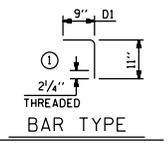


TOTAL BILL OF MATERIAL

PRECAST REINFORCED CONCRETE BOX CULVERT @ STA. 13+55.00 - 110 REV.	LUMP SUM
CULVERT EXCAVATION.....	LUMP SUM
FONDATION CONDITIONING MATERIAL BOX CULVERT	TONS 120
REMOVAL OF EXISTING STRUCTURE...LUMP SUM	

BAR SCHEDULE

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
D1	112	6	1	1'-8"	280
D2	112	4	STR	3'-4"	249
G1	8	5	STR	56'-0"	467
S2	6	8	STR	56'-0"	897
TOTAL				LBS.	1893



NOTES

ASSUMED LIVE LOAD, HS20-44 ALTERNATE LOADING.
FOR OTHER STANDARD DATA AND NOTES SEE STANDARD NOTES SHEET.

3" Ø WEEP HOLES INDICATED TO BE IN ACCORD WITH THE SPECIFICATIONS.

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET.

THE CONCRETE FOR THE PRECAST UNITS SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 5000 P.S.I.. THE CONCRETE FOR THE HEADWALLS, WINGS, AND END CURTAIN WALLS SHALL BE CLASS "A" CONCRETE AS PER THE STANDARD SPECIFICATIONS.

CAST-IN-PLACE CONCRETE SHALL BE POURED IN THE FOLLOWING ORDER:
1. WING FOOTINGS, AND CURTAIN WALL.
2. HEADWALLS, WING WALLS.

ALL PRECAST UNITS SHALL BE PLACED PRIOR TO POURING THE WINGS, END CURTAIN WALLS AND HEADWALLS, THE EXTERIOR PRECAST UNITS SHALL BE UNDERMINED TO PROVIDE FOR THE WING FOOTINGS TO BE POURED TO THE DEPTH AND DIMENSIONS AS SHOWN ON THIS PLAN SHEET.

FONDATION CONDITIONING MATERIAL SHALL HAVE A THICKNESS OF AT LEAST 1'-0" BELOW THE BOTTOM OF THE PRECAST UNITS. THE MATERIAL SHALL BE FORMED AND SCREED TO THE PROPER ELEVATION AT LEAST 1'-0" BEYOND THE SIDES OF THE PRECAST UNITS.

THE PRECAST UNITS SHALL BE CAREFULLY POSITIONED ON THE PREPARED FONDATION CONDITIONING MATERIAL, FEMALE END UPGRADe WITH THE MALE END FULLY INSERTED AND EACH JOINT CHECKED FOR ALIGNMENT PRIOR TO JACKING THE UNIT INTO PLACE. SATISFACTORY FITTING AND PROPER GRADE SHALL BE MAINTAINED AS THE WORK PROCEEDS.

WHEN ANY PRECAST UNIT IS DAMAGED DURING HANDLING, THE ENGINEER AT HIS DISCRETION SHALL REJECT THE UNIT AS BEING UNFIT FOR INSTALLATION AND THE CONTRACTOR SHALL REMOVE SUCH REJECTED UNIT FROM THE PROJECT. MINOR DAMAGE TO THE UNIT MAY BE REPAIRED BY THE CONTRACTOR WHEN PERMITTED BY THE ENGINEER.

CARE SHALL BE TAKEN DURING BACKFILL AND COMPACTION OPERATION TO MAINTAIN ALIGNMENT AND PREVENT DAMAGE TO THE JOINTS. UNITS WHICH BECOME MISALIGNED, SHOW EXCESSIVE SETTLEMENT, OR HAVE OTHERWISE BEEN DAMAGED BY THE CONTRACTOR'S OPERATION SHALL AT THE DISCRETION OF THE ENGINEER BE REMOVED AND REPLACED BY THE CONTRACTOR AT NO COST TO THE DEPARTMENT OF TRANSPORTATION.

CONCRETE CHAMFERS ON EXTERIOR LONGITUDINAL EDGES OF THE PRECAST UNITS MAY BE AS PER THE FABRICATORS RECOMMENDATION, HOWEVER ALL WORKMANSHIP SHALL PROVIDE CONCRETE COVER OVER THE WELDED WIRE FABRIC AS SPECIFIED ON THE PLANS AND THE CONCRETE CHAMFERS CHOSEN SHALL IN NO WAY FUNCTIONALLY LESSEN THE DESIGN SHOWN ON THE PLANS.

DESIGN EARTH COVER = _____

FOR PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.

PROJECT NO. EXAMPLE
_____ COUNTY
STATION: _____

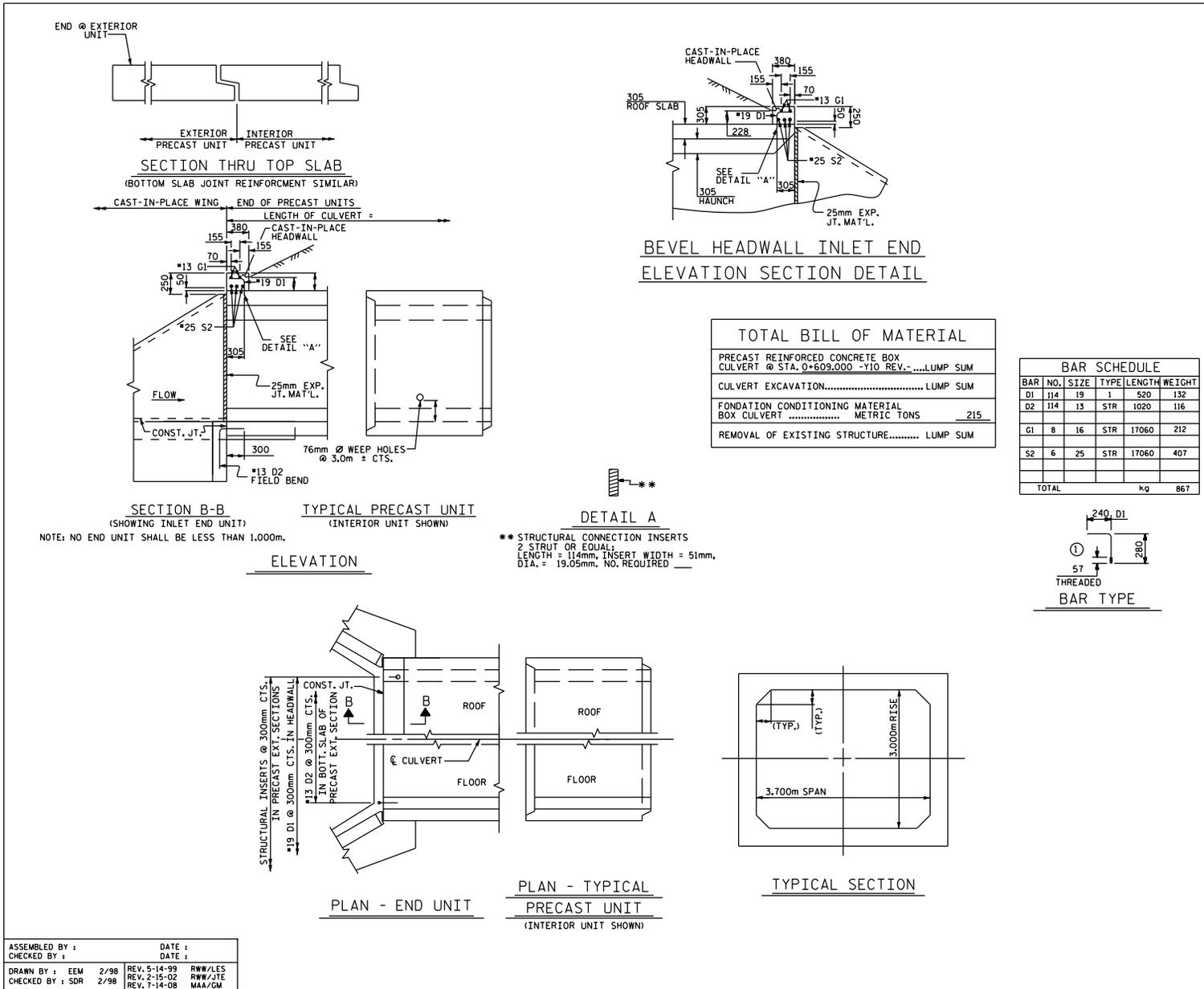
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD PRECAST
REINFORCED CONCRETE
BOX CULVERT
QUAD 12 FT. X 10 FT.
90° SKEW
AUGUST 1989

ASSEMBLED BY :	DATE :
CHECKED BY :	DATE :
DRAWN BY : FCJ 8/22/89	REV. 5-14-88 RWW/LES
CHECKED BY : CRK 8/22/89	REV. 2-15-82 RWW/JTE
	REV. 7-14-88 MAA/GM

NO.	BY	REVISIONS		DATE	SHEET NO.
		NO.	DATE		
1		3			
2		4			
TOTAL SHEETS					

EXAMPLE OF PRECAST CULVERT

FIGURE 9 - 9 M



PROJECT NO. EXAMPLE
COUNTY _____
STATION: 1+355.000 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD PRECAST
REINFORCED CONCRETE
BOX CULVERT
QUAD. 3.700m X 3.000m
90° SKEW

NO.	BY	DATE	REVISIONS			SHEET NO.
			NO.	BY	DATE	
1			3			TOTAL SHEETS
2			4			

STD. NO. PBC15M

EXAMPLE OF PRECAST CULVERT