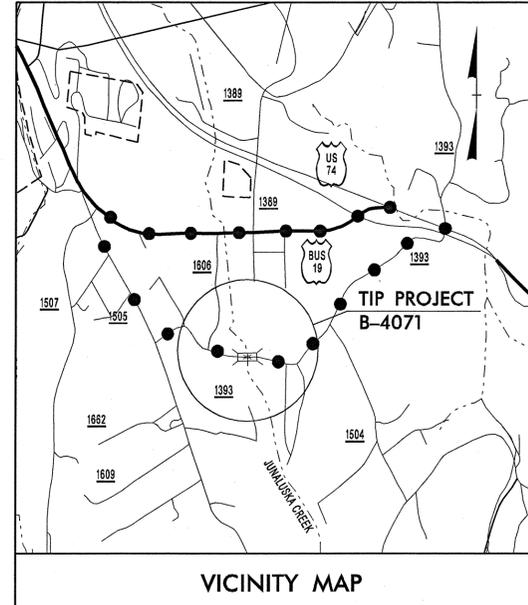


09/08/99

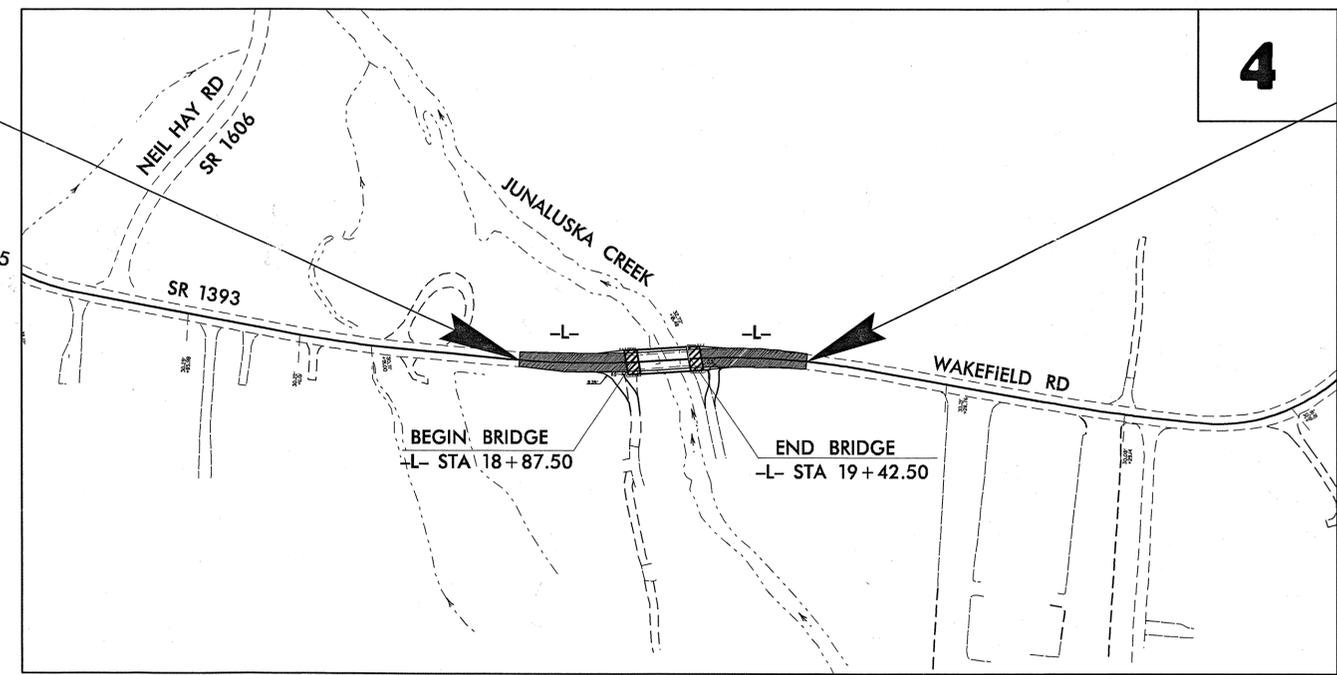
See Sheet 1-A For Index of Sheets



VICINITY MAP

DETOUR ●●●●

BEGIN TIP PROJECT B-4071
-L- POC STA 17+56.00



END TIP PROJECT B-4071
-L- POT STA 20+72.00

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
CHEROKEE COUNTY

LOCATION: BRIDGE NO. 32 OVER JUNALUSKA CREEK
ON S.R. 1393

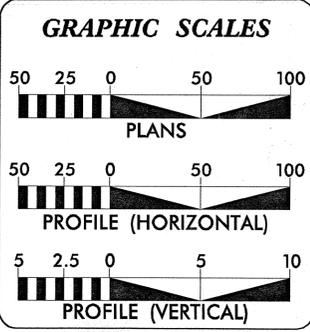
TYPE OF WORK: GRADING, PAVING, DRAINAGE,
AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4071	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33434.1.1	BRZ-1393(2)	PE	
33434.2.1	BRZ-1393(2)	R/W	
33434.3.ST1	STM-1393(4)	CONST. & UTIL.	

TIP PROJECT: B-4071

CONTRACT: C201755

NCDOT CONTACTS: DOUG TAYLOR, PE, PROJECT ENGINEER - ROADWAY DESIGN
CLAYTON F. WALSTON, PROJECT DESIGN ENGINEER - ROADWAY DESIGN



DESIGN DATA

ADT 2009 =	562
ADT 2029 =	736
DHV =	10 %
D =	60 %
T =	5 % *
V =	40 MPH
* TTST 1% DUAL 4%	
FUNC CLASS =	LOCAL

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4071 =	0.050 MI
LENGTH OF STRUCTURE TIP PROJECT B-4071 =	0.010 MI
TOTAL LENGTH OF TIP PROJECT B-4071 =	0.060 MI

Prepared for Division of Highways in the Office of:

William G. Lapsley & Associates, P.A.
Two Town Square Blvd., Suite 320
Asheville, NC 28803
(828) 687-7177 wgl@a.com

SUNGATE DESIGN GROUP, P.A.
915 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
(919) 849-9300 (919) 849-4328

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: WILLIAM G. LAPSLEY, P.E.
AUGUST 18, 2006 PROJECT ENGINEER

LETTING DATE: G. THOMAS JONES III, P.E.
MAY 19, 2009 PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

11/07/07

SIGNATURE: _____

ROADWAY DESIGN ENGINEER

10/31/07

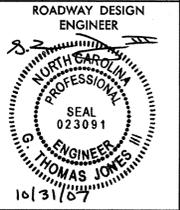
SIGNATURE: _____

Professional Engineer seals for Henry Wells and Thomas Jones III.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

ant smiller
P.E.
STATE HIGHWAY DESIGN ENGINEER

01-NOV-2007 16:36
N:\B-4071\Roadway\Pro\B4071Lrdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$



SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2	TYPICAL SECTIONS
2-A	BRIDGE APPROACH FILLS
3	SUMMARY OF QUANTITIES
3A THRU 3-B	SUMMARY OF EARTHWORK, SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL, AND GUARDRAIL SUMMARY, SUMMARY OF DRAINAGE QUANTITIES
4 THRU 5	PLAN AND PROFILE SHEETS
TCP-1 THRU TCP-4	TRAFFIC CONTROL PLANS
EC-1 THRU EC-4	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
UC-1 THRU UC-3	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-0	CROSS-SECTION SUMMARY SHEET
X-1	CROSS SECTIONS
S-1 THRU S-19	STRUCTURE PLANS

GENERAL NOTES: 2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED: 07-18-06

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

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

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:
ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

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

UNDERDRAINS:
UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

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

TEMPORARY SHORING:
SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

END BENTS:
THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE
Power - Duke Power Nantahala Area - 301 NP&L Loop, Franklin, NC 28734
Telephone - Verizon - P.O. Box 33056, St. Petersburg, FL 33733-8056 (828) 645-1803
Water - Town of Andrews - P.O. Box 1210, Andrews, NC 28901 (828) 321-5111
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

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

2006 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 07-18-06
REV. 01-02-07

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superlevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
815.03	Pipe Underdrain and Blind Drain

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	✕
Property Monument	□
Parcel/Sequence Number	(23)
Existing Fence Line	✕-✕-✕-✕
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	WLB
Proposed Wetland Boundary	WLB
Existing High Quality Wetland Boundary	HO WLB
Existing Endangered Animal Boundary	EAB
Existing Endangered Plant Boundary	EPB

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
River Basin Buffer	-----
Flow Arrow	←
Disappearing Stream	→
Spring	○
Swamp Marsh	★
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	□
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	○
Proposed Control of Access	○
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Utility Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Wheel Chair Ramp	-----
Curb Cut for Future Wheel Chair Ramp	-----
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	-----

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----
Paved Ditch Gutter	-----
Storm Sewer Manhole	-----
Storm Sewer	-----

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	○
Power Line Tower	□
Power Transformer	□
U/G Power Cable Hand Hole	□
H-Frame Pole	●
Recorded U/G Power Line	-----
Designated U/G Power Line (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	○
Telephone Booth	□
Telephone Pedestal	□
Telephone Cell Tower	□
U/G Telephone Cable Hand Hole	□
Recorded U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

WATER:

Water Manhole	○
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

TV:

TV Satellite Dish	□
TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	□
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

GAS:

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	□
A/G Tank; Water, Gas, Oil	□
U/G Test Hole (S.U.E.*)	○
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

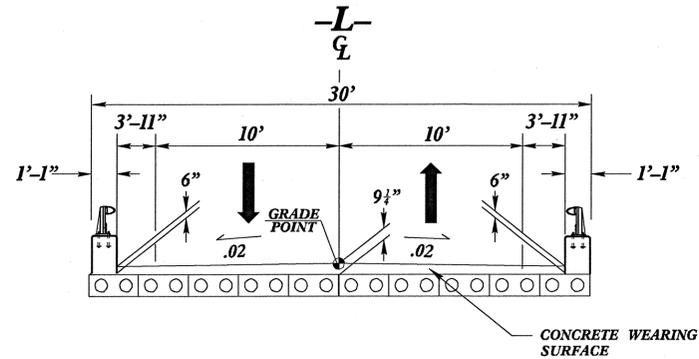
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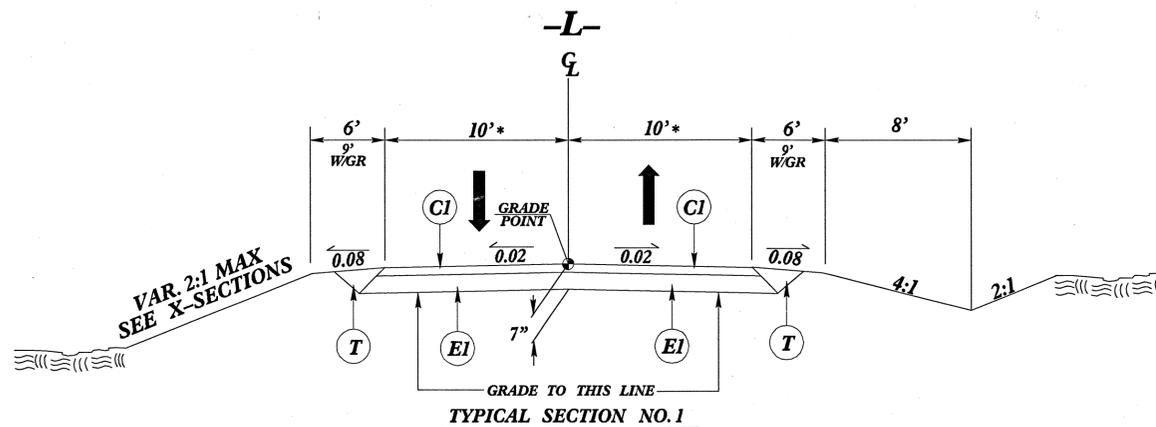
PROJECT REFERENCE NO. B-4071	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER G. THOMAS JONES SEAL 023091 11/17/07	PAVEMENT DESIGN ENGINEER CHI CHEN SEAL 13308 11/17/07

PAVEMENT SCHEDULE	
ITEM	DESCRIPTION
C1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
E1	PROP. APPROX. 4.5" BITUMINOUS CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
T	EARTH MATERIAL

NOTE: ALL PAVEMENT EDGE SLOPES ARE TO BE 1:1



TYPICAL SECTION ON STRUCTURE
 -L- STA. 18+87.50 TO 19+42.50



TRANSITION FROM EXISTING TO TYPICAL NO. 1
 -L- STA. 17+56.00 TO 18+06.00

USE TYPICAL SECTION No. 1

-L- STA. 18+06.00 TO 18+87.50 (Begin Bridge)
 -L- STA. 19+42.50 (End Bridge) TO 20+22.00

TRANSITION FROM TYPICAL NO. 1 TO EXISTING
 -L- STA. 20+22.00 TO 20+72.00

* PROVIDE 8:1 EDGE OF PAVEMENT
 TAPER TO TRANSITION TO APPROACH SLAB

PLANS PREPARED BY :

William G. Lapsley & Associates, P.A.

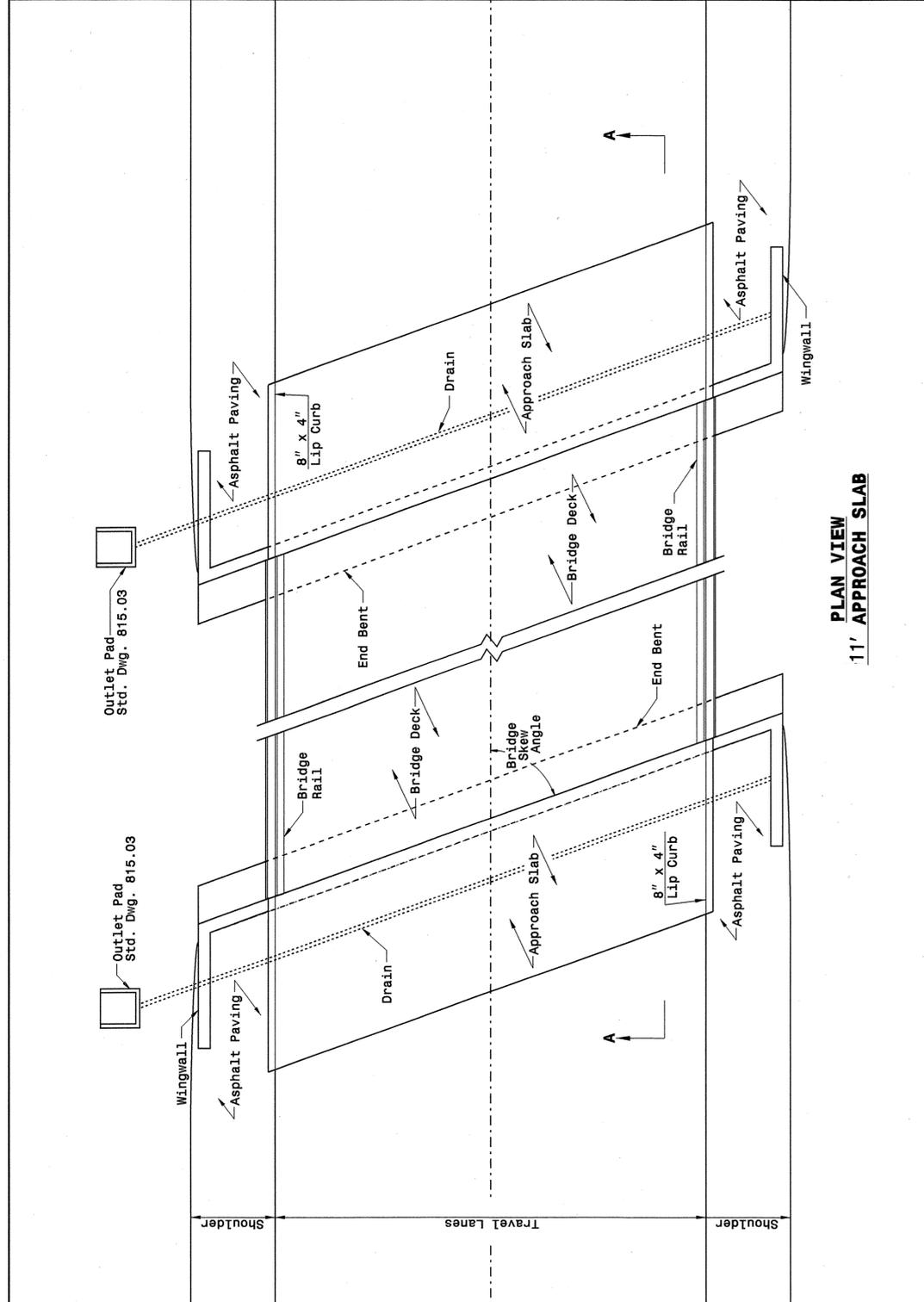
Two Town Square Blvd. - Suite 320
 Asheville, NC 28803
 (828) 687-1177
 wga.com

FOR
DIVISION OF HIGHWAYS

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

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

SHEET 1 OF 2
422D11



PLAN VIEW
11' APPROACH SLAB

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

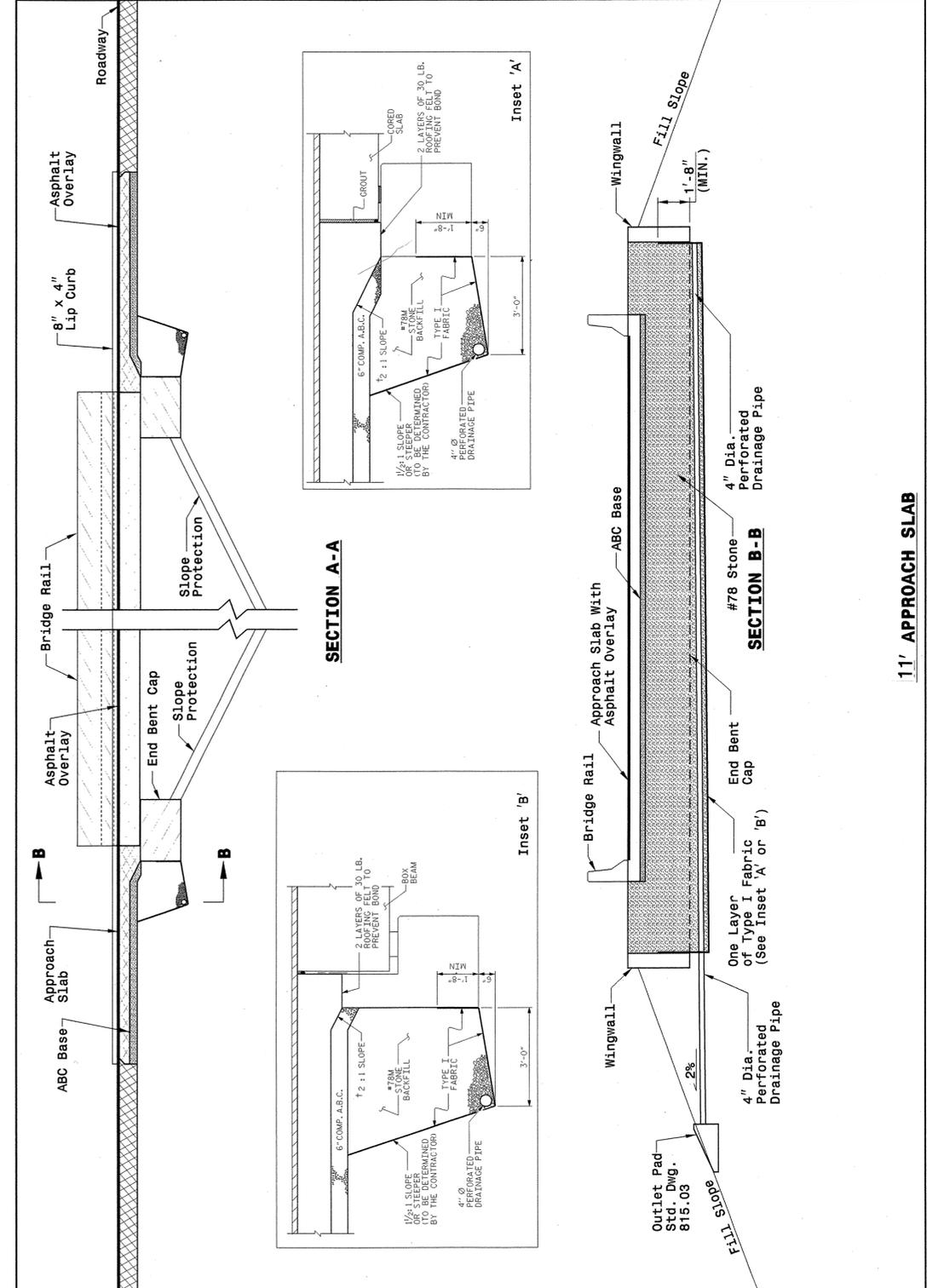
ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

SHEET 1 OF 2
422D11

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

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

SHEET 2 OF 2
422D11



SECTION A-A
SECTION B-B

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

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

SHEET 2 OF 2
422D11



PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

ORIGINAL BY: K. A. Kempf DATE: 6-10-08
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: 2/16/09
FILE SPEC.: Kkempf/english/bridge approach fills.dgn

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

Table with 5 columns: ItemNumber, Sec #, Quantity, Unit, Description. Contains 30 rows of construction items such as Mobilization, Clearing, Excavation, and Grading.

Table with 5 columns: ItemNumber, Sec #, Quantity, Unit, Description. Contains 30 rows of construction items such as Steel BM Guardrail, Additional Guardrail Posts, and various signs.

Table with 5 columns: ItemNumber, Sec #, Quantity, Unit, Description. Contains 15 rows of construction items such as Sediment Control Stone, Temporary Mulching, and Fertilizer.

31-OCT-2007 15:50 F:\USERS\TOM\PROJECTS\ncdot\B-4071\Roadway\Proj\b4071-rdq_3A.dgn

PLANS PREPARED BY: William G. Lapsley & Associates, P.A. Two Town Square Blvd., Suite 320 Asheville, NC 28803 (828) 687-7177 wgl@a.com FOR DIVISION OF HIGHWAYS

5/14/99

PROJECT REFERENCE NO. B-4071	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	110707

NOTE: SEE SHEET 4 FOR PLAN VIEW

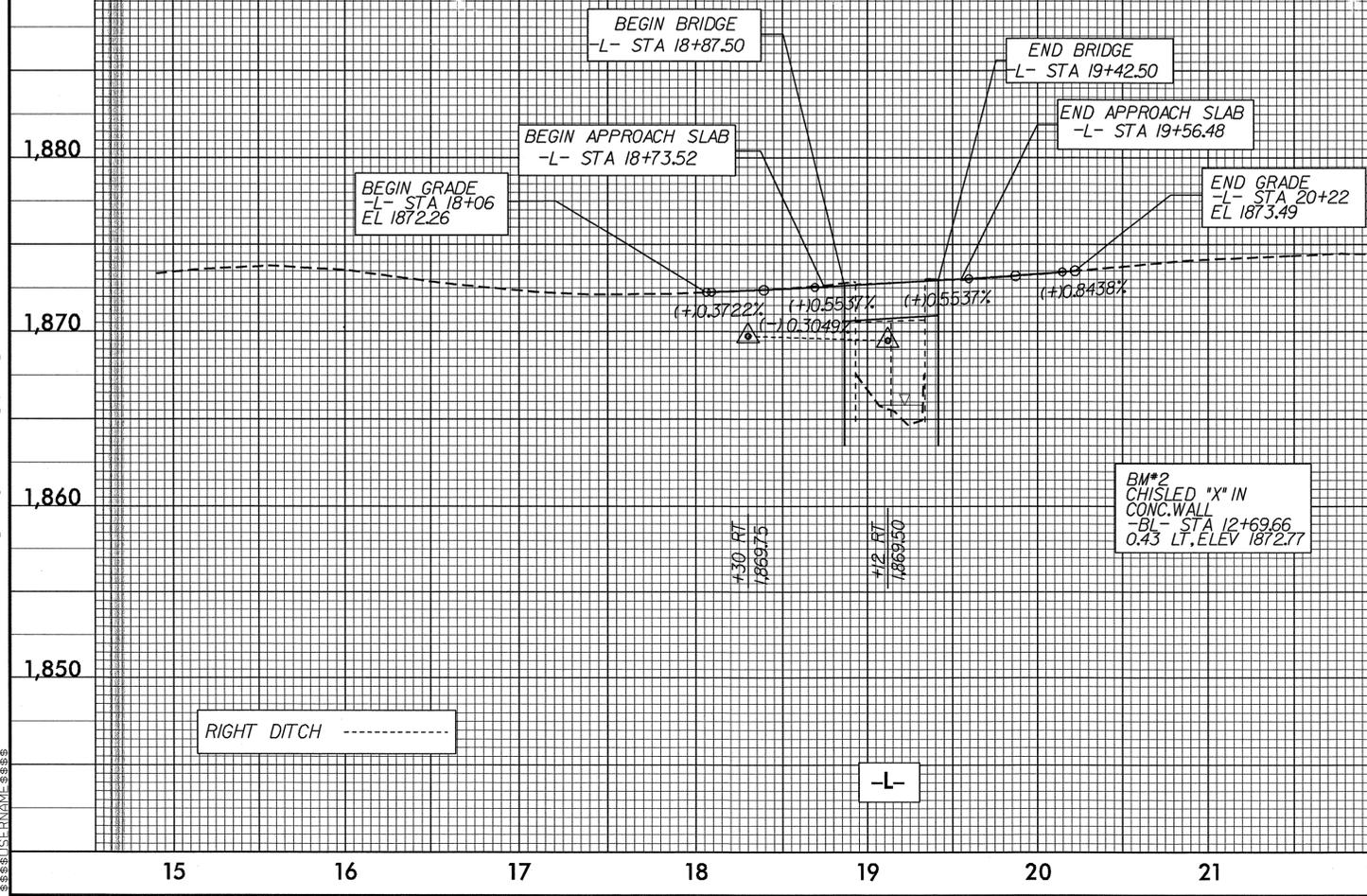
BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE = 1800 CFS
 DESIGN FREQUENCY = 25 YRS
 DESIGN HW ELEVATION = 1872.8 FT
 BASE DISCHARGE = 2700 CFS
 BASE FREQUENCY = 100 YRS
 BASE HW ELEVATION = 1873.6 FT
 OVERTOPPING DISCHARGE = 1300+ CFS
 OVERTOPPING FREQUENCY = 10+ YRS
 OVERTOPPING ELEVATION = 1872.2 FT

DATE OF SURVEY = 06/21/05
 W.S. ELEVATION AT DATE OF SURVEY = 1865.8 FT

PI = 18+39.00
 EL = 1872.38'
 VC = 60'
 K = 330

PI = 19+87.00
 EL = 1873.20'
 VC = 55'
 K = 189



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PLANS PREPARED BY :

William G. Lapsley & Associates, P.A.

Two Town Square Boulevard - Suite 320
 Asheville, NC 28803
 (828) 687-7177
 wglia.com

FOR
DIVISION OF HIGHWAYS

SUNGATE DESIGN GROUP, P.A.

915 JONES FRANKLIN ROAD
 RALEIGH, NORTH CAROLINA 27606
 TEL (919) 889-2243 FAX (919) 889-6298