

# CONSTRUCTION

- Large Culvert





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## BEFORE & AFTER (LARGE CULVERT)



# DESIGN

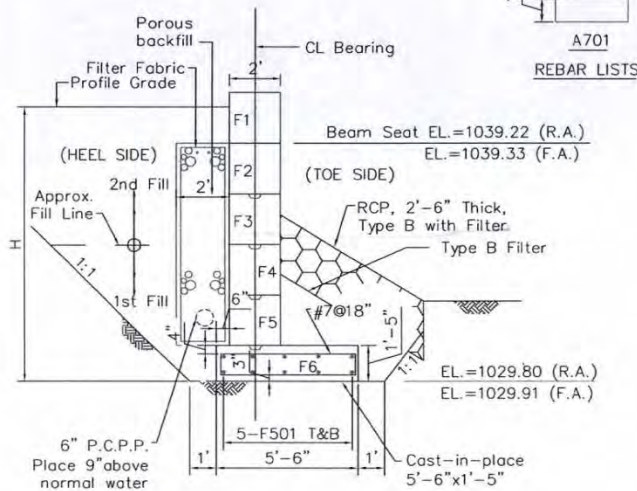
- **Large Culvert**
  - Pipe Culvert
  - Elliptical
  - Box Culvert
- **Bridges**
  - 10 year flood (Check 100 year)
  - ADT  $\equiv$  Design Speed, Minimum Width, Shoulder Width
  - Spread Footing
  - Can be on Capped Pile Abutment
  - Deck Width Multiple of 3' Wide Beam



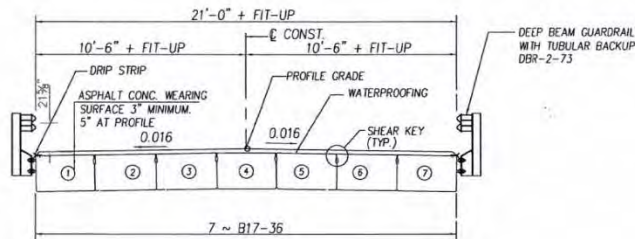


# DESIGN

LEGEND:  
R.A.=REAR ABUTMENT  
F.A.=FORWARD ABUTMENT



SPREAD FOOTING



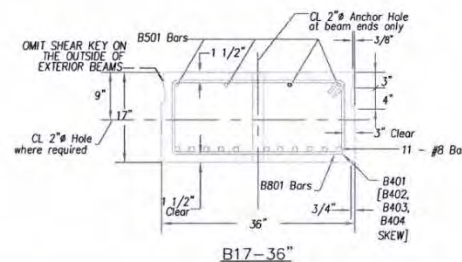
TRANSVERSE SECTION  
PLA-TR182-00.37

- NOTES:  
1. STAINLESS STEEL DRIP STRIP  
FOR DRIP STRIP DETAILS REFER TO STD. DWG. DS-1-92.

NOTE: FILL 1/3 HEIGHT OF KEYWAY WITH MORTAR BEFORE PLACING THE NEXT UPPER SECTION

## PROCEDURES:

1. Level footer base to receive cast-in-place footing F6. Locate and set 4"Ø PVC pipes and keyways.
2. Insert 1"Ø dowel bars into footer F6.
3. Apply Grout over keyways and set F5 footers. Align with 1"Ø rebar and match 4"Ø dowel holes. Grout.
4. Apply Grout over keyways and set F4 footers. Align with 1"Ø rebar and match 4"Ø dowel holes. Grout.
5. Apply Grout over keyways and set F3 footers. Align with 1"Ø rebar and match 4"Ø dowel holes. Grout.
6. Apply Grout over keyways and set F2 footers. Align with 1"Ø rebar and match 4"Ø dowel holes. Grout.
7. Backfill passive earth (toe side) and active earth + porous backfill (heel side) simultaneously to the same elevation. May place R.C.P. on the toe side at this time.
8. Repeat steps 1 to 7 for the second abutment.
9. Set concrete box beams on 6"x6"x1" bearing pads after step 1 to 7 had been performed for both abutments. (Drill dowel holes on F2 to receive box beam dowel bars)
10. Set F1 wingwalls.
11. Install porous backfill with filter fabric to 1'-0" below finish grade.
12. Backfill to beam seat or top of deck beams.
13. Install waterproofing, drip strip, sealing concrete surfaces and overlay with asphalt.
14. Install guardrail by others.



B17-36"

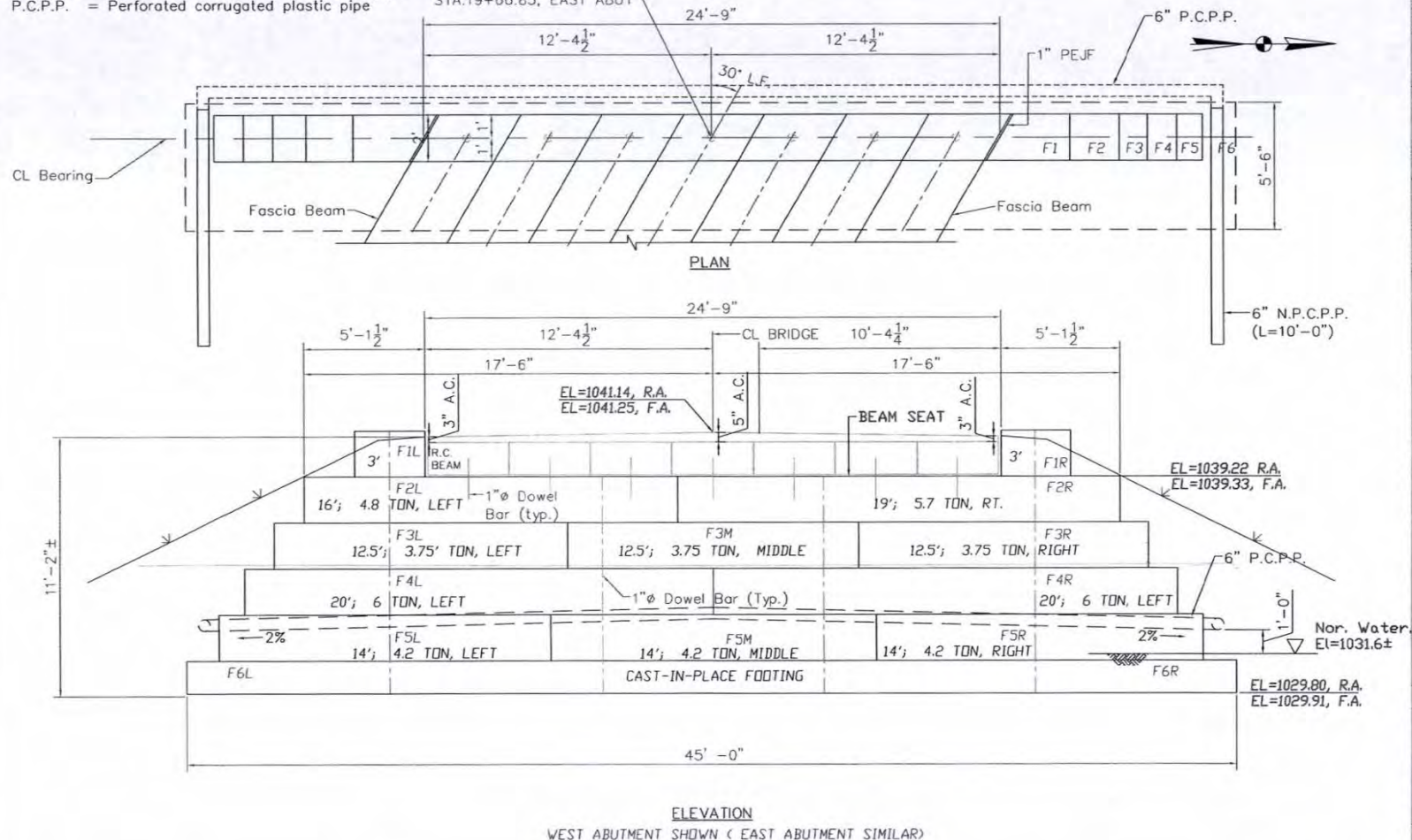


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## NOTE:

N.P.C.P.P.=Non-perforated corrugated plastic pipe  
P.C.P.P. = Perforated corrugated plastic pipe

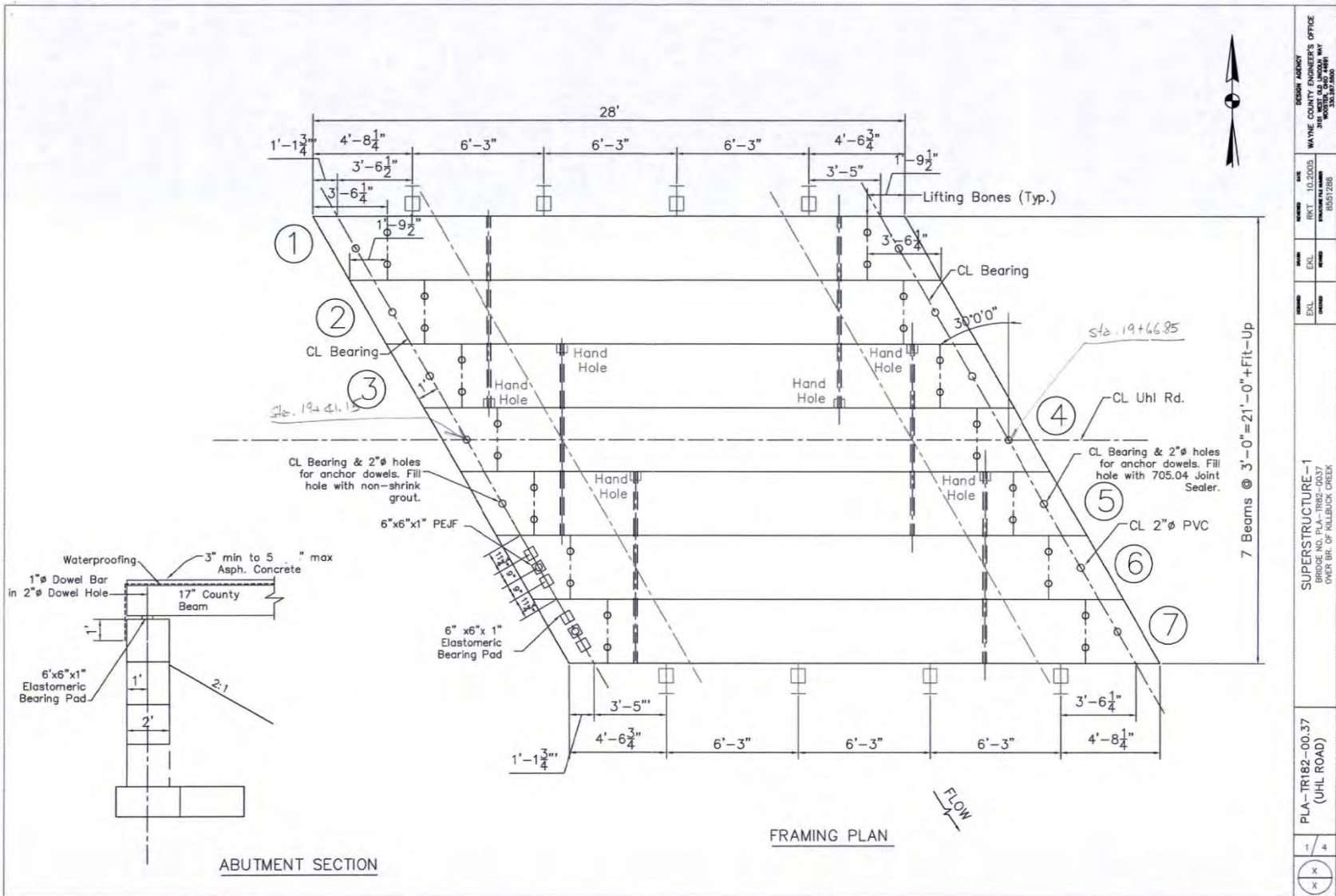
STA.19+41.15, WEST ABUT  
STA.19+66.85, EAST ABUT



DESIGN AGENCY	WAYNE COUNTY ENGINEER'S OFFICE
DATE	10/26/05
PROJECT	BRIDGE NO. 19-182-0037
SCALE	1" = 10'-0"
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# DESIGN





# PRECASTING

- **Bridges**
  - Rebar Assembly
  - Rebar Rack
  - Beam Form
  - Concrete Delivery
  - Pouring Concrete
  - Finished Product
  - Lifting Beam (20 Ton)
  - Quality Control





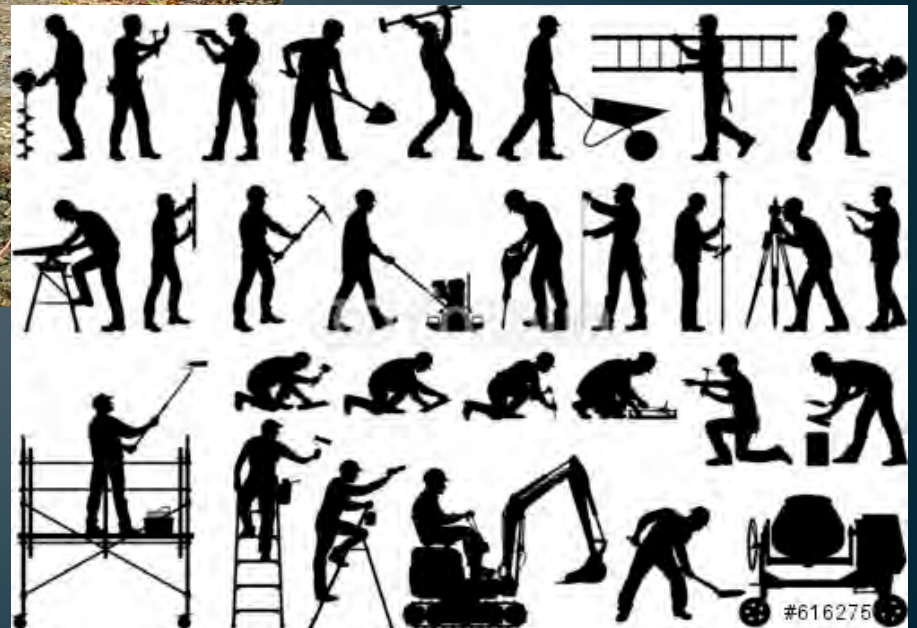
# PRECASTING

- **Bridge Abutment**
  - Assembled Rebar
  - Similar Casting Process





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