



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
PO BOX 778
DOVER, DELAWARE 19903

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GOVERNOR

SHAILEN BHATT
SECRETARY

VIA OVERNIGHT DELIVERY

(302) 760-2030
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June 21, 2012

Contract No. T201107306.01
Federal Aid Project No. EBROS-S466(01)
BR 3-368 ON SYCAMORE ROAD OVER ELLIOTT BRANCH
Sussex County

Ladies and Gentlemen:

Enclosed is Addendum No. 4 for the referenced contract consisting of the following:

1. One (1) page, Location Description, page i, revised, to be substituted for the same page in the Proposal.
2. Standard Items have been added:
701010 - Portland Cement Concrete Curb
760000 - Pavement Milling, Hot-Mix
3. Unit of measurement for 720048 - Guardrail over Culvert, Type 3-27 was changed from LF to EA.
4. Four (4) pages, Bid Proposal Forms, pages 1 through 4, revised, to be substituted for the same pages in the Proposal.
5. Two (2) sheets, Construction Plans, sheets 3 and 7, revised, to be substituted for the same sheets in the Plan Set.
6. For proposal holders with the electronic bid option only, Amendment Disk No. 2.

Questions and Answers since Addendum No. 2:

1. The bid plans for this project call out a 4.0 TSF "allowable bearing capacity". This terminology seems to indicate an LFD geotechnical parameter for an LFD foundation design.

However, the bridge specifications call out HL-93 design live load and LRFD design. Can you please clarify whether the foundations should be designed per LFD or LRFD?

If the foundations should be designed LRFD, can you please provide the ultimate bearing

resistance, and the factored bearing resistance for design of the foundations? Could you also provide a copy of the geotechnical report and/or calculations for the ultimate bearing resistance value?

The 4.0 TSF is the Factored Bearing Resistance, calculated with LRFD. The Nominal Bearing Resistance is 11.5 TSF. "Allowable" bearing capacity, as seen on the plans, is incorrect ASD terminology, and should have read "Factored Bearing Resistance" (a typo, as the 4.0 TSF was done in LRFD, not ASD). The foundation design should be done using LRFD.

The geotechnical report has been provided in Addendum #2, and is available on the project bid page. Most importantly, it contains the boring logs. It also contains geotechnical information that is only relevant to the logs, not to the design of the bridge. Specifically, the bearing capacity listed is done in ASD, which is not the acceptable method for the structural design. Please refer to the above response, or the boring logs, for design of the structure's foundation, to be done in LRFD.

2. Does the bridge/ foundation need to be LRFD design, if so can you provide geotech data that corresponds to LRFD design.

Yes, the project needs to be designed using LRFD. The geotech data is provided in Addendum #2.

3. When speaking to my precast supplier, we feel that the lead time needed for this structure will be tight at nine weeks can we extend an additional four weeks.

With the change to the Notice to Proceed date, the lead time is sufficient.

4. Plan sheet 5 of 13 shows the area from station 0+50 to 1+50 to be milled and overlaid, however, there are no contract items for this work. Please clarify.

Quantity has been added in Addendum #4 for pavement milling.

5. The typical section on sheet 3 of 13 shows several items that are not included in the contract (209006 Borrow Type "F", 701012 Portland Cement Concrete Curb, Type 1-4, 720050 Galvanized Steel Beam Guardrail). Please clarify.

Typically F Borrow would be used here, but because the quantity will be so low, we are changing this item to Item 209003, Borrow Type C. This will be reflected in the plans in Addendum #4. Item 701012 will be added in Addendum #4. Item 720050 was changed to Item 720043 in Addendum #2, and this will be reflected in the typical section legend in Addendum #4.

6. Plan sheet 5 of 13 has a curb schedule, however, there is no curb item included in the contract. Please clarify.

Quantity will be added in Addendum #4 for Portland Cement Concrete Curb.

7. Please clarify where item 209002 Borrow Type B is to be used.

Borrow Type B is to be used to fill any undercutting (if necessary), and for choking the riprap that is in the channel bottom, as per note 3A on page 9 of 13.

8. Item 302011 Delaware #3 Stone has a contract quantity of 350 Tons. The only areas shown on the plans for this work is at the 4 wingwalls. The quantity seems grossly excessive. Please clarify.

Delaware #3 stone is also placed under all riprap areas, to a depth of 6". This is seen on the Bridge Elevation on page 7 of 13.

9. When will Addendum #4 be issued?

Addendum No. 4 was issued on June 21, 2012.

Please note the revisions listed above and submit your bid based upon this information.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott S. Gottfried". The signature is written in a cursive style with a large, sweeping initial "S".

Scott S. Gottfried
Competitively Bid Contracts Coordinator
:ssg
Enclosures

Contract No.T201107306.01

Federal Aid Project No. EBROS-S466(01)

**BR 3-368 ON SYCAMORE ROAD OVER ELLIOTT BRANCH
SUSSEX COUNTY**

LOCATION

These improvements are located in SUSSEX County more specifically shown on the Location Map(s) of the enclosed Plans.

DESCRIPTION

The improvements consist of furnishing all materials for BR 3-368 ON SYCAMORE ROAD OAVER ELLIOTT BRANCH, and other incidental construction in accordance with the location, notes and details shown on the plans and as directed by the Engineer.

COMPLETION DATE

All work on this contract must be complete within 40 Calendar Days . The Contract Time includes an allowance for 5 Weather Days.

It is the Department's intent to issue a Notice to Proceed such that work starts on or about September 4, 2012.

ELECTRONIC BIDDING

This project incorporates a newer version of the electronic bidding system, Expedite 5.9a. Bidders wishing to use the electronic bidding option will find the installation file on the plan holders bid file disk. The installation file and instructions are also available at: http://www.deldot.gov/information/business/bids/const_proj_bid_info.shtml.

PROSPECTIVE BIDDERS NOTE:

1. No retainage will be withheld on this contract.
2. The Department has adopted an External Complaint Procedure. The procedure can be viewed on our website at; <http://www.deldot.gov/information/business/>, or you may request a copy by calling (302) 760-2555.
3. Make note of the new version of Electronic Bidding software as noted above.

**STATE OF DELAWARE
CONSTRUCTION ITEMS UNITS OF MEASURE**

English Code	English Description	Multiply By	Metric Code	Metric Description	Suggested CEC Metric Code
ACRE	Acre	0.4047	ha	Hectare	HECTARE
BAG	Bag	N/A	Bag	Bag	BAG
C.F.	Cubic Foot	0.02832	m ³	Cubic Meter	M3
C.Y.	Cubic Yard	0.7646	m ³	Cubic Meter	M3
EA-DY	Each Day	N/A	EA-DY	Each Day	EA-DY
EA-MO	Each Month	N/A	EA-MO	Each Month	EA-MO
EA/NT	Each Night	N/A	EA-NT	Each Night	EA/NT
EACH	Each	N/A	EA	Each	EACH
GAL	Gallon	3.785	L	Liter	L
HOUR	Hour	N/A	h	Hour	HOUR
INCH	Inch	25.4	mm	Millimeter	MM
L.F.	Linear Foot	0.3048	m	Linear Meter	L.M.
L.S.	Lump Sum	N/A	L.S.	Lump Sum	L.S.
LA-MI	Lane Mile	1.609	LA-km	Lane-Kilometer	LA-KM
LB	Pound	0.4536	kg	Kilogram	KG
MFBM	Thousand Feet of Board Measure	2.3597	m ³	Cubic Meter	M3
MGAL	Thousand Gallons	3.785	kL	Kiloliter	KL
MILE	Mile	1.609	km	Kilometer	KM
S.F.	Square Foot	0.0929	m ²	Square Meter	M2
S.Y.	Square Yard	0.8361	m ²	Square Meter	M2
SY-IN	Square Yard-Inch	0.8495	m ² -25 mm	Square Meter-25 Millimeter	M2-25 MM
TON	Ton	.9072	t	Metric Ton (1000kg)	TON
N.A.*	Kip	4.448	kN	Kilonewton	N.A.*
N.A.*	Thousand Pounds per Square Inch	6.895	MPa	Megapascal	N.A.*

*Not used for units of measurement for payment.

DELAWARE DEPARTMENT OF TRANSPORTATION
SCHEDULE OF ITEMS

PAGE: 1
DATE:

CONTRACT ID: T201107306.01 PROJECT(S): EBROS-S466(01)

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
SECTION 0001 UNFIXED QUANTITY ITEMS ALT GROUP 001						
0010	201000 CLEARING AND GRUBBING	LUMP		LUMP		
0020	202000 EXCAVATION AND EMBANKMENT	CY	275.000			
0030	207000 EXCAVATION AND BACKFILL FOR STRUCTURES	CY	350.000			
0040	207500 COFFERDAMS	LUMP		LUMP		
0050	209002 BORROW, TYPE B	CY	125.000			
0060	209003 BORROW, TYPE C	CY	500.000			
0070	211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP		LUMP		
0080	212000 UNDERCUT EXCAVATION	CY	10.000			
0090	250000 SEDIMENT REMOVAL	CY	5.000			
0100	251000 SILT FENCE	LF	750.000			

DELAWARE DEPARTMENT OF TRANSPORTATION
SCHEDULE OF ITEMS

PAGE: 2
DATE:

CONTRACT ID: T201107306.01 PROJECT(S): EBROS-S466(01)

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0110	263001 SUMP PIT, TYPE 2	1.000 EACH				
0130	302007 GRADED AGGREGATE BASE COURSE, TYPE B	225.000 CY				
0140	302011 DELAWARE NO. 3 STONE	350.000 TON				
0150	401800 WMA, SUPERPAVE, TYPE C, 115 GYRATIONS, PG 64-22 (CARBONATE STONE)	150.000 TON				
0160	401809 WMA, SUPERPAVE, TYPE B, 115 GYRATIONS, PG 64-22	135.000 TON				
0170	602737 PRECAST CONCRETE ARCH	LUMP	LUMP			
0180	602755 PRECAST CONCRETE WINGWALLS FOR PRECAST CONCRETE ARCH	LUMP	LUMP			
0190	608000 COARSE AGGREGATE FOR FOUNDATION STABILIZATION AND SUBFOUNDATION BACKFILL	75.000 TON				
0200	712021 RIPRAP, R-5	600.000 TON				
0210	712531 CHANNEL BED FILL	150.000 CY				

DELAWARE DEPARTMENT OF TRANSPORTATION
SCHEDULE OF ITEMS

PAGE: 3
DATE:

CONTRACT ID: T201107306.01 PROJECT(S): EBROS-S466(01)

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0220	713003 GEOTEXTILES, RIPRAP	875.000 SY				
0230	715503 TEMPORARY DRAINAGE PIPE, 48"	130.000 LF				
0270	732002 TOPSOIL, 6" DEPTH	2050.000 SY				
0280	734013 PERMANENT GRASS SEEDING, DRY GROUND	1700.000 SY				
0290	734015 PERMANENT GRASS SEEDING, WET GROUND	350.000 SY				
0300	743052 FLAGGER, SUSSEX COUNTY, STATE	100.000 HOUR	50.80000		5080.00	
0310	743064 FLAGGER, SUSSEX COUNTY, STATE, OVERTIME	20.000 HOUR	73.66000		1473.20	
0320	748019 TEMPORARY MARKINGS, PAINT, 4"	250.000 LF				
0330	748530 REMOVAL OF PAVEMENT STRIPING	35.000 SF				
0340	748548 PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	200.000 LF				

DELAWARE DEPARTMENT OF TRANSPORTATION
SCHEDULE OF ITEMS

PAGE: 4
DATE:

CONTRACT ID: T201107306.01 PROJECT(S): EBROS-S466(01)

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0350	762001 SAW CUTTING, HOT MIX	90.000 LF				
0360	763000 INITIAL EXPENSE	LUMP	LUMP			
0370	763501 CONSTRUCTION ENGINEERING	LUMP	LUMP			
0380	763643 MAINTENANCE OF TRAFFIC, ALL INCLUSIVE	LUMP	LUMP			
0390	720043 GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-27	125.000 LF				
0400	720048 GUARDRAIL OVER CULVERT, TYPE 3-27	2.000 EACH				
0410	720637 GUARDRAIL END TREATMENT ATTENUATOR, TYPE 1-27	1.000 EACH				
0420	270000 PORTABLE SEDIMENT TANK	1.000 EACH				
0430	701010 PORTLAND CEMENT CONCRETE CURB, TYPE 1-8	400.000 LF				
0440	760000 PAVEMENT - MILLING, HOT-MIX	600.000 SYIN				
	SECTION 0001 TOTAL					
	TOTAL BID					

GENERAL NOTES

- THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED AUGUST 2001 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2001, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.
- THE CONTRACTOR SHALL GIVE TWO (2) WEEKS NOTICE TO THE PROPERTY OWNER WHEN ANY FIXTURE, SHRUB OR OTHER OBJECT MUST BE REMOVED FROM THE RIGHT OF WAY OR EASEMENT AREA. IF THE OWNER HAS NOT ATTEMPTED TO SALVAGE THIS PROPERTY, THE CONTRACTOR SHALL REMOVE IT WITHOUT OBLIGATION. COMPENSATION SHALL BE INCIDENTAL TO THE CONTRACT.
- THE ENDS OF ALL CURBS SHALL BE DEPRESSED FLUSH WITH THE PAVEMENT AT A RATIO OF TWELVE TO ONE (12:1) UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL PVC SLEEVES (4" INSIDE MINIMUM DIAMETER, 6" INSIDE MAXIMUM DIAMETER) IN PROPOSED CONCRETE SIDEWALKS, ISLANDS, AND MEDIANS FOR FUTURE TRAFFIC SIGN POSTS AS DIRECTED BY THE ENGINEER. THE LOWER END OF THE SLEEVE SHALL SIT ON THE TOP OF THE SUBBASE MATERIAL. THE COST SHALL BE INCIDENTAL TO THE CONTRACT.
- STAGING AREAS - PROPER EROSION AND SEDIMENT CONTROL MEASURES AS DETERMINED BY THE ENGINEER SHALL BE INSTALLED IN ALL STAGING AREAS. ALL AREAS USED BY THE CONTRACTOR FOR STAGING OPERATIONS SHALL BE FULLY RESTORED BY THE CONTRACTOR UPON COMPLETION OF THE CONTRACT. IF THE STAGING AREA IS PAVED, IT SHALL BE RESTORED TO ITS ORIGINAL CONDITION. IF THE AREA IS UNPAVED, IT SHALL BE RE-GRADED, TOPSOILED, SEEDED AND MULCHED IN ACCORDANCE WITH DELAWARE STANDARD SPECIFICATIONS 732, 734 AND 735, FOR TOPSOIL, SEED AND MULCH RESPECTIVELY, TO THE SATISFACTION OF THE ENGINEER. THE SEED SHALL ADHERE TO THE SPECIFICATIONS OF SECTION 734 FOR PERMANENT GRASS SEEDING - DRY GROUND. ALL COSTS ASSOCIATED WITH RESTORATION OF THE STAGING AREA SHALL BE AT THE CONTRACTOR'S EXPENSE. IF THE ENGINEER DETERMINES THAT A SATISFACTORY STAND OF GRASS DOES NOT EXIST AT THE TIME OF FINAL INSPECTION, ALL COSTS ASSOCIATED WITH REESTABLISHING A SATISFACTORY STAND OF GRASS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- SITE REVIEWER - AN EROSION CONTROL SITE REVIEWER SHALL BE A PERSON FROM THE CONTRACTOR'S STAFF ASSIGNED TO EROSION AND SEDIMENT CONTROL IMPLEMENTATION AND MAINTENANCE AND SHALL BE REQUIRED ON SPECIFIC PROJECTS. THE NAME AND DNREC CERTIFICATION NUMBER OF EACH SITE REVIEWER SO REQUIRED SHALL BE SUBMITTED TO THE DEPARTMENT. THE NAME OF THE DELAWARE REGISTERED PROFESSIONAL ENGINEER PROVIDING DIRECTION AND SUPERVISION OF THE SITE REVIEWER, AS REQUIRED IN SECTION 12.3 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS, SHALL ALSO BE SUBMITTED TO THE DEPARTMENT. THE SITE REVIEWER REQUIREMENTS IN EFFECT ON THIS PROJECT SHALL BE MARKED WITH AN "X" BELOW:

EROSION POTENTIAL FOR THIS PROJECT	SITE REVIEWER REQUIREMENT
() INSIGNIFICANT	NONE
() MINOR	CONTRACTOR CERTIFICATION COURSE TRAINING ONLY, AS DEFINED IN SECTION 13 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
(X) MEDIUM	AT THE TIME OF BID OF THE CONTRACT, EITHER THE SUPERINTENDENT OR A SEPARATE INDIVIDUAL FROM THE CONTRACTOR'S STAFF SHALL BE A CERTIFIED CONSTRUCTION REVIEWER (CCR), AS DEFINED IN SECTION 12 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
() MAJOR	SUPERINTENDENT AND AN INDIVIDUAL FROM CONTRACTOR'S STAFF SHALL BE CCR. ONE INDIVIDUAL FROM THE CONTRACTOR'S STAFF MUST BE A CCR AT THE TIME OF BID OF THE CONTRACT. THE SUPERINTENDENT MUST BECOME A CCR WITHIN ONE YEAR AFTER THE AWARD OF CONTRACT.

- ELECTRONIC PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE CONTRACTOR INCLUDE:

()	NONE
()	ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER.
(X)	RASTER FILES, IN .CAL FILE FORMAT, FOR ALL PLAN SHEETS.
()	EXISTING DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
()	PROPOSED DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
()	DESIGN FILE, IN .DGN FILE FORMAT, CONTAINING ONLY THE PROPOSED 3D TRIANGLES OF THE PROPOSED DIGITAL TERRAIN MODEL (DTM).

NOTE: THE DOCUMENT ENTITLED "RELEASE FOR DELIVERY OF DOCUMENTS IN ELECTRONIC FORM TO A CONTRACTOR" MUST BE SIGNED BY ALL PARTIES PRIOR TO THE DELIVERY OF ANY ELECTRONIC PROJECT FILES.

- AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED TRAFFIC CONTROL SUPERVISOR REQUIREMENT FOR THIS PROJECT.

(X)	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
()	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT OR ANOTHER ATSSA CERTIFIED MEMBER OF THE CONTRACTOR'S PROJECT STAFF MAY BE THE ATSSA SUPERVISOR.
()	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE ATSSA SUPERVISOR'S SOLE JOB SHALL BE SUPERVISION OF THE INSTALLATION, OPERATION AND MAINTENANCE OF TRAFFIC CONTROL DEVICES FOR THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT SHALL NOT BE THE ATSSA SUPERVISOR.

- THE DISTURBED AREA FOR THIS PROJECT IS 0.7713 ACRES.

PROJECT NOTES

SECTION 100

- ANY DAMAGE TO ITEMS NOTED TO BE RELOCATED OR RESET BY THE CONTRACTOR, AT THE DISCRETION OF THE ENGINEER, SHALL BE REPAIRED AND/OR REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.

SECTION 200

- ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
 - EXISTING CORRUGATED METAL PIPES
 - EXISTING SACK CONCRETE RIPRAP HEADWALLS
 - EXISTING GUARDRAIL AS SHOWN
 - EXISTING DRAINAGE PIPES AS SHOWN
- SHORING SHALL BE REQUIRED FOR ANY EXCAVATION EXCEEDING 5'-0" IN DEPTH. THE COST OF SHORING SHALL BE INCIDENTAL TO ITEM *207000 - EXCAVATION AND BACKFILL FOR STRUCTURES. IN LIEU OF SHORING, THE CONTRACTOR MAY USE A 2:1 CUT SLOPE. LIMITS OF PAYMENT FOR ITEM *207000 SHALL BE AS PER SECTION 207 OF THE STANDARD SPECIFICATIONS.

SECTION 600

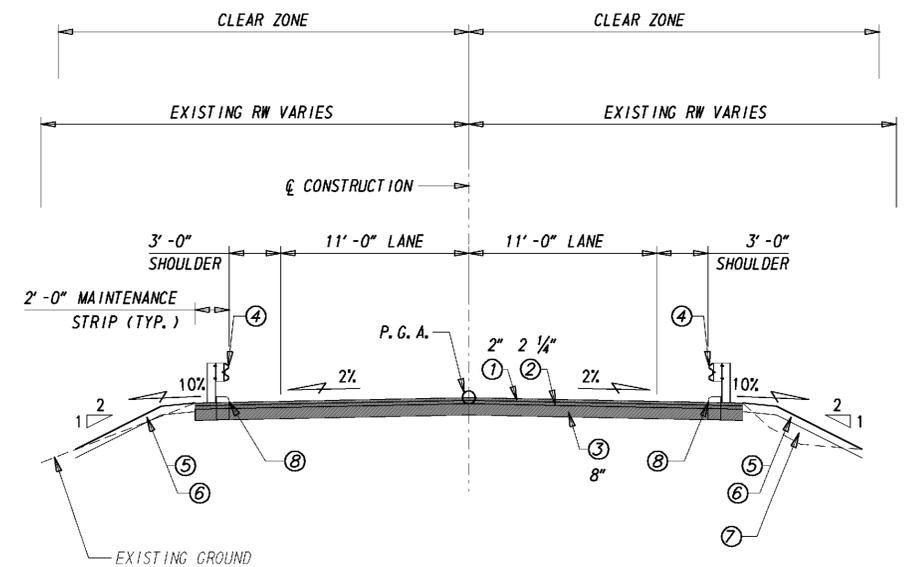
- PORTLAND CEMENT CONCRETE
STRUCTURAL ELEMENTS OF PORTLAND CEMENT CONCRETE SHALL BE AS NOTED (F'c = 28 DAY COMPRESSIVE STRENGTH):
PRECAST CONCRETE - F'c = 5000 psi
MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE SPECIFICATIONS. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.
- BAR REINFORCEMENT
REINFORCING STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60. ALL REINFORCING STEEL SHALL HAVE A CLEAR COVER OF 2", UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL REINFORCING STEEL SHALL BE PROTECTED WITH FUSION BONDED EPOXY. EPOXY COATED REINFORCING STEEL SHALL CONFORM TO AASHTO M284 (ASTM D3963).
- CONSTRUCTION JOINTS
KEYED CONSTRUCTION JOINTS SHALL BE 2" X 4" OR AS NOTED. ALL EXPOSED CONSTRUCTION JOINT EDGES SHALL HAVE A 3/4" V-NOTCH.

SECTION 700

- IN AREAS WHERE PROPOSED CURB MEETS EXISTING CURB AND THE TWO CURB TYPES ARE NOT SIMILAR, THE PROPOSED CURB SHALL BE TRANSITIONED IN 10 LINEAR FEET, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK, INCLUDING SAW CUTTING EXISTING CURB SHALL BE INCIDENTAL TO THE PROPOSED CURB ITEM.
- ALL PAVED AREAS TO BE RECONSTRUCTED OR WIDENED SHALL BE SAWCUT AT THE POINT WHERE THE NEW PAVEMENT IS TO TIE INTO THE EXISTING PAVEMENT. ALL HOT-MIX SAW CUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE NOTED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. PAVEMENT SHALL MATCH EXISTING ELEVATIONS AT THE TIE-IN POINTS
- ALL GUARDRAIL LENGTHS ARE ROUNDED UP TO FULL SECTIONS OF GUARDRAIL. POST SPACING NOT TO EXCEED 6'-3". ALL GUARDRAIL SECTIONS ARE 27" GUARDRAIL
- PROPOSED STRIPING SHALL MATCH EXISTING STRIPING. PAYMENT SHALL BE UNDER THE RESPECTIVE PAY ITEM.

MISCELLANEOUS

- DESIGN CRITERIA
2010 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION (U.S. CUSTOMARY UNITS).
- LOADING
DEAD LOAD INCLUDES 25 PSF FOR FUTURE WEARING SURFACE. VEHICULAR LIVE LOAD IS HL-93.
- HYDRAULIC DATA
DRAINAGE AREA: 8.92 sq. miles DESIGN FREQUENCY: 25 years
DESIGN DISCHARGE: 638cfs 25-YEAR FLOOD ELEVATION: 20.99 ft
- SCOUR ANALYSIS
THE PROPOSED STRUCTURE HAS BEEN ANALYZED FOR THE EFFECTS OF SCOUR IN ACCORDANCE WITH HEC-18 - 'EVALUATING SCOUR AT BRIDGES' AND HEC-23 - 'BRIDGE SCOUR AND STREAM INSTABILITY COUNTERMEASURES.' SCOUR COUNTERMEASURES HAVE BEEN DESIGNED FOR THE LESSER OF THE OVERTOPPING FLOOD OR THE 500-YR FLOOD EVENT.
DESIGN EVENT: OT FLOW DESIGN VELOCITY: 15.20 ft/s
DESIGN DISCHARGE: 2200 cfs DESIGN DEPTH OF FLOW: 10.54 ft
- ENVIRONMENTAL COMPLIANCE
SEE ENVIRONMENTAL COMPLIANCE PLAN FOR FURTHER RESTRICTIONS/GUIDANCE ASSOCIATED WITH THIS PROJECT.



TYPICAL SECTION

3/8" = 1'-0"

LEGEND	
①	ITEM 401800 - WMA, SUPERPAVE TYPE C, PG 64-22, 115 GYRATIONS (CARBONATE STONE)
②	ITEM 401809 - WMA, SUPERPAVE TYPE B, PG 64-22, 115 GYRATIONS
③	ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE 'B'
④	ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL
⑤	ITEM 732002 - TOPSOIL, 6" DEPTH
⑥	ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
⑦	ITEM 209006 - BORROW TYPE 'F'
⑧	ITEM 701012 - PORTLAND CEMENT CONCRETE CURB, TYPE 1-4

△ ITEM #720043 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-27

△ ITEM #209003 - BORROW TYPE 'C'

ADDENDUMS / REVISIONS	
△ REVISED ITEM NUMBER AND DESCRIPTION	6/8/12 - JPN

NOT TO SCALE

BR 3-368 ON SYCAMORE ROAD OVER ELLIOT POND BRANCH

CONTRACT	BRIDGE NO.	3-368
T201107306	DESIGNED BY:	JPN
SUSSEX	CHECKED BY:	JNH

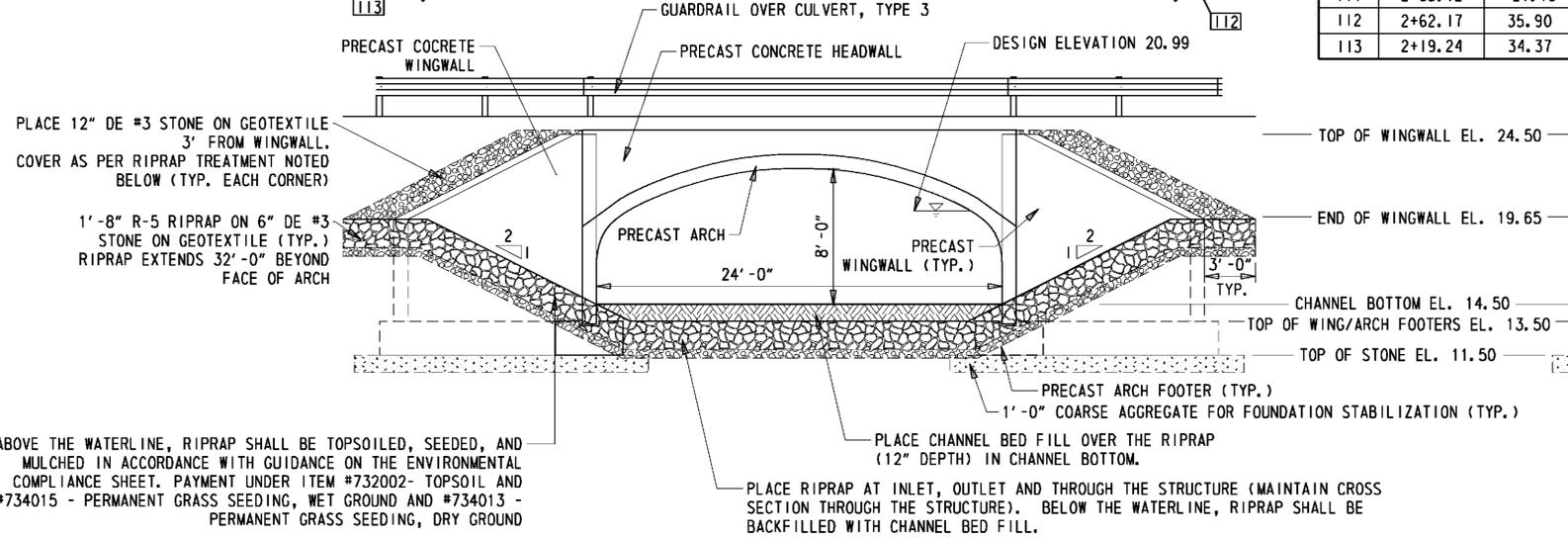
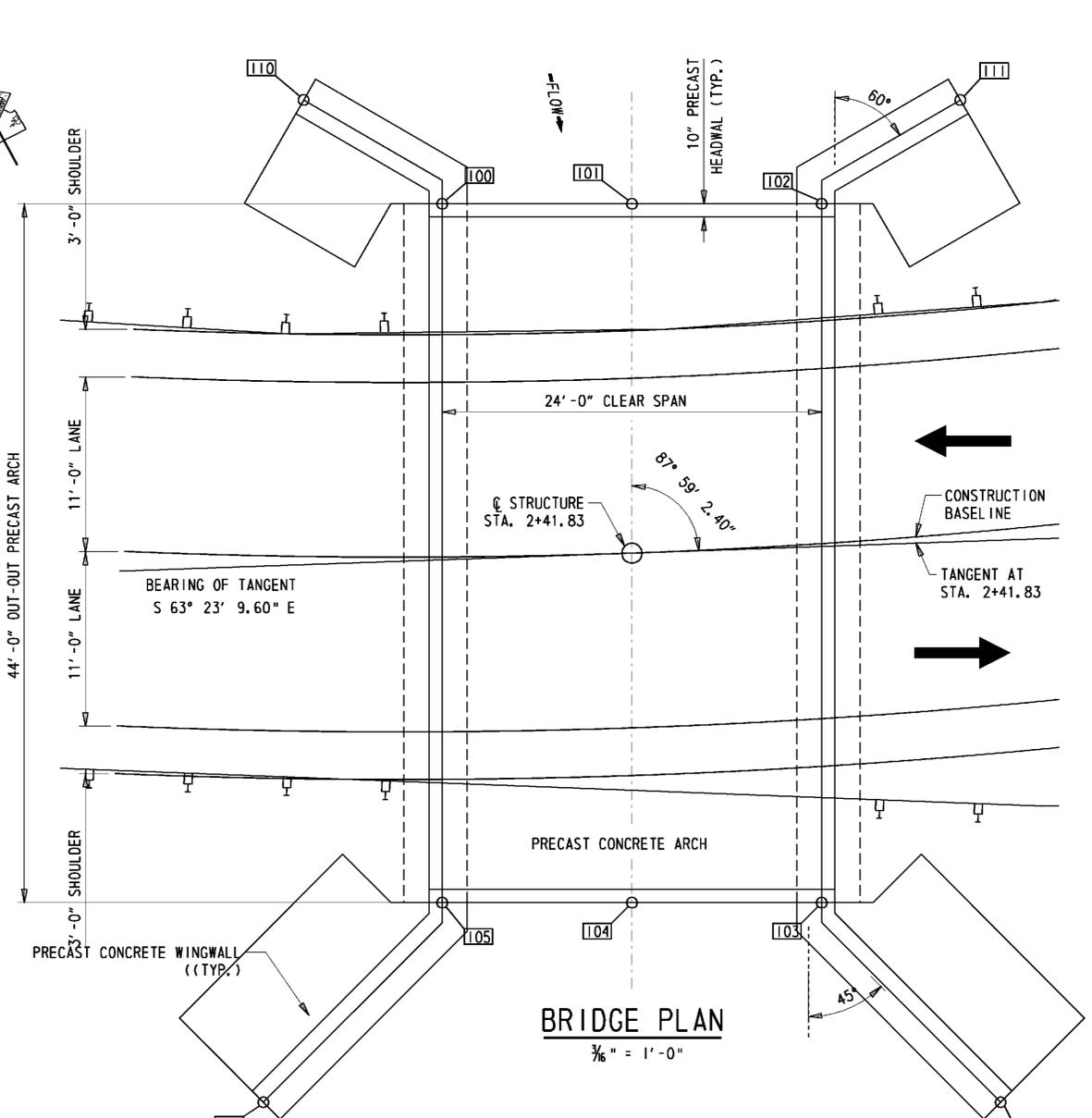
NOTES

SHEET NO.	3
TOTAL SHTS.	13

NOTES FOR PRECAST ELEMENTS:

- DESIGN PLANS / WORKING DRAWINGS
INFORMATION PERTAINING TO THE PRECAST REINFORCED CONCRETE ARCH AND WINGWALL SECTIONS IS INTENDED TO SERVE AS AN INDICATION OF THE TYPE OF CONSTRUCTION ACCEPTABLE FOR USE. THE CONTRACTOR WILL BE REQUIRED TO PREPARE AND SUBMIT FOR APPROVAL. A COMPLETE SET OF DETAILED SHOP DRAWINGS FOR THE PRECAST CONCRETE UNITS THEY PROPOSE TO FURNISH. THE SHOP DRAWINGS SHALL INCLUDE:
 - AN OVERALL PLAN SHOWING ALL UNITS TOGETHER AND DETAILS OF EACH TYPE OF UNIT.
 - A PLAN VIEW OF REINFORCEMENT FOR ANY IRREGULAR SHAPED (SKEWED, CURVED, ETC.) SECTIONS.
 - REINFORCING BAR LIST
 - BILL OF MATERIALS INCLUDING ALL ACCESSORIES
 - METHOD AND SEQUENCE OF POST-TENSIONING
- PRECAST ELEMENTS, ACCESSORIES AND INSTALLATION
PAYMENT FOR ITEM 602737 - PRECAST CONCRETE CULVERT ARCH AND ITEM 602755 PRECAST CONCRETE WINGWALLS FOR PRECAST CONCRETE ARCH SHALL INCLUDE:
 - ALL PRECAST ELEMENTS FOR THE RESPECTIVE ITEM (ARCH, FOOTERS, TOEWALLS) UNDER ITEM 602737 AND WINGWALLS UNDER ITEM 602755 (WINGWALLS)).
 - ALL ASSOCIATED REINFORCEMENT.
 - ALL ACCESSORIES (INCLUDING, BUT NOT LIMITED TO, WEEP HOLES, CONCRETE FINISH, POST-TENSIONING TENDONS, CONNECTION PLATES, GROUT, JOINT WRAP, THREADED INSERTS) MENTIONED IN THE FOLLOWING NOTES UNLESS NOTED OTHERWISE.
 - DELIVERY AND INSTALLATION OF ALL PRECAST ELEMENTS AND ALL ACCESSORIES
- MISCELLANEOUS CONCRETE NOTES
 - ALL EXPOSED SURFACES SHALL BE PROTECTED WITH A WATER MISCELIBLE, PENETRATING SILANE SEALER SUCH AS ENVIROSEAL 20 BY BASF SUPERIOR OR APPROVED EQUAL.
 - ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.
- ARCH POST-TENSIONING
THE PRECAST ARCH SECTIONS SHALL BE POST-TENSIONED TOGETHER WITH A MINIMUM OF FOUR POST-TENSIONING TENDONS. THE CULVERT SHALL BE POST-TENSIONED SUCH THAT THE NEOPRENE GASKETS ARE COMPRESSED ALL AROUND AND THERE IS A 1/2" MAXIMUM GAP BETWEEN SECTIONS. MAXIMUM POST-TENSIONING FORCE SHALL BE 28,900 lbs. POST-TENSIONING DETAILS (PLACEMENT, SEQUENCE OF TENSIONING, etc.) SHALL BE SHOWN IN THE SUBMITTED SHOP DRAWINGS. ALL POCKETS FOR POST-TENSIONING DUCTS SHALL BE FILLED WITH NON-SHRINK GROUT.
- WINGWALL POST TENSIONING
 - THE PRECAST WINGWALL SECTIONS SHALL BE POST TENSIONED TOGETHER AND POSITIVELY CONNECTED TO THE BOX CULVERT WITH A MINIMUM OF TWO POST-TENSIONING TENDONS. POST-TENSIONING SHALL BE AS PER NOTE 5.
 - AT LOCATIONS WHERE POST TENSIONING OF THE WINGWALLS IS NOT FEASIBLE, A BOLTED CONNECTION MAY BE USED. BOLTED CONNECTION DETAILS SHALL BE SHOWN IN THE SUBMITTED SHOP DRAWINGS.
- BOLTED CONNECTIONS
THE BOLTED CONNECTION MUST CONSIST OF A MINIMUM OF TWO 3'-0" WIDE x 2'-0" TALL x 1/4" THICK PLATES PER JOINT WITH AT LEAST FOUR 3/4" BOLTS PER PLATE. ANGLED PLATES SHALL HAVE 8 BOLTS. SLOTTED HOLES IN THE PLATE SHALL NOT BE PERMITTED. HOLES FOR ANCHOR BOLTS MAY BE FIELD DRILLED.
- JOINTS BETWEEN PRECAST SECTIONS
 - NEOPRENE GASKETS SHALL BE PROVIDED AT THE JOINTS BETWEEN ALL PRECAST UNITS IN ORDER TO MAKE THE JOINTS WATERTIGHT. AFTER INSTALLATION, THE GASKETS SHALL BE COMPRESSED SUCH THAT GAPS ARE NOT VISIBLE.
 - ALL JOINTS BETWEEN PRECAST BOX CULVERT SECTIONS SHALL BE TONGUE AND GROOVE OR ALL JOINTS BETWEEN RIGID FRAME SECTIONS SHALL HAVE A SHEAR KEY ALL AROUND.
 - ALL WINGWALL TO WINGWALL AND WINGWALL TO BOX CULVERT (OR RIGID FRAME OR ARCH) JOINTS SHALL HAVE A SHEAR KEY.
 - THE LOCATIONS OF THE JOINTS IN THE ARCH SHALL BE DETERMINED BY THE PRECASTER AND SUBMITTED IN THE SHOP DRAWINGS FOR APPROVAL.
 - THE REINFORCEMENT SHALL HAVE 2" COVER AT THE END OF EACH SECTION AND MEET OR EXCEED THE MINIMUM AREA OF STEEL PER FOOT DENOTED IN THE PLANS.
 - ALL JOINT EXTERIORS SHALL BE COVERED WITH A MINIMUM 9" WIDE WRAP CENTERED ON THE JOINT AS PER THE SPECIAL PROVISION FOR ITS RESPECTIVE ITEM.
- ~~ALLOWABLE BEARING PRESSURE -
ALLOWABLE BEARING PRESSURE NOT TO EXCEED 4.0 TSF FOR ALL ELEMENTS.~~
- FACTORED BEARING RESISTANCE
FACTORED BEARING RESISTANCE NOT TO EXCEED 4.0 TSF FOR ALL ELEMENTS.

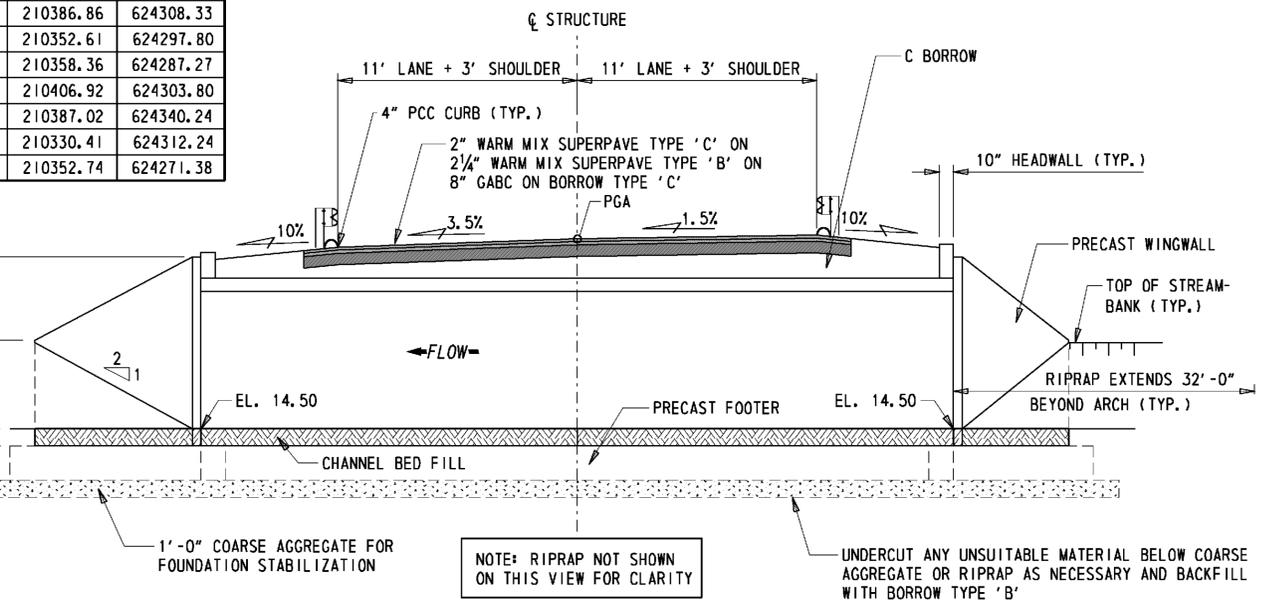
WORKING POINTS				
POINT	STATION	OFFSET	NORTHING	EASTING
100	2+29.98	-22.25	210396.98	624308.35
101	2+42.65	-21.99	210391.23	624318.89
102	2+55.29	-21.36	210385.48	624329.42
103	2+52.48	22.25	210386.86	624308.33
104	2+41.10	21.99	210352.61	624297.80
105	2+29.70	21.75	210358.36	624287.27
110	2+20.61	-28.75	210406.92	624303.80
111	2+65.12	-27.19	210387.02	624340.24
112	2+62.17	35.90	210330.41	624312.24
113	2+19.24	34.37	210352.74	624271.38



PLACE 12" DE #3 STONE ON GEOTEXTILE 3' FROM WINGWALL. COVER AS PER RIPRAP TREATMENT NOTED BELOW (TYP. EACH CORNER)

1'-8" R-5 RIPRAP ON 6" DE #3 STONE ON GEOTEXTILE (TYP.) RIPRAP EXTENDS 32'-0" BEYOND FACE OF ARCH

ABOVE THE WATERLINE, RIPRAP SHALL BE TOPSOILED, SEEDED, AND MULCHED IN ACCORDANCE WITH GUIDANCE ON THE ENVIRONMENTAL COMPLIANCE SHEET. PAYMENT UNDER ITEM #732002 - TOPSOIL AND #734015 - PERMANENT GRASS SEEDING, WET GROUND AND #734013 - PERMANENT GRASS SEEDING, DRY GROUND



NOTE: RIPRAP NOT SHOWN ON THIS VIEW FOR CLARITY

UNDERCUT ANY UNSUITABLE MATERIAL BELOW COARSE AGGREGATE OR RIPRAP AS NECESSARY AND BACKFILL WITH BORROW TYPE 'B'

Y:\SUSSEX\466\BRIDGE\T20107306\PLANS\PE01.DGN