CAMA & 404/401 PERMIT APPLICATION

PROJECT: **B-5018**

COUNTY: **HERTFORD**

DESCRIPTION: **Replacement of Bridges #12 and #25 over Ahoskie Creek (Swamp)**

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

February 3, 2011

Stephen Lane
Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557

Dear Mr. Lane,

The NCDOT requests the issuance of a CAMA General Permit 2300 for the replacement of Bridges #12 and 25 in Hertford County, NC, along with General Permit 1600 for associated relocation of overhead power lines and directional boring of fiber optic lines under Ahoskie Creek and associated wetlands. This project is included in the Federal Stimulus Program associated with the ARRA (America Recovery and Reinvestment Act). The bridges are located on US 13/NC 42 approximately 2.8 miles south of Ahoskie. Bridge #12 spans Ahoskie Creek, which is a tributary that flows to the Chowan River approximately 17.0 miles downstream. Bridge #25 spans a floodplain overflow in Ahoskie Swamp. The Division of Water Quality classifies Ahoskie Creek (Ahoskie Swamp/Bear Swamp) as Class "C", "NSW" waters, and it is also designated an anadromous fish spawning area by the Wildlife Resource Commission.

The existing Bridge # 12 has a reinforced concrete floor on timber, joist timber end bents, and timber piles with steel crutch bents at interior bents. Bridge # 12 is 120 ft. long by 28 ft. wide. Existing Bridge # 25 has a reinforced concrete floor on timber, joist end bents, and timber piles with steel crutch bents at interior bent 2. Bridge # 25 is 70 ft. long by 28.2 ft. wide.

Both structures will be removed using NCDOT's guidelines for bridge removal, which will prevent material from being dropped into the stream. The proposed bridges will be replaced on the existing alignment. The new bridge structures will be constructed as follows. Bridge # 12 will be 167.5 ft. in length by 36 ft. wide and built with a cored slab concrete deck, a vertical steel sheeting abutment on the south end and a spill through abutment on the north end. Bridge # 25 will be 112.4 ft. in length by 36.0 ft. wide and built with a cored slab concrete deck, a vertical steel sheeting abutment on the south end and a spill through abutment on the north end.

113 Airport Dr., Suite 100, Edenton, NC 27932 – Phone: (252) 482-7977 Fax: (252) 482-8722

The bridge roadway approaches will have to be reconstructed to meet current design standards. The roadway grade at the southern end of Bridge # 12 will be raised approximately 3.5 feet to allow for the vertical curve south of the bridge. The roadway grade will be raised approximately 1.2 feet at the north end of Bridge # 25 to tie in the proposed grade with the existing roadway. These roadway changes will result in some widening of the shoulders, which will permanently impact 2,020 sq. ft. (0.05 acre) of riverine wetlands. In addition, 0.21 acre of wetland will be cleared for roadside maintenance and for overhead utility line relocation required for construction. This acreage does not include the area already cleared for the existing power line easement adjacent to the roadway. These impacts will be mitigated through a combination of on-site wetland restoration and in-lieu fee payment. Wetland restoration will be performed through the removal of 0.01 acre of old approach fill under Bridge #12, grading the restored area to match adjacent wetland elevations, and seeding according to current NCDOT on-site mitigation specifications. The remaining 0.04 acre of impact from fill will be mitigated through requesting 0.08 acre of riverine wetland restoration through the EEP. The additional 0.21 acre of clearing for utility and roadside maintenance will be mitigated through requesting 0.21 acre of riverine wetland restoration from EEP. Total required mitigation from EEP will be 0.29 acre. An off-site detour will be utilized to detour traffic around the project area.

The original proposal for this project included lengthening the primary structure (Bridge #12) to approximately 300 feet and replacing the overflow structure (Bridge #25) with a box culvert. Upon completion of the hydraulic and flood modeling analysis, it was determined that significant flow is directed toward the overflow structure during flood events. Therefore, the replacement of both bridges as proposed would better serve to pass flood waters with minimal impact to the environment and future roadway. Bridge #25 has been lengthened and designed with a skew angle to improve flood passage. Bridge #12 has been lengthened to provide additional flood passage along Ahoskie Creek, and allow for restoration of wetlands under the north side of the bridge. Ahoskie Creek is channelized through out the project area, upstream and downstream, which decreases the effectiveness of one longer structure and makes the proposed dual bridge project more effective in passing flood waters.

Stormwater improvements have also been designed as part of this project, although little additional impervious surface will be constructed. The existing concrete ditches on the south end of the project currently discharge in close proximity to Ahoskie Creek down the steep southern approach. The proposed design routes most of the stormwater from the east to the west side of the road and outlets into an existing ditch at Station 18+00. The stormwater then flows through approximately 250 feet of upland prior to discharge into the wetlands associated with Ahoskie Creek. This provides treatment of stormwater runoff prior to discharge. The remaining stormwater from a greatly reduced drainage area along the roadway is discharged into uplands adjacent to Ahoskie Creek.

Stormwater between the bridges will be collected and discharged at non-erosive velocities at Station 26+25. This outlet was originally considered at the small upland area to the north. However, this upland area is adjacent to the open water scour hole of the overflow channel. Therefore, the outlet was moved further from the scour hole to provide

increased protection and stability. Deck drains, currently discharging both to Ahoskie Creek and the overflow channel, will be eliminated over surface water. The northernmost 30 feet of Bridge #12 requires deck drains to avoid potential hydroplaning as a result of water spreading into the travel lanes. The proposed deck drains will discharge directly into wetland areas under the north side of Bridge #12, replacing the current drains that discharge directly into the surface water. A collection system was considered for this bridge but it was determined that deck drains with minimal discharge would be preferred to a larger concentrated direct discharge into wetlands adjacent to Ahoskie Creek. Deck drains have been eliminated on Bridge #25.

Based on our review of the proposed design and construction methods, this project is eligible for consideration under General Permits 2300 and 1600. Included with this letter are the forms MP-1 and MP-5, adjacent landowner notices, permit drawings, and location map. A pre-construction notification for Clean Water Act Section 401/404 review is also included for the US Army Corps of Engineers and the NC Division of Water Quality review. Return receipts for the adjacent landowner notices will be forwarded upon receipt. Authorization to debit the $400 Permit Application Fee from WBS Element 41730.3.ST1 is hereby given. If you have questions please do not hesitate to call me at (252) 482-7977.

Sincerely,
Jerry Jennings, P.E.
Acting Division Engineer, Division One

Clay Willis
Environmental Officer, Division One

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

February 9, 2011

Bill Biddlecome
USACE Washington Regulatory Office
400 Commerce Avenue
Morehead City, NC 28557

Dear Mr. Biddlecome,

The NCDOT requests the issuance of a Nationwide Permit 14 for the replacement of Bridges #12 and 25 in Hertford County and associated relocation of overhead power lines and directional boring of fiber optic lines under Ahoskie Creek and adjacent wetlands. This project is included in the Federal Stimulus Program associated with the ARRA (America Recovery and Reinvestment Act). The bridges are located on US 13/NC 42 approximately 2.8 miles south of Ahoskie. Bridge #12 spans Ahoskie Creek, which is a tributary that flows to the Chowan River approximately 17.0 miles downstream. Bridge #25 spans a floodplain overflow in Ahoskie Swamp. The Division of Water Quality classifies Ahoskie Creek (Ahoskie Swamp/Bear Swamp) as Class "C", "NSW" waters, and it is also designated an anadromous fish spawning area by the Wildlife Resource Commission.

The existing Bridge # 12 has a reinforced concrete floor on timber, joist timber end bents, and timber piles with steel crutch bents at interior bents. Bridge # 12 is 120 ft. long by 28 ft. wide. Existing Bridge # 25 has a reinforced concrete floor on timber, joist end bents, and timber piles with steel crutch bents at interior bent 2. Bridge # 25 is 70 ft. long by 28.2 ft. wide.

Both structures will be removed using NCDOT's guidelines for bridge removal, which will prevent material from being dropped into the stream. The proposed bridges will be replaced on the existing alignment. The new bridge structures will be constructed as follows. Bridge # 12 will be 167.5 ft. in length by 36 ft. wide and built with a cored slab concrete deck, a vertical steel sheeting abutment on the south end and a spill through abutment on the north end. Bridge # 25 will be 112.4 ft. in length by 36.0 ft. wide and built with a cored slab concrete deck, a vertical steel sheeting abutment on the south end and a spill through abutment on the north end.

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The bridge roadway approaches will have to be reconstructed to meet current design standards. The roadway grade at the southern end of Bridge # 12 will be raised approximately 3.5 feet to allow for the vertical curve south of the bridge. The roadway grade will be raised approximately 1.2 feet at the north end of Bridge # 25 to tie in the proposed grade with the existing roadway. These roadway changes will result in some widening of the shoulders, which will permanently impact 2,020 sq. ft. (0.05 acre) of riverine wetlands. In addition, 0.21 acre of wetland will be cleared for roadside maintenance and for overhead utility line relocation required for construction. This acreage does not include the area already cleared for the existing power line easement adjacent to the roadway. These impacts will be mitigated through a combination of on-site wetland restoration and in-lieu fee payment. Wetland restoration will be performed through the removal of 0.01 acre of old approach fill under Bridge #12, grading the restored area to match adjacent wetland elevations, and seeding according to current NCDOT on-site mitigation specifications. The remaining 0.04 acre of impact from fill will be mitigated through requesting 0.08 acre of riverine wetland restoration through the EEP. The additional 0.21 acre of clearing for utility and roadside maintenance will be mitigated through requesting 0.21 acre of riverine wetland restoration from EEP. Total required mitigation from EEP will be 0.29 acre. An off-site detour will be utilized to detour traffic around the project area.

The original proposal for this project included lengthening the primary structure (Bridge #12) to approximately 300 feet and replacing the overflow structure (Bridge #25) with a box culvert. Upon completion of the hydraulic and flood modeling analysis, it was determined that significant flow is directed toward the overflow structure during flood events. Therefore, the replacement of both bridges as proposed would better serve to pass flood waters with minimal impact to the environment and future roadway. Bridge #25 has been lengthened and designed with a skew angle to improve flood passage. Bridge #12 has been lengthened to provide additional flood passage along Ahoskie Creek, and allow for restoration of wetlands under the north side of the bridge. Ahoskie Creek is channelized through out the project area, upstream and downstream, which decreases the effectiveness of one longer structure and makes the proposed dual bridge project more effective in passing flood waters.

Stormwater improvements have also been designed as part of this project, although little additional impervious surface will be constructed. The existing concrete ditches on the south end of the project currently discharge in close proximity to Ahoskie Creek down the steep southern approach. The proposed design routes most of the stormwater from the east to the west side of the road and outlets into an existing ditch at Station 18+00. The stormwater then flows through approximately 250 feet of upland prior to discharge into the wetlands associated with Ahoskie Creek. This provides treatment of stormwater runoff prior to discharge. The remaining stormwater from a greatly reduced drainage area along the roadway is discharged into uplands adjacent to Ahoskie Creek.

Stormwater between the bridges will be collected and discharged at non-erosive velocities at Station 26+25. This outlet was originally considered at the small upland area to the north. However, this upland area is adjacent to the open water scour hole of the overflow channel. Therefore, the outlet was moved further from the scour hole to provide

increased protection and stability. Deck drains, currently discharging both to Ahoskie Creek and the overflow channel, will be eliminated over surface water. The northernmost 30 feet of Bridge #12 requires deck drains to avoid potential hydroplaning as a result of water spreading into the travel lanes. The proposed deck drains will discharge directly into wetland areas under the north side of Bridge #12, replacing the current drains that discharge directly into the surface water. A collection system was considered for this bridge but it was determined that deck drains with minimal discharge would be preferred to a larger concentrated direct discharge into wetlands adjacent to Ahoskie Creek. Deck drains have been eliminated on Bridge #25.

Based on our review of the proposed design and construction methods, this project is eligible for consideration under Nationwide Permit 14 and corresponding Section 401 General Certification 3820. Included with this letter are a pre-construction notification, permit drawings, and location map. CAMA MP-1 and 5 forms and landowner notices are included for NC Division of Coastal Management review. Authorization to debit the $240 Permit Application Fee from WBS Element 41730.3.ST1 is hereby given to the NC Division of Water Quality for the 401 review. If you have questions please do not hesitate to call me at (252) 482-7977.

Sincerely,
Jerry Jennings, P.E.
Division Engineer, Division One

Clay Willis
Environmental Officer, Division One

cc: Brian Wrenn, NCDWQ Transportation Permitting Unit
Garcy Ward, NCDWQ

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DCM MP-1

APPLICATION for Major Development Permit

(last revised 12/27/06)

North Carolina DIVISION OF COASTAL MANAGEMENT

1. Primary Applicant/ Landowner Information

Business Name NCDOT Division One			Project Name (if applicable) Bridges # 12 & 25 over Ahoskie Creek	
Applicant 1: First Name Clay	MI		Last Name Willis	
Applicant 2: First Name	MI		Last Name	
If additional applicants, please attach an additional page(s) with names listed.				
Mailing Address 113 Airport Drive, Suite 100		PO Box	City Edenton	State NC
ZIP 27932	Country US	Phone No. 252 - 482 - 7977 ext. 221		FAX No. 252 - 482 - 8722
Street Address *(if different from above)*		City	State	ZIP -
Email tcwillis@ncdot.gov				

2. Agent/Contractor Information

Business Name N/A				
Agent/ Contractor 1: First Name	MI	Last Name		
Agent/ Contractor 2: First Name	MI	Last Name		
Mailing Address		PO Box	City	State
ZIP		Phone No. 1 - - ext.	Phone No. 2 - - ext.	
FAX No.		Contractor #		
Street Address *(if different from above)*		City	State	ZIP -
Email				

<Form continues on back>

3. Project Location

County (can be multiple)	Street Address	State Rd. #
Hertford	US 13/NC 42 (approx. 1500 ft. north of Bertie County line)	NC 42

Subdivision Name	City	State	Zip
N/A	N/A	NC	27910 -

Phone No.	Lot No.(s) *(if many, attach additional page with list)*
N/A - - ext.	N/A, , , ,

a. In which NC river basin is the project located?	b. Name of body of water nearest to proposed project
Chowan	Ahoskie Creek (Ahoskie Swamp, Bear Swamp)
c. Is the water body identified in (b) above, natural or manmade? ☒Natural ☐Manmade ☐Unknown	d. Name the closest major water body to the proposed project site. Ahoskie Creek
e. Is proposed work within city limits or planning jurisdiction? ☐Yes ☒No	f. If applicable, list the planning jurisdiction or city limit the proposed work falls within. N/A

4. Site Description

a. Total length of shoreline on the tract (ft.)	b. Size of entire tract (sq.ft.)
200 ft. (100 on each bank of Ahoskie Creek)	188,500 sq. ft.
c. Size of individual lot(s) N/A, , , *(If many lot sizes, please attach additional page with a list)*	d. Approximate elevation of tract above NHW *(normal high water)* or NWL *(normal water level)* 12 ft. ☐NHW or ☒NWL

e. Vegetation on tract

Bottomland hardwood forest is present on both sides of the bridges and connecting roadway. This area is mostly wetland with mature trees including american elm, bald cypress, laurel oak, and sycamore. No coastal wetland species are present on the site.

f. Man-made features and uses now on tract

NC 42 and Bridges #12 and #25 are the only man-made features on the tract. It is used as a thoroughfare for the travelling public. Bridge # 12 crosses Ahoskie Creek, while Bridge # 25 crosses an overflow channel with no direct connection to the stream except by diffuse flow through the bottomland wetlands during flood events. An overhead power line runs along the western side of the project and crosses to the east over Bridge #25.

g. Identify and describe the existing land uses adjacent to the proposed project site.

The adjacent land use is primarily undeveloped forest. At the south end of the project, a cemetery is present to the east of the roadway but outside the project area.

h. How does local government zone the tract?	i. Is the proposed project consistent with the applicable zoning? (Attach zoning compliance certificate, if applicable)
N/A	☐Yes ☐No ☒NA

j. Is the proposed activity part of an urban waterfront redevelopment proposal? ☐Yes ☒No

k. Has a professional archaeological assessment been done for the tract? If yes, attach a copy. ☐Yes ☒No ☐NA

If yes, by whom?

l. Is the proposed project located in a National Registered Historic District or does it involve a National Register listed or eligible property? ☐Yes ☒No ☐NA

<Form continues on next page>

m. (i) Are there wetlands on the site?	☒Yes ☐No
(ii) Are there coastal wetlands on the site?	☐Yes ☒No
(iii) If yes to either (i) or (ii) above, has a delineation been conducted? *(Attach documentation, if available)*	☒Yes ☐No

n. Describe existing wastewater treatment facilities.

None

o. Describe existing drinking water supply source.

None

p. Describe existing storm water management or treatment systems.

Stormwater is routed through concrete ditches south of Bridge # 12 and discharged within 50 feet of the surface water. Deck drains on both bridges discharge into Ahoskie Creek (Bridge #12) or the overflow channel (Bridge #25).

5. Activities and Impacts

a. Will the project be for commercial, public, or private use? ☐Commercial ☒Public/Government ☐Private/Community

b. Give a brief description of purpose, use, and daily operations of the project when complete.

The project will provide safe and efficient tranportation access along US 13/NC 42 by replacing the aging bridge structures and widening existing travel lanes and shoulders to meet current design standards.

c. Describe the proposed construction methodology, types of construction equipment to be used during construction, the number of each type of equipment and where it is to be stored.

The bridges will be constructed using top-down methods. No equipment or staging will be placed in surface waters or wetlands. Cranes and other standard construction equipment will be used to drive piles, and place the concrete slabs. Dump trucks, excavators and other standard construction equipment will be used to haul and place materials used in construction. The road will be closed between the two bridges during construction and the existing roadway used for staging materials and equipment.

d. List all development activities you propose.

The existing Bridge #12 (120 ft. long by 28 ft. wide) and Bridge #25 (70 ft. long by 28.2 ft. wide) will be removed using NCDOT standard bridge removal techniques. The new Bridge #12 (167.5 ft. long by 36 ft. wide) and Bridge #25 (112.4 ft. long by 36 ft. wide) will be constructed on the existing alignment. The road will be closed for the construction period, and an off-site detour will be used to route traffic. Road surfaces will be replaced to tie to the new bridges, and shoulder fill will be placed to create the proper roadside slopes.

e. Are the proposed activities maintenance of an existing project, new work, or both?	Maintenance/replacement of existing structures.
f. What is the approximate total disturbed land area resulting from the proposed project?	2.60 ☐Sq.Ft or ☒Acres
g. Will the proposed project encroach on any public easement, public accessway or other area that the public has established use of?	☐Yes ☒No ☐NA

h. Describe location and type of existing and proposed discharges to waters of the state.

Discharge to waters of the state will occur for bridge support (driven steel H-piles), a minimal amount of structural fill at the end bents and for expansion of the roadway and shoulders to meet current standards. The fill material will impact previously disturbed fringes of the bottomland wetlands under the current power line easement on the west side of the project. Additional clearing will be necessary to move the existing overhead power line out of the roadway. Trees will be cleared but not grubbed up to the right-of-way for future maintenance. Steel sheeting will be placed on the south side of Bridges #12 and #25 to prevent scouring of the embankments. Approximatelye 0.01 acres of existing roadway fill will be removed for the lengthening of Bridge #12, and wetland elevation restored in this area.

i. Will wastewater or stormwater be discharged into a wetland?	☒Yes ☐No ☐NA
If yes, will this discharged water be of the same salinity as the receiving water?	☐Yes ☐No ☒NA

j. Is there any mitigation proposed? If yes, attach a mitigation proposal.	☒Yes ☐No ☐NA

<Form continues on back>

6. Additional Information

In addition to this completed application form, (MP-1) the following items below, if applicable, must be submitted in order for the application package to be complete. Items (a) – (f) are always applicable to any major development application. Please consult the application instruction booklet on how to properly prepare the required items below.

a. A project narrative.

b. An accurate, dated work plat (including plan view and cross-sectional drawings) drawn to scale. Please give the present status of the proposed project. Is any portion already complete? If previously authorized work, clearly indicate on maps, plats, drawings to distinguish between work completed and proposed.

c. A site or location map that is sufficiently detailed to guide agency personnel unfamiliar with the area to the site.

d. A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties.

e. The appropriate application fee. Check or money order made payable to DENR.

f. A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management.

Name See attached property owner list	Phone No.
Address	
Name	Phone No.
Address	
Name	Phone No.
Address	

g. A list of previous state or federal permits issued for work on the project tract. Include permit numbers, permittee, and issuing dates.

None

h. Signed consultant or agent authorization form, if applicable.

i. Wetland delineation, if necessary.

j. A signed AEC hazard notice for projects in oceanfront and inlet areas. *(Must be signed by property owner)*

k. A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A 1-10), if necessary. If the project involves expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.

7. Certification and Permission to Enter on Land

I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to the conditions and restrictions contained in the permit.

I certify that I am authorized to grant, and do in fact grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

Date 2/9/11 Print Name Clay Willis

Signature Clay Willis

Please indicate application attachments pertaining to your proposed project.

☐DCM MP-2 Excavation and Fill Information ☒DCM MP-5 Bridges and Culverts

☐DCM MP-3 Upland Development
☐DCM MP-4 Structures Information

Form DCM MP-5

BRIDGES and CULVERTS

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

1. BRIDGES

☐ *This section not applicable*

a. Is the proposed bridge:
☐Commercial ☒Public/Government ☐Private/Community

b. Water body to be crossed by bridge:
Ahoskie Swamp - overflow pool of Ahoskie Creek

c. Type of bridge (construction material):
2-span concrete cored slab on steel H-piles

d. Water depth at the proposed crossing at NLW or NWL:
0-8 ft.

e. (i) Will proposed bridge replace an existing bridge? ☒Yes ☐No
If yes,
(ii) Length of existing bridge: 70 ft.
(iii) Width of existing bridge: 28 ft.
(iv) Navigation clearance underneath existing bridge: n/a
(v) Will all, or a part of, the existing bridge be removed?
(Explain) Yes - all of the existing structure will be removed using standard NCDOT practices for bridge demolition.

f. (i) Will proposed bridge replace an existing culvert? ☐Yes ☒No
If yes,
(ii) Length of existing culvert: _____
(iii) Width of existing culvert: _____
(iv) Height of the top of the existing culvert above the NHW or NWL: _____
(v) Will all, or a part of, the existing culvert be removed?
(Explain)

g. Length of proposed bridge: 112.4 ft.

h. Width of proposed bridge: 36.0 ft.

i. Will the proposed bridge affect existing water flow? ☒Yes ☐No
If yes, explain: The existing water flow will be less restricted as Bridge #25 has wider spans (55 ft.) and is lengthened approximately 50 feet, providing additional flood passage.

j. Will the proposed bridge affect navigation by reducing or increasing the existing navigable opening? ☒Yes ☐No
If yes, explain: The overflow channel under Bridge 25 is not connected to Ahoskie Creek and therefore is not navigable.

k. Navigation clearance underneath proposed bridge: n/a

l. Have you contacted the U.S. Coast Guard concerning their approval? ☐Yes ☒No
If yes, explain: N/A

m. Will the proposed bridge cross wetlands containing no navigable waters? ☐Yes ☒No
If yes, explain:

n. Height of proposed bridge above wetlands: 7 ft.

2. CULVERTS

☒ *This section not applicable*

a. Number of culverts proposed: _____

b. Water body in which the culvert is to be placed:

< Form continues on back>

c. Type of culvert (construction material):

_____

d. (i) Will proposed culvert replace an existing bridge? ☐Yes ☐No

If yes,

(ii) Length of existing bridge: _____

(iii) Width of existing bridge: _____

(iv) Navigation clearance underneath existing bridge: _____

(v) Will all, or a part of, the existing bridge be removed? (Explain)

_____

_____

_____

e. (i) Will proposed culvert replace an existing culvert? ☐Yes ☐No

If yes,

(ii) Length of existing culvert(s): _____

(iii) Width of existing culvert(s): _____

(iv) Height of the top of the existing culvert above the NHW or NWL: _____

(v) Will all, or a part of, the existing culvert be removed? (Explain)

_____

_____

_____

f. Length of proposed culvert: _____

g. Width of proposed culvert: _____

h. Height of the top of the proposed culvert above the NHW or NWL.

_____

i. Depth of culvert to be buried below existing bottom contour.

_____

j. Will the proposed culvert affect navigation by reducing or increasing the existing navigable opening? ☐Yes ☐No

If yes, explain:

_____

_____

_____

k. Will the proposed culvert affect existing water flow? ☐Yes ☐No

If yes, explain:

_____

_____

_____

3. EXCAVATION and FILL

☐*This section not applicable*

a. (i) Will the placement of the proposed bridge or culvert require any excavation below the NHW or NWL? ☐Yes ☒No

If yes,

(ii) Avg. length of area to be excavated: _____

(iii) Avg. width of area to be excavated: _____

(iv) Avg. depth of area to be excavated: _____

(v) Amount of material to be excavated in cubic yards: _____

b. (i) Will the placement of the proposed bridge or culvert require any excavation within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

☐CW _____ ☐SAV _____ ☐SB _____

☐WL _____ ☒None

(ii) Describe the purpose of the excavation in these areas:

_____

_____

_____

c. (i) Will the placement of the proposed bridge or culvert require any high-ground excavation? ☒Yes ☒No

If yes,

(ii) Avg. length of area to be excavated: 30

(iii) Avg. width of area to be excavated: 60

(iv) Avg. depth of area to be excavated: 6

(v) Amount of material to be excavated in cubic yards: 410

d. If the placement of the bridge or culvert involves any excavation, please complete the following:

(i) Location of the spoil disposal area: Approved NCDOT waste disposal site

(ii) Dimensions of the spoil disposal area: To be determined.

(iii) Do you claim title to the disposal area? ☒Yes ☐No (*If no, attach a letter granting permission from the owner.)*

(iv) Will the disposal area be available for future maintenance? ☒Yes ☐No

(v) Does the disposal area include any coastal wetlands/marsh (CW), submerged aquatic vegetation (SAVs), other wetlands (WL), or shell bottom (SB)?

☐CW ☐SAV ☐WL ☐SB ☒None

If any boxes are checked, give dimensions if different from (ii) above.

(vi) Does the disposal area include any area below the NHW or NWL? ? ☐Yes ☒No

If yes, give dimensions if different from (ii) above.

e. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed below NHW or NWL? ☐Yes ☒No

If yes,

(ii) Avg. length of area to be filled: _____

(iii) Avg. width of area to be filled: _____

(iv) Purpose of fill:

f. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

☐CW _____ ☐SAV _____ ☐SB _____

☒WL 1791 sq. ft. ☐None

(ii) Describe the purpose of the excavation in these areas:

Construction of end bents, road shoulders, and expansion of travel lanes to accommodate proposed bridge and current safety standards.

g. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed on high-ground? ☒Yes ☐No

If yes,

(ii) Avg. length of area to be filled: 450 ft.

(iii) Avg. width of area to be filled: 20 ft.

(iv) Purpose of fill: Increased grade on roadway approaches to eliminate sharp vertical curve in road.

4. GENERAL

a. Will the proposed project require the relocation of any existing utility lines? ☒Yes ☐No

b. Will the proposed project require the construction of any temporary detour structures? ☐Yes ☒No

If yes, explain: Overhead power lines will be shifted to the west slightly to avoid roadway. A fiber optic line will be directionally drilled under Ahoskie Creek and associated wetlands.

If this portion of the proposed project has already received approval from local authorities, please attach a copy of the approval or certification.

If yes, explain:

< Form continues on back>

c. Will the proposed project require any work channels? ☐Yes ☒No

If yes, complete Form DCM-MP-2.

d. How will excavated or fill material be kept on site and erosion controlled?

NCDOT Sediment and Erosion Control BMPs

e. What type of construction equipment will be used (for example, dragline, backhoe, or hydraulic dredge)?

Crane, dump truck, excavator and other standard construction equipment

f. Will wetlands be crossed in transporting equipment to project site? ☐Yes ☒No

If yes, explain steps that will be taken to avoid or minimize environmental impacts.

g. Will the placement of the proposed bridge or culvert require any shoreline stabilization? ☐Yes ☒No

If yes, complete form MP-2, Section 3 for Shoreline Stabilization only.

2/9/11
Date

B-5018
Project Name

Clay Willis
Applicant Name

Clay Willis
Applicant Signature

Form DCM MP-5

BRIDGES and CULVERTS

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

1. BRIDGES

☐ *This section not applicable*

a. Is the proposed bridge:
☐Commercial ☒Public/Government ☐Private/Community

b. Water body to be crossed by bridge:
Ahoskie Creek (Ahoskie Swamp)

c. Type of bridge (construction material):
3-span concrete cored slab on steel H-piles

d. Water depth at the proposed crossing at NLW or NWL:
4 ft. to 7.5 ft.

e. (i) Will proposed bridge replace an existing bridge? ☒Yes ☐No
If yes,
(ii) Length of existing bridge: 120 ft.
(iii) Width of existing bridge: 28 ft.
(iv) Navigation clearance underneath existing bridge: 10 ft.
(v) Will all, or a part of, the existing bridge be removed?
(Explain) Yes - all of the existing structure will be removed using standard NCDOT practices for bridge demolition.

f. (i) Will proposed bridge replace an existing culvert? ☐Yes ☒No
If yes,
(ii) Length of existing culvert: _____
(iii) Width of existing culvert: _____
(iv) Height of the top of the existing culvert above the NHW or NWL: _____
(v) Will all, or a part of, the existing culvert be removed?
(Explain)

g. Length of proposed bridge: 167.5 ft.

h. Width of proposed bridge: 36 ft.

i. Will the proposed bridge affect existing water flow? ☒Yes ☐No
If yes, explain: The existing water flow will be less restricted as Bridge #12 has wider spans (55 ft.) and a higher clearance. It will also be 47.5 ft. longer, providing additional flood passage.

j. Will the proposed bridge affect navigation by reducing or increasing the existing navigable opening? ☒Yes ☐No
If yes, explain: The existing navigable opening will be increased as Bridge #12 low steel to normal water line will be raised 2.7 feet and spans lengthened from 17 ft. to 55 ft.

k. Navigation clearance underneath proposed bridge: 12 - 13 ft.

l. Have you contacted the U.S. Coast Guard concerning their approval? ☐Yes ☒No
If yes, explain: N/A

m. Will the proposed bridge cross wetlands containing no navigable waters? ☐Yes ☒No
If yes, explain:

n. Height of proposed bridge above wetlands: 9 ft.

2. CULVERTS

☒ *This section not applicable*

a. Number of culverts proposed: _____

b. Water body in which the culvert is to be placed:

< Form continues on back>

c. Type of culvert (construction material):

_____

d. (i) Will proposed culvert replace an existing bridge? ☐Yes ☐No

If yes,

(ii) Length of existing bridge: _____

(iii) Width of existing bridge: _____

(iv) Navigation clearance underneath existing bridge: _____

(v) Will all, or a part of, the existing bridge be removed? (Explain)

_____

_____

_____

e. (i) Will proposed culvert replace an existing culvert? ☐Yes ☐No

If yes,

(ii) Length of existing culvert(s): _____

(iii) Width of existing culvert(s): _____

(iv) Height of the top of the existing culvert above the NHW or NWL: _____

(v) Will all, or a part of, the existing culvert be removed? (Explain)

_____

_____

_____

f. Length of proposed culvert: _____

g. Width of proposed culvert: _____

h. Height of the top of the proposed culvert above the NHW or NWL.

_____

i. Depth of culvert to be buried below existing bottom contour.

_____

j. Will the proposed culvert affect navigation by reducing or increasing the existing navigable opening? ☐Yes ☐No

If yes, explain:

_____

_____

_____

k. Will the proposed culvert affect existing water flow? ☐Yes ☐No

If yes, explain:

_____

_____

_____

3. EXCAVATION and FILL

☐*This section not applicable*

a. (i) Will the placement of the proposed bridge or culvert require any excavation below the NHW or NWL? ☐Yes ☒No

If yes,

(ii) Avg. length of area to be excavated: _____

(iii) Avg. width of area to be excavated: _____

(iv) Avg. depth of area to be excavated: _____

(v) Amount of material to be excavated in cubic yards: _____

b. (i) Will the placement of the proposed bridge or culvert require any excavation within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

☐CW _____ ☐SAV _____ ☐SB _____

☐WL _____ ☒None

(ii) Describe the purpose of the excavation in these areas:

_____

_____

_____

c. (i) Will the placement of the proposed bridge or culvert require any high-ground excavation? ☒Yes ☐No

If yes,

(ii) Avg. length of area to be excavated: 200ft.

(iii) Avg. width of area to be excavated: 30 ft.

(iv) Avg. depth of area to be excavated: 3 ft.

(v) Amount of material to be excavated in cubic yards: 685

d. If the placement of the bridge or culvert involves any excavation, please complete the following:

(i) Location of the spoil disposal area: Approved NCDOT waste disposal site

(ii) Dimensions of the spoil disposal area: To be determined.

(iii) Do you claim title to the disposal area? ☒Yes ☐No *(If no, attach a letter granting permission from the owner.)*

(iv) Will the disposal area be available for future maintenance? ☒Yes ☐No

(v) Does the disposal area include any coastal wetlands/marsh (CW), submerged aquatic vegetation (SAVs), other wetlands (WL), or shell bottom (SB)?

☐CW ☐SAV ☐WL ☐SB ☒None

If any boxes are checked, give dimensions if different from (ii) above.

(vi) Does the disposal area include any area below the NHW or NWL? ? ☐Yes ☒No

If yes, give dimensions if different from (ii) above.

e. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed below NHW or NWL? ☐Yes ☒No

If yes,

(ii) Avg. length of area to be filled: _____

(iii) Avg. width of area to be filled: _____

(iv) Purpose of fill:

f. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

☐CW ____ ☐SAV ____ ☐SB ____

☒WL 229 sq. ft. ☐None

(ii) Describe the purpose of the excavation in these areas:

Construction of end bents, road shoulders, and expansion of travel lanes to accommodate proposed bridge and current safety standards.

g. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed on high-ground? ☒Yes ☐No

If yes,

(ii) Avg. length of area to be filled: 1100 ft.

(iii) Avg. width of area to be filled: 10 ft.

(iv) Purpose of fill: Increased grade on roadway approaches to eliminate sharp vertical curve in road.

4. GENERAL

a. Will the proposed project require the relocation of any existing utility lines? ☒Yes ☐No

If yes, explain: Overhead power lines will be shifted to the west slightly to avoid roadway. A fiber optic line will be directionally drilled under Ahoskie Creek and associated wetlands.

If this portion of the proposed project has already received approval from local authorities, please attach a copy of the approval or certification.

b. Will the proposed project require the construction of any temporary detour structures? ☐Yes ☒No

If yes, explain:

< Form continues on back>

c. Will the proposed project require any work channels? ☐Yes ☒No

If yes, complete Form DCM-MP-2.

d. How will excavated or fill material be kept on site and erosion controlled?

NCDOT Sediment and Erosion Control BMPs

e. What type of construction equipment will be used (for example, dragline, backhoe, or hydraulic dredge)?

Crane, dump truck, excavator and other standard construction equipment

f. Will wetlands be crossed in transporting equipment to project site? ☐Yes ☒No

If yes, explain steps that will be taken to avoid or minimize environmental impacts.

g. Will the placement of the proposed bridge or culvert require any shoreline stabilization? ☐Yes ☒No

If yes, complete form MP-2, Section 3 for Shoreline Stabilization only.

2/9/11
Date

B-5018
Project Name

Clay Willey
Applicant Name

Applicant Signature

Office Use Only:
Corps action ID no. _____
DWQ project no. _____
Form Version 1.3 Dec 10 2008

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	☒ Section 404 Permit	☐ Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 14	or General Permit (GP) number:	
1c. Has the NWP or GP number been verified by the Corps?	☒ Yes	☐ No
1d. Type(s) of approval sought from the DWQ (check all that apply): ☒ 401 Water Quality Certification – Regular ☐ 401 Water Quality Certification – Express ☐ Non-404 Jurisdictional General Permit ☐ Riparian Buffer Authorization		
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: ☐ Yes ☒ No	For the record only for Corps Permit: ☐ Yes ☒ No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.	☒ Yes	☐ No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	☒ Yes	☐ No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	☒ Yes	☐ No

2. Project Information

2a. Name of project:	Replacement of Bridges No. 12 and No. 25 over Ahoskie Creek on US13/NC42
2b. County:	Hertford
2c. Nearest municipality / town:	Ahoskie
2d. Subdivision name:	Not applicable
2e. NCDOT only, T.I.P. or state project no:	B-5018

3. Owner Information

3a. Name(s) on Recorded Deed:	NC Department of Transportation
3b. Deed Book and Page No.	
3c. Responsible Party (for LLC if applicable):	Clay Willis
3d. Street address:	113 Airport Drive Suite 100
3e. City, state, zip:	Edenton, NC 27932
3f. Telephone no.:	252-482-7977
3g. Fax no.:	252-482-8722
3h. Email address:	tcwillis@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	☐ Agent ☐ Other, specify:
4b. Name:	
4c. Business name (if applicable):	
4d. Street address:	
4e. City, state, zip:	
4f. Telephone no.:	
4g. Fax no.:	
4h. Email address:	
5. Agent/Consultant Information (if applicable)	
5a. Name:	
5b. Business name (if applicable):	
5c. Street address:	
5d. City, state, zip:	
5e. Telephone no.:	
5f. Fax no.:	
5g. Email address:	

B. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	See plan sheets
1b. Site coordinates (in decimal degrees):	Latitude: 36.2446 (DD.DDDDDD) Longitude: - 76.9467 (-DD.DDDDDD)
1c. Property size:	4.1 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Ahoskie Creek (Ahoskie Swamp)
2b. Water Quality Classification of nearest receiving water:	C-NSW
2c. River basin:	Chowan
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: The site is an existing roadway with two bridges (#12 & #25). Bridge #12 is over Ahoskie Creek, and Bridge #25 is in the northernmost portion of the Ahoskie Creek floodplain across an overflow channel connected to Ahoskie Creek downstream only by diffuse flow through a bottomland wetland system. Land use adjacent to the road is primarily forested, with a cemetery located on the southeast side.	
3b. List the total estimated acreage of all existing wetlands on the property: 0.44 acres	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 100 ft.	
3d. Explain the purpose of the proposed project: The project will replace the two bridge structures and bring the roadway and shoulders up to current design standards. The bridges were constructed in 1934. Bridge #12 has a sufficiency rating of 16 out of 100. Both bridges will be replaced at the same time to coordinate an accurate flood passage model and sizing of the structures.	
3e. Describe the overall project in detail, including the type of equipment to be used: The two existing bridges will be removed using standard NCDOT bridge demolition procedures. No material will be dropped into the stream or wetlands. The road will be temporarily closed and traffic routed through an off-site detour. The new bridges will be constructed on the existing roadway alignment using cranes, excavators, dump trucks, and other standard construction equipment. Road shoulders will be slightly widened and the wetlands cleared to the right-of-way for future maintenance. An overhead power line will be relocated west of the existing road and a fiber optic cable directionally drilled under Ahoskie Creek and associated wetlands.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments:	☒ Yes ☐ No ☐ Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	☐ Preliminary ☒ Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): Clay Willis - NCDOT Div 1	Agency/Consultant Company: Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. 8/17/2009	

5. Project History		
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	☐ Yes	☒ No ☐ Unknown
5b. If yes, explain in detail according to "help file" instructions.		
6. Future Project Plans		
6a. Is this a phased project?	☐ Yes	☒ No
6b. If yes, explain.		

C. Proposed Impacts Inventory

1. Impacts Summary

1a. Which sections were completed below for your project (check all that apply):

☒ Wetlands ☐ Streams - tributaries ☐ Buffers
☐ Open Waters ☐ Pond Construction

2. Wetland Impacts

If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.

2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)
W1 ☒ P ☐ T	Fill	Bottomland Hardwood Forest	☒ Yes ☐ No	☒ Corps ☐ DWQ	0.01
W2 ☒ P ☐ T	Fill	Bottomland Hardwood Forest	☒ Yes ☐ No	☒ Corps ☐ DWQ	0.02
W3 ☒ P ☐ T	Fill	Bottomland Hardwood Forest	☒ Yes ☐ No	☒ Corps ☐ DWQ	0.02
W4 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
W5 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
W6 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
2g. **Total wetland impacts**					0.05

2h. Comments: An additional 0.21 acres of hand clearing for relocation of overhead power line easement and for future roadway maintenance will occur as a result of the project.

3. Stream Impacts

If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.

3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
S1 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
S2 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
S3 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
S4 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
S5 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
S6 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
3h. **Total stream and tributary impacts**						0

3i. Comments: Stream impacts limited to driving H-piles at 55 ft intervals for bridge support: 2 bents are located in Ahoskie Creek totaling less than 0.01 acres of impact. Current bridge supports are being removed and the project would result in an overall decrease in surface water impacts.

4. Open Water Impacts

If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 ☐ P ☐ T				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
O4 ☐ P ☐ T				
4f. Total open water impacts				0

4g. Comments:

5. Pond or Lake Construction

If pond or lake construction proposed, then complete the chart below.

5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
P1								
P2								
5f. Total								

5g. Comments:

5h. Is a dam high hazard permit required?	☐ Yes ☐ No If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)

If project will impact a protected riparian buffer, then complete the chart below. If yes, then individually list all buffer impacts below. If any impacts require mitigation, then you **MUST** fill out Section D of this form.

6a. Project is in which protected basin?	☐ Neuse ☐ Tar-Pamlico ☐ Other: ☐ Catawba ☐ Randleman

6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 ☐ P ☐ T			☐ Yes ☐ No		
B2 ☐ P ☐ T			☐ Yes ☐ No		
B3 ☐ P ☐ T			☐ Yes ☐ No		
		6h. **Total buffer impacts**			

6i. Comments:

D. Impact Justification and Mitigation		
1. Avoidance and Minimization		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. Impacts have been minimized by replacing the bridges on the existing alignment. Slight increases in roadway fill and lane/shoulder width are required to meet current design standards. Bridge #12 was lengthened to increase flood passage and Bridge #25 has been retained and skewed to allow for overflow flood waters to pass safely along natural flow paths. Shoulders were tied into existing shoulder grades where practical to avoid any adjacent wetland impact. Where fill is required in wetlands to bring shoulders and roadway to current standards, the amount has been minimized and slopes steepened to the maximum amount allowable and stable.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Existing sheet piling will be retained to increase stability during construction. Driven H-piles will eliminate the need for drilling and disposal of associated cuttings. Top down construction will be used to avoid equipment being staged within the stream and the use of a workbridge.		
2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State		
2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	☒ Yes ☐ No	
2b. If yes, mitigation is required by (check all that apply):	☐ DWQ ☒ Corps	
2c. If yes, which mitigation option will be used for this project?	☐ Mitigation bank ☒ Payment to in-lieu fee program ☒ Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank:		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
4. Complete if Making a Payment to In-lieu Fee Program		
4a. Approval letter from in-lieu fee program is attached.	☒ Yes	
4b. Stream mitigation requested:	linear feet	
4c. If using stream mitigation, stream temperature:	☐ warm ☐ cool ☐ cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	0.29 acres	
4f. Non-riparian wetland mitigation requested:	acres	
4g. Coastal (tidal) wetland mitigation requested:	acres	
4h. Comments:		
5. Complete if Using a Permittee Responsible Mitigation Plan		
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan. See cover letter.		

6. **Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ**				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?			☐ Yes	☒ No
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
		6f. **Total buffer mitigation required:**		
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	☐ Yes ☒ No
1b. If yes, then is a diffuse flow plan included? If no, explain why. Comments:	☐ Yes ☐ No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	NA %
2b. Does this project require a Stormwater Management Plan?	☒ Yes ☐ No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: Although only limited new impervious surface is being created by the project through the widening of existing travel lanes, existing stormwater management on the site is being improved by the replacement of the current concrete ditches with expressway gutter discharging into uplands further removed from Ahoskie Creek. Deck drains have been eliminated from discharging into Ahoskie Creek and pushed back from the bank. Stormwater outfalls are provided between the bridges to eliminate erosion of side slopes and discharge as far as practical from surface waters. Additional measures are discussed in more detail in the cover letter and attached stomrwater management plan. NCDOT will follow BMPs in compliance with their statewide issued NPDES permit.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	☐ Certified Local Government ☒ DWQ Stormwater Program ☐ DWQ 401 Unit
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	☐ Phase II ☐ NSW ☐ USMP ☐ Water Supply Watershed ☐ Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	☐ Coastal counties ☐ HQW ☐ ORW ☐ Session Law 2006-246 ☐ Other: NA
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	☐ Yes ☐ No

5b. Have all of the 401 Unit submittal requirements been met?	☐ Yes	☐ No
F. Supplementary Information		
1. Environmental Documentation (DWQ Requirement)		
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	☒ Yes	☐ No
1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?	☒ Yes	☐ No
1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) Comments: Required NEPA document is a Categorical Exclusion (attached), which does not require review through the State Clearinghouse.	☐ Yes	☒ No
2. Violations (DWQ Requirement)		
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	☐ Yes	☒ No
2b. Is this an after-the-fact permit application?	☐ Yes	☒ No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):		
3. Cumulative Impacts (DWQ Requirement)		
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	☐ Yes	☒ No
3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description. The project replaces existing two-lane bridges and roadway with upgraded two-lane infrastructure. No increase in traffic flow or other influence likely to cause growth in the area is associated with the project.		
4. Sewage Disposal (DWQ Requirement)		
4a. 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. No sewage will be created by the project.		

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	☐ Yes	☒ No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	☒ Yes	☐ No
5c. If yes, indicate the USFWS Field Office you have contacted.	☒ Raleigh ☐ Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? USFWS Hertford County listing, on-site review of habitat by NCDOT for red-cockaded woodpecker.		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	☐ Yes	☒ No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? EFH mapper		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	☐ Yes	☒ No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? Concurrence from State Historic Preservation Office.		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	☒ Yes	☐ No
8b. If yes, explain how project meets FEMA requirements: NC Flood Mapping Program approval will be received for the project prior to construction. The proposed design raises the bridge and lengthens the flood plain opening, and therefore will not increase flood elevations.		
8c. What source(s) did you use to make the floodplain determination? Current NC Flood Mapping Program data		

Clay Willis		2/9/11
Applicant/Agent's Printed Name	Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	Date

OFFICE USE ONLY		
Date Received	Fee Paid	Permit Number

State of North Carolina
Department of Environment and Natural Resources
Division of Water Quality

STORMWATER MANAGEMENT PERMIT APPLICATION FORM

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
LINEAR ROADWAY PROJECT

This form may be photocopied for use as an original.

DWQ Stormwater Management Plan Review:
A complete stormwater management plan submittal includes this application form, a supplement form for each BMP proposed (see Section V), design calculations, and plans and specifications showing all road and BMP details.

I. PROJECT INFORMATION

NCDOT Project Number: NCDOT Design Build TIP B-5018 County: Hertford

Project Name: Replacement of Bridge No. 12 and No. 25 over Ahoskie Creek on US 13/NC 42

Project Location: North of Herford Co./Bertie Co. line

Contact Person: Max Price Phone: 919-851-8077 Fax: 919-851-8107

Receiving Stream Name: Ahoskie Creek River Basin: Chowan Class: C;NSW

Proposed linear feet of project: 1935 lf

Proposed Structural BMP and Road Station *(attach a list of station and BMP type if more room is needed)*:

Type of proposed project: *(check all that apply)*:

☐ New ☐ Widening ☒ 2 lane* ☐ 4 lane* ☐ Curb and Gutter ☒ Bridge Replacement
☒ Other *(Describe)* Shoulder Berm Gutter and Expressway Gutter

**2 lane and 4 lane imply that roadside ditches are used unless Curb and Gutter is also checked.*

II. REQUIRED ITEMS CHECKLIST

Initial in the space provided below to indicate the following design requirements have been met and supporting documentation is attached. Supporting documentation shall, at a minimum, consist of a brief narrative description including (1) the scope of the project, (2) how the items below are met, (3) how the proposed best management practices minimize water quality impacts, and (4) any significant constraints and/or justification for not meeting a, b, c and d to the maximum extent practicable.

Designer's Initials

MSP a. The amount of impervious surface has been minimized as much as possible.
MSP b. The runoff from the impervious areas has been diverted away from surface waters as much as possible.
MSP c. Best Management Practices are employed which minimize water quality impacts.
MSP d. Vegetated roadside ditches are 3:1 slope or flatter.

III. OPERATION AND MAINTENANCE AGREEMENT

I acknowledge and agree by my initials below that the North Carolina Department of Transportation is responsible for the implementation of the four maintenance items listed. I agree to notify DWQ of any operational problems with the BMP's that would impact water quality or prior to making any changes to the system or responsible party.

Maintenance Engineer's Initials

SDB a. BMP's shall be inspected and maintained in good working order.

SDB b. Eroded areas shall be repaired and reseeded as needed.

SDB c. Stormwater collection systems, including piping, inlets, and outlets, shall be maintained to insure proper functioning.

Maintenance Engineer's Name: Sterling Baker

Title: Div. Maint Eng

IV. APPLICATION CERTIFICATION

I, *(print or type name)* _____ of _____ Branch, certify that the information included on this permit application form is, to the best of my knowledge, correct and that the project will be constructed in conformance with the approved plans and that the proposed project complies with the requirements of 15A NCAC 2H .1000.

Title: _____

Address: _____

Signature: _____ Date: _____

V. SUPPLEMENT FORMS

The applicable state stormwater management permit supplement form(s) listed below must be submitted for each BMP specified for this project. Contact the Stormwater and General Permits Unit at (919) 733-5083 for the status and availability of these forms.

Form SW401-Low Density	Low Density Supplement
Form SW401-Curb Outlet System	Curb Outlet System Supplement
Form SW401-Off-Site System	Off-Site System Supplement
Form SW401-Wet Detention Basin	Wet Detention Basin Supplement
Form SW401-Infiltration Basin	Infiltration Basin Supplement
Form SW401-Infiltration Trench	Underground Infiltration Trench Supplement
Form SW401-Bioretention Cell	Bioretention Cell Supplement
Form SW401-Level Spreader	Level Spreader/Filter Strip/Restored Riparian Buffer Supplement
Form SW401-Wetland	Constructed Wetland Supplement
Form SW401-Grassed Swale	Grassed Swale Supplement
Form SW401-Sand Filter	Sand Filter Supplement

NCDOT Highway Stormwater PROGRAM

Released: July 2010 (DRAFT)

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

Version 1.1

Page of

General Project Information

Project No.:	B-5018		**Date: 01/03/2011**			
City/Town:	Ahoskie		**Designer:**	M.S. Price		
County(ies):	Hertford County		**Project Manager:**	M.S. Price		
River Basin(s):	**Chowan**		**CAMA County?**	yes	**TVA County?**	no
Primary Receiving Water:	Ahoskie Creek		**NCDWQ Stream Index:**	25-14-1		
NCDWQ Surface Water Classification for Primary Receiving Water		**Primary:**	Class C			
		Supplemental:	Nutrient Sensitive Waters (NSW)			
Other Stream Classification:						
303(d) Stream?	no	**Type(s) of Impairment:**				
State Stormwater Permit Required?	yes	**If yes, why?**	CAMA County			
Could the Project Impact Threatened or Endangered Species?			no			
Description:						
Anadromous Fish Present?	**no**					
Description:						
Buffer Rules in Effect?	no		**Buffer Rules:**			

Existing Site

Description of Existing Project Area:	US 13 approxamatly 0.25 miles north of SR 1420 (Cemetary Road) between Powellsville and Ahoskie.
Average Daily Traffic (existing):	ADT 2009 = 7145 Posted Speed Limit 55
Existing Cross Section:	24' pavement with 4' paved shoulders roadway approaches 28.0' clear roadway on Br # 12 and Br. # 25
Surrounding Land Use:	Rural wooded wetlands and floodplain
General Comments:	Bridge # 12 and Bridge # 25 were constructed in 1934. Both bridges have been shored to maintain acceptable load limits. NCDOT bridge Maintenance Unit records indicate that Br. #12 and Br. 3 25 have a sufficiency rating of 16.9 and 48 respectivly out of a possibe 100.

Project Description

Description of Proposed Project:	Replacement of Br. # 12 over Ahoskie Creek and Br. # 25 over Ahoskie Creek overflow.		
Average Daily Traffic (proposed):	ADT 2035 = 11600		
Proposed Cross-Section:	24' pavement with 4' paved shoulders, 8 ' total shoulder with guardrail 32'-10"' clear roadway on Br # 12 and 32' on Br. # 25		
Interchange Modification:		**Median Type:**	
Terminus:			
Terminus:			
Project Length (lin. miles/feet):	0.366 miles	**Added Impervious Area (ac.):**	0.2 acres
General Comments:	The roadway grade will be raised +/- 3.5' in the vicinity of the southern end of Bridge #12 in order to avoid the need for a design exception for the vertical curve south of the bridge. The change in grade will result in a 2.7 ' increase in vertical clearance at mid channel. The existing roadway approach south of Bridge #12 is 24' of pavement with 4' paved shoulders and a concrete lined ditch on both sides. The concrete lined ditch will be removed and replaced with expressway gutter and standard roadway ditch section. The roadway grade will be raised +/- 1.2' in the vicinity of the northern end of Bridge #25. A temporary off site detour will be utilized during project construction. The proposed drainage system will consist of cross pipes. grated inlets with associated pipe systems, roadway swales, shoulder berm gutter. and shoulder berm gutter drainage system.		

NCDOT Highway Stormwater PROGRAM

Released: July 2010 (DRAFT)

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

Version 1.1

Environmental Summary

Riparian Buffer and Jurisdictional Stream Impacts and Associated SCMs

Station	Stream Name	Stream Type	Jurisdict. Stream	Buffer?	Classific-ation?	Proposed Structure	SCM Type	Checklist Complete?	DA (ac.)	Q_2 (ft^3/s)	Q_{10} (ft^3/s)	WQv^c (ft^3)
-L- 22+56.5	Ahoskie Creek	Perennial	RPW	No	Class C	3 @ 55' Cored Slab	no	no	135.9 sq mi			
-L- 29+18	Ahoskie Creek Overflow	N/A	no	No		2 @ 55' Cored Slab	no	no	N/A			

General Comments: Surface water impact are limited to <0.01 acres and are a result of the H-pile inerior bents. The BMPs and measures that will be used on this project to reduce stormwater impacts are minimization of impervious surface, rip rap energery dissipater pads at at pipe outlets, grassed roadway swales with 3:1 side slopes, storm water discharge locations as far from Ahoskie Creek as practical, and matting or rip rap stabilization of fill slopes that are steeper than 3:1. There will be no direct discharge of bridge deck runnoff into Ahoskie Creek. Four inch deck drains will be required in the last 30' of the northern end of Bridge #12. Storm drainage was designed to the maximum extent practical to discharge runoff from impervious surfaces in such a way as to maximize the grassed and natural vegetated swale lengths before discharge into Ahoskie Creek. The proposed expressway gutter and drainage system will allow the natural outfall left of station 18+00 to function more efficiently and thus increase the lengh of natural vegetarted swale prior to discharge into Ahoskie Creek. The shoulder berm gutter system along the east side of the roadway between the two bridges will allow the bridge end drains to be discharged as far from Ahoskie Creek as practical.

Stream Relocation

Station	Stream Name	Stream Length (ft)	Additional Information

General Comments:	

Jurisdictional Wetlands

Station	Type of Impact	Minimization of Impact
23+15 to 27+62 -L- Rt.	Approach Fill & Hand Clearing	Used 1.5:1 to 2:1 Rip Rapped Spill Through Abutment Slopes. Used longer guardrail post in order to use 2' of shoulder behind guardrail instead of 3'.
23+34 to 31+05 -L- Lt.	Approach Fill & Hand Clearing	Used PSRM on Slopes 2.5:1 and Steeper. Used Erosion Control Matting on Slopes 2.5:1 and Flatter. Used longer guardrail post in order to use 2' of shoulder behind guardrail instead of 3'.
29+72 to 31+63 -L- Lt.	Approach Fill	Used 1.5:1 to 2:1 Rip Rapped Spill Through Abutment Slopes. Used longer guardrail post in order to use 2' of shoulder behind guardrail instead of 3'.
General Comments:	Minimized Impacts by replacing the bridges on the existing alignment. Proposed fills for widening were tied into existing shoulder grades where practical to avoid any adjacent wetland impact. Where fill was require in wetlands to bring the roadway and shoulders to current standards, the impact was minimized by using as steep of slope as practical and providing slope stabilization measures where required. Driven H-piles were used to eliminate the need for drilling and disposal of the assciated cuttings. Top down construction will be used to avoid the need for temporary causeways aand or work bridges.	

Additional Comments

References

Ecosystem Enhancement PROGRAM

August 5, 2010

Mr. Clay Willis.
Division 1 Environmental Officer
North Carolina Department of Transportation
113 Airport Drive, Suite 100
Edenton, North Carolina 27932

Dear Mr. Willis:

Subject: EEP Mitigation Acceptance Letter:

B-5018, Replace Bridge Numbers 12 and 25 over Ahoskie Creek and Ahoskie Creek Overflow on US 13, Hertford County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory riparian wetland mitigation for the subject project. Based on the information received on July 26, 2010, the impacts are located in CU 03010203 of the Chowan River Basin in the Northern Outer Coastal Plain (NOCP) Eco-Region, and are as follows:

Chowan 03010203 NOCP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	0.26	0	0	0	0
Mitigation Units (Credits-up to 2:1)	0	0	0	0.52	0	0	0	0

This mitigation acceptance letter replaces the mitigation acceptance letter issued on July 9, 2009. EEP commits to implementing sufficient compensatory riparian wetland mitigation credits 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 Amendment No. 2 to the Memorandum of Agreement between the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U. S. Army Corps of Engineers, fully executed on March 8, 2007. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

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

Sincerely,

William D. Gilmore, P.E.
EEP Director

cc: Mr. Bill Biddlecome, USACE – Washington Regulatory Field Office
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
Mr. Sterling Baker, P.E., NCDOT Division 1 Maintenance Engineer
Mr. Gregory Thorpe, Ph.D., NCDOT – PDEA
File: B-5018

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action Id. SAW-2008-01377 County: Hertford U.S.G.S. Quad: Powellsville, NC

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Agent: NCDOT
Address: Jerry Jennings, Division Engineer
113 Airport Drive, Suite 100
Edenton, North Carolina 27932

Telephone No.: (252) 482-7977

Property description:
Size (acres) 2.4 acres Nearest Town Powellsville
Nearest Waterway Ahoskie Creek River Basin Chowan
USGS HUC 03010203 Coordinates N 36.2445767 W 76.9472553
Location description The project area is adjacent to Bridge # 12 and 25 on US Highway 13 approximately .29 miles south of the intersection of US Highway 13 and NCSR 1419, crossing over and adjacent to Ahoskie Creek. TIP # B-5018.

Indicate Which of the Following Apply:

A. Preliminary Determination

_ Based on preliminary information, there may be wetlands on the above described property. We strongly suggest you have this property inspected to determine the extent of Department of the Army (DA) jurisdiction. To be considered final, a jurisdictional determination must be verified by the Corps. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).

B. Approved Determination

_ There are Navigable Waters of the United States within the above described property subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

X There are waters of the U.S. including wetlands on the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

_ We strongly suggest you have the wetlands on your property delineated. Due to the size of your property and/or our present workload, the Corps may not be able to accomplish this wetland delineation in a timely manner. For a more timely delineation, you may wish to obtain a consultant. To be considered final, any delineation must be verified by the Corps.

X The waters of the U.S. including wetland on your project area have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.

_ The wetlands have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on _____. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

_ There are no waters of the U.S., to include wetlands, present on the above described property which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

X The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Elizabeth City, NC, at (252) 264-3901 to determine their requirements.

Action Id. **SAW-2009-01337**

Placement of dredged or fill material within waters of the US and/or wetlands without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). If you have any questions regarding this determination and/or the Corps regulatory program, please contact **Bill Biddlecome** at **(910) 251-4558**.

C. Basis For Determination

This site exhibits wetland criteria as described in the 1987 Corps Wetland Delineation Manual and is adjacent to Ahoskie Creek, a tributary to the Wiccacon River, which is a tributary to the Chowan River.

D. Remarks

ARRA Project

E. Appeals Information (This information applies only to approved jurisdictional determinations as indicated in B. above)

This correspondence constitutes an approved jurisdictional determination for the above described site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

District Engineer, Wilmington Regulatory Division
Attn:Bill Biddlecome, Project Manager,
Washington Regulatory Field Office
P.O. Box 1000
Washington, North Carolina 27889

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the District Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **October 17, 2009**.

It is not necessary to submit an RFA form to the District Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: William J. Biddlecome

Date **08/17/2009** Expiration Date **08/17/2014**

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at our website at http://regulatory.usacesurvey.com/ to complete the survey online.

Copy furnished:

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL		
Applicant: NCDOT	File Number: SAW-2000-01337	Date: 08/17/2009
Attached is:		See Section below
☐ INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
☐ PROFFERED PERMIT (Standard Permit or Letter of permission)		B
☐ PERMIT DENIAL		C
☒ APPROVED JURISDICTIONAL DETERMINATION		D
☐ PRELIMINARY JURISDICTIONAL DETERMINATION		E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the district engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:	If you only have questions regarding the appeal process you may also contact:
Mr. Bill Biddlecome Washington Regulatory Field Office P.O. Box 1000 Washington, North Carolina 27889 (910) 251-4558	Mr. Mike Bell, Administrative Appeal Review Officer CESAD-ET-CO-R U.S. Army Corps of Engineers, South Atlantic Division 60 Forsyth Street, Room 9M15 Atlanta, Georgia 30303-8801

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
_____ Signature of appellant or agent.		

For appeals on Initial Proffered Permits and approved Jurisdictional Determinations send this form to:

District Engineer, Wilmington Regulatory Division, Attn:Bill Biddlecome, Project Manager, Washington Regulatory Field Office, P.O Box 1000, Washington, North Carolina 27889

For Permit denials and Proffered Permits send this form to:

Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Mike Bell, Administrative Appeal Officer, CESAD-ET-CO-R, 60 Forsyth Street, Room 9M15, Atlanta, Georgia 30303-8801

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region (DRAFT)

Project/Site: Ahoskie Creek Bridge #12 & 25 City/County: Hertford County Sampling Date: 3/9/09

Applicant/Owner: NCDOT - Division 1 State: N.C. Sampling Point: Wetland - 1

Investigator(s): Clay Willis, Ryan Shook Section, Township, Range: Ahoskie (just south)

Landform (hillslope, terrace, etc.): Floodplane Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR or MLRA): Lat: -76.94743 Long: 36.245304 Datum: NAD 83

Soil Map Unit Name: BB Bibb Soils NWI classification: PFO6F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: Adjacent Creek has been channelized - this has affected hydrology some, but not removed it.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ✓ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) (LRR U)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres on Living Roots (C3)
- ✓ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ✓ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): —	
Water Table Present?	Yes ✓	No ____	Depth (inches): 10 in.	
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 6 in.	**Wetland Hydrology Present?** Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOIL

Sampling Point: wetland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10yr 4/2	90	10yr 3/2	10			loam	
6-12	10yr 3/2	80	10yr 2/1	20			loamy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ✓ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: _____

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot sizes: _____)			
1. Laurel Oak	25	✓	FACW
2. Bald Cypress	25	✓	OBL
3. American Elm	25		FACW
4. Sycamore	25		FACW
5.			
6.			
7.			
Total Cover: 100%			
Sapling Stratum (_____)			
1. Red Maple	50	✓	FACW
2. Iron Wood	10		FAC
3. Box elder	20		FACW
4.			
5.			
6.			
7.			
Total Cover: 70%			
Shrub Stratum (_____)			
1. Horse Sugar	10		FAC
2. Holly	30	✓	FACW
3. Chinese Privott	20		FAC
4. Elderberry	10		FACW
5.			
6.			
7.			
Total Cover: 70%			
Herb Stratum (_____)			
1. Netted chain fern	20	✓	OBL
2. Lizard Tail	10		OBL
3. Smartweed	10		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
Total Cover: 30%			
Woody Vine Stratum (_____)			
1. Smilax spp.	15	✓	OBL
2. Poison Ivy	10		FAC
3.			
4.			
5.			
Total Cover: 25			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	185	x 2 =	270
FAC species	60	x 3 =	180
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	305 (A)		510 (B)

Prevalence Index = B/A = 1.67

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (If observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region (DRAFT)

Project/Site: Aboskie Creek Bridge # 12 # 25 City/County: Hertford Sampling Date: 3/9/09

Applicant/Owner: NCDOT - Division One State: NC Sampling Point: upland

Investigator(s): Clay Willis / Ryan Shook Section, Township, Range: Aboskie

Landform (hillslope, terrace, etc.): hillslope - down to floodplain Local relief (concave, convex, none): concave Slope (%): 15

Subregion (LRR or MLRA): Lat: -76.948387 Long: 36.247627 Datum: NAD 83'

Soil Map Unit Name: Seabrook Loamy Sand NWI classification: NONE

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:
- vegetation make-up consist of FAC, FACW & upland species

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ✓ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
- Some sediment deposits were present from flood events. These events appeared to be infrequent at this location, which was near the active floodplain edge.

SOIL

Sampling Point: upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10 yr 5/3	100	—	—	—	—	loamy sand	
10-14	10 yr 5/6	100%	—	—	—	—	sand	

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- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Beasley Farms Inc
P.O. Box 38
Colerain, NC 27924

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 2/28/11

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

THOMAS P BEASLEY

3. Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7009 2250 0001 3691 2397

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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- Print your name and address on the reverse so that we can return the card to you.
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1. Article Addressed to:

Citadel Highland Memorial Gardens, Inc.
P.O. Box 8839
Greenville, SC 22960

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Karyn McMeans ☐ Agent ☐ Addressee

B. Received by (Printed Name) Karyn McMeans C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

STATION GREENVILLE, SC
FEB 10 2011
USPS 29804

3. Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7009 2250 0001 3691 2410

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Town of Powellsville
P.O. Box 22
Powellsville NC 27967

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☑ Addressee

B. Received by (Printed Name) C. Date of Delivery 2-14-2011
THOMAS A SAELL

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

1. Article Number (Transfer from service label) 7010 3090 0003 1303 7199

S Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

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1. Article Addressed to:

Horton D Copeland Jr.
1874 Cherry Grove Rd N
Suffolk, VA 23432

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Horton Copeland ☐ Agent ☐ Addressee

B. Received by (Printed Name) HORTON COPELAND C. Date of Delivery 2/11/11

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0003 1303 7205

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-154

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

David + Tammy Morse
2418 US 13 South
Ahoskie, NC 22791

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X David T. Morse ☐ Agent ☐ Addressee

B. Received by (Printed Name) DAVID T. MORSE C. Date of Delivery 2.8.11

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

Beverly E. Purdue
GOVERNOR

Gene Conti
SECRETARY

February 3, 2011

Town of Powellsville
PO Box 22
Powellsville, NC 27967

CERTIFIED MAIL

Dear Sir or Madam,

The NC Department of Transportation is proposing to replace bridges # 12 and # 25 on US 13/NC 42. The bridges are existing 120 ft. X 28 ft. and 70 ft. X 28.2 ft. structures. The proposed bridges are 167.5 ft. X 36.0 ft. and 112.4 ft. X 36.0 ft. cored slab concrete structures on the same alignment. Included with this package are the plan sheets detailing the described bridge replacement. This work will require the closure of the road until the project is completed. Access will be maintained through an off-site detour.

The Division of Coastal Management (DCM) considers the waters at this location to be "Public Trust Waters" under their regulations. Therefore, it is provided protection under state law. For this reason the NCDOT will apply for a permit from the DCM to perform the described work. Part of the permit process is notifying the adjacent landowners of the proposed work. A map depicting the project area, along with a design plat and copy of the permit application is included with this letter. If you have any questions concerning the proposed work you can contact Clay Willis at 252-482-7977.

The attached form is submitted to insure that you have an opportunity to comment on the proposal. The work is depicted on the attached drawings. If you have no objects to the proposal, please return the form with your response within ten (10) days to this office. If you do have objections to the project, please forward your comments to:

Stephen Lane
NC Division of Coastal Management
400 Commerce Avenue
Morehead City, N.C. 28577

113 Airport Dr., Suite 100, Edenton, NC 27932 – Phone: (252) 482-7977 Fax: (252) 482-8722

No response within ten (10) days will be construed to mean you have no objections. Thank you for your cooperation.

Sincerely,
Jerry Jennings, P.E.
Division Engineer, Division One

Clay Willis
Environmental Officer, Division One

113 Airport Dr., Suite 100, Edenton, NC 27932 -- Phone: (252) 482-7977 Fax: (252) 482-8722

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

Beverly E. Purdue
GOVERNOR

Gene Conti
SECRETARY

February 3. 2011

David T. & Tammy L. Morse
2418 US 13 South
Ahoskie, NC 227910

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DEPARTMENT OF TRANSPORTATION

Beverly E. Purdue
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

Beverly E. Purdue
GOVERNOR

Gene Conti
SECRETARY

February 3, 2011

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PO Box 38
Colerain, NC 27924

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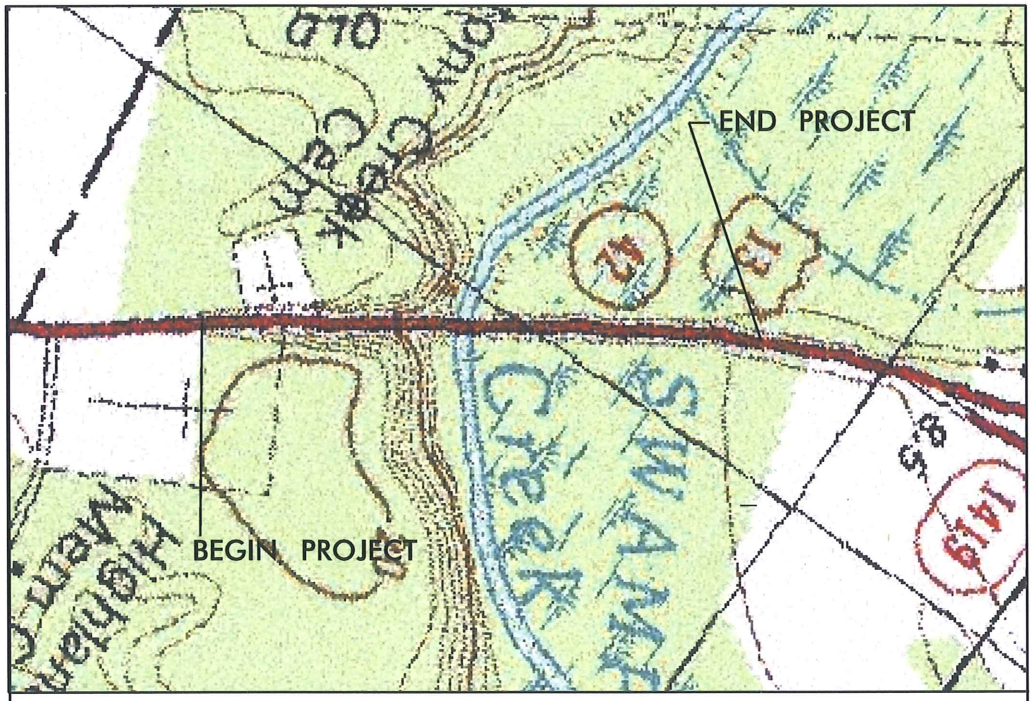


VICINITY MAP

WETLAND / STREAM
IMPACTS
VICINITY MAP

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
HERTFORD COUNTY

PROJECT: 41730.3.ST1 (B-5018)

BRIDGE NO. 12 AND BRIDGE NO. 25
OVER AHOSKIE CREEK
ON US 13 / NC 42

SHEET OF 11 / 23 / 10

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	TOWN OF POWELLSVILLE	PO Box Powellsville, NC 27967
2	BEASLEY FARMS, INC.	PO Box 38 Colerain, NC 27924
3	CITADEL HIGHLAND MEMORIAL GARDENS, LLC.	PO Box 8839 Greenville, SC 29604
4	DAVID T. MORSE & TAMMY L. MORSE	2418 US 13 South Ahoskie, NC 27910
5	HORTON D. COPELAND	1874 Cherry Grove Road Suffolk, VA 23432

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
HERTFORD COUNTY

PROJECT: 41730.3.ST1 (B-5018)

BRIDGE NO. 12 AND BRIDGE NO. 25
OVER AHOSKIE CREEK
ON US 13 / NC 42

SHEET OF 11 / 23 / 10

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	23+15 TO	BRIDGE # 12 3@55' 21" CORED SLAB,	<0.01				0.06	<0.01				
	27+62-L- RT	HAND CLEARING, & 15" CAAP										
2	23+34 TO	N/A	0.02				0.15					
	31+05 -L- LT	FILL & HAND CLEARING										
3	29+72 TO	BRIDGE # 25	0.02					<0.01				
	31+63 -L- LT	2 @ 55'										
		21" CORED SLAB										
TOTALS:			0.05	0.00	0.00	0.00	0.21	<0.01	0.00	0.00	0.00	0.00

NOTE: 1 SQ.FT. SURFACE WATER IMPACT PER INTERIOR BENT IN THE CHANNEL.

H-PILES WILL BE UTILIZED IN THE MAIN AND OVERFLOW BRIDGES.

TOTAL WETLAND IMPACTS SHT 04 = 4797 SQ. FT.
(FILL IN WETLANDS - 229 SF AND HAND CLEARING - 4568SF)

TOTAL WETLAND IMPACTS SHT 05 = 6492 SQ. FT.
(FILL IN WETLANDS - 1791 SF AND HAND CLEARING - 4701 SF)

TOTAL WETLAND IMPACTS = 0.26 AC.
(11289 SQ. FT.)
(FILL IN WETLANDS -2020 SF AND HAND CLEARING 9269 SF)

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

HERTFORD COUNTY
WBS - 41730.3.ST1 (B-5018)

SHEET 2/18/2011

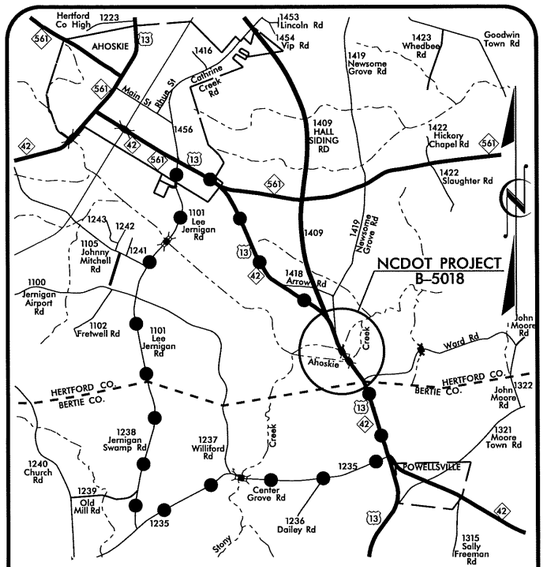
ATN Revised 3/31/05

09/08/99

TIP PROJECT: B-5018

CONTRACT: C202365

See Sheet 1-A For Index of Sheets



VICINITY MAP

OFF-SITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HERTFORD COUNTY

LOCATION: REPLACEMENT OF BRIDGE NO. 12 AND BRIDGE NO. 25 OVER AHOSKIE CREEK ON US 13/NC 42

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES

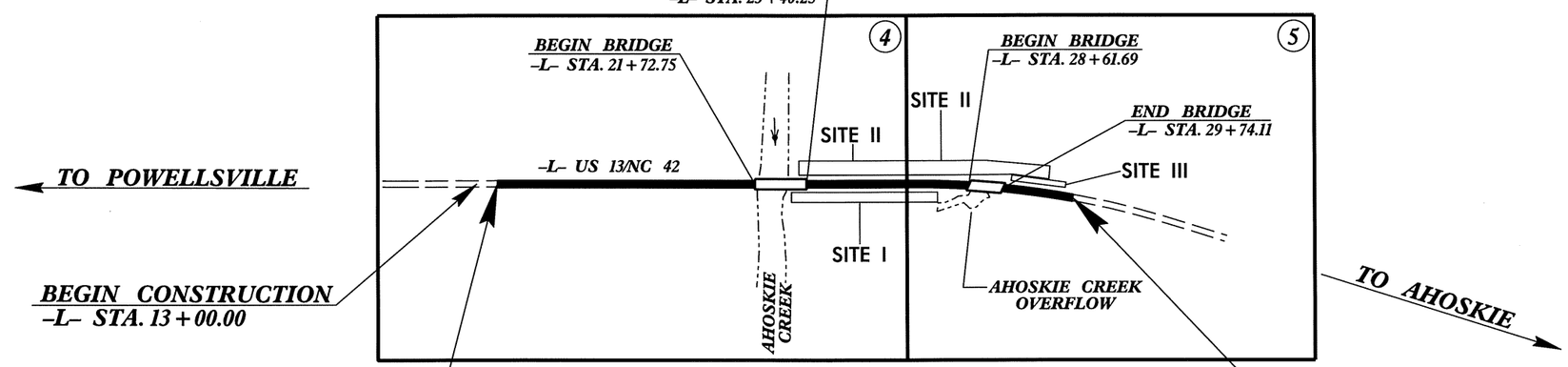
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5018	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
41730.3.ST1	STM-0013(29)	PE, R/W, UTIL & CONST.

SANFORD CONTRACTORS
628 ROCKY FORK CHURCH RD.
SANFORD, NC 27332

WETLANDS /STREAM IMPACTS

NAD 83/ NSRS 2007



GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2009	=	7145
ADT 2035	=	11600
DHV	=	10 %
D	=	50 %
T	=	4 % *
V	=	60 MPH

* TTST 3.0% DUAL 1.0%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5018	=	0.313 MILES
LENGTH STRUCTURES TIP PROJECT B-5018	=	0.053 MILES
TOTAL LENGTH TIP PROJECT B-5018	=	0.366 MILES

WETHERILL ENGINEERING

Prepared for Sanford Contractors in the Office of:
559 JONES FRANKLIN ROAD
SUITE 164
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NOVEMBER 3, 2009

LETTING DATE: NOVEMBER 3, 2009

EDWARD G. WETHERILL, PE
PROJECT ENGINEER

BOB A. MAY, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT: NILESH SURTI, PE
DESIGN-BUILD ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 25993 ENGINEER MAX S. PRICE

SIGNATURE:

ROADWAY DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A MAY

SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

P.E.
STATE HIGHWAY DESIGN ENGINEER

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7/6/2011

SANFORD CONTRACTORS
628 ROCKY FORK CHURCH RD.
SANFORD, NC 27332

WETHERILL ENGINEERING
559 Jones Franklin Rd. Suite 164
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO.	SHEET NO.
B-5018	4
RW SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 21118 — BOB A. MAY

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029993 — MAX S. PRICE

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

WETLAND IMPACTS DRAWINGS SITE I & SITE II

BEGIN TIP PROJECT B-5018
-L- STA. 13+65.00

BEGIN CONSTRUCTION
-L- STA.13+00.00

BEGIN EXPRESSWAY GUTTER
-L- STA.13+65.00

BEGIN EXPRESSWAY GUTTER
-L- STA.15+25.00

END EXPRESSWAY GUTTER
-L- STA.18+00.00
5 TONS CL. B RIP RAP
44 SY FILTER FABRIC

END EXPRESSWAY GUTTER
-L- STA.19+75.00

(APPROX. LOCATION TO BE OBTAINED BY OTHERS)
PERMANENT SHEET PILING
(SEE STRUCTURE PLANS FOR LOCATION)

3 TONS CL. B RIP RAP
11 SY FILTER FABRIC

PROP. 4" CONC. SLOPE PROTECTION

SPECIAL CUT DITCH SEE DETAIL A

3 TONS CL. B RIP RAP
10 SY FILTER FABRIC

3 TONS CL. B RIP RAP
11 SY FILTER FABRIC

CAMA BUFFER

EXCAVATION

BEGIN SHOULDER BERM GUTTER
STA. -L- 23+64.25 LT.

END SHOULDER BERM GUTTER
STA. -L- 23+77.00 LT.

SITE II

SITE I

BEGIN SHOULDER BERM GUTTER
STA. -L- 23+64.25 RT.

MATCH LINE SEE SHEET 5
-L- STA. 26+00.00

REMOVE 15" RCP

REMOVE 18"

REMOVE EX. CONC. WEIR

15" CAAP W/ROD & LUG CONNECTION

N, 36° 50' 34.7" W

-L-

-BL-

POT 5+00.00

TO POWELLSVILLE

US 13 AND NC 42 (128' BST)

BEASLEY FARMS, INC.

TOWN OF POWELLSVILLE

HIGHLAND MEMORIAL GARDENS, INC.

DAVID T. MORSE

HORTON D. COPELAND, JR.

WETLAND 'A'

WETLAND 'B'

WOODS

CABLES

GRAU 350

BRIDGE # 2

NOTES USE OF MAYBE & WATER DISTRICT'S EXISTING AMOSKIE CREEK

NORMAL WATER LEVEL EL.14.54+/-

NOTE:
UTILIZE 4" DECK DRAINS 6' O.C. FROM STA 23+04 TO STA 23+34 -L- LT AND RT

F/F DENOTES FILL IN WETLAND

HC/HC DENOTES HAND CLEARING

BEGIN GRADE -L- STA.17+25.00
ELEV. = 41.75

PI = 19+44.00
EL = 31.90'
VC = 420'
K = 115
DS = 55mph

PI = 25+71.50
EL = 26.57'
VC = 180'
K = 171
DS = >60mph

EXIST. BURIED TEL.

50' FEATHER TO EXIST.

OVERLAY EXISTING ROADWAY W/ MINIMUM 3" S9.5B

PROPOSED 1-4" INNERDUCT FOR TEL/FO CABLE BY DIRECTIONAL BORE

BEGIN RESURFACING
-L- STA.13+65.00

(-)4.4986%

(-)10.8500%

(+)0.3001%

PROPOSED GRADE

EXISTING GROUND

PROP. 4" CONC. SLOPE PROTECTION

BEGIN BRIDGE
-L- STA.21+72.75

END BRIDGE
-L- STA.23+40.25

-L- 22+56.50
3 @ 55'
21'Coted Slab Bridge
Skew 90°00

NWL = 14.5

PERMANENT SHEET PILING
(SEE STRUCTURE PLANS FOR LOCATION)

PROPOSED 1-4" INNERDUCT FOR TEL/FO CABLE BY DIRECTIONAL BORE (20'-25' DEEP UNDER CREEK)

SEE SHT. S-1 THRU S-__ FOR STRUCTURE PLANS

SEE SHT. 2-A FOR DETAIL FOR REINFORCED FILL

BEGIN BRIDGE
-L- STA.21+72.75

END BRIDGE
-L- STA.23+40.25

PROP. SBG.

TYPE B-77

4'-5"

12'

-L-

32'-10"

02

BEGIN APPROACH SLAB
-L- STA.21+48.75

END APPROACH SLAB
-L- STA.23+64.25

SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 6307/5105	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 21.5	FT
BASE DISCHARGE	= 7545/5865	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 22.5	FT
OVERTOPPING DISCHARGE	= 8620/5868	CFS
OVERTOPPING FREQUENCY	= 200	YRS
OVERTOPPING ELEVATION	= 23.3	FT
DATE OF SURVEY	= APRIL 2009	
W.S. ELEVATION AT DATE OF SURVEY	= 14.50	FT.

60 50 40 30 20 10 0 -10 -20

12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

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7/22/2011

SANFORD CONTRACTORS
628 ROCKY FORK CHURCH RD.
SANFORD, NC 27332

WETHERILL ENGINEERING
559 Jones Franklin Rd. Suite 164
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO.	SHEET NO.
B-5018	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 21118 ENGINEER BOB A. MAY

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 025993 ENGINEER MAX S. PRICE

PRELIMINARY PLANS
NOT TO BE USED FOR CONSTRUCTION

REVISIONS

BEASLEY FARMS, INC.

TOWN OF POWELLSVILLE

BEASLEY FARMS, INC.

DAVID T. MORSE

HIGHLAND MEMORIAL GARDENS, INC.

HORTON D. COPELAND, JR.

NAD 83/ NSRS 2007

15+00

20+00

WETLAND IMPACTS DRAWINGS
SITE I & SITE II

BEGIN TIP PROJECT B-5018
-L- STA. 13+65.00

POT 5+00.00

BEGIN CONSTRUCTION
-L- STA.13+00.00

BEGIN EXPRESSWAY GUTTER
-L- STA.13+65.00

BEGIN EXPRESSWAY GUTTER
-L- STA.15+25.00

END EXPRESSWAY GUTTER
-L- STA.18+00.00
5 TONS CL. B RIP RAP
14 SY FILTER FABRIC

END EXPRESSWAY GUTTER
-L- STA.19+75.00

REMOVE 15" RCP

REMOVE 18"

REMOVE EX. CONC. WEIR

15" CAAP W/ROD & LUG CONNECTION

N, 36° 50' 34.7" W

-L-

-BL-

US 13 AND NC 42 (28' BST)

TO POWELLSVILLE

BST DR

WOODS

3 CABLES

GRAU 350

PROP. 4" CONC. SLOPE PROTECTION

3 TONS CL. B RIP RAP 11 SY FILTER FABRIC

SPECIAL CUT DITCH SEE DETAIL A

3 TONS CL. B RIP RAP 10 SY FILTER FABRIC

NOTE: THERE MAYBE A WATER DISTRICT ALONG AHOSKIE CREEK

AHOSKIE CREEK

CAMA BUFFER

EXCAVATION

BRIDGE # 12

BEGIN SHOULDER BERM GUTTER
STA. -L- 23+64.25 LT.

END SHOULDER BERM GUTTER
STA. -L- 23+77.00 LT.

SITE II

WETLAND 'B'

WETLAND 'A'

SITE I

BEGIN SHOULDER BERM GUTTER
STA. -L- 23+64.25 RT.

MATCH LINE SEE SHEET 5
-L- STA. 26+00.00

NOTE:
UTILIZE 4" DECK DRAINS 6' O.C.
FROM STA 23+04 TO
STA 23+34 -L- LT AND RT

F/F DENOTES FILL IN WETLAND

HC/HC DENOTES HAND CLEARING

NORMAL WATER LEVEL EL.14.5+/-

CAMA BUFFER

PERMANENT SHEET PILING (SEE STRUCTURE PLANS FOR LOCATION)

(APPROX. LOCATION TO BE OBTAINED BY OTHERS)

PROP. 4" CONC. SLOPE PROTECTION

3 TONS CL. B RIP RAP 11 SY FILTER FABRIC

BEGIN GRADE -L- STA.17+25.00
ELEV.= 41.75

PI = 19+44.00
EL = 31.90'
VC = 420'
K = 115
DS = 55mph

PI = 25+71.50
EL = 26.57'
VC = 180'
K = 171
DS = >60mph

EXIST. BURIED TEL.

50' FEATHER TO EXIST.

OVERLAY EXISTING ROADWAY W/ MINIMUM 3" S9.5B

PROPOSED 1-4" INNERDUCT FOR TEL/FO CABLE BY DIRECTIONAL BORE

BEGIN RESURFACING
-L- STA.13+65.00

(-)4.4986%

PROPOSED GRADE

BEGIN BRIDGE
-L- STA.21+72.75

END BRIDGE
-L- STA.23+40.25

-L- 22+56.50
3 @ 55'
2'-0" Cored Slab Bridge
Skew 90°00"

(-)0.8500%

EXCAVATION

(+)0.3001%

EXISTING GROUND

NWL = 14.5'

PERMANENT SHEET PILING (SEE STRUCTURE PLANS FOR LOCATION)

PROPOSED 1-4" INNERDUCT FOR TEL/FO CABLE BY DIRECTIONAL BORE (20'-25' DEEP UNDER CREEK)

SEE SHT. S-1 THRU S-__ FOR STRUCTURE PLANS

SEE SHT. 2-A FOR DETAIL FOR REINFORCED FILL

60 50 40 30 20 10 0 -10 -20

12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

BEGIN BRIDGE
-L- STA.21+72.75

END BRIDGE
-L- STA.23+40.25

PROP. SBG.

TYPE B-77

4'-5"

12"

-L-

32'-10"

2@ 12"

BEGIN APPROACH SLAB
-L- STA.21+48.75

END APPROACH SLAB
-L- STA.23+64.25

SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 6307/5105	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 21.5	FT
BASE DISCHARGE	= 7545/5865	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 22.5	FT
OVERTOPPING DISCHARGE	= 8620/5868	CFS
OVERTOPPING FREQUENCY	= 200	YRS
OVERTOPPING ELEVATION	= 23.3	FT
DATE OF SURVEY	= APRIL 2009	
W.S. ELEVATION AT DATE OF SURVEY	= 14.50	FT

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8/17/99

SANFORD CONTRACTORS
628 ROCKY FORK CHURCH RD.
SANFORD, NC 27332

-L-
PI Sta 31+22.52
Δ = 17° 21' 45.2" (RT)
D = 2° 01' 15.7"
L = 859.10'
T = 432.87'
R = 2,835.00'
SE = 0.045 FT/FT
DS = 60 MPH

NAD 83/ NSRS 2007

WETHERILL ENGINEERING
559 Jones Franklin Rd. Suite 164
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO.	SHEET NO.
B-5018	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER BOB A. MAY

PRELIMINARY PLANS
21106 NOT TO BE USED FOR CONSTRUCTION 039993

NORTH CAROLINA PROFESSIONAL ENGINEER MAX S. PRICE

WETLAND IMPACTS DRAWINGS
SITE'S I, II & SITE III

MATCH LINE SEE SHEET 4
-L- STA. 26+00.00

PC Sta. 26+89.66

-BL- BL19
-L- STA. 28+28.60
OFF. 19.58' RT.

30+00

35+00

PT Sta. 35+48.76

POT Sta. 37+00.00

DAVID T. MORSE

HORTON D. COPELAND, JR.

(APPROX. LOCATION TO BE OBTAINED BY OTHERS)

BM16 ELEVATION = 17.04'
N 914915 E 2604917
BL STATION 23+83 69 LEFT
R/R SPIKE IN 16 IN OAK

PROP. 4" CONC. SLOPE PROTECTION

SITE II

SITE III

SITE I

WOODS

OPEN WATER

OVERFLOW

WETLAND 'B'

WETLAND 'D'

GRAU 350

15" CAAP W/ROD & LUG CONNECTION

2 TONS CL. B RIP RAP
7 SY FILTER FABRIC

EXCAVATION

US 13 AND NC 42 (28 BST)

EXIST R/W

N 19° 28' 49.5" W

TO KNIGHTDALE

DENOTES FILL IN WETLAND

DENOTES HAND CLEARING

NOTE:
BRIDGE DECK DRAINS WILL NOT BE REQUIRED ON THIS BRIDGE

BM16 ELEVATION = 17.04'
N 914915 E 2604917
BL STATION 23+83 69 LEFT
R/R SPIKE IN 16 IN OAK

END GRADE -L- STA. 32+50.00
ELEV. = 27.06

SEE SHT. 2-A FOR DETAIL FOR REINFORCED FILL

SEE SHT. S-__ THRU S-__ FOR STRUCTURE PLANS

PI = 25+71.50
EL = 26.57'
VC = 180'
K = 157
DS = >60mph

PI = 30+41.69
EL = 27.98'
VC = 165'
K = 223
DS = >55mph

BEGIN BRIDGE -L- STA. 28+61.69

END BRIDGE -L- STA. 29+74.11

-L- 29+18
2 @ 55'
21' Cored Slab Bridge
Skew 100.00°

50' FEATHER TO EXIST.

PROPOSED GRADE

(+)0.3001%

(+)0.3001%

(-)0.4402%

EXISTING GROUND

EXCAVATION

EXCAVATION

EXIST. BURIED TEL.

PROPOSED 1-¢ INNERDUCT FOR TEL/FO CABLE BY DIRECTIONAL BORE

PROPOSED 1-¢ INNERDUCT FOR TEL/FO CABLE BY DIRECTIONAL BORE

PERMANENT SHEET PILING (SEE STRUCTURE PLANS FOR LOCATION)

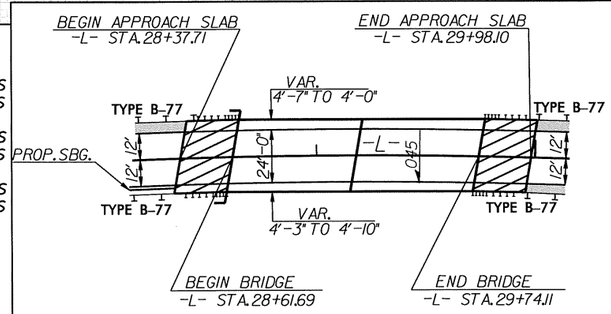
PROPOSED 1-¢ INNERDUCT FOR TEL/FO CABLE BY DIRECTIONAL BORE (20'-25' DEEP UNDER CREEK)

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 6307/1202	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 21.5	FT
BASE DISCHARGE	= 7545/1680	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 22.5	FT
OVERTOPPING DISCHARGE	= 8620/2752	CFS
OVERTOPPING FREQUENCY	= 200	YRS
OVERTOPPING ELEVATION	= 23.3	FT
DATE OF SURVEY	= APRIL 2009	
W.S. ELEVATION AT DATE OF SURVEY	= 14.50	FT

BEGIN APPROACH SLAB
-L- STA. 28+37.71

END APPROACH SLAB
-L- STA. 29+98.10



BEGIN BRIDGE
-L- STA. 28+61.69

END BRIDGE
-L- STA. 29+74.11

SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

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26 27 28 29 30 31 32 33 34 35 36

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12/2/2011

8/17/99

SANFORD CONCRETE
628 ROCKY FORK CHURCH RD.
SANFORD, NC 27332

-L-
PI Sta 31+22.52
Δ = 17° 21' 45.2" (RT)
D = 2° 01' 15.7"
L = 859.10'
T = 432.87'
R = 2,835.00'
SE = 0.045 FT/FT
DS = 60 MPH

NAD 83/
NSRS 2007

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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

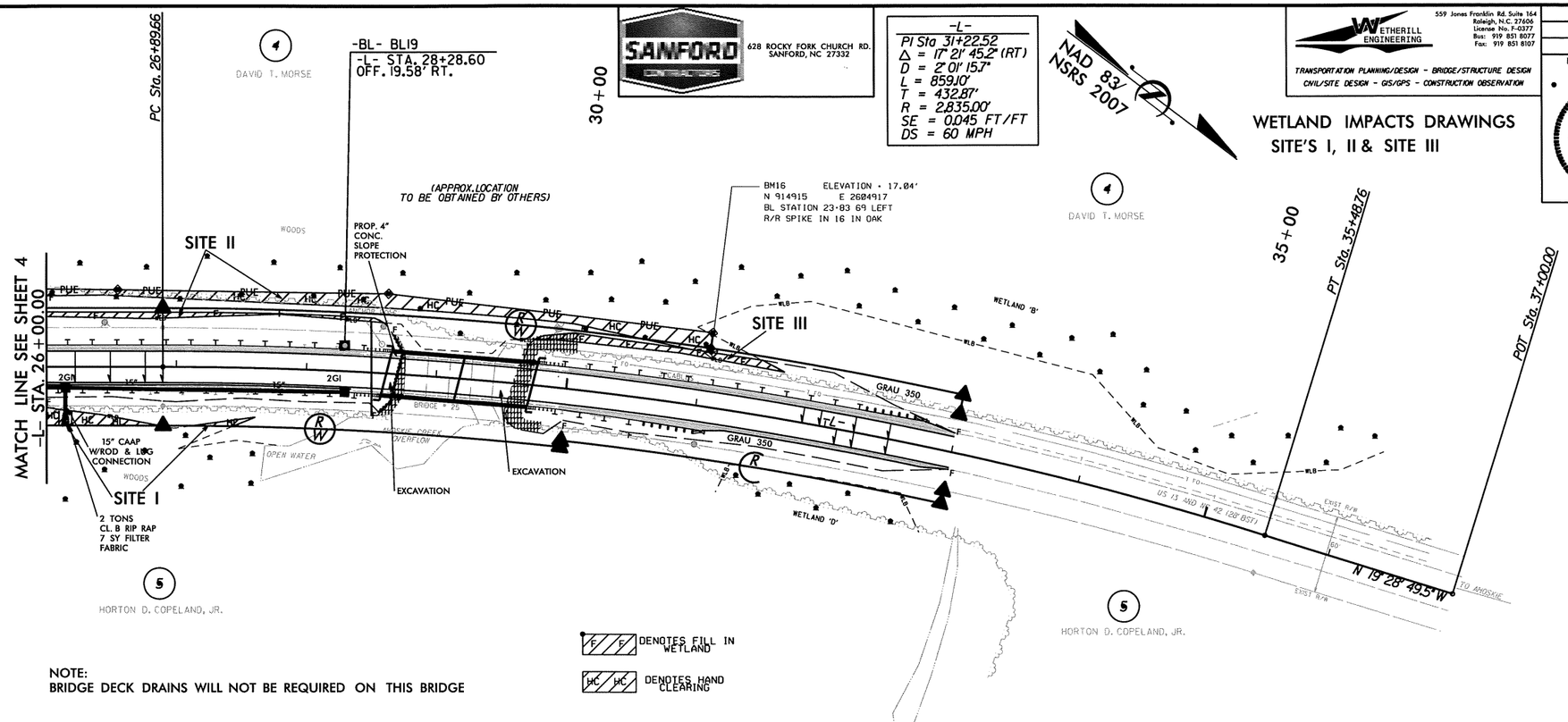
PROJECT REFERENCE NO.	SHEET NO.
B-5018	5
RW SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER 21106 BOB A. MAY

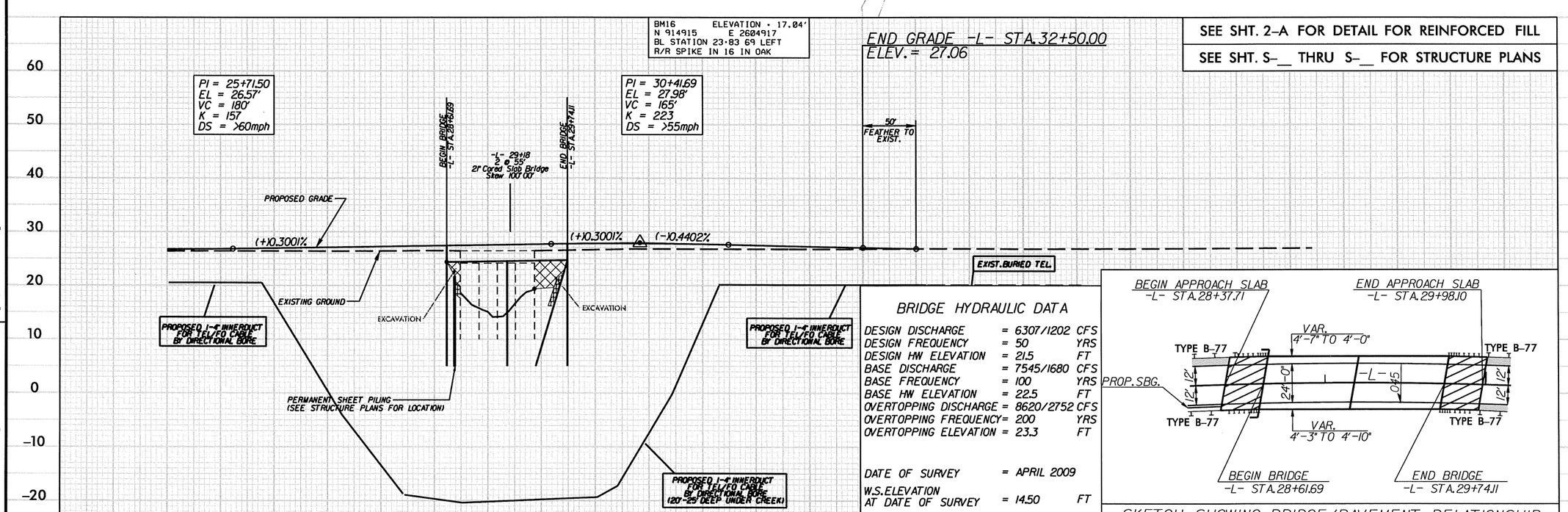
HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER 025993 MAX S. PRICE

PRELIMINARY PLANS
NOT TO BE USED FOR CONSTRUCTION

WETLAND IMPACTS DRAWINGS
SITE'S I, II & SITE III



NOTE:
BRIDGE DECK DRAINS WILL NOT BE REQUIRED ON THIS BRIDGE



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 6307/1202	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 21.5	FT
BASE DISCHARGE	= 7545/1680	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 22.5	FT
OVERTOPPING DISCHARGE	= 8620/2752	CFS
OVERTOPPING FREQUENCY	= 200	YRS
OVERTOPPING ELEVATION	= 23.3	FT
DATE OF SURVEY	= APRIL 2009	
W.S. ELEVATION AT DATE OF SURVEY	= 14.50	FT

SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

4:23:12 PM
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8/23/99

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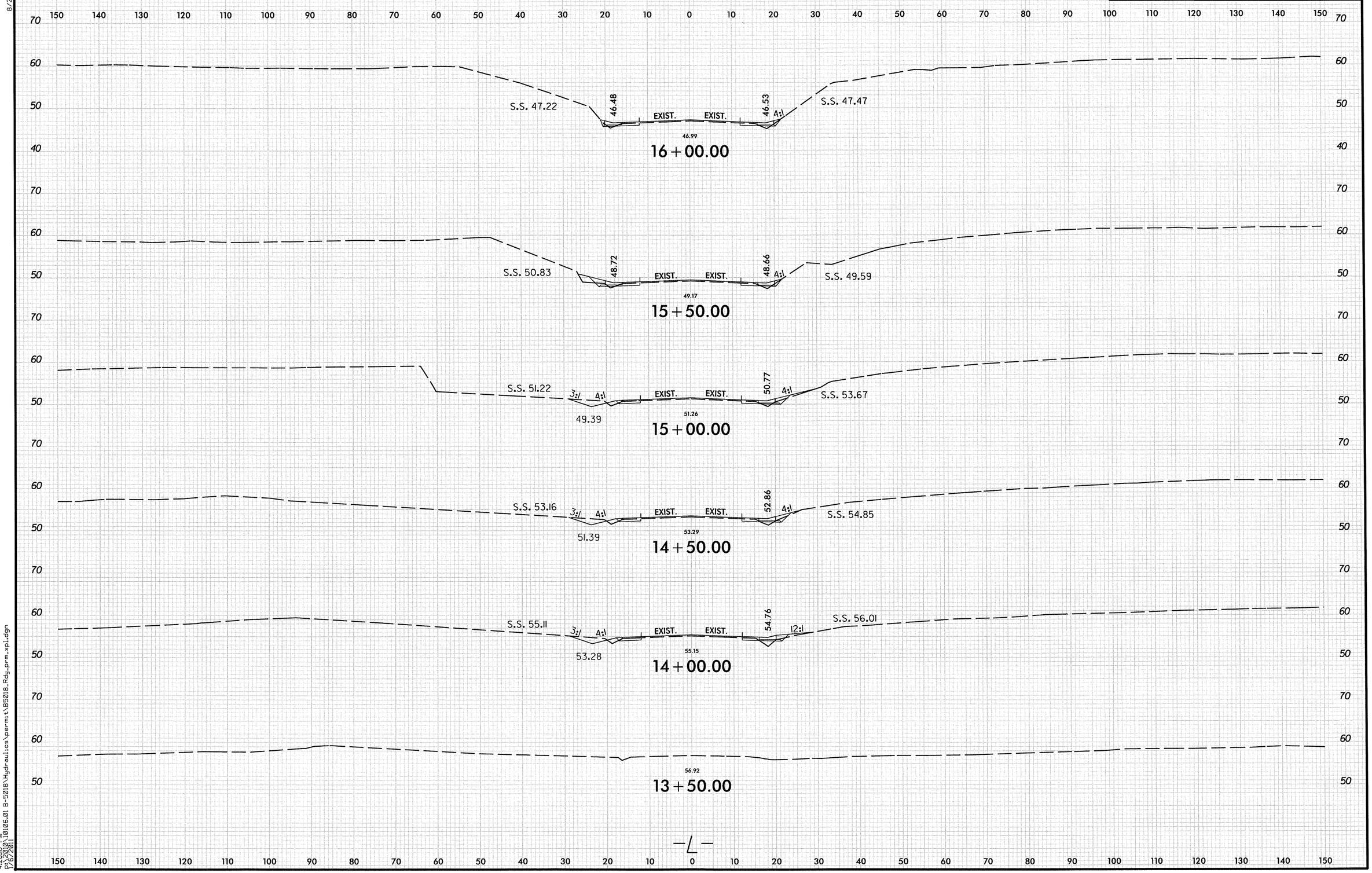

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8/23/99

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	B-5018	X-2

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

70 60 50 40 30

S.S. 35.78 4:1 38.17 0.020 0.020 4:1 S.S. 39.42

38.12

18+00.00

70 60 50 40

S.S. 43.31 4:1 40.07 0.031 0.021 40.23 4:1 S.S. 41.48

40.37

17+50.00

70 60 50 40

S.S. 44.70 42.11 EXIST. EXIST. 42.25 4:1 S.S. 43.26

42.60

17+00.00

70 60 50 40

S.S. 46.59 44.27 EXIST. EXIST. 44.40 4:1 S.S. 45.32

44.80

16+50.00

70 60 50 40 30

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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176/2001

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8/23/99

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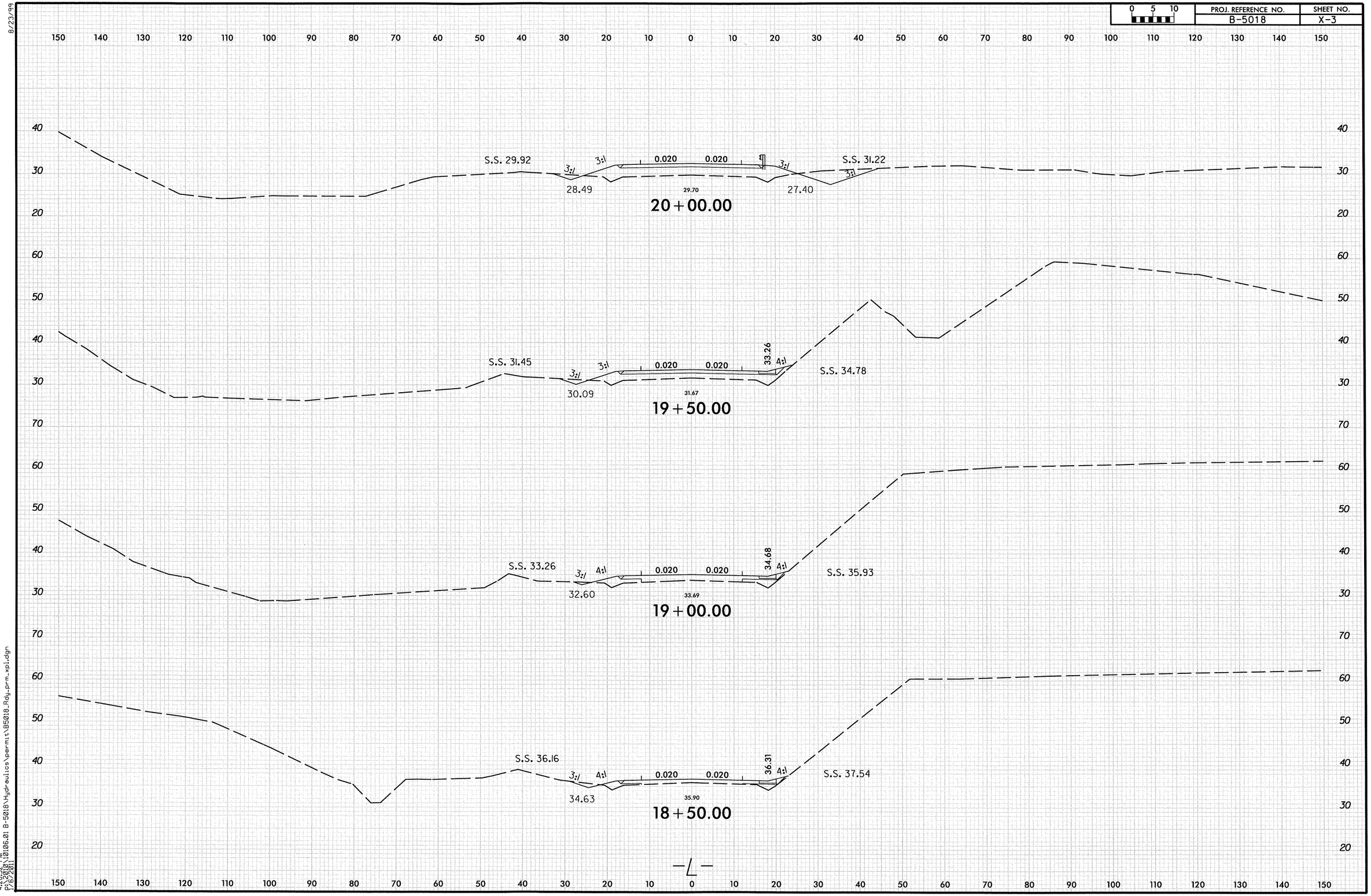

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7/6/2011

8/23/99

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	B-5018	X-4

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

30 20 10 0 30 40 30 20 10

0.020 0.020

10.77

22+00.00

Wetland Boundary

0.020 0.020

26.45

BEGIN BRIDGE

21+72.75

Wetland Boundary

0.020 0.020

3:1 3:1 VAR.

26.66

S.S. 21.77 S.S. 20.45

21+50.00

Wetland Boundary

S.S. 27.28 3:1 3:1 0.020 0.020 3:1 3:1 S.S. 25.49

26.35 27.26 24.87

21+00.00

S.S. 29.14 3:1 3:1 0.020 0.020 3:1 3:1 S.S. 27.88

27.25 28.46 26.12

20+50.00

—L—

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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1/6/2011

8/23/99

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	B-5018	X-5

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

40 30 20 10

SITE 2 | **SITE 1**

Wetland Boundary | Wetland Boundary

S.S. 25.31 | S.S. 23.72

3:1 | 0.020 | 0.020 | 2:1

26.44

24+00.00

SITE 2 | **SITE 1**

NO GEOTECHNICAL RECOMMENDATIONS REQ'D.
BRIDGE END BENT SLOPE PROTECTION EXTENDS
TO -L- STA. 23+60+/- RT. & 23+70+/- LT.

Wetland Boundary | Wetland Boundary

S.S. 17.74 | S.S. 17.47

2:1 | 0.020 | 0.020 | 2:1

26.42

23+50.00

Wetland Boundary | Wetland Boundary

END BRIDGE

SITE 2 | **SITE 1**

0.020 | 0.020

26.42

23+40.25

Wetland Boundary

0.020 | 0.020

24.78

23+00.00

0.020 | 0.020

7.87

22+50.00

-L-

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-5018	X-6

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40 30 20 10

SITE 2 | Wetland Boundary | VAR. | S.S. 15.24 | 0.030 | 0.030 | 3:1 | 26.43 | Wetland Boundary | S.S. 24.65 | **SITE 1**

26+50.00

SITE 2 | Wetland Boundary | VAR. | S.S. 15.88 | 0.012 | 0.020 | 3:1 | 26.41 | Wetland Boundary | S.S. 24.49 | **SITE 1**

26+00.00

SITE 2 | Wetland Boundary | S.S. 24.96 | 2:1 | 0.007 | 0.020 | 3:1 | 26.40 | Wetland Boundary | S.S. 24.09 | **SITE 1**

25+50.00

SITE 2 | Wetland Boundary | S.S. 24.92 | 3:1 | 0.020 | 0.020 | 2:1 | 26.44 | Wetland Boundary | S.S. 24.66 | **SITE 1**

25+00.00

SITE 2 | Wetland Boundary | S.S. 25.04 | 3:1 | 0.020 | 0.020 | 2:1 | 26.46 | Wetland Boundary | **SITE 1**

24+50.00

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8/23/99

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	B-5018	X-7

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40 30 20 10

SITE 2

Wetland Boundary

VAR.

0.045 0.045 3:1

26.42

S.S. 17.32

S.S. 24.36

28+00.00

40 30 20 10

SITE 2

Wetland Boundary

VAR.

0.045 0.045 3:1

26.39

S.S. 17.15

S.S. 24.60

Wetland Boundary

27+50.00

40 30 20 10

SITE 2

Wetland Boundary

VAR.

0.045 0.045 4:1

26.41

S.S. 15.78

S.S. 24.00

Wetland Boundary

27+00.00

40 30 20 10

SITE 2

Wetland Boundary

VAR.

0.045 0.045 4:1

26.41

S.S. 15.50

S.S. 24.08

Wetland Boundary

26+89.66

—℄—

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-5018	X-8

NO GEOTECHNICAL RECOMMENDATIONS REQ'D. BRIDGE END BENT SLOPE PROTECTION EXTENDS TO -L- STA. 30+07+/- LT.

SITE 2 | SITE 3

Wetland Boundary

0.045 0.045

2:1 2:1 2.32:1

26.66

S.S. 17.54

S.S. 24.37

30+00.00

SITE 3

SITE 2

Wetland Boundary

END BRIDGE

0.045 0.045

26.57

29+74.11

Wetland Boundary

0.045 0.045

26.48

29+50.00

Wetland Boundary

0.045 0.045

29.08

29+00.00

Wetland Boundary

SITE 2

0.045 0.045

26.46

BEGIN BRIDGE

28+61.69

Wetland Boundary

SITE 2

VAR.

0.045 0.045

2:1

26.48

S.S. 17.01

S.S. 23.92

28+50.00

-L-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

40 30 20 10

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7/7/2011

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-5018	X-9

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30 20 10

Wetland Boundary

S.S.24.74

3:1 0.020 0.060 3:1

26.81

32 + 50.00

Wetland Boundary

S.S. 23.63

Wetland Boundary

S.S.18.79

VAR. 0.039 0.045 3:1

26.79

32 + 00.00

Wetland Boundary

S.S. 24.03

SITE 3

Wetland Boundary

S.S. 18.13

VAR. 0.045 0.045 3:1

26.78

31 + 50.00

Wetland Boundary

S.S. 24.38

SITE 3

SITE 2

Wetland Boundary

S.S. 17.74

VAR. 0.045 0.045 3:1

26.79

31 + 00.00

S.S. 24.21

SITE 3

SITE 2

Wetland Boundary

S.S. 18.14

VAR. 0.045 0.045 3:1

26.81

30 + 50.00

S.S. 24.09

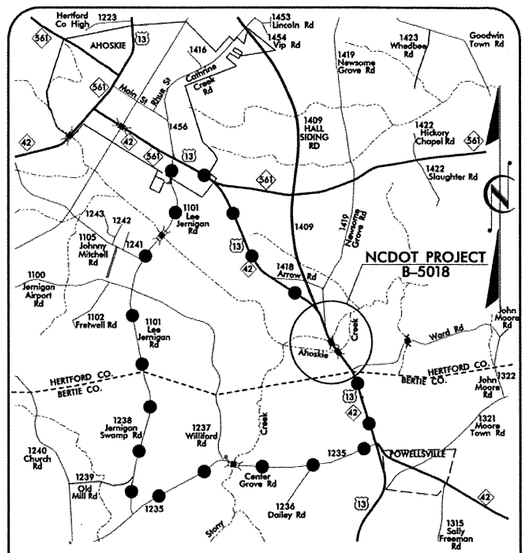
6:32:29 AM
B:\2000\10106.01 B-5018\Hydraulics\perm+\B5018_Rdy_prm_xpl.dgn
07/27/2011

09/28/99

TIP PROJECT: B-5018

CONTRACT: C202365

See Sheet 1-A For Index of Sheets



VICINITY MAP

OFF-SITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HERTFORD COUNTY

LOCATION: REPLACEMENT OF BRIDGE NO. 12 AND BRIDGE NO. 25 OVER AHOSKIE CREEK ON US 13/NC 42

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5018	1	

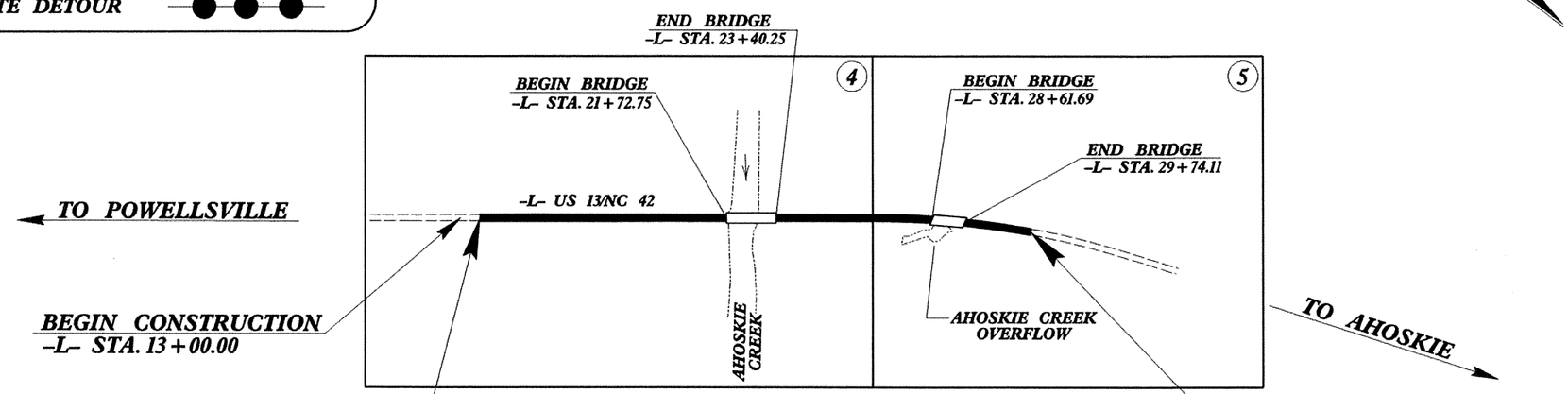
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
41730.3.ST1	STM-0013(29)	PE, RW, UTIL & CONST.

SANFORD CONTRACTORS
628 ROCKY FORK CHURCH RD.
SANFORD, NC 27332

DESIGN BUILD SUBMITTAL #: S-016
SUBMITTAL DATE: 2/10/2011

RFC PLANS

NAD 83/ NSRS 2007



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 2009 = 7145
ADT 2035 = 11600
DHV = 10 %
D = 50 %
T = 4 % *
V = 60 MPH

* TTST 3.0% DUAL 1.0%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5018	=	0.313 MILES
LENGTH STRUCTURES TIP PROJECT B-5018	=	0.053 MILES
TOTAL LENGTH TIP PROJECT B-5018	=	0.366 MILES

WETHERILL ENGINEERING

Prepared for Sanford Contractors in the Office of:
559 JONES FRANKLIN ROAD
SUITE 164
Raleigh, N.C. 27606
License No. F-0377
Ph: 919 851 8027
Fax: 919 851 8107

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NOVEMBER 3, 2009

LETTING DATE: NOVEMBER 3, 2009

NCDOT CONTACT: NILESH SURTI, PE
DESIGN-BUILD ENGINEER

EDWARD G. WETHERILL, PE
PROJECT ENGINEER

BOB A. MAY, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 023993 ENGINEER MAX S. PRICE

SIGNATURE: 2/9/11

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY

SIGNATURE: 2/9/11

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

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2/9/2011

3/15/06

PROJECT REFERENCE NO.	SHEET NO.
B-5018	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 — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

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
- 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 — ?UTL
- 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.

6/2/99

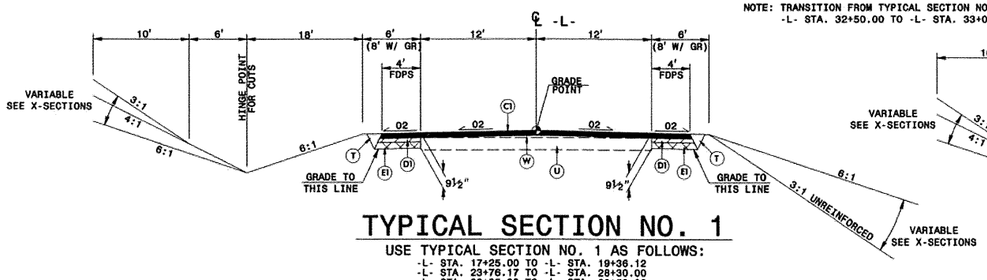
PAVEMENT SCHEDULE

FINAL PAVEMENT DESIGN

A	VARIABLE DEPTH PORTLAND CEMENT CONCRETE PAVEMENT (4½" MIN.)	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 5½" IN DEPTH.
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	CONCRETE EXPRESSWAY GUTTER
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	R2	SHOULDER BERM GUTTER
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	T	EARTH MATERIAL.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	U	EXISTING PAVEMENT.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)

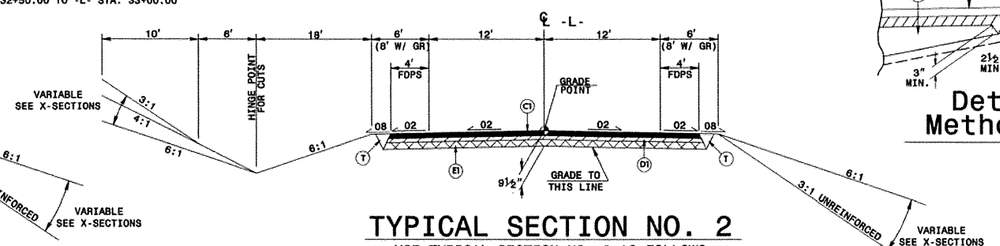
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

NOTE: TRANSITION FROM TYPICAL SECTION NO. 1 TO EXIST. PAVEMENT
-L- STA. 32+50.00 TO -L- STA. 33+00.00



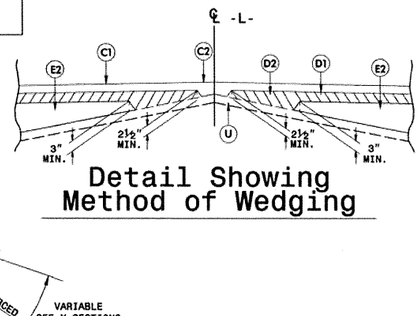
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 AS FOLLOWS:
-L- STA. 17+25.00 TO -L- STA. 19+36.12
-L- STA. 23+76.17 TO -L- STA. 28+30.00
-L- STA. 30+05.00 TO -L- STA. 32+50.00

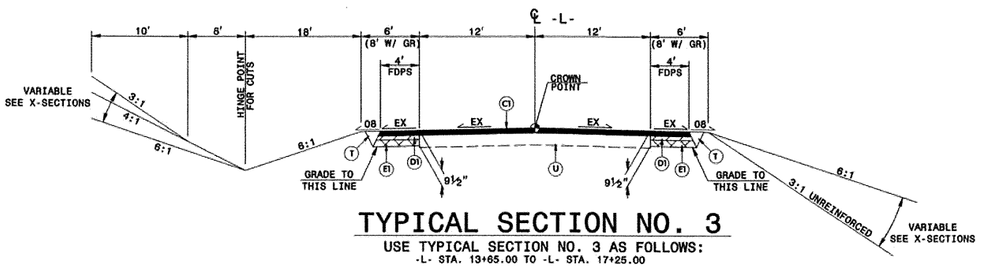


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AS FOLLOWS:
-L- STA. 19+36.12 TO -L- STA. 21+72.75 (BEGIN BRIDGE)
-L- STA. 23+40.25 (END BRIDGE) TO -L- STA. 23+76.17
-L- STA. 28+30.00 TO -L- STA. 28+61.69 (BEGIN BRIDGE)
-L- STA. 29+74.11 (END BRIDGE) TO -L- STA. 30+05.00

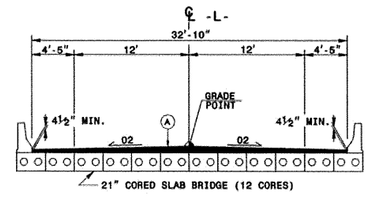


Detail Showing Method of Wedging



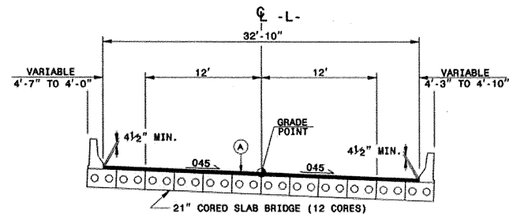
TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 AS FOLLOWS:
-L- STA. 13+65.00 TO -L- STA. 17+25.00



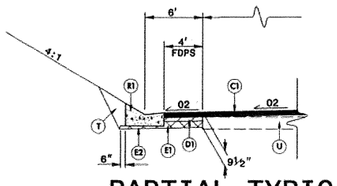
TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4 AS FOLLOWS:
-L- STA. 21+72.75 TO -L- STA. 23+40.25



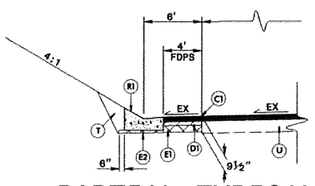
TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5 AS FOLLOWS:
-L- STA. 28+61.69 TO -L- STA. 29+74.11



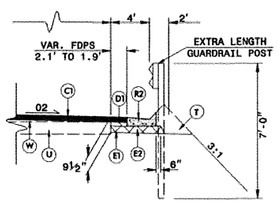
PARTIAL TYPICAL SECTION NO. 1

USE PARTIAL TYPICAL SECTION NO. 1 IN CONJUNCTION WITH TYPICAL SECTION NO. 1 & 2 AS FOLLOWS:
-L- STA. 17+25.00 TO -L- STA. 18+00.00 LT.
-L- STA. 17+25.00 TO -L- STA. 19+75.00 RT.



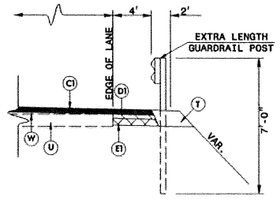
PARTIAL TYPICAL SECTION NO. 2

USE PARTIAL TYPICAL SECTION NO. 2 IN CONJUNCTION WITH TYPICAL SECTION NO. 3 AS FOLLOWS:
-L- STA. 15+25.00 TO -L- STA. 17+25.00 LT.
-L- STA. 13+65.00 TO -L- STA. 17+25.00 RT.



PARTIAL TYPICAL SECTION NO. 3

USE PARTIAL TYPICAL SECTION NO. 3 IN CONJUNCTION WITH TYPICAL SECTION NOS. 1 & 2 AS FOLLOWS:
-L- STA. 23+64.25 TO -L- STA. 28+34.36 RT.
-L- STA. 23+64.25 TO -L- STA. 23+77.00 LT.



PARTIAL TYPICAL SECTION NO. 4

USE IN CONJUNCTION WITH TYPICAL SECTIONS NO. 1 & 2

-L- STA. 20+00.00 TO -L- STA. 21+72.75 RT.
-L- STA. 20+35.25 TO -L- STA. 21+72.75 LT.
-L- STA. 23+77.00 TO -L- STA. 28+64.86 LT.
-L- STA. 29+76.73 TO -L- STA. 32+76.73 LT.
-L- STA. 29+71.64 TO -L- STA. 31+09.14 RT.

PROJECT REFERENCE NO.	SHEET NO.
B-5018	2

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 21118 ENGINEER ROB A MAY — 11/4/11

PAVEMENT DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 13569 ENGINEER CHIH-CHI CHEN — 11/22/10

SANFORD CONTRACTORS
628 ROCKY FORK CHURCH RD.
SANFORD, NC 27332

WETHERILL ENGINEERING
559 Jones Franklin Rd. Suite 164
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-5018	2-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 31180 ROB A. MAY

3/8/11

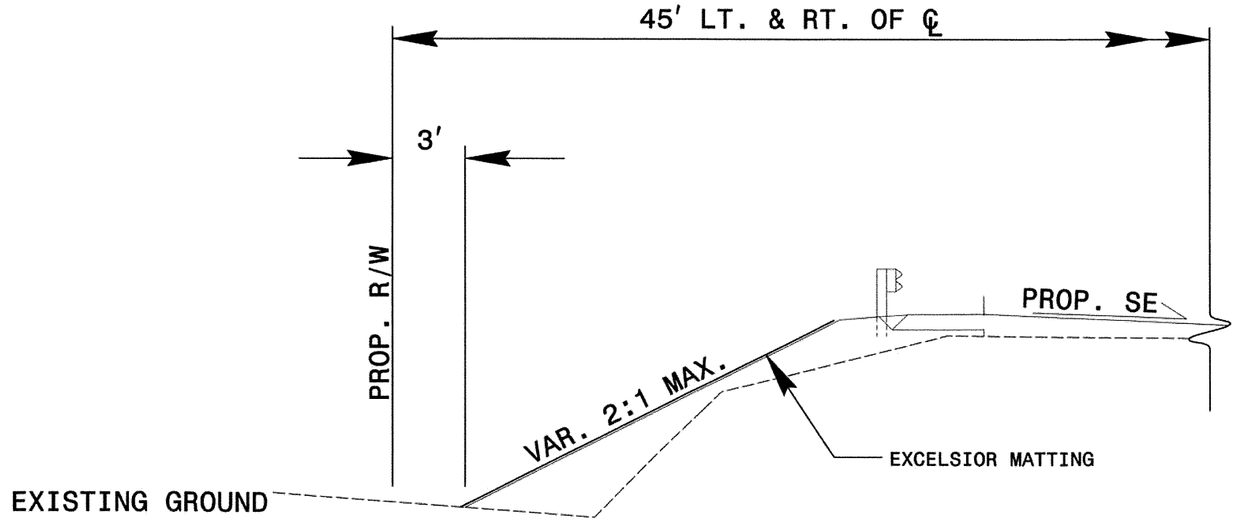
SANFORD CONTRACTORS

628 ROCKY FORK CHURCH RD.
SANFORD, NC 27332

WETHERILL ENGINEERING

559 Jones Franklin Rd. Suite 164
Raleigh, N.C. 27606
License No. P-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION



DETAIL FOR REINFORCED FILL

USE AS FOLLOWS:

-L- STA. 21+00.00 TO -L- STA. 21+72.75 RT.
-L- STA. 25+70.00 TO -L- STA. 28+67.00 LT.
-L- STA. 30+07.52 TO -L- STA. 32+15.00 LT.

9:20:12 AM
File: 20110106.01 B-5018\Roadway\Proj\B5018_Rdy_typ.dgn
2/24/2011

SANFORD CONTRACTORS
628 ROCKY FORK CHURCH RD.
SANFORD, NC 27332

WETHERILL ENGINEERING
559 Jones Franklin Rd. Suite 164
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO.	SHEET NO.
B-5018	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 021176 ENGINEER BOB A. MAY — 11/4/11

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 023993 ENGINEER MAX S. PRICE — 11/4/11

REVISIONS

BEGIN TIP PROJECT B-5018
-L- STA. 13+65.00

NAD 83/ NSRS 2007

15+00

20+00

BEASLEY FARMS, INC.
DB 344, PG. 154 (BERTIE CO.)
PB 3, PG. 82 (BERTIE CO.)

1 TOWN OF POWELLSVILLE
DB 453, PG. 734

2 BEASLEY FARMS, INC.
DB 344, PG. 154 (BERTIE CO.)
PB 3, PG. 82 (BERTIE CO.)

3 HIGHLAND MEMORIAL GARDENS, INC.
DB 490, PG. 209
DB 285, PG. 371
DB 519, PG. 551

4 DAVID T. MORSE
DB 492, PG. 685
PC 1, SL. 49-C

5 HORTON D. COPELAND, JR.
DB 458, PG. 774
DB 80, PG. 633

BEGIN CONSTRUCTION
-L- STA. 13+00.00

BEGIN EXPRESSWAY GUTTER
-L- STA. 13+65.00

BEGIN EXPRESSWAY GUTTER
-L- STA. 15+25.00

END EXPRESSWAY GUTTER
-L- STA. 18+00.00

END EXPRESSWAY GUTTER
-L- STA. 19+75.00

PERMANENT SHEET PILING
(SEE STRUCTURE PLANS FOR LOCATION)

BEGIN SHOULDER BERM GUTTER
STA. -L- 23+64.25 LT.

END SHOULDER BERM GUTTER
STA. -L- 23+77.00 LT.

BEGIN SHOULDER BERM GUTTER
STA. -L- 23+64.25 RT.

MATCH LINE SEE SHEET 5
-L- STA. 26+00.00

-BL- 25
-L- SSTA. 12+19.81
OFF. 16.40' LT.

N, 36° 50' 34.7" W

REMOVE

REMOVE 18"

REMOVE EX. CONC. WEIR

15" CAAP W/ROD & LUG CONNECTION

3 TONS CL. B RIP RAP 11 SY FILTER FABRIC

3 TONS CL. B RIP RAP 10 SY FILTER FABRIC

SPECIAL CUT DITCH SEE DETAIL A

PROP. 4" CONC'D 'C' SLOPE PROTECTION

EXCAVATION

CLASS I RIP RAP TO ELEV. 23.0

GRAU 350

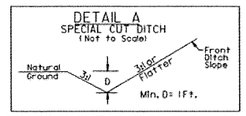
NOTE: THERE MAYBE A WATER DISTRICT ALONG MADDUX CREEK

NORMAL WATER LEVEL EL. 14.5 +/-

WETLAND 'A'

WETLAND 'B'

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 20+00.00 TO STA. 21+00.00 -L- RT.

BEGIN GRADE -L- STA. 17+25.00
ELEV. = 41.75

PI = 19+44.00
EL = 31.90'
VC = 420'
K = 115
DS = 55mph

PI = 25+71.50
EL = 26.57'
VC = 180'
K = 171
DS = >60mph

OVERLAY EXISTING ROADWAY W/ MINIMUM 1" S9.5B

50' FEATHER TO EXIST

BEGIN RESURFACING
-L- STA. 13+65.00

(-)4.4986%

(-)0.8500%

(+)0.3001%

(-)0.8500%

PROPOSED GRADE

EXISTING GROUND

PERMANENT SHEET PILING
(SEE STRUCTURE PLANS FOR LOCATION)

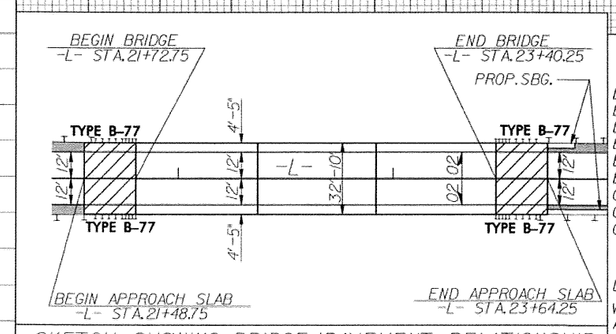
BEGIN BRIDGE
-L- STA. 21+72.75

END BRIDGE
-L- STA. 23+40.25

-L- 22+56.50
3 @ 55'
21' Coped Slab Bridge
Skew 90.00

60 50 40 30 20 10 0 -10 -20

12 13 14 15 16 17 18 19 20 21 22 23 24 25 26



SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 6307/5105	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 21.5	FT
BASE DISCHARGE	= 7545/5865	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 22.5	FT
OVERTOPPING DISCHARGE	= 8620/5868	CFS
OVERTOPPING FREQUENCY	= 200	YRS
OVERTOPPING ELEVATION	= 23.3	FT
DATE OF SURVEY	= APRIL 2009	
W.S. ELEVATION AT DATE OF SURVEY	= 14.50	FT

SEE SHT. S-1 THRU S-__ FOR STRUCTURE PLANS

SEE SHT. 2-A FOR DETAIL FOR REINFORCED FILL

J:\05\0\AM
F:\2016\10\26\01 B-5018\Roadway\Proj\B5018_Rdy_psh04.dgn
11/2/2016 2:10

8/17/99

SANFORD CONTRACTORS
628 ROCKY FORK CHURCH RD.
SANFORD, NC 27332

-L-
PI Sta 31+22.52
Δ = 17° 21' 45.2" (RT)
D = 2° 01' 15.7"
L = 859.10'
T = 432.87'
R = 2,835.00'
SE = 0.045 FT/FT
DS = 60 MPH

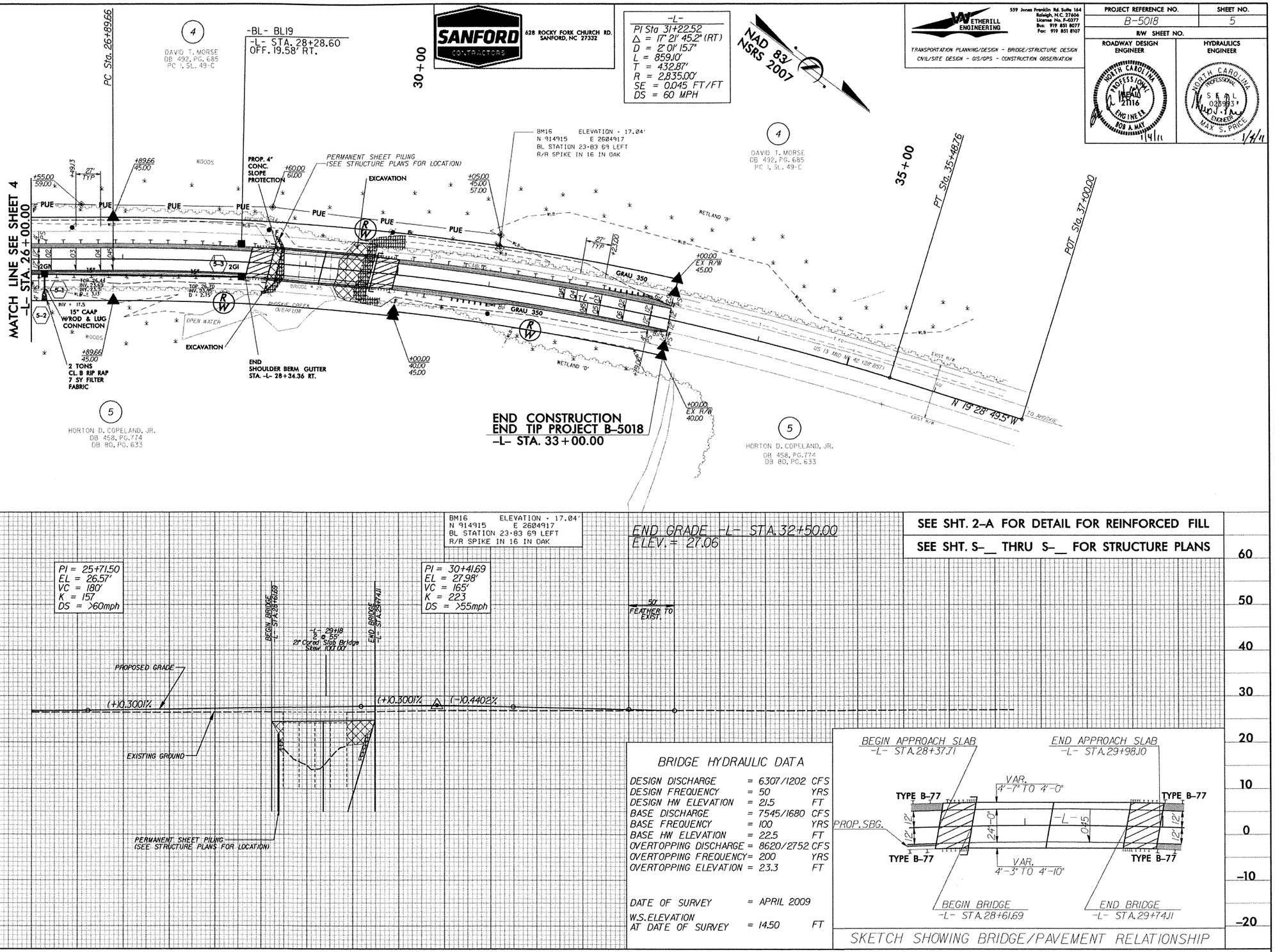
NAD 83/
NSRS 2007

ETHERIDGE ENGINEERING
559 Jones Franklin Rd. Suite 164
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO.	SHEET NO.
B-5018	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY
1/4/11

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 028993 ENGINEER MAX S. PRICE
1/4/11



BM16 ELEVATION = 17.04'
N 914915 E 2604917
BL STATION 23+83 69 LEFT
R/R SPIKE IN 16 IN OAK

SEE SHT. 2-A FOR DETAIL FOR REINFORCED FILL

SEE SHT. S-__ THRU S-__ FOR STRUCTURE PLANS

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 6307/1202	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 21.5	FT
BASE DISCHARGE	= 7545/1680	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 22.5	FT
OVERTOPPING DISCHARGE	= 8620/2752	CFS
OVERTOPPING FREQUENCY	= 200	YRS
OVERTOPPING ELEVATION	= 23.3	FT
DATE OF SURVEY	= APRIL 2009	
W.S. ELEVATION AT DATE OF SURVEY	= 14.50	FT

SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

PROJ. REFERENCE NO.	SHEET NO.
B-5018	X-1A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

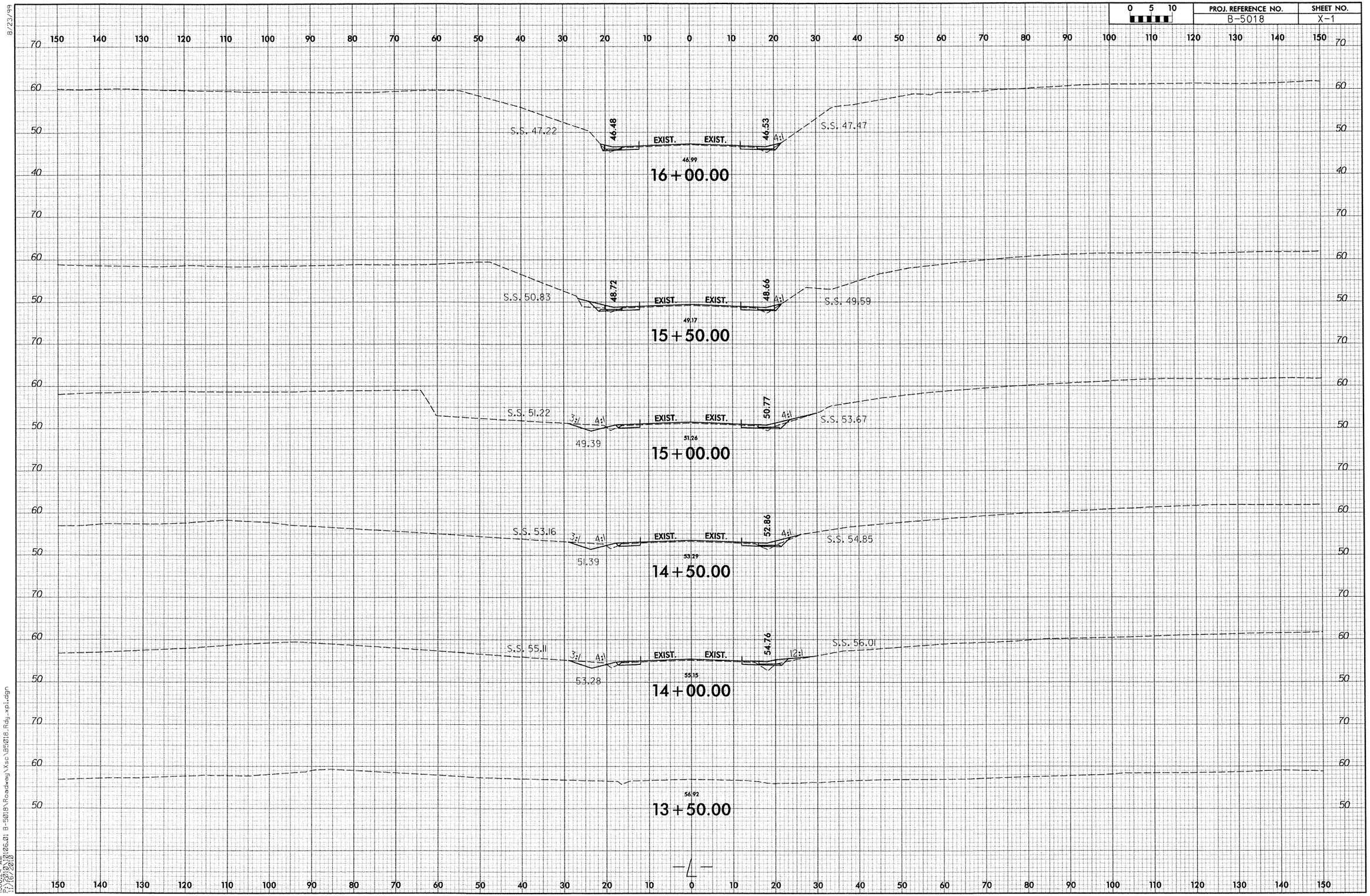
NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
13+65.00	0	0
14+00.00	8	4
14+50.00	24	9
15+00.00	25	8
15+50.00	20	9
16+00.00	13	6
16+50.00	13	3
17+00.00	14	5
17+50.00	11	9
18+00.00	5	26
18+50.00	4	31
19+00.00	5	32
19+50.00	5	83
20+00.00	38	158
20+50.00	48	214
21+00.00	18	257
21+50.00	5	342
21+72.75	5	184
23+40.25	0	0
23+50.00	0	37
24+00.00	0	121
24+50.00	0	42
25+00.00	0	25
25+50.00	1	17
26+00.00	1	36
26+50.00	2	54
26+89.66	2	49
27+00.00	1	17
27+50.00	2	102
28+00.00	1	120
28+50.00	1	123
28+61.69	1	29
29+74.11	0	0
30+00.00	0	68
30+50.00	0	143
31+00.00	0	144
31+50.00	0	128
32+00.00	0	115
32+50.00	4	61
33+00.00	4	8

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 lump sum price for "Grading".

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-5018	X-1



8/23/99

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	B-5018	X-2

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

70 60 50 40 30

S.S. 35.78 4:1 38.17 0.020 0.020 4:1 S.S. 39.42
38.12
18+00.00

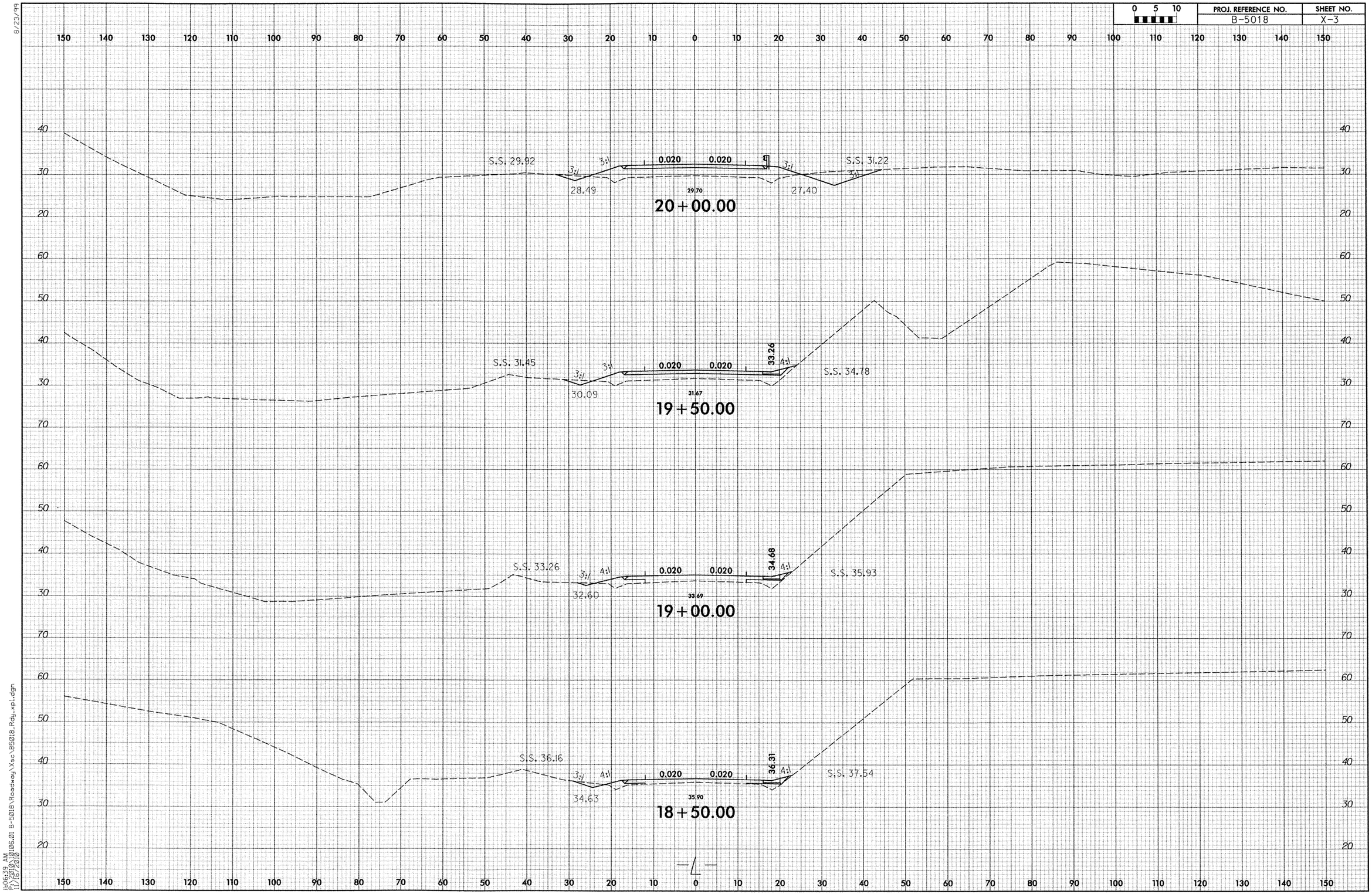
S.S. 43.31 4:1 40.07 0.031 0.021 40.23 4:1 S.S. 41.48
40.37
17+50.00

S.S. 44.70 42.11 EXIST. EXIST. 42.25 4:1 S.S. 43.26
42.60
17+00.00

S.S. 46.59 44.27 EXIST. EXIST. 44.40 4:1 S.S. 45.32
44.80
16+50.00

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-5018	X-3



8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-5018	X-4

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

30 20 10 0 30 20 10 40 30 20 10 40 30 20 10

0.020 0.020

10.77

22+00.00

0.020 0.020

26.45

BEGIN BRIDGE

21+72.75

0.020 0.020

3:1 3:1 VAR.

26.66

S.S. 21.77 S.S. 20.45

21+50.00

S.S. 27.28 3:1 3:1 0.020 0.020 3:1 3:1 S.S. 25.49

26.35 27.26 24.87

21+00.00

S.S. 29.14 3:1 3:1 0.020 0.020 3:1 3:1 S.S. 27.88

27.25 28.46 26.12

20+50.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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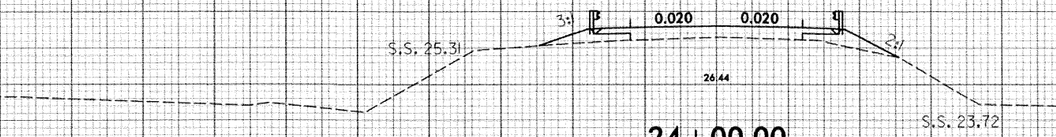
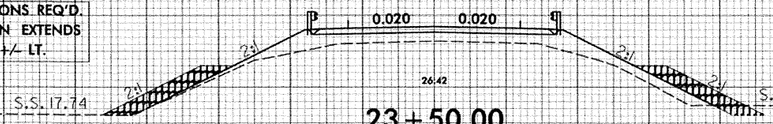
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-5018	X-5

NO GEOTECHNICAL RECOMMENDATIONS REQ'D.
BRIDGE END BENT SLOPE PROTECTION EXTENDS
TO -L- STA. 23+60+/- RT. & 23+70+/- LT.

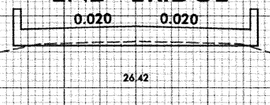


24+00.00

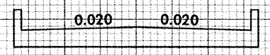


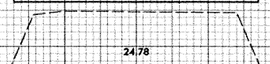
23+50.00

END BRIDGE

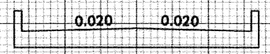


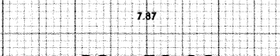
23+40.25





23+00.00



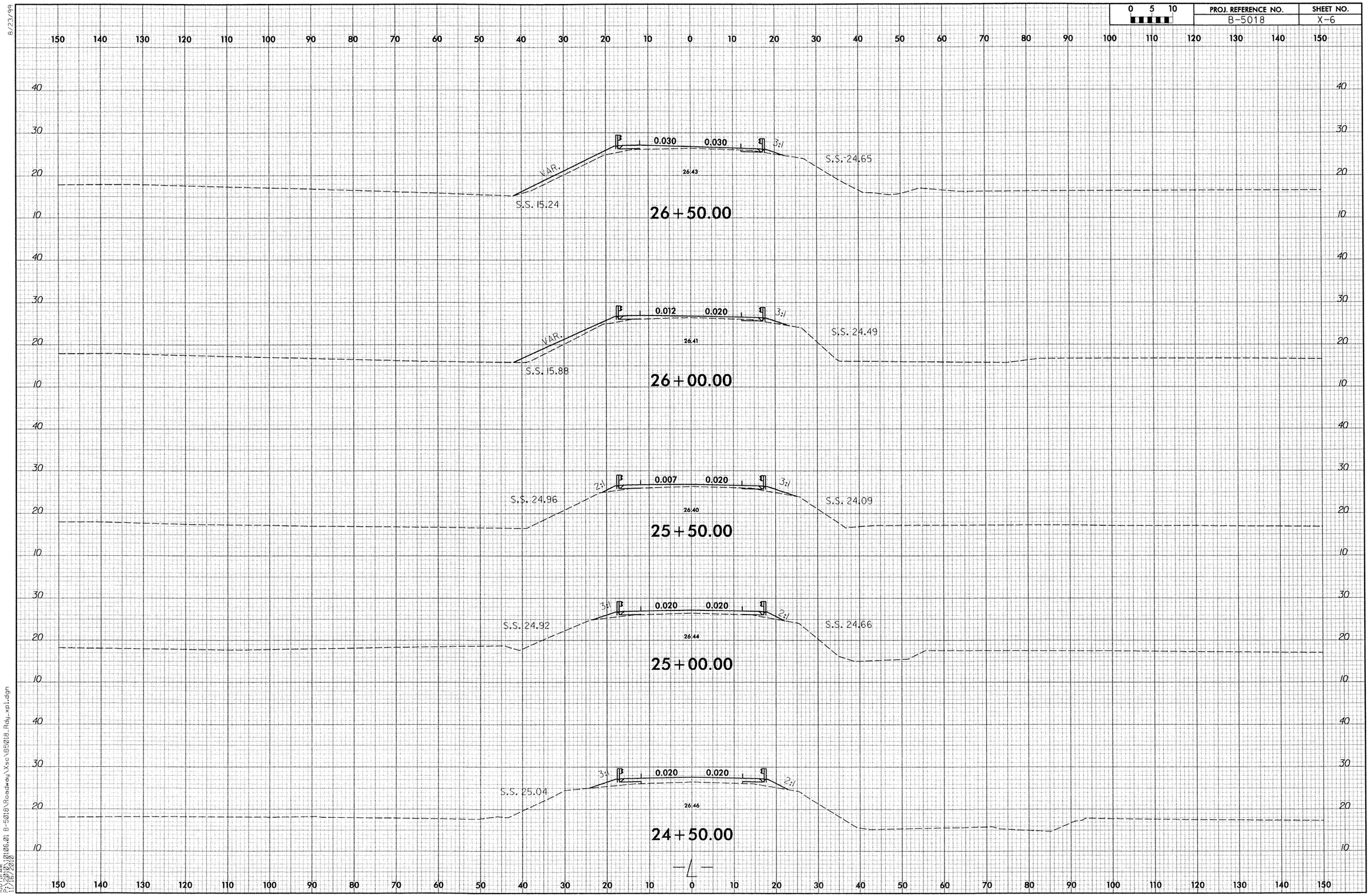


22+50.00

—L—

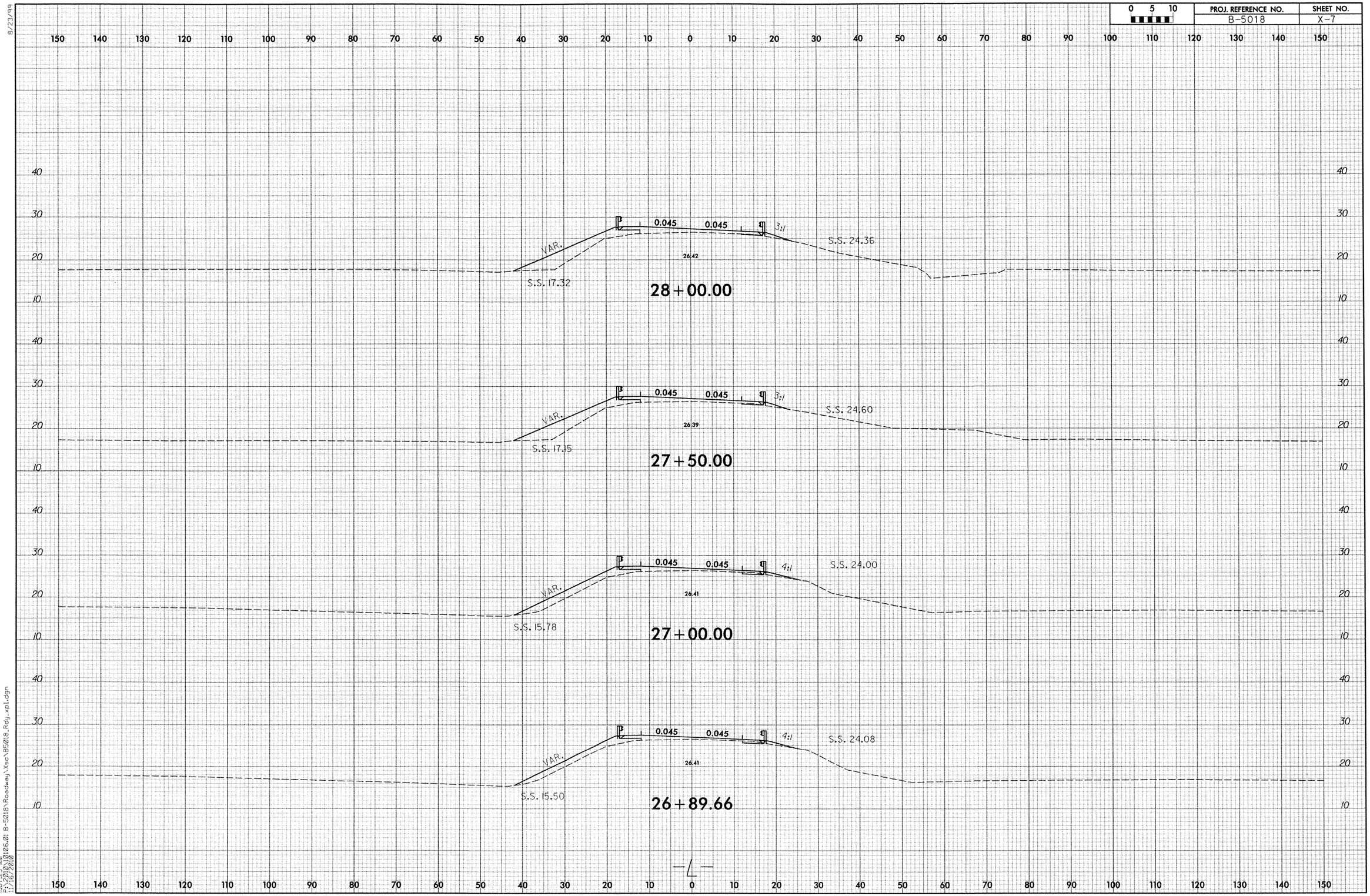
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-5018	X-6



8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-5018	X-7



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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-5018	X-8

NO GEOTECHNICAL RECOMMENDATIONS REQ'D.
BRIDGE END BENT SLOPE PROTECTION EXTENDS
TO -L- STA. 30+07 +/- LT.

S.S. 17.54

2:1

0.045 0.045

2:1

2.32:1

S.S. 24.37

26.66

30+00.00

END BRIDGE

0.045 0.045

26.57

29+74.11

0.045 0.045

26.48

29+50.00

0.045 0.045

20.08

29+00.00

0.045 0.045

26.46

BEGIN BRIDGE
28+61.69

0.045 0.045

VAR.

S.S. 17.01

2:1

S.S. 23.92

26.48

28+50.00

-L-

10:23:31 AM
11/26/2001
11/15/2018

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8/23/99

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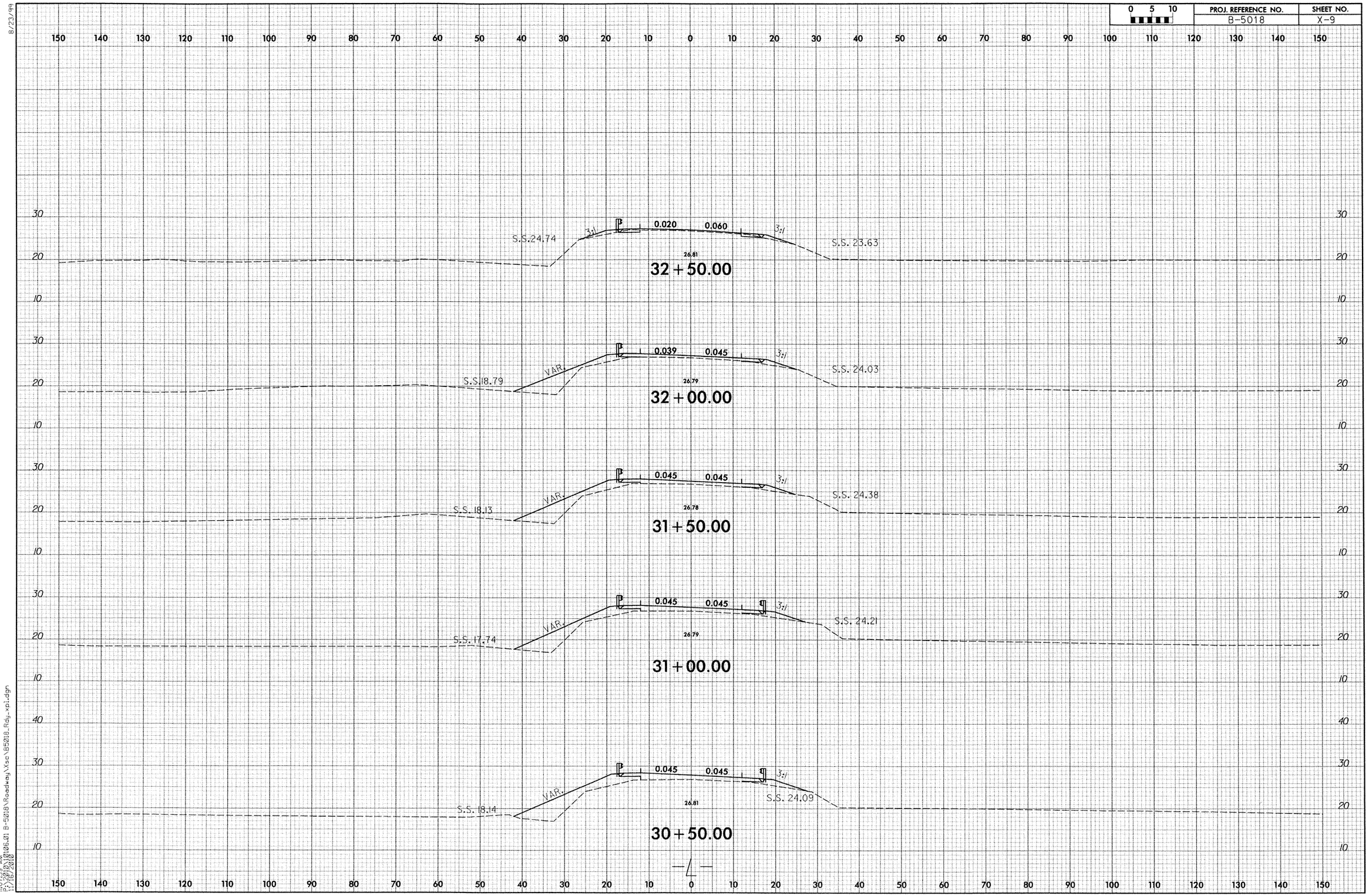
	B-5018	X-9



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1/26/2010
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