Notes:
1. For additional details see Index 425-052.
2. Inlet to be paid for under the contract unit price for Inlets (Ditch Bottom Type C Modified), EA. Handrail to be paid for under the contract unit price for Pipe Handrail (Material), LF.
Notes:
1. Maximum pipe size shall be 24" diameter.
2. Grading back of sidewalk varies and shall be done as directed by the Engineer.
3. Concrete quantities shown are for maximum wall heights, and shall be basis for estimate and payment.
4. Riprap quantities shown are for estimate purposes only. Cost of riprap to be included in cost of the endwall.
5. Endwalls to be paid for under the contract unit price for Concrete Class 1 (Endwalls), CY. Handrail to be paid for under the contract unit price for Pipe Handrail (Material), LF.

<table>
<thead>
<tr>
<th>Pipe Size (in)</th>
<th>Concrete Class I (CY)</th>
<th>Sand-Cement Riprap (CY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>2.3</td>
<td>1.1</td>
</tr>
<tr>
<td>18</td>
<td>2.5</td>
<td>1.3</td>
</tr>
<tr>
<td>24</td>
<td>3.3</td>
<td>1.8</td>
</tr>
</tbody>
</table>

See Plans For Handrail Requirements

Riprap Slopes Steeper Than 1:1½ (Max. 1:1), And Ditch Bottom (Symmetrical About θ)
YARD DRAIN ITEM INCLUDES:

1. 15" x 15" x 12" Concrete or PVC Tee 4' long.
2. Grate diameter = 14-½"  
   Thickness = 2-½"  
   Flow area = 45 sq in min.  
   Light Duty Cast Iron, see Specification Section 962.
3. 12" pipe as necessary.
4. 0.04 Cubic yards concrete for slab.

YARD DRAINS

Notes:
1. Yard drains to be located outside the R/W. Drainage area should not exceed 750 SF (grate flow 0.1 Cfs).
2. Yard drains may be constructed at the option of the property owner as shown on the plans.
3. Cost of plugs and collars to be included in the cost for 15" pipe. For collar and plug details see Index 430-001.
4. Yard drains to be paid for under the contract unit price for Yard Drains, EA.

SHALLOW DITCHES

Notes:
1. To be constructed at locations as directed by the Engineer.
2. Either cast iron pipe or PVC rigid conduit, U.L. listed for direct sunlight exposure, Schedule 40, may be used.
3. Pipe and Mitered End to be paid for under the contract unit price for either Cast Iron Soil Pipe (Standard) (4"), 1/2 or PVC Pipe For Back Of Sidewalk Drainage (4"), 1/2

FLOW LINES OF PIPES TO MATCH GUTTER ELEVATIONS

Notes:
1. To be paid for as Yard Drain
2. To be paid for as 15" Pipe

As Yard Drain
As 15" Pipe

0.5% Min. Slope

Ditch Bottom

Class I Concrete

Mitered End

0.04 Cubic yards concrete for slab.

0.04 Cubic yards concrete for slab.