PROJECT SPECIAL PROVISIONS
PERMITS

The Contractor's attention is directed to the following permits, which have been issued to the Department of Transportation by the authority granting the permit.

PERMIT	AUTHORITY GRANTING THE PERMIT
Dredge and Fill and/or Work in Navigable Waters (404)	U. S. Army Corps of Engineers
Water Quality (401)	Division of Environmental Management, DENR, State of North Carolina

The Contractor shall comply with all applicable permit conditions during construction of this project. Those conditions marked by * are the responsibility of the department and the Contractor has no responsibility in accomplishing those conditions.

Agents of the permitting authority will periodically inspect the project for adherence to the permits.

The Contractor's attention is also directed to Articles 107-10 and 107-14 of the Standard Specifications and the following:

Should the Contractor propose to utilize construction methods (such as temporary structures or fill in waters and/or wetlands for haul roads, work platforms, cofferdams, etc.) not specifically identified in the permit (individual, general, or nationwide) authorizing the project it shall be the Contractor's responsibility to coordinate with the Engineer to determine what, if any, additional permit action is required. The Contractor shall also be responsible for initiating the request for the authorization of such construction method by the permitting agency. The request shall be submitted through the Engineer. The Contractor shall not utilize the construction method until it is approved by the permitting agency. The request normally takes approximately 60 days to process; however, no extensions of time or additional compensation will be granted for delays resulting from the Contractor's request for approval of construction methods not specifically identified in the permit.

Where construction moratoriums are contained in a permit condition which restricts the Contractor's activities to certain times of the year, those moratoriums will apply only to the portions of the work taking place in the waters or wetlands provided that activities outside those areas is done in such a manner as to not affect the waters or wetlands.

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1890
WILMINGTON. NORTH CAROLINA 28402-1890

REPLY TO
ATTENTION OF:

August 5, 2004

Regulatory Division

Action ID Number 199700360, U.S. 421, Transportation Improvements Project R-2610

Dr. Gregory J. Thorpe, PhD, Manager
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
Division of Highways
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

In accordance with your written request of February 18, 2004, and the ensuing administrative record, enclosed are two copies of a Department of the Army permit to directly discharge dredged and/or fill material into Tick Creek, and tributaries to Deep River, Cedar Creek, Sandy Branch, Bear Creek, Tick Creek, and Welch Creek impacting a total of 2,354 linear feet of streams and 0.26 acres of wetlands to facilitate the construction of the U.S. 421, Transportation Improvements Project (TIP) R-2610, State Project Number 6.529005T, in Chatham County, North Carolina. The proposed 12.1 mile four-lane, partial control of access highway extends from the intersection of the existing SR-1007 (Plank Road)(LAT. DD 35.5572; LONG DD 79.2875) at Gulf and ends at the existing four-lane facility north of SR 2210 (Carter-Brooks Road)(LAT DD 35.6833; LONG DD 79.4179) south of Siler City in Chatham County.

You should acknowledge that you accept the terms and conditions of the enclosed permit by signing and dating each copy in the spaces provided ("Permittee" on page 3). Your signature, as permittee, indicates that, as consideration for the issuance of this permit, you voluntarily accept and agree to comply with all of the terms and conditions of this permit. All pages of both copies of the signed permit with drawings should then be returned to this office for final authorization. A self-addressed envelope is enclosed for your convenience.

In addition, I have enclosed a copy of the Notification of Administrative Appeal Process and Options and Request for Appeal. Please carefully read Section "B" of this form for information regarding the appeal process for proffered permits.

After the permit is authorized in this office, the original copy will be returned to you; the duplicate copy will be permanently retained in this office. Should you have questions, contact Mr. Richard K. Spencer of my Wilmington Field Office regulatory staff at telephone (910) 251-4172.

Sincerely,

E. David Franklin
Chief, NCDOT Team

Enclosures

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DEPARTMENT OF THE ARMY PERMIT

Permittee NC Department of Transportation

Permit No. 199700360

Issuing Office USAED, Wilmington

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description:

To directly discharge dredged and/or fill material into Tick Creek, and tributaries to Deep River, Cedar Creek, Sandy Branch, Bear Creek, Tick Creek, and Welch Creek impacting a total of 2,354 linear feet of streams and 0.26 acres of wetlands to facilitate the construction of the U.S. 421, Transportation Improvements Project (TIP) R-2610, State Project Number 6.529005T. This authorization will also include the temporary construction of diversion structures consisting of two impervious dikes and a diversion pipe at stations 13+28, 52+75, 62+34, Section A. This authorization does not include the construction of temporary rock causeways in Bear Creek at Station 22+65 and Tick Creek at Station 97+00, Section B.

Project Location:

In the Cape Fear River basin, from the intersection of the existing SR-1007 (Plank Road)(LAT. DD 35.5572; LONG DD 79.2875) at Gulf to the existing four-lane facility north of SR 2210 (Carter-Brooks Road)(LAT DD 35.6833; LONG DD 79.4179) south of Siler City in Chatham County, North Carolina.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2007. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

See enclosed sheet.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

(PERMITTEE) *(DATE)*

NC DEPARTMENT OF TRANSPORTATION

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

(DISTRICT ENGINEER) *(DATE)*

CHARLES R. ALEXANDER, JR. COLONEL

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE) *(DATE)*

☆U.S. GOVERNMENT PRINTING OFFICE: 1986 — 717-425

SPECIAL CONDITIONS (Action ID. 1997-0-0360; NCDOT/TIP R-2610)

1. All work authorized by this permit must be prepared in strict compliance with the attached plans, which are a part of this permit. Written verification shall be provided that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. The permittee shall ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Any deviation in the construction design plans shall be brought to the attention of the Corps of Engineers, Mr. Richard Spencer, Wilmington Regulatory Field Office prior to any active construction in waters or wetlands.

2. The permittee shall schedule a preconstruction meeting between its representatives, the contractor's representatives, and the Corps of Engineers, Mr. Richard Spencer, Wilmington Regulatory Field Office, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all of the terms and conditions contained within this Department of the Army Permit. The permittee shall notify the Corps of Engineers Project Manager a minimum of thirty (30) days in advance of the scheduled meetings in order to provide that individual with ample opportunity to schedule and participate in the required meetings.

3. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit. Copies of this permit and any modifications authorized by the USACE shall be available for review at the construction site at all times. All violations, including non-compliance of these conditions, of the authorized permit shall be reported to the District Engineer within 24 hours of the violation.

4. Prior to commencing construction within jurisdictional waters of the United States for any portion of the proposed highway project, the permittee shall forward the latest version of project construction drawings to the Corps of Engineers, Wilmington Regulatory Field Office NCDOT Regulatory Project Manager. Half-size drawings will be acceptable.

5. No in-stream work shall be performed during the period from April 1 to October 15 of any year in Bear Creek or Tick Creek. No clearing or grubbing within 100 meters of Bear Creek or Tick Creek shall be performed during the period from November 15 to April 15 of any year to protect the Cape Fear Shiner.

6. The temporary rock causeways at L-station Station 22+83, Section B shall not extend into the natural stream channel.

7. The temporary rock causeways at L-station Station 97+00, Section B shall not extend more than ½ the width of the natural stream channel. The Causeway shall be placed on filter cloth and shall be removed in its entirety upon completion of bridge construction. Removal of the causeway and stabilization of the disturbed embankment area shall be accomplished within 30 calendar days following bridge completion or 30 calendar days following the end of the in-stream work moratorium. A restoration plan shall be submitted to the Corps of Engineers, Wilmington Regulatory Field Office NCDOT Regulatory Project Manager for review and approval 30 calendar days prior to the start of causeway removal.

8. The temporary diversion structures at L-stations 13+28, 52+75, and 62+34, Section A shall be constructed in accordance with Section 5.2.2 of the North Carolina Department of Transportation "*Best Management Practices for Construction and Maintenance Activities*", dated August 2003. All temporary fill shall be removed in its entirety upon completion of the construction at that site.

9. Compensatory mitigation for the unavoidable impacts to 0.26 acres of wetland and 2,137 linear feet of perennial stream associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated July 30, 2004 from William D. Gilmore, EEP Transition Manager. The EEP will provide 1.1 acres of preservation of non-riverine wetlands, 1.5 acres of preservation of riverine habitat and 15,900 linear feet of stream preservation in the Central Piedmont Eco-Region at the Allen Site in Wake County and 6,670 linear feet of preservation of warm water stream channel in the Central Piedmont Eco-Region at the Eno River – Wilderness Site in Durham County that has been acquired and protected by the EEP. Pursuant to the EEP Memorandum of Agreement (MOA) between the State of North Carolina and the US Army Corps of Engineers signed on July 22, 2003, the EEP will provide a minimum of 0.11 acres of restoration of non-riverine wetlands, 0.15 acres of restoration of riverine wetlands and 2,137 linear feet of restoration of warm water stream channel in the

Cape Fear River basin (Hydrologic Cataloging Unit 03030003 by July 22, 2005 and half of the proposed preservation mitigation would be available at that time for mitigation for other project impacts. Construction within wetlands on the permitted highway project shall begin only after the EEP has provided written confirmation to the District Engineer that the EEP and not the NCDOT is responsible for providing the required mitigation, pursuant to Paragraph VI.B.7 of the MOA. The NCDOT shall, within 30 days of the issue date of this permit, certify that sufficient funds have been provided to EEP to complete the required mitigation, pursuant to Paragraph V. of the MOA.

10. Stream Relocation Requirements:

a. The permittee will relocate 253 linear feet of stream at the following locations:

i. The permittee shall mitigate for 36 linear feet of unavoidable impacts to an unnamed tributary to Deep River (Section A, Impact Site #1), an important stream channel, by completing 36 linear feet of onsite stream relocation, as described in the permit application

ii. The permittee shall mitigate for 217 linear feet of unavoidable impacts to an unnamed tributary to Cedar Creek (Section A, Impact Site #5), an important stream channel, by completing 217 linear feet of onsite stream relocation, as described in the permit application.

b. The relocations will be performed subject to the following conditions.

i. The stream relocation shall be constructed in accordance with the North Carolina Wildlife Resources Commission's (NCWRC) "Stream Relocation Guidelines", and with the attached permit drawings. NCDOT shall consult with NCWRC on all stream relocations and implement all practicable recommendations in the design of specific site requirements for re-establishment of bank vegetation, and placement of meanders and habitat structures. Vegetation shall be used to the maximum extent practicable to stabilize banks, and riprap and other man-made structural measures shall be minimized.

ii. The permittee shall construct all channel relocations in a dry work area. The permittee shall stabilize the relocated channel before stream flows are directed into the new channel. Stream flows shall not be released into the new channel until approved by the Corps of Engineers, Wilmington District. Whenever possible, channel relocations shall be allowed to stabilize for an entire growing season. Upon completion of the project, an as-built channel survey shall be conducted. It is recommended that stream surveys, for both project construction and project monitoring, follow the methodology contained in the USDA Forest Service Manual, *Stream Channel Reference Sites* (Harrelson, et.al, 1994). The survey shall document the dimension, pattern and profile of the relocated channel.

iii. The permittee shall identify a stable reference reach that is close to the proposed relocation site and will not be impacted by the proposed highway construction. The applicant will coordinate a field meeting with the Corps of Engineers to approve the reference reach selection prior to channel design and relocation of the existing stream. Baseline data on the reference reach channel dimension, pattern, and profile shall be collected and used as a blueprint for the relocation channel design. A detailed design plan of the relocation stream shall be submitted to this office for review prior to construction, including clearing activities.

iv. Vegetation used to stabilize banks shall be limited to native woody species, and will include establishment of a 50 foot wide vegetated buffer on the relocated channel. Stream banks will be planted with native vegetation that represents both woody (trees and shrubs) and herbaceous species. Species selection will be based on a survey of the vegetation from the approved reference reach. Survival of woody species planted at the stream mitigation sites must be at least 320 trees/acre through year three. A ten percent mortality rate will be accepted in year four (288 trees/acre) and another ten percent in year five, resulting in a required survival rate of 260 trees/acre through year five.

v. The permittee shall monitor the stream relocation site for a period of five years starting the year following construction. Monitoring data at the site should include the following: reference photos, plant survival and channel stability. Data shall be collected each year for 5 years at the same time of year. No less than two (2) bankfull flow events must be documented through the required 5-year monitoring period. If less than 2 bankfull events occur during the first 5 years, monitoring will continue until the second bankfull event is documented. The bankfull events must occur during separate monitoring years.

vi. If within any monitoring year, bank or stream stability is not acceptable as determined by the Corps of Engineers, and remedial action required by the Corps of Engineers is performed, the five-year monitoring period of the affected portions of the stream will start again at monitor year one. The permittee will coordinate all remedial activities with the Corps of Engineers, Wilmington District, prior to taking any remedial action. The permittee will submit a brief written report with representative photographs within 90 days after the monitoring year is completed.

vii. The permittee shall provide the Corps of Engineers, Wilmington District with a stream mitigation construction sequencing schedule within 30 days following the project preconstruction meeting. The plan, shall at a minimum, indicate a date of start of construction at the relocation site, grading schedule, planting schedule, completion of construction, monitoring schedule, and a date of potential diversion into the new channel. All construction must be completed within one year from the date of issuance of this permit.

viii. The permittee and/or current and subsequent property owners shall maintain the mitigation site, including the buffer, in its natural condition, as altered by work in the mitigation plan, in perpetuity. Prohibited activities within the mitigation site specifically include, but are not limited to: the construction or placement of roads, walkways, buildings, signs, or structures of any kind (i.e., billboards, interior fences, etc.); filling, grading, excavation, leveling, or any other earth moving activity or activity that may alter the drainage patterns on the property; the cutting, mowing, destruction, removal, or other damage of any vegetation; disposal or storage of any debris, trash, garbage, or other waste material; except as may be authorized by the mitigation plans, or subsequent modifications that are approved by the Corps of Engineers. In addition, the permittee shall take no action, whether on or off the mitigation property, which will adversely impact the wetlands or streams on the mitigation property, except as specifically authorized by this permit, or subsequent modifications that are approved by the Corps of Engineers, Wilmington District.

ix. Condition 2.b.viii, above, runs with the land. The permittee shall not sell, lease, or otherwise convey any interest in the mitigation property without subjecting the property to legally enforceable restrictions on the use of the property, to ensure its preservation in perpetuity. The instrument utilized to meet this condition must be approved in writing by the Wilmington District Corps of Engineers before execution.

11. The permittee and its contractors and/or agents shall not excavate, fill, or perform mechanized landclearing at any time in the construction or maintenance of this project within waters and/or wetlands, or cause the degradation of waters and/or wetlands, except as authorized by this permit, or any modification to this permit. There shall be no excavation from, waste disposal into, or degradation of, jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit, including appropriate compensatory mitigation. This prohibition applies to all borrow and fill activities connected with this project.

12. To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent wetlands and streams, except as authorized by this permit, the permittee shall require its contractors and/or agents to identify all areas to be used to borrow material, or to dispose of dredged, fill, or waste material. The permittee shall ensure that all such areas comply with the preceding condition (#11) of this permit, and shall require and maintain documentation of the location and characteristics of all borrow and disposal sites associated with this project. This information will include data regarding soils, vegetation and hydrology sufficient to clearly demonstrate compliance with the preceding condition (#11). All information will be available to the Corps of Engineers upon request. NCDOT shall require its contractors to complete and execute reclamation plans for each waste and borrow site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the Corps of Engineers within 30 days of the completion of the reclamation work.

13. The permittee shall comply with the conditions specified in the water quality certification, No. 3461, issued by the North Carolina Division of Water Quality on May 10, 2004.

14. The permittee shall place the inverts of culverts and other structures greater than 48 inches in diameter in waters, streams, and wetlands one foot below the bed of the stream to allow low flow passage of water and aquatic life, unless providing passage would be impractical and the Corps of Engineers has waived this requirement. For culverts 48 inches in diameter or smaller, culverts must be buried below the bed of the stream to a depth equal to or greater than 20 percent of the diameter of the culvert. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to, upstream or downstream of the structures.

15. The permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to assure compliance with the appropriate turbidity water quality standard.

16. The permittee shall use soil and erosion control measures for "High Quality Waters" in and within 100 meters of Bear Creek and Tick Creek for the protection of Cape Fear Shiner. These sediment and erosion control measures shall be installed prior to any demolition or land clearing activities and maintained throughout project construction.

17. The permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades in those areas, prior to project completion.

18. The permittee shall take measures to prevent live or fresh concrete from coming into contact with any surface waters until the concrete has hardened.

19. If the permittee discovers any previously unknown historic or archeological remains while accomplishing the authorized work, he shall immediately stop work and notify the Wilmington District Engineer who will initiate the required State/Federal coordination.

20. No excavated or fill material shall be placed at any time in waters or wetlands outside the authorized permit area, nor will it be placed in any location or in any manner so as to impair surface water flow into or out of any wetland area.

21. The permittee shall maintain the authorized work in good condition and in conformance with the terms and conditions of this permit. The permittee is not relieved of this requirement if he abandons the permitted activity without transferring it to a third party.

22. All fill material shall be clean and free of any pollutants except in trace quantities. Metal products, organic materials, or unsightly debris will not be used.

23. This Department of the Army permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

24. In issuing this permit, the Federal Government does not assume any liability for:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

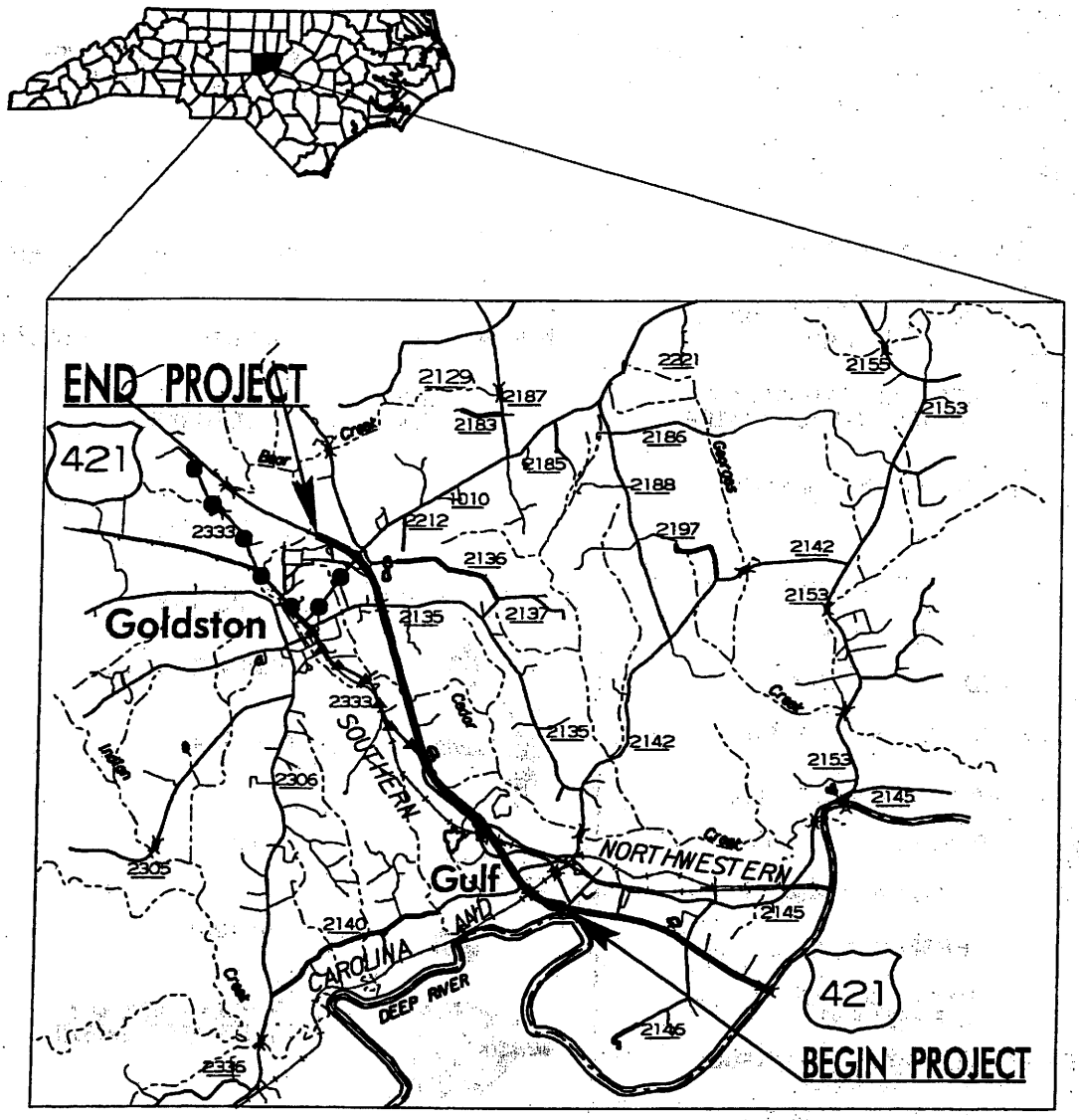
b. Damages to the permitted project or uses thereof as a result of current or future Federal activities initiated on behalf of the general public.

c. Damages to other permitted or un-permitted activities or structures caused by the authorized activity.

d. Design and construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

VICINITY MAP



N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CHATHAM COUNTY

PROJECT: 6.529005T (R-2610A)

SHEET 1 OF 15 **6/19/01**

LEGEND

WLB — WETLAND BOUNDARY

WLB / WLB — WETLAND

F F — DENOTES FILL IN WETLAND

S S — DENOTES FILL IN SURFACE WATER

P P — DENOTES FILL IN SURFACE WATER (POND)

T T — DENOTES TEMPORARY FILL IN WETLAND

E E — DENOTES EXCAVATION IN WETLAND

TS TS — DENOTES TEMPORARY FILL IN SURFACE WATER

DENOTES MECHANIZED CLEARING

FLOW DIRECTION

TB — TOP OF BANK

WE — EDGE OF WATER

C — PROP. LIMIT OF CUT

F — PROP. LIMIT OF FILL

PROP. RIGHT OF WAY

NG — NATURAL GROUND

PL — PROPERTY LINE

TDE — TEMP. DRAINAGE EASEMENT

PDE — PERMANENT DRAINAGE EASEMENT

EAB — EXIST. ENDANGERED ANIMAL BOUNDARY

EPB — EXIST. ENDANGERED PLANT BOUNDARY

WATER SURFACE

LIVE STAKES

BOULDER

COIR FIBER ROLLS

5 — ADJACENT PROPERTY OWNER OR PARCEL NUMBER

PROPOSED BRIDGE

PROPOSED BOX CULVERT

PROPOSED PIPE CULVERT

(DASHED LINES DENOTE EXISTNG STRUCTURES)

SINGLE TREE

WOODS LINE

DRAINAGE INLET

ROOTWAD

VANE

RIP RAP

RIP RAP ENERGY DISSIPATOR BASIN

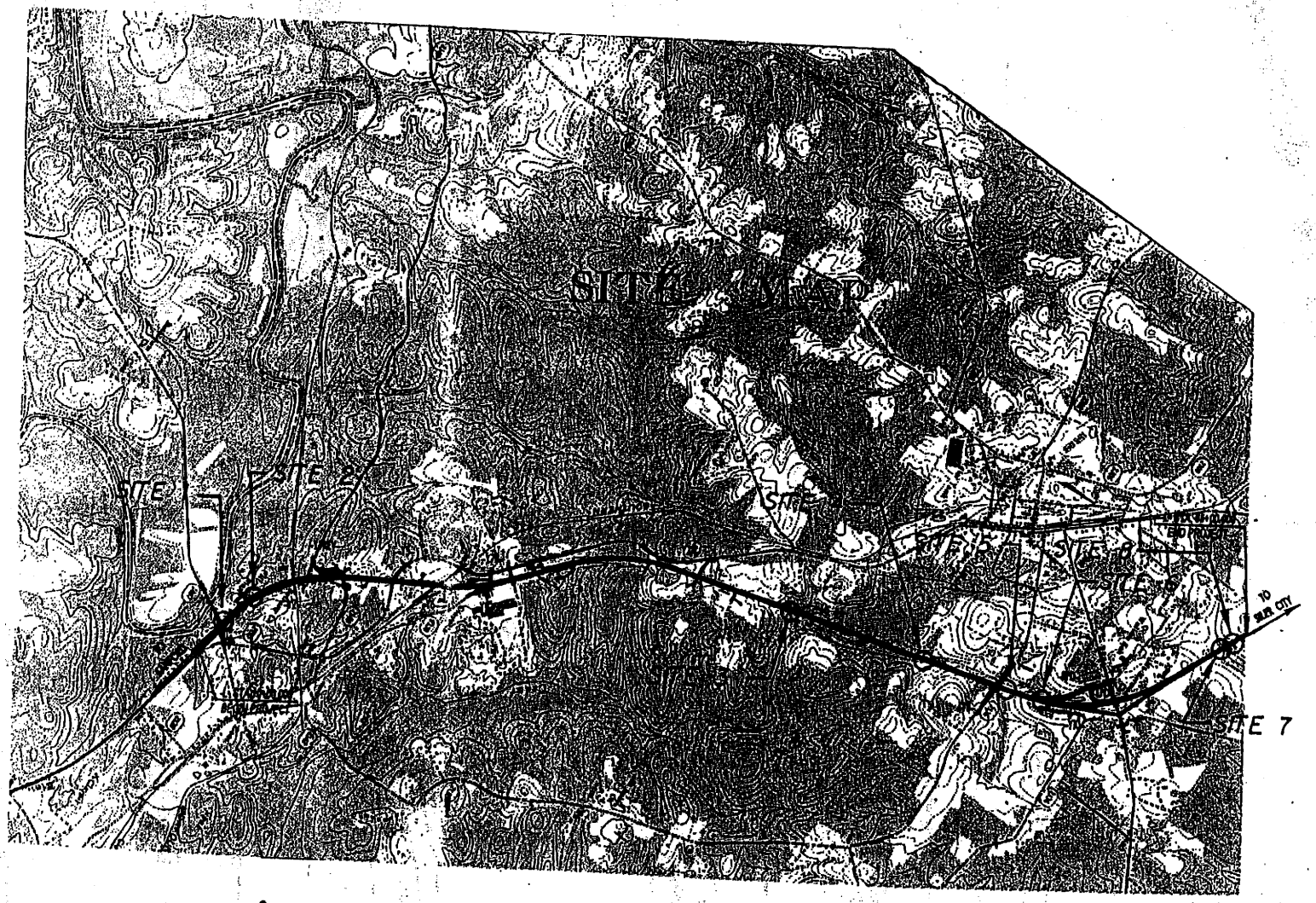
BUFFER ZONE — BUFFER ZONE

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CHATHAM COUNTY

PROJECT: 6.529005T (R-2610A)

SHEET 2 OF 15 **6/19/01**



N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

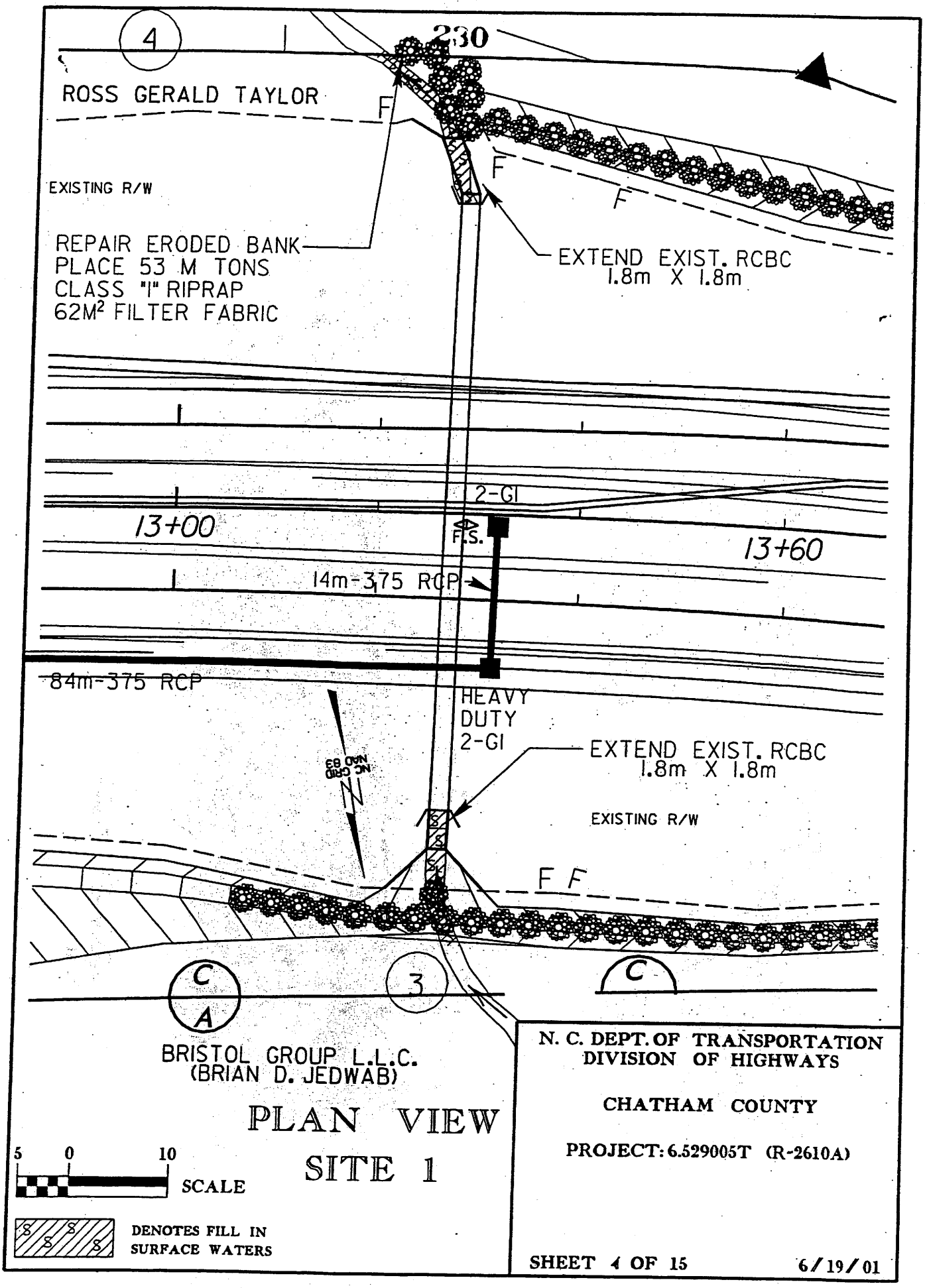
CHATHAM COUNTY

PROJECT: 6.529005T (R-2610A)

SHEET 3 OF 15

6/19/01

229


4
230
ROSS GERALD TAYLOR
F
EXISTING R/W
REPAIR ERODED BANK
PLACE 53 M TONS
CLASS "I" RIPRAP
62M² FILTER FABRIC
F
F
EXTEND EXIST. RCBC
1.8m X 1.8m
2-GI
13+00
F.S.
13+60
14m-375 RCP
84m-375 RCP
HEAVY
DUTY
2-GI
EXTEND EXIST. RCBC
1.8m X 1.8m
EXISTING R/W
NC GRID
NAD 83
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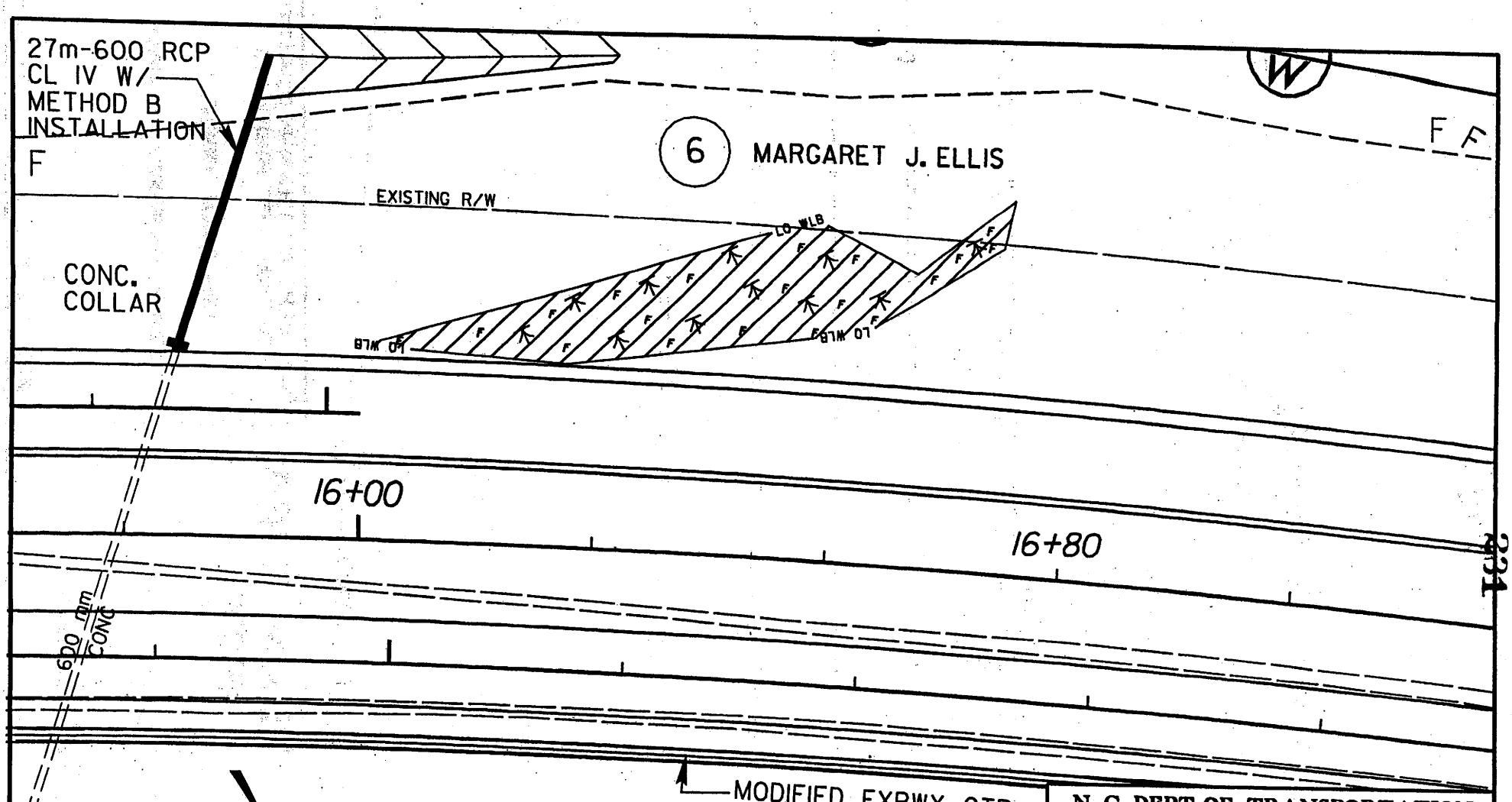
C
A
3
C
BRISTOL GROUP L.L.C.
(BRIAN D. JEDWAB)
PLAN VIEW
SITE 1
5 0 10
SCALE
DENOTES FILL IN
SURFACE WATERS
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610A)
SHEET 4 OF 15
6/19/01



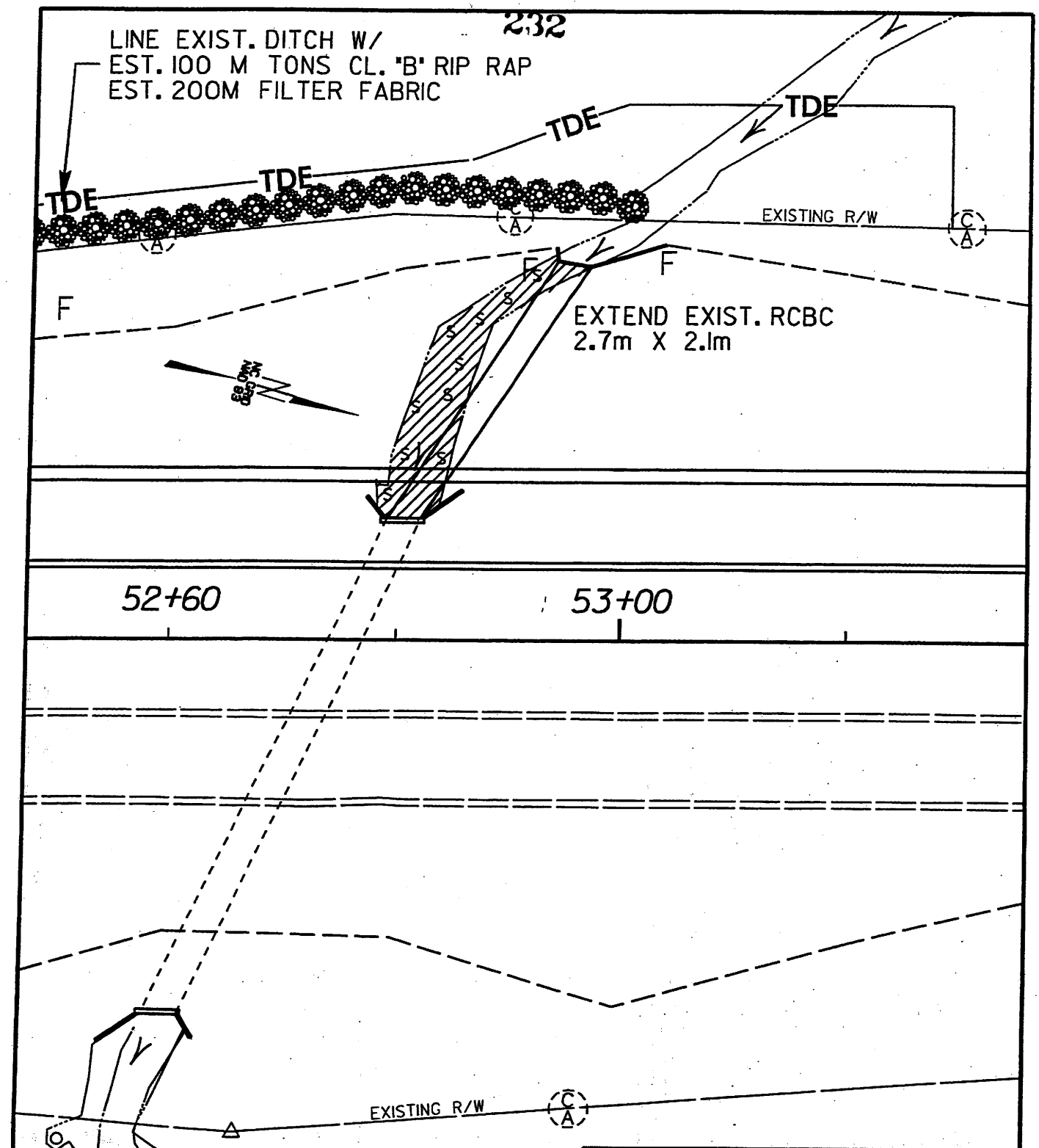
PLAN VIEW
SITE 2

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CHATHAM COUNTY

PROJECT: 6.529005T (R-2610A)

SHEET 5 OF 15 6/19/01



PLAN VIEW
SITE 3

5 0 10

SCALE

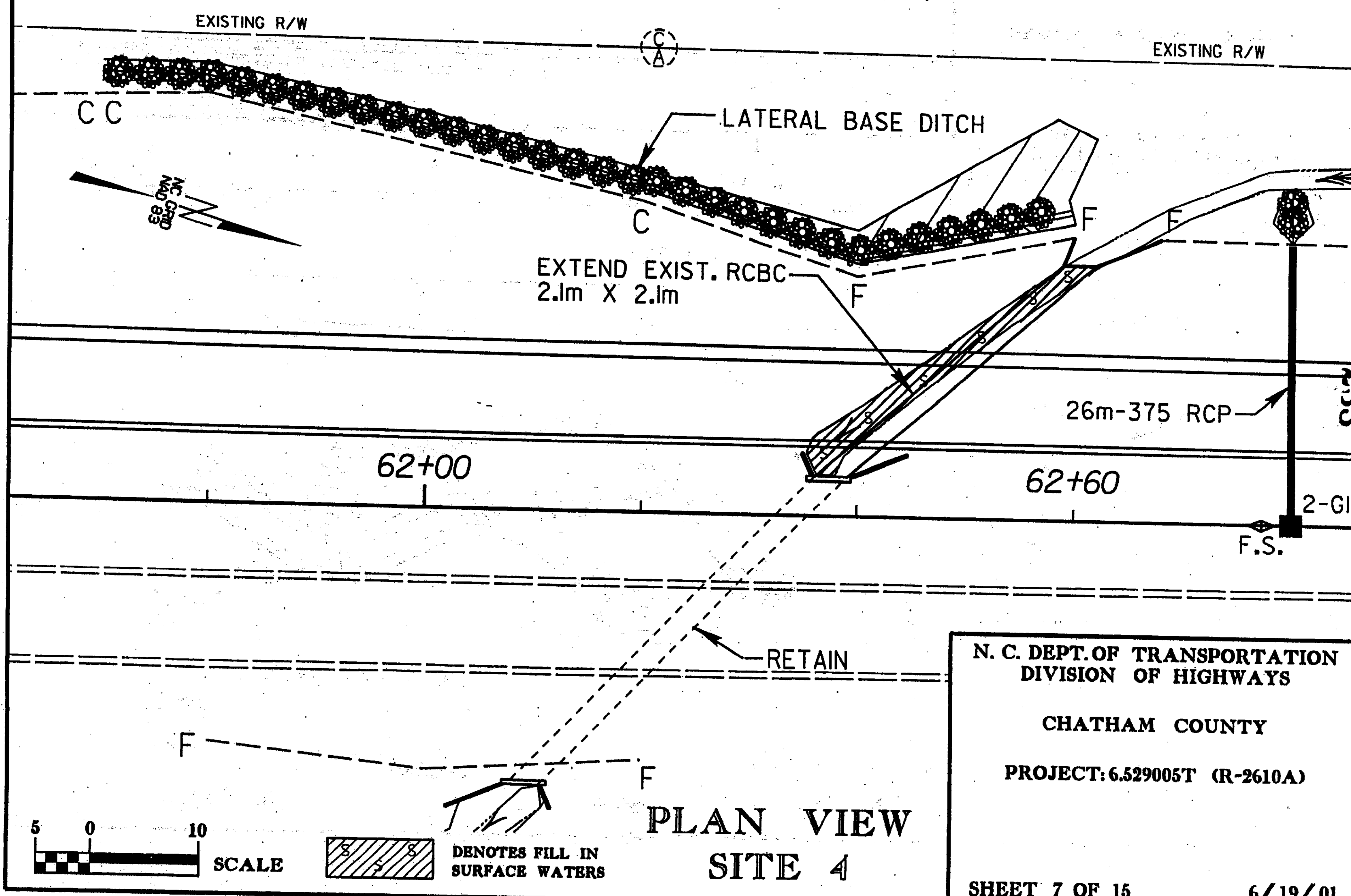
DENOTES FILL IN SURFACE WATERS

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CHATHAM COUNTY

PROJECT: 6.529005T (R-2610A)

SHEET 6 OF 15 **6/19/01**



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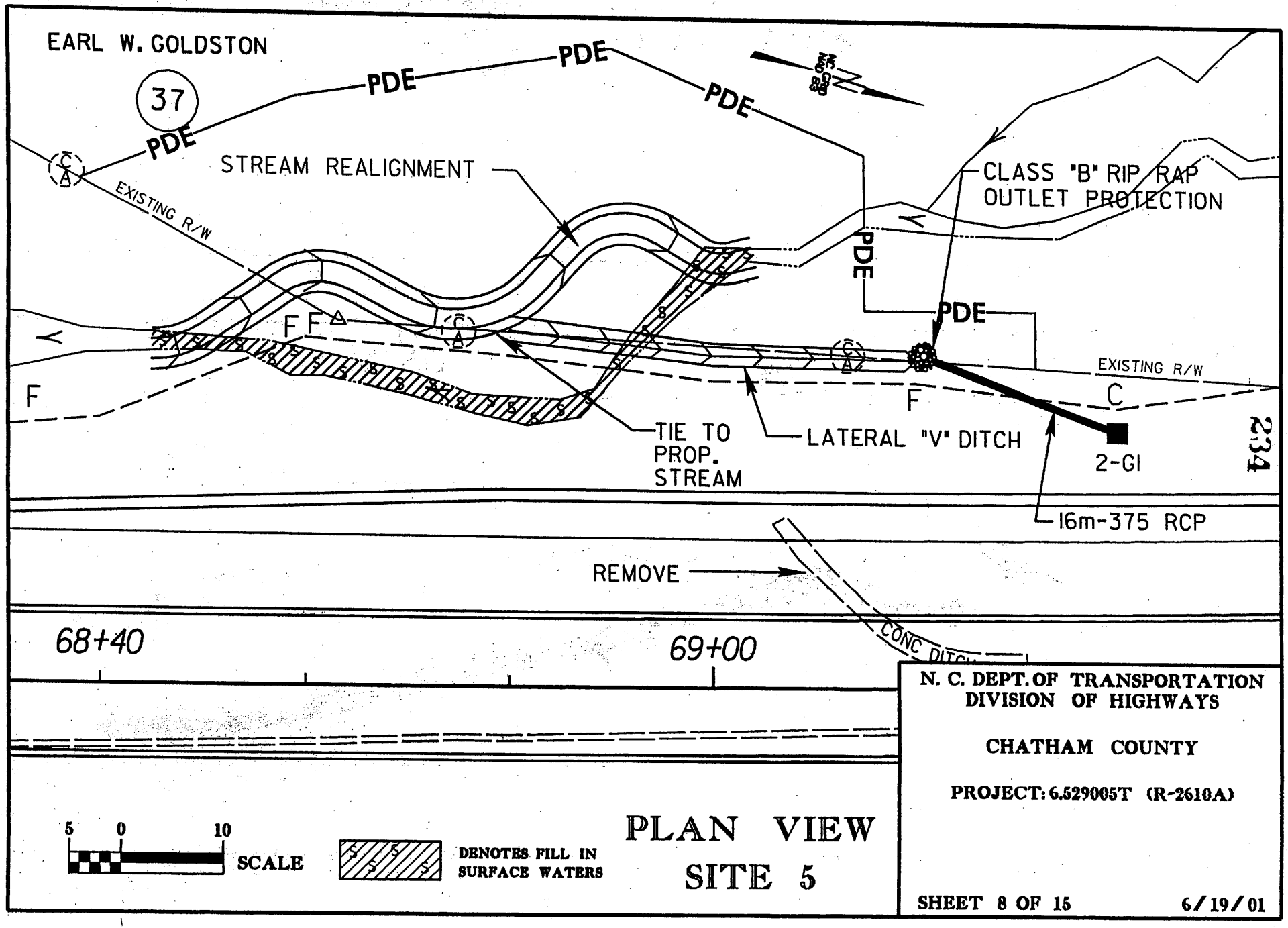
PLAN VIEW
SITE 4

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CHATHAM COUNTY

PROJECT: 6.529005T (R-2610A)

SHEET 7 OF 15 | 6/19/01


EARL W. GOLDSTON
37
PDE
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STREAM REALIGNMENT
CLASS "B" RIP RAP
OUTLET PROTECTION
EXISTING R/W
EXISTING R/W
F
F
F
C
TIE TO
PROP.
STREAM
LATERAL "V" DITCH
2-GI
234
16m-375 RCP
REMOVE
CONC DITCH
68+40
69+00
5 0 10
SCALE
DENOTES FILL IN
SURFACE WATERS
PLAN VIEW
SITE 5
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610A)
SHEET 8 OF 15
6/19/01

Morphological Measurement Table

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NCDOT Project : R-2610A Chatham County US 421

Restoration Site: -L- 68+45 lt to -L- 69+04 lt (UT to Cedar Creek)

Reference Reach: -L- 68+45 lt to -L- 69+80 lt (UT to Cedar Creek)

Variables	Existing Stream	Proposed Reach	USGS Station	Reference Reach
Stream Name	Trib. To Cedar Creek -L- Sta 68+45lt to 69+80lt	Trib. To Cedar Creek -L- Sta 68+45lt to 69+04lt	None Available	(Same as existing stream)
Stream Type	C5 upper reach	C5		
Drainage Area	0.26 sq. mi.	0.26 sq. mi.		
Bankfull Width	11 ft.	11 ft.		
Bankfull Mean Depth	0.8 ft	0.9 ft		
Width / Depth Ratio	13	12		
Bankfull Xsection Area	9 sq ft	10 sq ft		
Bankfull Mean Velocity	5.0 ft/sec	5.0 ft/sec		
Bankfull Discharge	45 cfs	45 cfs		
Bankfull Max Depth	1.3 ft	1.3 ft		
Width Flood Prone Area	20 ft	43 ft		
Entrenchment Ratio	1.8	2.5		
Meander Length	72 ft	88 ft		
Ratio of Meander Length to Bankfull Width	6.5	8		
Radius of Curvature	29 ft	27 ft		
Ratio of Radius of Curvature to Bankfull Width	2.6	2.5		
Belt Width	23 ft	19 ft		
Meander Width Ratio	2.1	1.7		
Sinuosity - Stream Length / Valley Length	1.1	1.1		
Valley Slope	.019 ft/ft	.018 ft/ft		
Average Stream Slope	.018 ft/ft	.016 ft/ft		
Pool Slope	.0047 ft/ft	.0058 ft/ft		
Ratio of Pool Slope to Average Slope	0.26	0.36		
Maximum Pool Depth	3.3 ft	2.5 ft		
Ratio of Average Pool Depth to Average Bankfull Depth	1.9 / 0.8 2.4	2.1 / 0.9 2.3		
Pool Width	14	14		
Ratio of Pool Width to Bankfull Width	1.3	1.3		
Pool to Pool Spacing	46	45		
Ratio of pool to pool spacing to bankfull width	4.2	4.1		

Materials:	Existing Channel	Proposed Reach	USGS Gage Station	Reference Reach
Particle Size Distribution of Channel Material (mm)				
D16	0.1	0.1		
D35	0.3	0.3		
D50	1.0	1.0		
D84	22.0	22.0		
D95	77.0	77.0		
Particle Size Distribution of Bar Material				
D16	N/A for sandbed	N/A for sandbed		
D35	N/A for sandbed	N/A for sandbed		
D50	N/A for sandbed	N/A for sandbed		
D84	N/A for sandbed	N/A for sandbed		
D95	N/A for sandbed	N/A for sandbed		
Largest Size Particle on Bar	N/A for sandbed	N/A for sandbed		

Sediment Transport:

Sediment Transport Validation (Based on Bankfull Shear Stress)	Existing	Proposed	USGS Gage Station	Reference Reach
Movable Particle Size at Bkf Shear Stress from Shields Curve (mm)	60	55		
Computed Bkf Shear Stress, T=GRS (lb/ft2)	0.90	0.85		
Critical dimensionless shear stress	N/A for sandbed	N/A for sandbed		
Minimal mean depth (ft) calculated using critical dimensionless shear stress equations	N/A for sandbed	N/A for sandbed		

NCDOT Project R-2610A Chatham County US 421
Restoration Site -L- 68+45 lt to -L- 69+04 lt (UT to Cedar Creek)
Reference Reach -L- 68+45 lt to -L- 69+80 lt (UT to Cedar Creek)

SEDIMENT TRANSPORT ANALYSIS

Method 1 - Flow data from a single cross section

Station/Description	Avg Flow Depth (ft)	Slope (ft/ft)	Hyd. Rad.	Shear Stress (lb/ft^2)	Bed Material	Vel (ft/s)
Proposed	1.1	0.0180	0.8	0.889	Sand/Gravel	4.9
Reference	1.2	0.0180	0.8	0.913	Sand/Gravel	5.0

Method 2 Shields Diagram / HEC15

** Critical Shear Stress 0.05 lb/ft^2 for D50 of 1 mm at proposed site

*** Permissable Velocity 3.0 - 5.0 ft/s Sand / Gravel

Method 3 Shields Dimensionless Shear Stress Equation for proposed average channel sections

Particle Size	1.0	mm	for D50 of 1 mm at proposed site
Particle Size	0.039	in	
Dimensionless Shear Stress	2.5243	lb/ft^2	
Kinematic Viscosity	0.00001400	ft^2/s	at 50° F
Mass Density	1.94	slugs/ft^3	
Unit Weight (Particle)	165.0	lb/ft^3	
Unit Weight (Water)	62.4	lb/ft^3	
Reynolds Number	155.1		

Dimensionless Critical Shear Stress from Shields Diagram = 0.050 lb/ft^2 therefore particle will move since .05 < 0.9

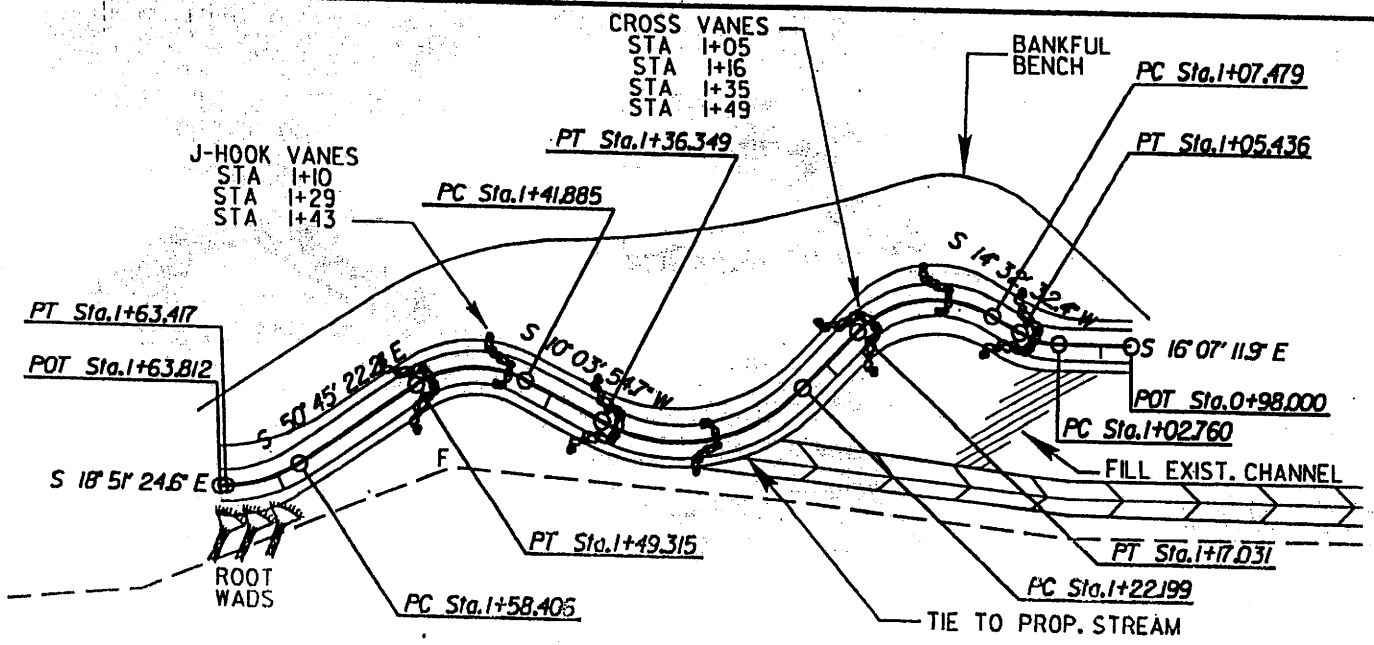
References:

* Shields Diagram
** Hydraulic Engineering (HEC) 15 - Chart 1
*** NCDENR Erosion and Sediment Control Planning and Design Manual

Method 4 Dimensionless ratios for average channel cross sections

	Proposed		Reference	
Q_{BKF}	45.0	ft^3/s	45.0	ft^3/s
W/D	12.0		13.0	
Mannings n	0.035		0.035	
Valley Slope	0.0180	ft/ft	0.0190	ft/ft
Avg Stream Slope	0.0160		0.0180	
Sinuosity	1.1		1.1	
Valley Slope/Sinuosity	0.0160	ft/ft	0.0180	ft/ft
Velocity	5.0	ft/s	5.0	ft/s
Area	10.0	ft^2	9.0	ft^2
W_{BKF}	11.0	ft	11.0	ft
Mean Depth	0.9	ft	0.8	ft
Wetted Perimeter	11.8	ft	11.2	ft
Hydraulic Radius	0.85	ft	0.80	ft
Shear Stress	0.85	lb/ft^2	0.90	lb/ft^2
Particle Moved	55.0	mm	60.0	mm
Stream Power:	0.386	lb/ft/sec/ft of stream width	0.410	lb/ft/sec/ft of stream width

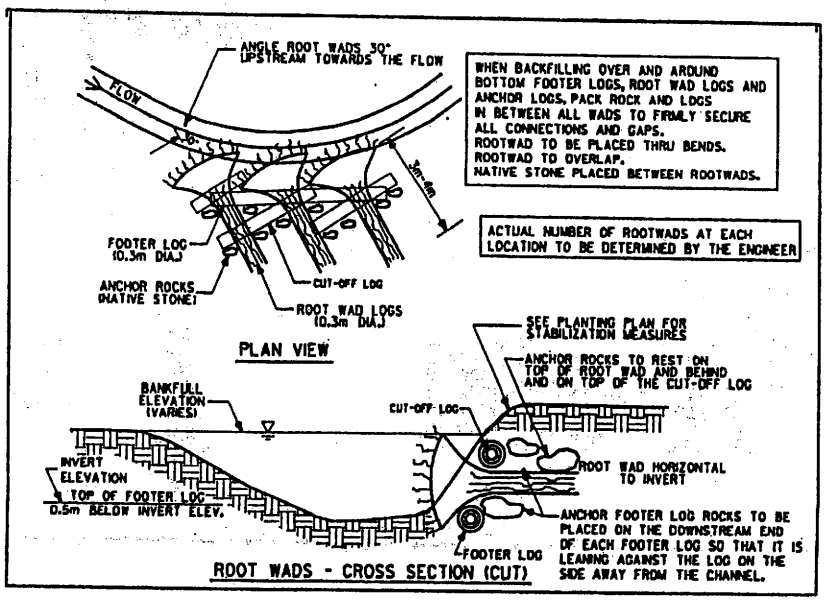
Summary Shear stress is greater than critcal for both existing and proposed channel. Proposed shear / power is approximately equal to reference reach: Rock vanes will be used to ensure grade control.

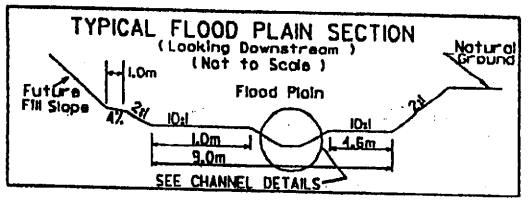


CHANNEL PLAN VIEW SITE 5

5 0 10

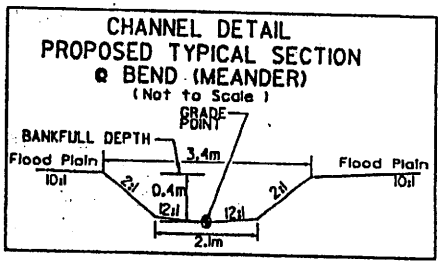
SCALE



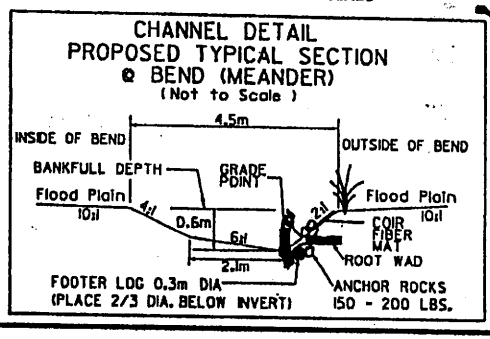


NOTES:

1. NUMBER OF ROOTWADS INSTALLED TO BE DETERMINED ON SITE, ROOTWADS TO BE SPACED 4x DIAMETER OF ROOT BASE.
2. STABILIZE BANKS AND FLOODPLAIN WITH WOODY VEGETATION AND GRASS.



TYPICAL SECTION BETWEEN BENDS



N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CHATHAM COUNTY

PROJECT: 6.529005T (R-2610A)

SHEET 9 OF 15 **2/05/03**

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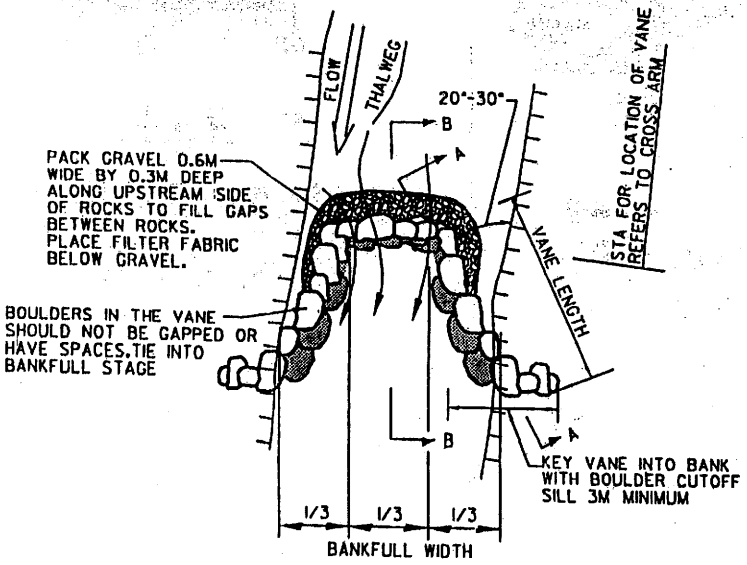
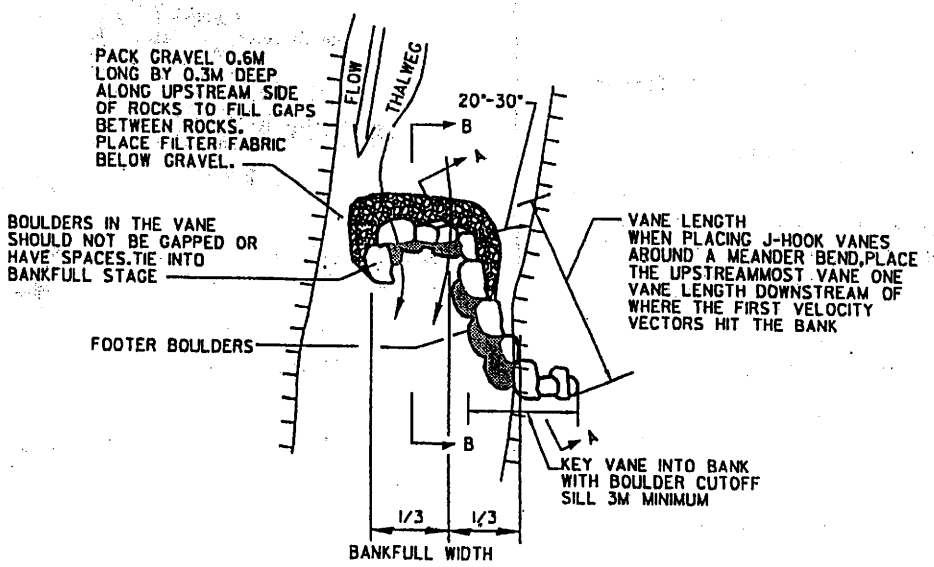
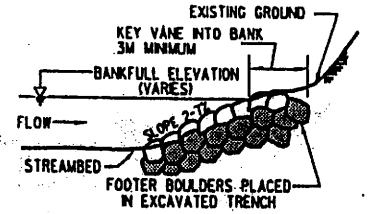


CROSS VANE - PLAN VIEW



J- HOOK VANE - PLAN VIEW



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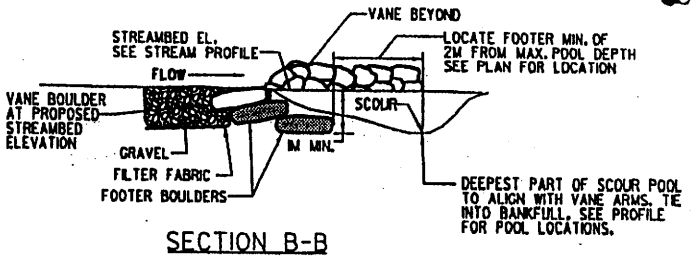

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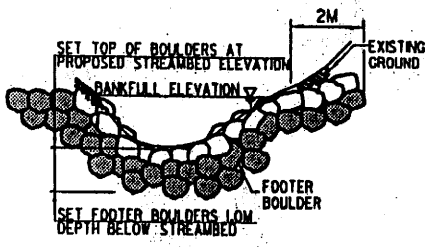
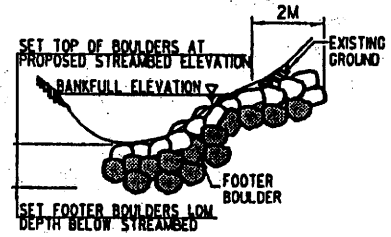


CROSS VANE

CHANNEL CROSS SECTION VIEW

NOTE: ALL BOULDERS TO BE MINIMUM VOLUME OF 1CUBIC YARD OR AS DIRECTED IN THE PROJECT SPECIFICATIONS AND SHALL BE ANGULAR, FLAT WITH ONE AXIS 3 TIMES AS LONG AS THE OTHERS TO RESIST ROLLING. BOULDER SHALL BE CLEAN AND FREE OF SEDIMENT



J - HOOK VANE

CHANNEL CROSS SECTION VIEW

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CHATHAM COUNTY

PROJECT: 6.529005T (R-2610A)

SHEET 10 OF 15 2/05/03

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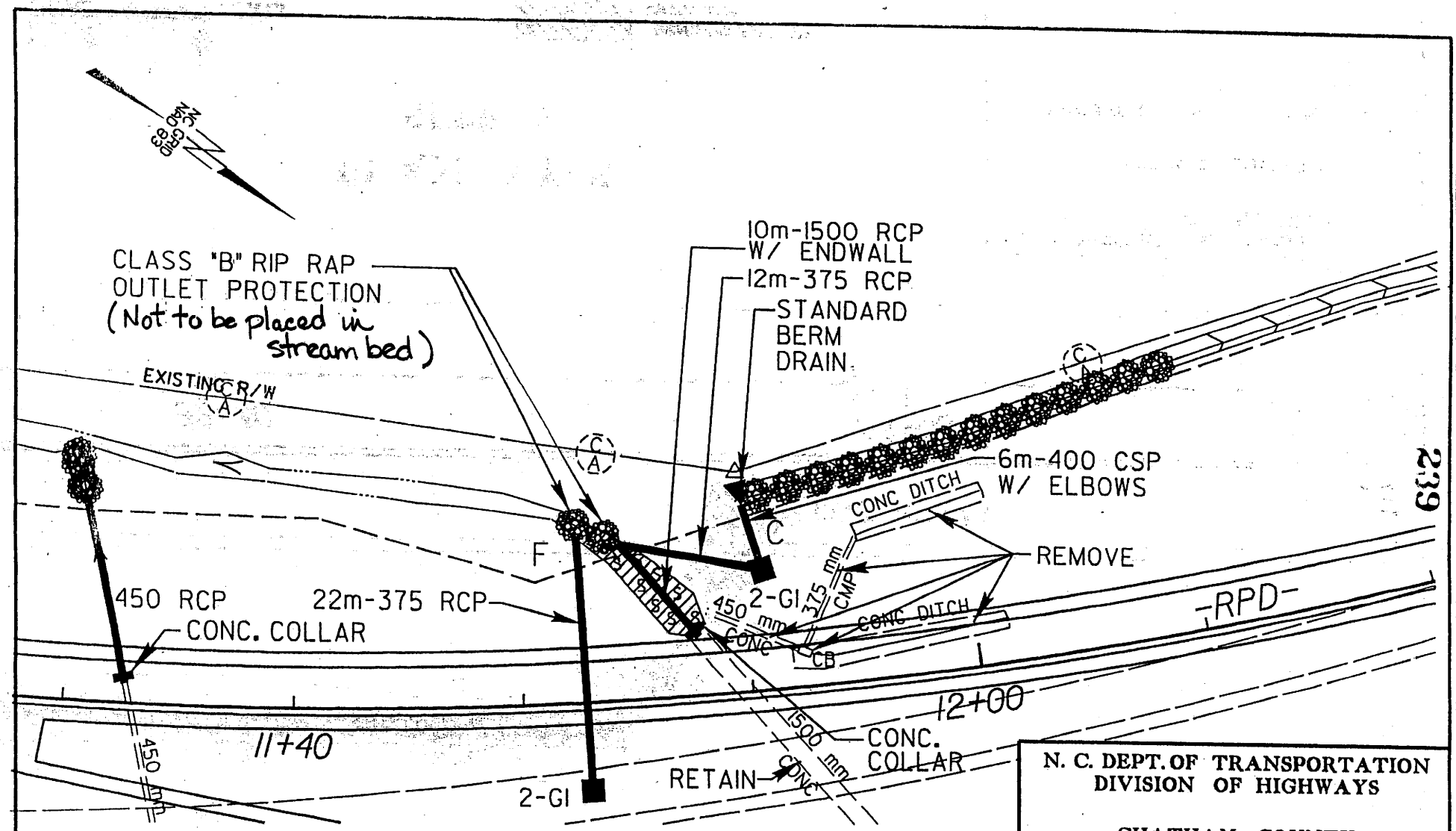

PLAN VIEW

SITE 6

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CHATHAM COUNTY

PROJECT: 6.529005T (R-2610A)

SHEET 11 OF 14 6/19/01

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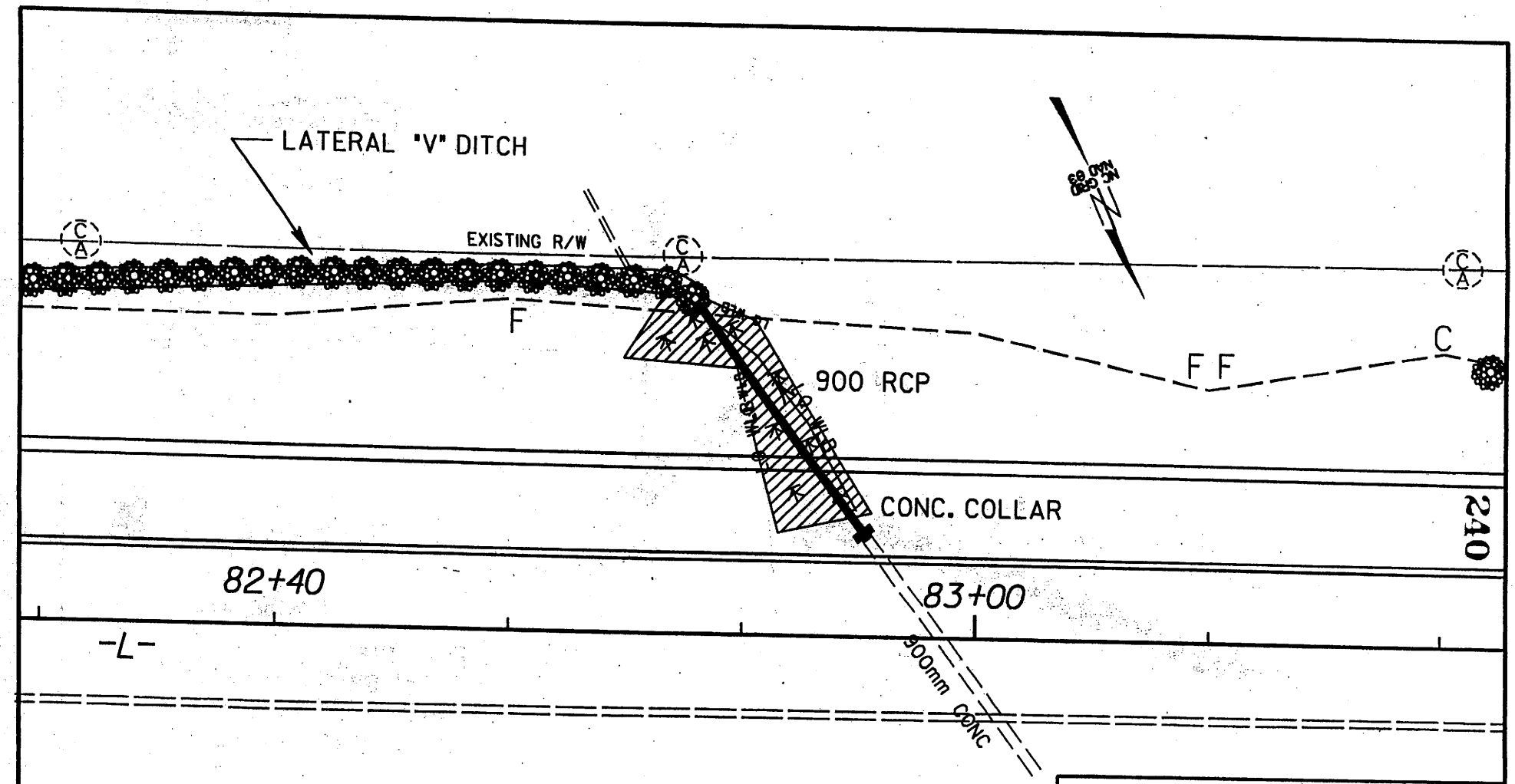


PLAN VIEW
SITE 7

5 0 10
SCALE

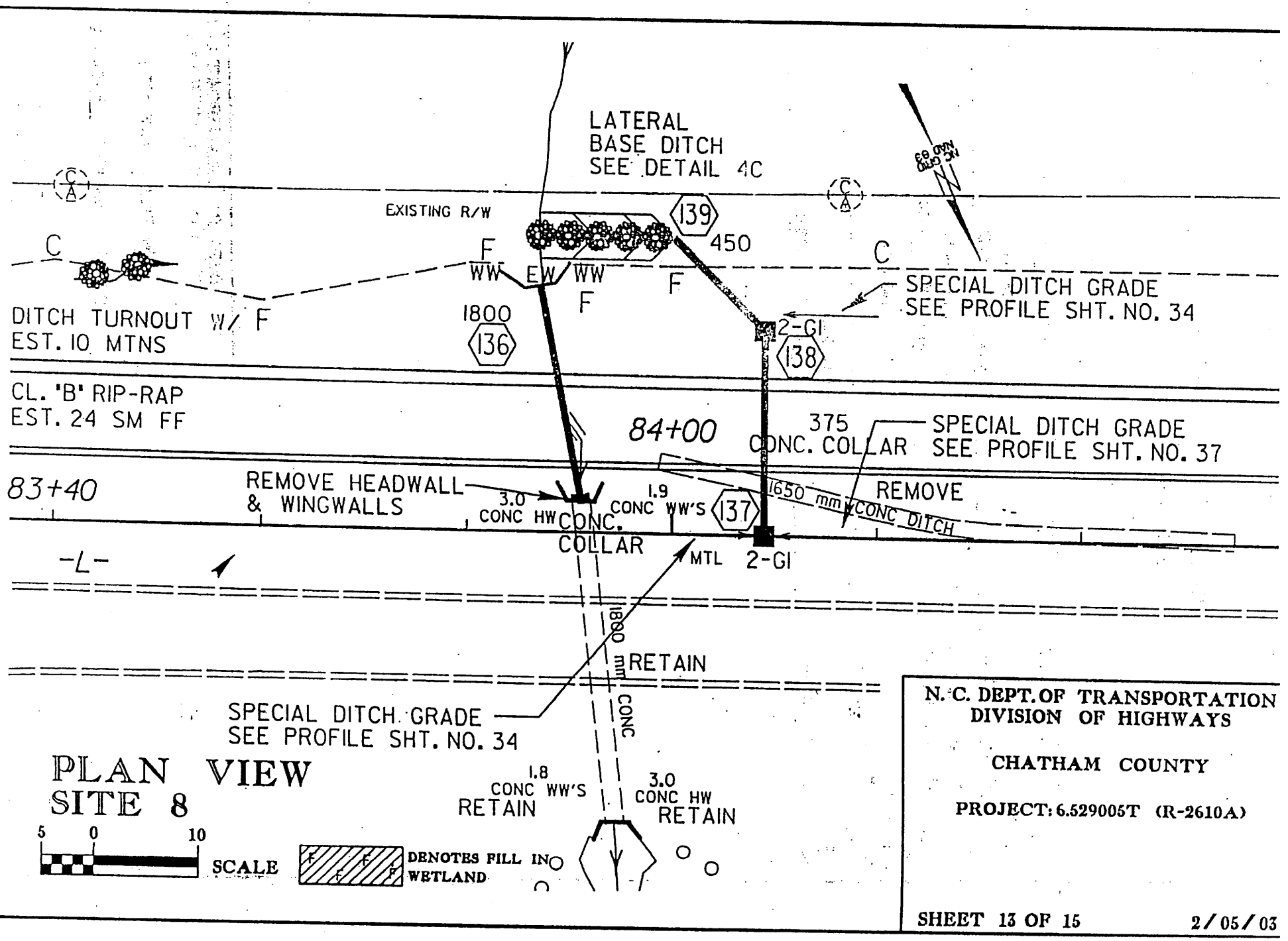
DENOTES FILL IN WETLAND

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CHATHAM COUNTY

PROJECT: 6.529005T (R-2610A)

SHEET 12 OF 15 6/19/01



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N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CHATHAM COUNTY

PROJECT: 6.529005T (R-2610A)

SHEET 13 OF 15

2/05/03

PROPERTY OWNER

NAME AND ADDRESS

	OWNER'S NAME	ADDRESS
4	Ross Gerald Taylor	1913 Sutphin Road Sanford, NC 27330
3	Bristol Group L.L.C. (Brian D. Jedwab)	335 Central Ave. 2nd Floor Lawrence, NY 11559
6	Margaret J. Ellis	5401 R. Jordan Road Gulf, NC 27256
37	Earl W. Goldston	PO Box 175 Goldston, NC 27252

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CHATHAM COUNTY

PROJECT: 6.529005T (R-2610A)

SHEET 14 OF 15 6/19/01

Site No.	Station (From/T	
1	-L- 13+	
2	-L- 16+	
3	-L- 52+	
4	-L- 62+	
5	-L- 66+	
6	-RPD- 11-	
7	-L- 82+	
8	-L- 84+	
TOTALS:		

English Sur

Form Revis

IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	SURFACE WATER IMPACTS: Fill In SW (Natural) (ac)	Fill In SW (Pond) (ac)	Temp. Fill In SW (ac)	Existing Channel Impacted (lf)	Relocated Channel (lf)	BUFFER IMPACTS: Zone 1 (ac)	Zone 2 (ac)	Mech Clear (ac)
1	-L- 13+28	70" RCBC					0.0124			105	36			
2	-L- 16+20	NONE	0.0766											
3	-L- 52+75	100" RCBC					0.0297			89				
4	-L- 62+34	80" RCBC					0.0173			98				
5	-L- 68+60	NONE					0.0321			216	217			
6	-RPD- 11+65	60" RCP					0.0099			49				
7	-L- 82+80	NONE	0.0346											
8	-L- 84+00	72" RCP					0.0074			98				
TOTALS:			0.1112	0	0	0	0.1088	0	0	655	253	0	0	0

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English Summary

Form Revised 3/22/01

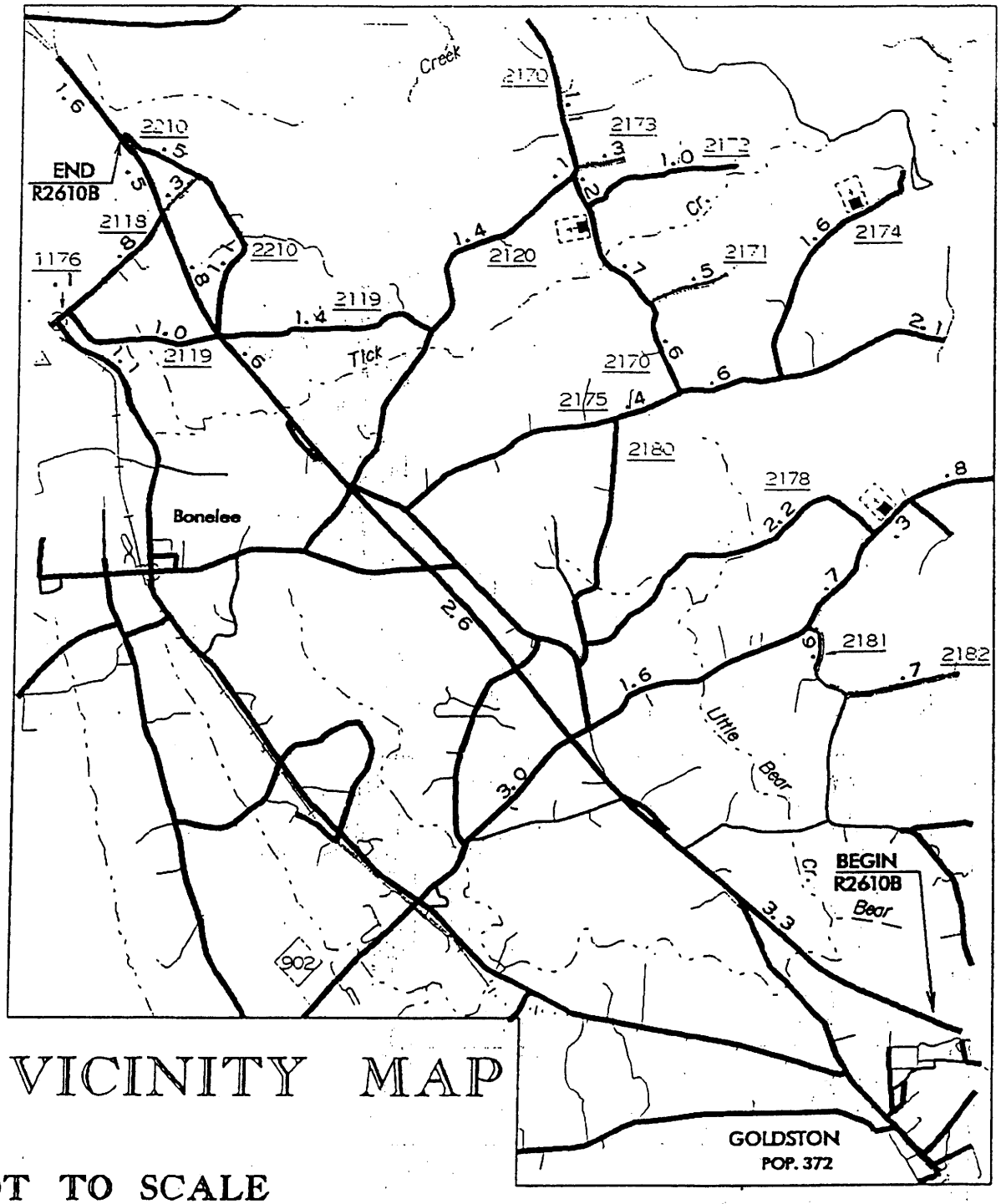
N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CHATHAM COUNTY

PROJECT: 6.529005T (R-2610A)
US 421 WIDENING

SHEET 15 OF 15

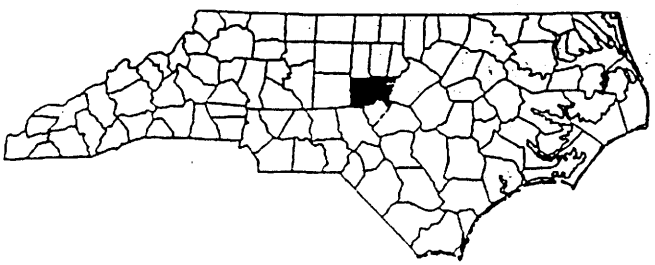
12/29/2003



VICINITY MAP

NOT TO SCALE

NORTH CAROLINA



NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY

PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

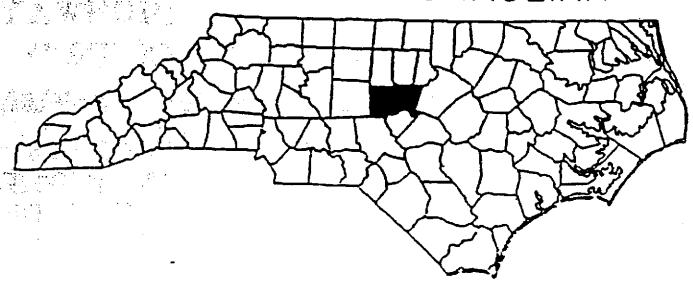
SHEET 1 OF 46 JULY 25, 2003

VICINITY MAP

0 ½ 1.0 mile

SILER CITY NE, NC QUAD MAP
GOLDSTON, NC QUAD MAP

NORTH CAROLINA



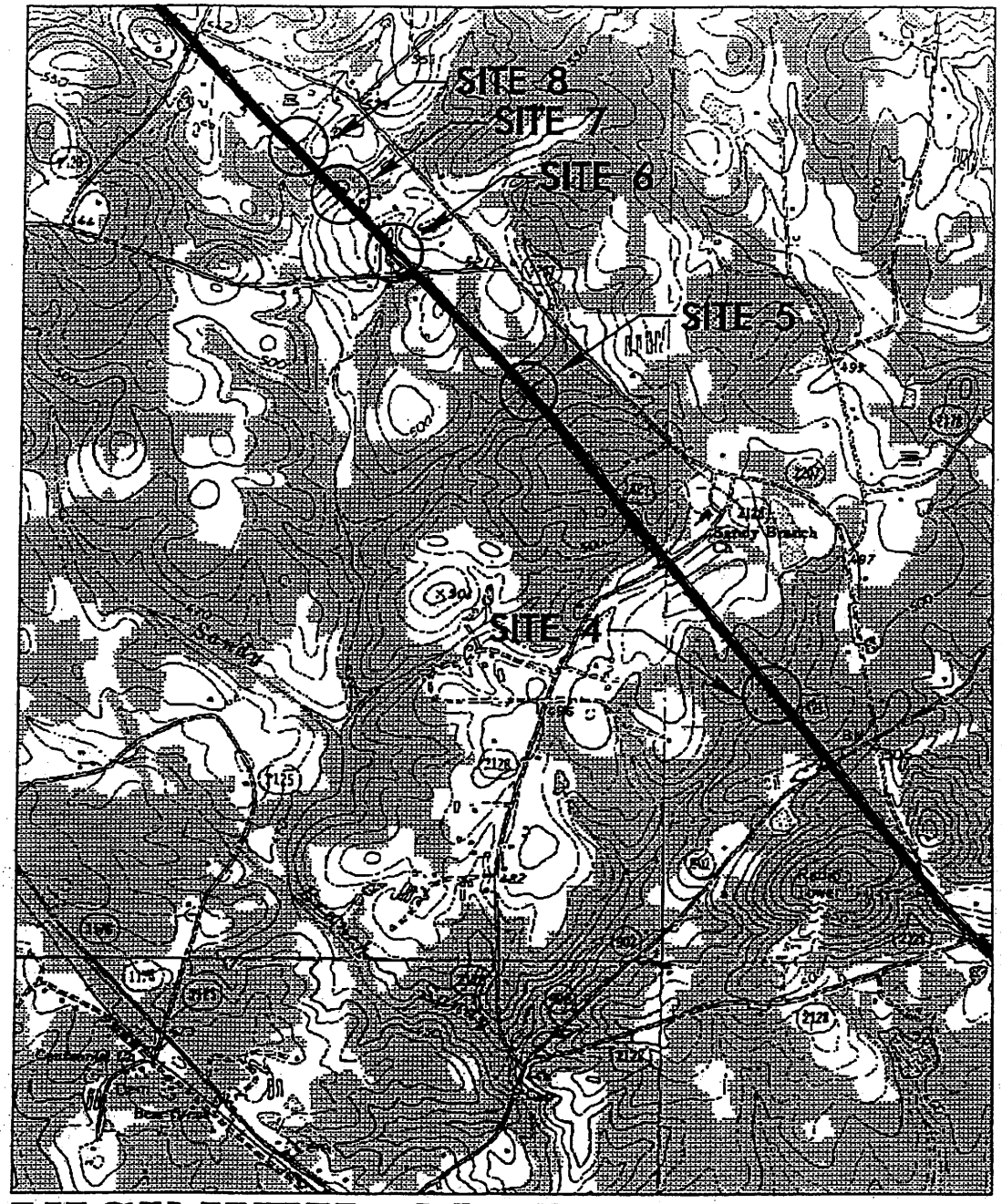
NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY

PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 2 OF 4 JULY 25, 2003

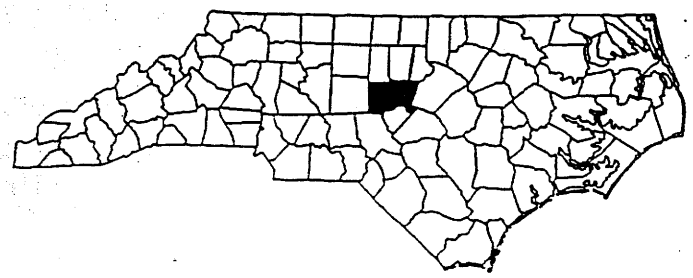


VICINITY MAP

0 ½ 1.0 mile

SILER CITY, NC QUAD MAP
SILER CITY NE, NC QUAD MAP
BEAR CREEK, NC QUAD MAP
GOLDSTON, NC QUAD MAP

NORTH CAROLINA



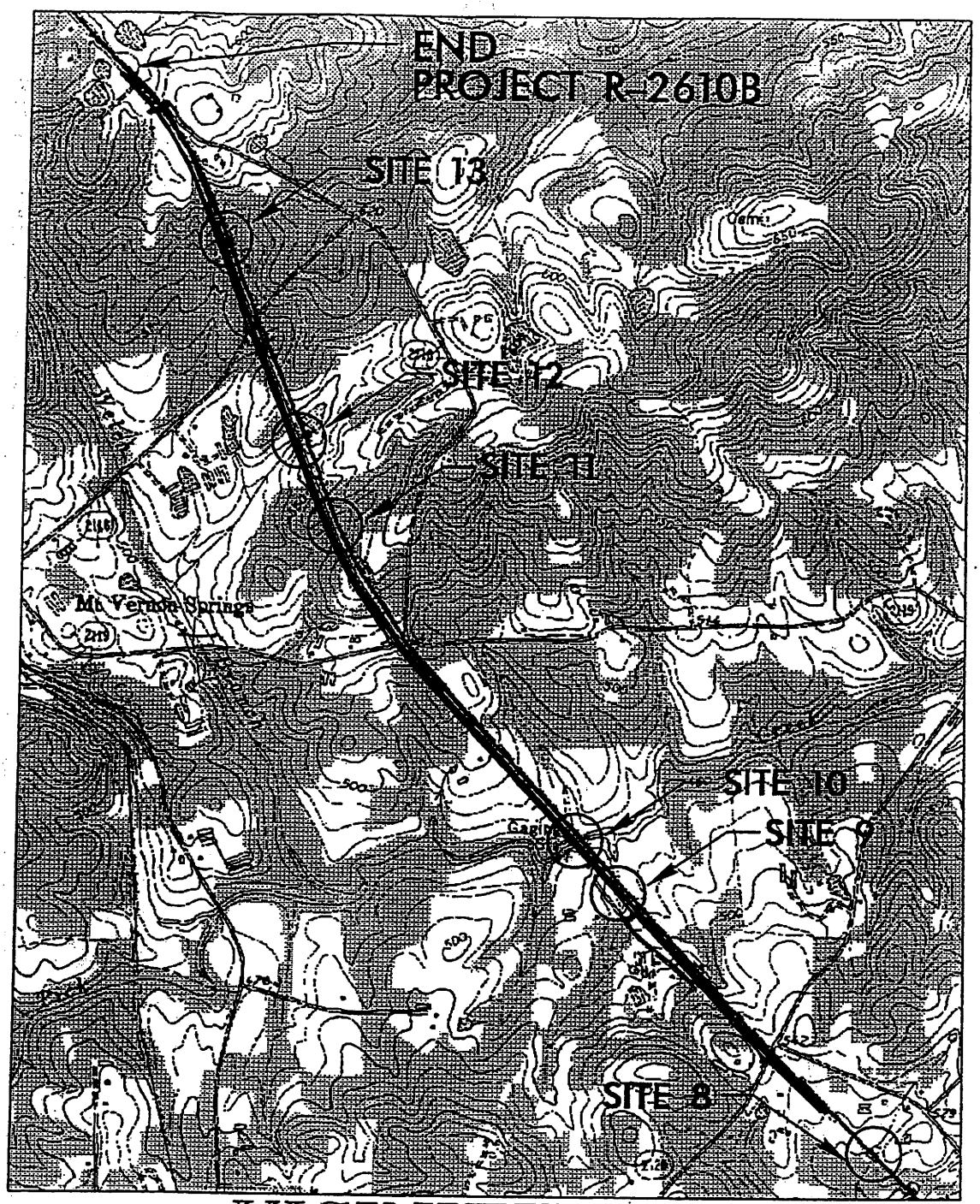
NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY

PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 3 OF 46 JULY 25, 2003

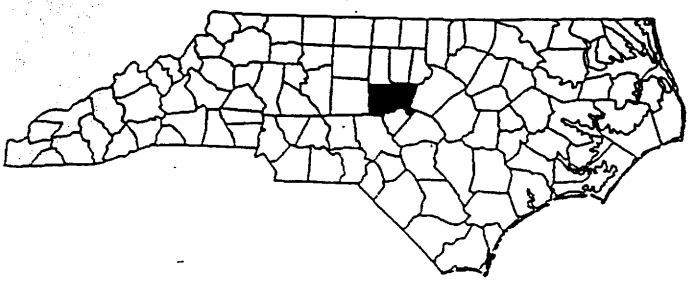


VICINITY MAP

0 ½ 1.0 mile

SILER CITY, NC QUAD MAP

NORTH CAROLINA



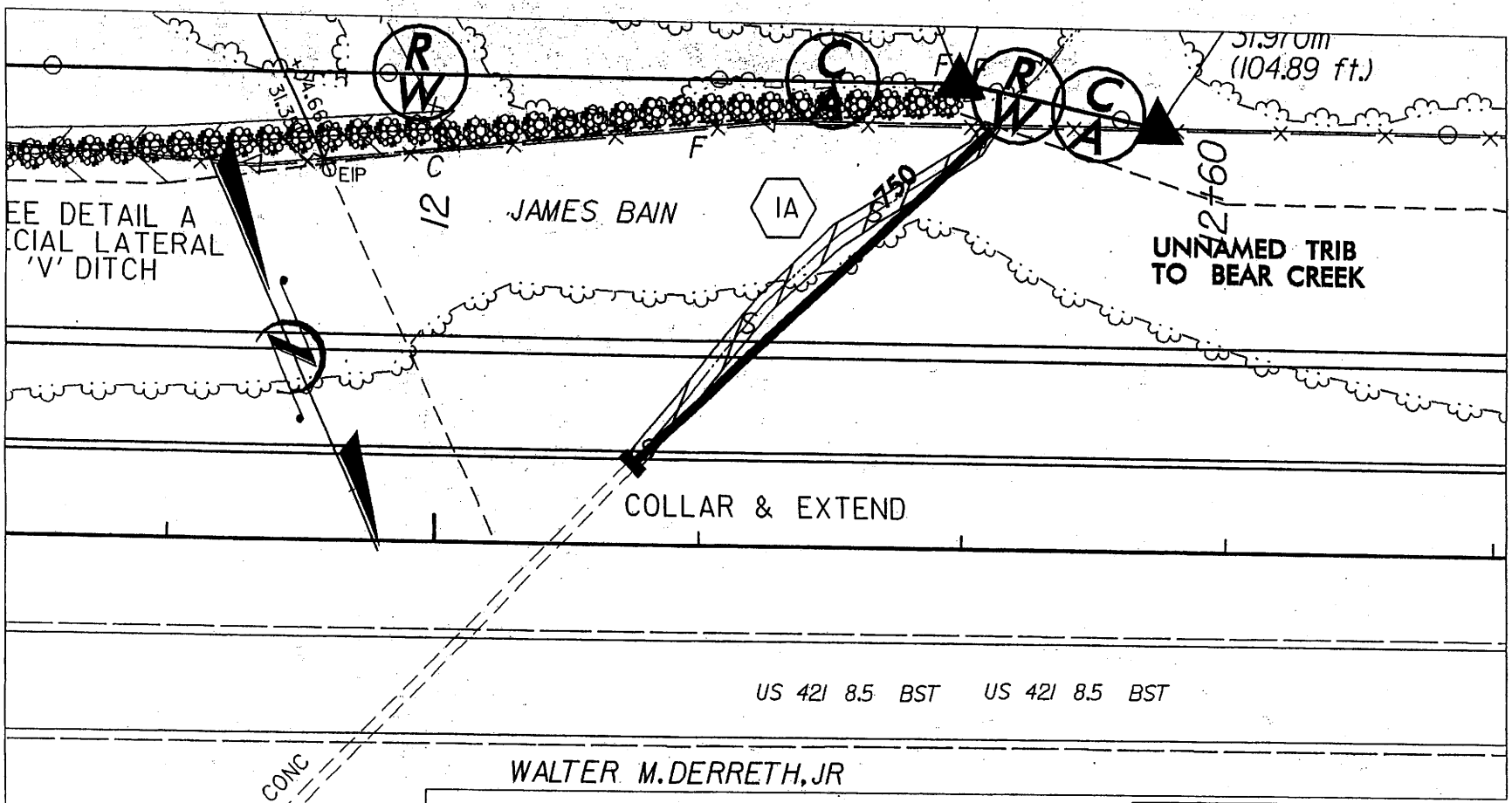
NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY

PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

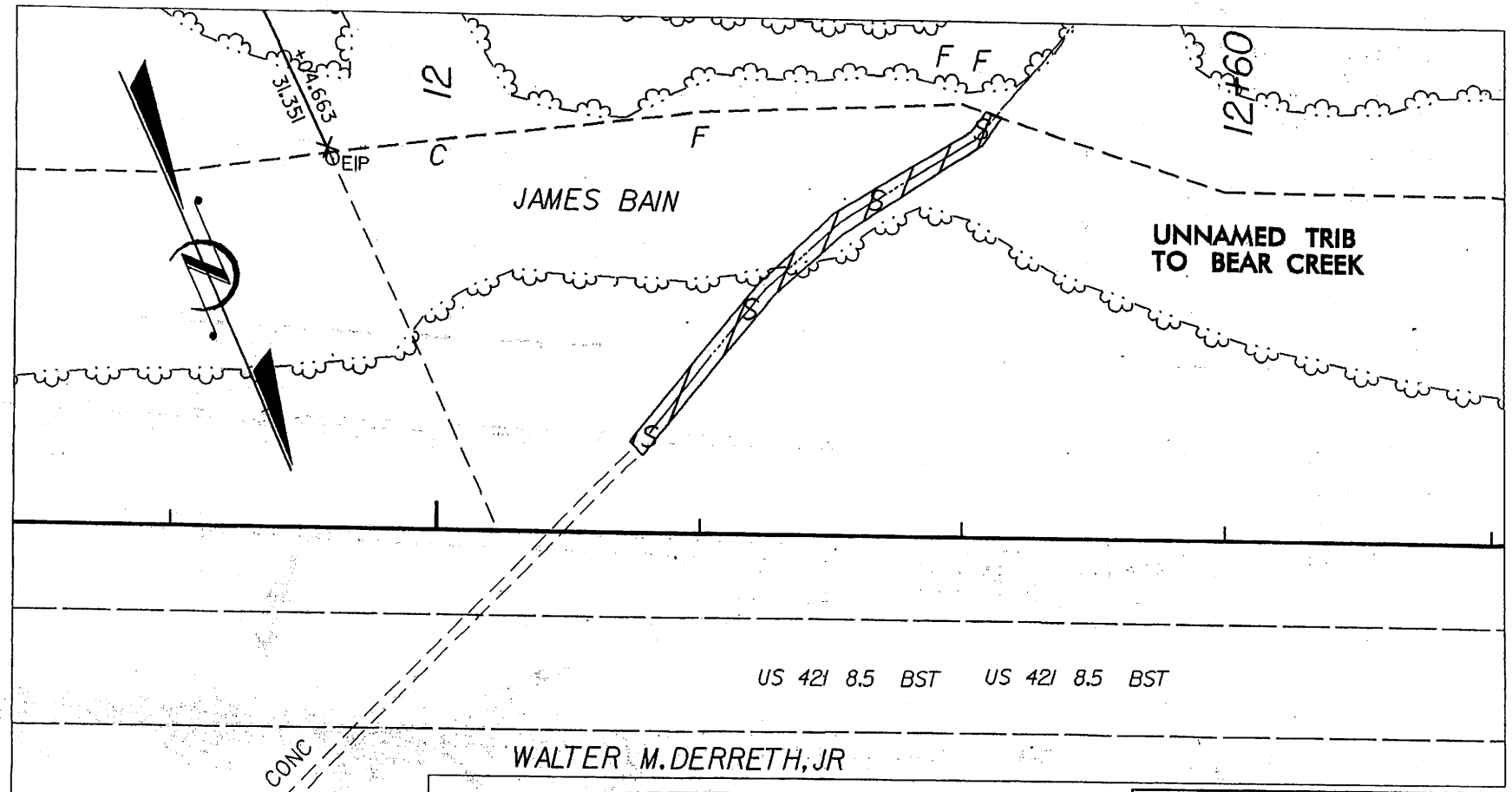
SHEET 4 OF 46 JULY 25, 2003



SITE 1
PLAN VIEW

NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY
SHEET 5 OF 46 JULY 25, 2003



SITE 1 IMPACTS
PLAN VIEW

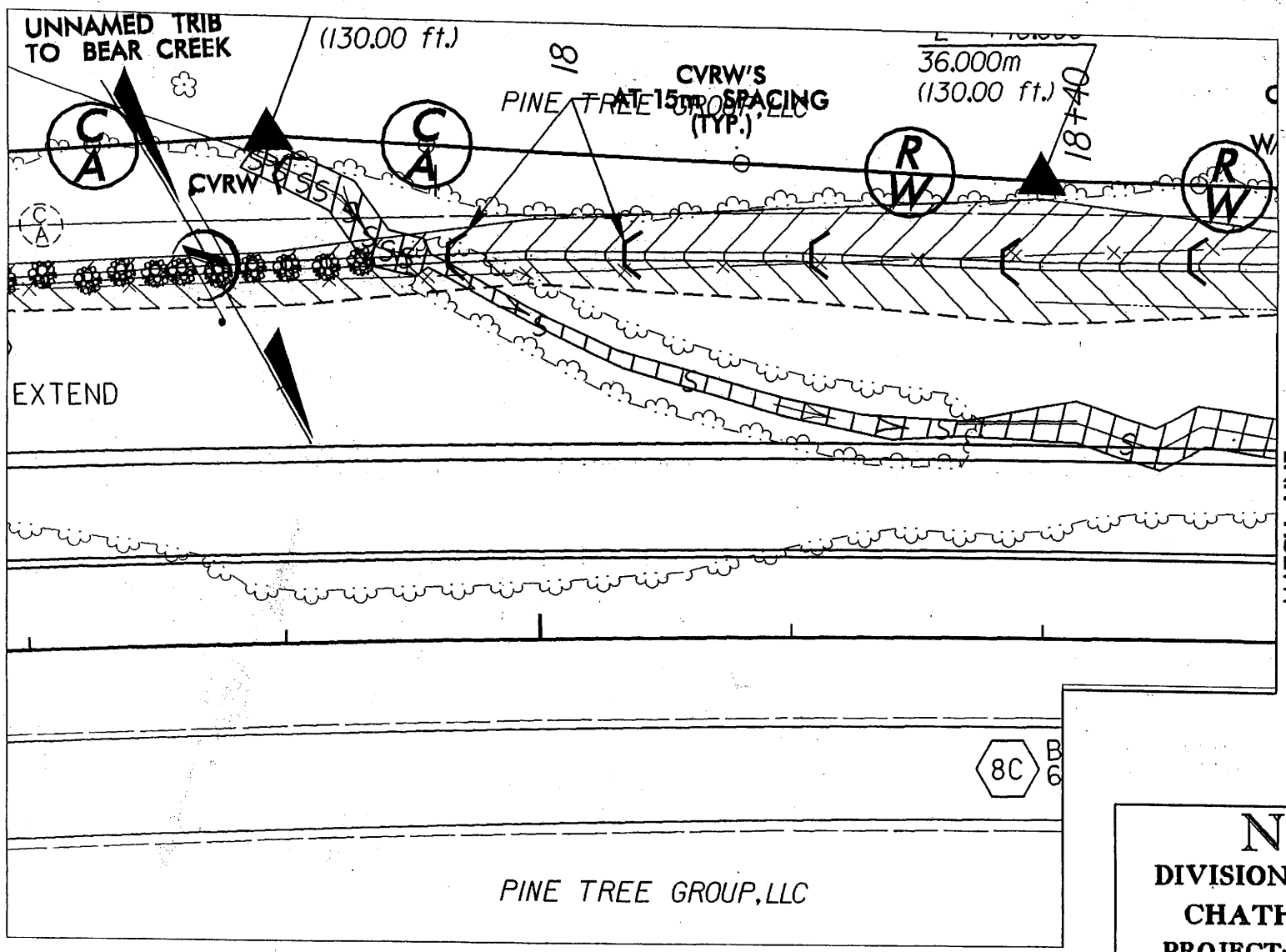
DENOTES FILL IN SURFACE WATER

5m 0 10m

SCALE

NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY
SHEET 6 OF 46 JULY 25, 2003



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SITE 2

SCALE PLAN VIEW

5m 0 10m

S S DENOTES FILL IN SURFACE WATER

NCDOT

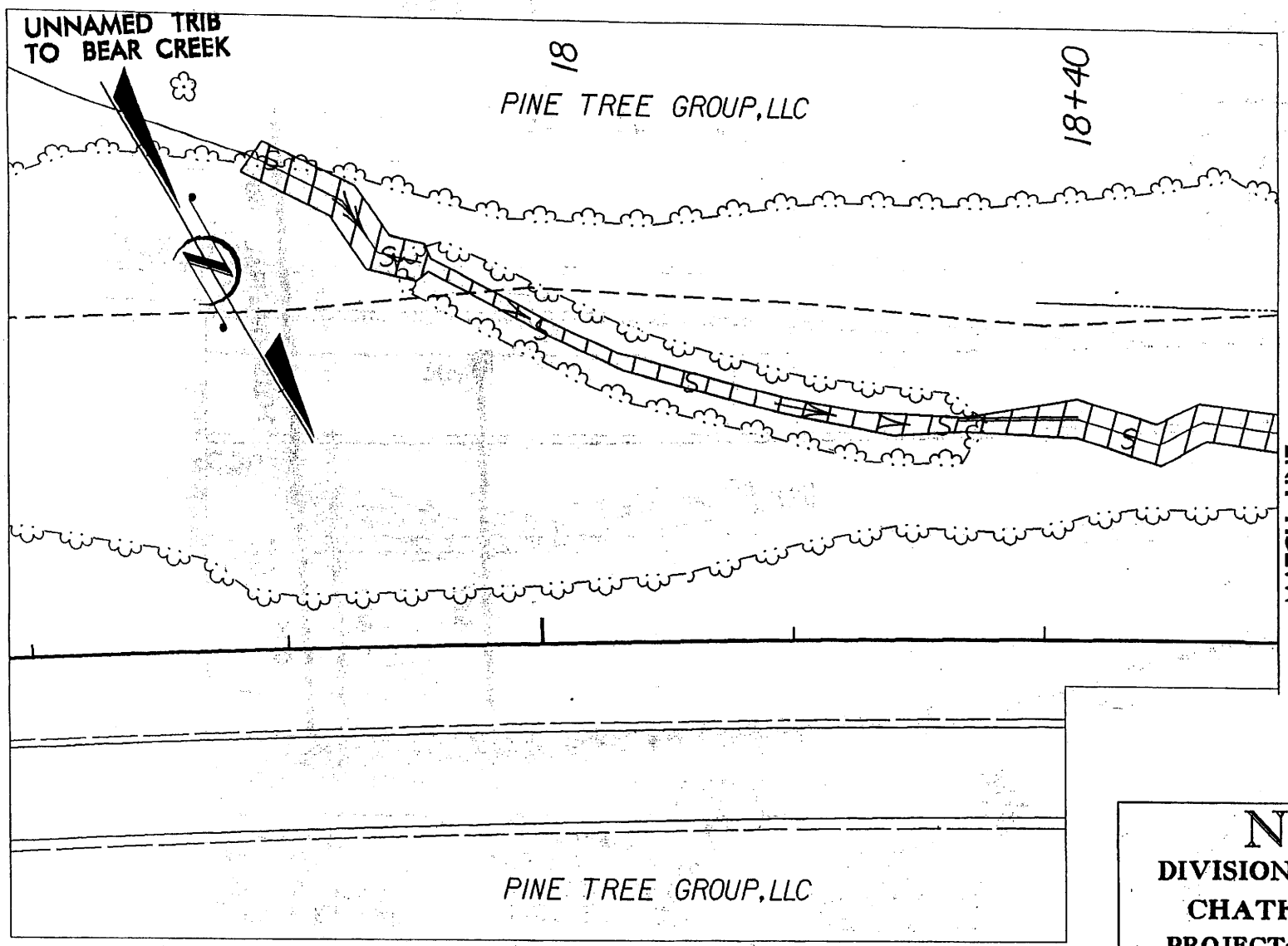
DIVISION OF HIGHWAYS

CHATHAM COUNTY

PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 7 OF 40 JULY 25, 2003



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SITE 2 IMPACTS

SCALE 5m 0 10m

PLAN VIEW

S S DENOTES FILL IN SURFACE WATER

NCDOT

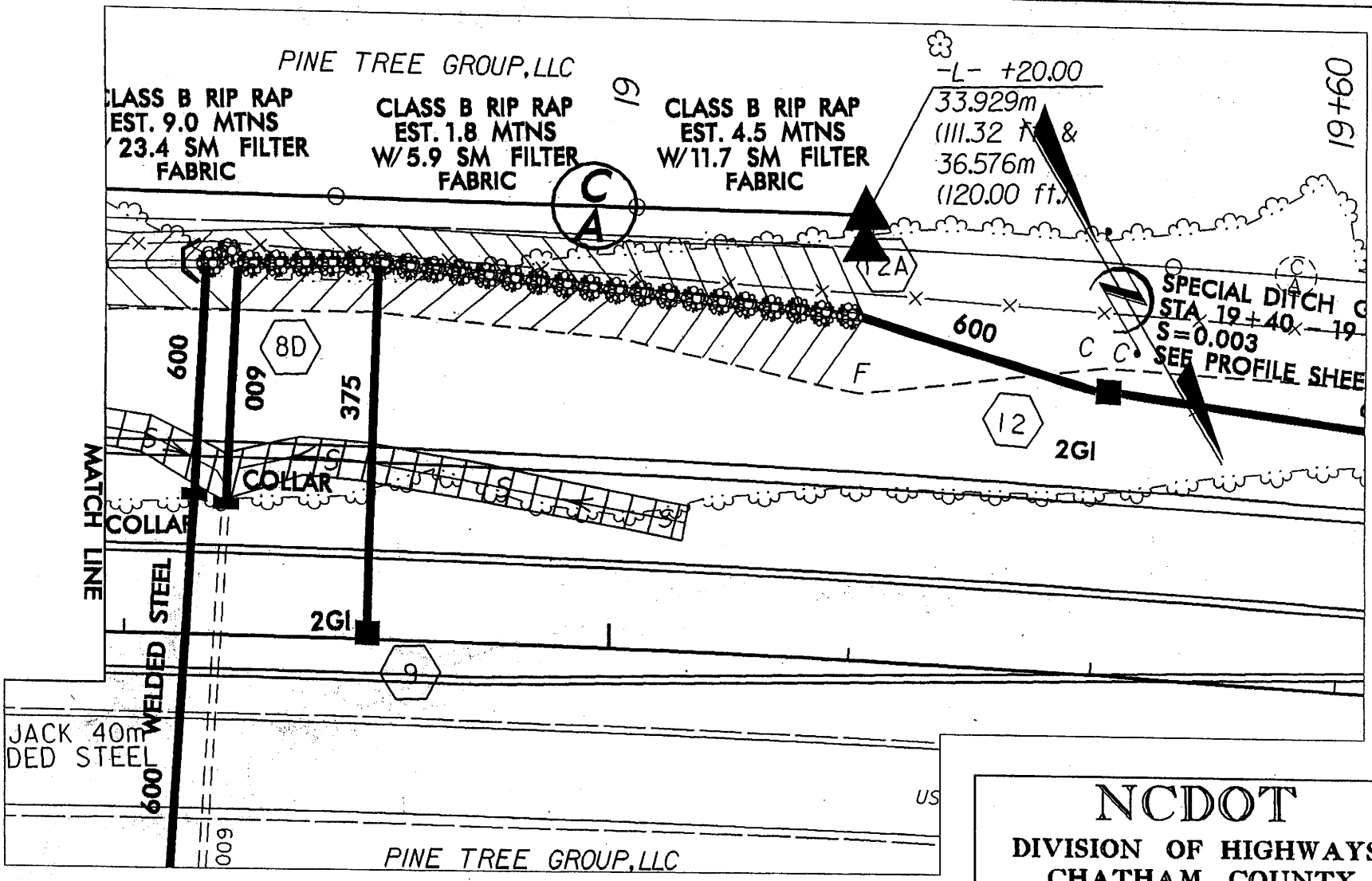
DIVISION OF HIGHWAYS

CHATHAM COUNTY

PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 8 OF 46 JULY 25, 2003



252

SITE 2

SCALE PLAN VIEW

5m 0 10m

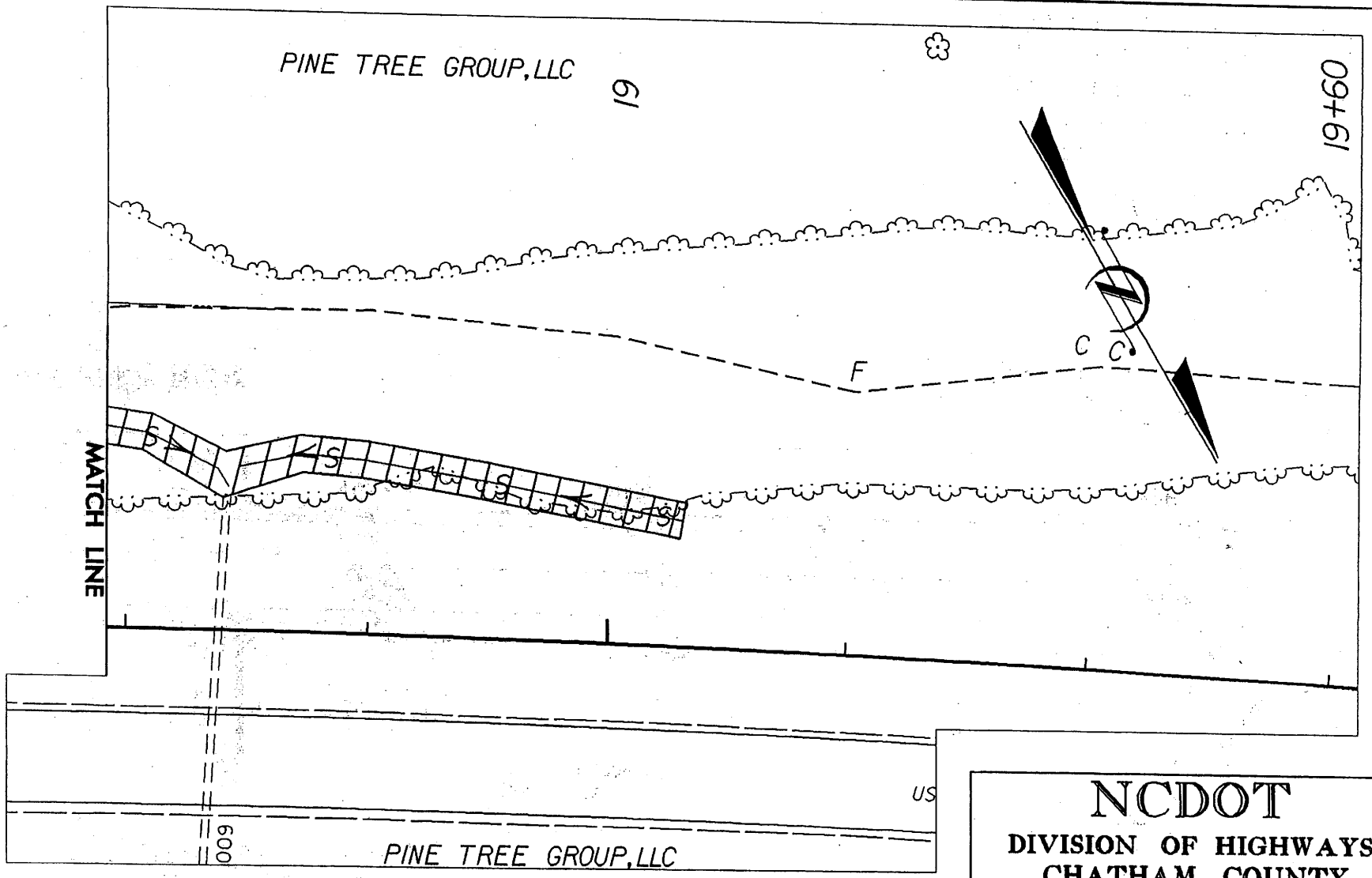
S S DENOTES FILL IN SURFACE WATER

NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 9 OF .. JULY 25, 2003



SITE 2 IMPACTS
PLAN VIEW

5m 0 10m
SCALE

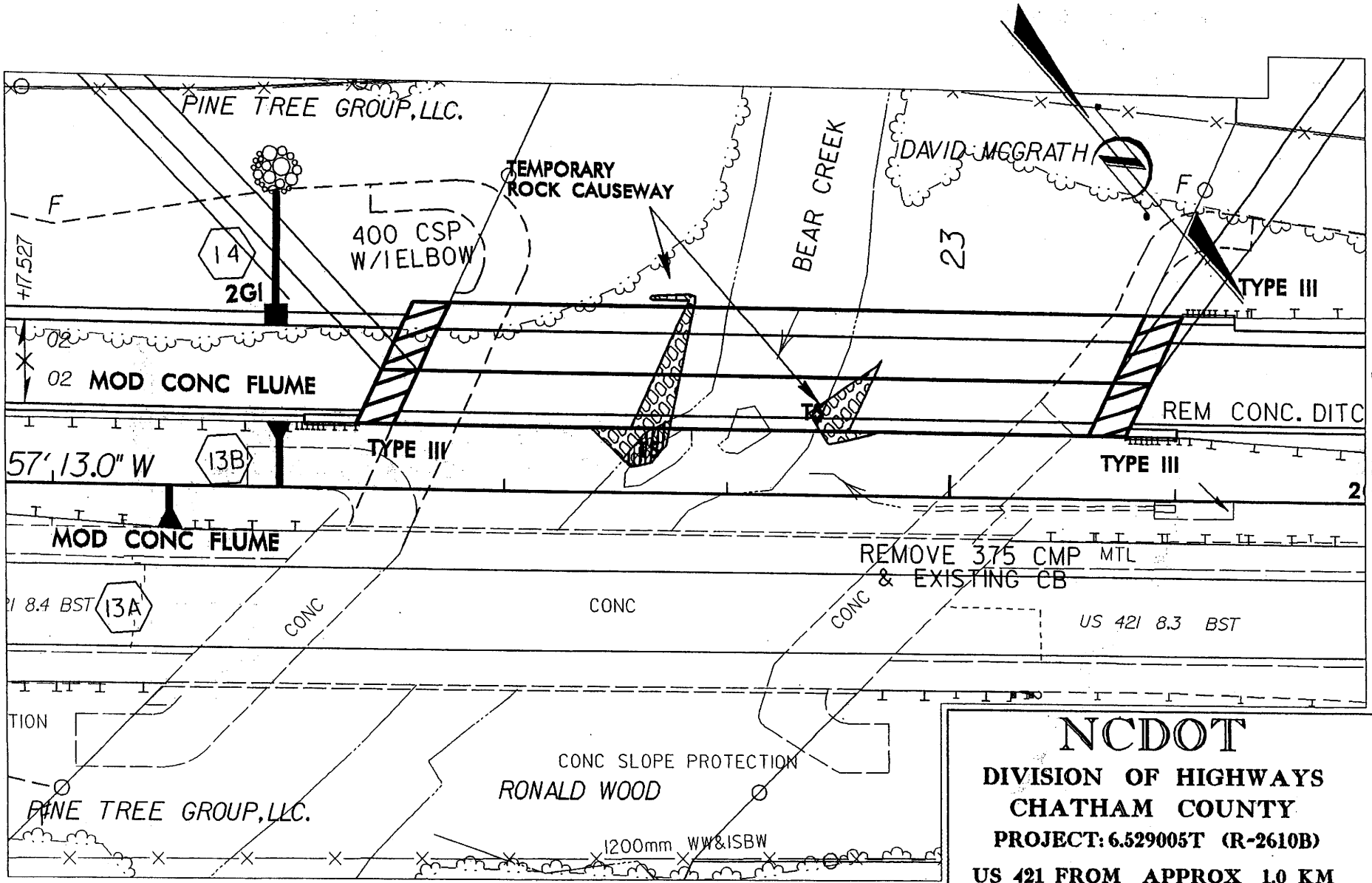
DENOTES FILL IN SURFACE WATER

NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 10 OF 16 JULY 25, 2003

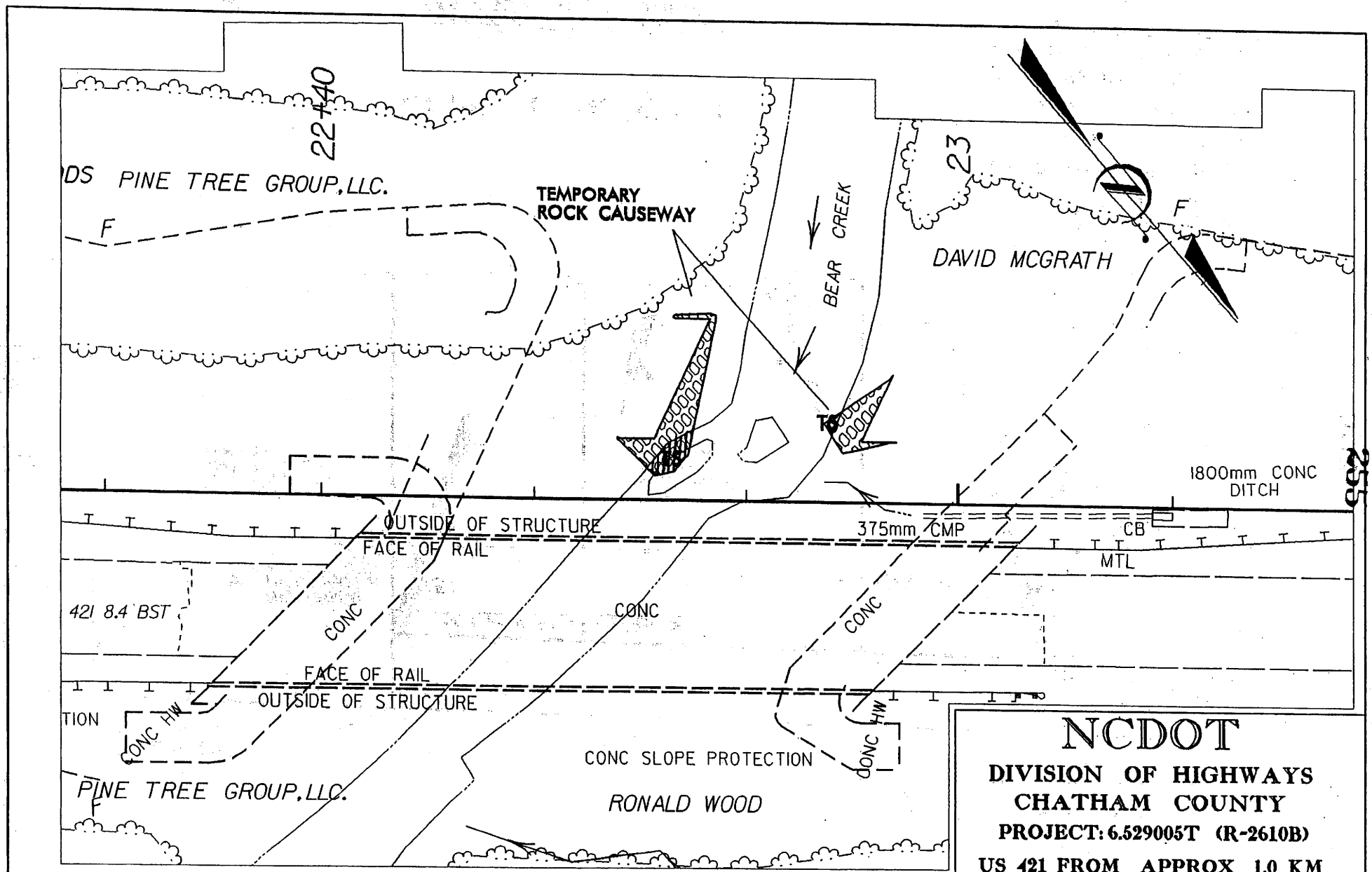


NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 11 OF 146 JULY 25, 2003



SITE 3 IMPACTS

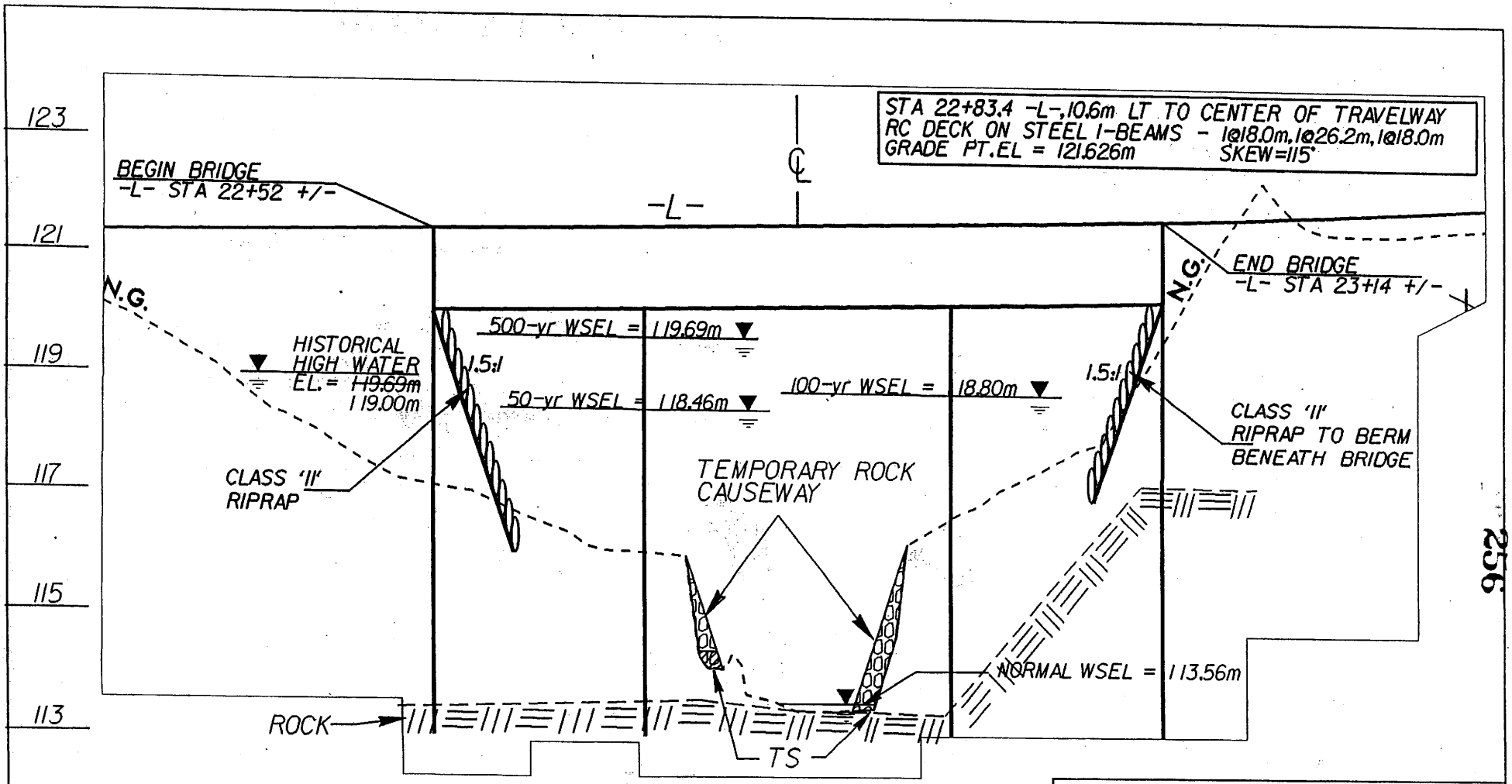
5m 0 10m

SCALE PLAN VIEW

TS TS DENOTES TEMPORARY FILL IN SURFACE WATER

NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY
SHEET 12 OF 16 JULY 25, 2003



SITE 3 PROFILE

5m 0 10m

SCALE

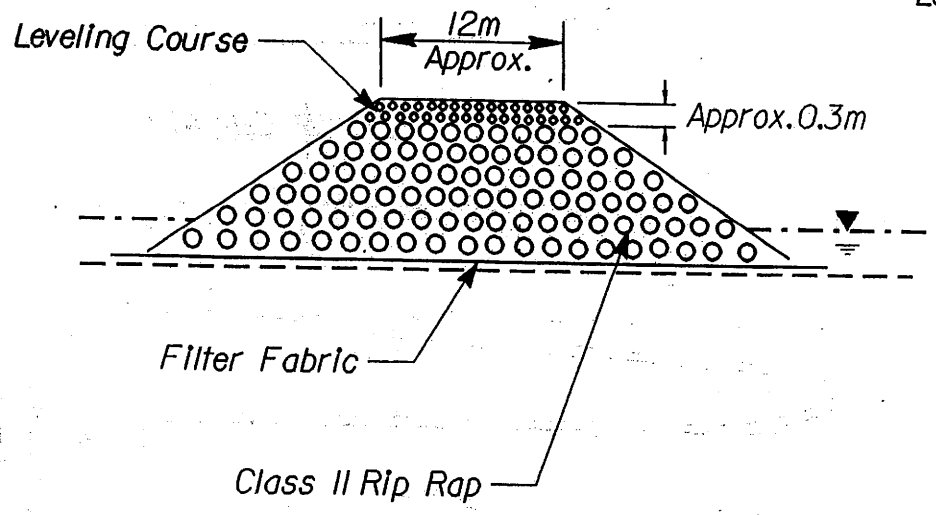
TS TS DENOTES TEMPORARY FILL IN SURFACE WATER

NCDOT

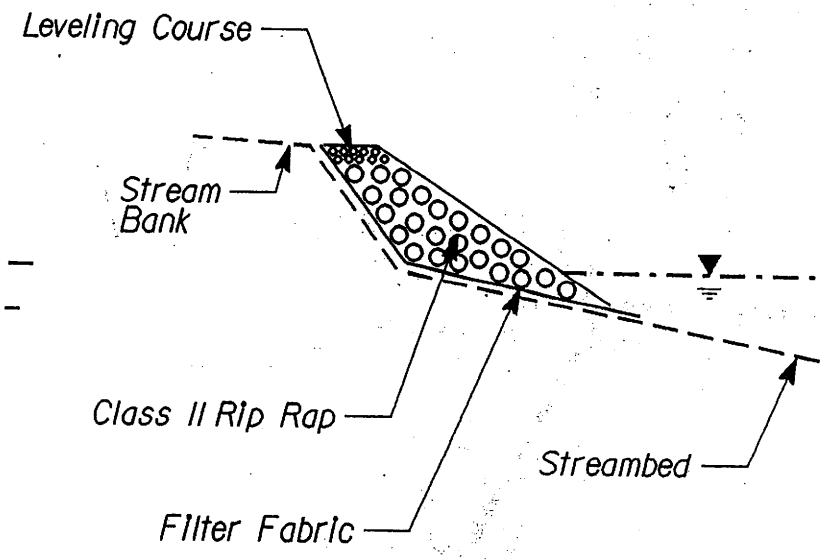
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 13 OF 46 JULY 25, 2003

END VIEW



CROSS SECTION



252

TEMPORARY WORK PAD DETAIL

Note:
The rock pad is to be used for access to the interior bridge bents at Bear Creek and Tick Creek.
The pad locations are as shown in the plan and profile views of the permit drawings.
All Rock placed in the stream and on the stream banks is to be removed.
The leveling course is typically Class "A" rip rap, but not limited to a particular size.
Reclaimed Rip Rap may be used for slope protection at the discretion of the Engineer.

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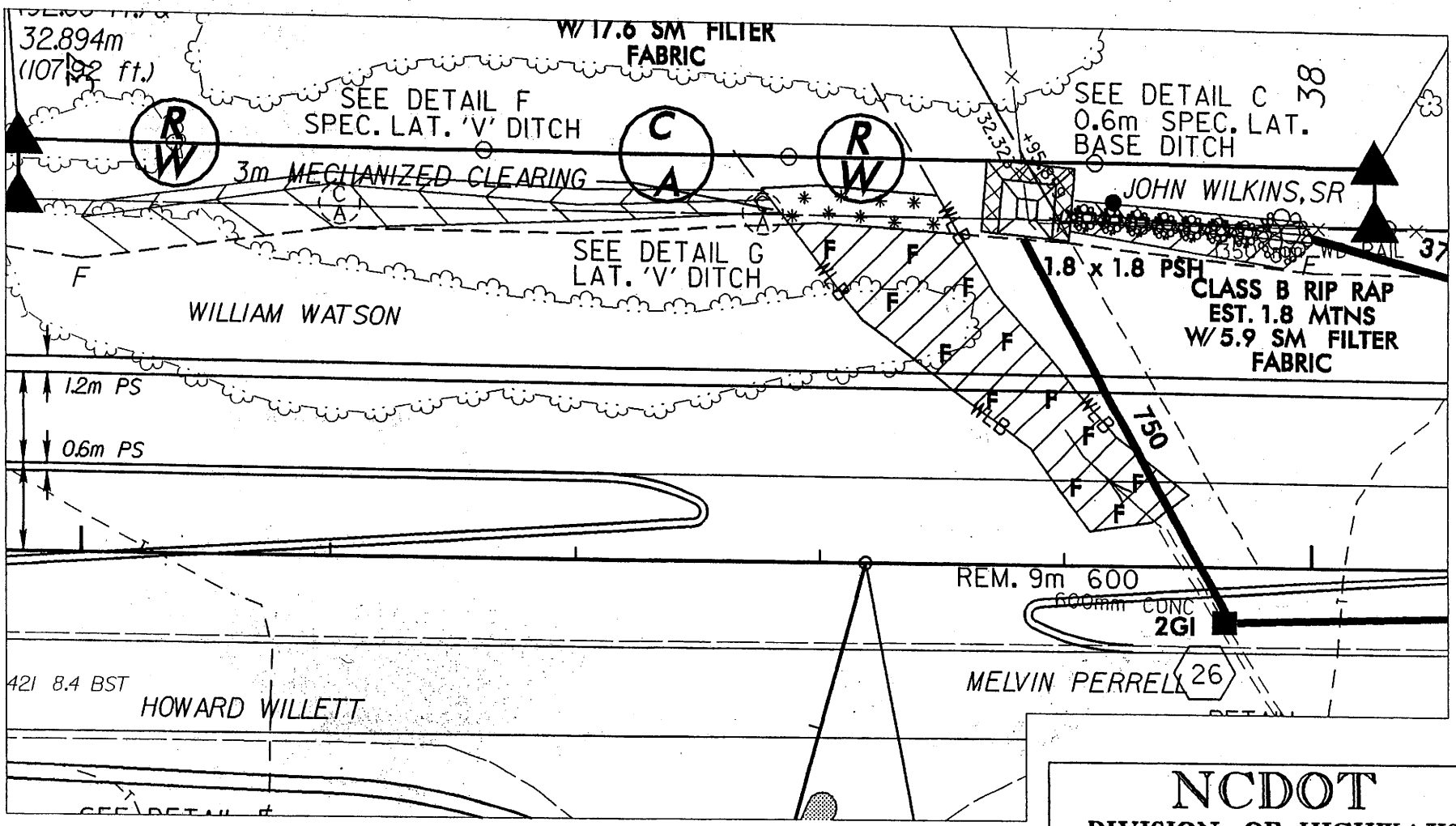
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY
SHEET 14 OF 40 JULY 25, 2003



258

5m 0 10m

SCALE

SITE 3A
PLAN VIEW

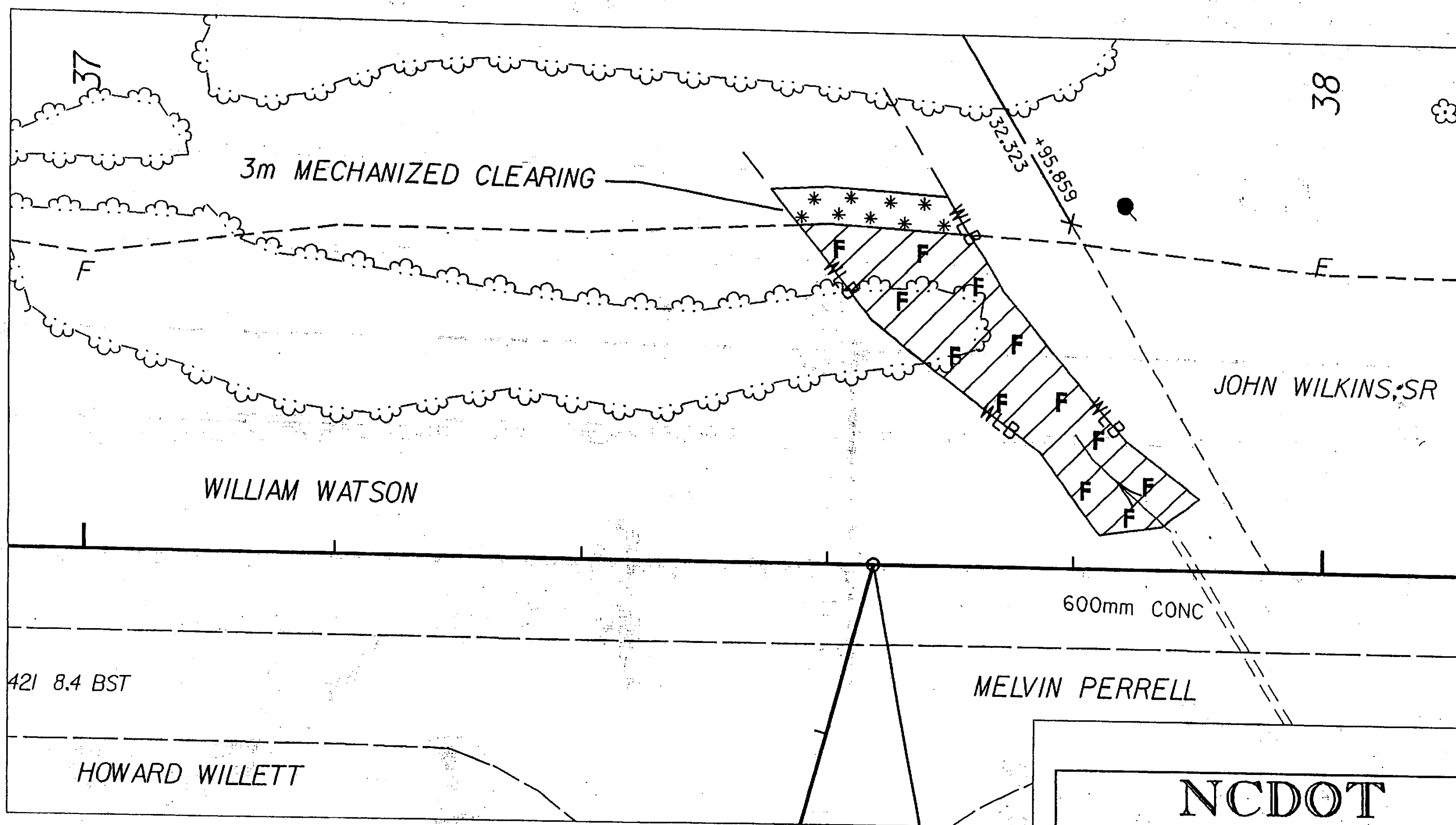
DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

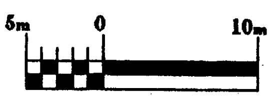
SHEET 15 OF 16 JULY 25, 2003



SITE 3A IMPACTS PLAN VIEW

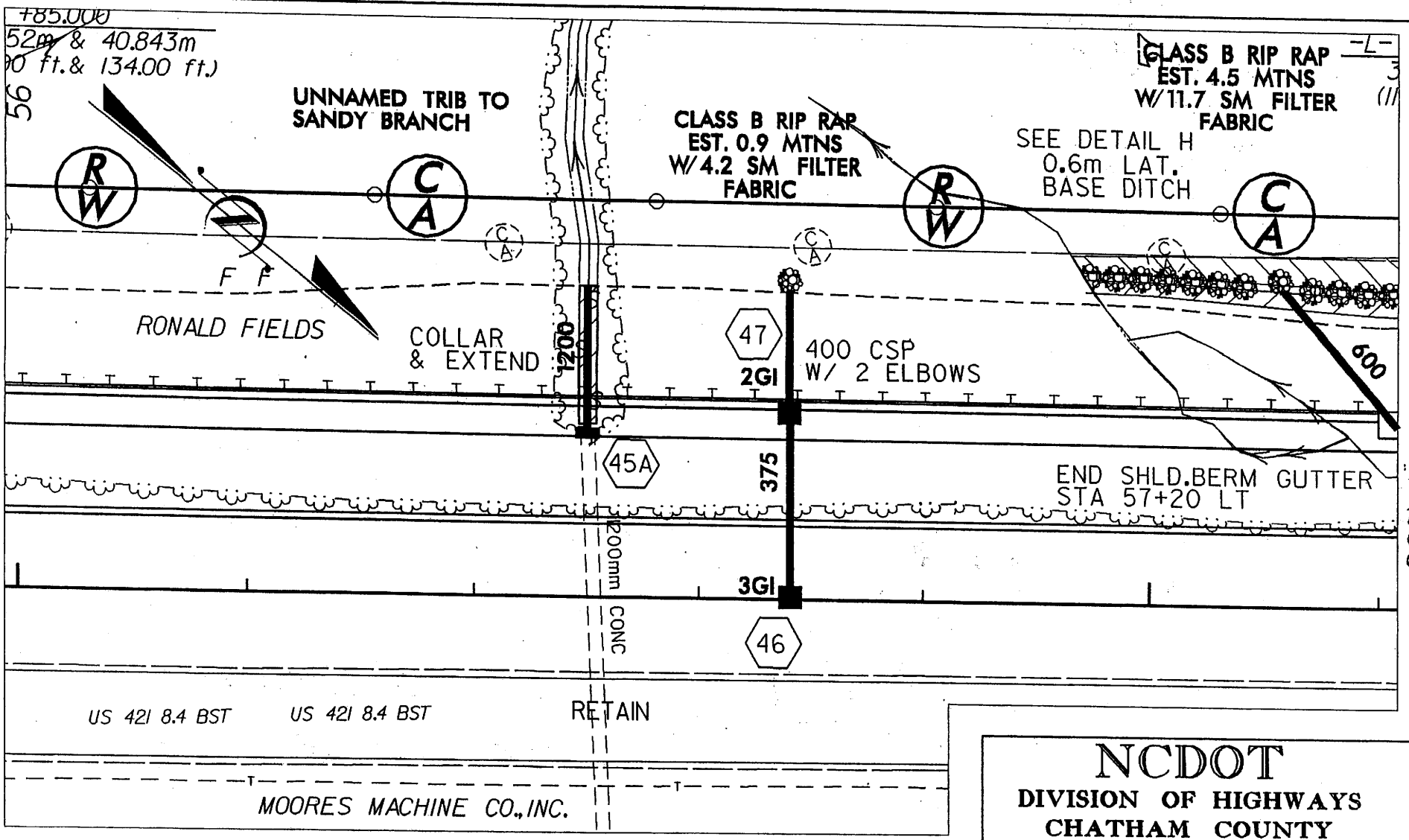
DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND



SCALE

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY
SHEET 16 OF 46 JULY 25, 2003



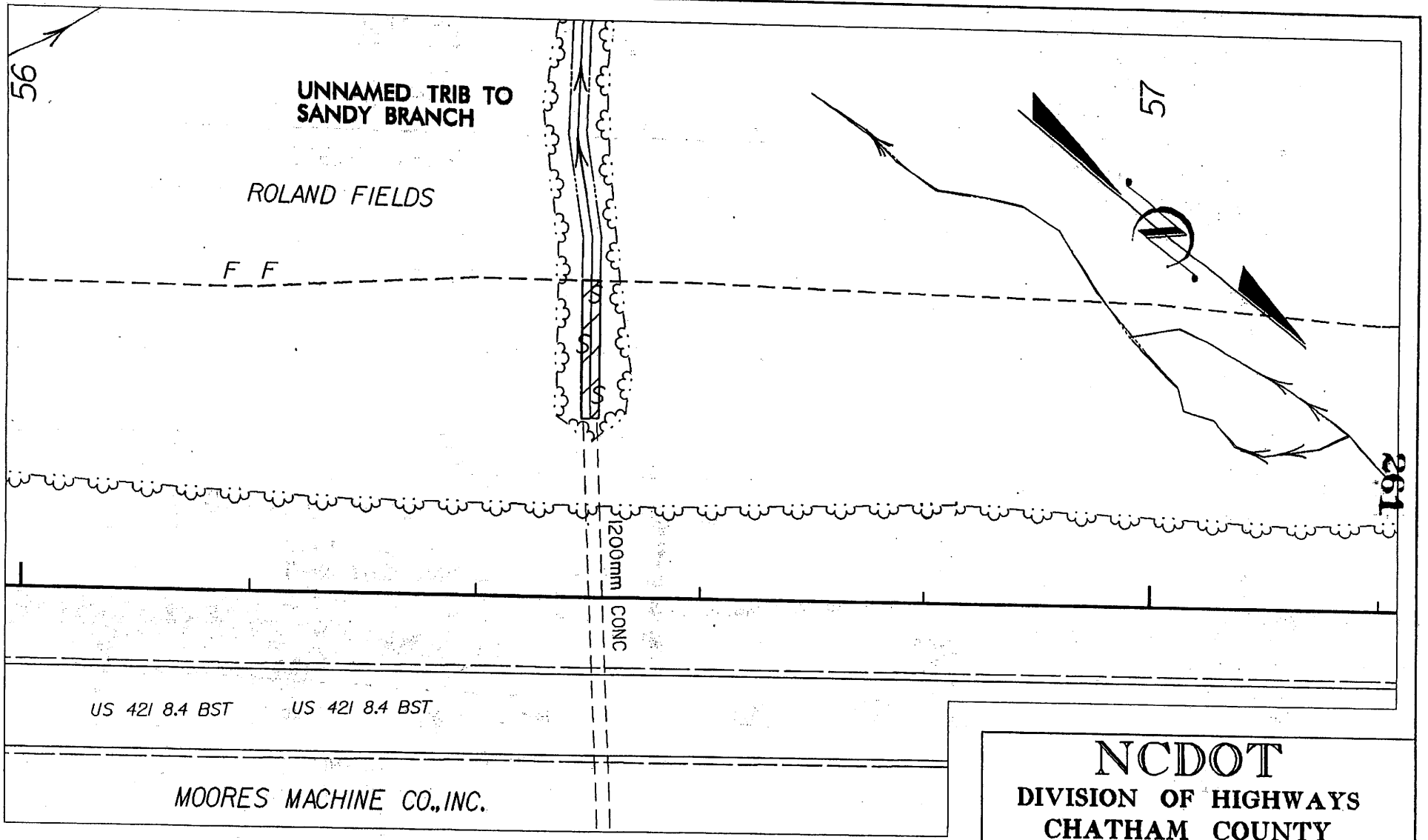
SITE 4
PLAN VIEW

5m 0 10m
SCALE

S S DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 17 **OF** 43 **JULY 25, 2003**



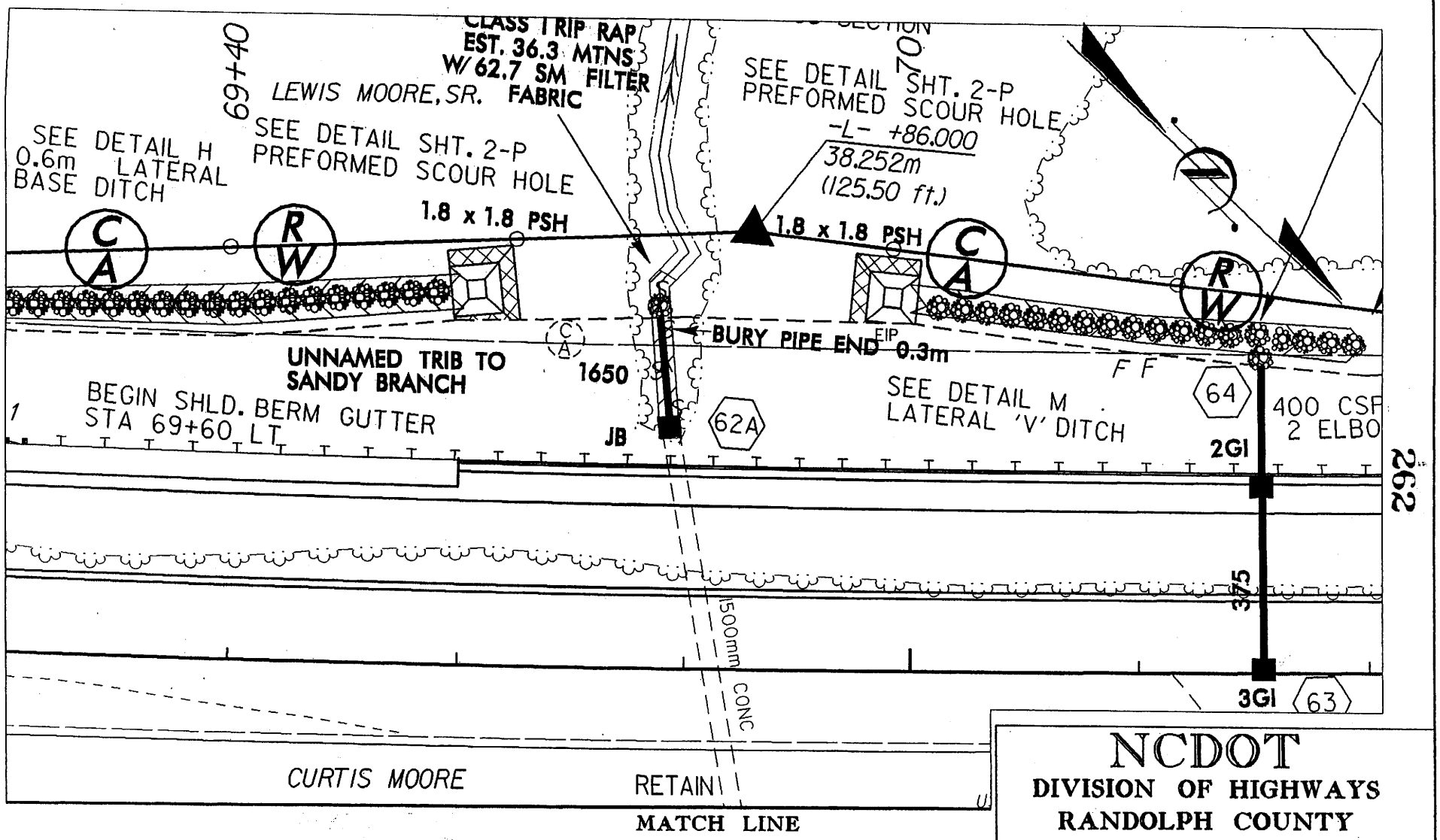
SITE 4 IMPACTS
PLAN VIEW

5m 0 10m
SCALE

S S DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 18 OF 42 JULY 25, 2003



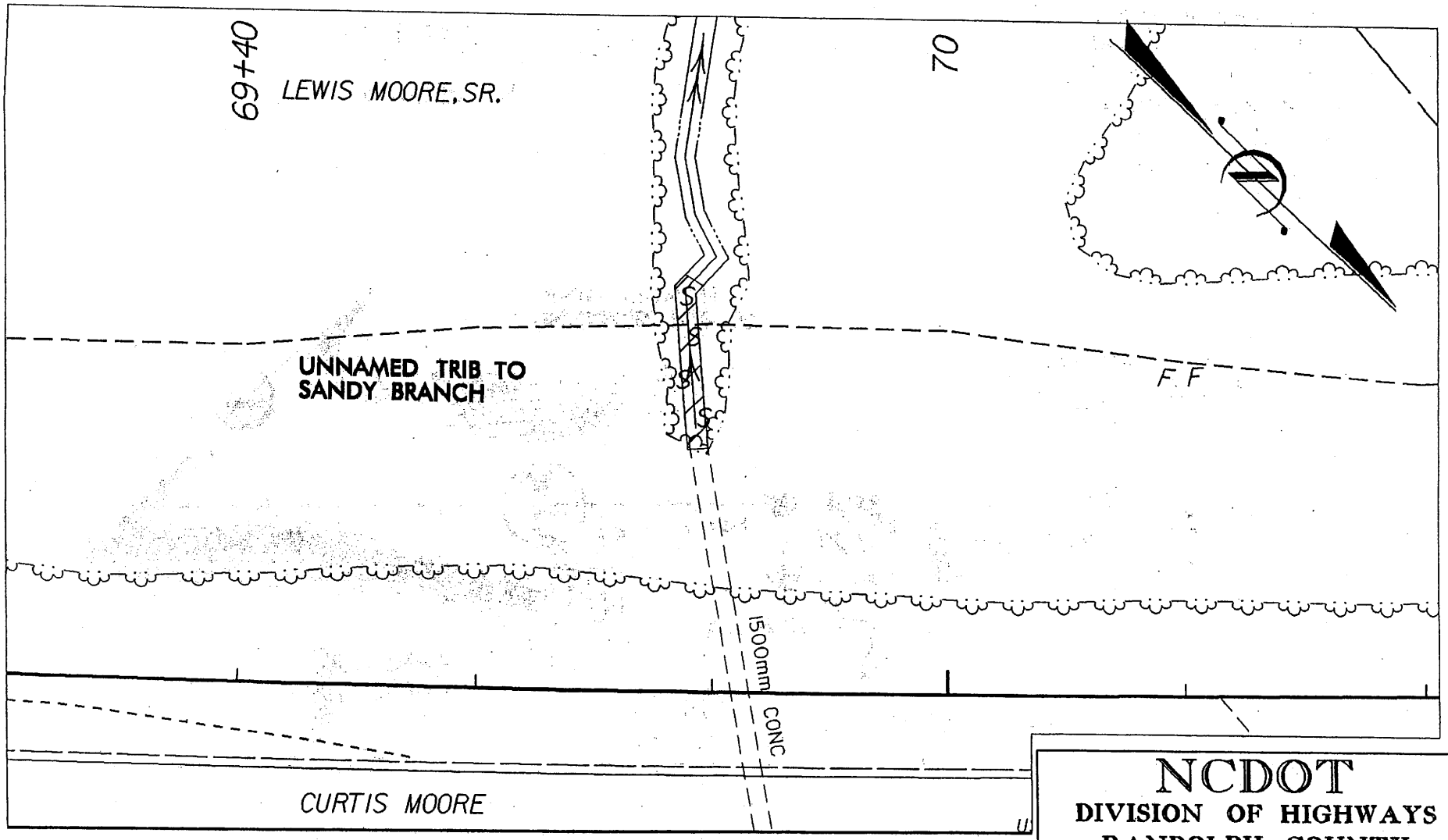
SITE 5
PLAN VIEW

5m 0 10m
SCALE

DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
RANDOLPH COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 19 **OF** 46 **JULY 25, 2003**



263

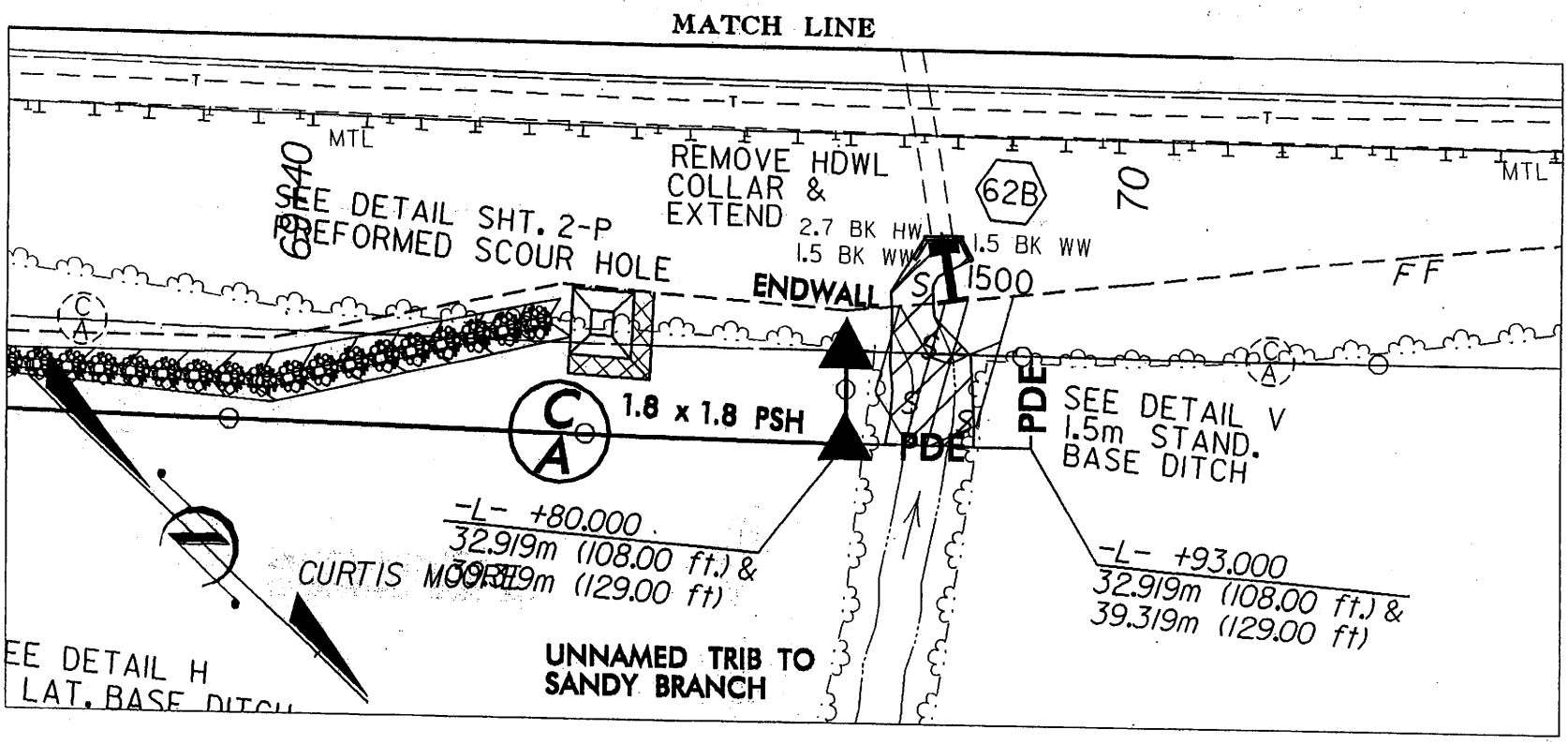
SITE 5 IMPACTS
PLAN VIEW

5m 0 10m
SCALE

DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
RANDOLPH COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 20 OF ... JULY 25, 2003



SITE 5
PLAN VIEW

5m 0 10m
SCALE

DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
RANDOLPH COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY
SHEET 21 OF 46 JULY 25, 2003

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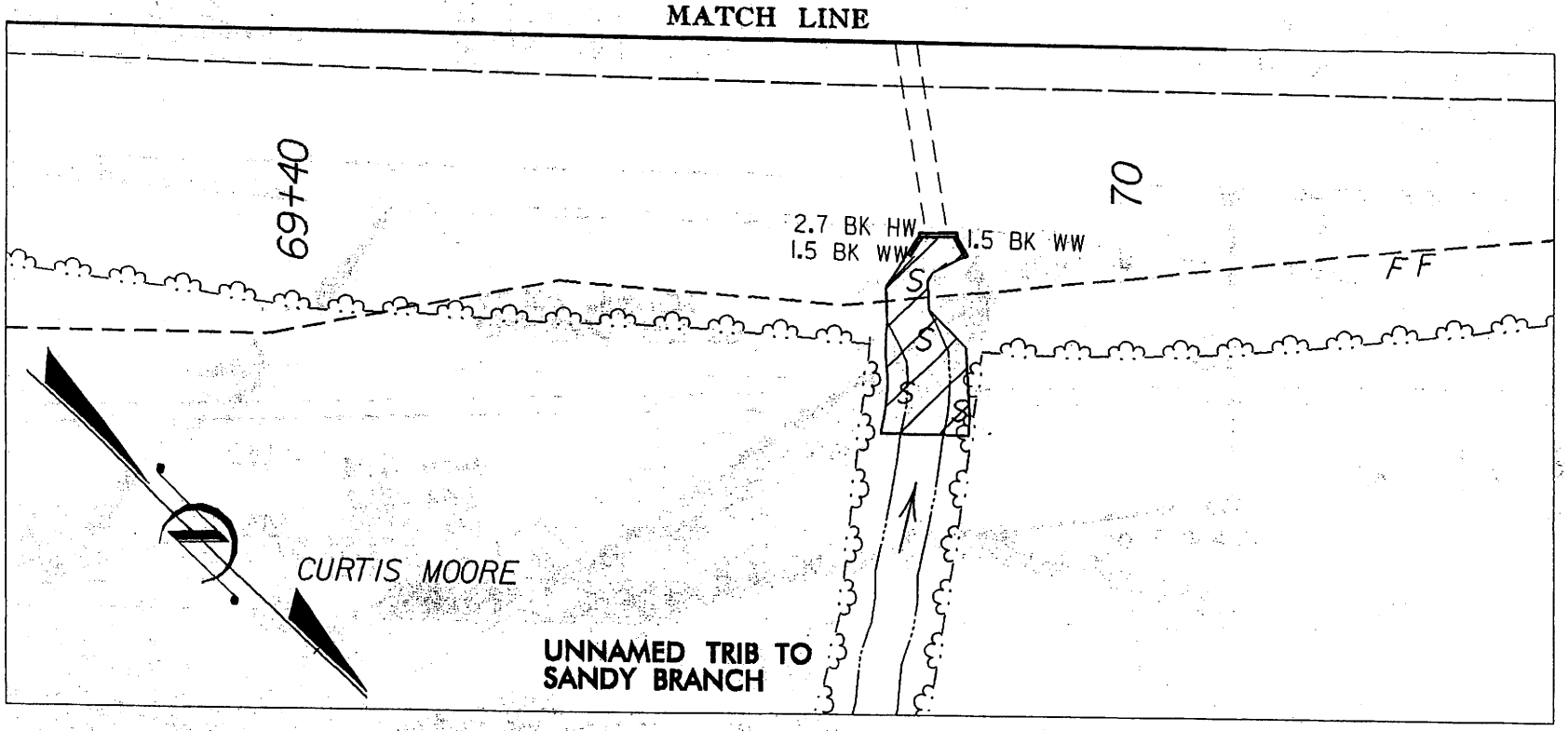


SITE 5 IMPACTS
PLAN VIEW

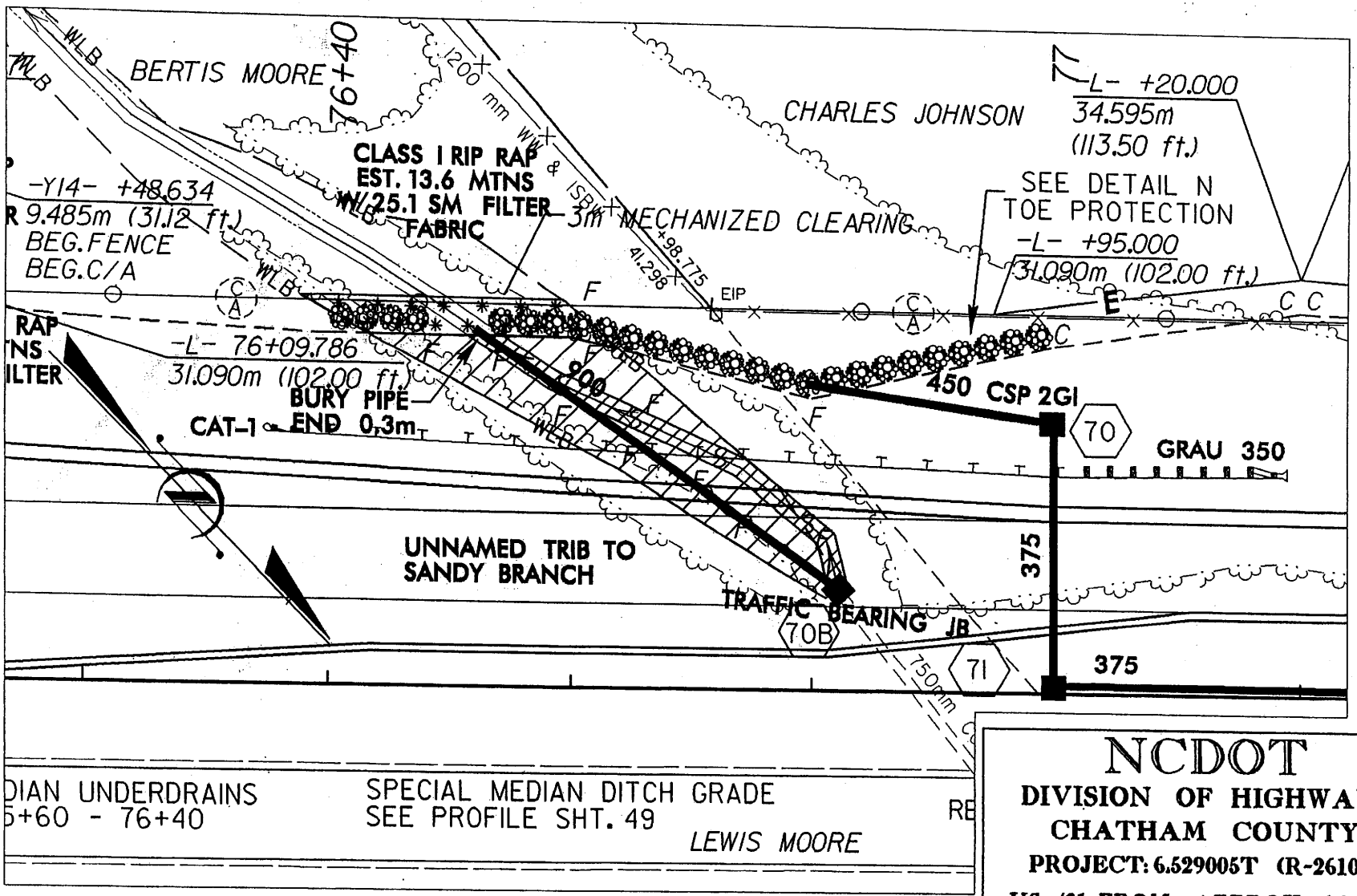
5m 0 10m
SCALE

S S DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
RANDOLPH COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

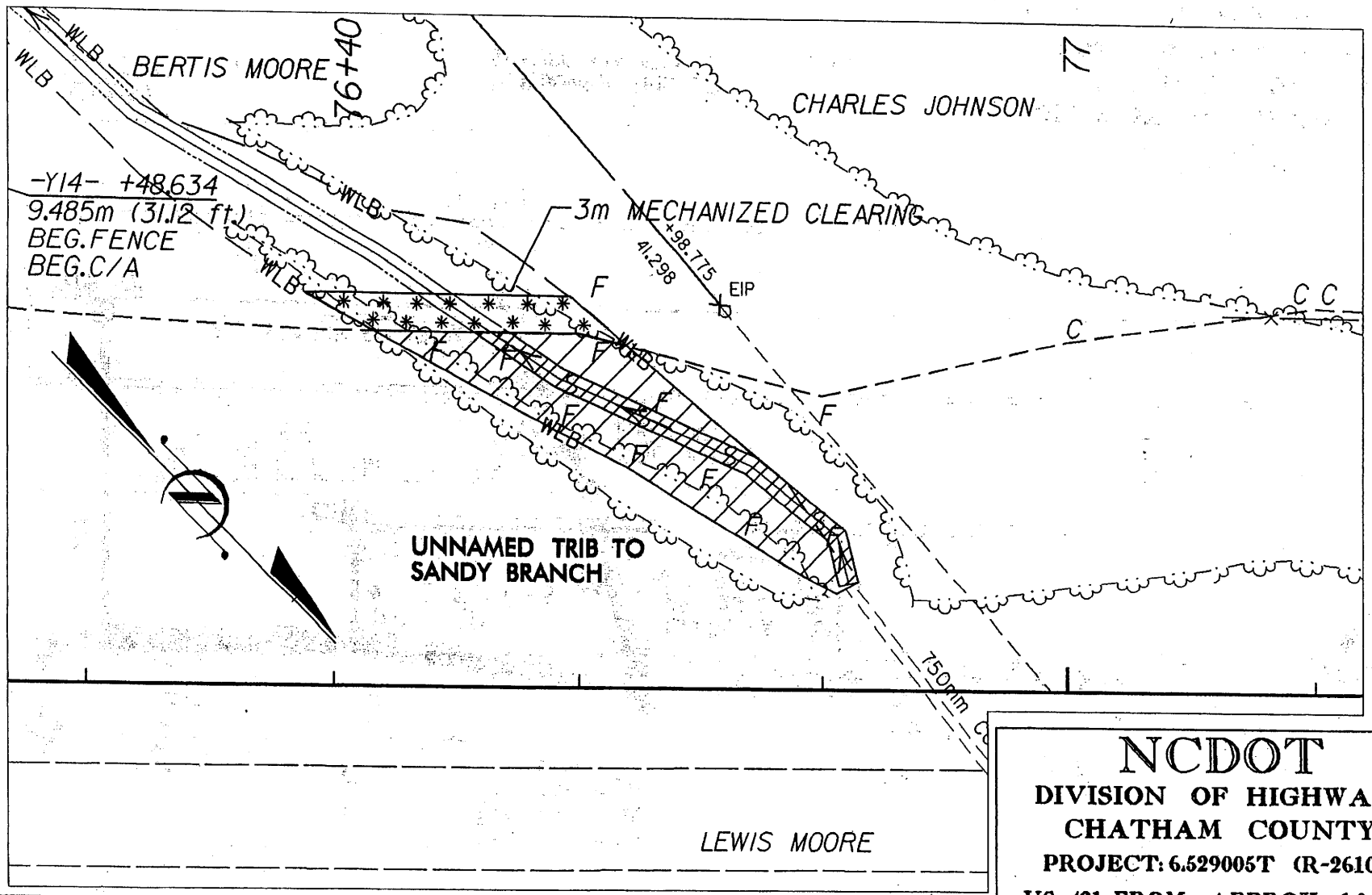
SHEET 22 OF 46 JULY 25, 2003

265



SITE 6
PLAN VIEW

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY
SHEET 13 OF 49 JULY 25, 2003



DENOTES MECHANIZED CLEARING

DENOTES FILL IN SURFACE WATER

DENOTES FILL IN WETLAND

5m 0 10m

SCALE

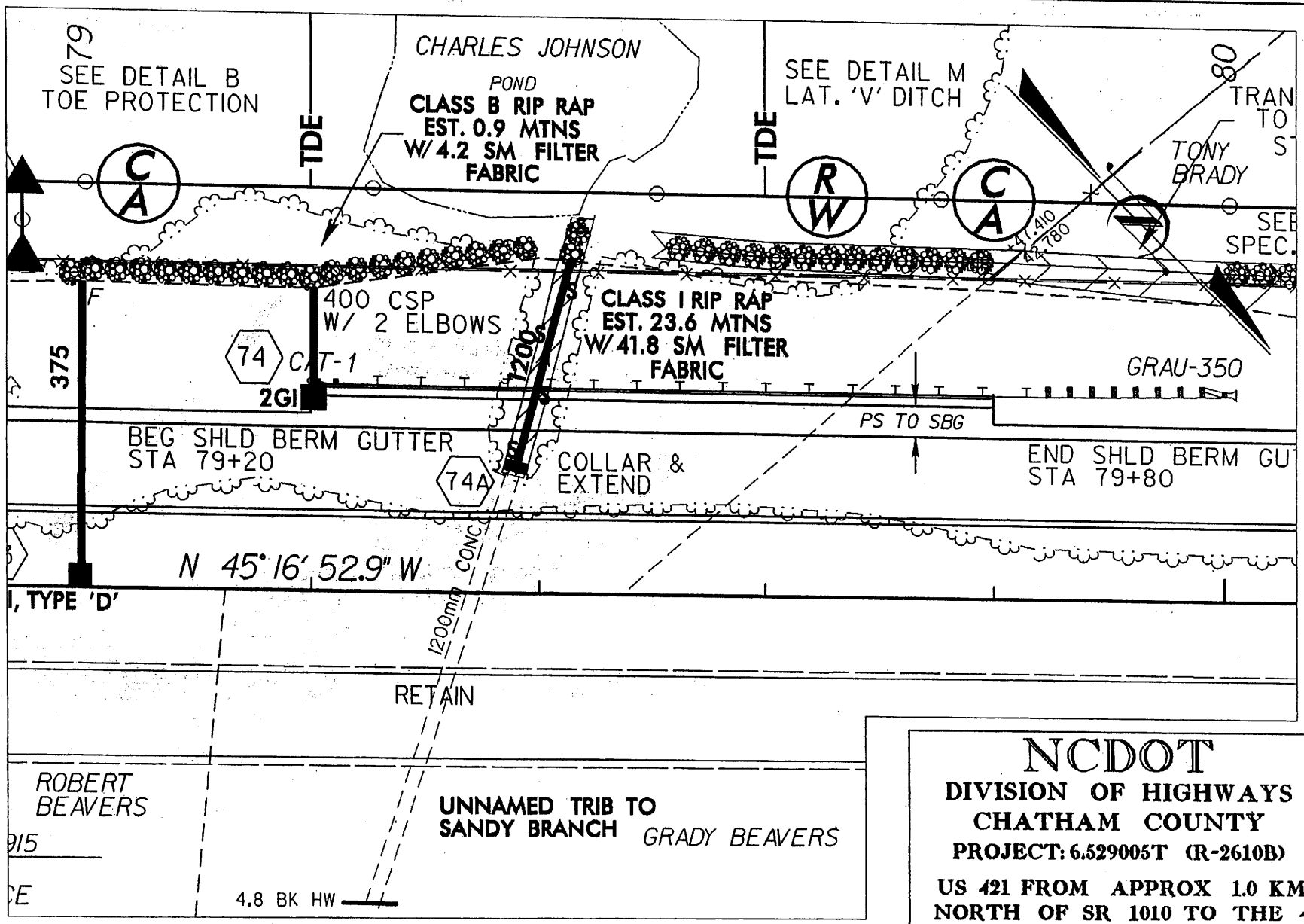
SITE 6 IMPACTS PLAN VIEW

NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 4 OF 4 JULY 25, 2003

267

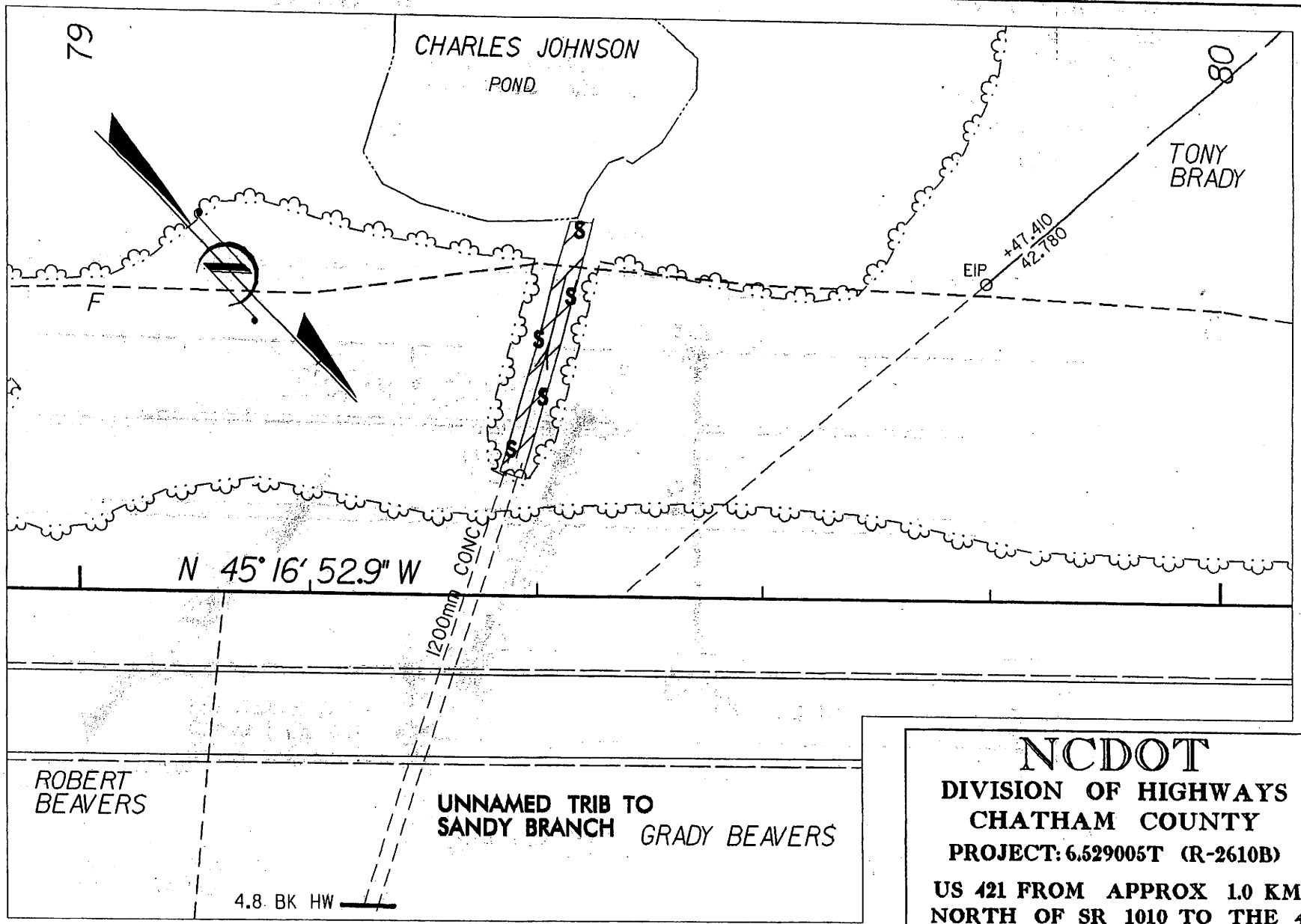


NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 15 OF 46 JULY 25, 2003



269

5m 0 10m

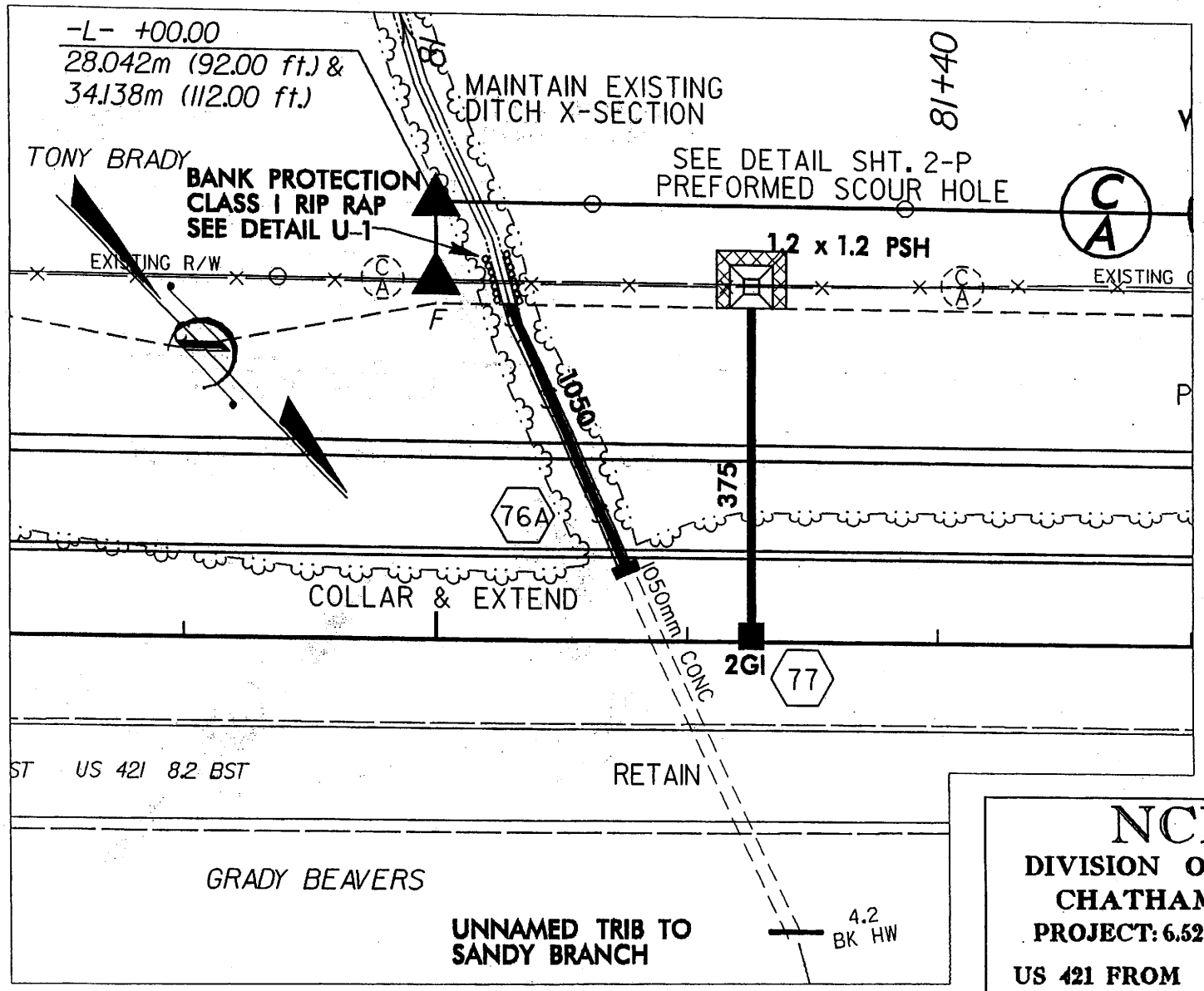
SCALE

SITE 7 IMPACTS
PLAN VIEW

S S DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 16 OF 16 JULY 25, 2003



SITE 8
PLAN VIEW

5m 0 10m
SCALE

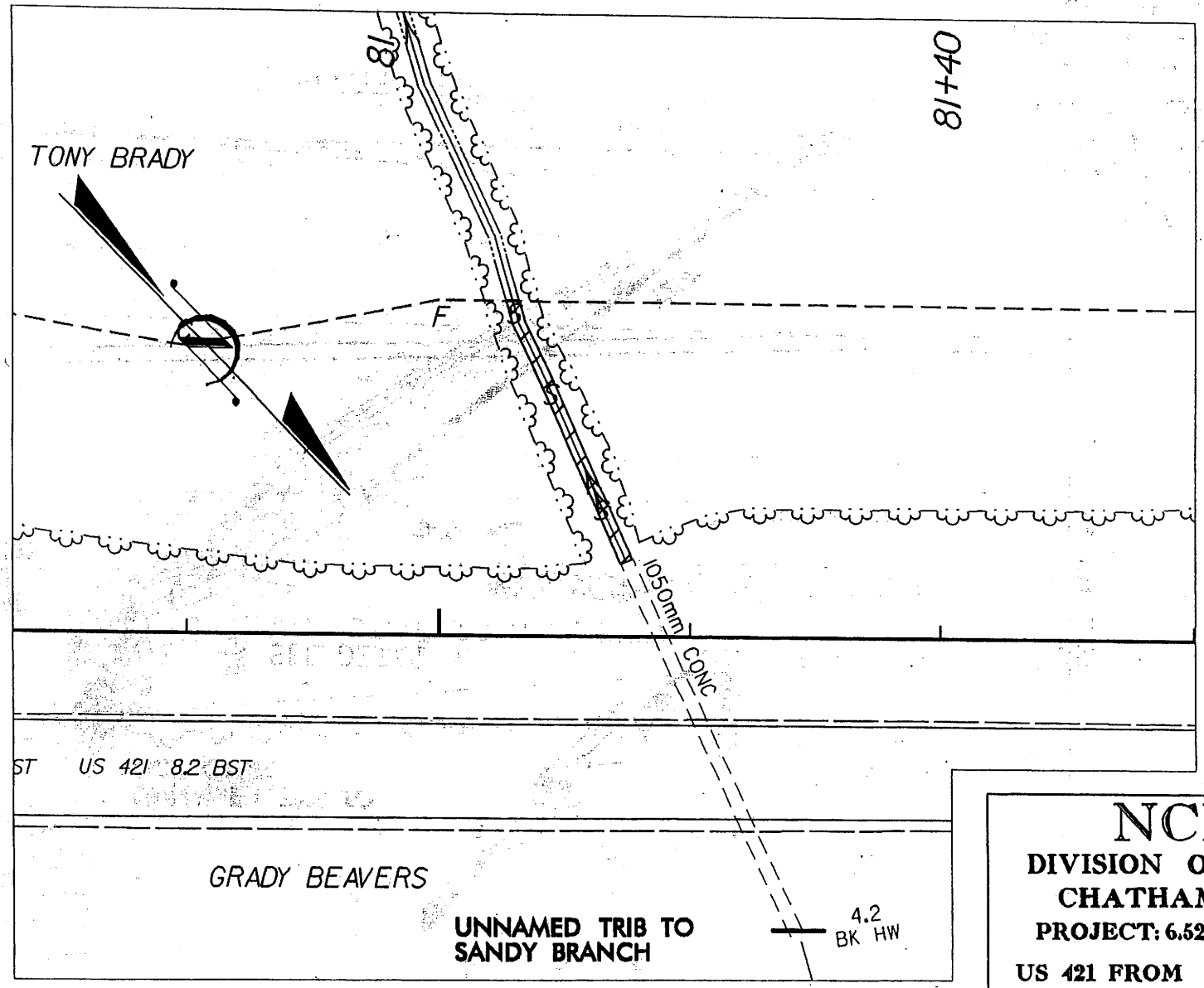
DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 27 OF 4 JULY 25, 2003

270



SITE 8
PLAN VIEW

5m 0 10m SCALE

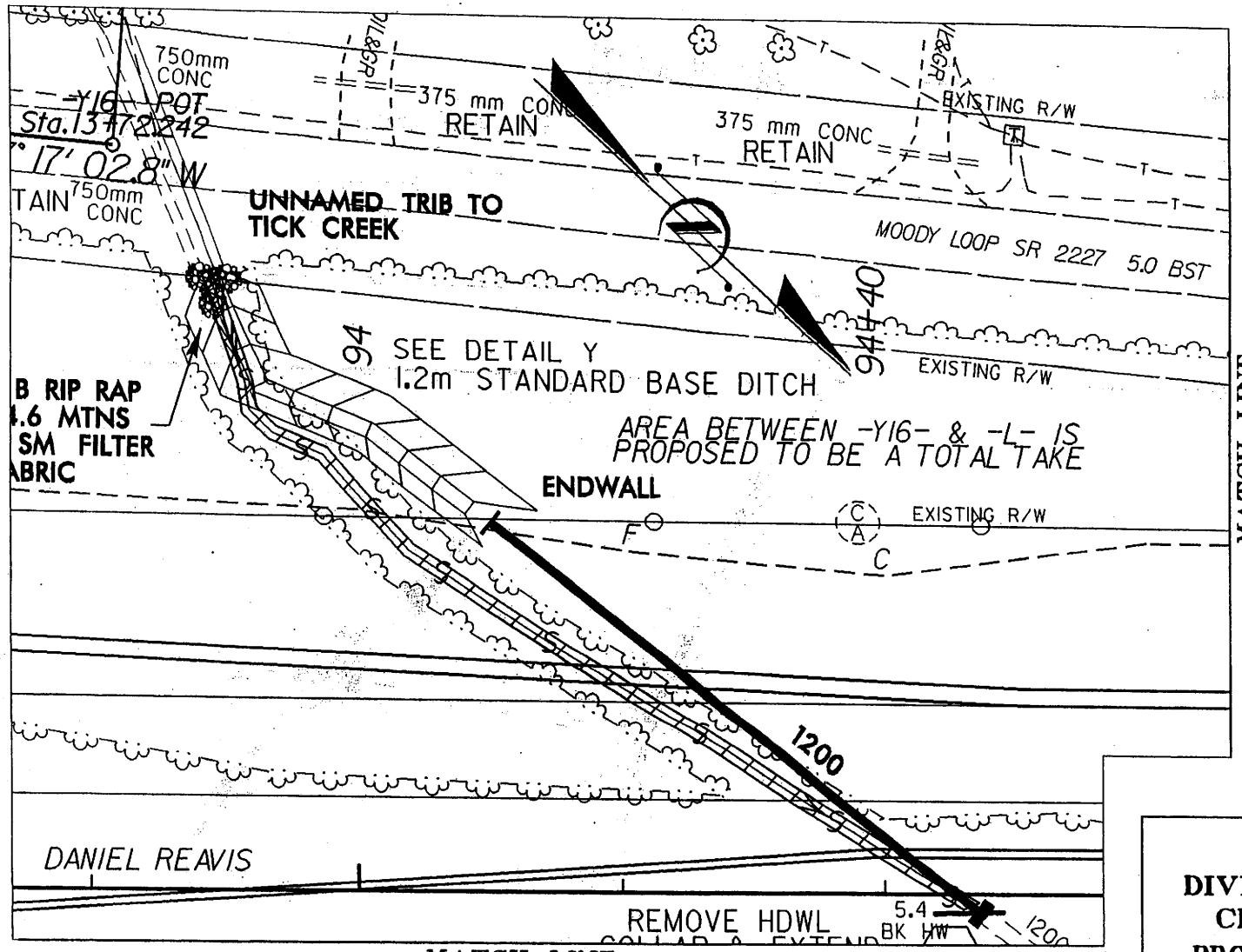
DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 28 OF 42 JULY 25, 2003

271



272

NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)

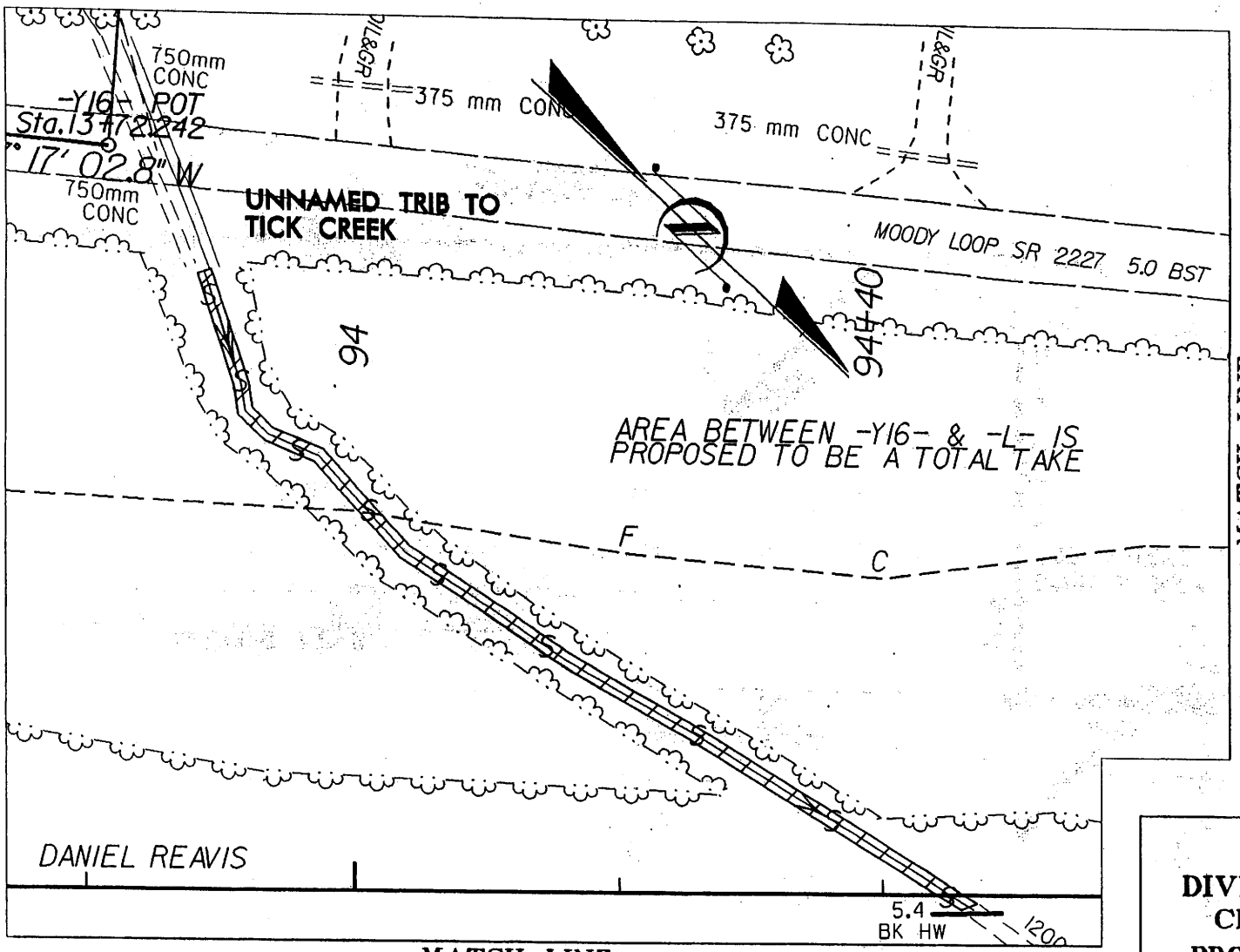
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 9 OF 10 JULY 25, 2003

SITE 9
PLAN VIEW

5m 0 10m SCALE

DENOTES FILL IN SURFACE WATER



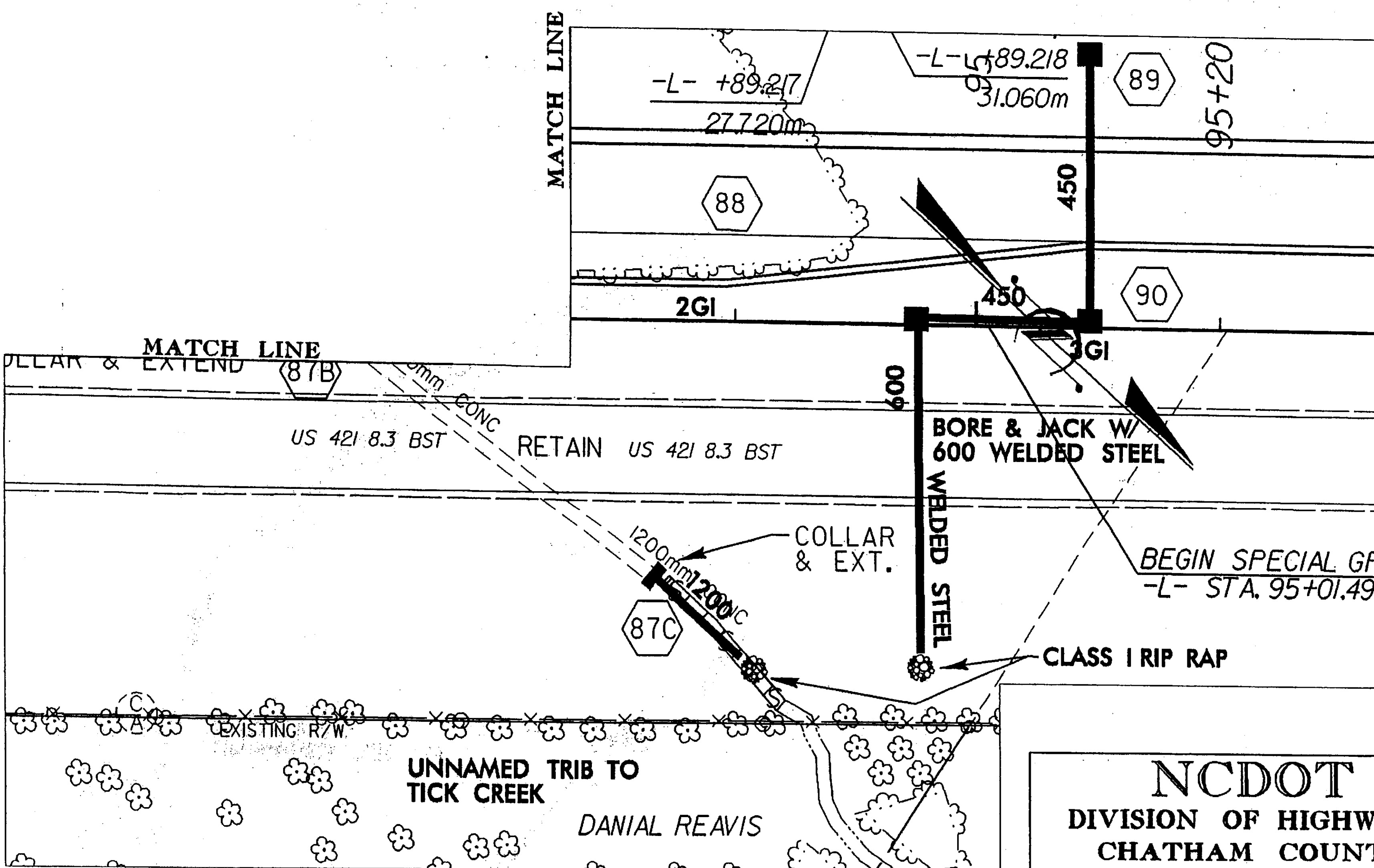
SITE 9 IMPACTS
PLAN VIEW

5m 0 10m SCALE

DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 30 OF ... JULY 25, 2003



5m 0 10m SCALE

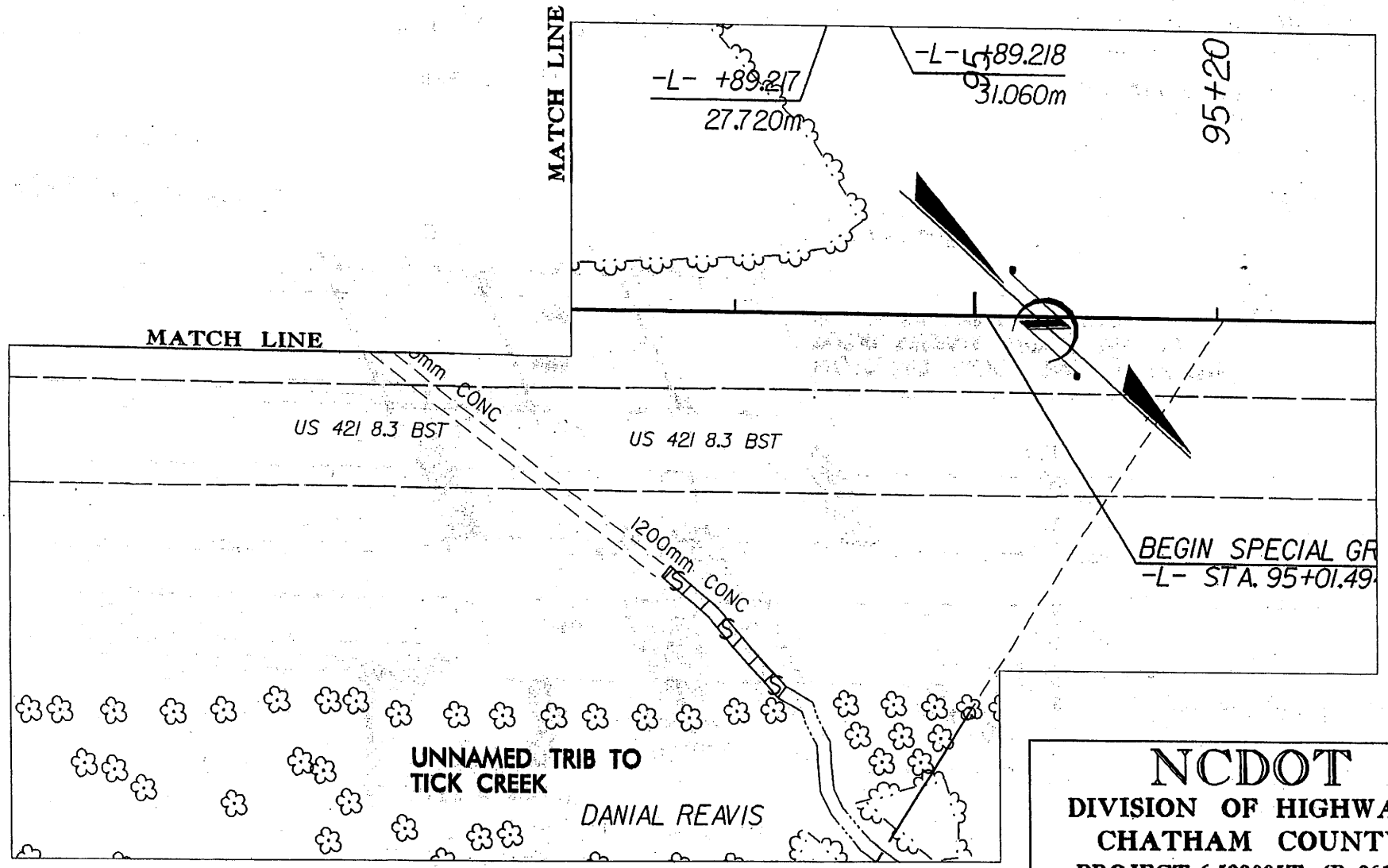
SITE 9
PLAN VIEW

DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET [illegible] OF [illegible] JULY 25, 2003



SITE 9 IMPACTS
PLAN VIEW

5m 0 10m
SCALE

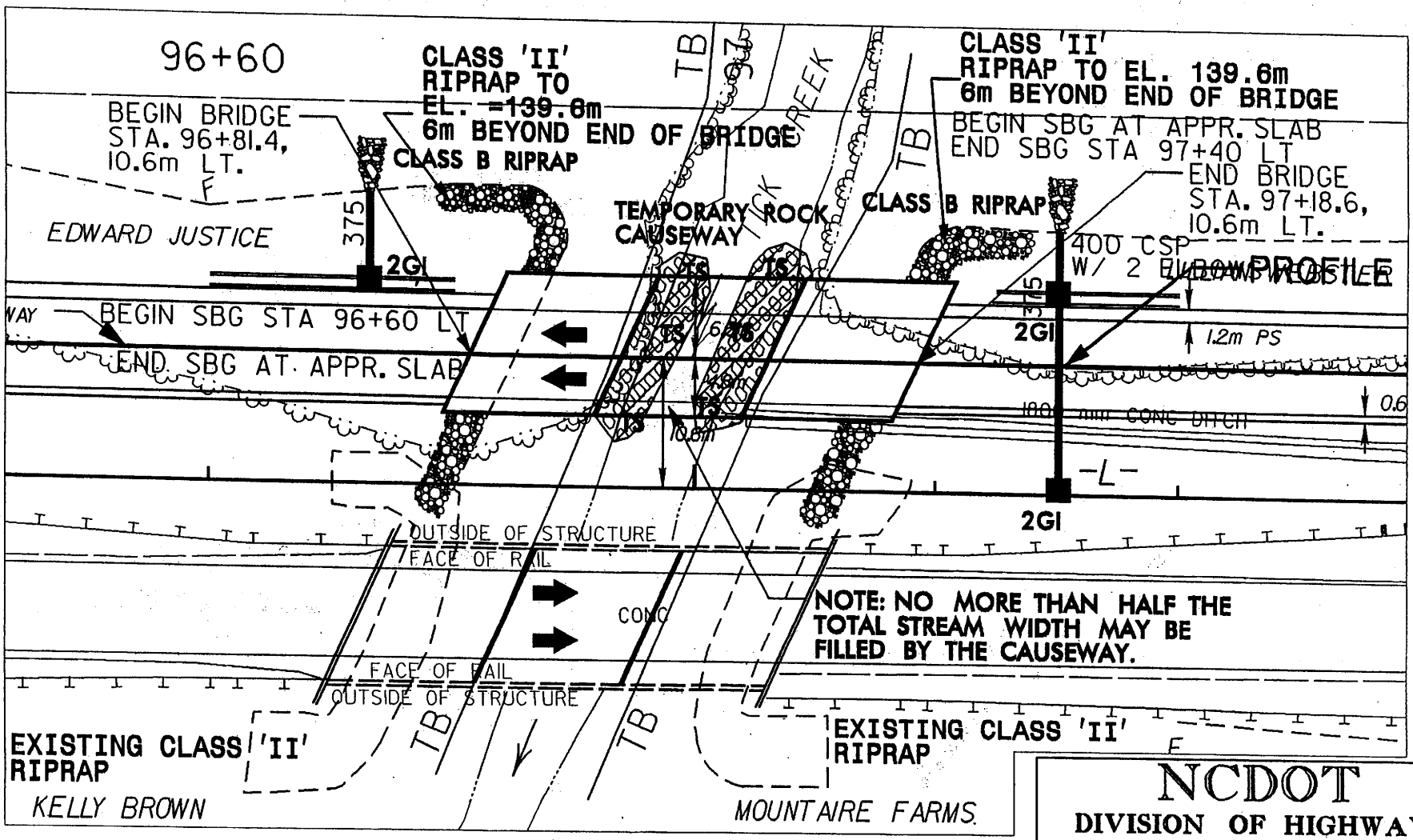
DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 12 OF 16 JULY 25, 2003

275



SITE 10
PLAN VIEW

5m 0 10m
SCALE

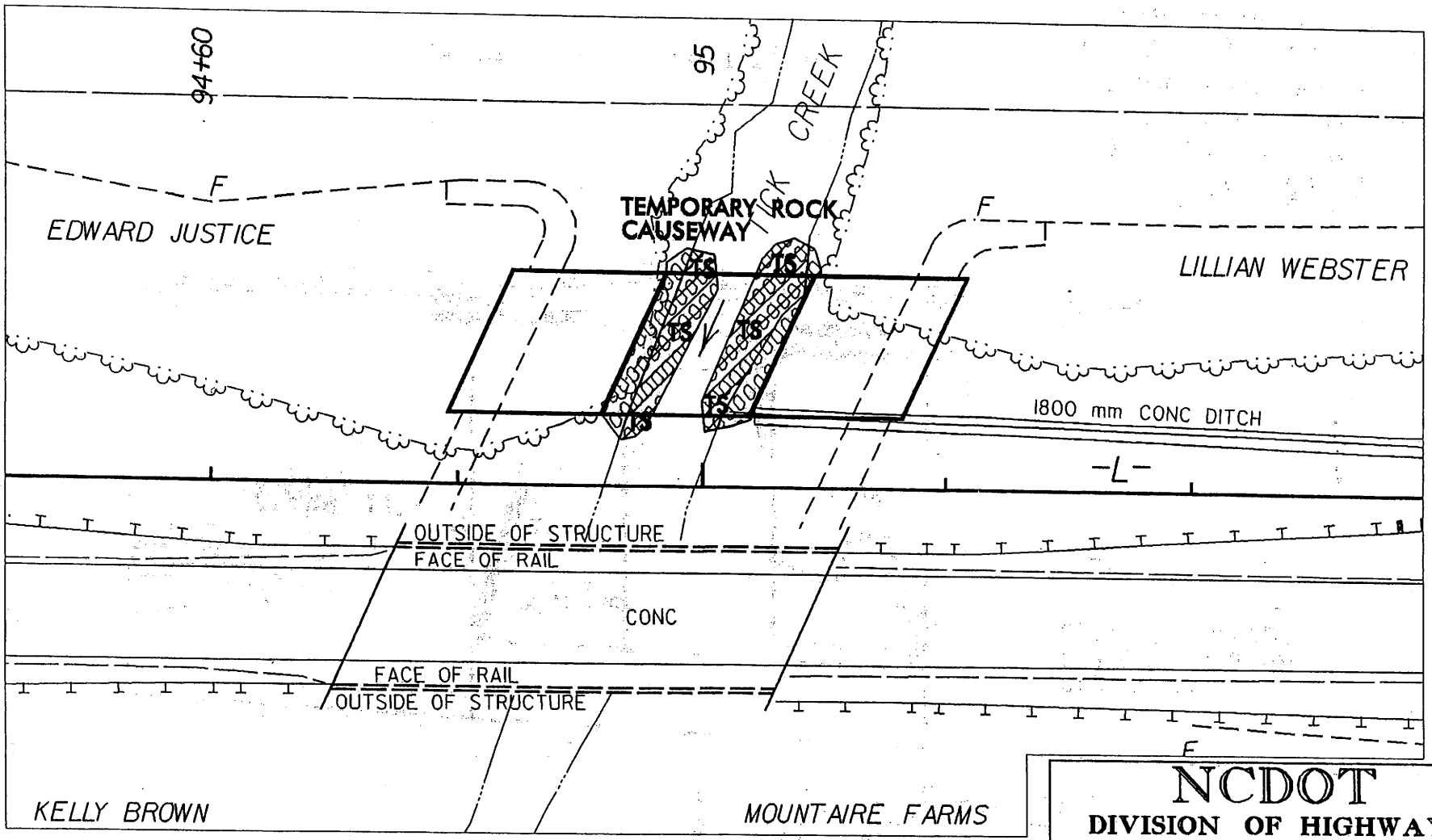
TS TS DENOTES TEMPORARY FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 3 OF 4 JULY 25, 2003

276



SITE 10 IMPACTS
PLAN VIEW

5m 0 10m

SCALE

TS TS DENOTES TEMPORARY FILL IN SURFACE WATER

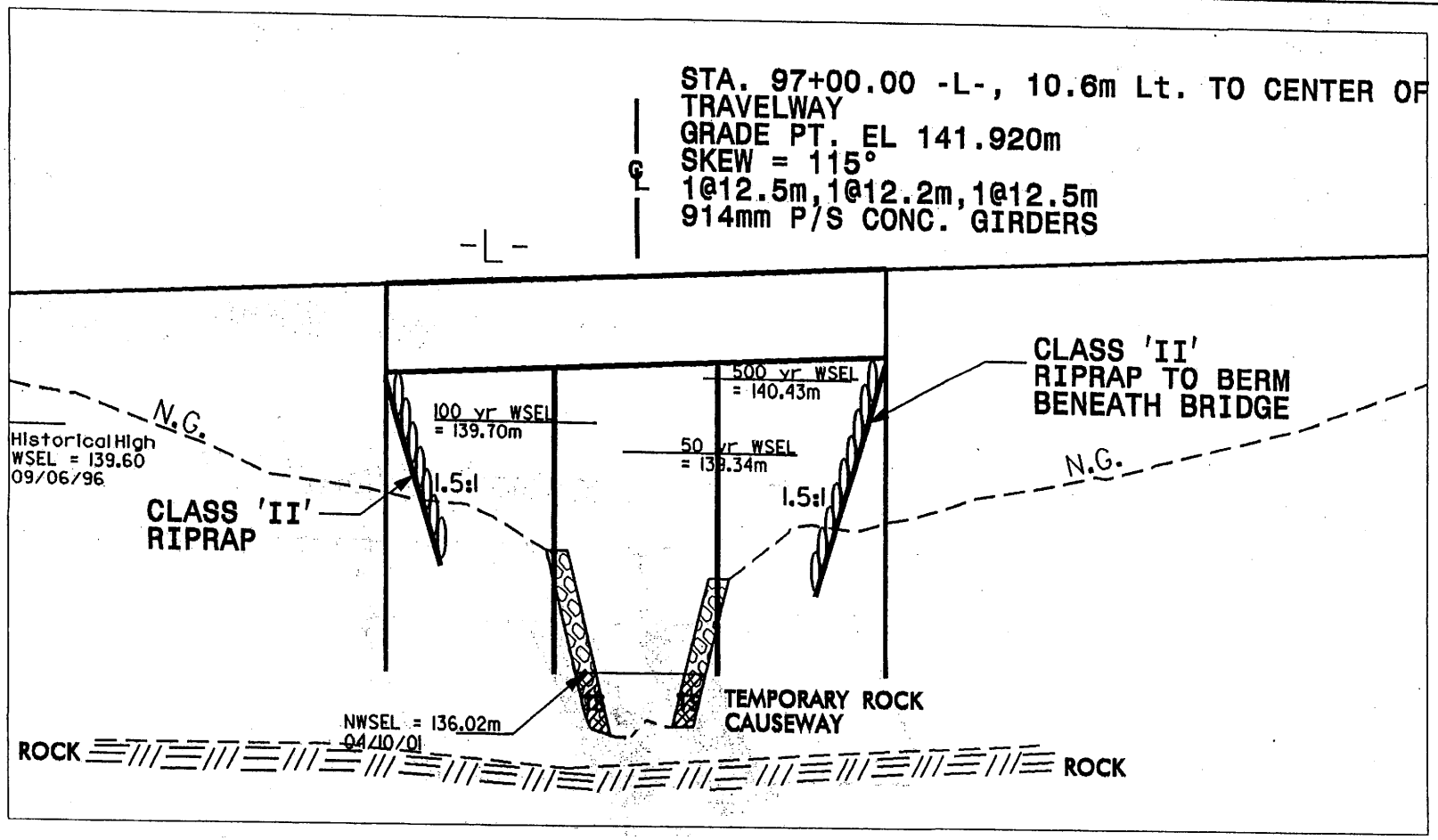
NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 4 OF 7 JULY 25, 2003

277



SITE 10 PROFILE

5m 0 10m SCALE

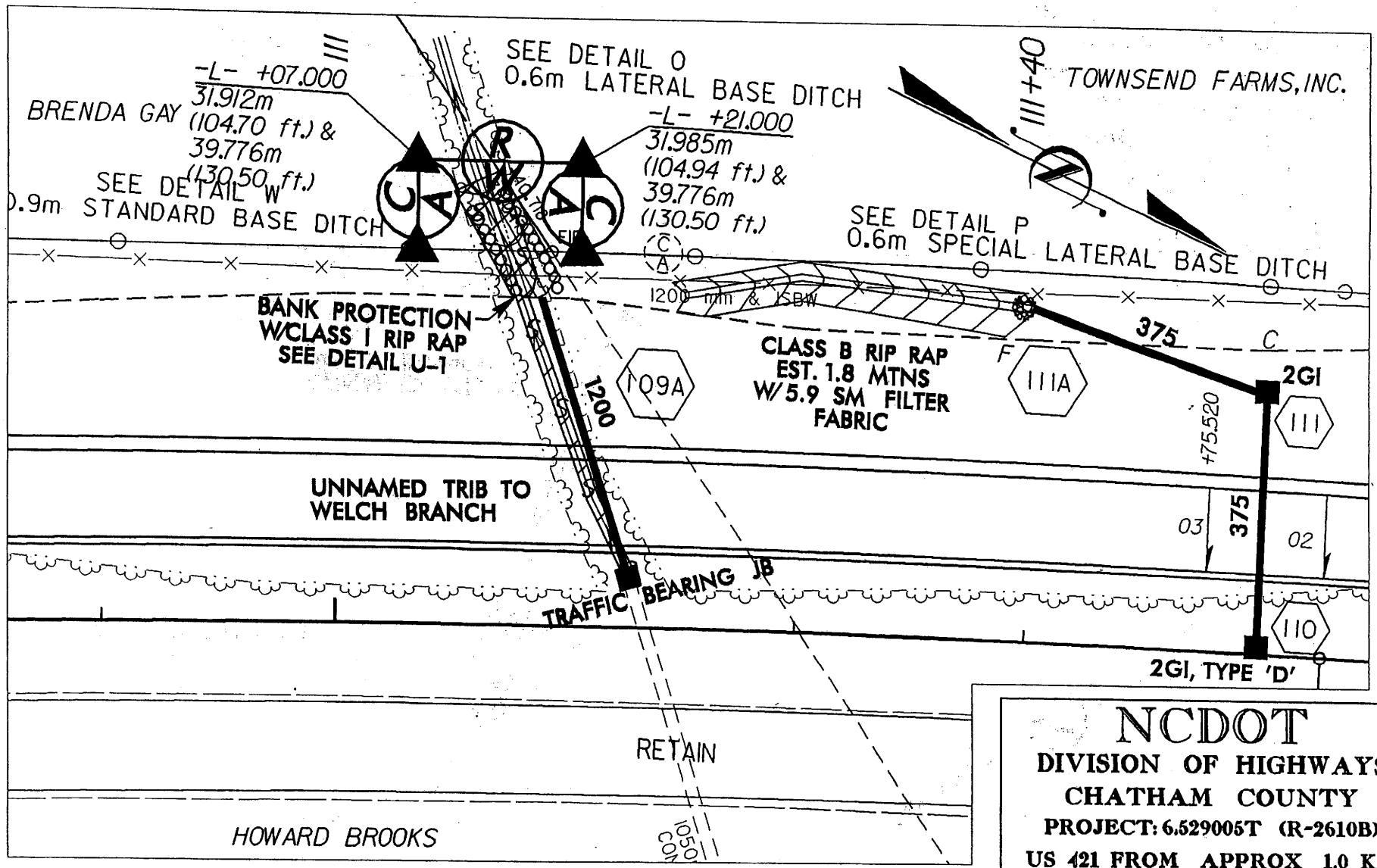
TS TS DENOTES TEMPORARY FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)

US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 35 OF 42 JULY 25, 2003

278



SITE 11
PLAN VIEW

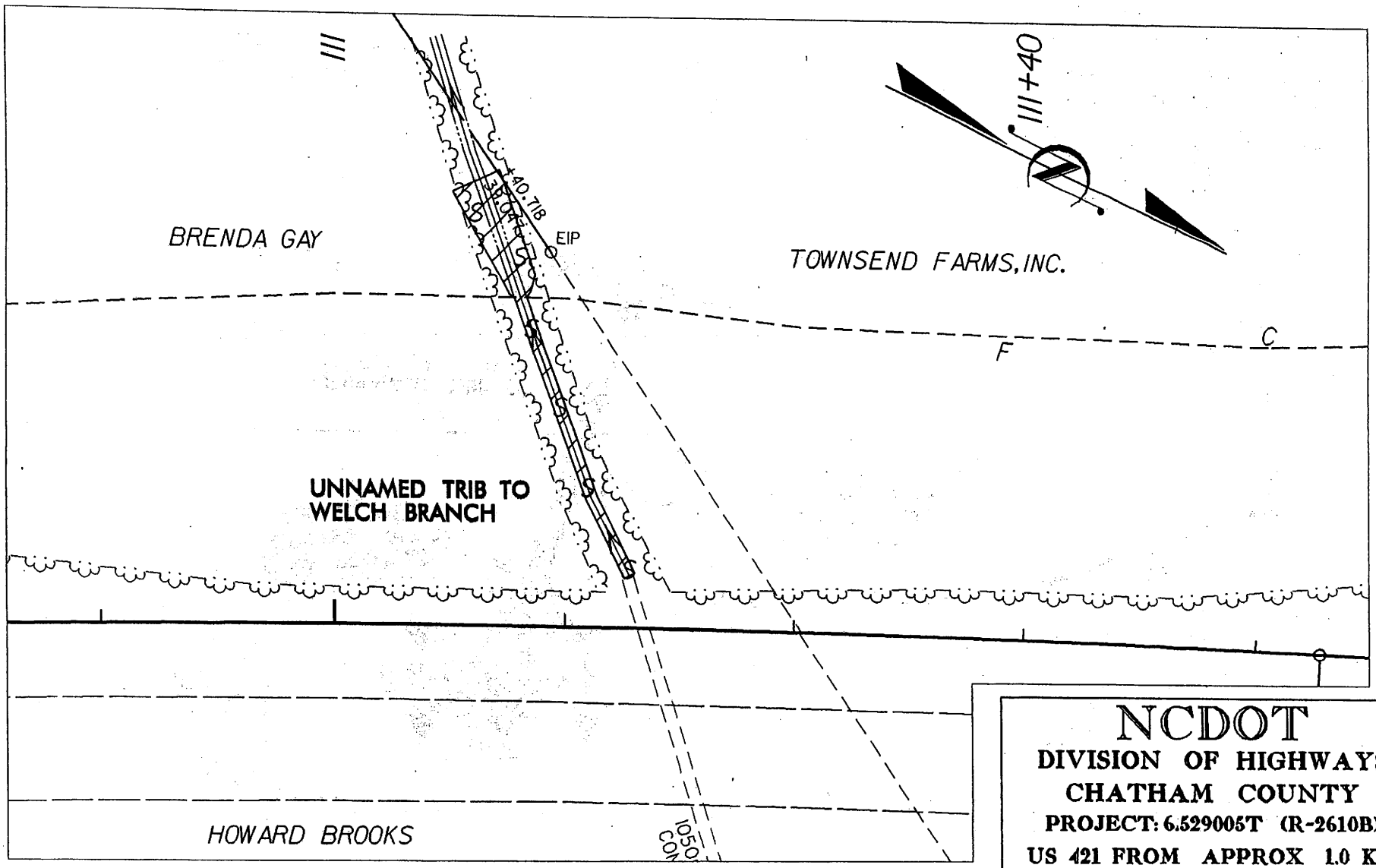
5m 0 10m
SCALE

S S DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 6 OF 4 JULY 25, 2003

622



280

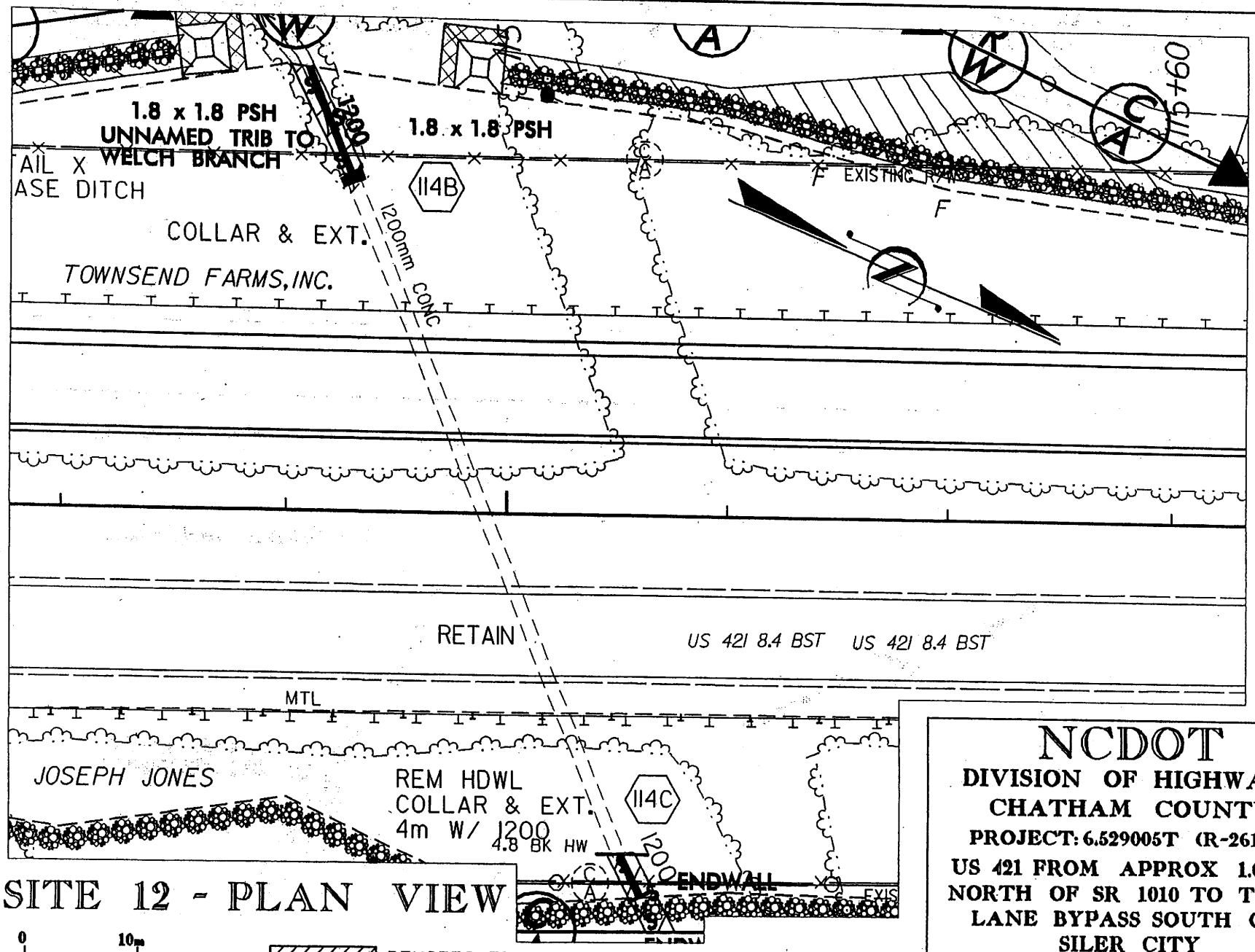
SITE 11 IMPACTS
PLAN VIEW

5m 0 10m SCALE

S S DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 37 OF 76 JULY 25, 2003

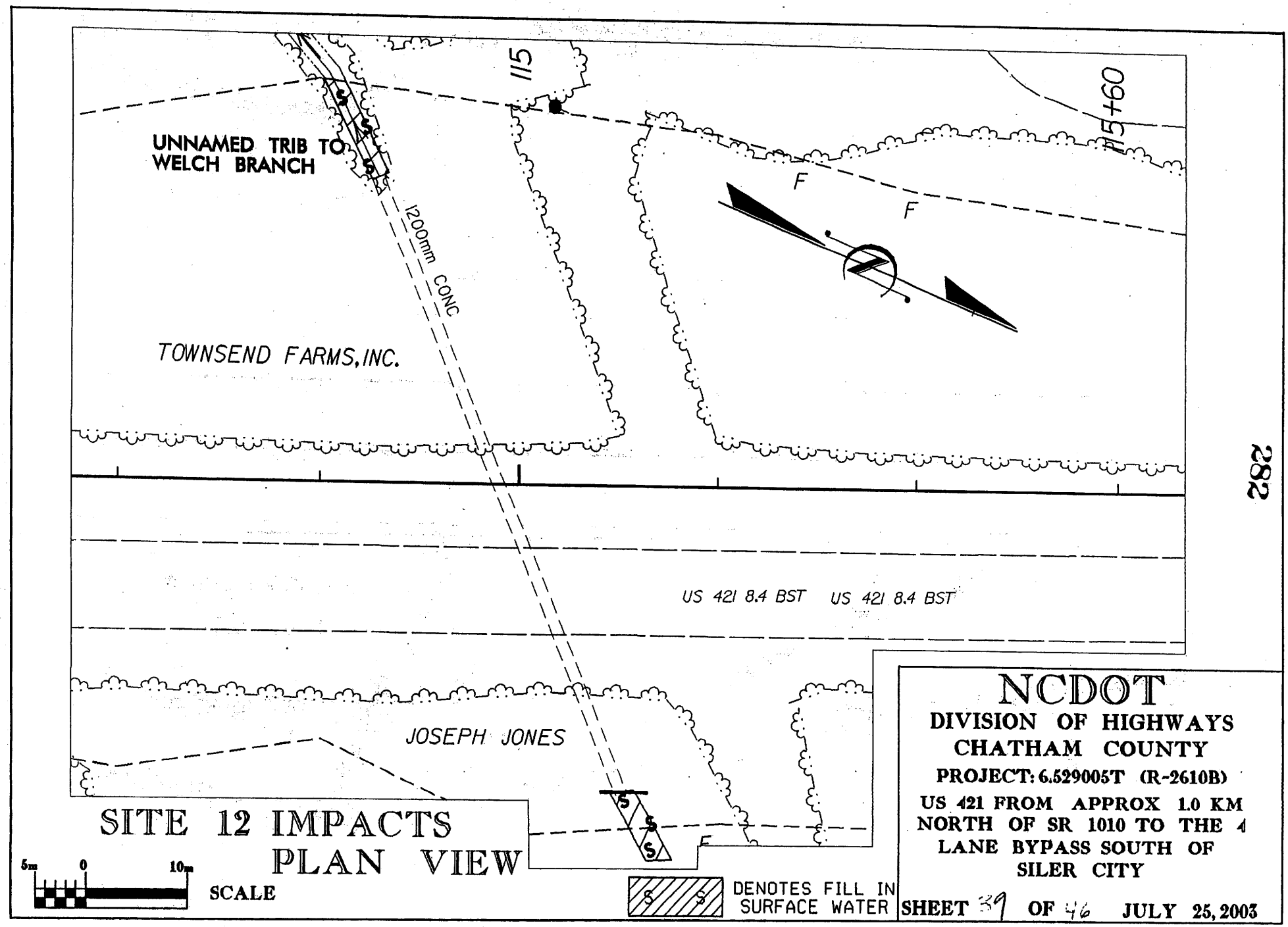


SITE 12 - PLAN VIEW

281

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 30 OF 42 JULY 25, 2003

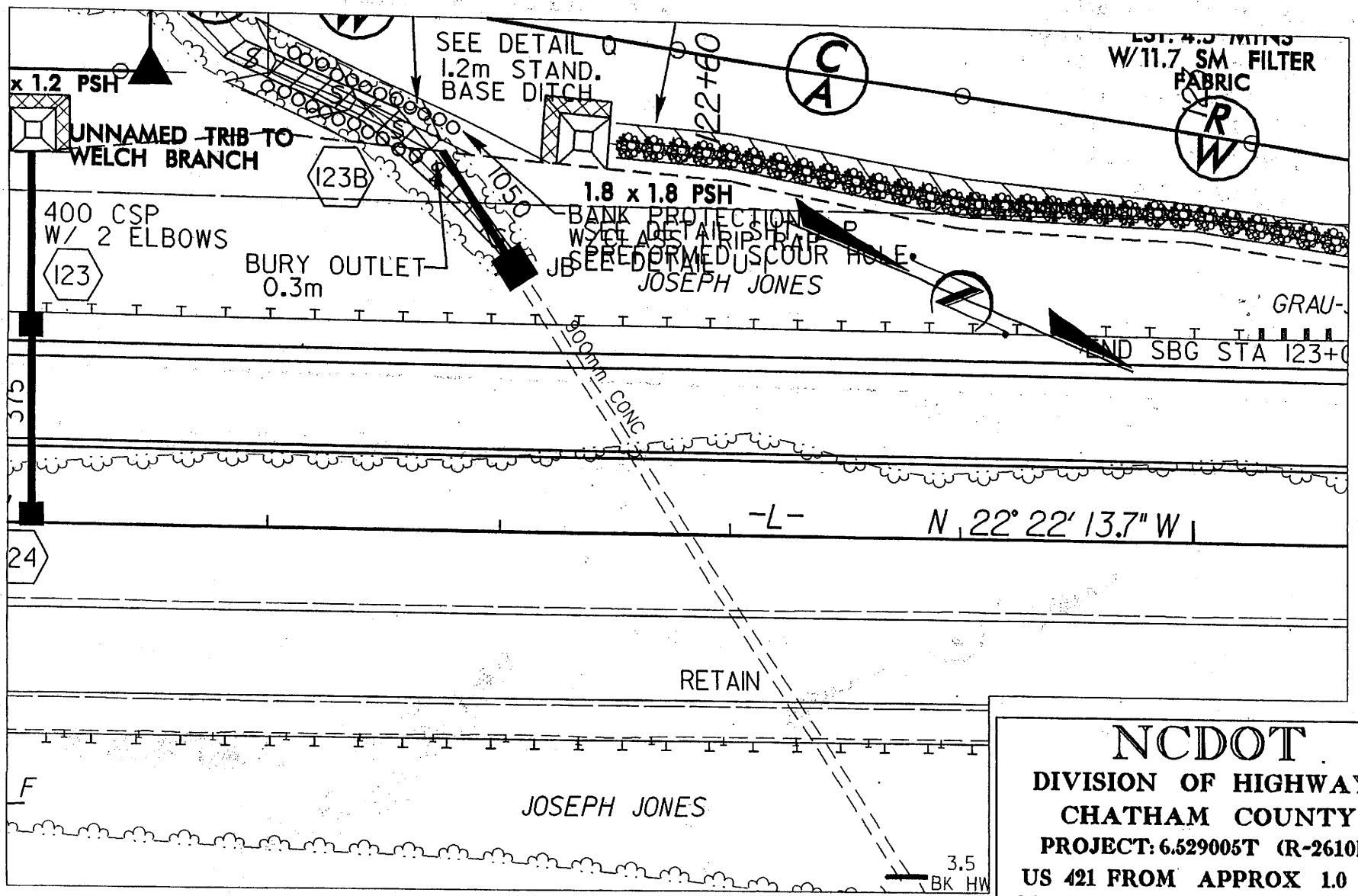


SITE 12 IMPACTS
PLAN VIEW

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 39 OF 46 JULY 25, 2003

282



SITE 13
PLAN VIEW

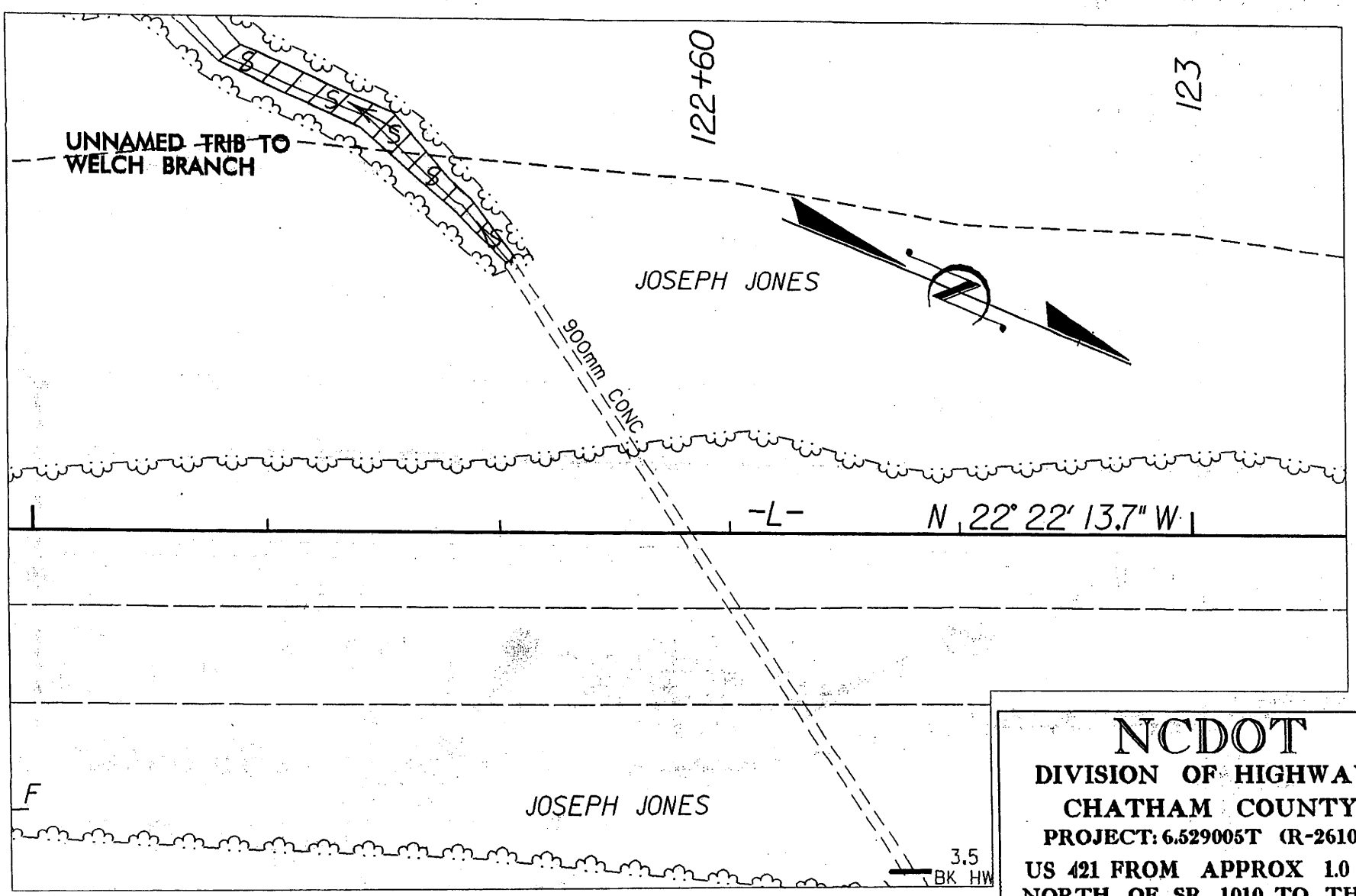
5m 0 10m SCALE

DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 40 OF 44 JULY 25, 2003

283



SITE 13 IMPACTS
PLAN VIEW

5m 0 10m SCALE

DENOTES FILL IN SURFACE WATER

NCDOT
DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT: 6.529005T (R-2610B)
US 421 FROM APPROX 1.0 KM NORTH OF SR 1010 TO THE 4 LANE BYPASS SOUTH OF SILER CITY

SHEET 41 OF 46 JULY 25, 2003

285

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Fill In Wetlands (ac)	WETLAND IMPACTS: Temp. Fill In Wetlands (ac)	WETLAND IMPACTS: Excavation In Wetlands (ac)	WETLAND IMPACTS: Mechanized Clearing (Method III) (ac)	SURFACE WATER IMPACTS: Fill In SW (Natural) (ac)	SURFACE WATER IMPACTS: Fill In SW (Pond) (ac)	SURFACE WATER IMPACTS: Temp. Fill In SW (ac)	SURFACE WATER IMPACTS: Existing Channel Impacted (ft)	SURFACE WATER IMPACTS: Natural Stream Design (ft)
1	11+80 - 12+40 -L-	750 rcp (30")					0.0160			144	
2	17+80 - 19+05 -L-	600 rcp (24")					0.0806			443	
3	22+52.3 - 23+14.5 -L-	Bridge							0.0024	20	
3A	37+57 - 37+90 -L-	750 rcp (30")	0.0634			0.0104					
4	56+50 -L-	1200 rcp (48")					0.0047			52	
5	69+80 -L-	1500 rcp (60")					0.0220			95	
6	76+52 - 76+80 -L-	750 rcp (30")					0.0145			121	
	76+40 - 76+80 -L-	750 rcp (30")	0.0624			0.0156					
7	79+40 -L-	1200 rcp (48")					0.0115			75	
8	81+05 - 81+15 -L-	1050 rcp(42")					0.0054			92	
9	93+90 - 94+88 -L-	1200 rcp (48")					0.0247			292	
10	96+81.4 - 97+18.6 -L-	Bridge							0.0211	62	

English Summary

Form Revised 3/22/01

NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT 6.529005T (R-2610B)
US 421 FROM APPROX 1.0KM
NORTH OF SR 1010 TO THE 4
LANE BYPASS SOUTH OF
SILER CITY

SHEET 42 OF 46 7/25/03

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	SURFACE WATER IMPACTS: Fill In SW (Natural) (ac)	Fill In SW (Pond) (ac)	Temp. Fill In SW (ac)	Existing Channel Impacted (ft)	Natural Stream Design (ft)
11	111+18 -L-	1050 rcp (42")					0.0155			125	
12	114+80 - 115+10 -L-	1200 rcp (48")					0.0091			72	
13	122+18 - 122+40 -L-	900 rcp (36")					0.0153			105	
TOTALS:			0.1258			0.0260	0.2194		0.0235	1699	

English Summary

Form Revised 3/22/01

NCDOT

DIVISION OF HIGHWAYS
CHATHAM COUNTY
PROJECT 6.529005T (R-2610B)
US 421 FROM APPROX 1.0KM
NORTH OF SR 1010 TO THE 4
LANE BYPASS SOUTH OF
SILER CITY

SHEET 43 OF 46 7/25/03

Site No.	Property Owner Name	Property Owner Address
1	James Bain	P.O. Box 87, Goldston, NC 27252
	Walter M. Derreth, Jr	9745 US 421, Goldston, NC 27252
2	Pine Tree Group, LLC.	C/O James D. Goldston, Raleigh, NC 27613
3	Pine Tree Group, LLC.	C/O James D. Goldston, Raleigh, NC 27613
	Ronald Wood	P.O. Box 95, Enfield, NC 27823
	David McGrath	295 Ralph Sipe Rd., Bear Creek, NC 27207
3A	William Watson	422 Rock Spring St., Greensboro, NC
	Howard Willett	P.O. Box 85, Gulf, NC 27256
	Melvin Perrell	
	John Wilkins, Sr.	21 (or 221) Cambell Rd., Bear Creek, NC 27207
4	Ronald Fields	13300 NC Hwy 902, Bear Creek, NC 27207
	Moores Machine Co., Inc.	Eugene Moore, Bear Creek, NC 27207
5	Lewis Moore, Sr.	130 Elmer Moore Rd., Bear Creek, NC 27207
	Curtis Moore	Box 43, Bonlee, NC 27213
6	Bertis Moore	491 Elmer Moore Rd., Bear Creek, NC 27207
	Charles Johnson	1430 Sandy Branch Ch., Bear Creek, NC 27207
	Lewis Moore	130 Elmer Moore Rd., Bear Creek, NC 27207
7	Charles Johnson	1430 Sandy Branch Ch., Bear Creek, NC 27207
	Robert Beavers	P.O. Box 1051, Clemmons, NC 27012
	Grady Beavers	1884 Sandy Branch Ch., Bear Creek, NC 27207

List of Property Owners

NC Dept. of Transportation
Division of Highways
Chatham County
Project: 6.529005T (R-2610B)

US 421 From Approximately 1.0 KM North of SR 1010 to the 4 Lane Bypass South of Siler City

Sheet 44 of 46 07/25/03

Site No.	Property Owner Name	Property Owner Address
8	Tony Brady	5520 US 421 South, Siler City, NC 27344
	Grady Beavers	1884 Sandy Branch Ch., Bear Creek, NC 27207
9	Daniel Reavis	P.O. Box 303, Harmony, NC 28634
	NC DOT	
10	Edward Justice	44 Moody Loop Rd., Siler City, NC 27344
	Kelly Brown	4695 US 421 South, Siler City, NC 27344
	Lillian Webster	1781 Wrenn Smith Rd., Siler City, NC 27344
	Mountaire Farms	204 E. 4th St., North Litt, AR, 72119
11	Brenda Gay	108 Buck Gunter Rd., Siler City, NC 27344
	Howard Brooks	1155 Carter Brooks Rd., Siler City, NC 27344
	Townsend Farms, Inc.	P.O. Box709, Siler City, NC 27344
12	Townsend Farms, Inc.	P.O. Box709, Siler City, NC 27344
	Joseph Jones	P.O. Box 1379, Elon College, NC 27244
13	Joseph Jones	P.O. Box 1379, Elon College, NC 27244

List of Property Owners

NC Dept. of Transportation
Division of Highways

Chatham County
Project: 6.529005T (R-2610B)

US 421 From Approximately 1.0 KM North of SR 1010 to the 4 Lane Bypass South of Siler City

Sheet 45 of 46 07/25/03

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: NCDOT/TIP R-2610 (U.S. 421)	File Number: 1997-0-0360	Date: August 5, 2004
Attached is:		See Section below
X	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 division 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: Mr. Richard K. Spencer, Regulatory Project Manager U.S. Army Corps of Engineers, Wilmington District Wilmington Regulatory Field Office 69 Darlington Avenue Wilmington, North Carolina 228402	If you only have questions regarding the appeal process you may also contact: Mr. Arthur Middleton, 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.

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

DIVISION ENGINEER:
Commander
U.S. Army Engineer Division, South Atlantic
60 Forsyth Street, Room 9M15
Atlanta, Georgia 30303-3490

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality
Coleen H. Sullins, Deputy Director
Division of Water Quality

DIVISION OF WATER QUALITY DWQ

R-2610
291

May 10, 2004

Dr. Gregory J. Thorpe, PhD, Manager
Planning and Environmental Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina, 27699-1548

Dear Dr. Thorpe:

Re: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act,
Proposed widening of US 421 from South of SR 1007 (Plank Road) at Gulf to the Existing Four-Lane Bypass North of SR 2210 (Carter-Brooks Road) South of Siler City in Chatham County.
WQC Project No. 040158

Attached hereto is a copy of Certification No. 3461 issued to The North Carolina Department of Transportation dated May 10, 2004. This certification authorizes the NCDOT to place fill material in 026 acres of jurisdictional wetlands, 2,354 linear feet of streams, and 0.34 acres of other surface waters in Chatham County. The project shall be constructed pursuant to the application dated January 30, 2004 (received March 24, 2004) to construct the widening of US 421 in Siler City.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

John E. Hennessy

Alan W. Klimek, P.E.

Attachments

cc: Wilmington District Corps of Engineers
Corps of Engineers Raleigh Field Office
DWQ Raleigh Regional Office
Bill Gilmore, Ecosystem Enhancement Program
Central Files
File Copy

RECEIVED
MAY 17 2004
DIVISION OF HIGHWAYS
PDEA-OFFICE OF NATURAL ENVIRONMENT

NORTH CAROLINA 401 WATER QUALITY CERTIFICATION

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (DWQ) Regulations in 15 NCAC 2H, Section .0500. This certification authorizes the NCDOT to place fill material in 026 acres of jurisdictional wetlands, 2,354 linear feet of streams, and 0.34 acres of other surface waters in Chatham County. The project shall be constructed pursuant to the application dated January 30, 2004 (received March 24, 2004) to construct the widening of US 421 in Siler City.

Wetland Impacts in the Cape Fear Basin

Section	Riverine (acres)	Non-Riverine (acres)	Total (acres)
Segment R-2610A			
Site 2 (Station L 16+20)	0.08	0	0.08
Site 7 (Station L 82+80)	0.03	0	0.03
Segment R-2610B			
Site 3A (Station L 37+57-37+90)	0.07	0	0.07
Site 6 (Station Number 76+52-76+80 –L	0.08	0	0.08
Total	**0.26**	**0**	**0.26**

Surface Water Impacts for the Cape Fear River Basin

Section	Stream Impacts (linear feet)	Ponds (acres)	On-Site Natural Channel Design (linear feet)	Mitigation Required
Segment R-2610A				
Site 1 (Station Number 13+28)	105	0	36	-36
Site 3 (Station Number 52+75)	89	0	0	0
Site 4 (Station Number 62+34)	98	0	0	0
Site 5 (Station Number 68+80)	216	0	217	-1
Site 6 (Station Number 11+65)	49	0	0	0
Site 8 (Station Number 84+00)	98	0	0	0
Subtotal	**655**	**0**	**253**	**0**

Segment R-2610B				
Site 1 (Station Number 11+80-12+40)	144	0	0	0
Site 2 (Station Number 17+80-19+05)	443	0	0	443
Site 3 (Station Number 22+52-23+15	20	0.01	0	0
Site 4 (Station Number 56+50)	52	0	0	0
Site 5 (Station Number 69+80)	95	0	0	0
Site 6 (Station Number 76+52-76+80)	121	0	0	0
Site 7 (Station Number 79+40)	75	0	0	0
Site 8 (Station Number 81+05-81+15)	92	0	0	0
Site 9 (Station Number 93+90-94+88)	292	0	0	292
Site 10 (Station Number 96+81-97+19)	62	0.02	0	0
Site 11Station Number 111+18)	125	0	0	0
Site 12(Station Number 114+80-115+10)	72	0	0	0
Site 13 (Station Number 122+18-122+40)	105	0	0	0
Subtotal	**1699**	**0.03**	**0**	**735**
Total	**2354**	**0.03**	**253**	**698**

The application provides adequate assurance that the discharge of fill material into the waters of the Cape Fear River in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application, as described in the Public Notice. Should your project change, you are required to notify the DWQ and you may be required to submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation will be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire three years from the date of the cover letter from DWQ or on the same day as the expiration date of the corresponding Corps of Engineers Permit, whichever is sooner.

Condition(s) of Certification:

1. Construction will be conducted in such a manner as to prevent a significant increase in turbidity outside the area of construction or construction-related discharge. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standard.
   a. The erosion and sediment control measures for the project must equal or exceed the proper design, installation, operation and maintenance outlined in the most recent version of the North Carolina Sediment and Erosion Control Planning and Design Manual. These devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
   b. For borrow pit sites, the erosion and sediment control measures must equal or exceed the proper design, installation, operation and maintenance outlined in the most recent version of the North Carolina Surface Mining Manual. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

2. All sediment and erosion control measures shall not be placed in wetlands or waters to the maximum extent practicable. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, they shall be removed and the natural grade restored after the Division of Land Resources has released the project;

3. If an environmental document is required, this Certification is not valid until a FONSI or ROD is issued by the State Clearinghouse. All water quality-related conditions of the FONSI or ROD shall become conditions of this Certification;

4. No live or fresh concrete shall come into contact with waters of the state until the concrete has hardened.

5. There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit. Should waste or borrow sites be located in wetlands or stream, compensatory mitigation will be required since it is a direct impact from road construction activities.

6. All channel relocations will be constructed in a dry work area, and stabilized before stream flows are diverted. Channel relocations will be completed and stabilized prior to diverting water into the new channel. Whenever possible, channel relocations shall be allowed to stabilize for an entire growing season. Vegetation used for bank stabilization shall be limited to native woody species, and should include establishment of a 30 foot wide wooded and an adjacent 20 foot wide vegetated buffer on both sides of the relocated channel to the maximum extent practical. A transitional phase incorporating coir fiber and seedling establishment is allowable. Also, rip-rap may be allowed if it is necessary to maintain the physical integrity of the stream, but the applicant must provide written justification and any calculations used to determine the extent of rip-rap coverage requested.

7. Upon completion of the project, the NCDOT shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed. The responsible party shall complete the attached form and return it to the 401/Wetlands Unit of the Division of Water Quality upon completion of the project.

8. Placement of culverts and other structures in waters, streams, and wetlands must be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or stream beds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium shall be maintained if requested in writing by DWQ.

9. NCDOT shall provide documentation to the NC Division of Water Quality with 2 months of the issuance of this 401 Water Quality Certification that demonstrates acceptance of the riparian buffer mitigation by the NC Wetlands Restoration Program, or the NC Ecosystem Enhancement Program.

10. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers.

11. All temporary fills in wetlands and surface waters shall be removed upon completion of the project. In addition, the post-construction removal of any temporary bridge structures or fill will need to return the project site to its preconstruction contours and elevations. The revegetation of the impacted areas with appropriate native species will be required.

12. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.

13. The dimension, pattern and profile of the stream above and below the crossing should not be modified by widening the stream channel or reducing the depth of the stream. Disturbed floodplains and streams should be restored to natural geomorphic conditions.

14. Any riprap used must not interfere with thalweg performance and aquatic life passage during low flow conditions.

15. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.

16. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.

17. Two copies of the final construction drawings shall be furnished to NCDWQ prior to the pre-construction meeting. Written verification shall be provided that the final construction drawings comply with the attached permit drawings contained in the application dated November 26, 2003, and Right-of Way plans submitted on February 13, 2004.

18. The outside buffer, wetland or water boundary as well as along the construction corridor within these boundaries approved under this authorization shall be clearly marked by orange fabric fencing for the areas that have been approved to infringe within the buffer, wetland or water prior to any land disturbing activities.

19. A copy of this Water Quality Certification shall be posted on the construction site at all times. In addition, the Water Quality Certification (and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.

20. The NCDOT shall strictly adhere to sediment and erosion control Best Management Practices as described for High Quality Waters entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0024) throughout design and construction of the project.

21. At no time, shall more than one fill causeway be permitted within the Haw River. At no time, shall a fill causeway obstruct greater than 50 percent of the cross-section of the Tick Creek be installed.

22. The temporary causeways located at Tick and Bear Creek shall be removed not later than 30 days after the completion of the bridge deck slab.

23. Compensatory mitigation for impacts to streams shall be done for 698 linear feet of stream impact at a replacement ratio of 1:1. Compensatory mitigation for impacts to jurisdictional streams shall be provided by onsite stream relocations of 217 linear feet of a tributary to Cedar Creek. The onsite stream relocation shall be constructed in accordance with the design submitted in your January 30, 2004 application. All stream relocations shall have 50-foot wooded buffers planted on both sides of the stream. As-Builts for the completed streams shall be submitted to the North Carolina Division of Water Quality 401 Wetlands Unit within 30 days of the completion of the construction of the relocations. If the parameters of this condition are not met, then the NCDOT shall supply additional stream mitigation for the 217 linear feet of impacts. In addition to the 217 linear feet of on-site mitigation, compensatory mitigation for an additional 481 linear feet of streams is required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through an in lieu payment to the North Carolina Ecosystem Enhancement Program (NCWRP), and that the EEP has agreed to implement the mitigation for the project. Mitigation for unavoidable impacts to streams shall be provided through an in-lieu payment to the North Carolina Ecosystem Enhancement Program (NCEEP) at a rate of $200 per linear foot. Therefore, a total payment of $96,200 shall be submitted to the NCEEP to offset the stream impacts associated with this project.

24. No construction activities shall begin anywhere on the project until a Secondary and Cumulative Impact Analysis for the project is submitted to, and approved by, the NC Division of Water Quality.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If this Certification is unacceptable to you have the right to an adjudicatory hearing upon written request within sixty (60) days following receipt of this Certification. This request must be in the form of a written petition conforming to Chapter 150B of the North Carolina General Statutes and filed with the Office of Administrative Hearings, P.O. Box 27447, Raleigh, N.C. 27611-7447. If modifications are made to an original Certification, you have the right to an adjudicatory hearing on the modifications upon written request within sixty (60) days following receipt of the Certification. Unless such demands are made, this Certification shall be final and binding.

This the 10th day of May 2004

DIVISION OF WATER QUALITY

John E. Hennessy

Alan W. Klimek, P.E.
Director

WQC No. 3461

DIVISION OF WATER QUALITY
DWQ

Certificate of Completeness

DWQ Project No.: _____ County: _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401/Wetlands Unit, North Carolina Division of Water Quality, 1650 Mail Service Center, Raleigh, NC, 27699-1621. This form may be returned to DWQ by the applicant, the applicant's authorized agent, or the Project Engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature:_____ Date:_____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature:_____ Date:_____

If this project was designed by a Certified Professional

I, _____, as a duly registered Professional _____ (i.e., Engineer, Landscape Architect, Surveyor, ect.) in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project, for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No._____

Date _____