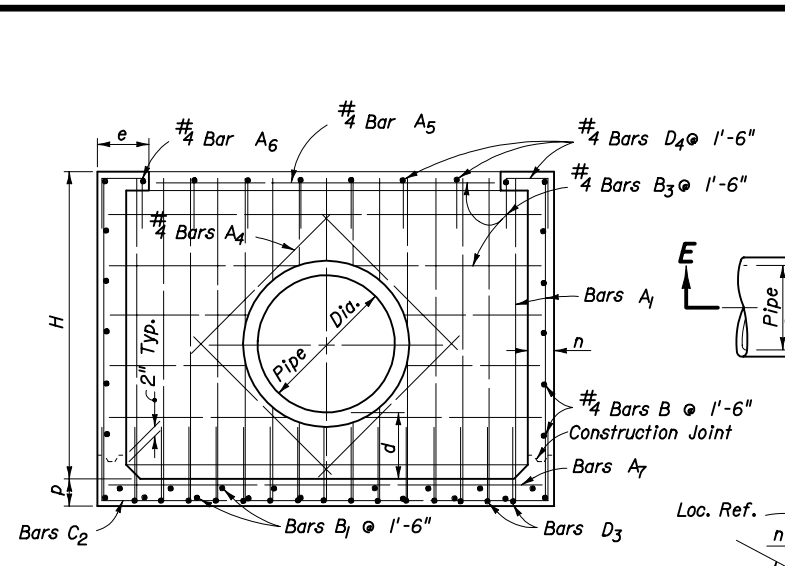
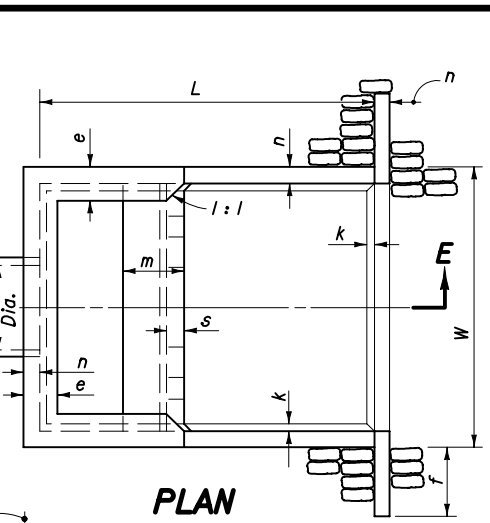


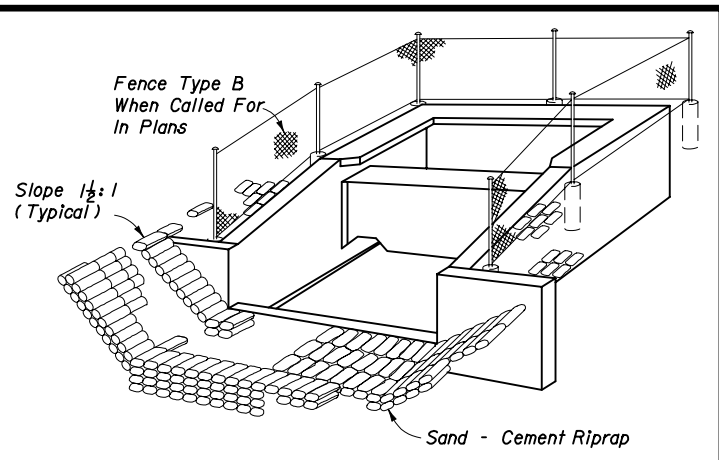
PLAN



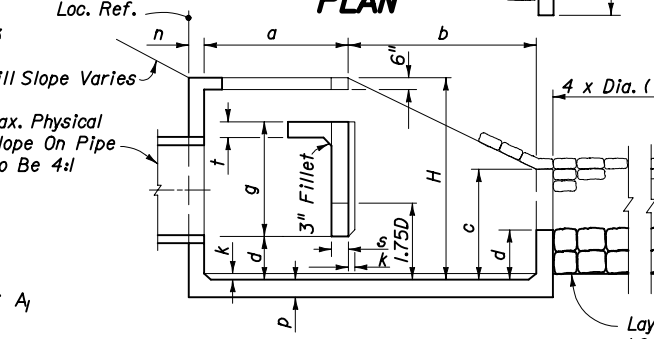
SECTION CC



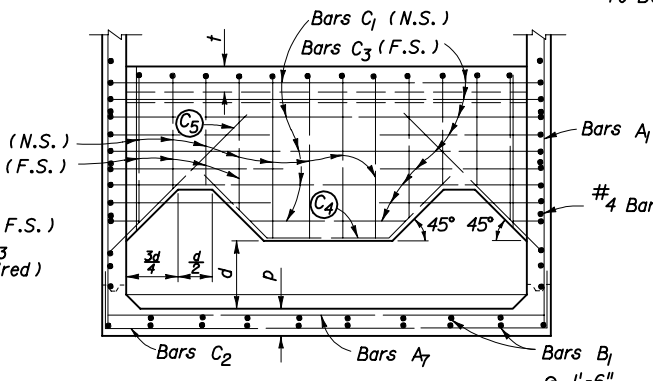
PLAN



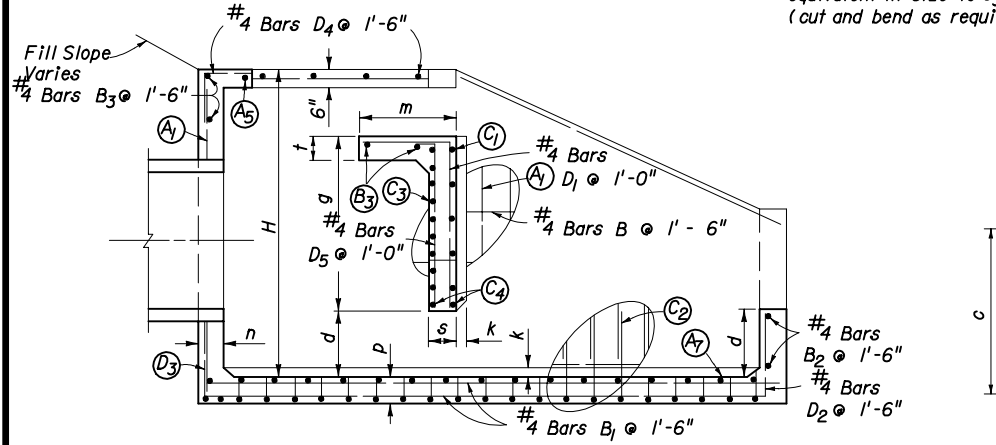
PERSPECTIVE



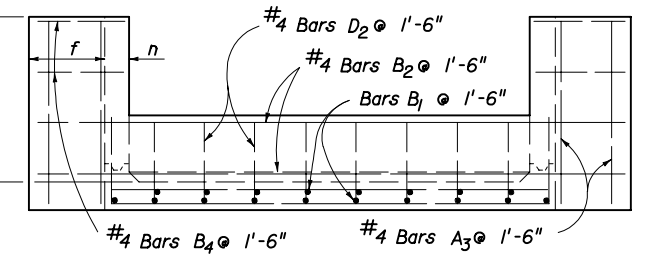
SECTION EE



SECTION DD



SECTION BB



VIEW AA

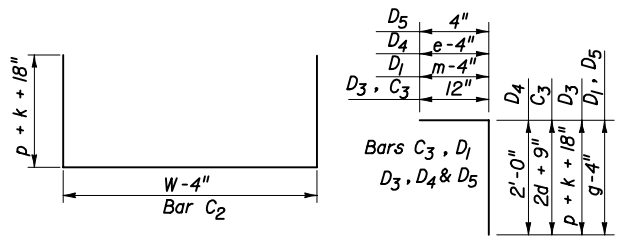
Note: Bars C<sub>4</sub> & C<sub>5</sub> (N.S. & F.S.) equivalent in size to C<sub>3</sub> (cut and bend as required)

| Pipe Size<br>Dia.<br>In. | Area<br>S.F. | Q (Max.)<br>(cfs) | Dimensions |      |      |     |       |      |     |      |     |      |      |    |        |    |   | Concrete<br>Class I<br>C.Y. | Reinf.<br>Steel<br>Lbs. | Sand<br>Cement<br>Riprap<br>C.Y. (Nom.) |      |
|--------------------------|--------------|-------------------|------------|------|------|-----|-------|------|-----|------|-----|------|------|----|--------|----|---|-----------------------------|-------------------------|---|------|
|                          |              |                   | Ft. - In.  |      |      |     |       |      |     |      |     |      |      |    |        |    |   |                             |                         |   |      |
|                          |              |                   | W          | H    | L    | a   | b     | c    | d   | e    | f   | g    | m    | n  | p      | s  | t |                             |                         |   | k    |
| 30                       | 4.91         | 59                | 9-0        | 6-3  | 10-8 | 4-7 | 6-1   | 3-4  | 1-4 | 1-2  | 2-6 | 3-0  | 1-11 | 6  | 6 1/2  | 7  | 7 | 3                           | 6.72                    | 736                                     | 10.6 |
| 36                       | 7.07         | 85                | 10-5       | 7-3  | 12-4 | 5-3 | 7-1   | 3-10 | 1-7 | 1-3  | 3-0 | 3-6  | 2-3  | 7  | 7 1/2  | 8  | 8 | 3                           | 10.34                   | 1,072                                   | 13.6 |
| 42                       | 9.62         | 115               | 11-10      | 8-0  | 14-0 | 6-0 | 8-0   | 4-5  | 1-9 | 1-6  | 3-0 | 3-11 | 2-6  | 8  | 8 1/2  | 9  | 8 | 4                           | 14.82                   | 1,429                                   | 17.5 |
| 48                       | 12.57        | 151               | 13-3       | 9-0  | 15-8 | 6-9 | 8-11  | 4-11 | 2-0 | 1-7  | 3-0 | 4-5  | 2-10 | 9  | 9 1/2  | 10 | 8 | 4                           | 20.36                   | 2,000                                   | 22.1 |
| 54                       | 15.90        | 191               | 14-8       | 9-9  | 17-4 | 7-4 | 10-0  | 5-5  | 2-2 | 1-10 | 3-0 | 4-11 | 3-0  | 10 | 10 1/2 | 10 | 8 | 4                           | 27.19                   | 2,659                                   | 27.2 |
| 60                       | 13.63        | 236               | 16-1       | 10-9 | 19-0 | 8-0 | 11-0  | 5-11 | 2-5 | 1-11 | 3-0 | 5-4  | 3-4  | 11 | 11 1/2 | 11 | 8 | 6                           | 34.49                   | 3,552                                   | 32.5 |
| 66                       | 23.76        | 285               | 17-3       | 11-6 | 20-6 | 8-8 | 11-10 | 6-5  | 2-7 | 2-1  | 3-0 | 5-9  | 3-7  | 12 | 12 1/2 | 12 | 8 | 6                           | 42.82                   | 4,472                                   | 38.3 |
| 72                       | 28.27        | 339               | 18-6       | 12-3 | 22-0 | 9-3 | 12-9  | 6-11 | 2-9 | 2-3  | 3-0 | 6-2  | 3-9  | 12 | 12 1/2 | 12 | 8 | 6                           | 50.68                   | 5,426                                   | 44.5 |

GENERAL NOTES

- U-type concrete endwall energy dissipators are intended for use outside the clear zone.
- Chamfer all exposed edges 3/4"
- Concrete meeting the requirements of ASTM C478 (4000 psi) may be used in lieu of Class I Concrete in precast items manufactured in plants which are under the Standard Operating Procedures for the inspection of precast drainage products.
- Reinforcing steel shall have 2" min. cover.
- Endwall to be paid for under the contract unit price for Class I Concrete (Endwalls), CY and Reinforcing Steel (Roadway), LB. Riprap to be paid for under the contract unit price for Riprap (Sand-Cement) (Roadway), CY. Cost of plastic filter fabric to be included in the contract unit price for riprap.
- Fencing, when called for in the plans, to be paid for under the contract unit price for Fencing, Type B, LF. Corner posts and end posts to be paid for under the contract unit price for Corner Post Assembly (Type B Fence), EA, and End Post Assembly (Type B Fence), EA, respectively. See Index No. 452 for details of Type B fencing.

| BARS      |                |                   |                |                   |                |                   |                |                   |                |                   |                |                   |
|-----------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|
| Pipe Size | A <sub>1</sub> |                   | A <sub>7</sub> |                   | C <sub>1</sub> |                   | C <sub>2</sub> |                   | C <sub>3</sub> |                   | D <sub>3</sub> |                   |
|           | Size (No.)     | Spacing (Ft.-In.) | Size (No.)     | Spacing (Ft.-In.) | Size (No.)     | Spacing (Ft.-In.) | Size (No.)     | Spacing (Ft.-In.) | Size (No.)     | Spacing (Ft.-In.) | Size (No.)     | Spacing (Ft.-In.) |
| 30"       | 4              | 0-9 1/2           | 4              | 1-6               | 5              | 0-11              | 4              | 0-9 1/2           | 5              | 0-5 1/2           | 4              | 0-9 1/2           |
| 36"       | 5              | 1-0               | 4              | 1-6               | 5              | 0-10              | 5              | 1-0               | 5              | 0-5               | 5              | 1-0               |
| 42"       | 5              | 0-11              | 4              | 1-6               | 6              | 1-1               | 5              | 0-11              | 6              | 0-6 1/2           | 5              | 0-11              |
| 48"       | 5              | 0-9 1/2           | 4              | 1-0               | 6              | 1-0               | 5              | 0-9 1/2           | 6              | 0-6               | 5              | 0-9 1/2           |
| 54"       | 5              | 0-8 1/2           | 4              | 0-10              | 7              | 1-1               | 5              | 0-8 1/2           | 7              | 0-6 1/2           | 5              | 0-8 1/2           |
| 60"       | 6              | 0-10              | 5              | 1-1               | 7              | 1-0               | 6              | 0-10              | 7              | 0-6               | 6              | 0-10              |
| 66"       | 6              | 0-8 1/2           | 5              | 0-11 1/2          | 7              | 0-11              | 6              | 0-8 1/2           | 7              | 0-5 1/2           | 6              | 0-8 1/2           |
| 72"       | 6              | 0-7 1/2           | 5              | 0-10              | 7              | 0-10              | 6              | 0-7 1/2           | 7              | 0-5               | 6              | 0-7 1/2           |



Note: All bar dimensions are out to out.

BENDING DIAGRAM

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

**U-TYPE CONCRETE ENDWALL ENERGY DISSIPATOR**

30" TO 72" PIPE

|             |           |                         |
|-------------|-----------|-------------------------|
| Names       | Dates     | Approved By             |
| Designed By | HAB 10/69 | <i>[Signature]</i>      |
| Drawn By    | RWR 02/84 | State Drainage Engineer |
| Checked By  | JVG 02/84 | Revision                |
|             |           | Sheet No.               |
|             |           | Index No.               |
|             |           | 1 of 1                  |
|             |           | 264                     |