



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

JAMES B. HUNT, JR.  
GOVERNOR

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

SAM HUNT  
SECRETARY

April 30, 1993

MEMORANDUM TO: Mr. J. W. Watkins, P.E.  
Division 7 Engineer

FROM: B. J. O'Quinn, P.E.   
Assistant Manager  
Planning and Environmental Branch

SUBJECT: Guilford County, placement of fill material  
into South Buffalo Creek, for the widening of  
I-40 and modification of the existing  
interchange at High Point Road; State Project  
No. 8.1491601; T.I.P. No. I-2201DB

Attached are the U. S. Army Corps 404 and DEM 401 Water Quality Certification Permits for the above reference project. All permits have now been received.

BJO/eah

Attachment

cc: Mr. G. T. Shearin, P.E.  
Mr. Kelly Barger, P.E.  
Mr. Don Morton, P.E.  
Mr. A. L. Hankins, P.E.  
Mr. Victor Barbour, P.E.  
Mr. John Smith, P.E.  
Mr. Frank Vick, P.E.  
Mr. N. L. Graf, FHWA  
Mr. W. D. Johnson  
Mr. Gary Jessup





**This notice of authorization must be  
conspicuously displayed at the site of work.**

United States Army Corps of Engineers

April 8 19 93

authorize the proposed placement of fill material into South  
Buffalo Creek, for construction of the widening of I-40 and the  
modification of the existing interchange at High Point Road

A permit to (US 29A-70A),

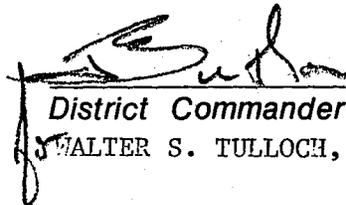
at Greensboro, Guilford County, North Carolina

has been issued to NCDOT  
Mr. L. J. Ward on 8 Apr 19 93

Address of Permittee Post Office Box 25201  
Raleigh, North Carolina 27611-5201

Permit Number

ACTION ID. 199300817

  
District Commander  
WALTER S. TULLOCH, COL, EN



DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS

P.O. BOX 1890  
WILMINGTON, NORTH CAROLINA 28402-1890

IN REPLY REFER TO

April 12, 1993

Regulatory Branch

Action ID. 199300817

Mr. L. J. Ward, P.E., Manager  
Planning and Environmental Branch  
Division of Highways  
North Carolina Department of Transportation  
Post Office Box 25201  
Raleigh, North Carolina 27611-5201



Dear Mr. Ward:

In accordance with the written request of December 14, 1993, and the ensuing administrative record, enclosed is a permit to authorize the proposed placement of fill material into South Buffalo Creek, for construction of the widening of I-40 and the modification of the existing interchange at High Point Road (US 29A-70A), Greensboro, Guilford County, North Carolina (T.I.P No. I-2201DB, State Project No. 8.,1491601).

Please note that plans entitled, "Stream Mitigation Measures," Sheets 1 of 5 through 5 of 5, have been attached to this permit. These plans fully satisfy the intent of Special Condition h. of this authorization.

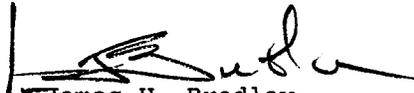
If any change in the authorized work is required because of unforeseen or altered conditions or for any other reason, the plans revised to show the change must be sent promptly to this office. Such action is necessary as revised plans must be reviewed and the permit modified.

Carefully read your permit. The general and special conditions are important. Your failure to comply with these conditions could result in a violation of Federal law. Certain significant general conditions require that:

- a. You must complete construction before December 31, 1996.
- b. You must notify this office in advance as to when you intend to commence and complete work.
- c. You must allow representatives from this office to make periodic visits to your worksite as deemed necessary to assure compliance with permit plans and conditions.

The enclosed Notice of Authorization, ENG Form 4336, must be conspicuously displayed at your worksite.

Sincerely,

  
James H. Bradley  
Chief, Construction-Operations  
Division

Enclosures

Copy Furnished with enclosures:

Director, Atlantic Marine Center  
National Ocean Service  
ATTN: MOA 232X1  
439 West York Street  
Norfolk, Virginia 23510

Copies Furnished with special conditions and plans:

Ms. L. K. (Mike) Gantt  
U.S. Fish and Wildlife Service  
Fish and Wildlife Enhancement  
Post Office Box 33726  
Raleigh, North Carolina 27636-3726

Mr. Larry Hardy  
National Marine Fisheries Service  
Habitat Conservation Service  
Pivers Island  
Beaufort, North Carolina 28516

U.S. Environmental Protection  
Agency - Region IV  
Wetlands Section - Water Quality Branch  
345 Courtland Street, N.E.  
Atlanta, Georgia 30365

Mr. John Parker  
Division of Coastal Management  
North Carolina Department of  
Environment, Health and  
Natural Resources  
Post Office Box 27687  
Raleigh, North Carolina 27611-7687

DEPARTMENT OF THE ARMY PERMIT

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
C/O MR. L. J. WARD, P.E., MANAGER

Permittee \_\_\_\_\_

Permit No. Action ID. 199300817

Issuing Office CESAW-CO-E

RECEIVED

APR 7 1993

REGULATORY BRANCH

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 authorize the proposed placement of fill material into South Buffalo Creek, for construction of the widening of I-40 and the modification of the existing interchange at High Point Road (US 29A-70A), Greensboro, Guilford County, North Carolina (T.I.P. No. I-2201DB, State Project No. 8.1491601) according to the enclosed plans.

Project Location:

Greensboro, Guilford County, North Carolina

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 1996. 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).
- ( ) 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.

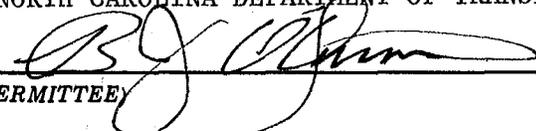
b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

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.

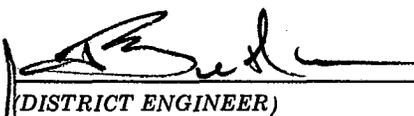
6. **Extensions.** General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give 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.  
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION C/O MR. L. J. WARD, P.E., . MANAGER

  
\_\_\_\_\_  
(PERMITTEE)

March 31, 1993  
\_\_\_\_\_  
(DATE)

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

  
\_\_\_\_\_  
(DISTRICT ENGINEER)  
WALTER S. TULLOCH, COLONEL

4/16/93  
\_\_\_\_\_  
(DATE)

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)

**SPECIAL CONDITIONS:**

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

b. Appropriate sedimentation and erosion control measures shall be implemented during construction to minimize turbidity and siltation impacts.

c. The construction shall be conducted in such a manner as to prevent a significant increase in turbidity outside the area of construction or construction related discharge. Increases such that the turbidity in the creek is 50 NTU's or less are not considered significant.

d. No excavated or fill material will be placed at any time in waters or wetlands outside the permitted fill limits.

e. The permittee will 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.

f. All excavated materials will be placed and confined on high ground, with appropriate measures implemented to prevent sedimentation or spillover of solids into adjacent waters or wetlands.

g. Precautions shall be taken to prevent contamination of the watershed and stream by oil or other harmful substances. Additional information can be obtained by contacting the Public Water Supply Section at (919) 733-2321.

h. The existing sewerline shall be relocated before construction, and construction equipment kept off the relocated line.

h. The following mitigation conditions will be implemented in their entirety:

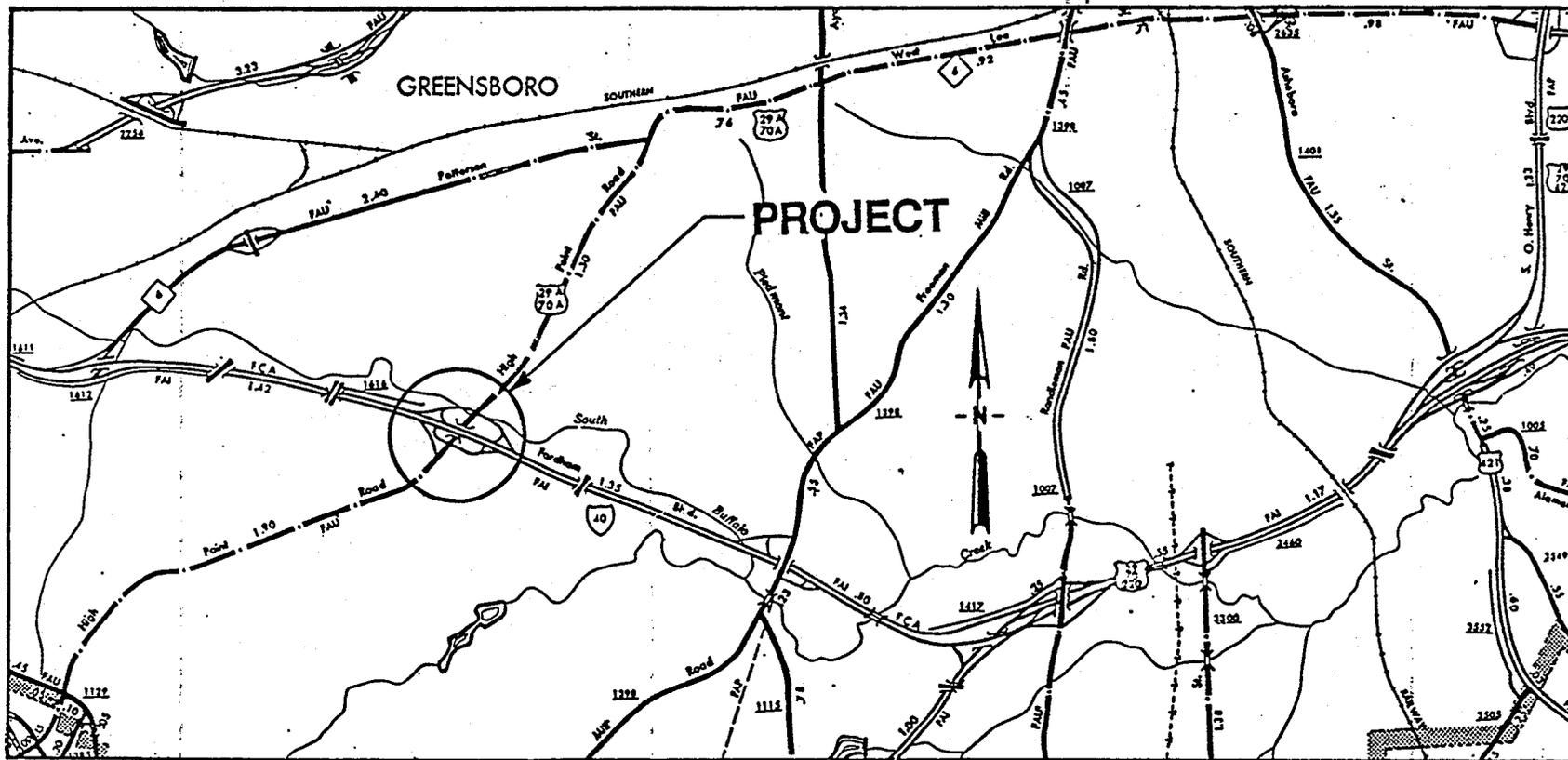
(1). All mitigation construction will be completed prior to completion of the activities authorized by this permit.

(2). The relocated stream segment should be re-designed to provide as much channel sinuosity as is possible within the constraints of topography and surrounding land use. Linear distance of relocated channel should approximately equal that the impacted segment.

(3). Instream habitat structures, such as wing deflectors and boulders, should be installed in the new channel to provide aquatic habitat diversity. Logs from land clearing associated with the highway project could be used for such habitat improvements.

(4). The relocated channel should not be armored with riprap. The new channel should be vegetated and stabilized before stream flow is diverted from the existing channel. Tree and shrub vegetation should be placed along the relocated channel to duplicate that lost due to the construction project.

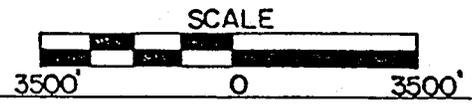
(5). Storm drains containing highway runoff should not be routed directly into the stream channel. Vegetated buffer strips should be placed between storm drain outfalls and South Buffalo Creek.

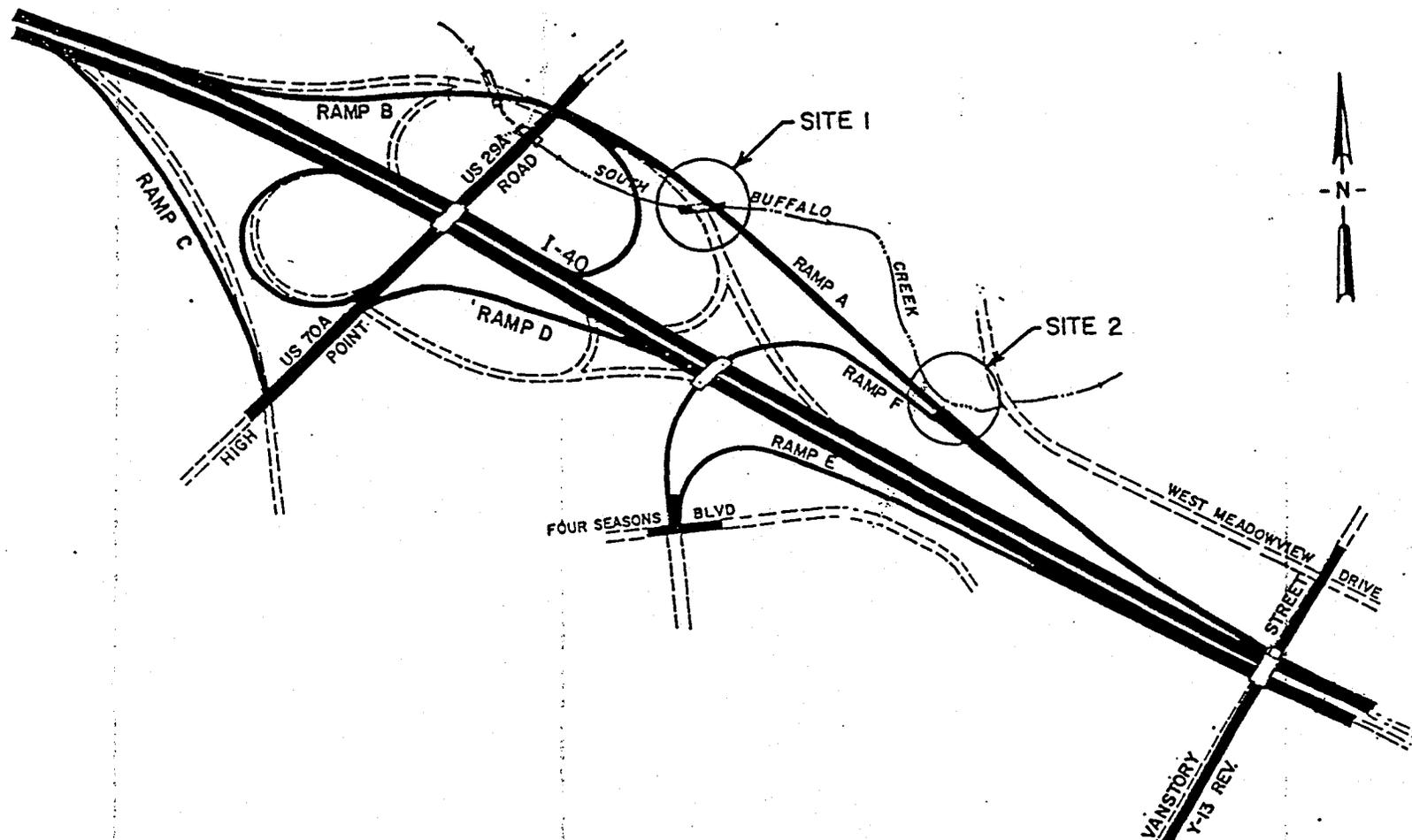


GUILFORD COUNTY, N.C.

VICINITY MAP

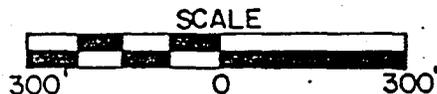
N.C. DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 PROJECT 8.1491601 I-2201 DB  
 GUILFORD COUNTY  
 I-40 @ HIGHPOINT ROAD  
 SHEET 1 OF 6      OCTOBER 1992

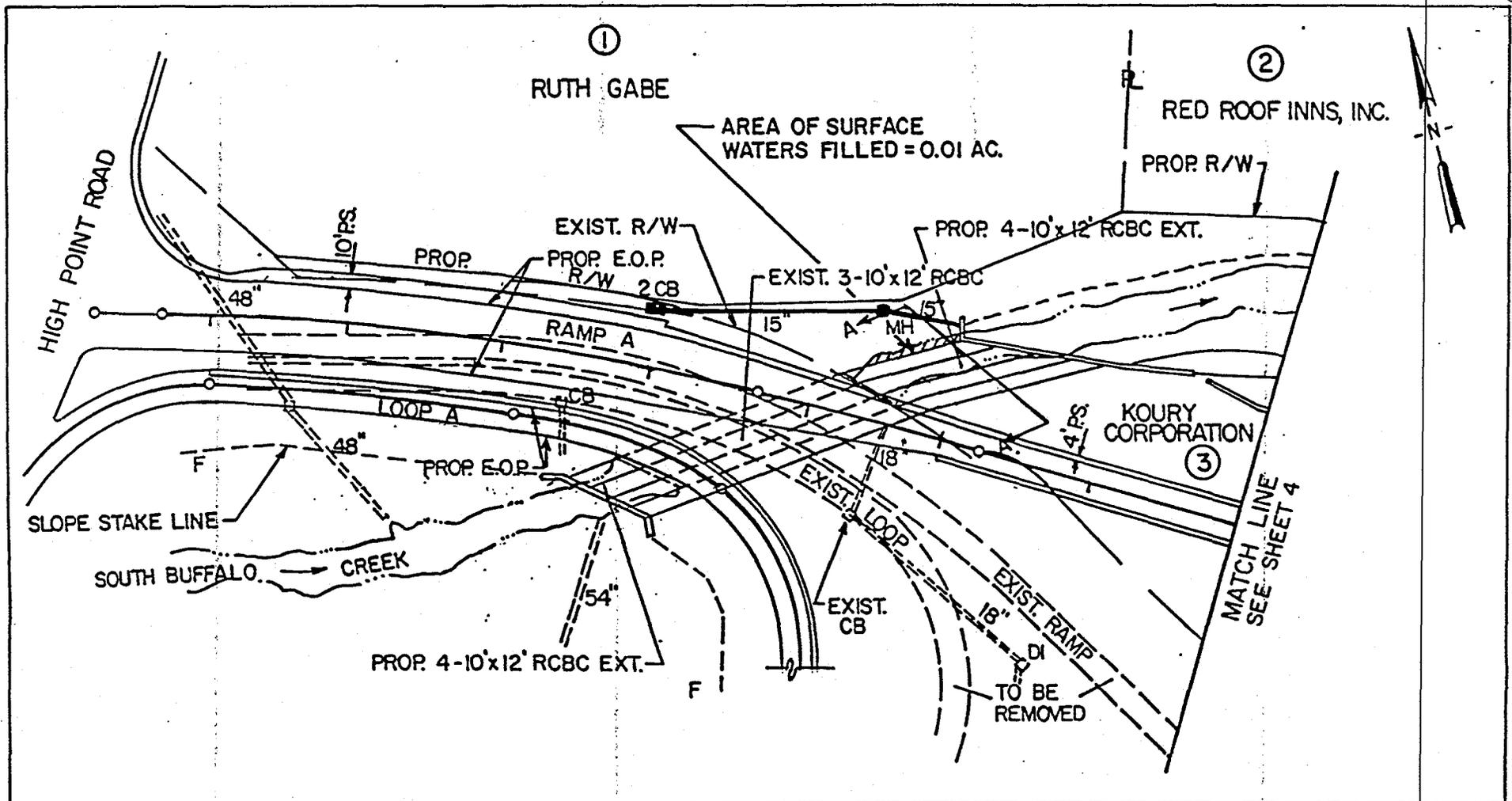




**SITE LOCATIONS**

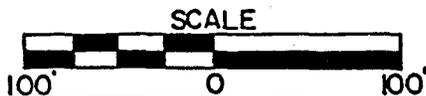
N.C. DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 PROJECT 8.1491601 I-2201 DB  
 GUILFORD COUNTY  
 I-40 @ HIGHPOINT ROAD  
 SHEET 2 OF 6 OCTOBER 1992



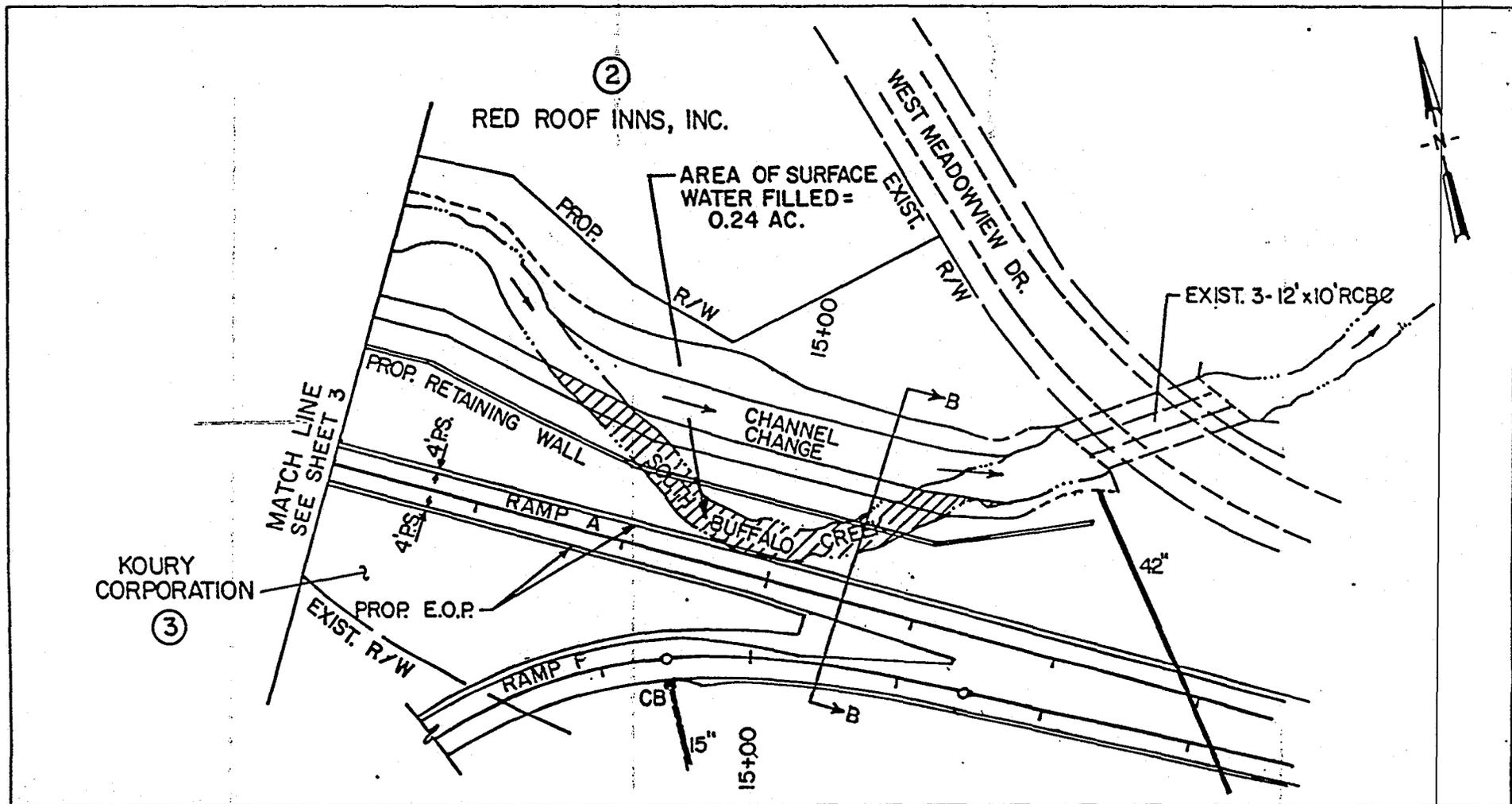


**SITE 1 - PLAN**

 DENOTES FILL BELOW ORDINARY HIGHWATER



N.C. DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
PROJECT 8.1491601 I-220I DB  
GUILFORD COUNTY  
I-40 @ HIGHPOINT ROAD  
SHEET 3 OF 6 . OCTOBER 1992

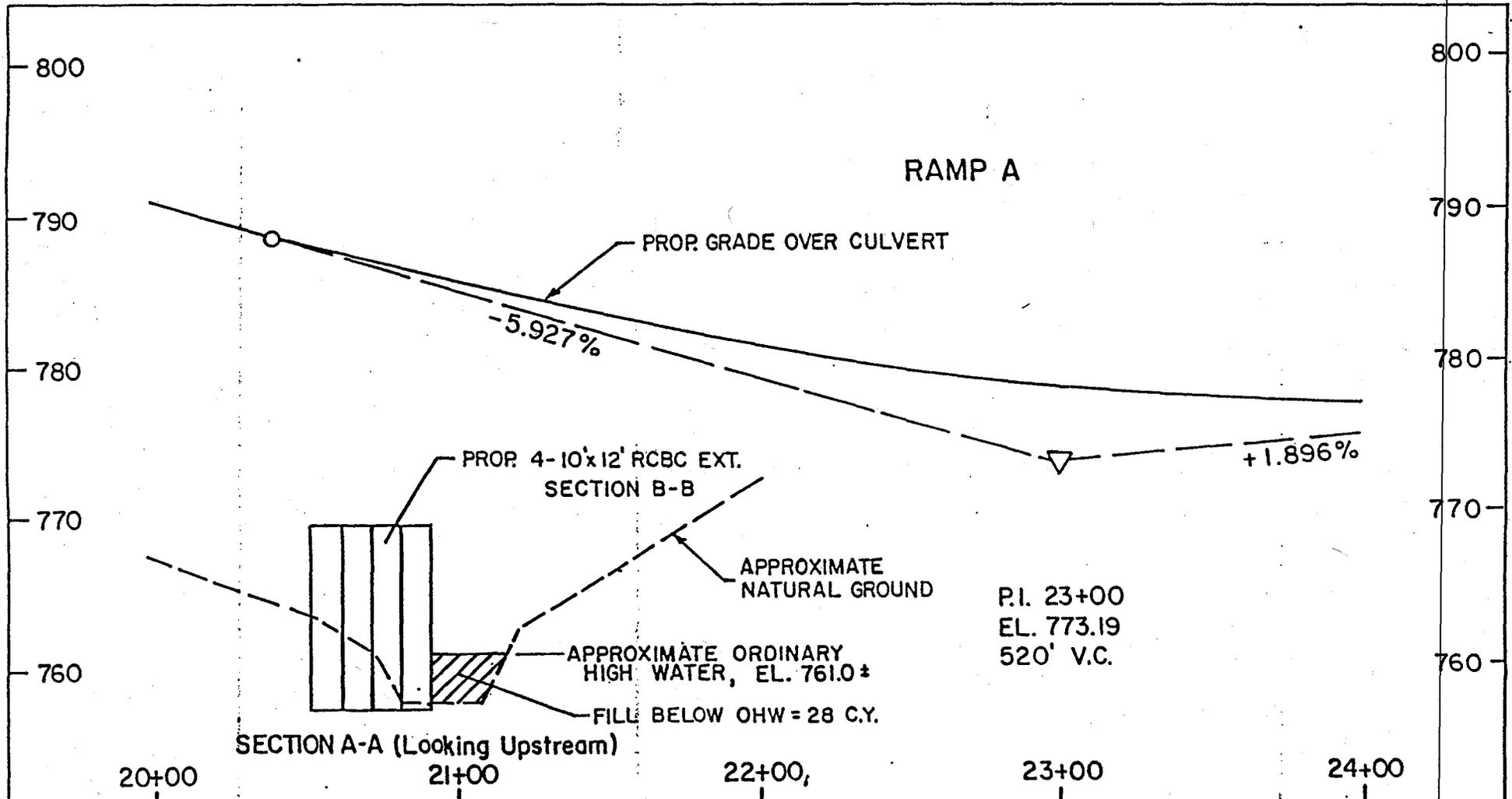


**SITE 2 - PLAN**

 DENOTES FILL BELOW ORDINARY HIGHWATER

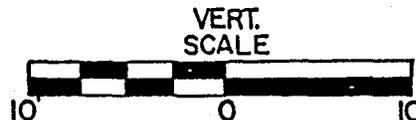


N.C. DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 PROJECT 8.1491601 I-2201 DB  
 GUILFORD COUNTY  
 I-40 @ HIGHPOINT ROAD  
 SHEET 4 OF 6      OCTOBER 1992



**SITE 1 - Profile**

 DENOTES FILL BELOW ORDINARY HIGHWATER.



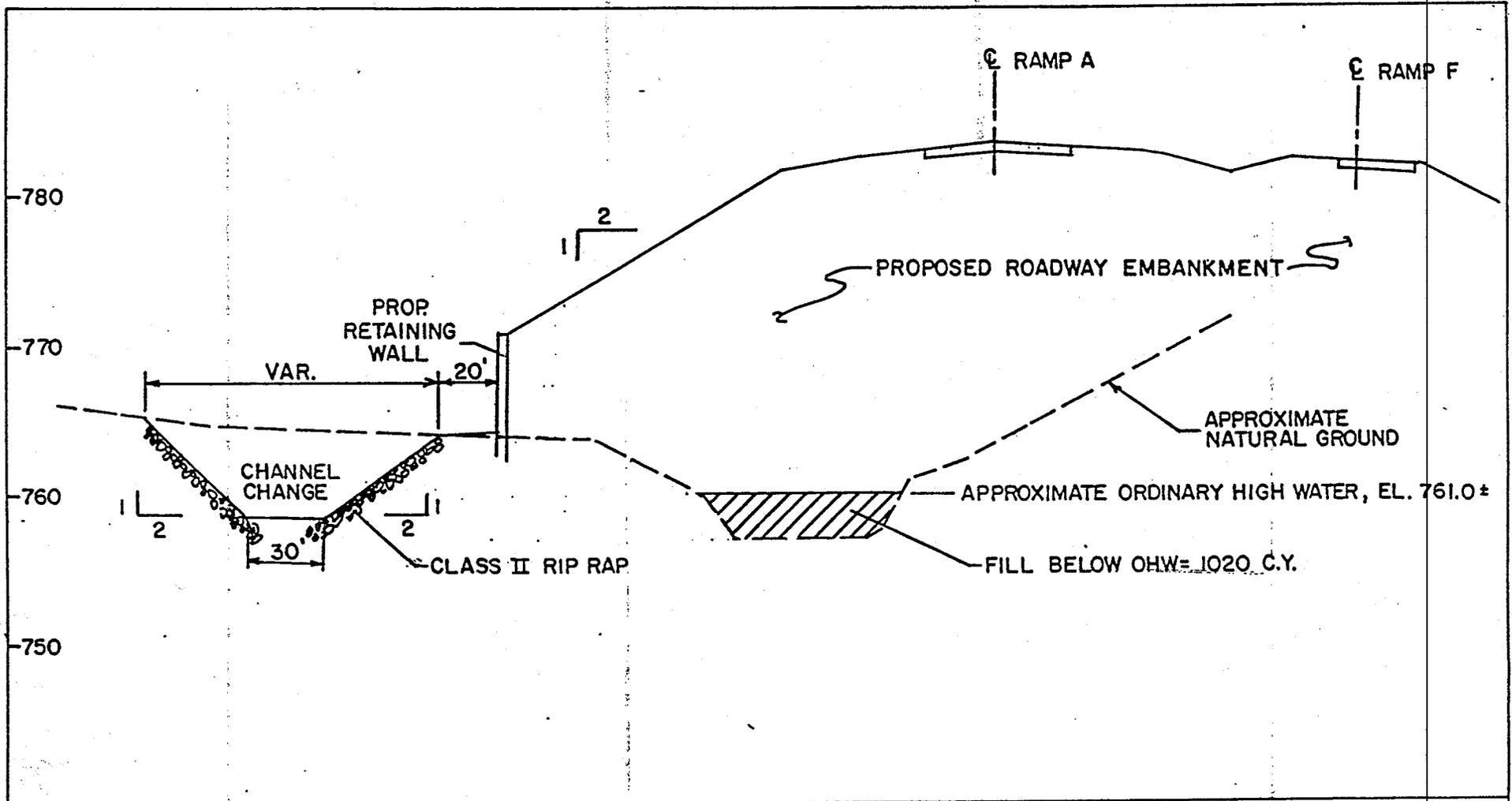
N.C. DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

PROJECT 8.149160I I-220I DB  
GUILFORD COUNTY

I-40 @ HIGHPOINT ROAD

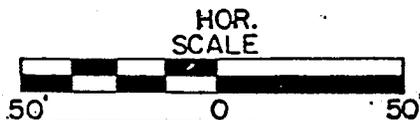
SHEET 5 OF 6

OCTOBER 1992



**SITE 2 - Section B-B**

 DENOTES FILL BELOW ORDINARY HIGHWATER



N.C. DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
PROJECT 8.1491601 I-2201 DB  
GUILFORD COUNTY  
I-40 @ HIGHPOINT ROAD

SHEET 6 OF 6      OCTOBER 1992

# CULVERT SURVEY & HYDRAULIC DESIGN REPORT

N. C. DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
HYDRAULICS UNIT  
RALEIGH, N. C.

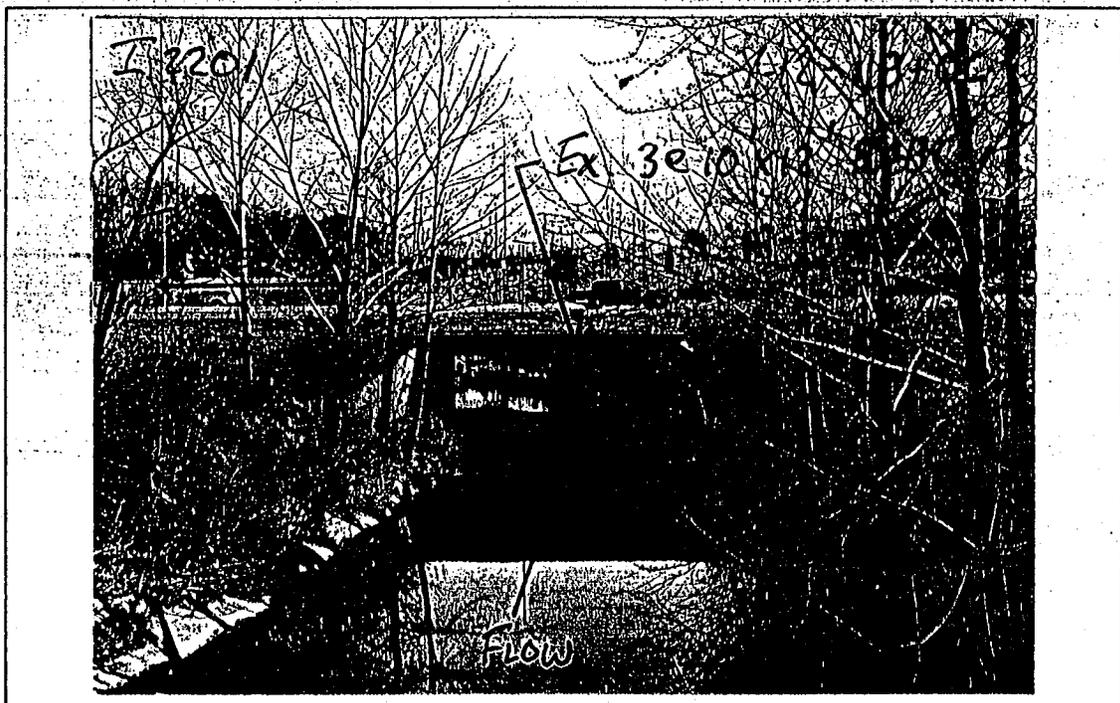
SITE IS LOCATED IN  
A FEMA FLOOD HAZARD  
ZONE W/DETAILED STUDY

I.D. No. I-2201 Project No. 8.1491601 Proj. Station Y-12 10+00  
 County GUILFORD Stream SOUTH BUFFALO CREEK Bridge Inv. No. \_\_\_\_\_  
 On Highway (HIGH POINT ROAD) U529A, U570A Between 1-40; RAMP A and 1-40; RAMP B  
 Recommended Structure RETAIN EXISTING 3@10'X12' RCBC

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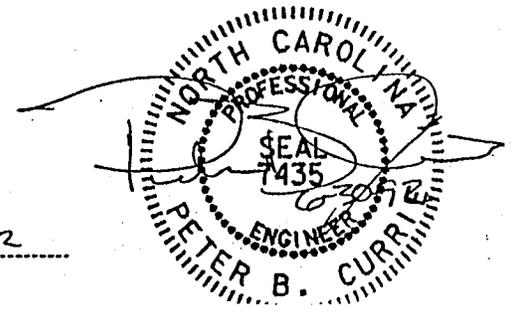
Recommended Width of Roadway 96' - FACE OF CURB Skew 90°  
 Location Is (Up, At, Down Stream from Existing Crossing) AT EXISTING CROSSING  
 Bench Mark Is STATION 526+40 -L-, 12'LT. RAILROAD SPIKE  
 Elev. 804.50 Datum: NGVD 1929

Temporary Crossing NOT REQUIRED



Designed by: D.A. GUETIG  
 Project Engineer: P.B. CURRIE  
 Reviewed & Approved by: MWC

Date 10-20-92



FILL SLOPE 2.9:1  
NORMAL TO G<sub>L</sub> = V-7

CROWN PT.  
= V-2

EXISTING  
ROADWAY

WSEL = 770	9/77
100 YR. WSEL = 776.6	
WSEL = 777	5/75
50 YR. WSEL = 773.2	

FILL SLOPE 2.4:1  
NORMAL TO G<sub>L</sub> = V12

3-2-92  
NORMAL W.S.E.L.  
= 76.7

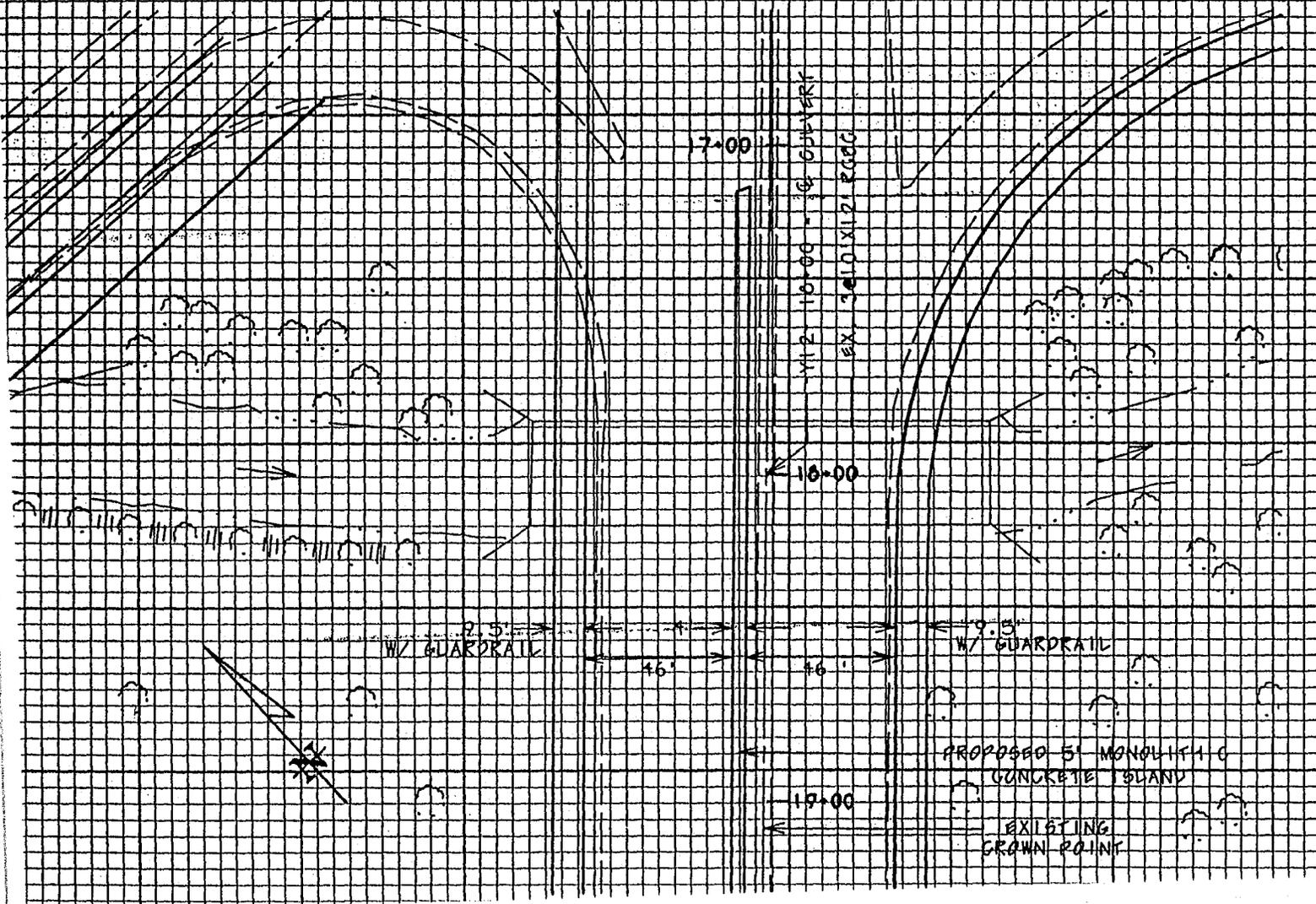
EXISTING 142 R.F.  
3@10' X 2' RCOC  
SLOPE = .0%

EXISTING GRADE  
AT G<sub>L</sub> CULVERT

EXISTING GRADE  
AT CULVERT

EX. INV. IN  
= 761.83

EX. INV. OUT  
= 760.17

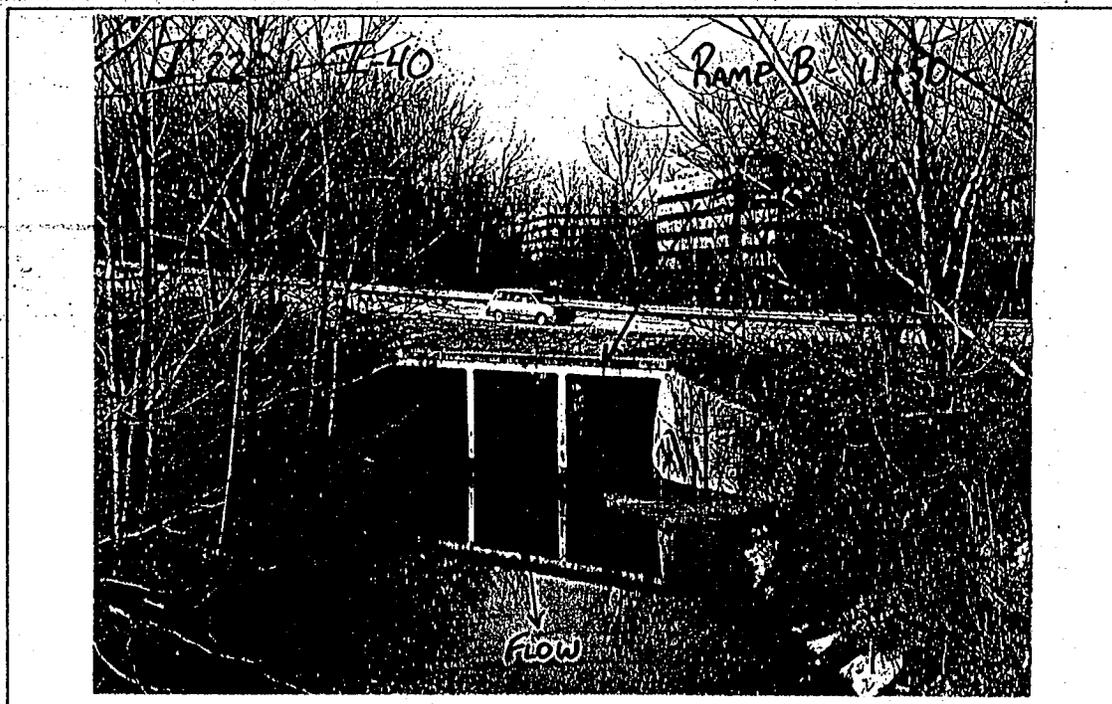


# CULVERT SURVEY & HYDRAULIC DESIGN REPORT

SITE IS LOCATED IN  
A FEMA FLOOD HAZARD  
ZONE W/ DETAILED STUDY

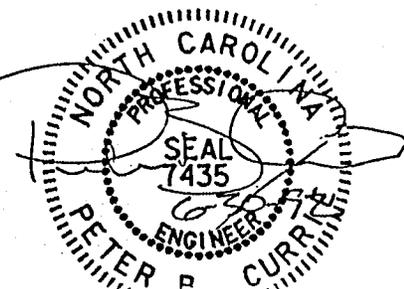
N. C. DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
HYDRAULICS UNIT  
RALEIGH, N. C.

I.D. No. 12201 Project No. 8.1491601 Proj. Station 11+50  
 County GUILFORD Stream SOUTH BUFFALO CREEK Bridge Inv. No. \_\_\_\_\_  
 (HIGH POINT ROAD)  
 On Highway RAMP B; 1-40 Between US29A; US70A and MAPLEWOOD LANE  
 Recommended Structure RETAIN EXISTING 3 @ 10'X12' RCBC  
 Recommended Width of Roadway 24' Skew 46°  
 Location is (Up, At, Down Stream from Existing Crossing) AT EXISTING CROSSING  
 Bench Mark is STATION 526+40 -L-, 12'LT. RAILROAD SPIKE  
 Elev. 804.50 Datum: NGVD 1929  
 Temporary Crossing NOT REQUIRED

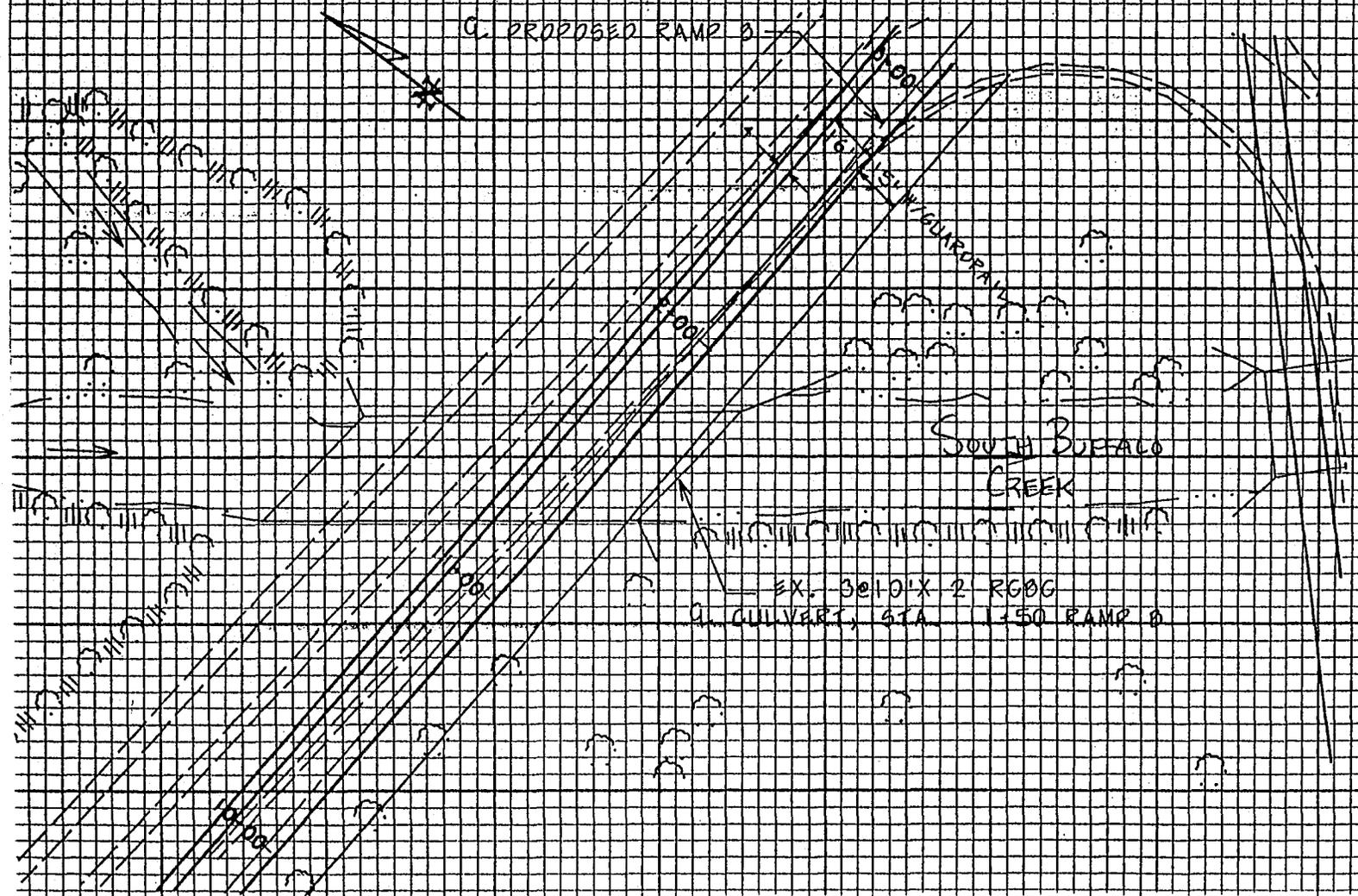
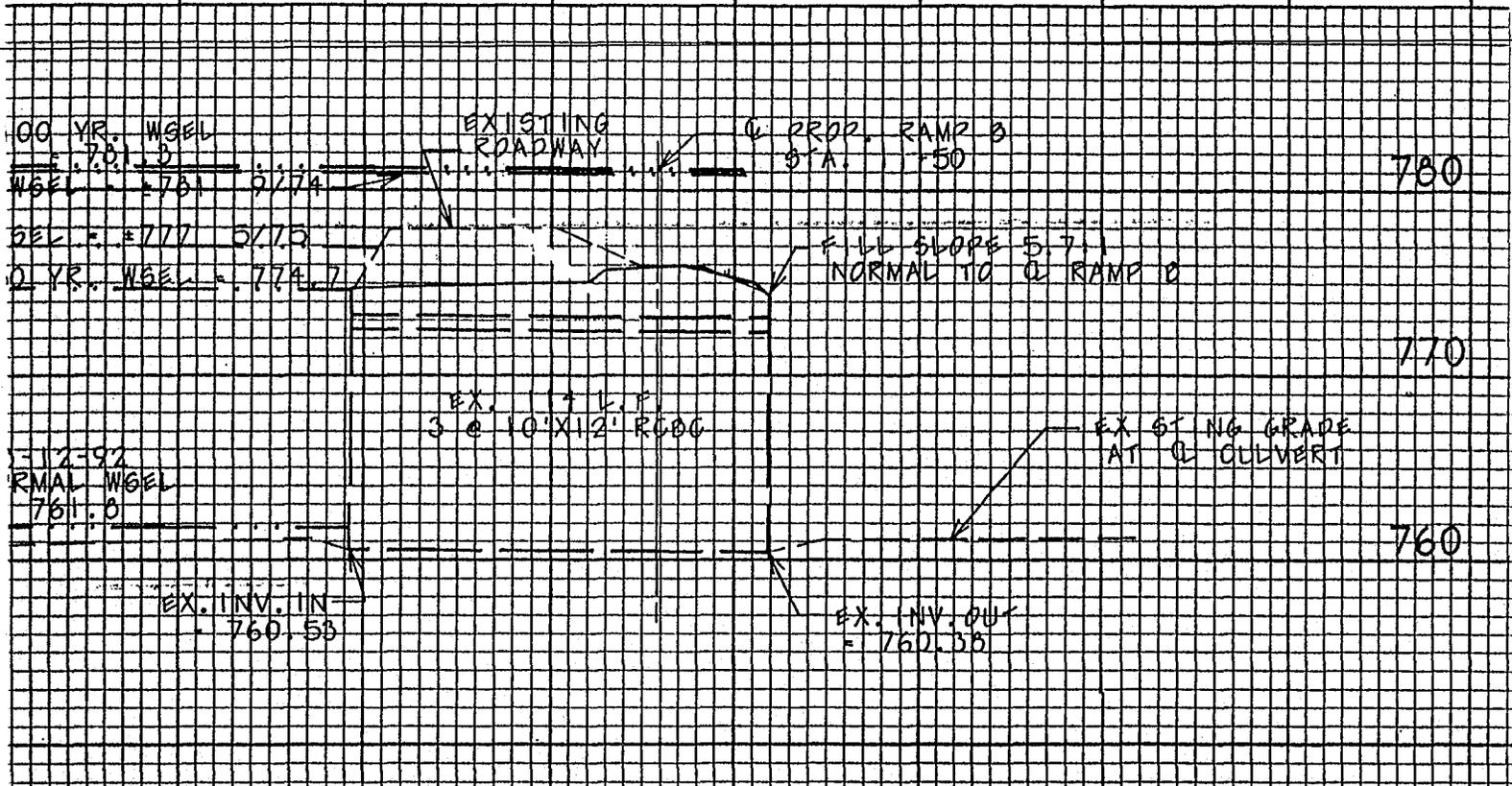


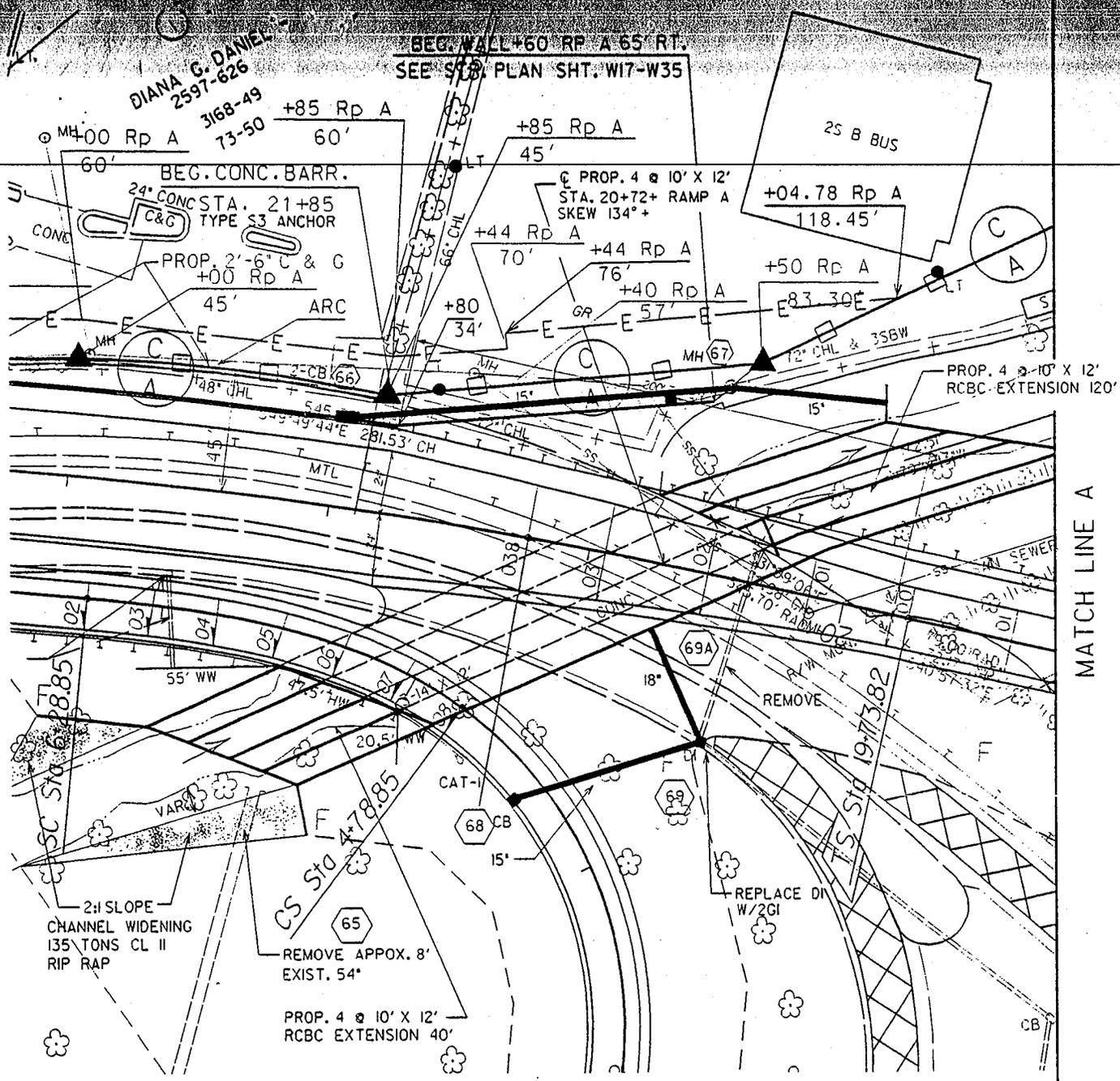
Designed by: D.A. GUETIG  
 Project Engineer: P.B. CURRIE  
 Reviewed & Approved by: MNC

Date 10-20-92



RECOMMEND RETAIN EX STING 3@10'X12' RCBG  
 Q. CULVERT - RAMP B - STA. 11+50 GRADE ELEV. - 776.0 SKEW 46°





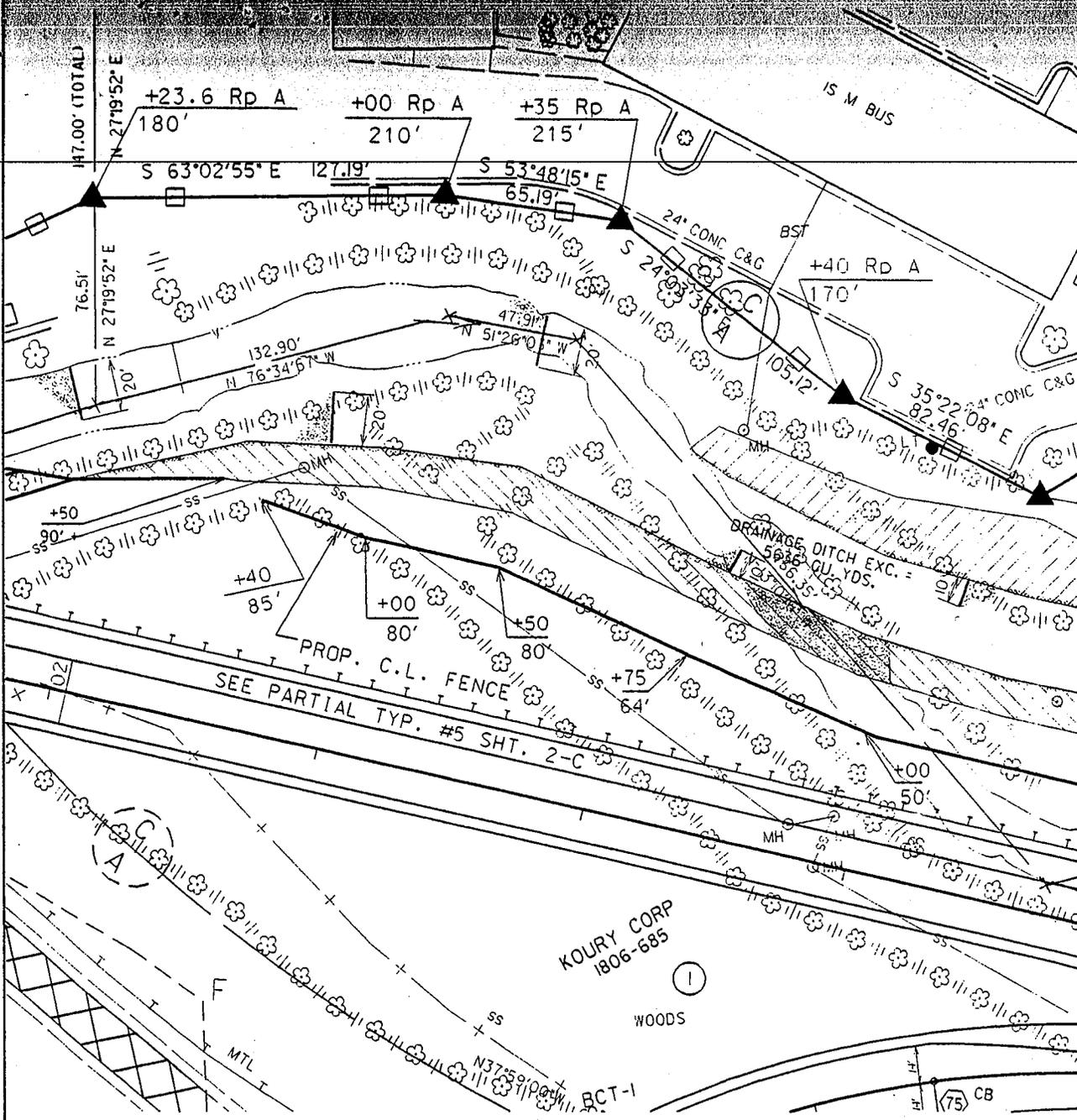
MATCH LINE A

i2201dbr.m(3922.rd81) IL2217@rd81. Thu Mar 25 12:51:03 EST 1993

STREAM MITIGATION MEASURES  
SHEET 1 OF 5

MATCH LINE A

MATCH LINE B



i2201dbr.m(3921.rd81) IL2217@rd81. Thu Mar 25 12:49:37 EST 1993

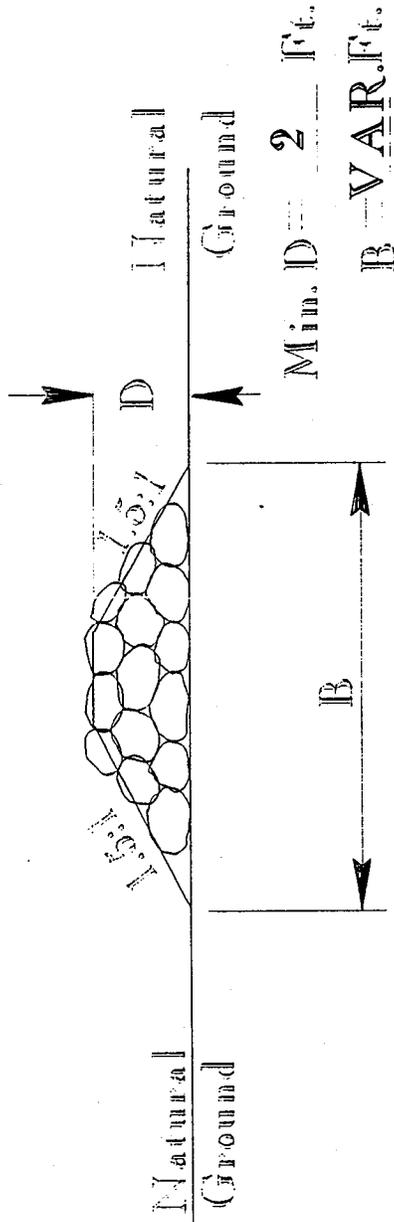
STREAM MITIGATION MEASURES  
SHEET 2 OF 5



# TYPICAL 3

## RIP RAP WING WALL

(Not to Scale)

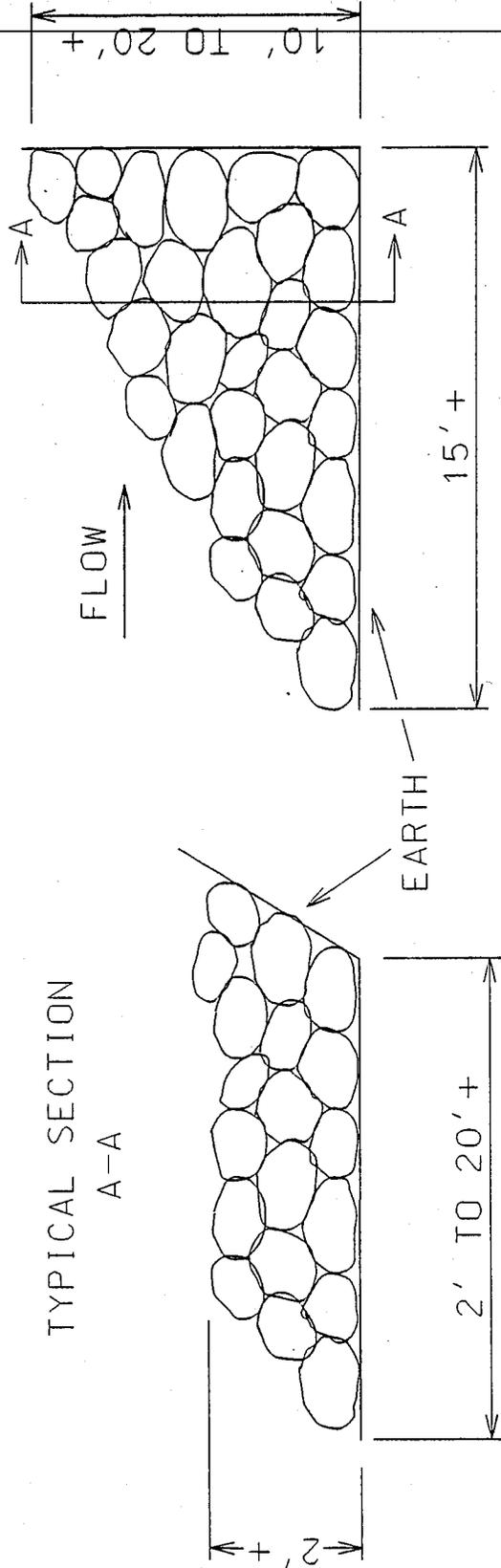


Note: Use in 50' Base Channel Change Where Shown

# TYPICAL

## RIP RAP WING WALL

( Not to Scale )



JENNIS 1/18/93



State of North Carolina  
Department of Environment, Health, and Natural Resources  
512 North Salisbury Street • Raleigh, North Carolina 27604

James B. Hunt, Jr., Governor

Jonathan B. Howes, Secretary

January 28, 1993

Mr. Barney O'Quinn  
Planning and Environmental Branch  
NC DOT  
Post Office Box 25201  
Raleigh, North Carolina 27611

Dear Mr. O'Quinn:

Subject: Certification Pursuant to Section 401 of the Federal  
Clean Water Act,  
Proposed widening of I-40 and stream relocation and  
29A/70A interchange I-2201DB  
Project # 92638 COE# 199300817 DOT# I-2001DB  
Guilford County

Attached hereto is a copy of Certification No. 2805 issued  
to N.C. Department of Transportation dated January 25, 1993.

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

Sincerely,

A. Preston Howard, Jr. P.E.

Attachments

- cc: Wilmington District Corps of Engineers
- Corps of Engineers Raleigh Regional Office
- Winston-Salem DEM Regional Office
- Mr. John Dorney
- Mr. John Parker
- Central Files

NORTH CAROLINA  
Guilford County

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 Environmental Management Regulations in 15 NCAC 2H, Section .0500 to N.C. Department of Transportation pursuant to an application filed on the 16 day of December 1992 to widen I-40 and notify the interchange at US 29A/70A (High Point Road).

The Application provides adequate assurance that the discharge of fill material into the waters of South Buffalo in conjunction with the proposed road improvement in Guilford County 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 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.

Condition(s) of Certification:

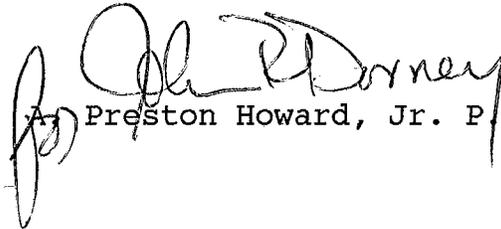
1. That the activity be conducted in such a manner as to prevent significant increase in turbidity outside the area of construction or construction related discharge (increases such that the turbidity in the Stream is 25 NTU's or less are not considered significant).
2. The final realignment of South Buffalo Creek shall be designed to provide a meandering channel, rocks shall be placed in the stream to provide aquatic life habitat and reaeration, and tree saplings/seedlings shall be planted to replace the vegetative cover.
3. The existing sewer line shall be moved before construction. Construction equipment should be kept off the relocated line.

Violations of any condition herein set forth shall result in revocation of this Certification.

This Certification shall become null and void unless the above conditions are made conditions of the Federal Permit.

This the 28 day of January, 1993.

DIVISION OF ENVIRONMENTAL MANAGEMENT

  
Preston Howard, Jr. P.E.

WQC# 2805