



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

August 12, 2011

U.S. Army Corps of Engineers
Regulatory Field Office
Post Office Box 1000
Washington, NC 27889-1000

Attn: Mr. Tom Steffens
NCDOT Coordinator

Dear Sir:

Subject: **Application for Individual Section 404 and 401 permits and Neuse Riparian Buffer Authorization** for construction of the widening of NC 42 from US 70 (Clayton) to SR 1003 (Buffaloe Rd) in Johnston County. Federal Aid Project No. STP-42(4). State Project No. 8.1312301. TIP No. R-3825A & B. Debit \$570.00 from WBS 34552.1.1.

The North Carolina Department of Transportation (NCDOT), Division of Highways, in consultation with the Federal Highway Administration (FHWA), proposes to construct the widening of NC 42 from US 70 (Clayton) to SR 1003 (Buffaloe Rd). The project is approximately 6 miles in length and has been divided into two sections, A and B. The A section begins at US 70 in Clayton and ends approximately 0.31 mile east of SR 1902 (Glen Laurel Rd). The B section begins east of SR 1902 (Glen Laurel Rd.) and ends at SR 1003 (Buffaloe Rd). Final design is complete for the A section; however, the B section is in preliminary design.

The purpose of this letter is to request approval for a Section 404 Individual Permit, a Section 401 Water Quality Certification, and a Neuse Riparian Buffer Authorization. In addition to the cover letter and ENG Form 4345, this application package includes the following for R-3825: permit drawings, riparian buffer drawings, utility permit drawings, a set of half size roadway plans, FHWA Right-of-Way Consultation, USFWS concurrence request letter, and USFWS concurrence letters.

1.0 Purpose and Need

The purpose for this project, as identified in the Final Environmental Assessment (EA), is to improve safety and traffic carrying capacity of NC 42 within the project limits.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-707-6100
FAX: 919-212-5785
WEBSITE: WWW.NCDOT.ORG

LOCATION:
1020 BIRCH RIDGE DRIVE
RALEIGH, NC 27610-4328

2.0 Project Description

The improvements involve the widening of NC 42 to a four-lane shoulder facility with two 12-foot lanes in each direction separated by a 17.5-foot grassed median from US 70 to SR 1003 (Buffaloe Rd). Outside shoulders will be 8 feet wide, with 4 feet being paved. No control of access is proposed. This project also includes a new 380-foot long by 73.5-foot wide bridge spanning the Neuse River, replacing the existing 350-foot long bridge. There are also two box culverts that will be extended for Mill Creek and an unnamed tributary (UT) to the Neuse River.

3.0 Summary of Impacts

Waters of the U.S.: Proposed impacts to jurisdictional areas total 1.28 acres of permanent wetland impacts, 1,419 feet of permanent stream impacts, and 13 feet of temporary stream impacts. See Table 1 for the impact summary for both sections.

Table 1. Summary of Wetland and Stream Impacts for R-3825

Section	Permanent Wetland (ac.) (Riparian)	Temporary Wetland (ac.)	Permanent Stream (ft.)	Temporary Stream (ft.)
A	0.56	0	174	13
B	0.72	0	1,245	0
Total	1.28	0	1,419	13

Neuse Riparian Buffers: Proposed impacts to riparian buffers total 106,293 sq.ft. See Table 2 for the impact summary for both sections.

Table 2. Summary of Buffer Impacts for R-3825

Section	Zone 1 Buffer Impacts (sq.ft.)	Zone 2 Buffer Impacts (sq.ft.)
A	10,059	5,450
B	54,958	35,826
Total	65,017	41,276

4.0 Summary of Mitigation

The NCDOT has avoided and minimized impacts to jurisdictional resources to the greatest extent possible. NCDOT proposes to use existing credits from NCDOT's own debit ledger to mitigate for wetland and stream impacts. The mitigation credits will come from Jeffrey's Warehouse Stream Restoration and Marks Creek Mitigation Site. Jeffrey's Warehouse Stream Restoration credits will cover the 174 feet of stream impacts, while the Marks Creek Mitigation Site will cover the 0.56 acre of wetland impacts from R-3825A. At this time, we are not proposing mitigation for the preliminary impacts for the post year R-3825B.

5.0 Project Schedule

Construction of this project is divided into two sections (See Table 3 below). Permit drawings are attached for both sections. However, R-3825B is in preliminary design; therefore, permit

drawings are not final for this section. The impacts associated with this section may change once the final design is completed. Final permit drawings for R-3825B will be provided under separate cover in the form of a permit modification request. NCDOT understands that no construction will occur on R-3825B until the final design and resulting impacts have been approved by the regulatory agencies.

Table 3. Project Sections and Scheduling

Section	Project Limits	Scheduled Let Date	Review Date
R-3825A	US 70 (Clayton) to east of SR 1902 (Rocky Branch Rd).	3/20/2012	1/31/2012
R-3825B	NC 42 from east of SR 1902 (Rocky Branch Rd) to SR 1003 (Buffaloe Rd)	Post Year	N/A

6.0 NEPA Document Status

The FHWA and NCDOT completed the Environmental Assessment (EA) on August 11, 2003 in compliance with the NEPA guidelines. The EA explains the purpose and need for the project, provides a description of the alternatives considered, and characterizes the social, economic, and environmental effects. The EA was approved and circulated to federal, state, and local agencies. Then following the EA, a Finding of No Significant Impact (FONSI) was completed on July 11, 2006. On July 17, 2008 a FHWA Right of Way Consultation was completed. Copies of the project documents have been provided to regulatory review agencies involved in the approval process. Additional copies will be provided upon request.

6.1 Independent Utility

R-3825 is in compliance with 23 CFR Part 771.111(f) which lists the FHWA characteristics of the independent utility of a project. The project meets the criteria for independent utility as discussed below:

- The project has logical termini and independent utility and is of sufficient length to address environmental matters on a broad scope;
- The project is usable and a reasonable expenditure of funds, even if no additional transportation improvements are made in the area; and
- The project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

7.0 Resource Status

The project is located in the Neuse River Basin and lies within Hydrologic Unit 03020201 (Subbasin 03-04-02). This is within the Northern Inner Coastal Plain ecoregion. R-3825B crosses Mill Creek and the Neuse River.

7.1 Wetland Delineations

A wetland delineation for the study area was performed and summarized in the 2001 Natural Resources Technical Report (NRTR). The wetlands within the study area were delineated based on the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual and a preliminary design was prepared to avoid and minimize impacts to wetlands to the maximum extent possible. Wetland delineations were completed between October 2000 and February 2001. This delineation was later field verified by Mr. William Wescott of the USACE, Wilmington District, and Mrs. Nicole Thomson with the N.C. Division of Water Quality (NCDWQ) on December 2, 2005.

7.2 Stream Delineations

Data collected for streams were derived from USGS topographic maps, the Johnston County Soil Survey (USDA, 1990), and site reconnaissance. The data included stream classifications, which were presented in the NRTR. The NCDWQ concurred on stream classifications on December 2, 2005, when Mrs. Nicole Thomson with the NCDWQ visited the site.

7.3 Riparian Buffer Determinations

The project study area is located within the Neuse River Basin. Streams and jurisdictional surface waters depicted on either the most recent U.S. Geological Survey 7.5-minute topographic quadrangle or the county soil survey map are subject to the Neuse River Riparian Buffer Rules. On December 2, 2005 a field review was conducted with Mrs. Nicole Thomson of the NCDWQ to confirm which stream and open water features are subject to the Neuse River Riparian Buffer Rules.

7.4 R-3825: Characterization of Jurisdictional Sites

7.4.1 Wetlands

There are three wetland communities found within the project study area: Riparian Fringe, Mixed Hardwood Forest, and Piedmont Alluvial Forest. More detailed information about these wetlands can be found in the EA and the NRTR which includes figures showing the wetlands within the project area.

7.4.2 Streams

Best Usage Classifications for jurisdictional streams are provided in the EA. Neither High Quality Waters (HQW), Water Supplies (WS-I: undeveloped watersheds or WS-II: predominately undeveloped watersheds), nor Outstanding Resource Waters (ORW) occur within 1.0 mile of the project study area. None of the streams are designated as a North Carolina Natural or Scenic River, or as a National Wild and Scenic River. Mill Creek is not listed on the Final 2010 Section 303(d) list of impaired waters for the Neuse River Basin; but it does drain into a section of the Neuse that is listed on the Final 2010 Section 303(d) list of impaired waters

due to turbidity. NCDOT will adhere to Design Standards for Sensitive Watersheds for both the Neuse River and Mill Creek.

7.5 Impacts to Jurisdictional Resources

Impacts to jurisdictional wetlands and streams for R-3825A are summarized below in Tables 4 and 5. Proposed impacts for R-3825A are slightly higher than those provided in the EA, FONSI, and ROW Consultation. The discrepancy was due to the method used to calculate impacts originally.

Currently, permit drawings for R-3825B detailing the jurisdictional impacts are preliminary. Estimated impacts to jurisdictional areas within R-3825B (as shown in Table 1 and 2) are the most accurate impact amounts available at this time. NCDOT will apply all prudent avoidance and minimization measures during the design process for R-3825B, which will be coordinated with the relevant review agencies. Any changes with R-3825B will be addressed in the permit modification request once final design is complete.

Table 4. Impacts to Wetlands for R-3825A

Permit Drawing Site Number	Wetland Type	Name assigned during original delineation (EA)	Estimated impacts based on EA and ROW Consultation	Permanent Impacts (ac.)	Temporary Impacts (ac.)
2	Riparian	WK	0.40	0.47	0
3	Riparian	WJ	0.09	0.09	0
Total	N/A	N/A	0.49	0.56	0

Table 5. Impacts to Streams for R-3825A

Permit Drawing Site Number	Stream Type*	Name assigned during original Delineation (EA)	Estimated impacts based on FONSI and ROW Consultation	DWQ Stream Class.	Permanent Impacts (ft.)	Temporary Impacts (ft.)
1	I	N1	28	WS-IV NSW	80	13
2	I	N2	122	WS-IV NSW	94	0
Total	N/A	N/A	150	N/A	174	13

*I-Intermittent

Permanent Impacts: Proposed permanent impacts for R-3825A include fill, excavation, and mechanized clearing in wetlands. Proposed permanent impacts to surface waters for R-3825A

are 174 ft. (<0.01 acre), which includes two culverts that will be extended and replaced at UTs to the Neuse River (sites 1 & 2).

Temporary Impacts: There will be 13 linear feet of temporary impacts to surface water due to culvert installations.

Utility Impacts: There will be 2 sq.ft. of impacts to jurisdictional wetlands as a result of the installation of 2 utility poles. There will also, be 0.18 acre of hand clearing on this project for the aerial power lines.

Neuse River Basin Riparian Buffer Impacts: This project is located in the Neuse River Basin; therefore, the regulations pertaining to the buffer rules apply. There will be a total of 15,509 sq.ft. of impacts to riparian buffers (see Table 6) for R-3825A. These impacts are considered road crossing activities and are allowable because the impacts are less than the 150-foot or one-third acre threshold per crossing. Uses designated as allowable may proceed within the riparian buffer provided that there are no practical alternatives to the requested use pursuant to Item (8) of this rule.

Table 6. Summary of Buffer Impacts for R-3825A

Buffer Drawing Site #	Type	Total Buffers(sq.ft.)		
		Zone 1	Zone 2	Total
1	Road Crossing	4,833	2,565	7,398
2	Road Crossing	4,510	2,510	7,020
3	Road Crossing	716	375	1,091
Total		10,059	5,450	15,509

8.0 Protected Species

Plants and animals with federal classification of Endangered (E), Threatened (T), Proposed Endangered (PE), and Proposed Threatened (PT) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. The United States Fish and Wildlife Service (USFWS, 2010) lists four (4) federally protected species for Johnston County as of the September 22, 2010 listing (Table 7).

Table 7. Federally Protected Species in Johnston County

Common Name	Scientific Name	Federal Status	Habitat Present	Biological Conclusion
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	No	No Effect
Dwarf wedgemussel (DWM)	<i>Alasmidonta heterodon</i>	E	Yes	May Affect, Not Likely to Adversely Affect
Tar River spinymussel (TSM)	<i>Elliptio steinstansana</i>	E	No	No Effect
Michaux's sumac	<i>Rhus michauxii</i>	E	Yes	No Effect

The red-cockaded woodpecker was surveyed for on March 8, 2001 and again on December 22, 2004; after which a biological conclusion of No Effect was determined based on lack of suitable nesting habitat and the fact that no evidence of their presence was found. The Michaux's sumac was last surveyed for on July 1, 2003; after which a biological conclusion of No Effect was determined based on no Michaux's sumac being found. A survey will be completed prior to construction to update the biological conclusion of the Michaux's sumac. Both the Neuse River and Mill Creek were surveyed for the presence and habitat for the dwarf wedgemussel and the Tar River spinymussel on November 4, 2005. After this last survey for the mussels, concurrence was given by the USFWS. See the attached concurrence request and final concurrence letters from the USFWS for more information

The NC Natural Heritage Program (NCNHP) database (updated May 2011) was also reviewed by NCDOT for recorded occurrences of protected species. No occurrences of federally protected species were recorded for the project study area.

8.1 *Bald and Golden Eagle Protection Act (BGPA)*

In the July 9, 2007 Federal Register (72:37346-37372), the bald eagle was declared recovered, and removed (de-listed) from the Federal List of Threatened and Endangered wildlife. This delisting took effect August 8, 2007. After delisting, the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668-668d) becomes the primary law protecting bald eagles. Per this law, a survey was undertaken for bald eagle on August 7, 2007. Habitat on this section of the Neuse River is marginal and no eagles or their nests were found within a 660-foot radius of the project area. Therefore, this project will not affect the bald eagle.

8.2 *Moratorium*

At this time there is no in-water work moratorium for R-3825A. According to the NC Wildlife Resources Commission (NCWRC), anadromous fish species are found in portions of the Neuse River and Mill Creek within R-3825B. An in-water work moratorium between February 15 and June 15 will apply to Mill Creek and the Neuse River. A letter from the NCWRC dated October 6, 2003 requested the standard anadromous fish moratorium for both streams. Additionally, the Neuse River is also designated as an Inland Primary Nursery Area (IPNA). However, NCWRC stated in an email dated July 14, 2011 that NCDOT is not required to adhere to the IPNA in-water work moratorium.

9.0 Cultural Resources

The potential effect of the proposed project on cultural resources in the project area was evaluated in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended. The State Historic Preservation Office (SHPO) letter, dated June 17, 1999, states that "no structures of historical or architectural importance located within the planning area". A copy of this letter can be found in the EA. Therefore, no historic architectural investigation was conducted in connection with this project.

An archaeological survey of the project's area of potential effect was conducted by NCDOT archaeologists to determine the project's impact on significant archaeological or historical

resources. No archaeological sites were found within the project's area of potential effects. Therefore, no additional archaeological investigation is recommended for this project. The SHPO concurred with these findings in a letter dated March 22, 2001. A copy of this letter can be found in the EA.

10.0 FEMA Compliance

The project has been coordinated with appropriate state and local officials and the Federal Emergency Management Agency (FEMA) to assure compliance with FEMA, state, and local floodway regulations.

11.0 Mitigation Options

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional impacts. Avoidance measures were taken during the planning and NEPA compliance stages; minimization measures were incorporated as part of the project design.

11.1 Avoidance and Minimization

All jurisdictional features were delineated, field verified and surveyed within the corridor for the NC 42 widening. Using these surveyed features, preliminary designs were adjusted to avoid and/or minimize impacts to jurisdictional areas. NCDOT employs many strategies to avoid and minimize impacts to jurisdictional areas in all of its designs. Many of these strategies have been incorporated into BMP documents that have been reviewed and approved by the resource agencies and which will be followed throughout construction. All wetland areas not affected by the project will be protected from unnecessary encroachment. Individual avoidance and minimization items are as follows:

- No staging of construction equipment or storage of construction supplies will be allowed in wetlands or near surface waters.
- The project was designed to avoid or minimize disturbance to aquatic life movements.
- NCDOT will minimize long-term water quality impacts through the use of the most recent Best Management Practices for Protection of Surface Waters, as identified in the Federal Aid Highway Program (FHPM) and North Carolina Administrative Code, Chapter 4.
- NCDOT and its contractors will not excavate, fill, or perform land clearing activities within Waters of the U.S. or any areas under the jurisdiction of the USACE, except as authorized by the USACE. To ensure that all borrow and waste activities occur on high ground, except as authorized by permit, the NCDOT shall require its contractors to identify all areas to be used to borrow material, or to dispose of dredged, fill or waste material. Documentation of the location and characteristics of all borrow and disposal sites associated with the project will be available to the USACE on request.
- Design Standards in Sensitive Watersheds will be implemented to minimize erosion/sediment loss during the construction phase.
- The construction of a 380-foot bridge that will span the Neuse River and associated wetlands.
- The use of existing bridge during bridge construction over the Neuse River.

- The use of Preformed Scour Holes and Hazardous Spill Catch Basins.
- The use of 3:1 fill slopes in jurisdictional areas where practicable.
- NCDOT's Stream Crossing Guidelines for Anadromous Fish Passage will apply to the Neuse River and Mill Creek.
- No in-water work will be performed in the Neuse River and Mill Creek between February 15th and June 15th, due to the likely presence of anadromous fish.
- NCDOT will implement Best Management Practices for Bridge Demolition and Removal. The asphalt-wearing surface of Bridge Number 75 and bridge rails will be removed without dropping them into the water prior to bridge demolition.
- During construction of the project, the driveway to Clayton Fire Station will be kept open at all times. No equipment or materials will be parked or placed in the fire station driveway at any time.
- If practical, turbidity curtains will be used during in-stream work in the Neuse River.
- See attached Section 7 request letter for additional avoidance and minimization efforts.
- Perpendicular crossings of streams where practical.

11.3 Compensation

The NCDOT has avoided and minimized impacts to jurisdictional resources to the greatest extent possible. NCDOT proposes to use existing credits from NCDOT's own debit ledger to mitigate for wetland impacts. The mitigation credits will come from Jeffrey's Warehouse Mitigation Site and Marks Creek Mitigation Site within the Neuse River basin.

The Jeffrey's Warehouse Mitigation Site was originally constructed as on-site mitigation for R-1030, US 117 from south of NC 581 in Goldsboro to the US 264 Bypass in Wilson. There are two parcels associated with this mitigation site. The west parcel (approximately 50.2 acres) is bounded on the northwest by the Little River and on the southeast by the US 117 right-of-way. The east parcel (approximately 37.5 acres) is bounded on the northwest by the US 117 right-of-way, on the northeast by a Wayne County Board of Education school bus maintenance shop, and on the east and southeast by private property. The site was constructed in 2006 and has undergone five years of hydrologic and vegetative monitoring.

The Marks Creek Mitigation Site is located approximately two miles southeast of Knightdale off of Knightdale-Eagle Rock Road in Wake County. The site was originally constructed as on-site mitigation for R-2547 the Knightdale Bypass. The site consists of stream restoration, wetland restoration, wetland enhancement, and wetland preservation. It was constructed in 2002, planted in 2003, and has undergone five years of hydrologic and vegetative monitoring.

To offset unavoidable stream impacts of 174 ft. associated with T.I.P. R-3825A, the Jeffrey's Warehouse Mitigation Site will be debited 174 ft. of stream restoration. To offset unavoidable riverine wetland impacts of 0.56 acre associated with T.I.P. R-3825A, the Marks Creek Mitigation Site will be debited 0.56 acre of riverine wetland restoration. These debits are reflected in the debit ledger below.

Table 8. Jeffrey's Warehouse Stream Restoration Debits

Mitigation Type	Debit Amount (ft)	Site TIP
Stream Restoration	452	B-3529 262ft@2:1
Stream Restoration	61	U-4011
Stream Restoration	222	U-4703
Stream Restoration	25	U-3344A
Stream Restoration	279	EB-4993
Stream Restoration	174	R-3825A

Table 9. Marks Creek Mitigation Site

Mitigation Type	Debit Amount (ac)	Site TIP
Riparian Wetland Enhancement	10.9	R-2000F&G
Riparian Wetland Enhancement	0.56	R-3825A

12.0 Indirect and Cumulative Effects

The proposed project is expected to impart minimal indirect and cumulative effects. The project is only one of many factors affecting growth potential or potential for land use change in the Future Land Use Study Area (other factors include infrastructure, population growth and job growth, proximity to employment centers, etc.). This project is not the determining factor in how much, how fast, or how intense development is occurring or will occur in the study area. Taken in the context of other past, present and future actions, TIP R-3825 should not incrementally result in substantial cumulative effects.

Qualitative analyses of the probable development patterns in the Future Land Use Study Area suggest that R-3825 will have little effect on water quality or future stormwater runoff in the watersheds encompassed by the project. Water quality concerns should be greatly mitigated by regulations covering watershed protection, floodplain protection, stream and river buffers and stormwater management.

No additional indirect and cumulative effects studies are recommended.

13.0 Regulatory Approvals

Section 404: Application is hereby made for a USACE Individual 404 Permit as required for the above-described activities.

Section 401: We are also requesting a Section 401 Water Quality Certification from the NCDWQ. In compliance with Section 143-215.3D(e) of the NCAC, we will provide \$570.00 to act as payment for processing the Section 401 permit application previously noted in this application (see Subject line). We are providing five (5) copies of this application to the NCDWQ, for their approval.

Neuse Riparian Buffer Authorization: NCDOT requests that the NCDWQ review this application and issue a written approval for a Neuse Riparian Buffer Authorization.

A copy of this permit application and its distribution list will be posted on the NCDOT website at: <http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html>

If you have any questions or need additional information, please contact Chris Manley at 919-707-6135 or cdmanley@ncdot.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "E. L. Fusk".

for

Gregory J. Thorpe, Ph.D., Branch Manager
Project Development & Environmental Analysis

cc list:

NCDOT Permit Application Standard Distribution List.

18. Nature of Activity (Description of project, include all features)

See attached cover letter.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

See attached cover letter.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
See attached cover letter and permit drawings.		

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres See attached cover letter and permit drawings.
Or
Liner Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

See attached cover letter.

24. Is Any Portion of the Work Already Complete? Yes ☐ No ☒ IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (If more than can be entered here, please attach a supplemental list).

Address – See attached permit drawings.

City – State – Zip –

26. List of Other Certifications or Approvals/Denials Received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
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* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

E. J. Luke for Gregory J. Thorpe, PhD Aug 11, 2011
SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT

DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

September 29, 2003



Gregory J. Thorpe, Ph.D.
Project Development and Environmental Analysis
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

This letter is in response to your September 3, 2003 letter requesting comments from the U.S. Fish and Wildlife Service (Service) on the Environmental Assessment (EA) for the proposed widening of NC 42 from US 70 to SR 1003 in Johnston County, North Carolina (TIP No. R-3825). These comments are provided in accordance with provisions of the Fish and Wildlife Coordination Act (16 U.S.C. 661-667d) and section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to the EA, the North Carolina Department of Transportation (NCDOT) proposes to widen a 5.7 mile portion of NC 42 from two lanes to four lanes with a 17.5 foot raised median. The existing bridge over the Neuse River will be replaced and two box culverts on smaller streams will be retained and extended. There are two build alternatives, with the preferred alternative (Alternative 2) having the least impacts to wetlands and streams.

The EA states that 1096 linear feet of streams and 0.71 acres of wetlands will be impacted by the preferred alternative. In addition, up to 26.4 acres of forest habitat of various types will be impacted. This is a significant amount of forest habitat impact, but the impacts will be occurring along the edges of already fragmented habitat. It is understood that the ability to avoid impacts to forest wildlife habitat is limited when widening an existing road.

There are four federally-protected species listed for Johnston County. The EA renders a biological conclusion of "no effect" for the red-cockaded woodpecker (*Picoides borealis*), dwarf wedgemussel (*Alasmodonta heterodon*), Tar spinymussel (*Elliptio steinstansana*) and Michaux's sumac (*Rhus michauxii*). **The Service does not concur with any of the "no effect" conclusions for the following reasons:**

The EA states on page 21 that "potential habitat for the RCW is located within the project study area." A "no effect" conclusion should not be rendered if potential habitat exists. The EA does not give an adequate description of the potential habitat, nor does it differentiate between nesting

and foraging habitat. There is insufficient information on the March 8, 2001 survey. If foraging habitat exists within the project area, a survey for cavity trees should extend out for a 0.5 mile radius from the project site, within suitable habitat.

Since the dwarf wedgemussel is known to occur within the Neuse River Basin and potential habitat exists in the Neuse River and possibly in Mill Creek, the "no effect" conclusion is inappropriate. The EA lacks any details on the mussel survey methodologies. Mussel surveys should extend a minimum of 100 meters upstream and 400 meters downstream of road crossings.

Based on a tentative identification, the Tar spinymussel was recently collected within the Neuse River Basin in White Oak Creek. Therefore, its presence near the project area cannot be ruled out, and thus the "no effect" conclusion is inappropriate.

The EA states on page 22 that "habitat for Michaux's sumac is present within the project study area." Therefore, the "no effect" conclusion is inappropriate. No details of the survey methodology are provided in the EA.

The Service does not believe that this EA adequately addresses the federally protected species within the project area. Future documentation should reassess the biological conclusions and provide additional details, especially regarding survey methodologies. The Service may be able to concur with a "may affect, not likely to adversely affect" conclusion on some or all of the four listed species in Johnston County, provided that adequate justification and documentation is provided.

The Service appreciates the opportunity to review this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520, ext. 32.

Sincerely,



for Garland B. Pardue, Ph.D.
Ecological Services Supervisor

cc: Mike Bell, USACE, Washington, NC
David Franklin, Wilmington, NC
Chris Militscher, USEPA, Raleigh, NC
Travis Wilson, NCWRC, Creedmore, NC
John Hennessy, NCDWQ, Raleigh, NC

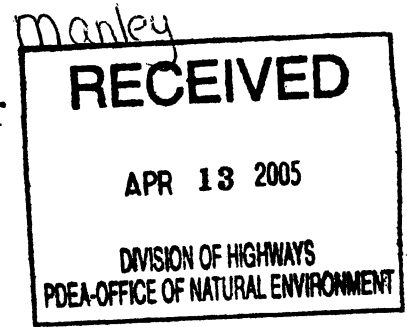


United States Department of the Interior

FISH AND WILDLIFE SERVICE

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April 6, 2005



Gregory J. Thorpe, Ph.D.
North Carolina Department of Transportation
Project Development and Environmental Analysis
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Dr. Thorpe:

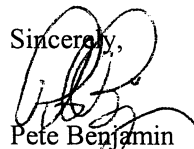
This letter is in response to your letter of March 23, 2005 which provided the U.S. Fish and Wildlife Service (Service) with the biological determination of the North Carolina Department of Transportation (NCDOT) that the proposed widening of NC 42 in Johnston County (TIP No. R-3825) may affect, but is not likely to adversely affect the federally endangered dwarf wedgemussel (*Alasmidonta heterodon*) and red-cockaded woodpecker (*Picoides borealis*). In addition, NCDOT has determined that the project will have no effect on the federally endangered Tar spiny mussel (*Elliptio steinstansana*) and Michaux's sumac (*Rhus michauxii*). These comments are provided in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to the information provided, mussel surveys were conducted at the project site on the Neuse River in 2001 and 2002. Although neither of the federally endangered mussel species were found, the surveys are now more than two years old. In addition, your submitted information does not indicate that Mill Creek was surveyed. As a perennial tributary to the Neuse River, the presence of dwarf wedgemussel should not be ruled out if potential habitat exists in the stream. The Service cannot concur with your determination that the project may affect, but is not likely to adversely affect the dwarf wedgemussel. The Service recommends that new surveys be conducted at the Neuse River and Mill Creek crossings. All surveys must extend 100 meters upstream and 400 meters downstream of the project limits where suitable habitat is present. Upon receiving new survey results, the Service will reconsider concurrence for the dwarf wedgemussel.

The Service concurs that the project will have no effect on the Tar spiny mussel and Michaux's sumac. Also, due to the lack of cavity trees within ½ mile of the project limits, the Service would also concur with a "no effect" determination for the red-cockaded woodpecker (as per revised 2003 Recovery Plan).

The Service appreciates the opportunity to review this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,


Pete Benjamin
Ecological Services Supervisor

cc: Eric Alsmeyer, USACE, Raleigh, NC
Nicole Thomson, NCDWQ, Raleigh, NC
Travis Wilson, NCWRC, Creedmoor, NC
Chris Militscher, USEPA, Raleigh, NC



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

June 19, 2006

Pete Benjamin
US Fish and Wildlife Service
PO Box 33726
Raleigh, NC 27636-3726

Dear Mr. Benjamin:

Subject: **Request for Section 7 Concurrence** for the Proposed widening of NC 42 from US 70 to SR 1003 (Buffalo road); Johnston County: Federal Aid Project No. STP-42(4); TIP Project No. R-3825. WBS Element 34552.1.1

This letter is in reference to NCDOT's proposed widening of NC 42 from US 70 to SR 1003 (Buffalo Rd), in Johnston County, TIP R-3825. The purpose of this letter is to provide additional information and request concurrence from the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act, as amended (16 U.S.C. 1531 et seq.) (ESA).

Please see the attached documents concerning the latest survey reports and the latest concurrence letter from USFWS for R-3825. Based on the information in the attached survey reports, NCDOT concludes that the proposed project's Biological Conclusion for the federally protected bald eagle (*Haliaeetus leucocephalus*) and the dwarf wedgemussel (*Alasmidonta heterodon*) is "**May Affect - Not Likely to Adversely Affect**".

We are not requesting concurrence for Michaux's sumac (*Rhus michauxii*), Tar River spiny mussel (*Elliptio steinstansana*), or red-cockaded woodpecker (*Picoides borealis*), due to biological conclusions of "No Effect" and recent concurrence from the USFWS.

The following are commitments that have been discussed and agreed upon by both NCDOT and USFWS for TIP R-3825.

Division Four Construction

- Notification will be sent to the NCDOT Natural Environment Unit one month prior to the start of construction, in order that mussels at the Neuse River and Mill Creek crossings can be relocated. The notification should be sent to the following address:
Natural Environment Biological Surveys Group Supervisor
NCDOT Natural Environment Unit
1598 Mail Service Center
Raleigh, NC 27699-1598
- Use Best Management Practices for Construction and Maintenance Activities.

MAILING ADDRESS:
DEPARTMENT OF TRANSPORTATION
ELECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

- Timber workpads will be used for heavy equipment within fifty feet of streams or in other areas where sediment could enter the stream.
- NCDOT's Stream Crossing Guidelines for Anadromous Fish Passage will apply to the Neuse River and all stream crossings within the project area.
- No in-water work will be performed in the Neuse River between February 15th and June 15th, due to the likely presence of anadromous fish.
- NCDOT will implement Best Management Practices for Bridge Demolition and Removal. The asphalt-wearing surface of Bridge Number 75 and bridge rails will be removed without dropping into the water prior to bridge demolition.
- During construction of the project, the driveway to Clayton Fire Station will be kept open at all times. No equipment or materials will be parked or placed in the fire station driveway at any time.

Roadside Environmental Unit/Division Four Construction

Due to the existence of habitat for federally protected mussels in the Neuse River and Mill Creek, the following project commitments will be implemented:

- If practical, turbidity curtains will be used during in-stream work in the Neuse River.
- Sediment and erosion control measures shall adhere to the Design Standards in Sensitive Watersheds during construction of the project.
- Special Sediment Control Fence will be used at the toe of slope parallel to the Neuse River and Mill Creek.
- During active grading, all unstabilized areas of the project within fifty feet of streams will be temporarily stabilized prior to any rain event. This will be done utilizing erosion control blankets, fabric, plastic or other material(s) approved by the Roadside Environmental Unit and as directed by the engineer on site. The temporary stabilization should be adequately anchored and utilized to prevent the loss of sediment into the water course unless runoff from these areas can be diverted to an adequately designed sediment basin or until the area is stabilized with vegetation.

Structure Design Unit/Hydraulic Unit

- Deck drains for the proposed bridge carrying NC 42 over the Neuse River will be designed so that runoff is not discharged directly into the Neuse River.
- Where possible, proposed bridge bents will be no closer than 10 feet from the edge of the stream bank.

Roadway Design Unit/Geotechnical Unit/Right-of-Way Branch

- The proposed widening will require property from four sites potentially containing hazardous materials. A preliminary site assessment will be performed for all of the properties prior to right of way acquisition in order to determine the extent of any contamination. Right of way acquisition from the former Jimmy Flowers Store and the Percy Flowers Store will be by permanent easement rather than fee simple right of way due to the possibility of contamination on the properties. Permanent easements will be obtained from the former Peele Pesticide site and the Caterpillar site, as well, if the preliminary site assessment determines there is a possibility of contamination in areas needed for right of way.

All protected species for Johnston County and their Biological Conclusions are listed in Table 1 on the following page. We believe that the requirements of Section 7(a)(2) of the ESA have been satisfied and hereby request your concurrence.

Table 1. Federally protected species of Johnston County.

Scientific Name	Common Name	Federal Status	Habitat	Biological Conclusion
<i>Haliaeetus leucocephalus</i>	Bald eagle	T(PFD)	Yes	MANLTAA
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	No	No Effect
<i>Alasmidonta heterodon</i>	Dwarf wedgemussel	E	Yes	MANLTAA
<i>Elliptio steinstansana</i>	Tar River spiny mussel	E	No	No Effect
<i>Rhus michauxii</i>	Michaux's sumac	E	Yes	No Effect

Note:

Endangered (E) – is defined as a taxon that is threatened with extinction throughout all or a significant portion of its range.

Threatened (T) – A taxon “likely to become endangered within the foreseeable future throughout all or a significant portion of its range.”

T(PFD) – A taxon “Proposed for Delisting”.

MANLTAA – “May Affect – Not Likely to Adversely Affect”

Thank you for your assistance with this project. If you have any questions or need additional information please contact Chris Manley at (919) 715-1487 or via e-mail at cdmanley@dot.state.nc.us.

Sincerely,



Phil S. Harris, III, P.E., Unit Head
PDEA - Natural Environment Unit

Cc w/o attachment:

William Wescott, USACE
Jay McInnis, P.E., PDEA
Logan Williams, NCDOT Natural Environment Unit
File: R-3825

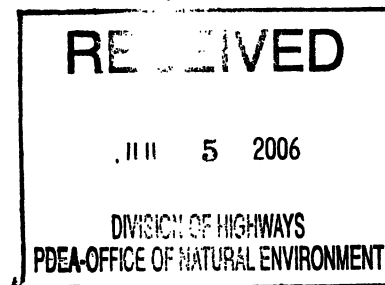
Attachments (3)



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

June 29, 2006



Phil S. Harris, III, P.E.
North Carolina Department of Transportation
Project Development and Environmental Analysis
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

This letter is in response to your letter of June 19, 2006 which provided the U.S. Fish and Wildlife Service (Service) with the biological determination of the North Carolina Department of Transportation (NCDOT) that the proposed widening of NC 42 from US 70 to SR 1003 (Buffalo Road), the replacement of Bridge No. 75 over the Neuse River and the extension of the existing NC 42 culvert on Mill Creek in Johnston County (TIP No. R-3825) may affect, but is not likely to adversely affect the federally threatened bald eagle (*Haliaeetus leucocephalus*) and federally endangered dwarf wedgemussel (*Alasmidonta heterodon*). These comments are provided in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to information provided, an eagle survey was conducted within one mile of the project area on April 14, 2006. No eagles or eagle nests were observed. Based on the survey results, the Service concurs with your determination that the proposed project may affect, but is not likely to adversely affect the bald eagle.

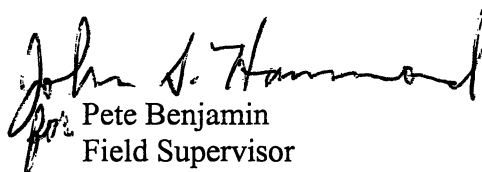
According to information provided, mussel surveys were conducted at the project site on November 19 and 30, 2001; December 7, 2001; August 14, 2002; and November 4, 2005. The 2005 survey extended 100 meters upstream and 400 meters downstream of the Neuse River and Mill Creek crossings. No dwarf wedgemussels were observed in any of the surveys, although several specimens of six other species were observed. Through informal section 7 consultation, NCDOT and the Service have agreed to several conservation measures. These measures are listed in your June 19, 2006 letter. Based on the survey results and NCDOT's commitment to implement these conservation measures, the Service concurs with your determination that the project may affect, but is not likely to adversely affect the dwarf wedgemussel.

As stated in your letter, the Service has previously concurred with your determination that the proposed project will have no effect on the federally endangered Tar River spiny mussel (*Elliptio steinstansana*), red-cockaded woodpecker (*Picoides borealis*) and Michaux's sumac (*Rhus michauxii*). We believe that the requirements of section 7(a)(2) of the ESA have been satisfied.

We remind you that obligations under section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered in this review; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by this identified action.

The Service appreciates the opportunity to review this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,



Pete Benjamin
Field Supervisor

cc: William Wescott, USACE, Washington, NC
Rob Riding, NCDWQ, Raleigh, NC
Travis Wilson, NCWRC, Creedmoor, NC
Chris Militscher, USEPA, Raleigh, NC
John Sullivan, FHWA, Raleigh, NC

North Carolina Department of Transportation
PROJECT ENVIRONMENTAL CONSULTATION FORM
I.D. No. R-3825A

I. GENERAL INFORMATION

- a. Consultation Phase: Right of Way
- b. Project Description NC 42 From US 70 To SR 1902 (Glen Laurel Road)
- c. State Project: 34552.1.1
Federal Project: STP-42(4)
- d. Document Type: FONSI June 29, 2006
Date

II. CONCLUSIONS

The above environmental document has been reevaluated as required by 23 CFR 771. It was determined that the current proposed action is essentially the same as the original proposed action. Proposed changes, if any, are noted below in Section III. It has been determined that anticipated social, economic, and environmental impacts were accurately described in the above referenced document(s) unless noted otherwise herein. Therefore, the original Administration Action remains valid.

III. CHANGES IN PROPOSED ACTION AND ENVIRONMENTAL CONSEQUENCES

As of January 31, 2008, no additional threatened or endangered species have been added to the list of federally-protected species for Nash County since completion of the FONSI. The bald eagle was listed as Threatened at the time of the completion of the FONSI for the project. However, on August 8, 2007, the bald eagle was delisted. The Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668-668d) is now the primary law protecting bald eagles. Bald eagle occurrences and nesting habitat were surveyed using the NHP database and aerial photography. Surveys found no individuals or nesting sites within 660 feet of the project limits. This project will, therefore, have no effect on the bald eagle.

As of January 31, 2008, no changes have occurred in the list of federal species of concern since completion of the FONSI.

An irrigation pond is located on the north side of NC 42, just east of Old NC 42. The original design for the project would have resulted in a portion of the dam for the pond being inside the proposed right of way, requiring the removal of the dam. Relocating the pond would cost at least approximately \$470,000, not including the cost to purchase the right of way.

In order to avoid the pond, the alignment has been shifted to the south at this location. This alignment shift will impact an additional 0.36 acre of wetlands and 90 feet of streams. The NEPA/404 merger team concurred on Concurrence Point 4A (Avoidance and Minimization), including this change, on April 22, 2008.

IV. LIST OF ENVIRONMENTAL COMMITMENTS

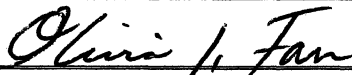
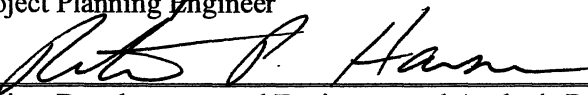
See attached list of environmental commitments.

V. COORDINATION

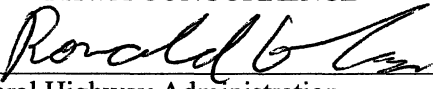
Project Development and Environmental Analysis Branch personnel have discussed current project proposals with others as follows:

Design Engineer:	<u>Susan Lancaster, PE</u>	<u>July 2, 2008</u> Date
FHWA Engineer:	<u>Ron Lucas, PE</u>	<u>July 2, 2008</u> Date
Permits Section:	<u>Chris Manley</u>	<u>June 27, 2008</u> Date

VI. NCDOT CONCURRENCE

 Project Planning Engineer	<u>7-17-08</u> Date
 Project Development and Environmental Analysis Branch Manager	<u>7/17/08</u> Date

VII. FHWA CONCURRENCE

 for Federal Highway Administration Division Administrator	<u>7-17-08</u> Date
---	------------------------

PROJECT COMMITMENTS

NC 42
From US 70 to SR 1003 (Buffalo Road)
Johnston County
Federal Aid Project STP-42(4)
State Project 34552.1.1
TIP Project R-3825A

Current status, changes or additions to the project commitments as shown in the environmental document for the project are printed in *italics*.

Division Four Construction

NCDOT's Stream Crossing Guidelines for Anadromous Fish Passage will apply to the Neuse River and all stream crossings within the project area.

No in-water work will be performed in the Neuse River between February 15th and June 15th, due to the likely presence of anadromous fish.

NCDOT will implement Best Management Practices for Bridge Demolition and removal. The asphalt wearing surface of Bridge Number 75 and bridge rails will be removed without dropping into the water prior to bridge demolition.

The proposed bridge over the Neuse River is on an adjacent project, R-3825B. These project commitments will be implemented during construction of that project.

During construction of the project, the driveway to Clayton Fire Station will be kept open at all times. No equipment or materials will be parked or placed in the fire station driveway at any time.

These project commitments will be implemented during construction of this project.

Timber workpads will be used for heavy equipment within fifty feet of streams or in other areas where sediment could enter the stream.

Notification will be sent to the NCDOT Natural Environment Unit one month prior to the start of construction, in order that mussels at the Neuse River and Mill Creek crossings can be relocated. The notification should be sent to the following address:

Natural Environment Biological Surveys Group Supervisor
NCDOT Natural Environment Unit
1598 Mail Service Unit
Raleigh, NC 27699-1598

The proposed crossings of the Neuse River and Mill Creek are on an adjacent project, R-3825B. These project commitments will be implemented during construction of that project.

Roadside Environmental Unit/Division Four Construction

If practical, turbidity curtains will be used during in-stream work in the Neuse River.

Sediment and erosion control measures shall adhere to the Design Standards in Sensitive Watersheds during construction of the project.

Special Sediment Control Fence will be used at the toe of slope parallel to the Neuse River and Mill Creek

During active grading, all unstabilized areas of the project within fifty feet of streams will be temporarily stabilized prior to any rain event. This will be done utilizing erosion control blankets, fabric, plastic or other material(s) approved by the Roadside Environmental Unit and as directed by the engineer on site. The Temporary stabilization should be adequately anchored and utilized to prevent the loss of sediment into the water course unless runoff from these areas can be diverted to an adequately designed sediment basin or until the area is stabilized with vegetation.

The proposed crossings of the Neuse River and Mill Creek are on an adjacent project, R-3825B. These project commitments will be implemented during construction of that project.

Structure Design Unit/Hydraulic Unit

Deck drains for the proposed bridge carrying NC 42 over the Neuse River will be designed so that runoff is not directly discharged into the Neuse River.

Where possible, proposed bridge bents will be no closer than 10 feet from the edge of the stream bank.

The proposed bridge over the Neuse River is on an adjacent project, R-3825B. These project commitments will be implemented during project design for that project.

Roadway Design Unit/Geotechnical Unit/Right of Way Branch

The proposed widening will require property from four sites potentially containing hazardous materials. A preliminary site assessment will be performed for all of the properties prior to right of way acquisition in order to determine the extent of any contamination. Right of way acquisition from the former Jimmy Flowers Store and the Percy Flowers Store will be by permanent easement rather than fee simple right of way due to the possibility of contamination on the properties. Permanent easements will be obtained from the former Peele Pesticide site and the Caterpillar site, as well, if the preliminary site assessment determines there is a possibility of contamination in areas needed for right of way.

This project commitment will be implemented during right of way acquisition for this project.

STORMWATER MANAGEMENT PLAN

Project: R-3825A (34552.1.1) February 6, 2008
Location: Widening of NC 42 from US 70 in Clayton
to 0.26 miles East of SR 1902 (Glen Laurel Rd.)
Hydraulics Project Manager: Jay Twisdale, PE

ROADWAY DESCRIPTION

The project involves the widening of NC 42 from US 70 in Clayton to 0.26 miles East of SR 1902 (Glen Laurel Rd.). The overall length of the project is 1.552 mi., and the existing 2-lane, 2-way road is being widened to a 4-lane divided section with raised grassed median. The proposed roadway utilizes shoulder section throughout. There are no major crossings.

ENVIRONMENTAL DESCRIPTION

The project is located in the Neuse River Basin. There are a total of three streams that are affected by the project. All streams are unnamed tributaries of the Neuse River. Two of the streams (Sheet 6, UT #N1 at approx. -L- Sta. 36+00(Rt) & UT #N2 approx. -L- Sta. 40+00(Rt)) are classified as intermittent. The third stream (UT #N3), classified as changing from intermittent to perennial within the R/W limits, is located on Sheet 10, at approx. -L- Sta. 92+13. The third stream was originally beyond the project limits of R-3825A. The best usage classification of the aforementioned UTs is WS-IV NSW (highly developed, nutrient sensitive waters) and require riparian buffers.

There are also two wetland pockets that will be impacted. The wetlands are located at the following station ranges along the -L- alignment: approx. Sta. 36+58(Rt) to 41+37(Rt) and Sta. 90+78(Rt) to 93+15(Rt).

BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) and measures used on the project to reduce stormwater impacts are listed below. All stormwater being discharged through the buffers is either diffuse flow or has been treated prior to entering the buffers.

GRASSED SWALES

DRAINAGE TO UT #N1

-L- Sta. 32+70(Rt) to Sta. 35+30(Rt)

DRAINAGE TO UT #N3

-L- Sta. 76+30(Lt) to Sta. 85+50(Lt)

MISCELLANEOUS

In efforts to disperse the flow prior to reaching wetlands boundary at Sta. 41+37(Rt), an improvised ditch end section was used to terminate the ditch prior to entering the wetlands. The ditch end section is designed to impede ditch flow and cause waters to head up and disperse uniformly.

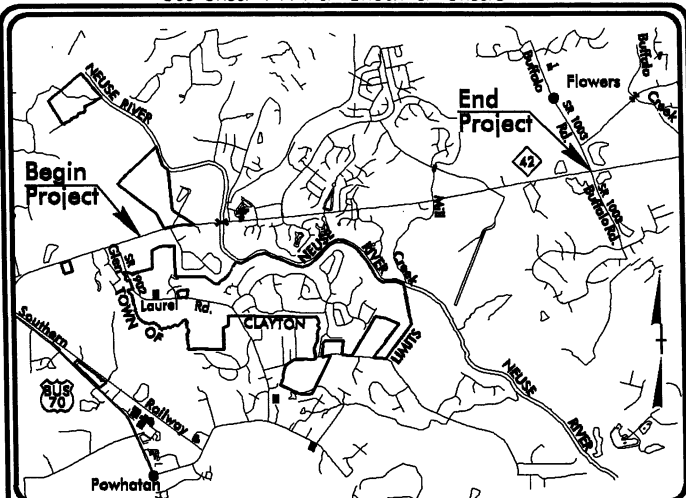
From field reconnaissance of the project, erosion of an existing ditch within the wetland region at the end of the project was noted. In an effort to facilitate good stewardship of the environment and to negate an existing eroded ditch, a stabilized ditch grade was designed to replace the existing ditch from Sta. 89+00(RT) to Sta. 92+20(RT).

09/08/99

TIP PROJECT: R-3825B

CONTRACT:

See Sheet 1-A For Index of Sheets



VICINITY MAP
NOT TO SCALE

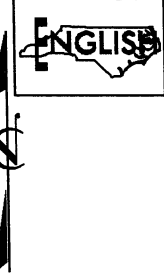
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JOHNSTON COUNTY

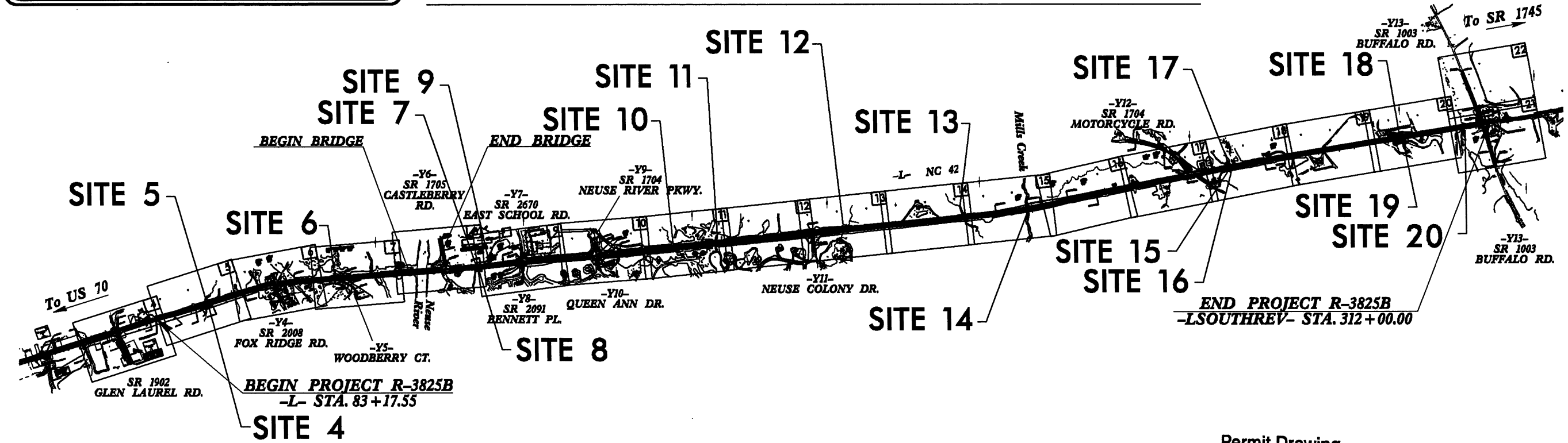
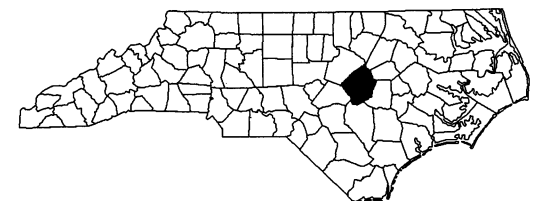
LOCATION: NC 42 FROM EAST OF SR 1902 (GLEN LAUREL ROAD)
TO SR 1003 (BUFFALO ROAD)

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

PRELIMINARY WETLAND/SURFACE WATER PERMIT DWG.

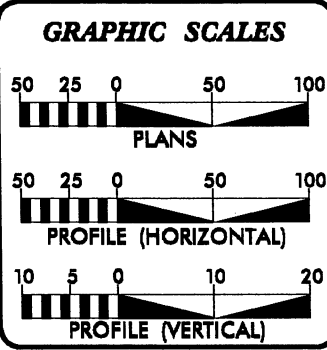


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3825B	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	



Permit Drawing
Sheet 1 of 25

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA

ADT	=	
ADT	=	
DHV	=	%
D	=	%
T	=	% *
V	=	MPH
* TTST	=	DUAL
FUNC CLASS	=	
RURAL MAJOR COLLECTOR		
REGIONAL TIER		

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3825B	= 4.255 Miles
LENGTH STRUCTURE TIP PROJECT R-3825B	= 0.078 Miles
TOTAL LENGTH TIP PROJECT R-3825B	= 4.333 Miles

Prepared in the Office of:

DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:	RON McCOLLUM, PE PROJECT ENGINEER
LETTING DATE:	SUSAN C. LANCASTER, P.E. PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

Permit Drawing
Sheet 2 of 25

PERMITTED UNDER
R-3825A

PERMITTED UNDER
R-3825B

SITE 5 IMPACTS TO SURFACE WATERS

~~ROBERT B. HUNT~~

MATCH LINE SEE SHEET 4 **L- STA 84+00.00**

MATCH LINE SEE SHEET 6 LSOUTHREV- STA 98 + 05.00

KEVIN MARK AMIGH

KEVIN MARK AMIGH

-L- PRC Sta. 86+12.91

JAMES B. HUNT

-L- PT Sta. 90+21.39

~~-LSOUTHREV-~~ POT Sta. 93+06.20

SITE 4

DENOTES IMPACTS IN
SURFACE WATER

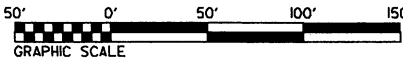
DENOTES FILL IN
WETLAND

DENOTES MECHANIZED
CLEARING

PERMITTED UNDER
R-3825A

PERMITTED UNDER
R-3825B

PRELIMINARY WETLAND/SURFACE WATER PERMIT DWG.



PROJECT REFERENCE NO.	SHEET NO.
R-3825B	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMITTED UNDER
R-3825A

PERMITTED UNDER
R-3825B

Permit Drawing
Sheet 3 of 25

SITE 5
IMPACTS TO
SURFACE WATERS

ROBERT B. HUNT

MATCH LINE SEE SHEET 4
L STA 84+00.00

MATCH LINE SEE SHEET 6
L SOUTHREY STA 98+05.00

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING

PERMITTED UNDER
R-3825A

PERMITTED UNDER
R-3825B

3825B

SITE 4

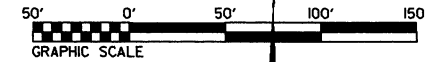
L FRC Sta. 86+12.91

L PT Sta. 90+21.39

L POT Sta. 93+00.00

L SOUTHREY POT Sta. 93+00.00

PRELIMINARY WETLAND/SURFACE WATER PERMIT DWG.



PROJECT REFERENCE NO. R-3825B	SHEET NO. 7
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
<div>INCOMPLETE PLANS</div> <div>DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div>	

-Y5-			
PI Sta 10+31.72 Δ = 47° 33' 20.4" (LT) D = 79° 35' 00.0" L = 59.76' T = 31.72' R = 71.99'	PI Sta 11+52.32 Δ = 5° 58' 17.0" (LT) D = 19° 22' 28.0" L = 30.82' T = 15.42' R = 295.73'	PI Sta 12+72.63 Δ = 36° 28' 23.0" (RT) D = 38° 12' 00.0" L = 95.48' T = 49.42' R = 149.99'	PI Sta 13+63.33 Δ = 15° 53' 08.5" (RT) D = 17° 54' 23.0" L = 88.72' T = 44.64' R = 319.97'

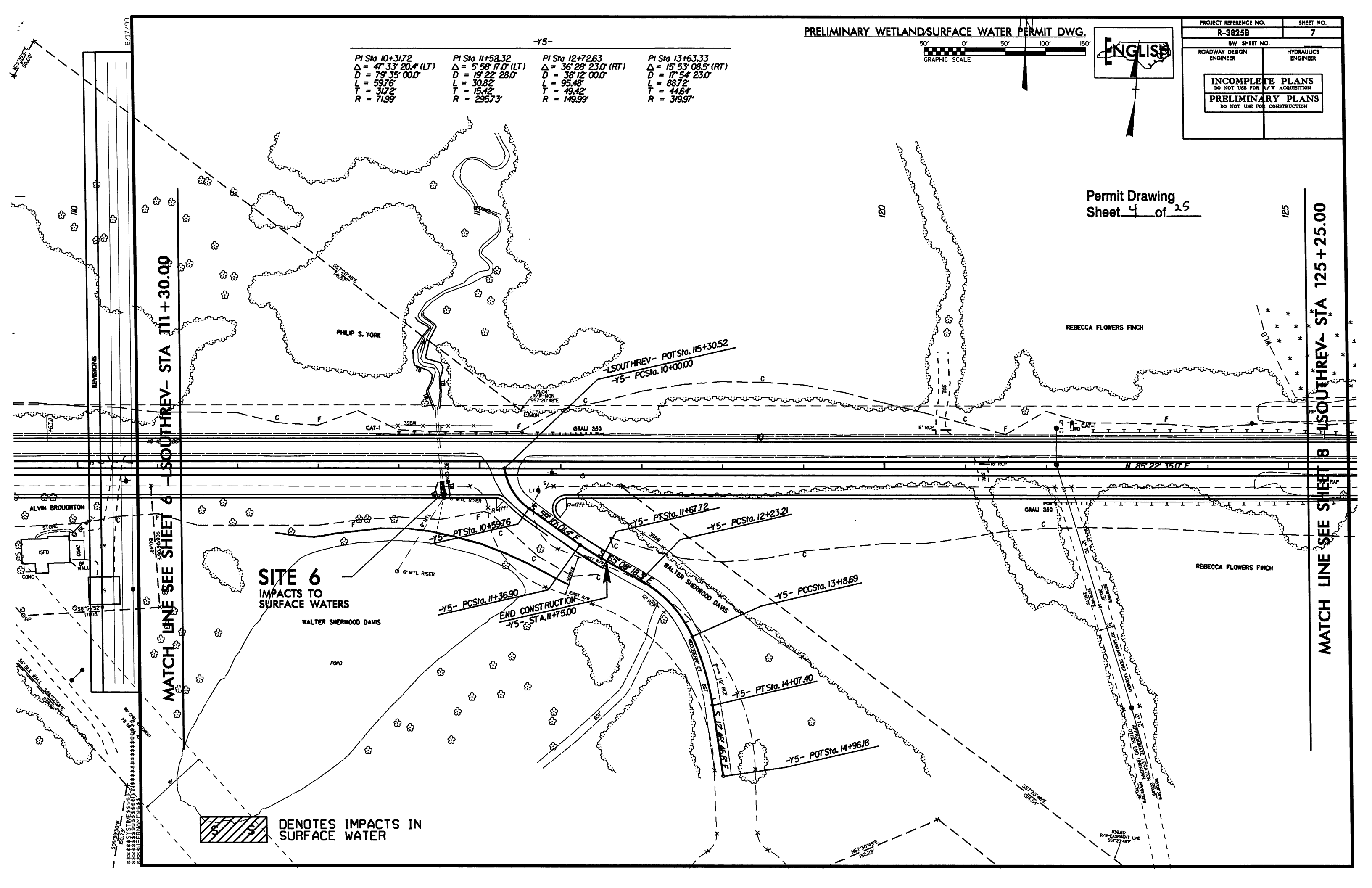
Permit Drawing
Sheet 4 of 25

MATCH LINE SEE SHEET 6 - SOUTHREV- STA 111+30.00

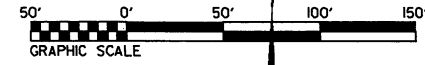
MATCH LINE SEE SHEET 8 - SOUTHREV- STA 125+25.00

SITE 6
IMPACTS TO
SURFACE WATERS

DENOTES IMPACTS IN
SURFACE WATER



PRELIMINARY WETLAND/SURFACE WATER PERMIT DWG.



ENGLISH

Permit Drawing
Sheet 5 of 25

PROJECT REFERENCE NO. R-3825B	SHEET NO. 7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/CQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PI Sta 10+31.72 Δ = 47° 33' 20.4" (LT) D = 79° 35' 00.0" L = 59.76' T = 31.72' R = 71.99'	PI Sta 11+52.32 Δ = 5° 58' 17.0" (LT) D = 19° 22' 28.0" L = 30.82' T = 15.42' R = 295.73'	PI Sta 12+72.63 Δ = 36° 28' 23.0" (RT) D = 38° 12' 00.0" L = 95.48' T = 49.42' R = 149.99'	PI Sta 13+63.33 Δ = 15° 53' 08.5" (RT) D = 17° 54' 23.0" L = 88.72' T = 44.64' R = 319.97'
--	--	---	---

-Y5-

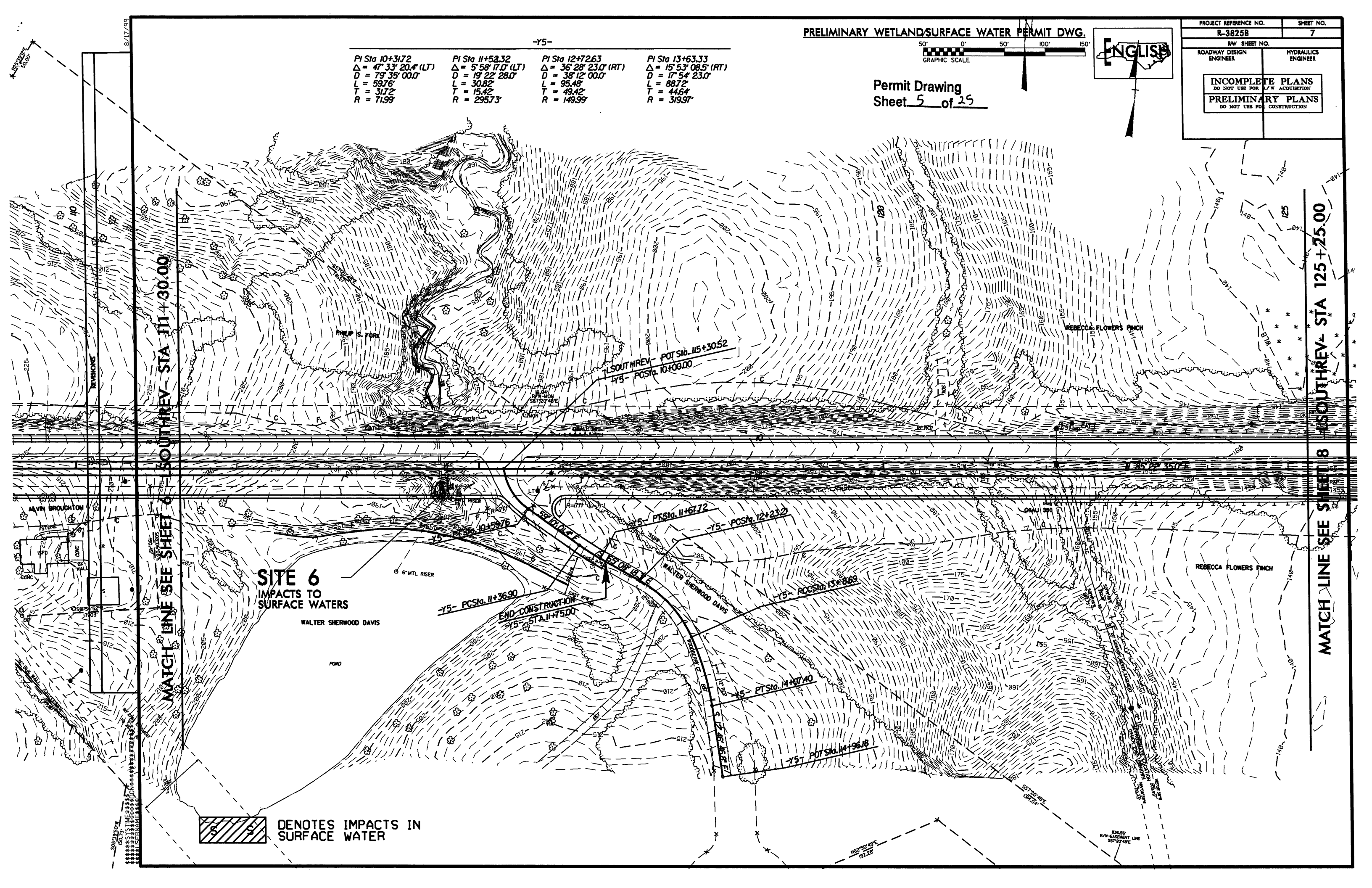
MATCH LINE SEE SHEET 6 SOUTHREV- STA 111+30.00

MATCH LINE SEE SHEET 8 SOUTHREV- STA 125+25.00

SITE 6
IMPACTS TO
SURFACE WATERS

WALTER SHERWOOD DAVIS

DENOTES IMPACTS IN
SURFACE WATER



PROJECT REFERENCE NO.
R-3825B

SHEET NO.
8

R/W SHEET NO.

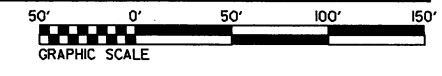
ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PRELIMINARY WETLAND/SURFACE WATER PERMIT DWG.



Permit Drawing
Sheet 6 of 25

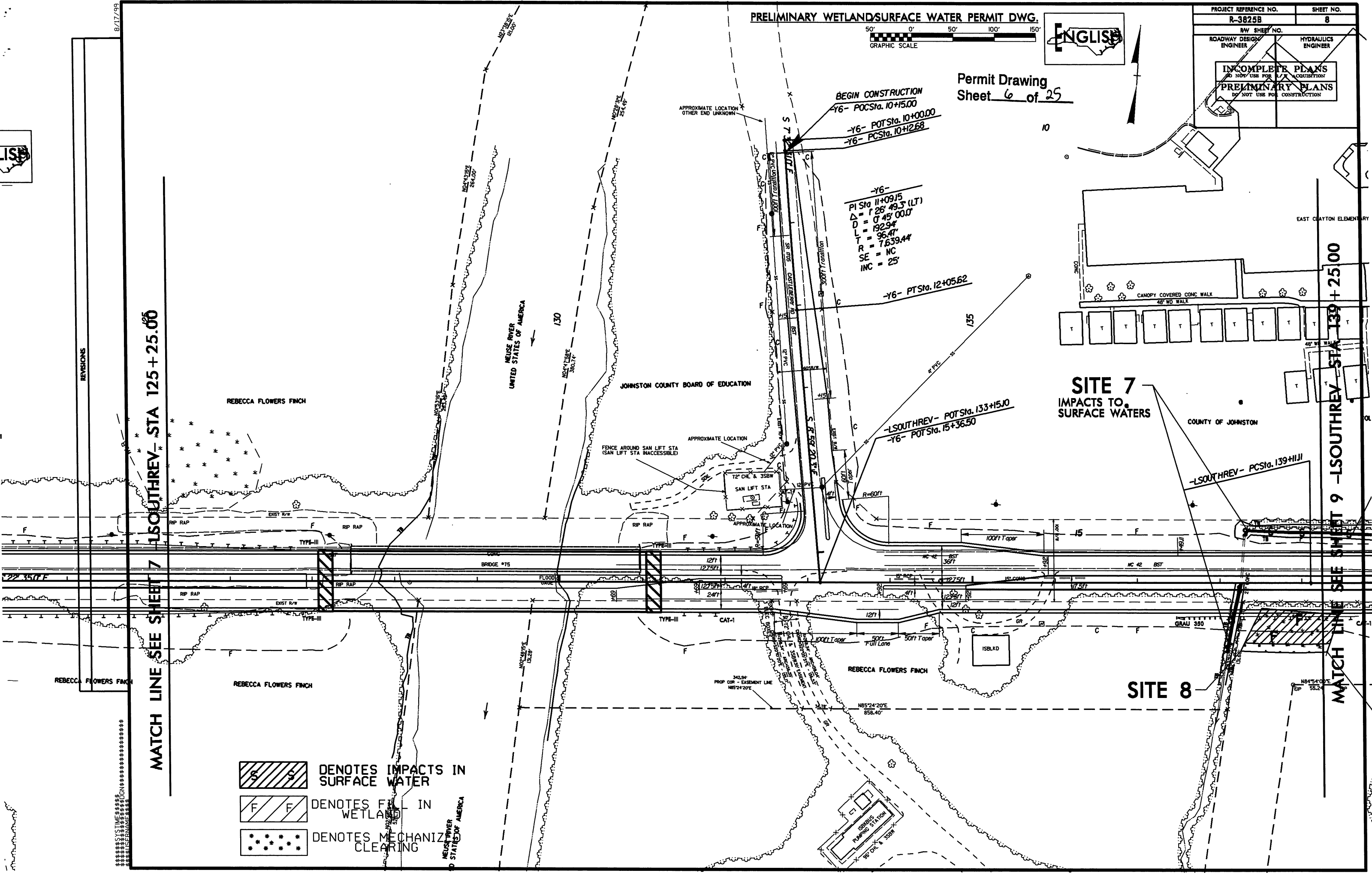
MATCH LINE SEE SHEET 7 -LSOUTHREV- STA 125+25.00

MATCH LINE SEE SHEET 9 -LSOUTHREV- STA 139+25.00

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND
- DENOTES MECHANICAL CLEARING

SITE 7
IMPACTS TO SURFACE WATERS

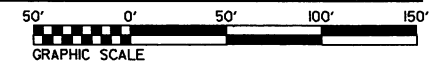
SITE 8





8/17/99

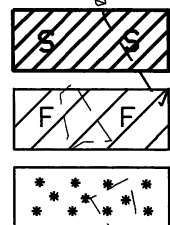
PRELIMINARY WETLAND/SURFACE WATER PERMIT DWG.



PROJECT REFERENCE NO.	SHEET NO.
R-3825B	8
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 7 of 25

SOUTHREV - STA 125+25.00
MATCH LINE - SEE SHEET 7



DENOTES IMPACTS IN
SURFACE WATER
DENOTES FILL IN
WETLAND
DENOTES MECHANIZED
CLEARING

NEUSE RIVER
UNITED STATES OF AMERICA

JOHNSTON COUNTY BOARD OF EDUCATION

APPROXIMATE LOCATION
FENCE AROUND SAN LIFT STA
(SAN LIFT STA INACCESSIBLE)

SAN LIFT STA

APPROXIMATE LOCATION

BEGIN CONSTRUCTION
-Y6- PCSSta. 10+15.00
-Y6- POTSta. 10+00.00
-Y6- PCSSta. 10+12.68

-Y6-
PI Sta 11+09.15
 $\Delta = 126' 49.3" (LT)$
 $D = 0' 45' 00.0"$
 $L = 192.94'$
 $T = 96.47'$
 $R = 7639.44'$
SE = NC
INC = 25'

-Y6- PTSSta. 12+05.62

LSOUTHREV - POTSta. 139+15.00
-Y6- POTSta. 15+36.50

COUNTY OF JOHNSTON

LSOUTHREV - PCSSta. 139+11.11

SITE 7
IMPACTS TO
SURFACE WATERS

SITE 8

LSOUTHREV - STA 139+25.00
MATCH LINE - SEE SHEET 9

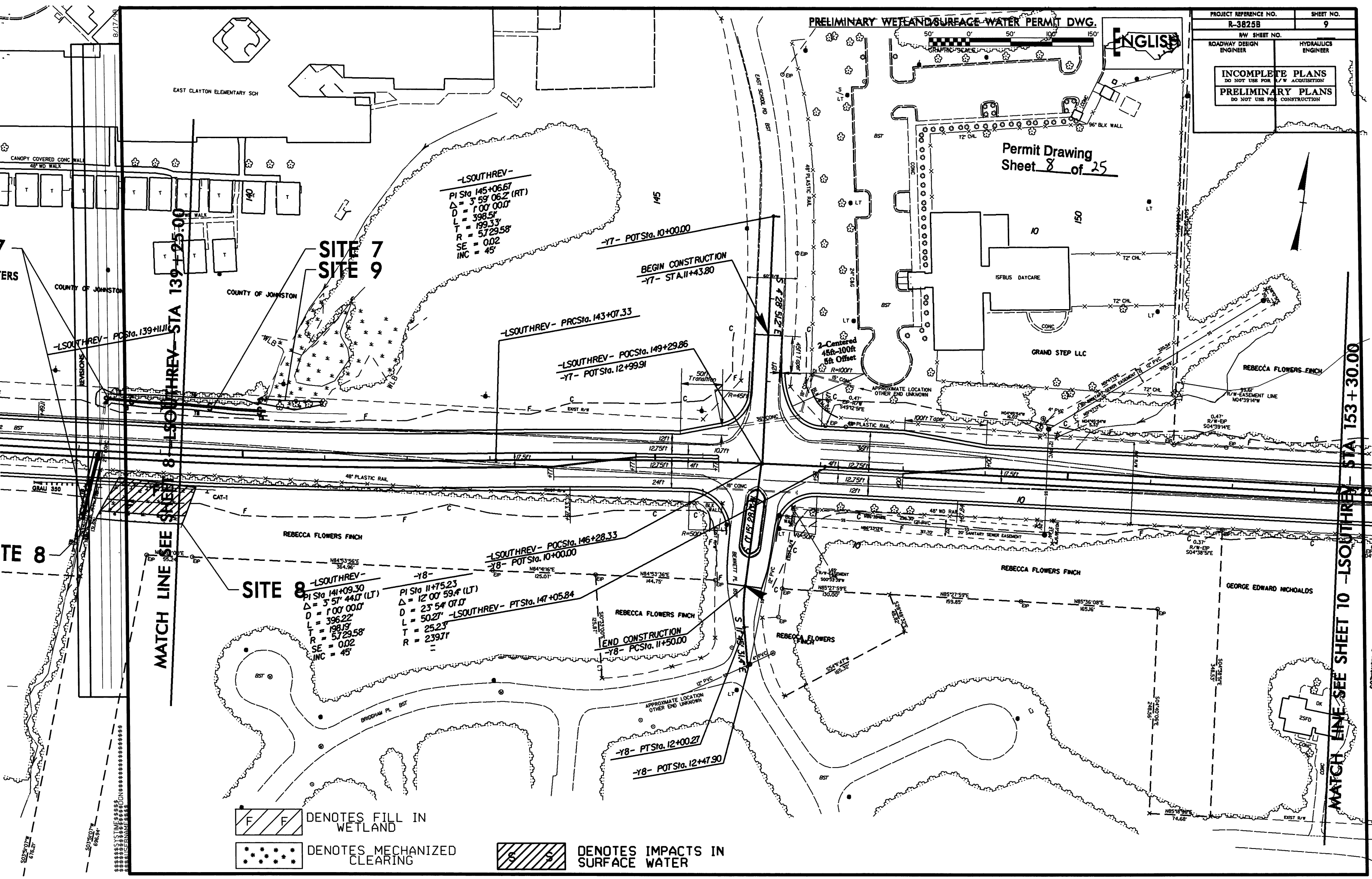
EAST CLAYTON ELEMENTARY

N84°54'00"E
SIP 55.24'

PROJECT REFERENCE NO.	SHEET NO.
R-3825B	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

ENGLISH

Permit Drawing
Sheet 8 of 25



MATCH LINE SEE SHEET 8 -LSOUTHREV- STA 139+25.00

MATCH LINE SEE SHEET 10 -LSOUTHREV- STA 153+30.00

- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER

PRELIMINARY WETLANDS SURFACE WATER PERMIT DWG.

ENGLISH

PROJECT REFERENCE NO. R-3825B	SHEET NO. 9
R/W SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 9 of 25

MATCH LINE SEE SHEET 8 - SOUTHREV STA 139+25.00

MATCH LINE SEE SHEET 10 - SOUTHREV STA 153+30.00

SITE 7
SITE 9

SITE 8

LSOUTHREV -
PI Sta 145+06.61
 $\Delta = 3^{\circ} 59' 08.22" (RT)$
 $D = 1^{\circ} 00' 00.0"$
 $L = 398.53'$
 $T = 199.33'$
 $R = 5729.58'$
 $SE = 0.02$
 $INC = 45^{\circ}$

LSOUTHREV -
PI Sta 141+09.30
 $\Delta = 3^{\circ} 57' 44.0" (LT)$
 $D = 1^{\circ} 00' 00.0"$
 $L = 396.22'$
 $T = 198.19'$
 $R = 5729.58'$
 $SE = 0.02$
 $INC = 45^{\circ}$

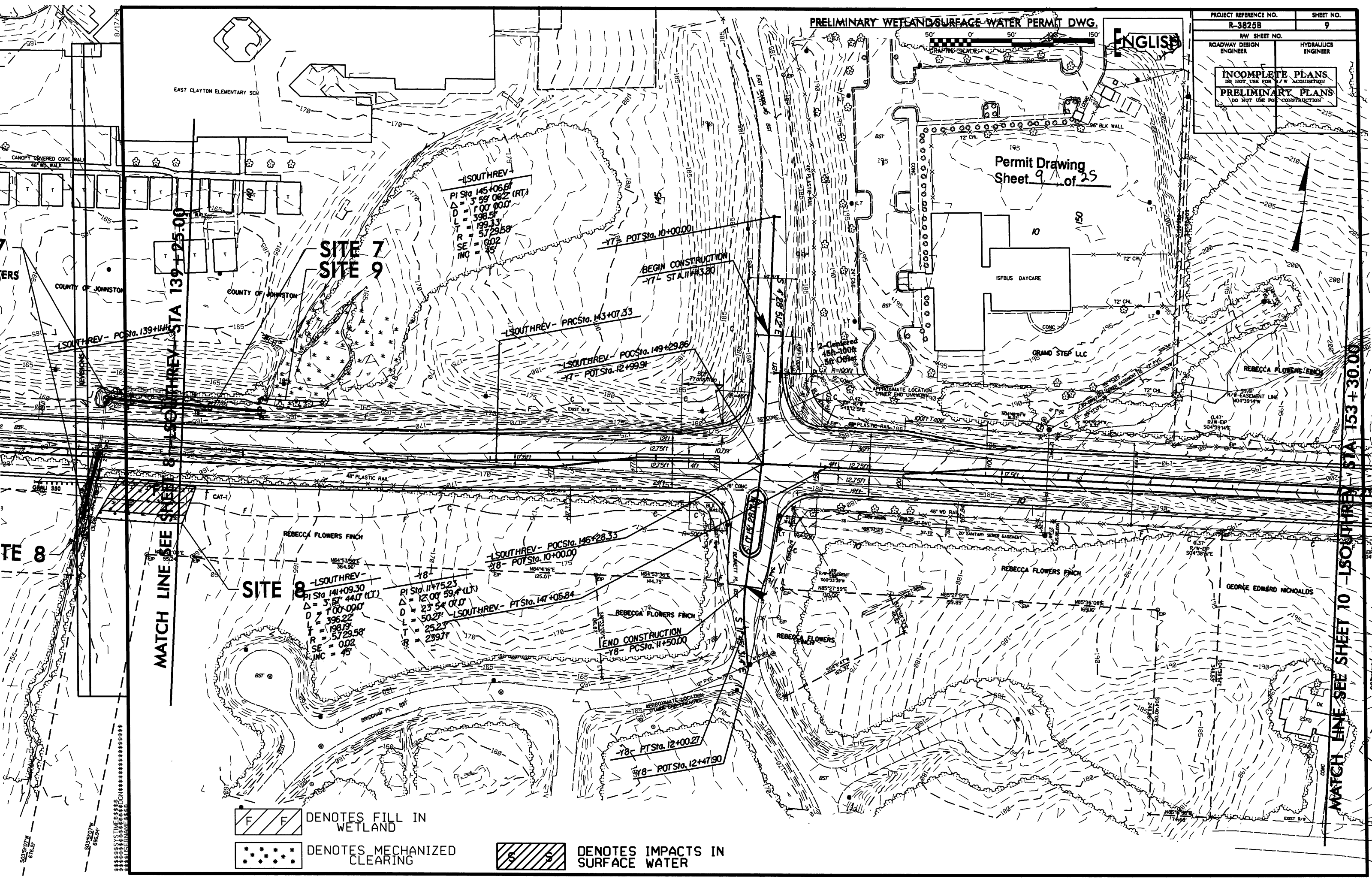
LSOUTHREV -
PI Sta 147+75.23
 $\Delta = 12^{\circ} 00' 59.4" (LT)$
 $D = 23^{\circ} 54' 07.0"$
 $L = 50.27'$
 $T = 25.23'$
 $R = 239.71'$

END CONSTRUCTION
-Y8- PCSig. 11+50.00

-Y8- PTSig. 12+00.27
-Y8- POTSig. 12+47.90

 DENOTES FILL IN WETLAND
 DENOTES MECHANIZED CLEARING

 DENOTES IMPACTS IN SURFACE WATER



ENGLISH

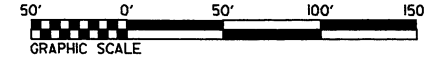
SITE 11

IMPACTS TO SURFACE WATERS

13 SOUTHREV- STA 181+15.00

8/17/99

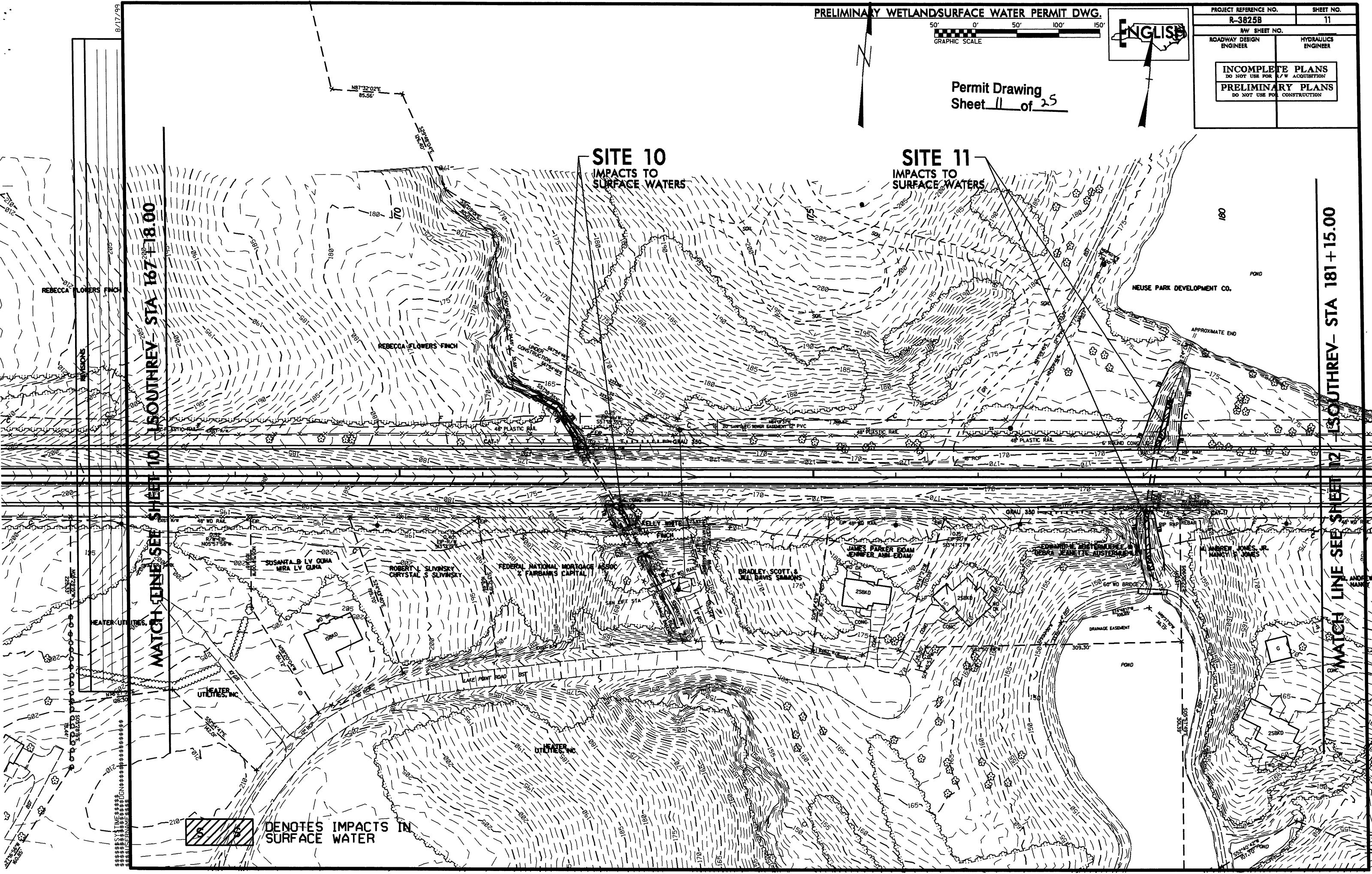
PRELIMINARY WETLANDS SURFACE WATER PERMIT DWG.



ENGLISH

Permit Drawing
Sheet 11 of 25

PROJECT REFERENCE NO.		SHEET NO.	
R-3825B		11	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div><div>INCOMPLETE PLANS</div><div>DO NOT USE FOR A/W ACQUISITION</div></div>			
<div><div>PRELIMINARY PLANS</div><div>DO NOT USE FOR CONSTRUCTION</div></div>			



15 SOUTHREY - STA 167+18.00
MATCH LINE SEE SHEET 10

15 SOUTHREY - STA 181+15.00
MATCH LINE SEE SHEET 12



DENOTES IMPACTS IN
SURFACE WATER

MATCH LINE SEE #2 - SOUTH REV- STA 194 + 05.00

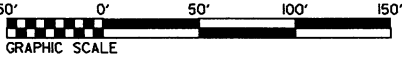
MATCH LINE SEE 14	-LS DUTHREV-	STA 208 + 05.00
-------------------	--------------	-----------------

-LSOUTHREV- POT Sta. 195+48.627
-YII- POT Sta. 10+00.00

END CONSTRUCTION
-YII- STA. 11+50.00
-YII- POT Sta. 12+05.62

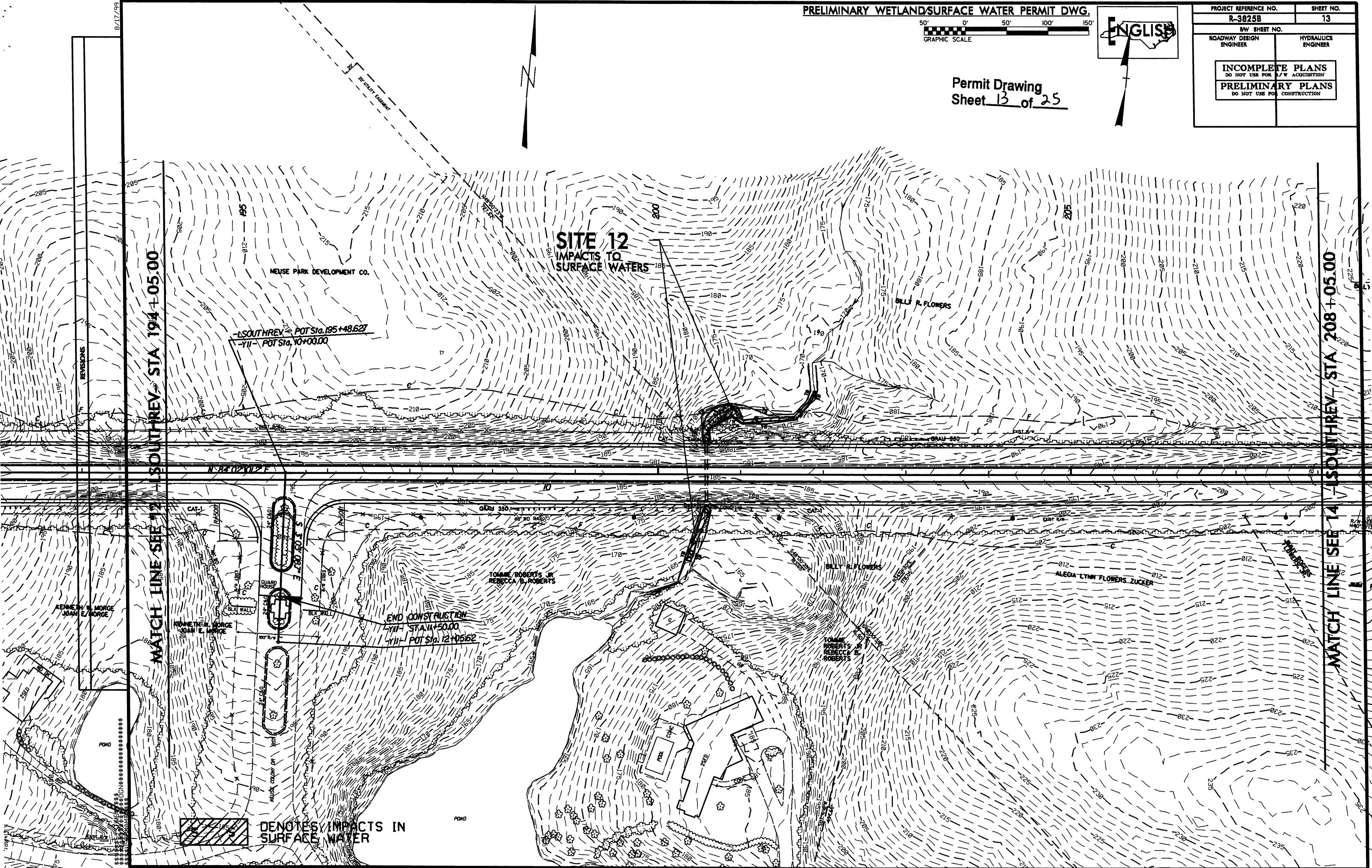
DENOTES IMPACTS IN
SURFACE WATER

PRELIMINARY WETLANDS/SURFACE WATER PERMIT DWG.



PROJECT REFERENCE NO. R-3825B	SHEET NO. 13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 13 of 25





8/17/98

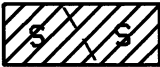
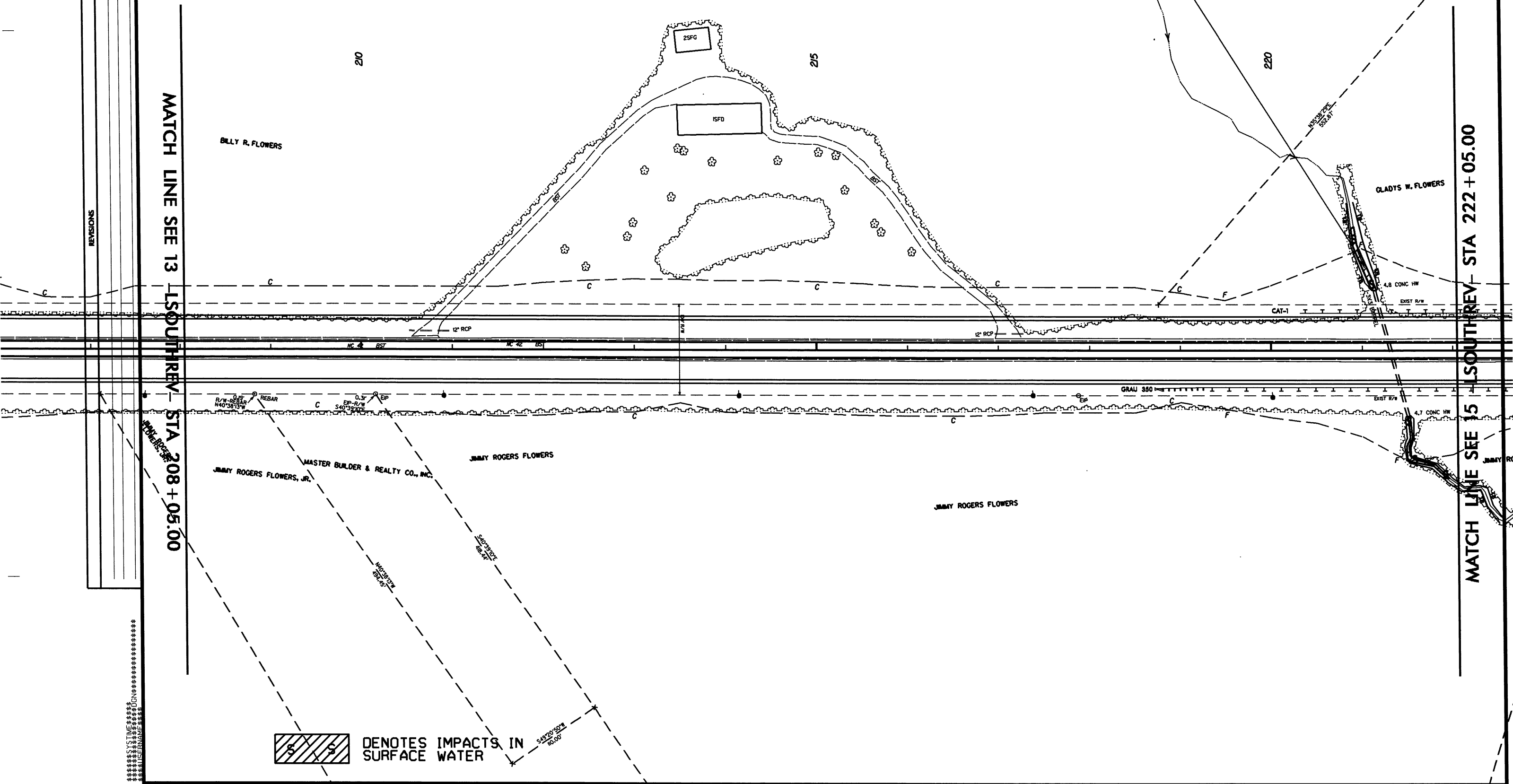
PRELIMINARY WETLAND/SURFACE WATER PERMIT DWG.



PROJECT REFERENCE NO.	SHEET NO.
R-3825B	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 14 of 25

SITE 13
IMPACTS TO
SURFACE WATERS

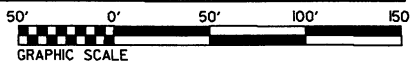


DENOTES IMPACTS IN
SURFACE WATER



8/17/99

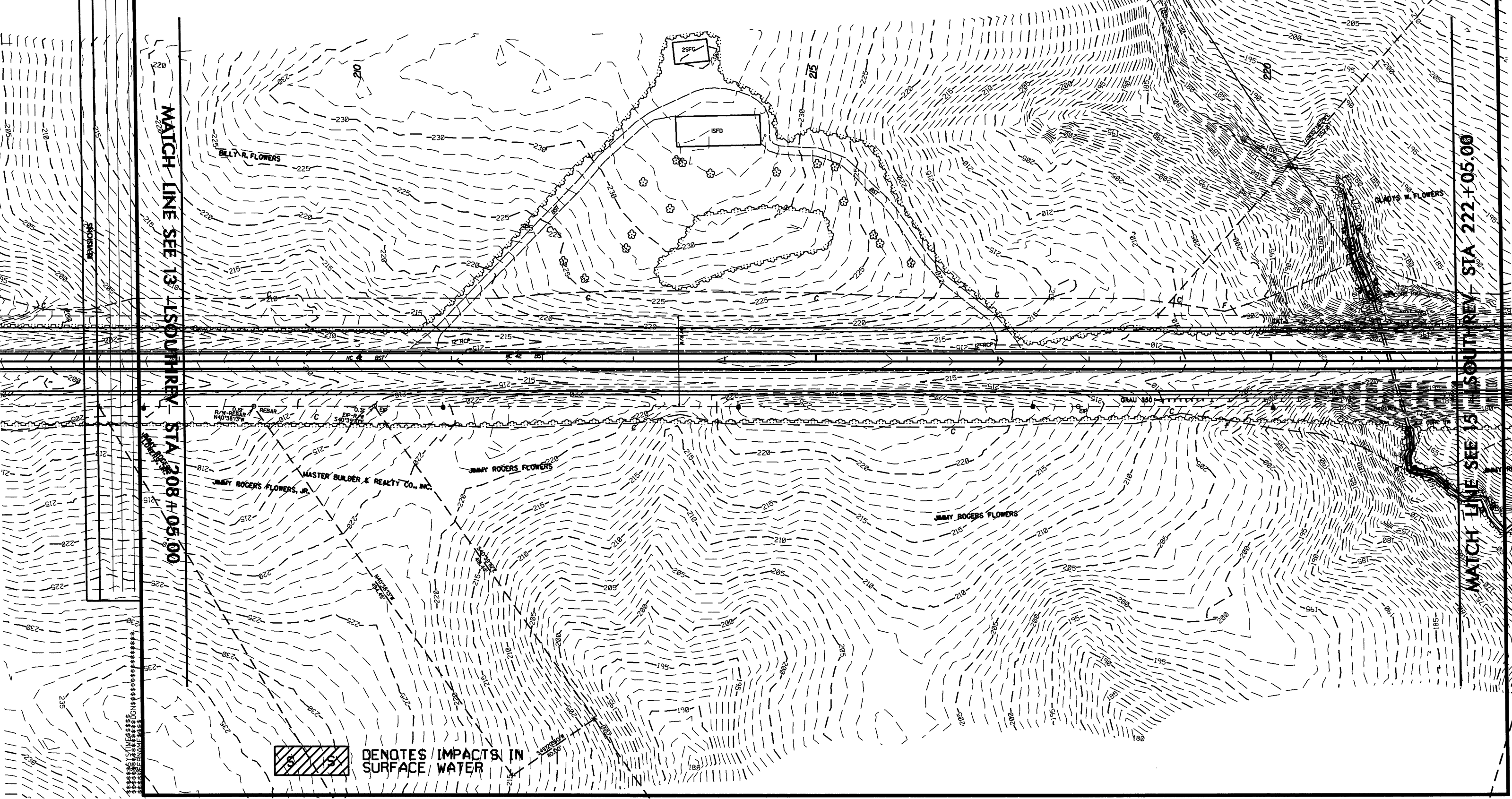
PRELIMINARY WETLAND/SURFACE WATER PERMIT DWG.



PROJECT REFERENCE NO.	SHEET NO.
R-3825B	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 15 of 25

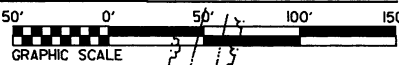
SITE 13
IMPACTS TO
SURFACE WATERS



DENOTES IMPACTS IN
SURFACE WATER

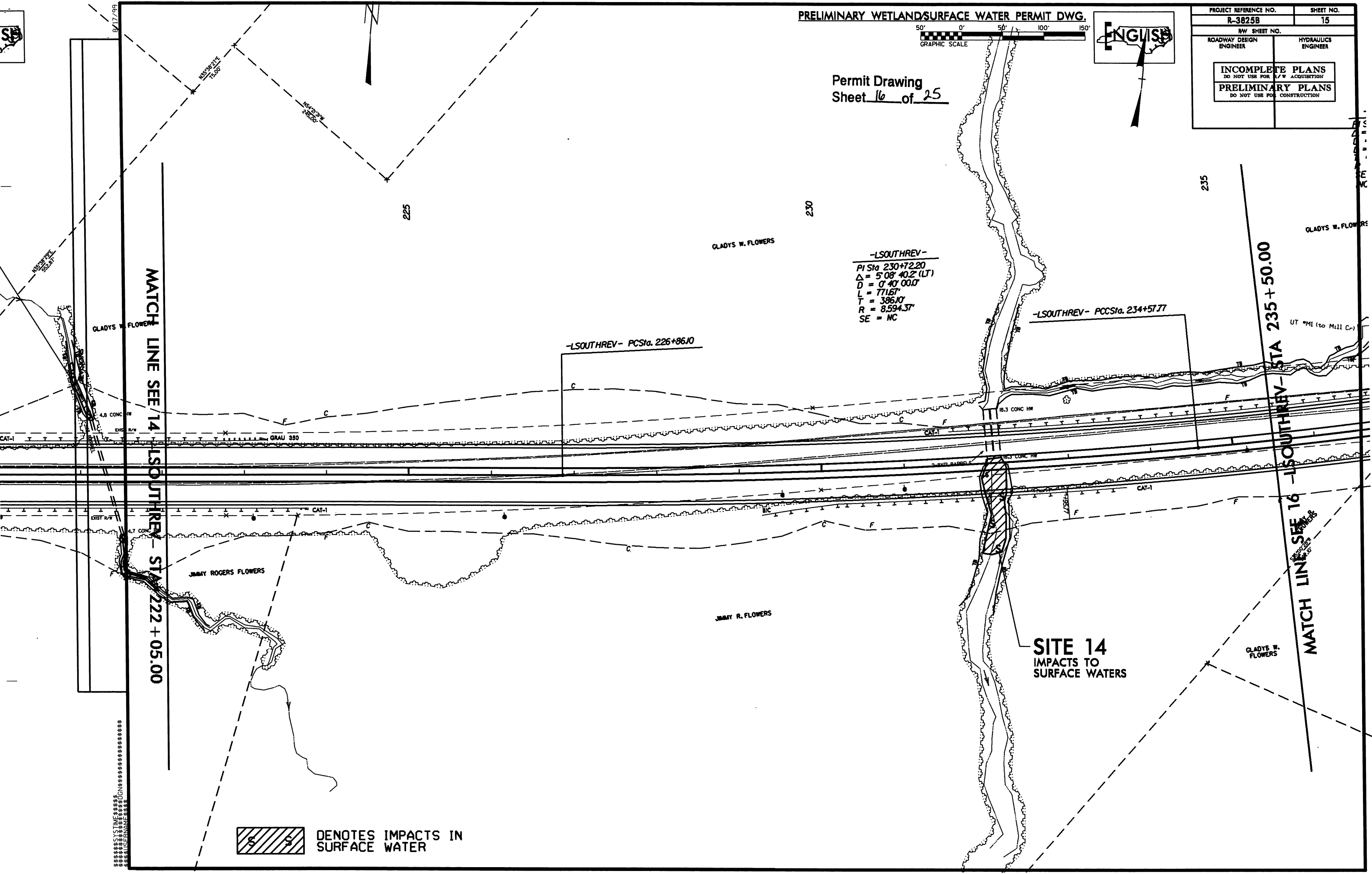


PRELIMINARY WETLAND/SURFACE WATER PERMIT DWG.



Permit Drawing
Sheet 16 of 25

PROJECT REFERENCE NO. R-3825B		SHEET NO. 15	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div style="border: 1px solid black; padding: 10px; text-align: center;">INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION</div>			
<div style="border: 1px solid black; padding: 10px; text-align: center;">PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION</div>			

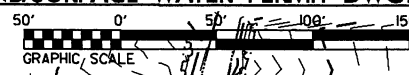


DENOTES IMPACTS IN
SURFACE WATER



8/17/99

PRELIMINARY WETLAND/SURFACE WATER PERMIT DWG.



ENGLISH

Permit Drawing
Sheet 17 of 25

PROJECT REFERENCE NO. R-3825B		SHEET NO. 15
HW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION		
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

MATCH LINE SEE 14 SOUTHREV STA 222+05.00

MATCH LINE SEE 16 SOUTHREV STA 235+50.00

LSOUTHREV-
PI STA 230+72.20
LO 5.08 40.2 (LT)
HI 0.40 0.00
ELEV 171.67
RI 386.10
SE 8.594.37
NC

LSOUTHREV- PCS16. 226+86.10

LSOUTHREV- PCCS14. 234+57.77

SITE 14
IMPACTS TO
SURFACE WATERS



DENOTES IMPACTS IN
SURFACE WATER

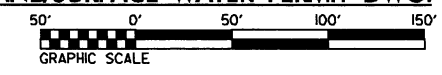
*****SYSTEMS*****
*****DONOR*****
*****USER NAME*****

JENSE FLOWERS

8/17/99

ST058°45'W
120.18'

PRELIMINARY WETLAND/SURFACE WATER PERMIT DWG.



ENGLISH

PROJECT REFERENCE NO. R-3825B		SHEET NO. 18	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div>INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION</div> <div>PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION</div>			

Permit Drawing
Sheet 18 of 25

SITE WD ENLARGEMENT



-LSOUTHREV -
PI Sta 274+83.11
 $\Delta = 1' 42' 57.0''$ (RT)
D = 0' 30' 00.0"
L = 343.17'
T = 171.80'
R = 11,459.16'
SE = NC

REBECCA FLOWERS

SITE 17

DAVID MILTON FLOWERS

SITE 15

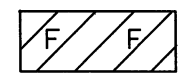
FILL IN WETLANDS

SITE 16

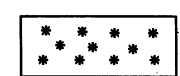
FILL IN WETLANDS

MATCH LINE SEE 17 -LSOUTHREV- STA 263 + 50.00

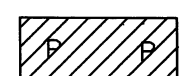
MATCH LINE SEE 19 -LSOUTHREV- STA 277 + 65.00



DENOTES FILL IN WETLAND



DENOTES MECHANIZED CLEARING



DENOTES IMPACTS IN SURFACE WATER (POND)

REBECCA FLOWERS

REBECCA F. FINCH

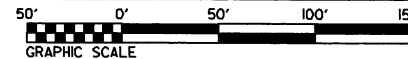
STONES

SYSTEMS ENGINEERING
DESIGN
DRAWING
REVISIONS
DATE
BY
CHECKED
APPROVED
USER NAME

JOHNSE FLOWERS

S70°59'45"W
120.48'

PRELIMINARY WETLANDS SURFACE WATER PERMIT DWG.

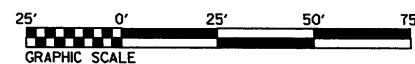


ENGLISH

PROJECT REFERENCE NO. R-3825B		SHEET NO. 18
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

Permit Drawing
Sheet 19 of 25

SITE WD ENLARGEMENT



SITE 17

DAVID MILTON FLOWERS

POND

MATCH LINE SEE 17
LSOUTHREV - STA 263+50.00

SITE 15

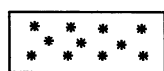
FILL IN WETLANDS

SITE 16

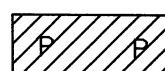
FILL IN WETLANDS



DENOTES FILL IN
WETLAND



DENOTES MECHANIZED
CLEARING



DENOTES IMPACTS IN
SURFACE WATER
(POND)

LSOUTHREV
PT Sta 274+83.11
Δ Sta 42 57.0' (RT)
D = 0' 30' 00"
L = 343.77'
T = 171.60'
R = 11,459.16'
SE = NC

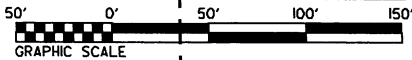
LSOUTHREV - PTS Sta 276+54.68

LSOUTHREV - PCS Sta 273+11.52

MATCH LINE SEE 19
LSOUTHREV - STA 277+65.00

REBECCA F. FINCH

PRELIMINARY WETLAND/SURFACE WATER PERMIT DWG.

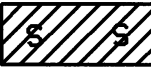
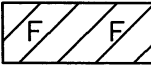



Permit Drawing
Sheet 20 of 25

PROJECT REFERENCE NO. R-3825B		SHEET NO. 20	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

MATCH LINE SEE 19 - SOUTHREY - STA 291 + 65.00

MATCH LINE SEE SHEET 20 - SOUTHREY - STA 305 + 65.00

-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES FILL IN WETLAND
-  DENOTES MECHANIZED CLEARING

REBECCA FLOWERS
SITE 18

SITE 18
IMPACTS TO
SURFACE WATERS

SITE 19

POND
REBECCA FINCH

REBECCA FLOWERS FINCH

REBECCA FLOWERS FINCH

REBECCA FLOWERS FINCH

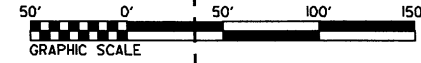
REBECCA F. FINCH

POND

POND

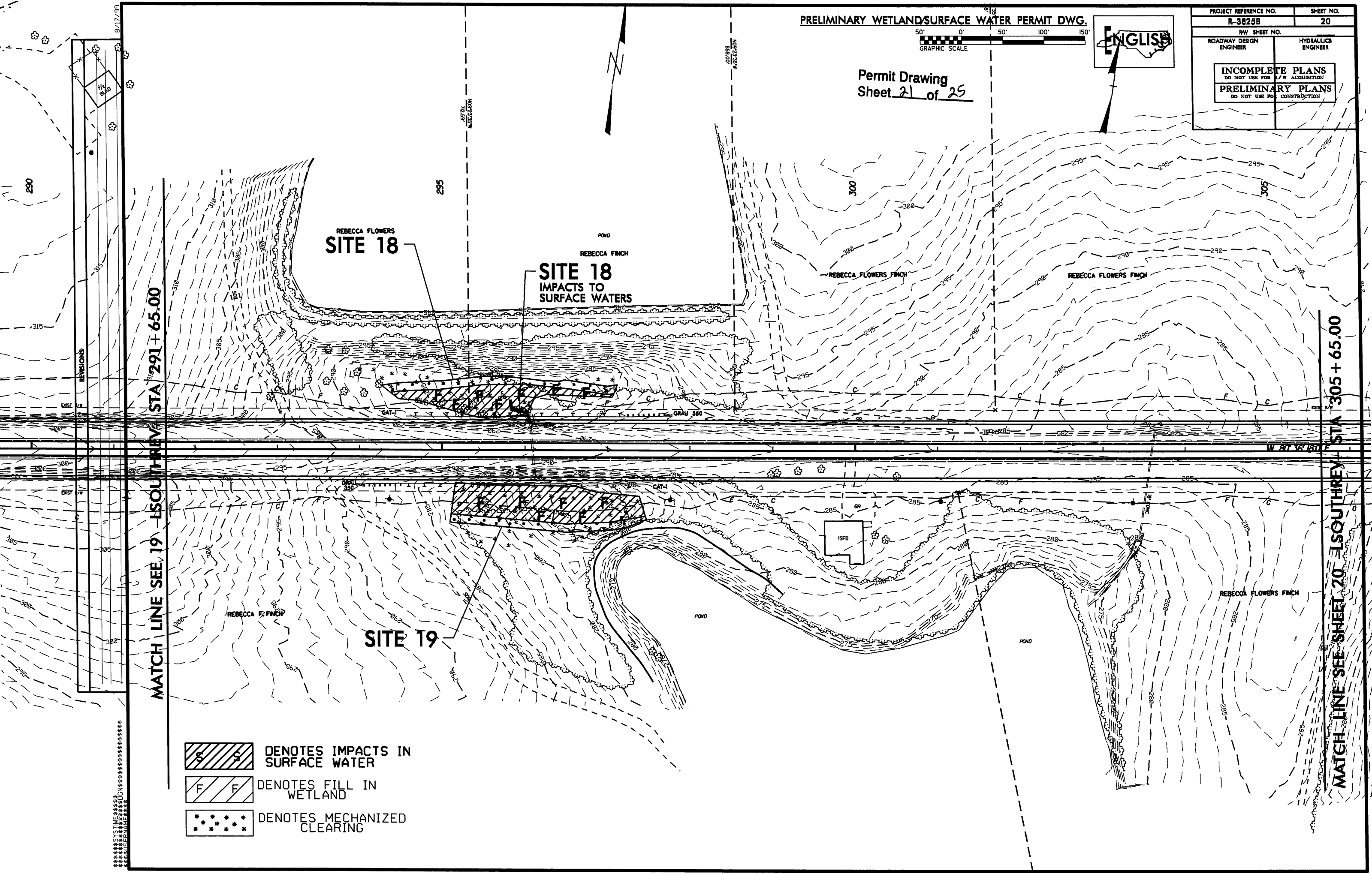
8/17/99

PRELIMINARY WETLAND/SURFACE WATER PERMIT DWG.



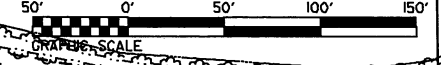
Permit Drawing
Sheet 21 of 25

PROJECT REFERENCE NO. R-3825B		SHEET NO. 20	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



- DENOTES IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING

PRELIMINARY WETLANDS/SURFACE WATER PERMIT DWG.



Permit Drawing
Sheet **22** of **25**

MATCH LINE SEE SHEET 22 -Y13- STA 16+85.00

MATCH LINE SEE SHEET 20 -LSOUTHREV- STA 305+65.00

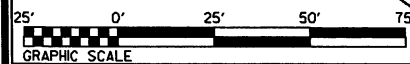
-Y13- PCSta. 16+57.42

-LSOUTHREV- POTSta. 310+68.98
-Y13- POCSta. 19+54.39

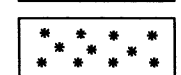
SITE 20
2-Centered
60ft-160ft
6ft Offset

-Y13-
PI Sta 20+46.96
 $\Delta = 61^\circ 19' 19.7''$ (RT)
 $D = 0' 47' 45.0''$
 $L = 778.33'$
 $T = 389.54'$
 $R = 7199.47'$
SE = NC
INC = 25'

SITE W/10 ENLARGEMENT



DENOTES FILL IN WETLAND



DENOTES MECHANIZED CLEARING

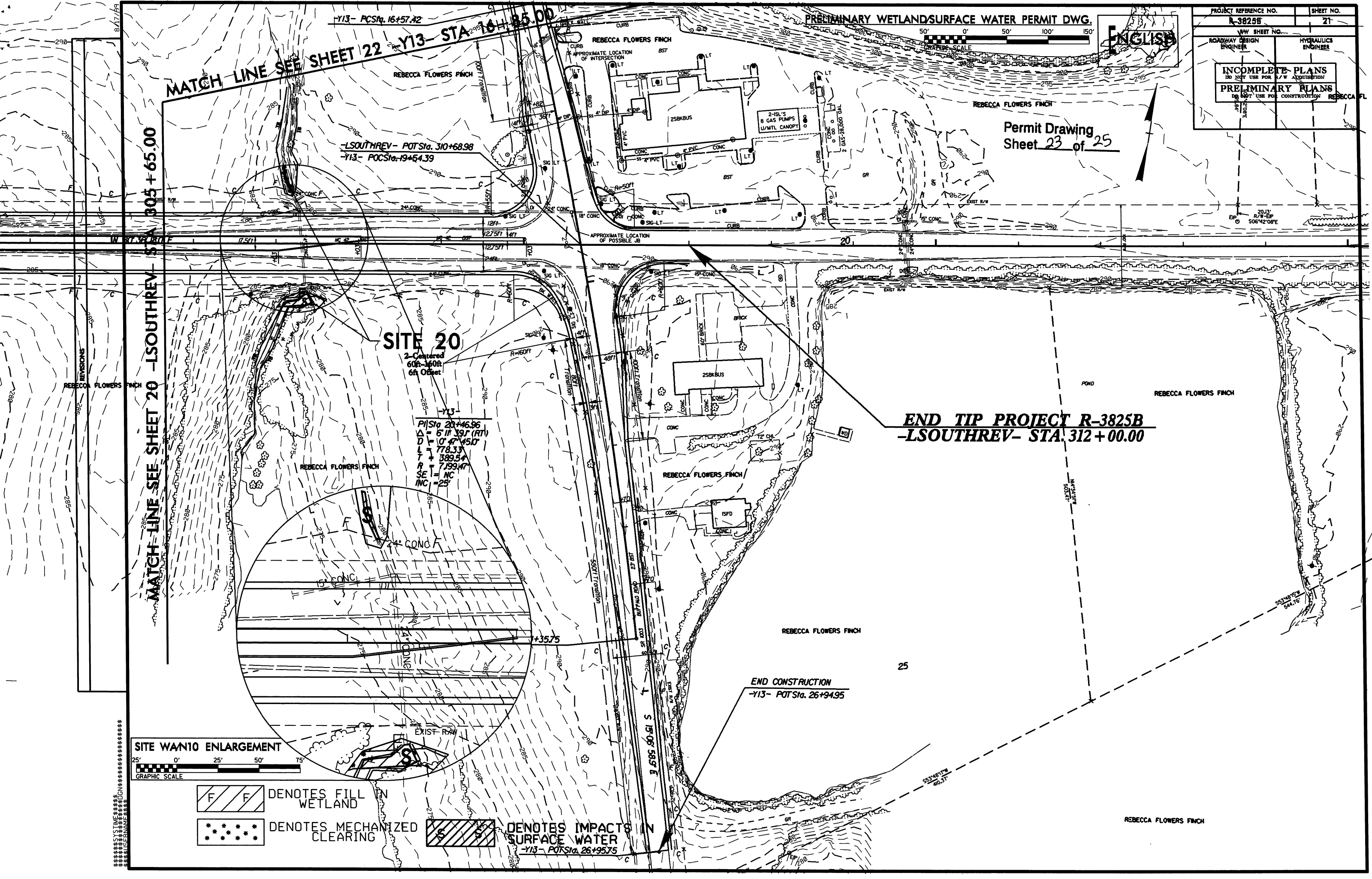


DENOTES IMPACTS IN SURFACE WATER
-Y13- POTSta. 26+95.75

END TIP PROJECT R-3825B
-LSOUTHREV- STA. 312+00.00

END CONSTRUCTION
-Y13- POTSta. 26+94.95

REBECCA FLOWERS FINCH



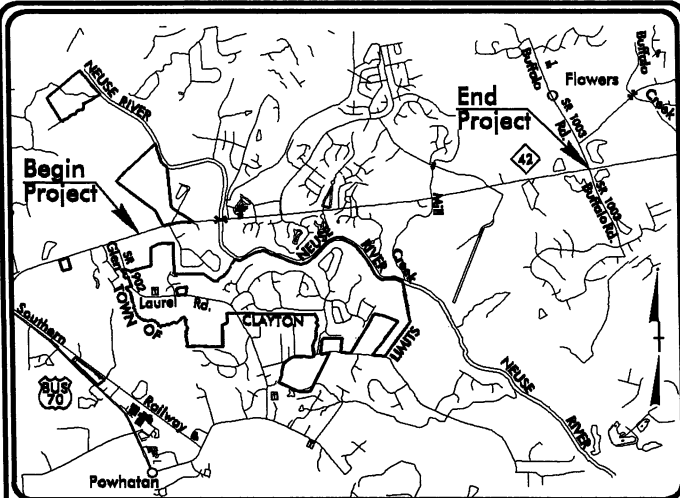
Parcel #	Last Name	First Name	Address	City/Town	State	Zip Code
	Hunt	James B.	1441 NC 42 East	Clayton	NC	27527
	Hunt	Robert B.	1441 NC 42 East	Clayton	NC	27527
	Davis	Walter S.	Hwy 42	Clayton	NC	27527
	York	Philip S.	Hwy 42	Clayton	NC	27527
	County of Johnston		Hwy 42	Clayton	NC	27527
	Finch	Rebecca F.	Hwy 42	Clayton	NC	27527
	Federal National Mortgage Assoc.		Hwy 42	Clayton	NC	27527
	Austermuehle, III	Edward W.	Hwy 42	Clayton	NC	27527
	Jones, Jr.	M. Andrew	Hwy 42	Clayton	NC	27527
	Roberts, Jr.	Tommie	Hwy 42	Clayton	NC	27527
	Flowers	Billy R.	Hwy 42	Clayton	NC	27527
	Flowers	Gladys W.	Hwy 42	Clayton	NC	27527
	Flowers	Jimmy R.	Hwy 42	Clayton	NC	27527
	Flowers	David M.	Hwy 42	Clayton	NC	27527
	Flowers	Rebecca	Hwy 42	Clayton	NC	27527

09/08/99

TIP PROJECT: R-3825B

CONTRACT:

See Sheet 1-A For Index of Sheets



VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JOHNSTON COUNTY

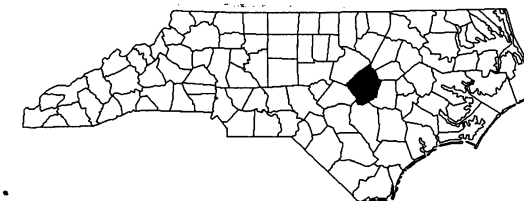
LOCATION: NC 42 FROM EAST OF SR 1902 (GLEN LAUREL ROAD)
TO SR 1003 (BUFFALO ROAD)

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

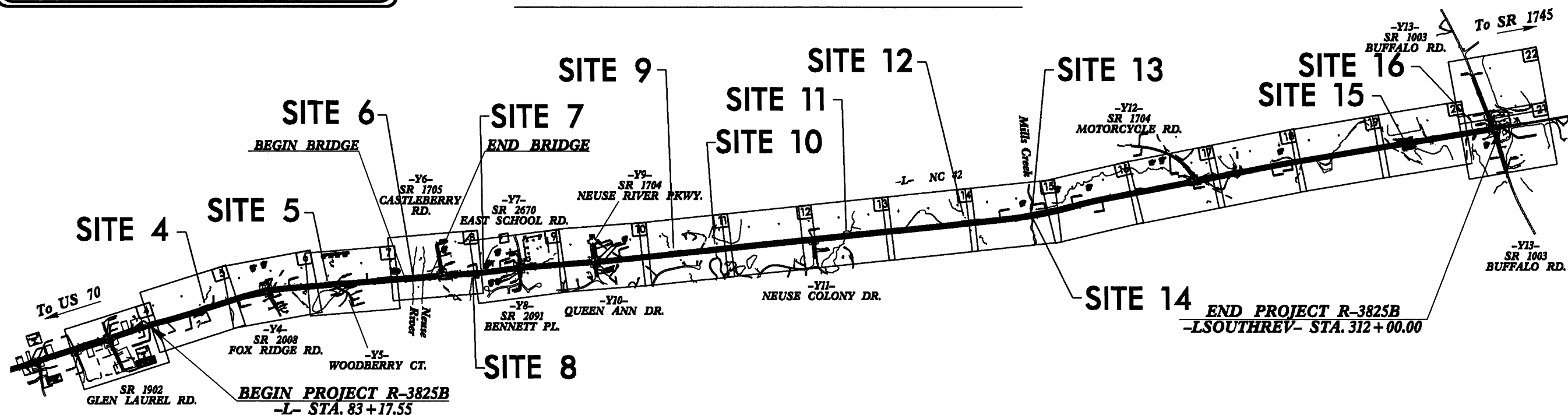
PRELIMINARY BUFFER PERMIT DWG.

ENGLISH

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3825B	1	-
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

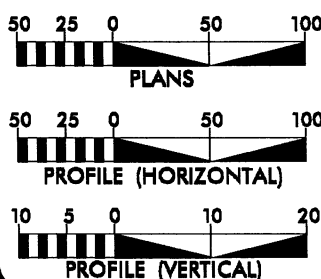


Buffer Drawing
Sheet 1 of 24



INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT =
ADT =
DHV = %
D = %
T = %
V = MPH
* TTST = DUAL
FUNC CLASS =
RURAL MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3825B = 4.255 Miles
LENGTH STRUCTURE TIP PROJECT R-3825B = 0.078 Miles
TOTAL LENGTH TIP PROJECT R-3825B = 4.333 Miles

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

RON McCOLLUM, PE
PROJECT ENGINEER

LETTING DATE:

SUSAN C. LANCASTER, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN
ENGINEER

SIGNATURE: P.E.

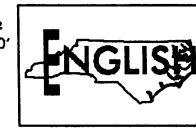
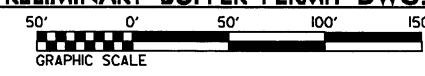
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



STATE HIGHWAY DESIGN ENGINEER P.E.

8/17/99

PRELIMINARY BUFFER PERMIT DWG.



PROJECT REFERENCE NO. R-3825B		SHEET NO. 5	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

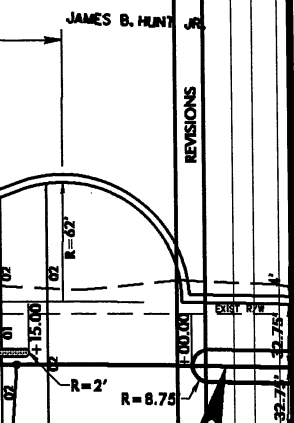
PERMITTED UNDER R-3825A

PERMITTED UNDER R-3825B

Buffer Drawing
Sheet 2 of 24

MATCH LINE SEE SHEET 4 L- STA 84+00.00

MATCH LINE SEE SHEET 6 L-SOUTHREV- STA 98+05.00

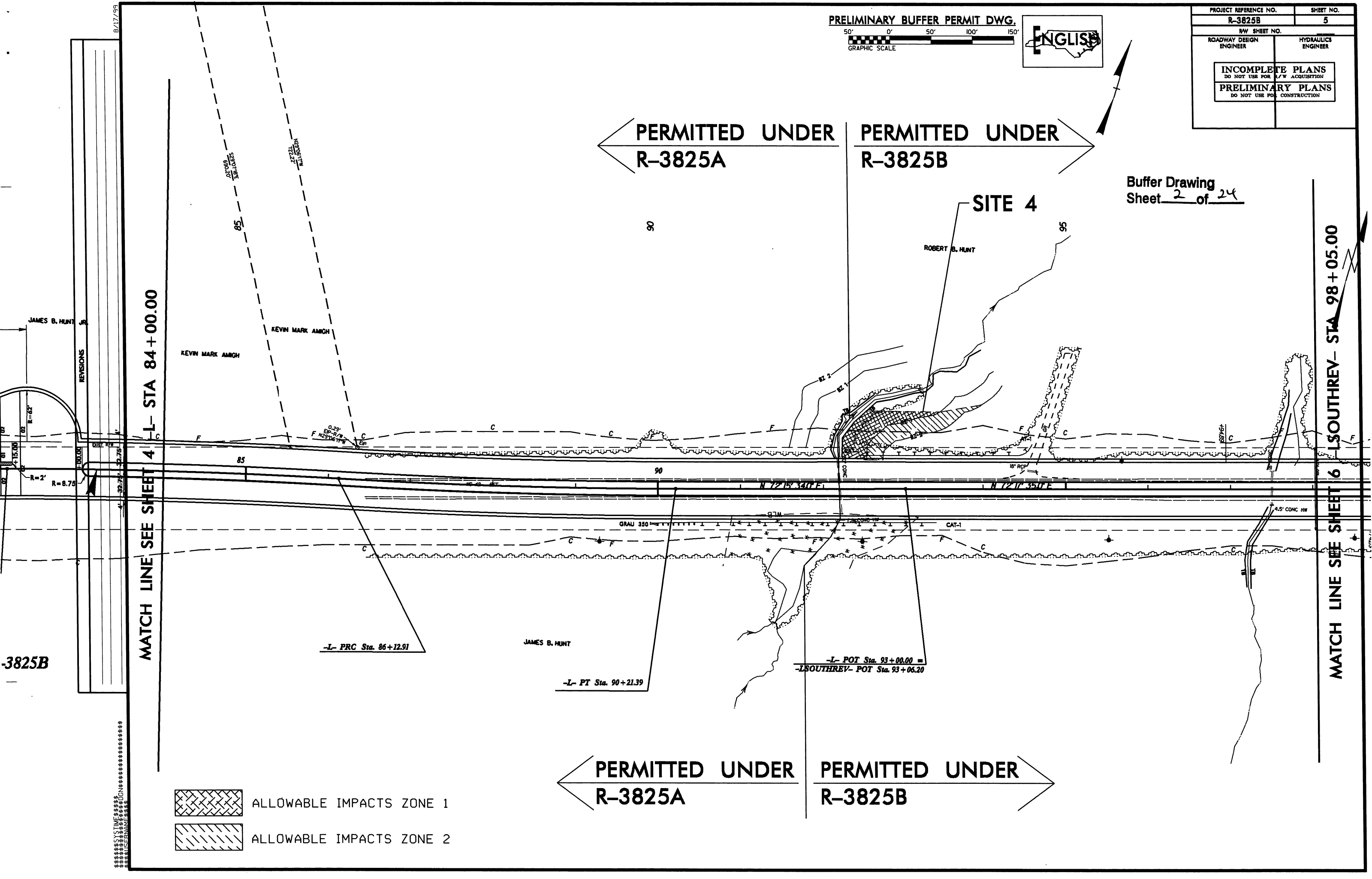


-3825B

- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2

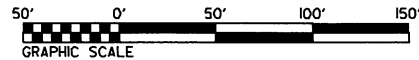
PERMITTED UNDER R-3825A

PERMITTED UNDER R-3825B



PROJECT REFERENCE NO.	SHEET NO.
R-3825B	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PRELIMINARY BUFFER PERMIT DWG.

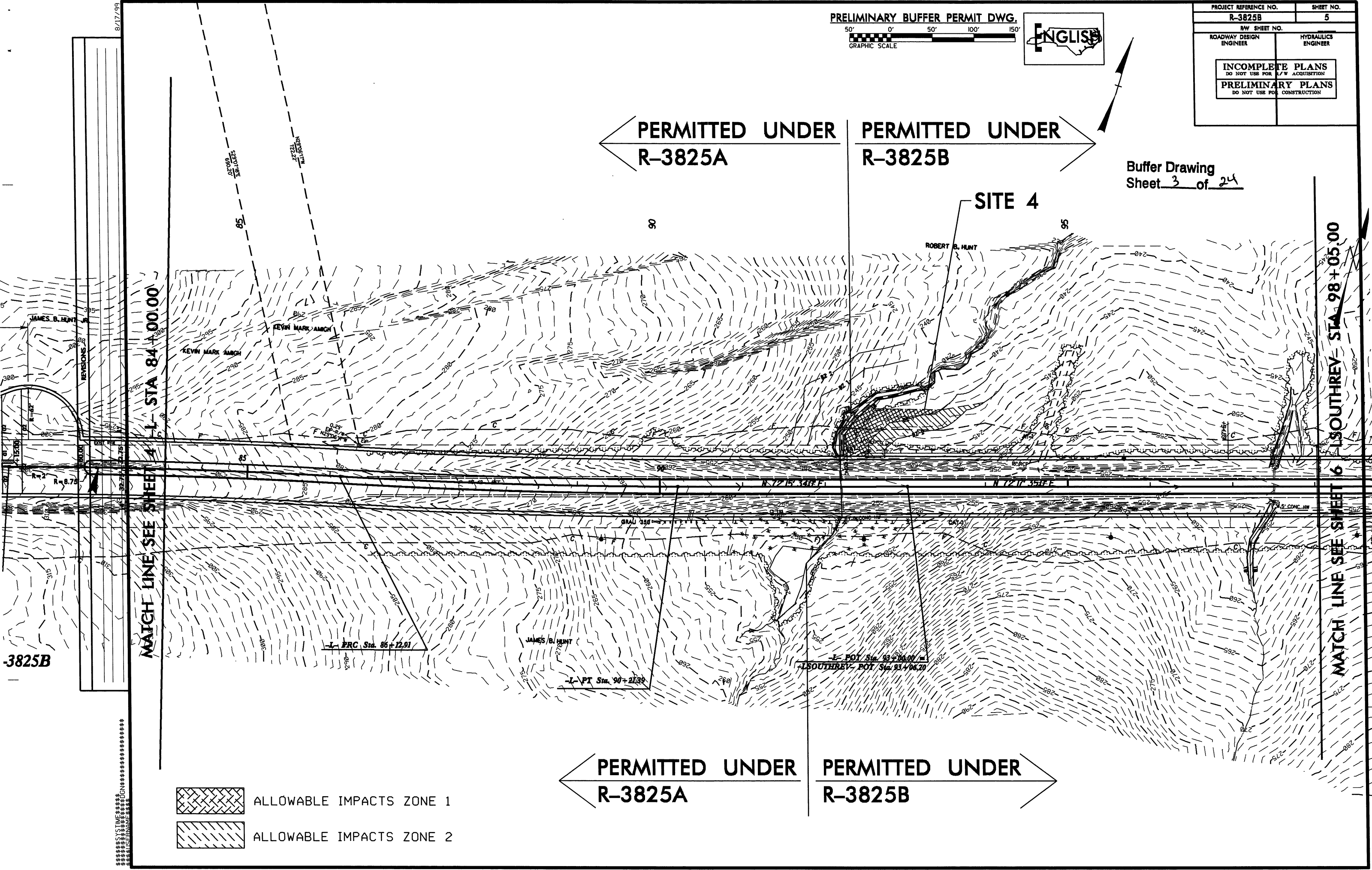


PERMITTED UNDER
R-3825A

PERMITTED UNDER
R-3825B

Buffer Drawing
Sheet 3 of 24

SITE 4



-3825B

PERMITTED UNDER
R-3825A

PERMITTED UNDER
R-3825B

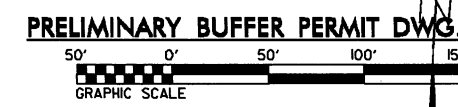


ALLOWABLE IMPACTS ZONE 1



ALLOWABLE IMPACTS ZONE 2

PROJECT REFERENCE NO.		SHEET NO.	
R-3825B		7	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER			
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

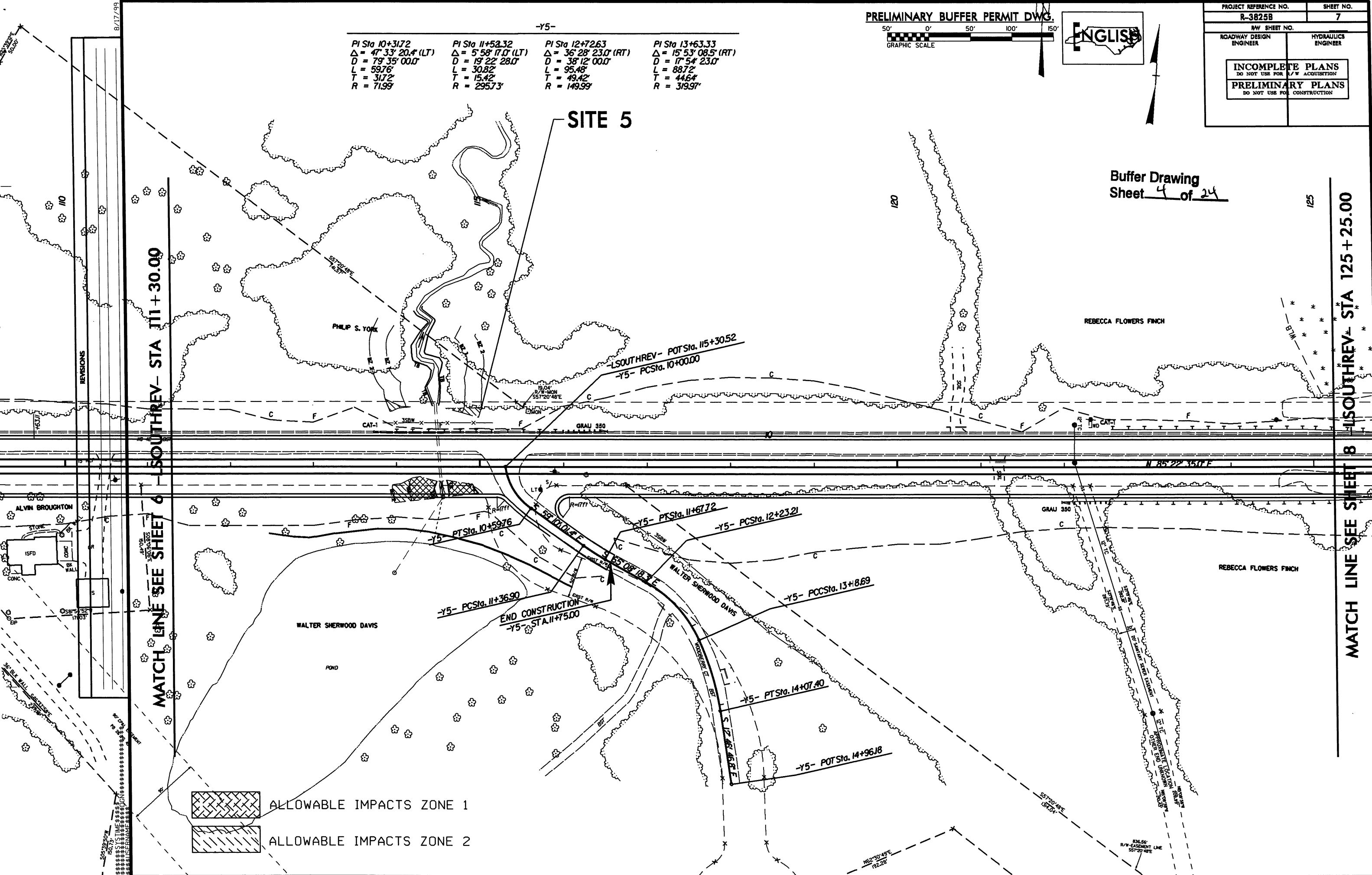


-Y5-			
PI Sta 10+31.72	PI Sta 11+52.32	PI Sta 12+72.63	PI Sta 13+63.33
$\Delta = 47^{\circ}33'20.4"$ (LT)	$\Delta = 5^{\circ}58'17.0"$ (LT)	$\Delta = 36^{\circ}28'23.0"$ (RT)	$\Delta = 15^{\circ}53'08.5"$ (RT)
$D = 79^{\circ}35'00.0"$	$D = 19^{\circ}22'28.0"$	$D = 38^{\circ}12'00.0"$	$D = 17^{\circ}54'23.0"$
$L = 59.76'$	$L = 30.82'$	$L = 95.48'$	$L = 88.72'$
$T = 31.72'$	$T = 15.42'$	$T = 49.42'$	$T = 44.64'$
$R = 71.99'$	$R = 295.73'$	$R = 149.99'$	$R = 319.97'$

Buffer Drawing
Sheet 4 of 24

MATCH LINE SEE SHEET 6 - SOUTHREV- STA 111+30.00

MATCH LINE SEE SHEET 8 - SOUTHREV- STA 125+25.00



PRELIMINARY BUFFER PERMIT DWG.

50' 0' 50' 100' 150'

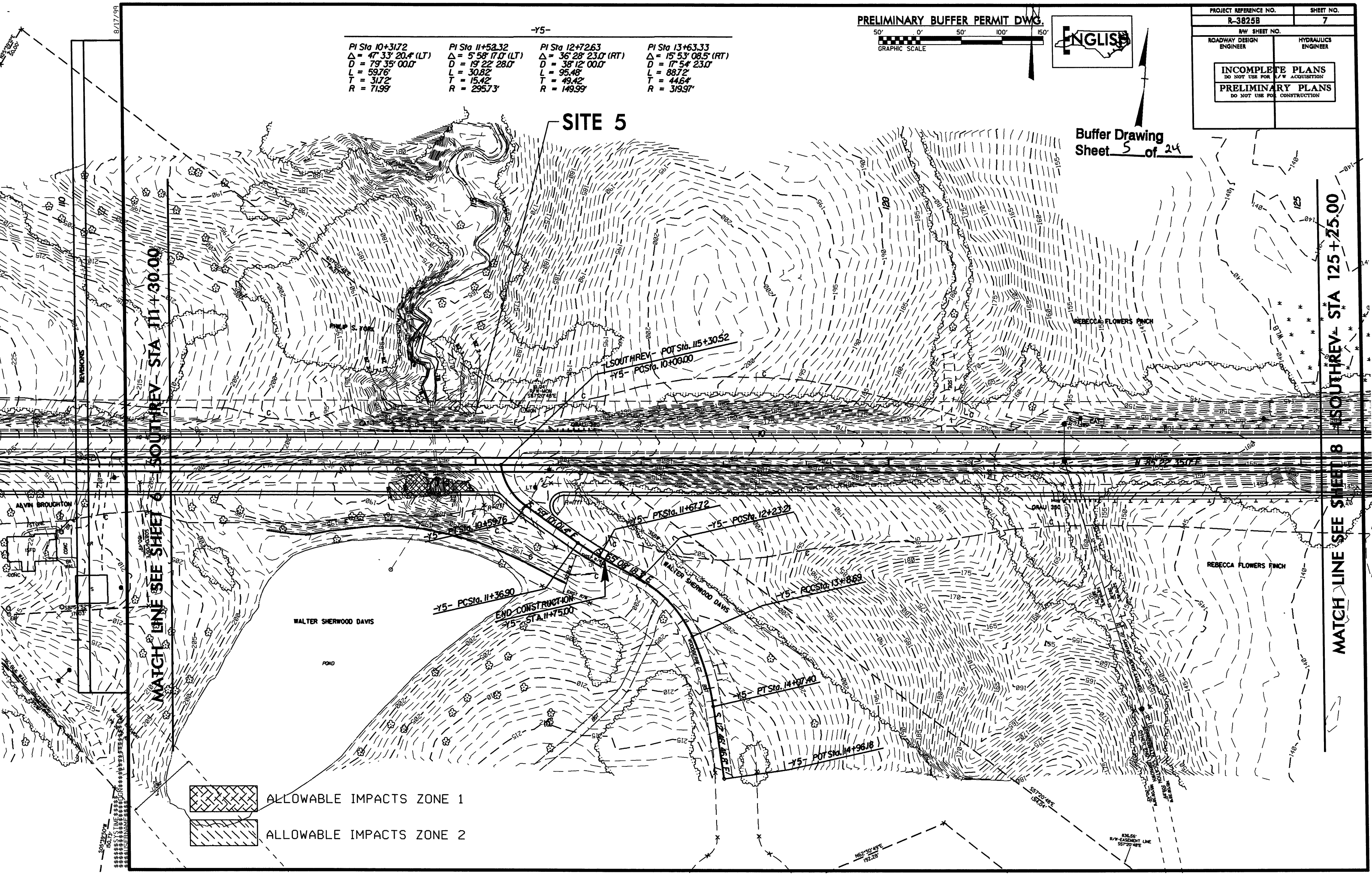
GRAPHIC SCALE



Buffer Drawing
Sheet 5 of 24

-Y5-			
PI Sta 10+31.72	PI Sta 11+52.32	PI Sta 12+72.63	PI Sta 13+63.33
$\Delta = 47^{\circ} 33' 20.4''$ (LT)	$\Delta = 5^{\circ} 58' 17.0''$ (LT)	$\Delta = 36^{\circ} 28' 23.0''$ (RT)	$\Delta = 15^{\circ} 53' 08.5''$ (RT)
D = 79' 35" 00.0"	D = 19' 22" 28.0"	D = 38' 12" 00.0"	D = 17' 54' 23.0"
L = 59.76'	L = 30.82'	L = 95.48'	L = 88.72'
T = 31.72'	T = 15.42'	T = 49.42'	T = 44.64'
R = 71.99'	R = 295.73'	R = 149.99'	R = 319.97'

SITE 5



ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

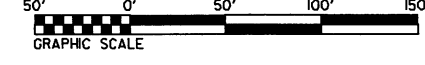
MATCH LINE SEE SHEET 6 SOUTHREV- STA 111+30.00

MATCH LINE SEE SHEET 8 SOUTHREV- STA 125+25.00

8/17/99

REVISIONS

PRELIMINARY BUFFER PERMIT DWG.



PROJECT REFERENCE NO. R-3825B		SHEET NO. 8	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER			
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

Buffer Drawing
Sheet 6 of 24




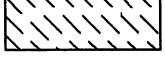
MATCH LINE SEE SHEET 7 -LSOUTHREV- STA 125+25.00

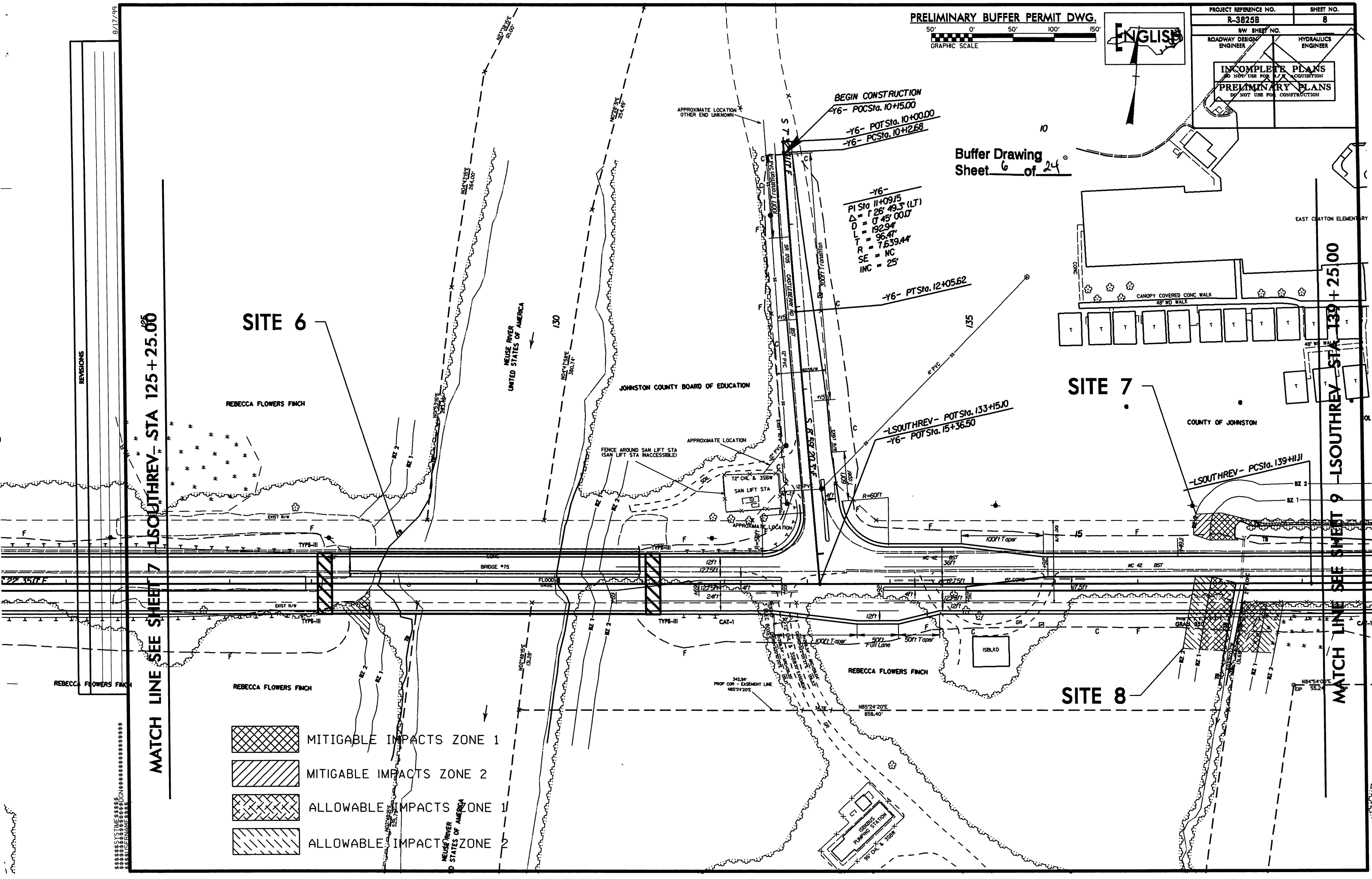
SITE 6

SITE 7

SITE 8

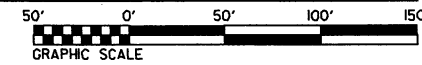
MATCH LINE SEE SHEET 9 -LSOUTHREV- STA 139+25.00

-  MITIGABLE IMPACTS ZONE 1
-  MITIGABLE IMPACTS ZONE 2
-  ALLOWABLE IMPACTS ZONE 1
-  ALLOWABLE IMPACT ZONE 2



8/17/99

PRELIMINARY BUFFER PERMIT DWG.



PROJECT REFERENCE NO.	SHEET NO.
R-38258	8
RDW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Buffer Drawing
Sheet 7 of 24

1 SOUTHREV STA 125+25.00
MATCH LINE SEE SHEET 7

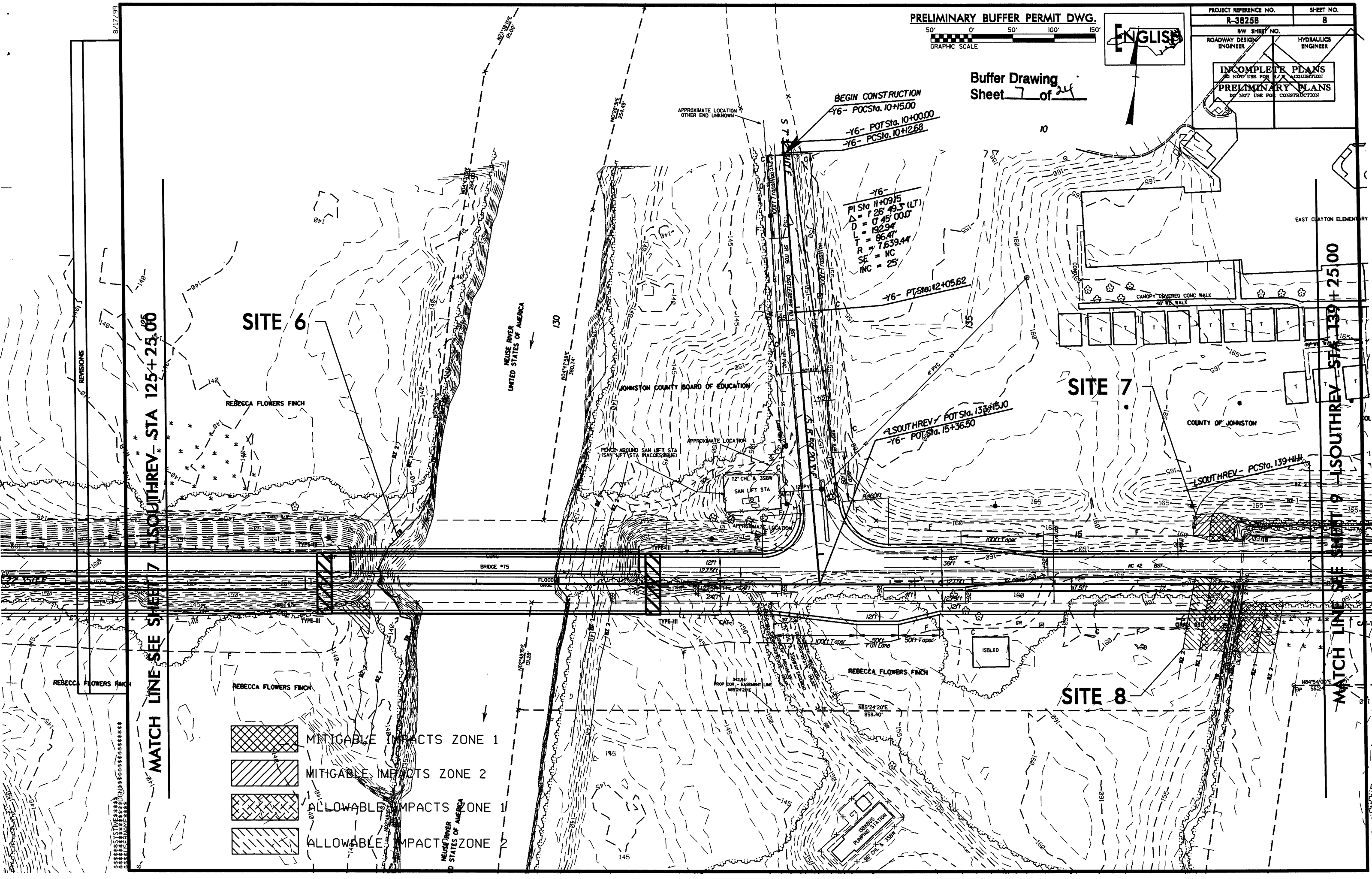
1 SOUTHREV STA 139+25.00
MATCH LINE SEE SHEET 9

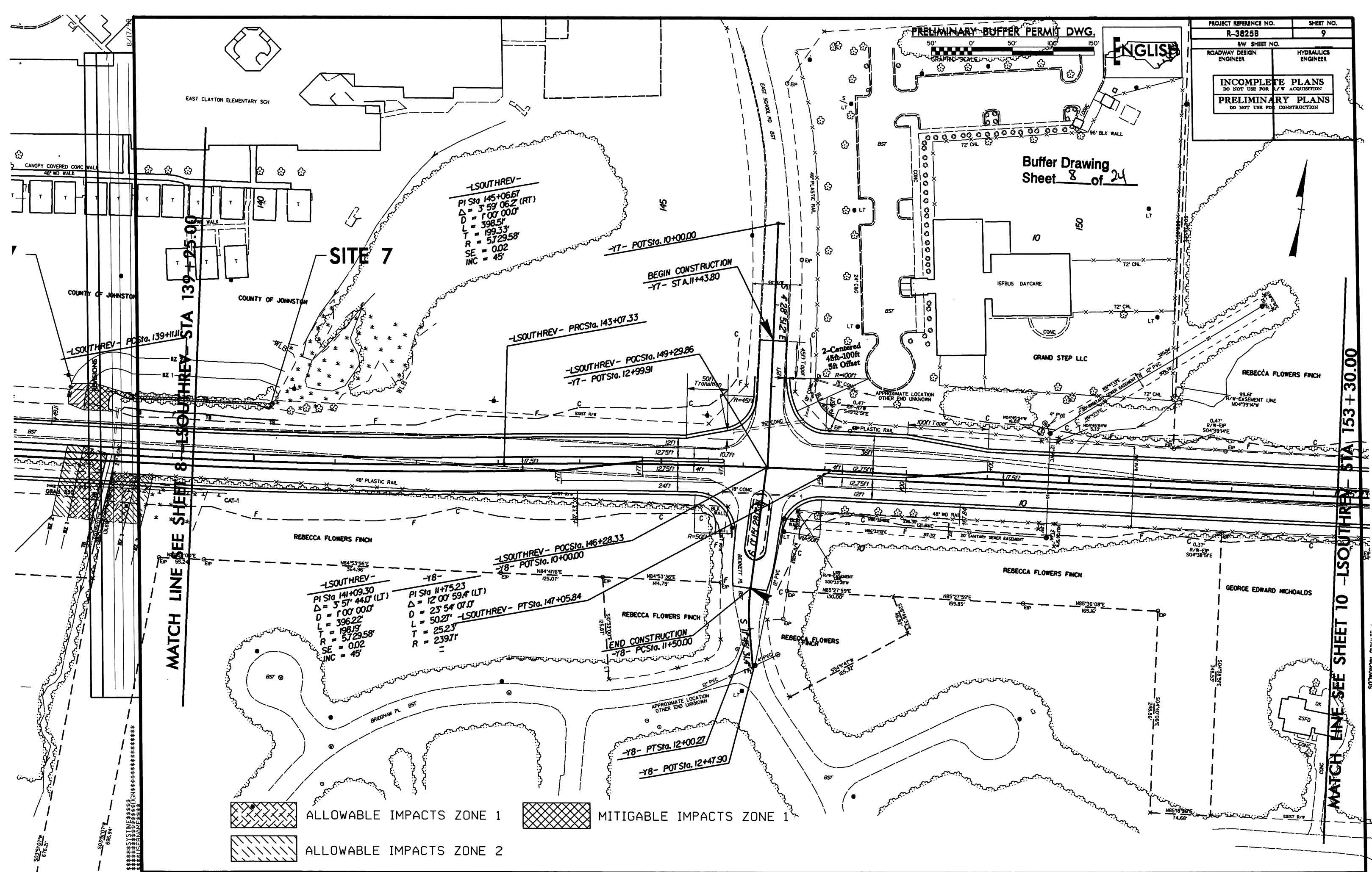
SITE 6

SITE 7

SITE 8

- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2
- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2



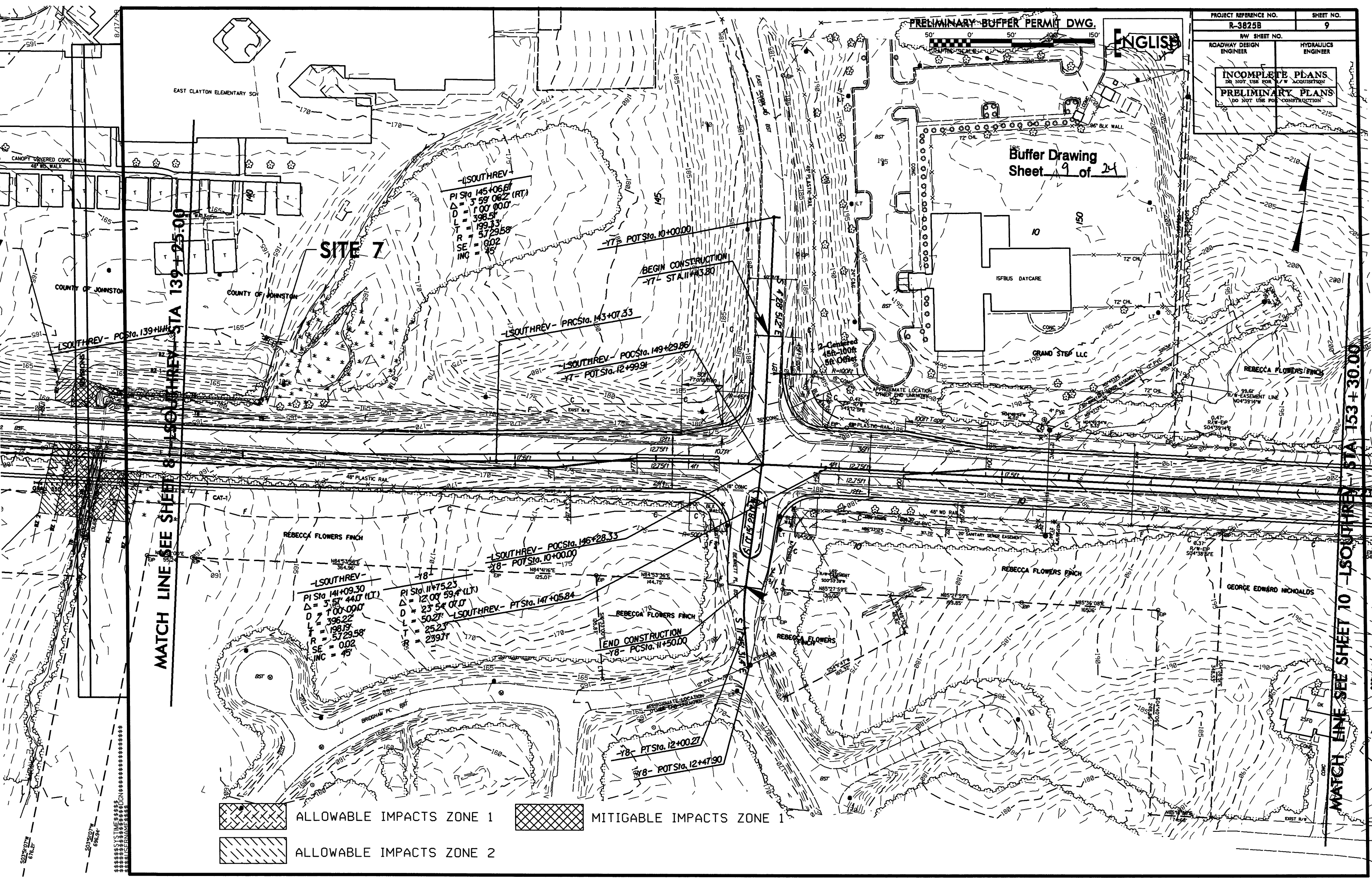


PRELIMINARY BUFFER PERMIT DWG.
50' 0' 50' 150'
GRAPHIC SCALE
ENGLISH

Buffer Drawing
Sheet 9 of 24

MATCH LINE SEE SHEET 8 - SOUTHREV STA 139+25.00

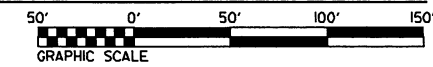
MATCH LINE SEE SHEET 10 - SOUTHREV STA 153+30.00



- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2
- MITIGABLE IMPACTS ZONE 1

8/17/99

PRELIMINARY BUFFER PERMIT DWG.



ENGLISH

Buffer Drawing
Sheet 10 of 24

PROJECT REFERENCE NO.	SHEET NO.
R-3825B	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/C ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

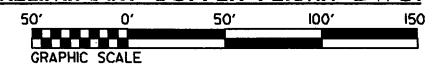
150UTHREV- STA 167+18.00
MATCH LINE SEE SHEET 10

150UTHREV- STA 181+15.00
MATCH LINE SEE SHEET 12

- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2

8/17/99

PRELIMINARY BUFFER PERMIT DWG.



ENGLISH

Buffer Drawing
Sheet 11 of 24

PROJECT REFERENCE NO.	SHEET NO.
R-3825B	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SITE 9

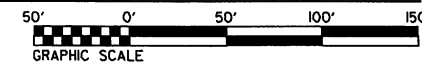
SITE 10

MATCH LINE SEE SHEET 10 SOUTHREY- STA 167+18.00

MATCH LINE SEE SHEET 12 SOUTHREY- STA 181+15.00

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2



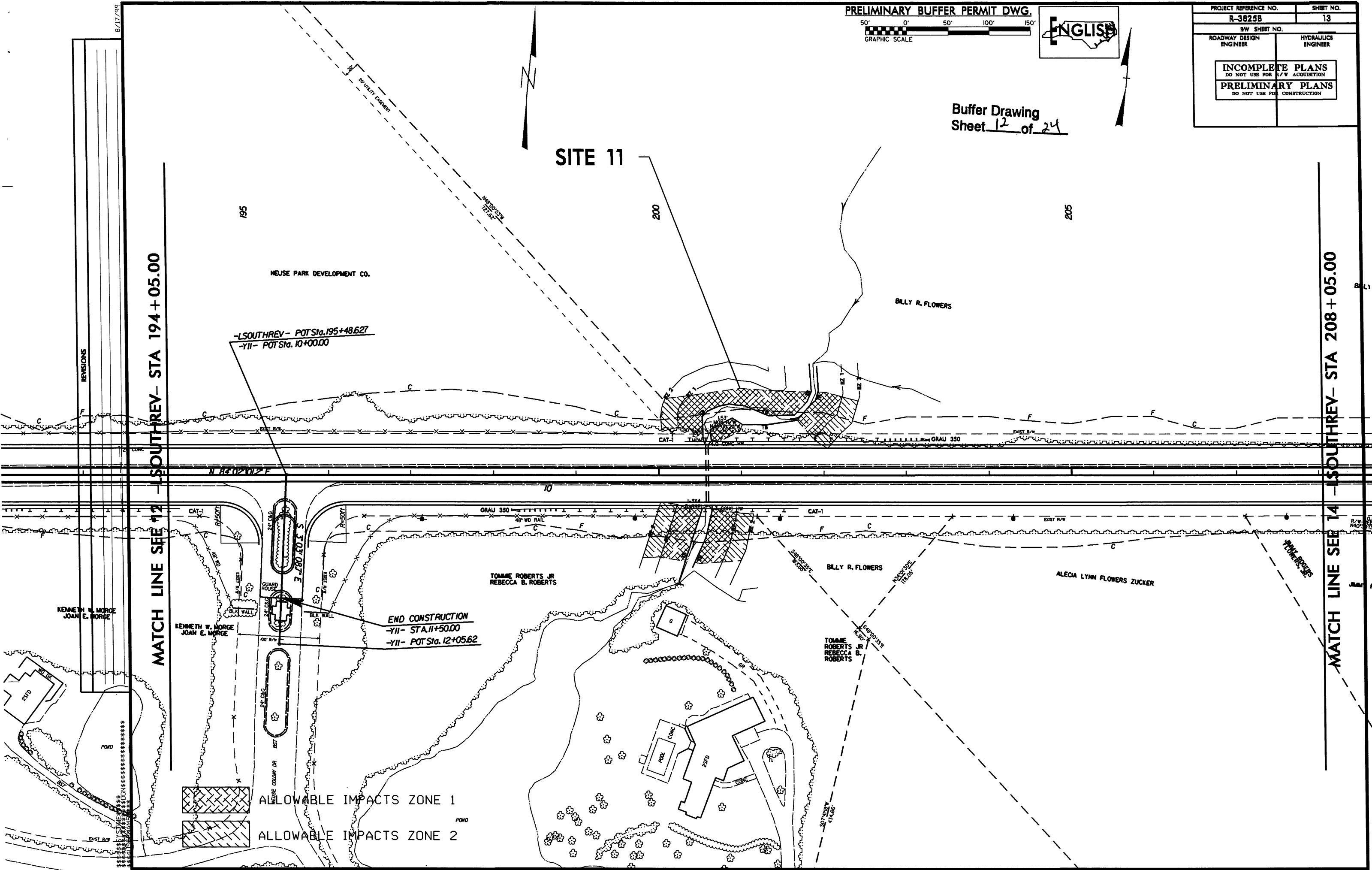
PROJECT REFERENCE NO. R-3825B	SHEET NO. 13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Buffer Drawing
Sheet 12 of 24

SITE 11

MATCH LINE SEE 12 - SOUTHREV- STA 194+05.00

MATCH LINE SEE 14 - SOUTHREV- STA 208+05.00



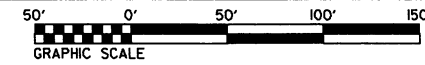
END CONSTRUCTION
-YII- STA. 11+50.00
-YII- POTSta. 12+05.62

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

8/17/99

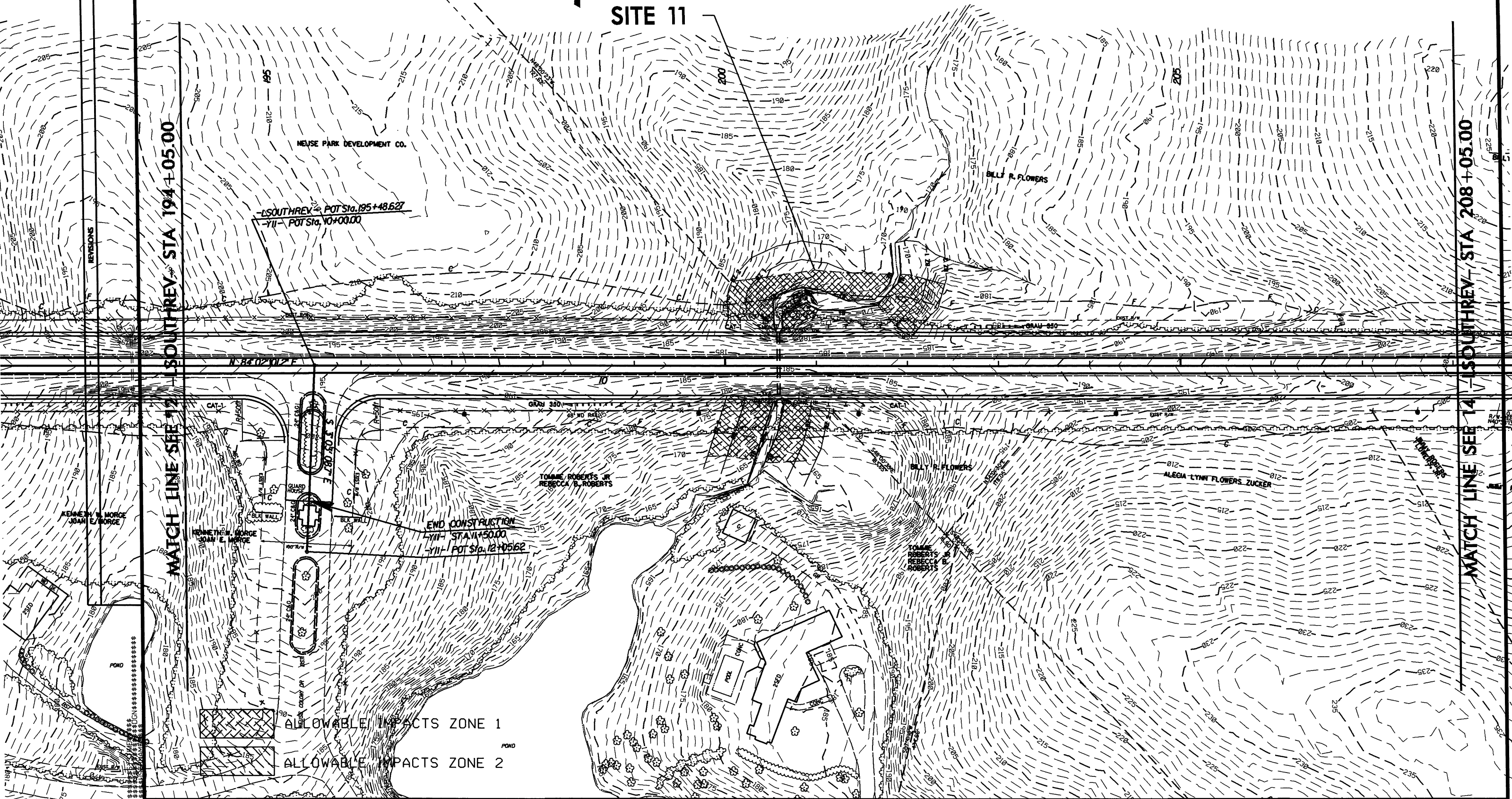
PRELIMINARY BUFFER PERMIT DWG.



PROJECT REFERENCE NO.	SHEET NO.
R-3825B	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

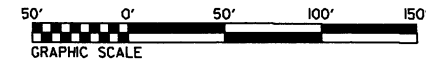
Buffer Drawing
Sheet 13 of 24

SITE 11



8/17/99

PRELIMINARY BUFFER PERMIT DWG.



ENGLISH

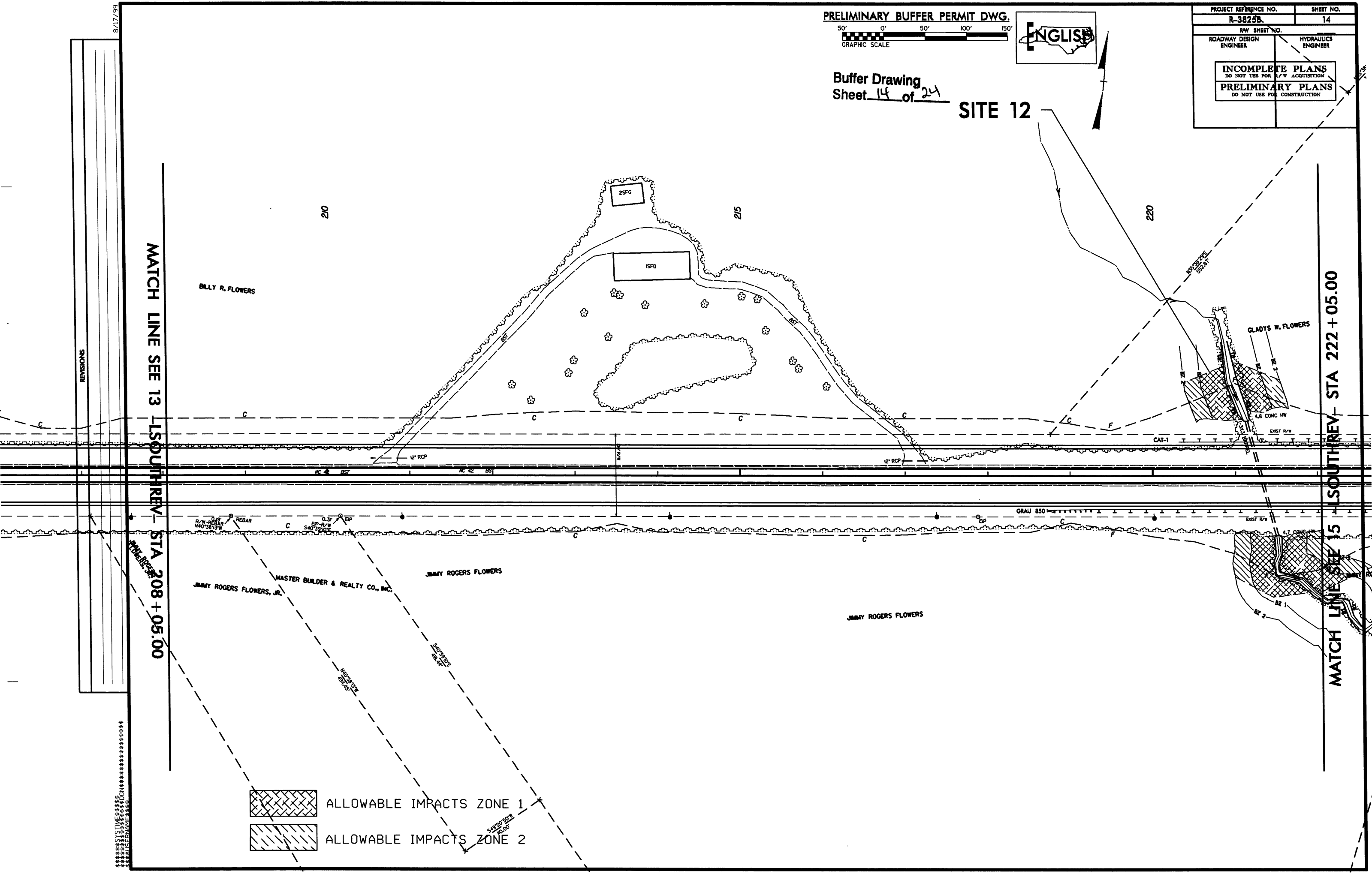
PROJECT REFERENCE NO.		SHEET NO.	
R-3825B		14	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div><div>INCOMPLETE PLANS</div><div>DO NOT USE FOR R/W ACQUISITION</div></div>			
<div><div>PRELIMINARY PLANS</div><div>DO NOT USE FOR CONSTRUCTION</div></div>			

Buffer Drawing
Sheet 14 of 24

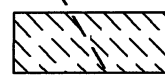
SITE 12

MATCH LINE SEE 13 - SOUTH REV - STA 208 + 05.00

MATCH LINE SEE 15 - SOUTH REV - STA 222 + 05.00



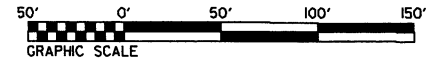
ALLOWABLE IMPACTS ZONE 1



ALLOWABLE IMPACTS ZONE 2

8/17/99

PRELIMINARY BUFFER PERMIT DWG.



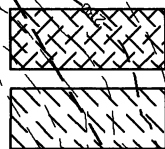
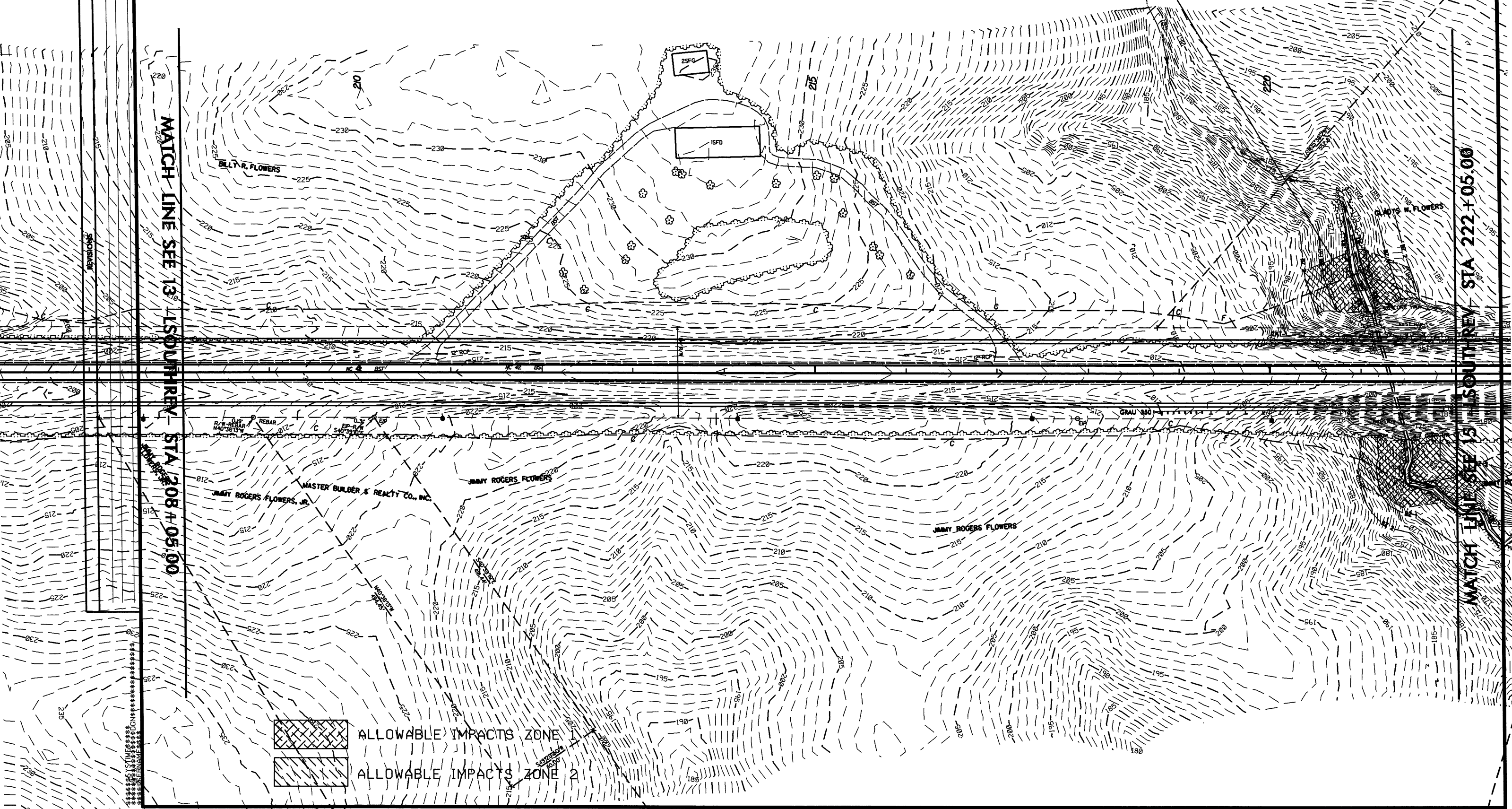
PROJECT REFERENCE NO. R-3825B		SHEET NO. 14	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Buffer Drawing
Sheet 15 of 24

SITE 12

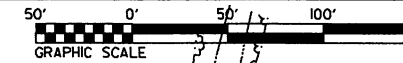
MATCH LINE SEE 13 - SOUTHERN STA 208+05.00

MATCH LINE SEE 15 - SOUTHERN STA 222+05.00



ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2

PRELIMINARY BUFFER PERMIT DWG.



Buffer Drawing
Sheet 16 of 24

PROJECT REFERENCE NO. R-3825B	SHEET NO. 15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

MATCH LINE SEE 14 -LSOUTHREV- STA 222+05.00

MATCH LINE SEE 16 -LSOUTHREV- STA 235+50.00

-LSOUTHREV-
PI Sta 230+72.20
 $\Delta = 5^{\circ}08'40.2"$ (LT)
D = 0' 40' 00.0"
L = 771.67'
T = 386.10'
R = 8,594.37'
SE = NC

SITE 13

SITE 14

SITE 12

- | | | | |
|--|--------------------------|--|--------------------------|
| | ALLOWABLE IMPACTS ZONE 1 | | MITIGABLE IMPACTS ZONE 1 |
| | ALLOWABLE IMPACTS ZONE 2 | | MITIGABLE IMPACTS ZONE 2 |

8/17/99

8/17/99

Buffer Drawing
Sheet 17 of 24

PRELIMINARY BUFFER PERMIT DWG.






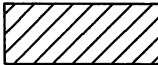
PROJECT REFERENCE NO.	SHEET NO.
R-3825B	15
RDW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

MATCH LINE SEE R-3825B SHEET 222+05.00

SITE 13

SITE 14

SITE 12

-  ALLOWABLE IMPACTS ZONE 1
-  MITIGABLE IMPACTS ZONE 1
-  ALLOWABLE IMPACTS ZONE 2
-  MITIGABLE IMPACTS ZONE 2

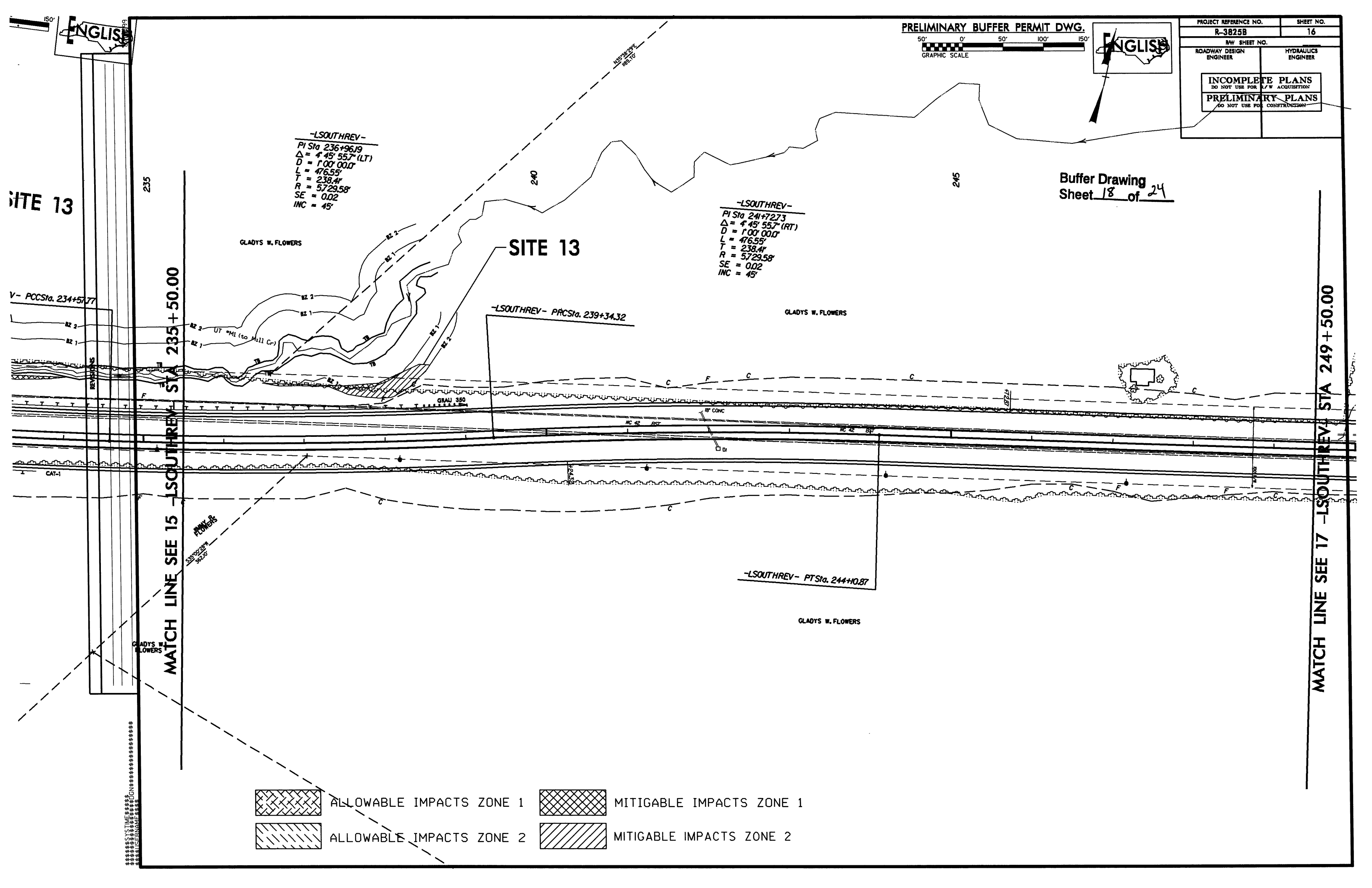
LSOUTHREV-
PCCSta. 230+72.20
AD = 5.08' 40.2' (AT)
AT = 0' 40.00'
PVI = 171.67'
ELEV = 386.10'
SE = 8.594.37'
NC

LSOUTHREV- PCCSta. 226+86.10

LSOUTHREV- PCCSta. 234+57.77

LSOUTHREV- STA. 235+50.00

MATCH LINE SEE R-3825B SHEET 16



ENGLISH

PRELIMINARY BUFFER PERMIT DWG.

ENGLISH

PROJECT REFERENCE NO.	SHEET NO.
R-38258	16
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS	DO NOT USE FOR CONSTRUCTION
PRELIMINARY PLANS	DO NOT USE FOR CONSTRUCTION

SITE 13

SITE 13

Buffer Drawing
Sheet 19 of 21

MATCH LINE SEE 15 -LSOUTHREV- STA 235 + 50.00

MATCH LINE SEE 17 -LSOUTHREV- STA 249 + 50.00

-LSOUTHREV-
PISia 236+96.19
Δ = 4° 45' 55.7" (LT)
D = 100' 00.0'
L = 476.55'
T = 238.4'
R = 5729.58'
SE = 0.02
INC = 45°

-LSOUTHREV-
PISia 241+70.23
Δ = 4° 45' 55.7" (RT)
D = 100' 00.0'
L = 476.55'
T = 238.4'
R = 5729.58'
SE = 0.02
INC = 45°

-LSOUTHREV- PRCSta 239+34.32

-LSOUTHREV- PTSia 244+00.57



ALLOWABLE IMPACTS ZONE 1



MITIGABLE IMPACTS ZONE 1

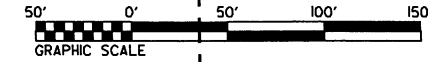


ALLOWABLE IMPACTS ZONE 2



MITIGABLE IMPACTS ZONE 2

PRELIMINARY BUFFER PERMIT DWG.



Buffer Drawing
Sheet 20 of 24

MATCH LINE SEE 19 - SOUTHREV - STA/ 291 + 65.00

MATCH LINE SEE SHEET 20 - LSQUTHREV STA 305 + 65.00

SITE 15

REBECCA FLOWERS

POND

REBECCA FINCH

REBECCA FLOWERS FINCH

REBECCA FLOWERS FINCH

REBECCA F. FINCH

POND

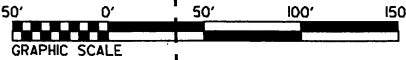
POND

REBECCA FLOWERS FINCH

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

PRELIMINARY BUFFER PERMIT DWG.



PROJECT REFERENCE NO. R-3825B		SHEET NO. 20
RDW SHEET NO.		HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
	PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Buffer Drawing
Sheet 21 of 24

MATCH LINE SEE 19 - SOUTHEAST STA 291 + 65.00

MATCH LINE SEE SHEET 20 - SOUTHEAST STA 305 + 65.00

SITE 15

REBECCA FLOWERS

POND

REBECCA FINCH

REBECCA FLOWERS FINCH

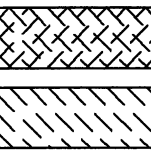
REBECCA FLOWERS FINCH

REBECCA FLOWERS FINCH

REBECCA F2 FINCH

POND

POND



ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

8/17/99

-Y13- PCSSta. 16+57.42

-Y13- STA 16+85.00

PRELIMINARY BUFFER PERMIT DWG.

PROJECT REFERENCE NO.		SHEET NO.	
R-3825B		21	
VW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER			
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

MATCH LINE SEE SHEET 22

-LSOUTHREV- POTSta. 310+68.98
-Y13- PCSSta. 19+54.39

Buffer Drawing
Sheet 22 of 24

MATCH LINE SEE SHEET 20 -LSOUTHREV- STA 305+65.00

SITE 16

-Y13-
PI Sta 20+46.96
 $\Delta = 6^\circ 11' 39.1" (RT)$
 $D = 0' 47" 45.0"$
 $L = 778.33'$
 $T = 389.54'$
 $R = 7,199.47'$
 $SE = NC$
 $INC = 25^\circ$

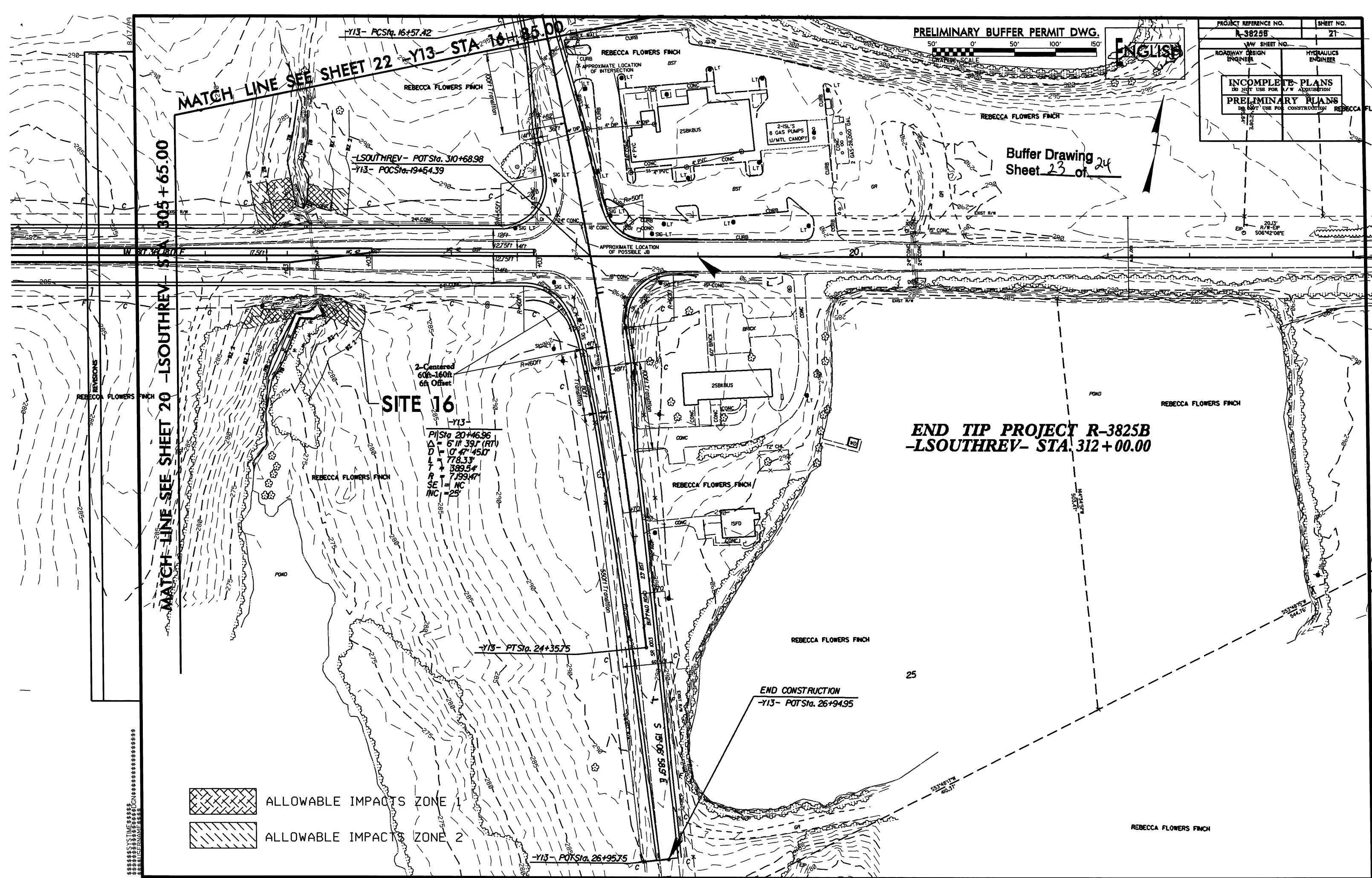
END TIP PROJECT R-3825B
-LSOUTHREV- STA. 312+00.00

- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2

END CONSTRUCTION
-Y13- POTSta. 26+94.95

-Y13- PTSSta. 24+35.75

-Y13- POTSta. 26+95.75



(PRELIMINARY) BUFFER IMPACTS SUMMARY

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	IMPACT				MITIGABLE				BUFFER REPLACEMENT	
			TYPE		ALLOWABLE		ZONE 1		ZONE 2		TOTAL (ft ²)	TOTAL (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	
4	Exist 30" RCP	-L- 92+23 to 93+39	X			2618	2583					
5	Exist 30" RCP	-L- 113+87 to 115+02	X			1295	797					
6	PROP. BRIDGE	-L- 127+39 to 127+71		X		178	685					
7	Exist 24" RCP	-L- 137+69 to 140+19			X			1553	586			2139
8	Exist 24" RCP	-L- 137+54 to 138+77	X			4431	3019					
9	Exist 1-3'x4' Culvert	-L- 170+73 to 173+36	X			5949	4027					
10	Exist 1-5'x4' Culvert	-L- 178+41 to 180+03	X			6428	3926					
11	Exist 1-3'x4' Culvert	-L- 199+80 to 202+42	X			10490	4765					
12	Exist 1-3'x3' Culvert	-L- 220+38 to 222+66	X			9112	4790					
13	Exist 2-8'x12' Culvert	-L- 231+50 to 238+60			X			929	1887			2816
14	Exist 2-8'x12' Culvert	-L- 231+40 to 232+80	X			6184	3943					
15	Exist 24" RCP	-L- 295+28 to 296+66	X			2654	1939					
16	Exist 24" RCP	-L- 306+43 to 307+94	X			3137	2879					
TOTAL:						52476	33353	2482	2473	0	0	4955

Buffer Drawing
Sheet 24 of 24

Impacts computed to 25 ft. beyond the proposed slope stakes.

Site N9 contains 2679 ft² of wetland impacts that fall within the reflected allowable buffer impacts
(1648 ft² of wetland impacts fall within the reflected allowable Buffer Zone 1 impacts)
(1031 ft² of wetland impacts fall within the reflected allowable Buffer Zone 2 impacts)

Site N10 contains 218 ft² of wetland impacts that fall within the reflected allowable Buffer Zone 1 impacts

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
JOHNSTON COUNTY
PROJECT: 34552.2.3 (R-3825B)

REV. 7/12/2011
SHEET OF

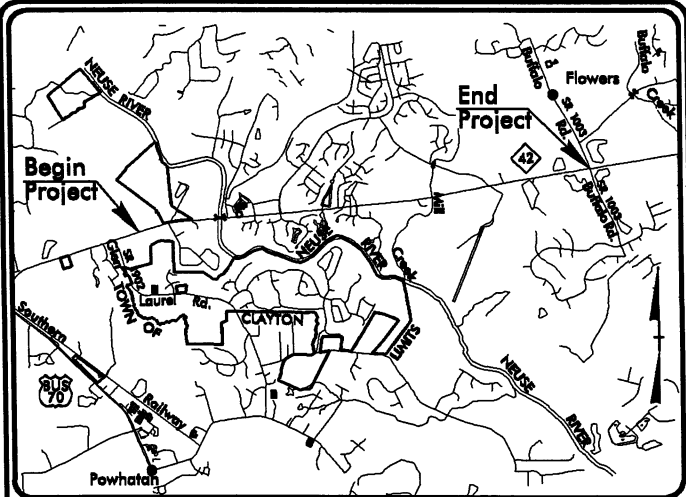
05/08/99

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\$\$\$\$\$USERNAME\$\$\$\$\$

TIP PROJECT: R-3825B

CONTRACT:

See Sheet 1-A For Index of Sheets



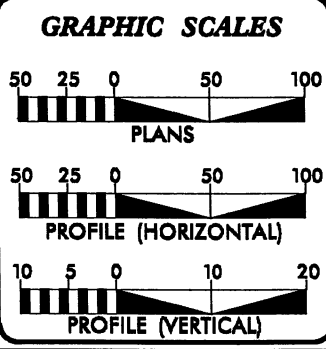
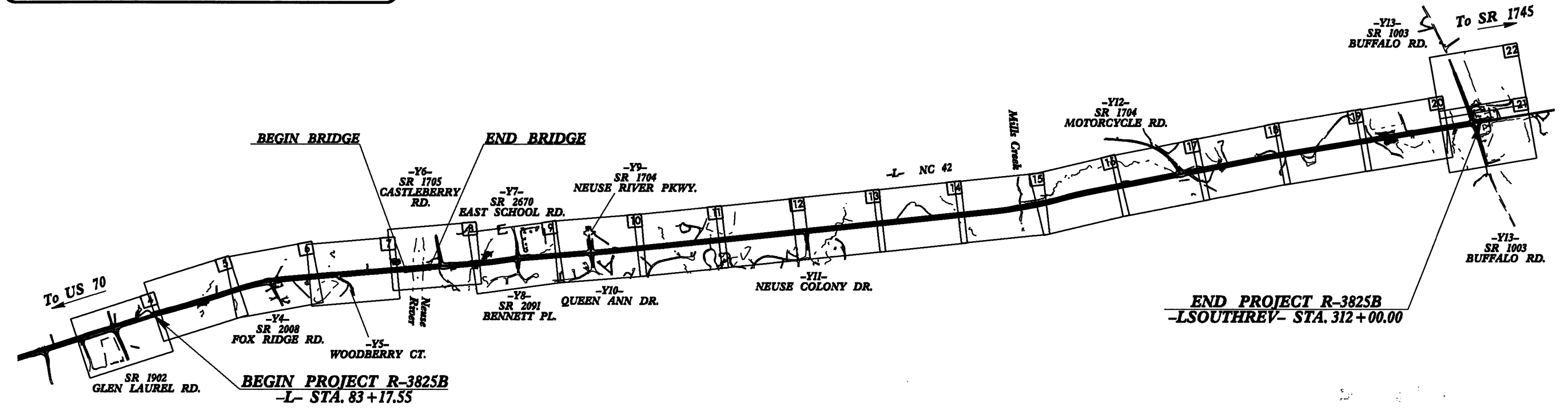
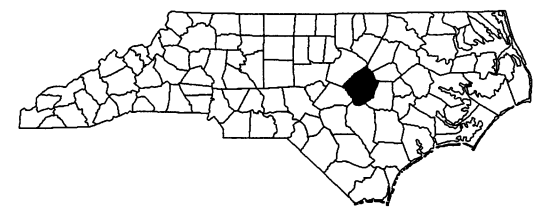
VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
JOHNSTON COUNTY

LOCATION: NC 42 FROM EAST OF SR 1902 (GLEN LAUREL ROAD)
TO SR 1003 (BUFFALO ROAD)

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3825B	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	



DESIGN DATA

ADT	=	
ADT	=	
DHV	=	%
D	=	%
T	=	% *
V	=	MPH
* TTST	=	DUAL
FUNC CLASS	=	
RURAL MAJOR COLLECTOR REGIONAL TIER		

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3825B	= 4.255 Miles
LENGTH STRUCTURE TIP PROJECT R-3825B	= 0.078 Miles
TOTAL LENGTH TIP PROJECT R-3825B	= 4.333 Miles

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:	RON McCOLLUM, PE PROJECT ENGINEER
LETTING DATE:	SUSAN C. LANCASTER, P.E. PROJECT DESIGN ENGINEER

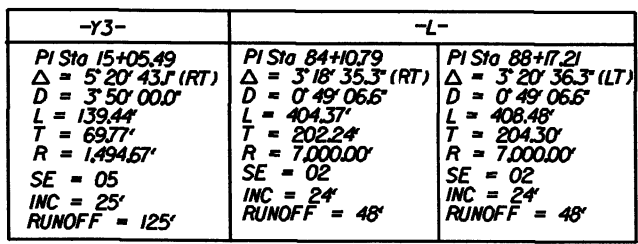
HYDRAULICS ENGINEER	
SIGNATURE:	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE:	P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

105 1 S

STATE HIGHWAY DESIGN ENGINEER

P.E.



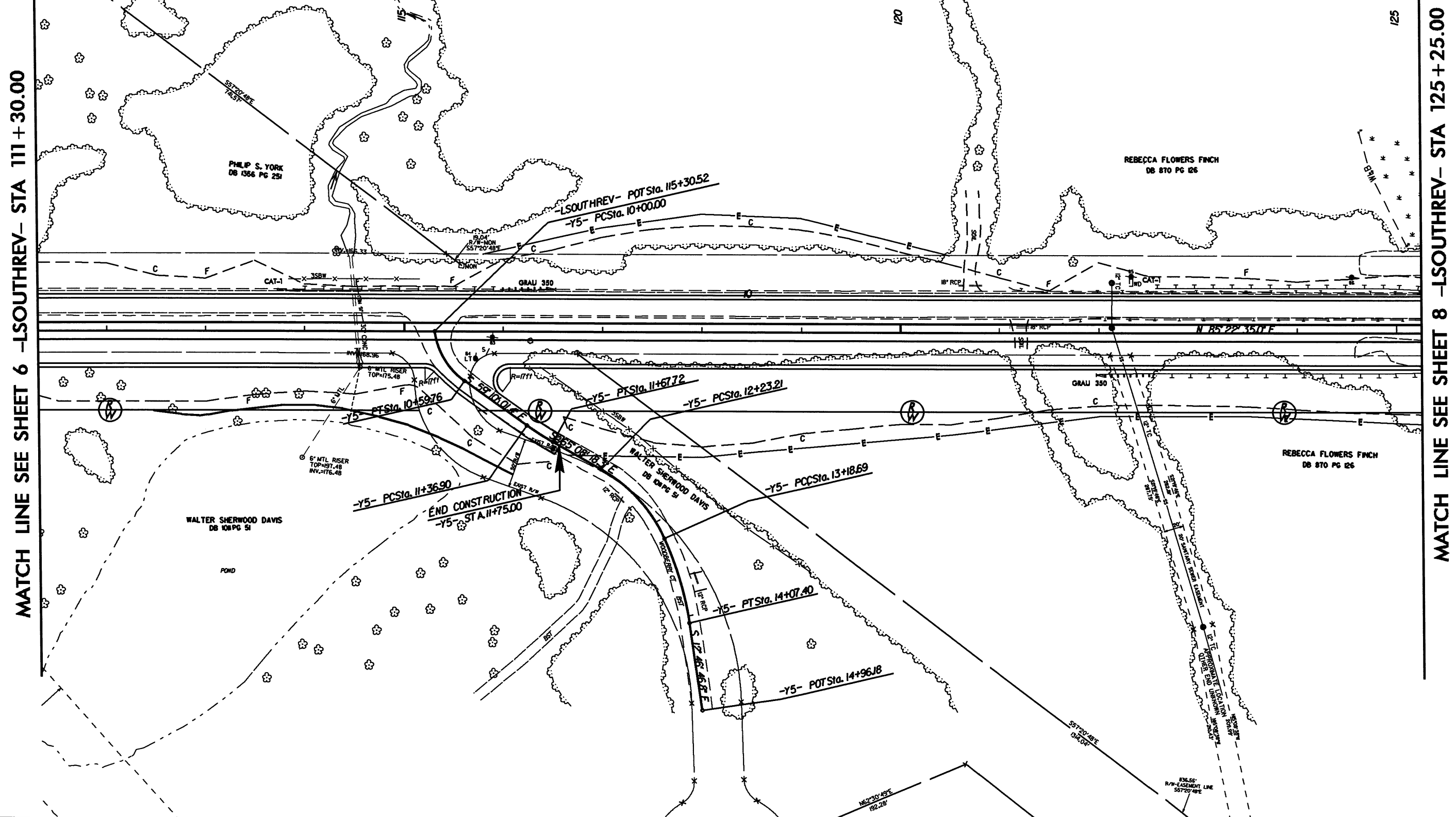
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12-APR-2011 14:25
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 8/17/99

MATCH LINE SEE SHEET 4 -L- STA 84+00.00

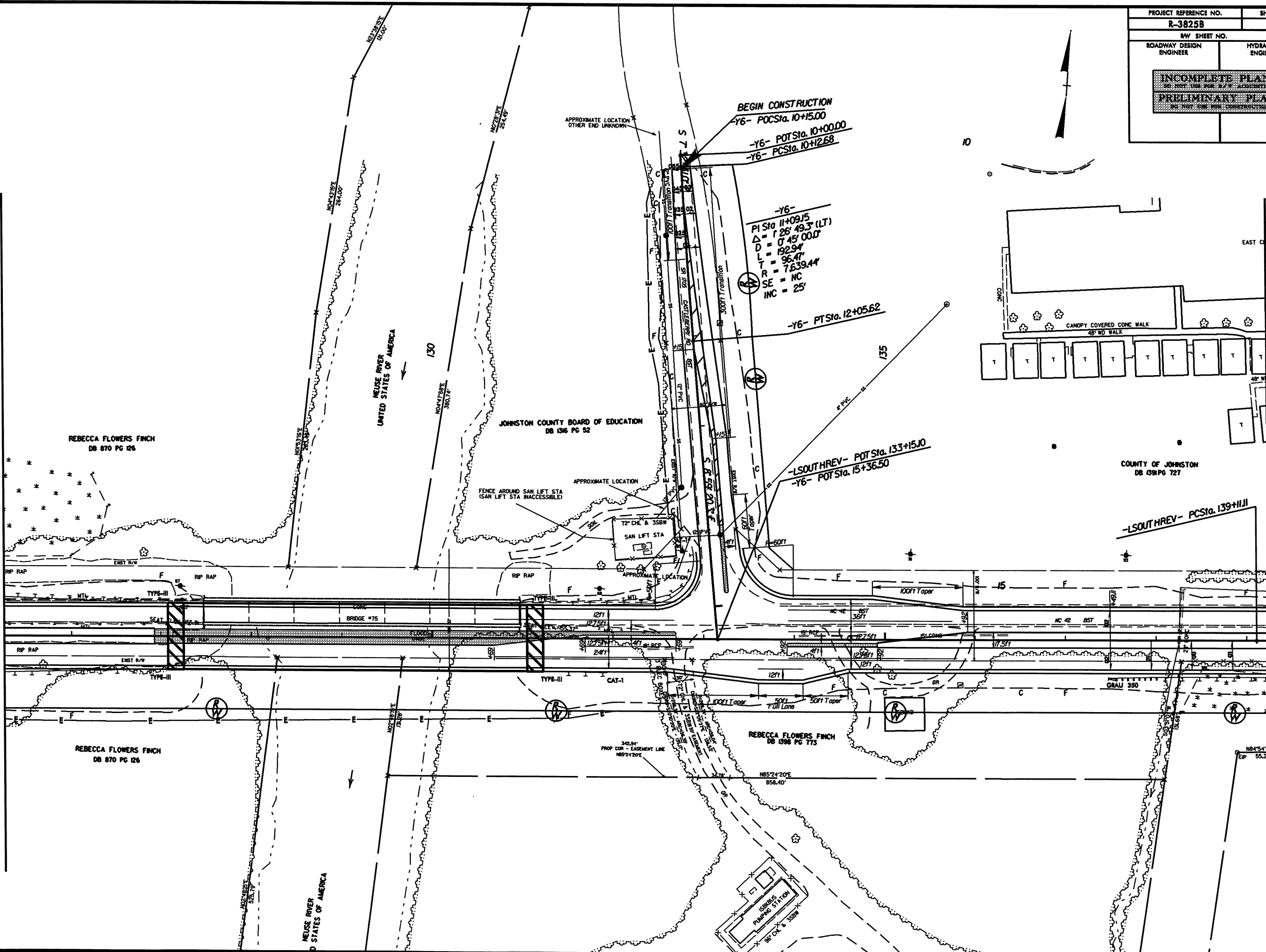


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PROJECT REFERENCE NO.		SHEET NO.	
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RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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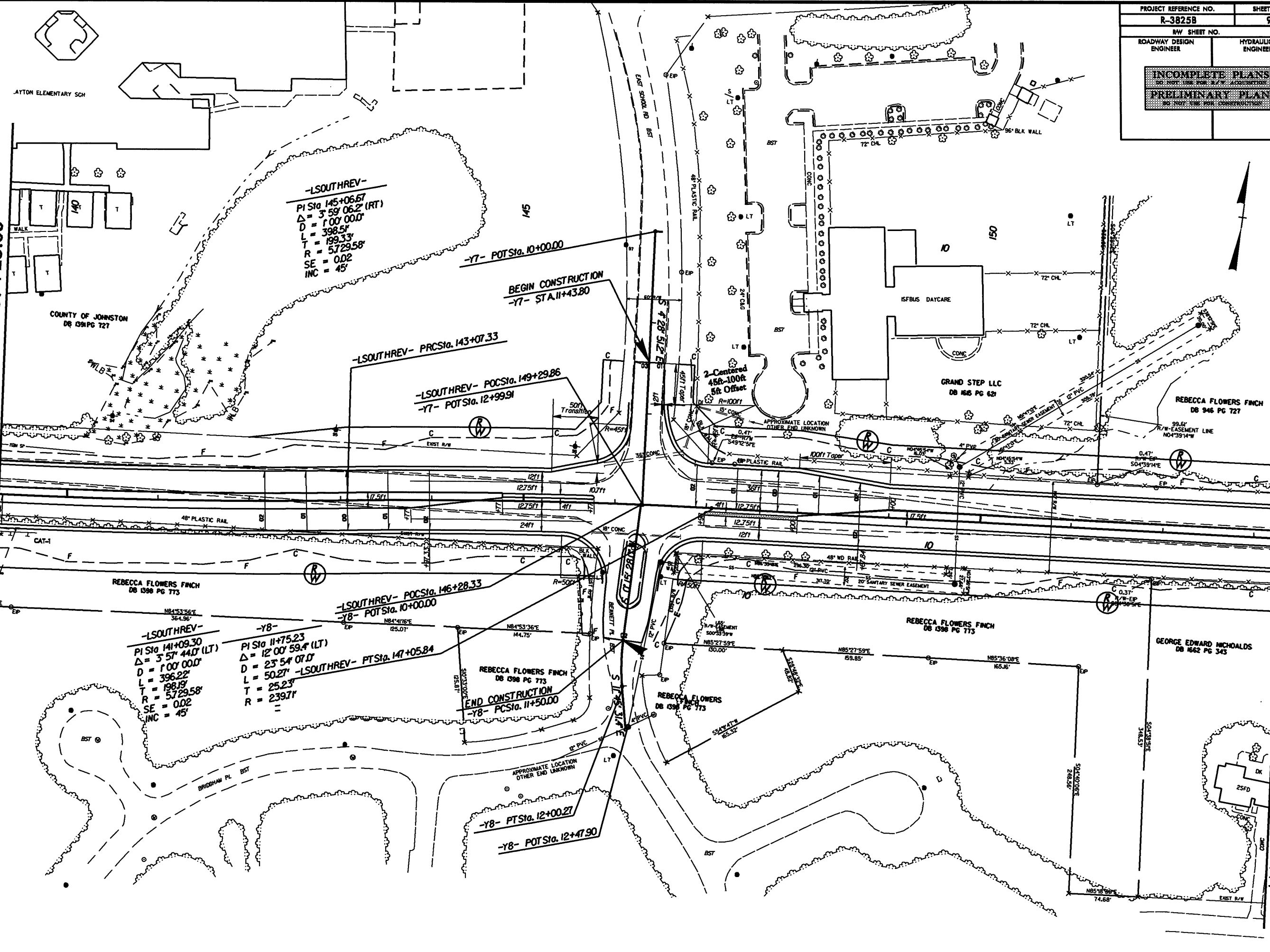
MATCH LINE SEE SHEET 7 -LSOUTHREV- STA 125+25.00



MATCH LINE SEE SHEET 9 -LSOUTHREV- STA 139 + 25.00

8/17/99
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3825B.DWG

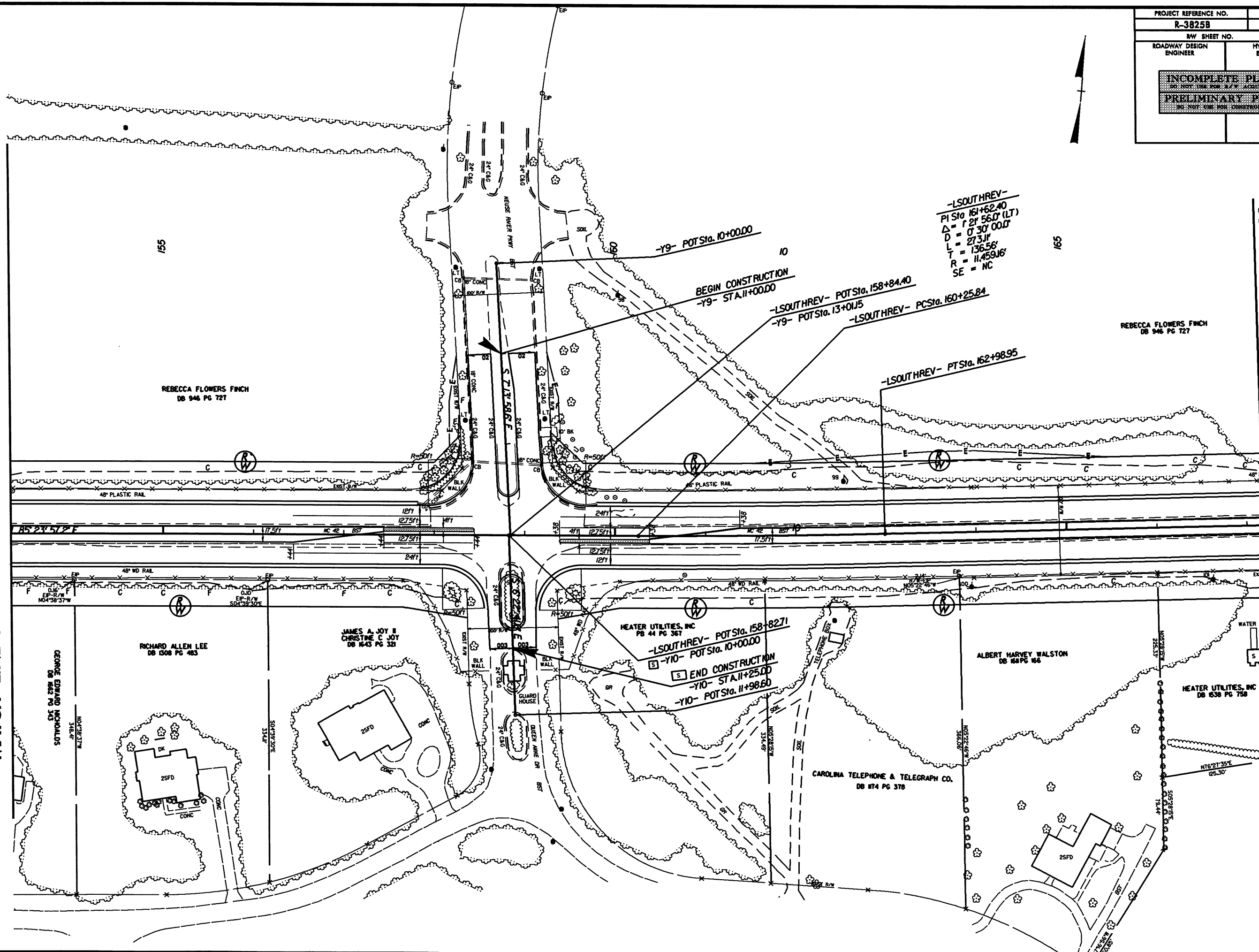
MATCH LINE SEE SHEET 8 -LSOUTHREV- STA 139+25.00



PROJECT REFERENCE NO.	SHEET NO.
R-3825B	9
BY SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/E ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

MATCH LINE SEE SHEET 10 -LSOUTHREV- STA 153+30.00

MATCH LINE SEE SHEET 9 -LSOUTHREV- STA 153 + 30.00



8/17/99

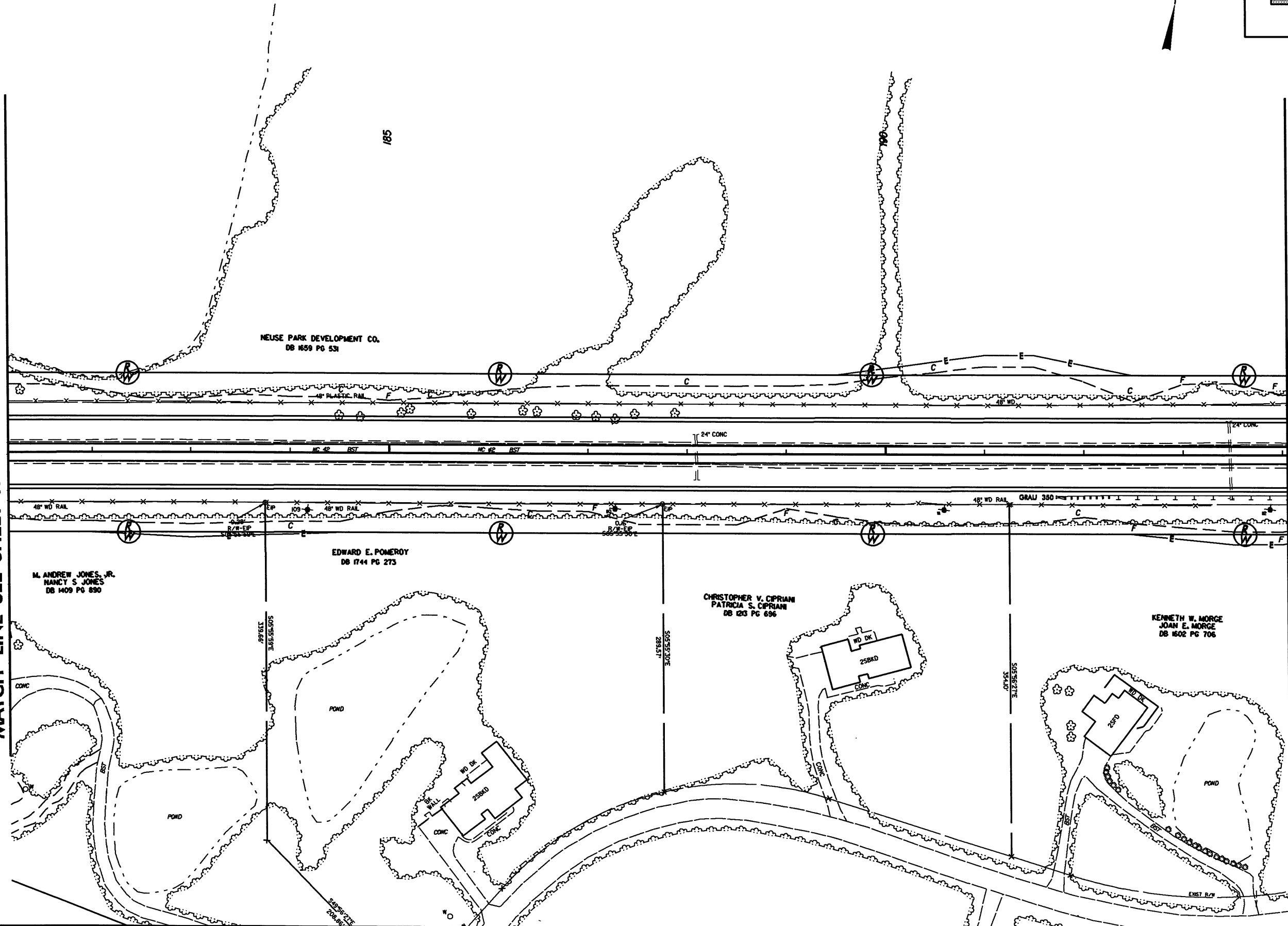
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*****REVISIONS*****

REVISIONS

PROJECT REFERENCE NO.		SHEET NO.
R-3825B		12
BY SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

MATCH LINE SEE SHEET 11 -LSOUTHREV- STA 181+15.00

MATCH LINE SEE SHEET 13 -LSOUTHREV- STA 194+05.00





-LSOUTHREV- POT Sta. 195+48.627
-YII- POT Sta. 10+00.00

END CONSTRUCTION
-YII- STA. 11+50.00
-YII- POT Sta. 12+05.62

KENNETH W. MORG
JOAN E. MORG
DB 1602 PG 706

TOMME ROBERTS JR
REBECCA B. ROBERTS

BILLY R. FLOWERS
DB 1494 PG 497

ALECIA LYNN FLOWERS ZUCKER
DB 1564 PG 890

DAVID B. ROBERTS
DAVID B. ROBERTS
DAVID B. ROBERTS

30.
TOMME JR
ROBERTS JR
REBECCA B.
ROBERTS

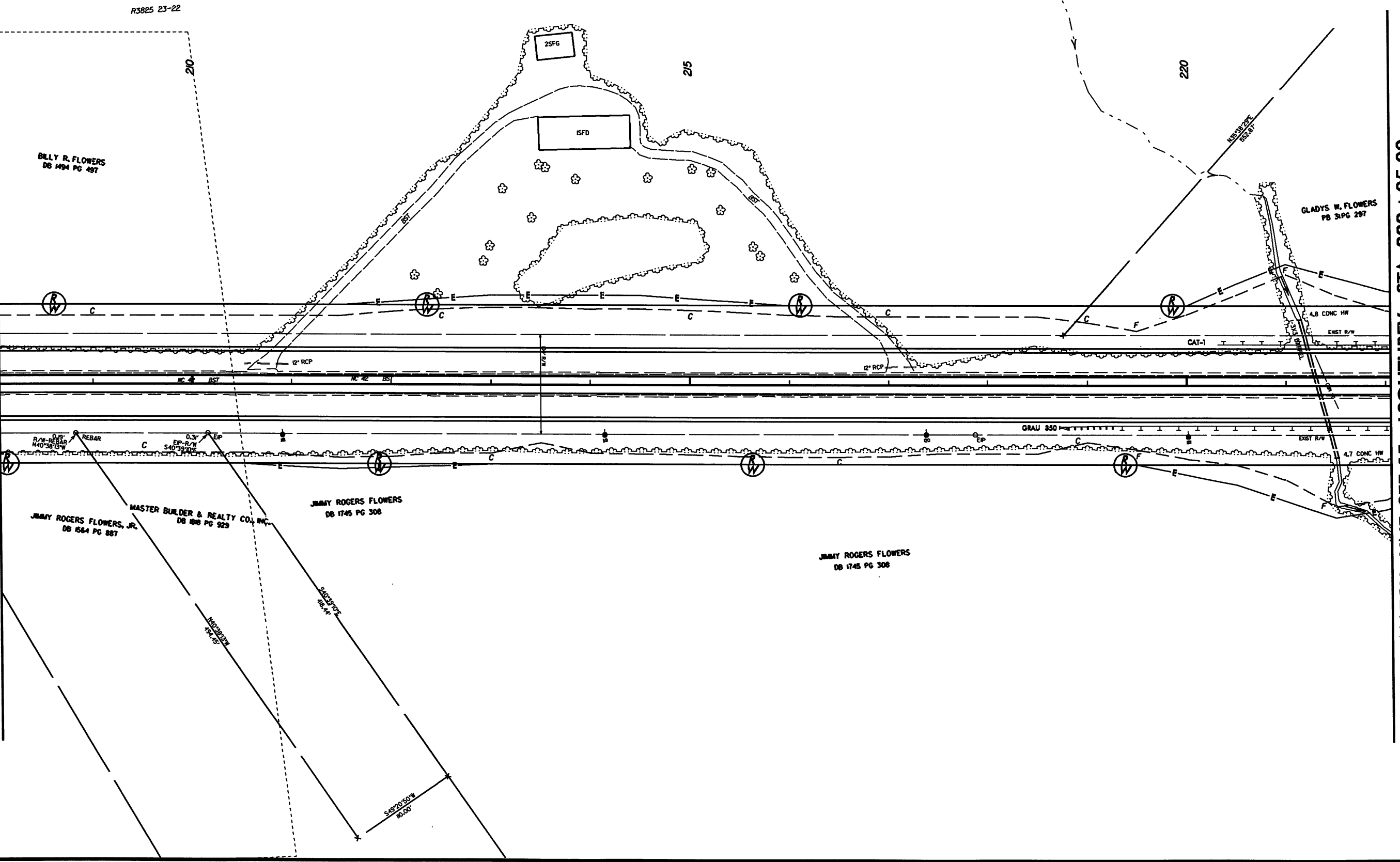
NEUSE COLONY DR BST

POND

507°41'18"W
434.66'

8/17/99
I:\APR-2011\139
R3825B_Rdy.plt4.dgn
R3825B_Rdy.plt4.dgn

MATCH LINE SEE 13 -LSOUTHREV- STA 208 + 05.00

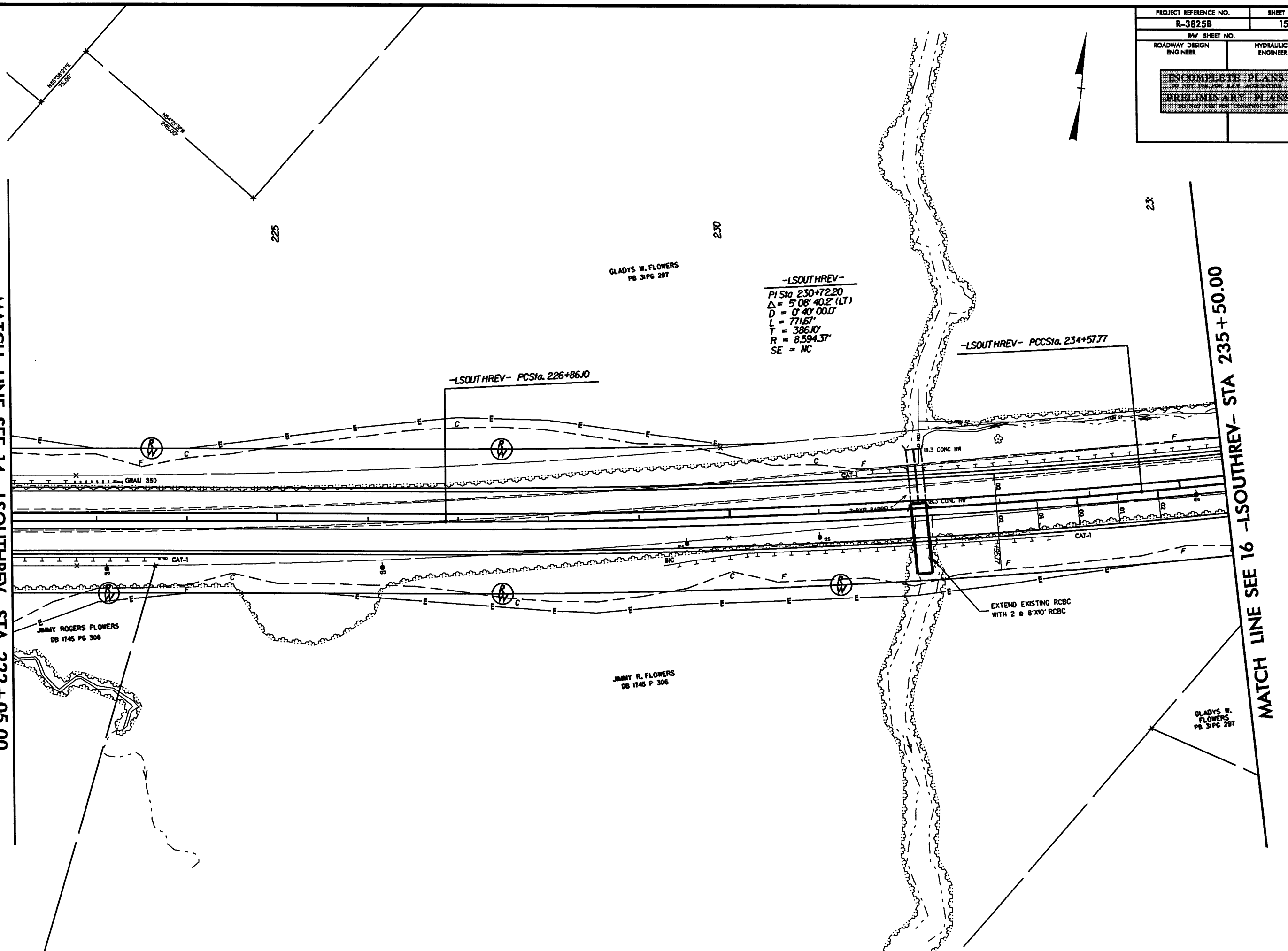


MATCH LINE SEE 15 -LSOUTHREV- STA 222 + 05.00

PROJECT REFERENCE NO. R-3825B		SHEET NO. 14	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

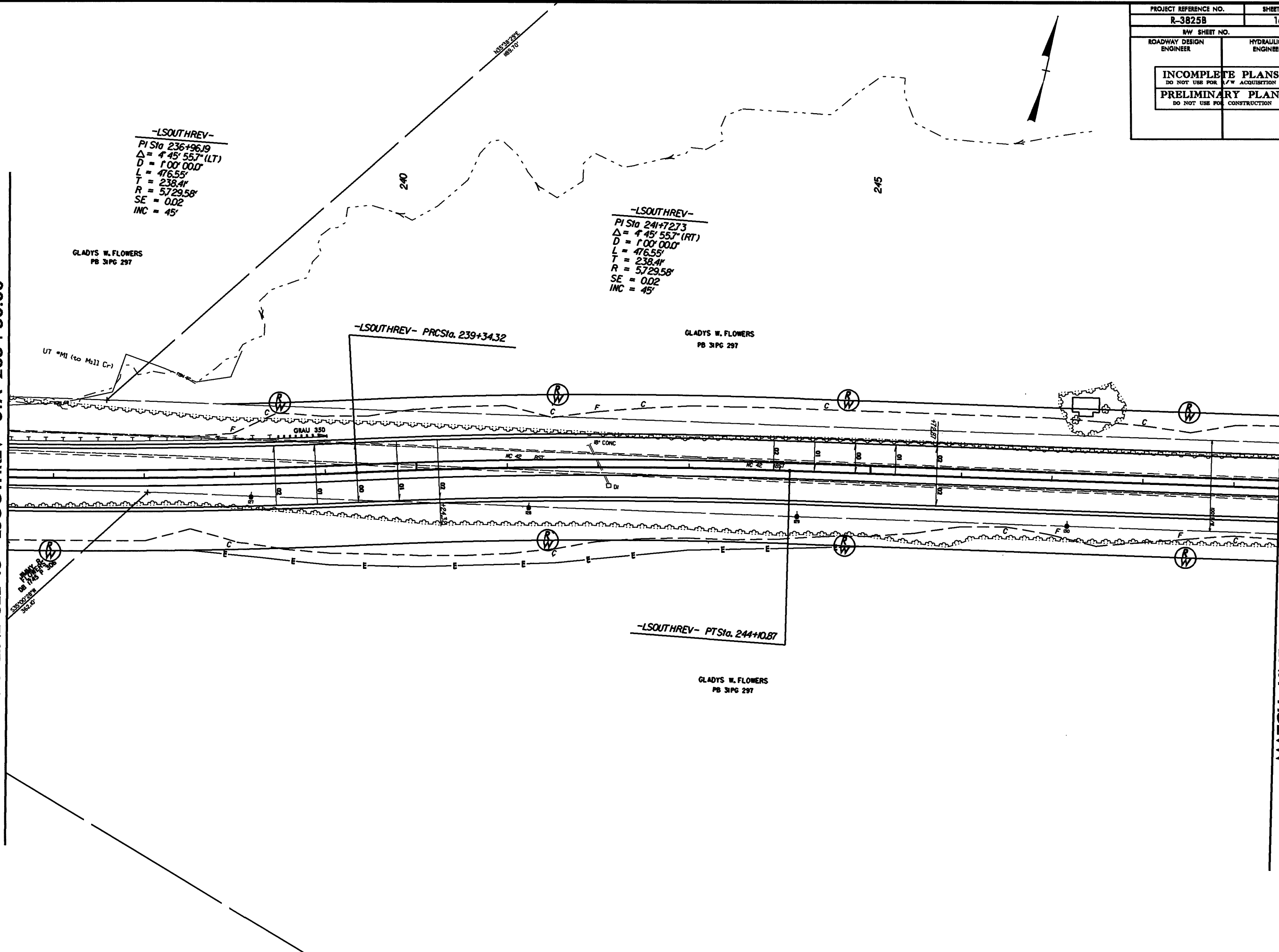
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REVISIONS



8/17/99
I:\PR-2011\139
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3825B_Rdy.dgn

MATCH LINE SEE 15 -LSOUTHREV- STA 235+50.00



MATCH LINE SEE 17 -LSOUTHREV- STA 249+50.00

PROJECT REFERENCE NO.		SHEET NO.	
R-3825B		16	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

MATCH LINE SEE 16 -LSOUTHREV- STA 249 + 50.00

CON
MATCH LINE SEE 18 - SOUTHREV - STA 263 + 50.00

-Y12-		PI Sta 18+31.69	
PI Sta 12+95.40		$\Delta = 36^\circ 10' 03.7''$ (RT)	
$\Delta = 22^\circ 18' 35.0''$ (RT)		$D = 6^\circ 24' 08.0''$	
$D = 4^\circ 30' 43.0''$		$L = 564.92'$	
$L = 494.46'$		$T = 292.23'$	
$T = 250.40'$		$R = 894.94'$	
$R = 1,269.87'$		$SE = 0.05$	
		$INC = 20'$	

BEGIN CONSTRUCTION
-Y12- PCCSta. 15+39.46

-Y12- PT Sta. 21+04.38

-LSOUTHREV- POTSta. 259+98.94
-Y12- POTSta. 21+49.78

DAVID MILTON FLOWERS
DB 1632 PG 425

CONC ISBLKBUS

JIMMY R. FLOWERS
DB 1507 PG 275

ALLIE TEW
DB 1564 PG 904

GLADYS W. FLOWERS
PB 31PG 297

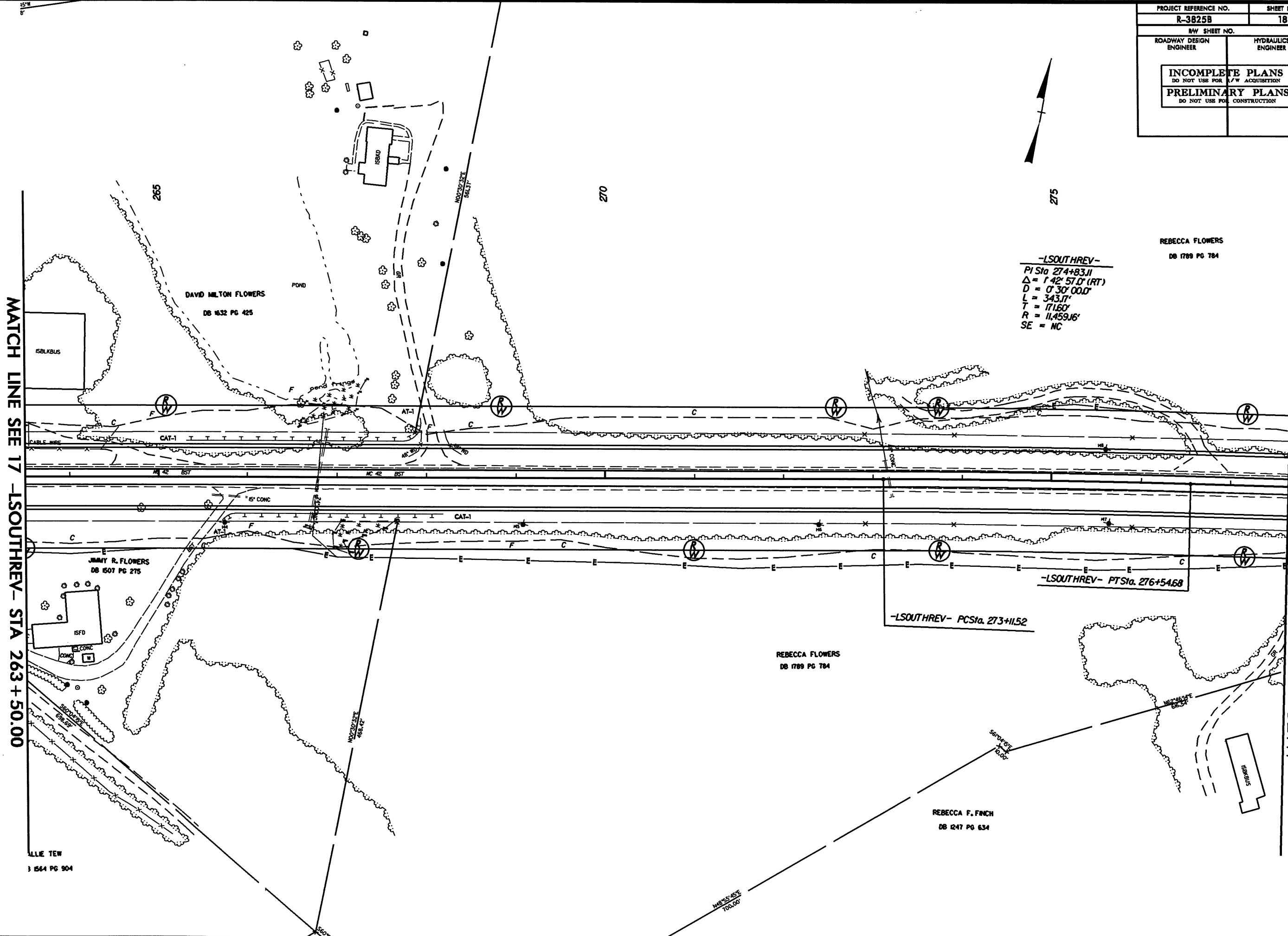
GLADYS W. FLOWERS
PB 31PG 297

PEGGY FLOWERS BENSON
DB 1564 PG 901

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 8/17/99

8/17/99
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PROJECT REFERENCE NO.		SHEET NO.
R-3825B		18
REV SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION		
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		



-LSOUTHREV-
PI Sta 274+83.11
 $\Delta = 1' 42' 57.0'' (RT)$
 $D = 0' 30' 00.0''$
 $L = 343.17'$
 $T = 171.60'$
 $R = 11,459.16'$
SE = NC

REBECCA FLOWERS
DB 1789 PG 784

-LSOUTHREV- PCSia. 273+11.52

-LSOUTHREV- PTSia. 276+54.68

REBECCA FLOWERS
DB 1789 PG 784

REBECCA F. FINCH
DB 1247 PG 634

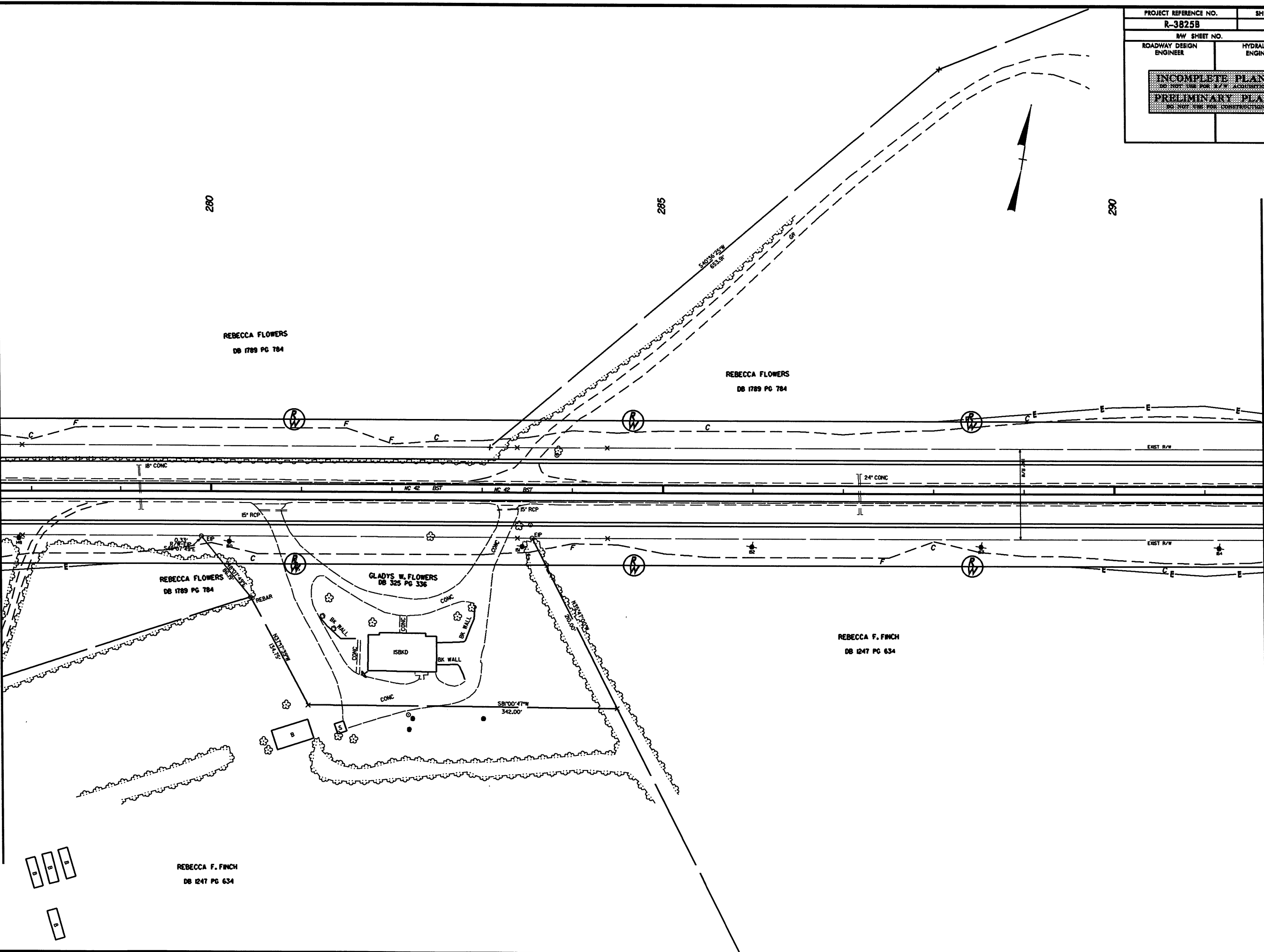
ILLIE TEW
1564 PG 904

REVISIONS

8/17/99
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R3825B.DWG

REVISIONS

MATCH LINE SEE 18 -LSOUTHREV- STA 277+65.00

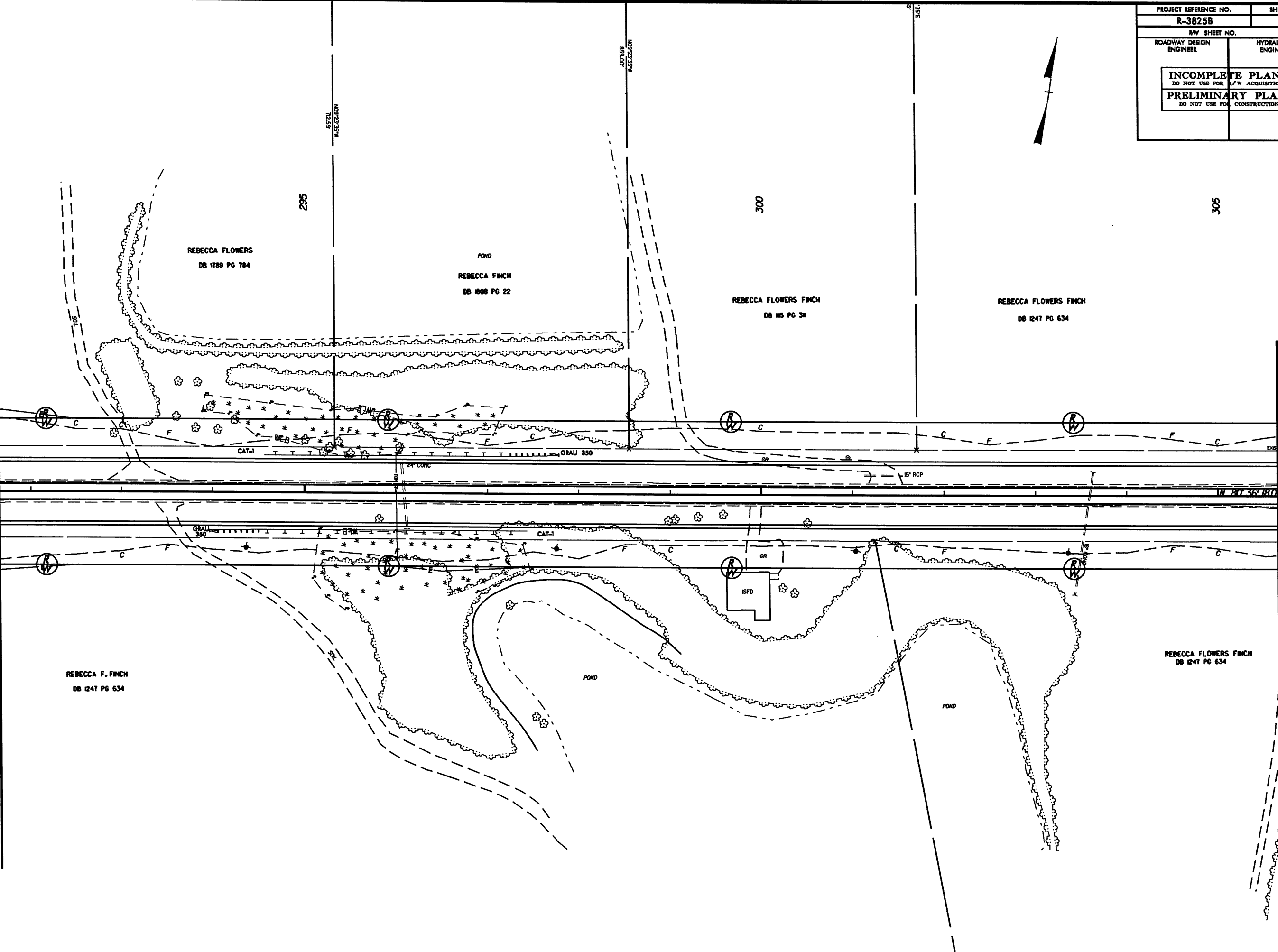


MATCH LINE SEE 20 -LSOUTHREV- STA 291+65.00

PROJECT REFERENCE NO. R-3825B		SHEET NO. 19
RDW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
<div>INCOMPLETE PLANS DO NOT USE FOR A/E/C ACQUISITION</div> <div>PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION</div>		

8/17/99
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*****SUSPENDED*****

MATCH LINE SEE 19 -LSOUTHREV- STA 291+65.00



MATCH LINE SEE SHEET 20 -LSOUTHREV- STA 305+65.00

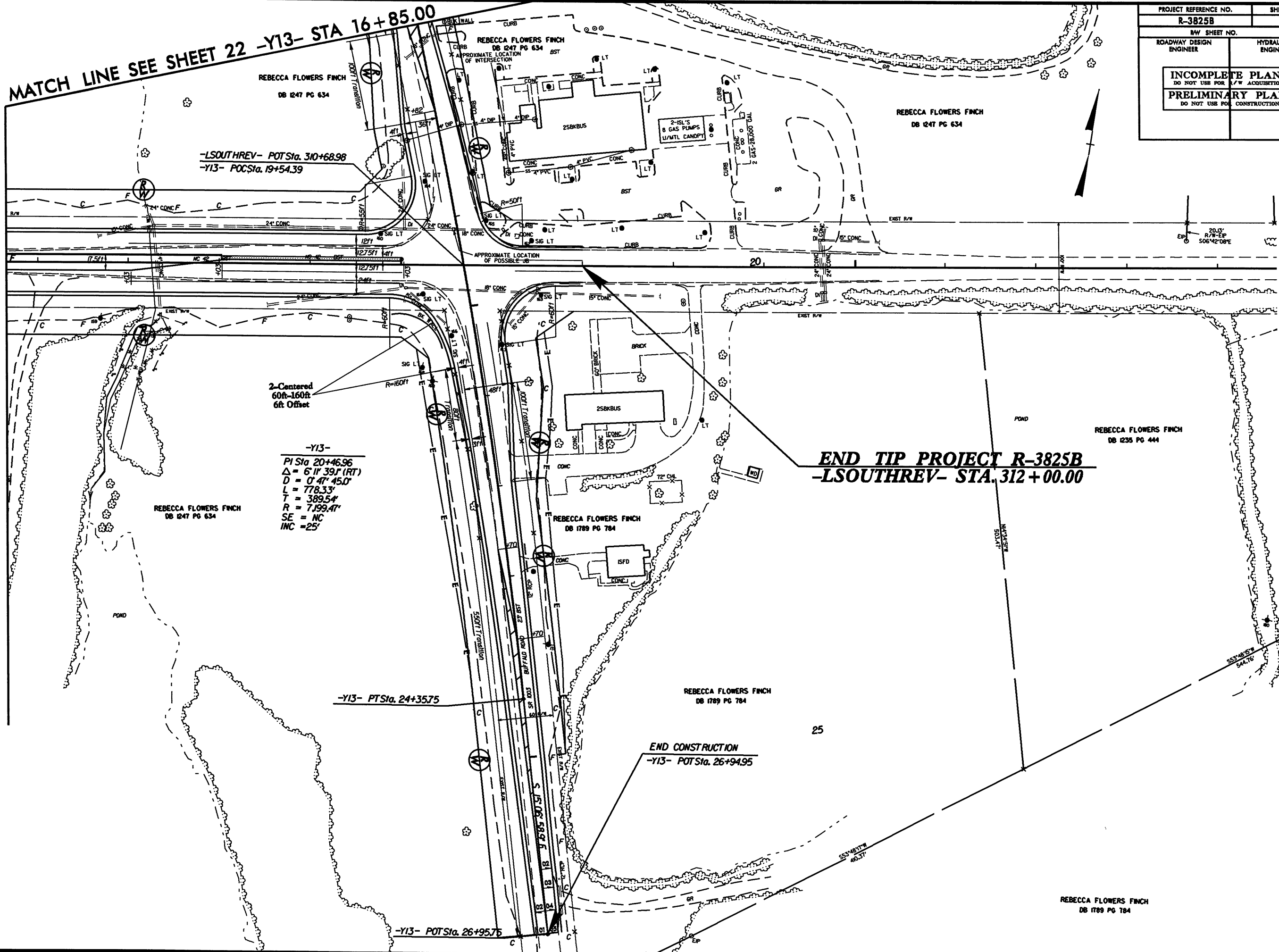
PROJECT REFERENCE NO.		SHEET NO.
R-3825B		20
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION		
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

8/17/99
12-APR-2011 11:39
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USER:R3825B

MATCH LINE SEE SHEET 20 -LSOUTHREV- STA 305 + 65.00

MATCH LINE SEE SHEET 22 -Y13- STA 16 + 85.00

PROJECT REFERENCE NO.	SHEET NO.
R-3825B	21
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



-Y13-
PI Sta 20+46.96
 $\Delta = 61^\circ 39' (RT)$
 $D = 0' 47' 45.0''$
 $L = 778.33'$
 $T = 389.54'$
 $R = 7199.47'$
 $SE = NC$
 $INC = 25'$

END TIP PROJECT R-3825B
-LSOUTHREV- STA 312 + 00.00

END CONSTRUCTION
-Y13- POTSta. 26+94.95

REBECCA FLOWERS FINCH
DB 1789 PG 784

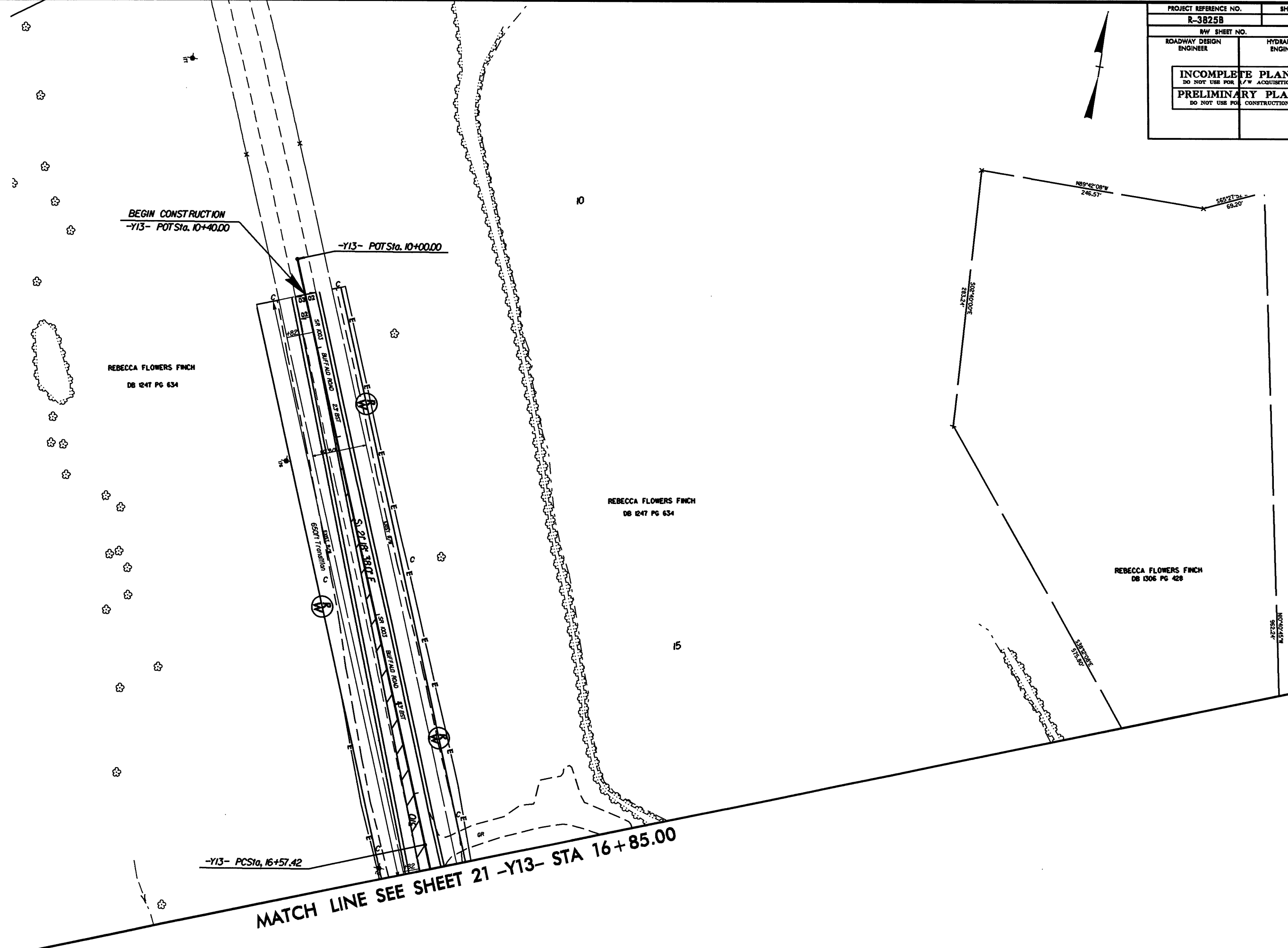
8/17/99

REVISIONS

12 APR 2011 11:59

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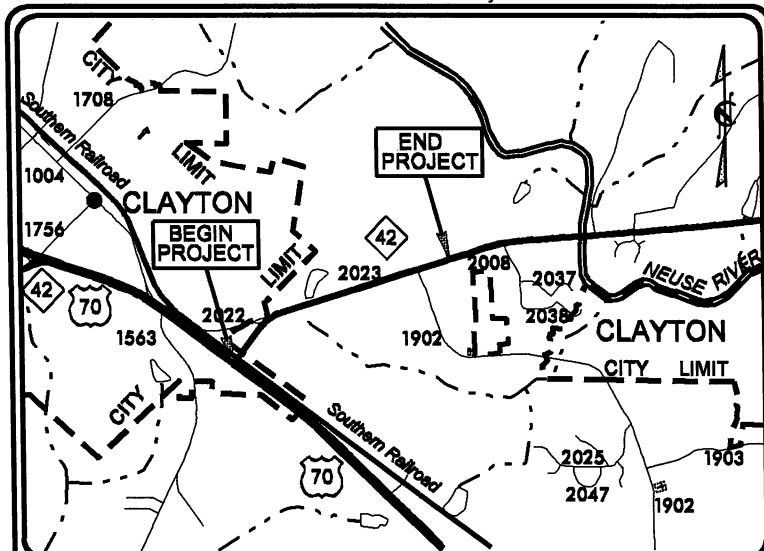
PROJECT REFERENCE NO.	SHEET NO.
R-3825B	22
RWY SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



9/10/09

TIP PROJECT: R-3825A

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JOHNSTON COUNTY

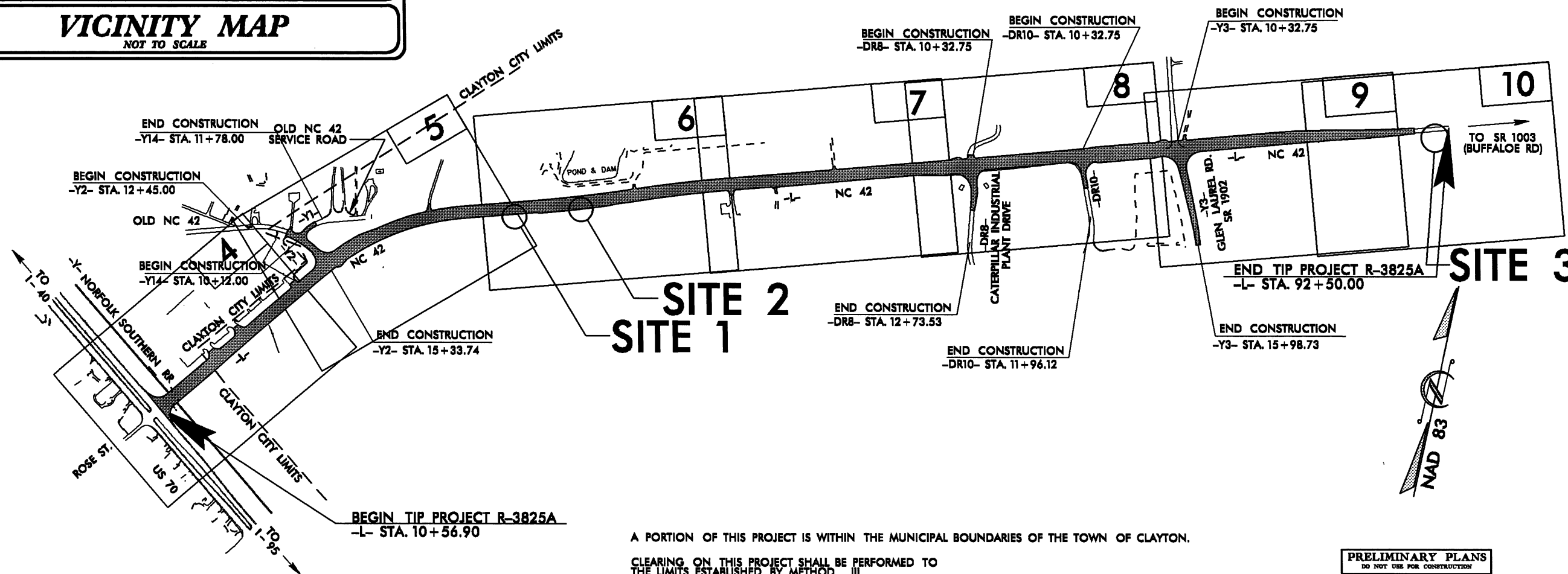
**LOCATION: NC 42 FROM US 70 IN CLAYTON TO
0.31 MI EAST OF SR 1902 (GLEN LAUREL RD)**

**TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNALS,
AND SIGNING
WETLAND/SURFACE WATER PERMIT DWG.**



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3825A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34552.1.1	STP-42(4)	P.E.	
34552.2.2	STP-42(4)	RAW & UTILITIES	

Permit Drawing
Sheet 1 of 13

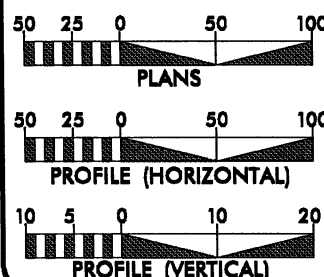


A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF CLAYTON.

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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2010 = 20,500
ADT 2035 = 34,100
DHV = 10 %
D = 60 %
T = 3 % *
V = 50 MPH
* (TTST 1 % + DUAL 2 %)
FUNC. CLASS = RURAL
MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3825A = 1.552 MILES
TOTAL LENGTH OF TIP PROJECT R-3825A = 1.552 MILES

Prepared in the Office of:

DIVISION OF HIGHWAYS

1000 Birch Ridge Dr., Raleigh, NC 27610

2004 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 29, 2008

LETTING DATE:
MARCH 20, 2012

GLENN W. MUMFORD, PE
PROJECT ENGINEER

SUSAN C. LANCASTER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____
ROADWAY DESIGN ENGINEER

SIGNATURE: _____
STATE HIGHWAY DESIGN ENGINEER

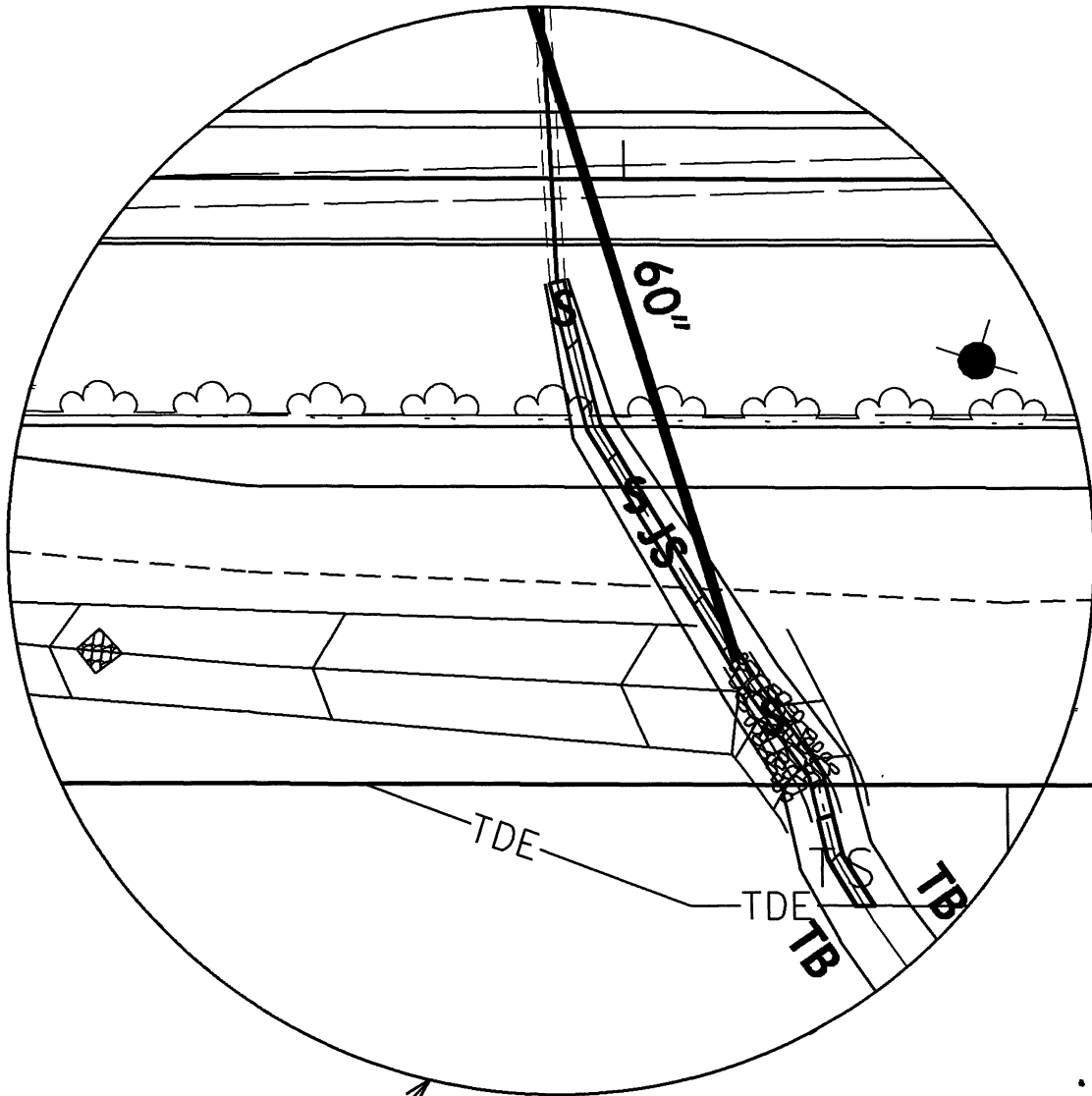
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



SIGNATURE: _____
STATE HIGHWAY DESIGN ENGINEER

CONTRACT:

ENLARGEMENT SHOWS SURFACE WATERS IMPACTS



ENLARGEMENT
SITE 1



GRAPHIC SCALE

PLAN VIEW



DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



DENOTES IMPACTS IN
SURFACE WATER

Permit Drawing
Sheet 3 of 13



NCDOT

DIVISION OF HIGHWAYS

JOHNSTON COUNTY

PROJECT: 34552.1.1 (R-3825A)

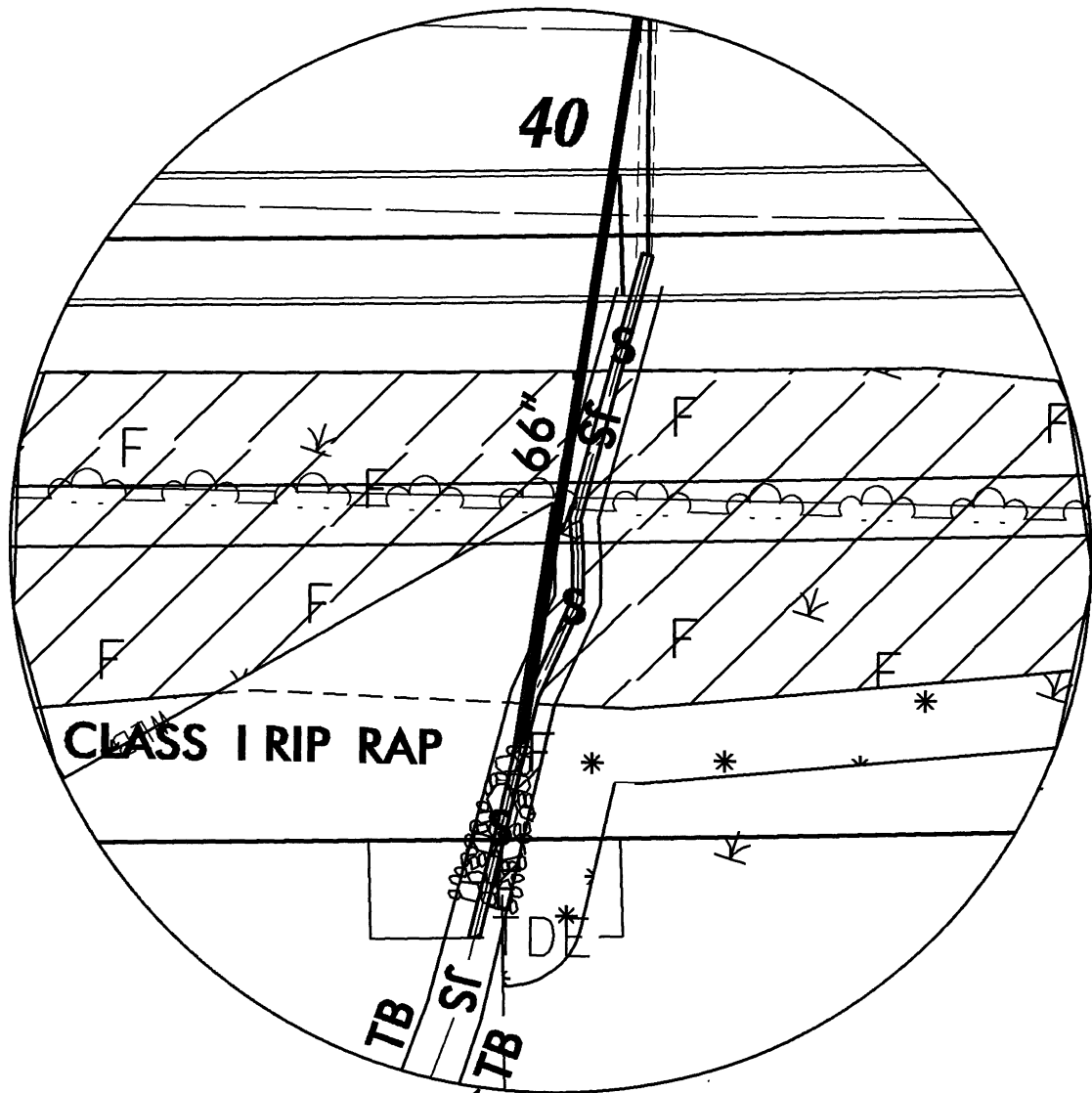
**NC 42 FROM US 70 AT
CLAYTON TO
EAST OF SR 1902**

SHEET

OF

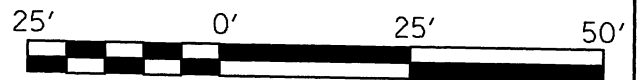
02/18/11

ENLARGEMENT SHOWS SURFACE WATERS IMPACTS



Permit Drawing
Sheet 4 of 13

ENLARGEMENT
SITE 2



GRAPHIC SCALE

PLAN VIEW

 DENOTES MECHANIZED
CLEARING

 DENOTES IMPACTS IN
SURFACE WATER

 DENOTES FILL IN
WETLAND



NCDOT

DIVISION OF HIGHWAYS

JOHNSTON COUNTY

PROJECT: 34552.1.1 (R-3825A)

**NC 42 FROM US 70 AT
CLAYTON TO
EAST OF SR 1902**

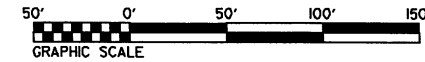
SHEET

OF

02/18/11

7/2/99

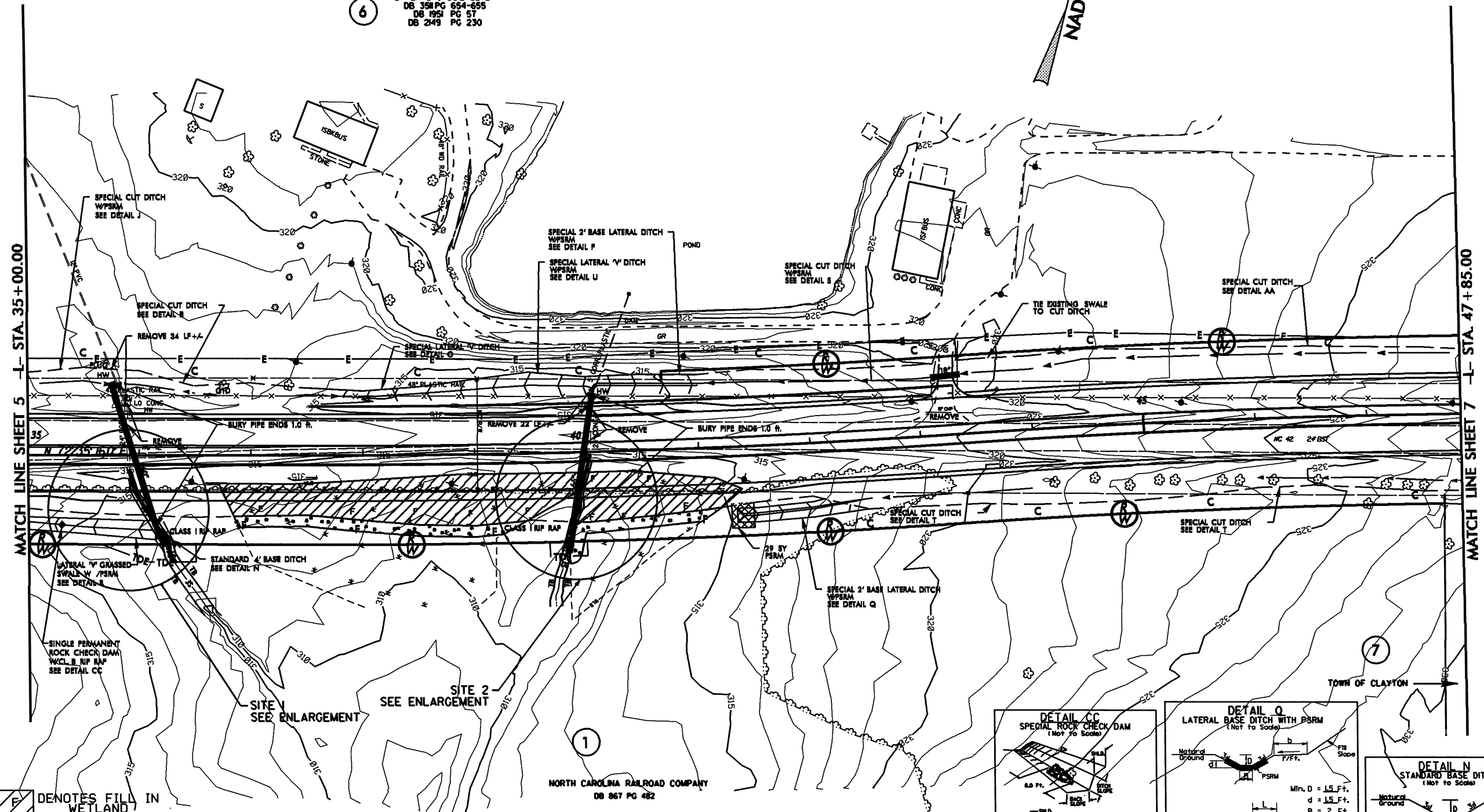
WETLAND/SURFACE WATER PERMIT DWG.



Permit Drawing
Sheet 5 of 13

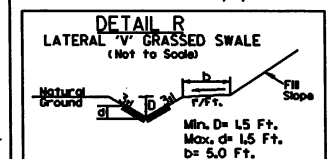
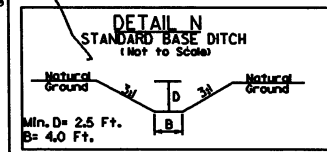
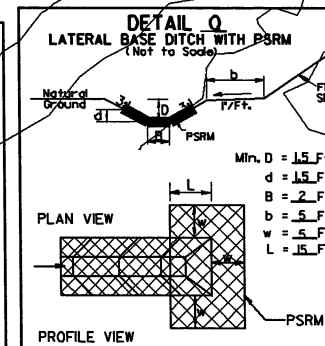
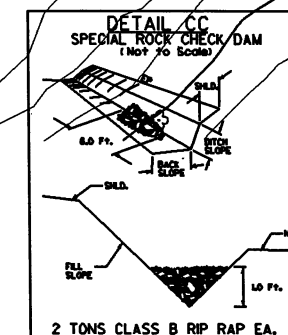
PROJECT REFERENCE NO. R-3825A	SHEET NO. 6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

6
BAYER CROPSOURCE LP
DB 35M PG 664-665
DB 195I PG 57
DB 2149 PG 230



- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES MECHANIZED CLEARING

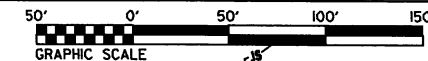
1
NORTH CAROLINA RAILROAD COMPANY
DB 867 PG 482



Type of Liner = PSRM

\$\$\$\$SYTIME\$\$\$\$\$
 \$\$\$DGN\$\$\$\$\$
 \$\$\$NAME\$\$\$\$\$
 \$\$\$CNAME\$\$\$\$\$
 \$\$\$UCNAME\$\$\$\$\$

WETLAND/SURFACE WATER PERMIT DWG.

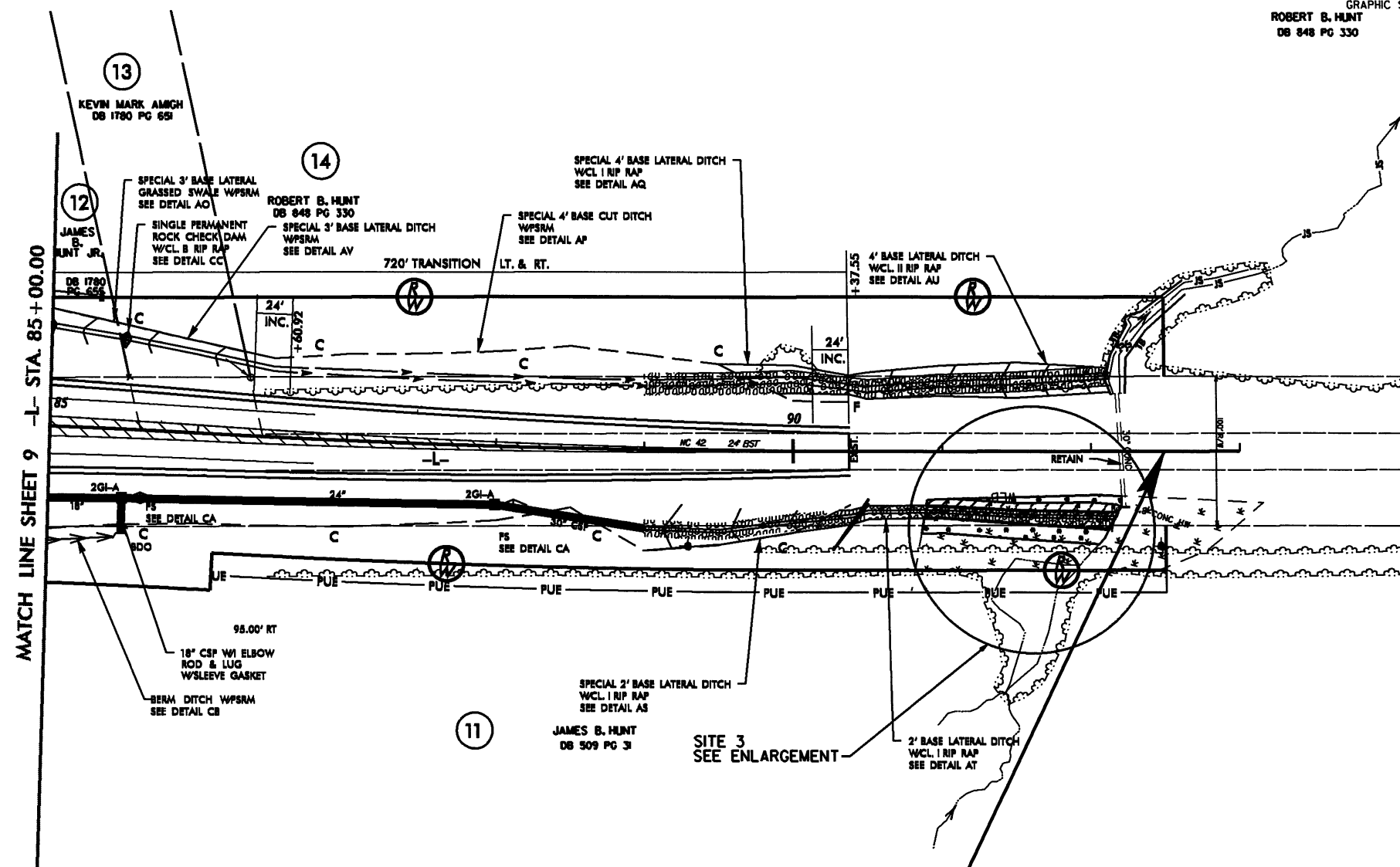


ROBERT B. HUNT
DB 848 PG 330

ENGLISH

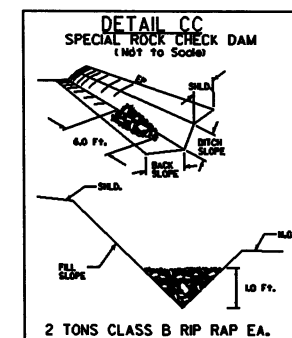
Permit Drawing
Sheet 6 of 13

PROJECT REFERENCE NO.	SHEET NO.
R-3825A	10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<div style="border: 1px solid black; padding: 10px; text-align: center;"> PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION </div>	



END TIP PROJECT R-3825A
-L- POT STA. 92+50.00

NAD-83

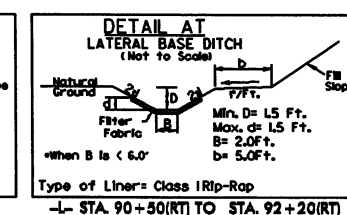
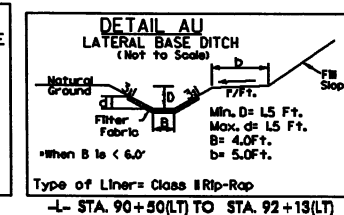
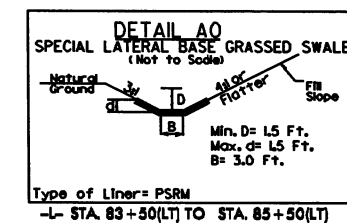


- L STA. 33 + 35(RT)
- L STA. 34 + 00(RT)
- L STA. 34 + 65(RT)
- L STA. 35 + 30(RT)
- L STA. 81 + 00(LT)
- L STA. 82 + 00(LT)
- L STA. 83 + 25(LT) TO STA. 85 + 00(LT)
- L STA. 85 + 30(LT)

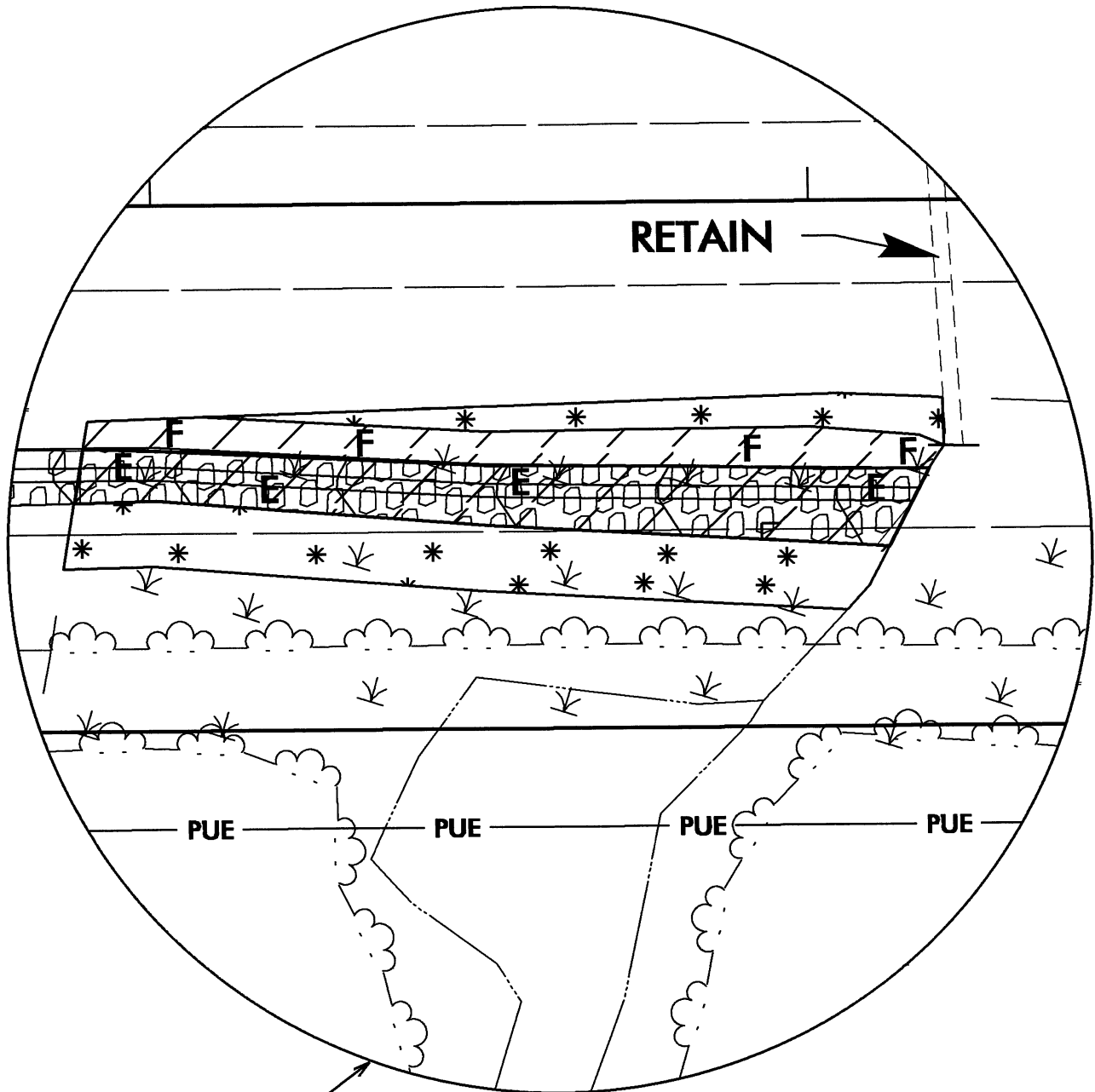
 DENOTES EXCAVATION
IN WETLAND

 DENOTES FILL IN WETLAND

 DENOTES MECHANIZED CLEARING

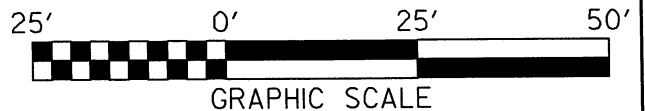


ENLARGEMENT SHOWS EXCAVATION
AND MECHANIZED CLEARING IN WETLANDS

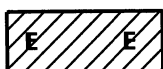


ENLARGEMENT
SITE 3

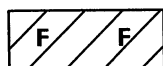
Permit Drawing
Sheet 7 of 13



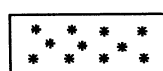
PLAN VIEW



DENOTES EXCAVATION
IN WETLAND



DENOTES FILL IN
WETLAND



DENOTES MECHANIZED
CLEARING



NCDOT

DIVISION OF HIGHWAYS

JOHNSTON COUNTY

PROJECT: 34552.1.1 (R-3825A)

**NC 42 FROM US 70 AT
CLAYTON TO
EAST OF SR 1902**

SHEET

OF

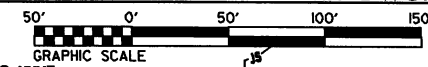
02/18/11


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$$$$SYTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

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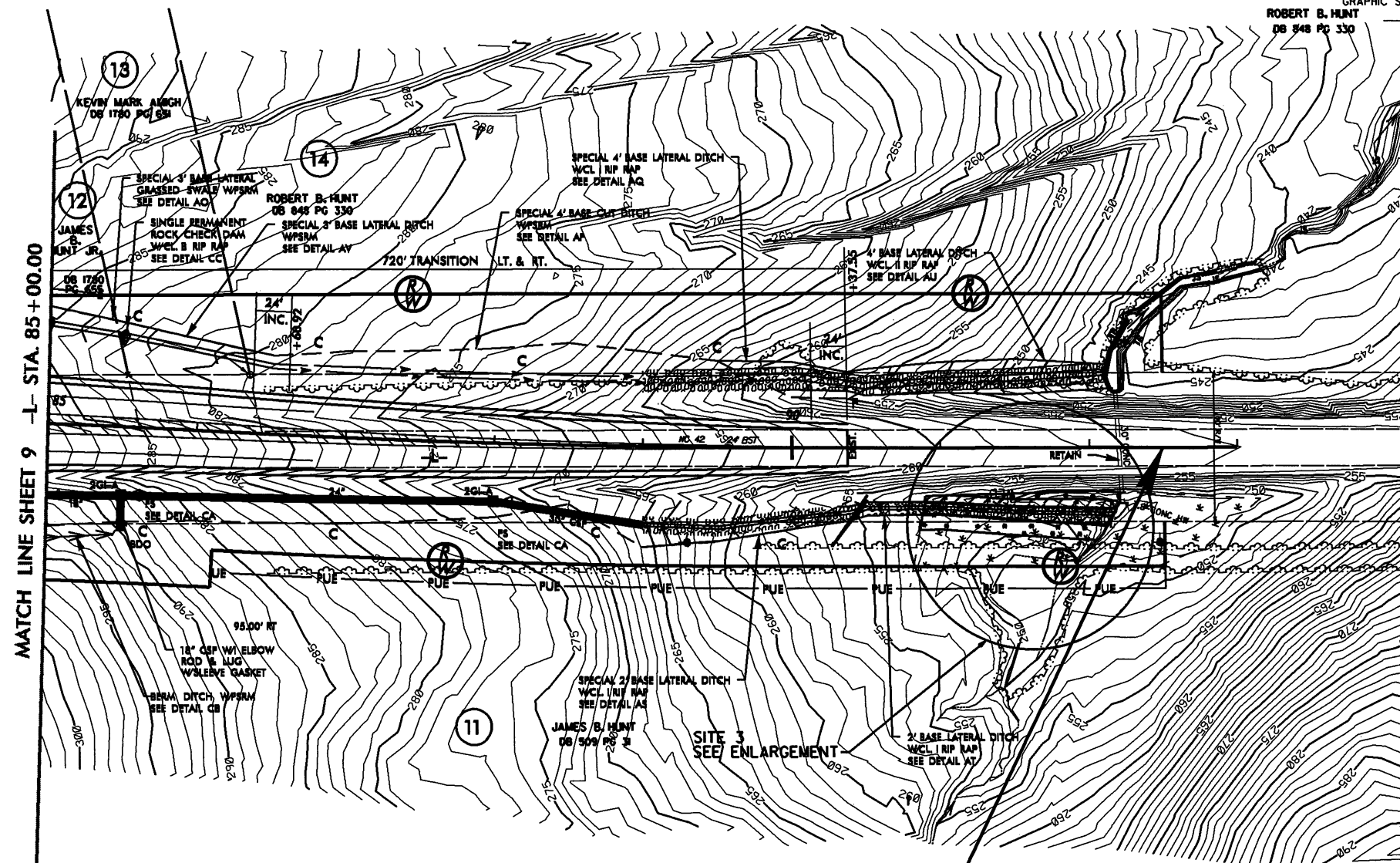
WETLAND/SURFACE WATER PERMIT DWG.



ENGLISH

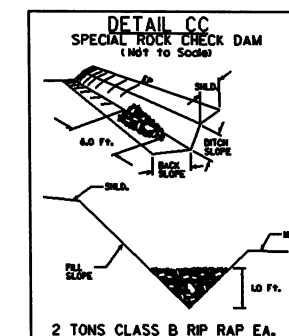
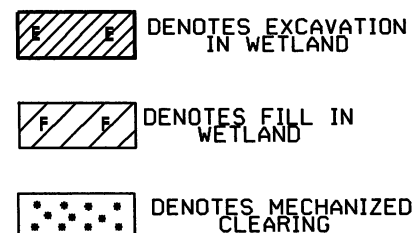
Permit Drawing
Sheet 8 of 13

PROJECT REFERENCE NO.		SHEET NO.	
R-9825A		10	
RAW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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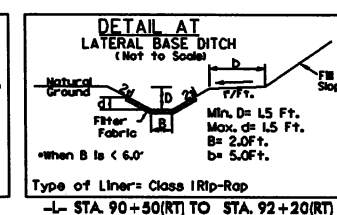
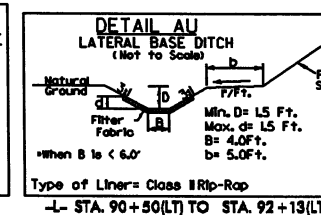
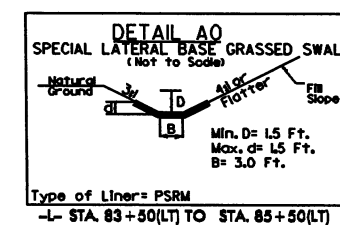


END TIP PROJECT R-3825A
-L- POT STA. 92+50.00

NAD-193



- L STA. 33 + 35(RT)
- L STA. 34 + 00(RT)
- L STA. 34 + 65(RT)
- L STA. 35 + 30(RT)
- L STA. 81 + 00(LT)
- L STA. 82 + 00(LT)
- L STA. 83 + 25(LT) TO STA. 85 + 00(LT)
- L STA. 85 + 50(LT)



WETLAND/SURFACE WATER PERMIT DWG

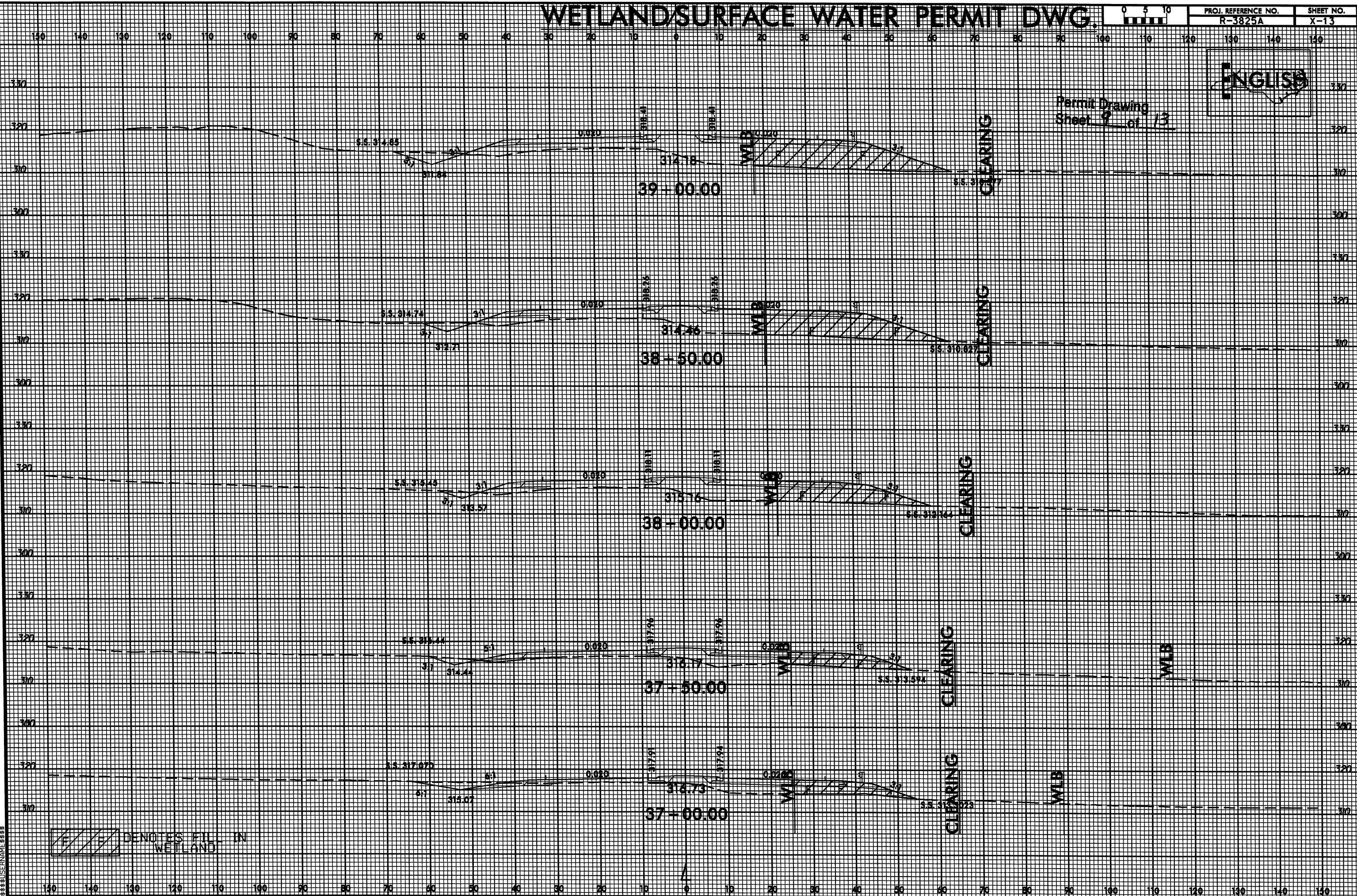


PROJ. REFERENCE NO.
R-3825A

SHEET NO.
X-13

ENGLISH

Permit Drawing
Sheet 9 of 13

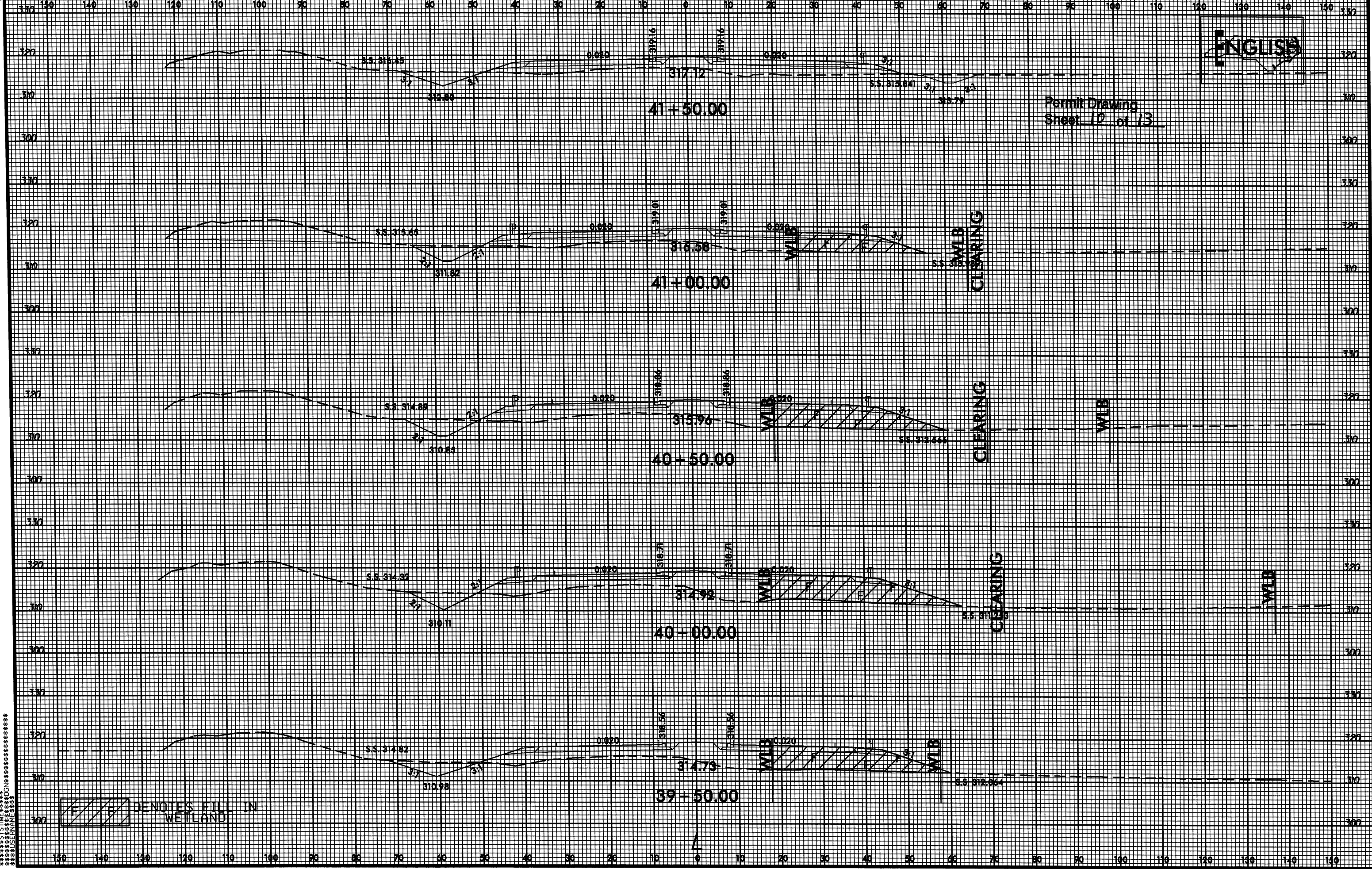


8/23/99

WETLAND SURFACE WATER PERMIT DWG.



PROJ. REFERENCE NO.	SHEET NO.
R-3825A	X-14



DENOTES FILL IN WETLAND

Permit Drawing
Sheet 10 of 13

ENGLISH

\$SYTIME\$\$\$\$\$DGN\$\$\$\$\$
 \$\$\$\$USERNAME\$\$\$\$\$

SHEET NO.
X-35

ENGLISH

Permit Drawing
Sheet 11 of 13

END CONSTRUCTION -L- STA. 92+50.00

DENOTES EXCAVATION
 IN WETLAND

DENOTES FILL IN
WELLAND

Parcel #	Last Name	First Name	Address	City/Town	State	Zip Code
1	NC RR Company		3200 Atlantic Ave. Ste 110	Raleigh	NC	27604
11	Hunt	James B.	1441 NC 42 East	Clayton	NC	27527
12	Amigh	Kevin Mark	1423 NC 42 East	Clayton	NC	27527
13	Amigh	Kevin Mark	1424 NC 42 East	Clayton	NC	27527
14	Hunt	Robert B.	1441 NC 42 East	Clayton	NC	27527

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS						SURFACE WATER IMPACTS				
			Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)
1	-L- 35+91 to 36+31	60" RCP							<0.01	<0.01	80	13	
2	-L- 36+60 to 41+37	66" RCP	0.38			0.09			<0.01		94		
3	-L- 90+86 to 92+20	Exist 30" RCP	0.02		0.03	0.04							
TOTALS:			0.40	0.00	0.03	0.13	0.00		<0.01	<0.01	174	13	0

Additional Impacts Notes:

Permit Drawing
Sheet 13 of 13

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

JOHNSTON COUNTY

WBS - 34552.1.1 (R-3825A)

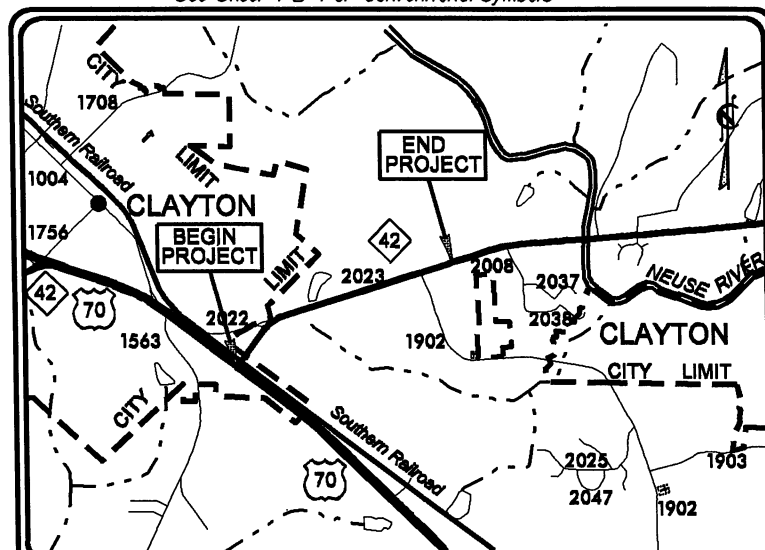
ATN Revised 3/31/05

SHEET 1 OF

2/18/2011

9/09/99

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JOHNSTON COUNTY

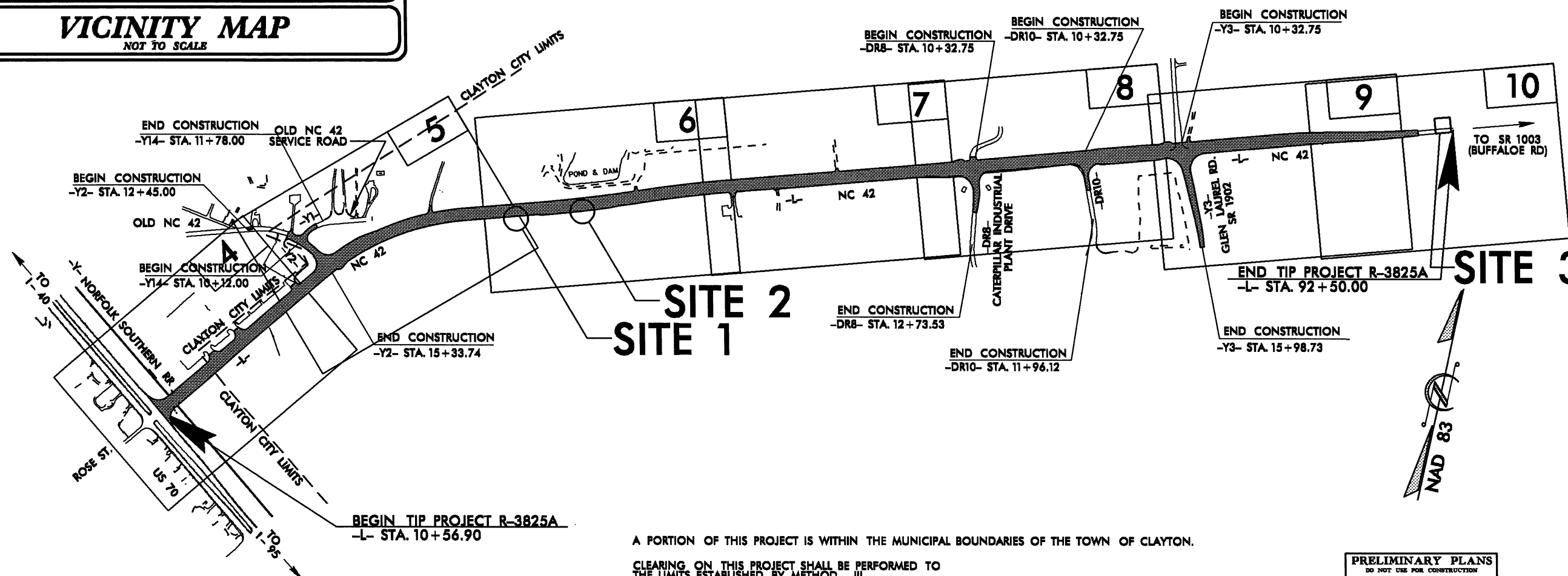
LOCATION: NC 42 FROM US 70 IN CLAYTON TO
0.31 MI EAST OF SR 1902 (GLEN LAUREL RD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNALS,
AND SIGNING
BUFFER PERMIT DWG.



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3825A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34552.1.1	STP-42(4)	P.E.	
34552.2.2	STP-42(4)	RW & UTILITIES	

Buffer Drawing
Sheet 1 of 7

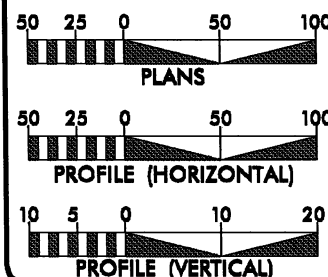


A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF CLAYTON.

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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2010 = 20,500
ADT 2035 = 34,100
DHV = 10 %
D = 60 %
T = 3 % *
V = 50 MPH
* (TTST 1 % + DUAL 2 %)
FUNC. CLASS = RURAL
MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3825A = 1.552 MILES
TOTAL LENGTH OF TIP PROJECT R-3825A = 1.552 MILES

Prepared In the Office of:

DIVISION OF HIGHWAYS

1000 Birch Ridge Dr., Raleigh, NC 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 29, 2008

LETTING DATE:
MARCH 20, 2012

GLENN W. MUMFORD, PE
PROJECT ENGINEER

SUSAN C. LANCASTER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____
ROADWAY DESIGN ENGINEER

SIGNATURE: _____
STATE HIGHWAY DESIGN ENGINEER

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**



SIGNATURE: _____
STATE HIGHWAY DESIGN ENGINEER

TIP PROJECT: R-3825A

CONTRACT:

\$SYTIME\$\$\$\$\$DGN\$\$\$\$\$
 \$\$\$\$USERNAME\$\$\$\$\$

DA= 2.3 Ac
SLOPE= 0.011ft/ft
L REQ.= 230 Ft. (100 Ft. per 1 Acre of DA)
L PRO.= 260 Ft. (-L- 32+70 TO 35+30(RT))
Q2= 5.7 CFS
V2= 1.9 FPS
D2= 1.0 Ft.
Q10= 7.4 CFS
V10= 2.0 FPS
D10= 1.1 Ft.

-L- STA. 35 + 30(RT)

⑥

BAYER CROPS SCIENCE LP
DB 35 PG 654-655
DB 1951 PG 57
DB 2149 PG 230

50' 0' 50' 100' 150'

GRAPHIC SCALE

ENGLISH

R-3825A

6

ROADWAY DESIGN

ENGINEER

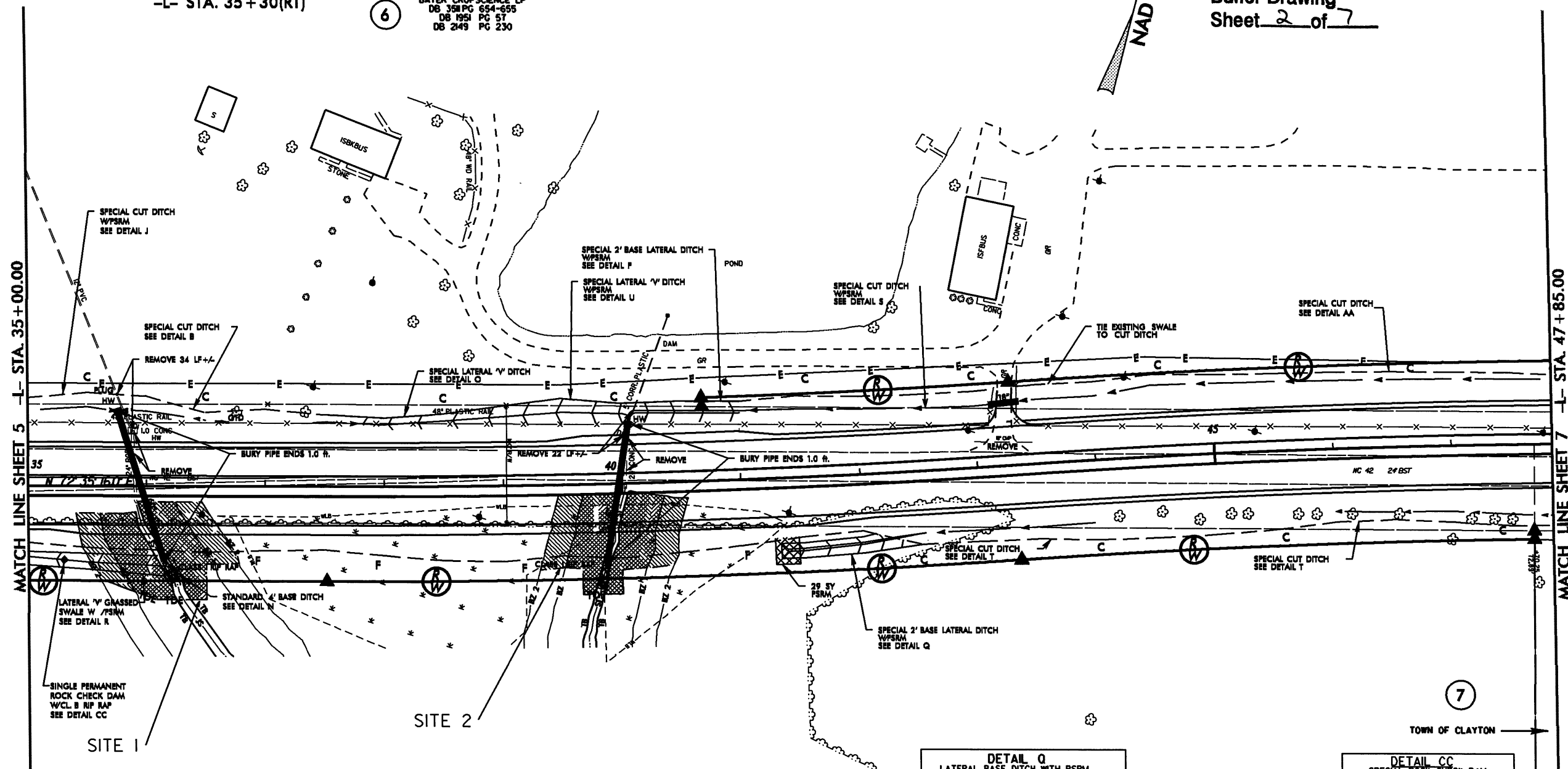
ENGINEER

DO NOT USE FOR CONSTRUCTION

--	--

Buffer Drawing.
Sheet 2 of

NAD-83



①

NORTH CAROLINA RAILROAD COMPANY
DB 867 PG 482

 ALLOWABLE IMPACTS ZONE 1 ALLOWABLE IMPACTS ZONE 2

DETAIL N
STANDARD BASE DITCH

(Not to Scale)

Min. D = 2.5 Ft.
B = 4.0 Ft.


DDE = 32 CU. YDS

-L- STA. 36+10(RT)

DETAIL Q
LATERAL BASE DITCH WITH PSRM
(Not to Scale)

Diagram illustrating the profile view of the proposed ditch and PSRM. The diagram shows the ditch profile, the PSRM (Proposed Subgrade Roadway Material) with a width of 12 feet, and the natural ground. The ditch is labeled "Prop. ditch grade" and "End of prop. ditch grade". The PSRM is labeled "PSRM w/ 12' truck off sides". The natural ground is labeled "Natural Ground". The diagram also includes the stationing: "STA 41+37/RT to STA 42+00/RT".

DETAIL R
LATERAL 'V' GRASSED SWALE
(Not to Scale)



 Min. D = 1.5 Ft.
 Max. d = 1.5 Ft.
 b = 5.0 Ft.

Type of Liner = PSRM

— STA. 34+50(RT) TO STA. 34+10(RT)

DETAIL CC
SPECIAL ROCK CHECK DAM
(Not to Scale)

6.0 Ft.

SHLA

RITCH SLOPE

BACK SLOPE

SHLA

FILL SLOPE

MA

1.0 Ft.

2 TONS CLASS B RIP RAP EA.

-L- STA. 33+35(RT)
-L- STA. 34+00(RT)
-L- STA. 34+65(RT)
-L- STA. 35+30(RT)
-L- STA. 81+00(LT)
-L- STA. 82+00(LT)
-L- STA. 83+25(LT) TO STA. 85+00(LT)

\$\$\$SYTIME\$\$\$
 \$\$\$DGN\$\$\$
 \$\$\$NAME\$\$\$
 \$\$\$UCR\$\$\$

DA= 2.3 Ac
SLOPE= 0.011ft/ft
L REQ.= 230 Ft. (100 Ft. per 1 Acre of DA)
L PRO.= 260 Ft. (-L 32+70 TO 35+30(RT))
Q2= 5.7 CFS
V2= 1.9 FPS
D2= 1.0 Ft.
Q10= 7.4 CFS
V10= 2.0 FPS
D10= 1.1 Ft.

-L- STA. 35 + 30(RT)

⑥

BAYER CROPSCIENCE LP
DB 35 PG 654-655
DB 195 PG 57
DB 2149 PG 230

50' 0' 50' 100' 150'

GRAPHIC SCALE

ENGLISH

PROJECT REFERENCE NO.

R-3825A

SHEET NO.

4

RW SHEET N

ROADWAY D

HYDRAULIC

ENGINEER

PRELIMINARY PLAN

DO NOT USE FOR CONSTRUCTION

Buffer Drawing
Sheet 3 of

WATCH LINE SHEET 5 -L- STA. 35+00.00

SECTION LINE SHEET 7 | STA 47+85.00

LATERAL 'V' GRASS
SWALE W /PSM
SEE DETAIL R

SINGLE PERMANENT
ROCK CHECK DAM
W/C L.B. RIP RAP
SEE DETAIL CC

SITE

~~SITE 2~~

①

NORTH CAROLINA RAILROAD COMPANY
DB 867 PG 482

 ALLOWABLE IMPACTS ZONE 1 ALLOWABLE IMPACTS ZONE 2

DETAIL N
STANDARD BASE DITCH
(Not to Scale)

Min. D= 2.5 Ft.
B= 4.0 Ft. DDE=32 CU. YDS.
-L- STA. 36+10(RT)

-L- STA. 36+10(RT

DETAIL 0
LATERAL BASE DITCH WITH PSRM
 (Not to Scale)

Natural Ground

PSRM

F.W. Slope

Min. D = 1.5 Ft.
 d = 1.5 Ft.
 b = 2 Ft.
 B = 5 Ft.
 w = 5 Ft.
 L = 15 Ft.

PLAN VIEW

PROFILE VIEW

-1- STA 41+37/RT TO STA 42+00/RT

DETAIL R
LATERAL 'V' GRASSED SWALE

Min. D= 1.5 Ft.
Max. d= 1.5 Ft.
b= 5.0 Ft.

— STA. 34+50/RT TO STA. 36+10/RT

DETAIL CC
SPECIAL ROCK CHECK DAM (NOT TO SCALE)

6.0 Ft.

1:1.5 SLOPE

1:1.5 SLOPE

FILL SLOPE

2 TONS CLASS B RIP RAP EA.

2 TONS CLASS B RIP RAP EA.

-L- STA. 83+25(LT) TO STA. 85+00(

7/2/95

REVISIONS

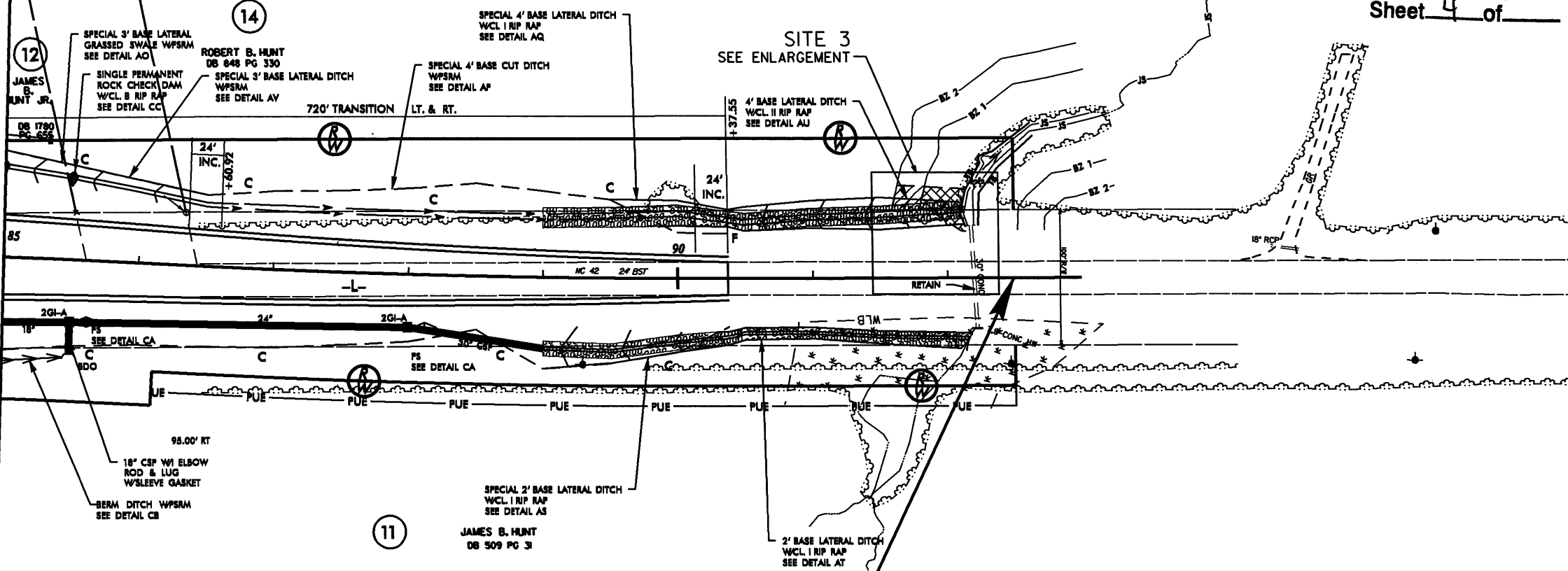
06/01/00 REV. REVISION: ADDED PUE TO PARCEL NO. 11, DDK

*****SYTIME*****
*****DGN*****
*****USERNAME*****

GRASS SWALE DATA	
DA=	7.2 Ac (at last check dam) 9.1 Ac (total DA)
SLOPE=	0.01784
I. REC.=	910 Ft. (100 Ft. per 1 Acre of DA)
PH. I. L.	76+30 TO 85+50 (LT)
Q2=	8.1 CFS
Q3=	1.8 CFS
Q4=	0.9 CFS
Q5=	0.9 CFS
Q6=	2.0 CFS
Q7=	0.9 CFS

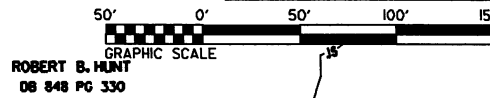
-L- STA. 85+50 (LT)

MATCH LINE SHEET 9 -L- STA. 85+00.00



END TIP PROJECT R-3825A
-L- POT STA. 92+50.00

BUFFER PERMIT DWG.



Buffer Drawing
Sheet 4 of 4

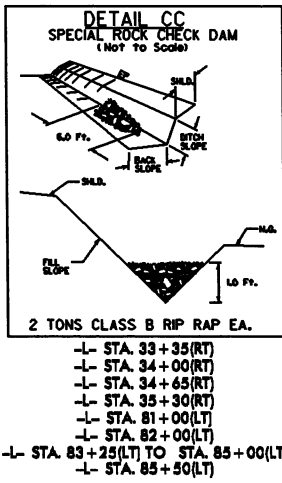
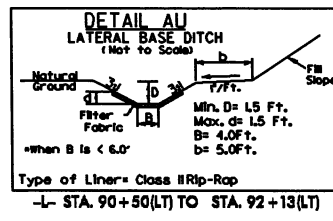
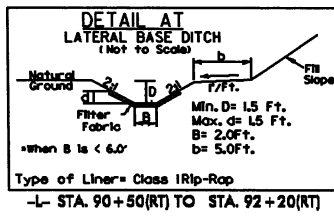
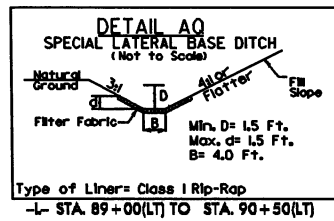
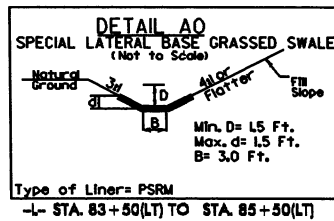
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RDW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		DO NOT USE FOR CONSTRUCTION	



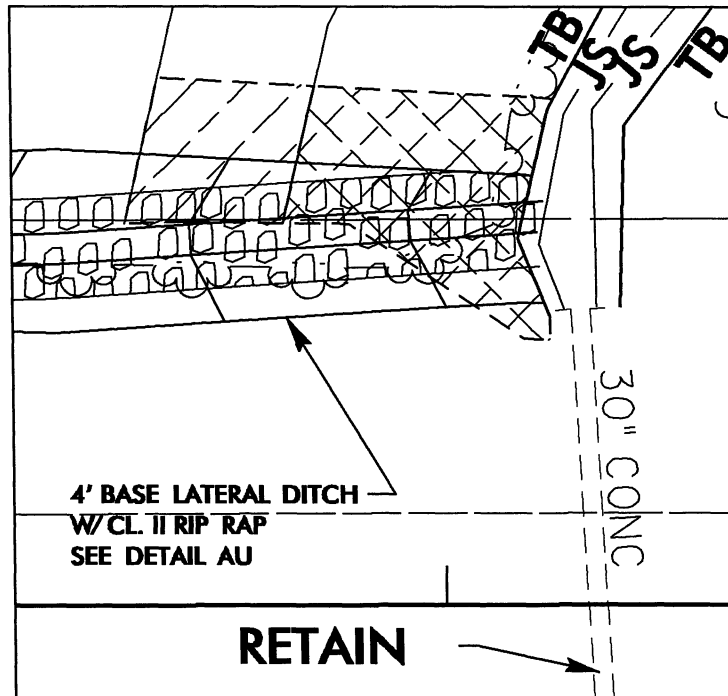
ALLOWABLE IMPACTS ZONE 1



ALLOWABLE IMPACTS ZONE 2



ENLARGEMENT SHOWS ALLOWABLE
IMPACTS TO BUFFER ZONE 1, 2 AND
ALLOWANCE FOR 10FT+. MECHANIZED CLEARING



ENLARGEMENT
SITE 3

PLAN VIEW



25' 0' 25' 50'

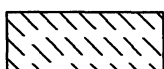


GRAPHIC SCALE

Buffer Drawing
Sheet 5 of 7



ALLOWABLE IMPACTS ZONE 1



ALLOWABLE IMPACTS ZONE 2

NCDOT

DIVISION OF HIGHWAYS

JOHNSTON COUNTY

PROJECT: 34552.1.1 (R-3825A)

NC 42 FROM US 70 AT

CLAYTON TO

EAST OF SR 1902

SHEET

OF

10/16/01

8-FEB-2011 15:00
3:\Utilities\Rdu_Ut\Pro\1r3825a-rdy-tsh.dgn

CONTRACT:

The map shows Clayton, Missouri, with the city limit indicated by a dashed line. The Neuse River is shown on the right side. The Southern Railroad runs diagonally across the map. The project area is bounded by the 'BEGIN PROJECT' and 'END PROJECT' markers. The map also shows the 2008-2037 project area, the 2008-2037 project area, and the 2008-2037 project area.

[illegible]

NAD 83

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

[illegible]

Utility Permit Drawing
Sheet 1 **of** 5



JOHNSTON COUNTY

**LOCATION: NC 42 FROM US 70 IN CLAYTON TO
0.31 MI EAST OF SR 1902 (GLEN LAUREL RD)**

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

DESIGN DATA
ADT 2010 = 20,500
ADT 2035 = 34,100
DHV = 10 %
D = 60 %
T = 3 % *
V = 50 MPH
*** (TTST 1 % + DUAL 2 %)**
FUNC. CLASS= RURAL
MAJOR COLLECTOR
REGIONAL TIER

LENGTH ROADWAY TIP PROJECT R-3825A = 1.552 MILES
TOTAL LENGTH OF TIP PROJECT R-3825A = 1.552 MILES

1000 Birch Ridge Dr., Raleigh, NC 27610

RIGHT OF WAY DATE:
AUGUST 29, 2008

LETTING DATE:
MARCH 20, 2012

SUSAN C. LANCASTER, PE
PROJECT DESIGN ENGINEER

SIGNATURE: _____ **P.E.**
ROADWAY DESIGN ENGINEER

SIGNATURE _____ P.E. _____



P.E.

STATE HIGHWAY DESIGN ENGINEER

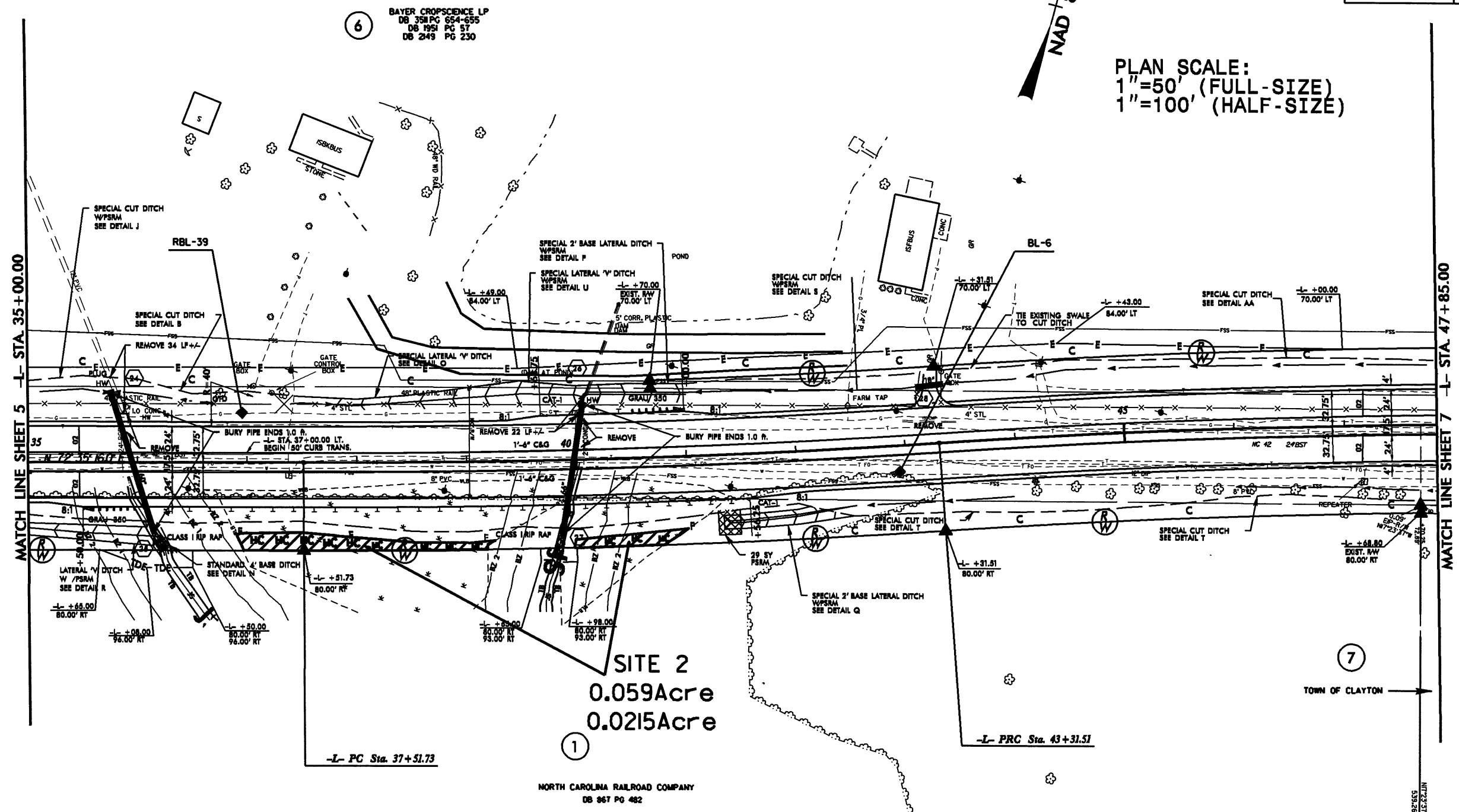
8-FEB-20115:12
R:\Utilities\Rdu_Ut\Proj\R3825a_rdy06_NEU_Permit.dgn
\$\$\$\$\$ISFRNAME\$\$\$\$\$

NEU PERMIT DRAWING (FEB.18, 2011)

Utility Permit Drawing
Sheet 2 of 5

PLAN SCALE:
1"=50' (FULL-SIZE)
1"=100' (HALF-SIZE)

PROJECT REFERENCE NO.	SHEET NO.
R-3825A	6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<div style="border: 2px solid black; padding: 5px; text-align: center;"> PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION </div>	



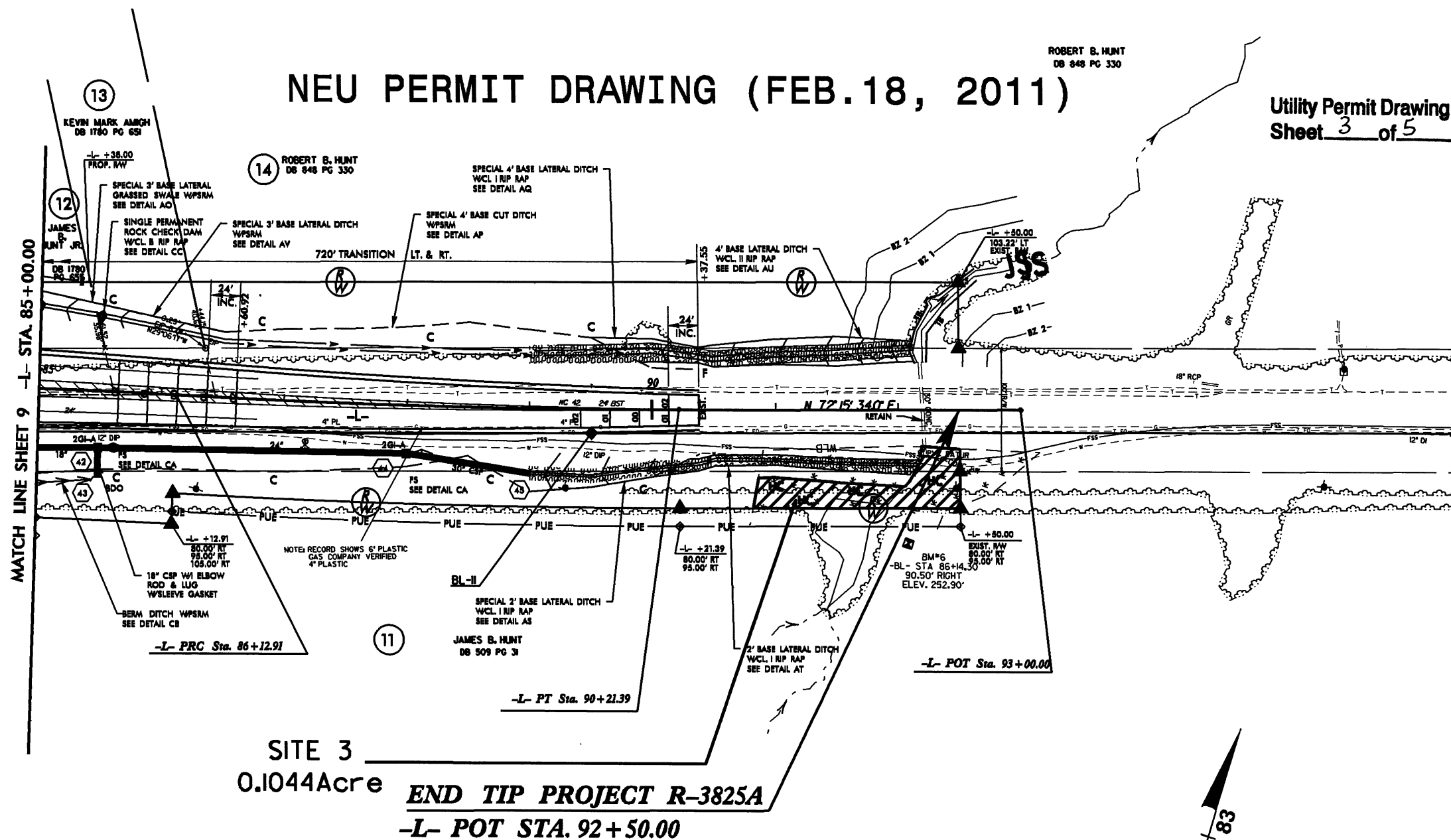
DENOTES HAND CLEARING

-L-	
PI Sta 40+41.74	PI Sta 46+21.53
$\Delta = 4^{\circ}09'08.6$ (LT)	$\Delta = 4^{\circ}09'08.6$ (RT)
$D = 0^{\circ}42'58.3''$	$D = 0^{\circ}42'58.3''$
$L = 579.78'$	$L = 579.78'$
$T = 290.02'$	$T = 290.02'$
$R = 8,000.00'$	$R = 8,000.00'$
SE = NC	SE = NC

<p>DRIVEWAY RADII ARE 20' UNLESS OTHERWISE NOTED</p>
<p>FOR -L- PROFILE SEE SHEETS 11 & 12</p>

Utility Permit Drawing
Sheet 3 of 5

PLAN SCALE:
 1"=50' (FULL-SIZE)
 1"=100' (HALF-SIZE)



DENOTES HAND CLEARING

DRIVEWAY RADII ARE 20' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHEET 13

REVISIONS

360010 RAW REVISION: ADDED FUE TO PARCEL NO. 11, DDK

8-FEB-2011 5:15
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\$\$\$\$\$USERNAME\$\$\$\$\$

NAMES AND ADDRESSES

[illegible]

Utility Permit Drawing
Sheet 4 of 5

NORTH CAROLINA

DIVISION OF HIGHWAYS

CHOWAN COUNTY

TIP PROJECT: (R-3825A)

**NC 42 FROM US 70 IN CLAYTON TO
0.31 MI EAST OF SR 1902
(GLEN LAUREL RD)**

2/18/11

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS						SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)	
2	-L-17+84 TO 20+78	Aerial Power line					0.08						
3	-L-17+84 TO 20+78	Aerial Power line					0.10						
TOTALS:			0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	

Note : 2 sq. ft. permanent impact in the wetlands from permanent pole installation at site 2.

Utility Permit Drawing
Sheet 5 of 5

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 JOHNSTON COUNTY
 TIP PROJECT (R-3825A)

2/18/2011

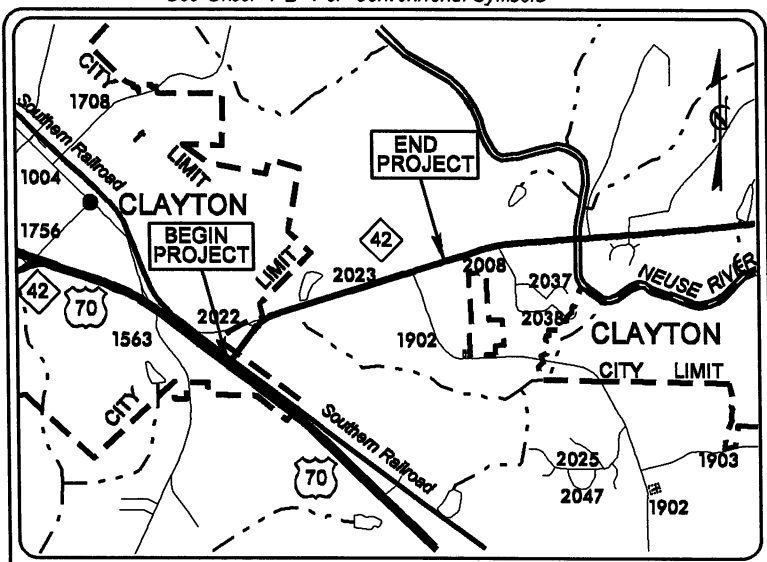
9/29/99

24 MAR 2011 10:11 AM
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3825A.DWG

TIP PROJECT: R-3825A

CONTRACT:

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



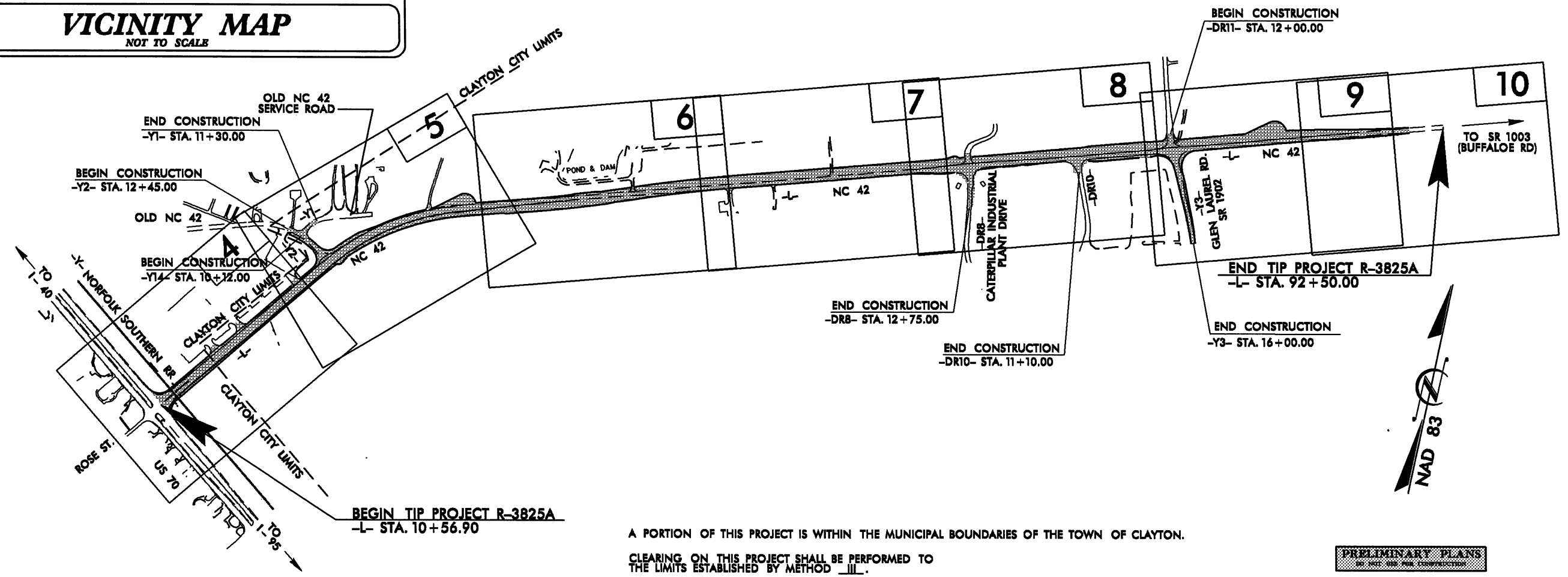
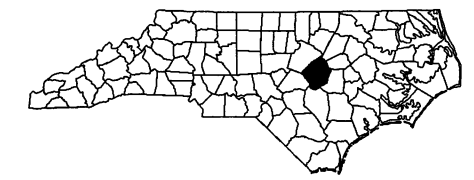
VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
JOHNSTON COUNTY

LOCATION: NC 42 FROM US 70 IN CLAYTON TO
0.31 MI EAST OF SR 1902 (GLEN LAUREL RD)

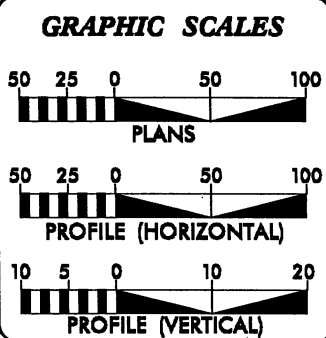
TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNALS,
AND SIGNING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3825A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34552.1.1	STP-42(4)	P.E.	
34552.2.2	STP-42(4)	RW & UTILITIES	



A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF CLAYTON.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS



DESIGN DATA
ADT 2010 = 20,500
ADT 2035 = 34,100
DHV = 10 %
D = 60 %
T = 3 % *
V = 50 MPH
* (TTST 1 % + DUAL 2 %)
FUNC. CLASS = RURAL
MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH
LENGTH ROADWAY TIP PROJECT R-3825A = 1.552 MILES
TOTAL LENGTH OF TIP PROJECT R-3825A = 1.552 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh, NC 27610
2006 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE: AUGUST 29, 2008
LETTING DATE: MARCH 20, 2012
GLENN W. MUMFORD, PE
PROJECT ENGINEER
SUSAN C. LANCASTER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SIGNATURE: _____ P.E.
ROADWAY DESIGN ENGINEER
SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

Note: Not to Scale***S.U.E. = Subsurface Utility Engineering**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYSPROJECT REFERENCE NO.
R-3825ASHEET NO.
1-B**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	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	---W.B.---
Proposed Wetland Boundary	---W.B.---
Existing Endangered Animal Boundary	---E.A.B.---
Existing Endangered Plant Boundary	---E.P.B.---

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	---JS---
Buffer Zone 1	---BZ 1---
Buffer Zone 2	---BZ 2---
Flow Arrow	←
Disappearing Stream	→
Spring	○
Swamp Marsh	⊕
Proposed Lateral, Tail, Head Ditch	-----
False Sump	⊕

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	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	-----
Proposed Permanent Aerial Utility Easement	-----
Proposed Permanent Drainage Utility Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Wheel Chair Ramp	WCR
Proposed Wheel Chair Ramp Curb Cut	WCR
Curb Cut for Future Wheel Chair Ramp	WCR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	XXXX

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	⊕
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	A/G Water

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	A/G Gas

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	A/G 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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23-MAR-2011 15:16
\\location\surveys\3825a_ls_id_070917.dgn
3825A LS CONTROL 070917

SURVEY CONTROL SHEET R-3825-A

PROJECT REFERENCE NO.	SHEET NO.
R-3825-A	1 D
Location and Surveys	

CONTROL DATA

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1		RBL-1	687064.4492	2165805.6781	331.81	10+73.71	59.28 RT
2		RBL-2	687869.9163	2166275.3464	326.31	19+99.59	50.82 LT
3		RBL-3	688484.7758	2166821.8244	335.24	28+09.11	58.54 LT
39		RBL-39	688812.9651	2167658.9857	316.55	36+95.77	45.05 LT
6		BL-6	688944.0345	2168245.9429	318.43	42+93.85	23.94 RT
7		BL-7	689163.9336	2168957.1193	331.78	50+40.46	50.52 RT
53		R3825-3	689263.9068	2169370.0541	328.94	54+64.39	78.70 RT
38		RBL-38	689476.6203	2170017.0439	326.46	61+45.30	69.36 RT
8		RBL-8	689719.6206	2170736.6739	321.42	69+04.48	56.56 RT
9		RBL-9	690002.1505	2171427.7976	315.20	76+48.79	2.38 LT
10		BL-10	690149.3169	2172028.7702	299.52	82+66.38	39.98 RT
11		BL-11	690354.9803	2172680.7784	264.77	89+50.36	19.57 RT
12		BL-12	690602.5536	2173450.2472	253.10	OUTSIDE PROJECT LIMITS	
BY	POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
15015		BY-1	687713.7205	2164963.2472	320.26	OUTSIDE PROJECT LIMITS	
15016		BL-1	687079.9134	2165803.8421	331.50	12+76.06	76.53 RT
15017		BY-2	686481.1639	2166547.0856	325.32	OUTSIDE PROJECT LIMITS	
BY2	POINT	DESC.	NORTH	EAST	ELEVATION	Y2 STATION	OFFSET
68		BY2-1	688267.7900	2165946.2030	330.88	OUTSIDE PROJECT LIMITS	
67		BY2-2	688298.4060	2166396.4350	335.15	13+61.19	31.98 LT
A103		BL-3	688484.7758	2166821.8244	335.24	OUTSIDE PROJECT LIMITS	
BY5	POINT	DESC.	NORTH	EAST	ELEVATION	Y3 STATION	OFFSET
209		RBL-9	690002.1500	2171427.7970	315.20	10+04.28	47.31 LT
201		BY5-1	689693.4250	2171541.7530	312.90	13+31.86	15.86 LT
202		BY5-2	689345.5100	2171651.0240	299.00	OUTSIDE PROJECT LIMITS	
203		BY5-3	688816.1270	2171822.1240	270.52	OUTSIDE PROJECT LIMITS	
204		BY5-4	688164.7730	2172049.8280	258.26	OUTSIDE PROJECT LIMITS	

BENCHMARK DATA

TBM1 ELEVATION = 335.24
N 686770 E 2166202
BY STATION 20+57.8 LEFT
CHISELED 'X' ON TOP CORNER OF HEAD-
WALL OF 54" RCP.
TBM-1

TBM2 ELEVATION = 331.65
N 687084 E 2166028
BL STATION 6+29.182 RIGHT
RR SPIKE IN BASE OF 24" PINE
TBM-2

TBM3 ELEVATION = 328.04
N 688472 E 2167220
BL STATION 26+21.157 RIGHT
RR SPIKE IN BASE OF 12" PINE
TBM-3

TBM4 ELEVATION = 339.39
N 688945 E 2169154
BL STATION 46+40.259 RIGHT
RR SPIKE IN BASE OF 26" OAK
TBM-4

TBM5 ELEVATION = 320.77
N 689857 E 2171546
BL STATION 71+92.169 RIGHT
RR SPIKE IN BASE OF 20" PINE
TBM-5

TBM6 ELEVATION = 252.90
N 690348 E 2172953
BL STATION 86+14.90 RIGHT
RR SPIKE IN BASE OF 26" MAPLE
TBM-6

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/doh/preconstruct/highway/location/project/)
THE FILES TO BE FOUND ARE AS FOLLOWS:
R3825A_LS_CONTROL_070917.TXT

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

⊕ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION

DATUM DESCRIPTION

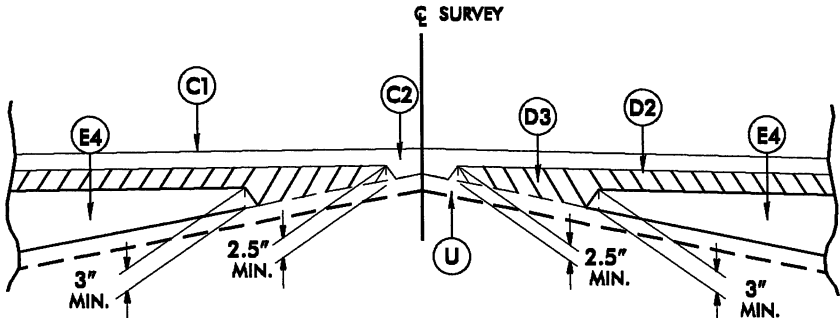
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R3825-12"
WITH NAD 83 STATE PLANE GRID COORDINATES OF
NORTHING: 694313.7327(ft) EASTING: 2196583.8253(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999889488
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R3825-12" TO -L- STATION 10+56.90 IS
S 76°48'34.4" W 31.671.18'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NGVD 29

6/2/99
24-MAR-2011 09:54
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\$\$\$\$USERNAME\$\$\$\$

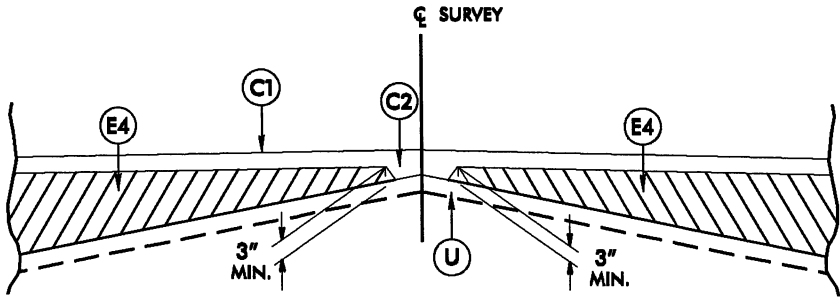
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D3	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. APPROX. 4½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
E3	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E4	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J	PROP. 8" AGGREGATE BASE COURSE.
R1	1'-6" CONCRETE CURB AND GUTTER.
R2	2'-9" CONCRETE CURB AND GUTTER.
R3	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
U	EXISTING PAVEMENT.
T	EARTH MATERIAL.
W1	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET NO. 1)
W2	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET NO. 2)
W3	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET NO. 3)

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

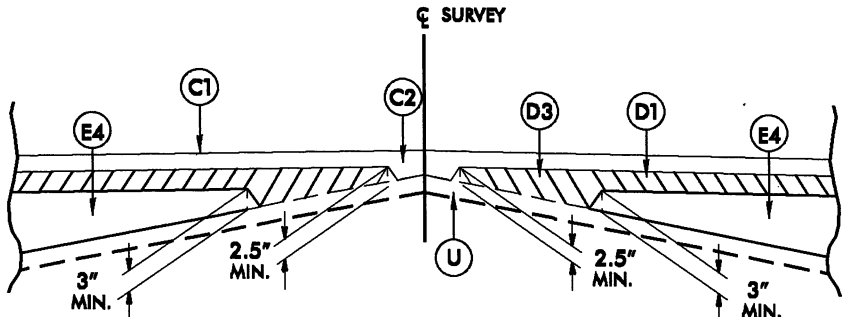
NOTES:
1) USE 2:1 SLOPES AT THE GUARDRAIL LOCATIONS AS SHOWN ON PLANS.
2) PAVE TO FACE OF GUARDRAIL AS SHOWN ON PLANS.



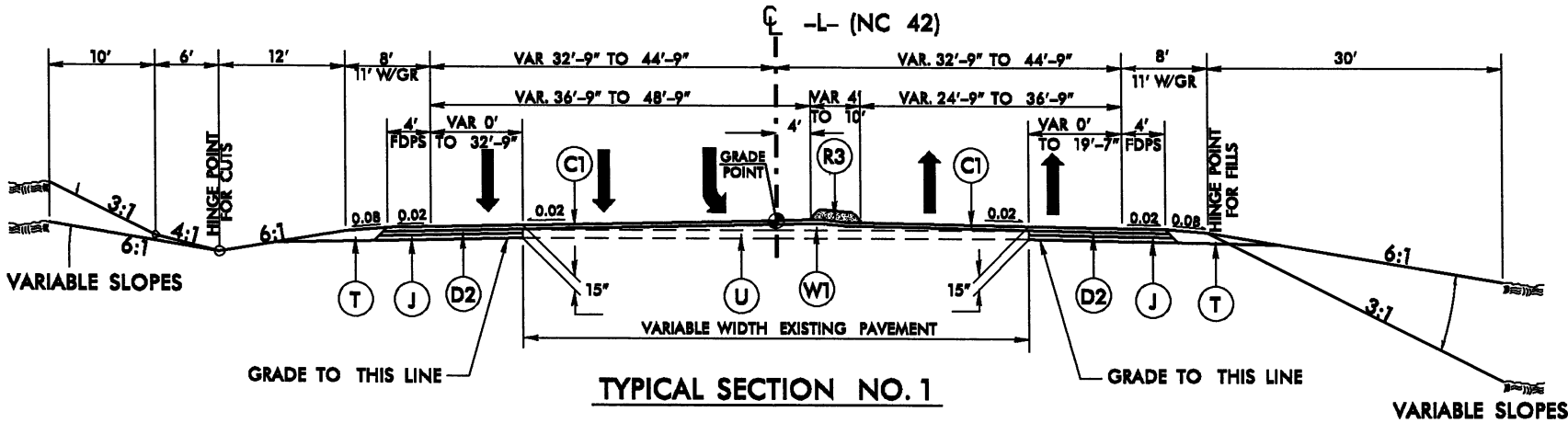
Detail Showing Method of Wedging No. 1



Detail Showing Method of Wedging No. 2



Detail Showing Method of Wedging No. 3



USE TYPICAL SECTION NO. 1
AT THE FOLLOWING LOCATIONS:
-L- STA. 10+56.90 TO STA. 15+18.00*
-L- STA. 21+02.00 TO STA. 23+52.00 (REVERSED)
-L- STA. 23+52.00 TO STA. 26+50.00*
-L- STA. 29+72.00 TO STA. 32+82.00 (REVERSED)
-L- STA. 61+35.00 TO STA. 62+85.00 (REVERSED)
-L- STA. 62+85.00 TO STA. 66+65.00*
-L- STA. 73+00.00 TO STA. 75+45.00 (REVERSED)
-L- STA. 75+45.00 TO STA. 78+90.00*
-L- STA. 78+90.00 TO STA. 82+15.00 (REVERSED)
* NO ISLANDS AT THE FOLLOWING LOCATIONS:
-L- STA. 10+56.90 TO STA. 11+18.00
-L- STA. 11+48.45 TO STA. 11+74.45
-L- STA. 23+52.00 TO STA. 24+52.00
-L- STA. 62+85.00 TO STA. 64+15.00
-L- STA. 75+45.00 TO STA. 76+60.00

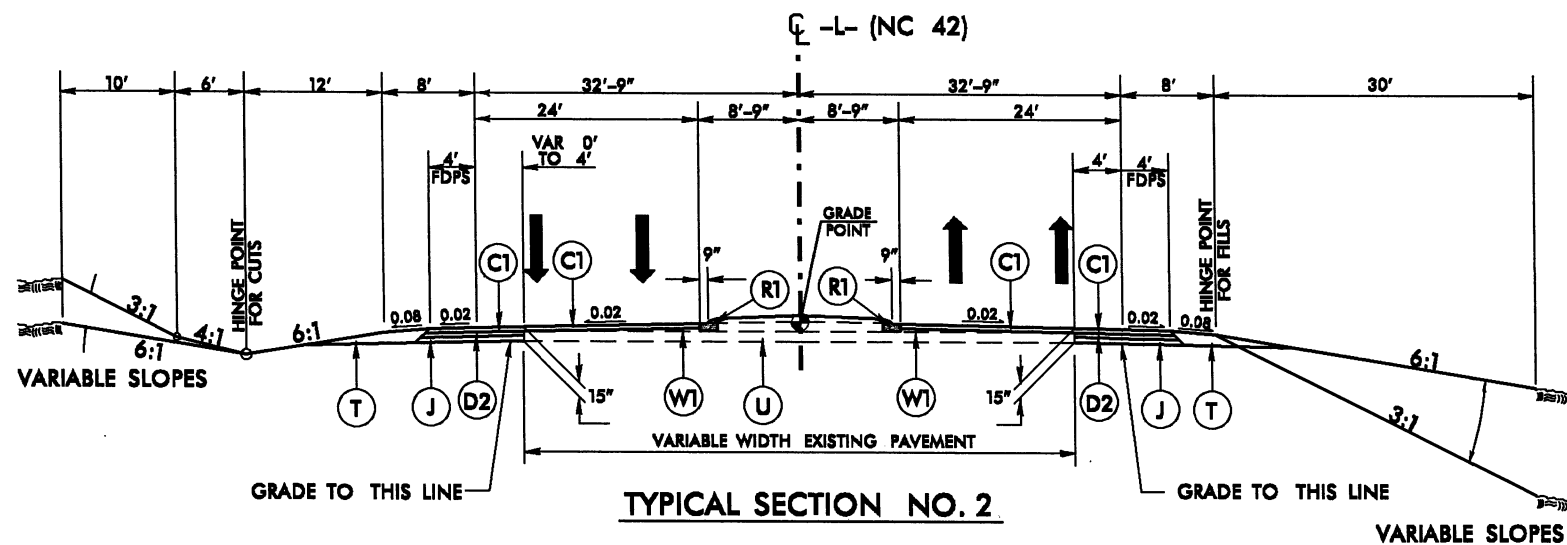
TRANSITION FROM TYPICAL SECTION NO.1
AT -L- STA. 14+18.00 TO TYPICAL SECTION
NO. 2 AT -L- STA. 15+18.00

TRANSITION FROM TYPICAL SECTION NO.1
AT -L- STA. 25+50.00 TO TYPICAL SECTION
NO. 3A AT -L- STA. 26+50.00

TRANSITION FROM TYPICAL SECTION NO.1
AT -L- STA. 65+65.00 TO TYPICAL SECTION
NO. 3 AT -L- STA. 66+65.00

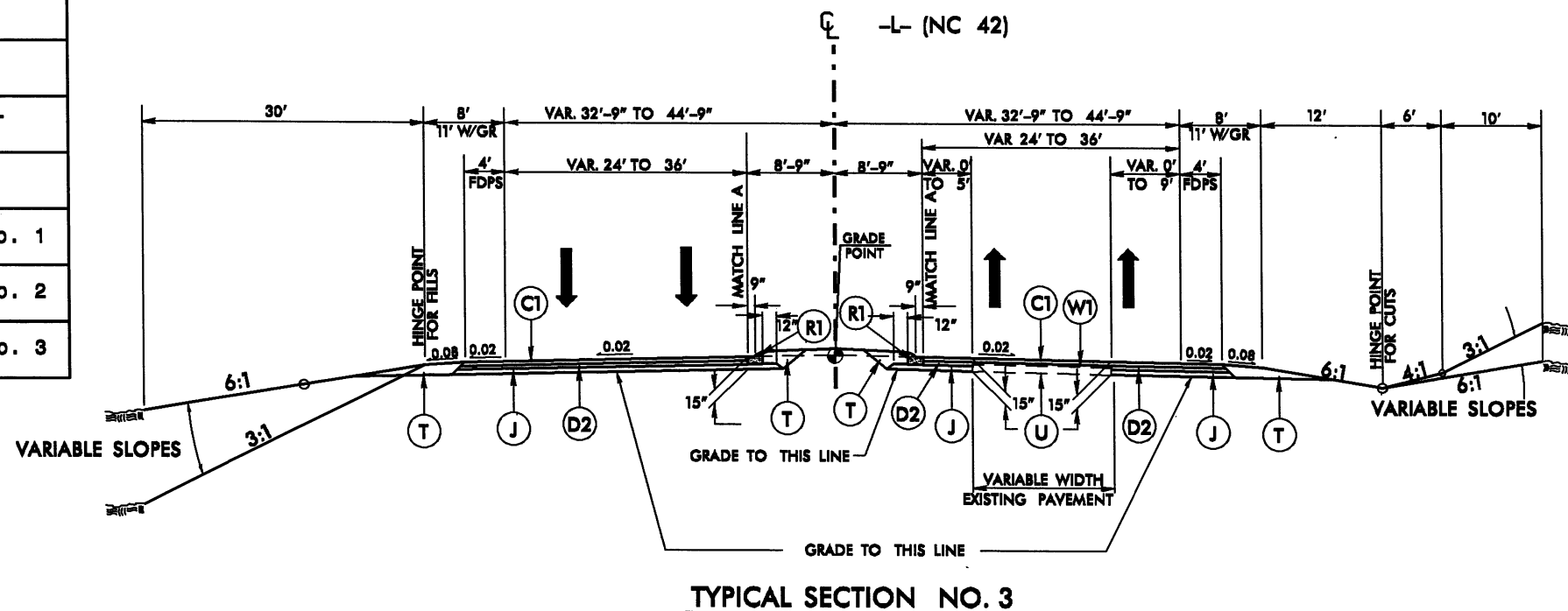
TRANSITION FROM TYPICAL SECTION NO.1
AT -L- STA. 78+90.00 TO REVERSE OF TYPICAL
SECTION NO. 1 AT -L- STA. 79+90.00

C1	3" S9.5B
C2	VAR. S9.5B
D1	2½" I19.0B
D2	4" I19.0B
D3	VAR. I19.0B
E1	4" B25.0B
E2	4½" B25.0B
E3	5" B25.0B
E4	VAR. B25.0B
J	8" ABC
R1	1'-6" C & G
R2	2'-9" C & G
R3	5" CONC. ISLAND
U	EXISTING PAVEMENT
T	EARTH MATERIAL
W1	WEDGING DETAIL No. 1
W2	WEDGING DETAIL No. 2
W3	WEDGING DETAIL No. 3



USE TYPICAL SECTION NO.2
AT THE FOLLOWING LOCATION:
-L- STA. 15+18.00 TO STA. 21+02.00

TRANSITION FROM TYPICAL SECTION NO. 2
AT -L- STA. 20+02.00 TO TYPICAL SECTION
NO. 1 AT -L- STA. 21+02.00



USE TYPICAL SECTION NO.3
AT THE FOLLOWING LOCATIONS:

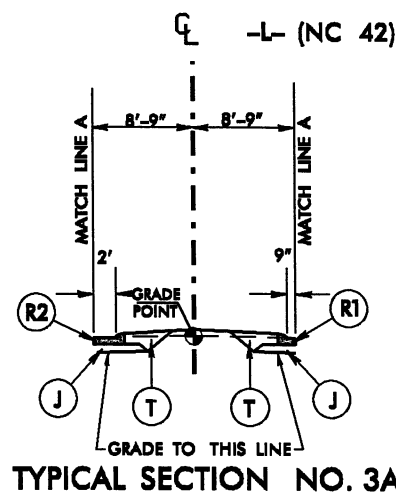
-L- STA. 26+50.00 TO STA. 29+72.00 (REVERSED)
-L- STA. 32+82.00 TO STA. 38+50.00* (REVERSED)
-L- STA. 43+00.00 TO STA. 61+35.00*
-L- STA. 66+65.00 TO STA. 73+00.00

* NO ISLANDS AT THE FOLLOWING LOCATION:
-L- STA. 32+82.00 TO STA. 33+61.00
-L- STA. 48+70.00 TO STA. 49+40.00

TRANSITION FROM TYPICAL SECTION NO.3
AT -L- STA. 28+72.00 TO TYPICAL SECTION
NO. 1 AT -L- STA. 29+72.00

TRANSITION FROM TYPICAL SECTION NO.3
AT -L- STA. 60+35.00 TO TYPICAL SECTION
NO. 1 AT -L- STA. 61+35.00

TRANSITION FROM TYPICAL SECTION NO.3
AT -L- STA. 72+00.00 TO TYPICAL SECTION
NO. 1 AT -L- STA. 73+00.00



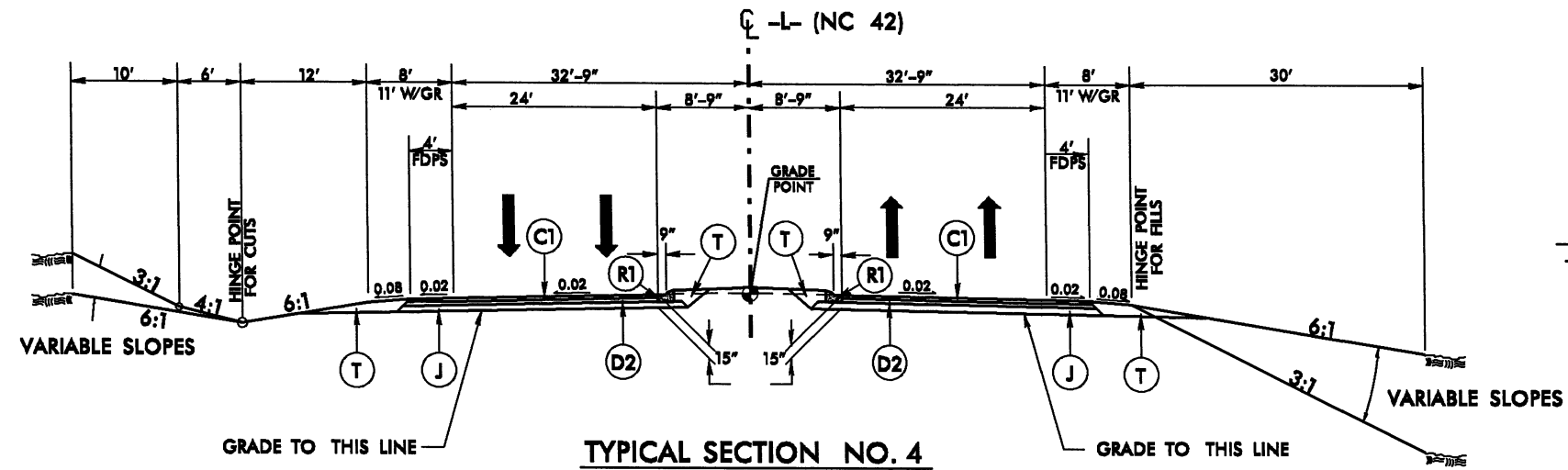
USE TYPICAL SECTION NO.3A IN
CONJUNCTION WITH TYPICAL SECTION
NO. 3 AT THE FOLLOWING LOCATION:
-L- STA. 25+50.00* TO STA. 29+72.00*

*50' TRANSITION BETWEEN 1'-6" CURB AND 2'-9" CURB

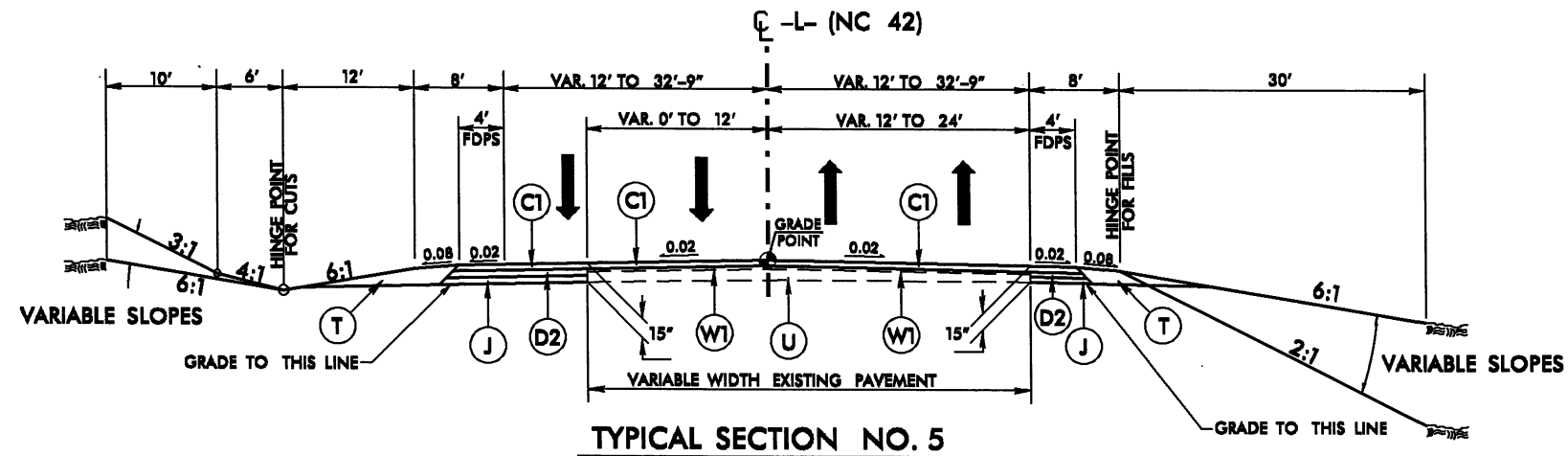
NOTES:
1) USE 2:1 SLOPES AT THE GUARDRAIL LOCATIONS
AS SHOWN ON PLANS.
2) PAVE TO FACE OF GUARDRAIL
AS SHOWN ON PLANS.
3) FOR NARROW WIDENING OF THE L-LINE, 4.0"
B25.0B MAY BE USED IN LIEU OF 8.0" ABC.

24-MAR-2011 09:48
P:\Roadway\proj\3825a_rdy_tjy.dgn

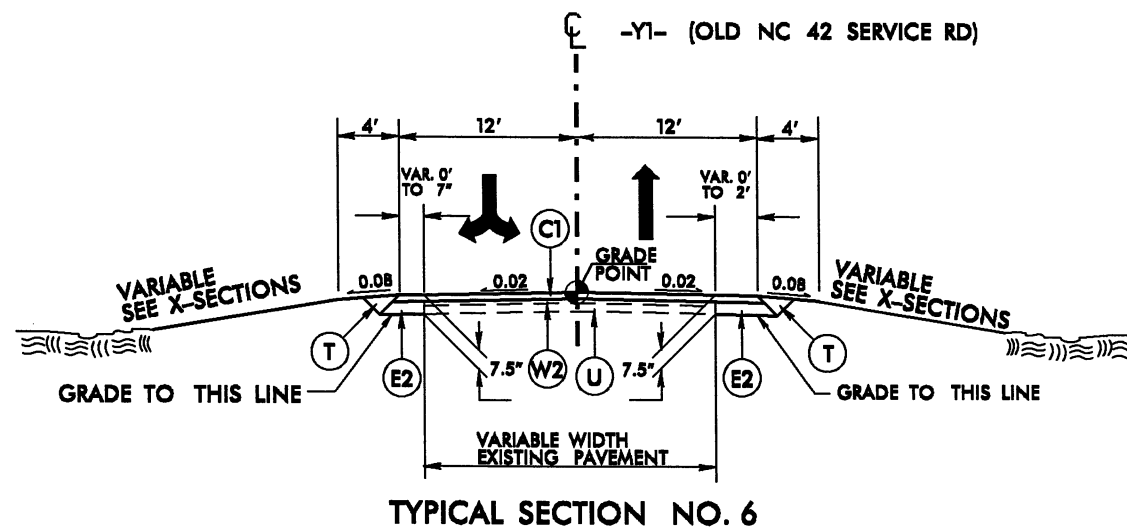
C1	3" S9.5B
C2	VAR. S9.5B
D1	2½" I19.0B
D2	4" I19.0B
D3	VAR. I19.0B
E1	4" B25.0B
E2	4½" B25.0B
E3	5" B25.0B
E4	VAR. B25.0B
J	8" ABC
R1	1'-6" C & G
R2	2'-9" C & G
R3	5" CONC. ISLAND
U	EXISTING PAVEMENT
T	EARTH MATERIAL
W1	WEDGING DETAIL No. 1
W2	WEDGING DETAIL No. 2
W3	WEDGING DETAIL No. 3



USE TYPICAL SECTION NO.4
AT THE FOLLOWING LOCATION:
-L- STA. 38+50.00 TO STA. 43+00.00



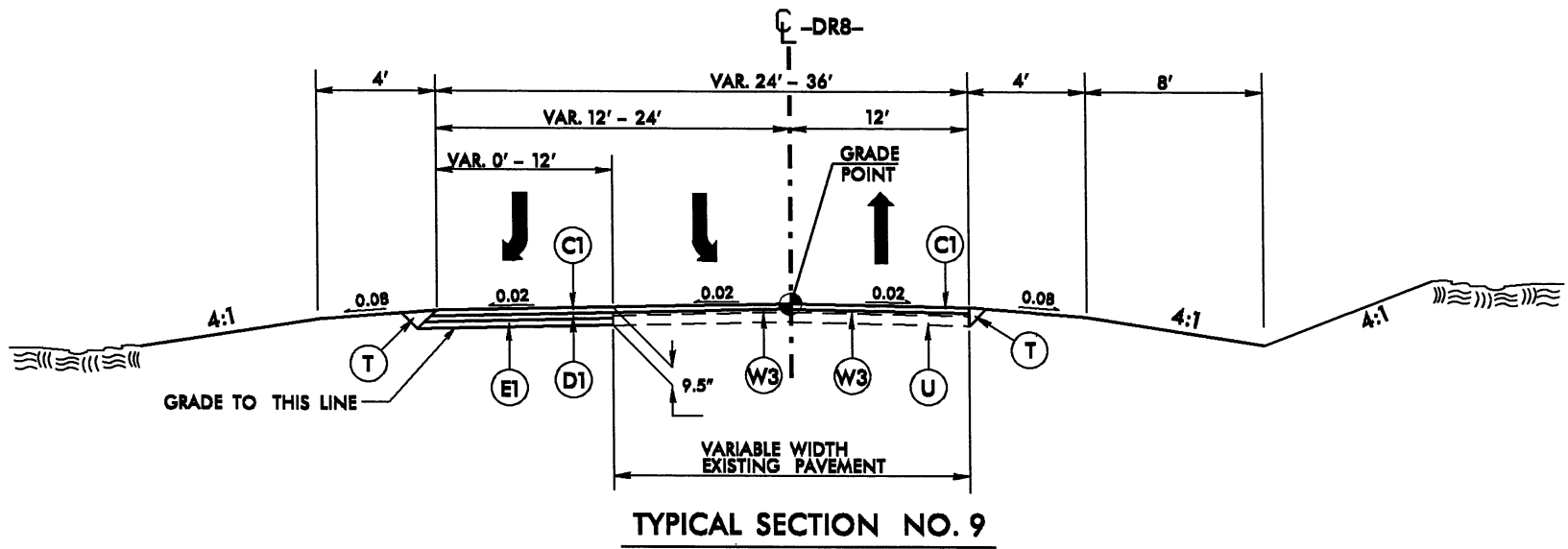
USE TYPICAL SECTION NO.5
AT THE FOLLOWING LOCATION:
-L- STA. 82+15.00 TO STA. 90+37.55



USE TYPICAL SECTION NO.6
AT THE FOLLOWING LOCATION:
-Y1- STA. 10+12.00 TO STA. 11+30.00

NOTES:
1) USE 2:1 SLOPES AT THE GUARDRAIL LOCATIONS
AS SHOWN ON PLANS.
2) PAVE TO FACE OF GUARDRAIL
AS SHOWN ON PLANS.
3) FOR NARROW WIDENING OF THE L-LINE, 4.0"
B25.0B MAY BE USED IN LIEU OF 8.0" ABC.

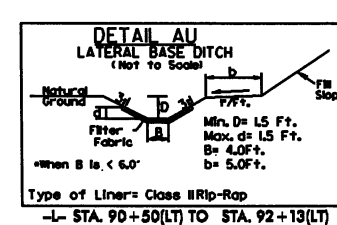
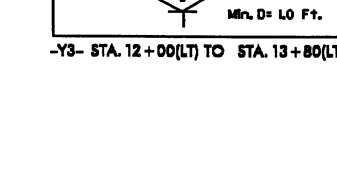
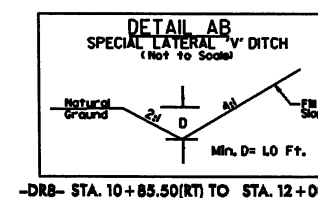
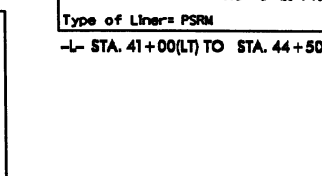
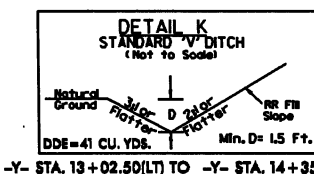
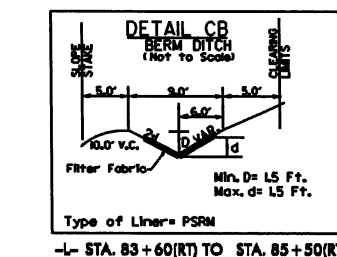
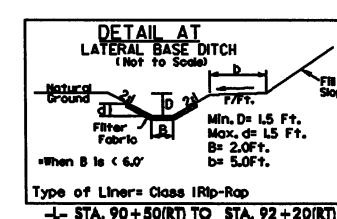
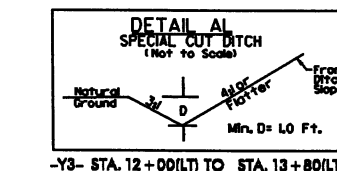
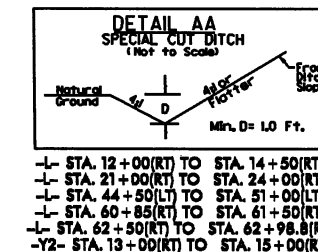
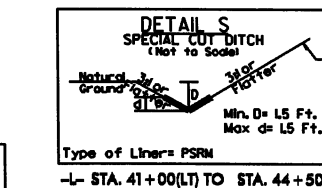
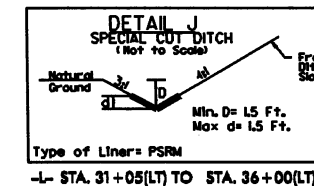
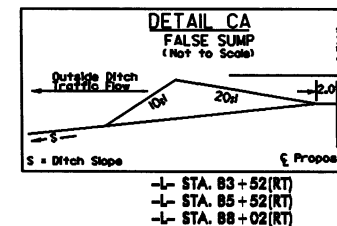
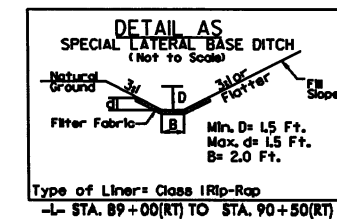
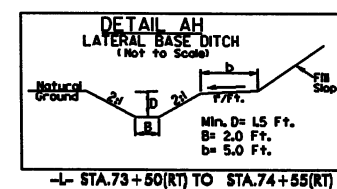
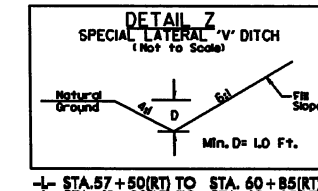
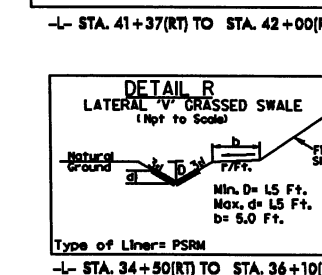
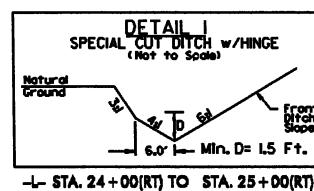
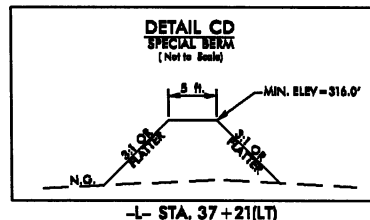
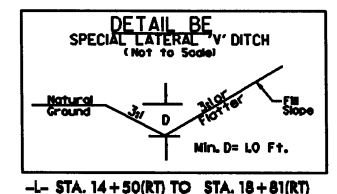
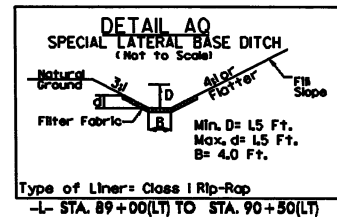
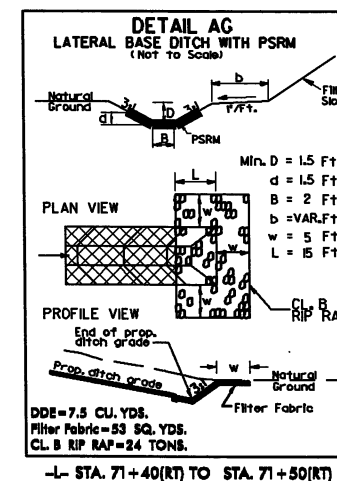
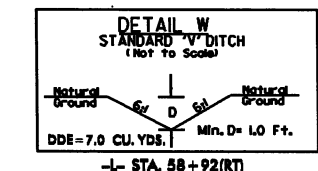
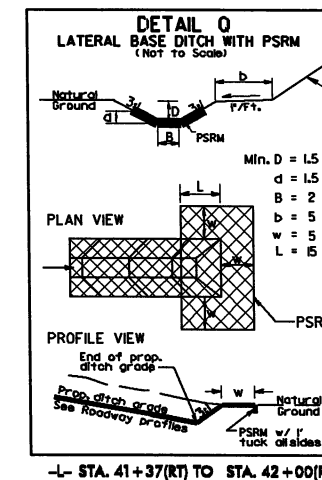
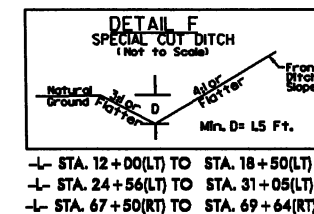
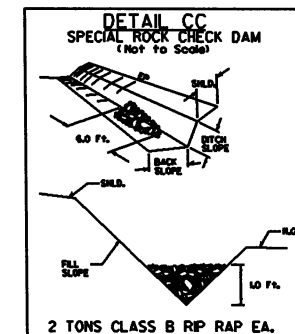
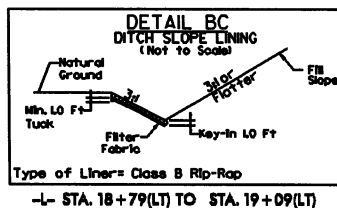
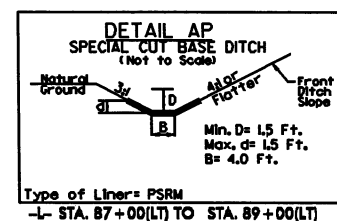
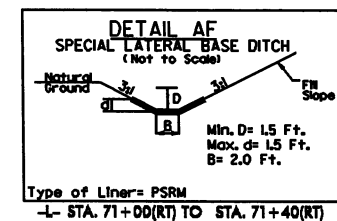
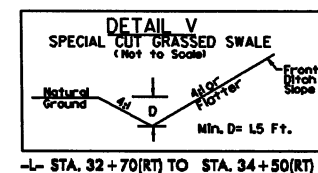
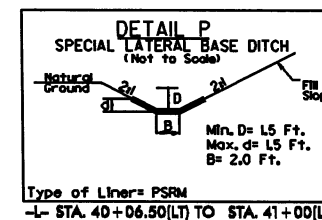
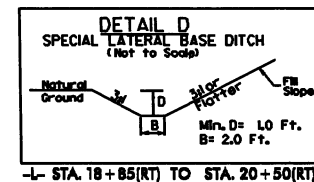
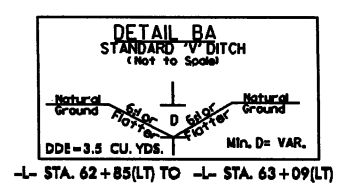
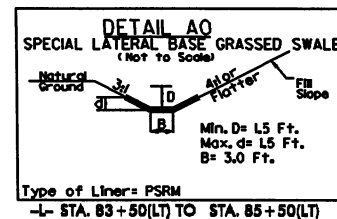
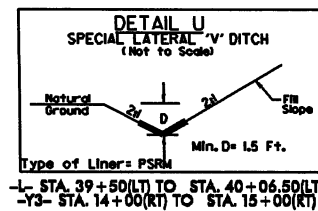
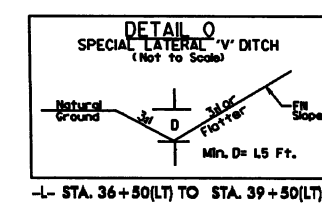
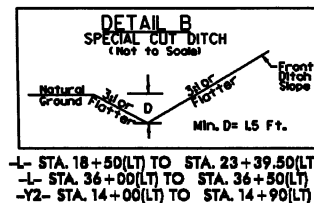
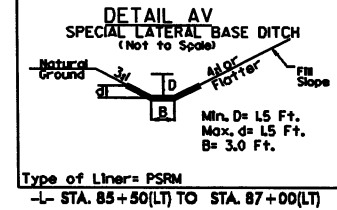
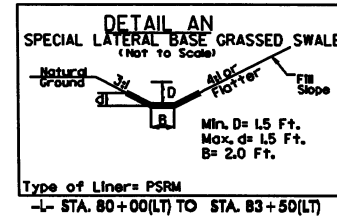
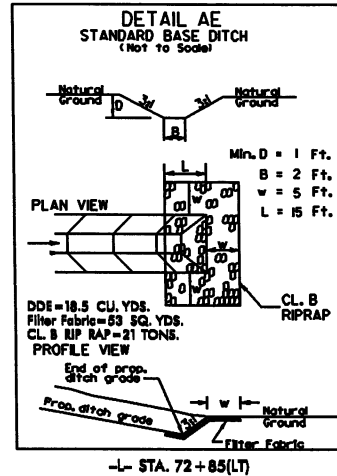
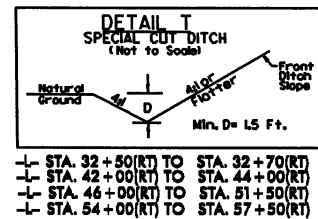
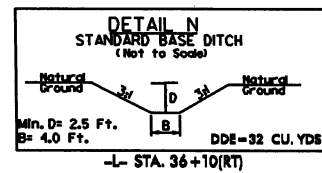
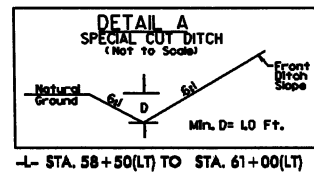
C1	3" S9.5B
C2	VAR. S9.5B
D1	2½" I19.0B
D2	4" I19.0B
D3	VAR. I19.0B
E1	4" B25.0B
E2	4½" B25.0B
E3	5" B25.0B
E4	VAR. B25.0B
J	8" ABC
R1	1'-6" C & G
R2	2'-9" C & G
R3	5" CONC. ISLAND
U	EXISTING PAVEMENT
T	EARTH MATERIAL
W1	WEDGING DETAIL No. 1
W2	WEDGING DETAIL No. 2
W3	WEDGING DETAIL No. 3



USE TYPICAL SECTION NO.9
AT THE FOLLOWING LOCATION:
-DR8- STA. 10+32.79 TO STA. 12+75.00

PROJECT REFERENCE NO. R-3825A	SHEET NO. 2-D
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PROJECT REFERENCE NO.	SHEET NO.
R-3825A	2-E
MW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS	

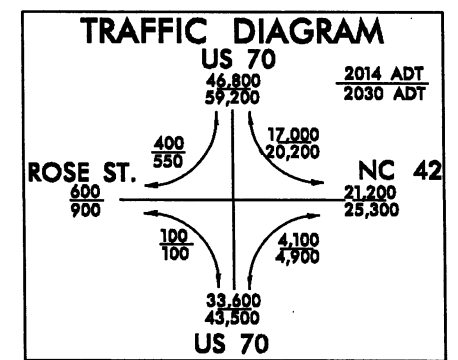


7/2/99

23-MAR-2011 14:05
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*****USERNAME*****

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-3825A	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



ALBEMARLE PROPERTIES LLC
DB 263 PG 185

15 BK/MTL BUS

LINE BACKSLOPE OF CUT
DITCH W/CL. 8 RIP RAP
SEE DETAIL BC
EST. 19.5 TONS RIP RAP
& 44 SQ. YDS. FILTER FABRIC

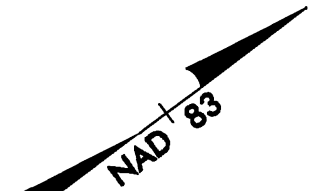
RBL-2

SPECIAL CUT DITCH
SEE DETAIL B

CLAYTON CITY LIMITS

MATCH LINE SHEET 5 -L- STA. 21+05.00

THE LAMPE CO., INC.
DB 1487 PG 67



-Y- POT Sta. 10+00.00

100' MEDIAN TURN
LANE TAPER

8' CHL & 35BW

10' CONC

10' CONC

10' CONC

10' CONC

10' CONC

10' CONC

10' CONC

10' CONC

10' CONC

10' CONC

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10' CONC

10' CONC

10' CONC

10' CONC

BEGIN TIP PROJECT R-3825A
-L- STA. 10+56.90

-Y- POT Sta. 14+10.50

BM#2
-L- STA 12+23.20
225.00' RIGHT
ELEV. 331.65'

NORTH CAROLINA RAILROAD COMPANY
DB 867 PG 482

CLAYTON CITY LIMITS

1

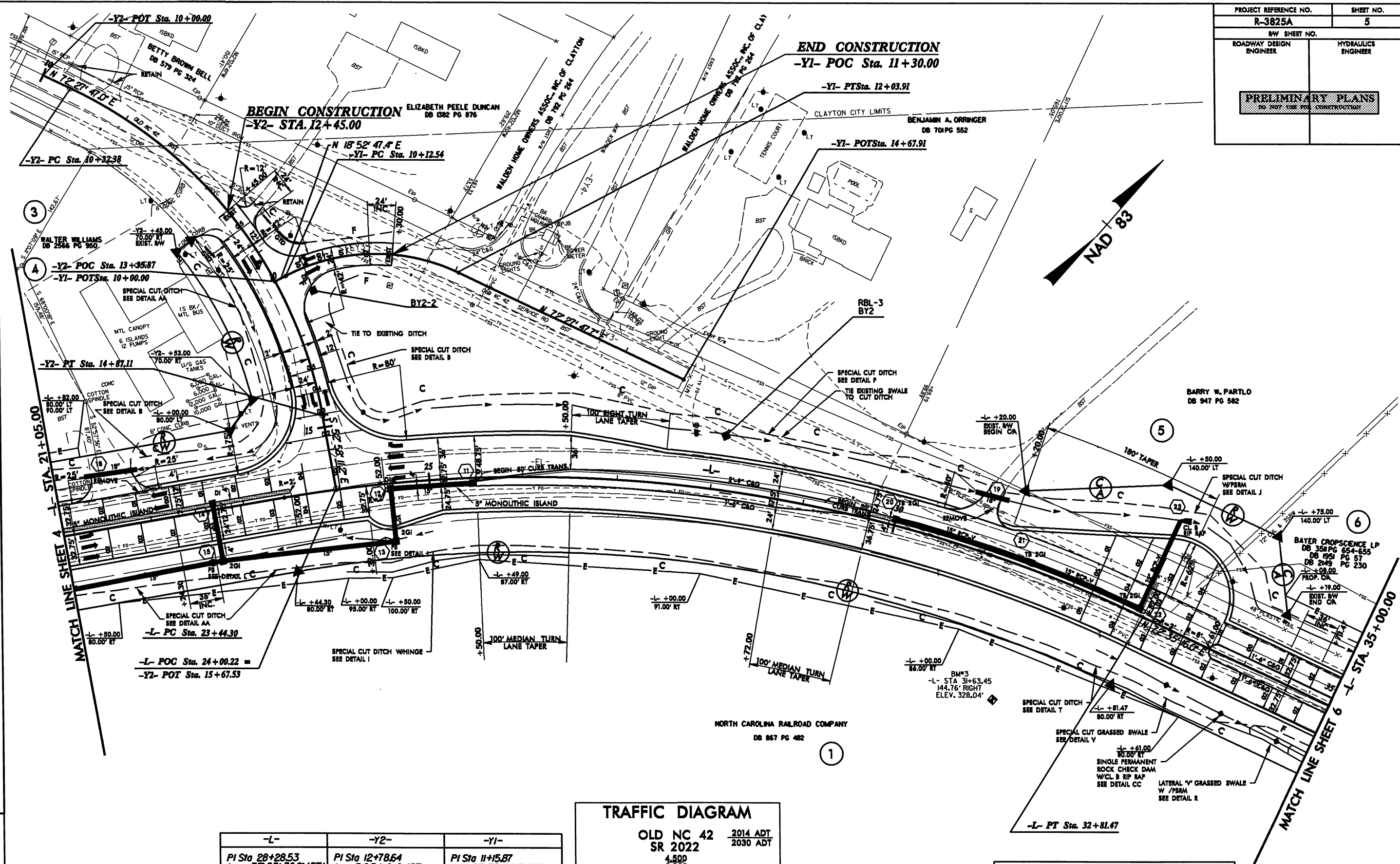
DRIVEWAY RADII ARE 20' UNLESS
OTHERWISE NOTED
FOR -L- PROFILE SEE SHEET 11

7/2/99

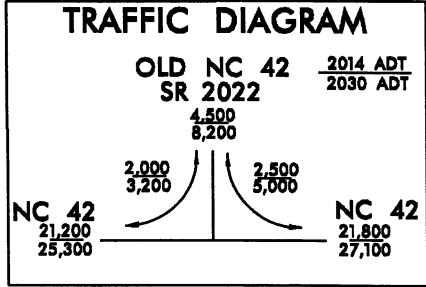
PROJECT REFERENCE NO.		SHEET NO.	
R-3825A		5	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div>			

REVISIONS
03/23/11 RW REVISIONS: ADDED A U-TURN BULB, CA AND RW AND REMOVED THE TCE ON PARCELS NO. 5 AND 6. SCL

23-MAR-2011 14:05
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USER:RAME



-L-	-Y2-	-Y1-
PI Sta 28+28.53 $\Delta = 35^\circ 33' 36.0''$ (RT) D = 3' 47' 39.9" L = 937.17' T = 484.23' R = 1510.00' SE = 0.05 INC = 36' RUNOFF = 180'	PI Sta 12+78.64 $\Delta = 54^\circ 34' 01.8''$ (RT) D = 12' 00' 00.0" L = 454.73' T = 246.26' R = 477.46' SE = 0.05 INC = 24' RUNOFF = SEE PLANS	PI Sta 11+15.87 $\Delta = 53^\circ 35' 00.3''$ (RT) D = 28' 00' 00.0" L = 191.37' T = 103.33' R = 204.63' SE = SEE PLANS INC = 24' RUNOFF = SEE PLANS

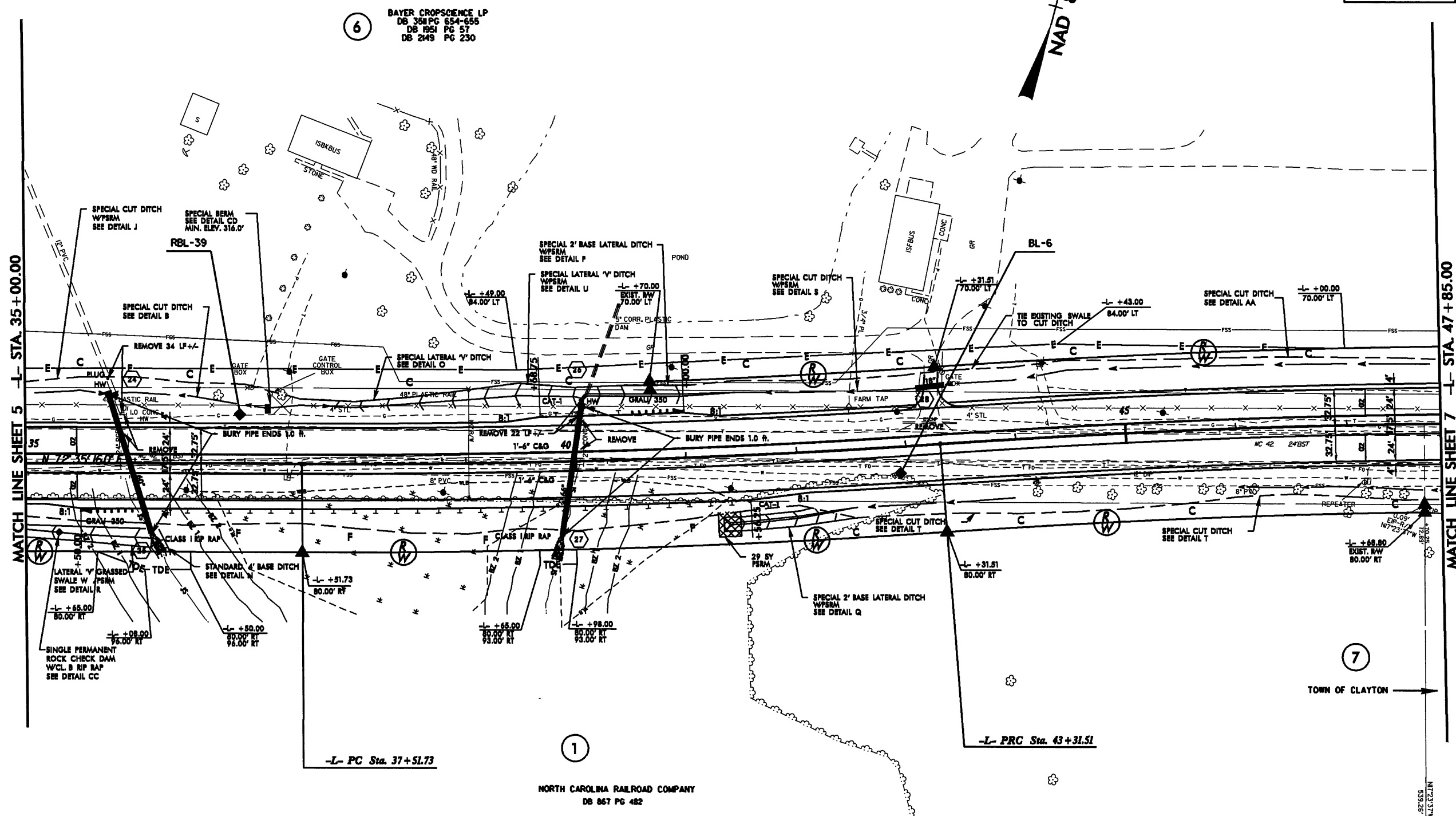


DRIVEWAY RADII ARE 20' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHEET 11

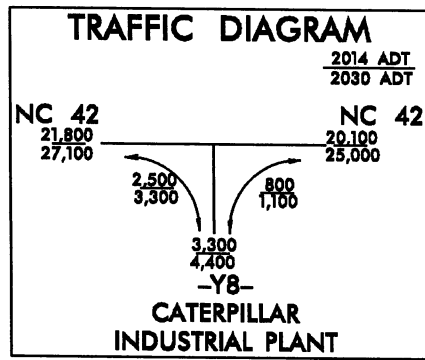
FOR -Y1- PROFILE SEE SHEET 14

FOR -Y2- PROFILE SEE SHEET 14

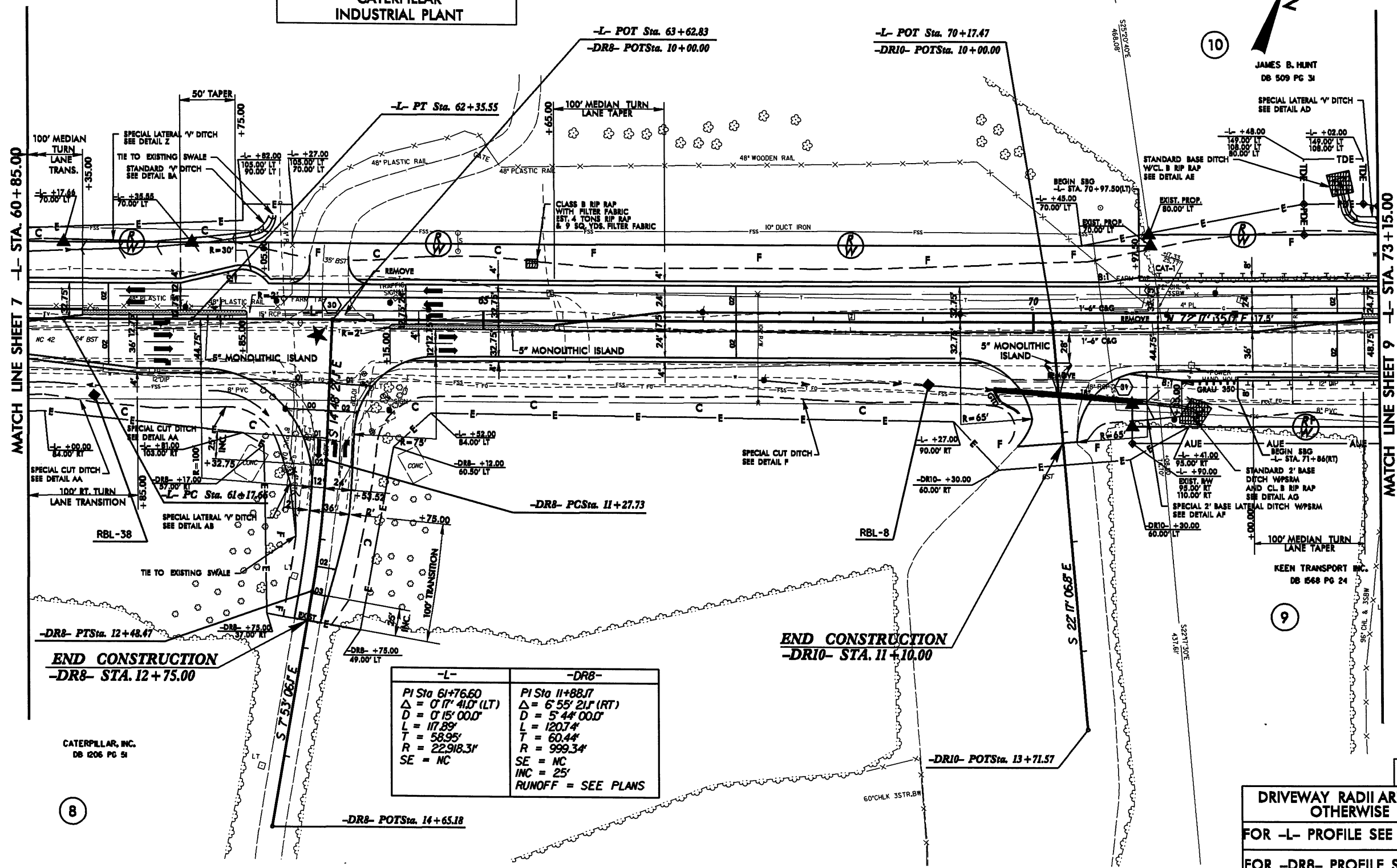


-L-	
PI Sta 40+41.74	PI Sta 46+21.53
$\Delta = 4^{\circ}09'08.6" (LT)$	$\Delta = 4^{\circ}09'08.6" (RT)$
$D = 0^{\circ}42'58.3"$	$D = 0^{\circ}42'58.3"$
$L = 579.78'$	$L = 579.78'$
$T = 290.02'$	$T = 290.02'$
$R = 8,000.00'$	$R = 8,000.00'$
SE = NC	SE = NC

DRIVEWAY RADII ARE 20' UNLESS OTHERWISE NOTED
FOR -L- PROFILE SEE SHEETS 11 & 12



BAYER CROPSOURCE LP
DB 354 PG 654-655
DB 1951 PG 57
DB 2149 PG 230



-L-	-DR8-
PI Sta 61+76.60	PI Sta 11+88.17
$\Delta = 0' 17' 41.0''$ (LT)	$\Delta = 6' 55' 21.1''$ (RT)
D = 0' 15' 00.0"	D = 5' 44' 00.0"
L = 117.89'	L = 120.74'
T = 58.95'	T = 60.44'
R = 22918.31'	R = 999.34'
SE = NC	SE = NC
	INC = 25'
	RUNOFF = SEE PLANS

CATERPILLAR, INC.
DB 1206 PG 51

★ PROPOSED SIGNAL

DRIVEWAY RADII ARE 20' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHEETS 12 & 13

FOR -DR8- PROFILE SEE SHEET 14

REVISIONS

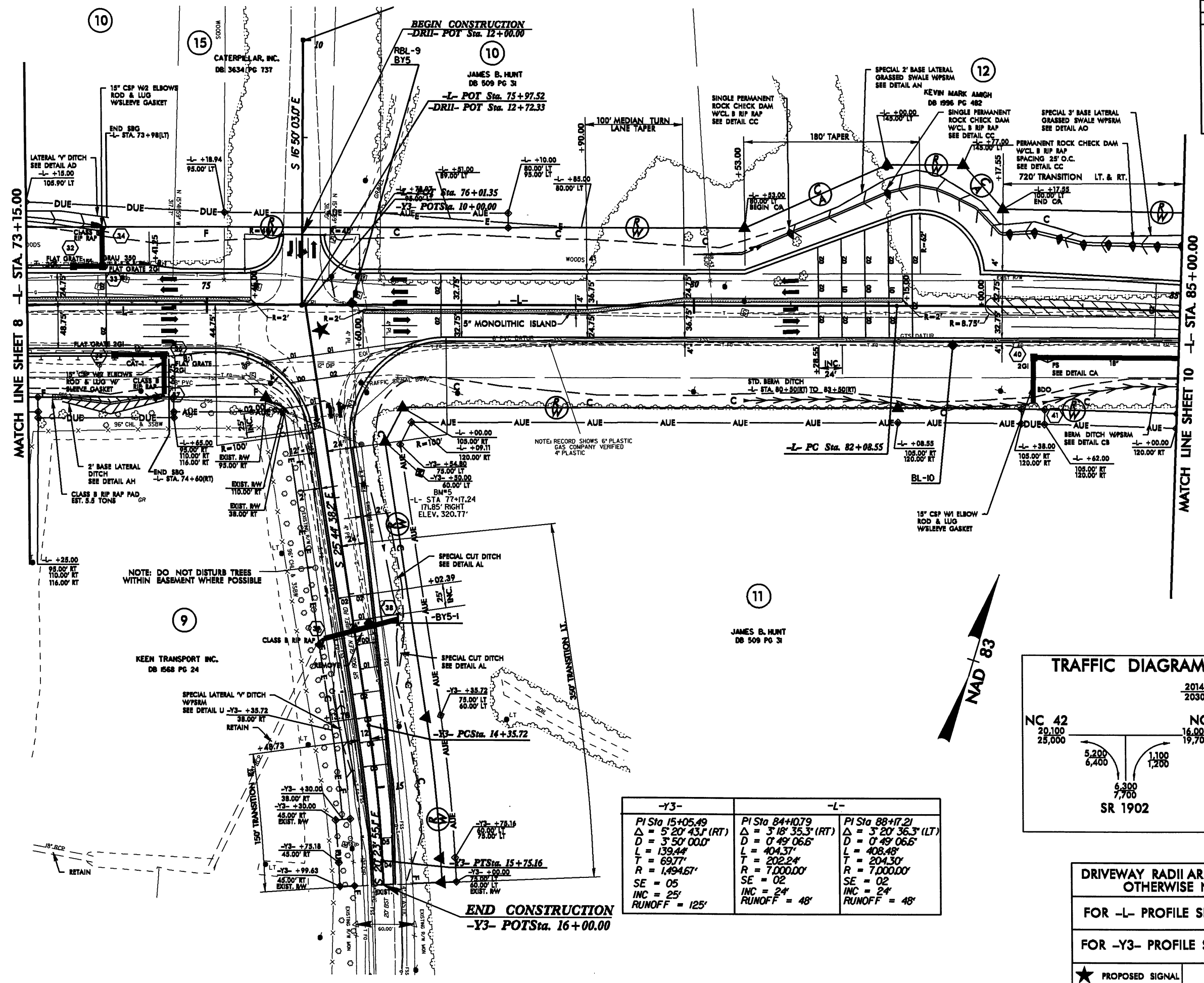
06/01/10 RW REVISIONS: ADDED PUE AND REMOVED TDE ON PARCEL NO. 9. DDK

03/23/11 RW REVISIONS: REVISED PUE TO AUE ON PARCEL NO. 9. SCI

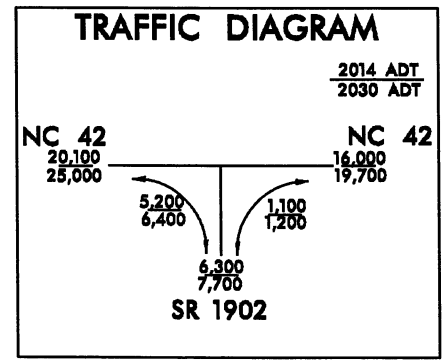
7/2/99

REVISIONS
06/07/10 RW REVISIONS: ADDED DUE AND PUE TO PARCELS NO. 9 AND 11; REMOVED PUE ON PARCELS NO. 9 AND 11; ADDED DUE ON PARCEL NO. 10; ADDED PARCEL NO. 15 AND REVISED TCE.
DJK
03/23/11 RW REVISIONS: ADDED AUE ON PARCELS NO. 9 AND 15; REVISED PUE TO AUE ON PARCELS NO. 9 AND 11; ADDED CA AND RW AND REMOVED TCE ON PARCEL NO. 12. SCL

23-MAR-2011 14:05
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USERNAME



PROJECT REFERENCE NO.		SHEET NO.	
R-3825A		9	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div>			



-Y3-	-L-	-L-
PI Sta 15+05.49	PI Sta 84+10.79	PI Sta 88+17.21
$\Delta = 5' 20' 43''$ (RT)	$\Delta = 3' 18' 35.3''$ (RT)	$\Delta = 5' 20' 36.3''$ (LT)
$D = 3' 50' 00.0''$	$D = 0' 49' 06.6''$	$D = 0' 49' 06.6''$
$L = 139.44'$	$L = 404.37'$	$L = 408.48'$
$T = 69.77'$	$T = 202.24'$	$T = 204.30'$
$R = 1,494.67'$	$R = 7,000.00'$	$R = 7,000.00'$
SE = 05	SE = 02	SE = 02
INC = 25'	INC = 24'	INC = 24'
RUNOFF = 125'	RUNOFF = 48'	RUNOFF = 48'

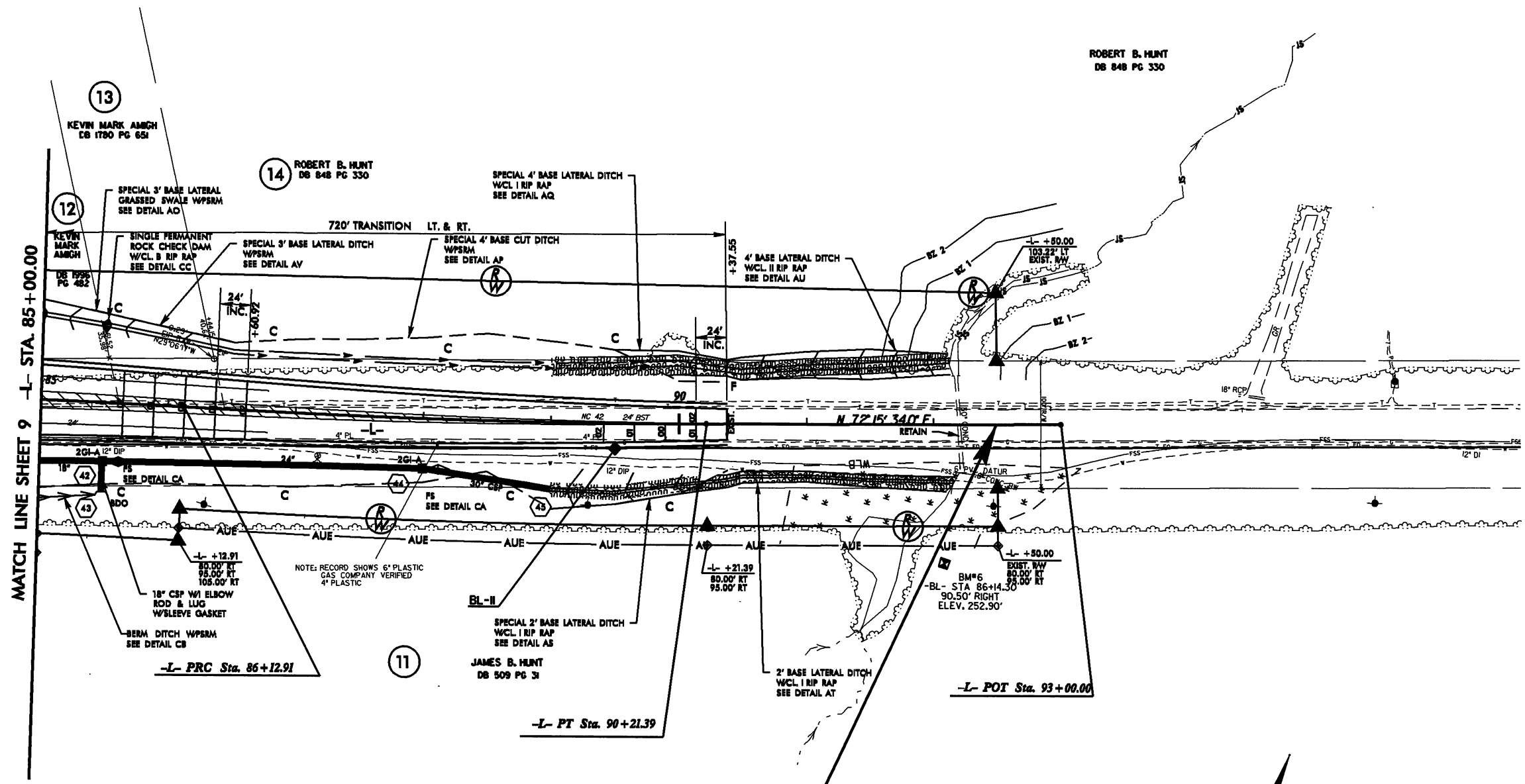
DRIVEWAY RADII ARE 20' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHEET 13

FOR -Y3- PROFILE SEE SHEET 14

★ PROPOSED SIGNAL

PROJECT REFERENCE NO.	SHEET NO.
R-3825A	10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS	



DRIVEWAY RADII ARE 20' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHEET 13

REVISIONS

06/07/10 RW REVISION: ADDED PUE TO PARCEL NO. 11.DDK

03/23/11 RW REVISION: REVISED PUE TO AUE ON PARCEL NO. 11; UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL NO. 12; REMOVED TCE ON PARCEL NO. 12. SCL

23-MAR-2011 12:06

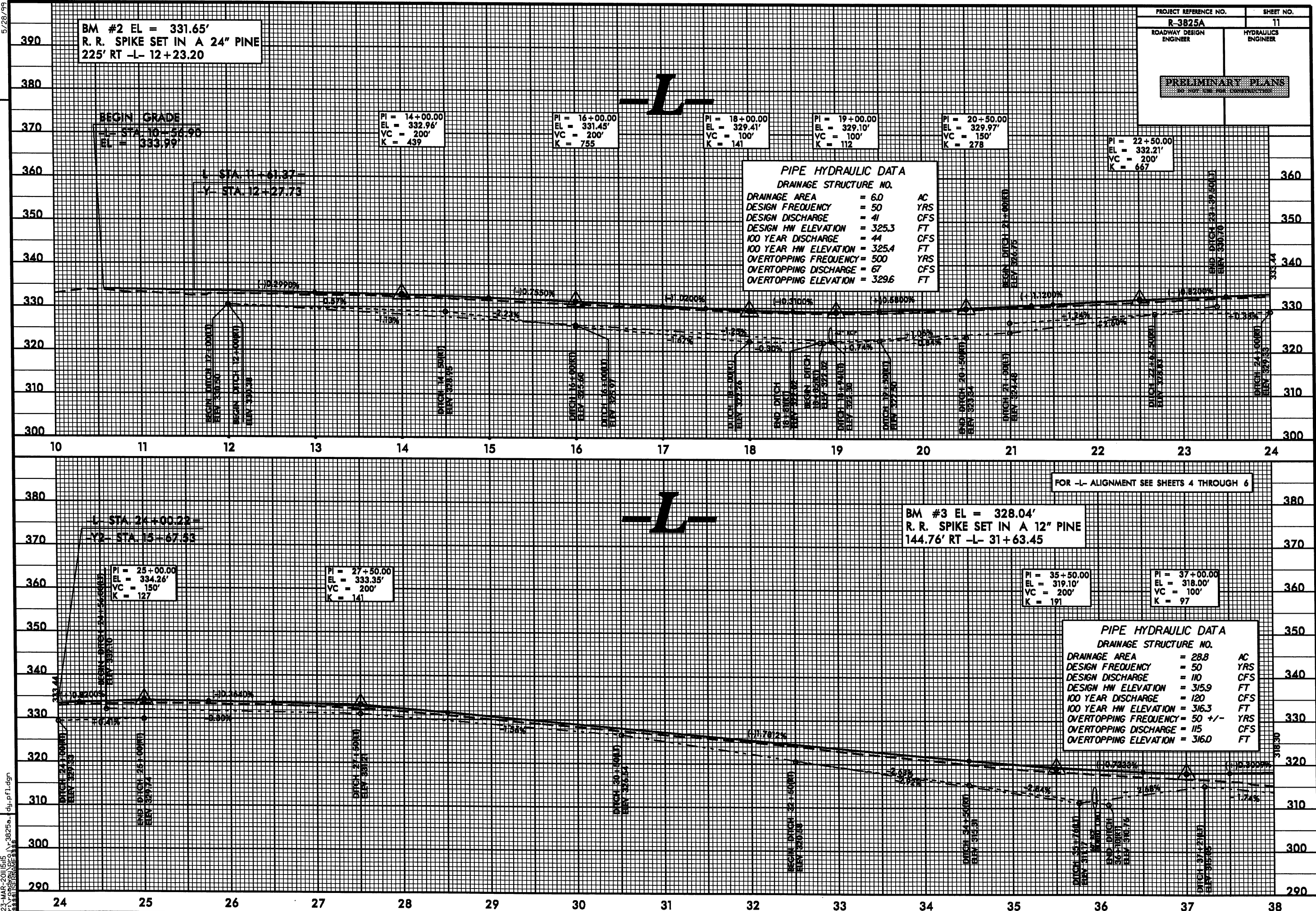
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REVISIONS



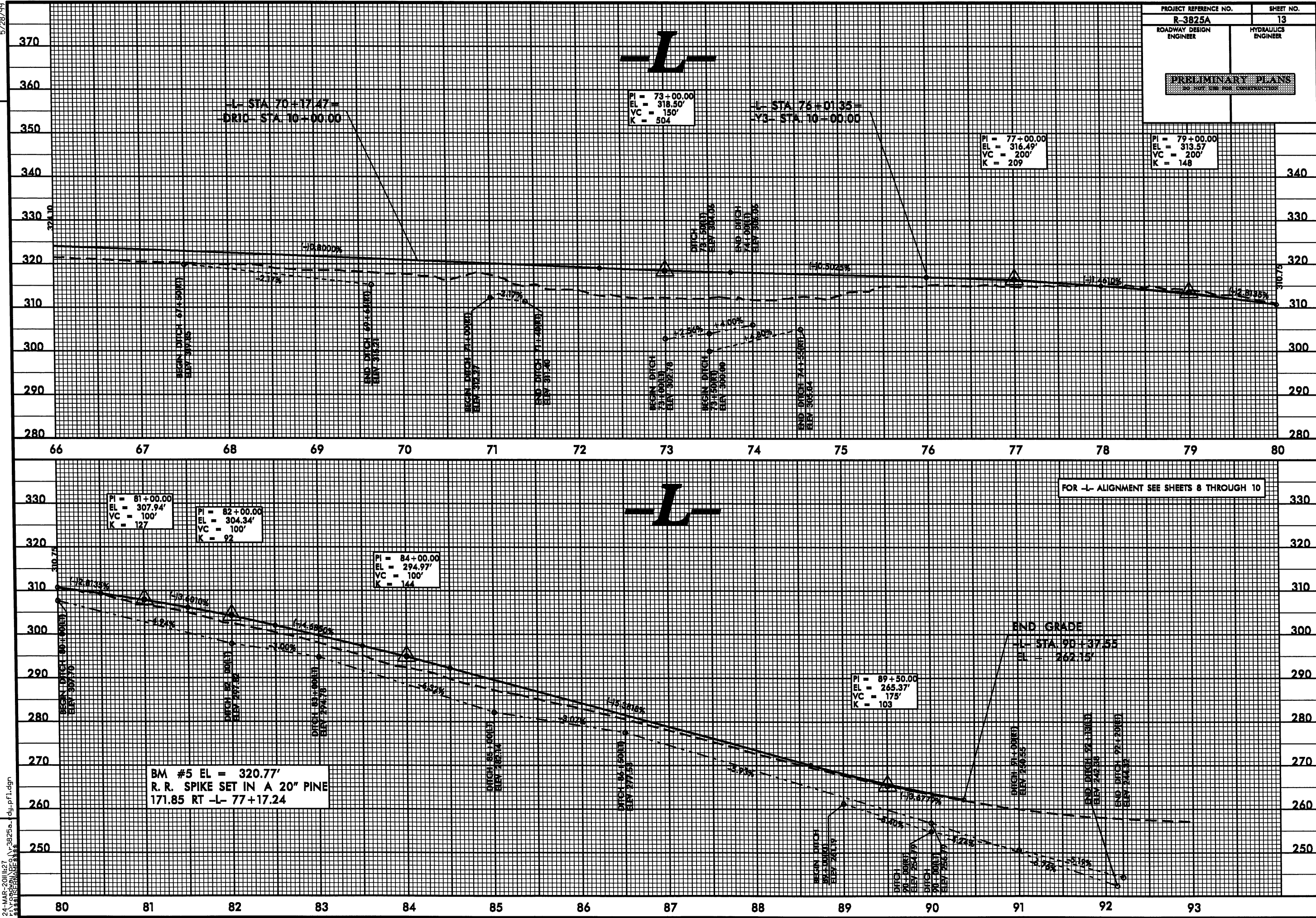
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ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
PRELIMINARY PLANS		

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REVISIONS

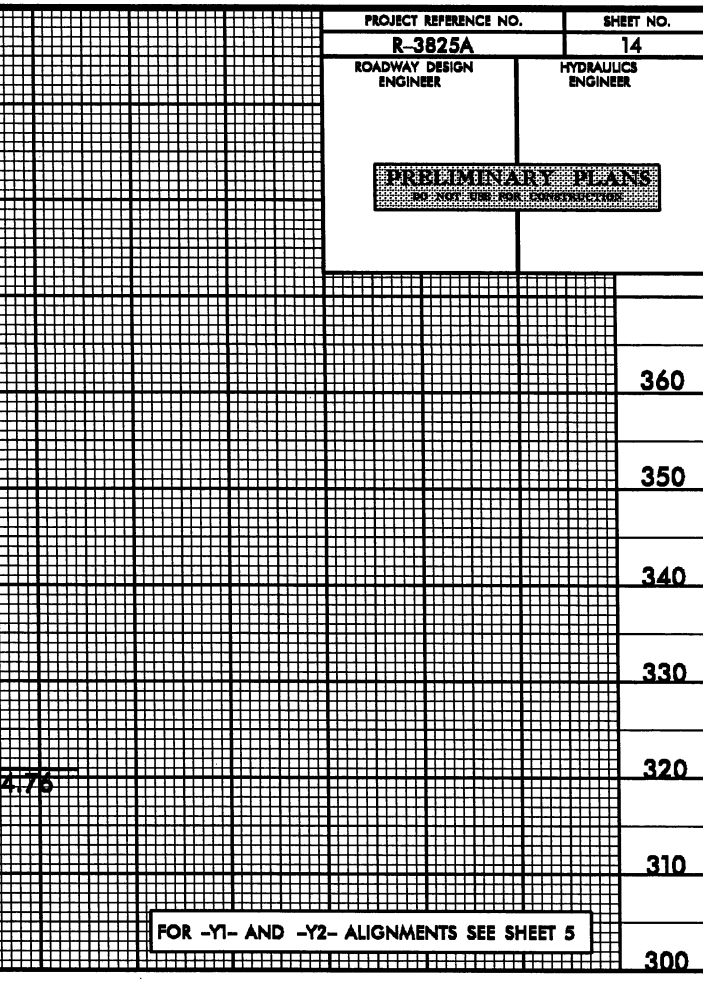
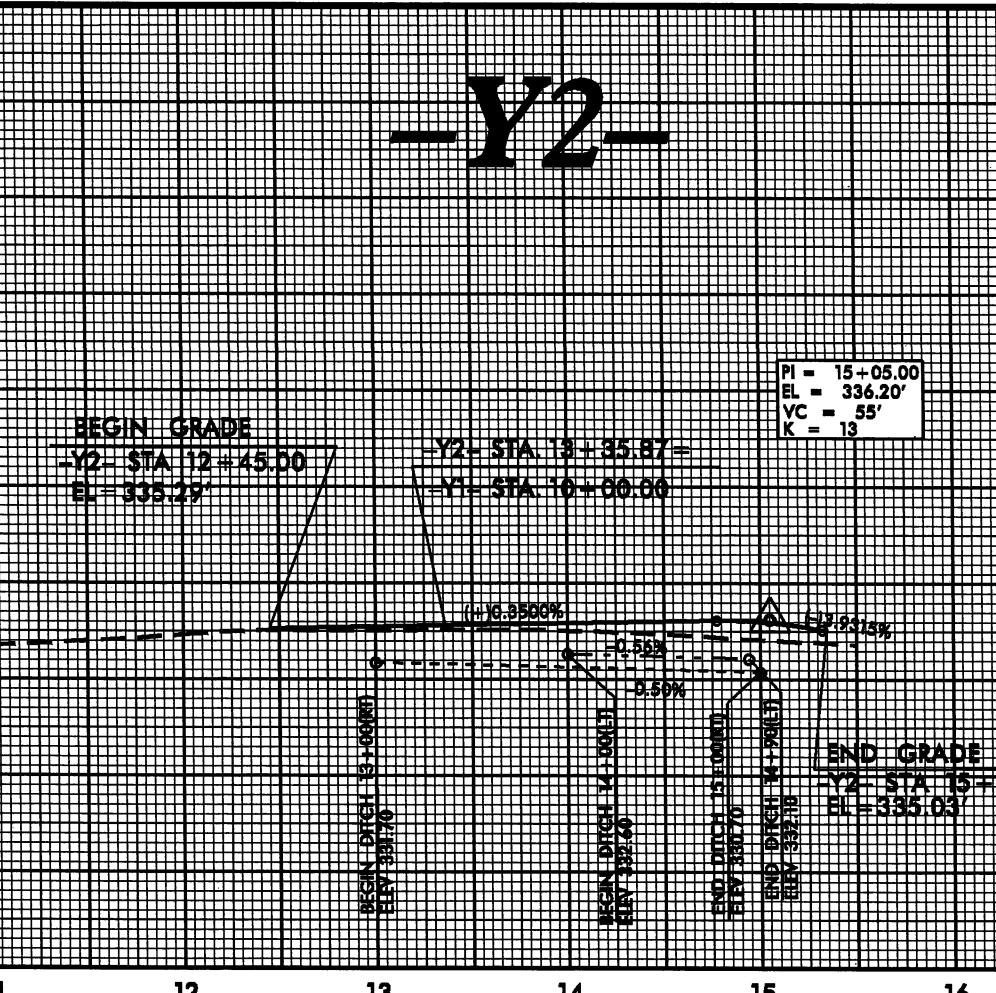
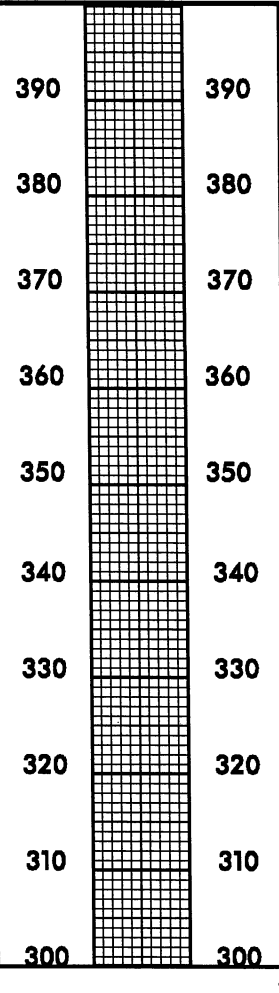
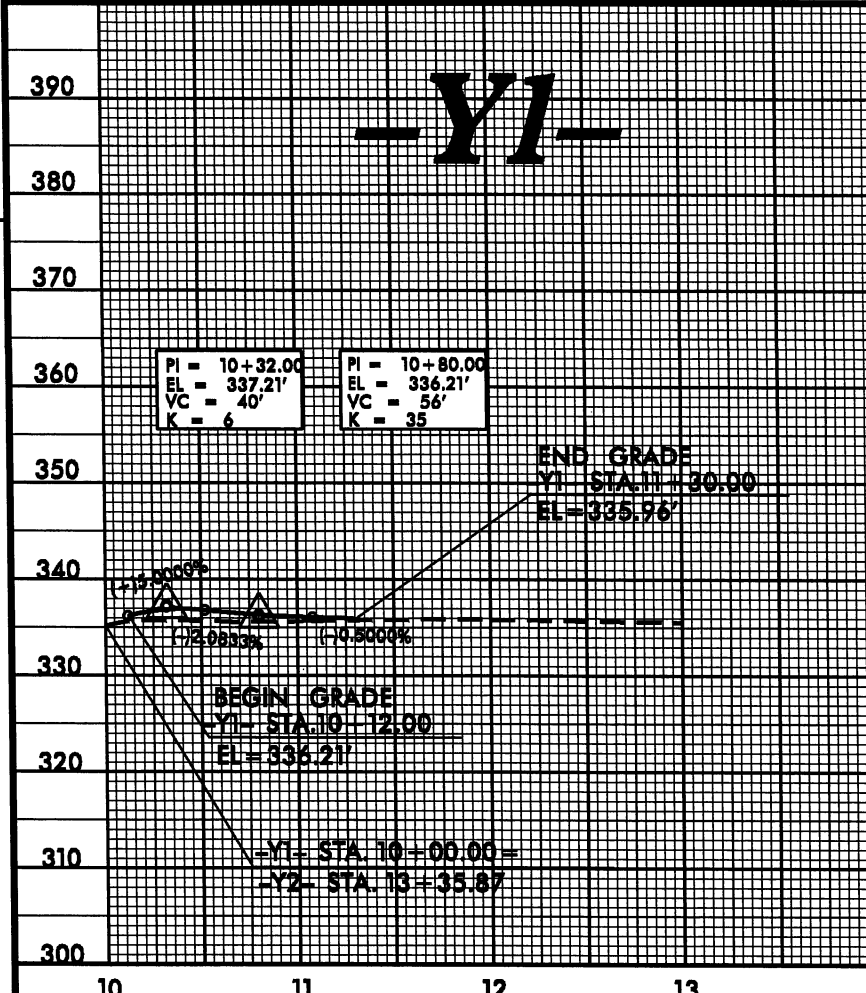
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R-3825A		13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
<div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div>		



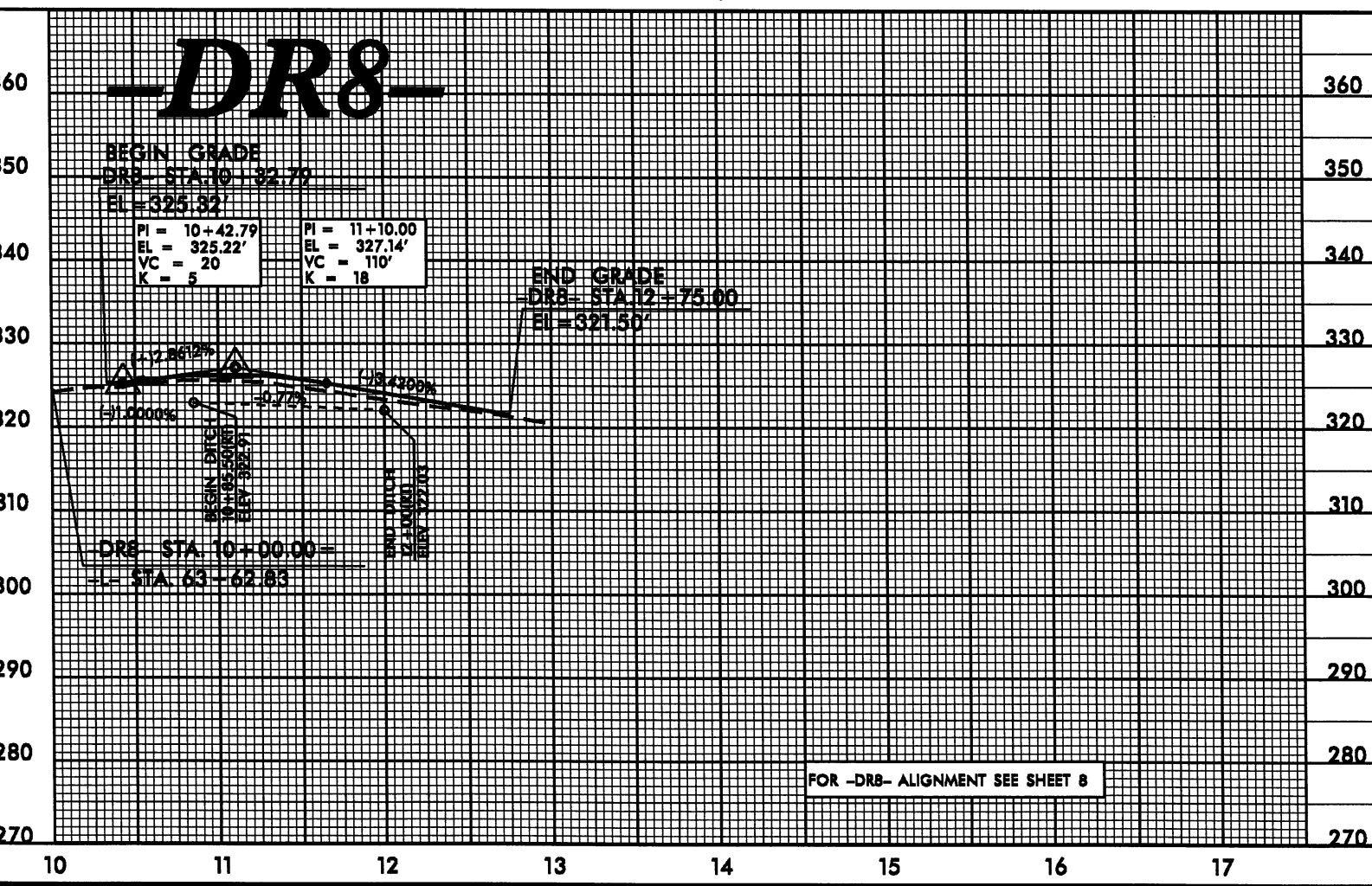
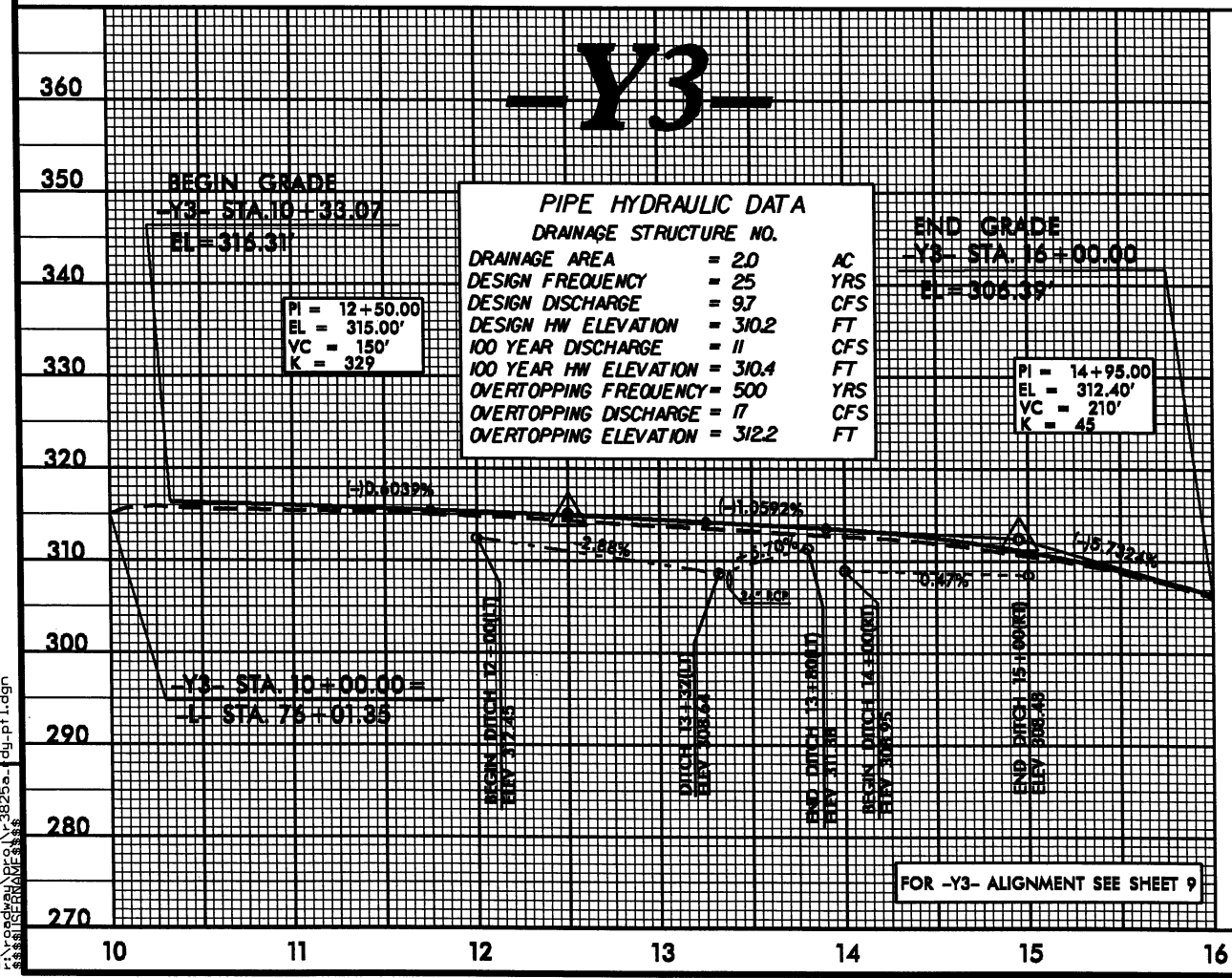
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REVISIONS

PROJECT REFERENCE NO.		SHEET NO.	
R-3825A		14	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS			



FOR -Y1- AND -Y2- ALIGNMENTS SEE SHEET 5



FOR -DR8- ALIGNMENT SEE SHEET 8