

| | | | | | | | |
|---------------|-----------------|-----------------------------|--------|-------|---|--------------|---|
| STATE | N.C. | STATE PROJECT REFERENCE NO. | I-4700 | SHEET | 1 | TOTAL SHEETS | 1 |
| DATE | | DATE | | DATE | | DATE | |
| WBS_36030.1.2 | MANHE-026-10819 | L-7008(P.E.) | | | | | |
| WBS_36030.3.3 | NHPP-026-10983 | L-7008(A) (CONSTR.) | | | | | |
| WBS_36030.3.4 | NHPP-026-10996 | L-7008(B) (CONSTR.) | | | | | |

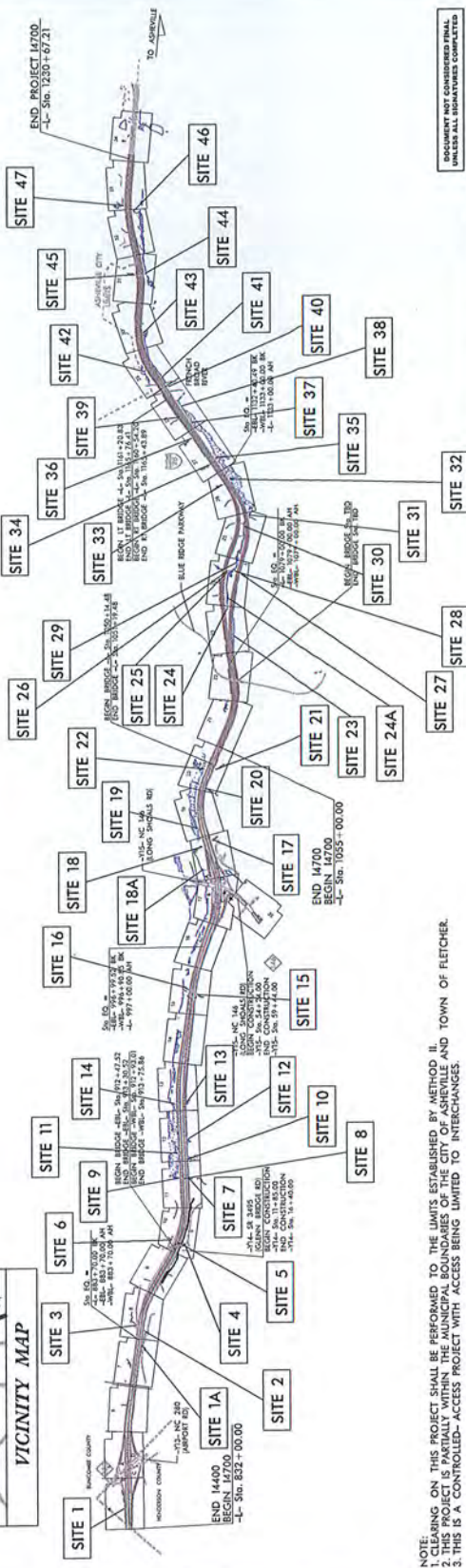
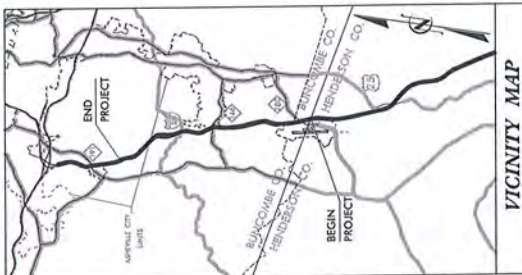
PERMIT DRAWING SHEET 1 OF 97

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
BUNCOMBE & HENDERSON COUNTIES

LOCATION: I-26 FROM 0.3 MI EAST OF NC 280 (AIRPORT ROAD) TO 0.5 MI EAST OF NC 191 (BREVARD ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, RESURFACING, AND STRUCTURES

WETLAND AND SURFACE WATER IMPACTS PERMIT



NOTE:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
2. THIS PROJECT IS PARTIALLY WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF ASHEVILLE AND TOWN OF FLETCHER.
3. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT:

DESIGN DATA
 ADT 2011 = 72,000
 ADT 2040 = 117,900
 DHV = 11,790
 D = 55%
 T = 10%
 V = 65 MPH
 * TIST = 4% DUAL 6%
 FUNC. CLASS = INTERSTATE
 STATEWIDE TIER

GRAPHIC SCALES
 PLANS: 1" = 50'
 PROFILE (HORIZONTAL): 1" = 100'
 PROFILE (VERTICAL): 1" = 20'

PROJECT LENGTH
 TOTAL LENGTH OF ROADWAY TIP PROJECT: I-4700A / I-4700B = 7.369 MI
 TOTAL LENGTH OF STRUCTURES OF TIP PROJECT: I-4700A / I-4700B = 0.121 MI
 TOTAL LENGTH OF TIP PROJECT: I-4700A / I-4700B = 7.490 MI
 NOTE: LENGTHS WERE CALCULATED USING THE WBL ALIGNMENT

PREPARED BY: HNTB
 PROJECT ENGINEER: JOSEPH OLSON, P.E.
 PROJECT ENGINEER: JEFF HESS, P.E.
 PROJECT DESIGN ENGINEER: WANDA AUSTIN, P.E.
 ROADWAY DESIGN ENGINEER: [Signature]
 HYDRAULICS ENGINEER: [Signature]

RIGHT OF WAY DATE: July 1, 2018
LETTING DATE: June 2019

TIP PROJECT: I-4700

CONTRACT:

DRAINAGE DITCH DETAILS

PERMIT DRAWING
SHEET 2 OF 97

DETAIL A
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 827+50 TO STA. 831+50 FT.

DETAIL B
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 831+50 TO STA. 835+25 FT.

DETAIL C
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 835+25 TO STA. 839+25 FT.

DETAIL D
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 839+25 TO STA. 843+25 FT.

DETAIL E
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 843+25 TO STA. 847+25 FT.

DETAIL F
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 847+25 TO STA. 851+25 FT.

DETAIL G
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 851+25 TO STA. 855+25 FT.

DETAIL H
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 855+25 TO STA. 859+25 FT.

DETAIL I
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 859+25 TO STA. 863+25 FT.

DETAIL J
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 863+25 TO STA. 867+25 FT.

DETAIL K
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 867+25 TO STA. 871+25 FT.

DETAIL L
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 871+25 TO STA. 875+25 FT.

DETAIL M
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 875+25 TO STA. 879+25 FT.

DETAIL N
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 879+25 TO STA. 883+25 FT.

DETAIL O
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 883+25 TO STA. 887+25 FT.

DETAIL P
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 887+25 TO STA. 891+25 FT.

DETAIL Q
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 891+25 TO STA. 895+25 FT.

DETAIL R
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 895+25 TO STA. 899+25 FT.

DETAIL S
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 899+25 TO STA. 903+25 FT.

DETAIL T
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 903+25 TO STA. 907+25 FT.

DETAIL U
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 907+25 TO STA. 911+25 FT.

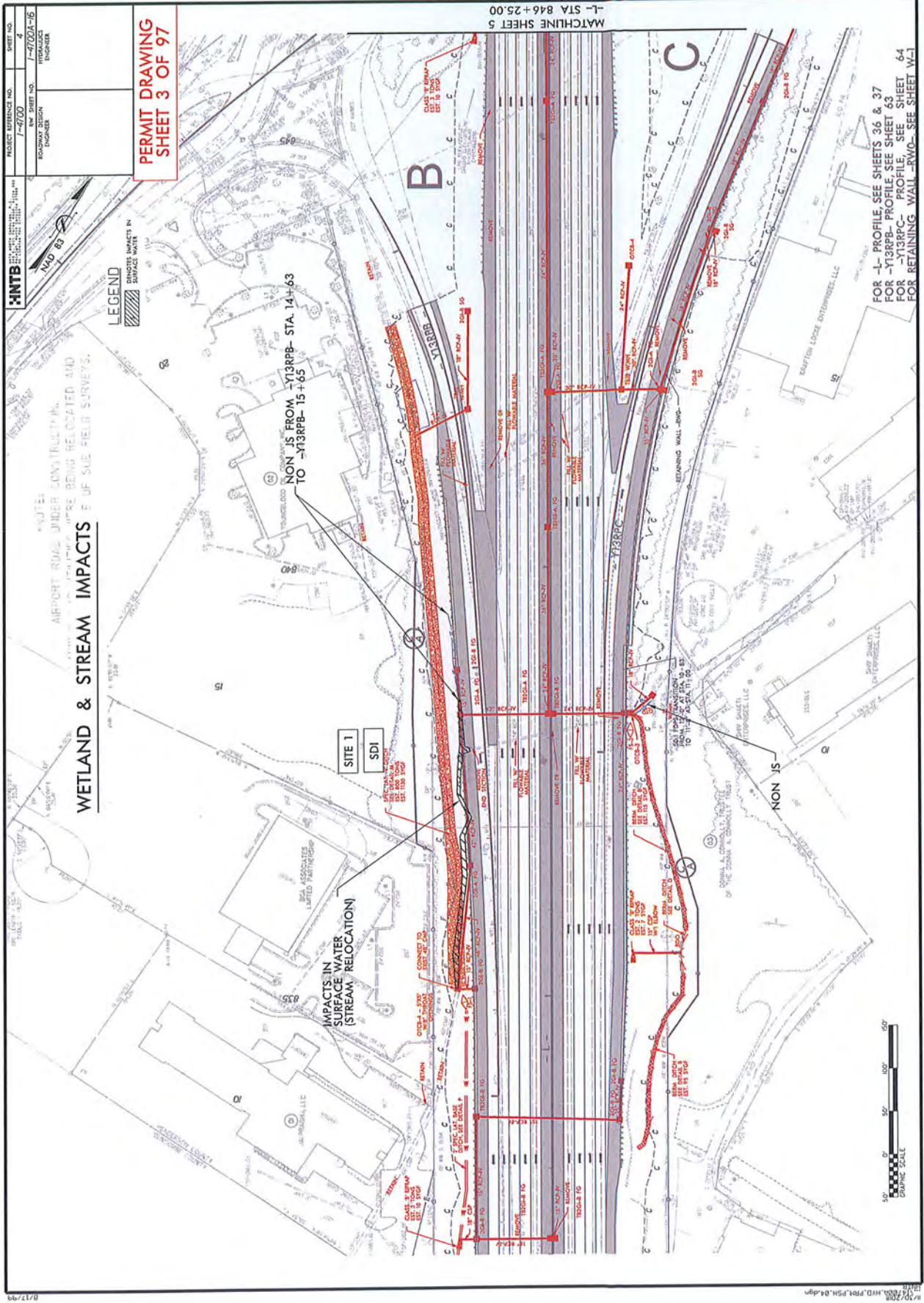
DETAIL V
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 911+25 TO STA. 915+25 FT.

DETAIL W
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 915+25 TO STA. 919+25 FT.

DETAIL X
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 919+25 TO STA. 923+25 FT.

DETAIL Y
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 923+25 TO STA. 927+25 FT.

DETAIL Z
STANDARD BASE DITCH
Type of Lining: Chain 'T' Rip-Rap
Max. D = 1.5 ft.
FROM STA. 927+25 TO STA. 931+25 FT.



| | |
|-----------------------|----------|
| PROJECT REFERENCE NO. | 1-4700 |
| SHEET NO. | 4 |
| DESIGNED BY | J-700A-B |
| DATE | 10/20/08 |
| PROJECT LOCATION | INDIANA |

**PERMIT DRAWING
SHEET 3 OF 97**

WETLAND & STREAM IMPACTS

NOTES:
AIRPORT ROAD UNDER CONSTRUCTION. ALL UTILITIES ARE BEING RELOCATED AND ARE BEING FIELD SURVEYED.

LEGEND
IMPACTS IN SURFACE WATER

NON JS FROM -Y13RFB- STA. 14+63 TO -Y13RFB- 15+65

IMPACTS IN SURFACE WATER (STREAM RELOCATION)

SITE 1

SDI

FOR -L- PROFILE, SEE SHEETS 36 & 37
FOR -Y13RFB- PROFILE, SEE SHEET 63
FOR -Y13RFB-C- PROFILE, SEE SHEET 64
FOR RETAINING WALL -RWB- SEE SHEET W-1

MATCHLINE SHEET 5
L- STA 846+25.00

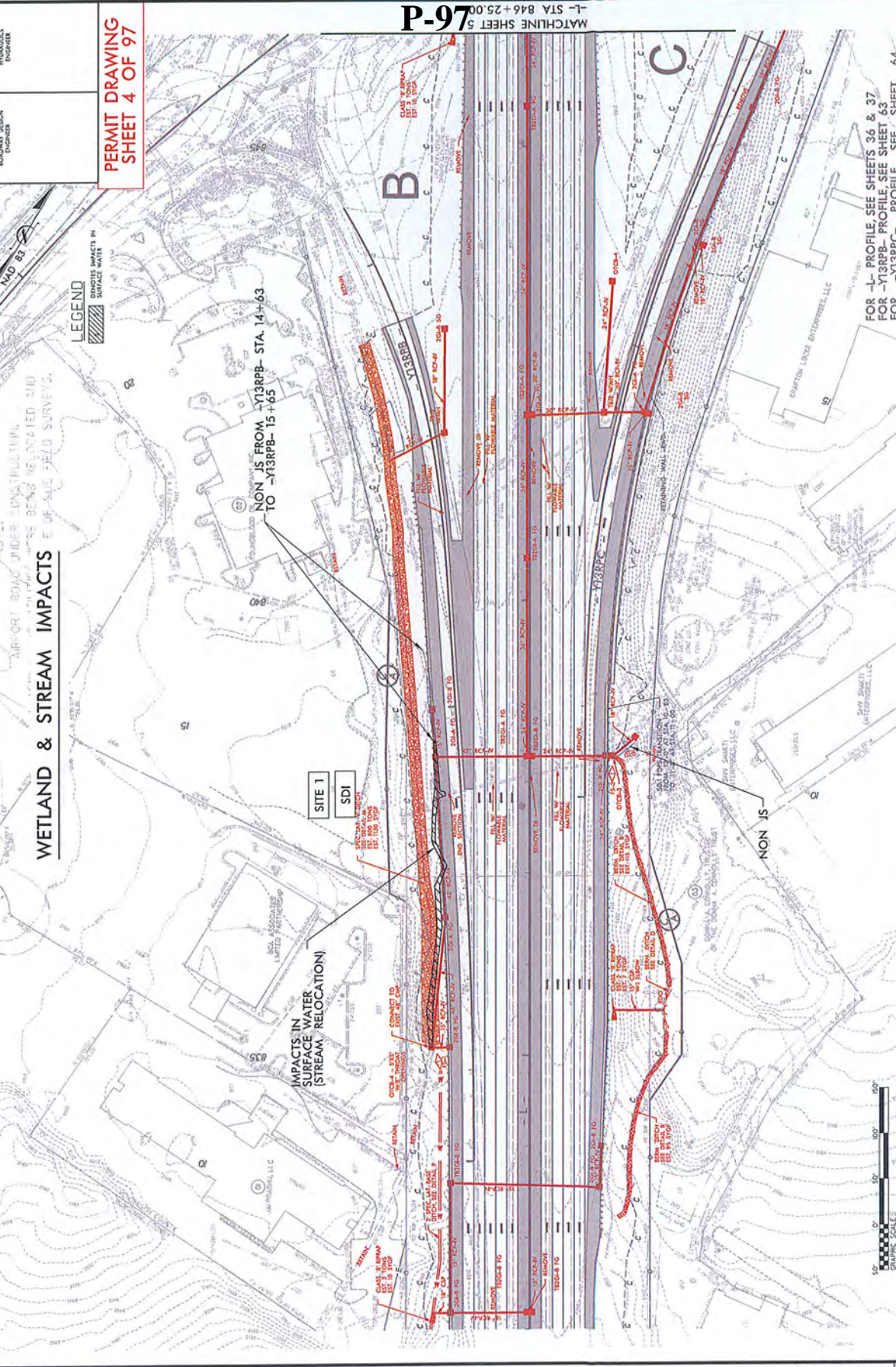
PROJECT REFERENCE NO. 1-4700
 SHEET NO. 4
 HYDRAULIC ENGINEER

HNTB
 AIRPORT ROAD IMPROVEMENTS
 AND
 AIRPORT ROAD WIDENING CONSTRUCTION
 WHERE BEING RELOCATED AND
 IMPROVED BY AERIAL FIELD SURVEYS.

LEGEND
 DIMOTES IMPACTS IN
 SURFACE WATER

WETLAND & STREAM IMPACTS

PERMIT DRAWING
 SHEET 4 OF 97



FOR -L- PROFILE SEE SHEETS 36 & 37
 FOR -Y13RBP- PROFILE, SEE SHEET 63
 FOR -Y13RBP-C- PROFILE, SEE SHEET 64
 FOR RETAINING WALL -RWO-, SEE SHEET W-1

P-97
 MATCHLINE SHEET 5
 -L- STA 846+25.00

8/17/99

PROJECT REFERENCE NO. 1-4700
 RW SHEET NO. 16
 ROADWAY DESIGN ENGINEER

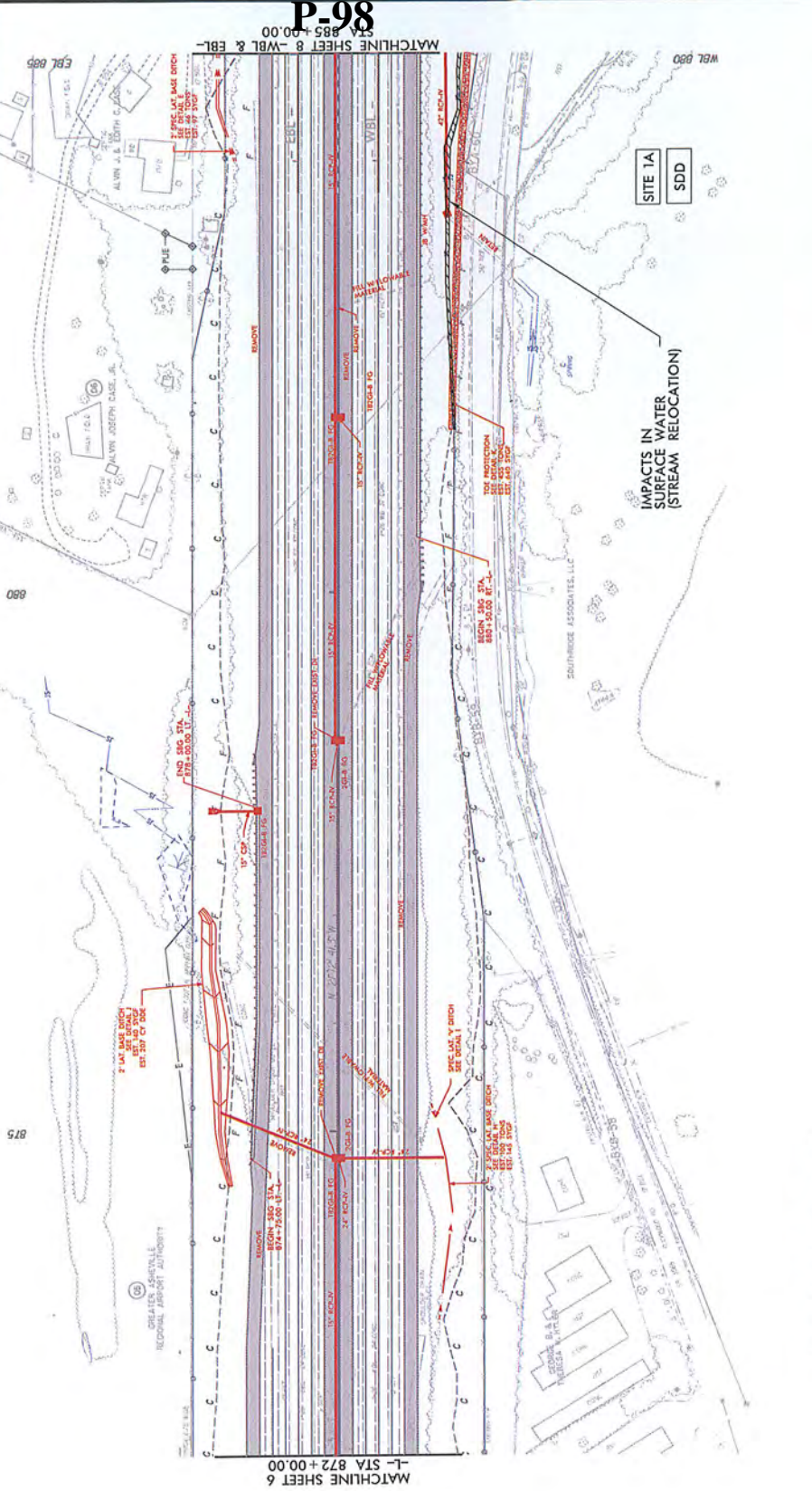
SHEET NO. 7
 HYDRAULICS ENGINEER



LEGEND
 SHADINGS IMPACTS IN SURFACE WATER

WETLAND & STREAM IMPACTS

PERMIT DRAWING
 SHEET 5 OF 97

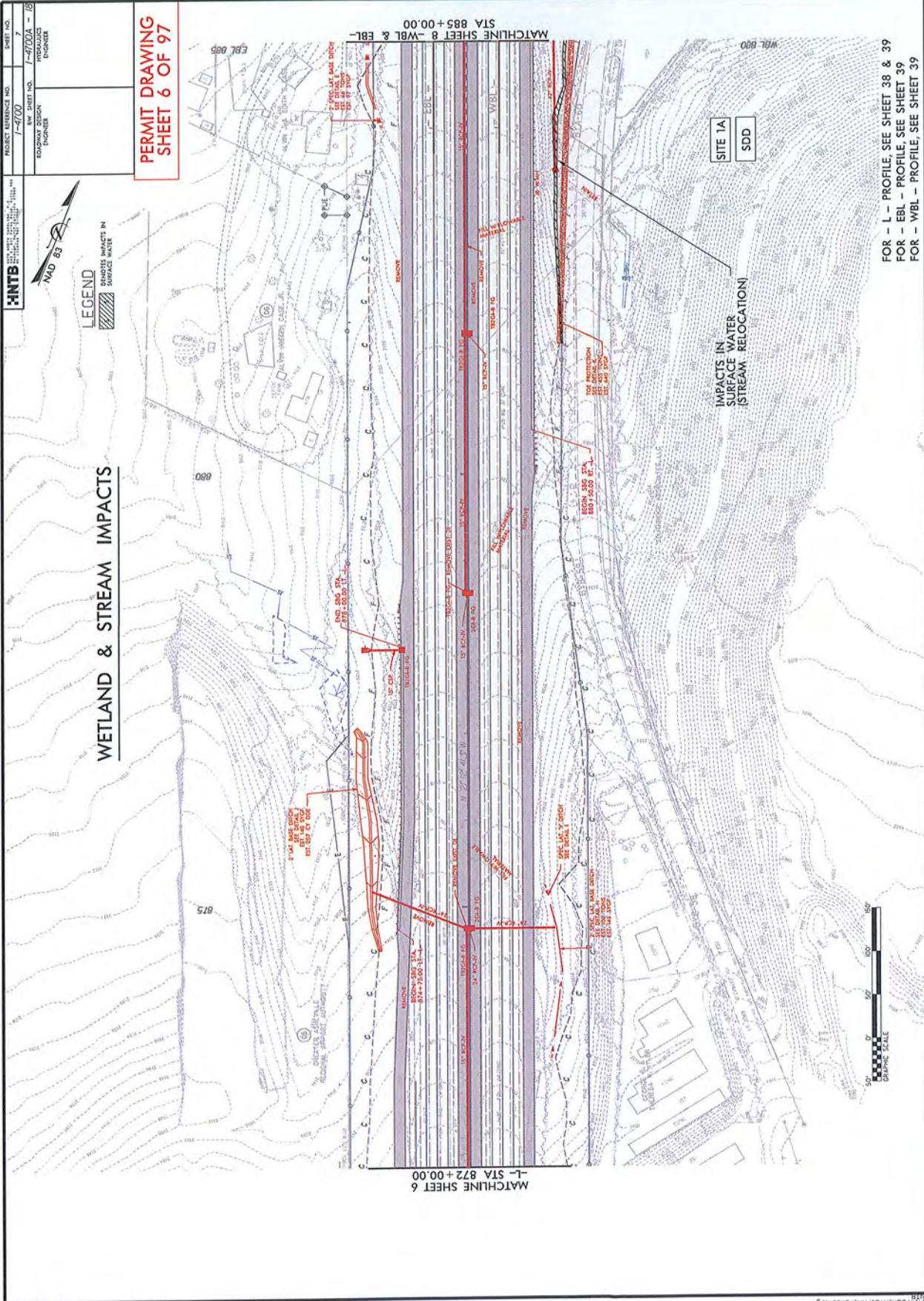


FOR - L - PROFILE SEE SHEET 38 & 39
 FOR - EBL - PROFILE, SEE SHEET 39
 FOR - WBL - PROFILE, SEE SHEET 39

P-98

B/17/98

1/22/2008 10:00 AM H:\0_P84_P5H_07.dgn



FOR - L - PROFILE, SEE SHEET 38 & 39
 FOR - EBL - PROFILE, SEE SHEET 39
 FOR - WBL - PROFILE, SEE SHEET 39

8/17/99
 12/27/98
 BOK, MTO, PSM, PSM, B7.dwg

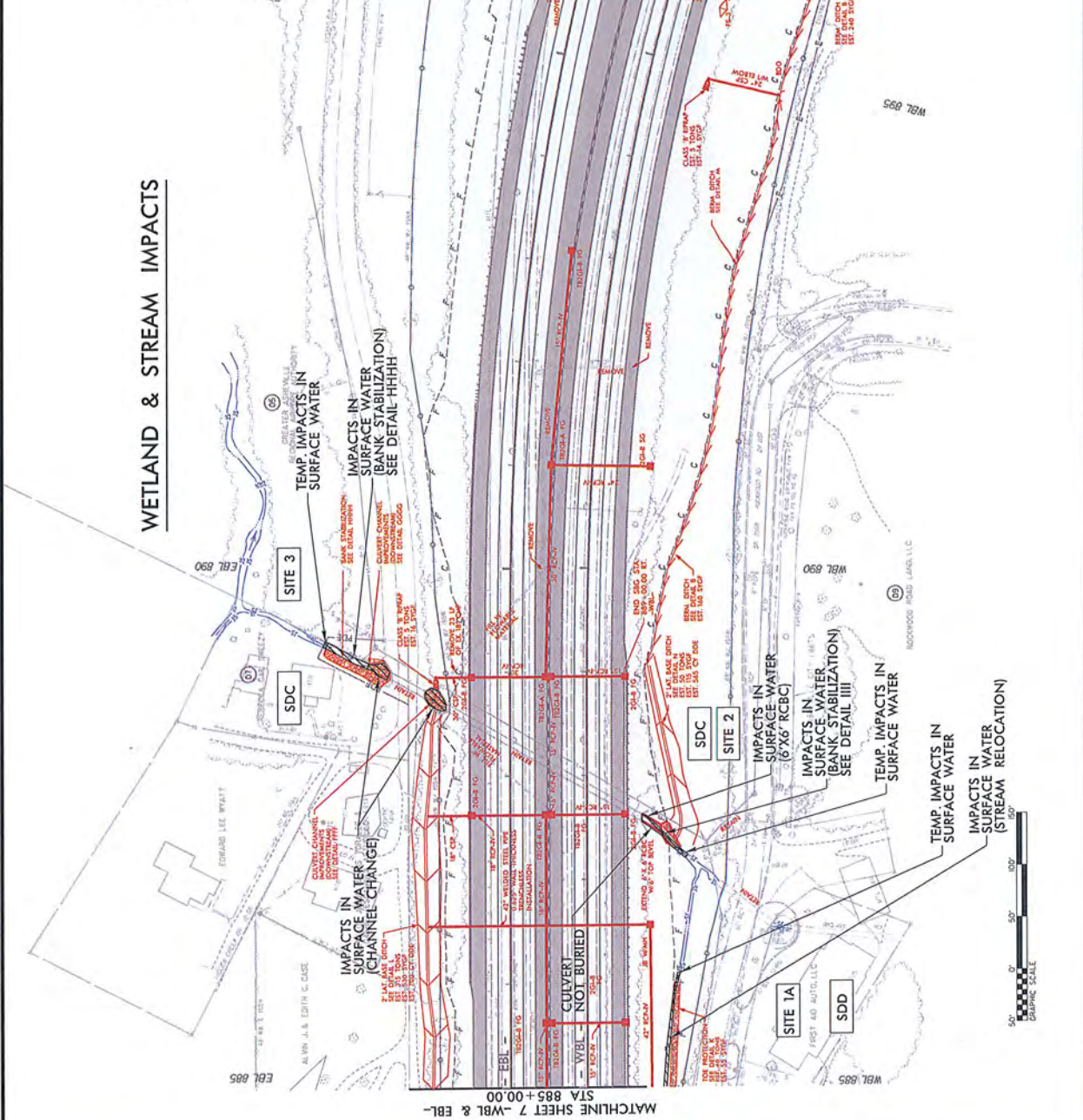
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|-----------------------|------------------------|-------------|--------------|
| PROJECT REFERENCE NO. | 1-4700 | SHEET NO. | 8 |
| ROW | 1-4700A - 15 | DATE | 12/15/10 |
| DESIGNER | INTEGRATED ENGINEERING | PROJECT NO. | 1-4700A - 15 |
| ENGINEER | | DATE | 12/15/10 |

**PERMIT DRAWING
SHEET 7 OF 97**

WETLAND & STREAM IMPACTS

LEGEND

- TEMP IMPACTS IN SURFACE WATER
- IMPACTS IN SURFACE WATER (BANK STABILIZATION)
- IMPACTS IN SURFACE WATER (STREAM RELOCATION)
- IMPACTS IN SURFACE WATER (CHANNEL CHANGE)
- IMPACTS IN SURFACE WATER (CULVERT NOT BURIED)
- IMPACTS IN SURFACE WATER (CULVERT CHANGE)
- IMPACTS IN SURFACE WATER (TEMPORARY)
- IMPACTS IN SURFACE WATER (PERMANENT)



FOR - EBL - PROFILE, SEE SHEET 39 & 40
 FOR - WBL - PROFILE, SEE SHEET 39 & 40
 FOR RETAINING WALL - RW3 - SEE SHEET W-2

| | | | |
|-----------------------|-------------|-----------|-------------|
| PROJECT REFERENCE NO. | 7-000 | SHEET NO. | 8 |
| ROW | 7-000A - 19 | ROW | 7-000A - 19 |
| ROADWAY | ROADWAY | ROADWAY | ROADWAY |
| BOUNDARY | BOUNDARY | BOUNDARY | BOUNDARY |

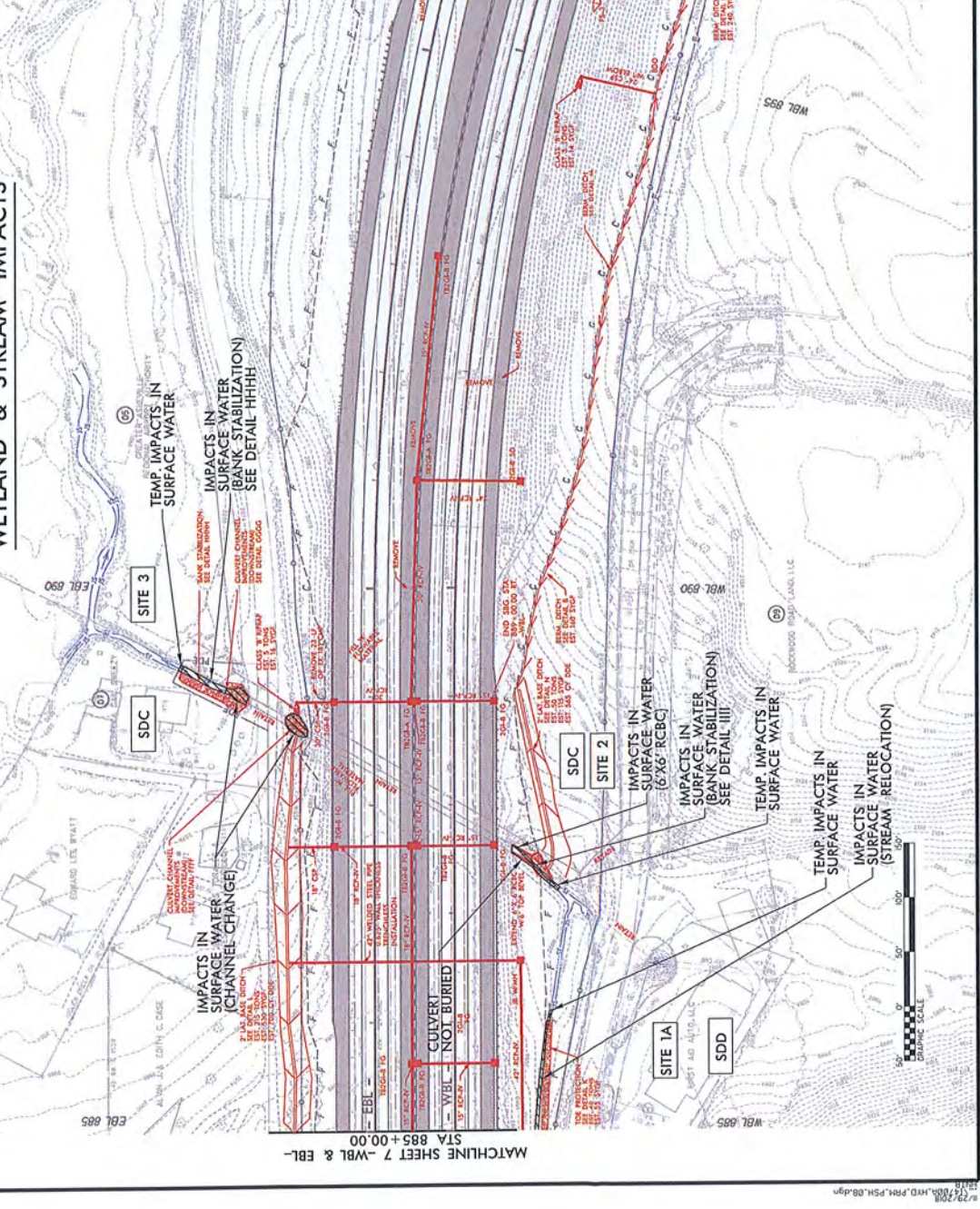
PERMIT DRAWING
SHEET 8 OF 97

LEGEND

- TEMP. IMPACTS IN SURFACE WATER
- IMPACTS IN SURFACE WATER
- IMPACTS IN SURFACE WATER (CHANNEL CHANGE)
- IMPACTS IN SURFACE WATER (BANK STABILIZATION)
- IMPACTS IN SURFACE WATER (STREAM RELOCATION)

WETLAND & STREAM IMPACTS

North Arrow
MAD 83



FOR - EBL - PROFILE, SEE SHEET 39 & 40
FOR - WBL - PROFILE, SEE SHEET 39 & 40
FOR RETAINING WALL - RW3-, SEE SHEET W-2

| | | | |
|-------------------------|---------|---------------------|---------------|
| PROJECT REFERENCE NO. | 1-47700 | SHEET NO. | 8 |
| ROADWAY DESIGN ENGINEER | | DATE | 1-47700A - 15 |
| | | HYDRAULICS ENGINEER | |

PERMIT DRAWING
SHEET 9 OF 97

SITE 3 SDC

TEMP. IMPACTS IN SURFACE WATER

IMPACTS IN SURFACE WATER (BANK STABILIZATION) SEE DETAIL HHHH

IMPACTS IN SURFACE WATER (CHANNEL CHANGE)

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

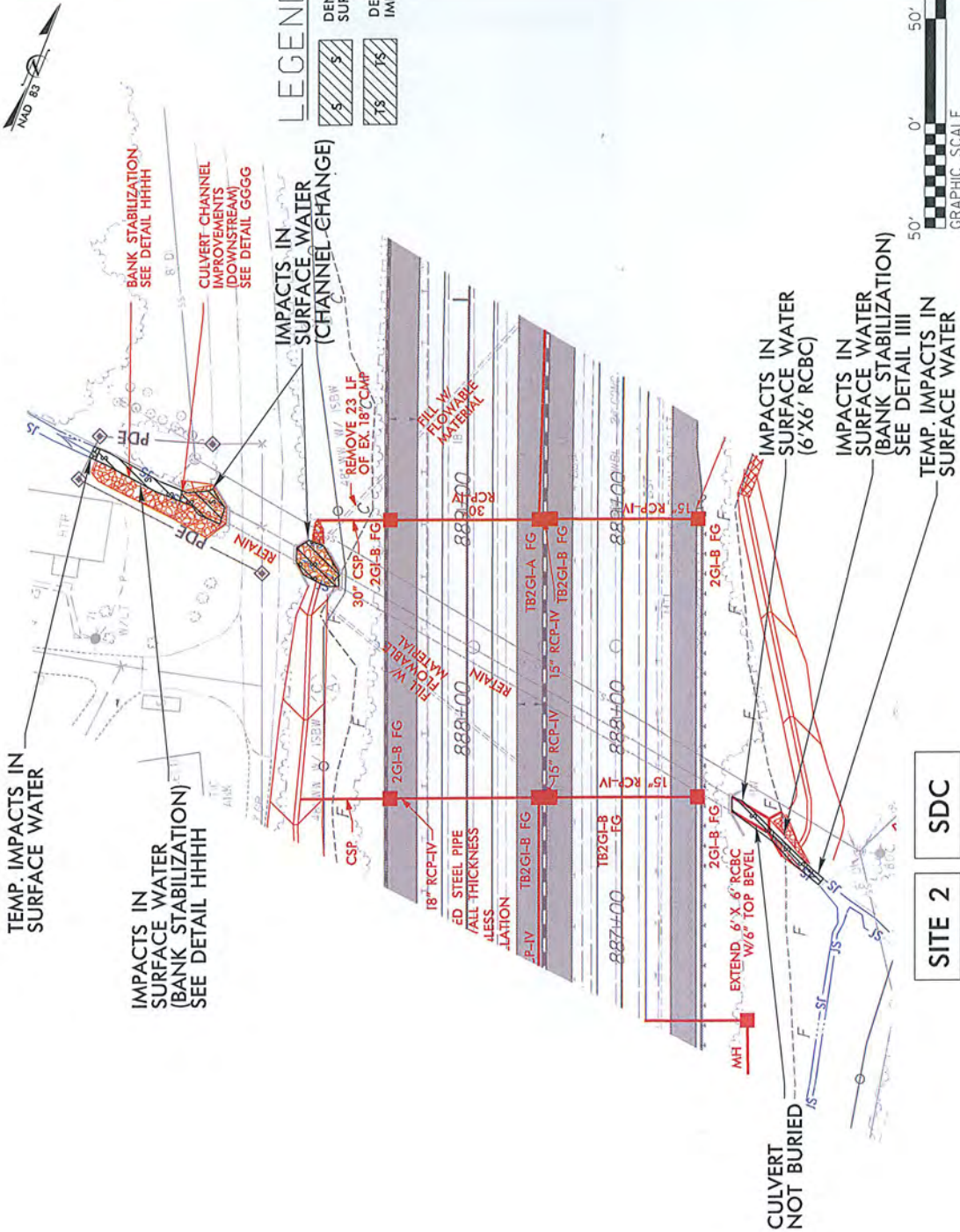
LEGEND

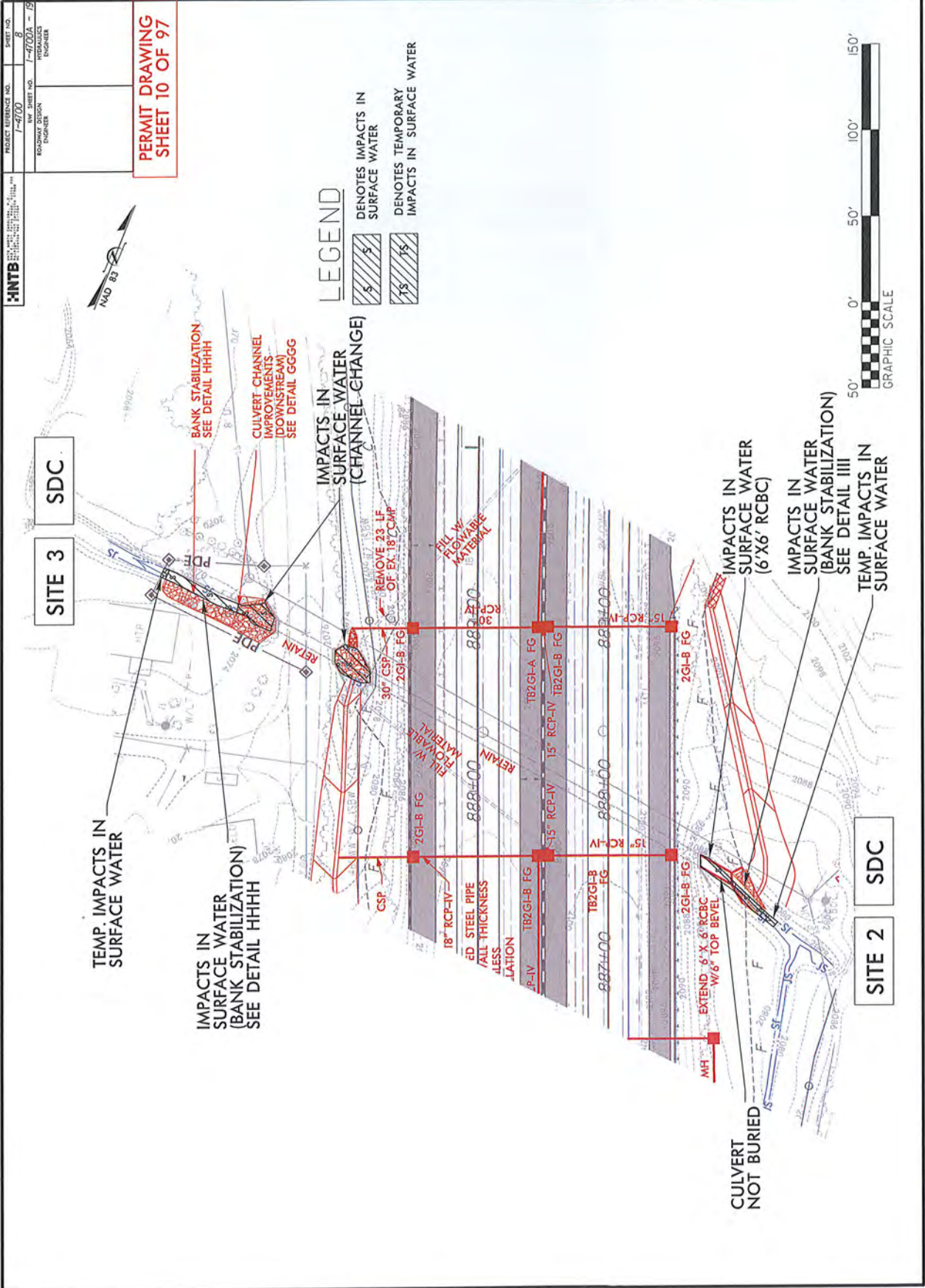


SITE 2 SDC

SITE 2 SDC

CULVERT NOT BURIED





PROJECT REFERENCE NO. 1-4700
 SHEET NO. 8
 ROADWAY DESIGN
 PROPOSED
 IMPROVEMENTS
 PERMIT DRAWING
 SHEET 10 OF 97

SITE 3 SDC

SITE 2 SDC

LEGEND
 DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



P-104

PROJ. REFERENCE NO. -4700 SHEET NO.

PERMIT DRAWING
SHEET 11 OF 97

250

200

150

100

50

0

50

100

150

200

250

2100

2090

2080

2070

2060

STA. 887+89.20 -WBL-
1 @ 6' X 6' RCBC
C ELEV. = 2099.55
SKEW = 119.56°

STA. 888+31.84 -EBL-
1 @ 6' X 6' RCBC
C ELEV. = 2099.98
SKEW = 120.56°

WS EL. = 2076.3
SURVEY 09-10-17

INV. = 2075.25
INV. IN = 2076.01

INV. = 2068.24
INV. = 2068.26

INV. OUT = 2067.89

2-1 NORMAL

EXTEND EXISTING RCBC
3.23% GRADE

RETAIN EXISTING
1 @ 6' X 6' RCBC

PROPOSED R/W

PROPOSED RIP-RAP
FILL EXISTING
SCOUR HOLE

PROPOSED RIP-RAP
FILL EXISTING
SCOUR HOLE

RETAIN EXISTING
6' X 6' RCBC

NATURAL GROUND
RIGHT BANK
NATURAL GROUND
LEFT BANK

PROFILE

BUNCOMBE & HENDERSON COUNTY
PROJECT: I-4700
I-26
FROM 0.3 MI EAST OF NC 280 (AIRPORT RD.)
TO 0.5 MI EAST OF NC 191 (BREVARD RD.)

| | | | |
|-----------------------|----------------------|-----------|-------------|
| PROJECT REFERENCE NO. | 7-4700 | SHEET NO. | 10 |
| ROW/SECTION | SW | SHEET NO. | 7-4700A - 2 |
| DESCRIPTION | ROADWAY IMPROVEMENTS | | |
| DATE | NOVEMBER | | |

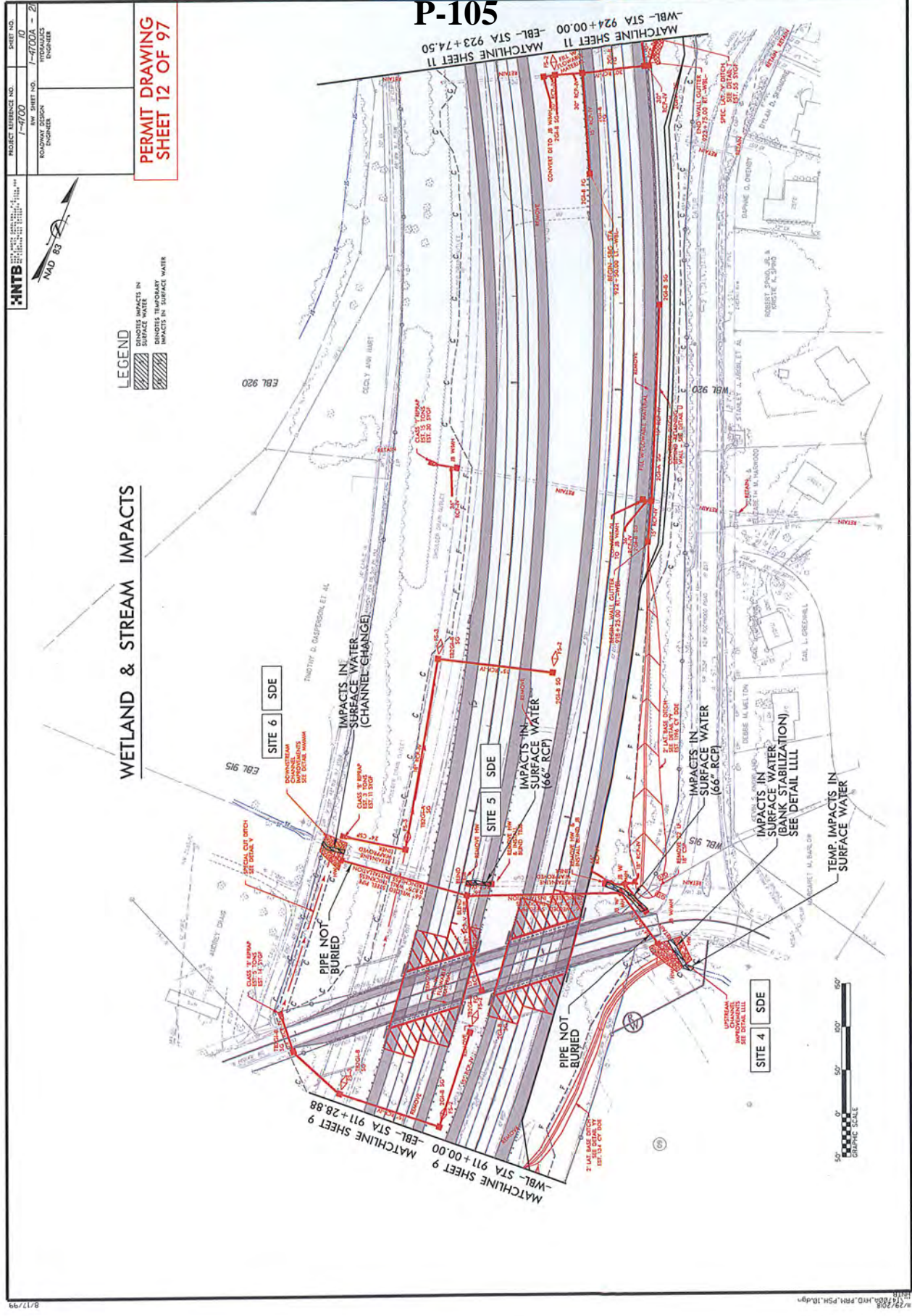
PERMIT DRAWING
SHEET 12 OF 97



WETLAND & STREAM IMPACTS

LEGEND

- SHADY HATCH: SIGNIF. IMPACTS IN SURFACE WATER
- DIAGONAL HATCH: TEMP. IMPACTS IN SURFACE WATER
- STIPPLE HATCH: IMPACTS IN SURFACE WATER



| | | | |
|-------------------------|--------|-----------|-------------|
| PROJECT REFERENCE NO. | 1-4700 | SHEET NO. | 10 |
| ROADWAY DESIGN ENGINEER | BYV | SHEET NO. | 1-4700A - 2 |
| ROADWAY DESIGN ENGINEER | | PROPOSAL | IMPROVEMENT |

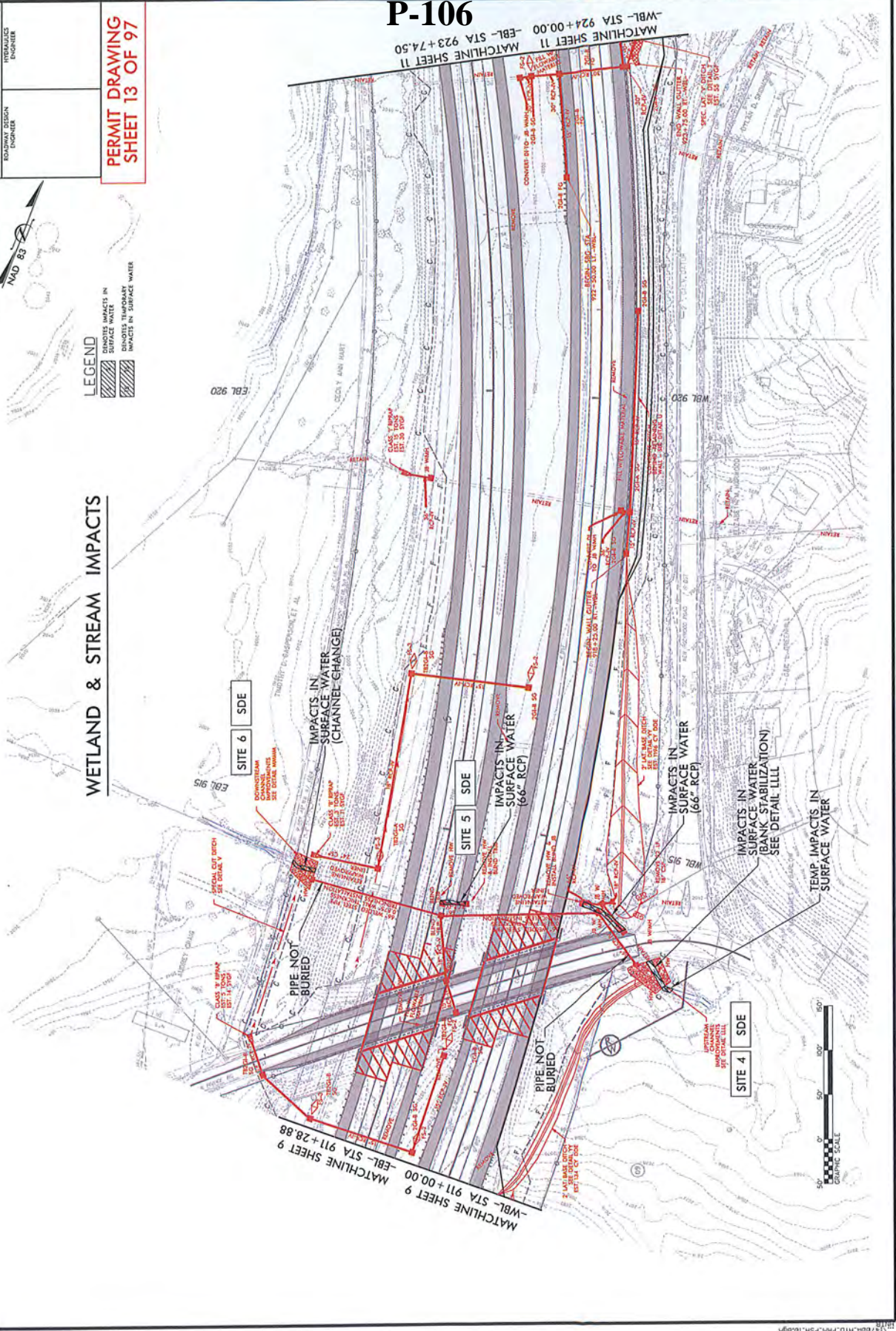
**PERMIT DRAWING
SHEET 13 OF 97**



LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- IMPACTS IN SURFACE WATER

WETLAND & STREAM IMPACTS



MATCHLINE SHEET 9
-WBL- STA 911+00.00
-EBL- STA 911+28.88

MATCHLINE SHEET 11
-EBL- STA 923+74.50
-WBL- STA 924+00.00

SITE 4 SDE

SITE 5 SDE

SITE 6 SDE



| | | | |
|-----------------------|--------|----------------|----------------------|
| PROJECT REFERENCE NO. | 1-4700 | SHEET NO. | 10 |
| ROWAY DESIGN NUMBER | | REV. SHEET NO. | 1-4700A - 2 |
| | | PROJECT TITLE | ROADWAY IMPROVEMENTS |
| | | DATE | 10/20/09 |

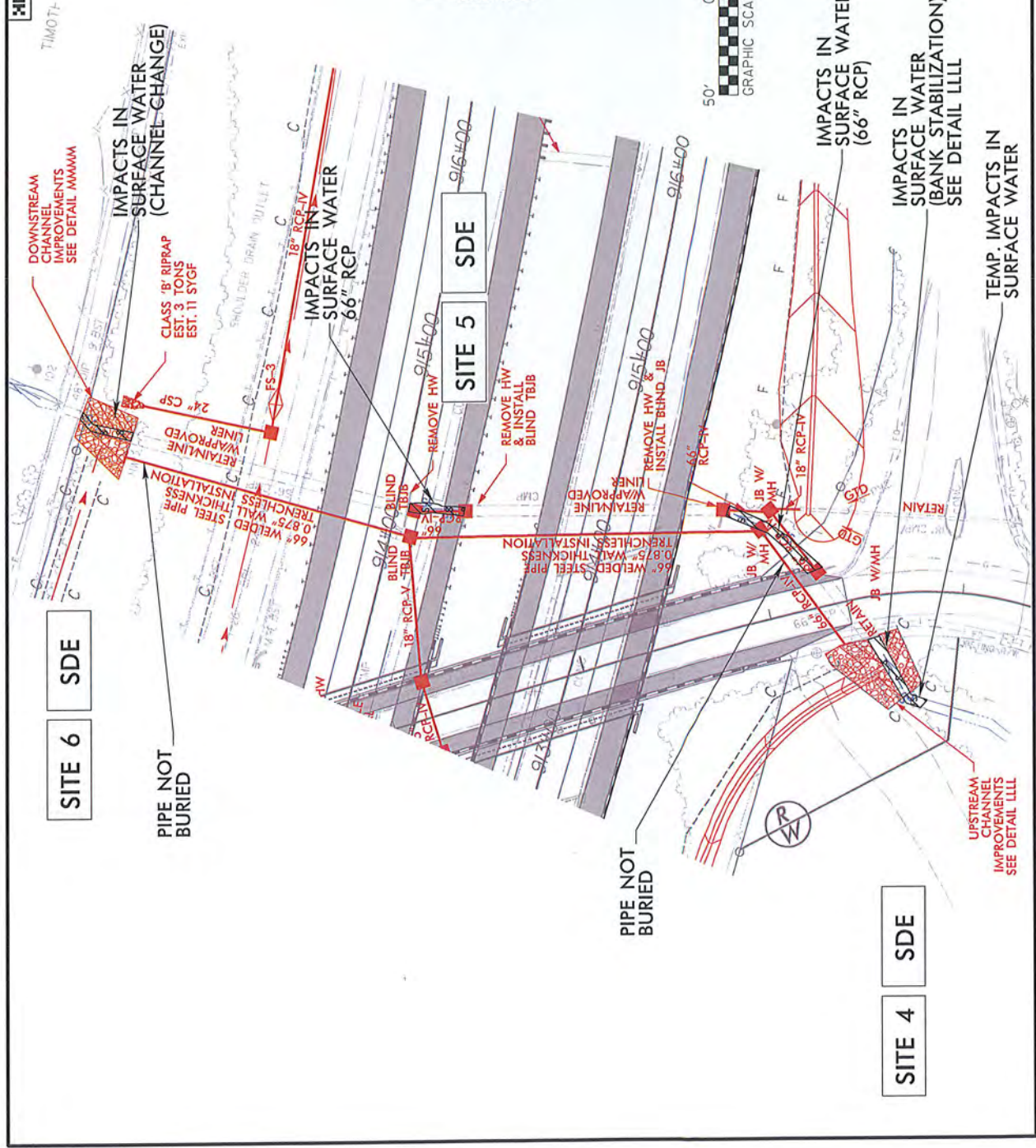
**PERMIT DRAWING
SHEET 14 OF 97**

P-107



LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



DOWNSTREAM CHANNEL IMPROVEMENTS SEE DETAIL MWWMA

IMPACTS IN SURFACE WATER (CHANNEL CHANGE)

CLASS 'B' RIPRAP EST. 3 TONS EST. 11 SYG

IMPACTS IN SURFACE WATER (66" RCP)

SITE 5 SDE

REMOVE HW & INSTALL BLIND TBIB

REMOVE HW & INSTALL BLIND JB

IMPACTS IN SURFACE WATER (66" RCP)

IMPACTS IN SURFACE WATER (BANK STABILIZATION) SEE DETAIL LLLL

TEMP. IMPACTS IN SURFACE WATER

SITE 6 SDE

PIPE NOT BURIED

PIPE NOT BURIED

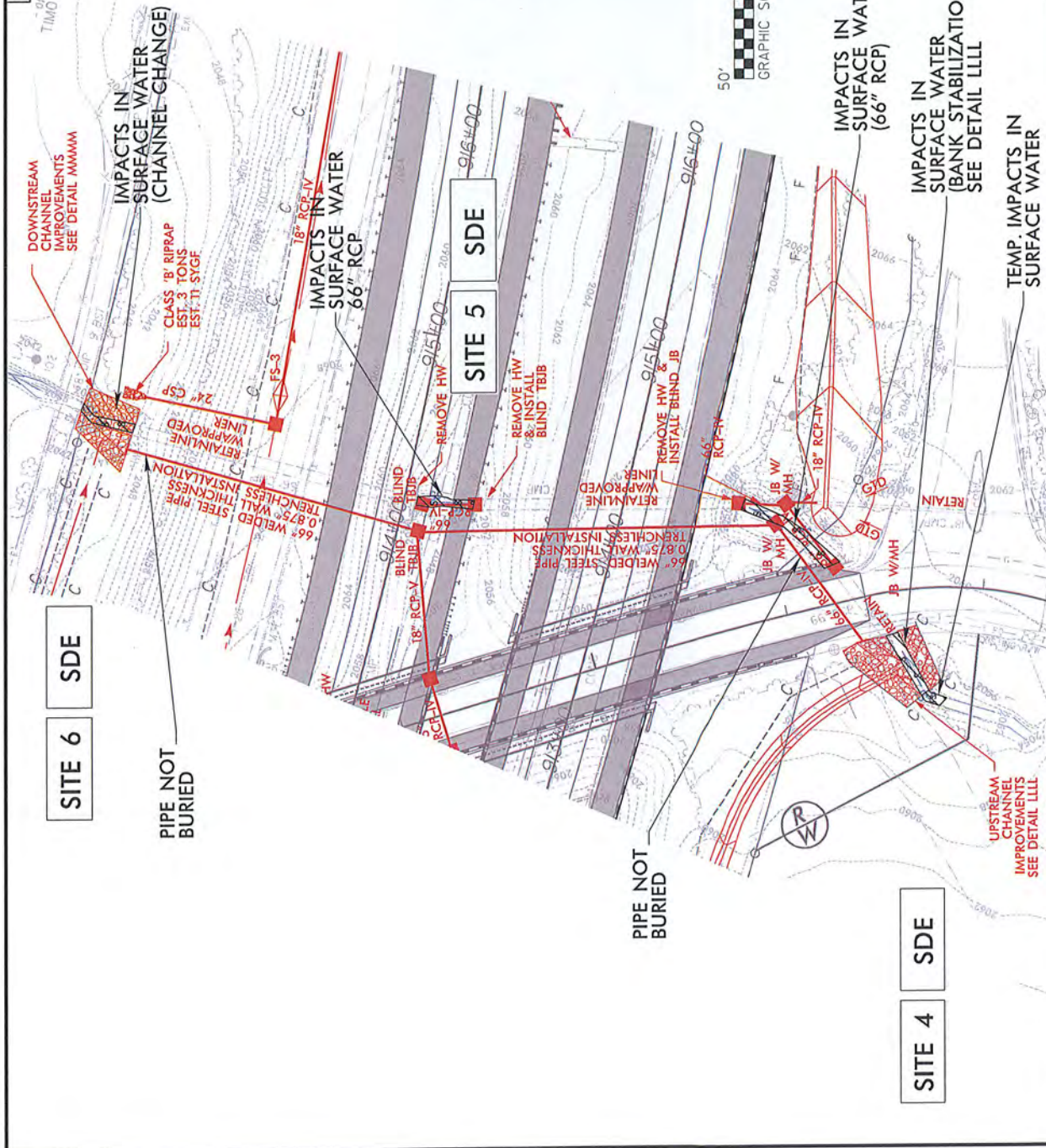
SITE 4 SDE

UPSTREAM CHANNEL IMPROVEMENTS SEE DETAIL LLLL

| | | | | |
|---|-----------------------|--------|-------------|-------------|
| MNTB METROPOLITAN NORTH TARRANT BARRIERS, INC. 9907 TIMOTHY FORT WORTH, TEXAS 76116 | PROJECT REFERENCE NO. | 1-4700 | SHEET NO. | 10 |
| | DRAWN BY | SW | DRAWING NO. | 1-4700A - 2 |
| | DESIGNED BY | EW | DATE | 08/11/2009 |

**PERMIT DRAWING
SHEET 15 OF 97**

P-108



SITE 6 SDE

PIPE NOT BURIED

SITE 5 SDE

PIPE NOT BURIED

SITE 4 SDE

DOWNSTREAM CHANNEL IMPROVEMENTS SEE DETAIL .MMMMM

IMPACTS IN SURFACE WATER (CHANNEL-CHANGE)

CLASS 'B' RIPRAP EST. 3 TONS EST. T1 STGF

IMPACTS IN SURFACE WATER 66" RCP

IMPACTS IN SURFACE WATER (BANK STABILIZATION) SEE DETAIL LLLL

IMPACTS IN SURFACE WATER (66" RCP)

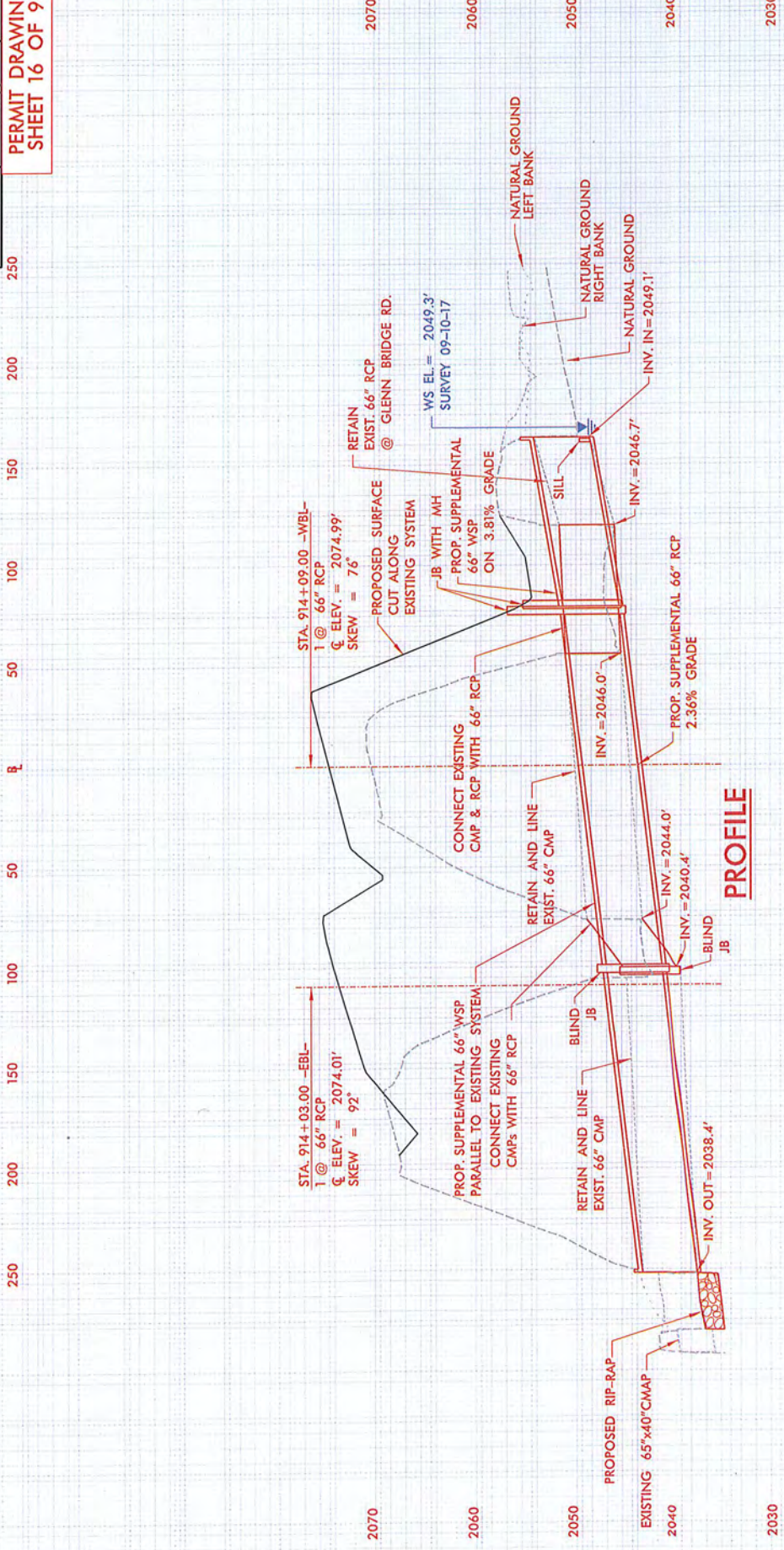
IMPACTS IN SURFACE WATER (BANK STABILIZATION) SEE DETAIL LLLL

TEMP. IMPACTS IN SURFACE WATER

UPSTREAM CHANNEL IMPROVEMENTS SEE DETAIL LLLL

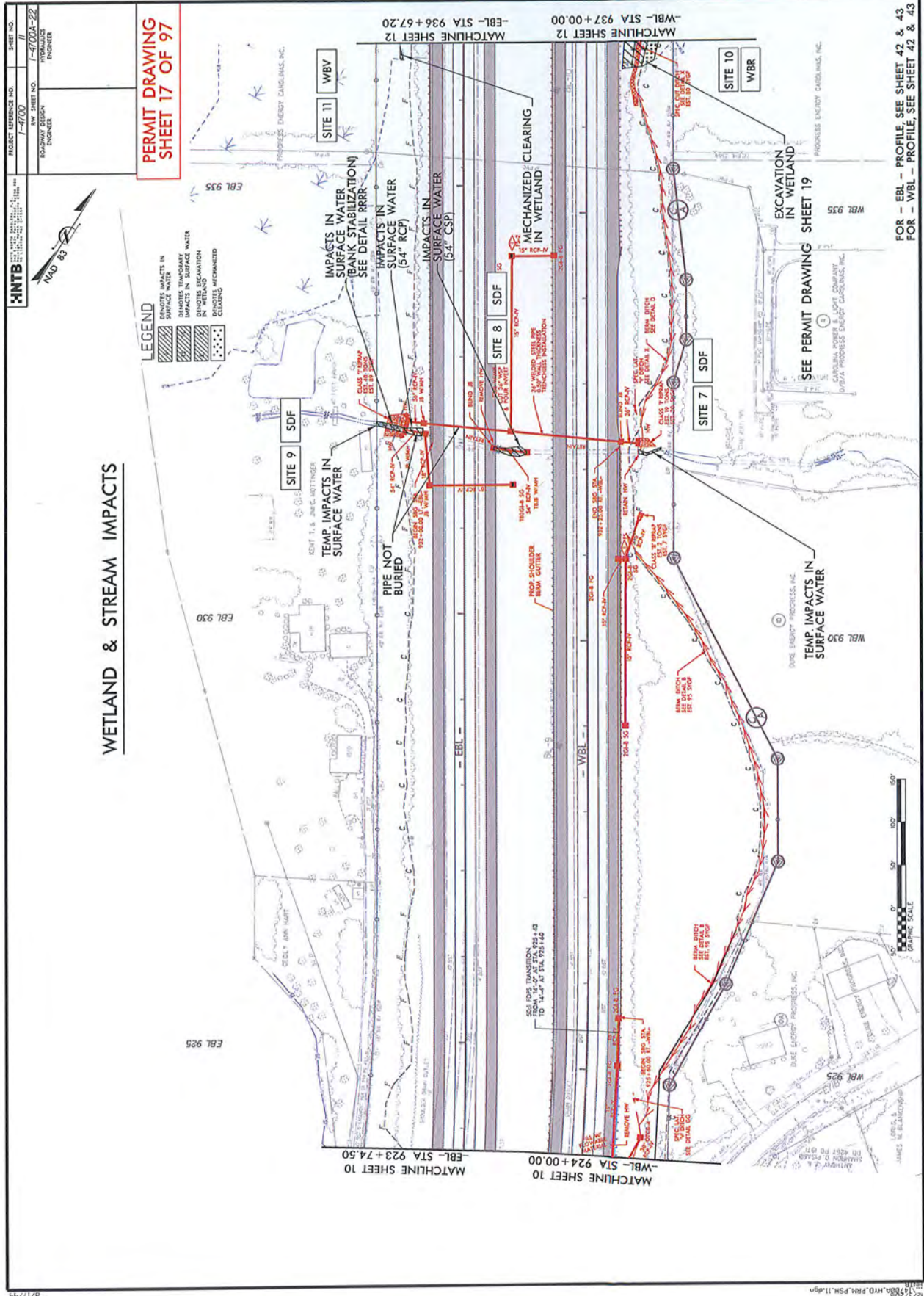
**PERMIT DRAWING
SHEET 16 OF 97**

P-109



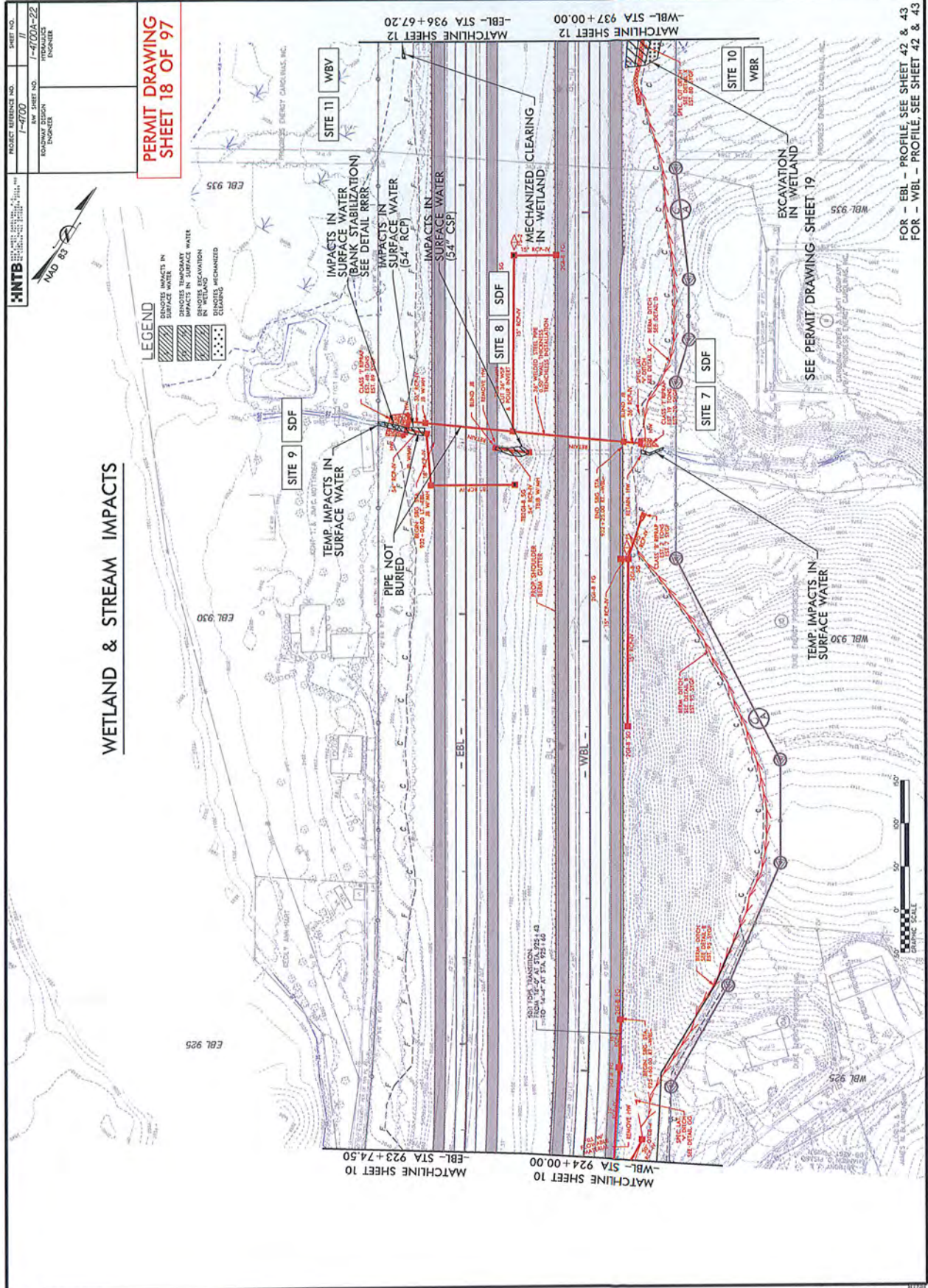
PROFILE

BUNCOMBE & HENDERSON COUNTY
PROJECT: I-4700
I-26
FROM 0.3 MI EAST OF NC 280 (AIRPORT RD.)
TO 0.5 MI EAST OF NC 191 (BREVARD RD.)



FOR - EBL - PROFILE, SEE SHEET 42 & 43
 FOR - WBL - PROFILE, SEE SHEET 42 & 43

1/17/2019 10:17:30 AM H:\D:\PERS\PSM\110.dwg



FOR - EBL - PROFILE, SEE SHEET 42 & 43
 FOR - WBL - PROFILE, SEE SHEET 42 & 43

PROJECT REFERENCE NO. I-4700
PROJECT SHEET NO. I-4700A-22
CONTRACT NO. 22-1000
CONTRACT DESCRIPTION BRIDGE
ENGINEER [Signature]

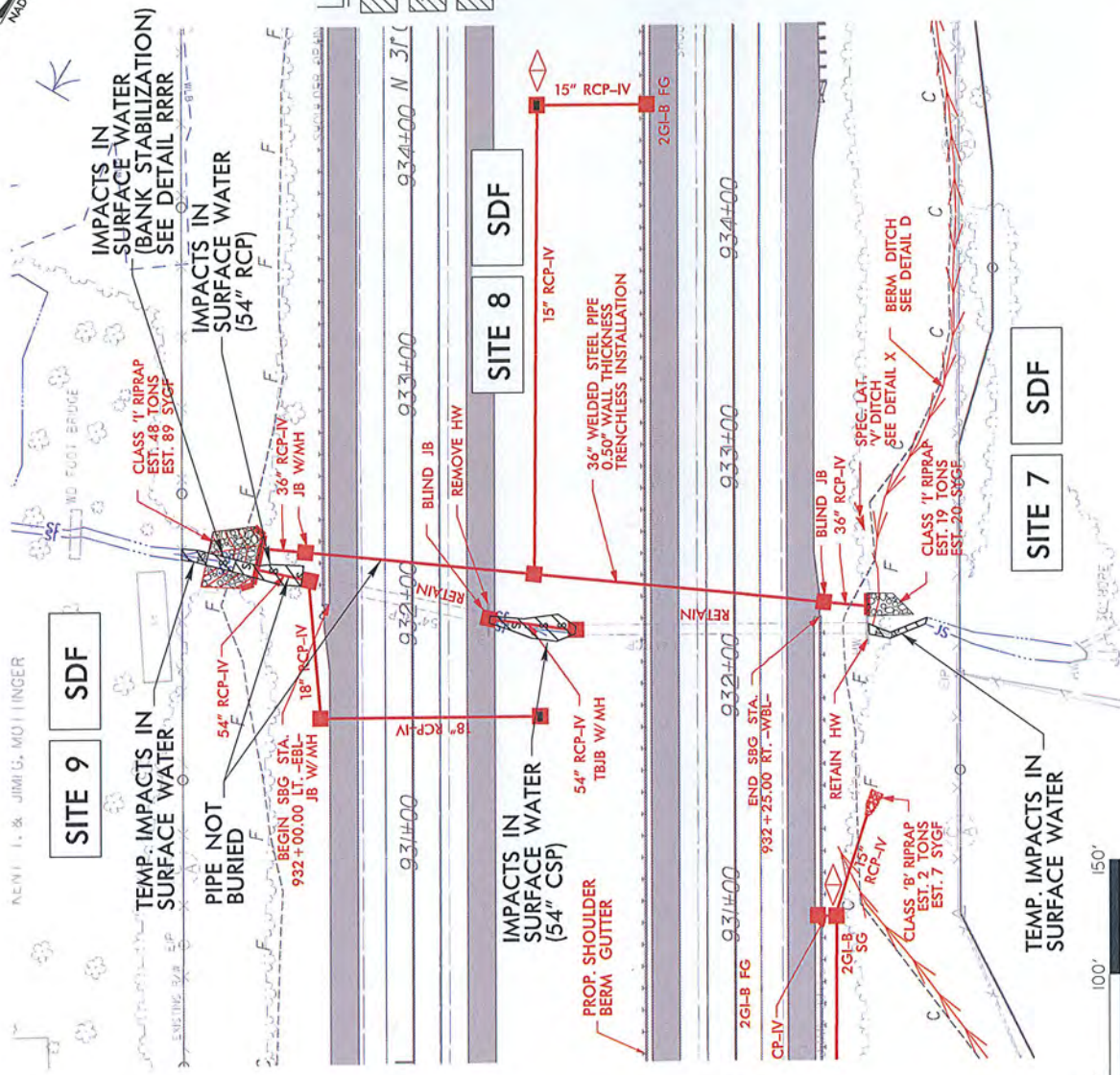
SHEET NO. II
DATE 1/4/00
BY [Signature]

PERMIT DRAWING
SHEET 19 OF 97



LEGEND

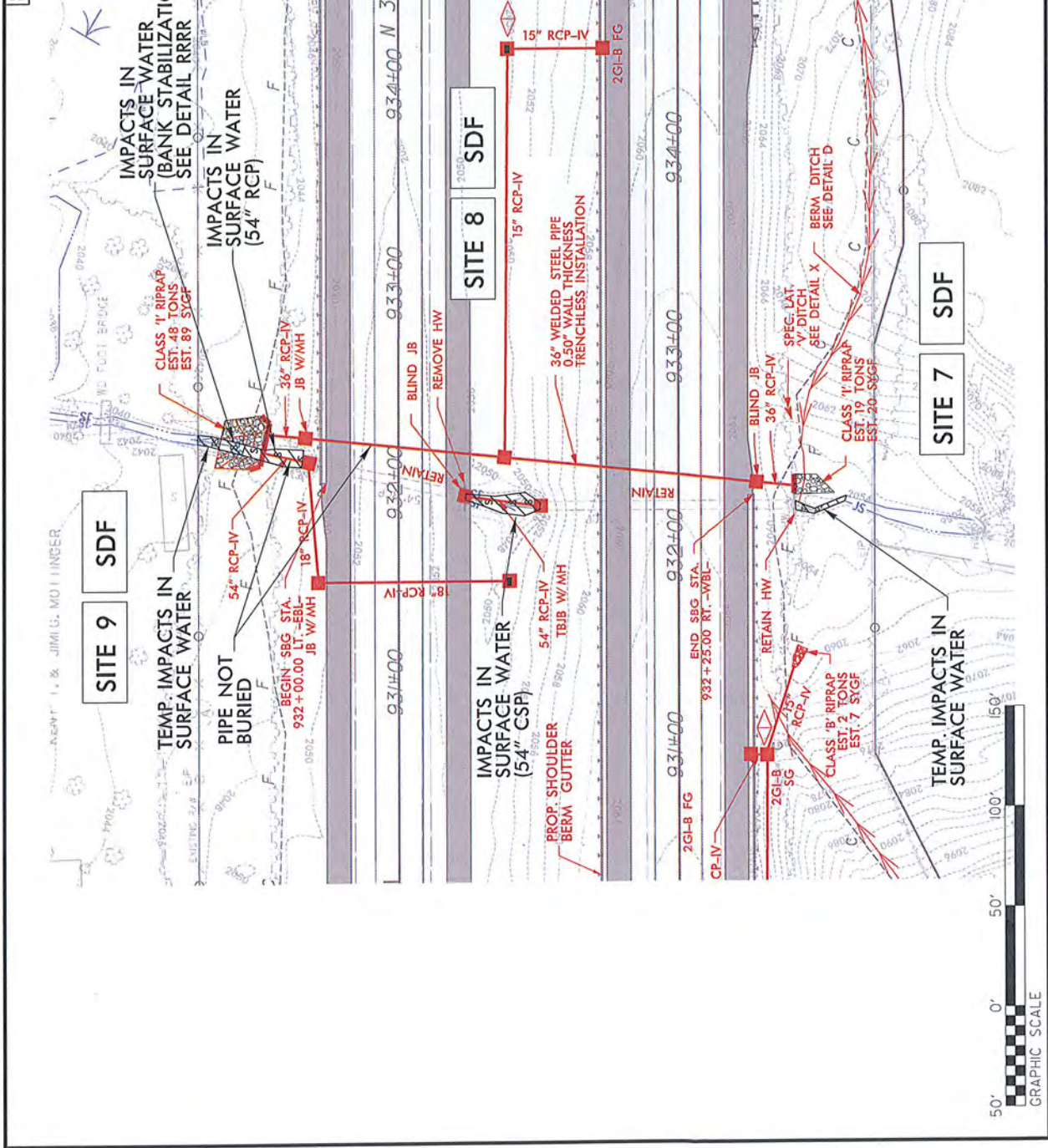
| | |
|--|--|
| | DENOTES IMPACTS IN SURFACE WATER |
| | DENOTES TEMPORARY IMPACTS IN SURFACE WATER |
| | DENOTES EXCAVATION IN WETLAND |



PROJECT REFERENCE NO. I-4700
 HWY SHEET NO. I-4700A-22
 ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER

**PERMIT DRAWING
 SHEET 20 OF 97**

P-113



LEGEND

| | |
|--|--|
| | DENOTES IMPACTS IN SURFACE WATER |
| | DENOTES TEMPORARY IMPACTS IN SURFACE WATER |
| | DENOTES EXCAVATION IN WETLAND |



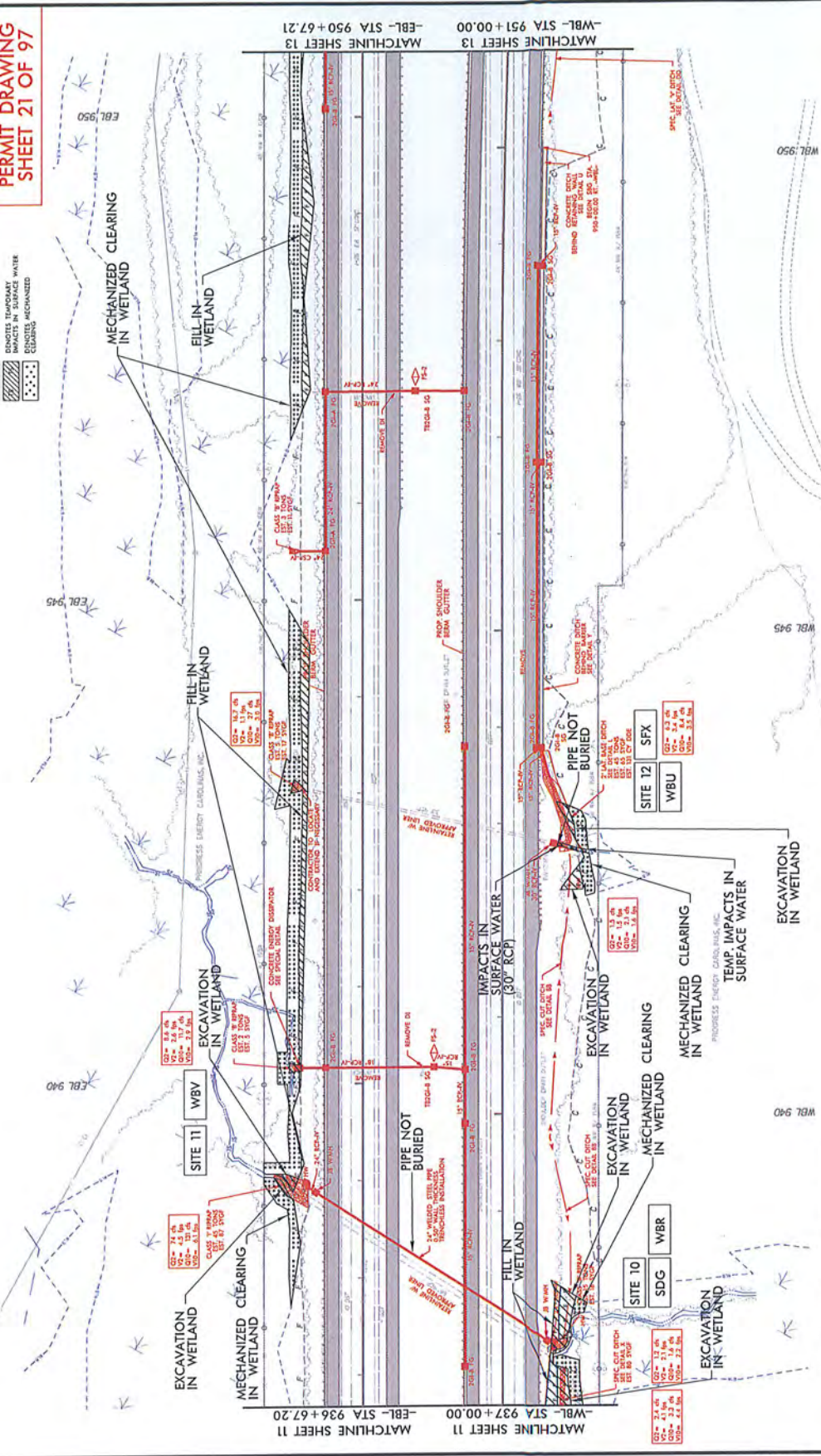
WETLAND & STREAM IMPACTS

PROJECT REFERENCE NO. 1-4700
 SHEET NO. 12
 EBL - STA 950+00.00
 MATCHLINE SHEET 13

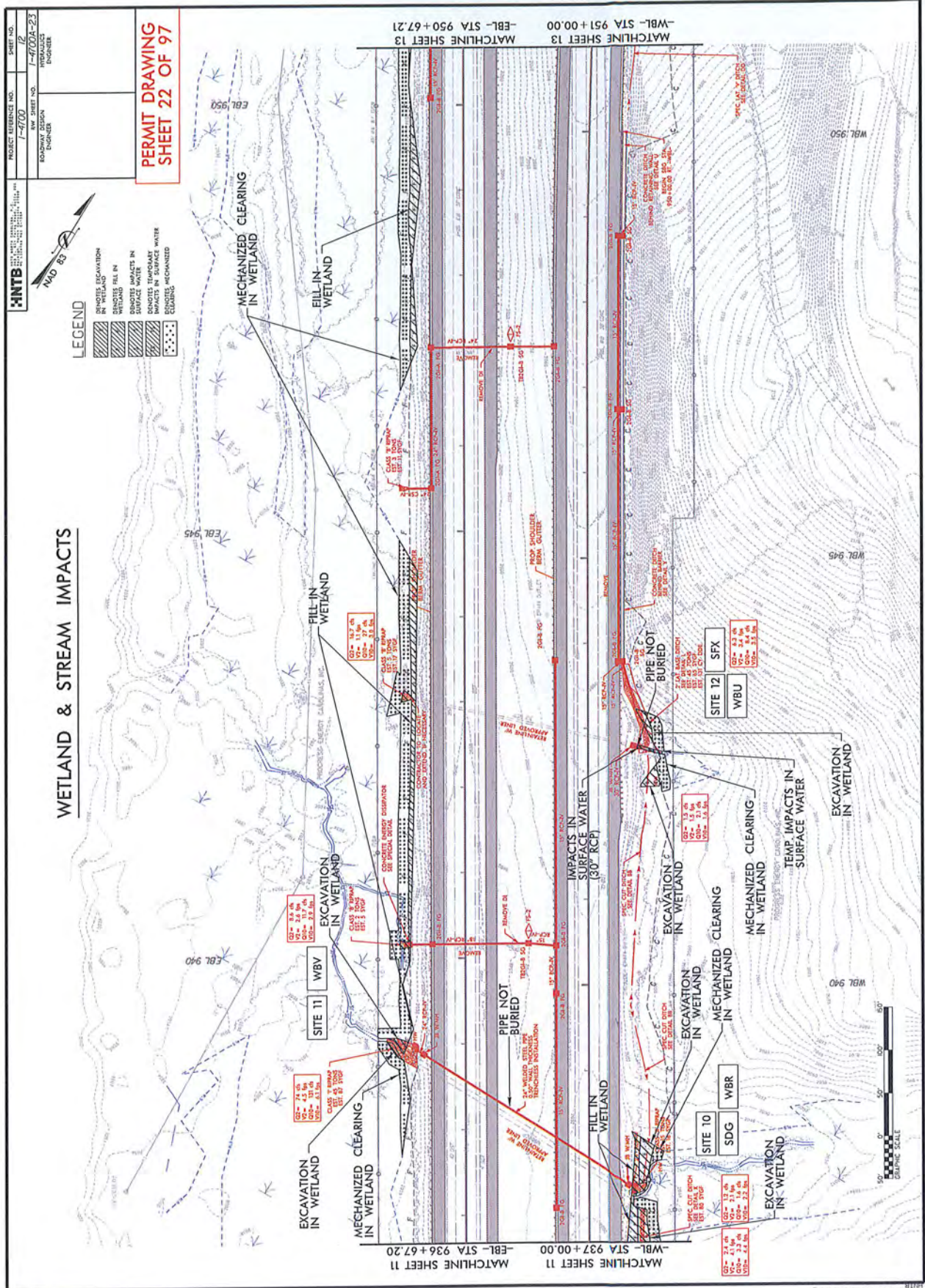
LEGEND

- MACHINERY EXCAVATION IN WETLAND
- DITCHES FILL IN
- DITCHES IMPACTS IN SURFACE WATER
- DITCHES TEMPORARY IMPACTS IN SURFACE WATER
- CLASSES MECHANIZED CLEARING

PERMIT DRAWING SHEET 21 OF 97



WETLAND & STREAM IMPACTS



PROJECT REFERENCE NO. 1-4700
 SHEET NO. 12
 DRAWING NO. 1-4700A-23
 CONTRACTOR
 ENGINEER

**PERMIT DRAWING
 SHEET 22 OF 97**

MATCHLINE SHEET 11 -EBL- STA 936+67.20
 MATCHLINE SHEET 13 -EBL- STA 950+67.21

MATCHLINE SHEET 11 -EBL- STA 937+00.00
 MATCHLINE SHEET 13 -EBL- STA 950+67.21

PROJECT REFERENCE NO. 1-4700
 SHEET NO. 11 & 12
 HYDRAULICS ENGINEER

CLEARING

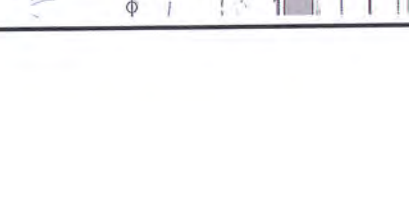
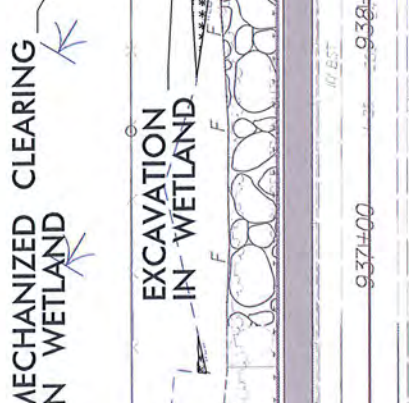
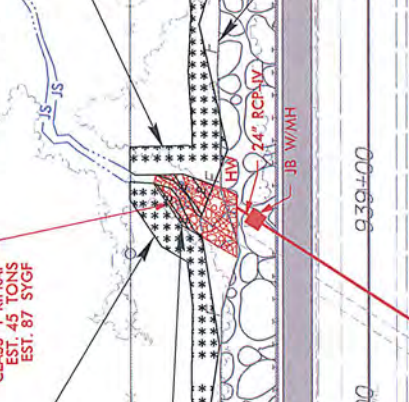
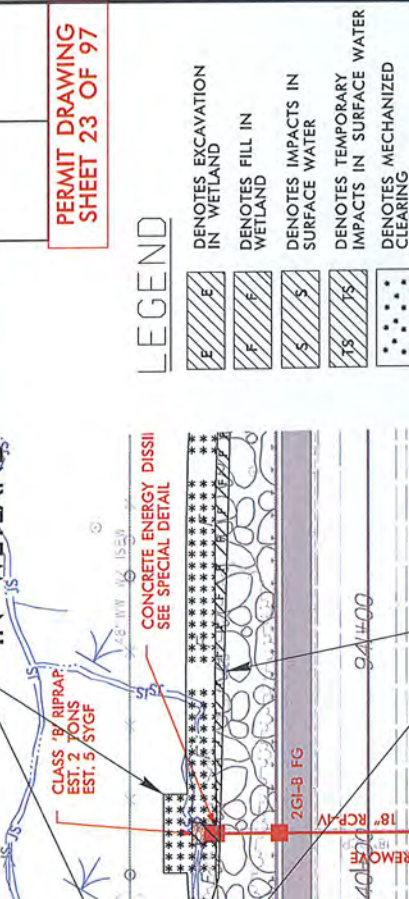


SITE 11
WBV

SITE 10
SDG
WBR

SITE 12
SFX
WBU

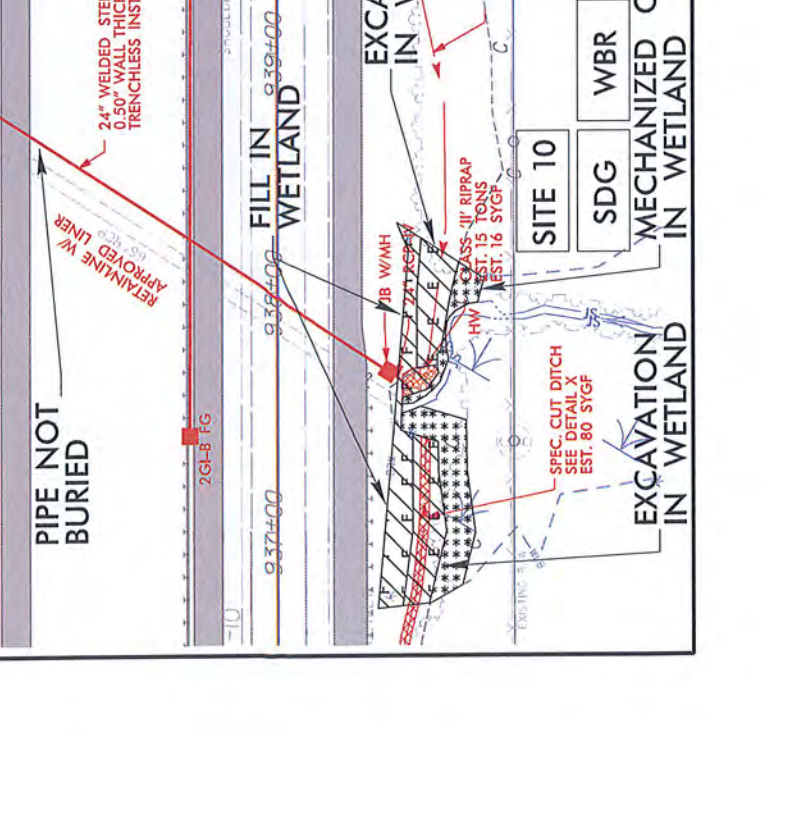
PERMIT DRAWING
SHEET 23 OF 97



LEGEND

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

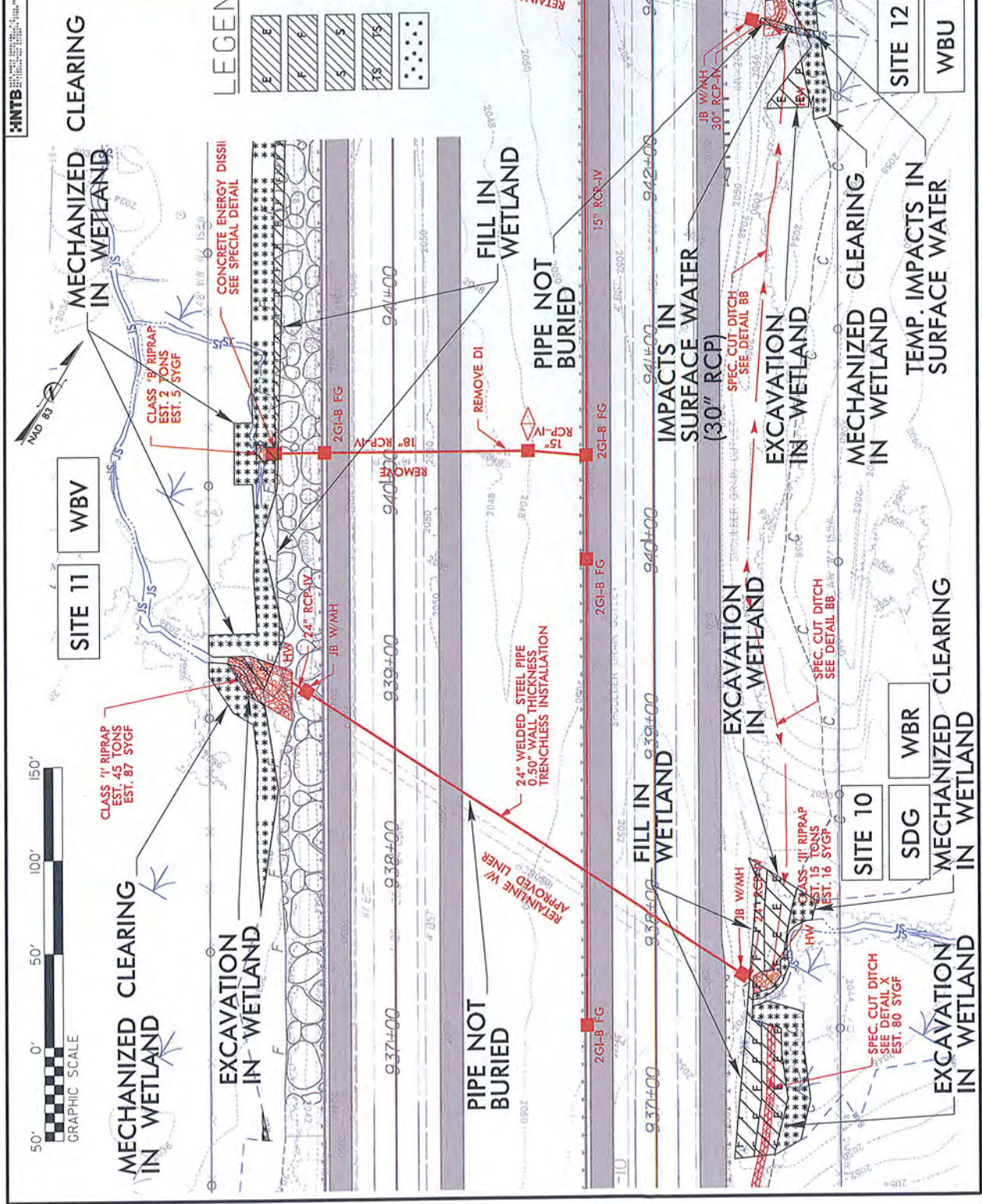
P-116



| | |
|---------------------------------|------------------------|
| PROJECT REFERENCE NO. 7-4700 | SHEET NO. 11 & 12 |
| REV SHEET NO. 1-4700A-23 | DATE 12/15/10 |
| DESIGNED BY ENGINEER | CHECKED BY ENGINEER |

**PERMIT DRAWING
SHEET 24 OF 97**

P-117



| | |
|---------------------------------|------------------------|
| PROJECT REFERENCE NO. 7-4700 | SHEET NO. 11 & 12 |
| REV SHEET NO. 1-4700A-23 | DATE 12/15/10 |
| DESIGNED BY ENGINEER | CHECKED BY ENGINEER |

**PERMIT DRAWING
SHEET 24 OF 97**

P-117



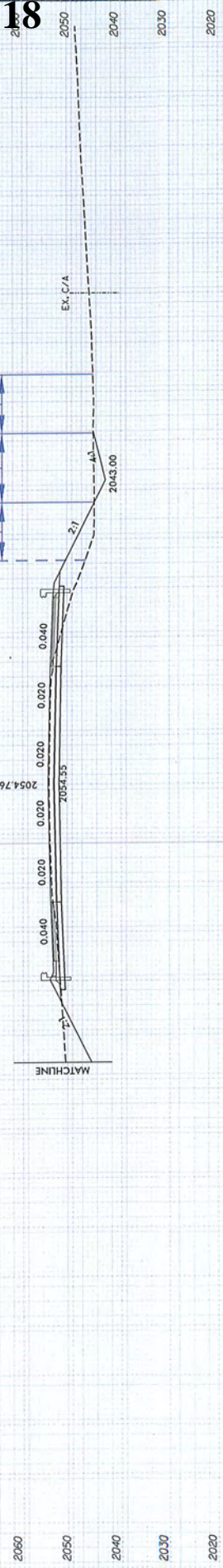
PROJ. REFERENCE NO. -4700 SHEET NO.

PERMIT DRAWING SHEET 25 OF 97

WETLAND CROSS SECTIONS

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

P-118



SITE 10
-WBL- 937 + 00.00

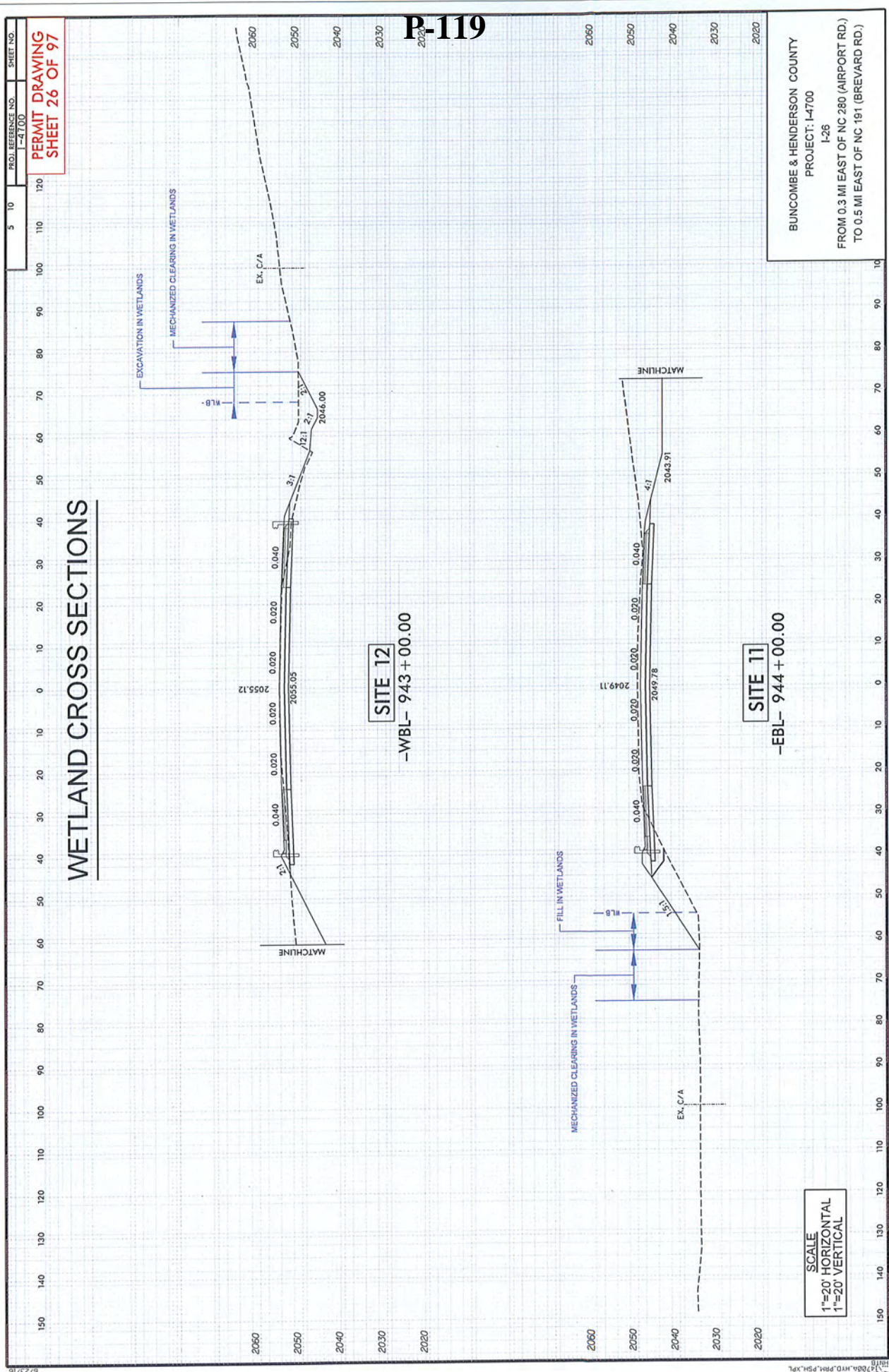
SCALE
1"=20' HORIZONTAL
1"=20' VERTICAL

BUNCOMBE & HENDERSON COUNTY
PROJECT: I-4700
I-26
FROM 0.3 MI EAST OF NC 280 (AIRPORT RD.)
TO 0.5 MI EAST OF NC 191 (BREVARD RD.)

PROJ. REFERENCE NO. -4700
SHEET NO. 5 10 110 120

PERMIT DRAWING
SHEET 26 OF 97

WETLAND CROSS SECTIONS



BUNCOMBE & HENDERSON COUNTY
PROJECT: I-4700
I-26
FROM 0.3 MI EAST OF NC 280 (AIRPORT RD.)
TO 0.5 MI EAST OF NC 191 (BREVARD RD.)

P-119

| | | | |
|-----------------------|--------------------------|------------|--------------------------|
| PROJECT REFERENCE NO. | 1-4700 | SHEET NO. | 73 |
| ROW | 1-4700A-24 | DATE | 11/11/11 |
| DESIGNED BY | PROGRESS ENERGY ENGINEER | CHECKED BY | PROGRESS ENERGY ENGINEER |

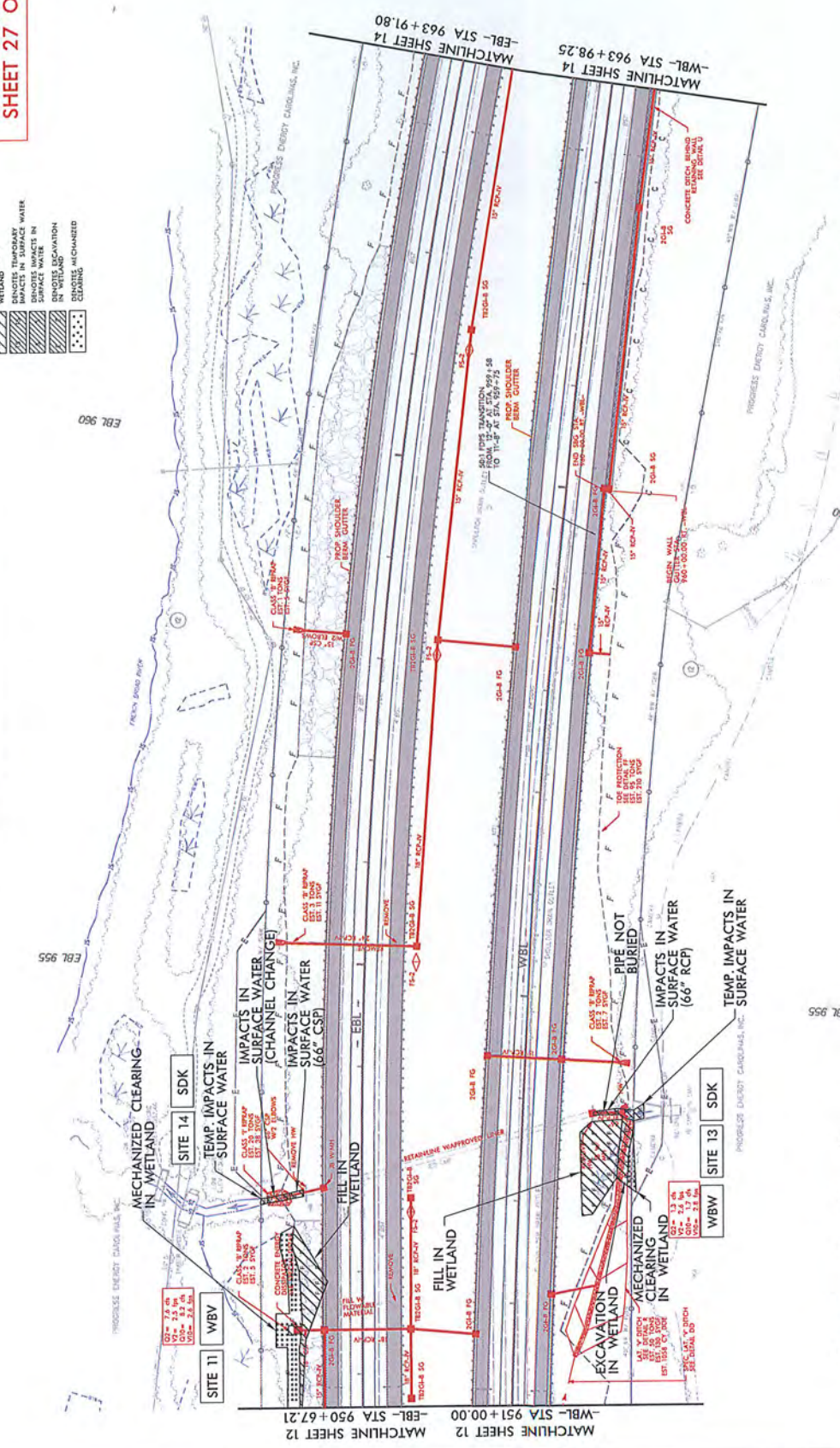
**PERMIT DRAWING
SHEET 27 OF 97**



LEGEND

| | |
|----------|--|
| [Symbol] | DIPOLES FILL IN |
| [Symbol] | DIPOLES TEMPORARY IMPACTS IN SURFACE WATER |
| [Symbol] | DIPOLES TEMPORARY IMPACTS IN WETLAND |
| [Symbol] | DIPOLES EXCAVATION IN WETLAND |
| [Symbol] | DIPOLES MECHANIZED CLEARING |

WETLAND & STREAM IMPACTS



FOR - EBL - PROFILE, SEE SHEET 44 & 45
FOR - WBL - PROFILE, SEE SHEET 44 & 45
FOR RETAINING WALL - RW8 - SEE SHEET W-7



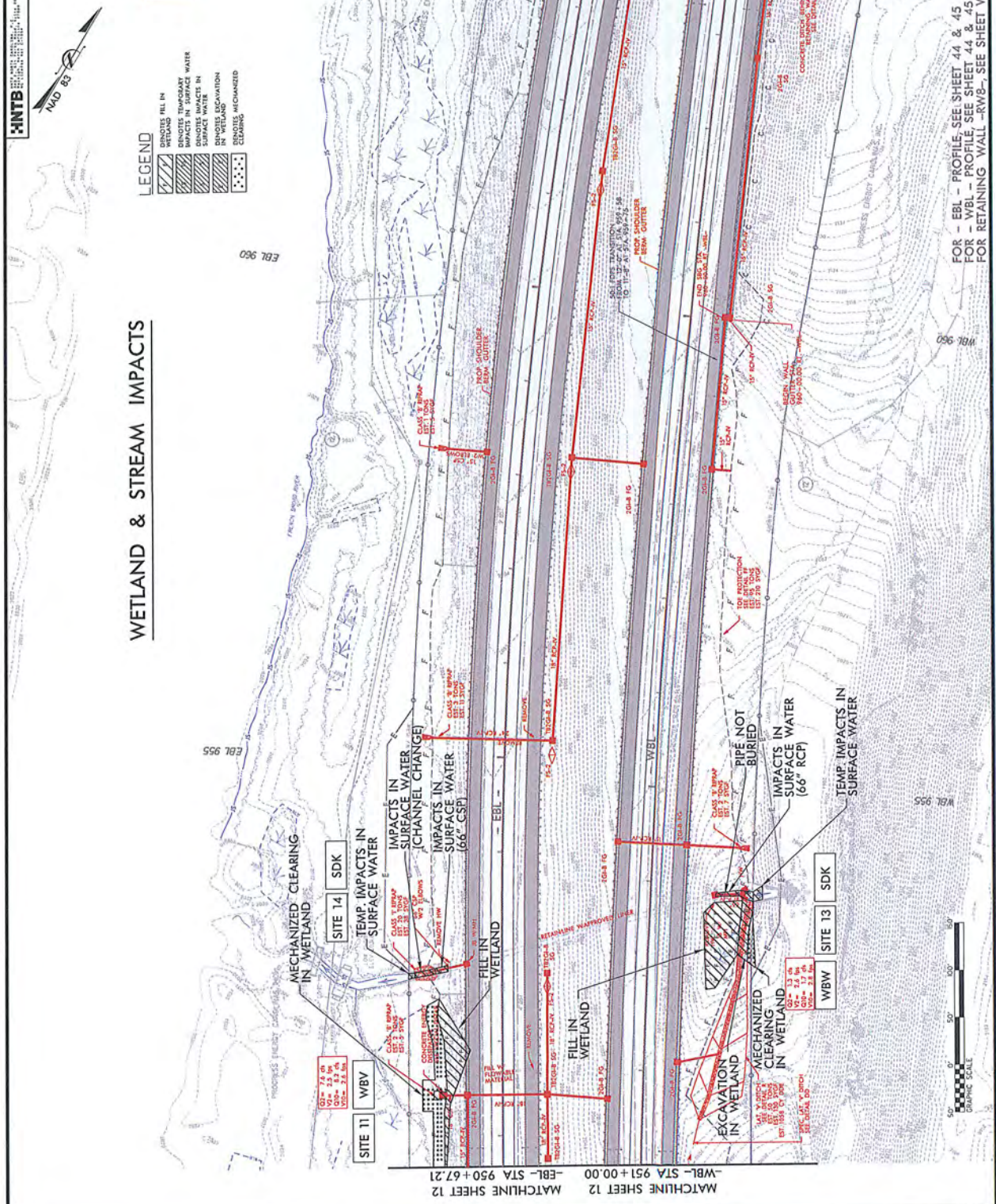
INTB
 PROJECT REFERENCE NO. 1-4700
 SHEET NO. 13
 RW SHEET NO. 1-4700A-24
 ROADWAY DESIGN ENGINEER

**PERMIT DRAWING
 SHEET 28 OF 97**



- LEGEND**
- DENOTES FILL IN
 - DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 - DENOTES IMPACTS IN SURFACE WATER
 - DENOTES EXCAVATION IN WETLAND
 - DENOTES MECHANIZED CLEARING

WETLAND & STREAM IMPACTS

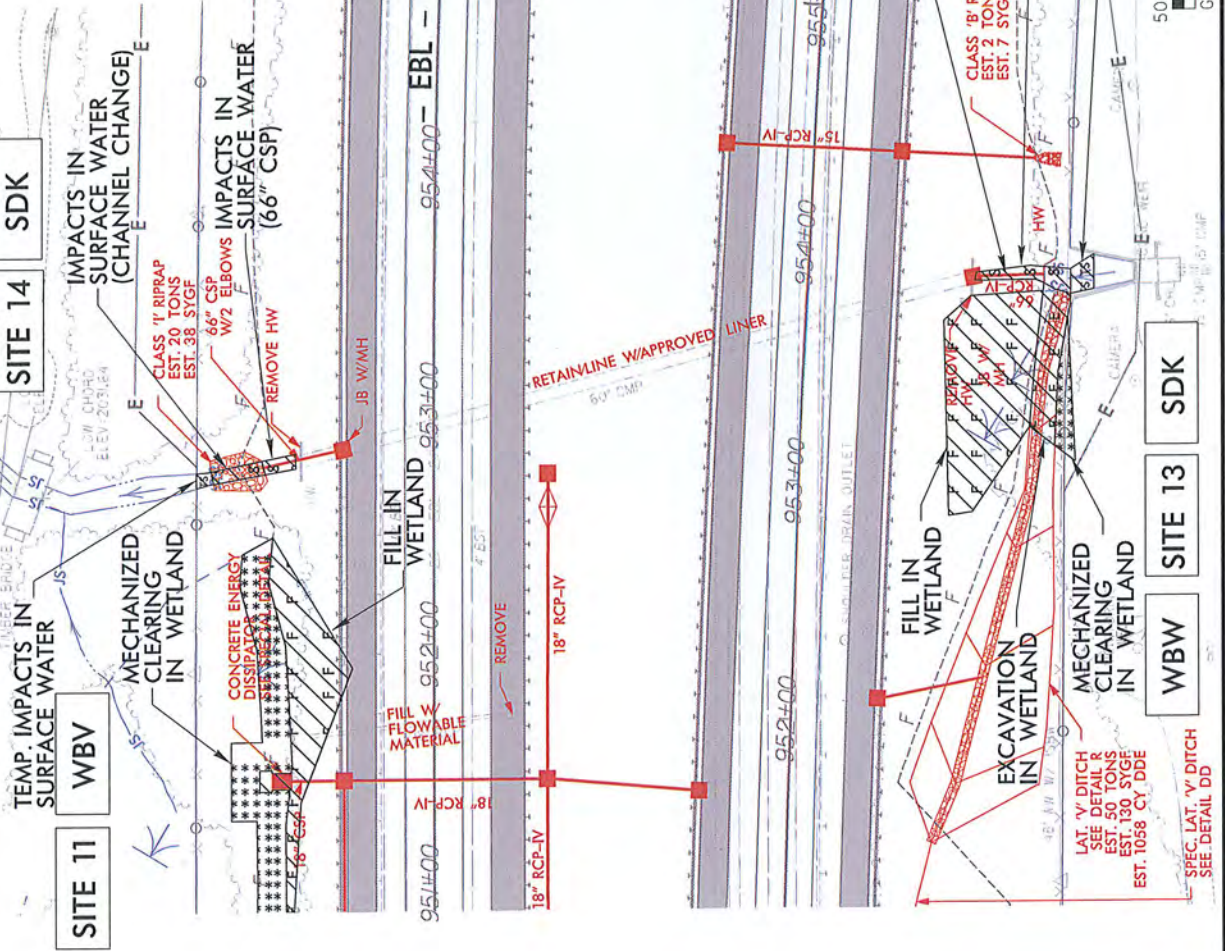


FOR - EBL - PROFILE, SEE SHEET 44 & 45
 FOR - WBL - PROFILE, SEE SHEET 44 & 45
 FOR RETAINING WALL - RW8 - SEE SHEET W-7



HNTB
 PROJECT REFERENCE NO. 1-4700
 SHEET NO. 13
 ROADWAY DESIGN
 FOUNDATION
 PRELIMINARY
 ENGINEER

**PERMIT DRAWING
 SHEET 29 OF 97**



LEGEND

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



SITE 14 **SDK**

SITE 11 **WBV**

SITE 13 **SDK**

WBW

LAT. 'V' DITCH
 SEE DETAIL R
 EST. 50 TONS
 EST. 130. STGE
 EST. 1058 CT. DDE
 SPEC. LAT. 'V' DITCH
 SEE DETAIL DD

PIPE NOT BURIED

IMPACTS IN SURFACE WATER (66" RCP)
 TEMP. IMPACTS IN SURFACE WATER

CLASS 'B' RIPRAP
 EST. 2 TONS
 EST. 7 SYGF

IMPACTS IN SURFACE WATER (CHANNEL CHANGE)

CLASS '1' RIPRAP
 EST. 20 TONS
 EST. 38 SYGF

IMPACTS IN SURFACE WATER (66" CSP)

CONCRETE ENERGY DISSIPATOR

FILL W FLOWABLE MATERIAL

REMOVE

REMOVE

REMOVE

REMOVE

REMOVE

REMOVE

REMOVE

REMOVE

REMOVE

REMOVE

HNTB

PROJECT REFERENCE NO. 1-4700
 ROADWAY DESIGNER NO. 1-4700-24
 ENGINEER

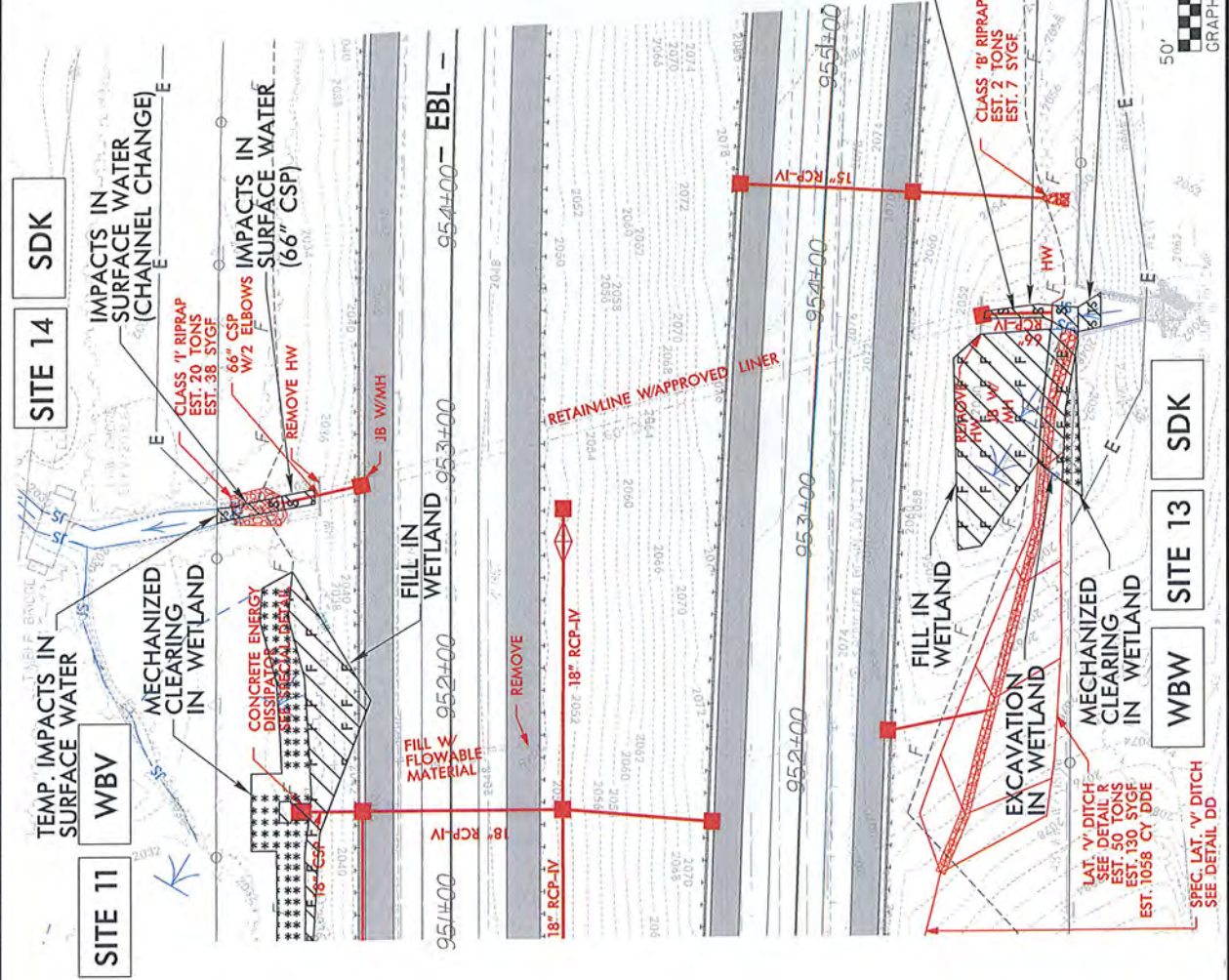
SHEET NO. 13
 PERMITS

MAO 83

**PERMIT DRAWING
 SHEET 30 OF 97**

LEGEND

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



PROJ. REFERENCE NO. I-4700 SHEET NO.

PERMIT DRAWING SHEET 31 OF 97

5 10 110 120

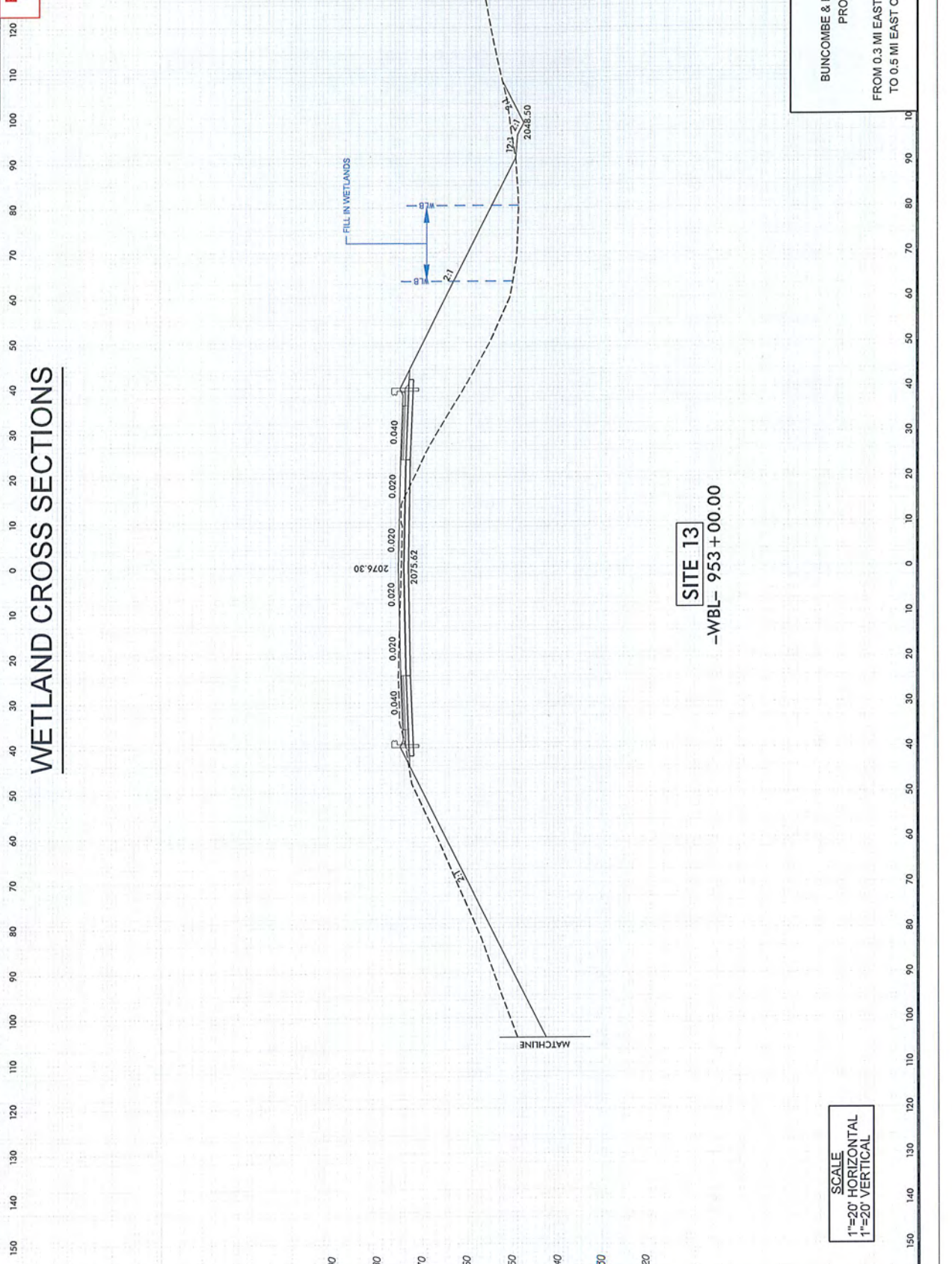
WETLAND CROSS SECTIONS

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

2090 2080 2070 2060 2050 2040 2030 2020

2090 2080 2070 2060 2050 2040 2030 2020

6/23/16



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SITE 13

-WBL- 953+00.00

SCALE
1"=20' HORIZONTAL
1"=20' VERTICAL

BUNCOMBE & HENDERSON COUNTY
 PROJECT: I-4700
 I-26
 FROM 0.3 MI EAST OF NC 280 (AIRPORT RD.)
 TO 0.5 MI EAST OF NC 191 (BREVARD RD.)

6/23/16 11:18 AM I:\2016\I-4700\I-4700.D\FRM_PSH.XPL

PROJ. REFERENCE NO. 1-4100 SHEET NO.

PERMIT DRAWING
SHEET 32 OF 97

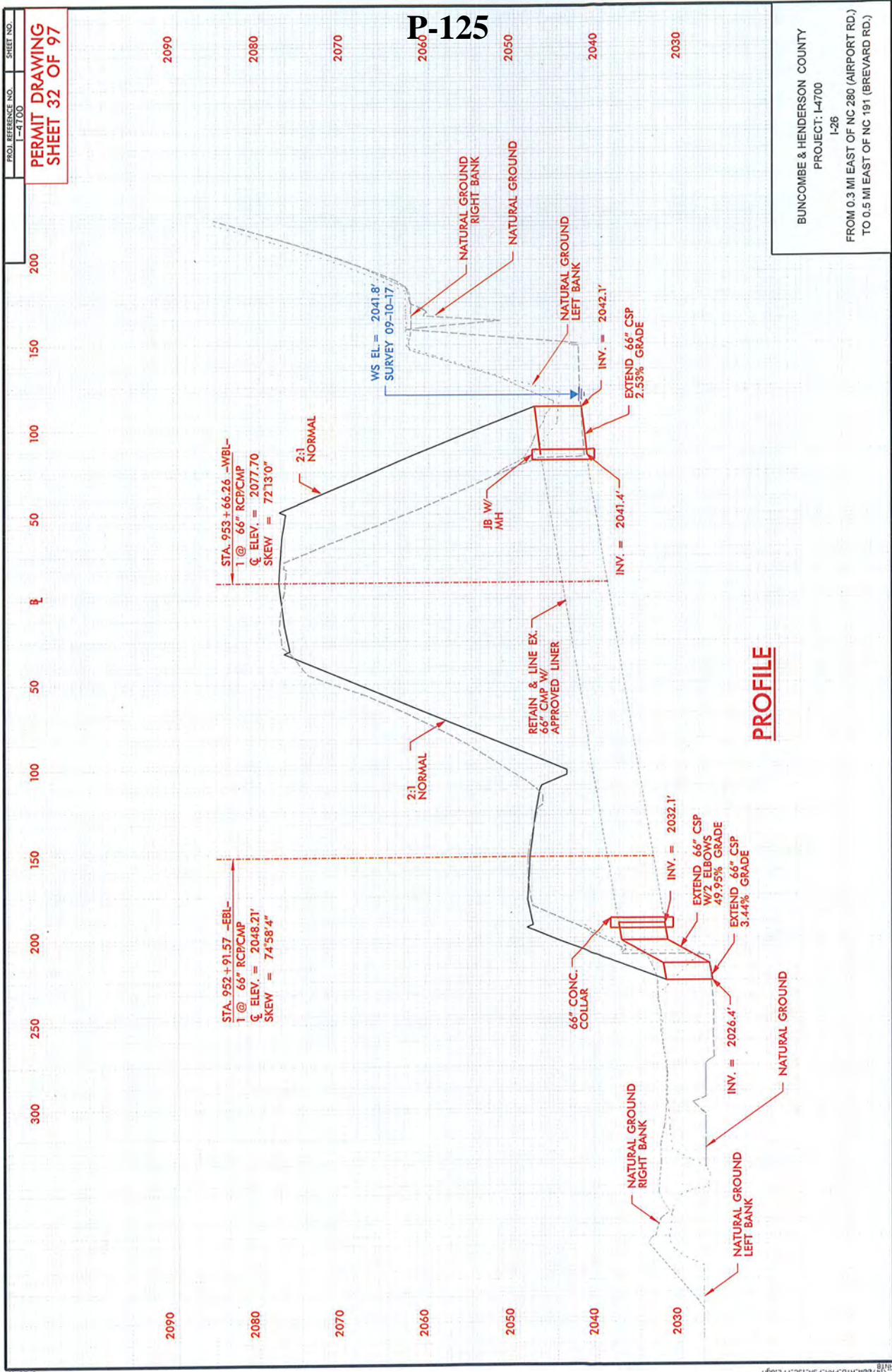
P-125

BUNCOMBE & HENDERSON COUNTY

PROJECT: I-4700

I-26

FROM 0.3 MI EAST OF NC 280 (AIRPORT RD.)
TO 0.5 MI EAST OF NC 191 (BREVARD RD.)



PROFILE

PROJECT REFERENCE NO. 1-4700
 SHEET NO. 1-4700-26
 HNTB ENGINEERING, INC.
 ENGINEER

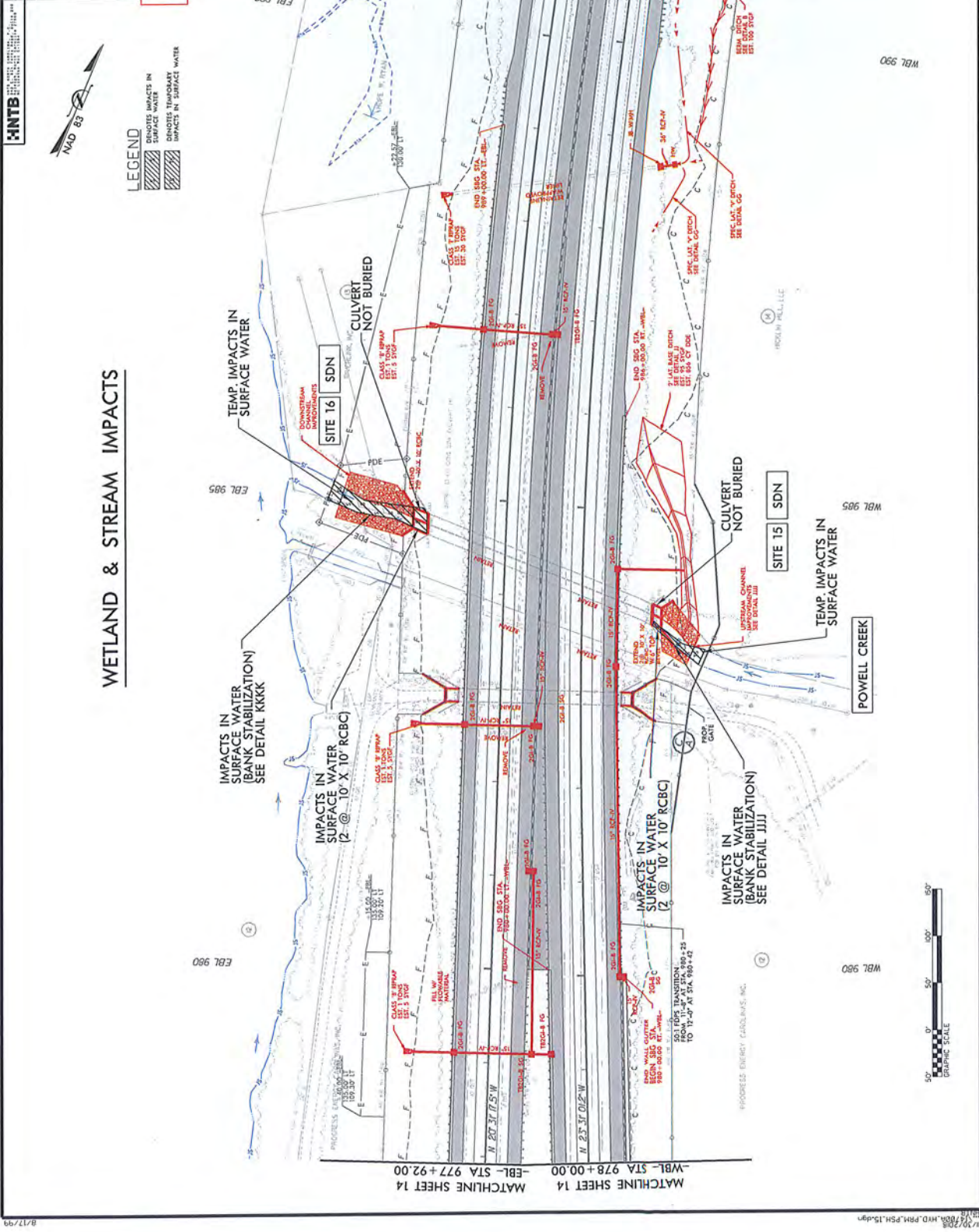
PERMIT DRAWING
 SHEET 33 OF 97



LEGEND

- Denotes impacts in surface water
- Denotes impacts in wetland
- Denotes impacts in surface water

WETLAND & STREAM IMPACTS



| | | | |
|-------------------------|-------------|--------------------|----------|
| PROJECT REFERENCE NO. | 7-17-00 | SHEET NO. | 15 |
| ROADWAY DESIGN ENGINEER | J. J. J. J. | PERMIT DRAWING | 1-47A-26 |
| HNTB | | HYDRAULIC ENGINEER | |

WETLAND & STREAM IMPACTS

LEGEND

- TEMPORARY IMPACTS IN SURFACE WATER
- PERMANENT IMPACTS IN SURFACE WATER
- TEMPORARY IMPACTS IN SUBSURFACE WATER
- PERMANENT IMPACTS IN SUBSURFACE WATER

PERMIT DRAWING SHEET 34 OF 97



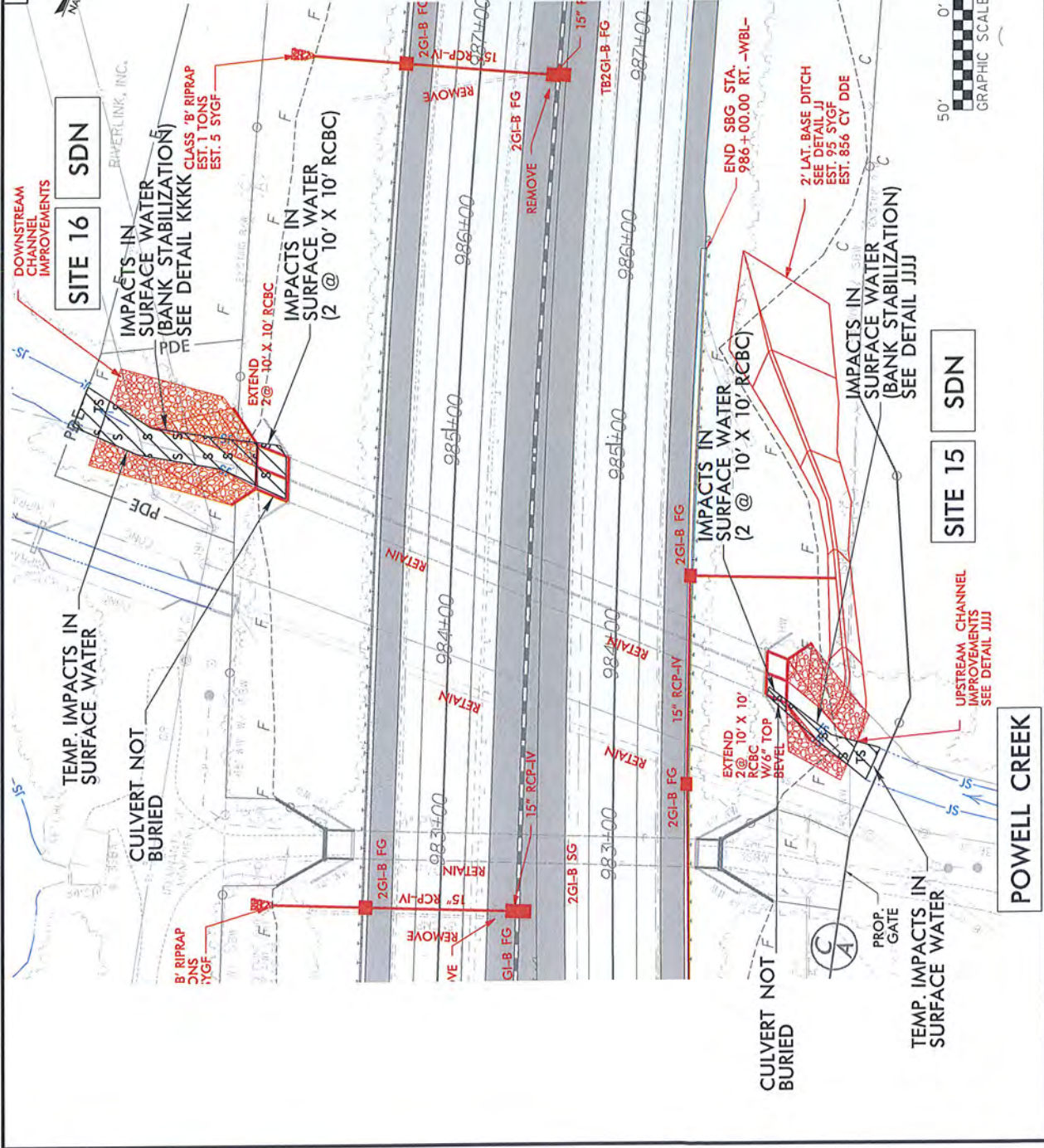
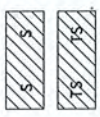
MATCHLINE SHEET 14
-WBL- STA 978+00.00
-EBL- STA 977+92.00

MATCHLINE SHEET 16
-WBL- STA 991+00.00
-EBL- STA 991+04.17

| | | |
|-------------|---------------------------------|-----------------|
| HNTB | PROJECT REFERENCE NO. 7-4700 | SHEET NO. 75 |
| | BY ROADWAY DESIGN ENGINEER | DATE 1/15 |
| | BY ROADWAY DESIGN ENGINEER | DATE |

**PERMIT DRAWING
SHEET 35 OF 97**

LEGEND

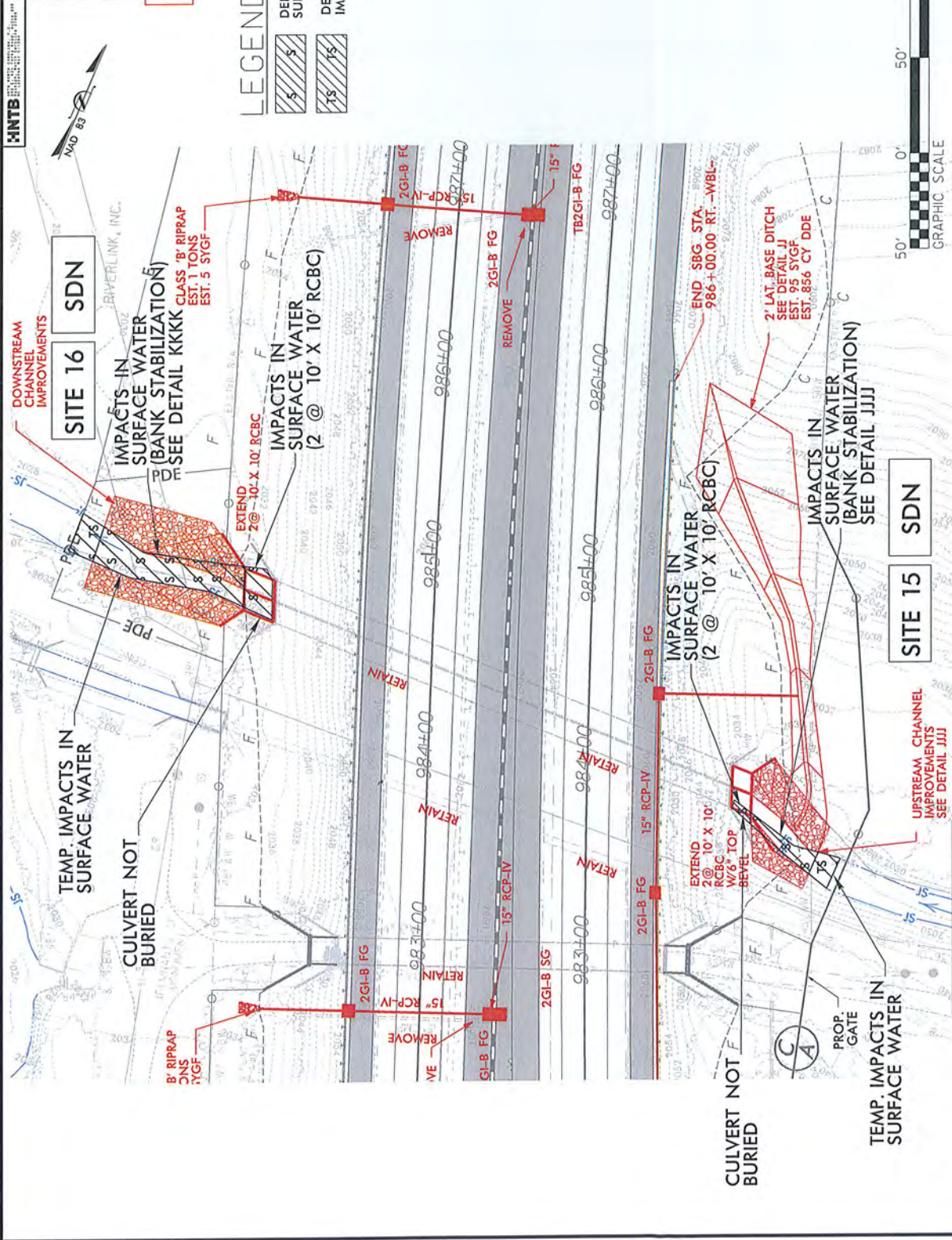


SITE 16 SDN

SITE 15 SDN

POWELL CREEK

HNTB
 PROJECT REFERENCE NO. 7-2700
 SHEET NO. 75
 BOARDING SUPERVISOR ENGINEER
 HYDRAULICS ENGINEER
PERMIT DRAWING SHEET 36 OF 97



LEGEND

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 15 SDN

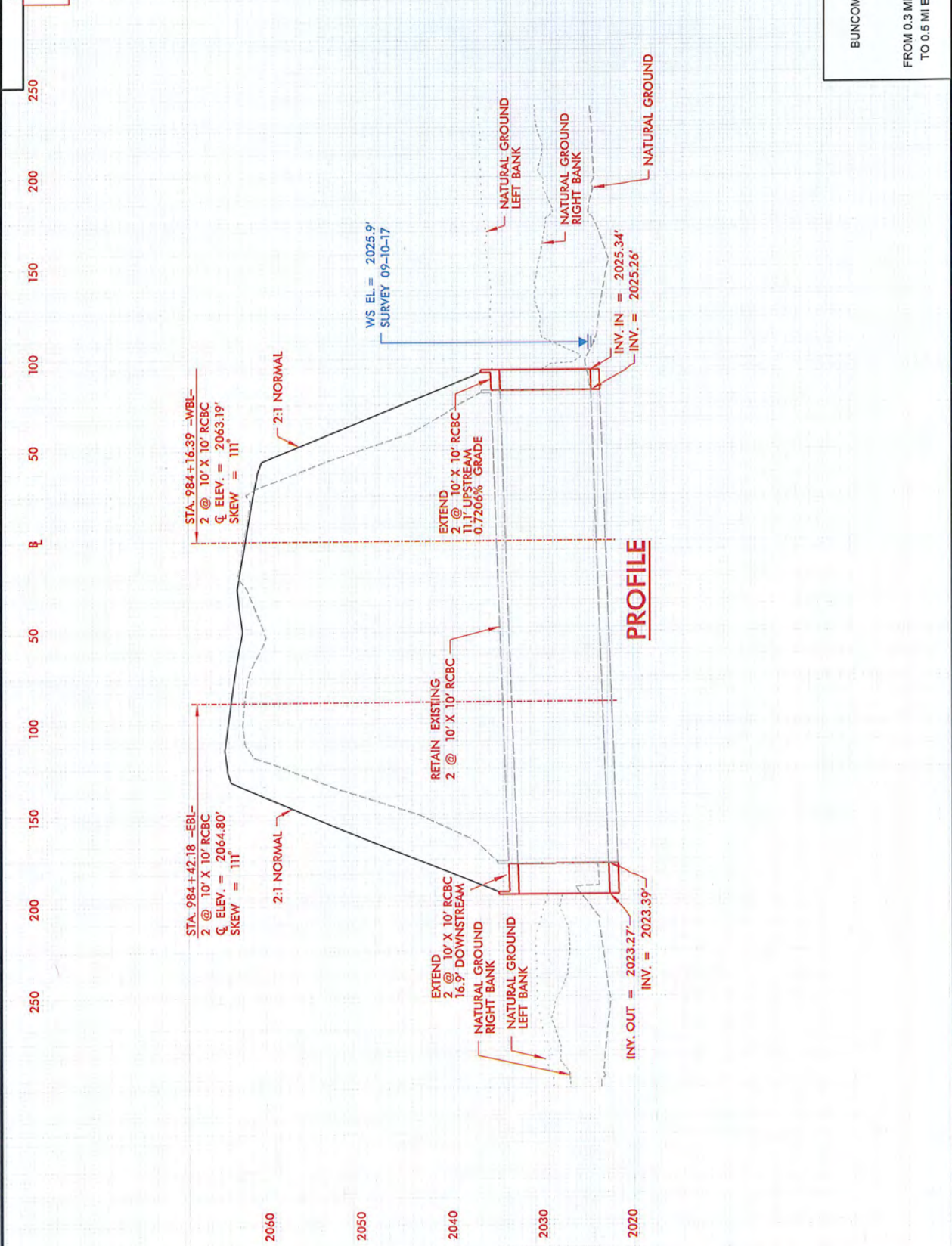
SITE 16 SDN

POWELL CREEK

PROJ. REFERENCE NO. 1-4700
SHEET NO. 37 OF 97

PERMIT DRAWING
SHEET 37 OF 97

P-130



PROFILE

BUNCOMBE & HENDERSON COUNTY
PROJECT: 1-4700
1-26
FROM 0.3 MI EAST OF NC 280 (AIRPORT RD.)
TO 0.5 MI EAST OF NC 191 (BREVARD RD.)

PROJECT REFERENCE NO. 7-4700
 SHEET NO. 18
 DRAWING NO. 7-4700A-28
 ROADWAY DESIGN ENGINEER

**PERMIT DRAWING
 SHEET 38 OF 97**

P-131

HNTB
 NAD 83

LEGEND
 IMPACTS IN SURFACE WATER
 TEMPORARY IMPACTS IN SURFACE WATER
 IMPACTS IN SURFACE WATER (CHANNEL CHANGE)

WETLAND & STREAM IMPACTS

SITE 18A
 FRENCH BROAD RIVER
 TEMP. IMPACTS IN SURFACE WATER

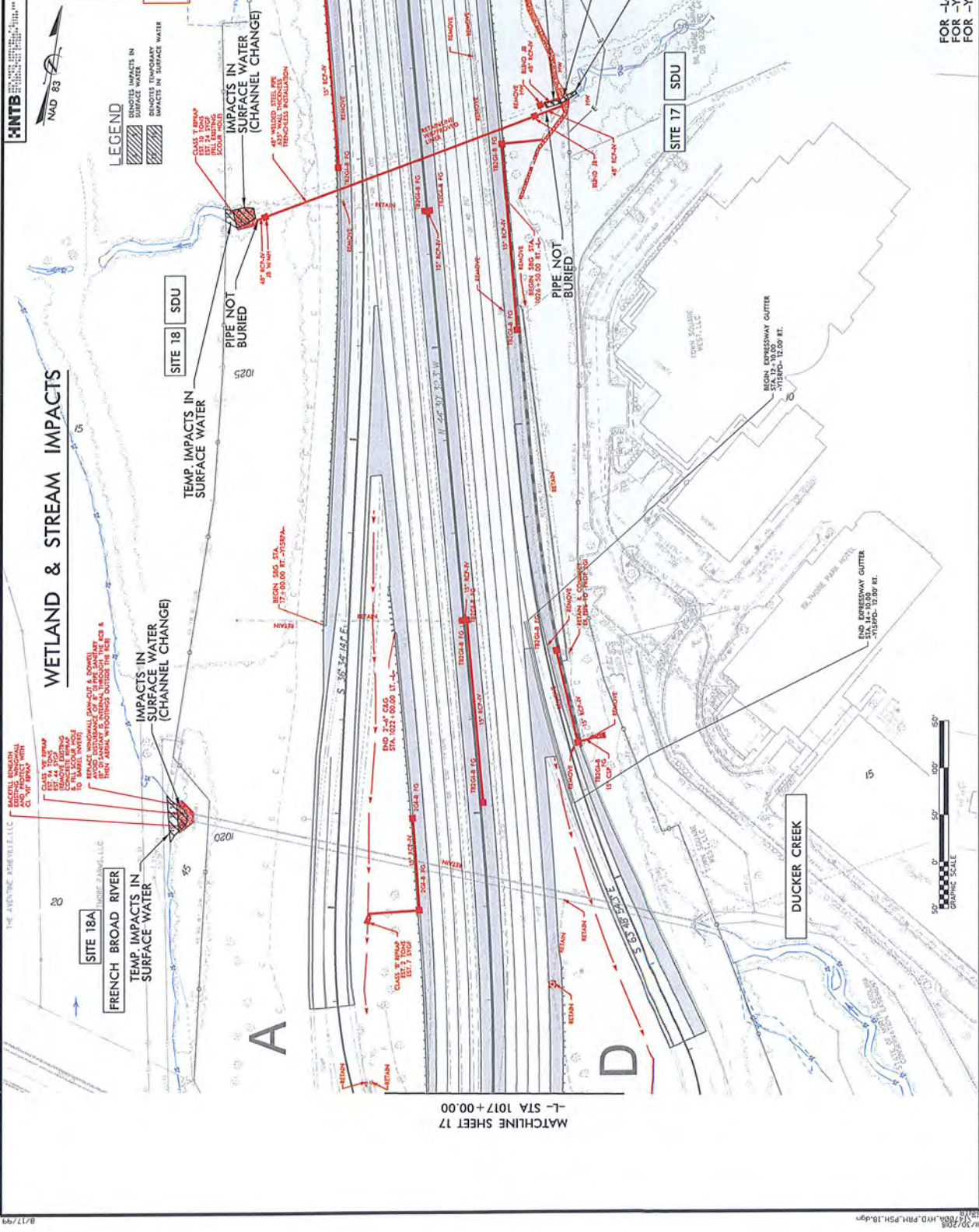
SITE 18
 SDU
 PIPE NOT BURIED
 TEMP. IMPACTS IN SURFACE WATER

SITE 17
 SDU
 PIPE NOT BURIED
 IMPACTS IN SURFACE WATER (CHANNEL CHANGE)

SITE 17
 SDU
 IMPACTS IN SURFACE WATER (48" RCF)

SITE 17
 SDU
 IMPACTS IN SURFACE WATER (BANK STABILIZATION)

SITE 17
 SDU
 TEMP. IMPACTS IN SURFACE WATER



FOR -L- PROFILE, SEE SHEET 48 & 49
 FOR -Y15RPA- PROFILE, SEE SHEET 66
 FOR -Y15RPD- PROFILE, SEE SHEET 68

PROJECT REFERENCE NO. 7-4700
 DRAWING NO. 7-4700A-28
 DRAWING TITLE
 ENGINEER

**PERMIT DRAWING
 SHEET 39 OF 97**

P-132

HNTB
 NATIONAL HIGHWAY TESTING BOARD
 11111 17th Street, N.W.
 Seattle, WA 98149
 NAD 83

LEGEND
 IMPACTS IN SURFACE WATER
 TEMPORARY IMPACTS IN SURFACE WATER
 IMPACTS IN SURFACE WATER

WETLAND & STREAM IMPACTS

SITE 18A
FRENCH BROAD RIVER
 TEMP IMPACTS IN SURFACE WATER

IMPACTS IN SURFACE WATER (CHANNEL CHANGE)

TEMP IMPACTS IN SURFACE WATER

SITE 18 SDU

PIPE NOT BURIED

IMPACTS IN SURFACE WATER (CHANNEL CHANGE)

MATCHLINE SHEET 19
 -L- STA 1029+00.00

MATCHLINE SHEET 17
 -L- STA 1017+00.00

IMPACTS IN SURFACE WATER (48" RCP)
 IMPACTS IN SURFACE WATER (BANK STABILIZATION)
 TEMP. IMPACTS IN SURFACE WATER

SITE 17 SDU

PIPE NOT BURIED

DUCKER CREEK

END DRESSWAY GUTTER
 STA. 14+00.00
 -10590.15.00 FT.

END DRESSWAY GUTTER
 STA. 13+00.00
 -10590.15.00 FT.



FOR -L- PROFILE, SEE SHEET 48 & 49
 FOR -Y1GRPA- PROFILE, SEE SHEET 66
 FOR -Y1GRPD- PROFILE, SEE SHEET 68

8/17/99

11/2/2008



HNTB

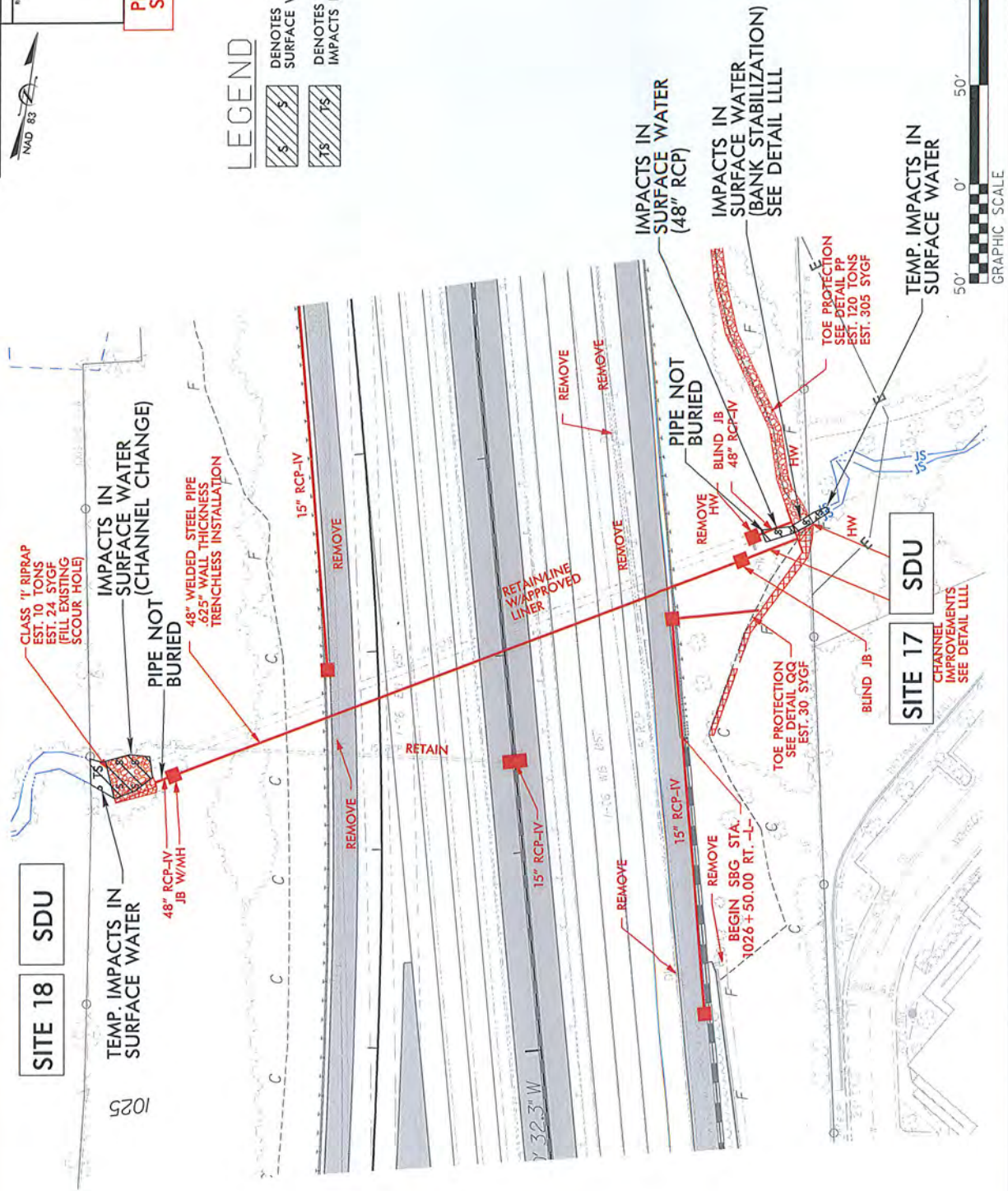
PROJECT REFERENCE NO. 1-4700
 SHEET NO. 18
 DRAWING REVISION
 1-4700A-28
 ENGINEER

NAD 83

**PERMIT DRAWING
 SHEET 40 OF 97**

LEGEND

-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SITE 17 **SDU**
 CHANNEL IMPROVEMENTS
 SEE DETAIL LLLL

SITE 18 **SDU**



HNTB

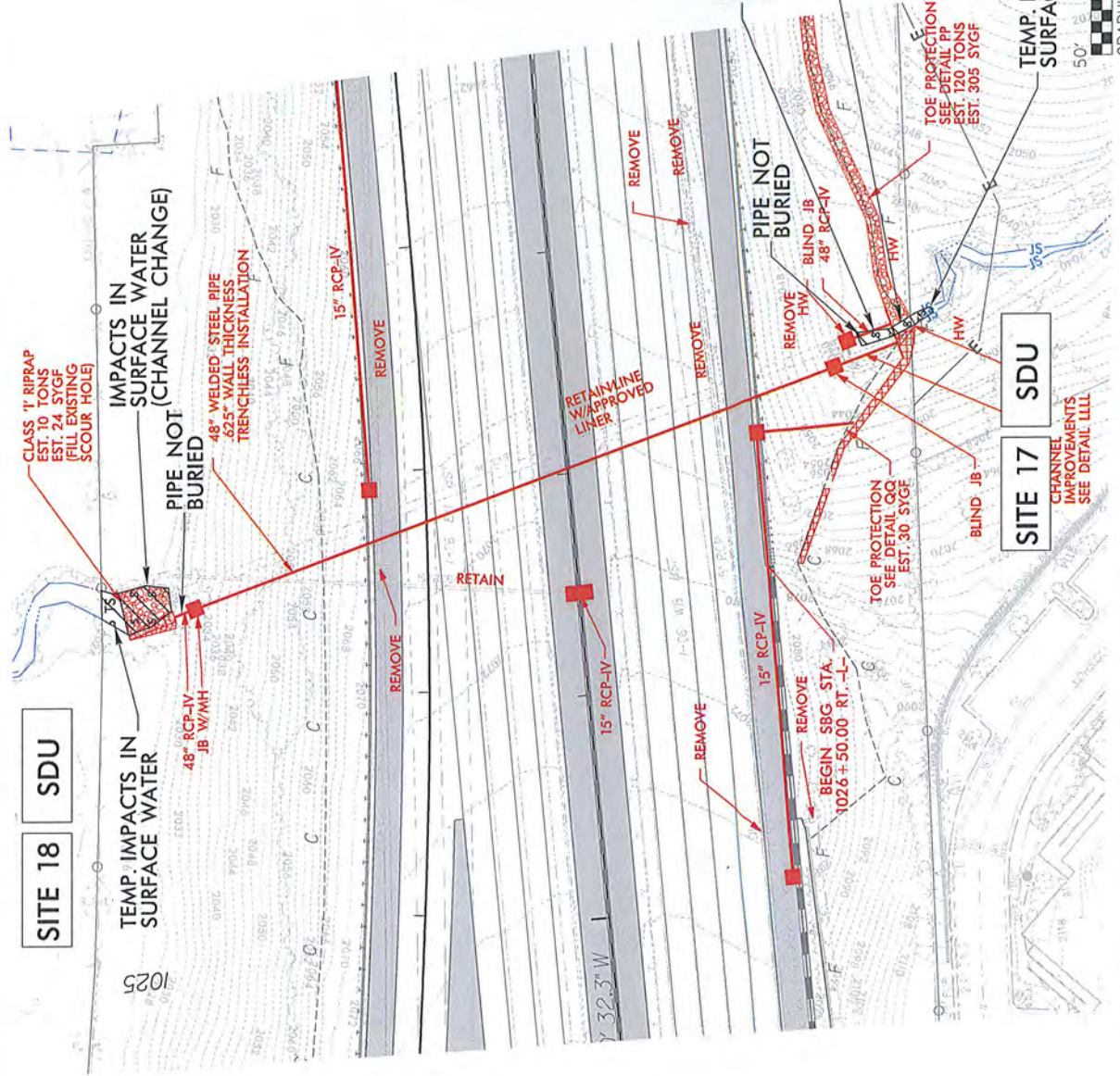
PROJECT REFERENCE NO. 1-4700
 SHEET NO. 18
 DRAWING NO. 1-4700A-28
 LOCATION: [unclear]
 DRAWN BY: [unclear]
 CHECKED BY: [unclear]

**PERMIT DRAWING
 SHEET 41 OF 97**



LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SITE 17 SDU
 CHANNEL IMPROVEMENTS
 SEE DETAIL LIII



PROJECT REFERENCE NO. **1-4700**
 SHEET NO. **19**
 DRAWING NO. **1-4700A-29**
 REVISIONS
 ENGINEER
 ENGINEER

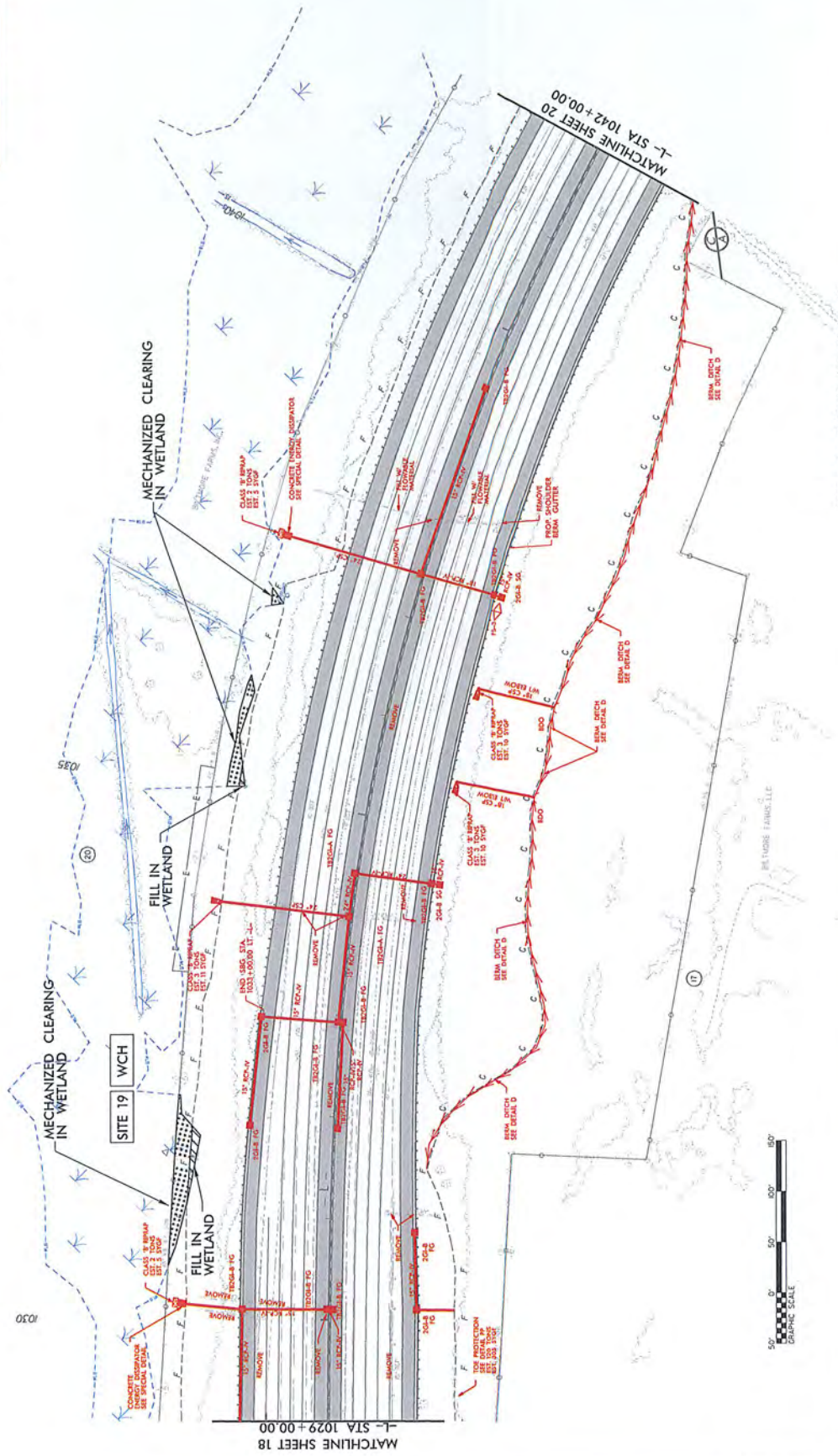
**PERMIT DRAWING
 SHEET 42 OF 97**



LEGEND
 DROPPES FILL IN WETLAND
 STAKES MECHANIZED
 STAKES MECHANIZED

WETLAND & STREAM IMPACTS

P-135

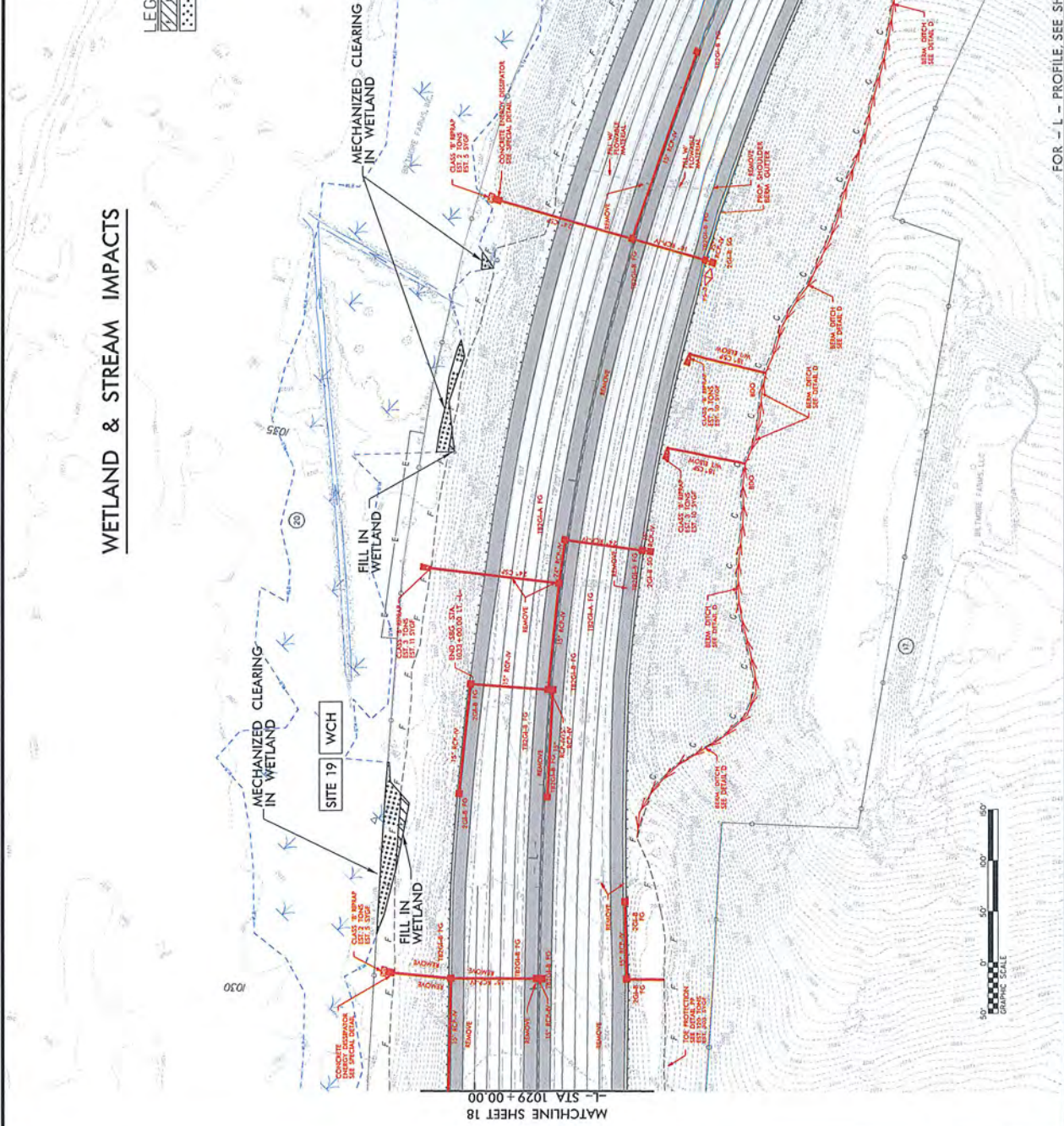


FOR - L - PROFILE, SEE SHEET 49

8/17/96

| | |
|--|---------------------------|
| PROJECT REFERENCE NO. I-4700 | SHEET NO. 19 |
| ISSUING REGION ENGINEER | DESIGN REGION ENGINEER |
| PERMIT DRAWING SHEET 43 OF 97 | |

WETLAND & STREAM IMPACTS



FOR - L - PROFILE SEE SHEET 49

8/17/99

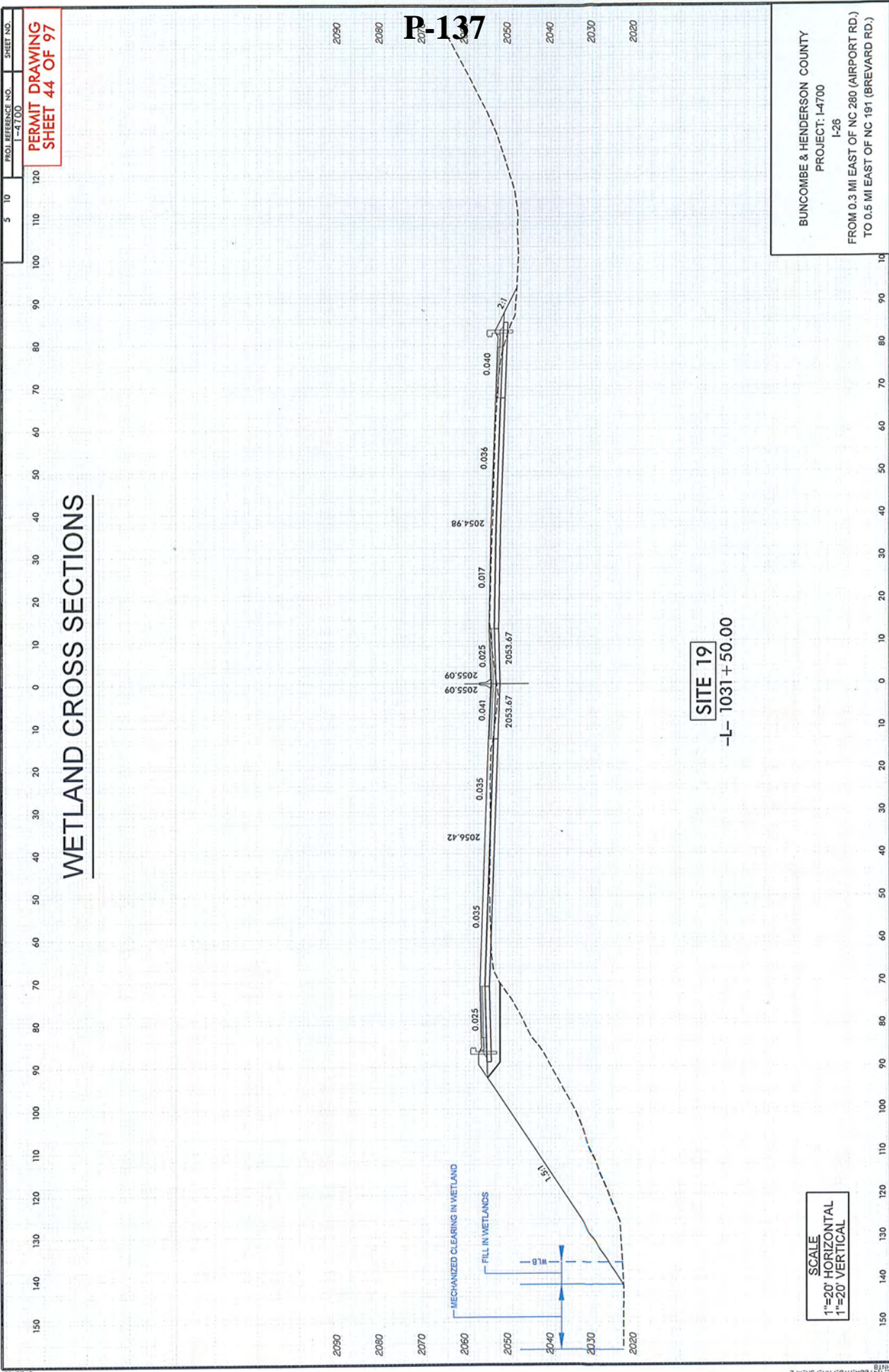
8/17/99

PROJ. REFERENCE NO. I-4700

SHEET NO. 44 OF 97

PERMIT DRAWING
SHEET 44 OF 97

WETLAND CROSS SECTIONS



P-137

SITE 19
-L- 1031 + 50.00

SCALE
1"=20' HORIZONTAL
1"=20' VERTICAL

BUNCOMBE & HENDERSON COUNTY
PROJECT: I-4700
I-26
FROM 0.3 MI EAST OF NC 280 (AIRPORT RD.)
TO 0.5 MI EAST OF NC 191 (BREVARD RD.)

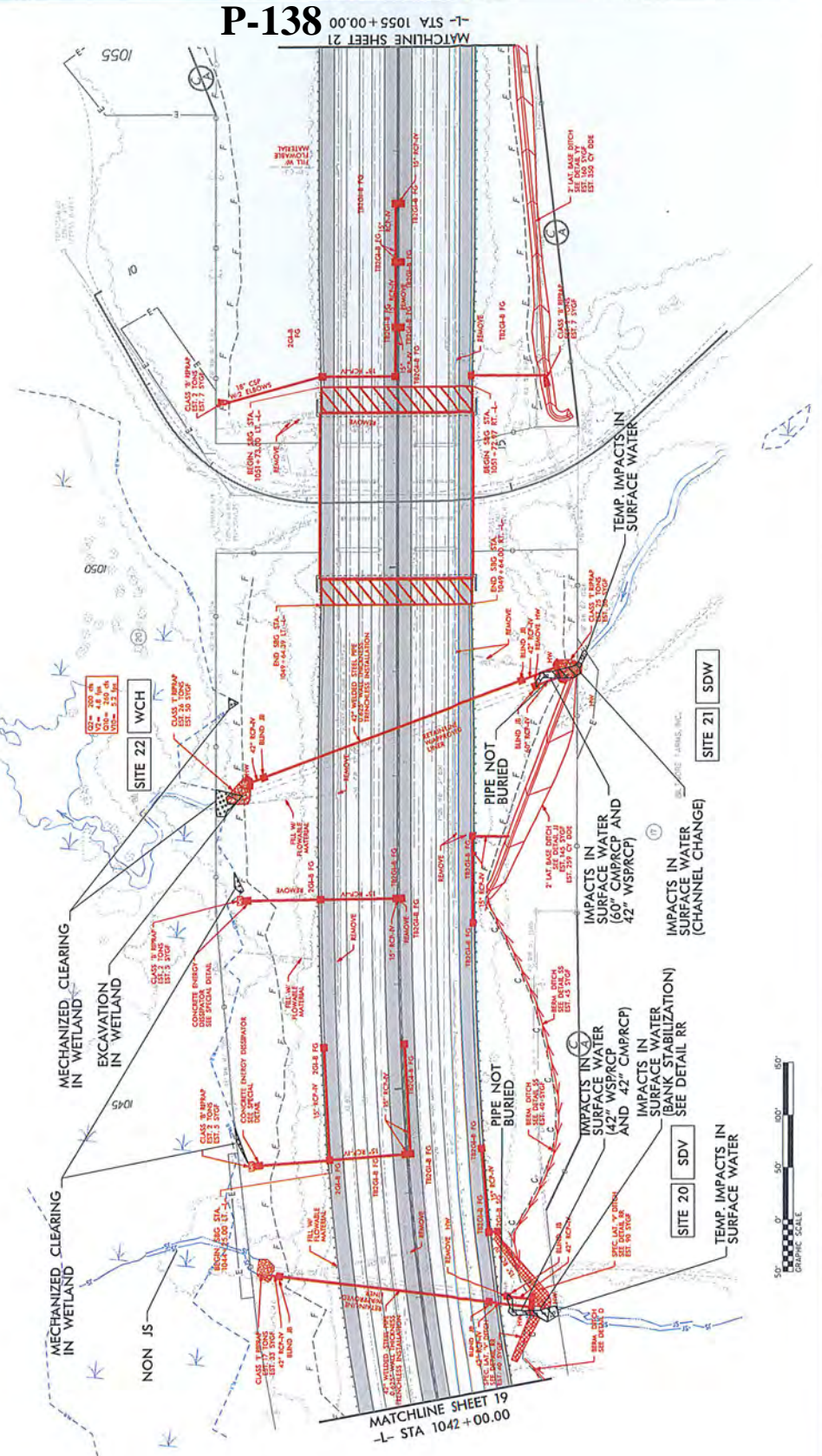
PROJECT REFERENCE NO. 1-4700
 SHEET NO. 20
 DRAWING NO. 1-4700A-30
 HNTB
 HERRINGTON, HANCOCK & ASSOCIATES, INC.
 ENGINEER

**PERMIT DRAWING
 SHEET 45 OF 97**



WETLAND & STREAM IMPACTS

- LEGEND**
- DENOTES IMPACTS IN SURFACE WATER
 - DENOTES IMPACTS IN WETLANDS
 - DENOTES EXCAVATION IN WETLANDS
 - DENOTES MECHANIZED CLEARING



P-138
 -L STA 1055+00.00
 MATCHLINE SHEET 21

MATCHLINE SHEET 19
 -L STA 1042+00.00



PROJECT REFERENCE NO: 1-4700

SHEET NO: 46

ROADWAY DESIGNER: [Name]

ENGINEER: [Name]

PERMIT DRAWING
SHEET 46 OF 97

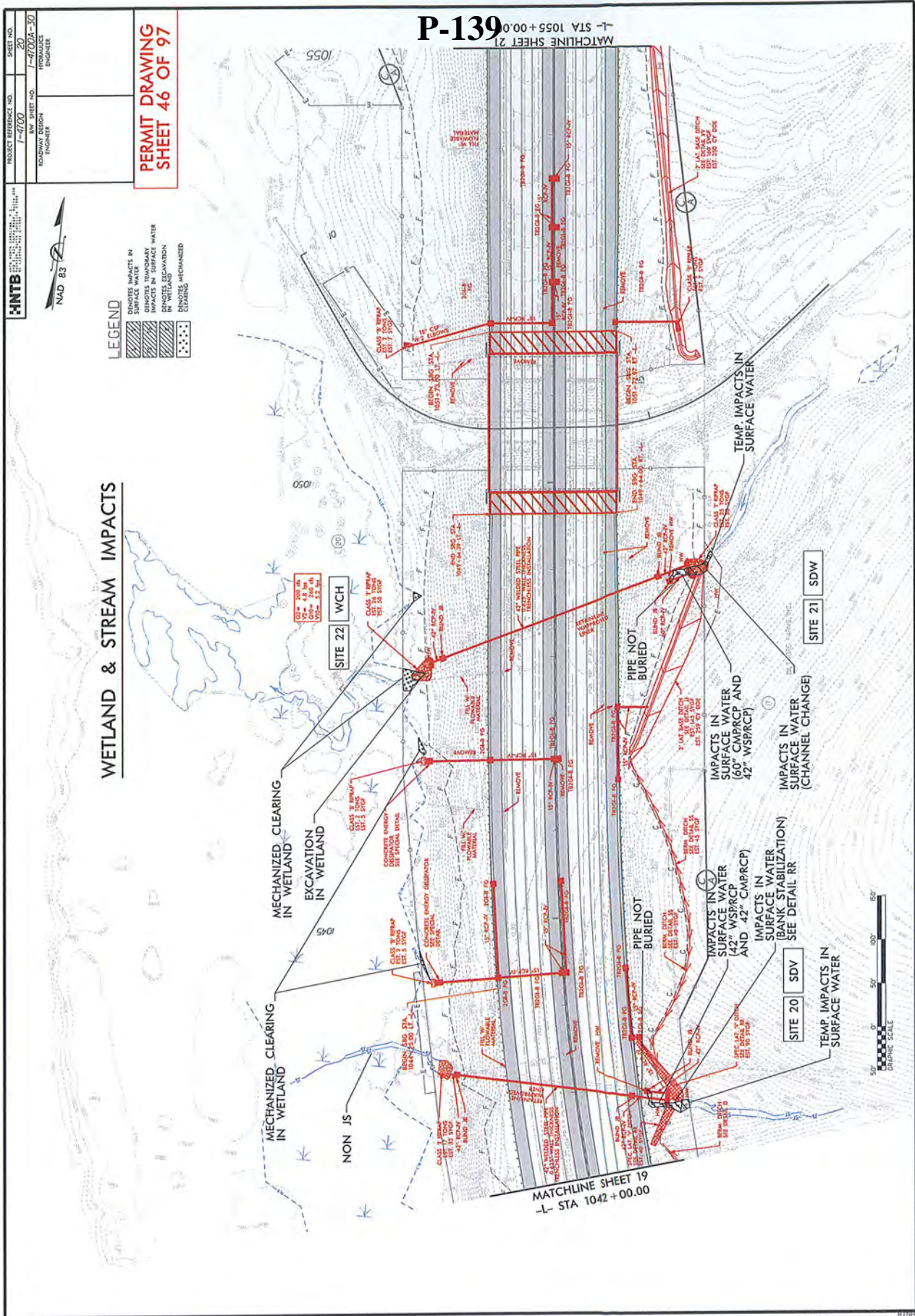


WETLAND & STREAM IMPACTS

- LEGEND**
- [Symbol] DENOTE IMPACTS IN SURFACE WATER
 - [Symbol] IMPACTS IN SURFACE WATER
 - [Symbol] IMPACTS IN SURFACE WATER
 - [Symbol] IMPACTS IN SURFACE WATER
 - [Symbol] IMPACTS IN SURFACE WATER

P-139
MATCHLINE SHEET 21
-L- STA 1055 + 00.00

MATCHLINE SHEET 19
-L- STA 1042 + 00.00



GRAPHIC SCALE

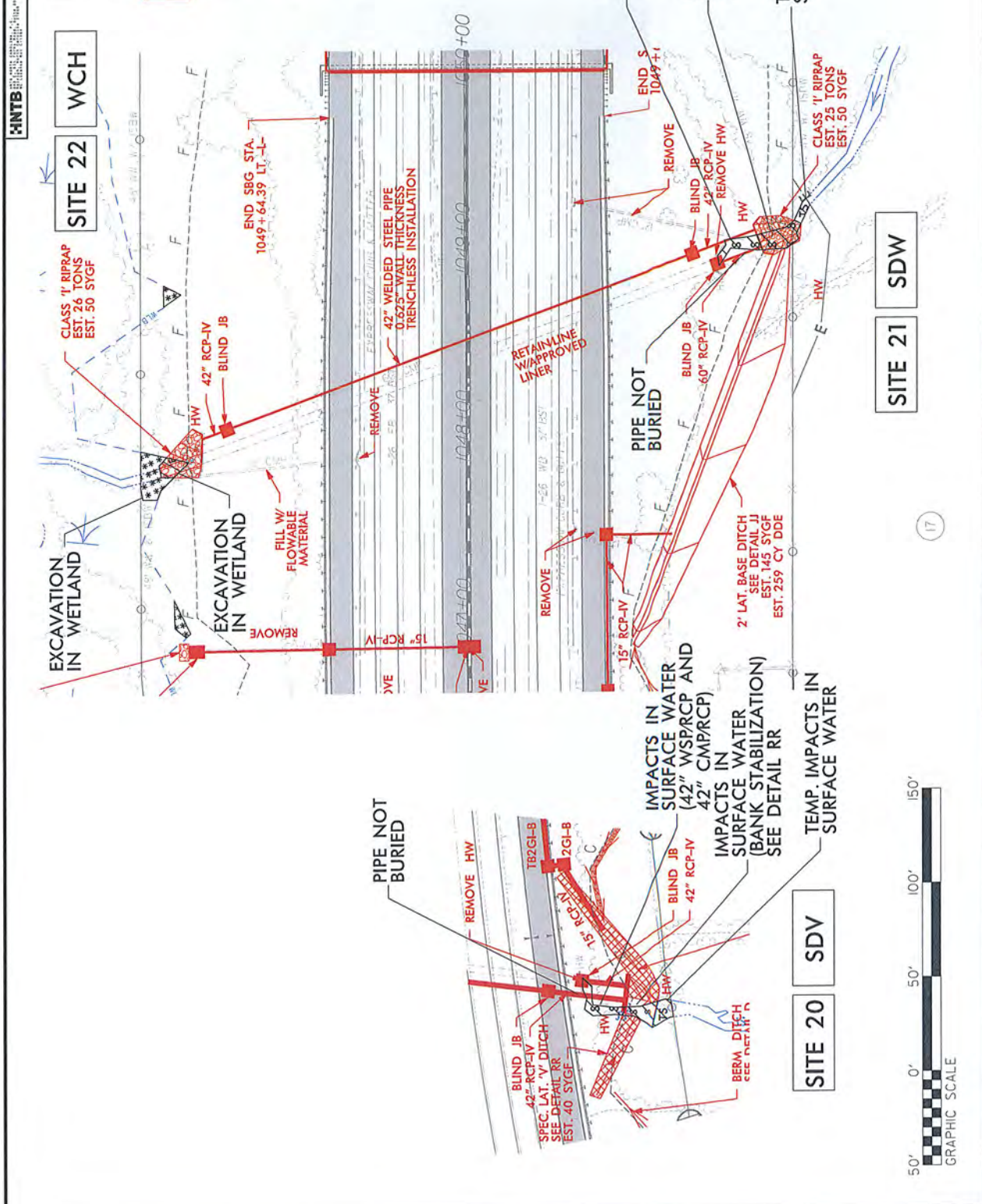
PROJECT REFERENCE NO. 1-4700
 SHEET NO. 20
 ROADWAY DESIGN ENGINEER
 1-4700A-30
 ROADWAY DESIGN ENGINEER

**PERMIT DRAWING
 SHEET 47 OF 97**

LEGEND
 DOTTED LINE INDICATES IMPACTS IN SURFACE WATER
 HATCHED AREA INDICATES TEMPORARY IMPACTS IN SURFACE WATER
 HATCHED AREA INDICATES PERMANENT EXCAVATION
 HATCHED AREA INDICATES REMOVED CLEARING



P-140



WCH
SITE 22

SITE 21
SDW

SITE 20
SDV



(17)

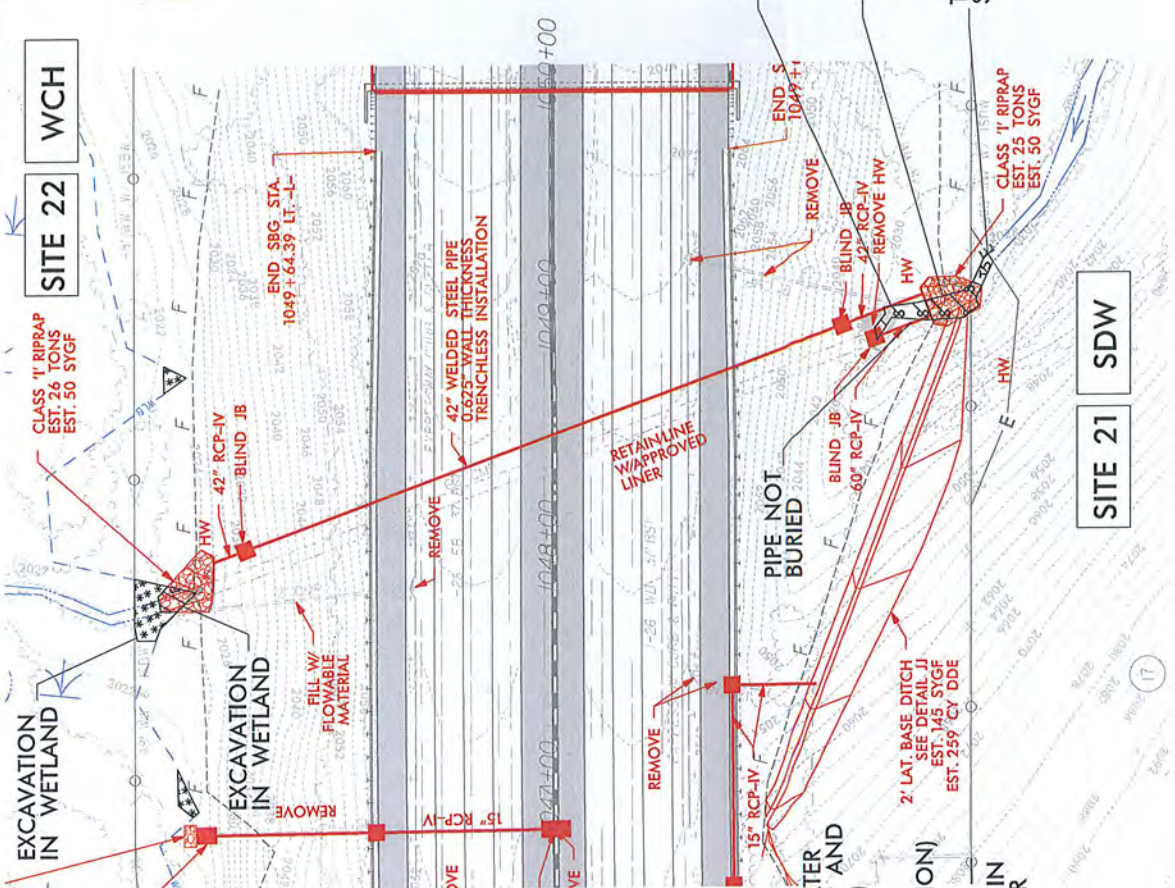
P-141

| | |
|-----------------------|-------------------|
| PROJECT REFERENCE NO. | 7-4700 |
| SHEET NO. | 20 |
| DESIGNER | MOORE ENGINEERING |
| ENGINEER | WILLIAM W. MOORE |

**PERMIT DRAWING
SHEET 48 OF 97**

LEGEND

| | |
|--|-----------------------------------|
| | DRENCHES IMPACTS IN SURFACE WATER |
| | IMPACTS IN SURFACE WATER |
| | IMPACTS IN WETLAND |
| | REMOVING MECHANIZED |



SITE 22 **WCH**

SITE 21 **SDW**

CLASS 1' RIPRAP
EST. 26 TONS
EST. 50 SYGF

END SBG STA.
1049+64.39 LT.-L-

42" WELDED STEEL PIPE
0.575" WALL THICKNESS
TRENCHLESS INSTALLATION

RETAINLINE
W/APPROVED
LINER

PIPE NOT
BURIED

2' LAT. BASE DITCH
SEE DETAIL JJ
EST. 145 SYGF
EST. 259' CY DDE

TEMP. IMPACTS IN
SURFACE WATER

SITE 20 **SDV**

PIPE NOT
BURIED

42" WELDED STEEL PIPE
0.575" WALL THICKNESS
TRENCHLESS INSTALLATION

IMPACTS IN
SURFACE WATER
(42" WSP/RCP AND
42" CMP/RCP)

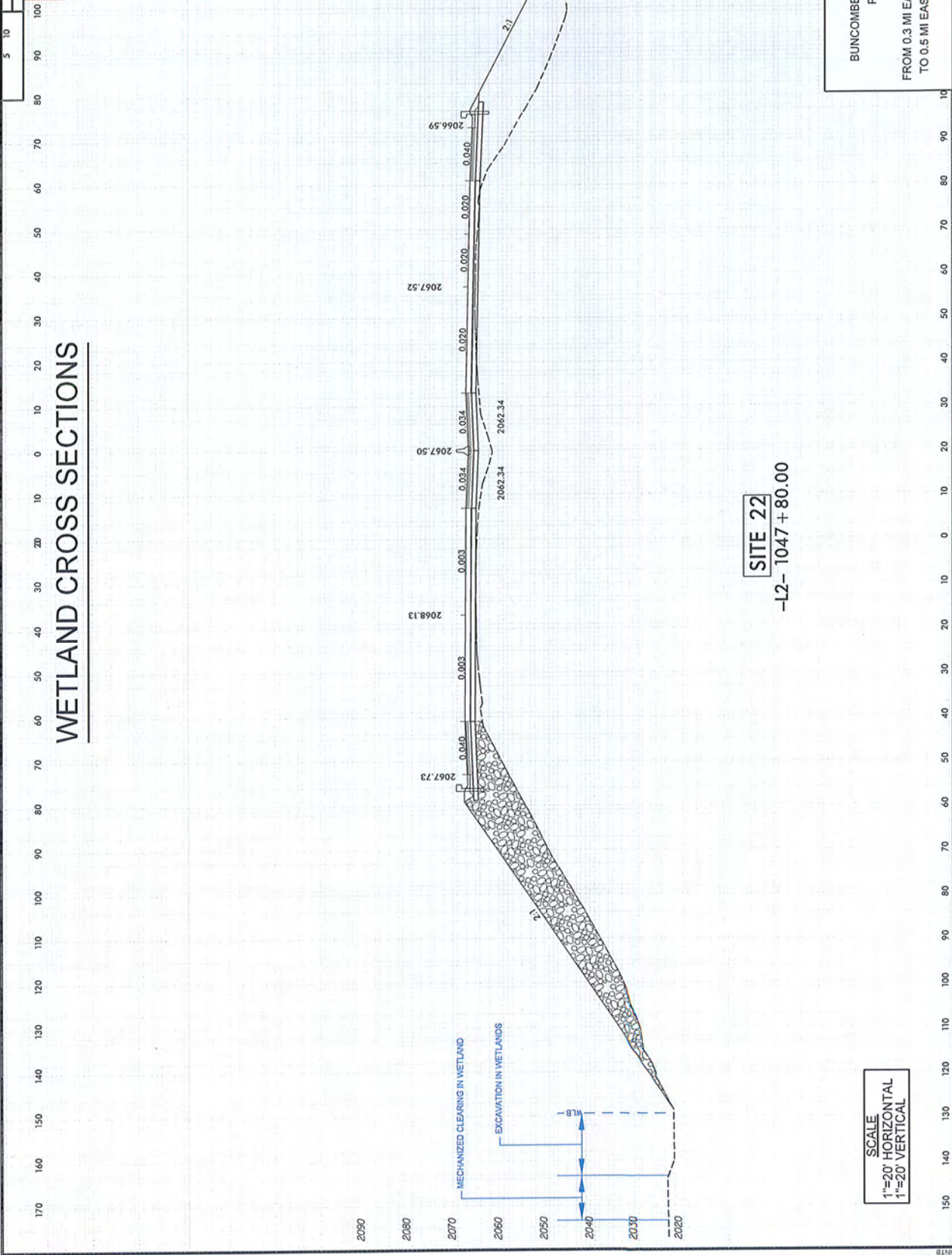
IMPACTS IN
SURFACE WATER
(BANK STABILIZATION)
SEE DETAIL RR

TEMP. IMPACTS IN
SURFACE WATER



PROJ. REFERENCE NO. I-4700
SHEET NO. 49 OF 97

WETLAND CROSS SECTIONS



SITE 22
-L2- 1047 + 80.00

SCALE
1"=20' HORIZONTAL
1"=20' VERTICAL

BUNCOMBE & HENDERSON COUNTY
PROJECT: I-4700
I-26
FROM 0.3 MI EAST OF NC 280 (AIRPORT RD.)
TO 0.5 MI EAST OF NC 191 (BREVARD RD.)