STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

DAVID MCCOY
SECRETARY

October 20, 2005

U.S. Army Corp of Engineers
Regulatory Field Office
6508 Falls of the Neuse Road
Suite 120
Raleigh, NC 27615

ATTN: Mr. Eric Alsmeyer
NCDOT Coordinator

Subject: **Nationwide 23 and 33 Permit Application and Riparian Buffer Certification** for the Replacement of Bridge No. 15 on SR 1106 over the Little River in Franklin County. State Project No. 8.2360707, Federal Aid Project No. BRZ-1106 (3), WBS Element 33468.1.1, Division 5, TIP No. B-4113.

Dear Sir:

Please find enclosed three copies of the Programmatic Categorical Exclusion (PCE) Document, Natural Resource Technical Report (NRTR), North Carolina Ecosystem and Enhancement Program (EEP) acceptance letter, pre-construction notification, project commitments, permit drawings, and design plan sheets. The project involves replacing Bridge No. 15, a 60-foot structure, with a 135-foot bridge at approximately the same location. The bridge crosses Little River just east of Moore's Pond Dam and northeast of junction NC 98 and NC 96. The proposed bridge will consist of two spans. Bridge No. 15 will be widened from 25 feet to 39 feet to accommodate a travel path of 24 feet with offsets of 6 feet on each side. A workpad will provide construction access for construction of the drilled shafts for center for the new bridge. The workpads will be built using Class II riprap. Traffic will be detoured offsite along surrounding roads during construction

IMPACTS TO WATERS OF THE UNITED STATES

The Little River is located within the Neuse River Basin (sub-basin 03-04-06) within HUC 03020201. Little River is the only water resource in the project area and is a perennial, piedmont stream with very low flow over a silty and muddy substrate with an approximate width of 52 feet. The North Carolina Division of Water Quality has assigned this section of Little River DWQ Index No. 25-57-(1) and a best usage classification of WS-II HQW NSW.

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

TELEPHONE: 919-715-1500
FAX: 919-715-1501
WEBSITE: WWW.NCDOT.ORG

LOCATION:
2728 CAPITAL BLVD
PLB SUITE 168
RALEIGH, NC 27604

Permanent Impacts
The new structure for Bridge No. 15 will span Little River. There will be no bents in the water. Replacement of Bridge No. 15 and will result in permanent riverine wetland impacts of 0.03 acres. Impacts for wetlands at Site 1 and Site 2 are from mechanized clearing and approach fill and wetland impacts at Site 3 are from mechanized clearing for bridge. As proposed in the project commitments Design Standards for Sensitive Watersheds along with the NCDOT Roadside Environmental Unit provision for Environmentally Sensitive Areas will be utilized.

Temporary Impacts
Temporary impacts from this project consist of 0.01 acres of temporary fill in the Little River. Impacts stem from a workpad that will be used to construct the middle bent of the new bridge. The workpad is not required for removal of the existing interior bent since it consists of timber piles, which can be cut off at the mud line. Please refer to Permit Drawing Sheet 4 entitled Workpad Impact.

Buffer Impacts
As previously noted, this project is located in the Neuse River Basin. Therefore, the regulations pertaining to the buffer rules apply. Buffer impacts associated with this project total 8,581 square feet (0.20 acres) for Zone 1 and 5401 square feet (0.12 acres) for Zone 2. Impacts occur as a result of water treatment mechanisms.

Water Treatment Mechanisms

- In the southwest quadrant water, is treated by a swale since the topography of the area does not lend itself to the use of a level spreader. The treated water is then conveyed through the buffer zones to Little River by means of a 2-foot base ditch. The base ditch will be a more suitable conveyance mechanism than allowing water to sheet flow over the buffer zones and possibly cause erosion/sediment transport into Little River.
- In the northeast and northwest quadrants water is treated by swales since the topography of the area does not lend itself to the use of a level spreaders. However the northwest swale terminates prior to entering buffer zone 1 and the wetland.

All practicable measures to minimize impacts within buffer zones were followed. Measures used to minimize impacts to the buffer zone include using the current alignment. According to the buffer rules, bridges are ALLOWABLE. 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. These uses require written authorization from the Division of Water Quality or the delegated local authority.

Utility Impacts
Utility impacts will be incurred in the buffer zone east of Bridge No. 15 on both sides of the stream. The impacts are a result of hand clearing for the placement of aerial power line that will cross the stream. The non-mechanized clearing area is less than 146 linear feet. Overhead electric utility line perpendicular crossings of streams that disturb equal to or less than 150 linear feet of riparian buffer are exempt according to the buffer rules. Therefore, no buffer certification is needed and no mitigation is proposed.

Bridge Demolition
Bridge No. 15 was built in 1961. It is a two-span structure that is 25 feet long and 39 feet wide. The superstructure consists of timber floor on steel I-beams. The end bents are timber bulkheads and the interior bent has timber caps and piles. Best Management Practices for Bridge Demolition and Removal will be implemented during the demolition and construction of both bridges.

Restoration Plan

Removal and Disposal Plan: The contractor will be required to submit a reclamation plan for the removal of and disposal of all material off-site at an upland location. The contractor will use excavation equipment for removal of any earthen material. Heavy–duty trucks, dozers, cranes and various other pieces of mechanical equipment necessary for construction of roadways and bridges will be used on site. All material placed in the stream will be removed from the stream at that time. The contractor will have the option of reusing any of the materials that the engineer deems suitable in the construction of project. After the erosion control devices are no longer needed, all temporary materials will become the property of the contractor.

Following construction of the bridge, all material used in the construction of the structure will be removed. The existing approach fill will be removed to natural grade and the area will be re-vegetated according to NCDOT guidelines. Class I riprap and filter fabric will be used for bank stabilization. Pre-project elevations will be restored.

Schedule: At this time the project is schedule to let on June 20, 2006 with a date of availability of August 1, 2006. It is expected that the contractor will choose to start construction in August.

MITIGATION OPTIONS

Despite the minimization strategies employed for the proposed project, the resulting permanent wetland impacts will be 0.03 acres. Consequently, the project will require compensatory mitigation.

Avoidance, Minimization, and Mitigation: 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.

According to the Clean Water Act (CWA) §404(b)(1) guidelines, NCDOT must avoid, minimize, and mitigate, in sequential order, impacts to waters of the US. The following is a list of the project's jurisdictional stream avoidance/minimization activities proposed or completed by NCDOT:

Avoidance/Minimization:

The new bridge will not have bents located in the water (see Bridge Survey Report drawing).
The new bridge will be 75 feet longer than the existing bridge.
Limited instream activity
An offsite detour will be used.
Design Standards for Sensitive Watersheds and the Environmental Sensitive Areas Provision implementation.
There is a moratorium on clearing and grubbing work 50 feet out from top of the stream bank between November 15 and April 1.

Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in jurisdictional Waters of the U.S. and that the proposed action includes all practicable methods to avoid and/or minimize jurisdictional wetland impacts that may result from such use.

COMPENSATION: The primary emphasis of the compensatory mitigation is to reestablish a condition that would have existed if the project were not built. As previously stated, mitigation is limited to reasonable expenditures and practicable considerations related to highway operation. Mitigation is generally accomplished through a combination of methods designed to replace stream loss as a result of construction of the project.

North Carolina Ecosystem Enhancement Program (EEP) will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for NCDOT in accordance with the Memorandum of Agreement (MOA) signed July 22, 2003 by the U.S. Army Corps of Engineers (USACE), the North Carolina Department of Environment and Natural Resources (NCDENR) and the NCDOT.

Compensatory mitigation to offset unavoidable impacts to waters that are jurisdictional under the federal Clean Water Act will be provided by the EEP. An acceptance letter dated September 20, 2005 from EEP is attached. The offsetting mitigation will derive from an inventory of assets already in existence within the same 8-digit cataloguing unit. The Department has avoided and minimized impacts to jurisdictional resources to the greatest extent possible as described above. The unavoidable permanent impacts to 0.03 acres of a jurisdictional wetland will be offset by compensatory mitigation provided by the EEP program.

FEDERALLY-PROTECTED SPECIES

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE), Proposed Threatened (PT), are protected under provisions of Section 7 of the Endangered Species Act of 1973, as amended. As of January 29, 2003 the United States Fish and Wildlife Service (USFWS) lists four federally protected species for Franklin County. Table 1 lists these species and their federal status.

Table 1– Federally Protected Species in Franklin County, NC

Common Name	Scientific Name	Federal Status*	Biological Conclusion
Tar spinymussel	*Elliptio steinstansana*	E	May Affect Not Likely to Adversely Affect
Dwarf wedgemussel	*Alasmidonta heterodon*	E	May Affect Not Likely to Adversely Affect
Michaux's sumac	*Rhus michauxii*	E	No Effect

* E=Endangered and T=Threatened

A biological conclusion of "May Affect Not Likely to Adversely Affect" was given for the dwarf wedgemussel and Tar spinymussel based on a survey conducted on July 9, 2002 where potential habitat was identified, but no dwarf wedgemussels or Tar spinymussels were found (see attachment August 12, 2002). However, the North Carolina Natural Heritage Program (NCNHP) database (last updated on March 31, 2005) lists a known location of dwarf wedgemussel approximately eight river miles downstream. Concurrence has been given by the USFWS for these two species of mussels (see attachment January 3, 2003). A pre-construction survey will be scheduled and performed 1 – 2 months prior to let by NCDOT Natural Environment Unit. A biological conclusion of "No Effect" was given for Michaux's sumac based on survey conducted on July 1, 2004. Although suitable habitat was present within the project area, no individuals of Michaux's sumac were observed. Additionally a review of the Natural Heritage Program

database revealed no occurrences of federally protected species within 1.0 mile of the project study area.

The United States Fish and Wildlife Service has requested a moratorium on clearing and grubbing work 50 feet out from top of the stream bank between November 15 and April 1 for the Tar spinymussel and the Dwarf wedgemussel. Also, in the NRTR a statement error was made in regards to a recommended moratorium by North Carolina Division of Marine Fisheries (DMF). Fritz Rhode (DMF) was contacted on April 14, 2005 and confirmed that this project is not in his jurisdiction, therefore there is not a moratorium from DMF on in-water work. NCDOT is not proposing the moratorium for instream work due to anadromous fish that was mentioned in the PCE due to the 3 dams located below this project on the Little River: Lowell Mill, Atkinson Mill, and Mitchell Mill. Travis Wilson of NCWRC agreed as long as the dams are in place during construction. Currently, only Lowell Mill is scheduled to be removed in fall of 2006.

REGULATORY APPROVALS

Application is hereby made for the Department of Army Section 404 Nationwide 23 for the above-described activities and for the issuance of a Nationwide Permit 33 authorizing use of a temporary workpad in the stream for bridge construction.

We are also hereby requesting a 401 Water Quality Certification and Neuse Buffer Certification from the North Carolina Division of Water Quality. We are providing seven copies of this application to the North Carolina Department of Environment and Natural Resources, Division of Water Quality, for their review.

A copy of this permit application will be posted on the NCDOT Website at: http://www.ncdot.org/doh/preconstruct/pe/. If you have any questions or need additional information please call Ms. Deanna Riffey at (919) 715-1409.

Sincerely,

Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

W/attachment
Mr. John Hennessy, NCDWQ (7 Copies)
Mr. Gary Jordan, USFWS
Mr. Mark Staley, Roadside Environmental
Mr. Greg Perfetti, P.E., Structure Design
Mr. Travis Wilson, NCWRC
Dr. David Chang, P.E., Hydraulics
Mr. Jon Nance, P.E., Division Engineer
Mr. Chris Murray, DEO

W/o attachment
Mr. Jay Bennett, P.E., Roadway Design
Mr. Scott McLendon, USACE, Wilmington
Ms. Beth Harmon, EEP
Mr. Art McMillan, P.E., Highway Design
Mr. Bill Goodwin, P.E., PDEA
Mr. Todd Jones, NCDOT External Audit Branch
Mr. Majed Alghandour, P. E., Programming and TIP

Office Use Only: Form Version March 05

USACE Action ID No. _____ **DWQ No.** _____

(If any particular item is not applicable to this project, please enter "Not Applicable" or "N/A".)

I. Processing

1. Check all of the approval(s) requested for this project:
   - ☒ Section 404 Permit
   - ☐ Section 10 Permit
   - ☒ 401 Water Quality Certification
   - ☒ Riparian or Watershed Buffer Rules
   - ☐ Isolated Wetland Permit from DWQ
   - ☐ Express 401 Water Quality Certification

2. Nationwide, Regional or General Permit Number(s) Requested: NW 23 & 33

3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here: ☒

4. If payment into the North Carolina Ecosystem Enhancement Program (NCEEP) is proposed for mitigation of impacts, attach the acceptance letter from NCEEP, complete section VIII, and check here: ☐

5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here: ☐

II. Applicant Information

1. Owner/Applicant Information
   Name: North Carolina Department of Transportation (NCDOT)
   Mailing Address: Project Development and Environmental Analysis
   1598 Mail Service Center
   Raleigh, NC 27699-1598

   Telephone Number: 919-733-3141 Fax Number: 919-733-9794
   E-mail Address: gthorpe@dot.state.nc.us

2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)
   Name: _____
   Company Affiliation: _____
   Mailing Address: _____

   Telephone Number: _____ Fax Number: _____
   E-mail Address: _____

III. Project Information

Attach a **vicinity map** clearly showing the location of the property with respect to local landmarks such as towns, rivers, and roads. Also provide a detailed **site plan** showing property boundaries and development plans in relation to surrounding properties. Both the vicinity map and site plan must include a scale and north arrow. The specific footprints of all buildings, impervious surfaces, or other facilities must be included. If possible, the maps and plans should include the appropriate USGS Topographic Quad Map and NRCS Soil Survey with the property boundaries outlined. Plan drawings, or other maps may be included at the applicant's discretion, so long as the property is clearly defined. For administrative and distribution purposes, the USACE requires information to be submitted on sheets no larger than 11 by 17-inch format; however, DWQ may accept paperwork of any size. DWQ prefers full-size construction drawings rather than a sequential sheet version of the full-size plans. If full-size plans are reduced to a small scale such that the final version is illegible, the applicant will be informed that the project has been placed on hold until decipherable maps are provided.

1. Name of project: Replacement of Bridge No. 15 on SR 1106 over Little River

2. T.I.P. Project Number or State Project Number (NCDOT Only): B-4113

3. Property Identification Number (Tax PIN): _____

4. Location
   County: Franklin Nearest Town: Barham
   Subdivision name (include phase/lot number): _____
   Directions to site (include road numbers/names, landmarks, etc.): 401 North and East on Moore's Pond Road (SR 1106)

5. Site coordinates (For linear projects, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)
   Decimal Degrees (6 digits minimum): 35° 58'57.92" °N 78° 25'15.5" °W

6. Property size (acres): Total disturbance area is 0.80 ac

7. Name of nearest receiving body of water: Little River & Moore's Pond

8. River Basin: Neuse
   (Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at http://h2o.enr.state.nc.us/admin/maps/.)

9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: Project area is forested and rural.

10. Describe the overall project in detail, including the type of equipment to be used: See cover letter

11. Explain the purpose of the proposed work: Continued deterioration of Bridge No 15 and further reduction of the allowable load limits would hamper local traffic in this area if not replaced.

IV. Prior Project History

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules. NW 6: Action Id: 200320267: Issued on 8/1/2005

V. Future Project Plans

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.

VI. Proposed Impacts to Waters of the United States/Waters of the State

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water, and stream channels associated with the project. Each impact must be listed separately in the tables below (e.g., culvert installation should be listed separately from riprap dissipater pads). Be sure to indicate if an impact is temporary. All proposed impacts, permanent and temporary, must be listed, and must be labeled and clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) should be shown on a delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for wetland or stream mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

1. Provide a written description of the proposed impacts: See cover letter

2. Individually list wetland impacts. Types of impacts include, but are not limited to mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.

Wetland Impact Site Number (indicate on map)	Type of Impact	Type of Wetland (e.g., forested, marsh, herbaceous, bog, etc.)	Located within 100-year Floodplain (yes/no)	Distance to Nearest Stream (linear feet)	Area of Impact (acres)
1	Permanent	Herbaceous	No	15 ft	0.03
Total Wetland Impact (acres)					0.03

3. List the total acreage (estimated) of all existing wetlands on the property: 0.03 acres

4. Individually list all intermittent and perennial stream impacts. Be sure to identify temporary impacts. Stream impacts include, but are not limited to placement of fill or culverts, dam construction, flooding, relocation, stabilization activities (e.g., cement walls, rip-rap, crib walls, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included. To calculate acreage, multiply length X width, then divide by 43,560.

Stream Impact Number (indicate on map)	Stream Name	Type of Impact	Perennial or Intermittent?	Average Stream Width Before Impact	Impact Length (linear feet)	Area of Impact (acres)
1	Little River	Temp. Fill	Perennial	52 ft		0.01
Total Stream Impact (by length and acreage)						0.01

5. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.). Open water impacts include, but are not limited to fill, excavation, dredging, flooding, drainage, bulkheads, etc.

Open Water Impact Site Number (indicate on map)	Name of Waterbody (if applicable)	Type of Impact	Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.)	Area of Impact (acres)
Total Open Water Impact (acres)				

6. List the cumulative impact to all Waters of the U.S. resulting from the project:

Stream Impact (acres):	0.01 (temp)
Wetland Impact (acres):	0.03
Open Water Impact (acres):	
Total Impact to Waters of the U.S. (acres)	0.04
Total Stream Impact (linear feet):	

7. Isolated Waters
Do any isolated waters exist on the property? ☐ Yes ☒ No
Describe all impacts to isolated waters, and include the type of water (wetland or stream) and the size of the proposed impact (acres or linear feet). Please note that this section only applies to waters that have specifically been determined to be isolated by the USACE.

8. Pond Creation
If construction of a pond is proposed, associated wetland and stream impacts should be included above in the wetland and stream impact sections. Also, the proposed pond should be described here and illustrated on any maps included with this application.
Pond to be created in (check all that apply): ☐ uplands ☐ stream ☐ wetlands
Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.):
Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond, local stormwater requirement, etc.):
Current land use in the vicinity of the pond:
Size of watershed draining to pond: Expected pond surface area:

VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts. See cover letter.

VIII. Mitigation

DWQ - In accordance with 15A NCAC 2H .0500, mitigation may be required by the NC Division of Water Quality for projects involving greater than or equal to one acre of impacts to

freshwater wetlands or greater than or equal to 150 linear feet of total impacts to perennial streams. USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on January 15, 2002, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCEEP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina, available at http://h2o.enr.state.nc.us/ncwetlands/strmgide.html.

1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.

   Mitigation is proposed for 0.03 acres of riverine wetland and provided by EEP.

2. Mitigation may also be made by payment into the North Carolina Ecosystem Enhancement Program (NCEEP). Please note it is the applicant's responsibility to contact the NCEEP at (919) 715-0476 to determine availability, and written approval from the NCEEP indicating that they are will to accept payment for the mitigation must be attached to this form. For additional information regarding the application process for the NCEEP, check the NCEEP website at http://h2o.enr.state.nc.us/wrp/index.htm. If use of the NCEEP is proposed, please check the appropriate box on page five and provide the following information:

   Amount of stream mitigation requested (linear feet):_____
   Amount of buffer mitigation requested (square feet):_____
   Amount of Riparian wetland mitigation requested (acres): 0.03ac
   Amount of Non-riparian wetland mitigation requested (acres):_____
   Amount of Coastal wetland mitigation requested (acres):_____

IX. Environmental Documentation (required by DWQ)

1. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? Yes ☒ No ☐

2. If yes, does the project require preparation of an environmental document pursuant to the requirements of the National or North Carolina Environmental Policy Act (NEPA/SEPA)? Note: If you are not sure whether a NEPA/SEPA document is required, call the SEPA coordinator at (919) 733-5083 to review current thresholds for environmental documentation. Yes ☒ No ☐

3. If yes, has the document review been finalized by the State Clearinghouse? If so, please attach a copy of the NEPA or SEPA final approval letter. Yes ☒ No ☐

X. Proposed Impacts on Riparian and Watershed Buffers (required by DWQ)

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to required state and local buffers associated with the project. The applicant must also provide justification for these impacts in Section VII above. All proposed impacts must be listed herein, and must be clearly identifiable on the accompanying site plan. All buffers must be shown on a map, whether or not impacts are proposed to the buffers. Correspondence from the DWQ Regional Office may be included as appropriate. Photographs may also be included at the applicant's discretion.

1. Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 02B .0243 (Catawba) 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify Neuse)? Yes ☒ No ☐

2. If "yes", identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

Zone*	Impact (square feet)	Multiplier	Required Mitigation
1	8,581	3 (2 for Catawba)	Exempt
2	5,401	1.5	Exempt
Total	13,982		

* Zone 1 extends out 30 feet perpendicular from the top of the near bank of channel; Zone 2 extends an additional 20 feet from the edge of Zone 1.

3. If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Riparian Buffer Restoration / Enhancement, or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0244, or .0260. _____

_____

XI. Stormwater (required by DWQ)

Describe impervious acreage (existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property. If percent impervious surface exceeds 20%, please provide calculations demonstrating total proposed impervious level.

XII. Sewage Disposal (required by DWQ)

Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility.

XIII. Violations (required by DWQ)

Is this site in violation of DWQ Wetland Rules (15A NCAC 2H .0500) or any Buffer Rules?
Yes ☐ No ☒

Is this an after-the-fact permit application? Yes ☐ No ☒

XIV. Cumulative Impacts (required by DWQ)

Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? Yes ☐ No ☒
If yes, please submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent North Carolina Division of Water Quality policy posted on our website at http://h2o.enr.state.nc.us/ncwetlands. If no, please provide a short narrative description:

XV. Other Circumstances (Optional):

It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g., draw-down schedules for lakes, dates associated with Endangered and Threatened Species, accessibility problems, or other issues outside of the applicant's control).

Applicant/Agent's Signature — Date: 10/25/05

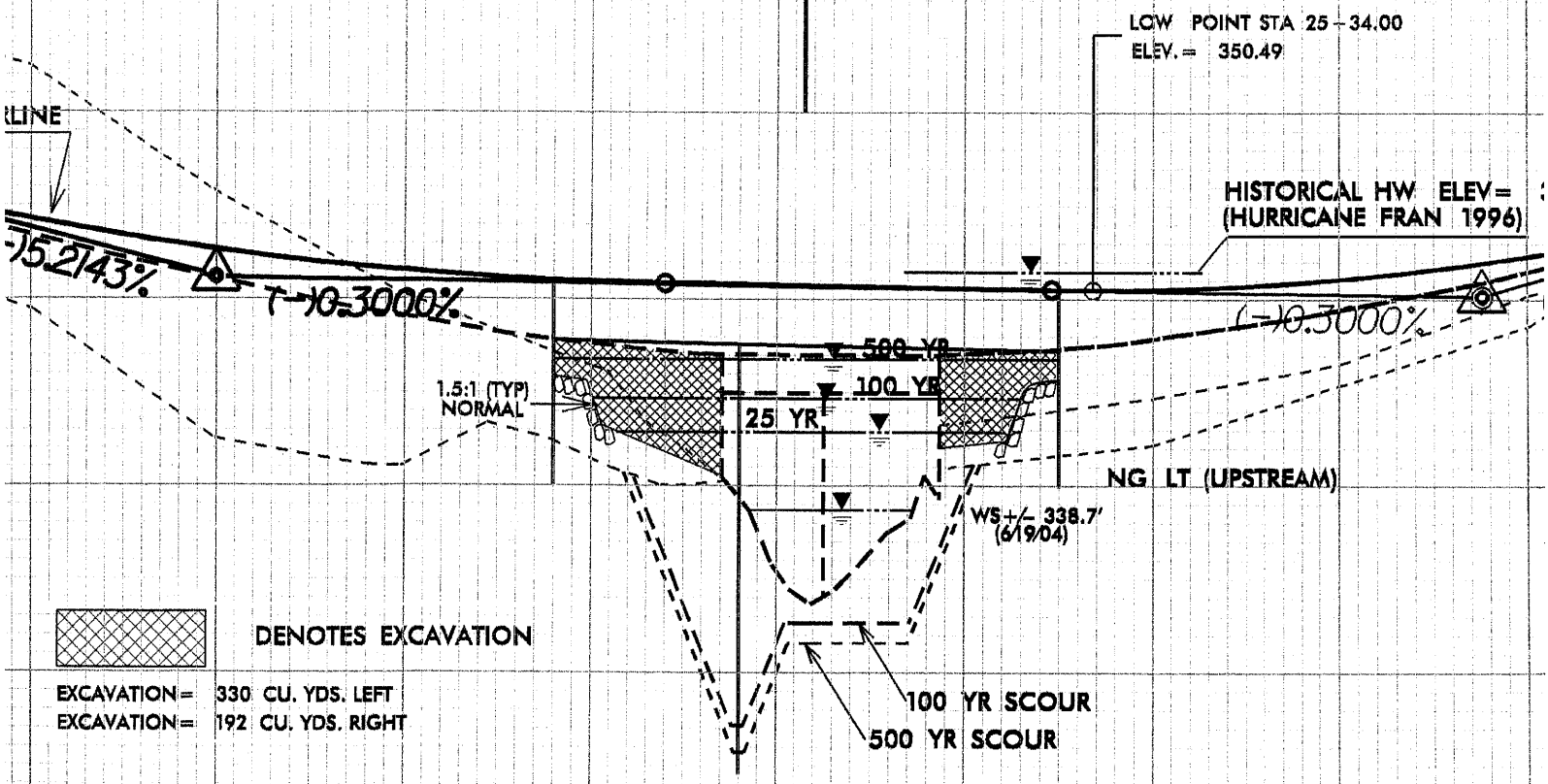
(Agent's signature is valid only if an authorization letter from the applicant is provided.)

23+00 24+00 25+00 26+00

PI = 2
EL =
VC =
K =
V =

T ALLOWED. NOTE THAT
ON BRIDGE DECK ARE
EP SPREAD OUT OF THE

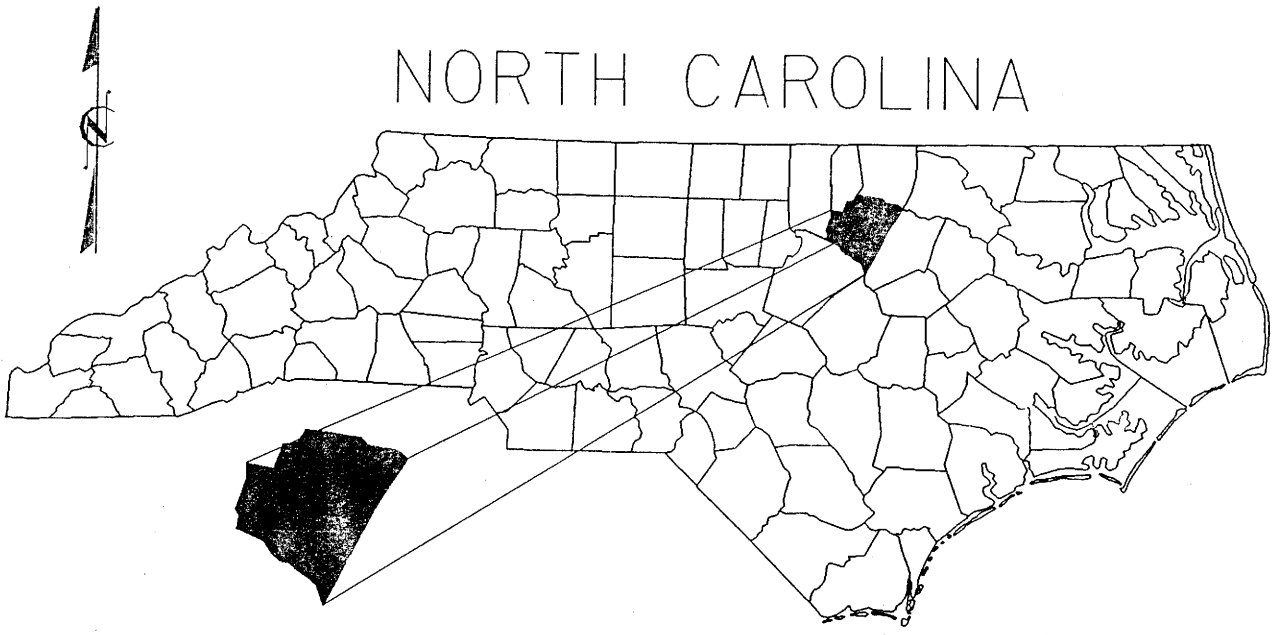
℄ STA = 24+57.5 -L-
1@50', 1@85' 33" BOX GIRDERS
115 DEGREE SKEW
CR. GRADE EL. = 350.70



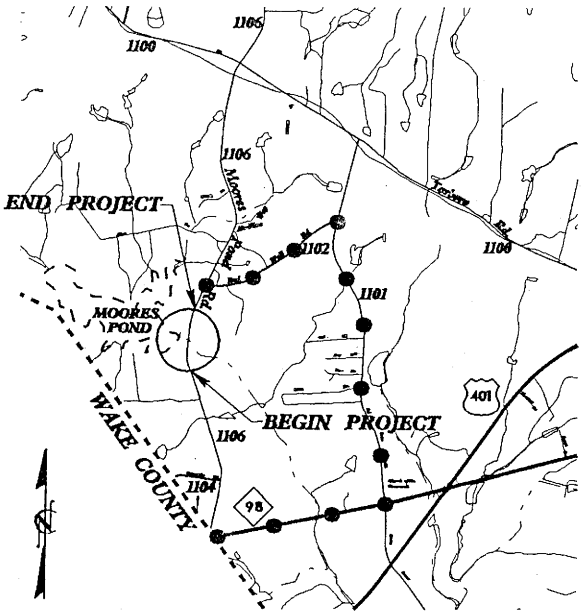
B-4113

NCDOT Bridge Survey & Hydraulic Design Report

CL B RIPRAP (59 tons)



FRANKLIN COUNTY



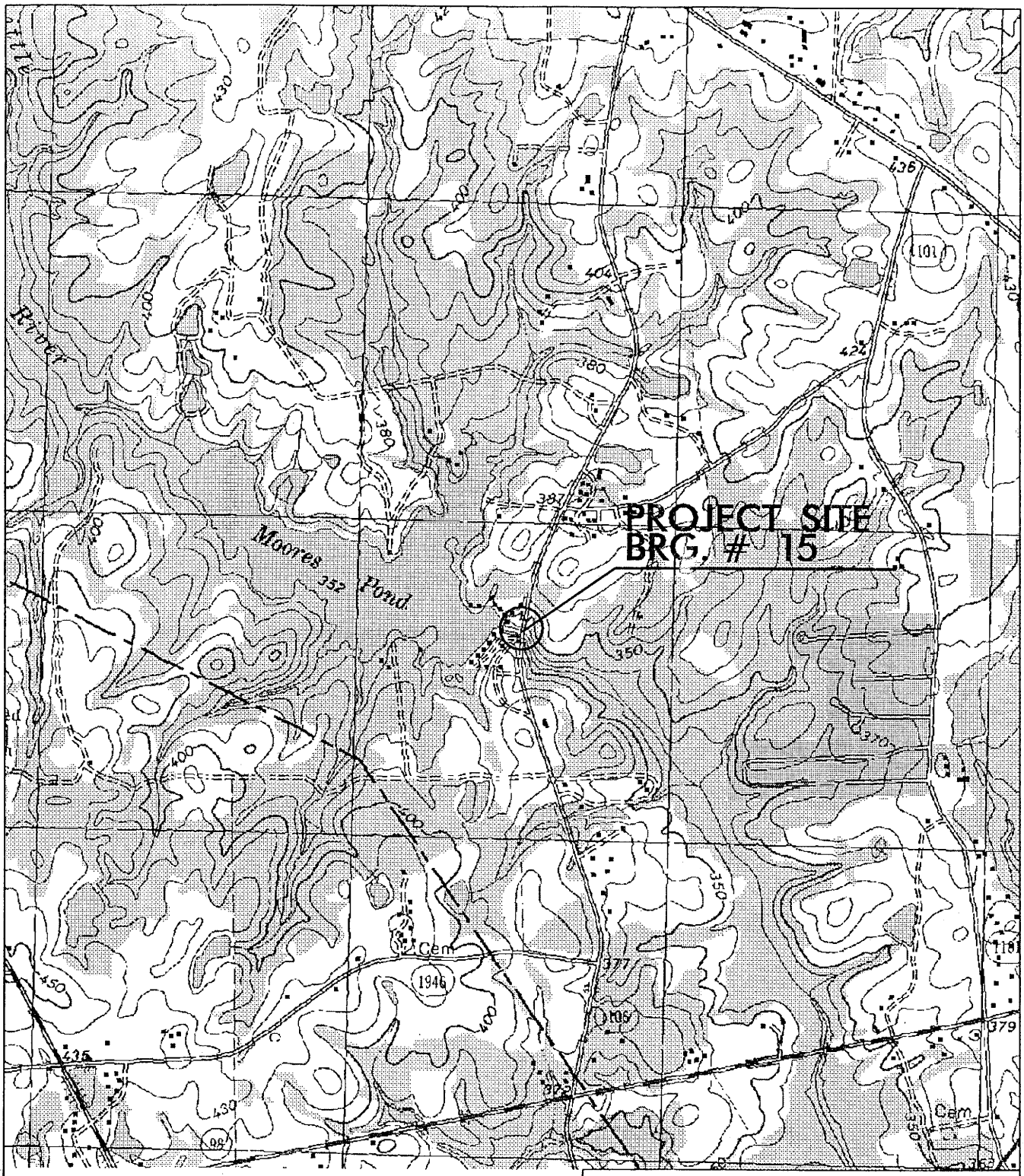
WETLAND IMPACT

VICINITY MAPS

NCDOT

DIVISION OF HIGHWAYS
FRANKLIN COUNTY
PROJECT: 33468.1.1 (B-4113)
REPLACE BRIDGE # 15
OVER LITTLE RIVER
ON SR 1106 (MOORES POND RD.)

4/27/05



SITE MAP

NCDOT

DIVISION OF HIGHWAYS
FRANKLIN COUNTY
PROJECT: 33468.1.1 (B-4113)
REPLACE BRIDGE # 15
OVER LITTLE RIVER
ON SR 1106 (MOORES POND RD)

WETLAND LEGEND

WLB WETLAND BOUNDARY

WETLAND

DENOTES FILL IN WETLAND

DENOTES FILL IN SURFACE WATER

DENOTES FILL IN SURFACE WATER (POND)

DENOTES TEMPORARY FILL IN WETLAND

DENOTES EXCAVATION IN WETLAND

DENOTES TEMPORARY FILL IN SURFACE WATER

DENOTES MECHANIZED CLEARING

FLOW DIRECTION

TB TOP OF BANK

WE EDGE OF WATER

C PROP. LIMIT OF CUT

F PROP. LIMIT OF FILL

PROP. RIGHT OF WAY

NG NATURAL GROUND

PL PROPERTY LINE

TDE TEMP. DRAINAGE EASEMENT

PDE PERMANENT DRAINAGE EASEMENT

EAB EXIST. ENDANGERED ANIMAL BOUNDARY

EPB EXIST. ENDANGERED PLANT BOUNDARY

WATER SURFACE

LIVE STAKES

BOULDER

COIR FIBER ROLLS

PROPOSED BRIDGE

PROPOSED BOX CULVERT

PROPOSED PIPE CULVERT
12"-48" PIPES
54" PIPES & ABOVE

(DASHED LINES DENOTE EXISTNG STRUCTURES)

SINGLE TREE

WOODS LINE

DRAINAGE INLET

ROOTWAD

RIP RAP

5 ADJACENT PROPERTY OWNER OR PARCEL NUMBER IF AVAILABLE

PREFORMED SCOUR HOLE

LEVEL SPREADER (LS)

DITCH / GRASS SWALE

NCDOT

DIVISION OF HIGHWAYS
FRANKLIN COUNTY
PROJECT: 33468.1.1 (B-4113)
REPLACE BRIDGE # 15
OVER LITTLE RIVER
ON SR 1106 (MOORES POND RD.)

SHEET **OF** **4/27/05**

PROJECT REFERENCE NO.	SHEET NO.
B-4113	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

*DESIGN EXCEPTIONS FOR HORIZONTAL ALIGNMENT, VERTICAL ALIGNMENT, AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.

NAD 83

-L- PCSta. 18+24.29

-L- PCSta. 28+30.46

-L- PTSta. 23+01.08

1 SUMNER CONSTRUCTION INC.
D.B. 1436, P. 870
M.B. 2004, P. 297

2 EDGAR A. STALLINGS, Sr. ETAL
D.B. 1394, P. 151

3 MALTOMA FISHING CLUB
D.B. 534, P. 121
M.B. 3, P. 121

4 THOMAS E. BARHAM
DORIS P. BARHAM
D.B. 1175, P. 138
M.B. 10, P. 44

6 JOHN W. ELLIOT, SR.
JANET B. ELLIOT
D.B. 1014, P. 76

SR 1106 MOORES POND ROAD

LITTLE RIVER

MOORES POND

BEGIN TIP PROJECT B-4113
-L- POT STA. 16+50.00

END TIP PROJECT B-4113
-L- POC STA. 30+18.46

DO NOT DISTURB WELL

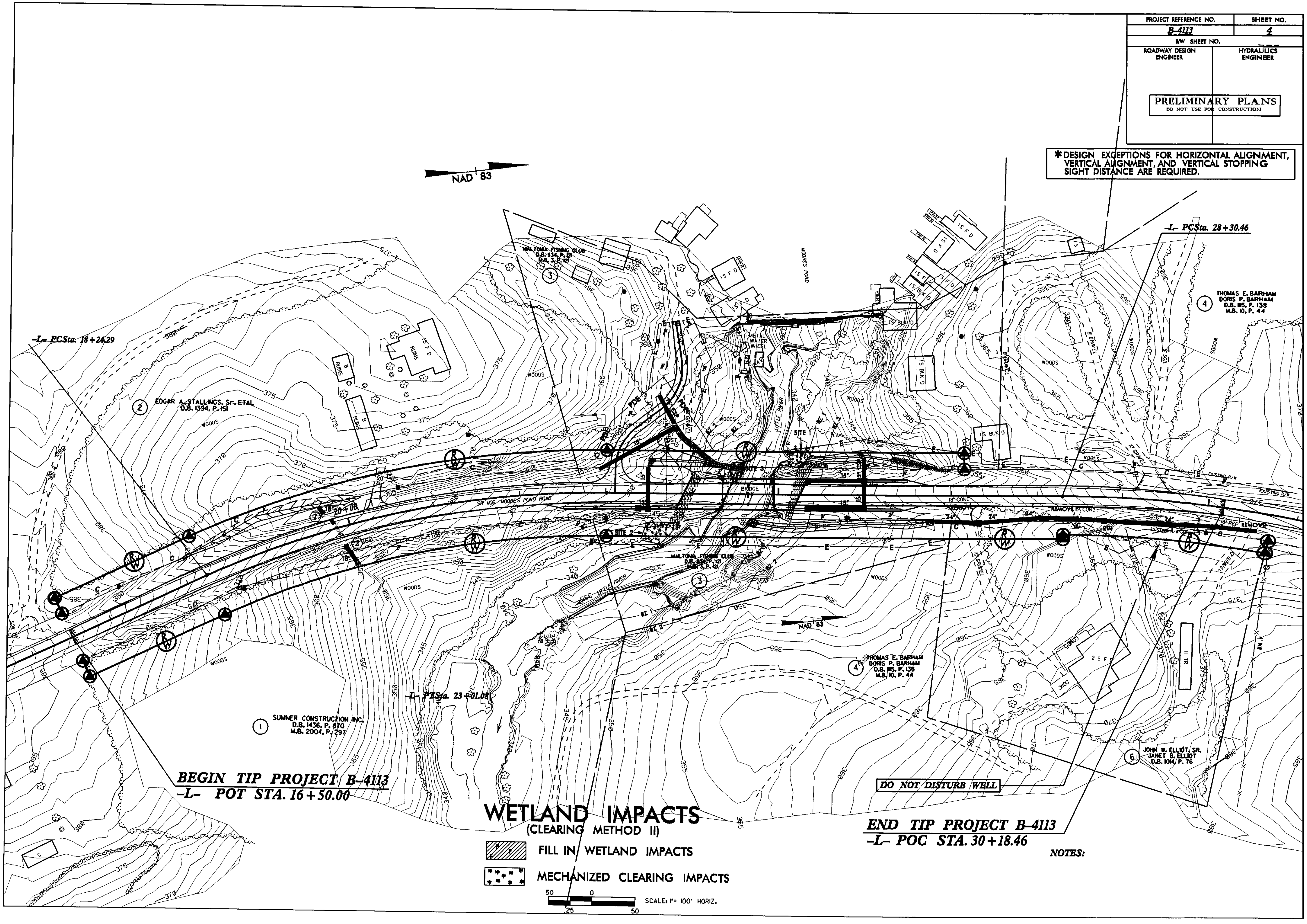
WETLAND IMPACTS
(CLEARING METHOD II)

FILL IN WETLAND IMPACTS

MECHANIZED CLEARING IMPACTS

50 0 SCALE: 1"= 100' HORIZ.
25 50

NOTES:


PROJECT REFERENCE NO.
B-4113
SHEET NO.
4
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
*DESIGN EXCEPTIONS FOR HORIZONTAL ALIGNMENT, VERTICAL ALIGNMENT, AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.
NAD 83
-L- PCSta. 18+24.29
-L- PCSta. 28+30.46
-L- PTSta. 23+01.08
MALTOMA FISHING CLUB
EDGAR A. STALLINGS, Sr. ETAL D.B. 1394, P. 151
THOMAS E. BARHAM DORIS P. BARHAM D.B. 115, P. 138 M.B. 10, P. 44
SUMNER CONSTRUCTION INC. D.B. 1436, P. 870 M.B. 2004, P. 297
JOHN W. ELLIOT, SR. JANET B. ELLIOT D.B. 1014, P. 76
SR 1106 MOORES POND ROAD
MOORES POND
LITTLE RIVER
SITE 1
SITE 2
BRIDGE
WOODS
EXISTING R/W
DO NOT DISTURB WELL
BEGIN TIP PROJECT B-4113
-L- POT STA. 16+50.00
END TIP PROJECT B-4113
-L- POC STA. 30+18.46
NOTES:
WETLAND IMPACTS
(CLEARING METHOD II)
FILL IN WETLAND IMPACTS
MECHANIZED CLEARING IMPACTS
SCALE: 1"= 100' HORIZ.

PROJECT REFERENCE NO.	SHEET NO.
B-4113	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

*DESIGN EXCEPTIONS FOR HORIZONTAL ALIGNMENT, VERTICAL ALIGNMENT, AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.

NAD 83

-L- PCSta. 18+24.29

-L- PCSta. 28+30.46

MALTONA FISHING CLUB
D.B. 534, P. 121
M.B. 3, P. 123

THOMAS E. BARHAM
DORIS P. BARHAM
D.B. 1115, P. 138
M.B. 10, P. 44

EDGAR A. STALLINGS, Sr. ETAL
D.B. 1394, P. 151

SR 1106 MOORES POND ROAD

WORK PAD

LITTLE RIVER

MOORES POND

SUMNER CONSTRUCTION INC.
D.B. 1436, P. 870
M.B. 2004, P. 297

-L- PTSta. 23+01.08

JOHN W. ELLIOT, SR.
JANET B. ELLIOT
D.B. 1014, P. 76

DO NOT DISTURB WELL

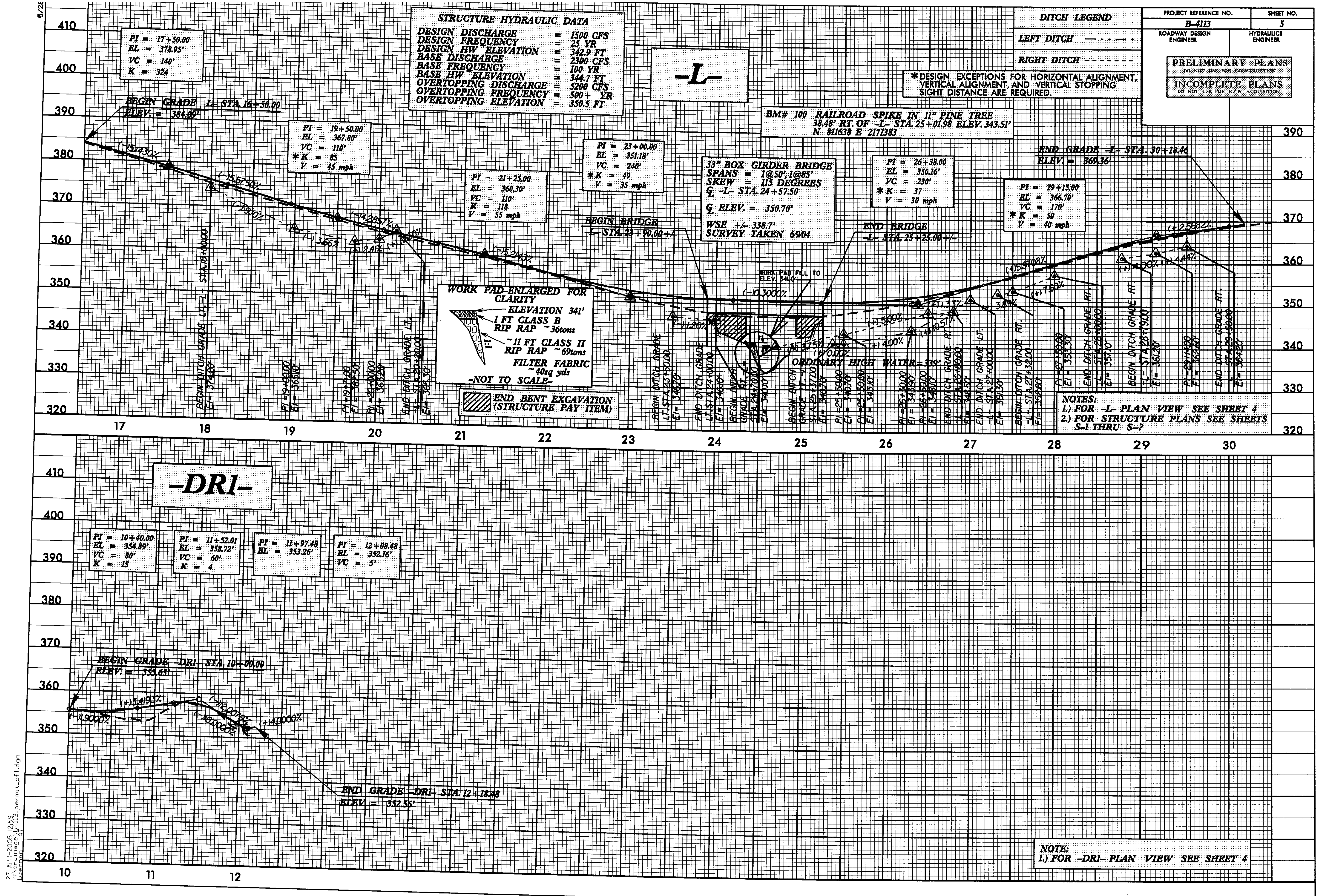
BEGIN TIP PROJECT B-4113
-L- POT STA. 16+50.00

END TIP PROJECT B-4113
-L- POC STA. 30+18.46

WORK PAD IMPACT

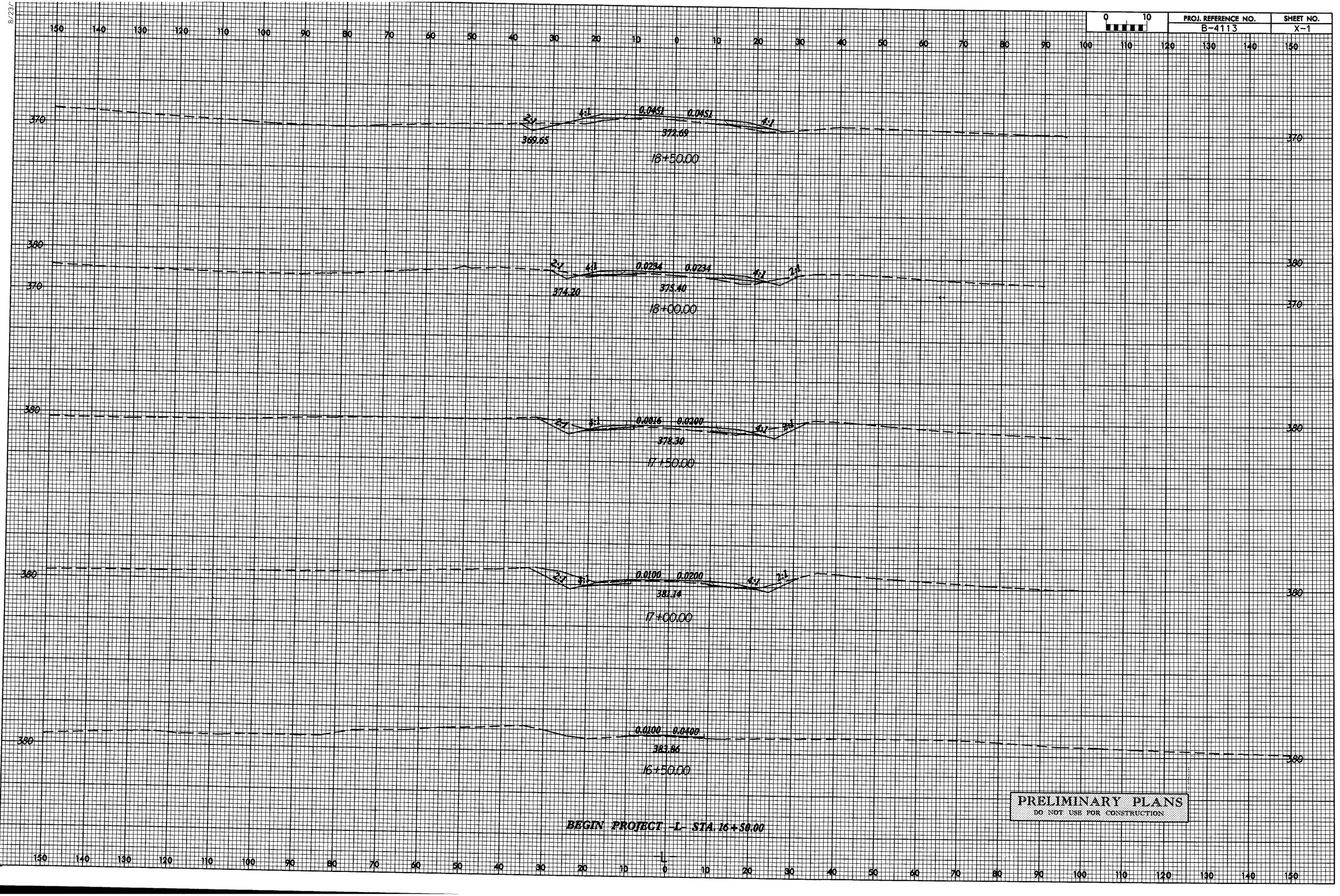
SCALE: 1"= 100' HORIZ.

NOTES:



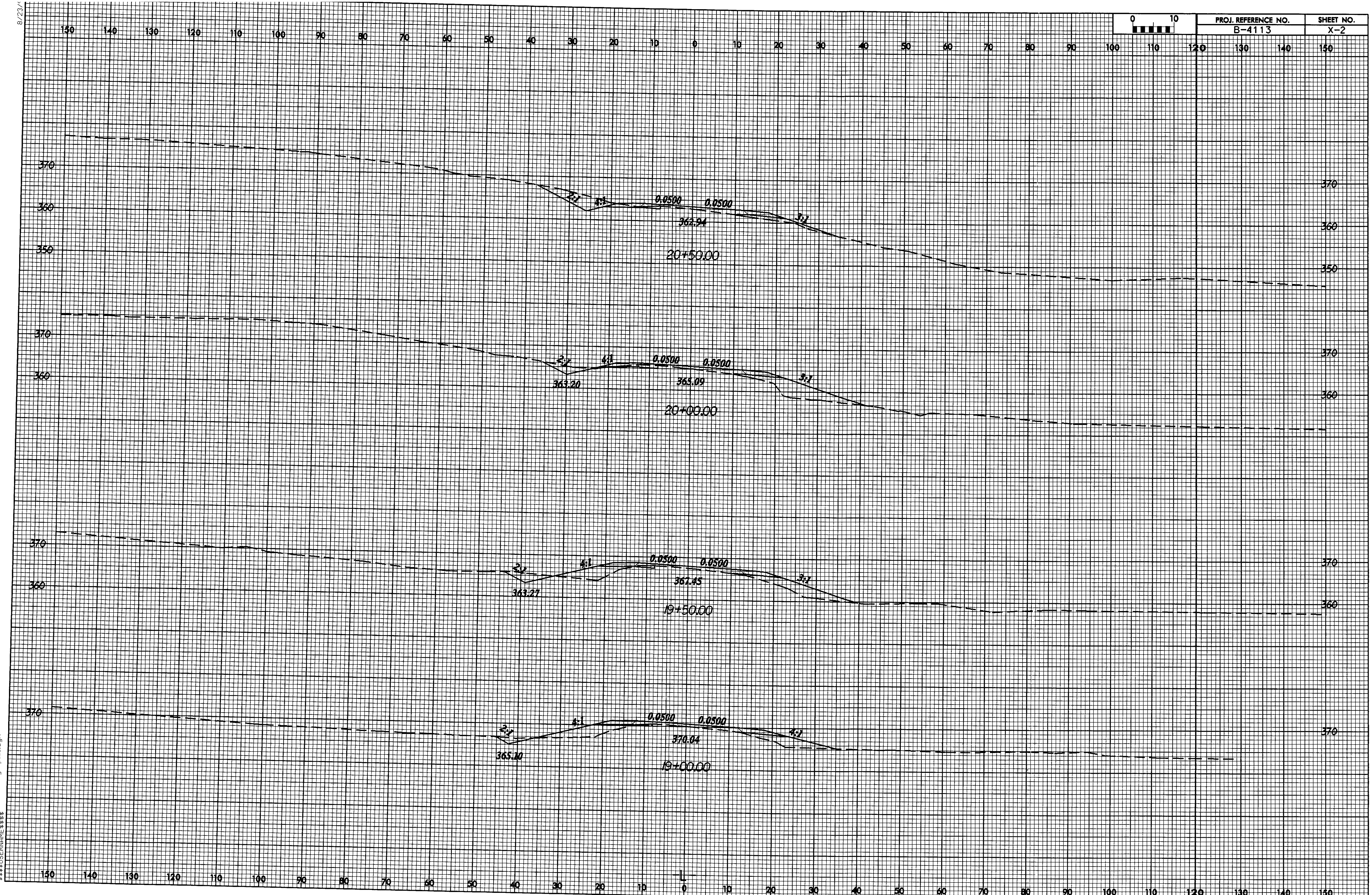
PROJECT REFERENCE NO. B-4113
SHEET NO. 5
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION
DITCH LEGEND
LEFT DITCH
RIGHT DITCH
*DESIGN EXCEPTIONS FOR HORIZONTAL ALIGNMENT, VERTICAL ALIGNMENT, AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.
STRUCTURE HYDRAULIC DATA
DESIGN DISCHARGE = 1500 CFS
DESIGN FREQUENCY = 25 YR
DESIGN HW ELEVATION = 342.9 FT
BASE DISCHARGE = 2300 CFS
BASE FREQUENCY = 100 YR
BASE HW ELEVATION = 344.7 FT
OVERTOPPING DISCHARGE = 5200 CFS
OVERTOPPING FREQUENCY = 500+ YR
OVERTOPPING ELEVATION = 350.5 FT
-L-
BM# 100 RAILROAD SPIKE IN 11" PINE TREE 38.48' RT. OF -L- STA. 25+01.98 ELEV. 343.51'
N 811638 E 2171383
PI = 17+50.00 EL = 378.95' VC = 140' K = 324
BEGIN GRADE -L- STA. 16+50.00 ELEV. = 384.09'
PI = 19+50.00 EL = 367.80' VC = 110' *K = 85 V = 45 mph
PI = 21+25.00 EL = 360.30' VC = 110' K = 118 V = 55 mph
PI = 23+00.00 EL = 351.18' VC = 240' *K = 49 V = 35 mph
33" BOX GIRDER BRIDGE
SPANS = 1@50', 1@85'
SKEW = 115 DEGREES
℄ -L- STA. 24+57.50
℄ ELEV. = 350.70'
WSE +/- 338.7'
SURVEY TAKEN 6/9/04
PI = 26+38.00 EL = 350.16' VC = 230' *K = 37 V = 30 mph
PI = 29+15.00 EL = 366.70' VC = 170' *K = 50 V = 40 mph
END GRADE -L- STA. 30+18.46 ELEV. = 369.36'
BEGIN BRIDGE -L- STA. 23+90.00 +/-
END BRIDGE -L- STA. 25+25.00 +/-
WORK PAD FILL TO ELEV. 341.0'
ORDINARY HIGH WATER = 339'
(-)5.1430%
(-)5.5750%
(-)7.9%
(-)3.66%
(-)4.2857%
(+)2.41%
(-)5.2143%
(-)0.3000%
(+)5.9708%
(+)2.5682%
(+)1.20%
(+)1.500%
(+)4.00%
(+)0.00%
(+)7.50%
WORK PAD-ENLARGED FOR CLARITY
ELEVATION 341'
1 FT CLASS B RIP RAP ~36tons
~11 FT CLASS II RIP RAP ~69tons
FILTER FABRIC ~40sq yds
-NOT TO SCALE-
END BENT EXCAVATION (STRUCTURE PAY ITEM)
BEGIN DITCH GRADE LT. -L- STA. 18+00.00 El= 374.20'
END DITCH GRADE LT. -L- STA. 20+20.00 El= 363.50'
BEGIN DITCH GRADE LT. STA. 23+50.00 El= 346.70'
END DITCH GRADE LT. STA. 24+00.00 El= 346.10'
BEGIN DITCH GRADE RT. STA. 25+37.00 El= 340.70'
END DITCH GRADE LT. -L- STA. 26+60.00 El= 349.50'
END DITCH GRADE LT. -L- STA. 27+00.00 El= 351.30'
BEGIN DITCH GRADE RT. -L- STA. 27+32.00 El= 352.60'
END DITCH GRADE RT. -L- STA. 28+00.00 El= 357.10'
BEGIN DITCH GRADE RT. -L- STA. 28+79.00 El= 361.20'
END DITCH GRADE RT. -L- STA. 29+15.00 El= 364.20'
NOTES:
1.) FOR -L- PLAN VIEW SEE SHEET 4
2.) FOR STRUCTURE PLANS SEE SHEETS S-1 THRU S-?
-DR1-
PI = 10+40.00 EL = 354.89' VC = 80' K = 15
PI = 11+52.01 EL = 358.72' VC = 60' K = 4
PI = 11+97.48 EL = 353.26'
PI = 12+08.48 EL = 352.16' VC = 5'
BEGIN GRADE -DR1- STA. 10+00.00 ELEV. = 355.65'
END GRADE -DR1- STA. 12+18.48 ELEV. = 352.55'
(-)1.9000%
(+)5.4193%
(-)12.0078%
(-)10.0000%
(+)4.0000%
NOTE:
1.) FOR -DR1- PLAN VIEW SEE SHEET 4
27-APR-2005 12:59
r:\drainage\b4113_permit_pfl.dgn

PROJ. REFERENCE NO.	SHEET NO.
B-4113	X-1



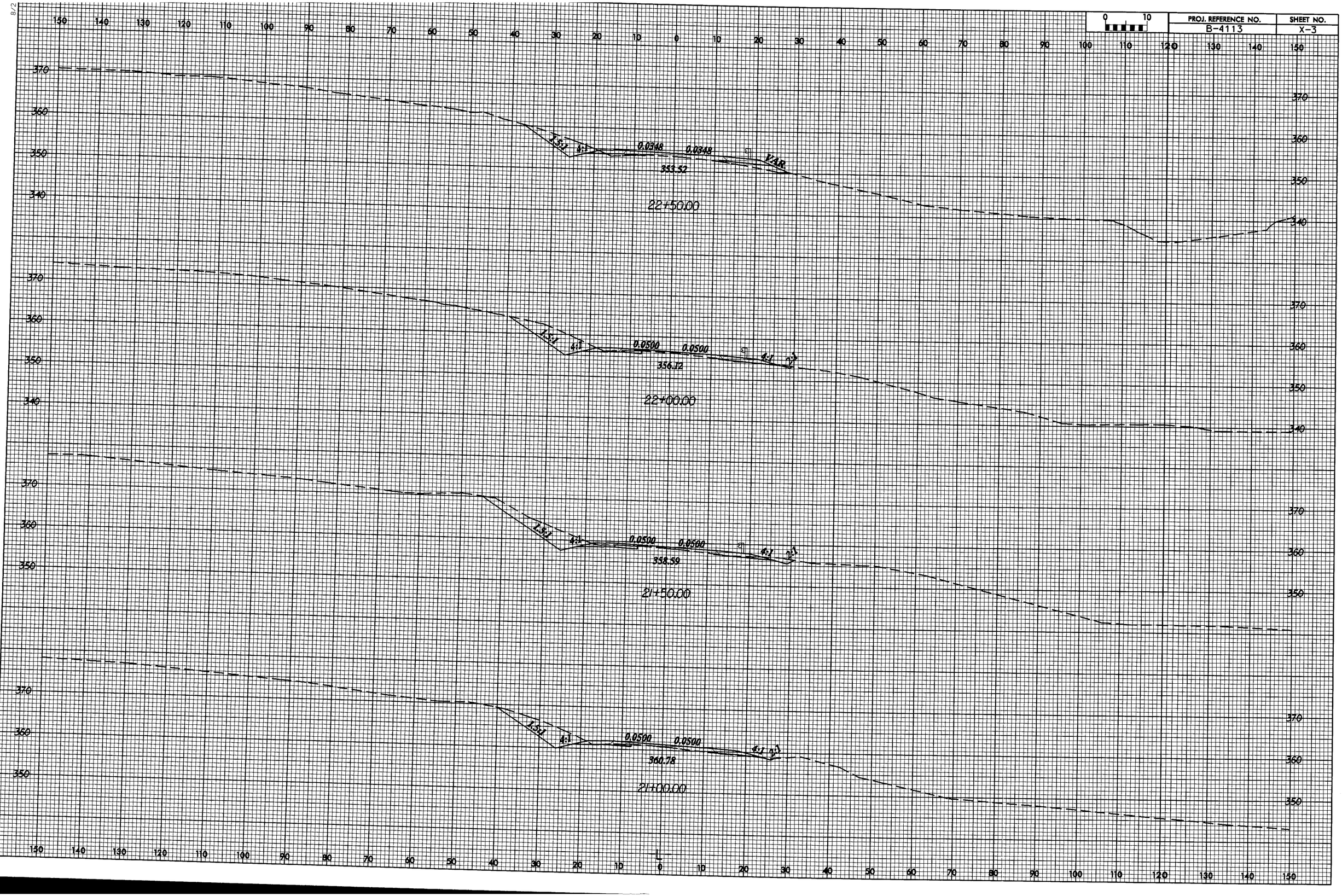
19-JUL-2005 14:50
r:\projdgn\xsec\xpl\b4113_rdy_xpl_1.dgn
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
B-4113	X-2



19-JUL-2005 14:50
r:\roadway\xsc\xpl\b4113_rdy_xpl_1.dgn
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
B-4113	X-3



PROJ. REFERENCE NO.	SHEET NO.
B-4113	X-4

END BRIDGE -L- STA. 25+25.00 +/-

0.0200 0.0200

347.74

25+00.00

2:1 2:1

341.24

0.0200 0.0200

336.73

24+50.00

2:1 2:1

346.10

0.0200 0.0200

347.68

24+00.00

BEGIN BRIDGE -L- STA. 23+90.00 +/-

2:1 4:1

346.70

0.0087 0.0200

349.14

2:1

23+50.00

DRIVEWAY - DRI-

0.0130 0.0200

351.16

2:1

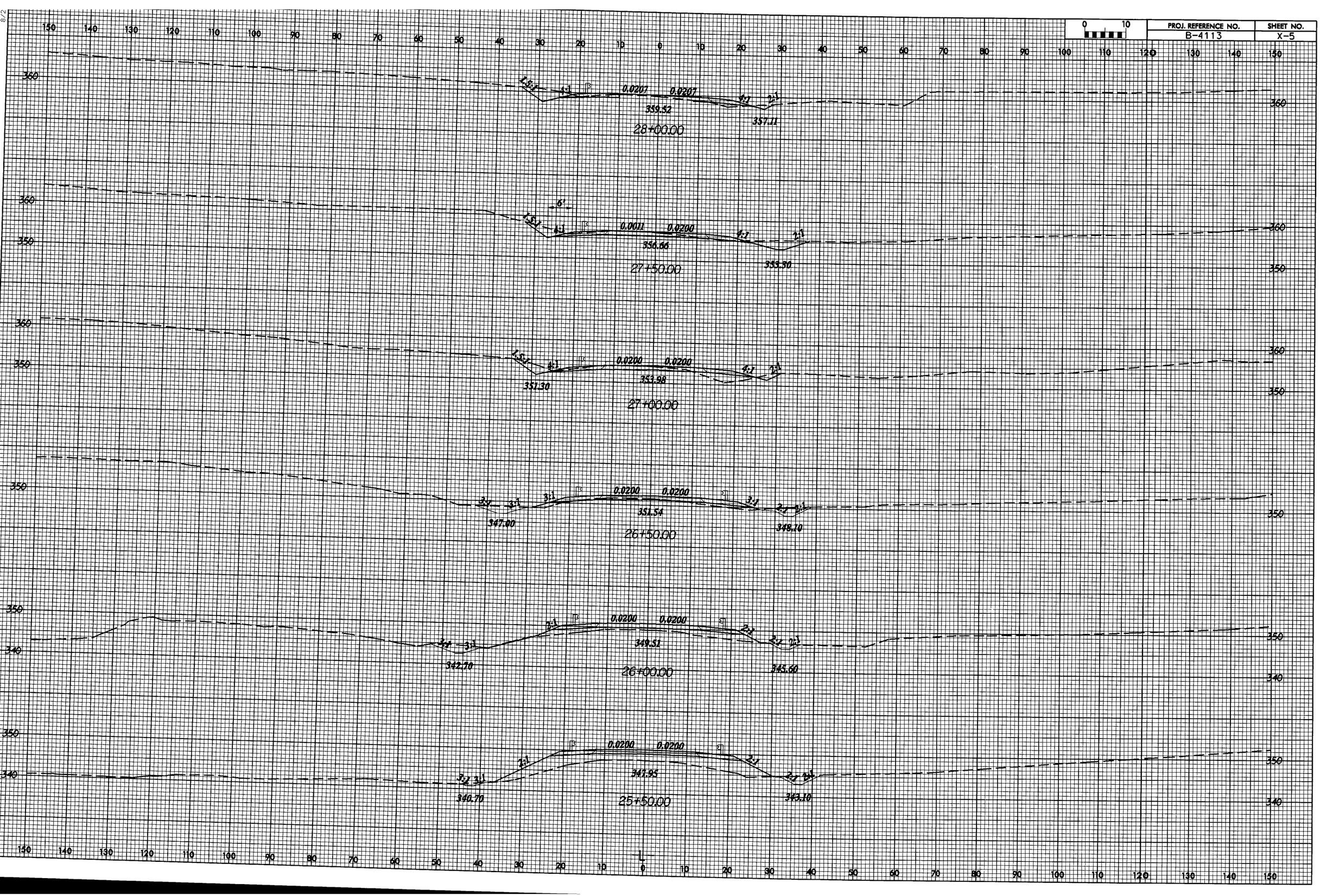
23+00.00

-L-

19-JUL-2005 14:50
r:\roadway\proj\b4113_rdy_xpl1.dgn
$$$$USERNAME$$$$

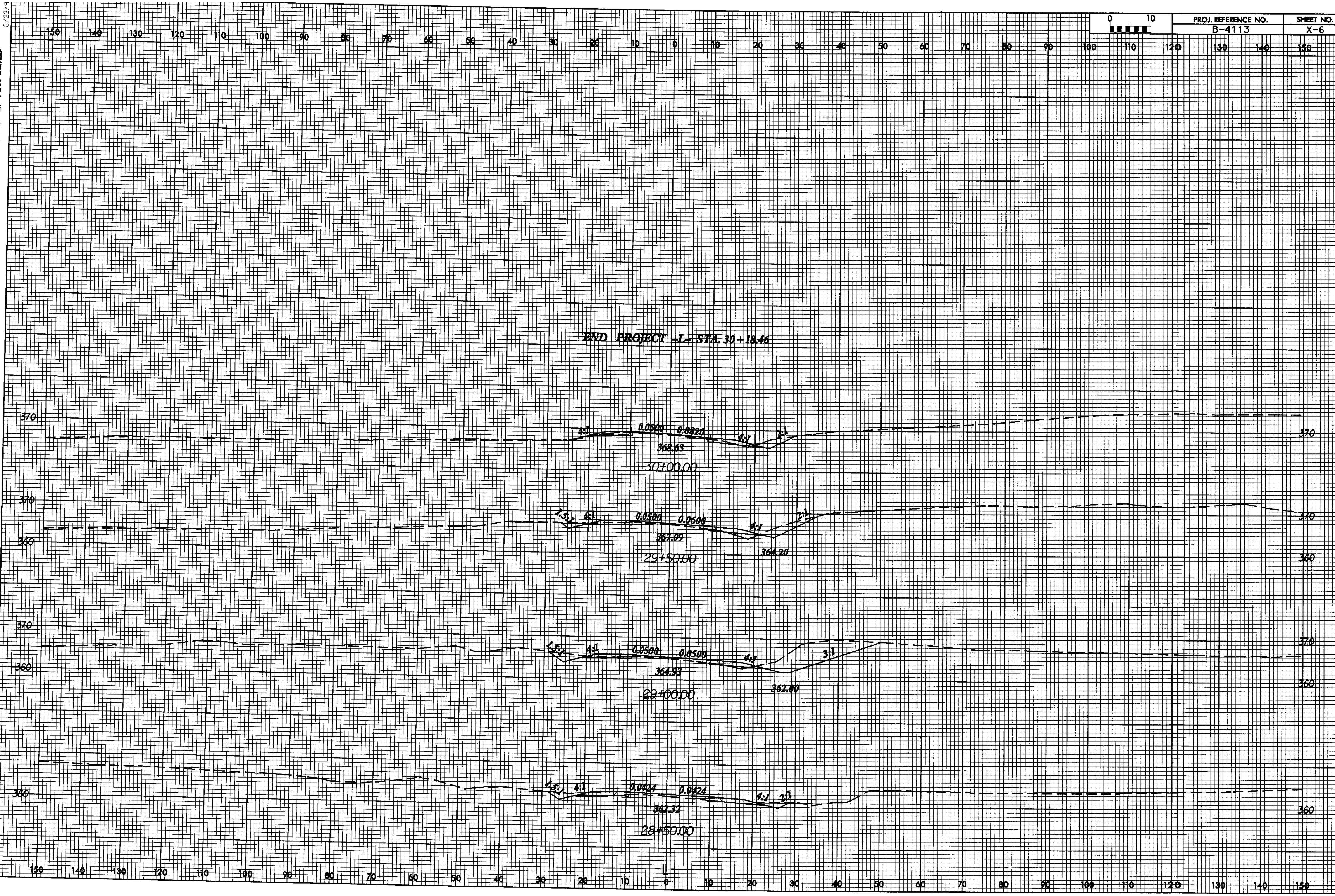
6-27-05 RIGHT OF WAY REVISION: FILL SLOPES STEEPENED TO 1.5:1 FROM LEFT OF -L- STA. 27+00 TO 29+50. KMD

PROJ. REFERENCE NO.	SHEET NO.
B-4113	X-5



PROJ. REFERENCE NO.	SHEET NO.
B-4113	X-6

6-27-05 RIGHT OF WAY REVISION: FILL SLOPES STEEPENED TO 1.5:1 FROM LEFT OF -L- STA. 27+00 TO 29+50. KMD



19-JUL-2005 14:50
r:\roadway\xsc\b4113_rdy_xpl1.dgn
$$$$USERNAME$$$$

8/23/

PROJ. REFERENCE NO.	SHEET NO.
B-4113	X-7

0 5

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

360 355 350

0.0200 0.0200 VAR.

3:1

357.27

11+50.00

360 355 350

0.0200 0.0200 4:1

3:1

354.32

11+00.00

355 350

0.0350 0.0350 VAR.

4:1

354.16

10+50.00

360 355

VAR. 0.0530 0.0530 VAR.

355.62

10+00.00

Note: Driveway Cross Sections Plotted at a Horizontal and Vertical Scale of 5

BEGIN -DR1- STA. 10+00.00

-DR1-

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

19-JUL-2005 14:50
r:\...\b4113_rdy_xpl_dri.dgn
$$$$USERNAME$$$$

8/23/99

0 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4113	X-8

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

END -DR1- STA. 12+18.48

4:1 0.0200 0.0200 3:1 1.5:1

355 350

352.00

12+00.00

-DR1-

355 350

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

19-JUL-2005 14:50
$$$$USERNAME$$$$
i:\projects\xs\b4113_rdy_xpl_dr1.dgn

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
(1)	Sumner Construction, Inc.	P.O. Box 1011 Youngsville, NC 27596
(2)	Edgar Stallings, Sr.	1378 Moores Pond Road Youngsville, NC 27596
(3)	Maltonia Fishing Club	311 Carrington Drive Knightdale, NC 27545
(4)	Doris P. Barham	11920 Louisburg Rd. Wake Forest, N.C. 27857
(6)	John W. Elliott, Sr.	1565 Moores Pond Road Youngsville, NC 27596

NCDOT

DIVISION OF HIGHWAYS

FRANKLIN COUNTY

PROJECT: 33468.1.1 (B-4113)

REPLACE BRIDGE # 15

OVER LITTLE RIVER

ON SR 1106 (MOORES POND RD.)

4 / 27 / 05

WETLAND PERMIT IMPACT SUMMARY

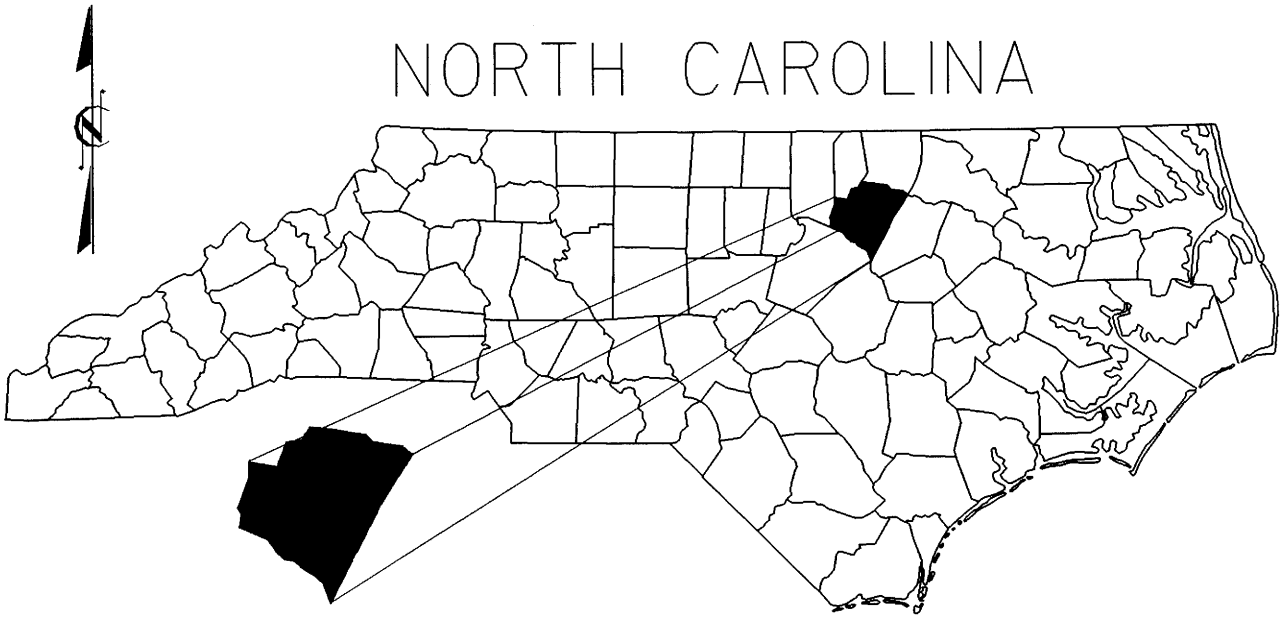
			WETLAND IMPACTS				SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Fill In SW (Natural) (ac)	Fill In SW (Pond) (ac)	Temp. Fill In SW (ac)	Existing Channel Impacted (ft)	Natural Stream Design (ft)
1	25+00 +/-	BRIDGE APPROACH FILL	0.001			0.012					
	25+42LT-L- +/-										
2	23+42 +/-	BRIDGE APPROACH FILL	0.003			0.014					
	23+85RT-L- +/-										
3	24+40+/-	BRIDGE				0.007					
	24+61LT-L-+/-										
	24+34 +/-	WORK PAD							0.014		
	24+53-L- +/-										
TOTALS:			0			0.03			0.01		

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

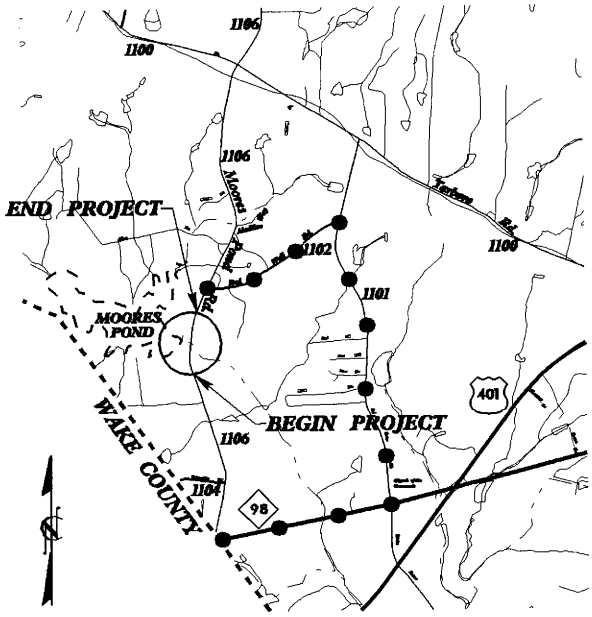
FRANKLIN COUNTY
PROJECT: 33468.1.1 (B-4113)

SHEET OF 4/27/2005

Form Revised 3/22/01



FRANKLIN COUNTY



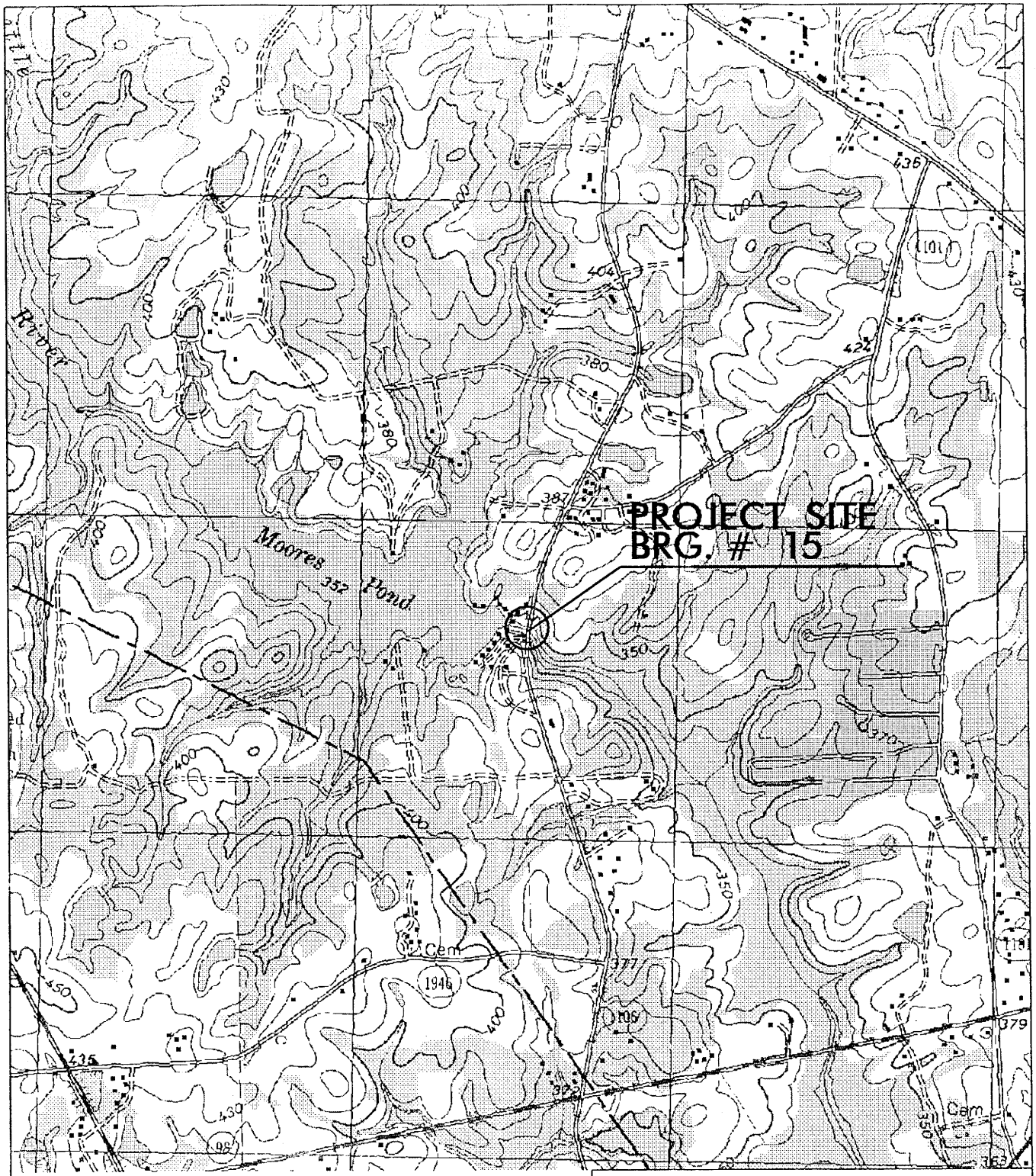
BUFFER IMPACT

VICINITY MAPS

NCDOT

DIVISION OF HIGHWAYS
FRANKLIN COUNTY
PROJECT: 33468.1.1 (B-4113)
REPLACE BRIDGE # 15
OVER LITTLE RIVER
ON SR 1106 (MOORES POND RD.)

4 / 27 / 05



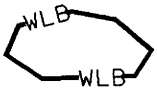
SITE MAP

NCDOT

DIVISION OF HIGHWAYS
FRANKLIN COUNTY
PROJECT: 3348.1.1 (B-4113)
REPLACE BRIDGE # 15
OVER LITTLE RIVER
ON SR 1106 (MOORES POND RD)

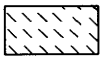
BUFFER LEGEND

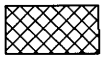
—WLB— WETLAND BOUNDARY

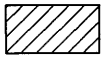


WETLAND


ALLOWABLE IMPACTS ZONE 1


ALLOWABLE IMPACTS ZONE 2


MITIGABLE IMPACTS ZONE 1


MITIGABLE IMPACTS ZONE 2

—BZ— RIPARIAN BUFFER ZONE

—BZ1— RIPARIAN BUFFER ZONE 1
30 ft (9.2m)

—BZ2— RIPARIAN BUFFER ZONE 2
20 ft (6.1m)

—— —— FLOW DIRECTION

TB
TOP OF BANK

WE
EDGE OF WATER

C
PROP. LIMIT OF CUT

F
PROP. LIMIT OF FILL

PROP. RIGHT OF WAY

— —NG— — NATURAL GROUND

PL
PROPERTY LINE

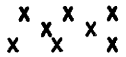
—TDE— TEMP. DRAINAGE EASEMENT

—PDE— PERMANENT DRAINAGE EASEMENT

— EAB— EXIST. ENDANGERED ANIMAL BOUNDARY

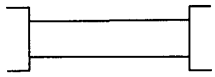
— EPB— EXIST. ENDANGERED PLANT BOUNDARY

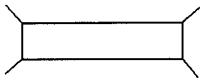
WATER SURFACE


LIVE STAKES


BOULDER

COIR FIBER ROLLS

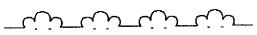

PROPOSED BRIDGE


PROPOSED BOX CULVERT

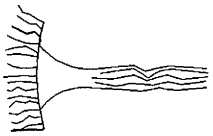

PROPOSED PIPE CULVERT
12"-48" PIPES
54" PIPES & ABOVE

(DASHED LINES DENOTE EXISTNG STRUCTURES)


SINGLE TREE


WOODS LINE

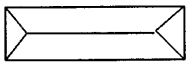

DRAINAGE INLET

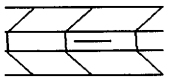

ROOTWAD


RIP RAP

ADJACENT PROPERTY OWNER OR PARCEL NUMBER IF AVAILABLE


PREFORMED SCOUR HOLE (PSH)


LEVEL SPREADER (LS)


DITCH/ GRASS SWALE

NCDOT

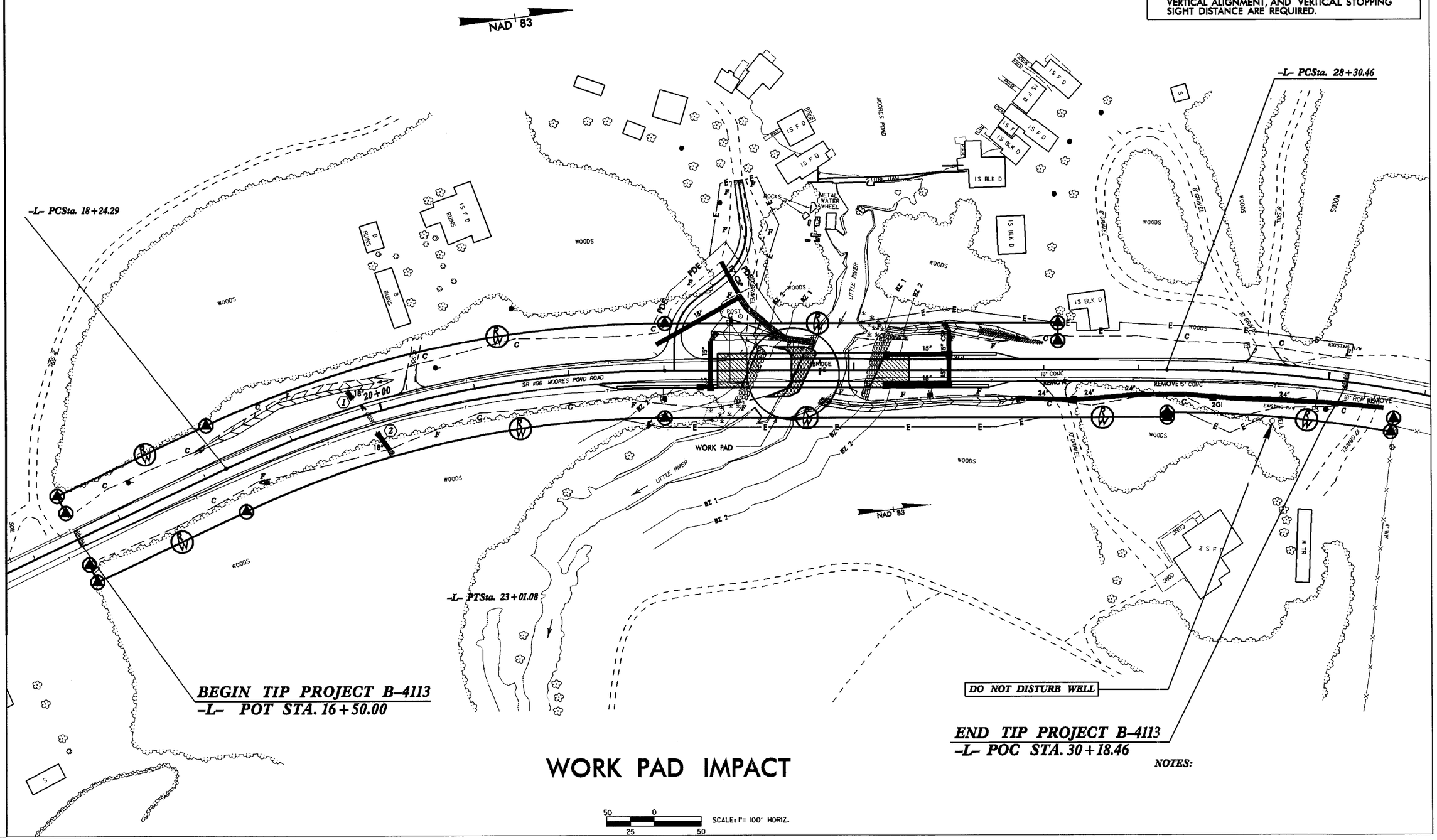
DIVISION OF HIGHWAYS
FRANKLIN COUNTY
PROJECT: 33468.1.1 (B-4113)
REPLACE BRIDGE # 15
OVER LITTLE RIVER
ON SR 1106 (MOORES POND RD.)

4/27/05

PROJECT REFERENCE NO.	SHEET NO.
B-4113	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

*DESIGN EXCEPTIONS FOR HORIZONTAL ALIGNMENT, VERTICAL ALIGNMENT, AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.



WORK PAD IMPACT

50 0 25 50 SCALE: 1"= 100' HORIZ.

NOTES:

PROJECT REFERENCE NO.	SHEET NO.
B-4113	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

*DESIGN EXCEPTIONS FOR HORIZONTAL ALIGNMENT, VERTICAL ALIGNMENT, AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.

NAD 83

-L- PCSta. 18+24.29

-L- PCSta. 28+30.46

1 SUMNER CONSTRUCTION INC.
D.B. 1436, P. 870
M.B. 2004, P. 297

2 EDGAR A. STALLINGS, Sr. ETAL
D.B. 1394, P. 151

3 MALTONIA FISHING CLUB
D.B. 534, P. 121
M.B. 5, P. 121

4 THOMAS E. BARHAM
DORIS P. BARHAM
D.B. 115, P. 138
M.B. 10, P. 44

6 JOHN W. ELLIOT, SR.
JANET B. ELLIOT
D.B. 1014, P. 76

SR 1106 MOORES POND ROAD

MOORES POND

LITTLE RIVER

-L- PTSta. 23+01.08

BEGIN TIP PROJECT B-4113
-L- POT STA. 16+50.00

END TIP PROJECT B-4113
-L- POC STA. 30+18.46

DO NOT DISTURB WELL

BUFFER ZONE IMPACTS

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

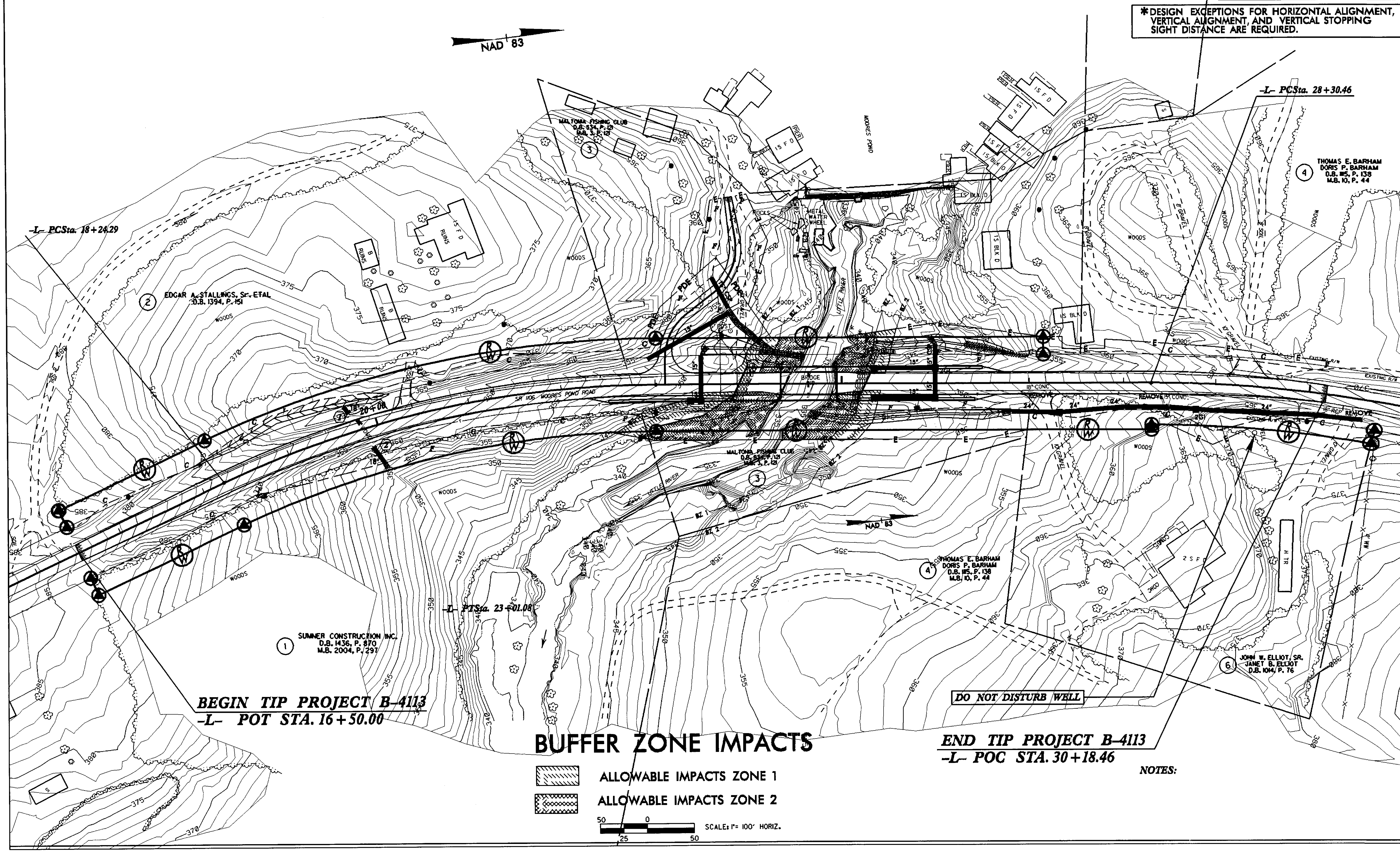
50 0 25 50 SCALE: 1"= 100' HORIZ.

NOTES:

PROJECT REFERENCE NO.	SHEET NO.
B-4113	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

*DESIGN EXCEPTIONS FOR HORIZONTAL ALIGNMENT, VERTICAL ALIGNMENT, AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.



NAD 83
-L- PCSta. 18+24.29
-L- PCSta. 28+30.46
-L- PTSta. 23+01.08
MALTOMA FISHING CLUB
EDGAR A. STALLINGS, Sr. ETAL
D.B. 1394, P. 151
THOMAS E. BARHAM
DORIS P. BARHAM
SUMNER CONSTRUCTION INC.
JOHN W. ELLIOT, SR.
JANET B. ELLIOT
MOORES POND
LITTLE RIVER
SR 1105 MOORES POND ROAD
BRIDGE
METAL WATER WHEEL
WOODS
DO NOT DISTURB WELL
BEGIN TIP PROJECT B-4113
-L- POT STA. 16+50.00
END TIP PROJECT B-4113
-L- POC STA. 30+18.46

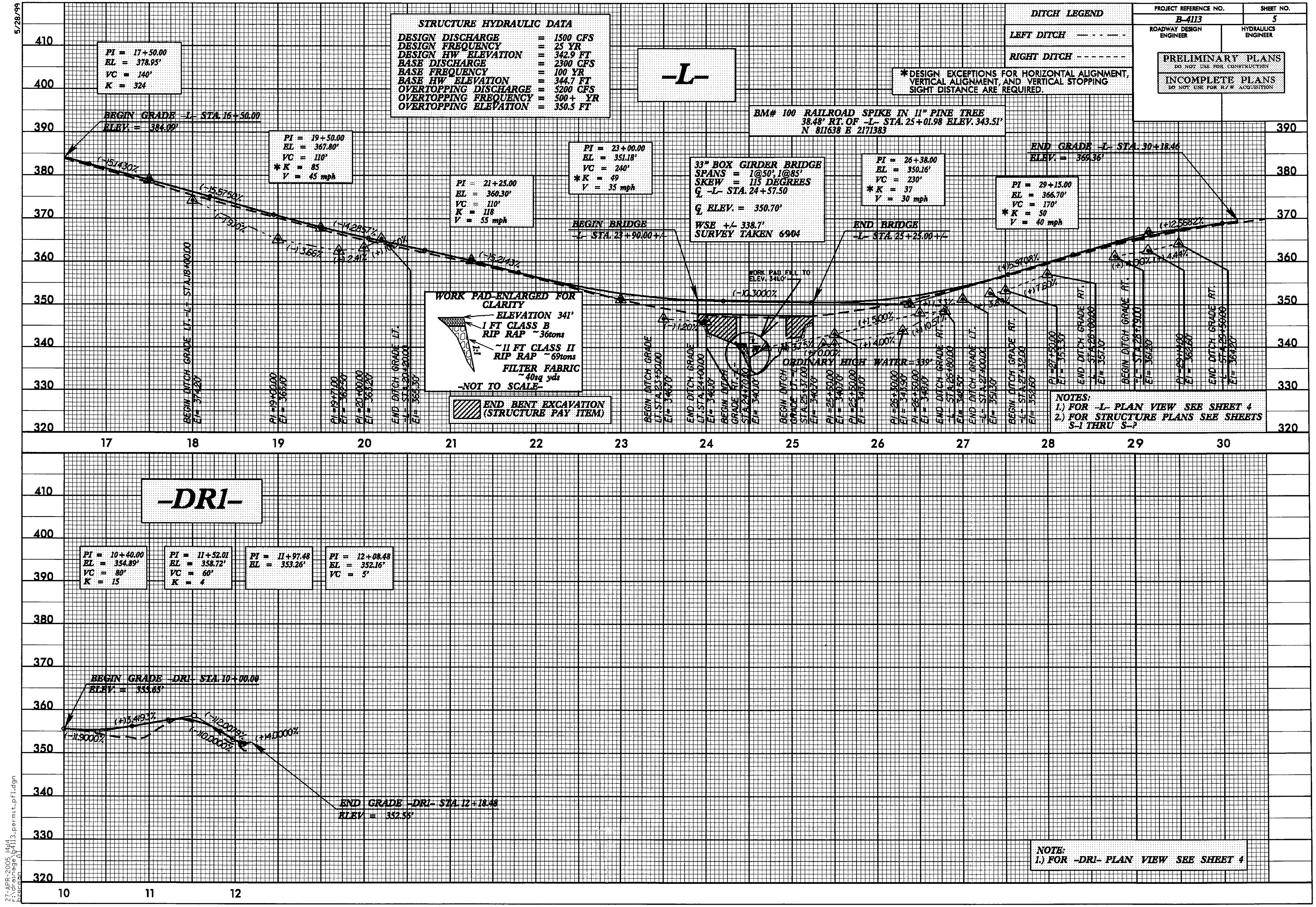
BUFFER ZONE IMPACTS

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

SCALE: 1" = 100' HORIZ.

NOTES:


PROJECT REFERENCE NO. B-4113
SHEET NO. 5
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION
DITCH LEGEND
LEFT DITCH
RIGHT DITCH
*DESIGN EXCEPTIONS FOR HORIZONTAL ALIGNMENT, VERTICAL ALIGNMENT, AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.
STRUCTURE HYDRAULIC DATA
DESIGN DISCHARGE = 1500 CFS
DESIGN FREQUENCY = 25 YR
DESIGN HW ELEVATION = 342.9 FT
BASE DISCHARGE = 2300 CFS
BASE FREQUENCY = 100 YR
BASE HW ELEVATION = 344.7 FT
OVERTOPPING DISCHARGE = 5200 CFS
OVERTOPPING FREQUENCY = 500+ YR
OVERTOPPING ELEVATION = 350.5 FT
-L-
BM# 100 RAILROAD SPIKE IN 11" PINE TREE 38.48' RT. OF -L- STA. 25+01.98 ELEV. 343.51' N 811638 E 2171383
PI = 17+50.00 EL = 378.95' VC = 140' K = 324
BEGIN GRADE -L- STA. 16+50.00 ELEV. = 384.09'
PI = 19+50.00 EL = 367.80' VC = 110' *K = 85 V = 45 mph
PI = 21+25.00 EL = 360.30' VC = 110' K = 118 V = 55 mph
PI = 23+00.00 EL = 351.18' VC = 240' *K = 49 V = 35 mph
33" BOX GIRDER BRIDGE SPANS = 1@50', 1@85' SKEW = 115 DEGREES CL -L- STA. 24+57.50 CL ELEV. = 350.70' WSE +/- 338.7' SURVEY TAKEN 6/9/04
PI = 26+38.00 EL = 350.16' VC = 230' *K = 37 V = 30 mph
PI = 29+15.00 EL = 366.70' VC = 170' *K = 50 V = 40 mph
END GRADE -L- STA. 30+18.46 ELEV. = 369.36'
BEGIN BRIDGE -L- STA. 23+90.00+/-
END BRIDGE -L- STA. 25+25.00+/-
WORK PAD FILL TO ELEV. 341.0'
ORDINARY HIGH WATER=339'
WORK PAD-ENLARGED FOR CLARITY
ELEVATION 341'
1 FT CLASS B RIP RAP ~36tons
~11 FT CLASS II RIP RAP ~69tons
FILTER FABRIC ~40sq yds
-NOT TO SCALE-
END BENT EXCAVATION (STRUCTURE PAY ITEM)
(-)5.1430%
(-)5.5750%
(-)7.910%
(-)4.2857%
(-)3.66%
(-)5.2143%
(-)0.3000%
(+)5.9708%
(+)2.5682%
NOTES:
1.) FOR -L- PLAN VIEW SEE SHEET 4
2.) FOR STRUCTURE PLANS SEE SHEETS S-1 THRU S-?
-DR1-
PI = 10+40.00 EL = 354.89' VC = 80' K = 15
PI = 11+52.01 EL = 358.72' VC = 60' K = 4
PI = 11+97.48 EL = 353.26'
PI = 12+08.48 EL = 352.16' VC = 5'
BEGIN GRADE -DR1- STA. 10+00.00 ELEV. = 355.65'
(-)1.9000%
(+)5.4193%
(-)12.0078%
(-)10.0000%
(+)4.0000%
END GRADE -DR1- STA. 12+18.48 ELEV = 352.56'
NOTE:
1.) FOR -DR1- PLAN VIEW SEE SHEET 4
5/28/99
27-APR-2005 14:14 r:\drainage\b4113_permit_pfl.dgn

BUFFER IMPACTS SUMMARY

			IMPACT								BUFFER REPLACEMENT	
			TYPE		ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ROAD CROSSING	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1	Bridge	-L- Sta 24+57.5	X		8581	5401	13982					
TOTAL:					8581	5401	13982					

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

FRANKLIN CO.
PROJECT: 33468.1.1 (B-4113)

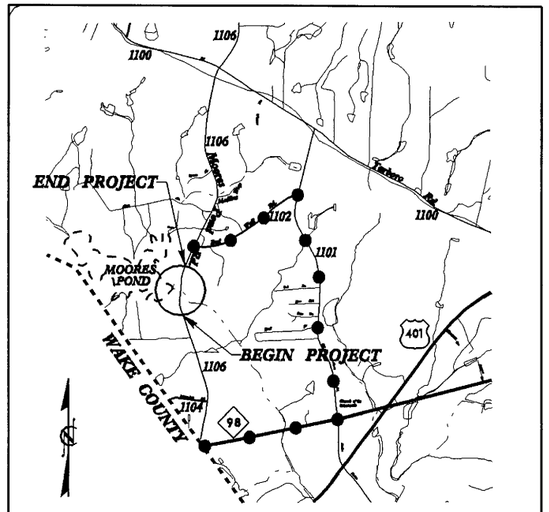
4/27/2005
SHEET OF

09/08/99

TIP: B-4113

CONTRACT: C201444

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

FRANKLIN COUNTY

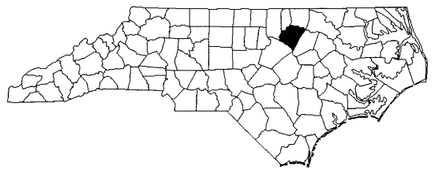
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4113	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33468.1.1	BRZ-1106(3)	P.E.
33468.2.1	BRZ-1106(3)	R/W & UTIL.
33468.3.1	BRZ-1106(3)	CONST.

LOCATION: BRIDGE NO. 15 OVER LITTLE RIVER AND APPROACHES ON SR 1106 (MOORES POND RD.)

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

NAD 83

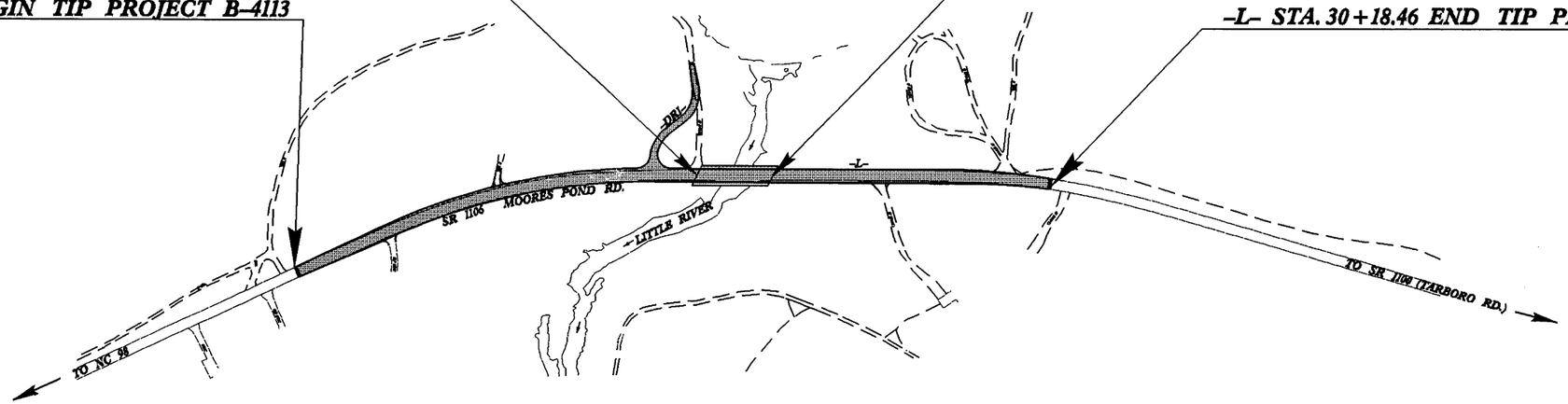


-L- STA. 16+50.00 BEGIN TIP PROJECT B-4113

BEGIN BRIDGE -L- STA. 23+90.00

END BRIDGE -L- STA. 25+25.00

-L- STA. 30+18.46 END TIP PROJECT B-4113



*** DESIGN EXCEPTIONS FOR SUPERELEVATION, VERTICAL ALIGNMENT, AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.*

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2005 = 1200
ADT 2025 = 2000
DHV = 13 %
D = 60 %
* T = 3 %
** V = 60 MPH
* (TTST 1 % + DUAL 2 %)
FUNC CLASS = RURAL LOCAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4113 = 0.233 MILES
LENGTH STRUCTURE TIP PROJECT B-4113 = 0.026 MILES
TOTAL LENGH OF TIP PROJECT B-4113 = 0.259 MILES

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

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: *February 18, 2005*

LETTING DATE: *February 21, 2006*

GLENN W. MUMFORD, P.E.
PROJECT ENGINEER

JEFFREY L. TEAGUE, E.I.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER *P.E.*

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR *DATE*

04-OCT-2005 14:58
r:\roadway\proj\b4113_rdy_tsh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4113	1-B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 23
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing High Quality Wetland Boundary — HQ WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- River Basin Buffer — RBB
- Flow Arrow
- Disappearing Stream
- Spring
- Swamp Marsh
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

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

RIGHT OF WAY:

- 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 — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Utility Easement — PUE

ROADS AND RELATED FEATURES:

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

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

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

MINOR:

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

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

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

SANITARY SEWER:

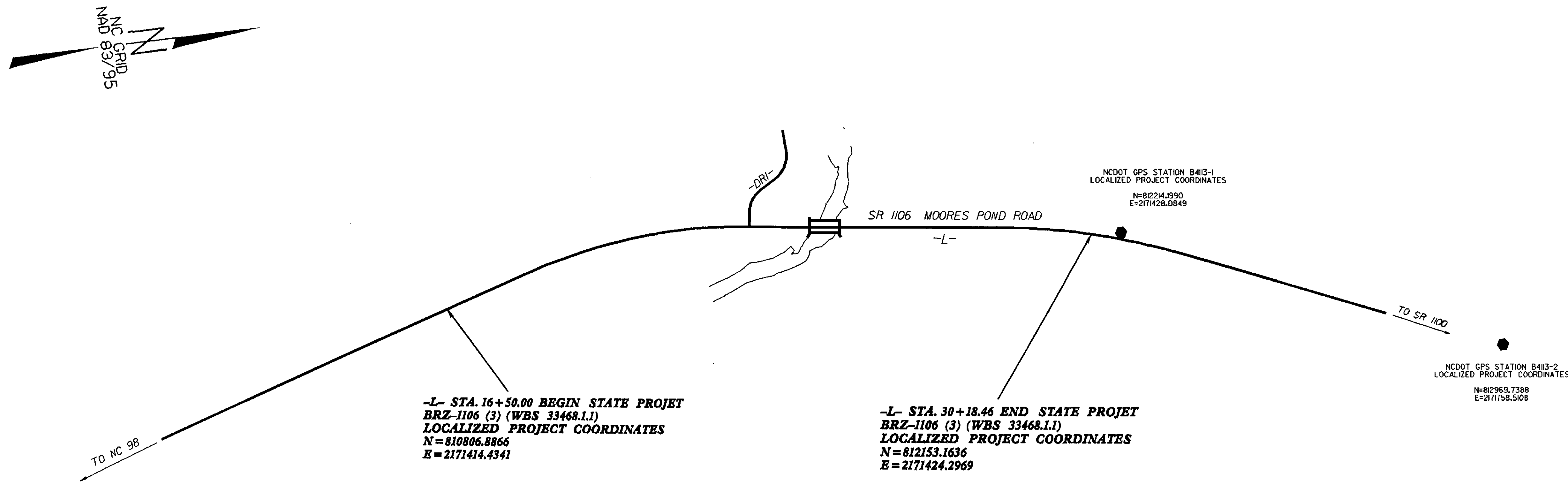
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?U/L
- 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.

PROJECT REFERENCE NO.	SHEET NO.
B-4113	1-C
Location and Surveys	

SURVEY CONTROL SHEET B-4113



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4113-1"
WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 812214.1991(ft) EASTING: 2171428.0849(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99994073
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4113-1" TO -L- STATION 10+00.00 IS
S 5°10'47.08" E 2,034.93
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3	BL-3	810661.5800	2171445.2660	388.62	15+02.19	14.74 LT
4	BL-4	811020.2610	2171333.0450	371.25	18+77.35	14.07 LT
5	BL-5	811650.7100	2171331.5770	346.71	25+07.64	14.19 LT
1	B4113-1	812214.1991	2171428.0849	370.30	30+77.71	13.91 LT
2	B4113-2	812969.7389	2171758.5108	385.05	OUTSIDE PROJECT LIMITS	

100 ELEVATION = 343.51
N 811638 E 2171383
L STATION 25+02 38 RIGHT
R/R SPIKE IN 11" PINE

101 ELEVATION = 383.74
N 810491 E 2171562
L STATION 13+05 44 RIGHT
R/R SPIKE IN 12" MAPLE

NOTES:

THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
HTTP:\WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT
THE FILES TO BE FOUND ARE AS FOLLOWS
B4113_LS_CONTROL_040708.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.

NOTE: DRAWING NOT TO SCALE

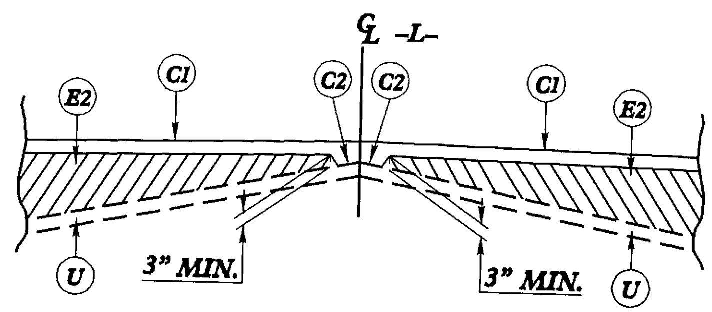
PROJECT REFERENCE NO.	SHEET NO.
B-4113	2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

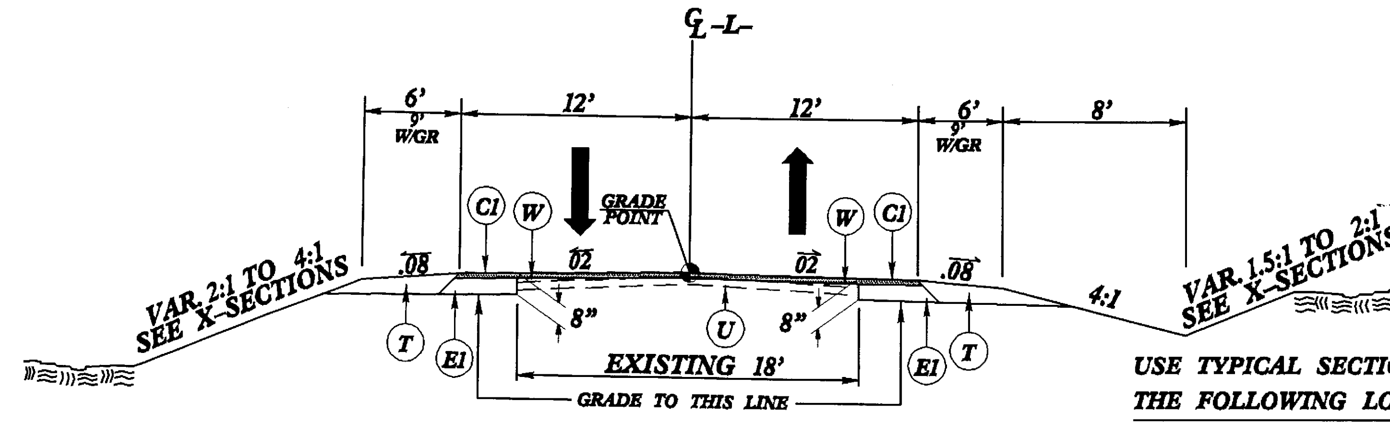
FINAL PAVEMENT SCHEDULE

C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1 1/2" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	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 5 1/2" IN DEPTH.
J	PROP. 6" AGGREGATE BASE COURSE.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL NO. 1).

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



DETAIL SHOWING METHOD OF WEDGING NO. 1
USE IN CONJUNCTION WITH TYPICAL SECTION NO. 1



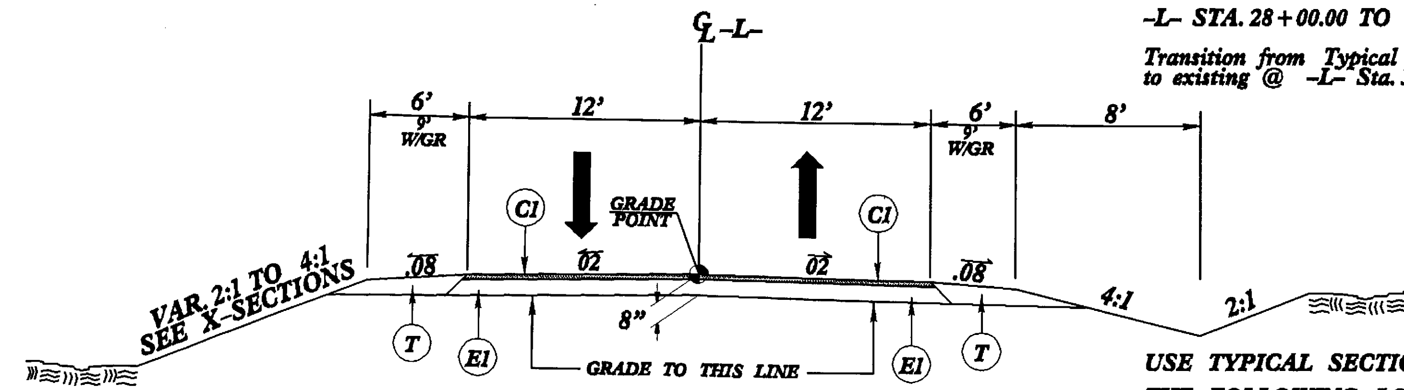
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 AT THE FOLLOWING LOCATIONS:

Transition from existing @ -L- Sta. 16+50.00 to Typical Section No. 1 @ -L- Sta. 18+00.00

-L- STA. 18+00.00 TO STA. 23+25.00
-L- STA. 28+00.00 TO STA. 28+68.46

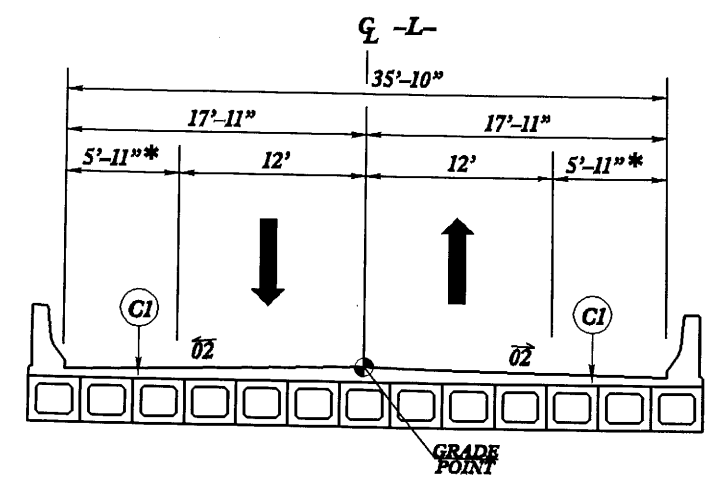
Transition from Typical Section No. 1 @ -L- Sta. 28+68.46 to existing @ -L- Sta. 30+18.46



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AT THE FOLLOWING LOCATIONS:

-L- STA. 23+25.00 TO STA. 23+90.00 (BEGIN BRIDGE)
-L- STA. 25+25.00 (END BRIDGE) TO STA. 28+00.00

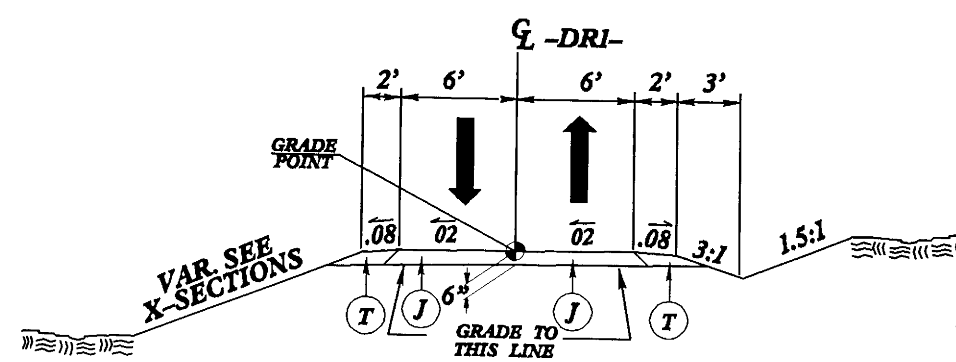


TYPICAL SECTION NO. 3
BOX BEAM BRIDGE
SEE STRUCTURE PLANS

USE TYPICAL SECTION NO. 3 AT THE FOLLOWING LOCATION:

-L- STA. 23+90.00 (BEGIN BRIDGE) TO STA. 25+25.00 (END BRIDGE)

* ADDITIONAL BRIDGE OFFSET WIDTH REQUIRED FOR HYDRAULIC DESIGN



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4 AT THE FOLLOWING LOCATION:

-DR1- STA. 10+00.00 TO STA. 12+18.48

05-OCT-2005 08:17
R:\Roadway\Proj\B4113_rdy_typ.dgn
kmdwiggins AT RD023162

8/17/

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

STATION SIZE THICKNESS OR GAUGE	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"
−L− 19+73	LT	1							12′						
−L− 19+90	RT	2							20′						
−L− 23+35	LT	3						100′							
−DR1− 11+05	CL	4													
−L− 23+38	RT	5		351.4′	–	–									
		5	6	–	348.6′	348.4′		12′							
−L− 23+49	RT	6		351.2′	–	–									
		6	7	–	348.4′	346.7′		52′							
−L− 25+34	RT	8		350.1′	–	–									
		8	8A	–	347.4′	347.2′		68′							
−L− 25+34	LT	9		350.1′	–	–									
		9	10	–	347.4′	347.1′		68′							
−L− 26+00	LT	10		350.4′	–	–									
		10	11	–	347.1′	342.7′									
−L− 26+00	RT	8A		350.4′	–	–									
		8A	10	–	347.2′	347.1′		36′							
−L− 26+81	RT	12	13	–	348.5′	350.0′				52′					
−L− 27+32	RT	13		352.6′	–	–									
		13	14	–	350.0′	355.9′				148′					
−L− 28+80	RT	14		360.9′	–	–									
		14	15	–	355.9′	366.7′				180′					
TOTAL								336′	32′	380′					
SAY															

STATION	LOCATION	FROM	TO	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12" .064	15" .064	18" .064	24" .064	24"	30" .079	30"	36" .079	36"	42" .109	42"	48" .109	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	LIN. *FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02
−L− 19+73	LT	1																							
−L− 19+90	RT	2																							
−L− 23+35	LT	3																							
−DR1− 11+05	CL	4			40′																				
−L− 23+38	RT	5																				1			
		5	6																						
−L− 23+49	RT	6																				1			
		6	7																						
−L− 25+34	RT	8																				1			
		8	8A																						
−L− 25+34	LT	9																				1			
		9	10																						
−L− 26+00	LT	10																				1			
		10	11		28′																				
−L− 26+00	RT	8A																				1			
		8A	10																						
−L− 26+81	RT	12	13																						
−L− 27+32	RT	13																				1			
		13	14																						
−L− 28+80	RT	14																				1			
		14	15																						
TOTAL					68′																	8			
SAY																									

* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B')

STATION	LOCATION	FROM	TO	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G		D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	M.D.I. TYPE "A" STD. 840.17 OR 840.26	M.D.I. TYPE "B" STD. 840.18 OR 840.27	M.D.I. TYPE "D" STD. 840.19 OR 840.28	M.D.I. FRAME WITH GRATE STD. 840.22	M.D.I. FRAME WITH TWO GRATES STD. 840.22	M.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	T.B.D.I. STD. 840.35	M.D.I. FRAME WITH TWO GRATES STD. 840.20						CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
−L− 19+73	LT	1																									0.45			
−L− 19+90	RT	2																									0.45			
−L− 23+35	LT	3																												
−DR1− 11+05	CL	4																												
−L− 23+38	RT	5																		1	1										
		5	6																											
−L− 23+49	RT	6																		1	1										
		6	7																											
−L− 25+34	RT	8																		1											
		8	8A																											
−L− 25+34	LT	9																		1											
		9	10																											
−L− 26+00	LT	10																		1	1										
		10	11																								2@15′				
−L− 26+00	RT	8A																		1	1										
		8A	10																											
−L− 26+81	RT	12	13																										25′	Remove Existing 18" Conc. Pipe
−L− 27+32	RT	13										1				1														
		13	14																										29′	Remove Existing 15" Conc. Pipe
−L− 28+80	RT	14									1					1														
		14	15																										27′	Remove Existing 18" Conc. Pipe
TOTAL											1	1				2		6	4							2@15′	0.90		81′	
SAY																											1			

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

GUARDRAIL SUMMARY

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.

W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

SURVEY LINE	BEG. STA.	END. STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS									IMPACT ATTENUATOR TYPE 350						REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	TYPE III	TYPE 350	AT-1							EA	G	NG				
−L−	21+14.35	23+70.60	RT	256.25′			BRIDGE		6′	6′	50′		1′		1	1														
−L−	25+28.11	26+96.86	RT	168.75′				BRIDGE	6′	6′		50′		1′	1	1														
−DR1− & −L−	−DR1− 11+74.00	−L− 23+85.83	LT	43.75′	43.75′			BRIDGE	6′	6′		6.25′		4′	1		1													
−L−	25+44.39	29+00.64	LT	356.25′			BRIDGE		6′	6′	50′		1′		1	1														
SUBTOTAL				825.00′	43.75′																									
				−225.00′	−6.25′																									
TOTAL				600.00′	37.50′										4	3	1													

DEDUCTION FOR ANCHOR UNITS

TYPE 350	3 @ 50′ =	150.00′	
TYPE III	4 @ 18.75′ =	75.00′	
AT-1	1 @ 6.25′ =		6.25′
TOTAL		225.00′	6.25′

5 ADDITIONAL GUARDRAIL POSTS

05-OCT-2005 08:17
R:\Roadway\Proj\B4113_rdy_sum.dgn
kmdwiggins AT RD223162

CHECKED BY: R.C.B. DATE: SEPT. 2005

PROJECT REFERENCE NO.	SHEET NO.
B-4113	3-B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

* SUMMARY OF EARTHWORK
IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
-L- STA. 16+50.00 TO 23+90.00 (BEGIN BRIDGE)	889	0	1,047	158	0
END BENT 1	0	0	20	20	0
END BENT 2	0	0	19	19	0
-L- STA. 25+25.00 (END BRIDGE) TO 30+18.46	543	0	522	0	21
SUBTOTAL	1,432	0	1,608	197	21
-DR1- STA. 10+00.00 TO 12+18.46	20	0	287	267	0
SUBTOTAL	20	0	287	267	0
TOTALS	1,452	0	1,895	464	21
LOSS DUE TO CLEARING & GRUBBING	-300			300	
ESTIMATED SHOULDER MATERIAL			942	942	
WASTE IN LIEU OF BORROW				-21	-21
PROJECT TOTALS	1,152	0	2,837	1,685	0
ESTIMATED 5% TO REPLACE TOPSOIL ON BORROW PIT				84	
GRAND TOTALS	1,152	0	2,837	1,769	0
SAY	1,200			2,000	

EST. UNDERCUT = 200 CY
EST. DRAINAGE DITCH EXCAVATION = 185 CY

* ASPHALT PAVEMENT REMOVAL AND BREAKING SUMMARY
IN SQUARE YARDS

LINE	STATION TO STATION	LOCATION	REMOVAL	BREAK-UP
-L-	23+25.00 TO 24+35.00	EXISTING ROADBED	244	
-L-	24+95.00 TO 28+00.00	EXISTING ROADBED	634	
	TOTAL		878	
	SAY		900	

** APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, SHOULDER BORROW, FINE GRADING, CLEARING AND GRUBBING, BREAKING OF EXISTING PAVEMENT, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING".*

05-OCT-2005 08:18
R:\Roadway\Proj\B4113_rdy_sum.dgn

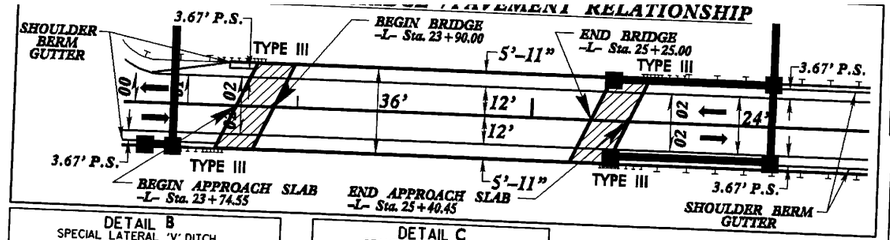
PROJECT REFERENCE NO.	SHEET NO.
B-4113	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

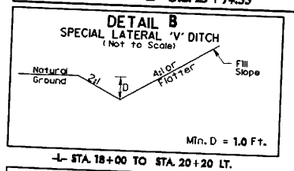
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

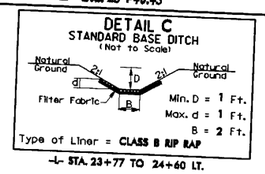
SUPERELEVATION & PAVEMENT RELATIONSHIP



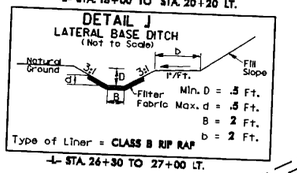
NAD 83



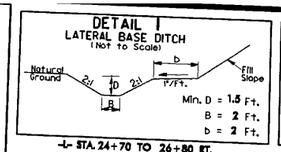
-L- STA. 18+00 TO STA. 20+20 LT.



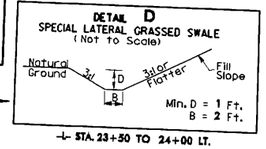
-L- STA. 23+77 TO 24+60 LT.



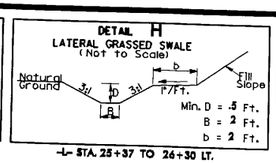
-L- STA. 26+30 TO 27+00 LT.



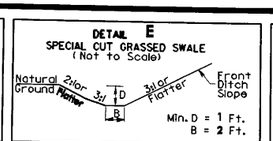
-L- STA. 24+70 TO 26+80 RT.



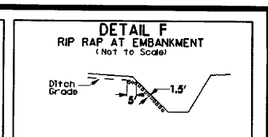
-L- STA. 23+50 TO 24+00 LT.



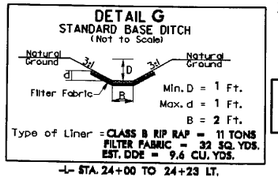
-L- STA. 25+37 TO 26+30 LT.



-L- STA. 27+32 TO 28+00 RT.
-L- STA. 28+79 TO 29+14 RT.



-L- STA. 24+60 LT.
-L- STA. 24+70 RT.



-L- STA. 24+00 TO 24+23 LT.

* DESIGN EXCEPTIONS FOR SUPERELEVATION, VERTICAL ALIGNMENT, AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.

BEGIN CONSTRUCTION
-DRI- POTSta. 10+00.00

-DRI- PCSta. 10+45.59

-DRI- PTSta. 11+09.58

-DRI- PCSta. 11+47.02

6:1 P.S. TAPER END SBG +71.09

-DRI- PTSta. 12+01.73

-L- PCSta. 18+24.29

-L- Sta. 18+77.35 =
-BL- 4
PINC 8+75.83
OFFSET 14.07' LT

-L- Sta. 25+07.64 =
-BL- 5
PINC 15+66.28
OFFSET 14.19' LT

-L- PCSta. 28+30.46

-L- Sta. 30+77.71 =
-BL- 1
PINC 20+77.97
OFFSET 13.91' LT
GPS MON B4113-1

THOMAS E. BARHAM
DORIS P. BARHAM

EDGAR A. STALLINGS, Sr. ETAL

MALTONIA FISHING CLUB

ZAN STONE & ELIZABETH STONE.

GWEN A. JACKSON
CHARLES JACKSON

JOHN W. ELLIOT, SR.
JANET B. ELLIOT

SEE DETAIL B

SEE DETAIL C
CL B RIPRAP (59 tons)
FILTER FABRIC (165 sq.yds.)
EST. DDE = 34.64 CU. YDS.

SEE DETAIL D

SEE DETAIL F
2.5 Tons Class II Rip Rap
8 sq.yds. Filter Fabric

SEE DETAIL H
EST. DDE =
33.36 CU. YDS.

8:1 P.S. TAPER END SBG +50.00

SEE DETAIL J
EST. DDE =
19.98 CU. YDS.
CL B RIP RAP
25 TONS
FILTER FABRIC
77 SQ. YDS.

SEE DETAIL I
EST. DDE =
84.11 CU. YDS.

8:1 P.S. TAPER END SBG +42.00

SEE DETAIL E

SEE DETAIL G
.5 Tons Class II Rip Rap
20 sq. yds. Filter Fabric

CL B RIP RAP
2 TONS
FILTER FABRIC
7 SQ. YDS.

CL B RIP RAP
3 TONS
FILTER FABRIC
10 SQ. YDS.

CL B RIP RAP
2 TONS

CL B RIP RAP
5 TONS
FILTER FABRIC
14 SQ. YDS.

CL II RIP RAP
STRUCTURE
PAY ITEM

BM #100
-L- STA. 25+01.98
OFFSET 38.48' RT
-BL- STA. 14+94
91' RIGHT
ELEV. 343.51'

150' TAPER LT. & RT.

150' TRANSITION LT. & RT.

DO NOT DISTURB WELL

DO NOT DISTURB WELL

DO NOT DISTURB WELL

BEGIN TIP PROJECT B-4113
-L- POT STA. 16+50.00

-L- PTSta. 23+01.08

-L- POTSta. 23+11.08
-DRI- POTSta. 12+30.48

END TIP PROJECT B-4113
-L- POC STA. 30+18.46

END CONSTRUCTION
-L- POTSta. 30+75.00

-L-

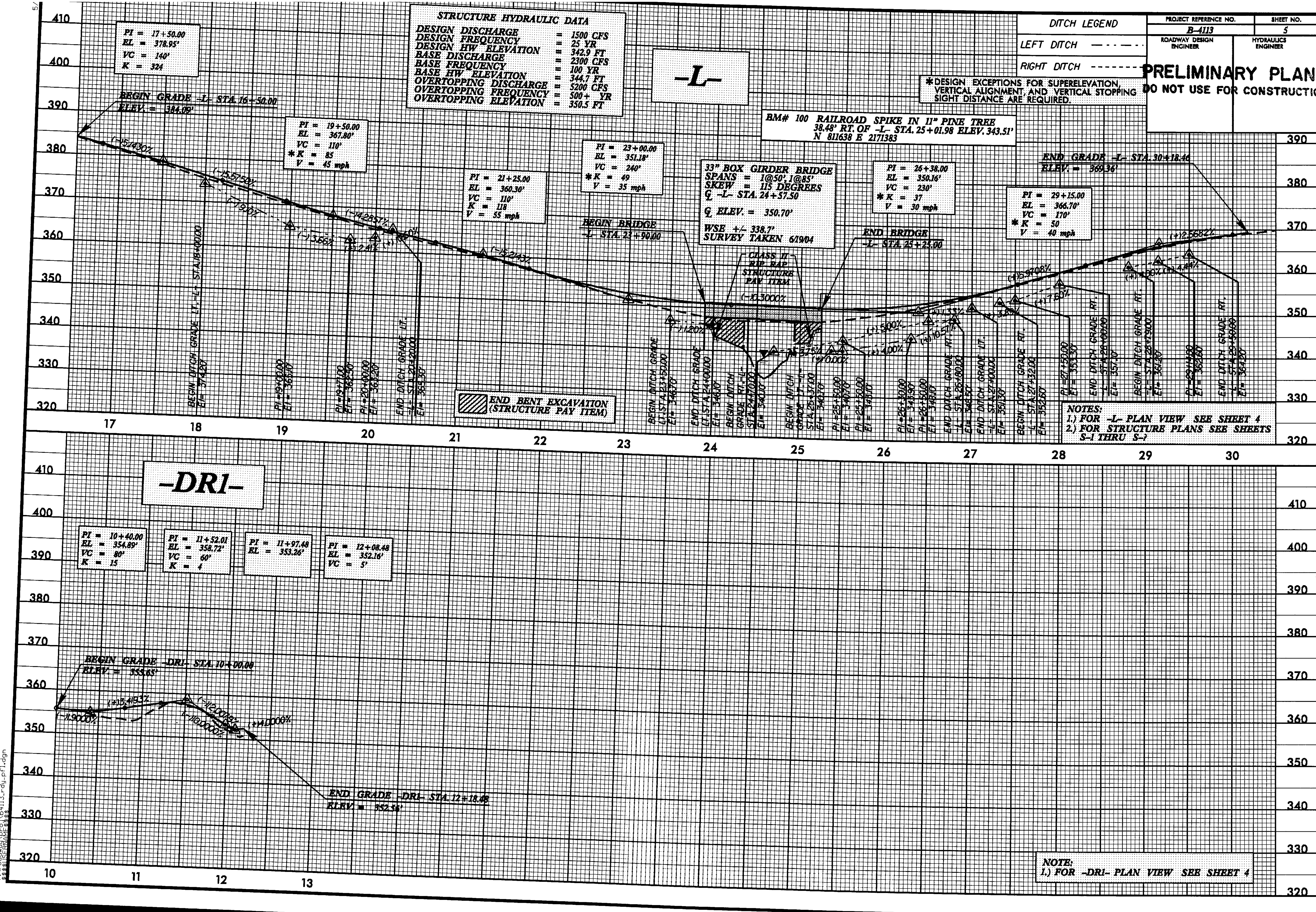
PI Sta 20+66.56	PI Sta 30+21.12
Δ = 25° 03' 45.2" (RT)	N 23° 34' 54.1" E (Ahead)
D = 5° 15' 23.4"	PT Sta 32+09.23
L = 476.79'	Δ = 16° 11' 43.7" (RT)
T = 242.27'	D = 4° 16' 32.9"
R = 1,090.00'	L = 378.77'
*SE = 0.05	T = 190.66'
RUNOFF = 115' (SEE PLANS)	R = 1,340.00'
V = 45 MPH	SE = 0.05
	RUNOFF = 115' (SEE PLANS)

-DRI-

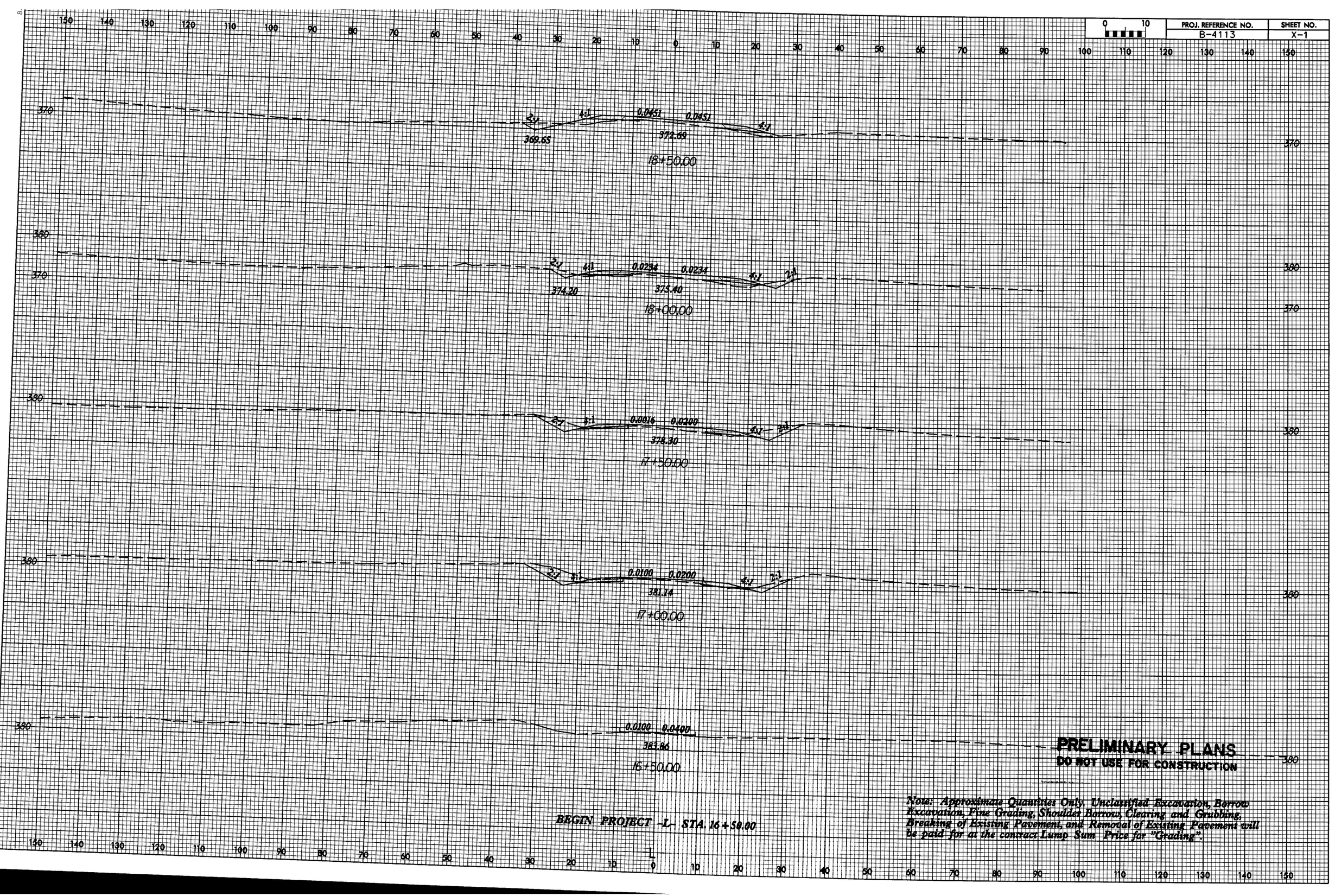
PI Sta 10+81.01	PI Sta 11+76.44
Δ = 61° 06' 36.5" (RT)	Δ = 52° 14' 37.5" (LT)
D = 95° 29' 34.7"	D = 95° 29' 34.7"
L = 63.99'	L = 54.71'
T = 35.42'	T = 29.42'
R = 60.00'	R = 60.00'
SE = NC	SE = NC
(A) N 88° 31' 11.5" E	(C) S 82° 36' 49.9" E
(B) S 30° 22' 12.4" E	

NOTES:
1.) FOR -L- AND -DRI- PROFILES SEE SHEET 5
2.) ALL DRIVEWAY RADII ARE 10' UNLESS NOTED OTHERWISE
3.) FOR STRUCTURE PLANS SEE SHEETS S-1 THRU S-?

05-OCT-2005 08:18
H:\projects\B4113\B4113_rdy_psh4.dgn


PROJECT REFERENCE NO. B-4113
SHEET NO. 5
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
DITCH LEGEND
LEFT DITCH
RIGHT DITCH
*DESIGN EXCEPTIONS FOR SUPERELEVATION, VERTICAL ALIGNMENT, AND VERTICAL STOPPING SIGHT DISTANCE ARE REQUIRED.
STRUCTURE HYDRAULIC DATA
DESIGN DISCHARGE = 1500 CFS
DESIGN FREQUENCY = 25 YR
DESIGN HW ELEVATION = 342.9 FT
BASE DISCHARGE = 2300 CFS
BASE FREQUENCY = 100 YR
BASE HW ELEVATION = 344.7 FT
OVERTOPPING DISCHARGE = 5200 CFS
OVERTOPPING FREQUENCY = 500+ YR
OVERTOPPING ELEVATION = 350.5 FT
-L-
BM# 100 RAILROAD SPIKE IN 11" PINE TREE 38.48' RT. OF -L- STA. 25+01.98 ELEV. 343.51' N 811638 E 2171383
BEGIN GRADE -L- STA. 16+50.00 ELEV. = 384.09'
PI = 17+50.00 EL = 378.95' VC = 140' K = 324
PI = 19+50.00 EL = 367.80' VC = 110' *K = 85 V = 45 mph
PI = 21+25.00 EL = 360.30' VC = 110' K = 118 V = 55 mph
PI = 23+00.00 EL = 351.18' VC = 240' *K = 49 V = 35 mph
33" BOX GIRDER BRIDGE
SPANS = 1@50', 1@85'
SKEW = 115 DEGREES
CL -L- STA. 24+57.50
CL ELEV. = 350.70'
WSE +/- 338.7'
SURVEY TAKEN 6/19/04
PI = 26+38.00 EL = 350.16' VC = 230' *K = 37 V = 30 mph
PI = 29+15.00 EL = 366.70' VC = 170' *K = 50 V = 40 mph
END GRADE -L- STA. 30+18.46 ELEV. = 369.36'
BEGIN BRIDGE -L- STA. 23+90.00
END BRIDGE -L- STA. 25+25.00
CLASS II RIP RAP STRUCTURE PAY ITEM
END BENT EXCAVATION (STRUCTURE PAY ITEM)
(-)5.1430%
(-)5.5750%
(-)7.9101%
(-)4.2857%
(-)3.66%
(-)2.41%
(-)5.2143%
(-)0.3000%
(+)5.9708%
(+)2.5682%
(+)7.60%
NOTES:
1.) FOR -L- PLAN VIEW SEE SHEET 4
2.) FOR STRUCTURE PLANS SEE SHEETS S-1 THRU S-?
-DR1-
PI = 10+40.00 EL = 354.89' VC = 80' K = 15
PI = 11+52.01 EL = 358.72' VC = 60' K = 4
PI = 11+97.48 EL = 353.26'
PI = 12+08.48 EL = 352.16' VC = 5'
BEGIN GRADE -DR1- STA. 10+00.00 ELEV. = 355.65'
END GRADE -DR1- STA. 12+18.48 ELEV. = 352.58'
(-)1.9000%
(+)3.4193%
(-)12.0078%
(-)10.0000%
(+)4.0000%
NOTE:
1.) FOR -DR1- PLAN VIEW SEE SHEET 4
05-OCT-2005 08:18
b4113_rdy_pfl.dgn

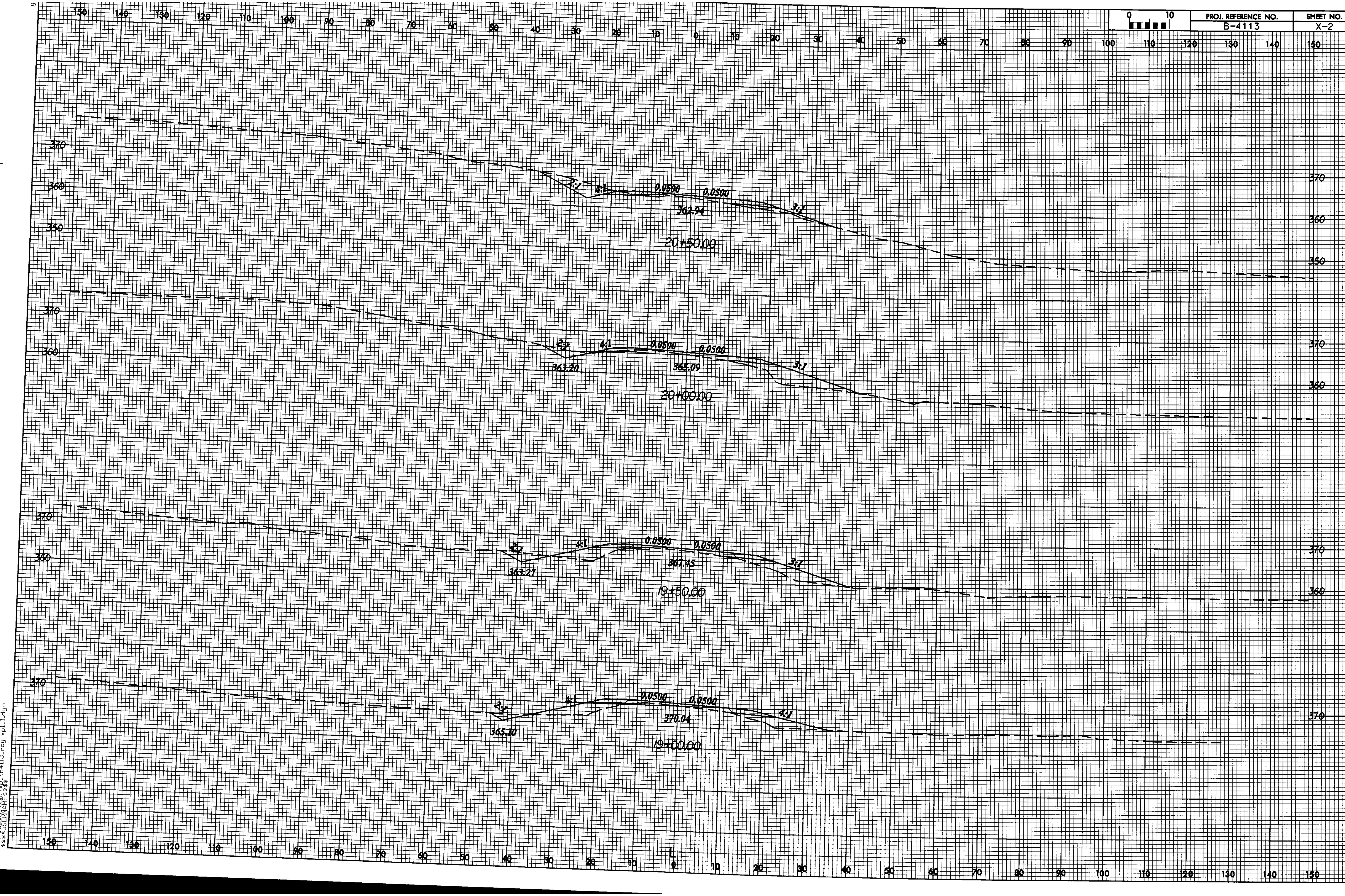
PROJ. REFERENCE NO.	SHEET NO.
B-4113	X-1



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Note: Approximate Quantities Only. Unclassified Excavation, Borrow Excavation, Fine Grading, Shoulder Borrow, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Existing Pavement will be paid for at the contract Lump Sum Price for "Grading".

05-OCT-2005 08:8
$$$$USERNAME$$$$
c:\projects\b4113\b4113_rdy_xpl_1.dgn



05-OCT-2005 08:18
r:\roadway\xsc\xpl\b4113_rdy_xpl_1.dgn
$$$$USERNAME$$$$

0 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4113	X-3

22+50.00

3.5:1
4:1
0.0348
0.0348
2%
353.52

22+00.00

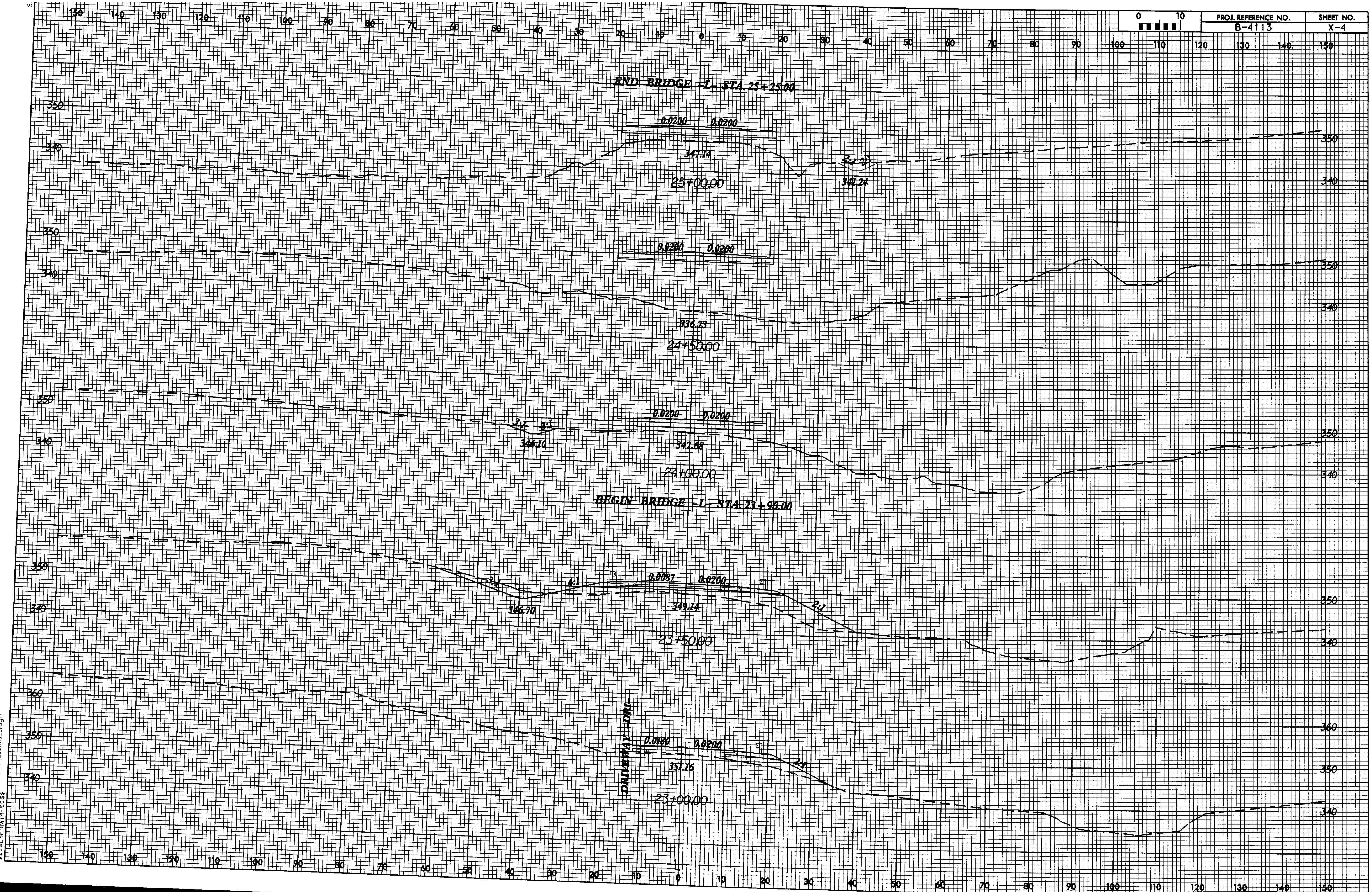
4.5:1
4:1
0.0500
0.0500
4:1
2%
356.12

21+50.00

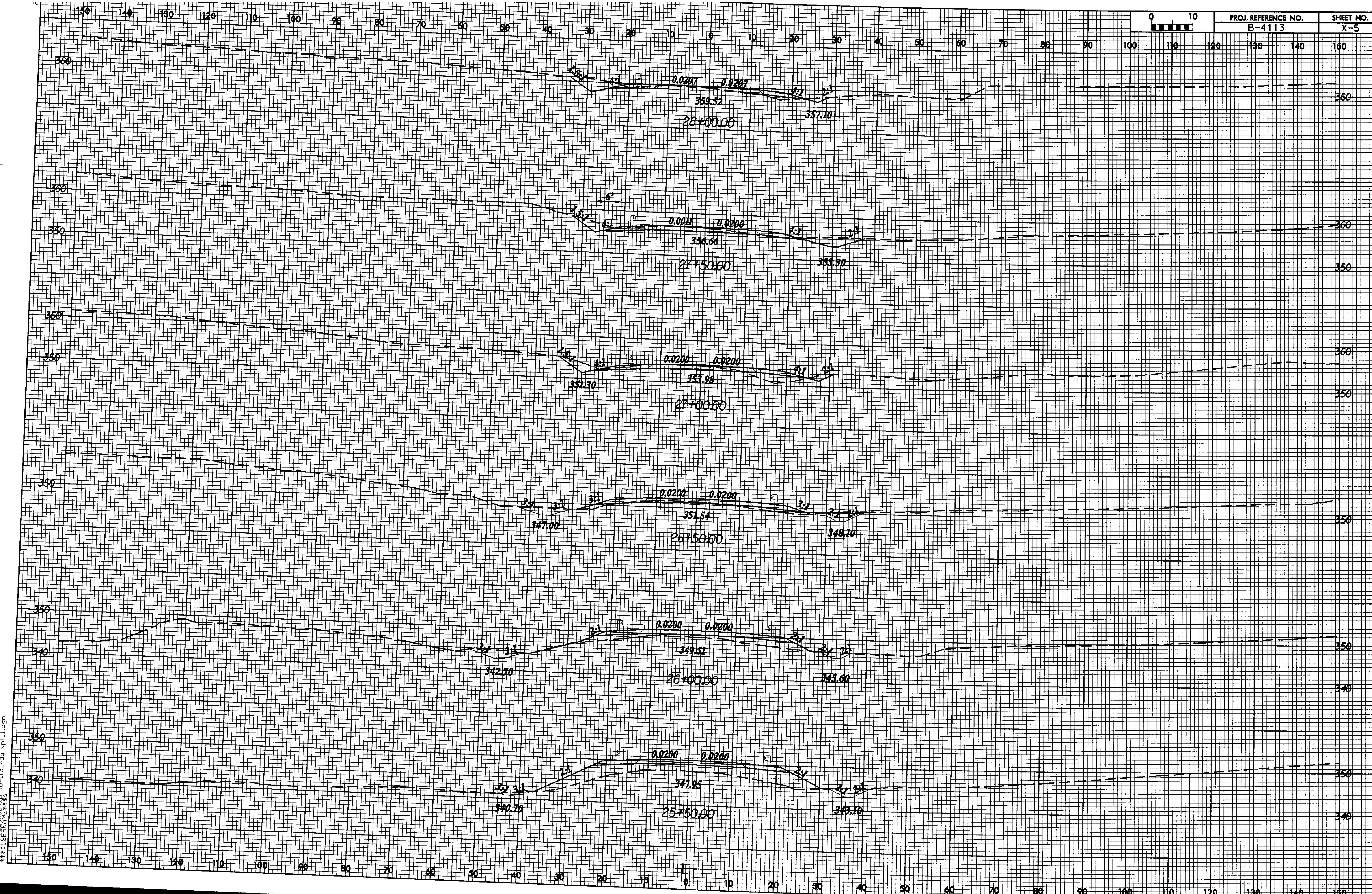
4.5:1
4:1
0.0500
0.0500
4:1
2%
358.59

21+00.00

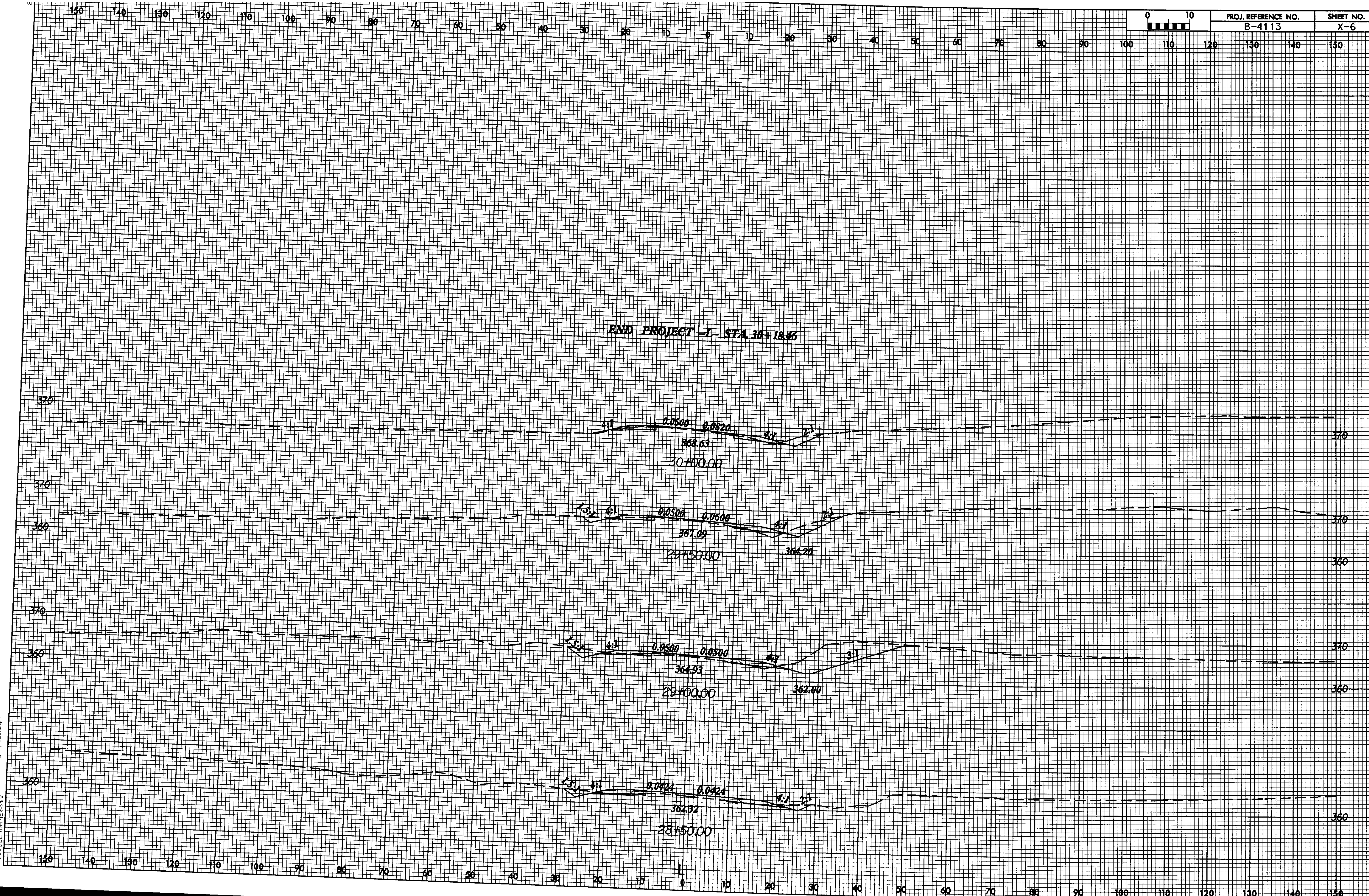
4.5:1
4:1
0.0500
0.0500
4:1
2%
360.78



05-OCT-2005 08:18
r:\roadway\xsc\xpl\b4113_rdy_xpl_1.dgn
$$$$USERNAME$$$$



05-OCT-2005 08:18
r:\roadway\xsc\xpl\b4113_rdy_xpl_1.dgn
$$$$USERNAME$$$$



PROJ. REFERENCE NO.
B-4113
SHEET NO.
X-6
END PROJECT -L- STA. 30+18.46
4:1
0.0500
0.0820
4:1
2:1
368.63
30+00.00
1.5:1
4:1
0.0500
0.0600
4:1
2:1
367.09
364.20
29+50.00
1.5:1
4:1
0.0500
0.0500
4:1
3:1
364.93
362.00
29+00.00
1.5:1
4:1
0.0424
0.0424
4:1
2:1
362.32
28+50.00
370
360

PROJ. REFERENCE NO.	SHEET NO.
B-4113	X-7

0 5

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

360 355 350

0.0200 0.0200 VAR.

3:1

357.27

11+50.00

360 355 350

0.0200 0.0200 4:1

3:1

354.32

11+00.00

355 350

0.0350 0.0350 VAR

4:1

354.16

10+50.00

360 355

VAR. 0.0530 0.0530 VAR

355.62

10+00.00

BEGIN DRI- STA. 10+00.00

DR1

Note: Driveway Cross Sections Plotted at a Horizontal and Vertical Scale of 5

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

05-OCT-2005 08:18
$$$$USERNAME$$$$
N:\roadway\xpl\b4113_rdy_xpl_dr1.dgn

PROJ. REFERENCE NO.	SHEET NO.
B-4113	X-8

8/23/99

05-OCT-2005 08:18
r:\roadway\xsc\xpl\b4113_rdy_xpl_dr1.dgn
$$$$USERNAME$$$$

Ecosystem Enhancement PROGRAM

September 20, 2005

Mr. Eric Alsmeyer
US Army Corps of Engineers
Raleigh Regulatory Field Office
6508 Falls of the Neuse Road, Suite 120
Raleigh, North Carolina 27615

Dear Mr. Alsmeyer:

Subject: EEP Mitigation Acceptance Letter:

B-4113, Bridge 15 over the Little River on SR 1106, Franklin County; Neuse River Basin (Cataloging Unit 03020201); Central Piedmont (CP) Eco-Region

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the mitigation for the 0.03 acre of unavoidable riverine wetland impact associated with the above referenced project.

The subject TIP project is listed in Exhibit 2 of the Memorandum of Agreement (Tri-Party MOA) between the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U. S. Army Corps of Engineers, Wilmington District dated July 22, 2003. The EEP will commit to provide appropriate compensatory riverine wetland mitigation up to a 2:1 ratio in Cataloging Unit 03020201 of the Neuse River Basin to offset the impacts associated with this project by the end of the MOA year in which this project is permitted, in accordance with Section X of the Tri-Party MOA. Mitigation sites currently containing surplus mitigation assets consists of, but not inclusive of, the Wiggins Mill, Speight Branch and Cox mitigation sites, and Neu-Con Mitigation Bank.

If you have any questions or need additional information, please contact Ms. Beth Harmon at (919) 715-1929.

Sincerely,

James B. Stanfield for

William D. Gilmore, P.E.
EEP Director

cc: Mr. Greg Thorpe, Ph.D., NCDOT-PDEA
Mr. John Hennessy, Division of Water Quality, Wetlands/401 Unit
File: B-4113

United States Department of the Interior

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

January 3, 2003

Ms. Karen Capps
North Carolina Department of Transportation
Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Ms. Capps:

This letter is in response to your letter of December 19, 2002, which provided the U.S. Fish and Wildlife Service (Service) with the biological conclusion of the North Carolina Department of Transportation (NCDOT) that the replacement of Bridge No. 15 on SR 1106 over Little River in Franklin County (TIP No. B-4113) is not likely to adversely affect the federally-endangered dwarf wedge mussel (*Alasmidonta heterodon*) and the Tar spinymussel (*Elliptio steinstansana*). 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 you submitted, a mussel survey was conducted at the project site on July 9, 2002. The survey extended 250 feet upstream and 200 feet downstream of SR 1106. Neither of the federally listed species was found within the surveyed area. However, the dwarf wedge mussel has been found approximately eight miles downstream in the Little River at the SR 2308 crossing.

Several environmental commitments are listed in an August 12, 2002, memo, from Jeffrey Burleson to Bill Goodwin, which is attached to your letter. Based on the mussel survey results, assuming that the channel will be completely spanned, and provided that the NCDOT adheres to the stated environmental commitments, the Service concurs with the conclusion that the proposed bridge replacement is not likely to adversely affect the dwarf wedge mussel and Tar spinymussel. 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.

For future aquatic surveys, the Service asks that each survey be conducted a minimum of 400 meters downstream and 100 meters upstream of the project's work limits, with the exception of areas with the obvious lack of habitat. 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,

John D. Hammond

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

cc: Eric Alsmeyer, USACE, Raleigh, NC
John Hennessy, NCDWQ, Raleigh, NC
David Cox, NCWRC, Northside, NC
Chris Militscher, USEPA, Raleigh, NC

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

Michael Easley
GOVERNOR

P.O. BOX 25201, RALEIGH, N.C. 27611-5201

Lyndo Tippett
SECRETARY

August 12, 2002

MEMORANDUM TO: Bill Goodwin, Unit Head
Project Planning Engineering Unit

FROM: Jeffrey Burleson, Environmental Biologist
Office of the Natural Environment

SUBJECT: Protected species survey report for the Tar spinymussel *(Elliptio steinstansana)* and dwarf wedgemussel *(Alasmidonta heterodon)* for replacement of Bridge No. 15 on SR 1106 over the Little River; Franklin County: Federal Aid Project No. BRZ-1106(3), State Project No. 8.2360701; TIP Project No. B-4113.

ATTENTION: Karen Capps, Project Planning Engineer
Project Planning Engineering Unit

The following memorandum addresses the Tar spinymussel (*Elliptio steinstansana*) and dwarf wedgemussel *(Alasmidonta heterodon),* federally protected species listed by the US Fish and Wildlife Service for Franklin County. Potential habitat was identified in the Little River for these mussels. A mussel survey was conducted on July 9, 2002 by NCDOT biologists, Jeffrey Burleson and Tim Howell. The Little River at the SR 1106 crossing is 3-4 feet deep, ponded, and dingy. The channel was approximately 11 meters wide with unconsolidated sediment substrate. During the 1.0 man-hour mussel survey, thirty minutes of SCUBA and thirty minutes of tactile search methods were used. After an extensive search (from 200 feet below bridge to 250 feet above bridge to dam), three live mussel specimens were found, including one eastern floater (*Pyganadon cataracta*) and two pond papershells (*Utterbackia imbecillis*). Several remnant shells of these two species were also found.

BIOLOGICAL CONCLUSION: not likely to adversely affect

Given the survey results, it is apparent that neither dwarf wedgemussel nor Tar spinymussel occur in the project footprint. However, the North Carolina Natural Heritage Program lists a known location of dwarf wedgemussel approximately eight "river miles"

downstream in the Little River at the SR 2308 crossing. There is not an impounded reach of the Little River between the subject project and the SR 2308 crossing; therefore, dwarf wedgemussels may occur downstream within the vicinity of the project crossing. Project activities could potentially alter downstream habitat and promote "take" of freshwater mussels; thus, precautions must be taken to prevent harm to downstream populations of dwarf wedgemussels.

Judith Johnson, with the NC Wildlife Resources Commission, concurred with the "not likely to adversely affect" conclusion on July 30, 2002 as long as the following conditions are adhered to by the contractor (per e-mail, July 30 ,2002). These conditions should be followed in order to protect downstream populations of dwarf wedgemussel on the Little River and its tributaries. As long as the conditions are followed, it can be concluded that project construction is "not likely to adversely affect" these species.

Environmental Conditions:

1. There will be a moratorium on clearing and grubbing-no work between November 15 and April 1

2. Weep holes shall be configured so that the run-off does not fall into the stream.

3. NCDOT resident engineer is responsible or providing a written invitation to the North Carolina Wildlife Resources Commission, Nongame and Protected Species Branch, and the US Fish and Wildlife Service prior to construction.

4. The erosion control plans for Protected Aquatic Species must be used. These plans include the following requirements:

    - Sediment and Erosion controls must be in place prior to land clearing activities. No sediment from either, bridge demolition or construction activities, shall be allowed to enter the flowing stream.
    - "Environmentally Sensitive Areas" will be defined on the plans, which consist of a 50-foot buffer zone on both sides of the stream.
    - The Contractor may perform clearing operations, but not grubbing operations in the "Environmentally Sensitive Areas", until immediately prior to beginning grading operations.
    - Once grading operations begin in "Environmentally Sensitive Areas", as specified on the plans, work will progress in a continuous manner until complete.
    - Seeding and mulching will be performed immediately following final grade establishment.
    - Stage seeding will be performed on cut and fill slopes as grading progresses.

cc: Rachelle Beauregard, Environmental Specialist
File: B-4113

CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

TIP Project No.	**B-4113**
State Project No.	**8.2360701** **WBS # 33468.1.1**
Federal Project No.	**BRZ-1106(3)**

A. Project Description:

This project proposes to replace Bridge No. 15 on SR 1106 over Little River in Franklin County. The bridge will be replaced with an 80-foot long bridge in approximately the same location and roadway elevation as the existing bridge. The cross section of the new bridge will include two 12-foot lanes with 3-foot offsets. Approach work will consist of resurfacing and tying into the existing alignment for approximately 500 feet on either side of the new bridge. Guardrail will be installed where warranted. Traffic will be detoured along surrounding roads during construction.

B. Purpose and Need:

Bridge No. 15 has a sufficiency rating of 45.6 out of a possible 100. The bridge is posted at 12 tons for single vehicles and 17 tons TTST's and is therefore structurally deficient. With a current ADT of 1000 vpd and a projected ADT in 2025 of 2000 vpd, the transportation needs of the area would be best served by replacing the bridge.

C. Proposed Improvements:

The following Type II improvements which apply to the project are circled:

1. Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing).

    a. Restoring, Resurfacing, Rehabilitating, and Reconstructing pavement (3R and 4R improvements)
    b. Widening roadway and shoulders without adding through lanes
    c. Modernizing gore treatments
    d. Constructing lane improvements (merge, auxiliary, and turn lanes)
    e. Adding shoulder drains
    f. Replacing and rehabilitating culverts, inlets, and drainage pipes, including safety treatments
    g. Providing driveway pipes
    h. Performing minor bridge widening (less than one through lane)
    i. Slide Stabilization
    j. Structural BMP's for water quality improvement

2. Highway safety or traffic operations improvement projects including the installation of ramp metering control devices and lighting.

    a. Installing ramp metering devices
    b. Installing lights

c. Adding or upgrading guardrail
d. Installing safety barriers including Jersey type barriers and pier protection
e. Installing or replacing impact attenuators
f. Upgrading medians including adding or upgrading median barriers
g. Improving intersections including relocation and/or realignment
h. Making minor roadway realignment
i. Channelizing traffic
j. Performing clear zone safety improvements including removing hazards and flattening slopes
k. Implementing traffic aid systems, signals, and motorist aid
l. Installing bridge safety hardware including bridge rail retrofit

3. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.

a. Rehabilitating, reconstructing, or replacing bridge approach slabs
b. Rehabilitating or replacing bridge decks
c. Rehabilitating bridges including painting (no red lead paint), scour repair, fender systems, and minor structural improvements
d. Replacing a bridge (structure and/or fill)

4. Transportation corridor fringe parking facilities.

5. Construction of new truck weigh stations or rest areas.

6. Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.

7. Approvals for changes in access control.

8. Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.

9. Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required and there is not a substantial increase in the number of users.

10. Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.

11. Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and where there is no significant noise impact on the surrounding community.

12. Acquisition of land for hardship or protective purposes, advance land acquisition loans under section 3(b) of the UMT Act. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction

projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed.

13. Acquisition and construction of wetland, stream and endangered species mitigation sites.

14. Remedial activities involving the removal, treatment or monitoring of soil or groundwater contamination pursuant to state or federal remediation guidelines.

D. Special Project Information:

Estimated Costs:

Total Construction	$ 625,000
Right of Way	$ 74,500
Total	$ 700,000

Estimated Traffic:

Current	- 1000 vph
Year 2025	- 2000 vph
TTST	- 1%
Dual	- 2%

Detour Length:

2.9 miles (4.7 km)

Proposed Approach Roadway Typical Section:

The existing approach roadways will be widened to two 12-foot lanes with six-foot grass shoulders. The shoulders will be widened to nine feet where guardrail is required.

Design Speed:

60 mph (96.6 kmh)

Functional Classification:

Rural Local Route

Division Office Comments:

Division Five Construction Office concurs with replacing the existing bridge in the existing location and maintaining traffic with an offsite detour.

Bridge Demolition:

Bridge No. 15 is composed of timber flooring on steel I-beams, timber bulkheads, caps, and piles. Therefore, there is no resulting temporary fill associated with Bridge No. 15.

Alternatives Eliminated from Further Study:

The "no-build" alternative is not feasible. Continued deterioration of the bridge and further reduction of the allowable load limits would hamper local traffic in this area. Eventually, the bridge would have to be closed. This is not acceptable due to the amount of traffic that is served by the bridge.

Rehabilitation of the existing structure is not feasible due to the existing timber substructure.

The use of a temporary, on-site detour is not practical at this location. The onsite detour would be more costly and increase the environmental impacts on the project. The estimated time of delay to local citizens is two minutes, which is in the acceptable range outlined in the "Draft NCDOT Guidelines for Evaluation of Offiste Detours."

E. Threshold Criteria

The following evaluation of threshold criteria must be completed for Type II actions

ECOLOGICAL		YES	NO
(1)	Will the project have a substantial impact on any unique or important natural resource?		X
(2)	Does the project involve habitat where federally listed endangered or threatened species may occur?	X	
(3)	Will the project affect anadromous fish?	X	
(4)	If the project involves wetlands, is the amount of permanent and/or temporary wetland taking less than one-tenth (1/10) of an acre and have all practicable measures to avoid and minimize wetland takings been evaluated?	X	
(5)	Will the project require the use of U. S. Forest Service lands?		X
(6)	Will the quality of adjacent water resources be adversely impacted by proposed construction activities?		X
(7)	Does the project involve waters classified as Outstanding Water Resources (OWR) and/or High Quality Waters (HQW)?	X	
(8)	Will the project require fill in waters of the United States in any of the designated mountain trout counties?		X
(9)	Does the project involve any known underground storage tanks (UST's) or hazardous materials sites?		X

PERMITS AND COORDINATION		YES	NO
(10)	If the project is located within a CAMA county, will the project significantly affect the coastal zone and/or any "Area of Environmental Concern" (AEC)?		X
(11)	Does the project involve Coastal Barrier Resources Act resources?		X
(12)	Will a U. S. Coast Guard permit be required?		X

(13)	Will the project result in the modification of any existing regulatory floodway?		X
(14)	Will the project require any stream relocations or channel changes?		X

SOCIAL, ECONOMIC, AND CULTURAL RESOURCES		**YES**	**NO**
(15)	Will the project induce substantial impacts to planned growth or land use for the area?		X
(16)	Will the project require the relocation of any family or business?		X
(17)	Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population?		X
(18)	If the project involves the acquisition of right of way, is the amount of right of way acquisition considered minor?	X	
(19)	Will the project involve any changes in access control?		X
(20)	Will the project substantially alter the usefulness and/or land use of adjacent property?		X
(21)	Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness?		X
(22)	Is the project included in an approved thoroughfare plan and/or Transportation Improvement Program (and is, therefore, in conformance with the Clean Air Act of 1990)?	X	
(23)	Is the project anticipated to cause an increase in traffic volumes?		X
(24)	Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?	X	
(25)	If the project is a bridge replacement project, will the bridge be replaced at its existing location (along the existing facility) and will all construction proposed in association with the bridge replacement project be contained on the existing facility?	X	
(26)	Is there substantial controversy on social, economic, or environmental grounds concerning the project?		X

(27)	Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project?	X	
(28)	Will the project have an "effect" on structures/properties eligible for or listed on the National Register of Historic Places?		X
(29)	Will the project affect any archaeological remains, which are important to history or pre-history?		X
(30)	Will the project require the use of Section 4(f) resources (public parks, recreation lands, wildlife and waterfowl refuges, historic sites, or historic bridges, as defined in Section 4(f) of the U. S. Department of Transportation Act of 1966)?		X
(31)	Will the project result in any conversion of assisted public recreation sites or facilities to non-recreation uses, as defined by Section 6(f) of the Land and Water Conservation Act of 1965, as amended?		X
(32)	Will the project involve construction in, across, or adjacent to a river designated as a component of or proposed for inclusion in the Natural System of Wild and Scenic Rivers?		X

F. Additional Documentation Required for Unfavorable Responses in Part E

(Discussion regarding all unfavorable responses in Part E should be provided below. Additional supporting documentation may be attached, as necessary.)

2. On July 9, 2002, a mussel survey was conducted by NCDOT biologists, Jeffery Burleson and Tim Howell. A biological conclusion of "not likely to adversely affect" was rendered. Judith Johnson, NCWRC, and Gary Jordan, USFWS, concur with the "not likely to adversely affect" conclusion provided certain environmental commitments are adhered to. These commitments are outlined in the memo from Jeffrey Burleson to Bill Goodwin, dated August 12, 2002 and attached to this document. The environmental commitments have been added to the Project Commitments.

3. The North Carolina Wildlife Resources Commission stated that the Little River has the potential for supporting anadromous fish. Therefore, an in stream moratorium will be required from February 15 to June 15. The "Stream Crossing Guidelines for Anadromous Fish Passage" must also be adhered to during construction.

7. NCDOT has investigated avoiding and minimizing impacts to the High Quality Water resource associated with the proposed project. The resource cannot be totally avoided because the project is a bridge replacement. However, the project proposes to minimize impacts by replacing the bridge in approximately the same location and using an off-site detour to maintain traffic. The proposed bridge will be lengthened to avoid and minimize impacts to the riparian buffer zone. High Quality Sedimentation and Erosion Control measures will be required on this

project. The Neuse River Riparian Buffer Rules will be adhered to throughout design and construction.

G. CE Approval

TIP Project No.	**B-4113**
State Project No.	**8.2360701**
	WBS # 33468.1.1
Federal-Aid Project No.	**BRZ-1106(3)**

Project Description:

This project proposes to replace Bridge No. 15 on SR 1106 over Little River in Franklin County. The bridge will be replaced with an 80-foot long bridge in approximately the same location and roadway elevation as the existing bridge. The cross section of the new bridge will include two 12-foot lanes with 3-foot offsets. Approach work will consist of resurfacing and tying into the existing alignment for approximately 500 feet on either side of the new bridge. Guardrail will be installed where warranted. Traffic will be detoured along surrounding roads during construction.

Categorical Exclusion Action Classification:

_____ TYPE II(A)
__X__ TYPE II(B)

Approved:

2/25/04 Teresa Hart
Date — Assistant Branch Manager
Project Development & Environmental Analysis Branch

2/26/04 William T. Hershinger Jr.
Date — Project Planning Unit Head
Project Development & Environmental Analysis Branch

2/25/04 Karen B. Capps, PE
Date — Project Development Engineer
Project Development & Environmental Analysis Branch

For Type II(B) projects only:

2/26/04 for John D Rigsbee
Date — John F. Sullivan, III, Division Administrator
Federal Highway Administration

Project Commitments

Replacement of Bridge No. 15 on SR 1106 Over Little River
Franklin County
F. A. Project No. BRZ-1106(3)
State Project No. 8.2360701
T.I.P. No. B-4113

Roadway Design Unit, Structure Design Unit, Roadside Environmental, Division 5, Project Development and Environmental Analysis Branch

Little River is within the Neuse River basin. Therefore, the Neuse River Riparian Buffer Rules will be adhered to during the final design phase and throughout the construction of the project.

Roadway Design Unit, Project Development and Environmental Analysis Branch, Division 5, Roadside Environmental Unit, Structure Design Unit, Hydraulics Unit

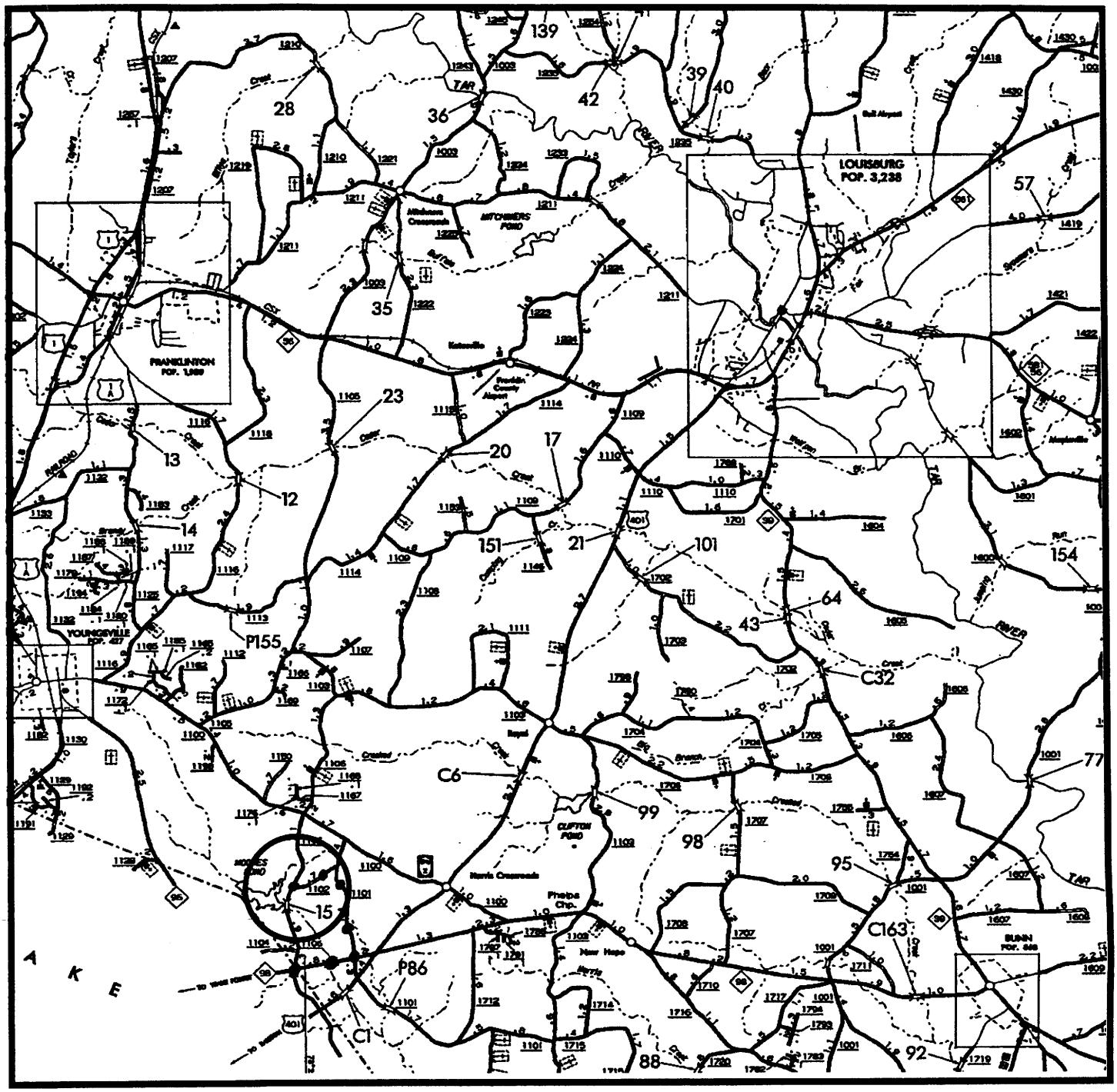
There will be a moratorium on clearing and grubbing between November 15 and April 1.

There will be a moratorium on in-stream work from February 15 to June 15 to avoid adverse effects on migratory fish.

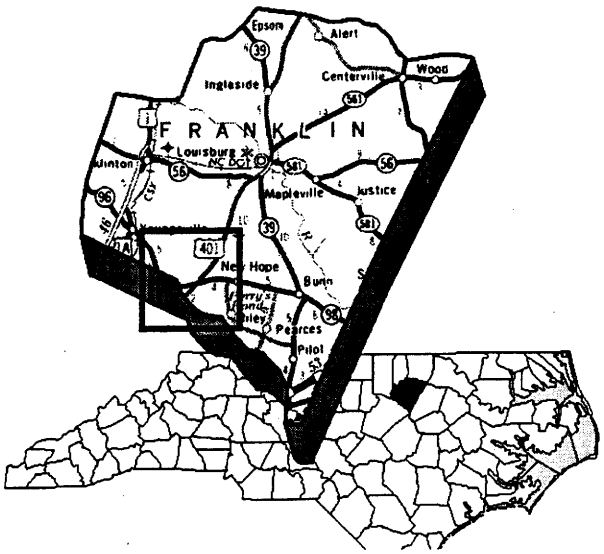
Weep holes shall be configured so that the run-off does not fall into the stream.

The NCDOT resident engineer is responsible for providing a written invitation to the North Carolina Wildlife Resources Commission, Nongame and Protected Species Branch and the US Fish and Wildlife Service prior to construction to allow for mussel surveys.

The erosion control plans for Protected Aquatic Species must be used as well as High Quality Sedimentation and Erosion controls required for high quality water resources. The two guidelines shall be coordinated so that the stricter sedimentation and erosion controls are designated.



STUDIED DETOUR



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT &
ENVIRONMENTAL ANALYSIS BRANCH

FRANKLIN COUNTY
REPLACE BRIDGE NO. 15 ON SR 1106
OVER LITTLE RIVER
B-4113

Figure 1

Woodview Copy

North Carolina Department of Cultural Resources
State Historic Preservation Office
David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary
Office of Archives and History

Division of Historical Resources
David J. Olson, Director

March 22, 2002

MEMORANDUM

MAR 2 8 2002

TO: William D. Gilmore, Manager
Project Development and Environmental Analysis Branch
Division of Highways
Department of Transportation

FROM: David Brook RGE for David Brook

SUBJECT: Replace Bridge No. 15 and SR 1106 over Little River, B-4113, Franklin County, ER 02-8594

Thank you for your memorandum of September 25, 2001, concerning the above project.

There are no known archaeological sites within the project area. Based on our knowledge of the area, it is unlikely that any archaeological resources that may be eligible for conclusion in the National Register of Historic Places will be affected by the project. We, therefore, recommend that no archaeological investigation be conducted in connection with this project.

Because the Department of Transportation is in the process of surveying and evaluating the National Register eligibility of all of its concrete bridges, we are unable to comment on the National Register eligibility of the subject bridge. Please contact Mary Pope Furr, in the Architectural History Section, to determine if further study of the bridge is needed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 296 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919/72929-47629. In all future communication concerning this project, please cite the above-referenced tracking number.

DB:kgc

	Location	Mailing Address	Telephone/Fax
Administration	507 N. Blount St, Raleigh, NC	4617 Mail Service Center, Raleigh 27699-4617	(919) 733-4763 •733-8653
Restoration	515 N. Blount St, Raleigh , NC	4613 Mail Service Center, Raleigh 27699-4613	(919) 733-6547 •715-4801
Survey & Planning	515 N. Blount St, Raleigh, NC	4618 Mail Service Center, Raleigh 27699-4618	(919) 733-4763 •715-4801

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

Michael Easley
GOVERNOR

P.O. BOX 25201, RALEIGH, N.C. 27611-5201

Lyndo Tippett
SECRETARY

August 12, 2002

MEMORANDUM TO: Bill Goodwin, Unit Head
Project Planning Engineering Unit

FROM: Jeffrey Burleson, Environmental Biologist
Office of the Natural Environment

SUBJECT: Protected species survey report for the Tar spinymussel (*Elliptio steinstansana)* and dwarf wedgemussel *(Alasmidonta heterodon)* for replacement of Bridge No. 15 on SR 1106 over the Little River; Franklin County: Federal Aid Project No. BRZ-1106(3), State Project No. 8.2360701; TIP Project No. B-4113.

ATTENTION: Karen Capps, Project Planning Engineer
Project Planning Engineering Unit

The following memorandum addresses the Tar spinymussel (*Elliptio steinstansana*) and dwarf wedgemussel *(Alasmidonta heterodon),* federally protected species listed by the US Fish and Wildlife Service for Franklin County. Potential habitat was identified in the Little River for these mussels. A mussel survey was conducted on July 9, 2002 by NCDOT biologists, Jeffrey Burleson and Tim Howell. The Little River at the SR 1106 crossing is 3-4 feet deep, ponded, and dingy. The channel was approximately 11 meters wide with unconsolidated sediment substrate. During the 1.0 man-hour mussel survey, thirty minutes of SCUBA and thirty minutes of tactile search methods were used. After an extensive search (from 200 feet below bridge to 250 feet above bridge to dam), three live mussel specimens were found, including one eastern floater (*Pyganadon cataracta*) and two pond papershells (*Utterbackia imbecillis*). Several remnant shells of these two species were also found.

BIOLOGICAL CONCLUSION: not likely to adversely affect

Given the survey results, it is apparent that neither dwarf wedgemussel nor Tar spinymussel occur in the project footprint. However, the North Carolina Natural Heritage Program lists a known location of dwarf wedgemussel approximately eight "river miles"

downstream in the Little River at the SR 2308 crossing. There is not an impounded reach of the Little River between the subject project and the SR 2308 crossing; therefore, dwarf wedgemussels may occur downstream within the vicinity of the project crossing. Project activities could potentially alter downstream habitat and promote "take" of freshwater mussels; thus, precautions must be taken to prevent harm to downstream populations of dwarf wedgemussels.

Judith Johnson, with the NC Wildlife Resources Commission, concurred with the "not likely to adversely affect" conclusion on July 30, 2002 as long as the following conditions are adhered to by the contractor (per e-mail, July 30 ,2002). These conditions should be followed in order to protect downstream populations of dwarf wedgemussel on the Little River and its tributaries. As long as the conditions are followed, it can be concluded that project construction is "not likely to adversely affect" these species.

Environmental Conditions:

1. There will be a moratorium on clearing and grubbing-no work between November 15 and April 1

2. Weep holes shall be configured so that the run-off does not fall into the stream.

3. NCDOT resident engineer is responsible or providing a written invitation to the North Carolina Wildlife Resources Commission, Nongame and Protected Species Branch, and the US Fish and Wildlife Service prior to construction.

4. The erosion control plans for Protected Aquatic Species must be used. These plans include the following requirements:

    - Sediment and Erosion controls must be in place prior to land clearing activities. No sediment from either, bridge demolition or construction activities, shall be allowed to enter the flowing stream.
    - "Environmentally Sensitive Areas" will be defined on the plans, which consist of a 50-foot buffer zone on both sides of the stream.
    - The Contractor may perform clearing operations, but not grubbing operations in the "Environmentally Sensitive Areas", until immediately prior to beginning grading operations.
    - Once grading operations begin in "Environmentally Sensitive Areas", as specified on the plans, work will progress in a continuous manner until complete.
    - Seeding and mulching will be performed immediately following final grade establishment.
    - Stage seeding will be performed on cut and fill slopes as grading progresses.

cc: Rachelle Beauregard, Environmental Specialist
File: B-4113

United States Department of the Interior

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

January 3, 2003

Ms. Karen Capps
North Carolina Department of Transportation
Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Ms. Capps:

This letter is in response to your letter of December 19, 2002, which provided the U.S. Fish and Wildlife Service (Service) with the biological conclusion of the North Carolina Department of Transportation (NCDOT) that the replacement of Bridge No. 15 on SR 1106 over Little River in Franklin County (TIP No. B-4113) is not likely to adversely affect the federally-endangered dwarf wedge mussel (*Alasmidonta heterodon*) and the Tar spinymussel (*Elliptio steinstansana*). 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 you submitted, a mussel survey was conducted at the project site on July 9, 2002. The survey extended 250 feet upstream and 200 feet downstream of SR 1106. Neither of the federally listed species was found within the surveyed area. However, the dwarf wedge mussel has been found approximately eight miles downstream in the Little River at the SR 2308 crossing.

Several environmental commitments are listed in an August 12, 2002, memo, from Jeffrey Burleson to Bill Goodwin, which is attached to your letter. Based on the mussel survey results, assuming that the channel will be completely spanned, and provided that the NCDOT adheres to the stated environmental commitments, the Service concurs with the conclusion that the proposed bridge replacement is not likely to adversely affect the dwarf wedge mussel and Tar spinymussel. 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.

For future aquatic surveys, the Service asks that each survey be conducted a minimum of 400 meters downstream and 100 meters upstream of the project's work limits, with the exception of areas with the obvious lack of habitat. 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,

John D. Hammond

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

cc: Eric Alsmeyer, USACE, Raleigh, NC
John Hennessy, NCDWQ, Raleigh, NC
David Cox, NCWRC, Northside, NC
Chris Militscher, USEPA, Raleigh, NC