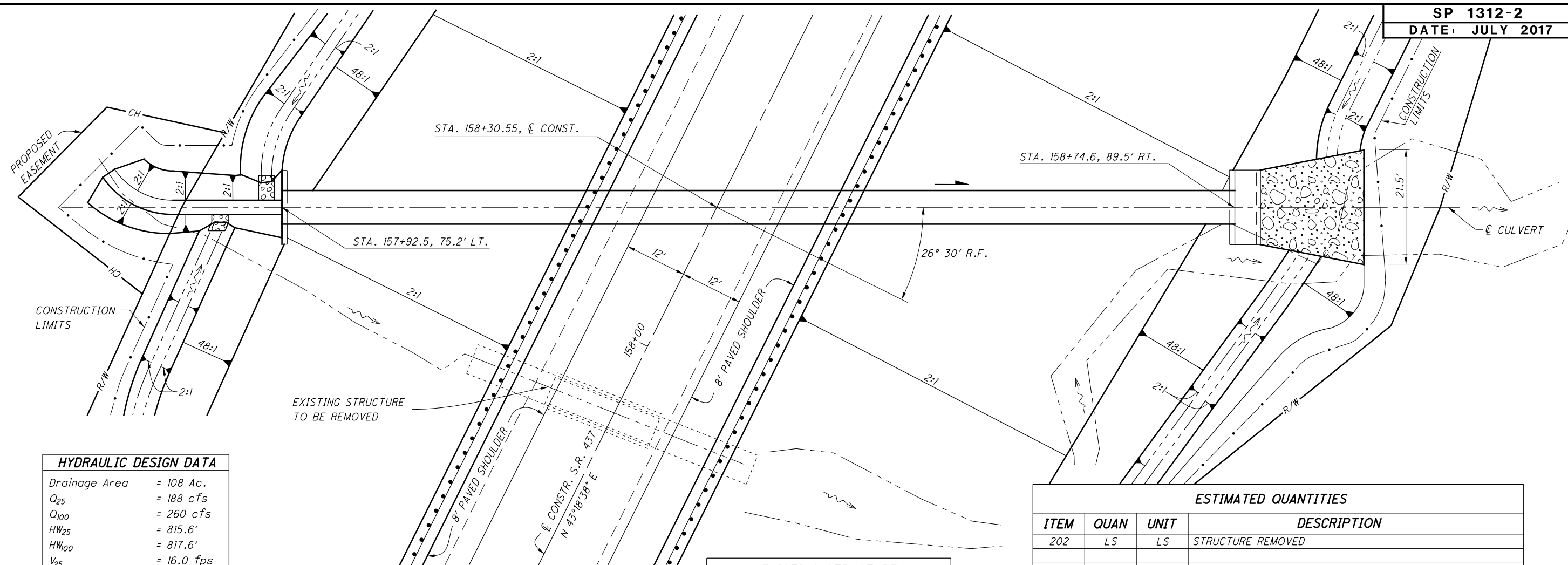




0 5 10 20
HORIZONTAL SCALE IN FEET

CALCULATED JOH
CHECKED JDH



HYDRAULIC DESIGN DATA

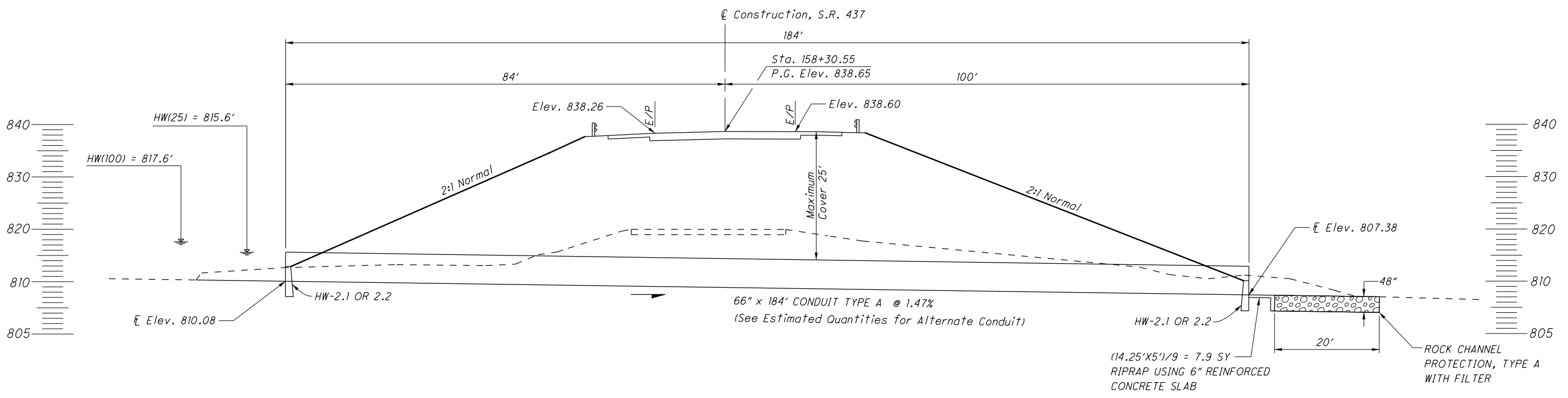
Drainage Area	= 108 Ac.
Q ₂₅	= 188 cfs
Q ₁₀₀	= 260 cfs
HW ₂₅	= 815.6'
HW ₁₀₀	= 817.6'
V ₂₅	= 16.0 fps
V ₁₀₀	= 18.5 fps
ORDINARY HIGH WATER MARK	= 810.3'
DESIGN SERVICE LIFE	= 75 YR
pH	= 7.5
Abrasion Level:	3

EXISTING STRUCTURE
TYPE: STONE ARCH W/72" CMP EXTENSIONS
SIZE: 6'X5'X58" ARCH
SKEW: 26° 30' R.F.
ALIGNMENT: TANGENT
DATE BUILT: 1908
CONDITION: POOR

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
202	LS	LS	STRUCTURE REMOVED
601	60	CY	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER
601	8	SY	RIPRAP
602	5.9	CY	CONCRETE MASONRY
611	184	FT	66" CONDUIT, TYPE A, 706.02; OR 78" 707.02 (0.28) GALVANIZED, 707.02 (0.064) ALUMINIZED, 707.03 (0.138) W/CFP, 707.04 (1") (0.064), 707.05 (0.064), 707.07 (0.109)
670	72	SY	DITCH EROSION PROTECTION MAT TYPE C

QUANTITIES CARRIED TO DRAINAGE SUBSUMMARY, SHEET 37

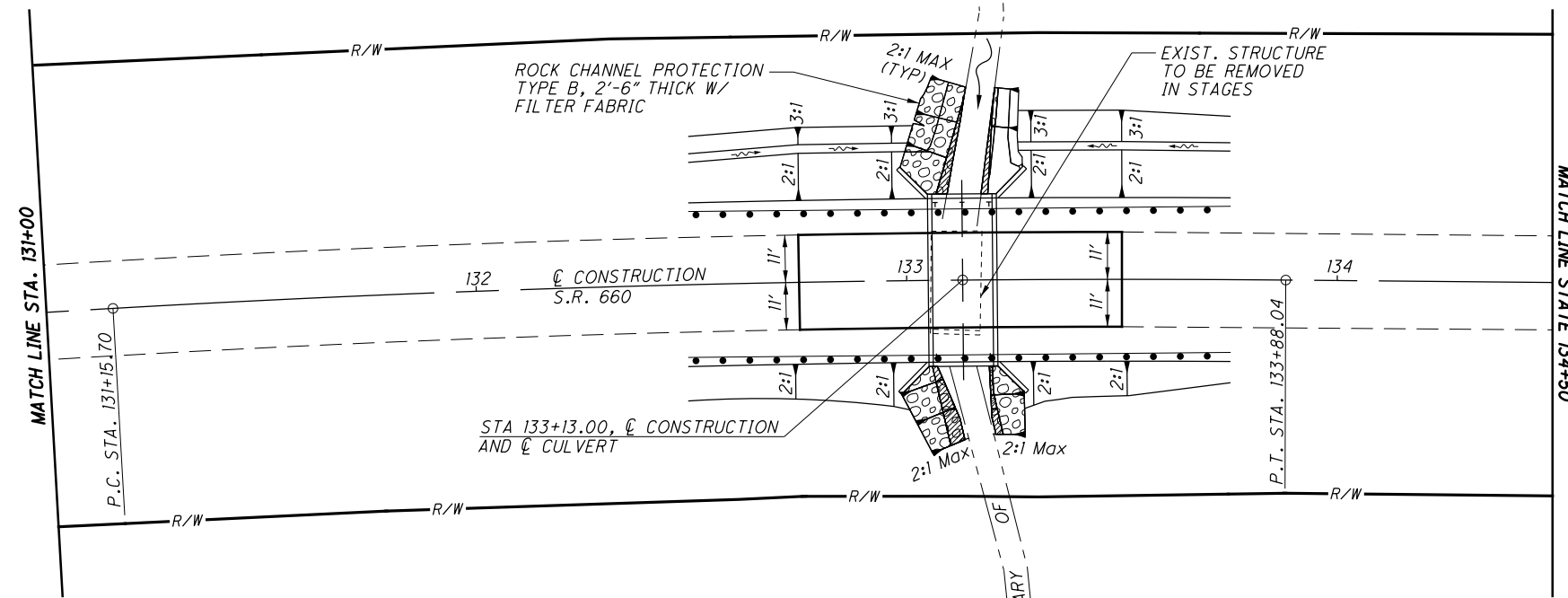


CULVERT DETAIL
S.R. 437 STA. 158+30

PRE-437-2.65



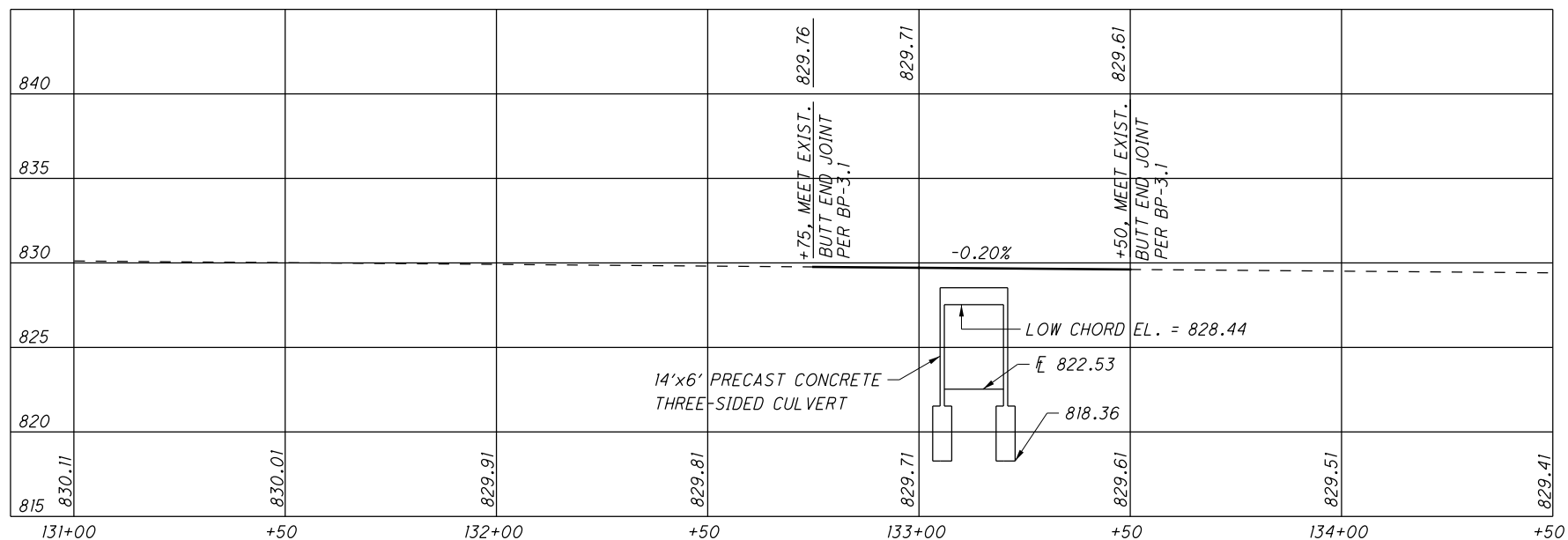
CALCULATED KEW
CHECKED JOH



HYDRAULIC DATA	
DRAINAGE AREA: 0.79 SQ.MI.	
EXISTING WATERWAY OPENING: 60.0 SF	
PROPOSED WATERWAY OPENING: 70.0 SF	
ORDINARY HIGH WATER MARK: 822.9 FT	
SFN: 3006914	
DESIGN SERVICE LIFE: 75 YRS	
pH: 7.4	
Abrasion Level: 3	
$Q_{10} = 297$ CFS	$Q_{100} = 518$ CFS
$V_{10} = 6.9$ FPS	$V_{100} = 7.9$ FPS
$HW_{10} = 827.8$	$HW_{100} = 829.9$

EXISTING STRUCTURE	
TYPE: CONCRETE SLAB SUPPORTED ON GRAVITY WALL ABUTMENT	
SPAN: 12'-0"	
ROADWAY: 22'-5" F/F RAILS	
ALIGNMENT: CURVE	
APPROACH SLAB: NONE	
SUPERELEVATION: VARIES	
DATE BUILT: 1900	
STRUCTURE FILE NO. 3006514	
SKEW: 0° REFERENCE CHORD	
DISPOSITION: TO BE REPLACED	
LOADING: S-II.3(7)	

PROPOSED STRUCTURE	
TYPE: PRECAST REINFORCED CONCRETE FLAT-TOPPED THREE-SIDED CULVERT	
SPAN: 14'-0" F/F CULVERT	
ROADWAY: 34'-0" F/F RAILS	
ALIGNMENT: 1°19'11" CURVED TO THE RIGHT	
SUPERELEVATION: VARIES	
APPROACH SLAB: NONE	
SKEW: 0°	
WEARING SURFACE: ASPHALT CONCRETE	
LOADING: HL93	
FUTURE WEARING SURFACE: 60 PSF	
SFN: 3006914	



CULVERT PLAN AND PROFILE
STA. 133+13.00

GUE-660-2.52



0 5 10 20
HORIZONTAL SCALE IN FEET

CALCULATED
MRV
CHECKED
MLC

CULVERT DETAIL
STA 781+16.50

JAC-93-14.35

EXISTING STRUCTURE

TYPE: 48" AND 54" CORRUGATED METAL PIPES
SKEW: 16° L.F.
ALIGNMENT: TANGENT
CFN: 400930123

PROPOSED STRUCTURE

TYPE: 53"X83" ELLIPTICAL CONCRETE PIPE
SKEW: 16° L.F.
ALIGNMENT: TANGENT

HYDRAULIC DESIGN DATA

DRAINAGE AREA: 344 ACRES
Q(25): 230 CFS
HW(25): 666.24 FT
V(25): 11 FT/S
Q(100): 325 CFS
HW(100): 668.81 FT
V(100): 13 FT/S
ORDINARY HIGH WATER MARK: 661.0'
DESIGN SERVICE LIFE: 50 YRS
pH: 6.8
Abrasion Level: 4

ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY

ITEM	QUANTITY	UNIT	DESCRIPTION
601	9	CY	ROCK CHANNEL PROTECTION, TYPE B, W/FILTER
602	3.3	CY	CONCRETE MASONRY
611	75	FT	53" X 83" CONDUIT, TYPE A, 706.04

