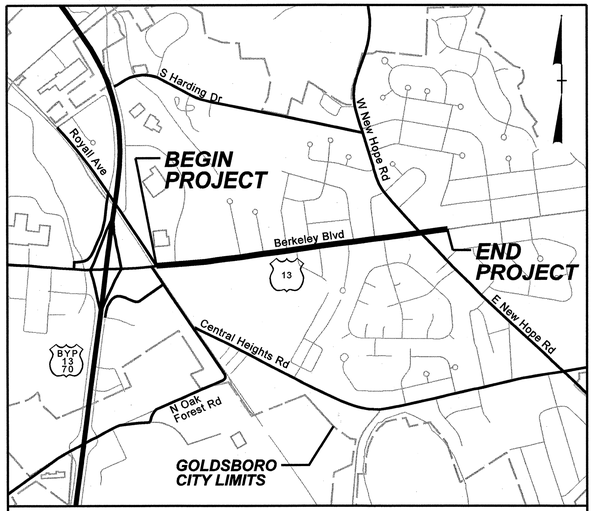
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3609A		

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
39026.1.1	STP-0013(33)	P.E.
39026.2.1	STP-0013(33)	R /W
39026.3.FR1	STP-0013(33)	CONST.

TIP PROJECT: U-3609A

CONTRACT: C202603

STRUCTURE



VICINITY MAP

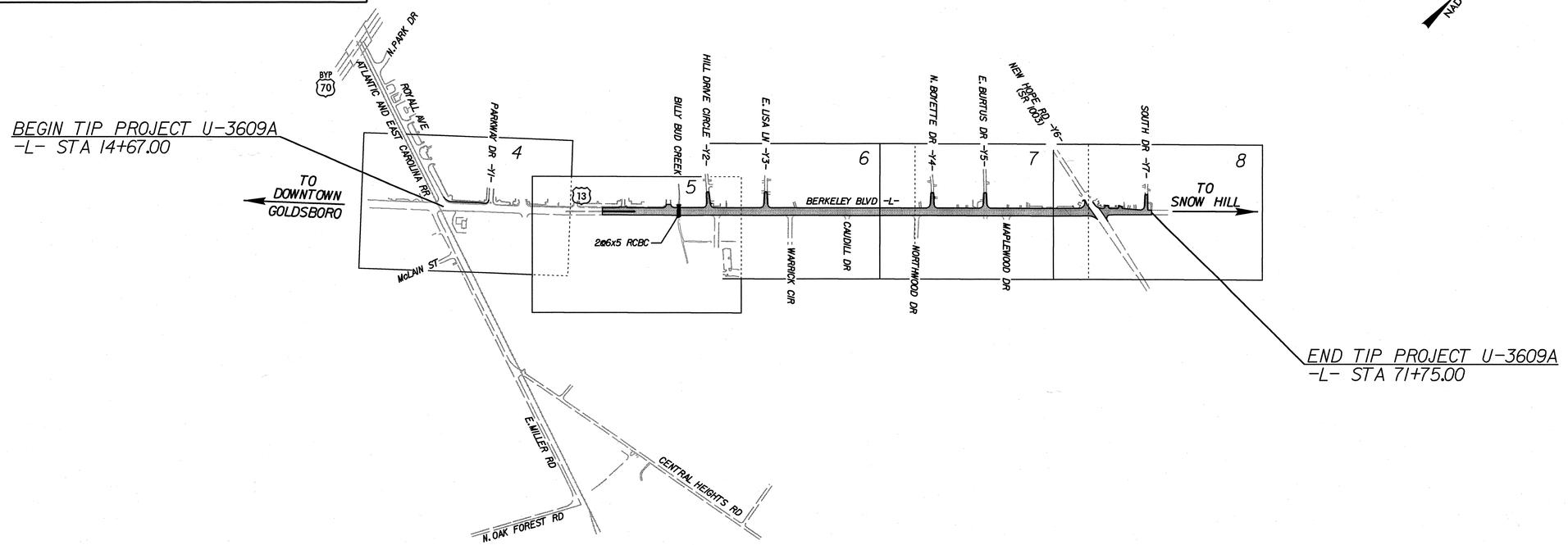
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAYNE COUNTY

LOCATION: US 13 (BERKELEY BOULEVARD) FROM ROYALL AVENUE TO SOUTH DRIVE

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND CULVERT

NAD 83/95



DESIGN DATA

BERKELEY BLVD (US 13)

ADT 2008 = 15,500 VPD

ADT 2035 = 29,100 VPD

DESIGN SPEED = 50 mph

FUNCTIONAL CLASSIFICATION: URBAN ARTERIAL

PROJECT LENGTH

TOTAL LENGTH TIP PROJECT U-3609A = 1.081 MILES

PLANS PREPARED FOR THE NCDOT BY:

Kimley-Horn and Associates, Inc.

Post Office Box 33068
Raleigh, North Carolina 27636
PE NO. F-0102

2012 STANDARD SPECIFICATIONS

LETTING DATE:
MAY 20, 2014

CECIL NARRON, P.E.
PROJECT ENGINEER

JEFF WILSON, E.I.
PROJECT DESIGN ENGINEER

STRUCTURE MANAGEMENT UNIT
1000 BIRCH RIDGE DRIVE
RALEIGH, N.C. 27610

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

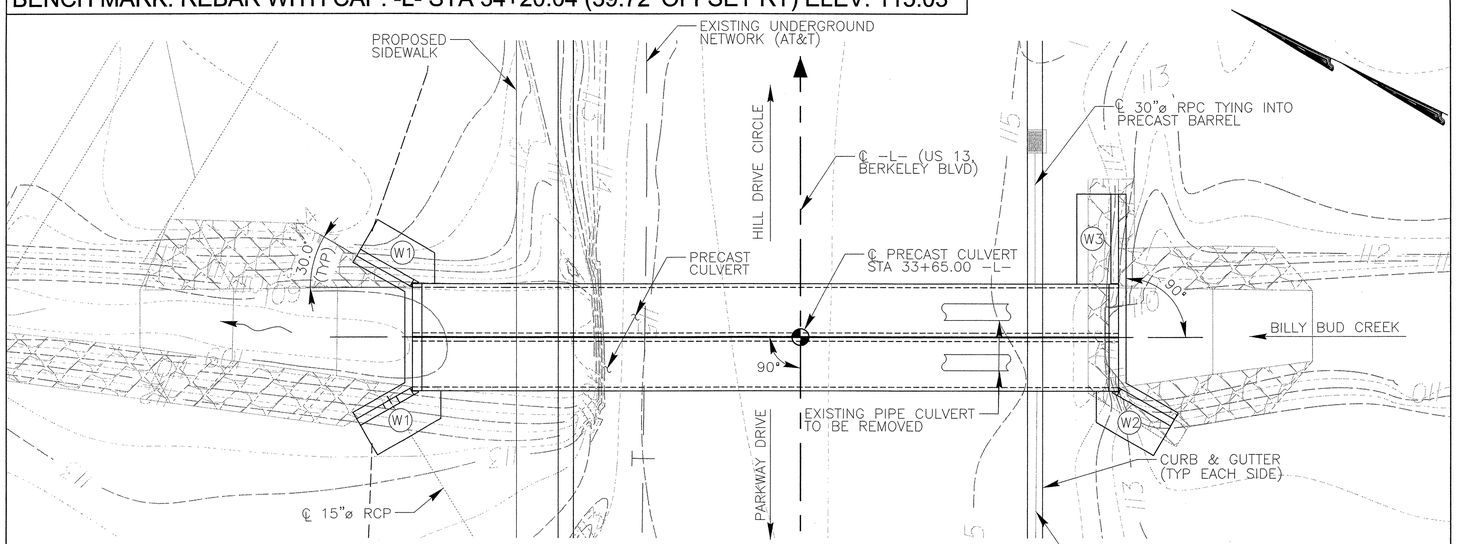
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

DIVISION ADMINISTRATOR *DATE*

2/21/2013 K:\RAL_Roadway\Oil\T46003 (Berkeley Blvd)\Plan\Oil\T46003_tshdgn

BENCH MARK: REBAR WITH CAP: -L- STA 34+20.04 (39.72' OFFSET RT) ELEV. 115.03'

F.A. PROJECT NO. STP-0013 (33)



GRADE POINT ELEV. @ -L- STA 33+65.00 = 115.64'
BED ELEVATION @ -L- STA 33+65.00 = 107.67'
ROADWAY SLOPES 4 : 1

LOCATION SKETCH

SCALE: 1" = 10'-0"

NOTES:

ASSUMED LIVE LOAD ---------- HS520-44 OR ALTERNATE LOADING.

DESIGN FILL ---------- 2.99'

DESIGN PARAMETERS:
MAXIMUM ALLOWABLE SOIL BEARING PRESSURE = 2500 PSF
SOIL DENSITY = 120 PCF
EFP = 50 PCF
COEFFICIENT OF FRICTION = 0.35

FOR BORING INFORMATION, SEE GEOTECHNICAL REPORT.

SEE ROADWAY PLANS FOR RIP RAP REQUIREMENTS AT CULVERT ENDS.

FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.

FOR ADDITIONAL INFORMATION REGARDING DRAINAGE, GRADING, AND ROADWAY, SEE ROADWAY PLANS.

THE CONTRACTOR SHALL STAKE OUT THE LENGTH OF CULVERT FOR ENGINEER REVIEW PRIOR TO ORDERING PRECAST.

CONTRACTOR TO FIELD VERIFY THAT CULVERT INVERTS ARE 1' BELOW EXISTING GRADE BEFORE CONSTRUCTION OF CULVERT, SEE SHEET C-3 SECTION A-A.

SEE SPECIAL PROVISIONS FOR PRECAST REINFORCED CONCRETE BOX CULVERT AT STA 33+65.00 -L-.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

PRECAST BOX SHALL BE DESIGNED TO ACCOMMODATE ½" DIFFERENTIAL SETTLEMENT AT JOINTS.

CONTRACTOR SHALL INCLUDE DETAILS FOR 3"ø WEEP HOLES AT 10 FT MAX SPACING IN SHOP DRAWINGS. THE WEEP HOLES SHALL BE APPROXIMATELY 6" ABOVE NORMAL STREAM FLOW. #78 STONE FILLED POROUS BAGS SHALL BE PLACED IN FRONT OF EACH WEEP HOLE. CONTRACTOR MUST VERIFY INFORMATION PROVIDED.

CONCRETE SHALL BE POURED IN THE FOLLOWING ORDER FOR EACH PHASE:
1. SET PRECAST BOX CULVERT.
2. WING FOOTING AND WING AND BOX CUTOFF WALLS.
3. WINGWALLS AND HEADWALL.

CAST-IN-PLACE WINGS, FOOTINGS, AND HEADWALL INFORMATION.

MINIMUM CONCRETE COMPRESSIVE STRENGTH = 3000 PSI

ALL REINFORCING STEEL SHALL BE GRADE 60.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 IN SAMPLES OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 IN SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

TEMPORARY SHORING SHOWING IN THE PHASING SECTION IS FOR THE ROADWAY SHORING ONLY. ANY OTHER SHORING REQUIRED FOR CONSTRUCTION OF THE CULVERT SHALL NOT BE PAID FOR AS A SEPARATE ITEM BUT INCIDENTAL TO OTHER CULVERT QUANTITIES.

CONTRACTOR WILL MAINTAIN THE ALIGNMENT OF THE PRECAST CULVERT SECTIONS DURING BACKFILL.

SETTING PRECAST CULVERT SECTION AND BACKFILL ORDER FOR EACH PHASE:
1. UNDERCUT AND BACKFILL WITH BEDDING MATERIAL.
2. SET CULVERT UNITS WITH NON COMPRESSIBLE JOINT FILLER MAT'L AT BOTTOM.
3. PLACE BACKER ROD AND JOINT SEALER MAT'L AFTER ALL CULVERT UNITS ARE IN PLACE. CONTRACTOR TO WRAP JOINTS AS REQUIRED BY SPECIAL PROVISIONS.
4. BACKFILL ½ OF CULVERT HEIGHT BRING FILL UP EQUAL ON EACH SIDE.
5. PLACE NON-SHRINK GROUT IN THE TOP AND DOWN SIDES AT ENDS.
6. FINISH BACKFILL AFTER GROUT HAS OBTAINED STRENGTH

NO SEPARATE PAYMENT WILL BE MADE FOR NON COMPRESSIBLE JOINT FILLER MAT'L, BACKER ROD, JOINT SEALER MAT'L, AND NON-SHRINK GROUT. THESE ITEMS SHALL BE INCLUDED IN LS FOR PRECAST CULVERT.

ESTIMATED QUANTITIES				
ITEM	QUANTITY			UNIT
	PHASE 1	PHASE 2	TOTAL	
CULVERT EXCAVATION, STA 33+65.00	–	–	–	LS
SELECT MATERIAL CLASS VI – #57 STONE BACKFILL	160	140	300	CY
PRECAST CULVERT AT STA 33+65.00	–	–	–	LS
** GEOTEXTILE FOR SOIL STABILIZATION	340	300	640	SY
* REINFORCING STEEL	1233	1394	2627	LBS
* CLASS A CONCRETE	16.9	19.5	36.4	CY

* SHOWN FOR WINGS, FOOTING, CUTOFFS, AND HEADWALLS.
** GEOTEXTILE FABRIC-TYPE 4 IS INCLUDED IN THE GEOTEXTILE FOR SOIL STABILIZATION PAY ITEM

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE ---------- 404 cfs
FREQUENCY OF OVERTOPPING FLOOD --- <10-YR
OVERTOPPING FLOOD ELEVATION ------- 115.54 ft

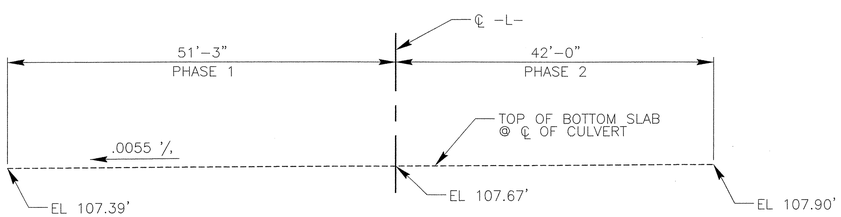
HYDRAULIC DATA

DESIGN DISCHARGE---------- 1000 cfs
FREQUENCY OF DESIGN FLOOD ----- 50-YR
DESIGN HIGH WATER ---------- 116.0 ft
DRAINAGE AREA ---------- 1.1 sq. mi.
BASE DISCHARGE (Q100) ---------- 1200 cfs
BASE HIGH WATER ELEVATION ------- 116.1 ft

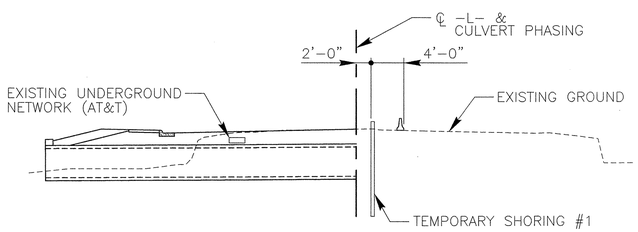
SPECIAL NOTICE - UTILITIES COORDINATION CULVERT CONSTRUCTION STATION 33+65

CONTRACTOR TO BE AWARE OF AN EXISTING UNDERGROUND NETWORK (AT&T) LOCATED APPROXIMATELY 4'± NORTH OF EXISTING EDGE OF PAVEMENT ON THE LEFT SIDE OF -L-. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION CONCERNING THE INSTALLATION OF THE PRECAST CULVERT UNDER THE EXISTING UTILITY NETWORK AND FOR UTILITY CONTACTS.

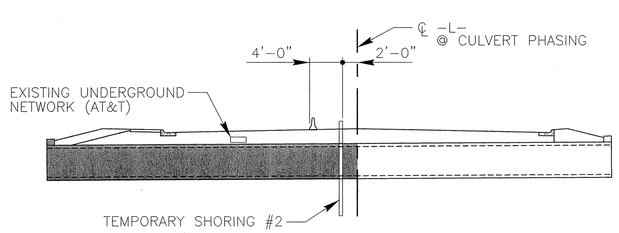
NO SEPARATE PAYMENT WILL BE MADE FOR THIS COORDINATION AND WORKING AROUND THE UNDERGROUND NETWORK CONSISTING OF 9-4" STEEL CONDUITS.



PROFILE ALONG ℄ CULVERT



SHORING - PHASE 1



SHORING PHASE - 2

NO.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:
3				
2				
1				

PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
333 FAYETTEVILLE STREET, SUITE 600 - RALEIGH, NC 27601-1772
PHONE: (919) 677-2042 FAX: (919) 653-2847

LAYOUT

DOUBLE '6 x 5' PRECAST CULVERT AT STA 33+65.00

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 12186 CECIL L. NARRON 5/7/13

SCALE: SCALE AS NOTED

PROJECT: U-3609A BERKELEY BLVD CULVERT

JOB NUMBER: 011746003

SHEET NUMBER: C - 1

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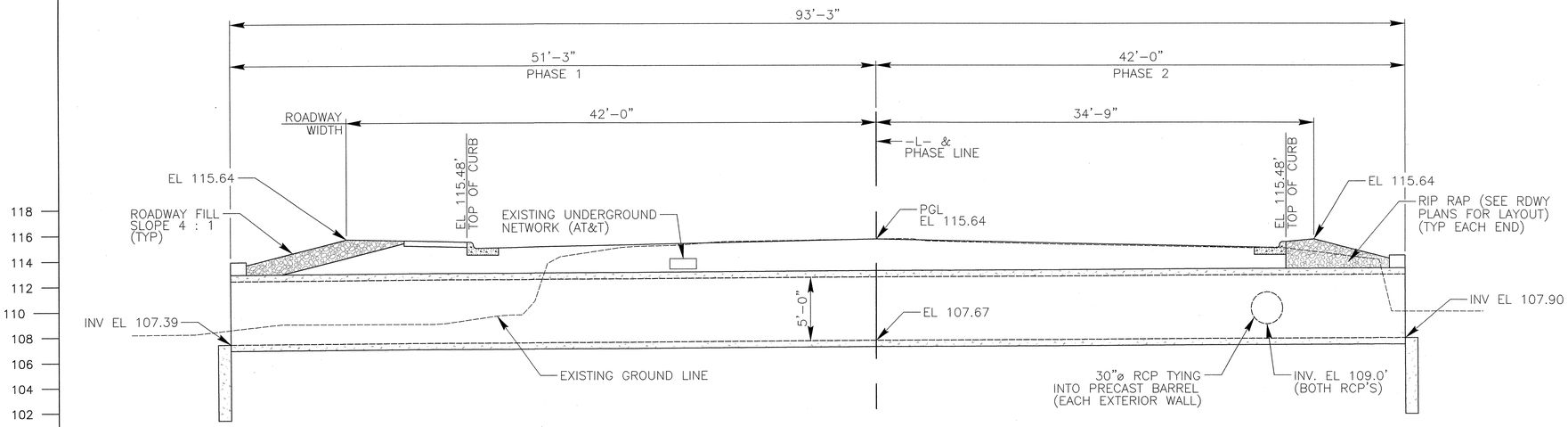
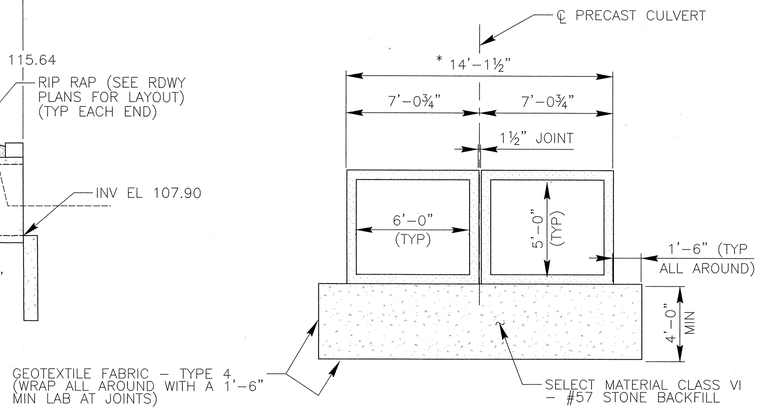
5/7/2013



SECTION ALONG L PRECAST CULVERT STA 33+65.00

SCALE: 3/16" = 1'-0"

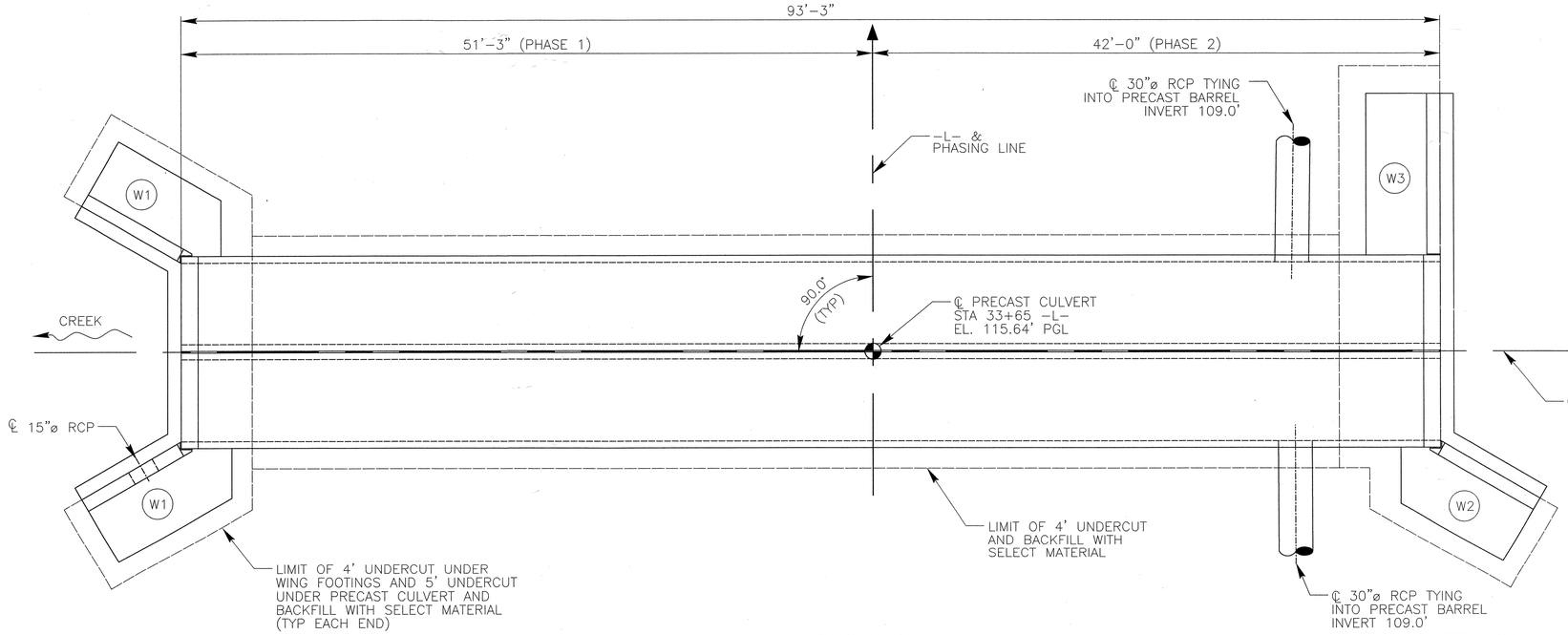
NOTE:
CONTRACTOR TO SIZE AND LOCATE OPENINGS FOR RCP'S BASED ON ROADWAY AND UTILITY PLAN SHEETS. CONTRACTOR TO PROVIDE DETAILS FOR OPENING WITH PRECAST CULVERT SHOP DRAWINGS.



BEDDING DETAIL UNDER PRECAST CULVERT

SCALE: NTS

* ASSUMED CULVERT WIDTH FOR WING WALL LAYOUT. CULVERT LAYOUT IS BASED ON TWO SINGLE CELL BOXES BUT CONTRACTOR MAY CHOSE TO USE A DOUBLE CELL PRECAST BOX. WHICH WOULD BE DETAILED WITH SHOP DRAWINGS INCLUDING ANY WING ADJUSTMENTS THAT MAY BE REQUIRED.

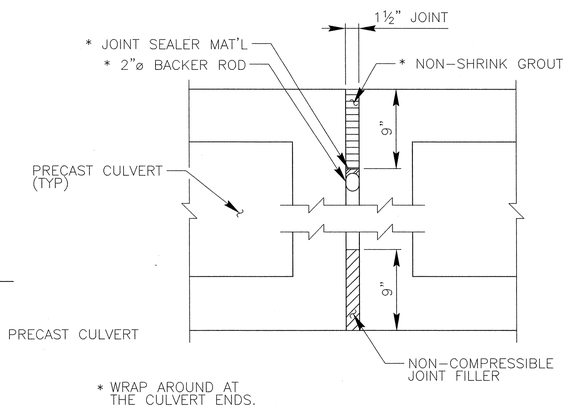


OUTLET END

LAYOUT PLAN

SCALE: 3/16" = 1'-0"

INLET END



* WRAP AROUND AT THE CULVERT ENDS.

PRECAST CULVERT JOINT DETAIL

SCALE: NTS

NO.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:
3				
2				
1				

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333 FAYETTEVILLE STREET, SUITE 600 – RALEIGH, NC 27601-1772
PHONE: (919) 677-2042 FAX: (919) 653-2847

SECTION AND PLAN

DOUBLE '6 x 5' PRECAST CULVERT AT STA 33+65.00

NORTH CAROLINA PROFESSIONAL SEAL 12186 ENGINEER CECIL L. NARRON 5/29/12

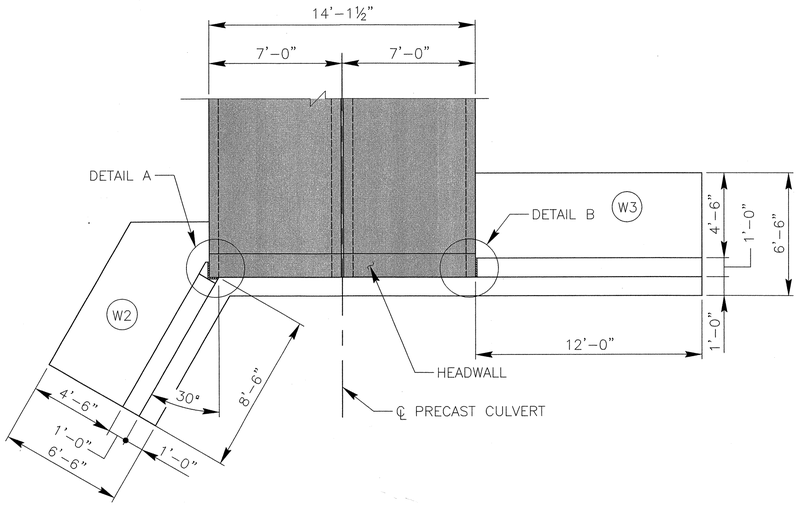
SCALE: SCALE AS NOTED

PROJECT:
U-3609A
BERKELEY BLVD CULVERT

JOB NUMBER: 011746003

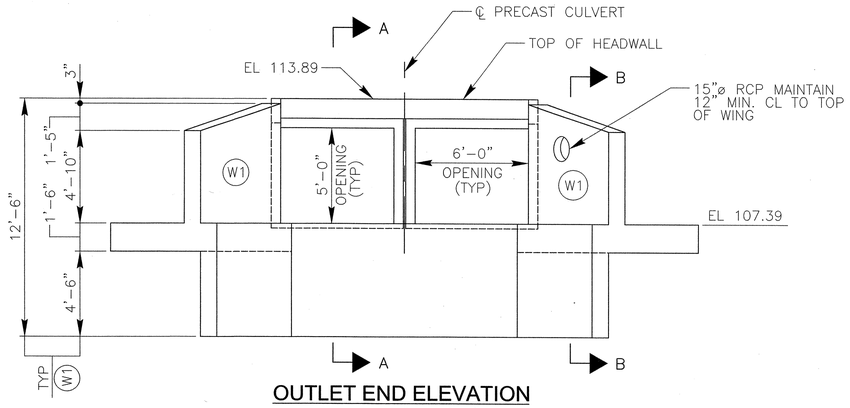
SHEET NUMBER: C - 2

5/29/2012 K:\RDT_Structures_Culvert\WC\011746003_BerkeleyBlvdCulvert-Goldsboro\Cad\dgn\C-2.dgn



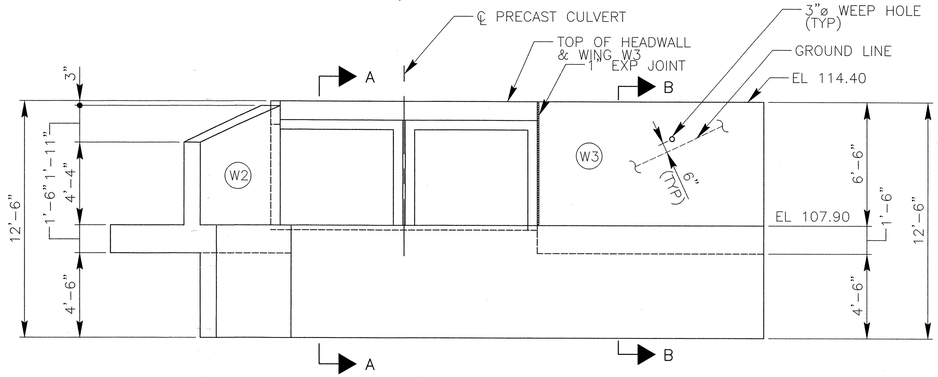
PLAN OF HEADWALL / WINGWALLS W2 & W3

INLET END SHOWN, OUTLET SIMILAR TO W2 SIDE
SCALE: ¼" = 1'-0'



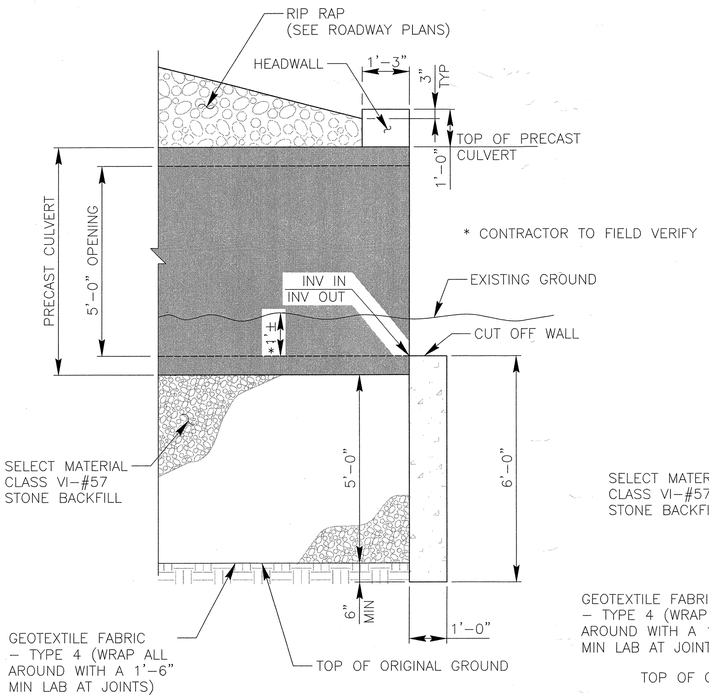
OUTLET END ELEVATION

SCALE: ¼" = 1'-0'



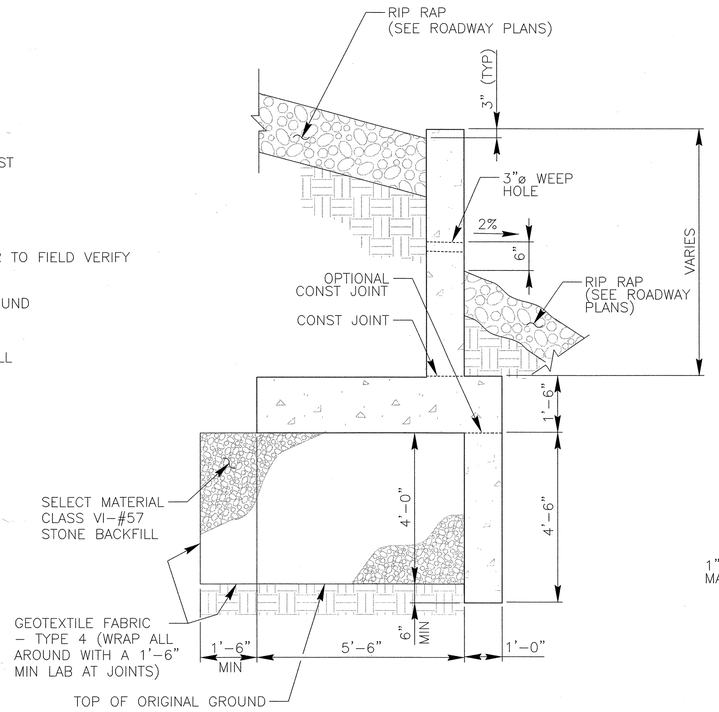
INLET END ELEVATION

SCALE: ¼" = 1'-0'



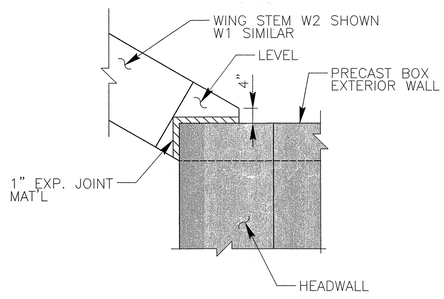
SECTION A - A

SCALE: ½" = 1'-0"



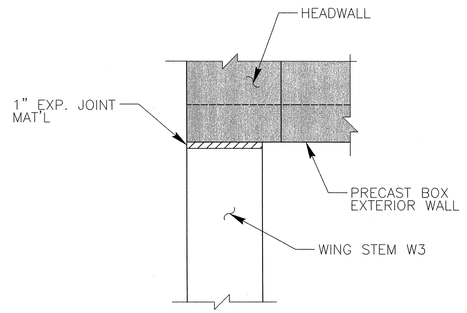
SECTION B - B

SCALE: ½" = 1'-0"



DETAIL A

SCALE: 1" = 1'-0"



DETAIL B

SCALE: 1" = 1'-0"

NO.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:
3				
2				
1				

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Kimley-Horn and Associates, Inc.
333 FAYETTEVILLE STREET, SUITE 600 – RALEIGH, NC 27601-1772
PHONE: (919) 677-2042 FAX: (919) 653-2847

WING WALL LAYOUT

DOUBLE '6 x 5' PRECAST CULVERT AT STA 33+65.00

NORTH CAROLINA PROFESSIONAL SEAL 12186 ENGINEER CECIL L NARRON 5/29/12

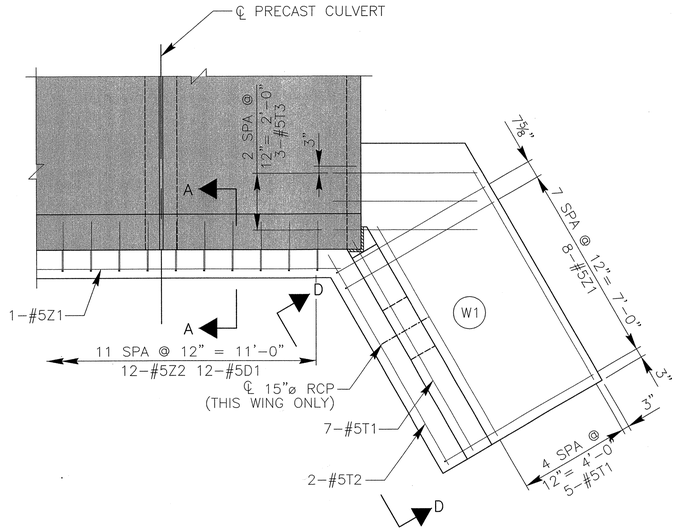
SCALE: SCALE AS NOTED

PROJECT: U-3609A BERKELEY BLVD CULVERT

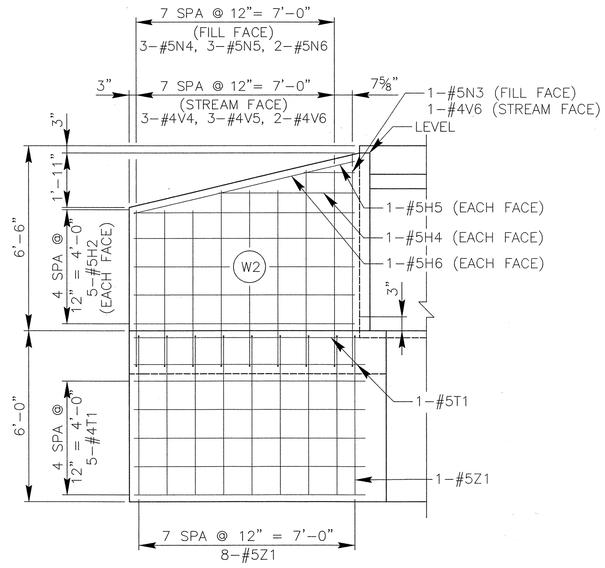
JOB NUMBER: 011746003

SHEET NUMBER: C - 3

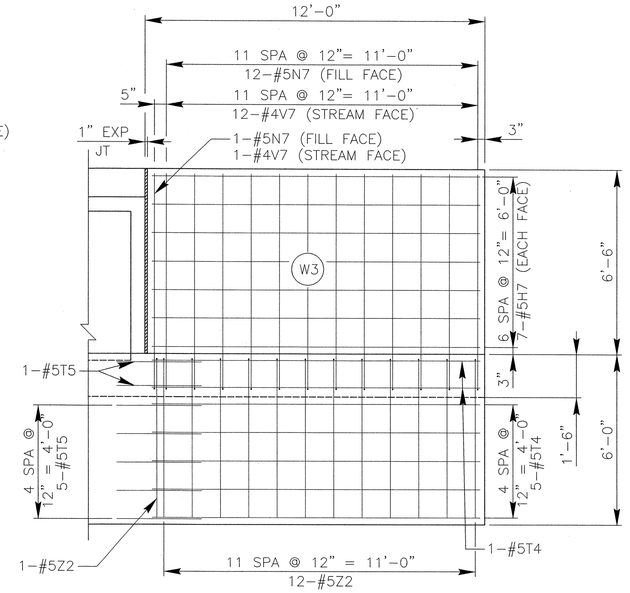
5/29/2012 K:\RDT_Structures_Culvert\NC\011746003_BerkeleyBlvdCulvert-Goldsboro\Cad\dgn\C-3.dgn



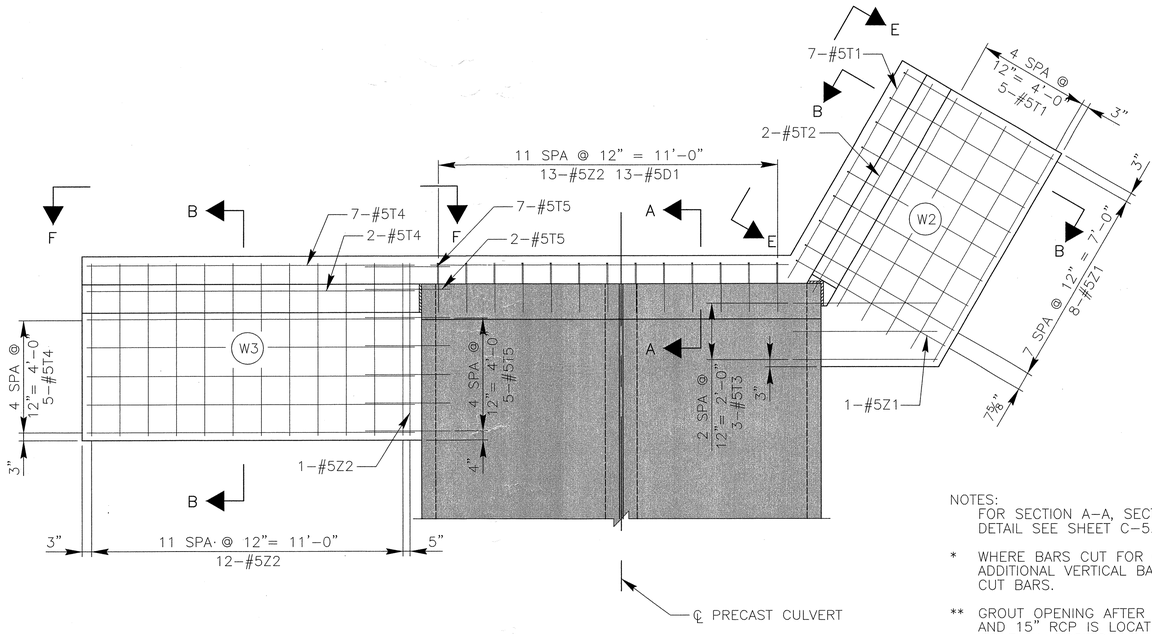
HALF PLAN OF WING AND FOOTING OUTLET END



ELEVATION E - E



ELEVATION F - F

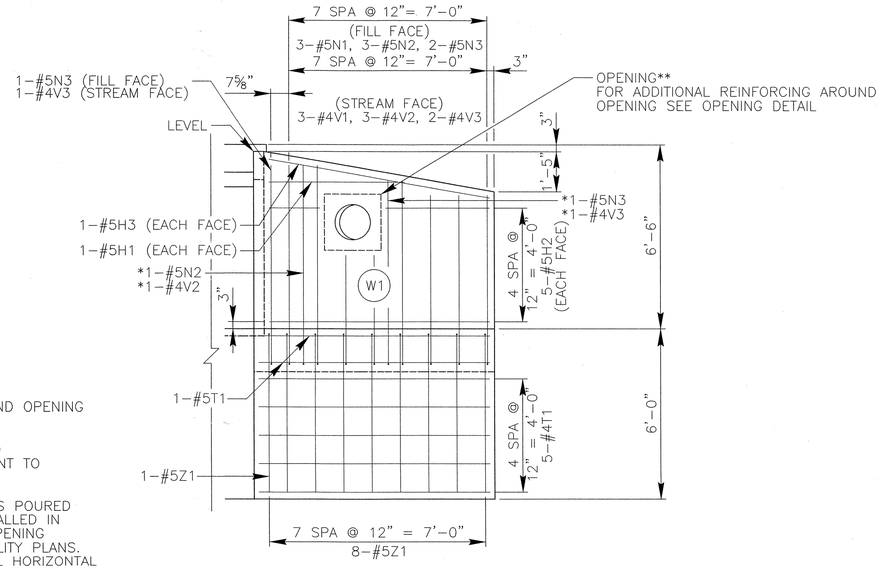


PLAN OF WING AND FOOTING INLET END

NOTES:
FOR SECTION A–A, SECTION B–B, AND OPENING DETAIL SEE SHEET C–5.

* WHERE BARS CUT FOR OPENING ADD ADDITIONAL VERTICAL BARS EQUIVALENT TO CUT BARS.

** GROUT OPENING AFTER WING WALL IS POURED AND 15" RCP IS LOCATED AND INSTALLED IN ITS FINAL POSITION. FIELD VERIFY OPENING DIMENSIONS AND LOCATION WITH UTILITY PLANS. SEE OPENING DETAIL FOR ADDITIONAL HORIZONTAL AND DIAGONAL BARS REQUIRED AROUND OPENING.



ELEVATION D - D

NO.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:
3				
2				
1				

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Kimley-Horn and Associates, Inc.
333 FAYETTEVILLE STREET, SUITE 600 – RALEIGH, NC 27601–1772
PHONE: (919) 677–2042 FAX: (919) 653–2847

WING WALL DETAILS (SHEET 1 OF 2)

DOUBLE '6 x 5' PRECAST CULVERT AT STA 33+65.00

NORTH CAROLINA PROFESSIONAL SEAL 12186 ENGINEER CECIL L. NARRON 5/29/12

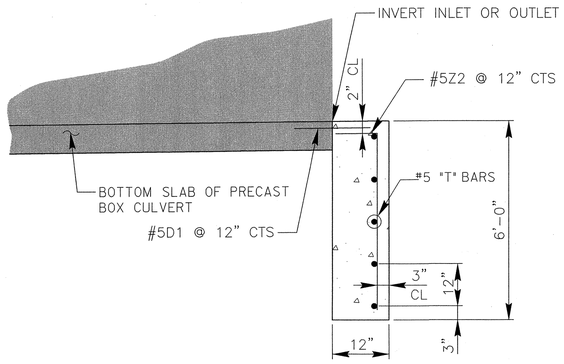
SCALE: SCALE AS NOTED

PROJECT: U-3609A BERKELEY BLVD CULVERT

JOB NUMBER: 011746003

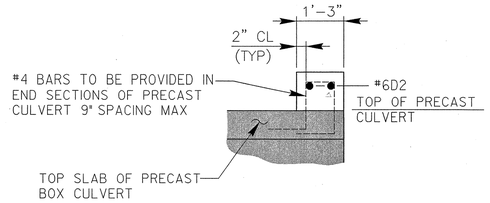
SHEET NUMBER: C - 4

5/29/2012 K:\RDT_Structures_Culvert\NC\011746003_BerkeleyBlvdCulvert-Goldsboro\Cad\dgn\C-4.dgn



SECTION A - A

SCALE: ¾" = 1'-0"

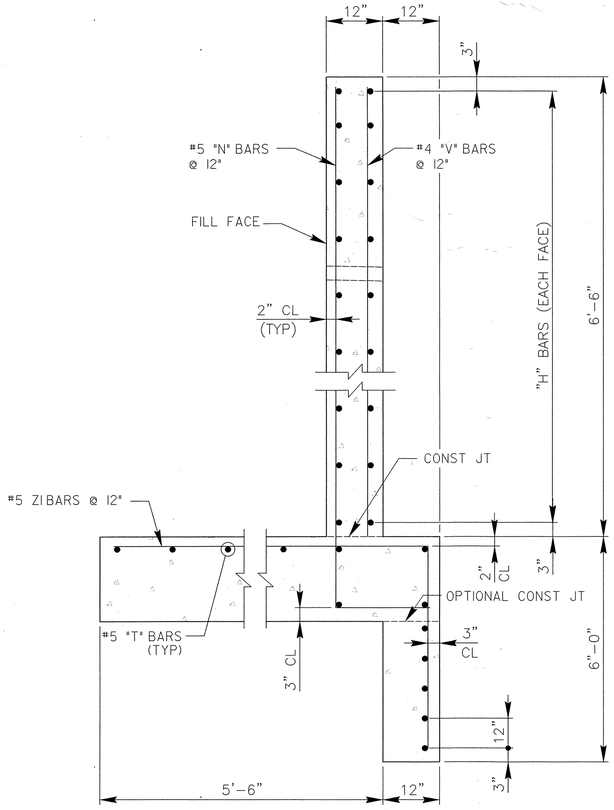


HEADWALL DETAIL

SCALE: ¾" = 1'-0"

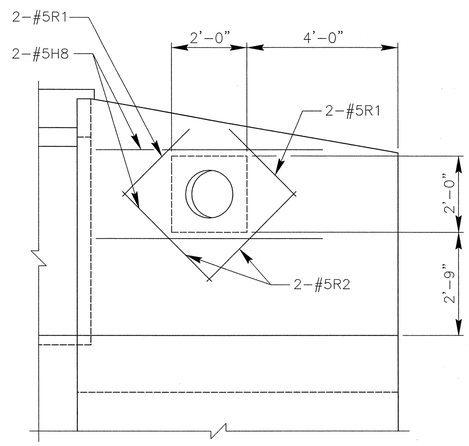
NOTES:
FOR SECTION CUTS A–A & B–B SEE SHEET C–4.

DI BARS MAY BE DRILLED AND GROUTED INTO PRECAST SECTION, OR CONTRACTOR MAY HAVE DI BARS CAST WITH PRECAST END UNITS.



SECTION B - B

SCALE: ¾" = 1'-0"



OPENING DETAIL

SCALE: ½" = 1'-0"

REINFORCING BAR SCHEDULE — PHASE 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
D1	12	5	STR	1'-9"	22
D2	2	6	STR	14'-1"	42
H1	4	5	STR	4'-9"	20
H2	20	5	STR	7'-9"	162
H3	4	5	STR	7'-10"	33
H8	4	5	STR	6'-0"	25
N1	6	5	1	7'-6"	47
N2	7	5	1	8'-0"	58
N3	7	5	1	8'-7"	63
R1	4	5	STR	2'-6"	10
R2	4	5	STR	3'-4"	14
T1	24	5	STR	8'-6"	213
T2	4	5	STR	7'-9"	32
T3	6	5	STR	5'-1"	32
T6	7	5	STR	12'-8"	92
V1	6	4	STR	4'-8"	19
V2	7	4	STR	5'-2"	24
V3	7	4	STR	5'-9"	27
Z1	18	5	2	11'-8"	219
Z2	12	5	2	6'-4"	79

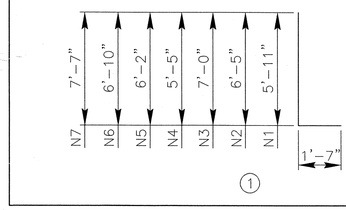
REINFORCING STEEL (LBS)	1233
CLASS A CONCRETE (CY)	16.9

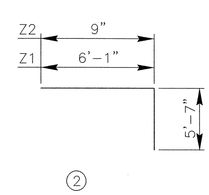
REINFORCING BAR SCHEDULE — PHASE 2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
D1	13	5	STR	1'-9"	24
D2	2	6	STR	14'-1"	9
H2	10	5	STR	7'-9"	81
H4	2	5	STR	4'9"	10
H5	2	5	STR	1'9"	4
H6	2	5	STR	8'0"	17
H7	14	5	STR	11'7"	169
N4	3	5	1	7'-0"	22
N5	3	5	1	7'-9"	24
N6	3	5	1	8'-5"	26
N7	13	5	1	9'-2"	124
T1	12	5	STR	8'-6"	106
T2	2	5	STR	7'-9"	16
T3	3	5	STR	5'-1"	16
T4	14	5	STR	11'-7"	169
T5	14	5	STR	3'-0"	44
T7	7	5	STR	13'-1"	96
V4	3	4	STR	4'-2"	8
V5	3	4	STR	4'-11"	10
V6	3	4	STR	5'-7"	11
V7	13	4	STR	6'-4"	55
Z1	22	5	2	11'-8"	268
Z2	13	5	STR	6'-4"	86

REINFORCING STEEL (LBS)	1394
CLASS A CONCRETE (CY)	19.5

BAR TYPE





ALL BARS DIMENSIONS ARE OUT TO OUT

NO.:	REVISION:	DATE:	DRAWN BY:	CHECKED BY:
3				
2				
1				

PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
333 FAYETTEVILLE STREET, SUITE 600 – RALEIGH, NC 27601-1772
PHONE: (919) 677-2042 FAX: (919) 653-2847

WING WALL DETAILS (SHEET 2 OF 2)

DOUBLE '6 x 5' PRECAST CULVERT AT STA 33+65.00

NORTH CAROLINA PROFESSIONAL SEAL 12186 ENGINEER CECIL L. NARRONE 5/29/12

SCALE: SCALE AS NOTED

PROJECT: U-3609A BERKELEY BLVD CULVERT

JOB NUMBER: 011746003

SHEET NUMBER: C - 5

5/29/2012 K:\RDT_Structures_Culvert\NC\011746003_BerkeleyBlvdCulvert-Goldsboro\Cad\dgn\C-5.dgn

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	SEE PLANS
IMPACT ALLOWANCE	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF	
STRUCTURAL STEEL - AASHTO M270 GRADE 36	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION	
GRADE 60	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR	
UNTREATED - EXTREME FIBER STRESS	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990

STD. NO. SN

REV. 6-16-95 EEM W RGW REV. 5-7-03 RWW W JTE REV. 10-1-11 MAA W GM
REV. 8-16-99 RWW W LES REV. 5-1-06 TLA W GM