

LEGEND

PORTION TO BE IMPROVED	
STATE AND FEDERAL ROUTES	
OTHER ROADS.....	

DESIGN DESIGNATION

CURRENT ADT (2007)	1540
DESIGN YEAR ADT (2034)	2372
DESIGN HOURLY VOLUME (2034)	285
TRUCKS (24 HOUR B & C)	10%
FUNCTIONAL CLASSIFICATION.....	RURAL COLLECTOR

UTILITIES

WINDSTREAM OHIO, INC. 560 TERNES STREET ELYRIA, OH 44035 PHONE 1-419-674-1124 PHONE 1-419-399-7930	PUBLIC UTILITIES DIRECTOR 9306 COUNTY ROAD 14 SUITE A WAUSEON, OH 43567 PHONE 1-419-337-9263
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TRICOUNTY RURAL ELECTRIC COOP, INC.
8945 CO. RD. K2
MALINTA, OH 43535
PH. 1-419-256-7006

UNDERGROUND UTILITIES

TWO WORKING DAYS
BEFORE YOU DIG

CALL 1-800-362-2764 (TOLL FREE)
 OHIO UTILITIES PROTECTION SERVICE
 NON-MEMBERS
 MUST BE CALLED DIRECTLY

VERTICAL DATUM

ALL VERTICAL CONTROL
 IS BASED OFF
 NAVD 88 (U.S.G.S.) DATUM

(SEE PLAN AND PROFILE FOR BENCH MARK LOCATIONS)

FULTON COUNTY
 DEPARTMENT OF HIGHWAYS

BRIDGE 3B.1 REHABILITATION

BETWEEN CO. ROAD B & TWP. ROAD C
 SWANCREEK TOWNSHIP, FULTON CO., OHIO

2014

PROJECT DESCRIPTION

A PROJECT CONSISTING OF REPLACING AN EXISTING CONCRETE SLAB SUPERSTRUCTURE OVER BLUE CREEK WITH A PRESTRESSED CONCRETE BOX BEAM STRUCTURE ON THE EXISTING, REHABBED FULL-HEIGHT CONCRETE ABUTMENTS.

2013 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

PLAN & PROFILE SCALES:



HORIZONTAL SCALE IN FEET



VERTICAL SCALE IN FEET

CROSS SECTION SCALES:



HORIZONTAL SCALE IN FEET



VERTICAL SCALE IN FEET

INDEX OF SHEETS

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SUPERSTRUCTURE DETAILS	10

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED.

APPROVED
 DATE 6-26-14 PERRY RUPP, FULTON COUNTY COMMISSIONER

APPROVED Bill Rufenacht
 DATE 6-26-14 BILL RUFENACHT, FULTON COUNTY COMMISSIONER

APPROVED Paul Barnaby
 DATE 6/26/2014 PAUL BARNABY, FULTON COUNTY COMMISSIONER

APPROVED Frank T. Onweller
 DATE 6/26/14 FRANK T. ONWELLER, P.E., P.S., FULTON COUNTY ENGINEER

STANDARD CONSTRUCTION DRAWINGS		SUPPLEMENTAL SPECIFICATIONS
DRAWING	DATE	DESC.
DM-4.4 CONSTRUCTION EROSION CONTROL	7-20-12	SS 800
MGS-1.1 MGS GUARDRAIL DETAILS	7-19-13	
MGS-2.1 STANDARD TYPE MGS	7-19-13	
MGS-3.1 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	7-19-13	
MGS-4.1 MGS TYPE A ANCHOR ASSEMBLY	7-19-13	
DS-1-92 DRIP STRIP FOR STRUCTURES	7-18-03	
PSBD-2-07 PRESTRESSED CONCRETE BOX BEAM	1-21-11	
TST-1-99 TWIN STEEL TUBE BRIDGE RAILING	4-18-08	



FULTON COUNTY BRIDGE 3B.1 REHABILITATION OVER BLUE CREEK

FULTON COUNTY ENGINEERING DEPT.
 FRANK T. ONWELLER, P.E., P.S. - COUNTY ENGINEER
 ROD CREAGER, P.E., P.S. - CHIEF DEPUTY ENGINEER
 9120 Co Rd 14, WAUSEON, OHIO, 43567
 PHONE (419)335-3816 FAX (419)335-1091

UTILITIES

LISTED BELOW ARE ALL KNOWN UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

POWER TRI-COUNTY RURAL ELECTRIC COOP, INC. 8945 CO. RD. K2 P.O. BOX 100 MALINTA, OH 43535 PH. 419-256-7006	TELEPHONE WINDSTREAM OHIO, INC. 225 W. COLUMBUS ST. KENTON, OH 43326 PH. 419-674-1124
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THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 10:00 P.M. AND 6:00 A.M. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

BENCH MARK DATUM

ALL ELEVATIONS ARE REFERRED TO A DOUBLE HEADED NAIL WITH TAG IN WEST FACE OF A COTTONWOOD TREE, STA. 62+85.62, 25.8' RT., ELEVATION 764.55, NAVD 88 (U.S.G.S. DATUM). ADDITIONAL SITE BENCH MARKS HAVE BEEN ESTABLISHED AND CAN BE FOUND ON THE RESPECTIVE PLAN AND PROFILE SHEETS. ANY ADDITIONAL BENCH MARKS THAT MAY BE NEEDED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THIS SHALL BE PAID FOR UNDER ITEM 623 CONSTRUCTION LAYOUT AND STAKING.

CLEARING AND GRUBBING

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING ALL DEBRIS TO THE ROAD RIGHT OF WAY LINE. THE EXISTING SHOULDERS AND SIDE SLOPES SHALL BE SCALPED AND CLEARED OF ANY AND ALL DEBRIS PRIOR TO EMBANKMENT CONSTRUCTION.

AT NO TIME SHALL ANY TREE BE REMOVED UNLESS SPECIFICALLY IDENTIFIED FOR REMOVAL BY THE ENGINEER.

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

RELOCATION OR REMOVAL OF EXISTING TRAFFIC CONTROL DEVICES

ANY EXISTING TRAFFIC CONTROL SIGNS OR DELINEATORS WHICH CONFLICT WITH THE PROPOSED CONSTRUCTION OPERATIONS WILL BE RELOCATED OR REMOVED PRIOR TO CONSTRUCTION BY THE FULTON COUNTY HIGHWAY DEPARTMENT. TO ALLOW FOR PROPER SCHEDULING OF THE WORK, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO GIVE FULTON COUNTY AT LEAST A THREE WORKING DAY NOTICE OF THEIR INTENT TO BEGIN WORK IN THOSE AREAS WHERE TRAFFIC CONTROL DEVICES MUST BE RELOCATED. FAILURE TO PROVIDE THIS NOTICE WILL RESULT IN THE REMOVAL AND RE-ERECTION OF THE TRAFFIC CONTROL SIGNS BY THE CONTRACTOR AT HIS EXPENSE TO THE SATISFACTION OF THE ENGINEER.

ITEM 203 EXCAVATION

ALL EXISTING PAVEMENT AND BASE REMOVAL SHALL BE INCLUDED IN THE QUANTITY AND PAY ITEM 203, EXCAVATION.

ITEM 203 EMBANKMENT

PORTIONS OF THE EXISTING CHANNEL OUTSIDE OF THE ROADBED, SHALL BE FILLED AND SLOPED TO GRADE, AS CALLED FOR ON THE PLANS. THE CONTRACTOR SHALL USE SUITABLE MATERIALS, TO THE EXTENT AVAILABLE, FOR CHANNEL EMBANKMENTS. WHEN BORROW IS SPECIFIED IN THE PLANS AND TO BE PROVIDED BY THE CONTRACTOR, ALL MATERIAL SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.

NO PROVISIONS OF THE SPECIFICATIONS SHALL BE WAIVED FOR EMBANKMENT WHICH SUPPORT ANY PORTION OF THE NEW ROADBED OR STRUCTURAL MEMBERS.

UPON CLEARING THE EXISTING DITCH OF ALL VEGETATION, THE UNSUITABLE MATERIAL FROM THE DITCH BOTTOM SHALL BE REMOVED. THIS MATERIAL MAY BE USED FOR EMBANKMENT WITHIN THE PROJECT, AS APPROVED BY THE ENGINEER.

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT.

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203, EMBANKMENT.

ITEM 304 AGGREGATE BASE

MATERIALS FURNISHED FOR THIS ITEM SHALL EXCLUDE ALL SLAG, LIMESTONE ONLY.

ITEM 617 ~ RECONDITIONING OF SHOULDERS

APPROVED MATERIAL FOR THIS ITEM SHALL BE IN ACCORDANCE WITH ODOT ITEM 411 AND SHALL EXCLUDE ALL SLAG.

ITEM 407 TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT, AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.10 GALLONS PER SQUARE YARD FOR THE ESTIMATING PURPOSES ONLY.

SEEDING AND MULCHING

THE SEEDING AND MULCHING IS TO BE PERFORMED BY FULTON COUNTY. THE CONTRACTOR SHALL KEEP THE AMOUNT OF DISTURBED SOIL TO A MINIMUM. IT IS THE INTENT OF FULTON COUNTY TO PERFORM THE SEEDING AND MULCHING ONCE AN AREA HAS REACHED FINAL GRADE. THIS WILL BE COORDINATED WITH THE CONTRACTOR SO THAT THE COUNTY DOES NOT DISTURB THE WORK OF THE CONTRACTOR.

ITEM 659 SEEDING AND MULCHING SITE PREPARATION

ITEM 659.10 AND 659.11 SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

UNDER ITEM 659.10, NO COMMERCIAL FERTILIZER, LIME, OR OTHER SOIL AMENDMENTS ARE REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE TO RETURN THE LANDOWNERS' FRONTAGE TO ITS ORIGINAL CONDITION OR BETTER.

UNDER ITEM 659.11, THE CONTRACTOR WILL BE RESPONSIBLE TO FURNISH 4" OF TOP SOIL ON ALL FRONTAGE THAT IS MAINTAINED AS LAWN. THE REMAINDER OF THE PROJECT SHALL HAVE TOPSOIL PLACED, ENOUGH SO THAT IT IS SUITABLE FOR SEEDING. SUITABLE MATERIAL FROM THE PROJECT CAN BE USED FOR TOPSOIL, OTHERWISE THE CONTRACTOR WILL BE RESPONSIBLE TO HAUL IN SUITABLE MATERIAL PRIOR TO SEEDING.

PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN ITEM 203, EMBANKMENT.

EROSION CONTROL

ITEM 601 IS PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE THIS ITEM. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATION AND QUANTITIES FOR THIS ITEM WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

ITEM 614 MAINTAINING TRAFFIC

A) METHODS OF MAINTAINING TRAFFIC SHALL BE IN ACCORDANCE WITH ODOT ITEM 614 AND THE LATEST EDITION OF THE "OHIO MANUAL UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD).

B) SHOULD ADDITIONAL SIGNS AND/OR BARRICADES BE REQUIRED TO PROVIDE CLARITY TO THE TRAFFIC CONTROL SCHEMES SET FORTH IN THE PLANS OR THE OMUTCD OR SHOULD ANY SIGNS AND/OR BARRICADES REQUIRE RELOCATION TO PROVIDE THIS CLARITY AS DIRECTED BY THE ENGINEER, THIS WORK SHALL BE INCLUDED IN ITEM 614, MAINTAINING TRAFFIC.

C) THE CONTRACTOR SHALL NOTIFY THE FULTON COUNTY ENGINEER IN WRITING SEVEN (7) WORKING DAYS PRIOR TO THE CLOSING OF THE ROAD UNDER CONSTRUCTION.

D) THE CONTRACTOR SHALL FOLLOW THE TRAFFIC MAINTENANCE DIAGRAM AS DETAILED ON THE SPECIFIED SHEET BEING TRAFFIC MAINTENANCE (SHEET 4 OF 11).

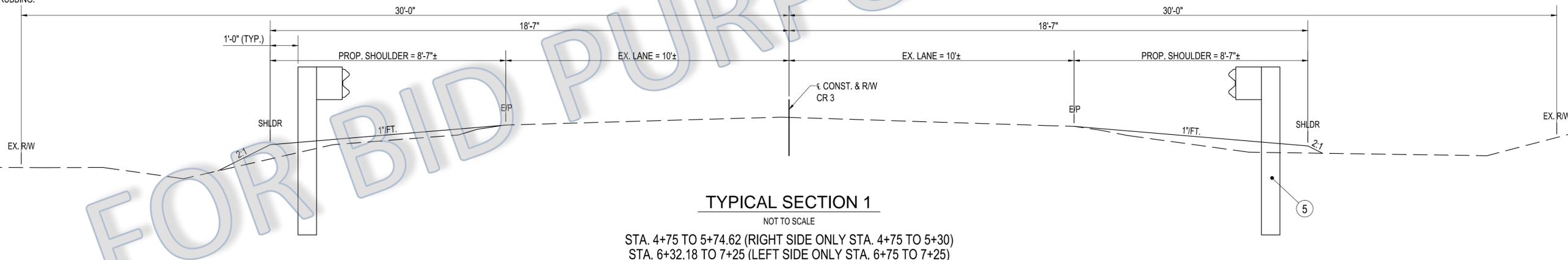
E) THE CONTRACTOR SHALL PLACE CONSTRUCTION DRUMS ALONG THE EDGE(S) OF PAVEMENT THROUGHOUT THE DURATION OF CONSTRUCTION IN PERTINENT AREAS.

F) THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING AND KEEPING INFORMED, THE FULTON COUNTY SHERIFF AND ALL AFFECTED SCHOOL DISTRICTS DURING THE ENTIRE PROJECT.

G) PAYMENT FOR PROVIDING THE ABOVE METHOD OF TRAFFIC CONTROL SHALL BE INCLUDED IN THE ITEM 614, MAINTAINING TRAFFIC.

ITEM 202 GUARDRAIL REMOVED FOR STORAGE

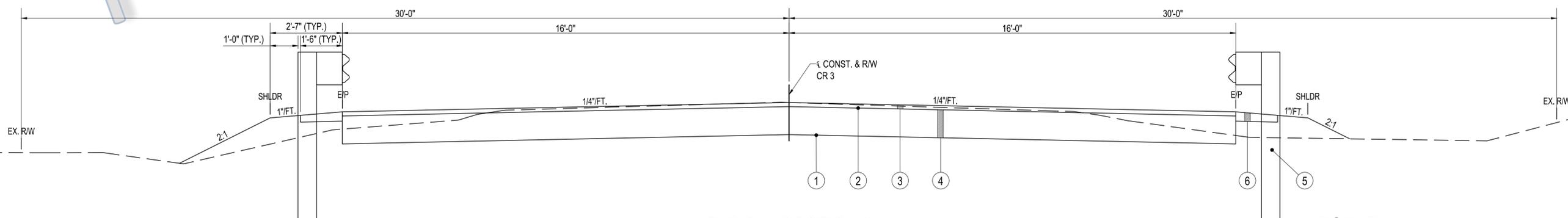
ALL EXISTING GUARDRAIL WILL BE REMOVED PRIOR TO CONSTRUCTION BY FULTON COUNTY. TO ALLOW FOR PROPER SCHEDULING OF THE WORK, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO GIVE FULTON COUNTY AT LEAST A THREE WORKING DAY NOTICE OF THEIR INTENT TO BEGIN WORK IN THOSE AREAS WHERE EXISTING GUARDRAIL MUST BE REMOVED. FAILURE TO PROVIDE THIS NOTICE WILL RESULT IN THE REMOVAL AND STORAGE OF THE GUARDRAIL BY THE CONTRACTOR AT HIS EXPENSE TO THE SATISFACTION OF THE ENGINEER.



TYPICAL SECTION 1

NOT TO SCALE

STA. 4+75 TO 5+74.62 (RIGHT SIDE ONLY STA. 4+75 TO 5+30)
STA. 6+32.18 TO 7+25 (LEFT SIDE ONLY STA. 6+75 TO 7+25)



TYPICAL SECTION 2

NOT TO SCALE

STA. 5+74.62 TO 5+89.62
STA. 6+17.18 TO 6+32.18

LEGEND

- ① ITEM 204 SUBGRADE COMPACTION
- ② ITEM 407 TACK COAT (0.10 GAL./S.Y.)
- ③ ITEM 448 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22
- ④ ITEM 526 REINFORCED CONCRETE APPROACH SLAB (T=12")
- ⑤ ITEM 606 GUARDRAIL, TYPE MGS
- ⑥ ITEM 617 RECONDITIONING OF SHOULDERS (1.5" x 4"), APPROVED MATERIAL 411

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

- AS-1-81 REVISED 7-19-02
- DS-1-92 REVISED 7-18-03
- PSBD-2-07 REVISED 1-21-11
- TST-1-99 REVISED 4-18-08

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2012, AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

DESIGN LOADING: HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ. FT.

DESIGN DATA

CONCRETE CLASS QC 1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 7 KSI
COMPRESSIVE STRENGTH (RELEASE) - 5 KSI

PRESTRESSING STRAND:
AREA = 0.167 SQ. IN.
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD

MEMBRANE WATERPROOFING
ASPHALT CONCRETE OVERLAY
STEEL DRIP STRIP
SEALING OF CONCRETE SURFACES

SURVEY DISC ON STRUCTURE

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST ONE (1) WEEK IN ADVANCE OF POURING THE CONCRETE FOR COMPLETION OF THE WINGWALL. THE ENGINEER WILL PROVIDE THE CONTRACTOR ONE (1) SURVEY DISC FOR THE STRUCTURE WHICH THE CONTRACTOR WILL PLACE IN THE SURFACE OF THE FRESH CONCRETE. THE LOCATION OF THE DISC SHALL BE ON THE WINGWALL AND ON A FLAT, HORIZONTAL SURFACE BEYOND THE EDGE OF THE DECK AND RAILING. THE BENCHMARK SHALL BE ACCESSIBLE TO A SURVEYOR'S ROD WITHOUT ANY OBSTRUCTIONS. COST OF THIS WORK SHALL BE INCLUDED WITH ITEM 511.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. INSTALL DOWEL BARS AS SPECIFIED. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACES AND ANY EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

BEARING PAD SHIMS

PLACE 1/2" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 6 INCHES BY 12 INCHES, UNDER THE ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. FURNISH TWO SHIMS PER BEAM. THE COUNTY WILL MEASURE THIS ITEM BY THE TOTAL NUMBER SUPPLIED. THE COUNTY WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - 1/2" PREFORMED BEARING PADS. ANY UNUSED SHIMS WILL BECOME THE PROPERTY OF THE COUNTY.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE 203 GRANULAR MATERIAL PLACED IN LIFTS NOT TO EXCEED A THICKNESS OF MORE THAN 6 INCHES.

ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

A CONCRETE SEALER SHALL BE SHOP APPLIED TO THE SURFACES INDICATED IN THESE PLANS AND AS DESCRIBED BELOW:

THE EXPOSED SURFACES OF THE ABUTMENT DOWN TO THE GROUND LINE, EXCLUDING THE BEARING SEATS;

THE EXPOSED SURFACES OF ALL WINGWALLS INCLUDING TOP AND BOTH SIDES AND END AREAS DOWN TO THE GROUND LINE; AND

THE PRESTRESSED BOX BEAM EXTERIOR FACE PLUS 6 INCHES UNDERDECK AND INTERIOR BEAM FACES FROM BOTTOM OF KEY TO BOTTOM OF BEAM PLUS 6 INCHES UNDERDECK, EACH SIDE OF BEAM.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27.75 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

GENERAL SUMMARY					
SHEET NO.	ITEM	GRAND TOTAL	UNIT	DESCRIPTION	ORIGIN
				ROADWAY	
	201	1	LUMP	CLEARING AND GRUBBING	PLANS
3	202	84	SQ YD	PAVEMENT REMOVED FOR BUTT JOINTS	TABLE P
	203	22	CU YD	EXCAVATION	PLANS
	203	15	CU YD	EMBANKMENT	PLANS
3	204	107	SQ YD	SUBGRADE COMPACTION	TABLE P
3	606	62.5	FT	GUARDRAIL, TYPE MGS	TABLE G
3	606	2	EACH	ANCHOR ASSEMBLY, MGS TYPE A	TABLE G
3	606	2	EACH	ANCHOR ASSEMBLY, MGS TYPE E	TABLE G
3	606	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	TABLE G
				EROSION CONTROL	
5	601	42	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	PLANS
				PAVEMENT	
3	407	29	GALLON	TACK COAT	TABLE P
3	448	16	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	TABLE P
3	617	2	CU YD	RECONDITIONING OF SHOULDERS	TABLE P
				FOR STRUCTURE GENERAL SUMMARY, SEE SHEET 6	
				INCIDENTALS	
	103	1	LUMP	PREMIUM FOR CONTRACT PERFORMANCE BOND AND MAINTENANCE GUARANTEE BOND	
	614	1	LUMP	MAINTAINING TRAFFIC	
	623	1	LUMP	CONSTRUCTION LAYOUT AND STAKING	

PAVEMENT TABLE "P"													
REFERENCE NO.	SHEET NO.	STATION		LENGTH	EXISTING PAVEMENT WIDTH	PROPOSED PAVEMENT WIDTH	PAVEMENT REMOVAL FOR BUTT JOINTS	WEARING COURSE REMOVED	SUBGRADE COMPACTION	TACK COAT (0.1 GAL./S.Y.)	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22, (1.75")	REINFORCED CONCRETE APPROACH SLAB (T=12")	RECONDITIONING OF SHOULDERS
		FROM	TO										
		L.F.	FEET										
P-1	5	5+55.00	5+74.62	19.6	20.0	20.0	43.6			4.4			2.1
P-2	5	5+74.62	5+89.62	15.0	20.0	32.0			53.3	5.3		53.3	0.6
P-3	5	5+89.62	6+17.18	27.6	24.0	32.0		76.2		9.8			
P-4	5	6+17.18	6+32.18	15.0	20.0	32.0			53.3	5.3		53.3	0.6
P-5	5	6+32.18	6+50.00	17.8	20.0	20.0	39.6			4.0		1.9	
TOTALS TO GENERAL SUMMARY							83.2	76.2	106.7	28.8	15.6	106.7	1.1

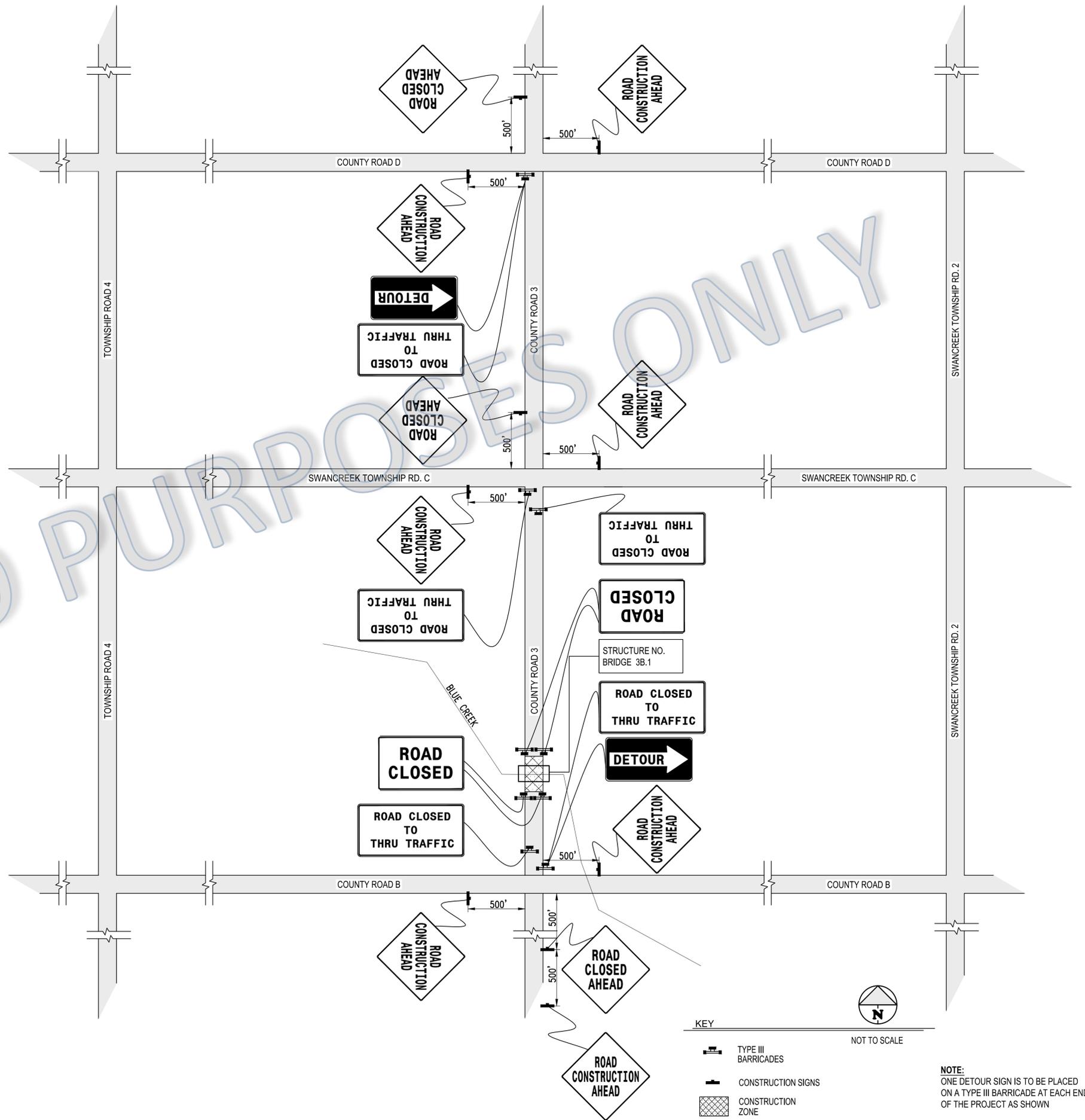
GENERAL SUMMARY, BRIDGE 3B.1					
SHEET NO.	ITEM	GRAND TOTAL	UNIT	DESCRIPTION	ORIGIN
6	202	1	LUMP	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	PLAN
3	202	77	SQ YD	WEARING COURSE REMOVED	TABLE P
6	503	75	CU YD	UNCLASSIFIED EXCAVATION	PLAN
8	509	4,449	POUND	EPOXY COATED REINFORCING STEEL	TABLE RS
8	510	134	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	PLAN
7, 8	511	19	CU YD	CLASS QC1 CONCRETE, SUBSTRUCTURE	PLAN
3, 7, 8, 9	512	148	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	PLAN
7, 9	512	112	SQ YD	TYPE 3 WATERPROOFING	PLAN
9, 10	515	8	EACH	PRESTRESSED CONCRETE NON-COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, B21-48	PLAN
7	516	131	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	PLAN
7	516	86	FT	2" DEEP JOINT SEALER, AS PER PLAN	PLAN
7	516	86	FT	SPECIAL - SAWING AND SEALING BITUMINOUS CONCRETE JOINTS	PLAN
3	516	16	EACH	1/8" PREFORMED BEARING PAD	PLAN
10	516	32	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (6" X 12" X 1.00" THICK)	PLAN
9	517	62.46	FT	RAILING (TWIN STEEL TUBE)	TABLE G
7	518	36	CU YD	POROUS BACKFILL WITH FILTER FABRIC	PLAN
9	518	60	FT	SPECIAL - STEEL DRIP STRIP	PLAN
7	526	107	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=12")	TABLE P

GUARDRAIL TABLE "G"											
REFERENCE NUMBER	SHEET NO.	STATION		OUT TO FACE	SIDE	RAILING (TWIN STEEL TUBE)	606				
		FROM	TO				GUARDRAIL, TYPE MGS	ANCHOR ASSEMBLY, MGS TYPE A	ANCHOR ASSEMBLY, MGS TYPE E	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
		FT	FT				FT	EACH	EACH	EACH	
G-1	5	4+85.6	5+73.06	16.0	RT.			12.50			
G-2	5	5+32.33	6+02.52	16.0	LT.			18.75	1	1	1
G-3	5	5+73.06	6+04.29	16.0	RT.			31.23			
G-4	5	6+02.52	6+33.75	16.0	LT.			31.23			
G-5	5	6+04.29	6+74.47	16.0	RT.			18.75	1		1
G-6	5	6+33.75	7+21.21	16.0	LT.			12.50		1	1
TOTALS TO GENERAL SUMMARY						62.46	62.50		2	2	4



TYPICAL PORTABLE/MOVABLE
TYPE III BARRICADE

NOT TO SCALE



KEY

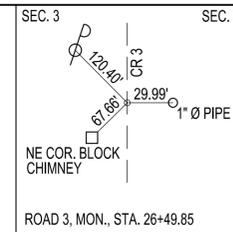
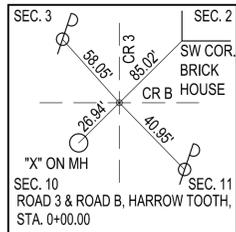
-  TYPE III BARRICADES
-  CONSTRUCTION SIGNS
-  CONSTRUCTION ZONE



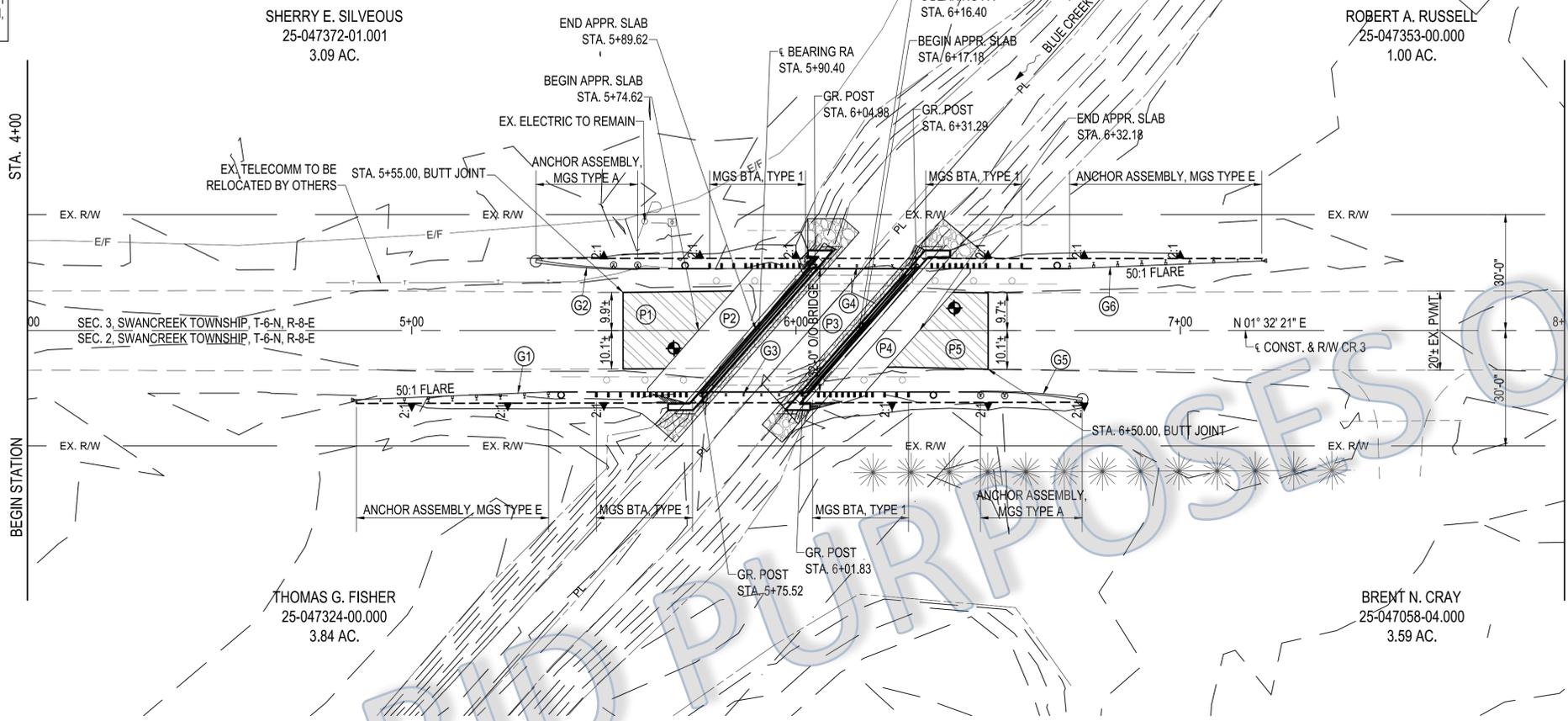
NOT TO SCALE

NOTE:
ONE DETOUR SIGN IS TO BE PLACED ON A TYPE III BARRICADE AT EACH END OF THE PROJECT AS SHOWN

File: G:\Projects\Bridges\3B.1\dwg\Civil_3D\3B.1P001.dwg - Jun 25, 2014 - 2:48pm - Fulton County Engineer's Office



BLUE CREEK HYDRAULIC DATA AT PROPOSED SITE
 DRAINAGE AREA, A = 4.74 SQ. MI.
 MAIN CHANNEL SLOPE, SL = 4.08 FT./ MI.
 DESIGN Q - 25 YEAR = 319 CFS
 100 YEAR = 387 CFS
 25 YEAR W.S.E. = 669.93, VELOCITY = 1.99 FT./ SEC.
 100 YEAR W.S.E. = 670.39, VELOCITY = 2.24 FT./ SEC.



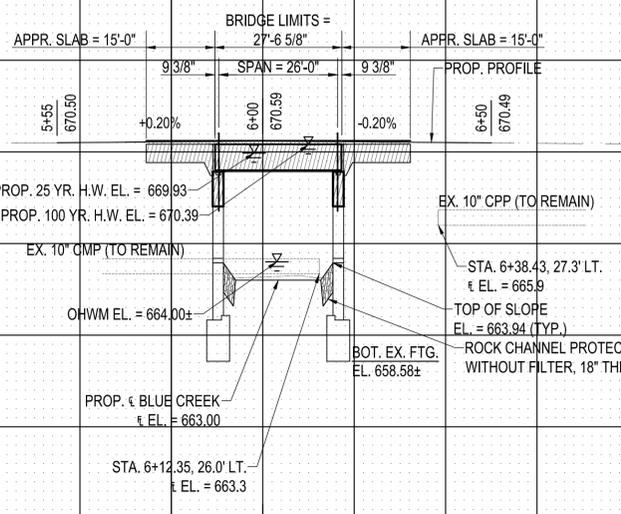
EXISTING STRUCTURE
 TYPE: SINGLE SPAN REINFORCED CONCRETE SLAB ON GRAVITY TYPE CONCRETE ABUTMENTS
 SPAN: 26'-3" C/C BEARING
 ROADWAY WIDTH: 24'-0" F/F CONCRETE CURB
 LOADING: HS15
 SKEW: 41° 20'
 APPROACH SLABS: NONE
 ALIGNMENT: TANGENT
 STRUCTURAL FILE NUMBER: 2632314
 DATE BUILT: 1939
 DISPOSITION: SATISFACTORY
 LOAD CAPACITY: 150% LEGAL

PROPOSED STRUCTURE
 TYPE: SINGLE SPAN PRECAST PRESTRESSED CONCRETE BOX BEAM SUPERSTRUCTURE WITH ASPHALT CONCRETE WEARING SURFACE ON EXISTING GRAVITY TYPE ABUTMENTS
 SPAN: 26'-0" C/C BEARING
 ROADWAY WIDTH: 32'-0" F/F GUARDRAIL
 SKEW: 41° 20'
 DESIGN LOAD: HL-93
 APPROACH SLAB: L=15' (AS-1-81)
 ALIGNMENT: TANGENT
 DESIGN ADT: 2372 (2034)
 CURRENT ADT: 1540 (2007)
 CROSS SLOPE: 1/4" / FT.
 STRUCTURE FILE NUMBER: 2632314
 COORDINATES: LATITUDE N 41° 30' 12" LONGITUDE W 83° 55' 20"

NOTES AND LEGEND
 - SOIL BORING LOCATION
 - LIMITS OF PAVEMENT BUTT JOINT

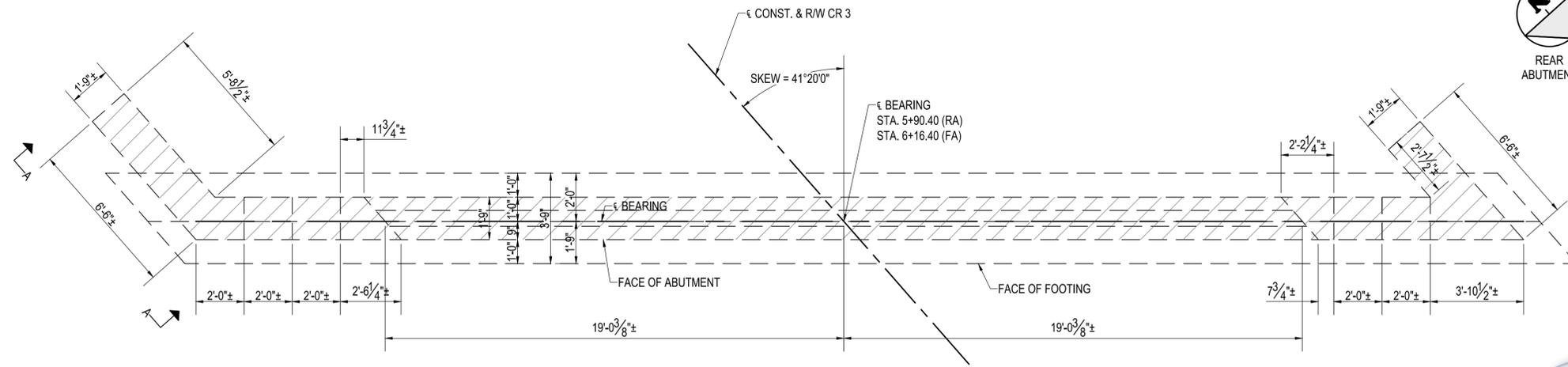
BENCHMARK DESCRIPTIONS
 SBM1 - DOUBLE HEADED NAIL WITH TAG IN NORTH FACE PPOLE STA. 2+87.38, 29.3' LT. - ELEV. 672.88
 SBM2 - DOUBLE HEADED NAIL WITH TAG IN WEST FACE PPOLE STA. 8+15.27, 31.5' RT. - ELEV. 672.53

STATION	EXIST. CL. ELEVATIONS	PROP. CL. ELEVATIONS
4+00	670.22	685
4+10	670.25	685
4+20	670.28	685
4+30	670.32	685
4+40	670.35	685
4+50	670.38	685
4+60	670.42	685
4+70	670.47	685
4+80	670.51	685
4+90	670.56	685
5+00	670.55	685
5+10	670.60	685
5+20	670.59	685
5+30	670.56	685
5+40	670.55	685
5+50	670.51	685
5+60	670.51	685
5+70	670.47	685
5+80	670.42	685
5+90	670.38	685
6+00	670.59	685
6+10	670.79	685
6+20	670.100	685
6+30	671.20	685
6+40	671.41	685
6+50	670.49	675
6+60	670.49	675
6+70	670.49	675
6+80	670.49	675
6+90	670.49	675
7+00	670.49	675
7+10	670.49	675
7+20	670.49	675
7+30	670.49	675
7+40	670.49	675
7+50	670.49	675
7+60	670.49	675
7+70	670.49	675
7+80	670.49	675
7+90	670.49	675
8+00	670.49	675
8+10	670.49	675
8+20	670.49	675
8+30	670.49	675
8+40	670.49	675
8+50	670.49	675
8+60	670.49	675
8+70	670.49	675
8+80	670.49	675
8+90	670.49	675
9+00	670.49	675

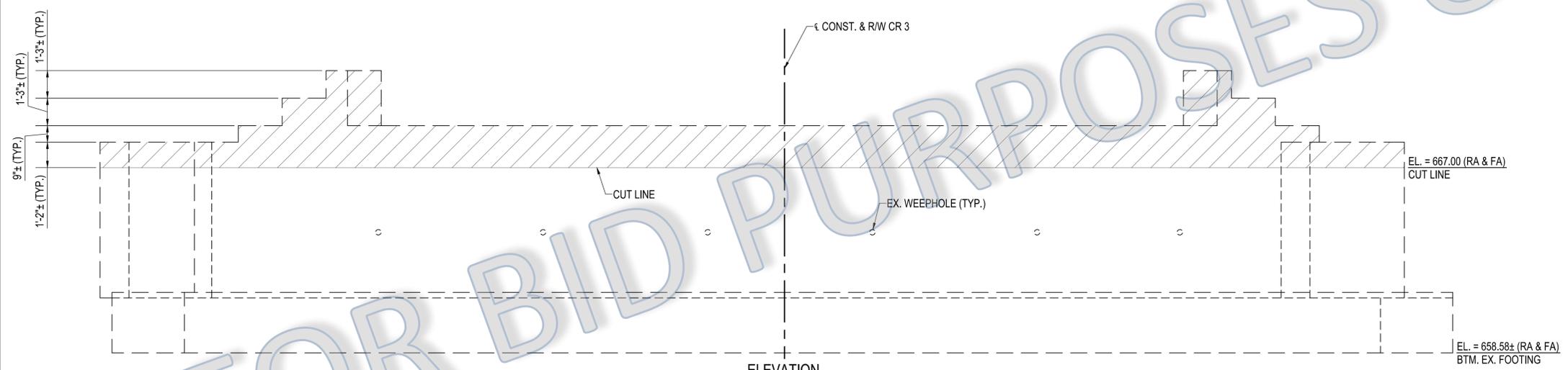


PLAN AND PROFILE
 FULTON COUNTY BRIDGE 3B.1 REHABILITATION OVER BLUE CREEK

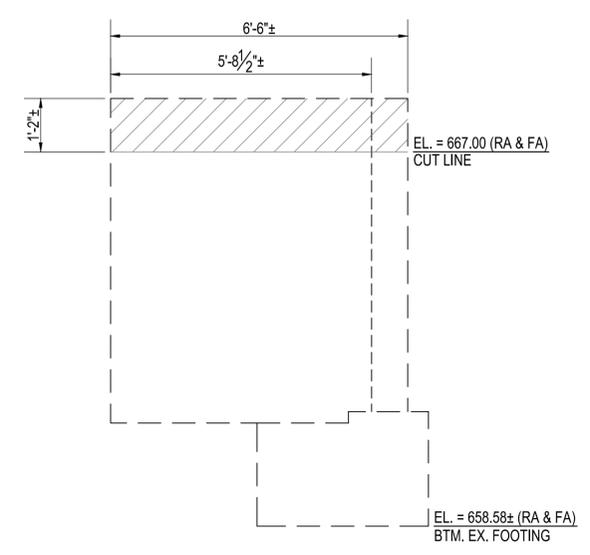
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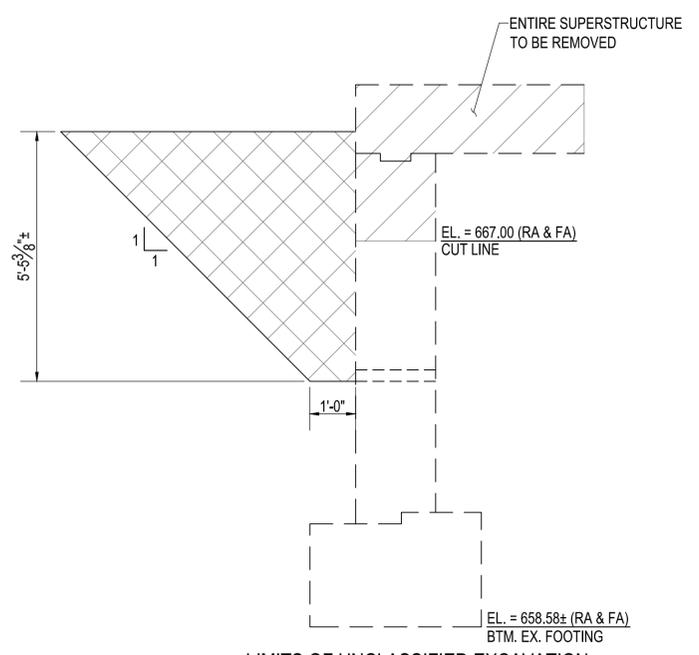
PLAN
(REAR ABUTMENT SHOWN, FORWARD SIMILAR OPPOSITE HAND)



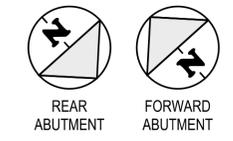
ELEVATION
(REAR ABUTMENT SHOWN, FORWARD SIMILAR OPPOSITE HAND)



VIEW A-A
(LEFT WINGWALL SHOWN, RIGHT SIMILAR)



LIMITS OF UNCLASSIFIED EXCAVATION

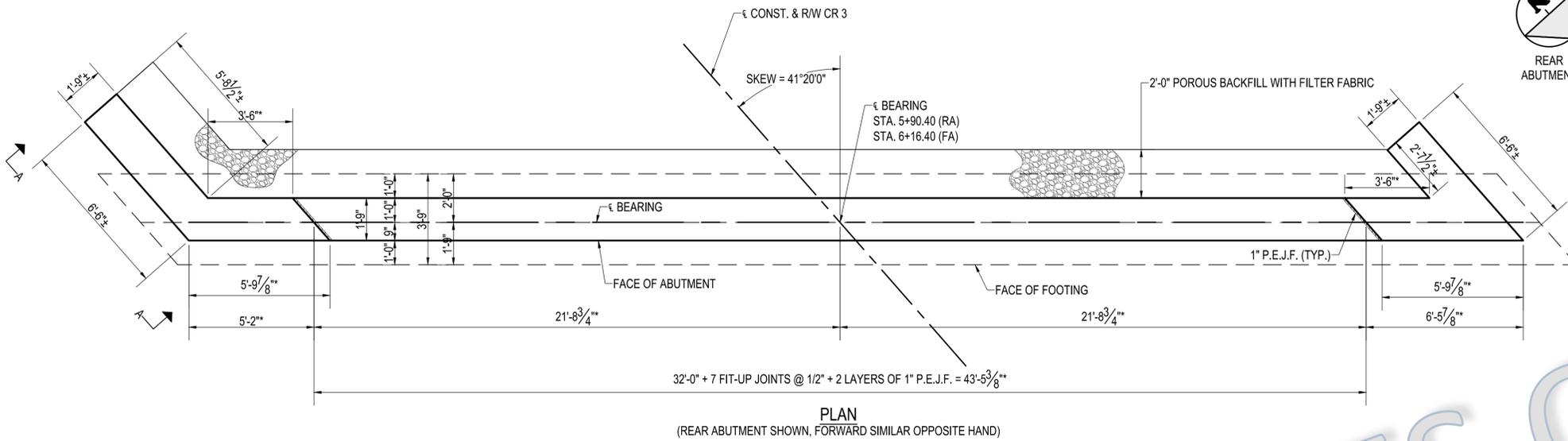


LEGEND:
 - RA = REAR ABUTMENT
 - FA = FORWARD ABUTMENT
 [Hatched Box] = REMOVAL AREA
 [Cross-hatched Box] = LIMITS OF UNCLASSIFIED EXCAVATION

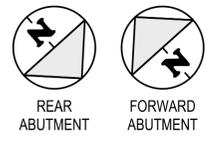
Drawn By: BCR	Checked By: FTO
Date: 6/25/2014	Revised: N/A

REMOVAL DETAILS
 FULTON COUNTY BRIDGE 3B.1 REHABILITATION OVER BLUE CREEK

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PLAN
(REAR ABUTMENT SHOWN, FORWARD SIMILAR OPPOSITE HAND)

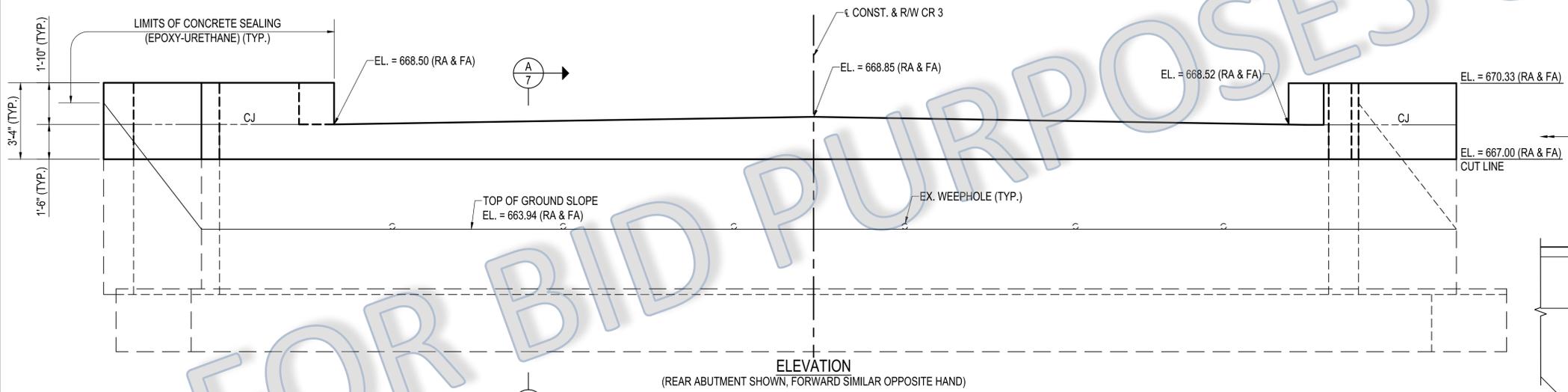


NOTES:

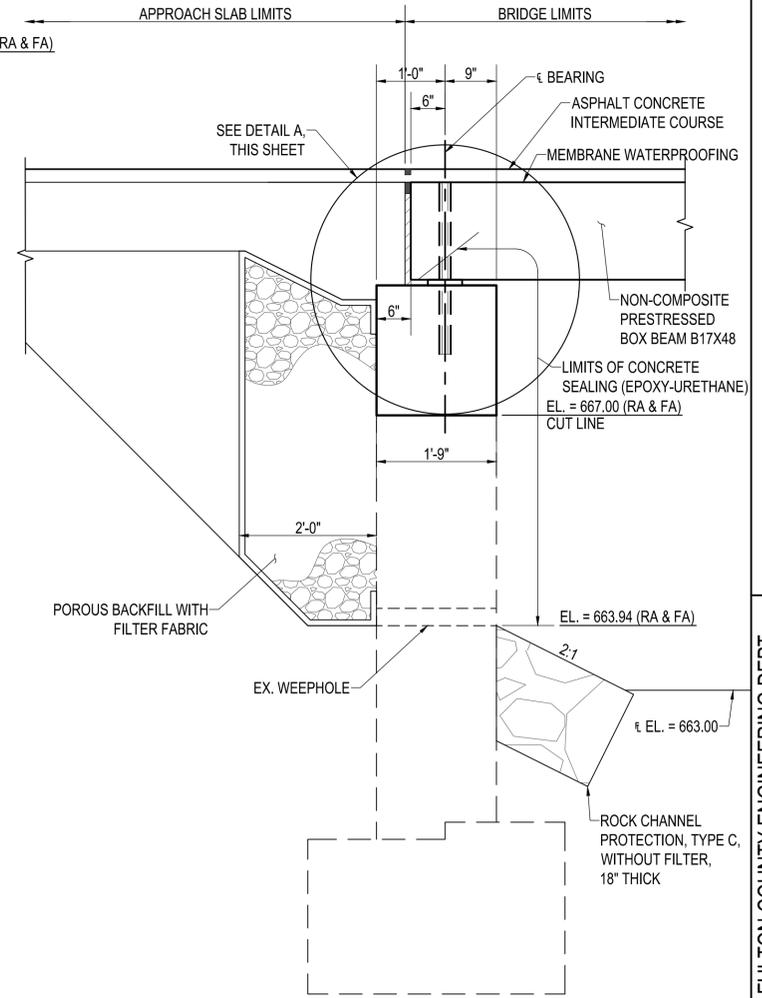
- POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK, SHALL EXTEND UP TO THE BOTTOM OF THE APPROACH SLAB, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
- FIXED ANCHOR DOWEL PROCEDURE: PLACE PREFORMED EXPANSION JOINT FILLER, DRILL AND CLEAN DOWEL HOLE. PLACE NON-SHRINK GROUT AS PER STD. DWG. PSBD-2-07, DOWEL BAR, AND P.E.J.F. PLUG. INCLUDE WITH ITEM 515 FOR PAYMENT.
- ABUTMENT CONCRETE: DO NOT PLACE THE ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT UNTIL PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN ERECTED.
- SEALING OF BEAM SEATS: DO NOT APPLY SEALER TO THE CONCRETE SURFACE UNDER THE PROPOSED BEARING LOCATIONS.
- * DIMENSION VARIES DUE TO BEAM FIT-UP. SEE SHEET 9 OF 10.

LEGEND:

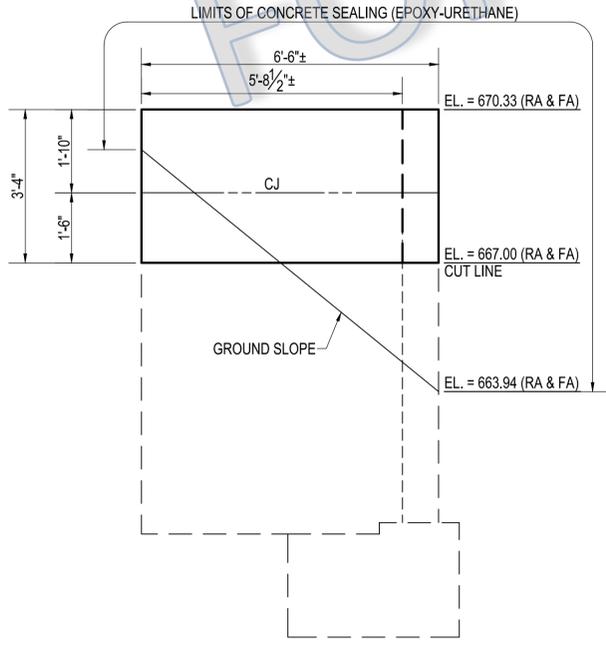
- RA = REAR ABUTMENT
- FA = FORWARD ABUTMENT
- P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
- CJ = CONSTRUCTION JOINT



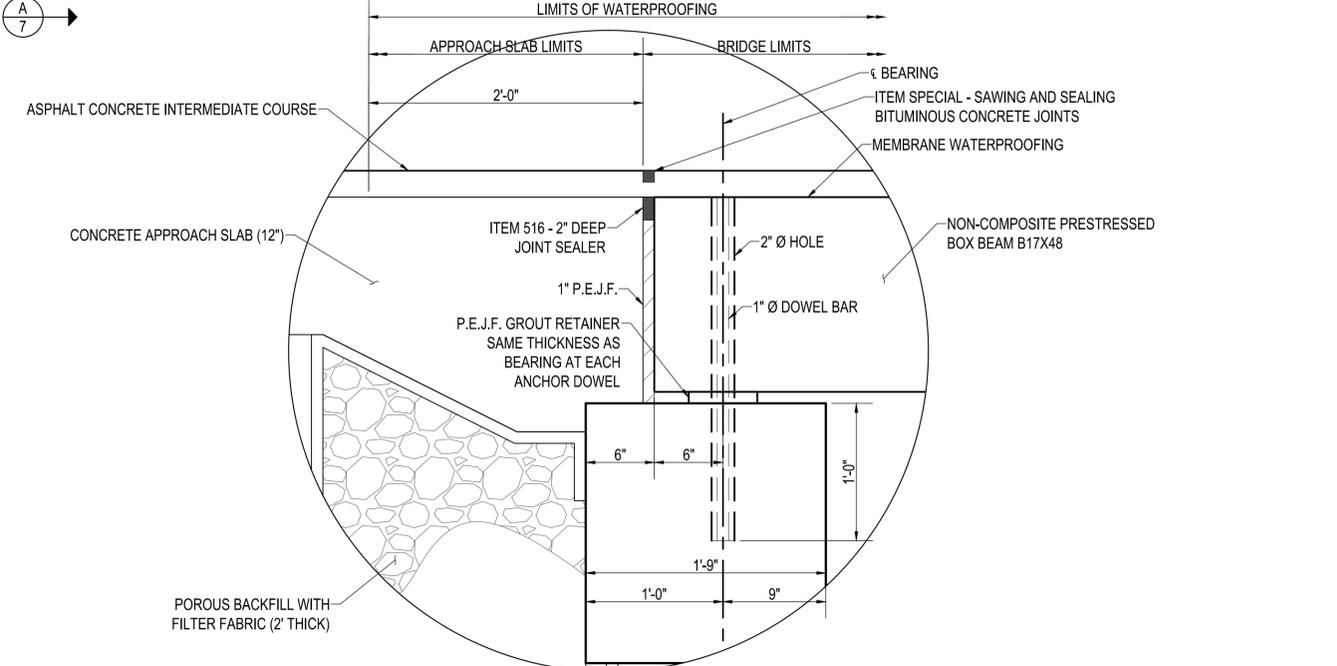
ELEVATION
(REAR ABUTMENT SHOWN, FORWARD SIMILAR OPPOSITE HAND)



SECTION A-A



VIEW A-A
(LEFT WINGWALL SHOWN, RIGHT SIMILAR)



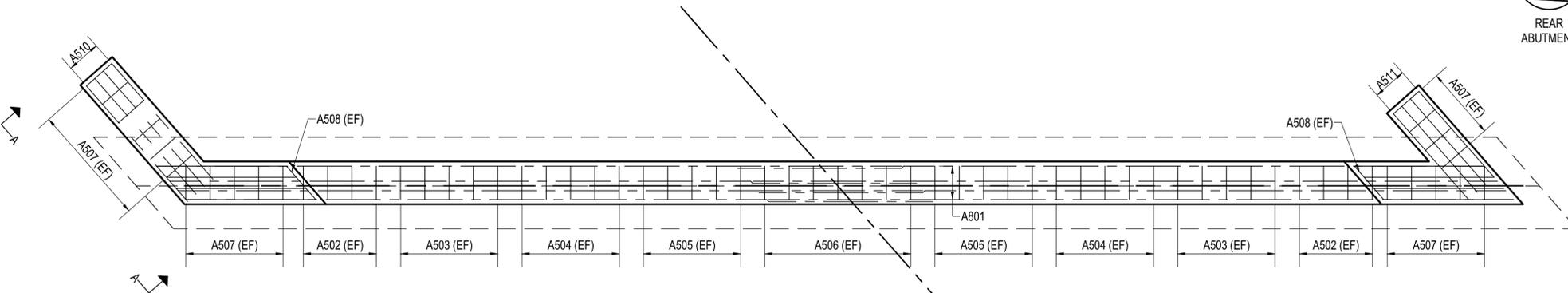
DETAIL A

ABUTMENT DETAILS

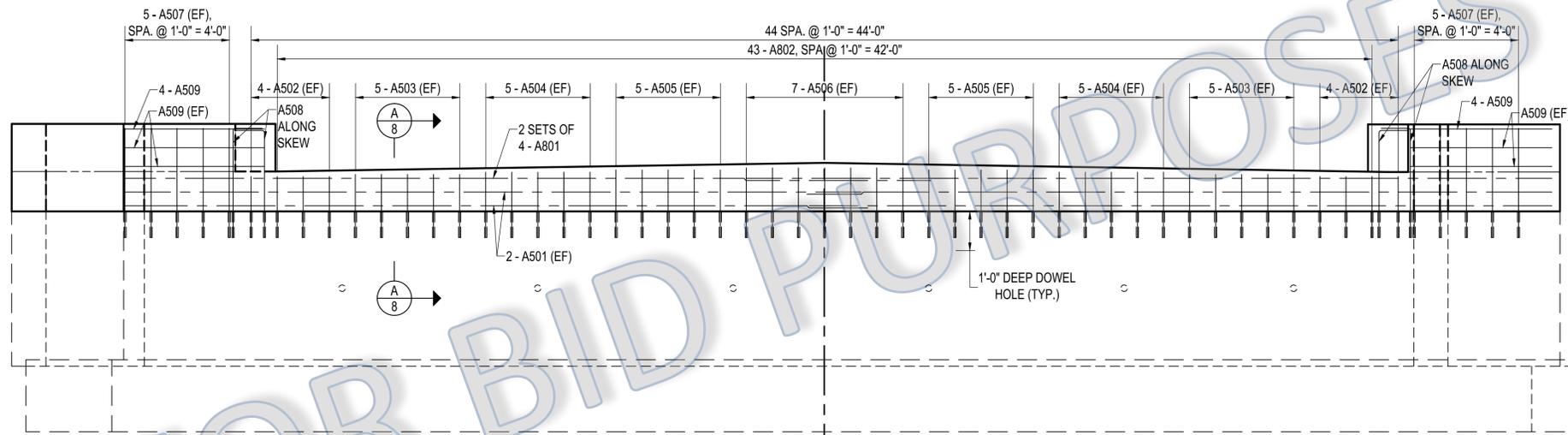
FULTON COUNTY BRIDGE 3B.1 REHABILITATION OVER BLUE CREEK

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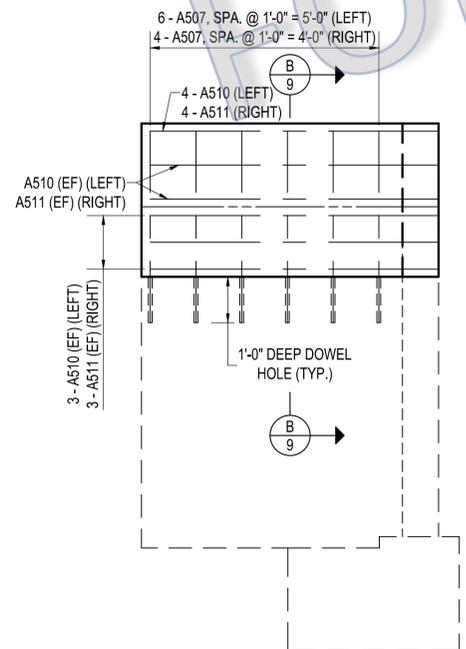
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Checked By: FTO
Date: 6/25/2014
Revised: N/A



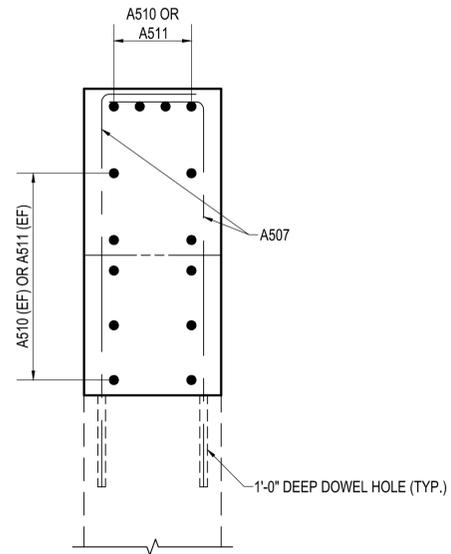
ELEVATION
(REAR ABUTMENT SHOWN, FORWARD SIMILAR OPPOSITE HAND)



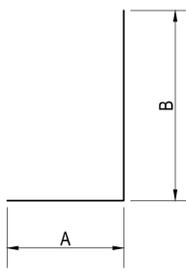
ELEVATION
(REAR ABUTMENT SHOWN, FORWARD SIMILAR OPPOSITE HAND)



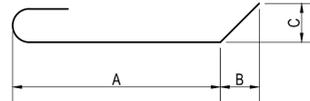
VIEW A-A
(LEFT WINGWALL SHOWN, RIGHT WINGWALL SIMILAR)



SECTION B-B



TYPE 1



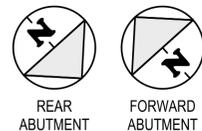
TYPE 18

BENDING DIAGRAMS

REINFORCING STEEL TABLE "RS"												
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS					
	REAR	FORWARD	TOTAL				A	B	C	D	E	R
A501	4	4	8	28' - 6"	238	STR.						
A502	16	16	32	3' - 5 1/2"	115	1	1' - 3"	2' - 4"				
A503	20	20	40	3' - 6 1/2"	148	1	1' - 3"	2' - 5"				
A504	20	20	40	3' - 7 1/2"	151	1	1' - 3"	2' - 6"				
A505	20	20	40	3' - 8 1/2"	155	1	1' - 3"	2' - 7"				
A506	14	14	28	3' - 9 1/2"	111	1	1' - 3"	2' - 8"				
A507	40	40	80	5' - 3 1/2"	442	1	1' - 3"	4' - 2"				
A508	4	4	8	5' - 9 1/2"	48	1	1' - 9"	4' - 2"				
A509	16	16	32	5' - 4"	178	STR.						
A510	14	14	28	6' - 3"	183	STR.						
A511	14	14	28	4' - 8"	136	STR.						
A801	8	8	16	30' - 11"	1321	STR.						
A802	43	43	86	5' - 4"	1224	18	3' - 0"	1' - 0"	1' - 0"			
				TOTAL WEIGHT (LBS.) =	4449							

REINFORCING NOTES:

- BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STR" INDICATES STRAIGHT BAR.
- ALL REINFORCING STEEL TO BE EPOXY COATED.
- BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST TWO DIGITS INDICATE THE BAR SIZE NUMBER. EXAMPLE A501 IS A NO. 5 SIZE BAR.

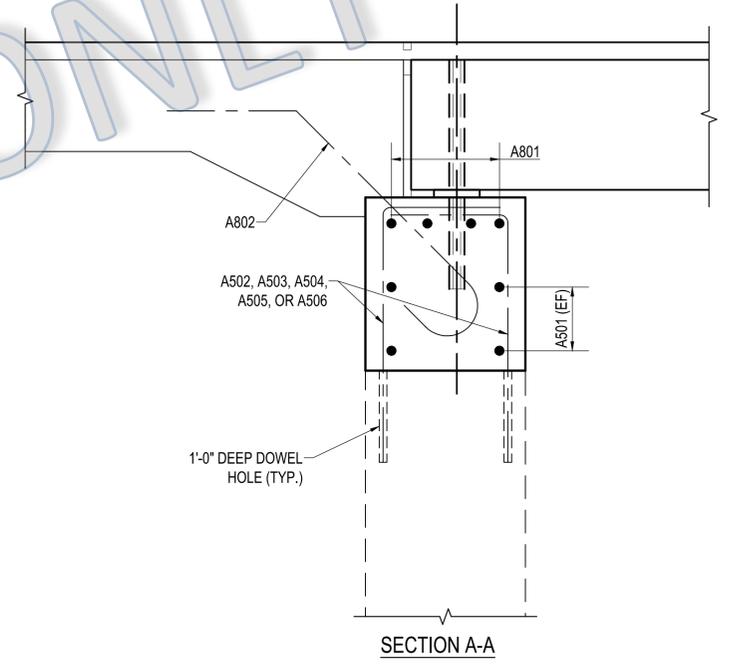


NOTES:

- BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING DEVICES.
- REINFORCING SPLICE LENGTHS SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
#5 BARS = 2'-5"
#8 BARS = 7' - 3"
- MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 2" UNLESS OTHERWISE NOTED.

LEGEND:

- RA = REAR ABUTMENT
- FA = FORWARD ABUTMENT
- EF = EACH FACE



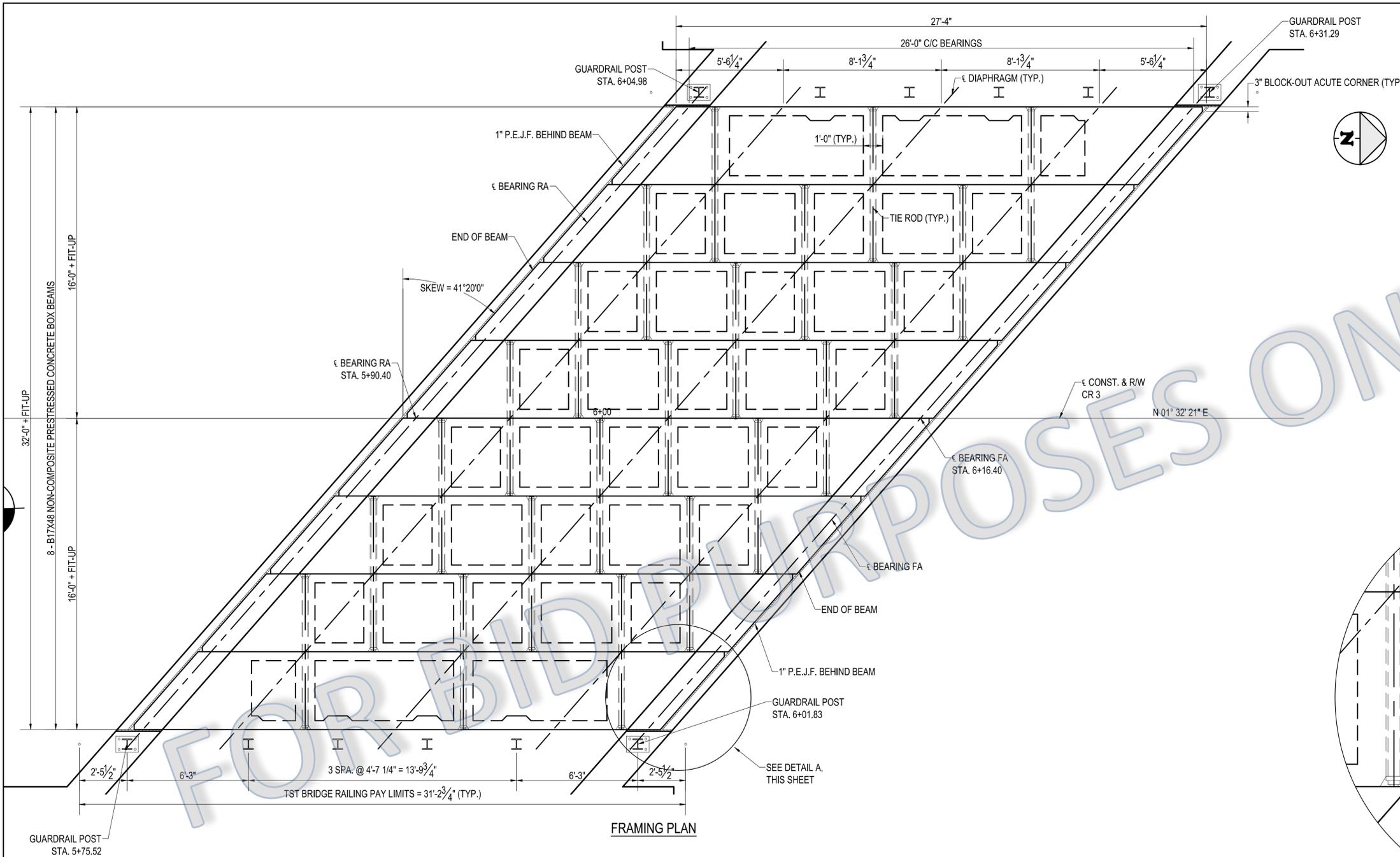
SECTION A-A

Drawn By:	BCR	Checked By:	FTO
Date:	6/25/2014	Revised:	N/A

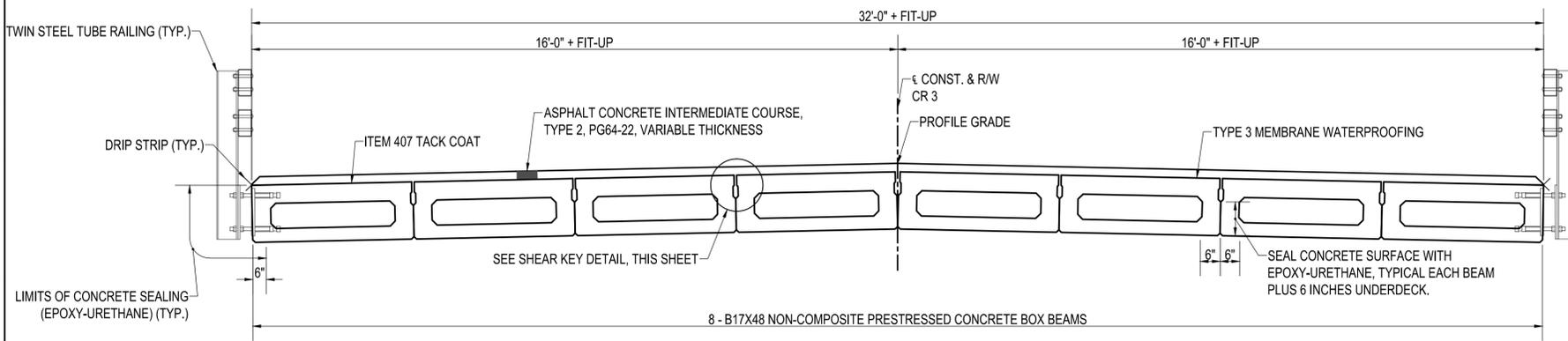
ABUTMENT REINFORCING DETAILS
FULTON COUNTY BRIDGE 3B.1 REHABILITATION OVER BLUE CREEK

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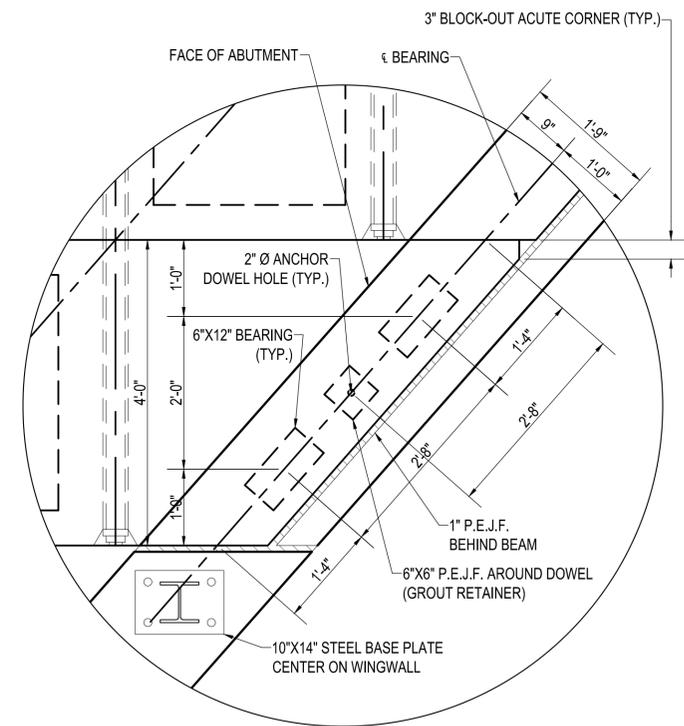
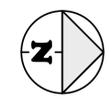


FRAMING PLAN

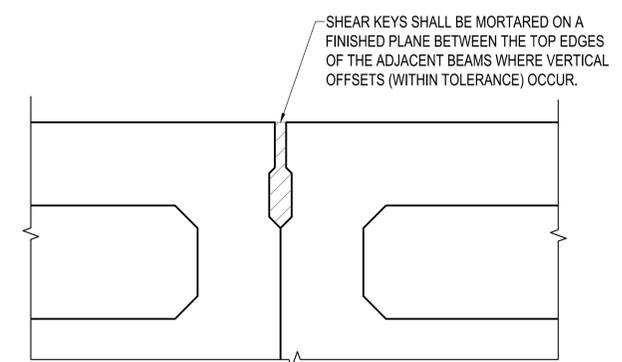


TRANSVERSE SECTION

- NOTES & LEGEND:**
- FOR ADDITIONAL PRESTRESSED BOX BEAM DETAILS, SEE ODOT STD. DWG. PSBD-2-07.
 - FOR TWIN STEEL TUBE RAILING DETAILS, SEE ODOT STD. DWG. TST-1-99.
 - FOR ADDITIONAL DRIP STRIP DETAILS, SEE ODOT STD. DWG. DS-1-92.
 - P.E.J.F. = PREFORMED EXPANSION JOINT FILLER



DETAIL A

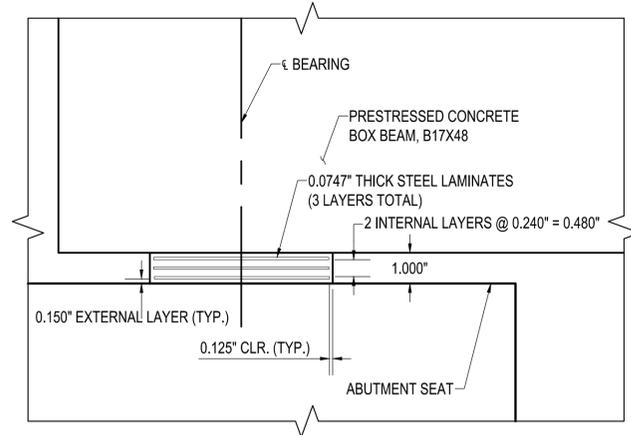


SHEAR KEY DETAIL

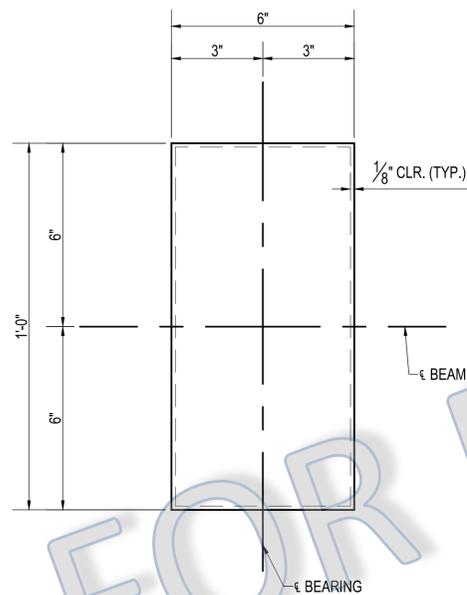
Drawn By: BCR	Checked By: FTO
Date: 6/25/2014	Revised: N/A

FRAMING PLAN AND TRANSVERSE SECTION
 FULTON COUNTY BRIDGE 3B.1 REHABILITATION OVER BLUE CREEK

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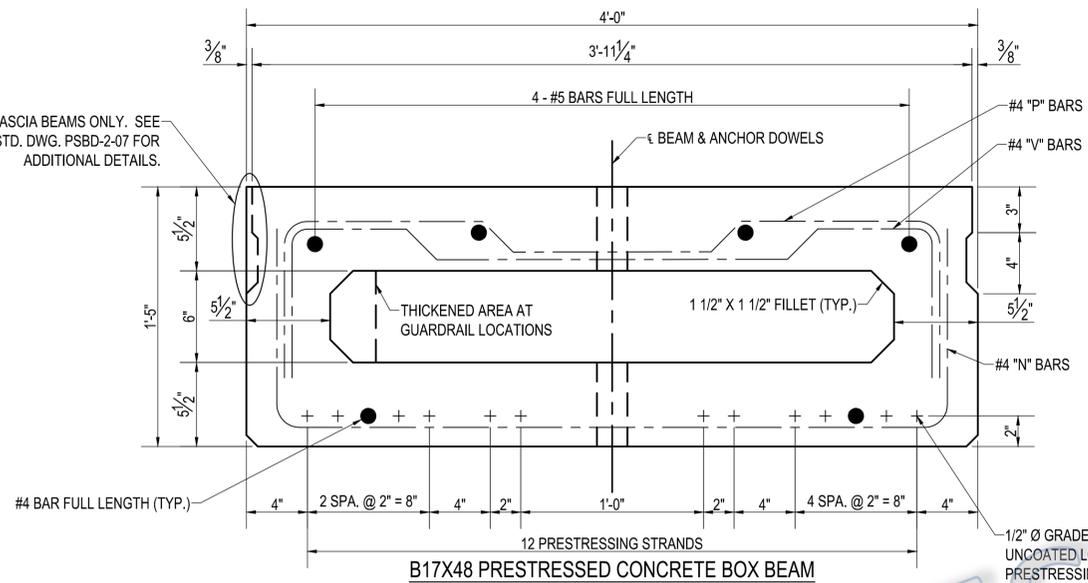


BEARING ELEVATION



BEARING ELEVATION

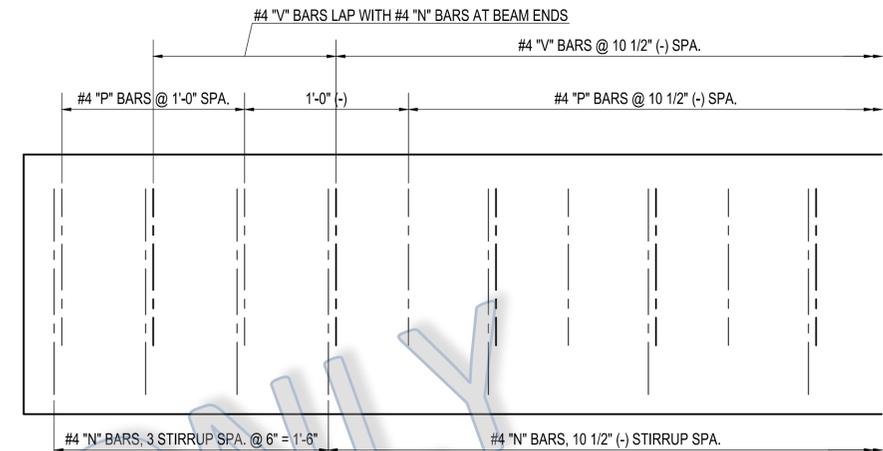
FASCIA BEAMS ONLY. SEE STD. DWG. PSBD-2-07 FOR ADDITIONAL DETAILS.



B17X48 PRESTRESSED CONCRETE BOX BEAM

BEARING DESIGN LOADS:

DEAD LOADS:	15.1 KIPS
LIVE LOAD WITHOUT IMPACT:	43.4 KIPS
TOTAL	58.5 KIPS

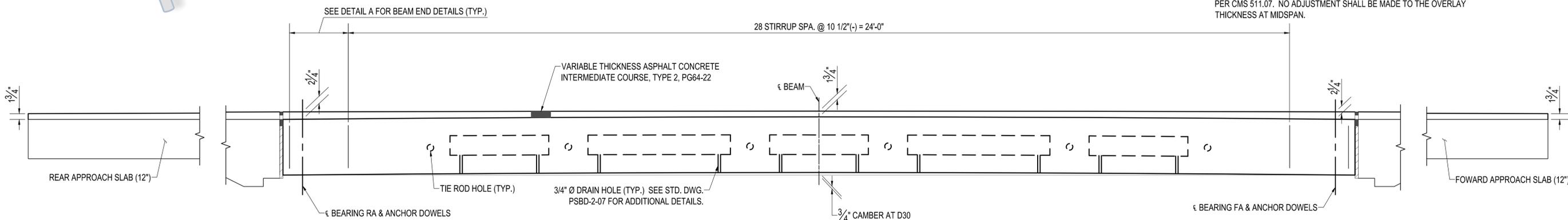


DETAIL A

NOTE: STIRRUP SPACING SYMMETRICAL ABOUT BRIDGE CENTERLINE

NOTES:

- PRESTRESSING STRAND:
STRAND DESCRIPTION = 1/2" Ø (A = 0.157 IN²), GRADE 270
7 WIRE, UNCOATED LOW RELAXATION PRESTRESSING STRAND
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202,500 PSI (LOW RELAXATION STRANDS)
INITIAL TENSION LOAD = 33.82 KIPS PER STRAND
 - ASPHALT CONCRETE WEARING SURFACE:
ASPHALT CONCRETE WEARING SURFACE SHALL CONSIST OF A VARIABLE THICKNESS OF 448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22.
 - ELASTOMERIC BEARINGS:
THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG TERM COMPRESSION PROOF TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
 - THE FABRICATOR'S SHOP DRAWINGS SHALL SHOW COMPLETE DETAILS OF THE BEAM REINFORCING. SEE STD. DWG. PSBD-2-07 FOR ADDITIONAL BOX BEAM DETAILS.
 - CAMBER:
ESTIMATED CAMBER AT DAY 0 (D0) IS 0.324 IN.
ESTIMATED CAMBER AT DAY 30 (D30) IS 0.784 IN.
DEFLECTION DUE TO REMAINING DEAD LOAD IS 0.048 IN.
- THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D30. INCREASE THE THICKNESS OF THE INTERMEDIATE COURSE AT EACH CENTERLINE OF BEARING BY THE SAME DISTANCE EACH SEAT ELEVATION WAS LOWERED PER CMS 511.07. NO ADJUSTMENT SHALL BE MADE TO THE OVERLAY THICKNESS AT MIDSPAN.



B17X48 CAMBER AND DEFLECTION
(INTERIOR BEAM SHOWN, EXTERIOR BEAM SIMILAR)