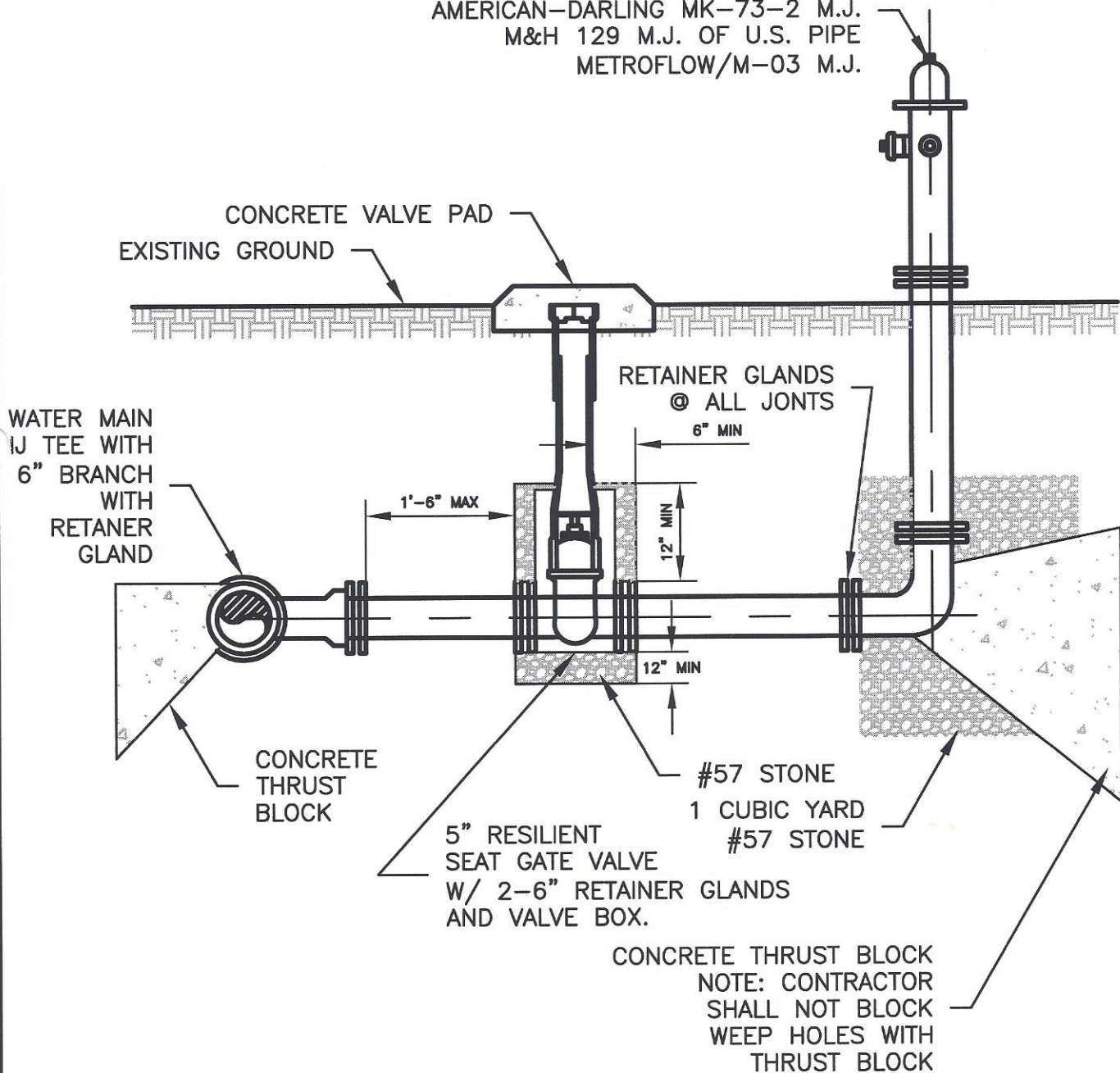


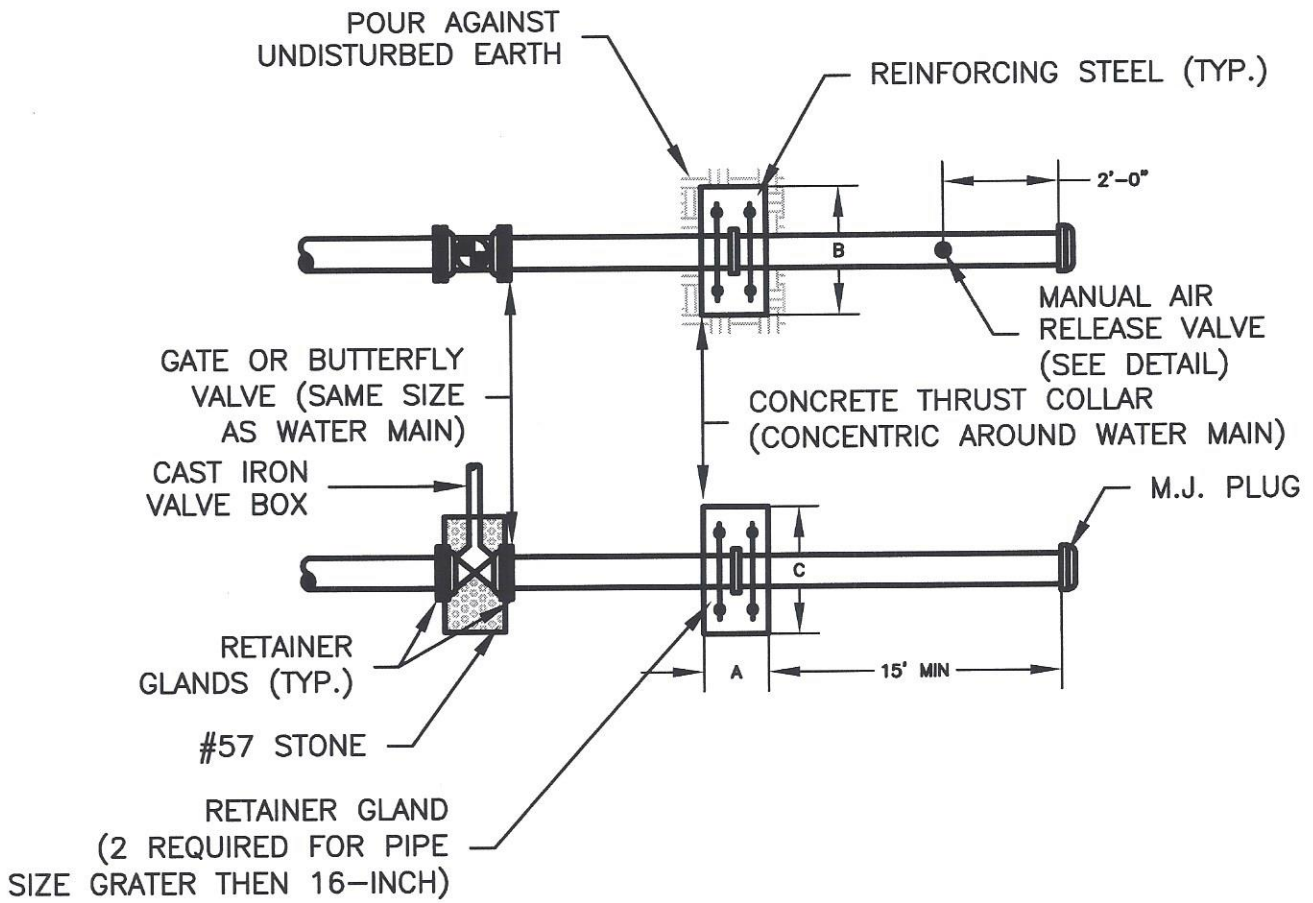
**NOTES:**

1. IF SOIL CONDITIONS ARE SUCH THAT CONCRETE BLOCKING IS NOT EFFECTIVE. THE CONTRACTOR SHALL PROVIDE 2-3/4" HARNESS RODS BETWEEN THE TEE AND GATE VALVE AND BETWEEN THE GATE VALVE AND FIRE HYDRANT IN ADDITION TO RESTRAINT SHOWN.
2. ANCHOR COUPLINGS IN LED OR RETAINER GLANDS AND HARNESS RODS ARE ACCEPTABLE.

3WAY FIRE HYDRANT WITH 4-1/2" VALVE  
 OPENING MUELLER A-431 M.J.  
 AMERICAN-DARLING MK-73-2 M.J.  
 M&H 129 M.J. OF U.S. PIPE  
 METROFLOW/M-03 M.J.



|                           |                          |                                    |                                    |   |
|---------------------------|--------------------------|------------------------------------|------------------------------------|---|
| Sheet No.<br><b>B - 1</b> | Drawn: G.C.<br>Reviewed: | Project No.: R05-348<br>Scale: NTS | <b>TYPICAL FIRE HYDRANT DETAIL</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
|                           | Reviewed:                | Date: 09/08                        |                                    |   |



| MAIN DIAMETER | CONCRETE COLLAR DIM. |       |       | STEEL REINFORCING |
|---------------|----------------------|-------|-------|-------------------|
|               | A                    | B     | C     |                   |
| 20"           | 1'-6"                | 7'-8" | 7'-8" | #9@12" O.C. EWEF  |
| 16"           | 1'-3"                | 6'-6" | 6'-6" | #8@12" O.C. EWEF  |
| 12"           | 1'-2"                | 5'-3" | 5'-3" | #7@12" O.C. EWEF  |
| 6" OR 8"      | 1'-0"                | 4'-0" | 4'-0" | #6@12" O.C. EWEF  |

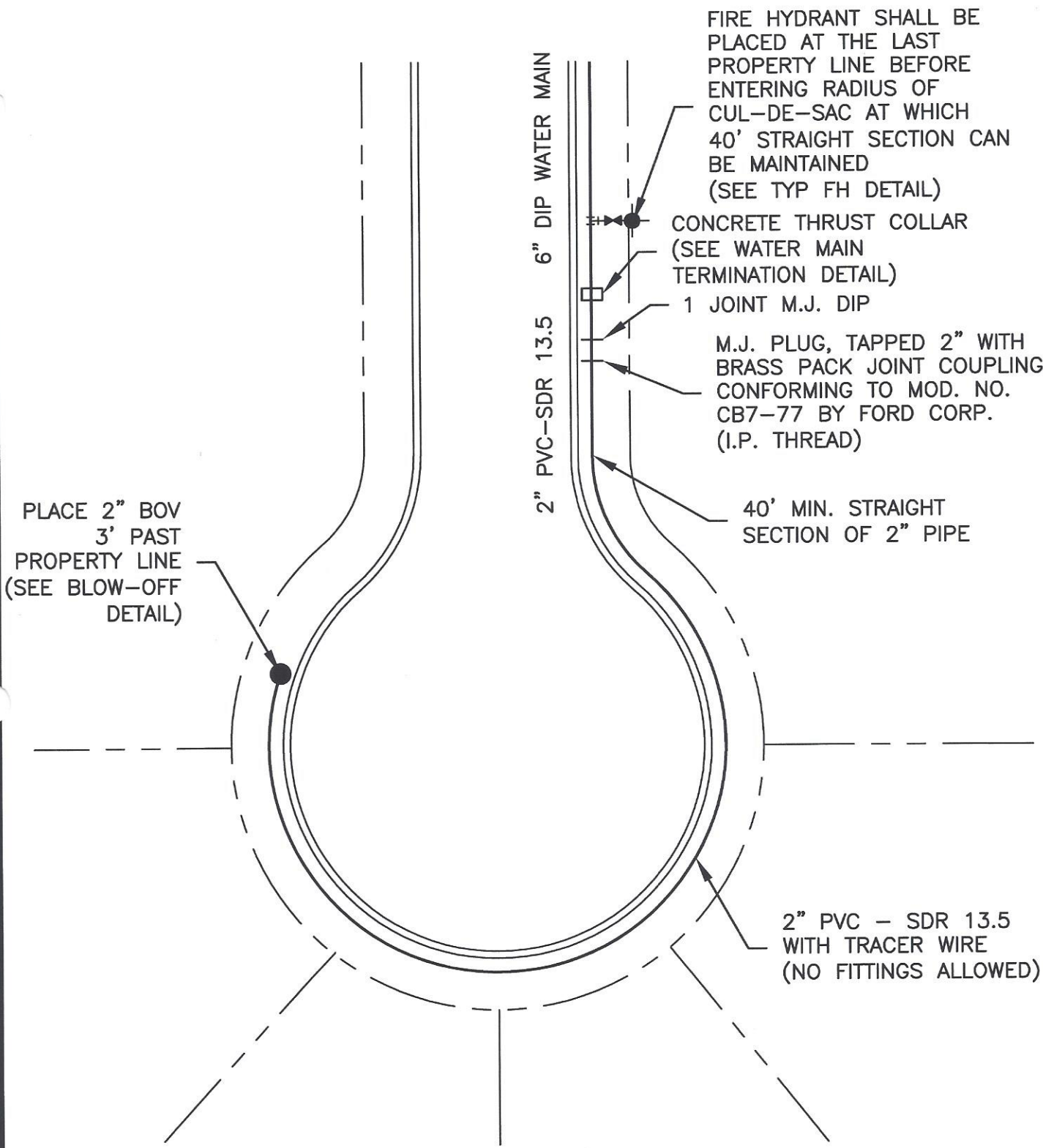
TEST PRESSURE: 250 PSI  
 SOIL BEARING PRESSURE: 3000 PSI

### WATER MAIN TERMINATION DETAIL

**NOTES:**

- FOR USE WHERE FUTURE WATER MAIN EXTENSION IS REQUIRED..

|              |             |                      |                               |   |
|--------------|-------------|----------------------|-------------------------------|---|
| <b>B - 2</b> | Drawn: G.C. | Project No.: R05-348 | <b>WATER MAIN TERMINATION</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
|              | Reviewed:   | Scale: NTS           |                               |   |
|              | Revised:    | Date: 09/08          |                               |   |



FIRE HYDRANT SHALL BE PLACED AT THE LAST PROPERTY LINE BEFORE ENTERING RADIUS OF CUL-DE-SAC AT WHICH 40' STRAIGHT SECTION CAN BE MAINTAINED (SEE TYP FH DETAIL)

CONCRETE THRUST COLLAR (SEE WATER MAIN TERMINATION DETAIL)

1 JOINT M.J. DIP

M.J. PLUG, TAPPED 2" WITH BRASS PACK JOINT COUPLING CONFORMING TO MOD. NO. CB7-77 BY FORD CORP. (I.P. THREAD)

PLACE 2" BOV 3' PAST PROPERTY LINE (SEE BLOW-OFF DETAIL)

6" DIP WATER MAIN

2" PVC-SDR 13.5

40' MIN. STRAIGHT SECTION OF 2" PIPE

2" PVC - SDR 13.5 WITH TRACER WIRE (NO FITTINGS ALLOWED)

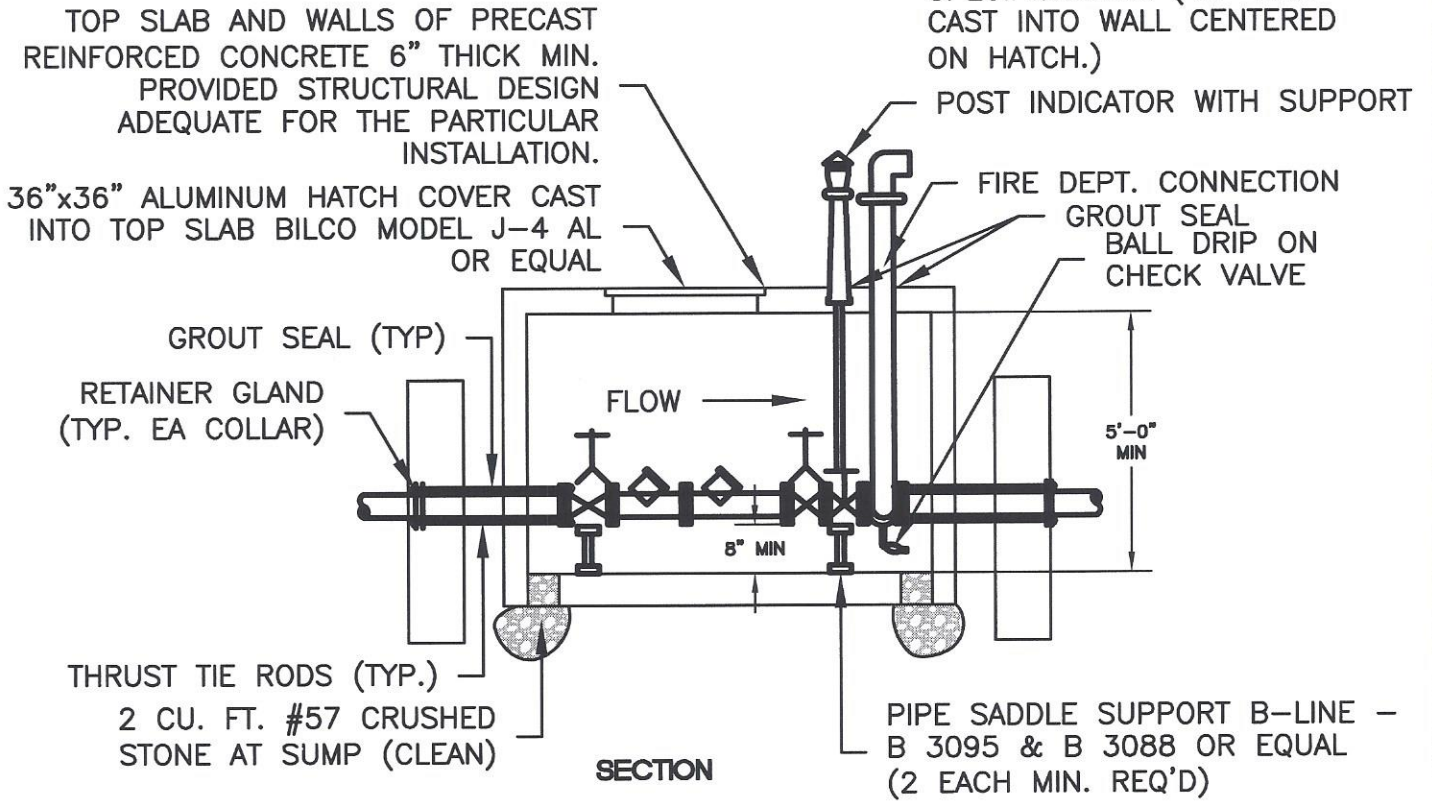
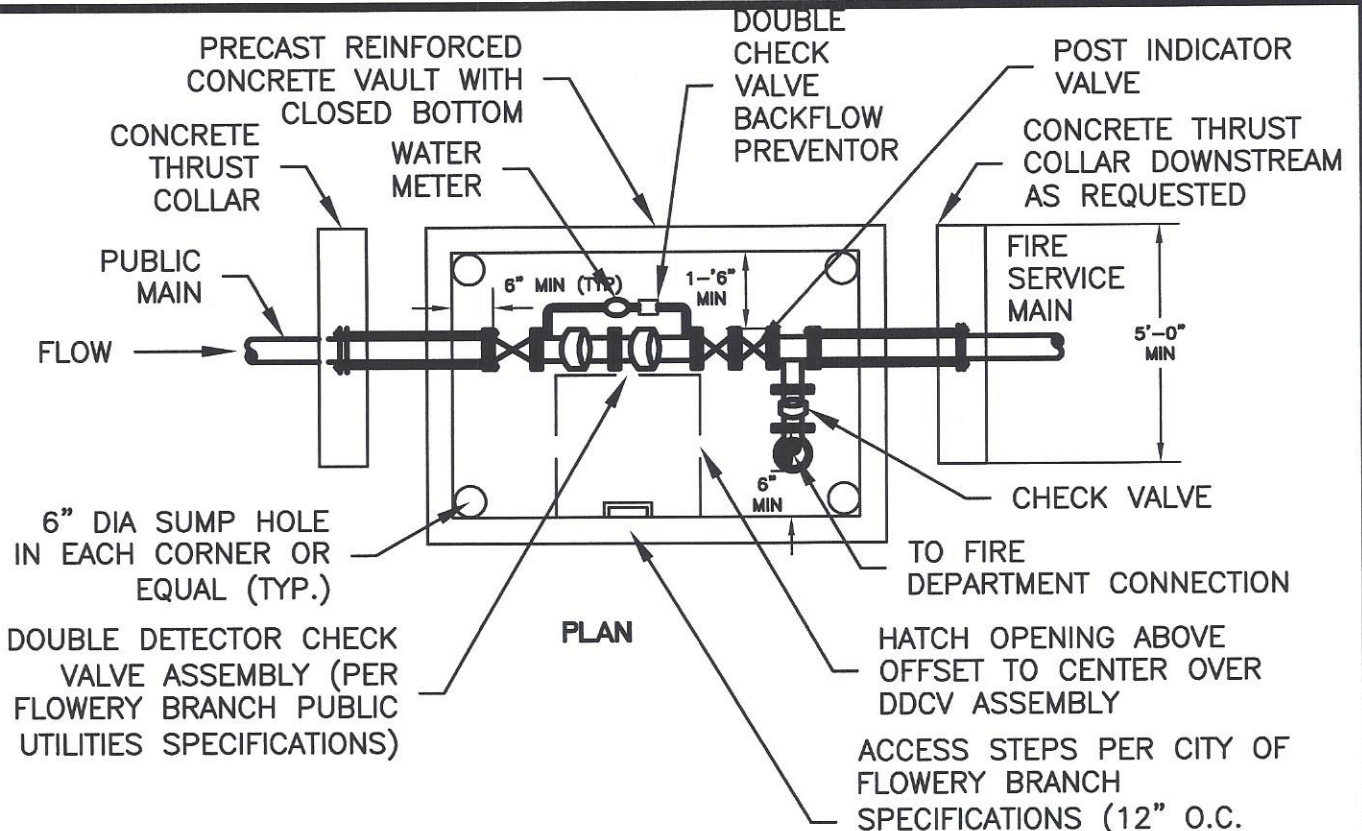
**STANDARD 6" TO 2" REDUCTION DETAIL**

**NOTES:**

1. DETAIL SHOWN IS FOR CUL-DE-SAC USE SAME METHODOLOGY AND MATERIALS FOR ALL 6" TO 2" REDUCTIONS.

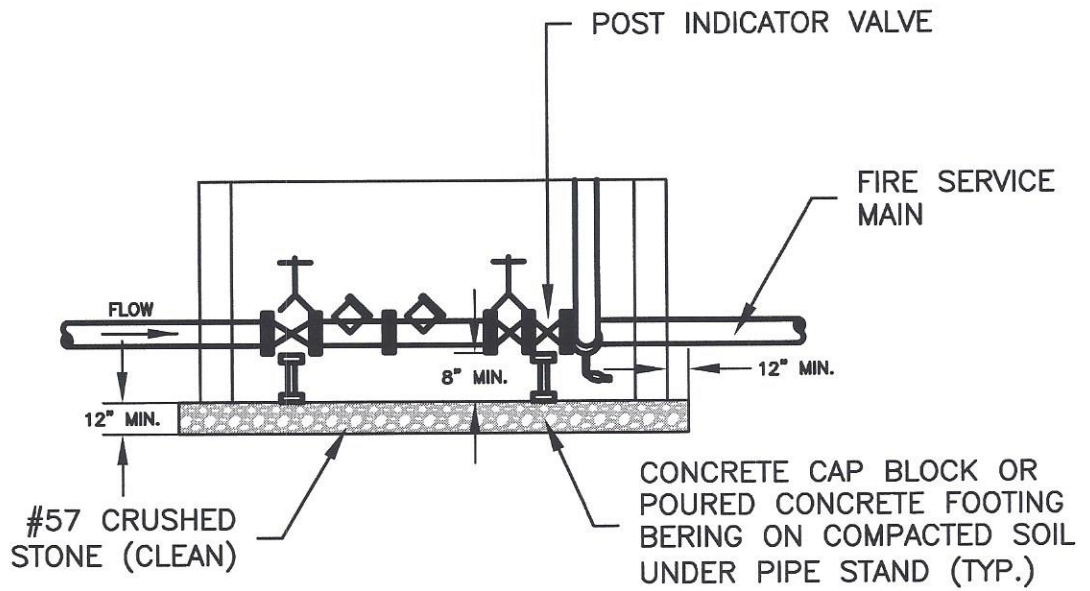
|                           |             |                      |                          |   |
|---------------------------|-------------|----------------------|--------------------------|---|
| Sheet No.<br><b>B - 3</b> | Drawn: G.C. | Project No.: R05-348 | <b>STANDARD 6' TO 2'</b> | CITY OF FLOWERY BRANCH<br>PUBLIC UTILITIES DEPARTMENT |
|                           | Reviewed:   | Scale: NTS           |                          |   |
|                           | Revised:    | Date: 09/08          |                          |   |





|                           |                          |                                    |  |   |
|---------------------------|--------------------------|------------------------------------|--|---|
| Sheet No.<br><b>B - 4</b> | Drawn: G.C.<br>Reviewed: | Project No.: R05-348<br>Scale: NTS | <b>TYPICAL FIRE SERVICE<br/>VAULT DETAIL</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
|                           | Reviewed:                | Date: 09/08                        |  |   |



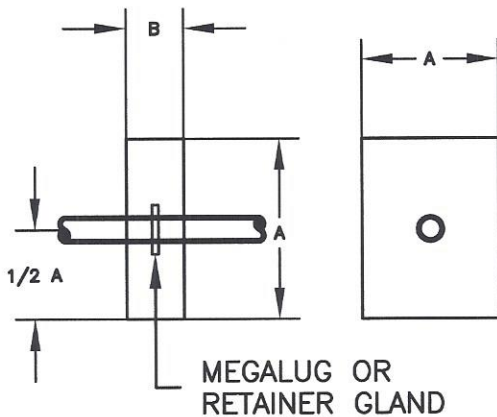


### OPEN BOTTOM VAULT DETAIL

FOR PIPE SIZE 2 1/2" TO 10"

TEST PRESSURE 250 PSI

SOIL BERING PRESSURE : 2000 PSF



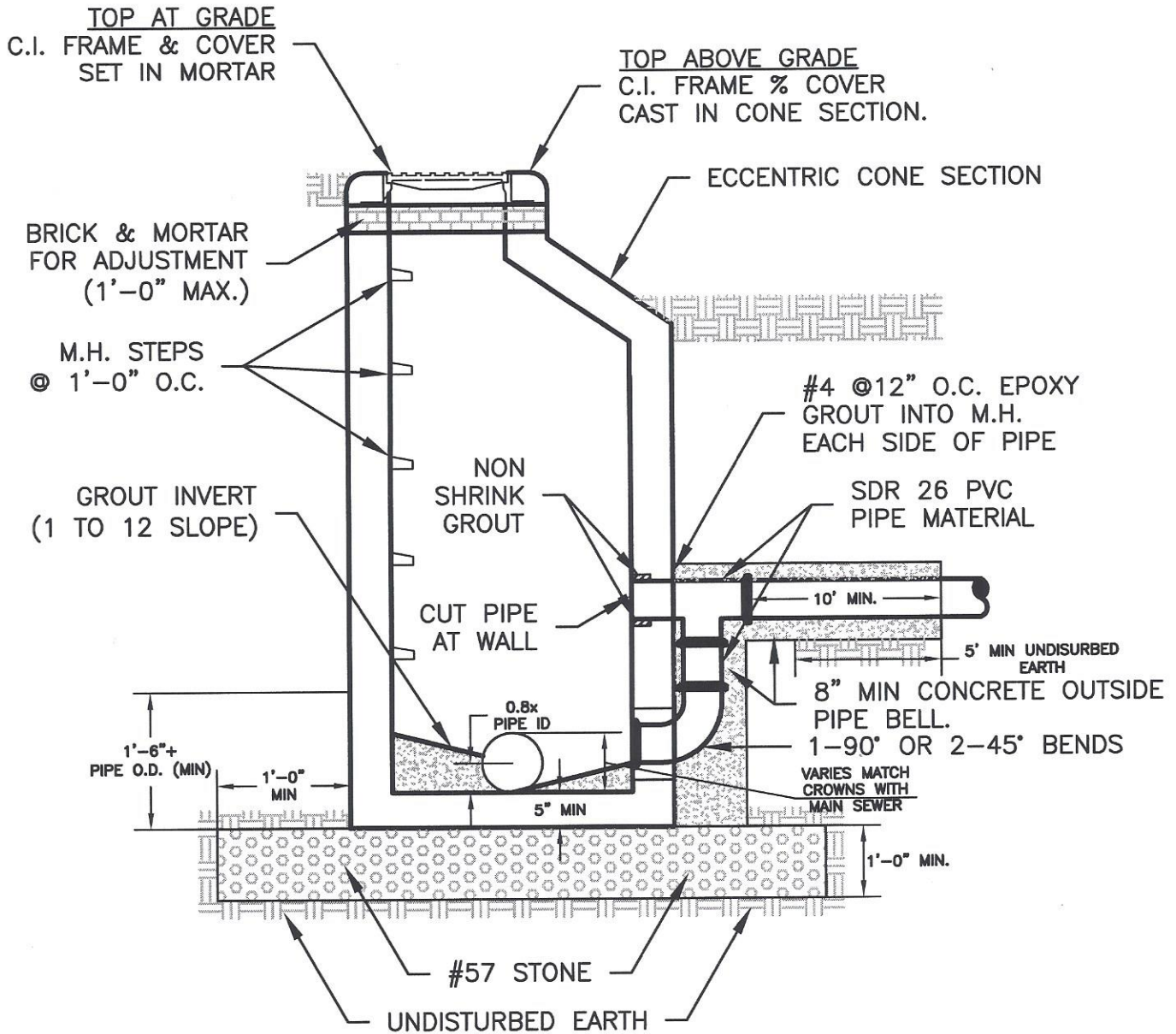
| MAIN SIZE | DIMENSION |        | REINF.      |
|-----------|-----------|--------|-------------|
|           | A         | B      |             |
| 2 1-2"    | 2'-0"     | 0'-8"  | #4@12' EWEF |
| 3"        | 2'-0"     | 0'-8"  | #4@12' EWEF |
| 4"        | 2'-6"     | 0'-10" | #4@8' EWEF  |
| 6"        | 4'-0"     | 1'-0"  | #6@12' EWEF |
| 8"        | 4'-0"     | 1'-0"  | #6@12' EWEF |
| 10"       | 5'-0"     | 1'-2"  | #7@12' EWEF |

### OPEN BOTTOM VAULT DETAIL

**NOTES:**

1. DESIGN SHOWN IS FOR NON-TRAFFIC AREAS PROVIDE STRUCTURAL DESIGN ADEQUATE FOR PARTICULAR INSTALLATION.
2. SUBGRADE UNDER STRUCTURE AND BACKFILL AROUND STRUCTURE AND THRUST COLLARS SHALL BE COMPACTED TO 95% MAX DRY DENSITY.

|                           |                          |                                    |  |   |
|---------------------------|--------------------------|------------------------------------|--|---|
| Sheet No.<br><b>B - 5</b> | Drawn: G.C.<br>Reviewed: | Project No.: R05-348<br>Scale: NTS | <b>TYPICAL FIRE SERVICE<br/>VAULT DETAIL</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
|                           | Revised:                 | Date: 09/08                        |  |   |



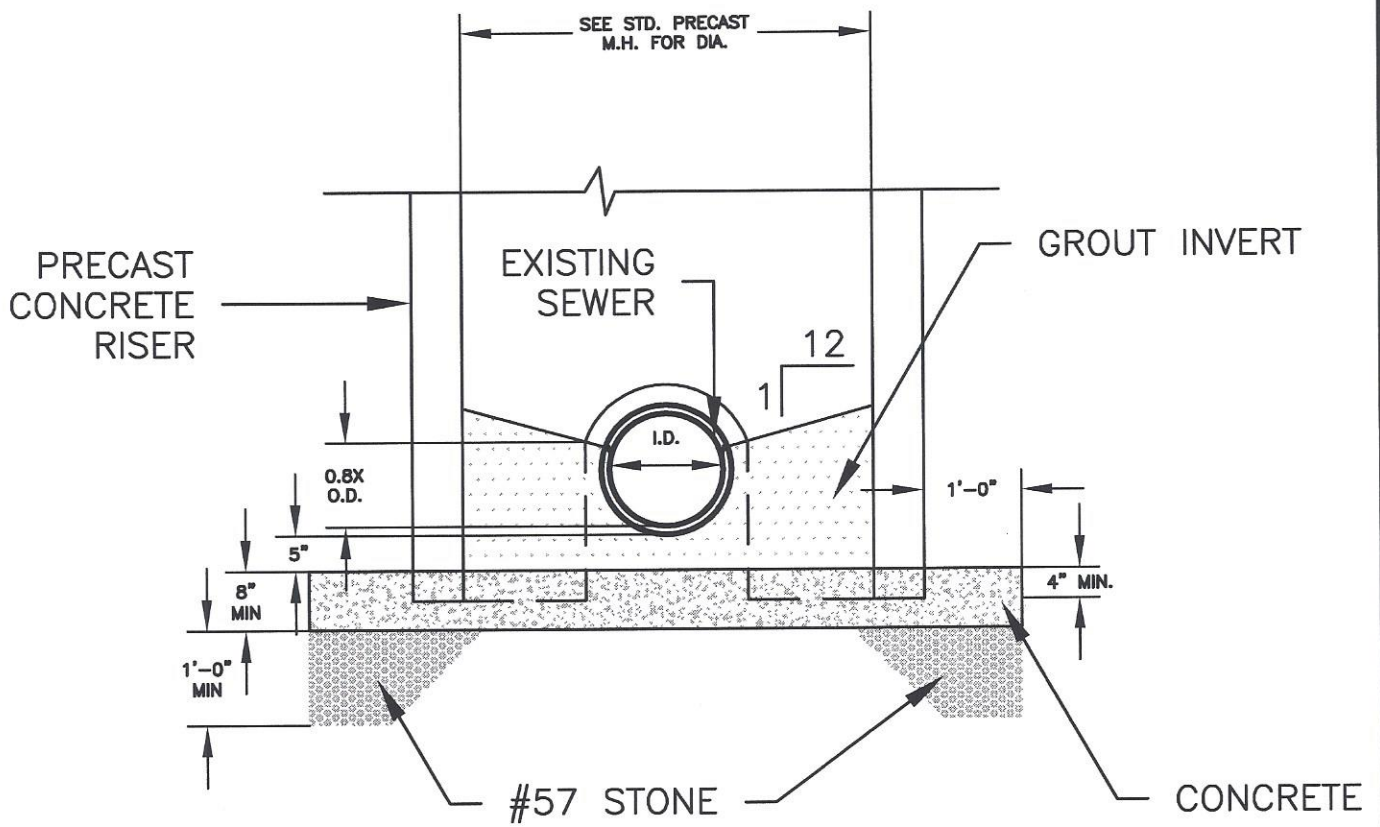
## PRECAST CONCRETE MANHOLE DETAIL AND OUTSIDE DROP SEPARATE

**NOTE:**

1. RUBBER BOOTS REQUIRED AT ALL PIPE CONNECTIONS TO MANHOLE WITH EXCEPTION OF DROP CONNECTIONS.

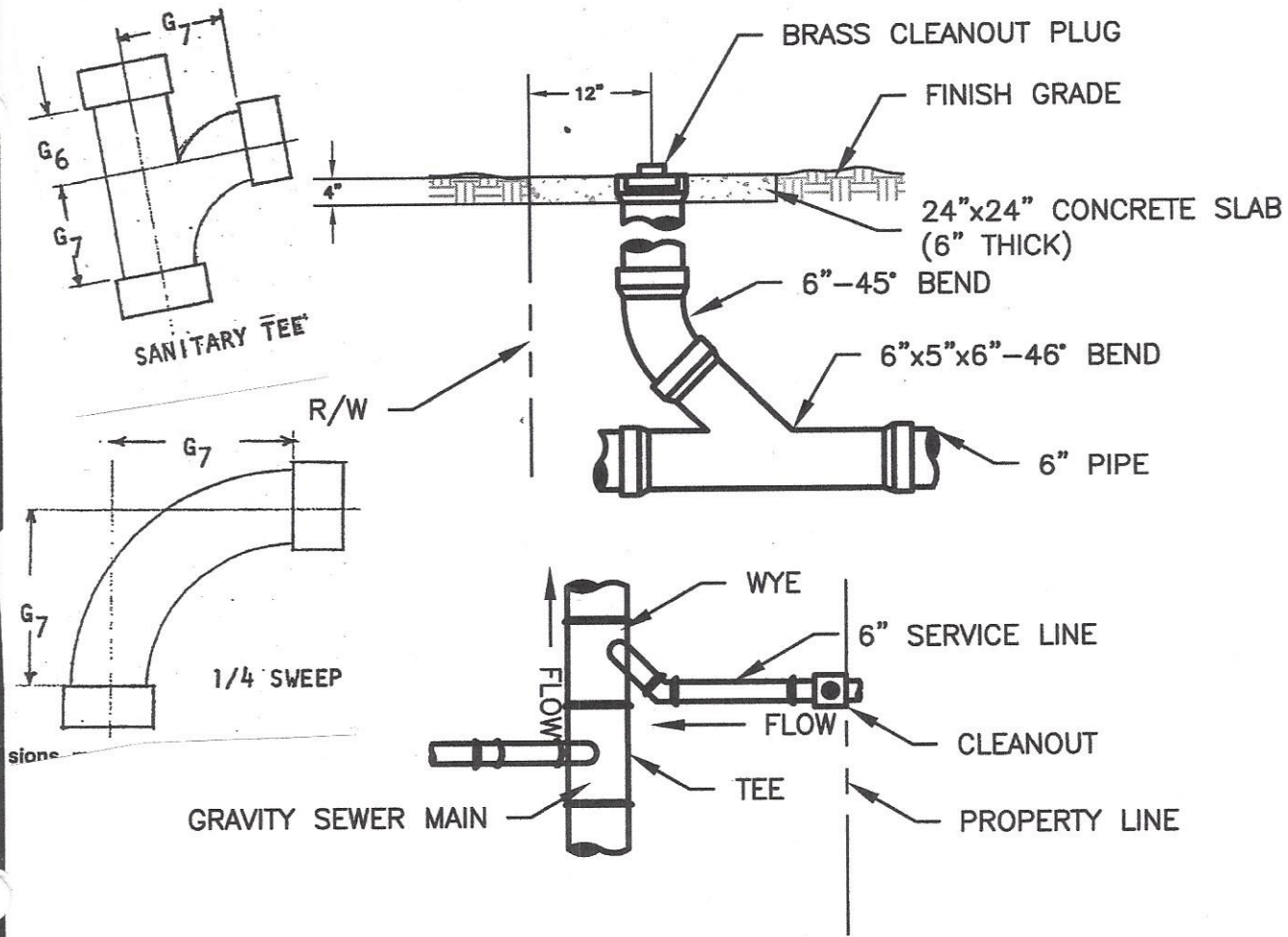
|                           |             |                      |                         |   |
|---------------------------|-------------|----------------------|-------------------------|---|
| Sheet No.<br><b>B - 6</b> | Drawn: G.C. | Project No.: R05-348 | <b>PRECAST CONCRETE</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
|                           | Reviewed:   | Scale: NTS           | <b>MANHOLE DETAIL</b>   |   |
|                           | Revised:    | Date: 09/08          |                         |   |





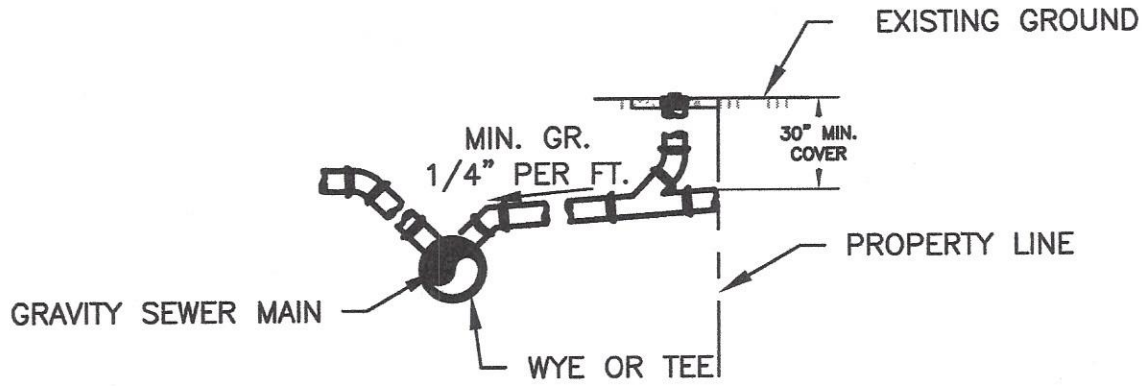
PRECAST MANHOLE  
OVER EXISTING SEWER DETAIL  
 (DOGHOUSE)

|                           |             |                      |                        |   |
|---------------------------|-------------|----------------------|------------------------|---|
| Sheet No.<br><b>B - 7</b> | Drawn: G.C. | Project No.: R05-348 | <b>PRECAST MANHOLE</b> | CITY OF FLOWERY BRANCH<br>PUBLIC UTILITIES DEPARTMENT |
|                           | Reviewed:   | Scale: NTS           |                        |   |
|                           | Revised:    | Date: 09/08          |                        |   |



**NOTE:**

- 1. ALL SERVICE LINES AND FITTINGS SHALL BE PVC OR DIP



**SERVICE CONNECTION DETAIL**

**NOTE:**

- 1. CLEANOUT WITH BRASS PLUG REQUIRED AT PROPERTY LINE, RIGHT OF WAY LINE, OR EASEMENT LINE AS APPLICABLE
- 2. ALL PRIVATE SERVICE LINES SHALL MEET THE IBC PLUMBING REQUIREMENTS WITH 12" MIN. COVER.

|                           |             |                      |                         |   |
|---------------------------|-------------|----------------------|-------------------------|---|
| Sheet No.<br><b>B - 8</b> | Drawn: G.C. | Project No.: R05-348 | <b>CLEAN OUT DETAIL</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
|                           | Reviewed:   | Scale: NTS           |                         |   |
|                           | Revised:    | Date: 09/08          |                         |   |



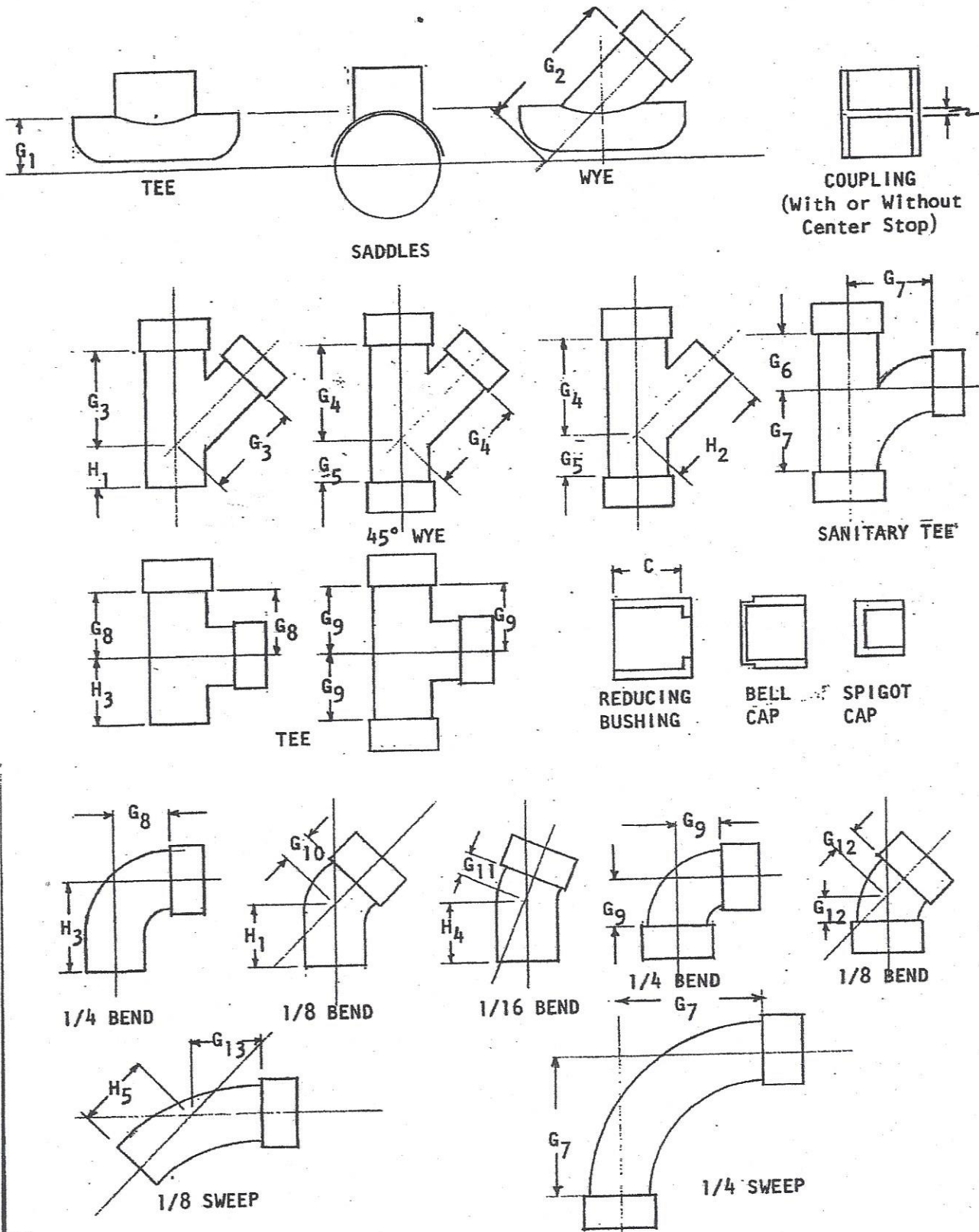
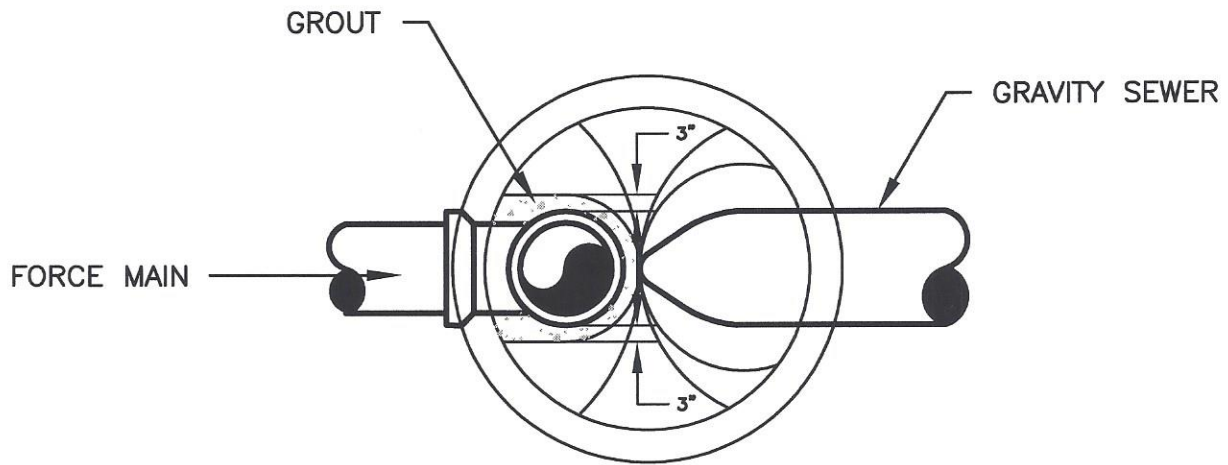
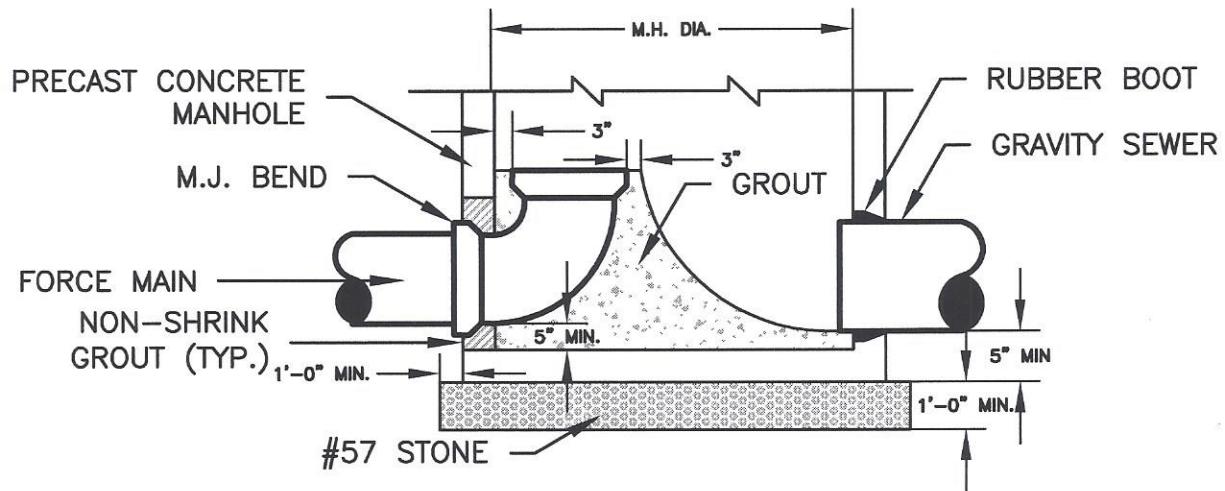


FIG. 1 Fitting Minimum Laying Length Dimensions, mm (in.) (see also Table 3)



PLAN

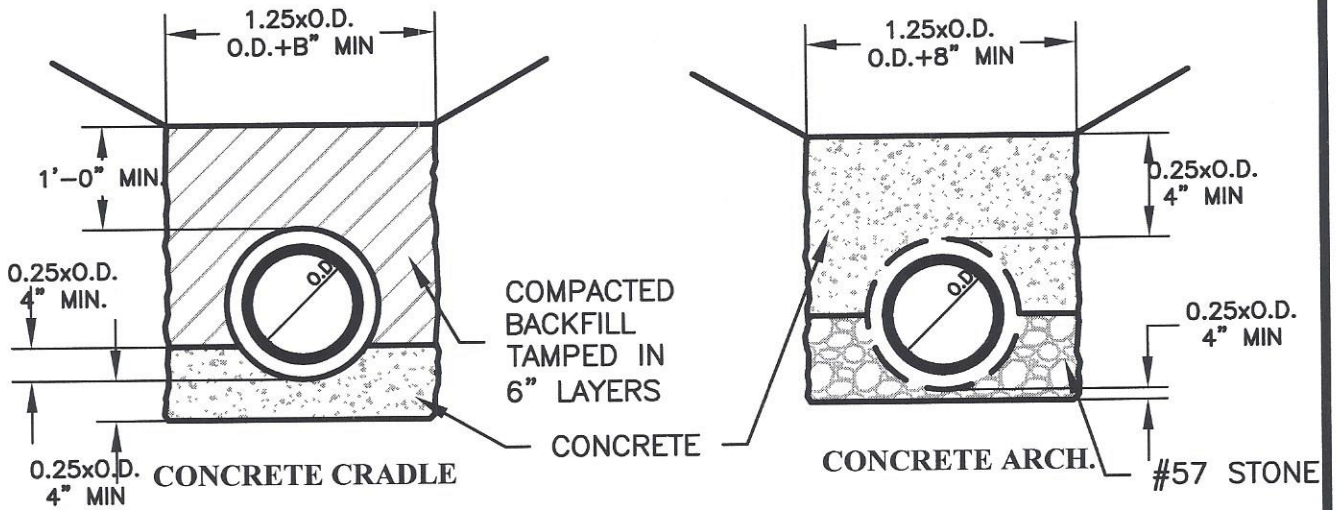


SECTION

FORCE MAIN CONNECTION DETAIL

|                           |                          |                                    |   |   |
|---------------------------|--------------------------|------------------------------------|---|---|
| Sheet No.<br><b>B - 9</b> | Drawn: G.C.<br>Reviewed: | Project No.: R05-348<br>Scale: NTS | <b>FORCE MAIN<br/>CONNECTION DETAIL</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
|                           | Reviewed:                | Date: 09/08                        |   |   |

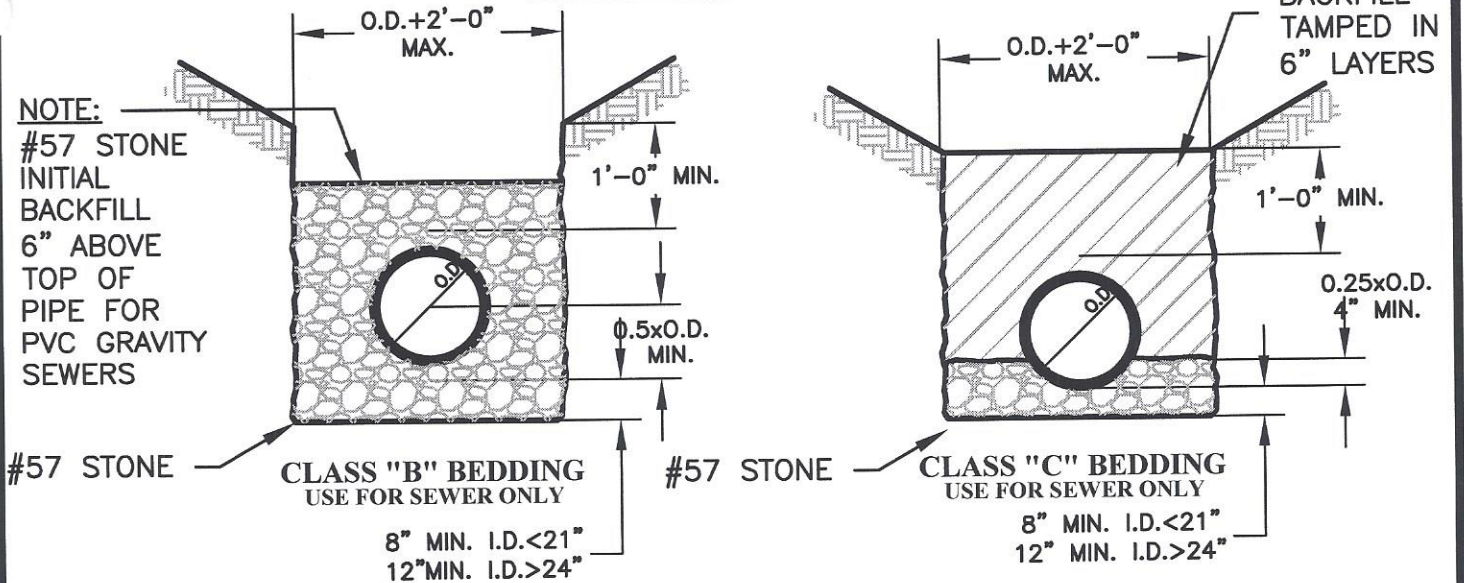




**CLASS "A"**  
**USE FOR SEWER ONLY**

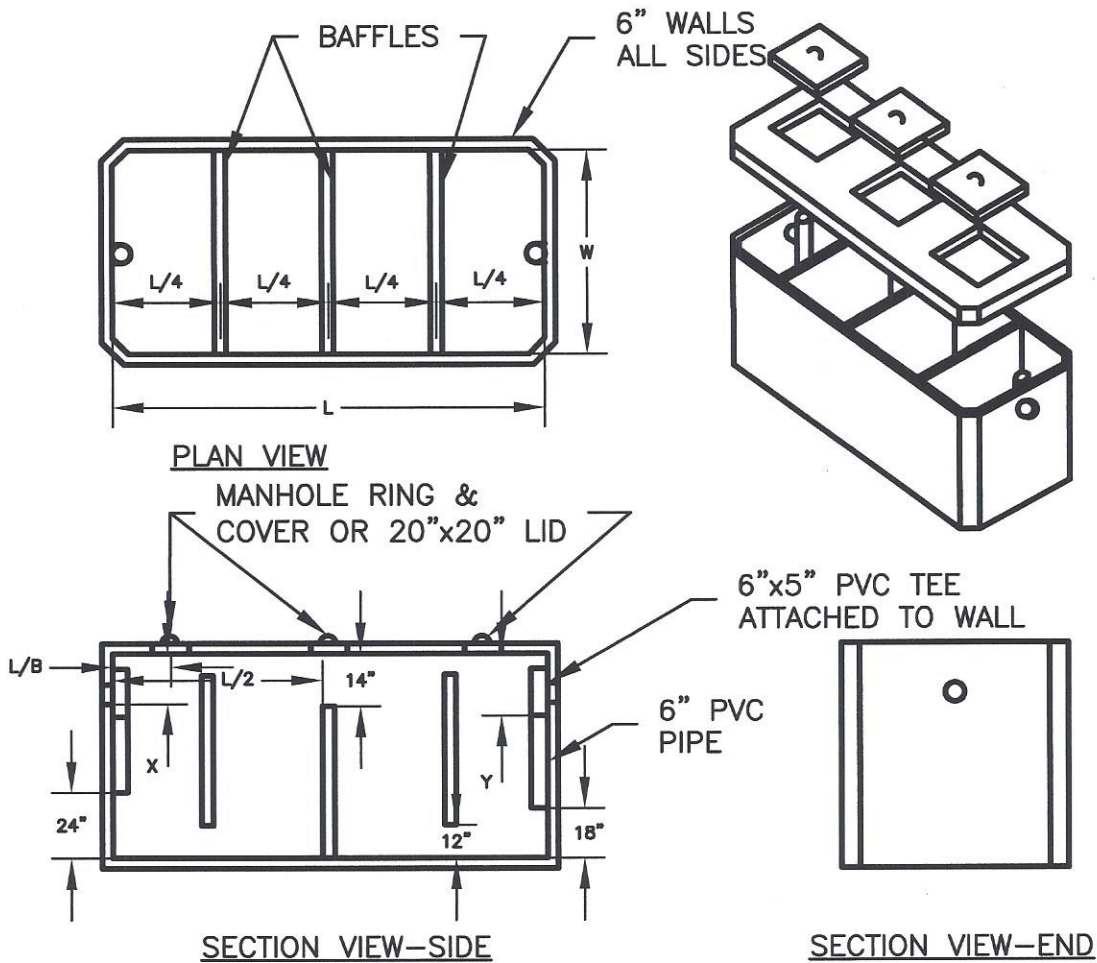
**NOTE:**

#57 STONE  
INITIAL  
BACKFILL  
6" ABOVE  
TOP OF  
PIPE FOR  
PVC GRAVITY  
SEWERS



**PIPE BEDDING AND HUNCHING DETAILS**

|                            |             |                      |   |   |
|----------------------------|-------------|----------------------|---|---|
| Sheet No.<br><b>B - 11</b> | Drawn: G.C. | Project No.: R05-348 | <b>PIPE BEDDING<br/>AND HAUNCHING DETAILS</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
| Reviewed:                  | Scale: NTS  |                      |   |   |
| Revised:                   | Date: 09/08 |                      |   |   |



| TANK CAPACITY LIQUID GALLONS | L      | W     | D     | INLET INVERT X | OUTLET INVERT Y | MINIMUM DIMENSIONS FOR EXCAVATION LENGTH x WIDTH x DEPTH | NO. LIDS |
|------------------------------|--------|-------|-------|----------------|-----------------|--|----------|
| *1000                        | 8'-6"  | 4'-0" | 5'-0" | 10"            | 12"             | 9'-6" x 5'-0" x 6'-0"                                    | 3        |
| **1500                       | 10'-0" | 4'-6" | 5'-0" | 10"            | 12"             | 12'-0" x 7'-0" x 6'-0"                                   | 3        |

\*MINIMUM CAPACITY REQUIRED WITHOUT DUMPSTER PAD DRAIN CONNECTION.  
 \*\*MINIMUM CAPACITY REQUIRED WITH DUMPSTER PAD DRAIN CONNECTION..

NOTE: DESIGN SHOWN IS FOR NON-TRAFFIC AREAS. PROVIDE STRUCTURAL DESIGN ADEQUATE FOR PARTICULAR INSTALLATION.

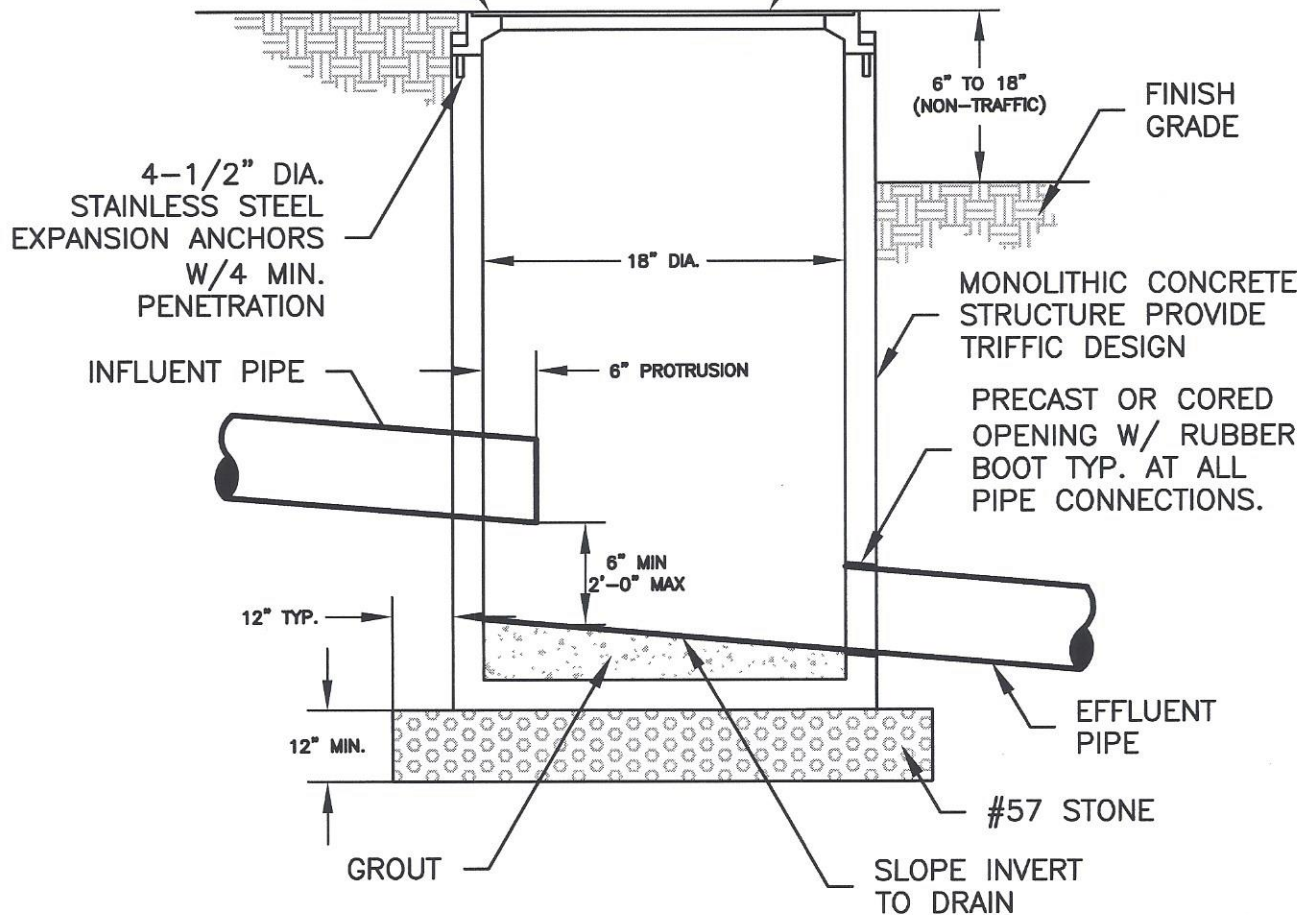
## PRECAST CONCRETE GREASE TRAP

|                            |             |                      |                         |   |
|----------------------------|-------------|----------------------|-------------------------|---|
| Sheet No.<br><b>B - 10</b> | Drawn: G.C. | Project No.: R05-348 | <b>PRECAST CONCRETE</b> | CITY OF FLOWERY BRANCH<br>PUBLIC UTILITIES DEPARTMENT |
|                            | Reviewed:   | Scale: NTS           |                         |   |
|                            | Revised:    | Date: 09/08          | <b>GREASE TRAP</b>      |   |



FOR TRAFFIC AREAS  
USE C.I. RING & COVER  
EQUAL TO VULCAN  
1810-3 SOLID COVER

FOR NON-TRAFFIC AREA  
USE C.I. RING & COVER  
WITH 4" DROP HANDLE.  
RING & COVER SHALL BE  
EQUAL TO U.S. FOUNDRY  
7622 OR VULCAN 8532



SAMPLE STATION MANHOLE  
COMMERCIAL INSTALLATION

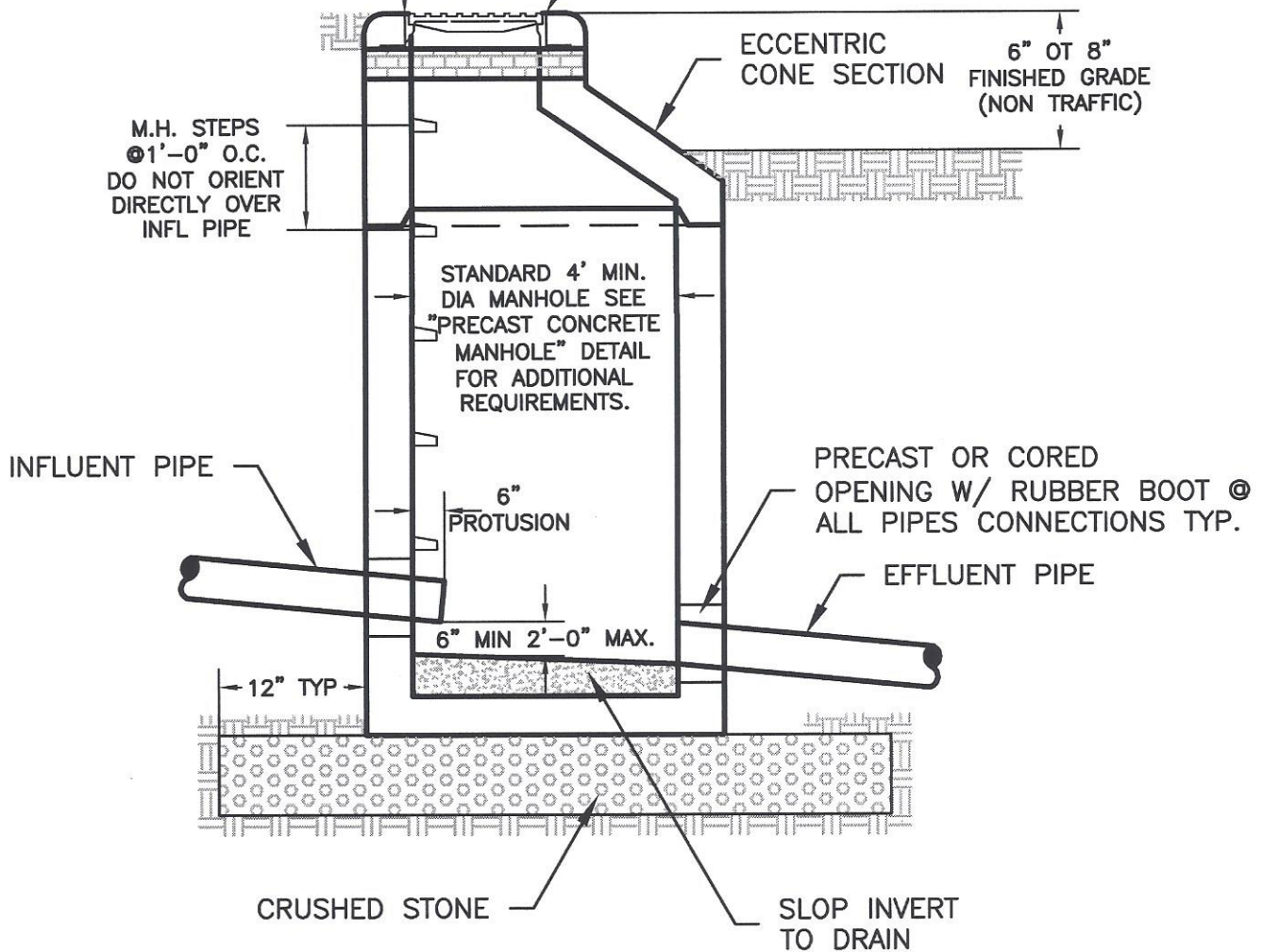
**NOTES:**

1. WHERE DEPTH OR STRUCTURES EXCEEDS 4'-0" MEET THE STRUCTURAL REQUIREMENTS OF SAMLE STATION MANHOLE INDUSTRIAL INSTALLATION.

|                            |                          |                                    |   |   |
|----------------------------|--------------------------|------------------------------------|---|---|
| Sheet No.<br><b>B - 12</b> | Drawn: G.C.<br>Reviewed: | Project No.: R05-348<br>Scale: NTS | <b>SAMPLE STATION MANHOLE</b><br><b>COMMERCIAL INSTALLATION</b> | CITY OF FLOWERY BRANCH<br>PUBLIC UTILITIES DEPARTMENT |
|                            | Revised:                 | Date: 09/08                        |   |   |

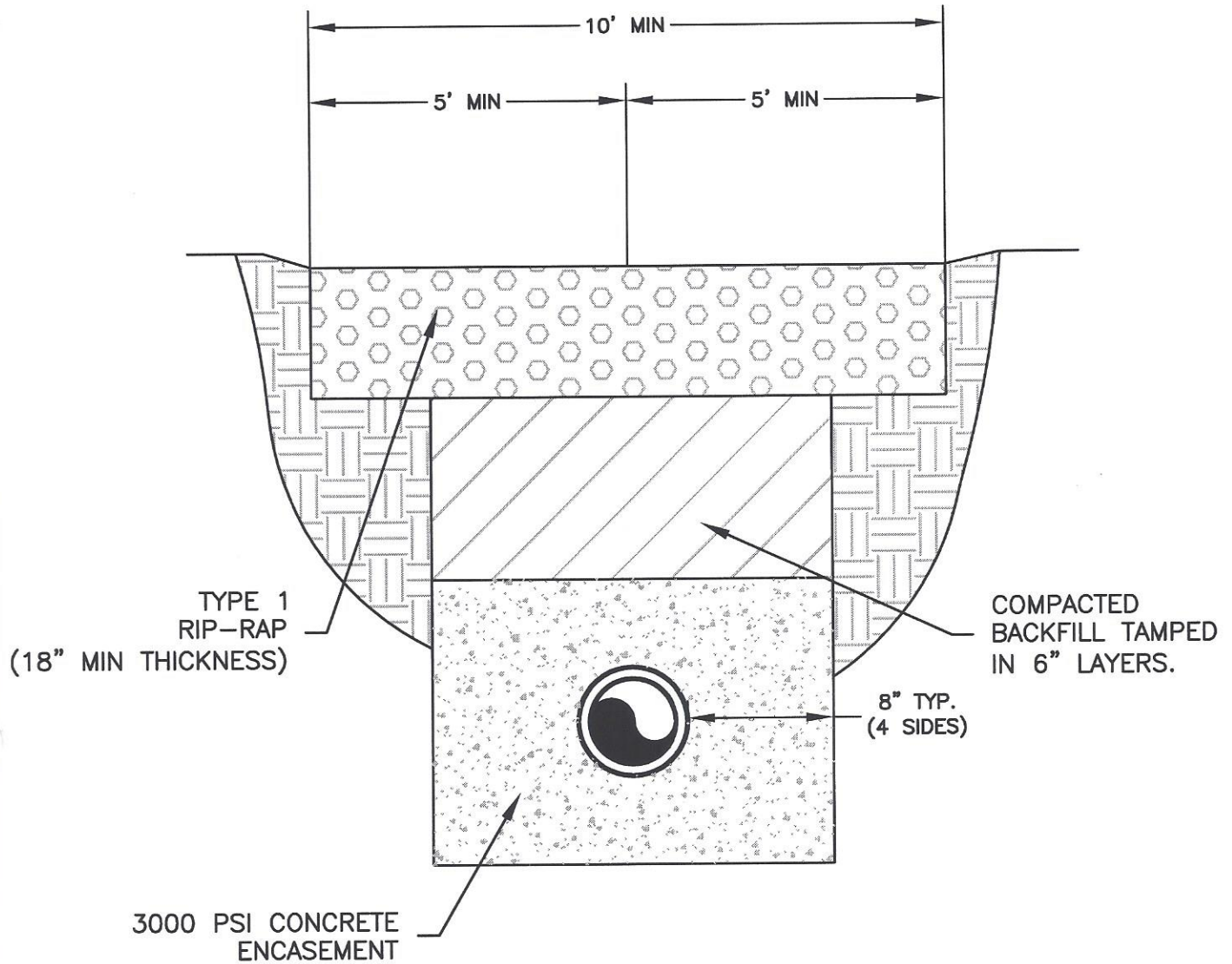
FOR TRAFFIC AREAS USE  
STANDARD C.I. RINGS &  
COVER EQUAL TO VULCAN  
1480-1 OR U.S. FOUNDRY  
362.

FOR NON-TRAFFIC AREAS  
USE LIGHT DUTY C.I. RINGS &  
COVER EQUIPPED W/4" DROP  
HANDLE. RING & COVER SHALL  
EQUAL TO U.S. FOUNDRY  
360-K.



## SAMPLE STATION MANHOLE INDUSTRIAL INSTALLATION

|                            |             |                      |   |   |
|----------------------------|-------------|----------------------|---|---|
| Sheet No.<br><b>B - 13</b> | Drawn: G.C. | Project No.: R05-348 | <b>SAMPLE STATION MANHOLE</b><br><b>INDUSTRIAL INSTALLATION</b> | <b>CITY OF FLOWERY BRANCH</b><br><b>PUBLIC UTILITIES DEPARTMENT</b> |
|                            | Reviewed:   | Scale: NTS           |   |   |
|                            | Revised:    | Date: 09/08          |   |   |



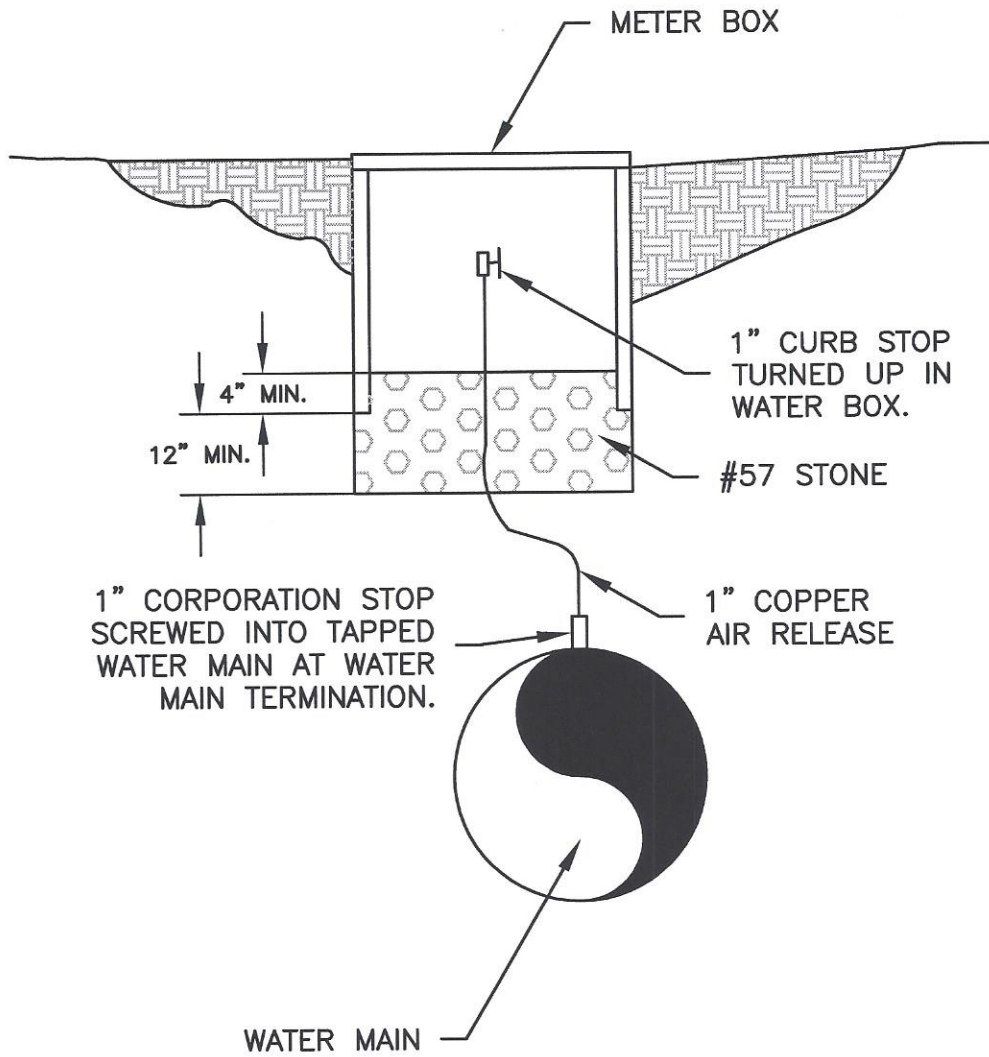
## STREAM CROSSING DETAILS

**NOTES:**

1. CONCRETE ENCASEMENT SHALL EXTEND A MINIMUM OF 10 FEET EACH SIDE OF THE STREAM BED.
2. RIP-RAP SHALL EXTEND TO TOP OF CREEK BANK OR 10 FEET EACH SIDE OF STREAM BED, WHICH EVER IS GREATER.
3. INSTALL A GATE VALVE & BOX EACH SIDE OF STREAM CROSSING A MINIMUM OF 20 FEET FROM TOP OF BANK.

|                          |                            |                                     |                               |   |
|--------------------------|----------------------------|-------------------------------------|-------------------------------|---|
| <small>Sheet No.</small> | <small>Drawn:</small> G.C. | <small>Project No.:</small> R05-348 | <b>STREAM CROSSING DETAIL</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
| <b>B - 14</b>            | <small>Reviewed:</small>   | <small>Scale:</small> NTS           |                               |   |
|                          | <small>Revised:</small>    | <small>Date:</small> 09/08          |                               |   |



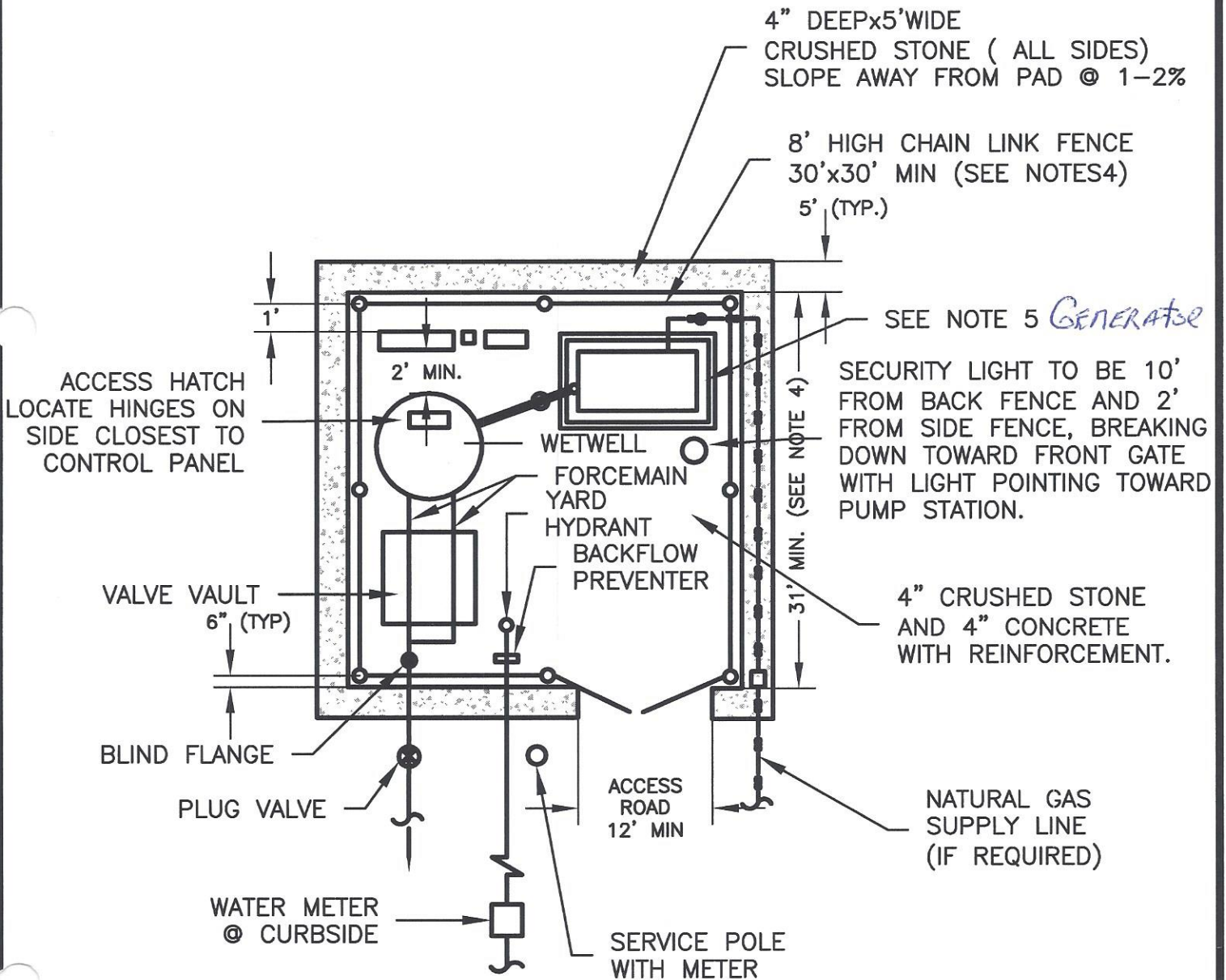


MANUAL AIR RELEASE VALVE

|                            |             |                      |                                 |   |
|----------------------------|-------------|----------------------|---------------------------------|---|
| Sheet No.<br><b>B - 15</b> | Drawn: G.C. | Project No.: R05-348 | <b>MANUAL AIR RELEASE VALVE</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
|                            | Reviewed:   | Scale: NTS           |                                 |   |
|                            | Revised:    | Date: 09/08          |                                 |   |

**NOTES:**

1. THIS IS A GENERAL SCHEMATIC LAYOUT. LOCATIONS MAY VARY ACCORDING THE EQUIPMENT SIZE AND SITE REQUIREMENTS.
2. COMPACTION CERTIFICATION LETTER REQUIRED AS STATED IN THE G.C.D.P.U. DESIGN MANUAL.
3. FLOOR OF CHECK VALVE VAULT TO BE SLOPED TO DRAIN.
4. SLAB AND FENCE DIMENSIONS SHALL BE INCREASED WHEN NECESSARY TO FIT SPECIFIED EQUIPMENT. FINAL SLAB AND FENCE FOOTPRINTS SHALL BE SQUARE.
5. PROVIDE GROUND GRID, GENERATOR BEAM AND DRAIN DETAIL.
6. ALL ENCLOSURE MUST BE NEMA 4X.
7. PROVIDE SHED COVER FOR ALL CONTROL PANELS.



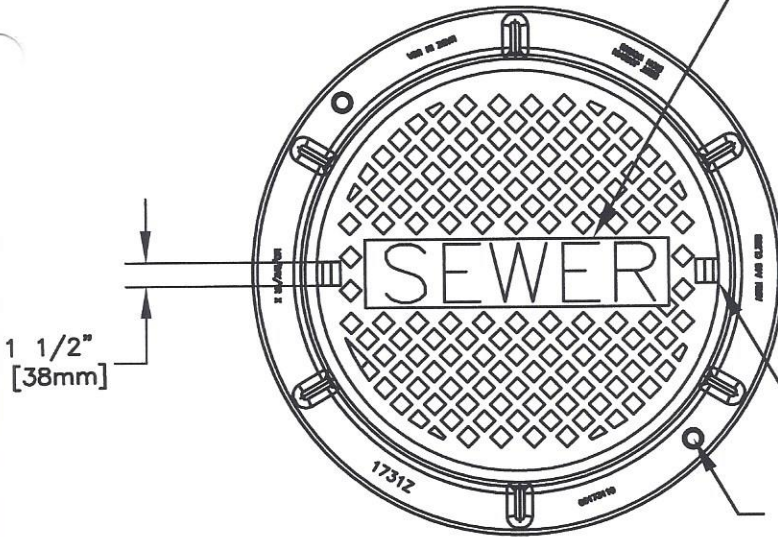
|               |             |                      |
|---------------|-------------|----------------------|
| Sheet No.     | Drawn: G.C. | Project No.: R05-348 |
| <b>B - 16</b> | Reviewed:   | Scale: NTS           |
|               | Revised:    | Date: 09/08          |

**TYPICAL PUMP STATION LAYOUT**

CITY OF FLOWERY BRANCH  
PUBLIC UTILITIES DEPARTMENT

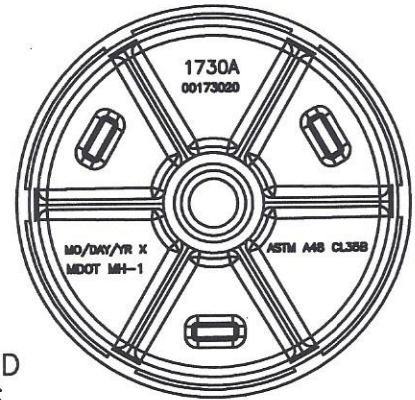


3 3/4" FLAT FACED GOTHIC  
RAISED LETTERING  
(RECESSED FLUSH)



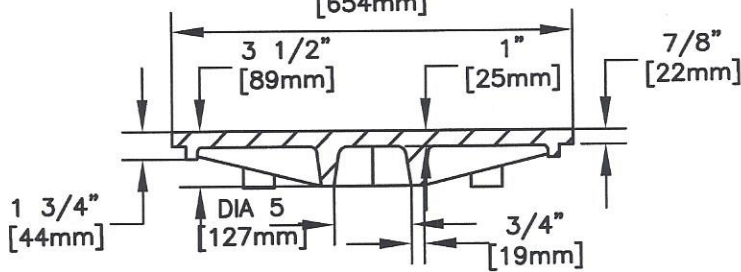
PLAN VIEW

DIA 25 5/8"  
[654mm]

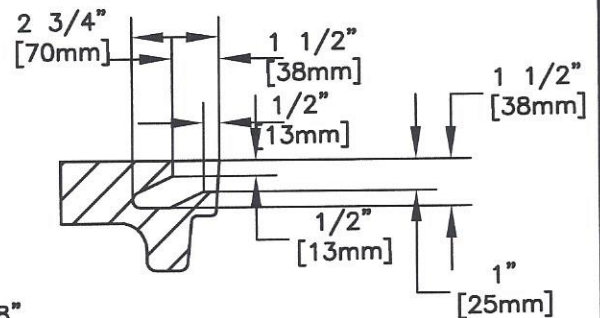


(2) CLOSED  
PICKHOLES  
(2) 1" DIA.  
HANDLING HOLE

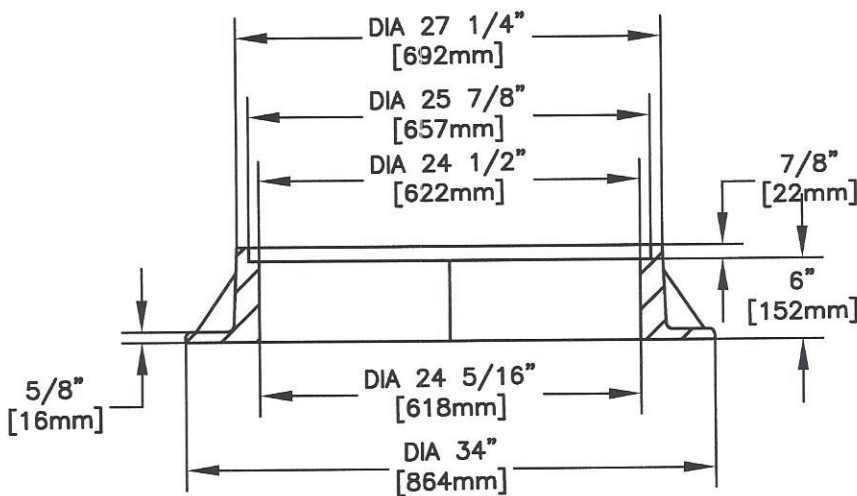
BOTTOM COVER



SECTION VIEW



PICKHOLE DETAIL



SECTION VIEW

**NOTES:**

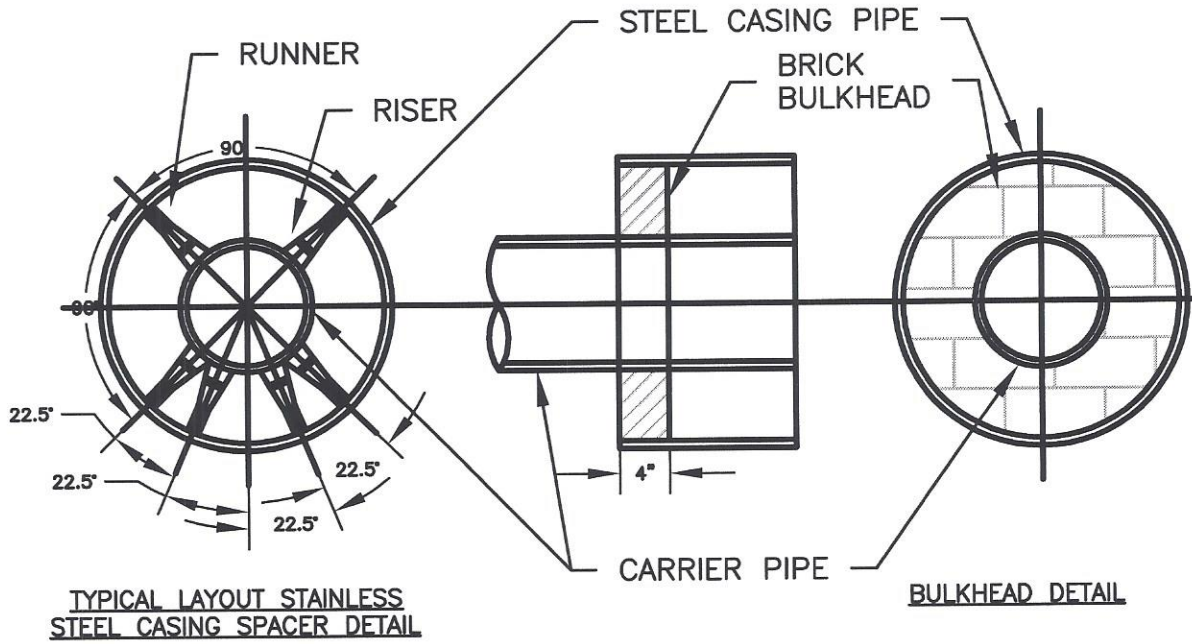
- COVER SHALL BE EAST JORDAN IRON WORKS 1730A AND 1731Z (SHOWN), US FOUNDRY 362, OR APPROVED EQUAL.

|                            |             |                      |   |   |
|----------------------------|-------------|----------------------|---|---|
| Sheet No.<br><b>B - 16</b> | Drawn: G.C. | Project No.: R05-348 | <b>MANHOLE FRAME<br/>AND COVER DETAIL</b> | CITY OF FLOWERY BRANCH<br>PUBLIC UTILITIES DEPARTMENT |
|                            | Reviewed:   | Scale: NTS           |   |   |
|                            | Revised:    | Date: 09/08          |   |   |

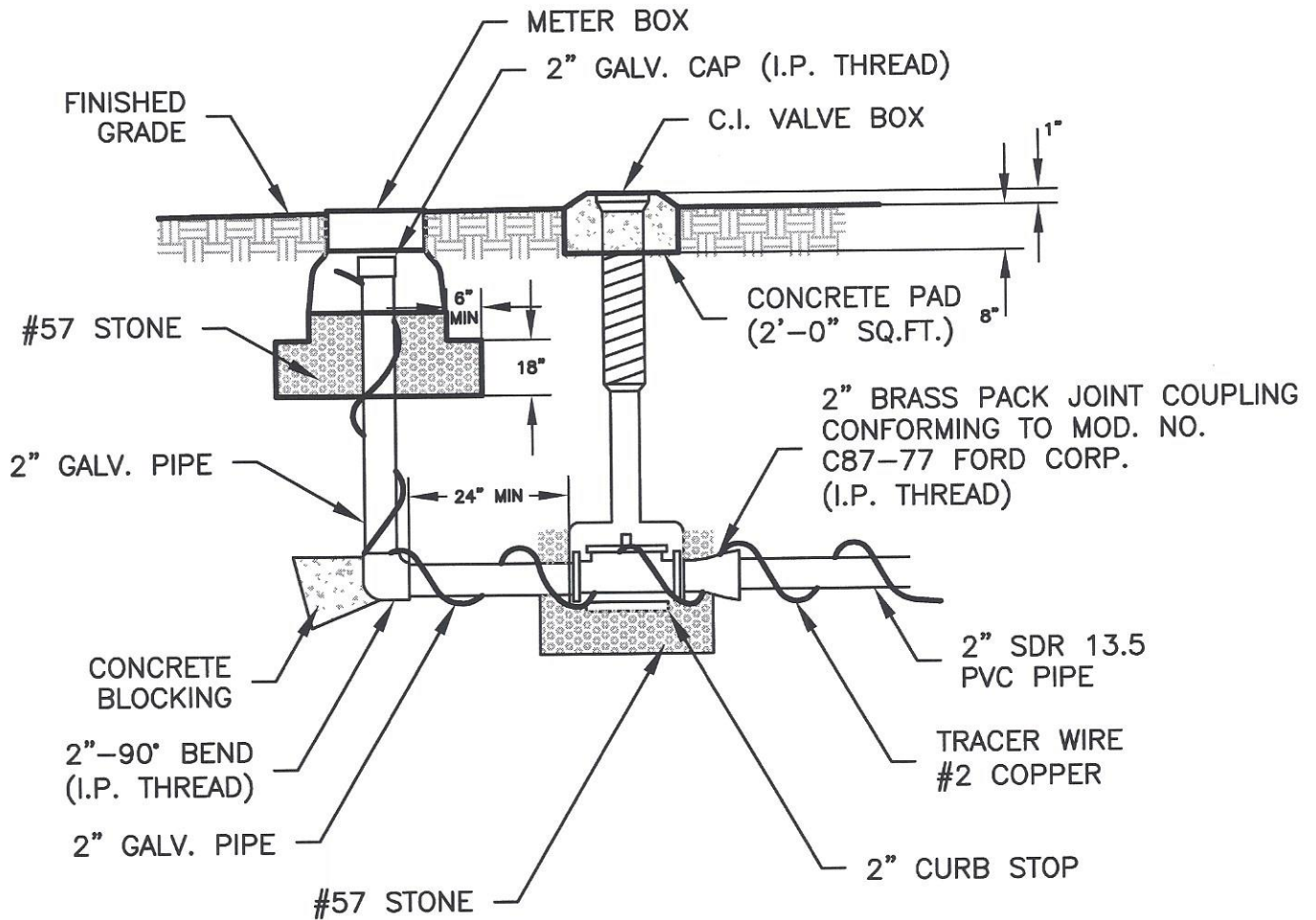


**NOTES:**

1. SPACER SHELL MUST BE A MINIMUM 14 GA. T 304 STAINLESS STEEL ALL SURFACE ARE FULLY CHEMICALLY PASSIVATED
2. CASING PIPE UP TO 16" SHALL HAVE A THICKNESS OF 0.25 INCH CASING PIPE >16"-20" SHALL HAVE THICKNESS OF 0.375 INCH.
3. CASING PIPE OVER 20" SHALL HAVE THICKNESS OF .5 INCH
4. SPACER LINER MUST BE PVC - .90 THICK, 85-90 DUROMETER (ASTM D1706-61T) (ASTM - B117) (ASTM - D149 - 61)
5. RUNNERS MUST BE ULTRA HIGH MOLECULAR WEIGHT POLYMER WITH HIGH RESISTANCE TO ABRASIONS AND SLIDE WEAR. LOW DEFLECTION UNDER COMPRESSION AND DIELECTRIC INSULATION.
6. SPACER FASTENERS MUST BE 5/16" T304 STAINLESS STEEL
7. SPACER RISERS MINIMUM 10 GA. T 304 STAINLESS STEEL, MUST BE REINFORCED IF OVER 6".



|                            |                          |                                    |                             |   |
|----------------------------|--------------------------|------------------------------------|-----------------------------|---|
| Sheet No.<br><b>B - 16</b> | Drawn: G.C.<br>Reviewed: | Project No.: R05-348<br>Scale: NTS | <b>CASING SPACER DETAIL</b> | CITY OF FLOWERY BRANCH<br>PUBLIC UTILITIES DEPARTMENT |
|                            | Revised:                 | Date: 09/08                        |                             |   |



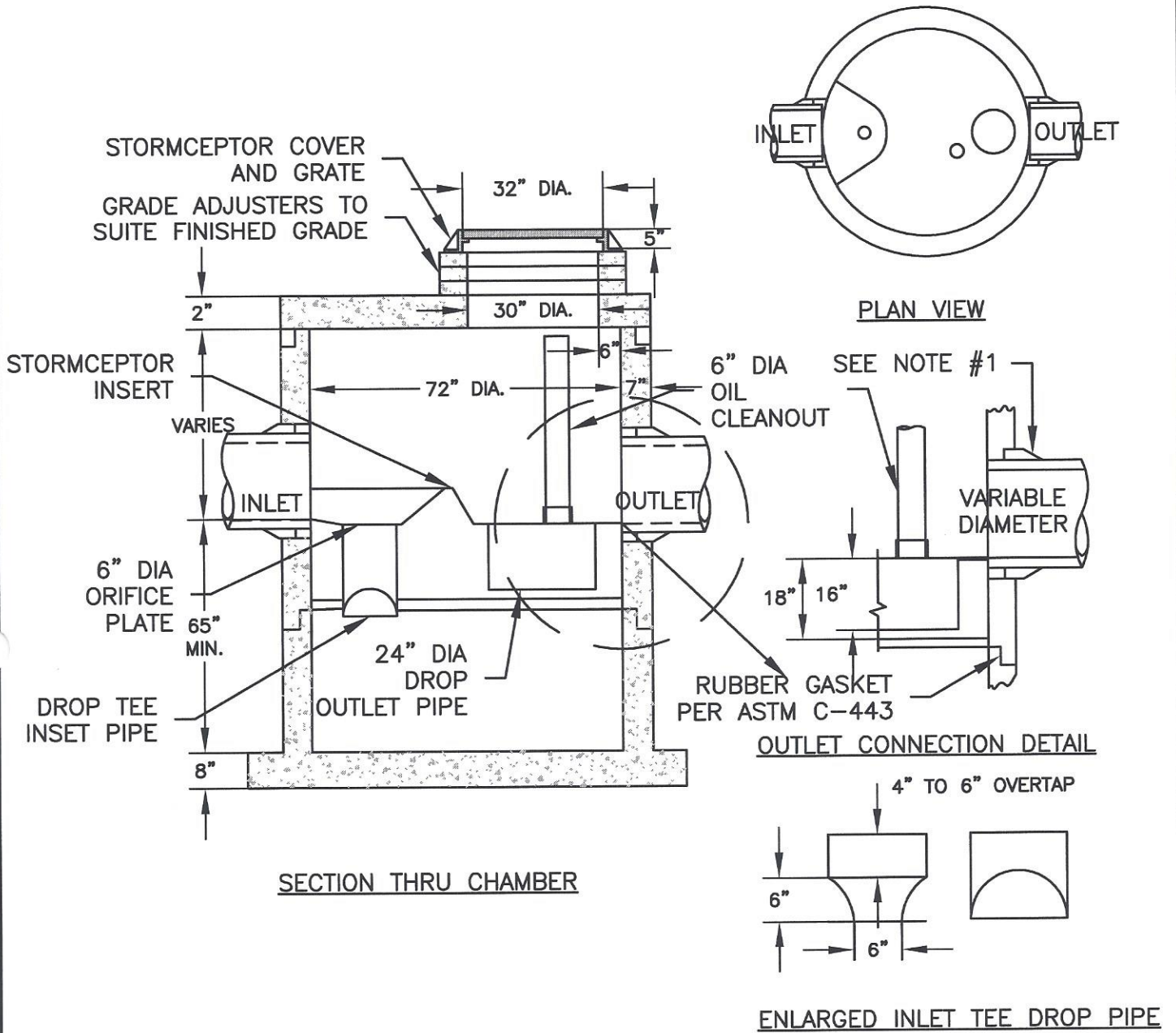
## BLOW-OFF DETAIL

**NOTES:**

1. TRACER WIRE SHALL RUN FROM BLOW-OFF PIPE TO FIRE HYDRANT AND BE ATTACHED AS DIRECTED BY INSPECTOR.

|                  |             |                      |                        |   |
|------------------|-------------|----------------------|------------------------|---|
| <b>Sheet No.</b> | Drawn: G.C. | Project No.: R05-348 | <b>BLOW-OFF DETAIL</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
| <b>B - 17</b>    | Reviewed:   | Scale: NTS           |                        |   |
|                  | Revised:    | Date: 09/08          |                        |   |

STE 900 PRECAST CONCRETE STORMCEPTOR  
(900 US GALLON CAPACITY)

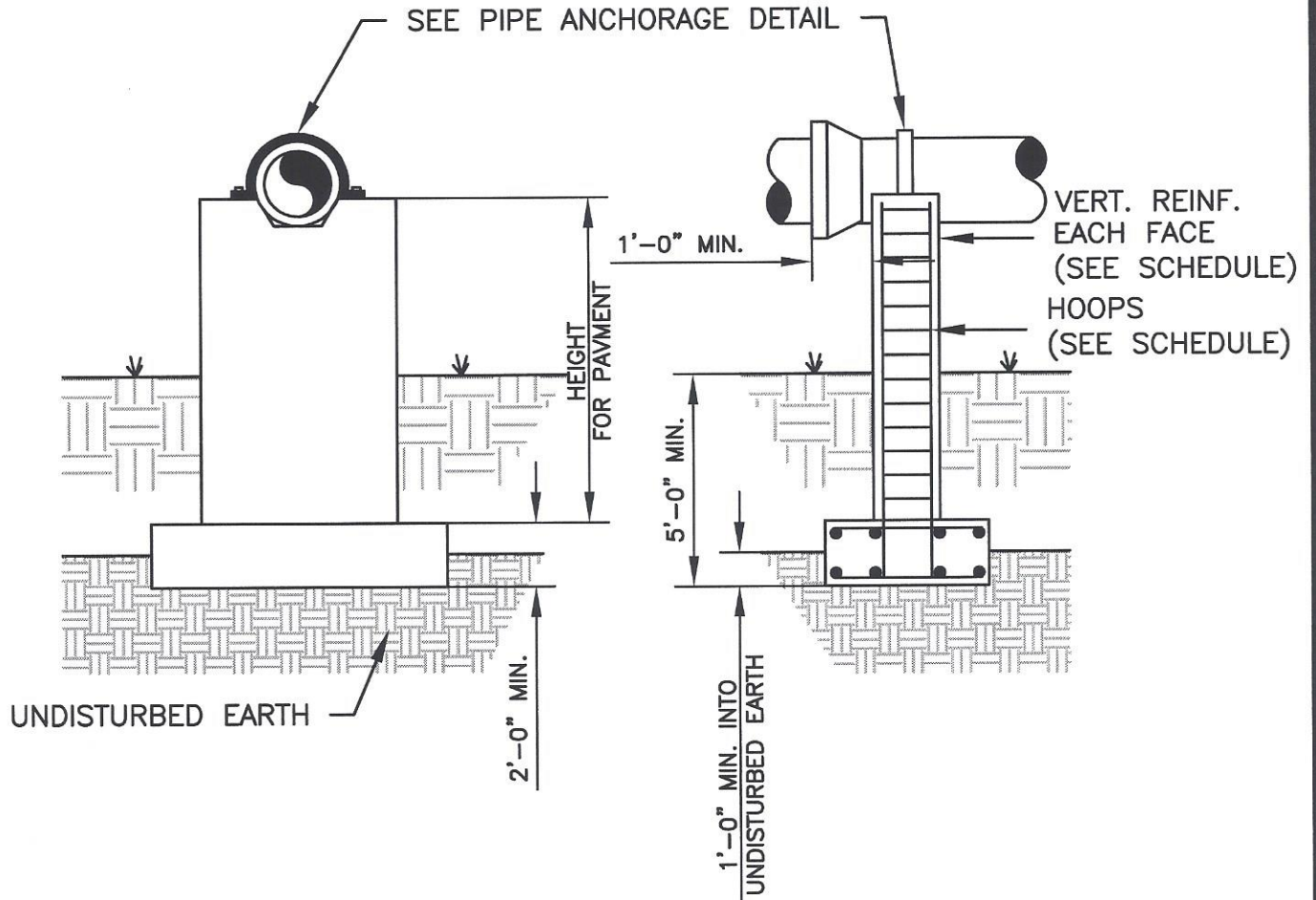


**NOTES:**

1. THE USE OF FLEXIBLE CONNECTION IS RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
2. THE COVER SHOULD BE POSITIONED OVER THE OUTLET DROP PIPE AND THE VENT PIPE.
3. THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: #4985148, #5498331, #5753115, #5849181.
4. USE OF STORMCEPTOR OR APPROVED EQUAL.

|                            |             |                      |                           |   |
|----------------------------|-------------|----------------------|---------------------------|---|
| Sheet No.<br><b>B - 18</b> | Drawn: G.C. | Project No.: R05-348 | <b>STORMCEPTOR DETAIL</b> | CITY OF FLOWERY BRANCH<br>PUBLIC UTILITIES DEPARTMENT |
|                            | Reviewed:   | Scale: NTS           |                           |   |
|                            | Revised:    | Date: 09/08          |                           |   |



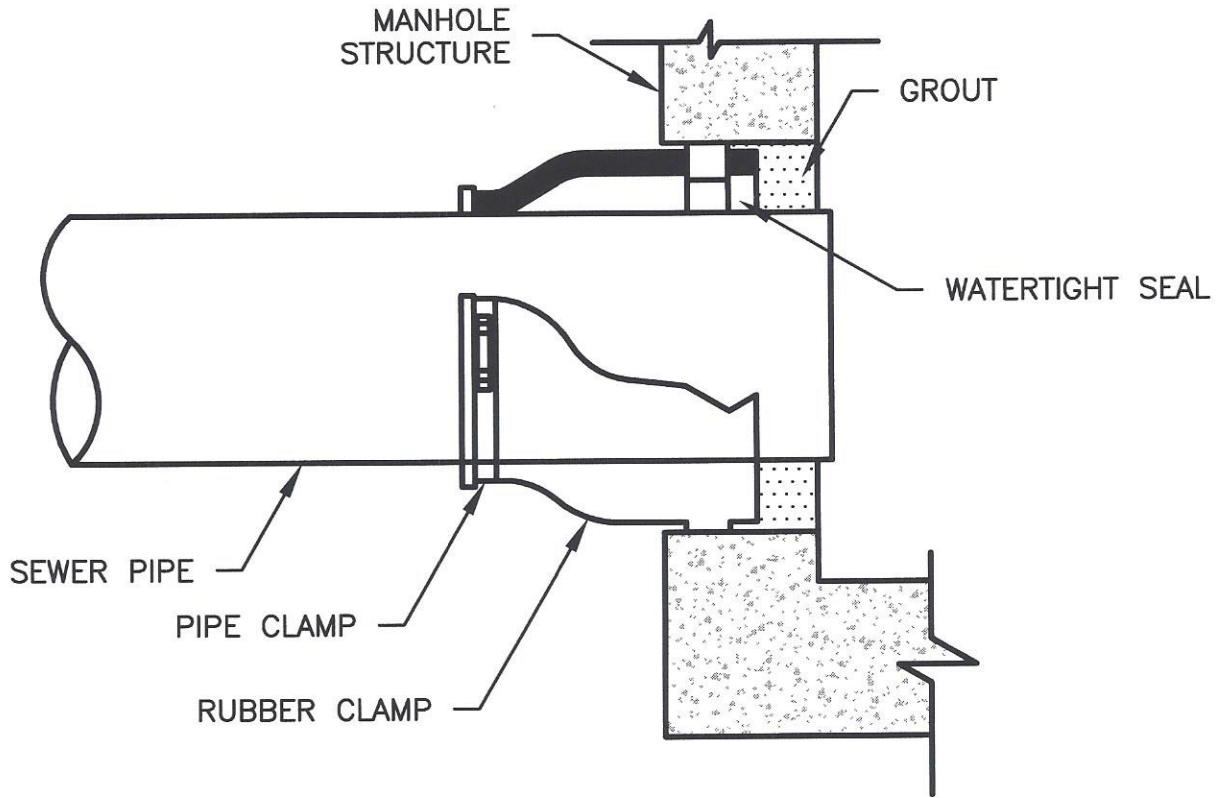


FOUNDATION IN EARTH

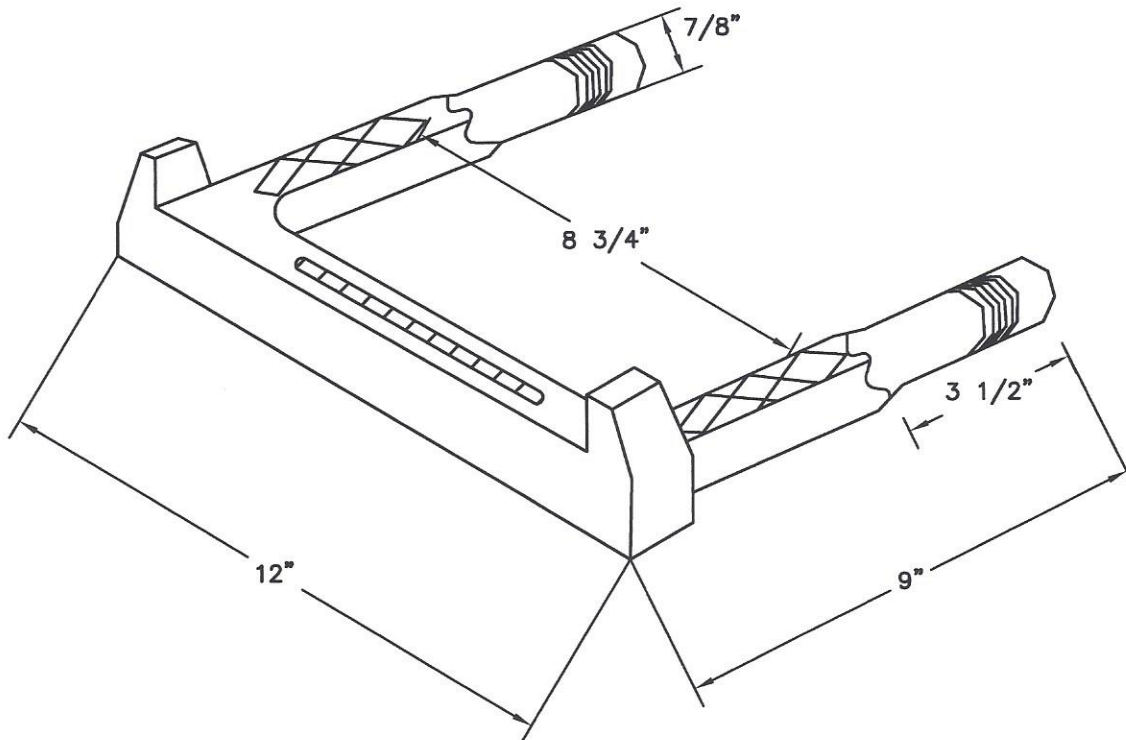
NOTES:

1. FOOTING REINF. SAME AS VERT. REINF. EA. WAY TOP AND BOTTOM.

|                            |             |                      |                      |   |
|----------------------------|-------------|----------------------|----------------------|---|
| Sheet No.<br><b>B - 19</b> | Drawn: G.C. | Project No.: R05-348 | <b>CONCRETE PIER</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
|                            | Reviewed:   | Scale: NTS           |                      |   |
|                            | Revised:    | Date: 09/08          |                      |   |



|               |             |                      |                           |   |
|---------------|-------------|----------------------|---------------------------|---|
| Sheet No.     | Drawn: G.C. | Project No.: R05-348 | <b>RUBBER BOOT DETAIL</b> | CITY OF FLOWERY BRANCH<br>PUBLIC UTILITIES DEPARTMENT |
| <b>B - 19</b> | Reviewed:   | Scale: NTS           |                           |   |
|               | Revised:    | Date: 09/08          |                           |   |



## POLYPROPYLENE PLASTIC MANHOLE STEP DETAIL

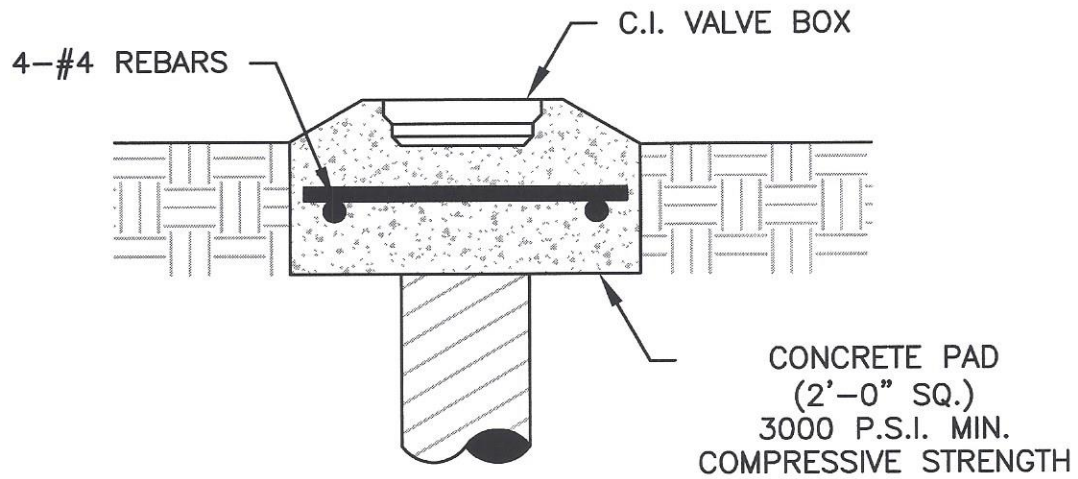
FOR PRECAST CONCRETE MANHOLE  
N.T.S.

**NOTE:**

1. ALL MANHOLES STEPS IN PRECAST CONCRETE MANHOLES TO BE SPACED 14" TO 16" O.C. STEPS SHALL HAVE GRADE 60 3/8" DEFORMED STEEL REINFORCING ROD CENTER.

|                          |                            |                                     |                              |   |
|--------------------------|----------------------------|-------------------------------------|------------------------------|---|
| <small>Sheet No.</small> | <small>Drawn:</small> G.C. | <small>Project No.:</small> R05-348 | <b>POLYPROPTLENE PLASTIC</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
| <b>B - 10</b>            | <small>Reviewed:</small>   | <small>Scale:</small> NTS           | <b>MANHOLE STEP DETAIL</b>   |   |
|                          | <small>Revised:</small>    | <small>Date:</small> 09/08          |                              |   |

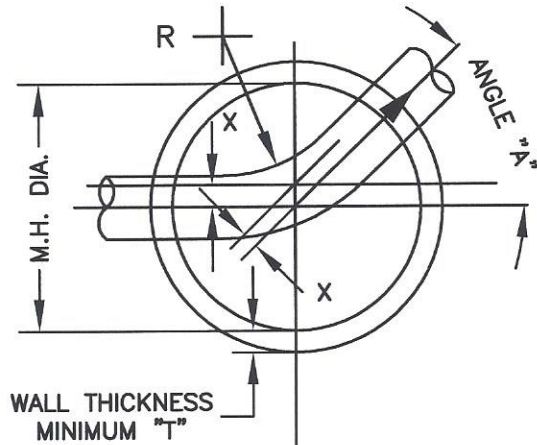
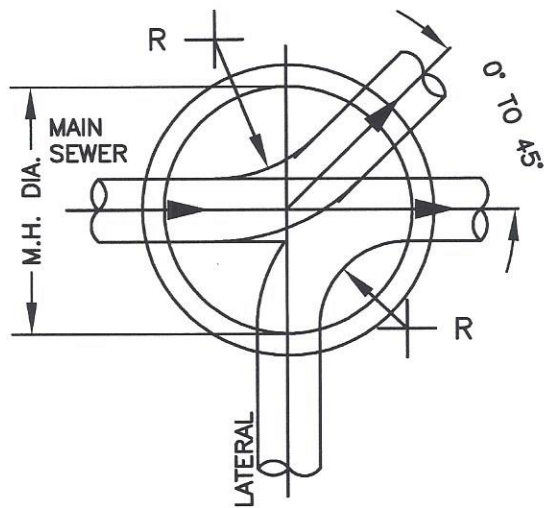




**NOTES:**

1. IF PRECAST CONCRETE PAD IS FURNISHED. CONTRACTOR SHALL INSTALL APPROVED GROUT BETWEEN VALVE BOX AND PAD.

|                            |             |                      |                      |   |
|----------------------------|-------------|----------------------|----------------------|---|
| Sheet No.<br><b>B - 10</b> | Drawn: G.C. | Project No.: R05-348 | <b>VALVE BOX PAD</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
|                            | Reviewed:   | Scale: NTS           |                      |   |
|                            | Revised:    | Date: 09/08          |                      |   |

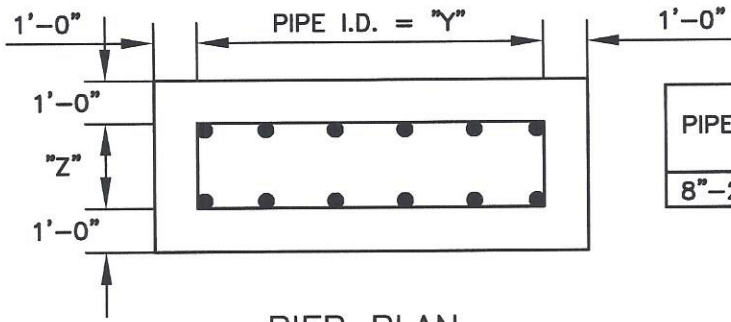


| STANDARD MANHOLE SCHEDULE OF GOVERNING DIMENSIONS |            |          |     |     |
|---|------------|----------|-----|-----|
| PIPE SIZE   | ANGLE "A"  | MH. DIA. | "T" | "X" |
| 8" TO 12"   | 0° TO 90°  | 4'-0"    | 5"  | 0"  |
| 15" TO 18"  | 60° TO 90° | 5'-0"    | 6"  | 6"  |
| 24" TO 36"  | 0° TO 90°  | 6'-0"    | 7"  | 0"  |

**NOTES:**

1. MINIMUM CENTERLINE RADUIS (R) OF MANHOLE INVERT = 1.5 x PIPE DIAMETER

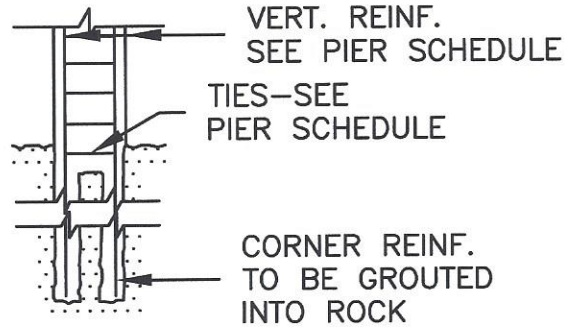
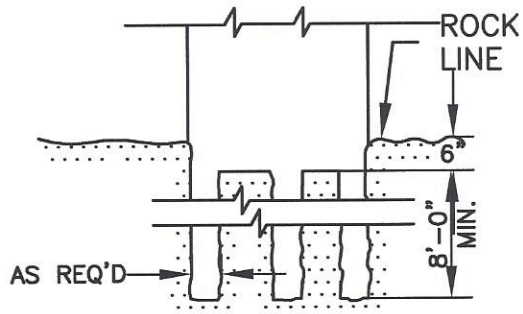
|                            |             |                      |                                |   |
|----------------------------|-------------|----------------------|--------------------------------|---|
| Sheet No.<br><b>B - 20</b> | Drawn: G.C. | Project No.: R05-348 | <b>STANDARD MANHOLE INVERT</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
|                            | Reviewed:   | Scale: NTS           |                                |   |
|                            | Revised:    | Date: 09/08          |                                |   |



PIER PLAN

| PIPE ID | "Y" | "Z" | VERT REINF.<br>@12" O.C. | HOOPS<br>@12" O.C. |
|---------|-----|-----|--------------------------|--------------------|
| 8"-24"  | 24" | 12" | #5                       | #3                 |

PIER SCHEDULE



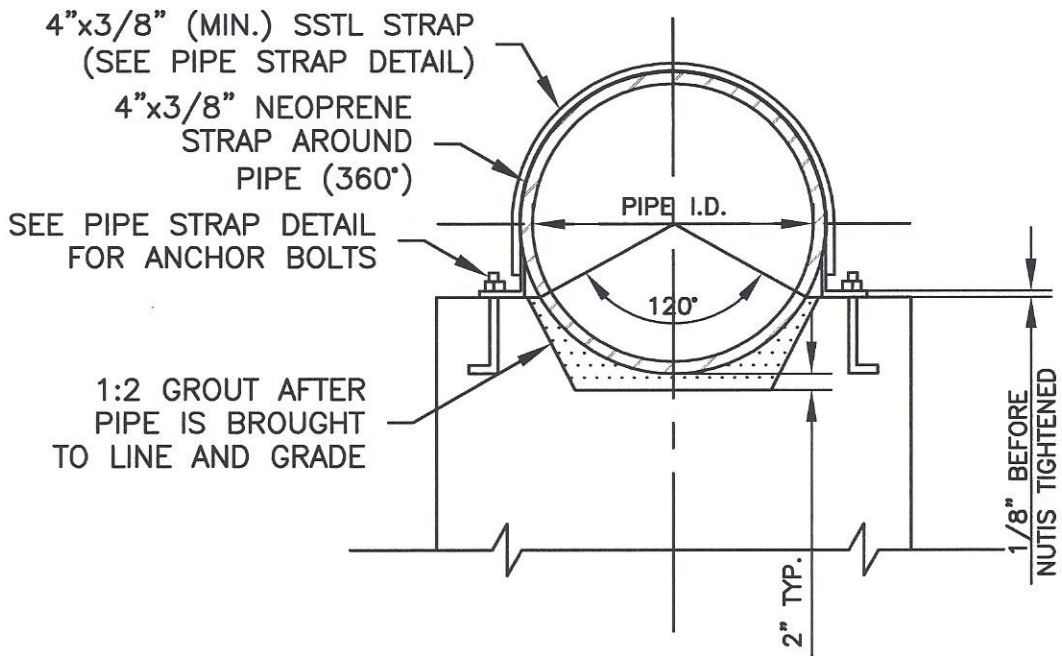
FOUNDATION IN ROCK

NOTES:

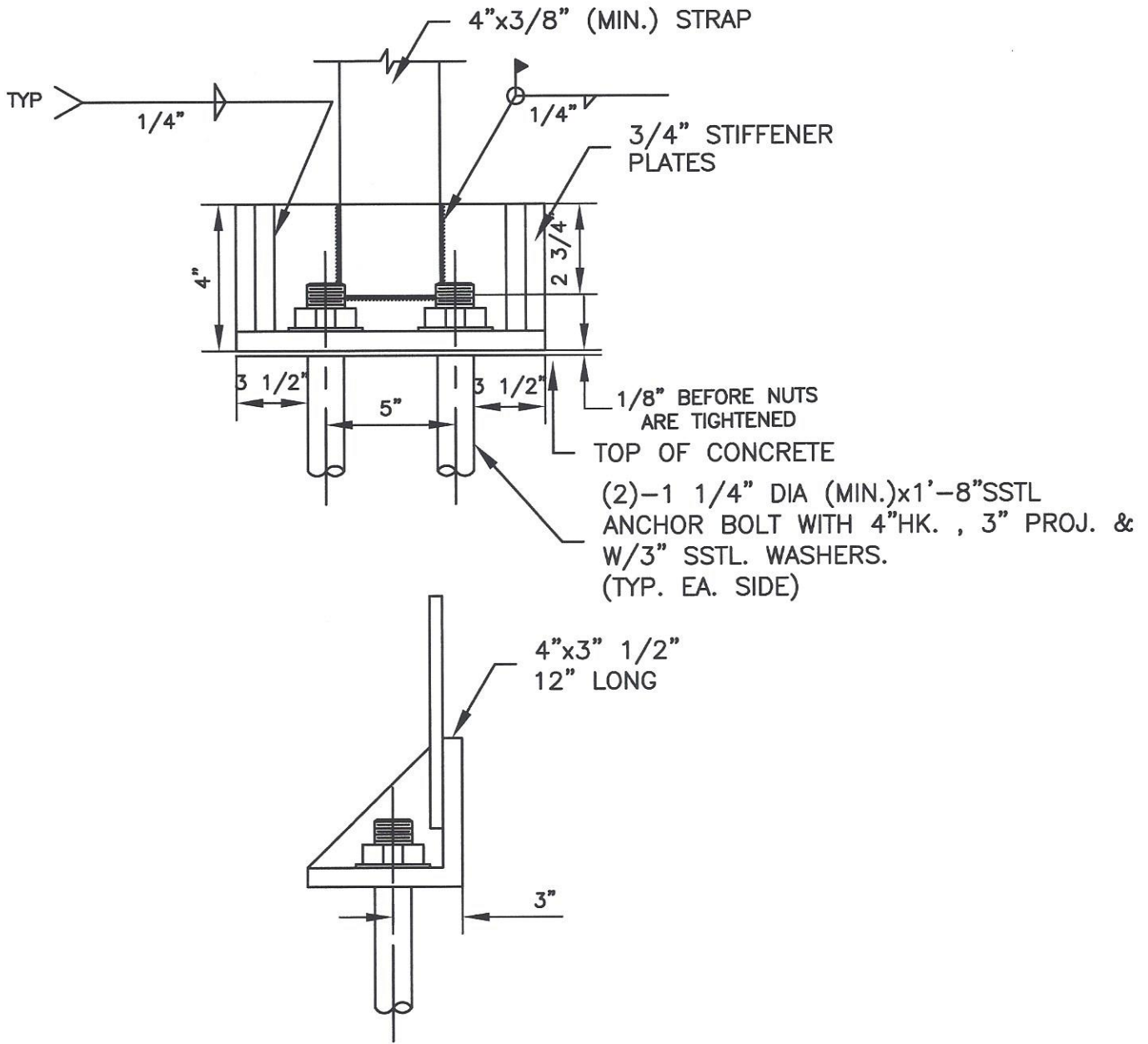
1. FOOTING REINF. SAME AS VERT. REINF. EA. WAY TOP AND BOTTOM.
2. WHEN BASE IS IN ROCK. OMIT FOOTING & GROUT VERT. CORNER BARS 8' INTO ROCK
3. THE ROCK ANCHOR SHALL BE EMBEDDED INTO ROCK TO DEVELOP THE FULL CAPACITY OF REBAR.

|                            |             |                      |                      |   |
|----------------------------|-------------|----------------------|----------------------|---|
| Sheet No.<br><b>B - 21</b> | Drawn: G.C. | Project No.: R05-348 | <b>CONCRETE PIER</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
|                            | Reviewed:   | Scale: NTS           |                      |   |
|                            | Revised:    | Date: 09/08          |                      |   |

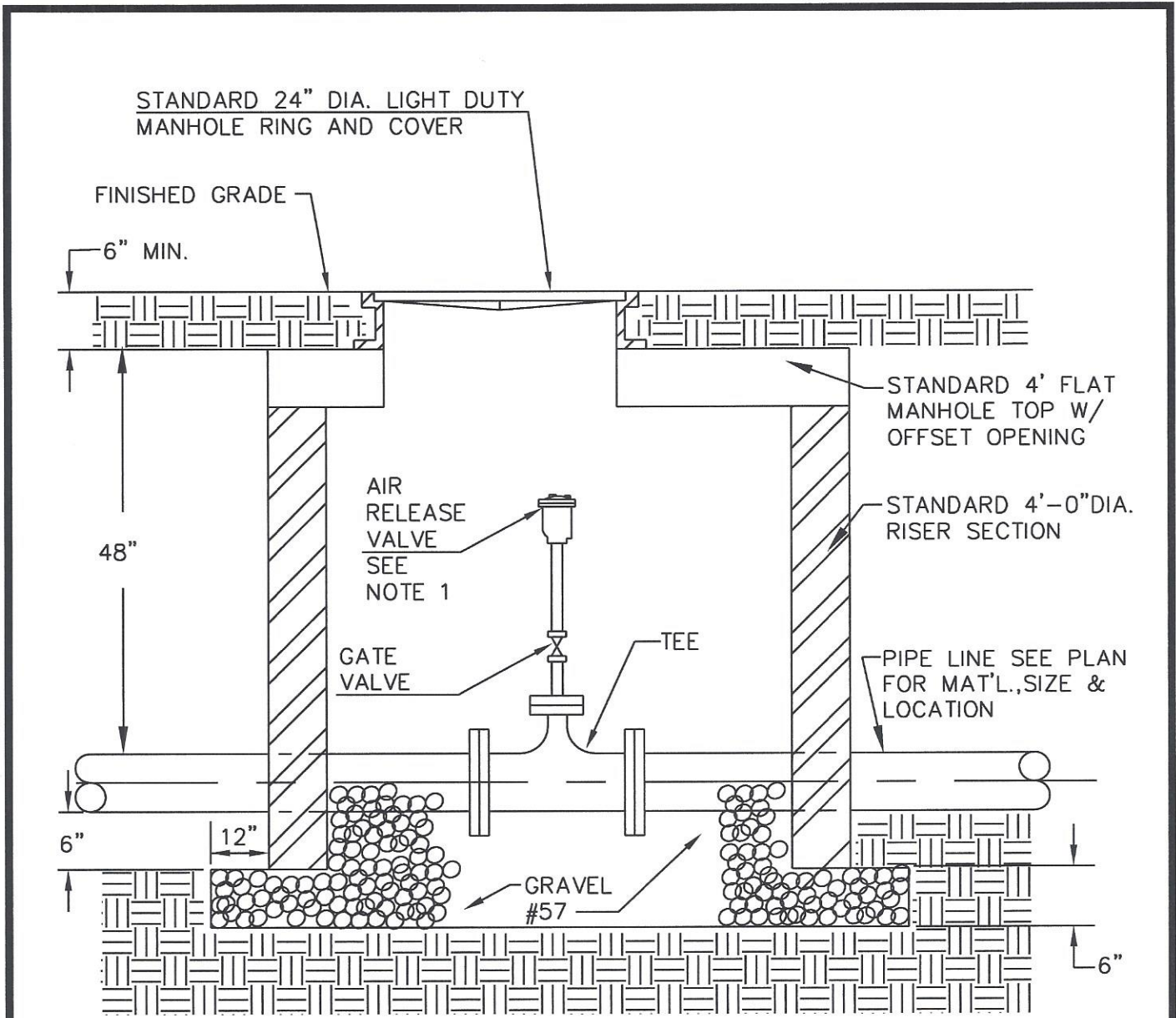




|           |             |                      |                |   |
|-----------|-------------|----------------------|----------------|---|
| Sheet No. | Drawn: G.C. | Project No.: R05-348 | PIPE ANCHORAGE | CITY OF FLOWERY BRANCH<br>PUBLIC UTILITIES DEPARTMENT |
| B - 22    | Reviewed:   | Scale: NTS           |                |   |
|           | Revised:    | Date: 09/08          | DETAIL         |   |



|                            |             |                      |                   |   |
|----------------------------|-------------|----------------------|-------------------|---|
| Sheet No.<br><b>B - 23</b> | Drawn: G.C. | Project No.: R05-348 | <b>PIPE STRAP</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
|                            | Reviewed:   | Scale: NTS           |                   |   |
|                            | Revised:    | Date: 09/08          |                   |   |

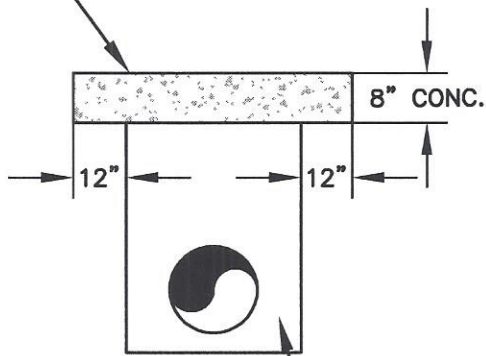


NOTE 1. SEE SPECIFICATIONS SECTION THREE, SANITARY SEWERAGE SYSTEMS, PART 2, MATERIALS, 2.11 FOR TYPE AND SIZE.

|                            |                                      |   |  |   |
|----------------------------|--------------------------------------|---|--|---|
| Sheet No.<br><b>B - 24</b> | Drawn: G.C.<br>Reviewed:<br>Revised: | Project No.: R05-348<br>Scale: NTS<br>Date: 09/08 | <b>AUTO-AIR RELEASE VALVE</b><br><br><b>DETAIL</b> | <b>CITY OF FLOWERY BRANCH</b><br><b>PUBLIC UTILITIES DEPARTMENT</b> |
|----------------------------|--------------------------------------|---|--|---|



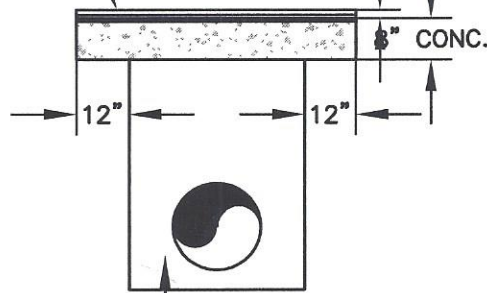
USE FOR CONCRETE STREETS,  
PARKING LOTS, AND DRIVEWAYS.



TYPE I

BACKFILL TO BE TAMPED  
IN 6" LAYERS

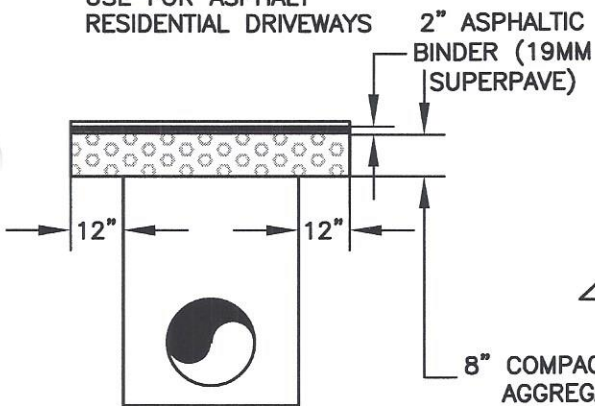
USE FOR ASPHALT STREETS,  
PARKING LOTS, AND COMMERCIAL  
2" ASPHALTIC  
BINDER (19MM  
SUPERPAVE)



TYPE II

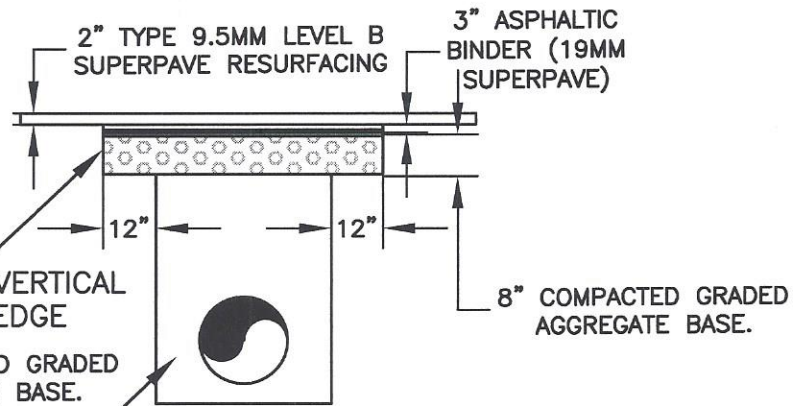
3" MIN. ASPHALTIC BINDER  
PROVIDE ADDITIONAL THICKNESS,  
EXISTING PAVEMENT DEPTH.

USE FOR ASPHALT  
RESIDENTIAL DRIVEWAYS



TYPE III

8" COMPACTED GRADED  
AGGREGATE BASE.



TYPE IV

BACKFILL TO BE TAMPED  
IN 6" LAYERS

NOTES:

1. USE 8" COMPACTED GRADED AGGREGATE BASE FOR REPLACEMENT AT GRAVEL DRIVES.

|                            |                          |                                    |                             |   |
|----------------------------|--------------------------|------------------------------------|-----------------------------|---|
| Sheet No.<br><b>B - 25</b> | Drawn: G.C.<br>Reviewed: | Project No.: R05-348<br>Scale: NTS | <b>PAVEMENT REPLACEMENT</b> | <b>CITY OF FLOWERY BRANCH<br/>PUBLIC UTILITIES DEPARTMENT</b> |
|                            | Reviewed:                | Date: 09/08                        |                             |   |