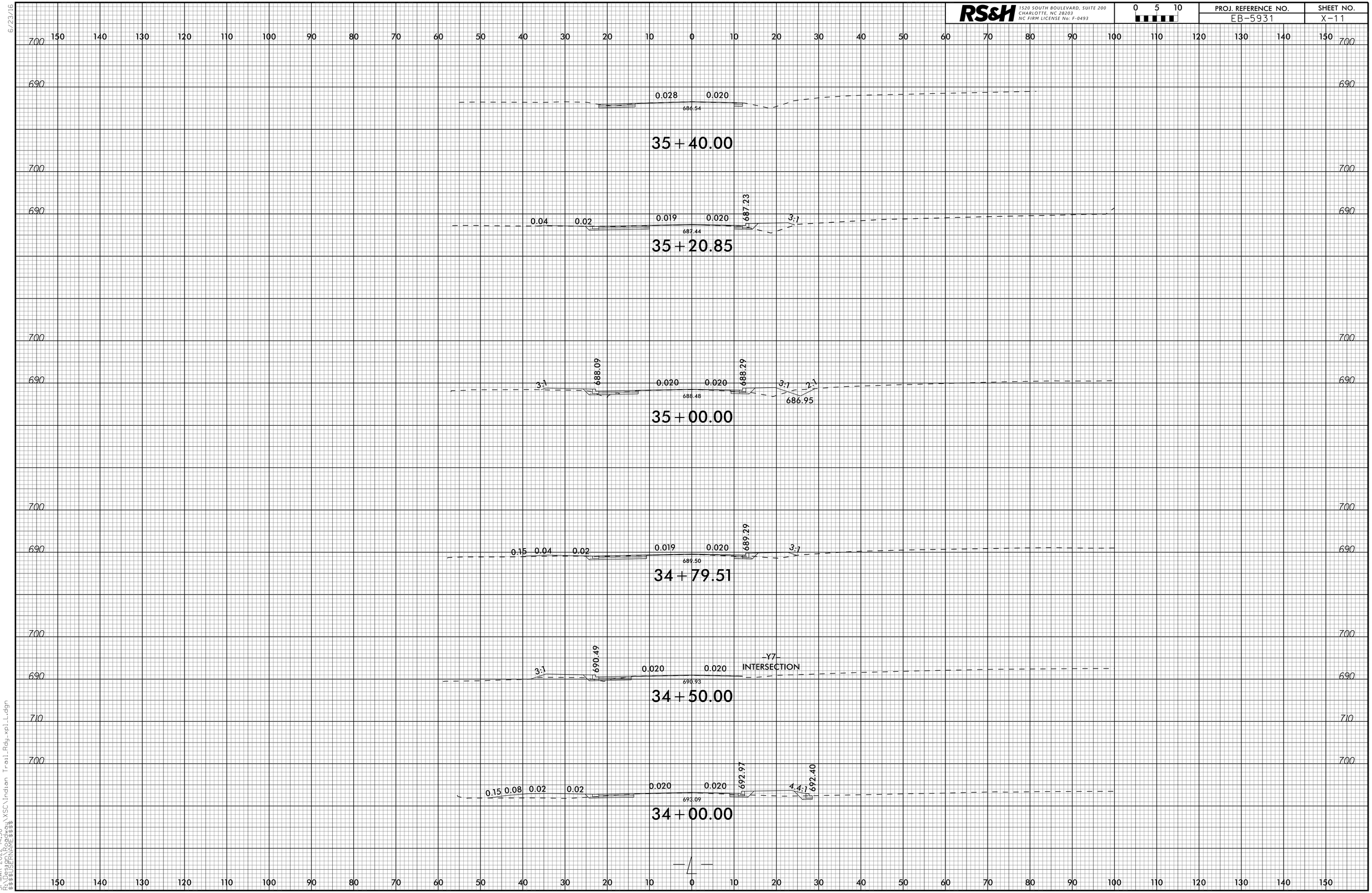
3:1 694.85 0.020 0.020 695.07 3:2:1 694.22
694.86
33+50.00

0.15 0.04 0.02 0.020 0.019 0.02 0.04 0.15 0.25
695.83
33+20.05

0.08 0.02 0.02 0.020 0.020 696.62 3:1
696.44
33+00.00

697.00 2:1:1 697.27 0.020 0.020 697.49 5.9:1 697.13
697.55
32+50.00

697.29 2:1 697.60 0.010 0.020 0.02 0.04 0.15 0.22
697.63
32+00.00



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0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-12

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

720
710
700

3:1 706.54 0.001 0.007 706.30 3:1
706.72

11+50.00

2:1 3:1 705.72 0.020 0.020 705.73 3:1 2:1
705.31 705.72 704.40

11+00.00

710
700

2:1 3:1 0.023 0.020 3:1
703.76 705.25

10+50.00

0.034 0.030
705.06

10+32.00

704.95

10+22.00

—Y1—

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0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-13

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

710
700
690

704.61

13+00.00

710
700

0.029 0.024

705.10

12+75.00

720
710
700

705.24 705.30

3:1 0.020 0.020 3:1

705.46

12+50.00

720
710
700

706.41 706.09

3:1 0.000 0.008 3:1

706.05

12+00.00

720
710
700

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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0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-14

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

710
700
690

-L- INTERSECTION

0.021 0.021

697.01

11+50.00

-L- INTERSECTION

710
700
690

2:1 3:1

696.43

696.83

0.002 0.020

696.80

696.56

3:1

11+00.00

710
700
690

2:1 3:1

696.37

696.83

0.010 0.020

697.03

696.71

3:1

10+50.00

710
700
690

0.000 0.018

697.10

10+25.00

710
700
690

697.13

10+15.00

-Y2-

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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1520 SOUTH BOULEVARD, SUITE 200
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0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-15

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

710
700
690

697.80

13+00.00

710
700
690

0.011 0.012

697.55

12+80.00

710
700
690

0.020 0.006

696.53 697.36

12+50.00

710
700
690

2:1 3:1 696.99 0.005 0.020 696.54 3:1

696.27 696.86

12+00.00

710
700
690

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

-Y2-

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CHARLOTTE, NC 28203
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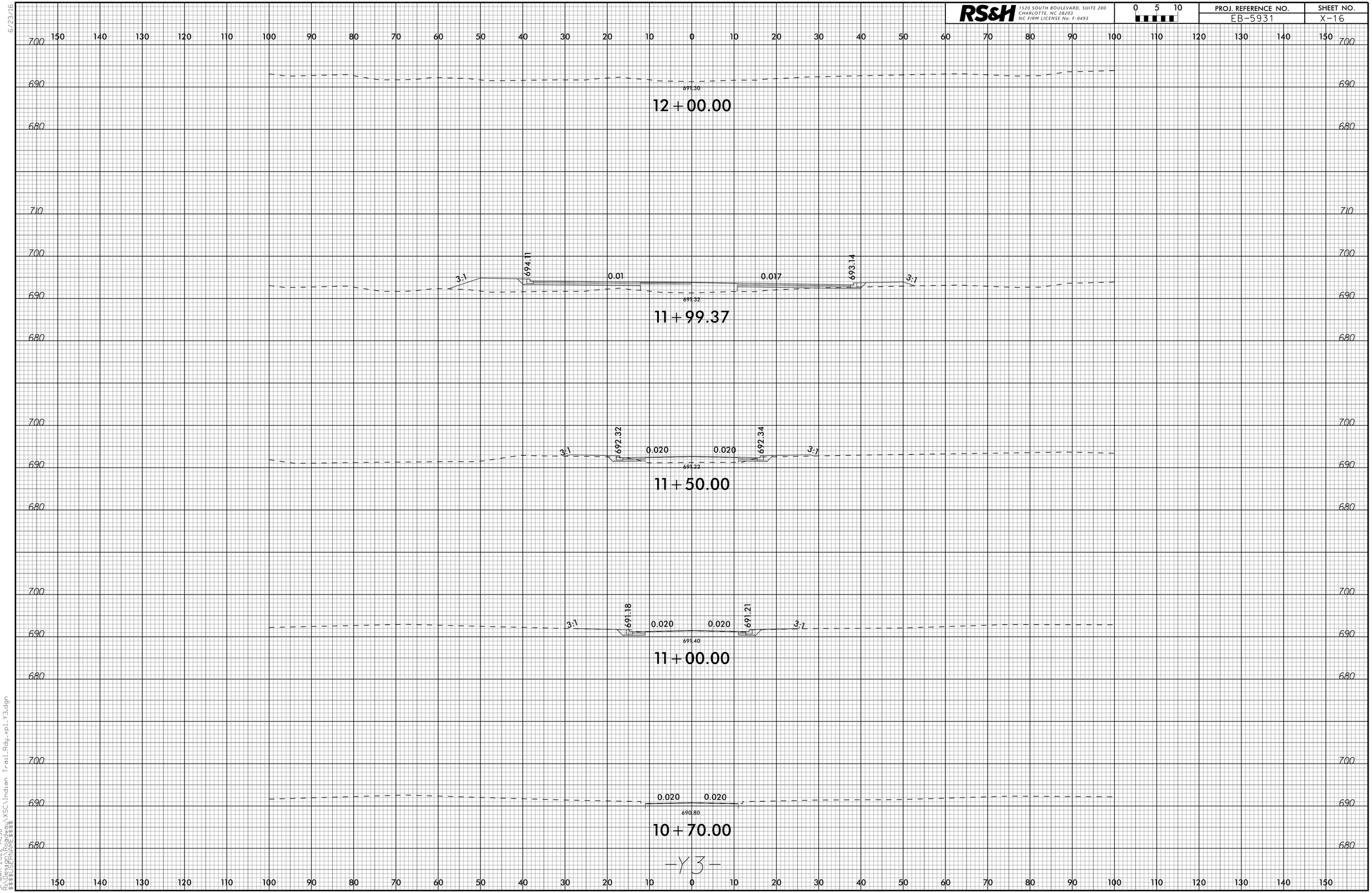
0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-16



6/23/16

31-MAR-2022 14:58
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$$$$USERNAME$$$$

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0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-17

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

700
690
710
700
690

697.11

11+00.00

3:1 696.79 0.024 0.024 696.80 3:1

696.97

10+80.00

710
700
690

3:1 696.84 0.020 0.007 697.01 3:1

696.91

10+50.00

710
700
690

-L- INTERSECTION 0.015 0.015 697.97 3:1

696.45

10+19.16

710
700
690

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

-Y4-

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1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
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0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-18

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

710
700
690
680

0.004 0.031
694.71

11+50.00

710
700
690

694.95 694.95
3:1 3:1
0.020 0.020
695.16

11+00.00

710
700
690

696.30 696.04
3:1 3:1
0.000 0.020
695.79

10+50.00

710
700
690

696.28

10+16.51

-Y5-

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1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
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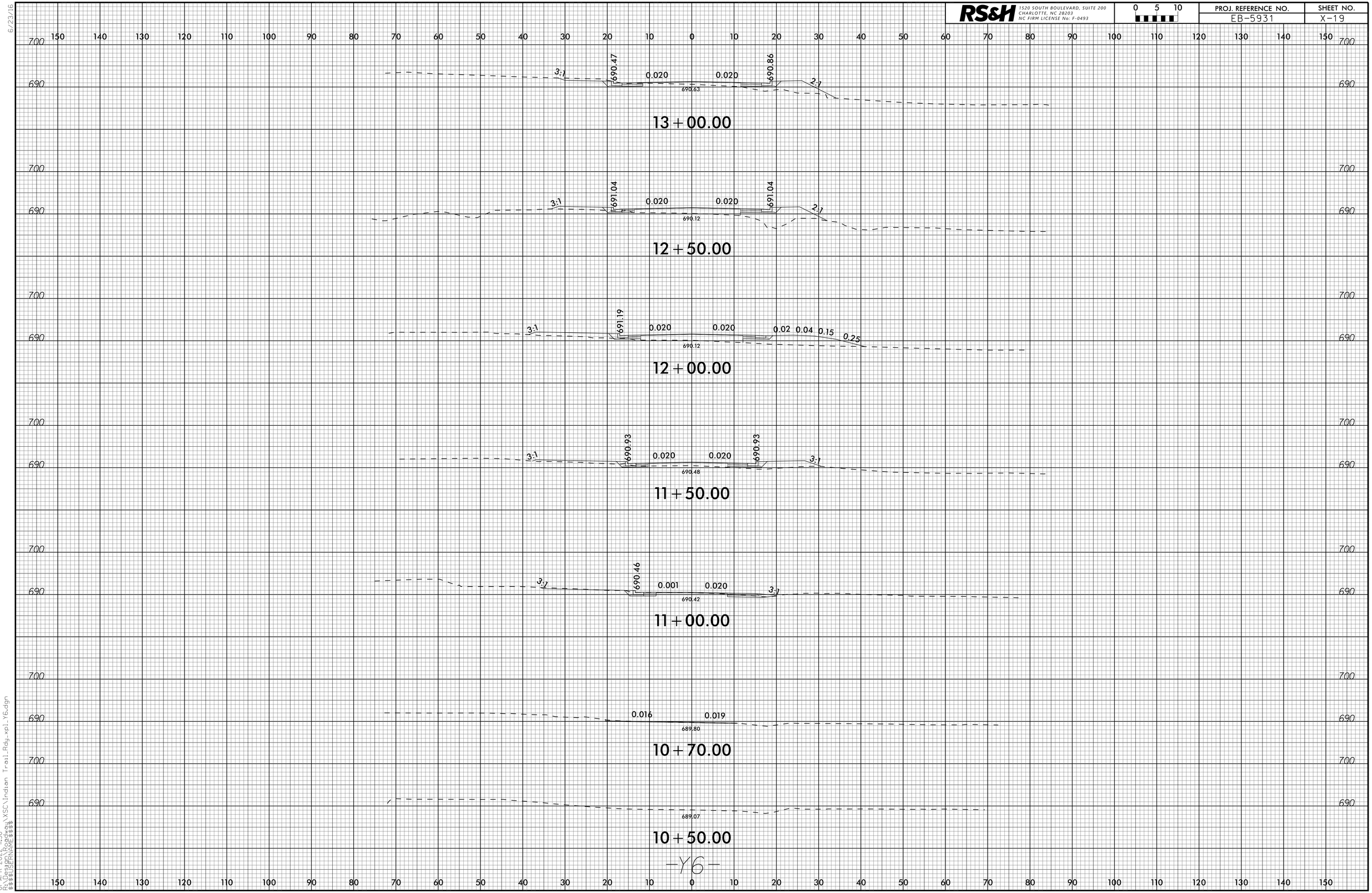
0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-19



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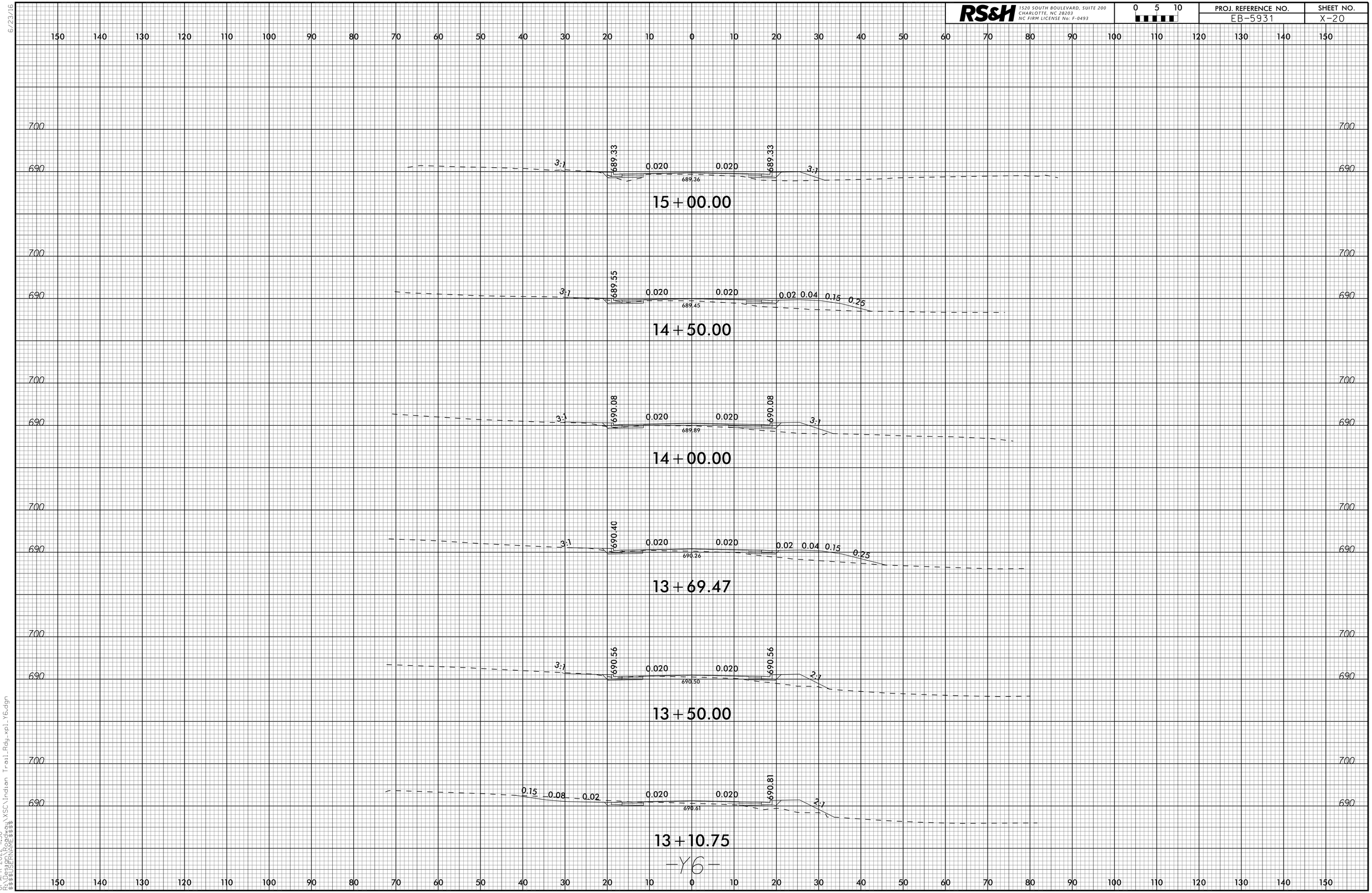
0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-20



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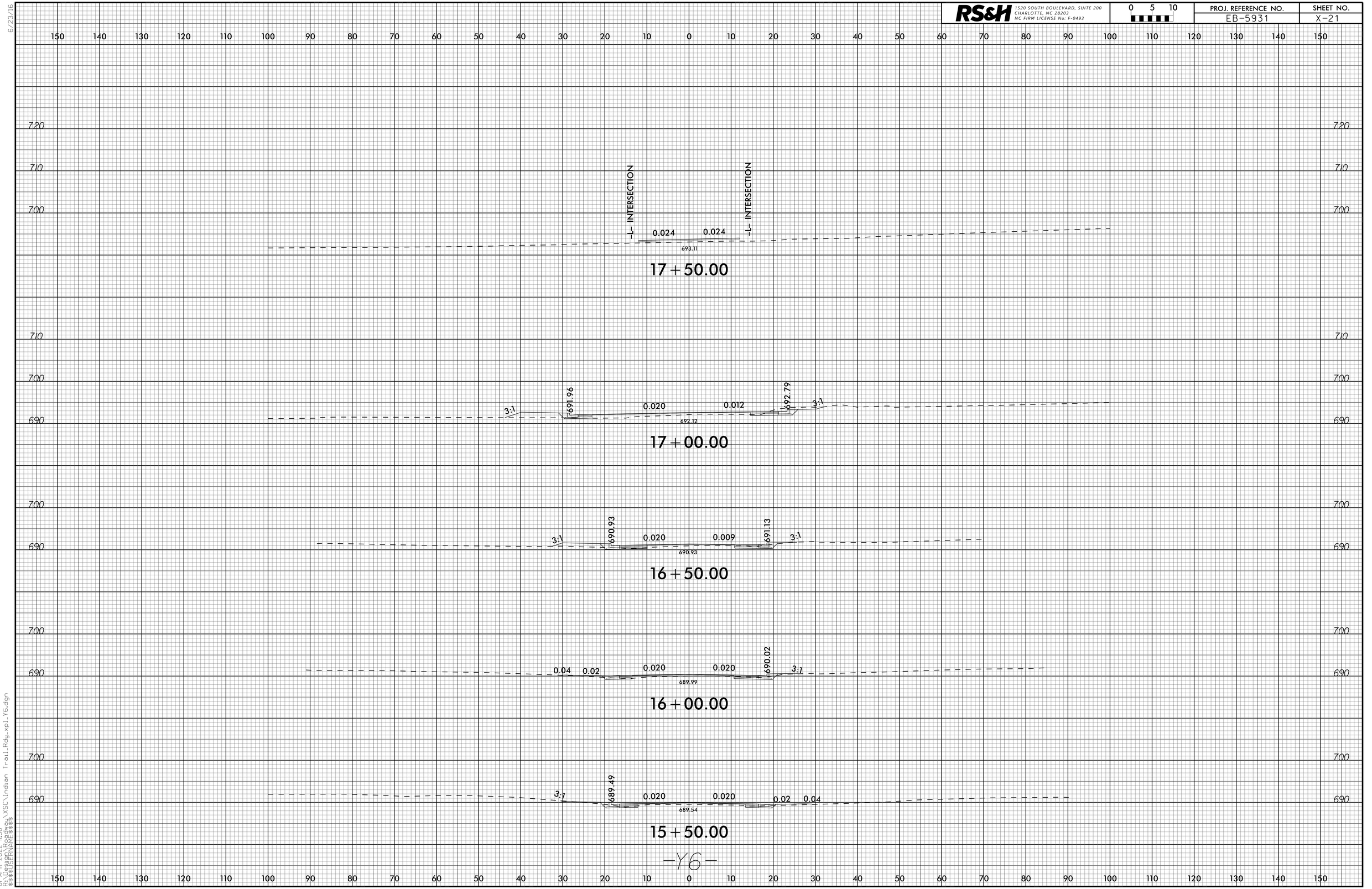
0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-21



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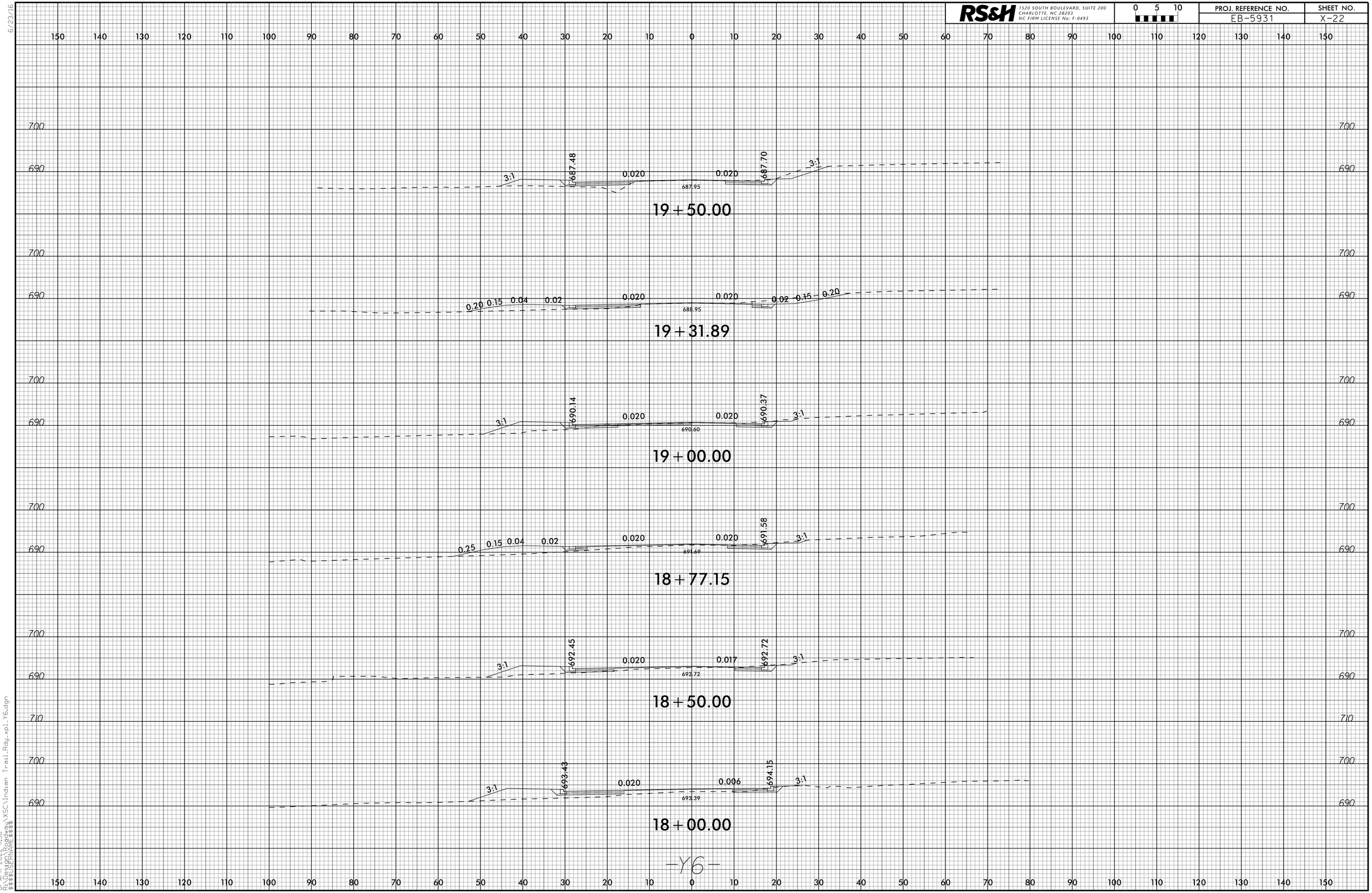
0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-22



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1520 SOUTH BOULEVARD, SUITE 200
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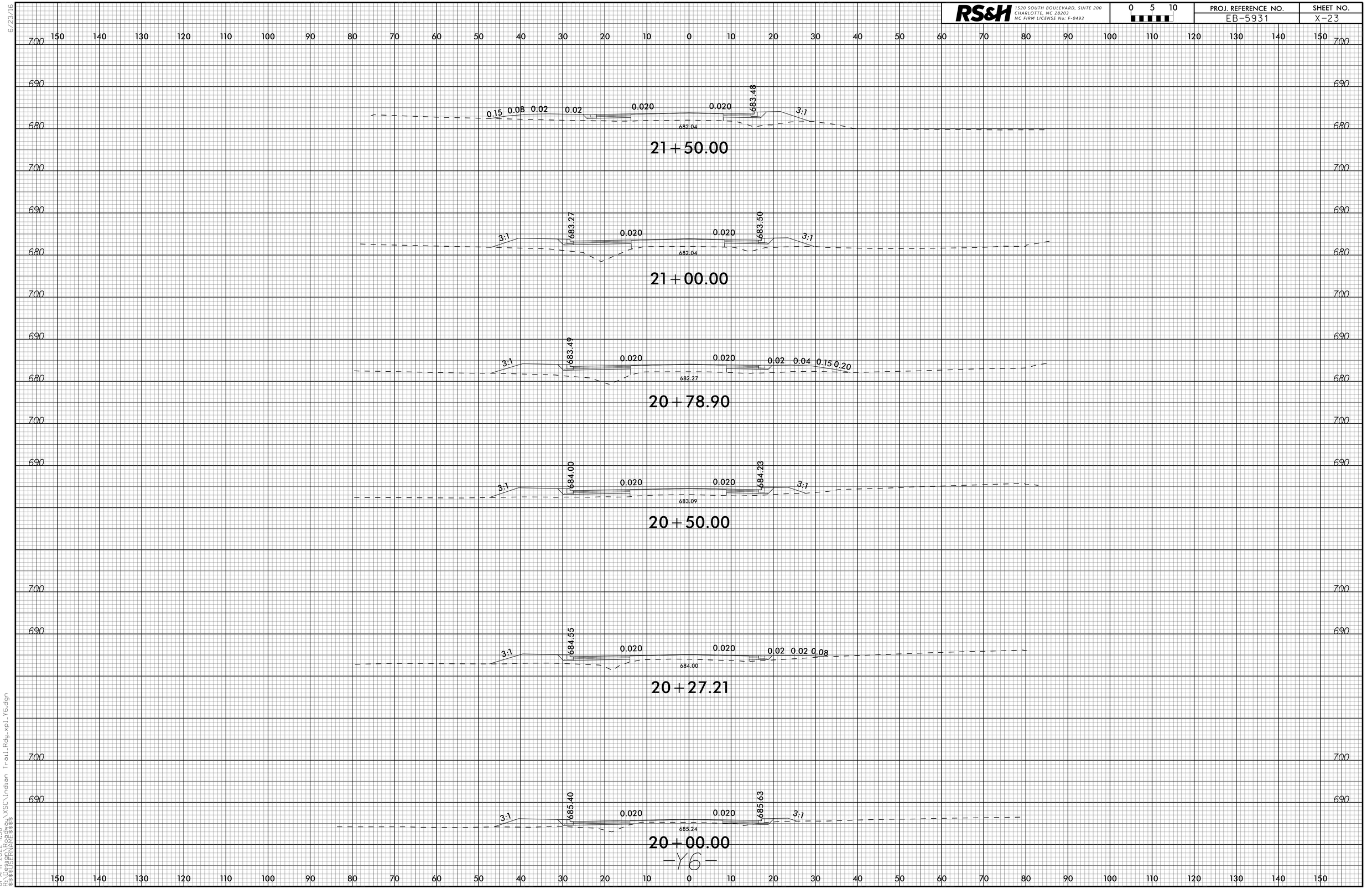
0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-23



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1520 SOUTH BOULEVARD, SUITE 200
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0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-24

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

700
690

0.006 0.033
687.69

23+00.00

700
690
680

2:1 3:1
685.18
685.45
0.020 0.020
685.46
3:1
684.95

22+50.00

700
690
680

3:1
685.03
0.020 0.020 0.02 0.04 0.15 0.23
684.24

22+37.04

700
690
680

2:1 3:1
683.13
684.05
0.020 0.020
684.13
3:1
682.87

22+00.00

-Y6-

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
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0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-25

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

700
690
680

-L- INTERSECTION

0.047 0.047

690.93

11+40.41

-L- INTERSECTION

700
690
680

3:1 692.21 0.020 0.030 691.75 3:1 2:1

692.03 689.10

11+00.00

700
690
680

3:1 0.00 0.050 3:1

692.68

10+50.00

700
690
680

0.007 0.056

692.65

10+40.00

700
690
680

-Y7-

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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1520 SOUTH BOULEVARD, SUITE 200
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0 5 10

PROJ. REFERENCE NO.	SHEET NO.
EB-5931	X-26

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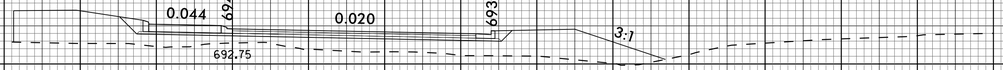

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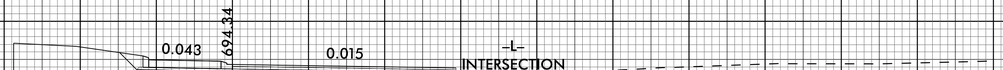

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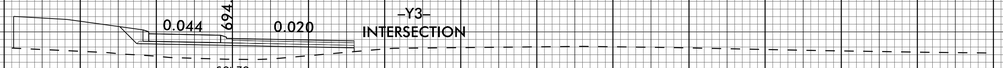

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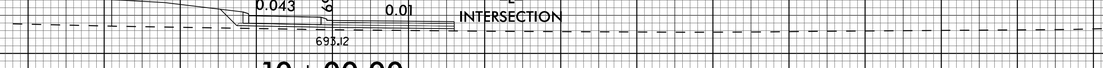

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