

ETHERILL ENGINEERING
 1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 License No. F-0377
 Bus: 919 851 8077
 Fax: 919 851 8107

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

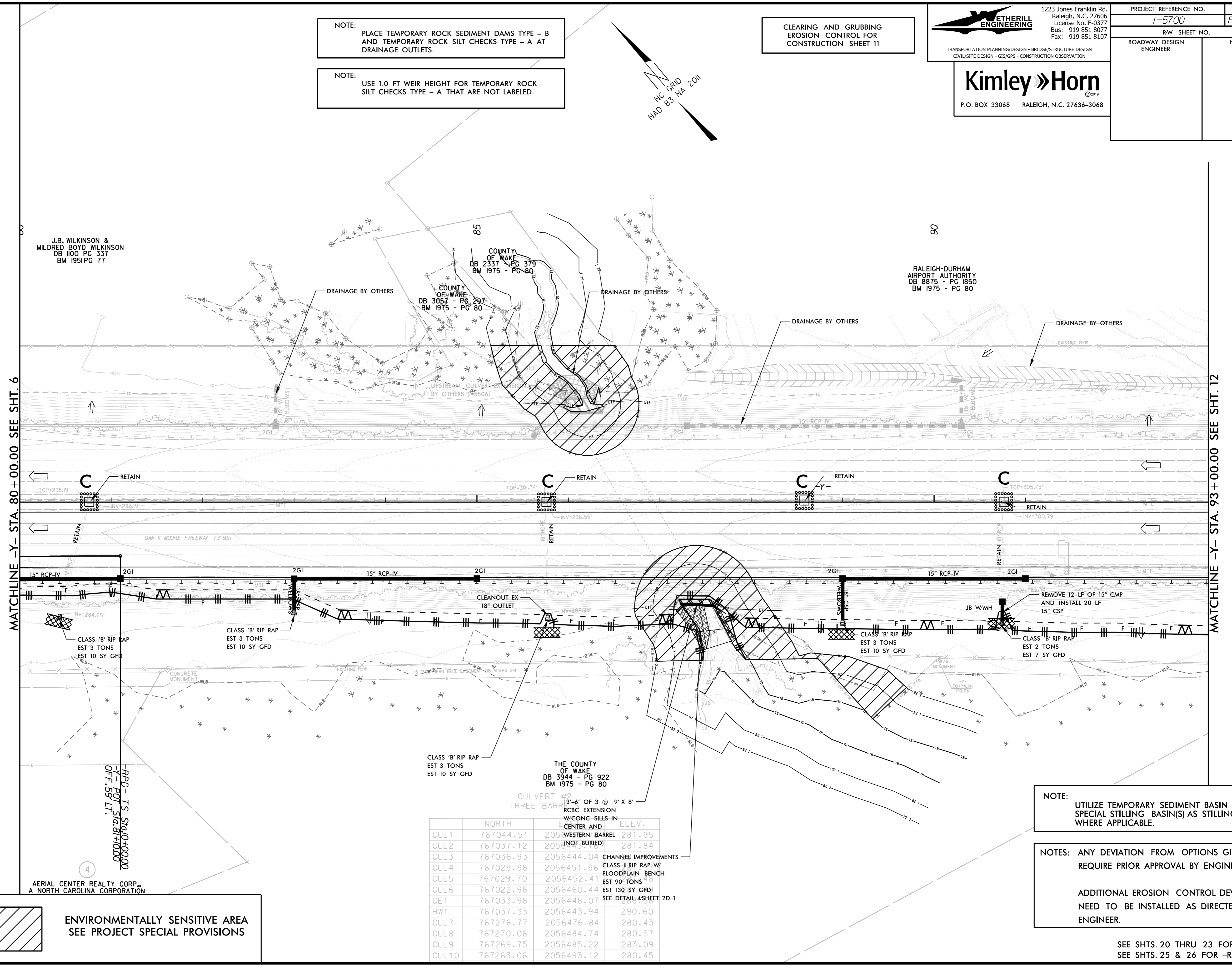
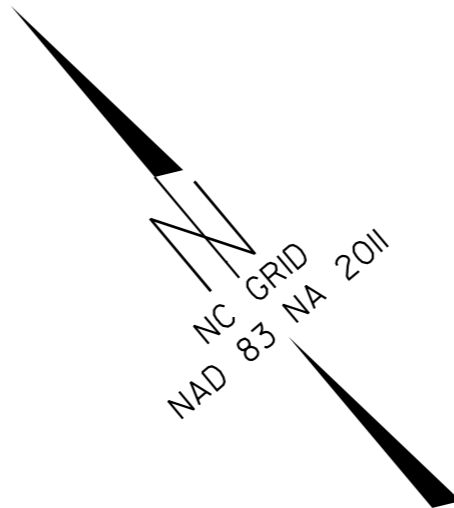
Kimley»Horn
 P.O. BOX 33068 RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO. I-5700	SHEET NO. EC-II/CONST.II
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

NOTE:
 PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

NOTE:
 USE 1.0 FT WEIR HEIGHT FOR TEMPORARY ROCK SILT CHECKS TYPE - A THAT ARE NOT LABELED.

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 11



MATCHLINE -Y- STA. 80+00.00 SEE SHT. 6

MATCHLINE -Y- STA. 93+00.00 SEE SHT. 12

ENVIRONMENTALLY SENSITIVE AREA
 SEE PROJECT SPECIAL PROVISIONS

	NORTH	EAST	ELEV.
CUL1	767044.51	2056444.04	281.95
CUL2	767037.12	2056444.04	281.84
CUL3	767036.93	2056444.04	281.84
CUL4	767029.98	2056451.96	281.84
CUL5	767029.70	2056452.41	281.84
CUL6	767022.98	2056460.44	281.84
CE1	767033.98	2056448.07	281.84
HW1	767037.33	2056443.94	290.60
CUL7	767276.77	2056476.84	280.43
CUL8	767270.06	2056484.74	280.57
CUL9	767269.75	2056485.22	283.09
CUL10	767263.06	2056493.12	280.45

NOTE:
 UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

NOTES:
 ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

SEE SHTS. 20 THRU 23 FOR -Y- PROFILE
 SEE SHTS. 25 & 26 FOR -RPD- PROFILE

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
1-5700	EC-IIA/CONST. II
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

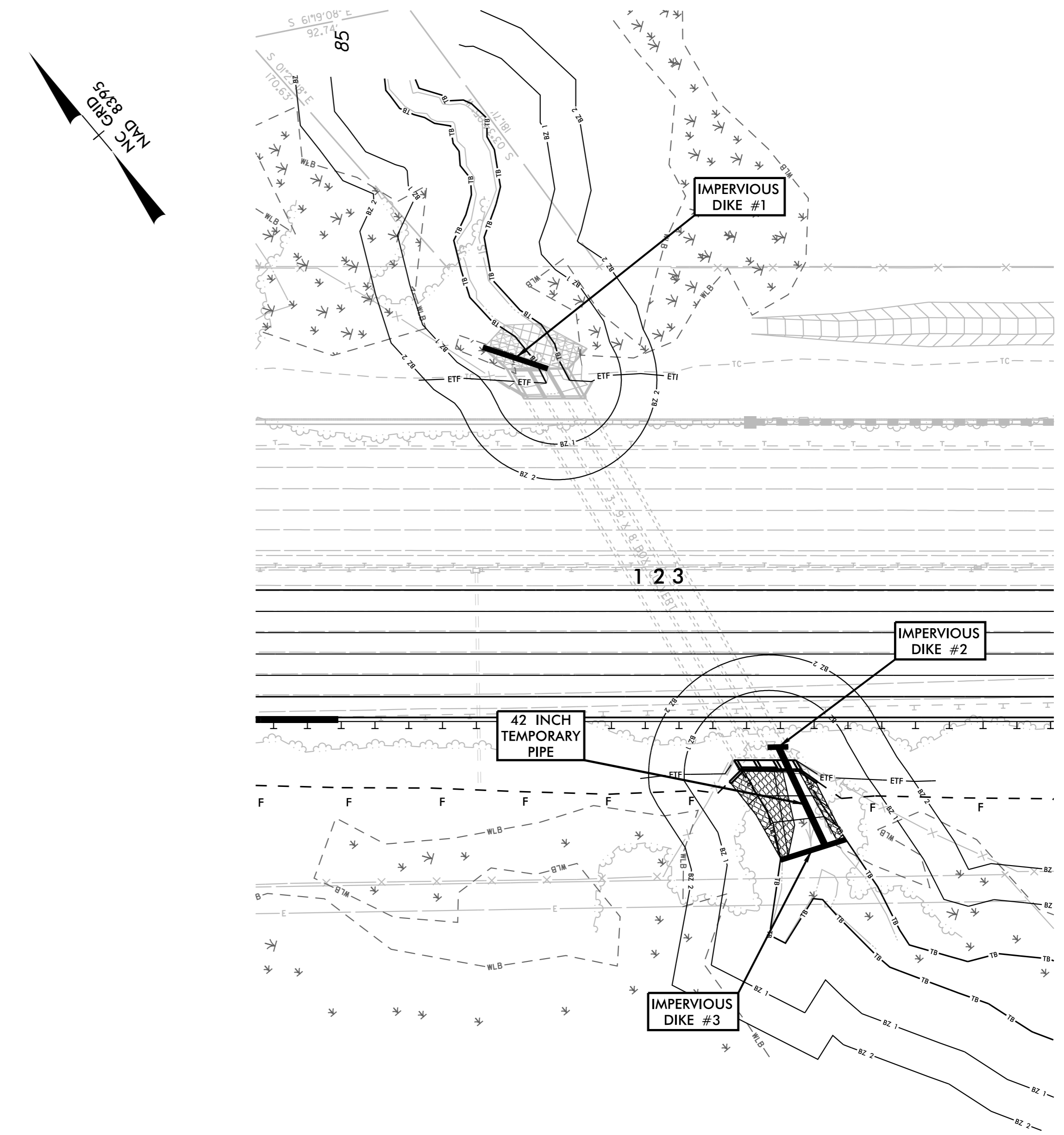
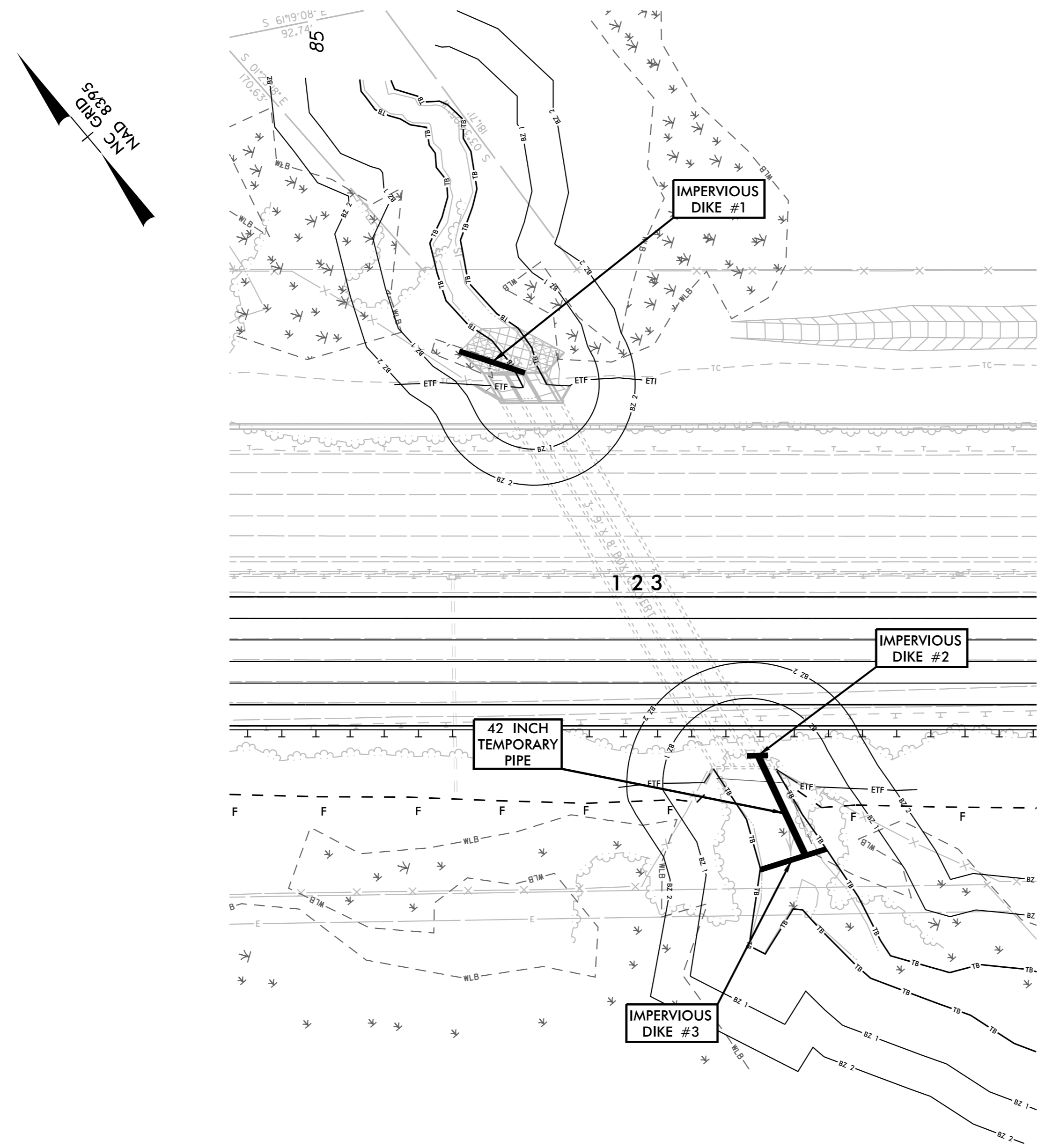
CULVERT CONSTRUCTION SEQUENCE STA. 86+76 -Y-

PHASE I

- 1.) CONSTRUCT TEMPORARY SPECIAL STILLING BASIN, AND ALL OTHER TEMPORARY EROSION CONTROL MEASURES TO STABILIZE WORK AREA.
- 2.) CONSTRUCT IMPERVIOUS DIKES AT LOCATIONS SHOWN IN SKETCH AND INSTALL 1 @ 42" TEMPORARY PIPES. PIPES TO BE SUSPENDED OVER DOWNSTREAM EXCAVATION AS NEEDED.
- 3.) DEWATER THE AREA BETWEEN THE EXISTING CULVERT AND DOWNSTREAM OF OUTLET CHANNEL IMPROVEMENTS. EXCAVATE UNDER PROPOSED CULVERT FOOTPRINT AND STREAM BED PER GEOTECHNICAL RECOMMENDATIONS / STRUCTURAL PLANS.
- 4.) REFERENCE SHEET TMP SHEETS FOR ADDITIONAL DETAIL REGARDING TRAFFIC MANAGEMENT.

PHASE II

- 1.) CONSTRUCT 3 @ 9' X 8' RCB UPSTREAM EXTENSION WITH 1' SILLS IN BARRELS #2 AND #3 IN EXCAVATED TRENCH AS SHOWN, INCLUDING WINGWALLS AT STATION 86+76 -L- AND CONSTRUCT ROADWAY FILL.
- 2.) MAKE DOWNSTREAM CHANNEL IMPROVEMENTS AND PLACE REQUIRED RIPRAP AND MATTING ON CHANNEL BANKS.
- 3.) REMOVE IMPERVIOUS DIKES AND 1 @ 42" SMOOTH WALL TEMPORARY PIPES.
- 4.) REMOVE TEMPORARY SPECIAL STILLING BASIN.
- 5.) STABILIZE DISTURBED AREA AND REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES AS DIRECTED BY ENGINEER.



2/22/2019

5/14/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 12

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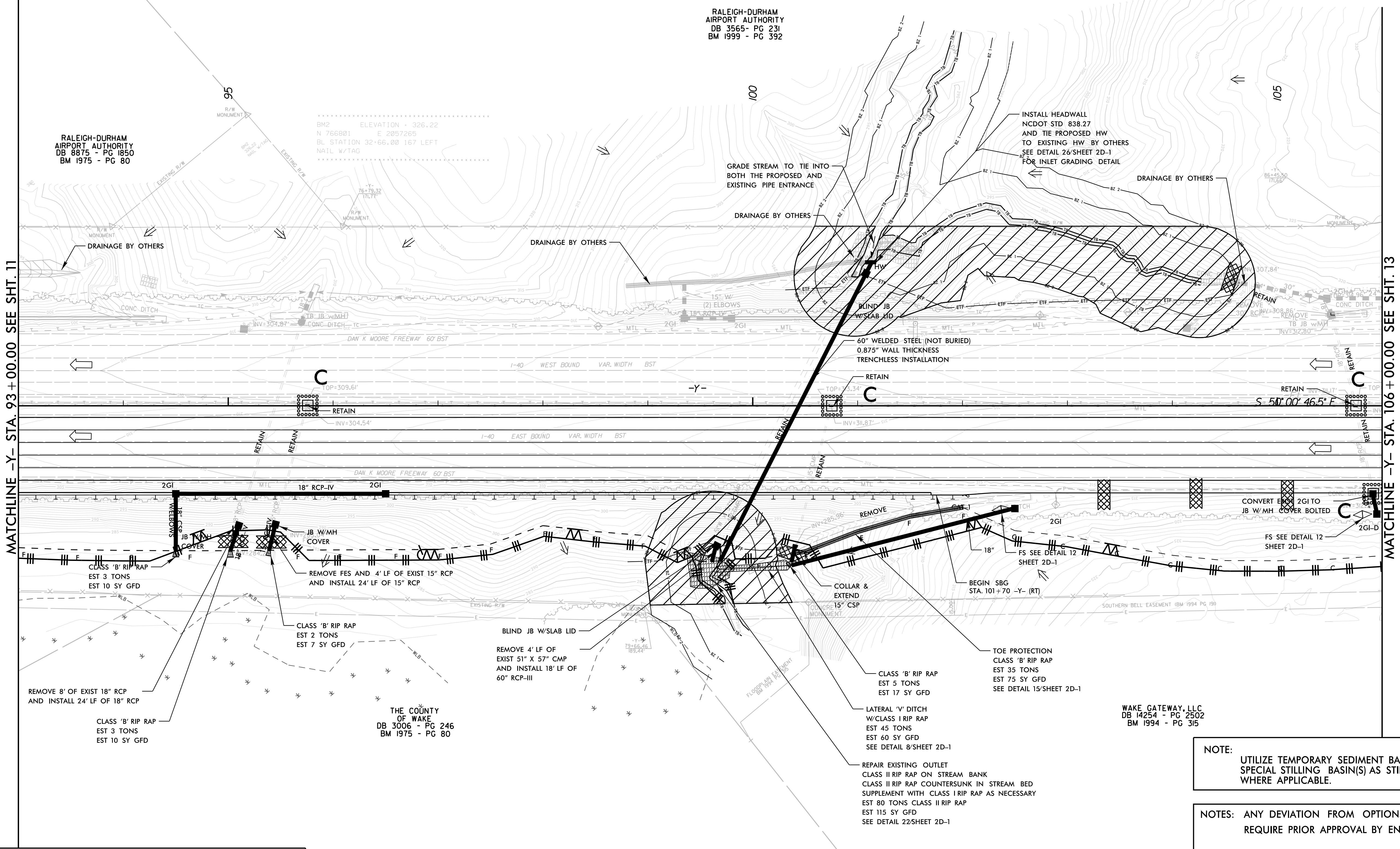
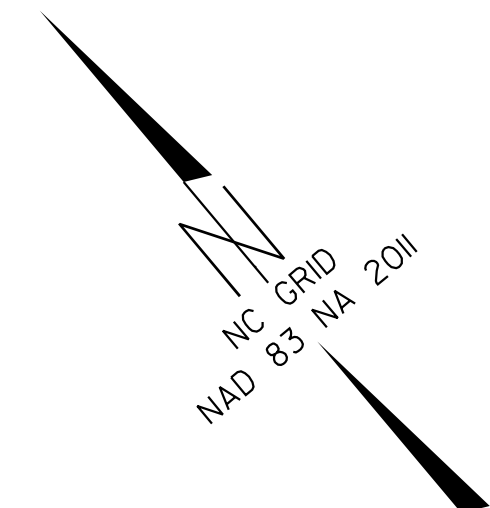
TRANSPORTATION PLANNING/DESIGN • BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN • GIS/GPS • CONSTRUCTION OBSERVATION

Kimley Horn
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P.O. BOX 33068 RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO. 1-5700	SHEET NO. EC-12/CONST.12
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

NOTE:
USE 1.0 FT WEIR HEIGHT FOR TEMPORARY ROCK SILT CHECKS TYPE - A THAT ARE NOT LABELED.



MATCHLINE -Y- STA. 93 + 00.00 SEE SHT. 11

MATCHLINE -Y- STA. 106 + 00.00 SEE SHT. 13

 ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

SEE SHTS. 20 THRU 23 FOR -Y- PROFILE

WAKE GATEWAY, LLC
DB 14254 - PG 2502
BM 1994 - PG 315

THE COUNTY OF WAKE
DB 3006 - PG 246
BM 1975 - PG 80

RALEIGH-DURHAM AIRPORT AUTHORITY
DB 3565 - PG 231
BM 1999 - PG 392

BM2 ELEVATION - 326.22
N 766801 E 2057265
BL STATION 32+66.00 167 LEFT
NAIL W/TAG

RALEIGH-DURHAM AIRPORT AUTHORITY
DB 8875 - PG 1850
BM 1975 - PG 80

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
1-5700	EC-12A/CONST.12
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

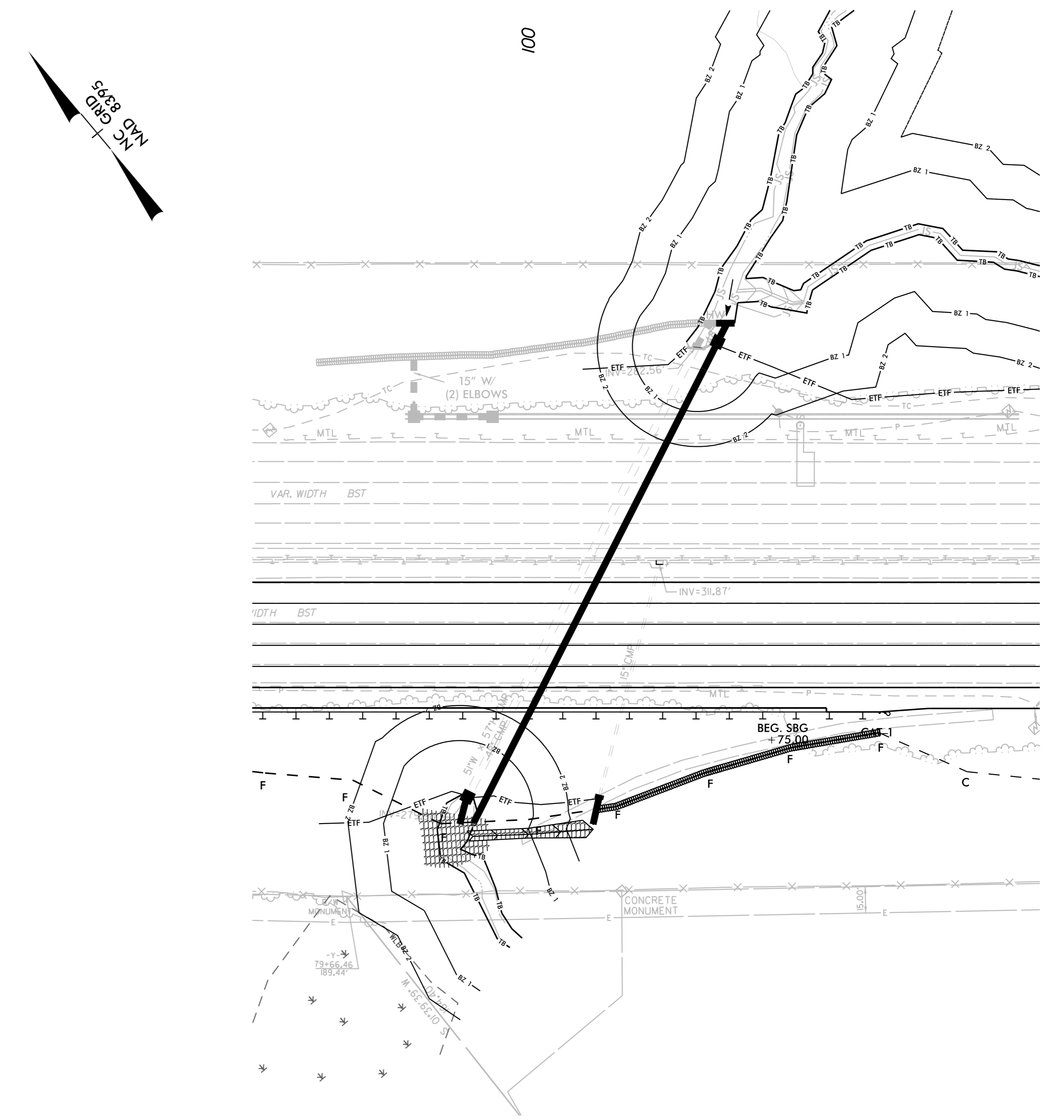
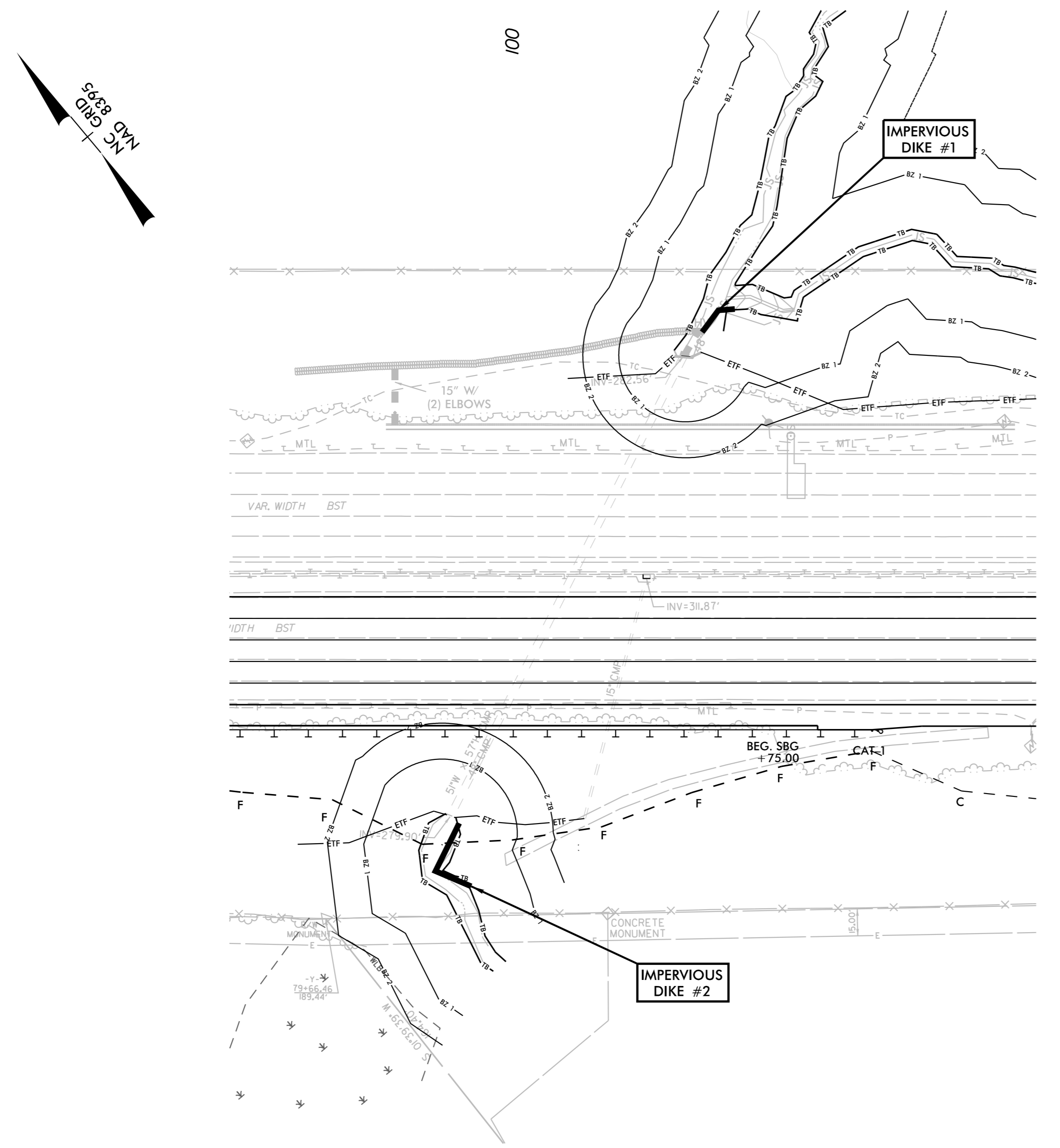
CULVERT CONSTRUCTION SEQUENCE STA. 85+60 -Y-

PHASE I

- 1.) CONSTRUCT TEMPORARY SPECIAL STILLING BASIN, AND ALL OTHER TEMPORARY EROSION CONTROL MEASURES TO STABILIZE WORK AREA.
- 2.) CONSTRUCT IMPERVIOUS DIKES AT LOCATIONS SHOWN IN SKETCH TO DIVERT FLOW INTO EXISTING 51" W x 57" H CMP.
- 3.) DEWATER THE AREA BESIDE THE EXISTING CULVERT AND DOWNSTREAM OF EXISTING 51" W x 57" H CMP. EXCAVATE UNDER PROPOSED CULVERT FOOTPRINT AND STREAM BED PER GEOTECHNICAL RECOMMENDATIONS / STRUCTURAL PLANS.
- 4.) REFERENCE TMP SHEETS FOR ADDITIONAL DETAIL REGARDING TRAFFIC MANAGEMENT.

PHASE II

- 1.) CONSTRUCT 1 @ 60" WEILDED STEEL PIPE USING TRENCHLESS INSTALLATION, INCLUDING HEADWALL AT 57+62 LT -Y- AND CONSTRUCT ROADWAY FILL.
- 2.) MAKE DOWNSTREAM CHANNEL IMPROVEMENTS AND PLACE REQUIRED RIPRAP AND MATTING ON CHANNEL BANKS.
- 3.) REMOVE IMPERVIOUS DIKES.
- 4.) REMOVE TEMPORARY SPECIAL STILLING BASIN.
- 5.) STABILIZE DISTURBED AREA AND REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES AS DIRECTED BY ENGINEER.



2/22/2019