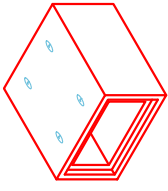




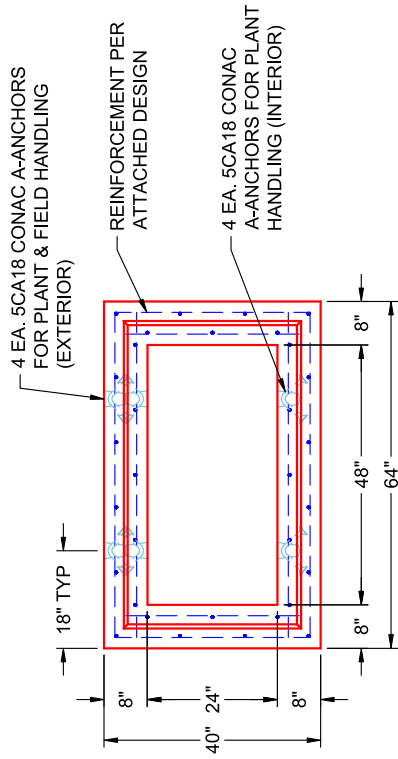
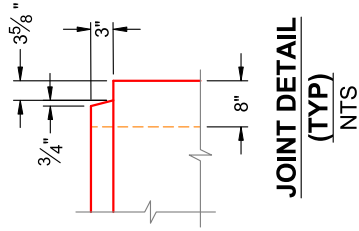
Structure ID: BC 4 x 2 (PC 5)

P1 BC048024-08WLF

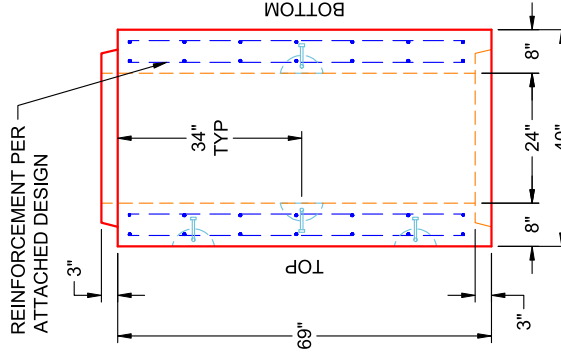
BOX CULVERT (08W/08F/08T) No Haunch G/T



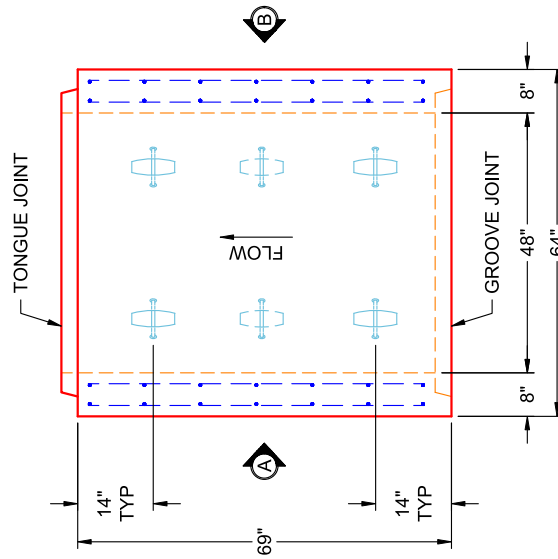
COMPONENT ISOMETRIC VIEW



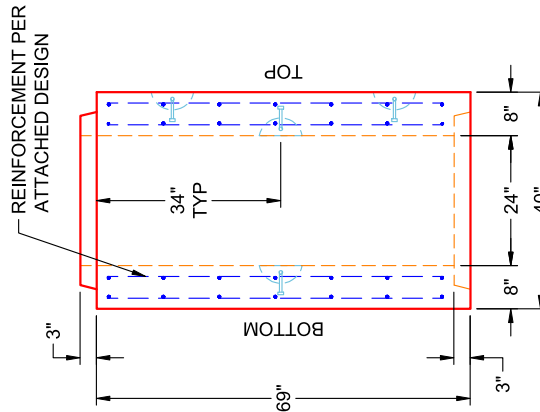
END VIEW TYPICAL



VIEW B PC 5 (UPRIGHT IN MOLD)



PLAN VIEW PC 5 (UPRIGHT IN MOLD)



VIEW A PC 5 (UPRIGHT IN MOLD)

GENERAL NOTES:

1. MANUFACTURED TO ASTM C-1577 & SECTION 714 OF INDOT STANDARD SPECIFICATIONS FOR REINFORCED CONCRETE BOX STRUCTURES
2. LOAD REQUIREMENTS: HL93
3. REINFORCEMENT PER ATTACHED DESIGN
4. COVER DEPTH: 4'-8"
5. CONCRETE: 5,000 PSI AT 28 DAYS
6. JOINT SEALANT: 1" BUTYL MASTIC (CS-102) EXTERIOR JOINT WRAP: 12" WIDE (CS-212)
7. WEIGHT: 4' X 2' (48" X 24") RCBC = 1,418 LBS / LF (69" LONG SECTION = 8,152 LBS)

INFRASTRUCTURE PRECAST (ICAST)

Sht _____ of _____
 By: J. Horsley
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 p. 1 of 3

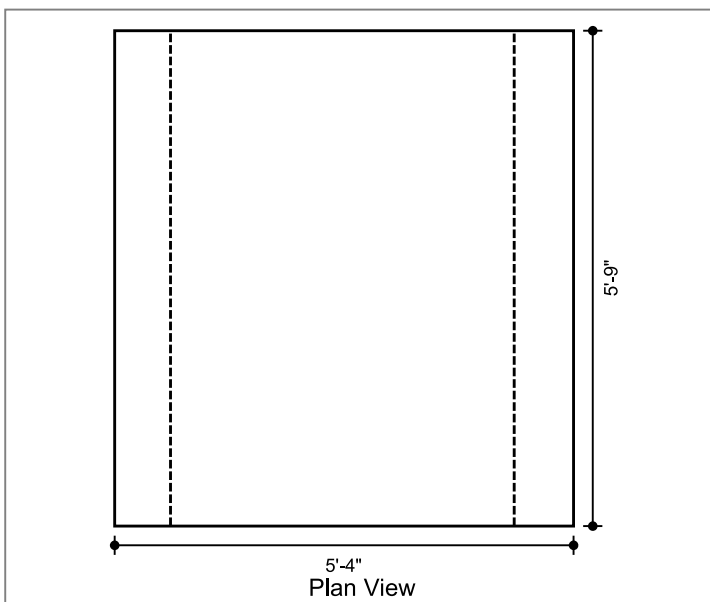
Project : Alcoa Outfall
 Task :
 Job No. : 25-2073

Client: Bowen Engineering Co
 File: 4x2 BC Four Sided (no haunch) - 25-2073 Alcoa Outfall

Spec.: LRFD 9th ed.
 Type of Culvert: Precast

Physical Dimensions

Clear Span: 4'-0"
 Clear Height: 2'-0"
 Top Slab: 8"
 Bottom Slab: 8"
 Ext. Wall: 8"
 Fill Depth Range
 Maximum: 7.99 ft
 Minimum: 4.00 ft
 Increment: 0.50 ft
 Length: 5'-9"
 Skew Angle: 0.00 deg
 Bottom Slab Support: Full Slab
 Top Haunch, Width: 0"
 Top Haunch, Height: 0"
 Bottom Haunch, Width: 0"
 Bottom Haunch, Height: 0"



Material Properties

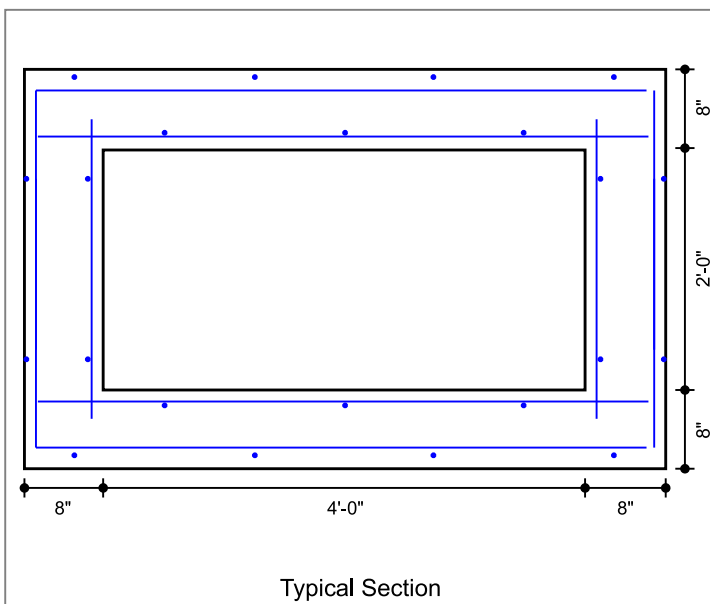
Concrete
 Strength, f_c: 5.000 ksi
 Density: 0.150 kcf
 Elasticity, E_c: 3834 ksi
 Type: Normal wt

Steel
 Yield, f_y: 60 ksi
 Allow Stress: 36 ksi
 Elasticity, E_s: 29000 ksi

Soil
 Density: 0.120 kcf

Exposure Factor
 Class 2 Exposure

Reinforcement Covers
 Ext. Cover Top Slab: 2"
 Ext. Cover Bottom Slab: 1"
 Ext. Cover Walls: 1"
 Int. Cover Walls: 1"
 Int. Cover Top Slab: 1"
 Int. Cover Bottom Slab: 1"



Controlling Ratings

Inventory Rating: NaN
 Operating Rating: NaN

Loads

Live Load
 Vehicle Names: HL-93
 Traffic Direction: Parallel
 Eq. Height of Soil: Calculated

Dead Load
 Future Wearing Surface: 0.000 klf
 Additional Dead Load: 0.000 klf
 Concentrated Loads: none

Lateral Soil Loads
 Eq. Fluid Press. Max: 60.00 pcf
 Eq. Fluid Press. Min: 30.00 pcf

Interior Water Pressure: yes, head pressure = 0 ft
 Exterior Water Pressure: no

INFRASTRUCTURE PRECAST (ICAST)

Sht _____ of _____

By: J. Horsley

Ck: _____

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etc of 3

Project : Alcoa Outfall

Task :

Client: Bowen Engineering Co

Job No. : 25-2073

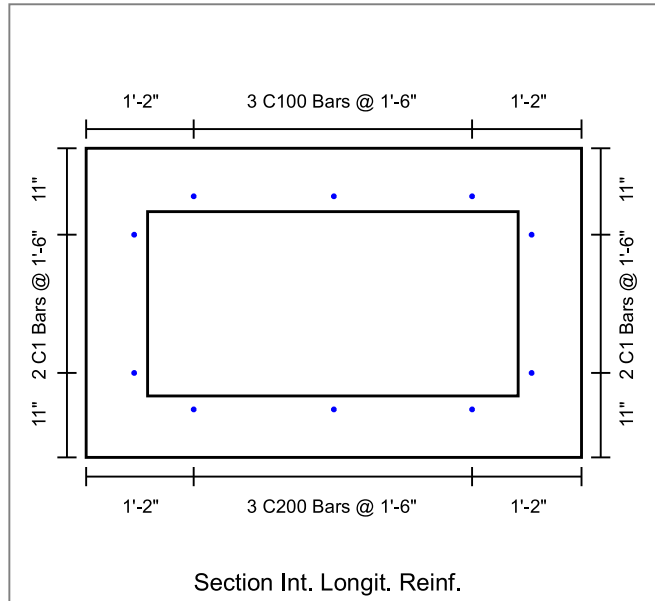
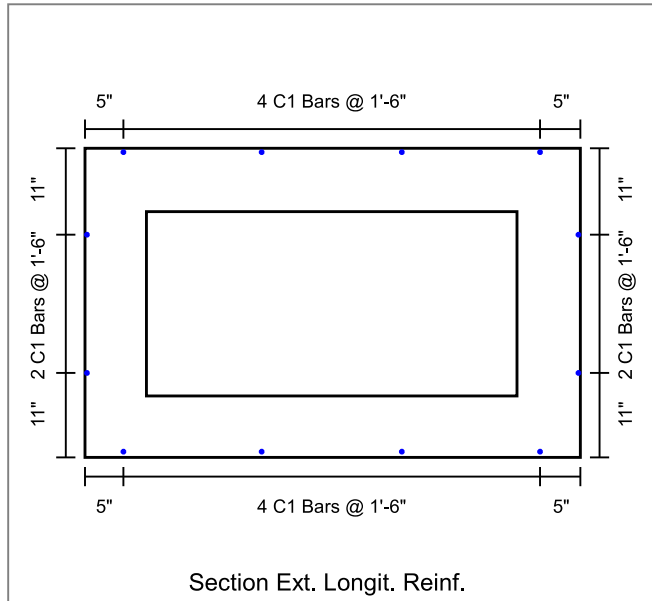
File: 4x2 BC Four Sided (no haunch) - 25-2073 Alcoa Outfall

Concrete Summary

Volume of Concrete: 0.362 cy/ft Total Volume of Concrete: 2.082 cy

Reinforcing Steel Bar Schedule (lb)

| Location | Mark | Qty | Size | Spacing | Type | Length | Center | Ver.Leg | Tot.Weight |
|--------------------|------------|-----|------|---------|------|--------|--------|---------|------------|
| Top Slab(Int) | A100 (AS2) | 6 | 4 | 1'-0" | S | 5'-1" | -- | -- | 20.0 |
| Bot Slab(Int) | A200 (AS3) | 6 | 4 | 1'-0" | S | 5'-1" | -- | -- | 20.0 |
| Corner(Top) | A1 (AS1) | 6 | 4 | 1'-0" | U | 9'-5" | 5'-1" | 2'-2" | 38.0 |
| Corner(Bot) | A2 (AS1) | 6 | 4 | 1'-0" | U | 9'-7" | 5'-1" | 2'-3" | 38.0 |
| Wall(Int) | B1 (AS4) | 12 | 4 | 1'-0" | S | 2'-6" | -- | -- | 20.0 |
| Longit. Top (Int) | C100 (AS5) | 3 | 3 | 1'-6" | S | 5'-8" | -- | -- | 6.0 |
| Longit. Bot (Int) | C200 | 3 | 3 | 1'-6" | S | 5'-8" | -- | -- | 6.0 |
| Longit. Top (Ext) | C1 (AS6) | 4 | 3 | 1'-6" | S | 5'-8" | -- | -- | 8.6 |
| Longit. Bot (Ext) | C1 (AS6) | 4 | 3 | 1'-6" | S | 5'-8" | -- | -- | 8.6 |
| Longit. Wall (Ext) | C1 (AS6) | 4 | 3 | 1'-6" | S | 5'-8" | -- | -- | 8.6 |
| Longit. Wall (Int) | C1 (AS6) | 4 | 3 | 1'-6" | S | 5'-8" | -- | -- | 8.6 |
| | | | | | | | | | 182 |



INFRASTRUCTURE PRECAST (ICAST)

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By: J. Horsley

Ck: _____

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Project : Alcoa Outfall

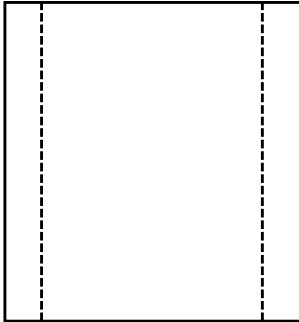
Client: Bowen Engineering Co

Task :

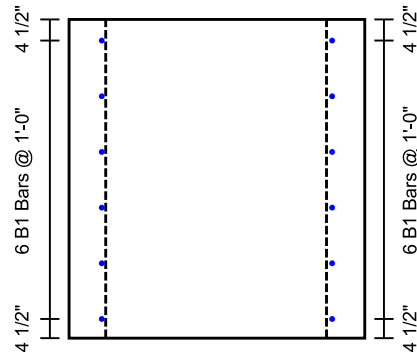
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Job No. : 25-2073

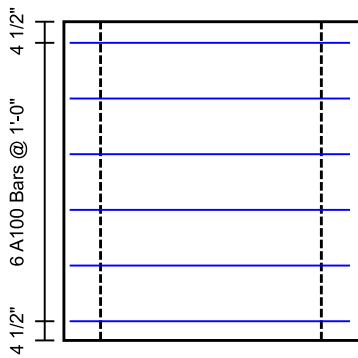
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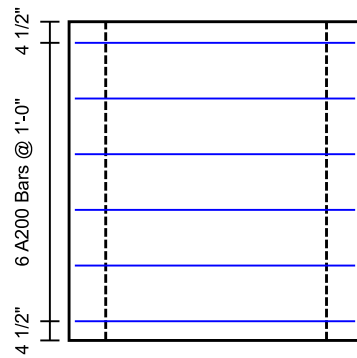
Ext. Wall Reinf.



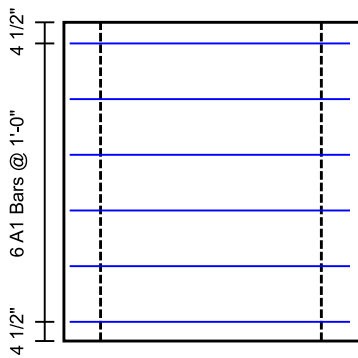
Int. Wall Reinf.



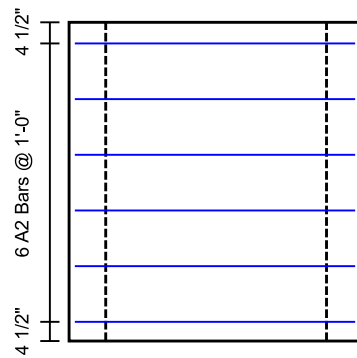
Top Slab Int. Reinf.



Bottom Slab Int. Reinf.



Top Slab Corner Reinf.



Bottom Slab Corner Reinf.