**SECTION THRU FORMLINER**

- **Broken Rib**
  - FINISH: THICKNESS = 1 1/2" height = 1 1/2" width = 1" thick = 1 1/2"
- **Rustic Ashlar**
  - FINISH: THICKNESS = 3" height = 1 1/2" width = 1 1/2" thick = 3/4"
- **Field Stone - Random**
  - FINISH: THICKNESS = 3/4" height = 1 1/2" width = 1 1/2" thick = 1/2"
- **Rectangular Cut Stone**
  - FINISH: THICKNESS = 5 1/2" height = 1 1/2" width = 1 1/2" thick = 3/4"

**Retaining Wall Notes**
- FORMLINER CORNERING ON RETAINING WALLS SHALL BE LEVEL.

**Abutment Notes**
- FORMLINER CORNERING ON ABUTMENTS AND RINGS SHALL BE LEVEL.
- THE FORMLINER CORNERING ON THE RINGS SHALL BE VERTICALLY ALIGNED WITH THE FORMLINER CORNERING ON THE FRONT OF THE ABUTMENT.
- THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.

**Pier Notes**
- FORMLINER CORNERING ON PIERs SHALL BE LEVEL.
- THE FORMLINER CORNERING ON ALL FACES OF EACH COLUMN SHALL BE VERTICALLY ALIGNED.
- SPACE ADJACENT PORTIONS OF FORMLINER ON DELETTER FACE SO THAT CORNERING IS ALIGNED VERTICALLY FROM CORNER TO CORNER FACE.
- THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.

**Parapet Notes**
- FORMLINER CORNERING ON PARAPETS SHALL BE PARALLEL TO TOP OF PARAPET.
DESIGNER NOTES FOR PRECAST CONCRETE STRUCTURE

DEEP BORDERS SHALL BE THREE-PIECE PRECAST CONCRETE STRUCTURES.

PRECAST BORDERS WILL BE LAYERED TO SPREAD OUT TO EXCEED DWG.

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LRFD COLLAR/HEADWALL DESIGN NOTES:
- MEMBRANE REINFORCEMENT HAS ONLY BEEN DESIGNED FOR THE FOLLOWING 3 LOAD CASES:
  - SERVICE PRESSURE + LIVE LOAD SUPERIMPOSED
  - MEMBRANE REINFORCEMENT CAN BE TRANSMITTED THROUGH A BARRIER TO THE HEADWALL.
  - PRECAST HEADWALL THICKNESS
  - PRECAST HEADWALL IS AT SAME ELEVATION AS TOP OF HEADWALL
  - FUTURE MEMBRANE REINFORCEMENT IS ADDED WITH ADDITIONAL CONCRETE
  - FOR EXISTING HEADWALL / DESIGN ONLY

PRECAST THREE-SIDED BOX CULVERT HEADWALL DETAILS
STATE OF WASHINGTON
DEPARTMENT OF TRANSPORTATION
STRUCTURES DEVELOPMENT SECTION
APPROVED: Scot Becker
DATE: [Blank]
STANDARD 36.13
### Geometric Properties (ft) Not Shown on Drawings

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### Refer to standards side for reinforcing details

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**Note:** These steel areas are shown for covers of 12"-0" or less.