09/08/06

TIP PROJECT: B-5020

CONTRACT: C202018

8/7/2008
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EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

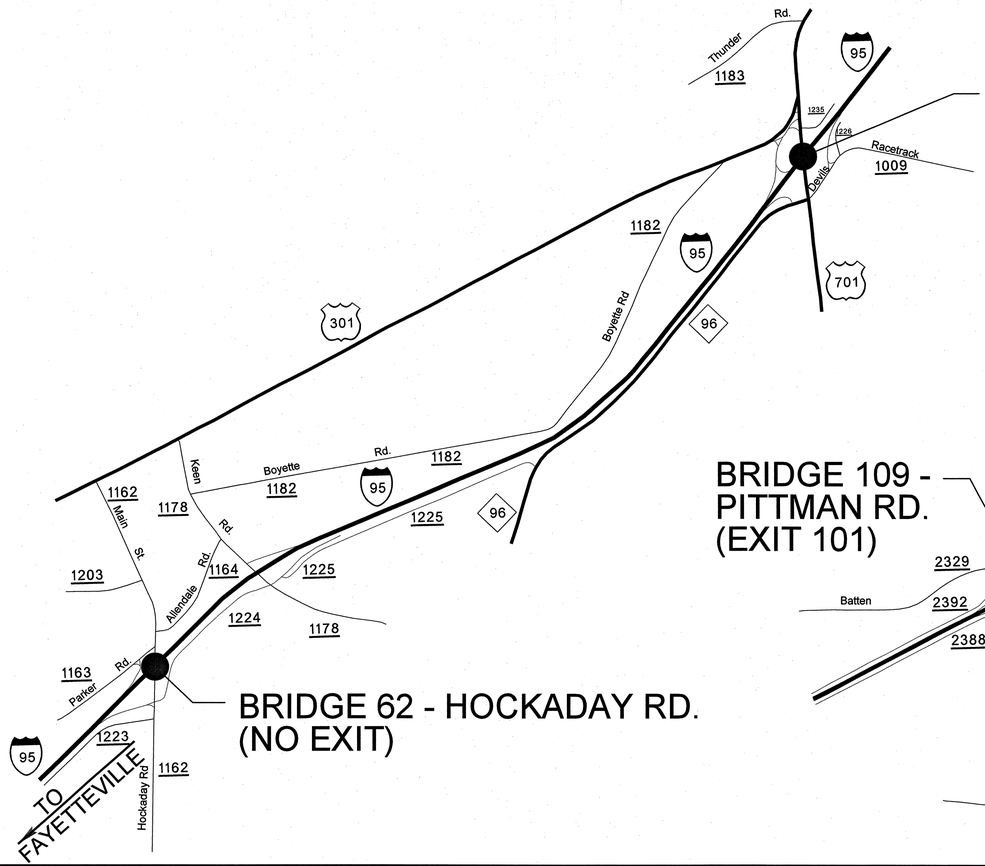
JOHNSTON COUNTY

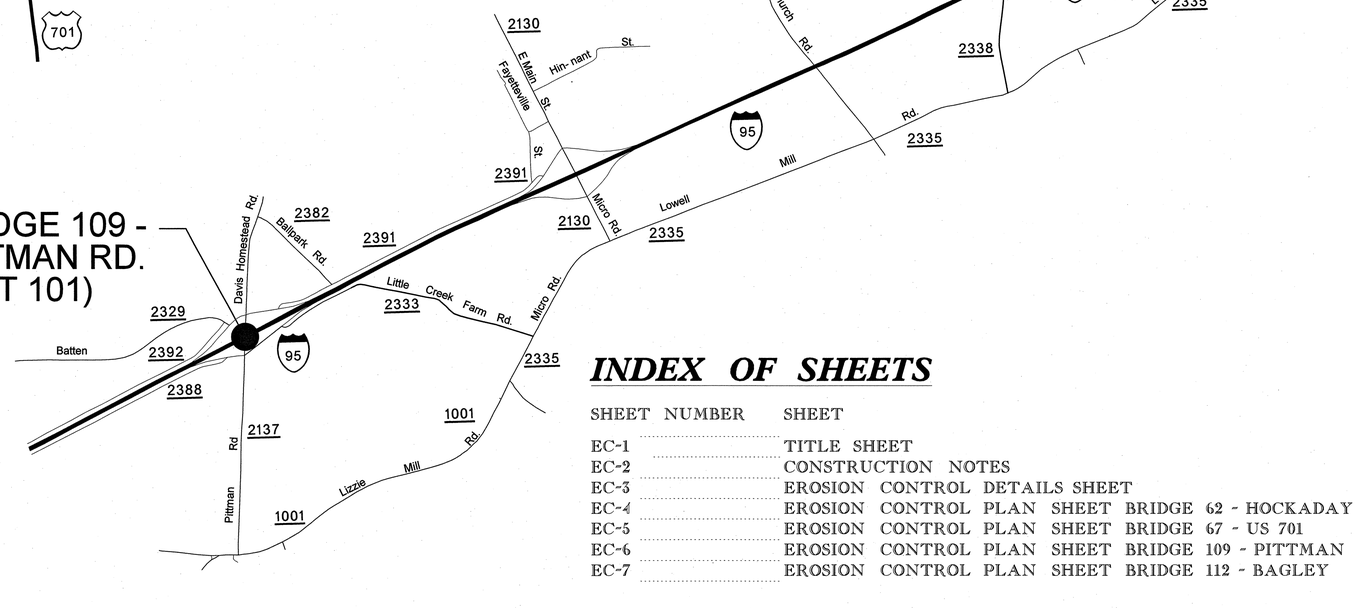
LOCATION: BRIDGES #62, #67, #109, AND #112 LOCATED ALONG I-95

TYPE OF WORK: EROSION AND SEDIMENT CONTROL AT EACH BRIDGE SITE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5020	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
41926.1.1	IMS-95-2(106)89	PE
41926.3.1	IMD-95-2(109)89	CONST.





INDEX OF SHEETS

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

KENNETH W. SMITH
PROJECT ENGINEER

JASON GADDY
PROJECT DESIGN ENGINEER

PROJECT DATA

LENGTH OF ROADWAY TIP PROJECT B-5020	=	*.484 MI.*
LENGTH OF STRUCTURE TIP PROJECT B-5020	=	*.167 MI.*
TOTAL LENGTH OF TIP PROJECT B-5020	=	*.651 MI.*

Prepared In the Office of:
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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 20, 2006 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence
1606.01 Special Sediment Control Fence

8/17/99

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS, AS THEY APPEAR IN "ROADWAY STANDARD DRAWINGS"-ROADWAY DESIGN UNIT-N.C. DEPT. OF TRANSPORTATION-RALEIGH, N.C., DATED JULY, 2006 AND THE LATEST REVISION THERETO, ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE ARE CONSIDERED A PART OF THESE PLANS:

1605.01 Temporary Silt Fence
1606.01 Special Sediment Control Fence

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL STATE AND LOCAL CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF SITE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES:
   a. INSPECT ALL EROSION CONTROL MEASURES FOR STABILITY AND OPERATION WEEKLY OR WITHIN 24 HOURS AFTER ANY SIGNIFICANT STORM EVENT.
   b. REMOVE SEDIMENT FROM BEHIND SILT FENCE WHEN IT'S DEPTH REACHES 0.5 FEET. SEDIMENT SHALL BE DISPOSED OF ON THE PROJECT ONLY IN PROTECTION AREAS OR HAULED AWAY IF NOT SUITABLE FOR FILL MATERIAL.
   c. IF ANY E.C. MEASURE IS FOUND TO BE UNSTABLE OR NOT FUNCTIONING PROPERLY, REPAIRS SHOULD BE DONE IMMEDIATELY TO MAINTAIN MEASURES AS DESIGNED OR AS DIRECTED BY THE ENGINEER.
3. TEMPORARY AND PERMANENT SEEDING OF DENUDED AREAS WILL BE DONE ACCORDING TO THE SEEDING SCHEDULE. AREAS WILL BE RESEEDED AS NECESSARY TO MAINTAIN GOOD VEGETATIVE COVER.

CONSTRUCTION SEQUENCE

THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THIS CONSTRUCTION SEQUENCE IN ACCORDANCE WITH THE APPROVED PLANS, THE SPECIAL PROVISIONS PROVIDED, OR AS DIRECTED BY THE ENGINEER.

1. OBTAIN ALL APPLICABLE PERMITS, SEND PROPER NOTIFICATIONS, SCHEDULE A PRECONSTRUCTION MEETING, AND OBTAIN NOTICE TO PROCEED.
2. MARK CONSTRUCTION LIMITS AND ALL PROTECTED AREAS.
3. INSTALL ALL PERIMETER EROSION CONTROL MEASURES SUCH AS TEMPORARY SILT FENCE, SILT CHECKS. SCHEDULE ON-SITE INSPECTION OF MEASURES BEFORE ROUGH GRADING BEGINS.
4. ONCE COMPLIANCE HAS BEEN DETERMINED THROUGH ON-SITE INSPECTION, CLEAR, GRUB, AND ROUGH GRADE THE SITE. STOCKPILE TOPSOIL AT A LOCATION SHOWN IN PLANS OR AS APPROVED BY THE ENGINEER.
5. BEGIN CONSTRUCTION OF SITE: BEGIN GRADING OF ROADWAY EMBANKMENT AND CHANNELS, INSTALL STORM SEWER AND CONSTRUCT OUTLET STABILIZATION STRUCTURES.
6. INSTALL INTERMEDIATE AND PERMANENT EROSION CONTROL MEASURES SUCH AS INLET SEDIMENT TRAPS, SILT CHECKS, RIP RAP OUTLET PROTECTION, AND TEMPORARY/PERMANENT CHANNEL LININGS. PLACE EROSION CONTROL MATTING AS WORK ALLOWS. PROVIDE TEMPORARY GROUND COVER ON DENUDED AREAS WITHIN 21 CALENDAR DAYS. DURING CONSTRUCTION, SITE SHALL BE STABILIZED BY TEMPORARY VEGETATION AND PAVING.
7. REMOVE TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AFTER THE SITE HAS STABILIZED AND BEEN APPROVED THROUGH ON-SITE INSPECTION. INSTALL PERMANENT VEGETATION ON RESULTING DISTURBED AREAS AND REMOVE ALL MARKING MATERIAL.

VEGETATION PLAN

PERMANENT SEEDING AND MULCHING

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined by the Engineer. All rates are in pounds per acre. Consult County Extension Office or Soil Conservation Service for additional information concerning other alternatives for vegetation of denuded areas.

Shoulder and Median Areas:

MARCH 1 - AUGUST 31	SEPTEMBER 1 - FEBRUARY 28
50 LB/ACRE TALL FESCUE	50 LB/ACRE TALLFESCUE
5 LB/ACRE CENTIPEDE	5 LB/ACRE CENTIPEDE
25 LBS/ACRE BERMUDA GRASS (HULLED)	35 LBS/ACRE BERMUDA GRASS (UNHULLED)
500 LBS/ACRE FERTILIZER	500 LBS/ACRE FERTILIZER
4000 LBS/ACRE LIMESTONE	4000 LBS/ACRE LIMESTONE

Areas Beyond the Mowing Pattern, Waste and Borrow Areas:

JAN 1 - DEC 31	
75 LBS/ACRE TALL FESCUE	75 LBS/ACRE TALL FESCUE
25 LBS/ACRE BERMUDA GRASS (HULLED)	35 LBS/ACRE BERMUDA GRASS (UNHULLED)
500 LBS/ACRE FERTILIZER	500 LBS/ACRE FERTILIZER
4000 LBS/ACRE LIMESTONE	4000 LBS/ACRE LIMESTONE

On cut and fill slopes 2:1 or steeper add 20 lbs. per acre Sericea Lespedeza January 1 - December 31. Fertilizer shall be 10-20-20 analysis. Upon written approval of the Engineer, a different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis.

TEMPORARY SEEDING

Fertilizer shall be the same analysis as specified for "Seeding and Mulching" and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. Sweet Sudan Grass, German Millet, or Browntop Millet shall be used in summer months and rye grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

FERTILIZER TOPDRESSING

Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 grade and shall be applied at the rate of 500 pounds per acre. Upon written approval of the Engineer, a different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 10-20-20 analysis.

Fertilizer used for topdressing on slopes 2:1 and steeper and waste and borrow shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. Upon written approval of the Engineer, a different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis.

SUPPLEMENTAL SEEDING

The kinds of seed and proportions shall be the same as specified for "Seeding and Mulching", except that no centipede will be used in the seed mix for supplemental seeding. The rate of application may vary from 25 pounds to 75 pounds per acre. The actual rate per acre will be determined by the Engineer prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A clodbuster (ball and chain) may be used where degree of slope prevents the use of a sod seeder.

MOWING

The minimum mowing height on this project shall be four inches.

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PROJECT REFERENCE NO.	SHEET NO.
B-5020	EC-2
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 11320 ENGINEER KENNETH W. SMITH
08/08/08

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 26971 ENGINEER JOSHUA G. DALTON
8/8/08

LEVEL III-A CERTIFICATION NO. 307

SEEDBED PREPARATION

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF APPLICABLE.
2. RIP THE ENTIRE AREA TO 6 INCHES DEPTH.
3. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER, AND UNIFORMLY MIX WITH SOIL.
5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RE-SEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, RE-ESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
9. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

E&SC MAINTENANCE

SILT FENCE:
INSPECT SILT FENCES ONCE A WEEK AND AFTER EVERY RAINFALL, MAKING REPAIRS IMMEDIATELY. SHOULD FABRIC OF A SILT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE PROMPTLY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE.

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8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
B-5020	EC-3
RW SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 11320 ENGINEER KENNETH W. SMITH
05/06/08

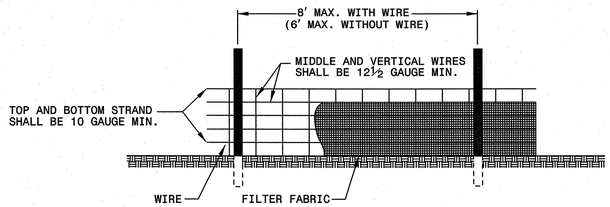
HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26974 ENGINEER JOSHUA G. DALTON
5/8/08

LEVEL III-A CERTIFICATION NO. 307

TEMPORARY SILT FENCE

SCALE: N.T.S.

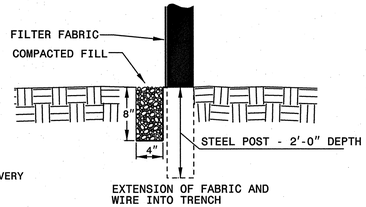


NOTES

WIRE SHALL BE A MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.

FILTER FABRIC SHALL BE A MINIMUM OF 36" IN WIDTH AND SHALL BE FASTENED ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.

STEEL POST SHALL BE 5'-0" IN HEIGHT AND BE OF THE SELF-FASTENER ANGLE STEEL TYPE.

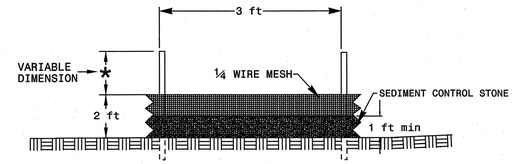


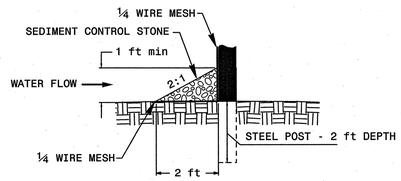
MAINTENANCE:

INSPECT SILT FENCES ONCE A WEEK AND AFTER EVERY RAINFALL, MAKING REPAIRS IMMEDIATELY.

SHOULD FABRIC OF A SILT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE PROMPTLY.

SPECIAL SEDIMENT CONTROL FENCE





GENERAL NOTES:

SEDIMENT CONTROL STONE SHALL BE NO. 5 OR NO. 57 AND SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON "SEDIMENT CONTROL STONE."

USE HARDWARE CLOTH 24 GAUGE WIRE MESH WITH 1/4 INCH MESH OPENINGS.

INSTALL 5 FT. SELF FASTENER ANGLE STEEL POST 2 FT. DEEP MINIMUM.

POST SPACING SHALL BE A MAXIMUM OF 3 FT.

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-5020	EC-4
RW SHEET NO.	N/A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 11320 ENGINEER KENNETH W. SMITH

06/13/08

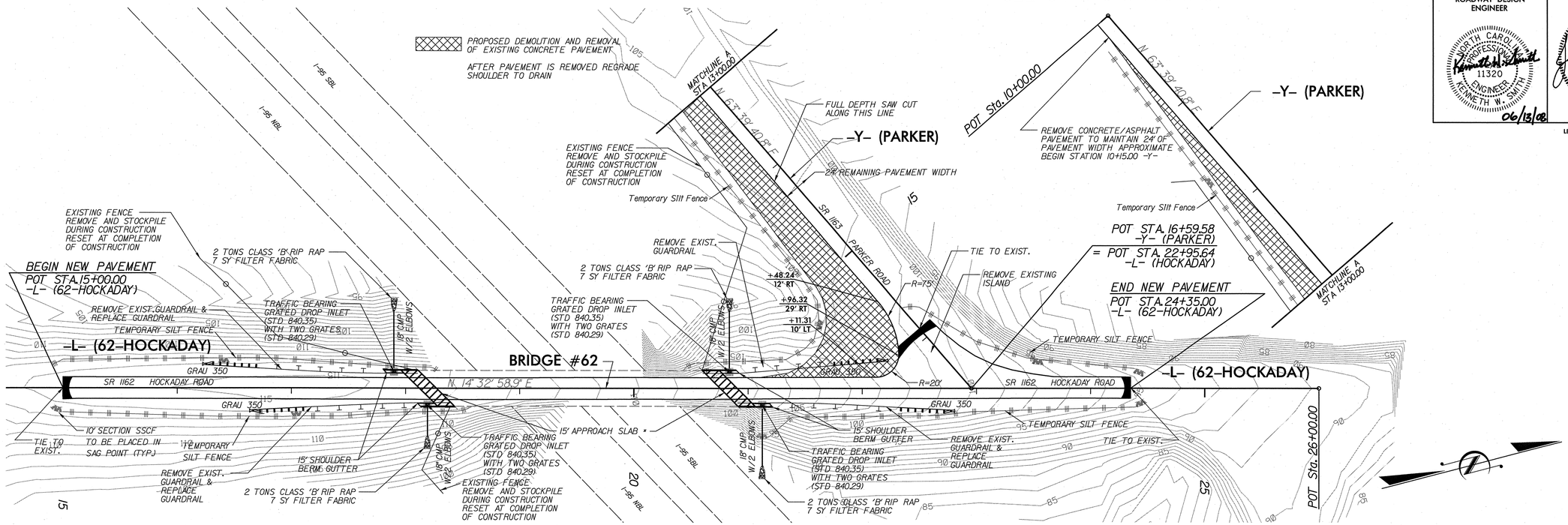
HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26971 ENGINEER JOSHUA G. DALTON

6-13-08

LEVEL III-A CERTIFICATION NO. 307

FOR -L- (62-HOCKADAY) CROSS SECTIONS, SEE SHEETS X-1 TO X-6



* ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES TO BE PLACED AT THE DIRECTION OF THE ENGINEER.

* SEE STRUCTURE PLANS FOR APPROACH SLABS AND BRIDGE JACKING DETAILS

120 110 100 90 80 70

15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-5020	EC-5
R/W SHEET NO.	N/A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 11320 ENGINEER KENNETH W. SMITH

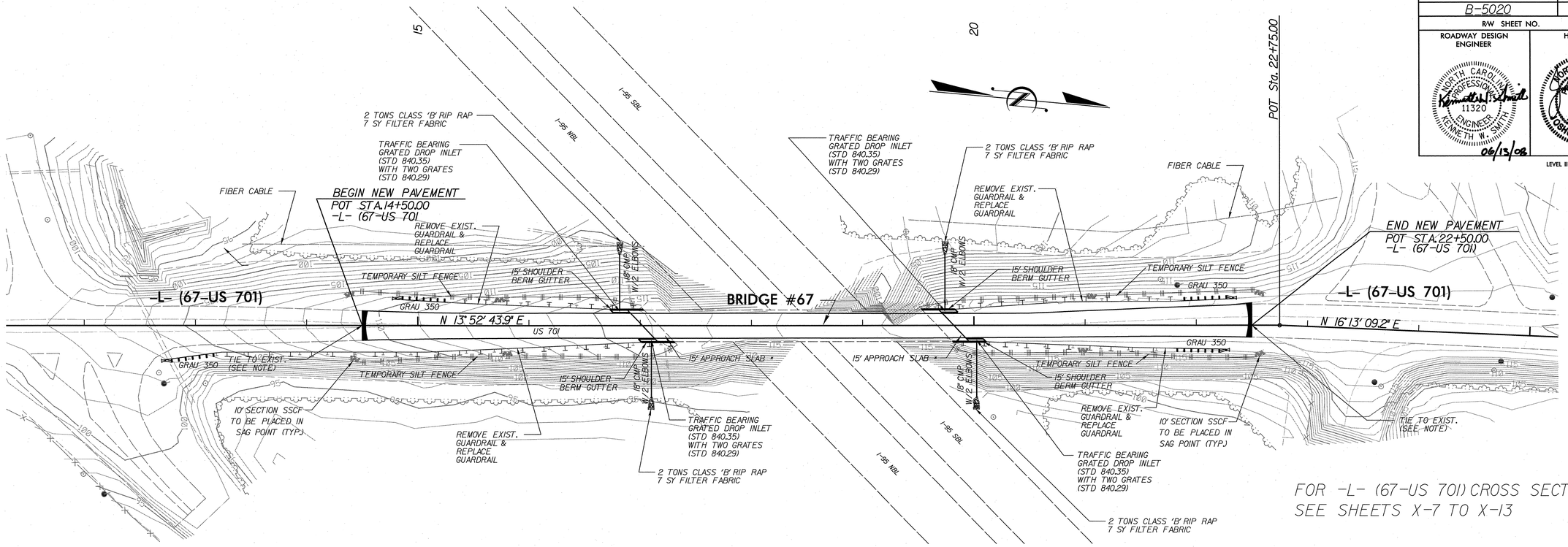
06/13/08

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26971 ENGINEER JOSHUA G. DALTON

6-13-08

LEVEL III-A CERTIFICATION NO. 307



FOR -L- (67-US 701) CROSS SECTIONS, SEE SHEETS X-7 TO X-13

* ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES TO BE PLACED AT THE DIRECTION OF THE ENGINEER.

* SEE STRUCTURE PLANS FOR APPROACH SLABS AND BRIDGE JACKING DETAILS

150 140 130 120 110 100 90

12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00

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PROJECT REFERENCE NO.	SHEET NO.
B-5020	EC-6
R/W SHEET NO.	N/A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 11320 ENGINEER KENNETH W. SMITH

Kenneth W. Smith 06/13/08

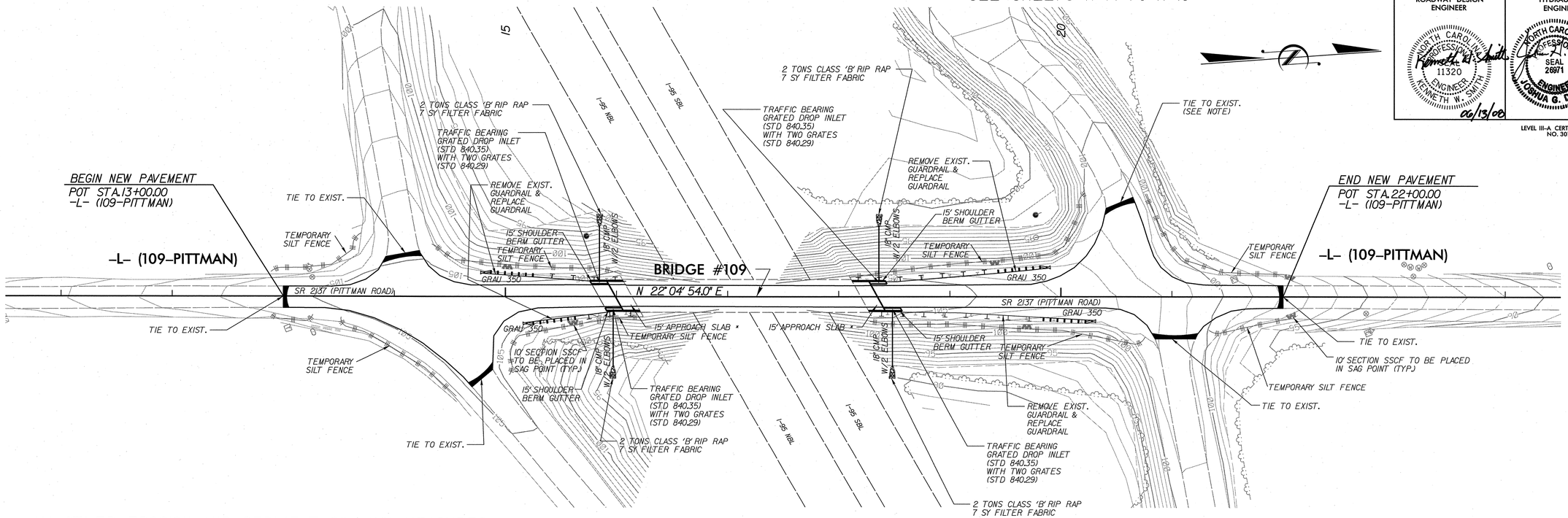
HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26971 ENGINEER JOSHUA G. DALTON

6-13-08

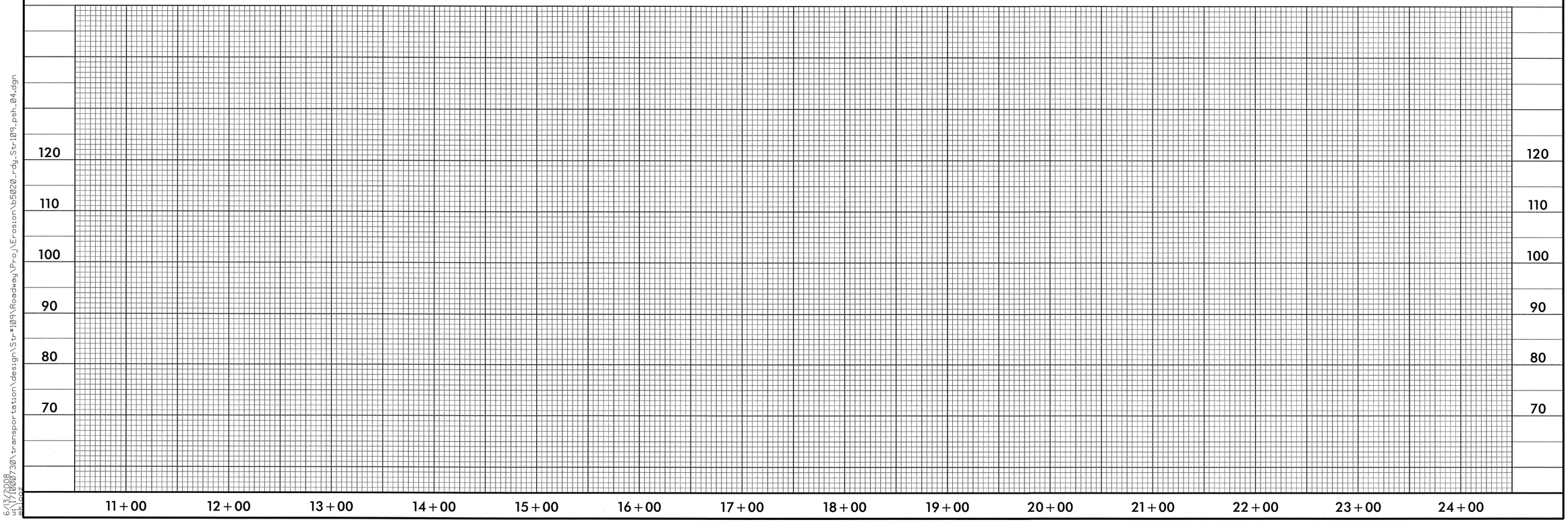
LEVEL III-A CERTIFICATION NO. 307

FOR -L- (109-PITTMAN) CROSS SECTIONS, SEE SHEETS X-14 TO X-19



* ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES TO BE PLACED AT THE DIRECTION OF THE ENGINEER.

* SEE STRUCTURE PLANS FOR APPROACH SLABS AND BRIDGE JACKING DETAILS



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PROJECT REFERENCE NO.	SHEET NO.
B-5020	EC-7
R/W SHEET NO.	N/A

ROADWAY DESIGN ENGINEER

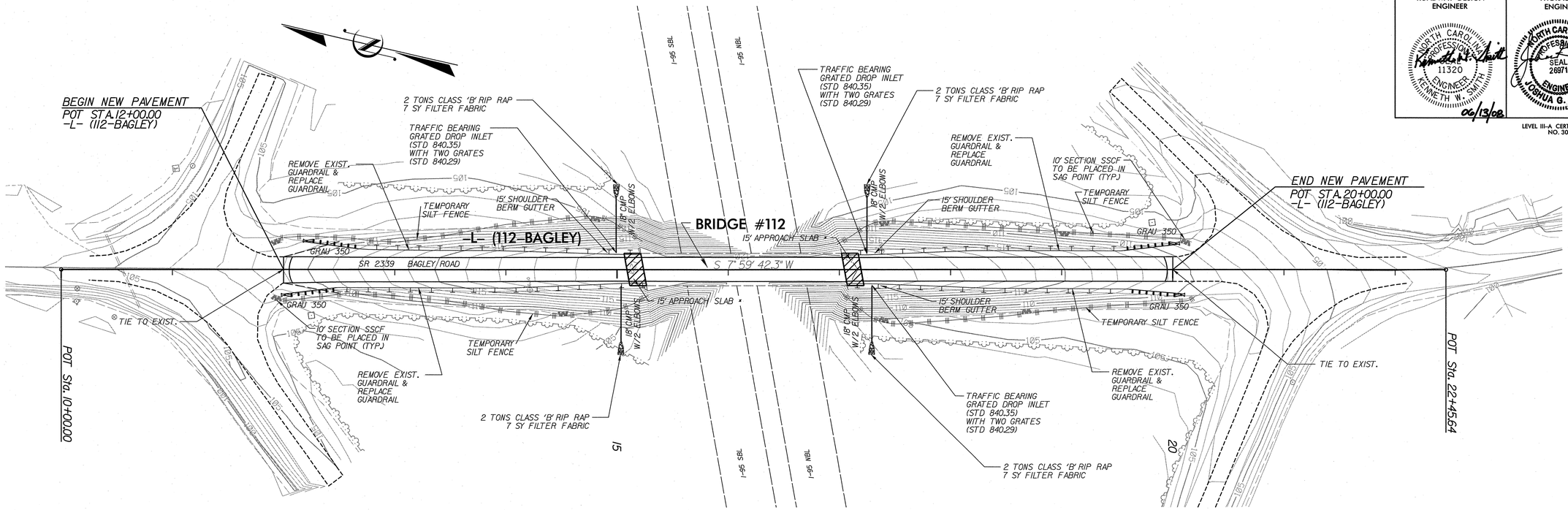
NORTH CAROLINA PROFESSIONAL SEAL 11320 ENGINEER KENNETH W. SMITH
06/13/08

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26971 ENGINEER JOSHUA G. DALTON
6-13-08

LEVEL III-A CERTIFICATION NO. 307

FOR -L- (112-BAGLEY) CROSS SECTIONS, SEE SHEETS X-20 TO X-26



* ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES TO BE PLACED AT THE DIRECTION OF THE ENGINEER.

* SEE STRUCTURE PLANS FOR APPROACH SLABS AND BRIDGE JACKING DETAILS

130
120
110
100
90
80
70

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00

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