

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS"
ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION
OFFICIALS, 9TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:

HL-93 WITH AN ALLOWANCE OF 0.06 KSF FUTURE WEARING SURFACE.

DESIGN STRESSES:

CAST-IN-PLACE STRUCTURES
CONCRETE CLASS "QC MISC." - $f'c = 4,000\text{ psi}$ SUBSTRUCTURE
REINFORCING STEEL - ASTM A615, A616, OR A617
 $F_y = 60,000\text{ psi}$.

PROVIDE PRECAST GRAVITY AND SEMIGRAVITY WINGWALLS
ACCORDING TO SS851.

REMOVAL OF EXISTING STRUCTURE:

PORTIONS OF THE EXISTING STRUCTURE SHALL BE REMOVED AS INDICATED.

FOUNDATION BEARING RESISTANCE:

WINGWALL AND CULVERT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM
SERVICE LIMIT STATE BEARING PRESSURE OF 3.0 KIPS PER SQUARE FOOT
AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 4.5 KIPS
PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 4.8 KIPS PER
SQUARE FOOT.

THREE-SIDED CULVERT WALL AND TOP SLAB THICKNESS:

THE WALL AND TOP SLAB THICKNESSES SHOWN ON THE PLANS WERE OBTAIN-
ED FROM THE MANUFACTURERS AT THE TIME THE PLANS WERE PREPARED. IF
THE WALL AND/OR TOP SLAB THICKNESS OF THE CULVERT PROPOSED ARE
DIFFERENT FROM WHAT IS SHOWN IN THE PLANS, A MARKED COPY OF THE
PROJECT PLANS, INCLUDING ALL PLAN NOTES AND DETAILS SHOWING ALL
ITEMS AFFECTED BY THE DIFFERENT CULVERT DIMENSIONS, SHALL BE SUB-
MITTED FOR APPROVAL WITH THE SHOP DRAWINGS. ALL WORK REQUIRED
TO ACCOMODATE ANY REVISED DIMENSIONS SHALL BE AT NO EXTRA COST
TO THE STATE.

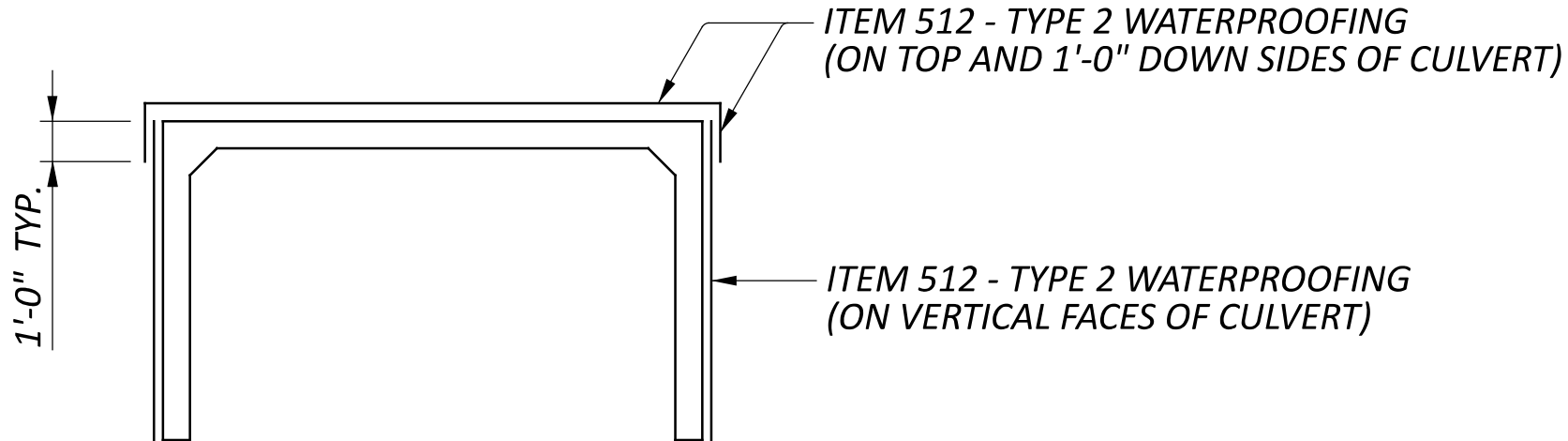
ITEM 512, TYPE 2 WATERPROOFING:

PRIOR TO PLACING MEMBRANE WATERPROOFING, JOIN THE CULVERT SECTIONS,
FILL THE EXTERIOR JOINT GAPS WITH PORTLAND CEMENT MORTAR AND APPLY
JOINT WRAP AS SPECIFIED IN C&MS 611.08. MEMBRANE WATERPROOFING
(SHEET TYPE 2) SHALL BE APPLIED TO THE TOP SURFACE OF THE PRECAST CULVERT
SECTIONS AND SHALL EXTEND VERTICALLY DOWN ALL SIDES FOR THE PORTIONS
OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR
THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER
SQUARE YARD FOR ITEM 512, TYPE 2 WATERPROOFING.

ITEM 511 - CLASS QC1 CONCRETE, HEADWALL:

THE QUANTITY SHOWN FOR THIS PAY ITEM REPRESENTS THE FORESLOPE
WALL LOCATED ATOP EACH END OF THE CONDUIT.

WHEN SEALING OF CONCRETE SURFACES (EPOXY) IS SPECIFIED ON THE HEAD-
WALLS OF A PRECAST CONCRETE BOX CULVERT, ANY PRECAST CULVERT
SECTIONS BEYOND THE LIMIT OF THE MEMBRANE WATERPROOFING SHALL
BE SEALED USING EPOXY SEALER. PAYMENT FOR THE SEALING OF THE PRE-
CAST CONCRETE BOX SURFACES SHALL BE MADE AT THE CONTRACT PRICE
BID PER SQUARE YARD FOR ITEM 512 - SEALING OF CONCRETE SURFACES
(EPOXY URETHANE).



GENERAL SUMMARY (GUE - 660 - 2.52)				
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION
202	11000	LS	LUMP	STRUCTURE REMOVED
503	21100	67	CY	UNCLASSIFIED EXCAVATION
509	10000	3481	LB	EPOXY COATED REINFORCING STEEL
511	46510	54	CY	CLASS QC1 CONCRETE, FOOTING
511	46610	1	CY	CLASS QC1 CONCRETE, HEADWALL
512	33000	128	SY	TYPE 2 WATERPROOFING
512	10100	34	SY	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)
516	13600	27	SF	1" PREFORMED EXPANSION JOINT FILLER
601	32100	57	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER
601	34200	43	CY	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER
611	70000	40	FT	CONDUIT, TYPE A, PRECAST REINFORCED CONCRETE FLAT TOPPED, THREE SIDED CULVERT (14'-0" SPAN X 6'-0" RISE)
851	10000	12	SF	PRECAST GRAVITY AND SEMIGRAVITY RETAINING WALL
851	14000	2	DAYS	ON-SITE ASSISTANCE
851	15000	LS	LUMP	WALL DRAINAGE SYSTEM
851	15500	LS	LUMP	PGSRW INSPECTION AND COMPACTION TESTING

CULVERT ESTIMATED QUANTITIES
STA. 133+13.00

DESIGN AGENCY
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DESIGNER	KEW
REVIEWER	JOH 01/17/25
PROJECT ID	131206
SUBSET	TOTAL
2	8
SHEET	TOTAL
P.101	125