GENERAL NOTES:

1. Use Class II concrete.
2. Reinforcing steel is either Grade 40 or 60.
3. Endwalls may be cast in place or precast concrete. The Contractor or the Supplier will determine the additional reinforcement necessary for handling precast units.
4. Chamfer all exposed edges and corners 9/16 unless otherwise shown.
5. Quantities shown are for estimating purposes only.

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<td>3</td>
<td>Double 72&quot; Pipe Endwall Details</td>
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</tbody>
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STRAIGHT CONCRETE ENDWALLS 72" PIPE
NOTES:
1. 2" clearance on all reinforcement, unless otherwise shown.
2. Cut and bend B Bars as shown.
3. All bar dimensions are out to out.

LEGEND:
H = Horizontal Bars
B = Bent Bars
V = Vertical Bars
D = Dowels or Diagonal Bars

BILL OF REINFORCING STEEL

<table>
<thead>
<tr>
<th>REINFORCING STEEL</th>
<th>NO. REQD.</th>
<th>LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>H_1</td>
<td>4</td>
<td>35'-8&quot;</td>
</tr>
<tr>
<td>V_1</td>
<td>20</td>
<td>8'-7&quot;</td>
</tr>
<tr>
<td>B_1</td>
<td>4</td>
<td>35'-8&quot;</td>
</tr>
<tr>
<td>B_2</td>
<td>4</td>
<td>35'-8&quot;</td>
</tr>
<tr>
<td>B_3</td>
<td>4</td>
<td>35'-8&quot;</td>
</tr>
</tbody>
</table>

BILL OF REINFORCING STEEL

<table>
<thead>
<tr>
<th>ITEM</th>
<th>MARK</th>
<th>SIZE</th>
<th>NO. REQD.</th>
<th>UNIT</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>H_1</td>
<td>4</td>
<td>35'-8&quot;</td>
<td>Lb.</td>
</tr>
<tr>
<td>2</td>
<td>V_1</td>
<td>20</td>
<td>8'-7&quot;</td>
<td>Cu. Yd.</td>
</tr>
<tr>
<td>3</td>
<td>B_1</td>
<td>4</td>
<td>35'-8&quot;</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>B_2</td>
<td>4</td>
<td>35'-8&quot;</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>B_3</td>
<td>4</td>
<td>35'-8&quot;</td>
<td></td>
</tr>
</tbody>
</table>

ESTIMATED QUANTITIES

SINGLE 72" PIPE ENDWALL

LEGEND:
V = Vertical Bars
H = Horizontal Bars
D = Dowels or Diagonal Bars
B = Bent Bars

SECTION C-C

DETAIL "A"

CONSTRUCTION JOINT

SECTION A-A

CORRUGATED METAL PIPE

SECTION B-B

ENDWALL

CONCRETE PIPE

CORRUGATED METAL PIPE

CONCRETE PIPE (OPTIONAL ENTRANCE)

VARIES (5" FOR 3"x1" CORRUGATION)

FOUNDATION SEAL FOR CORR. METAL PIPE ONLY

SINGLE 72" PIPE ENDWALL DETAILS

STRAIGHT CONCRETE ENDWALLS

SINGLE AND DOUBLE 72" PIPE

FY 2020-21

STANDARD PLANS

INDEX

430-033

SHEET

2 of 3
NOTES:
1. 2" clearance on all reinforcement, unless otherwise shown.
2. Cut and bend B Bars as shown.
3. All bar dimensions are out to out.

LEGEND:
H = Horizontal Bars
V = Vertical Bars
B = Bent Bars
D = Dowels or Diagonal Bars

- Corrugated Metal Pipe (Typ.)
- Concrete Pipe (Typ.)

**STRAIGHT CONCRETE ENDWALLS**

**DOUBLE 72" PIPE ENDWALL**

**BILL OF REINFORCING STEEL**

<table>
<thead>
<tr>
<th>MARK</th>
<th>SIZE</th>
<th>NO. REQD.</th>
<th>LENGTH</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2</td>
<td>6&quot;</td>
<td>6</td>
<td>6</td>
<td>Lb.</td>
</tr>
<tr>
<td>V1</td>
<td>1&quot;</td>
<td>8</td>
<td>8</td>
<td>Lb.</td>
</tr>
<tr>
<td>B1</td>
<td>10&quot;</td>
<td>4</td>
<td>4</td>
<td>Lb.</td>
</tr>
</tbody>
</table>

**DIAMETERS**
- 72" Pipe
- 60" Pipe

**FACED WALLS**

- Half Elevation (Showing Bars in Front Face of Wall)
- Half Elevation (Showing Bars in Back Face of Wall)

**PLAN**

- (Showing Bars in Footing)

**DOUBLE 72" PIPE ENDWALL DETAILS**

**ESTIMATED QUANTITIES**

- Class II Concrete
- Co Ya: 17.5
- Bill: 1219
- Bill: 1218

**FACED WALLS**

- Field Bend (Typ.) (See Note 2)
- 6" Pipe
- 10" Pipe
- 18" Pipe
- 49" Pipe
- 10'-4"
- 18'-0"
- 23'-0"
- 46'-0"
- 8'-3"
- 10'-3"
- 18'-0"
- 23'-0"
- 46'-0"
- 8'-3"