



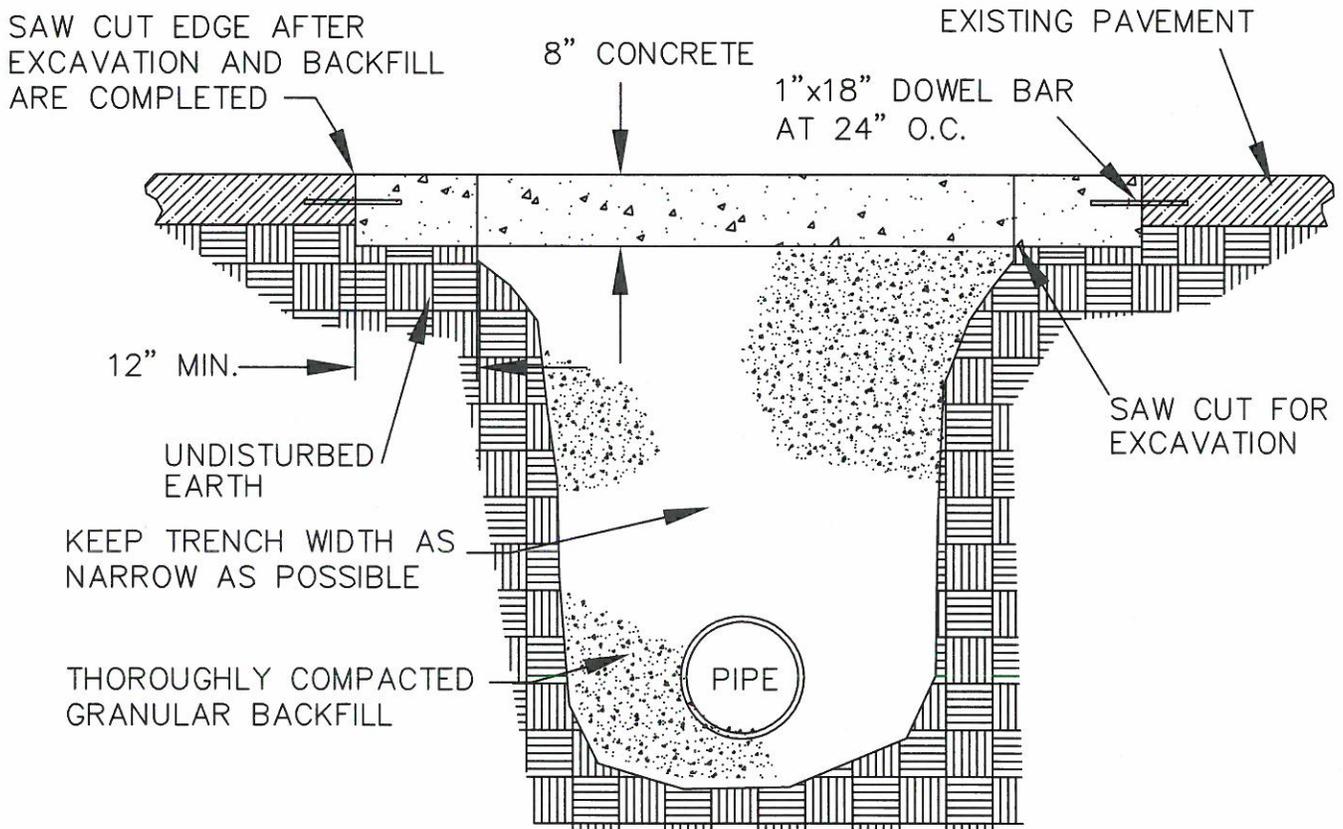
**City of Springfield, Missouri**

**Standard Drawing Details for Public  
Improvements**

**Adopted:**

**Dan Smith**  
**Director of Public Works**

NEW



NOTES:

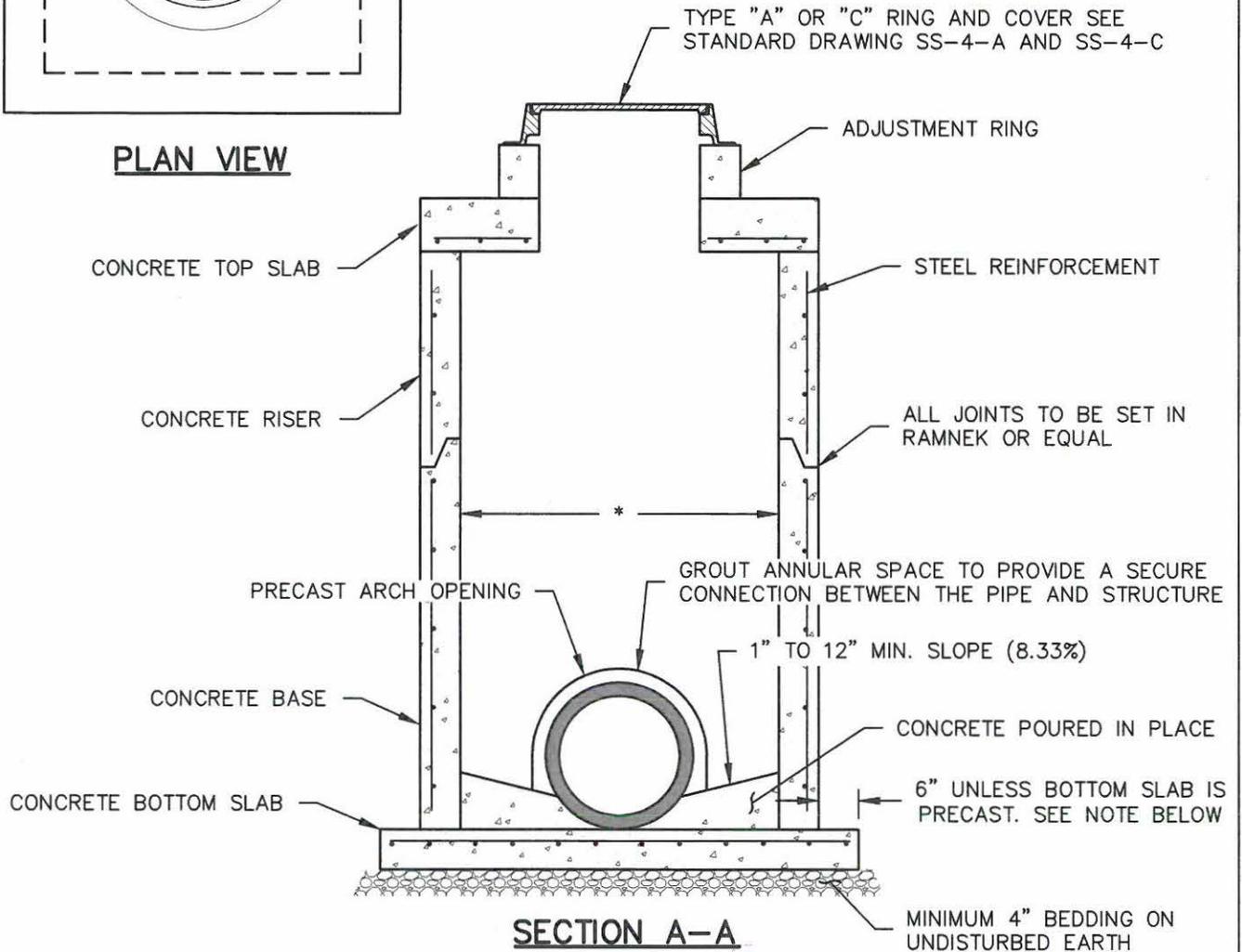
\*OMIT DOWEL BARS WHEN REPAIRING ASPHALT PAVEMENT

\*REPAIR SHALL CONFORM TO ALL CONSTRUCTION JOINT REQUIREMENTS



**PLAN VIEW**

**REPLACE**



**SECTION A-A**

**NOTES:**

1. JUNCTION BOX SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ASTM C 913.
2. CONCRETE TOP SLAB SHALL BE DESIGNED TO WITHSTAND LOADING BASED ON A COMBINATION OF DEAD LOADS, SNOW LOADS, AND A-16 (HS20-44) TRAFFIC LOADS IN ACCORDANCE WITH ASTM C890.
3. BOTTOM SLAB SHALL BE POURED IN PLACE. IF MANUFACTURER IS CONCERNED ABOUT STRUCTURAL INTEGRITY OF BASE DURING TRANSPORTATION THEN THE BOTTOM SLAB MAY BE PRECAST WITH RISER.
4. PIPE TO BE ON GRADE BEFORE BOTTOM SLAB IS CONSTRUCTED UNLESS BOTTOM IS PRECAST WITH BASE.
5. ALL PIPES SHALL FIT FLUSH WITH INSIDE FACE OF JUNCTION BOX.
6. BOTTOM OF JUNCTION BOX TO BE FILLED WITH CONCRETE FORMING CHANNELS TOWARD OUTLET PIPE FROM ALL INLET PIPES. CONCRETE SHALL BE FLUSH WITH INVERT OF OUTLET PIPE.
7. NO MORE THAN 2 ADJUSTMENT RINGS MAY BE USED BUT SHALL NOT EXCEED 18 INCHES.
8. CONCRETE TOP SLAB SHALL BE PINNED TO STRUCTURE AT THE CORNERS USING ONE #4 DEFORMED BAR IN EACH CORNER. BAR SHALL EXTEND A MINIMUM OF 6 INCHES INTO RISER BELOW.

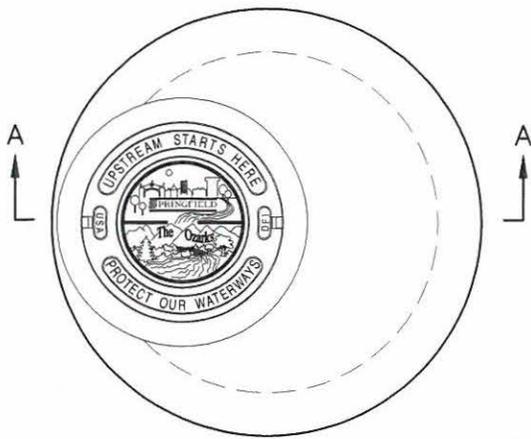
| PIPE DIAMETER | *MINIMUM INSIDE DIMENSION OF STRUCTURE |
|---------------|--|
| 15" - 24"     | THREE FEET (3')                        |
| 27" - 30"     | FOUR FEET (4')                         |
| 36" - 42"     | FIVE FEET (5')                         |
| 48" - 54"     | SIX FEET (6')                          |

DEPARTMENT OF PUBLIC WORKS  
SPRINGFIELD, MO.

JUNCTION BOX

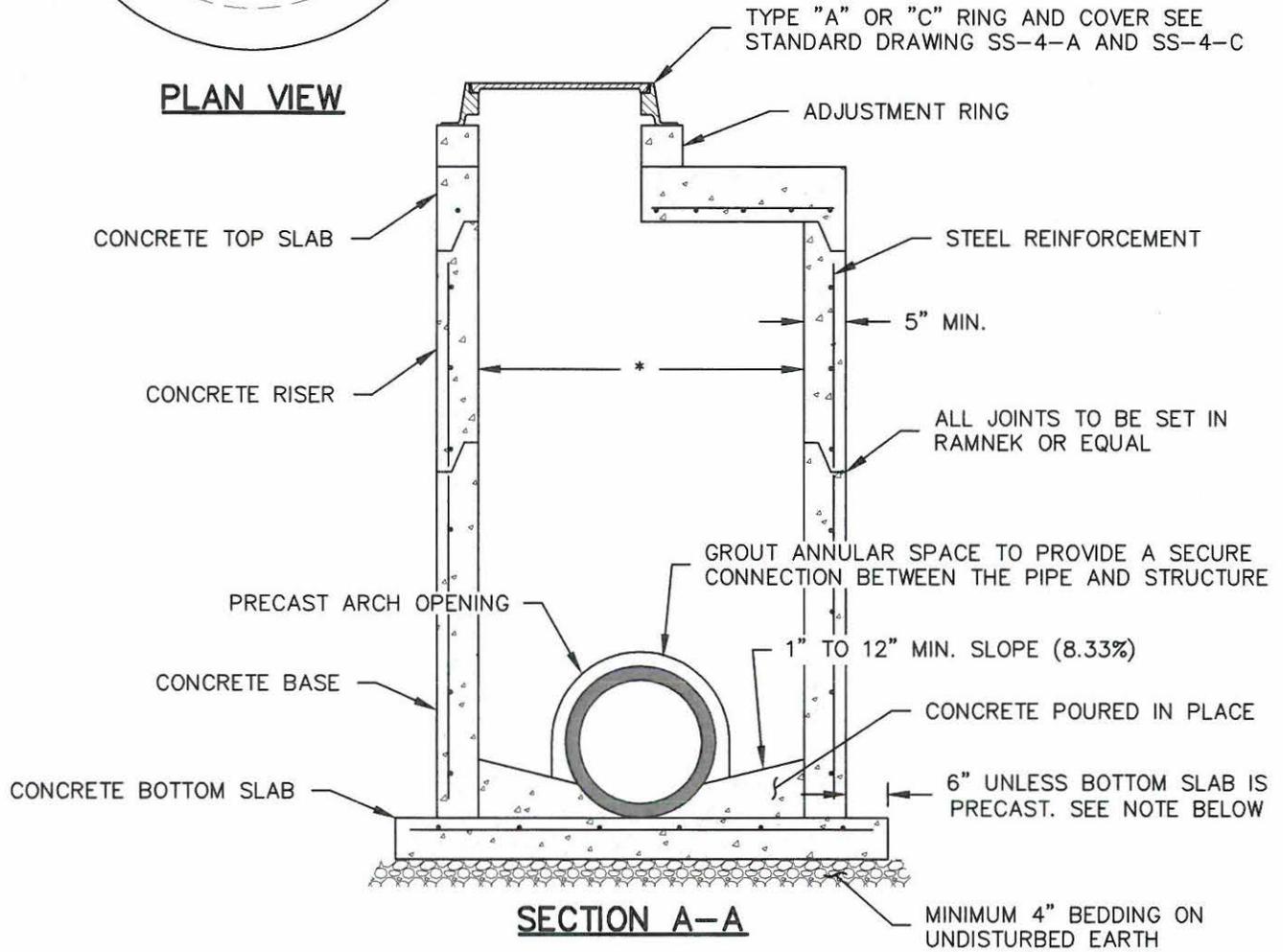
ADOPTED: 1-1-15

SS-1



NEW

**PLAN VIEW**

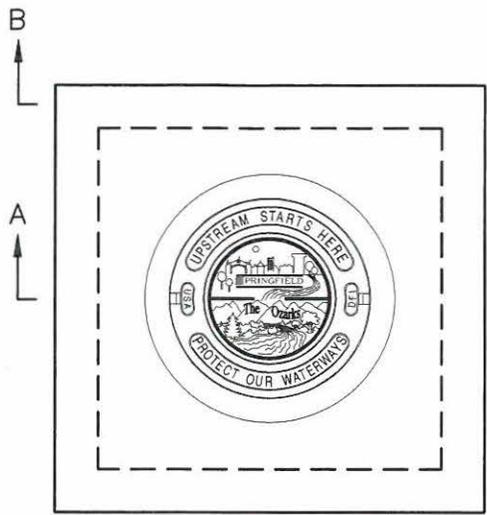


**SECTION A-A**

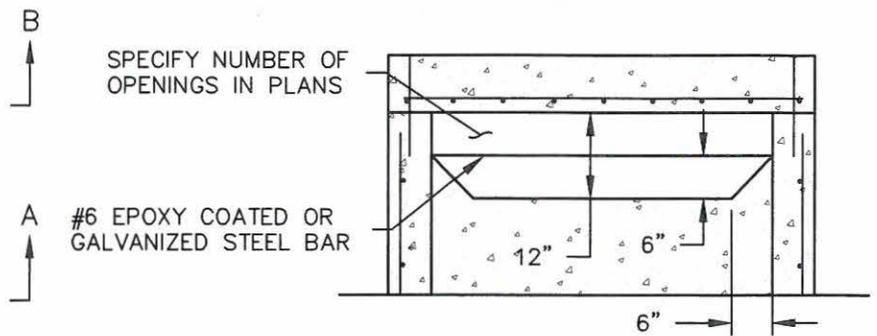
**NOTES:**

1. MANHOLE SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ASTM C 478.
2. BOTTOM SLAB SHALL BE POURED IN PLACE. IF MANUFACTURER IS CONCERNED ABOUT STRUCTURAL INTEGRITY OF CONCRETE BASE DURING TRANSPORTATION THEN THE BOTTOM SLAB MAY BE PRECAST WITH CONCRETE BASE.
3. PIPE TO BE ON GRADE BEFORE BOTTOM SLAB IS CONSTRUCTED.
4. ALL PIPES SHALL FIT FLUSH AT SPRINGLINE WITH INSIDE FACE OF MANHOLE.
5. BOTTOM OF MANHOLE TO BE FILLED WITH CONCRETE FORMING CHANNELS TOWARD OUTLET PIPE FROM ALL INLET PIPES. CONCRETE SHALL BE FLUSH WITH INVERT OF OUTLET PIPE.
6. NO MORE THAN 2 ADJUSTMENT RINGS MAY BE USED AND SHALL NOT EXCEED 18 INCHES.
7. A MINIMUM CLEARANCE OF TWO FEET, MEASURED AT THE INSIDE FACE OF THE MANHOLE SHALL BE MAINTAINED BETWEEN THE OUTSIDE EDGE OF STORM SEWER PIPES..

| PIPE DIAMETER | *MINIMUM INSIDE DIAMETER OF MANHOLE (SEE NOTE 7) |
|---------------|--|
| 15" - 24"     | FOUR FEET (4')                                   |
| 27" - 42"     | FIVE FEET (5')                                   |
| 48"           | SIX FEET (6')                                    |
| 54" - 66"     | EIGHT FEET (8')                                  |

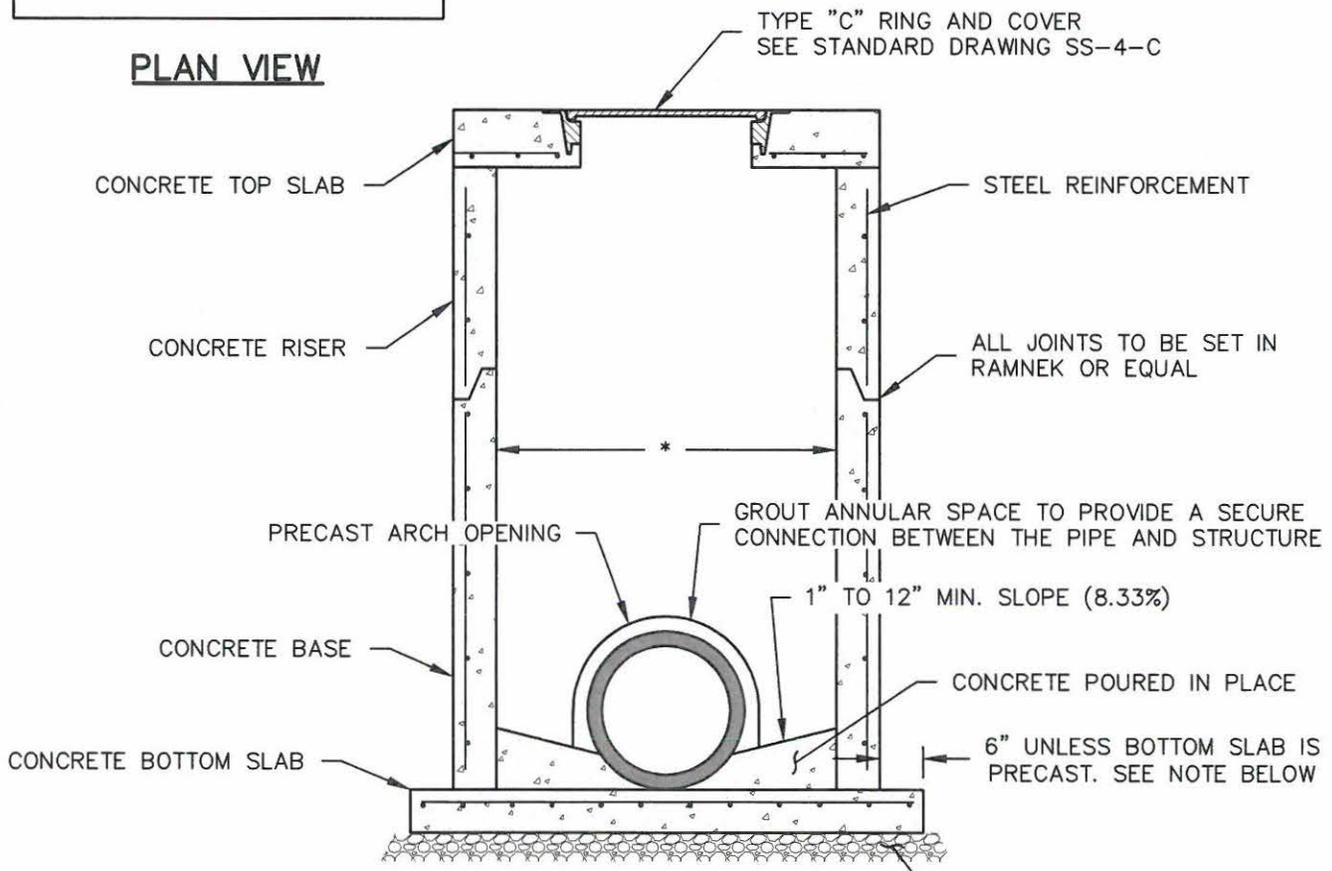


**PLAN VIEW**



**SECTION B-B**

**NEW**



**SECTION A-A**

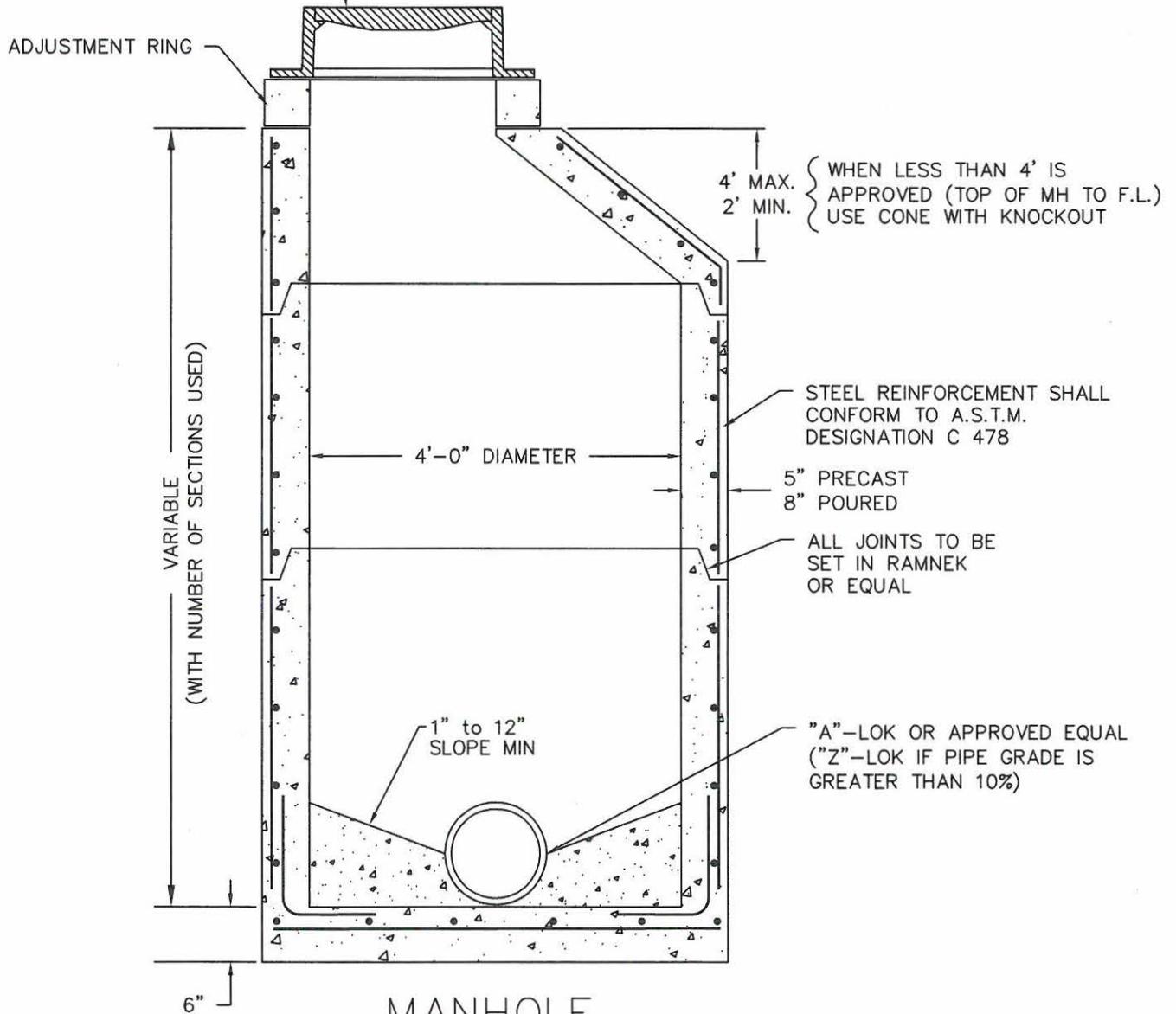
**NOTES:**

1. AREA INLET SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ASTM C 913.
2. CONCRETE TOP SLAB SHALL BE DESIGNED TO WITHSTAND LOADING BASED ON A COMBINATION OF DEAD LOADS, SNOW LOADS, AND A-16 (HS20-44) TRAFFIC LOADS IN ACCORDANCE WITH ASTM C890.
3. BOTTOM SLAB SHALL BE POURED IN PLACE. IF MANUFACTURER IS CONCERNED ABOUT STRUCTURAL INTEGRITY OF CONCRETE BASE DURING TRANSPORTATION THEN THE BOTTOM SLAB MAY BE PRECAST WITH CONCRETE BASE.
4. PIPE TO BE ON GRADE BEFORE BOTTOM SLAB IS CONSTRUCTED UNLESS BOTTOM IS PRECAST WITH BASE.
5. ALL PIPES SHALL FIT FLUSH WITH INSIDE FACE OF INLET.
6. BOTTOM OF INLET TO BE FILLED WITH CONCRETE FORMING CHANNELS TOWARD OUTLET PIPE FROM ALL INLET PIPES. CONCRETE SHALL BE FLUSH WITH INVERT OF OUTLET PIPE.
7. CONCRETE TOP SLAB SHALL BE PINNED TO STRUCTURE AT THE CORNERS USING ONE #4 DEFORMED BAR IN EACH CORNER. BAR SHALL EXTEND A MINIMUM OF 6 INCHES INTO RISER BELOW.

| PIPE DIAMETER | *MINIMUM INSIDE DIMENSION OF STRUCTURE |
|---------------|--|
| 15" - 24"     | THREE FEET (3')                        |
| 27" - 30"     | FOUR FEET (4')                         |
| 36" - 42"     | FIVE FEET (5')                         |
| 48" - 54"     | SIX FEET (6')                          |

MANHOLE FRAME & COVER  
 -TYPE "A". IF MANHOLE IS  
 IN FLOODPLAIN OR PRONE  
 TO SUBMERSION, USE  
 WATER-TIGHT, HINGED  
 PAMREX OR EJ 24" ERGO  
 NO. EJ001040013L01 LID AND  
 FRAME

NOTE:  
 NO MORE THAN 2 ADJUSTMENT RINGS,  
 NOT TO EXCEED 12-INCHES

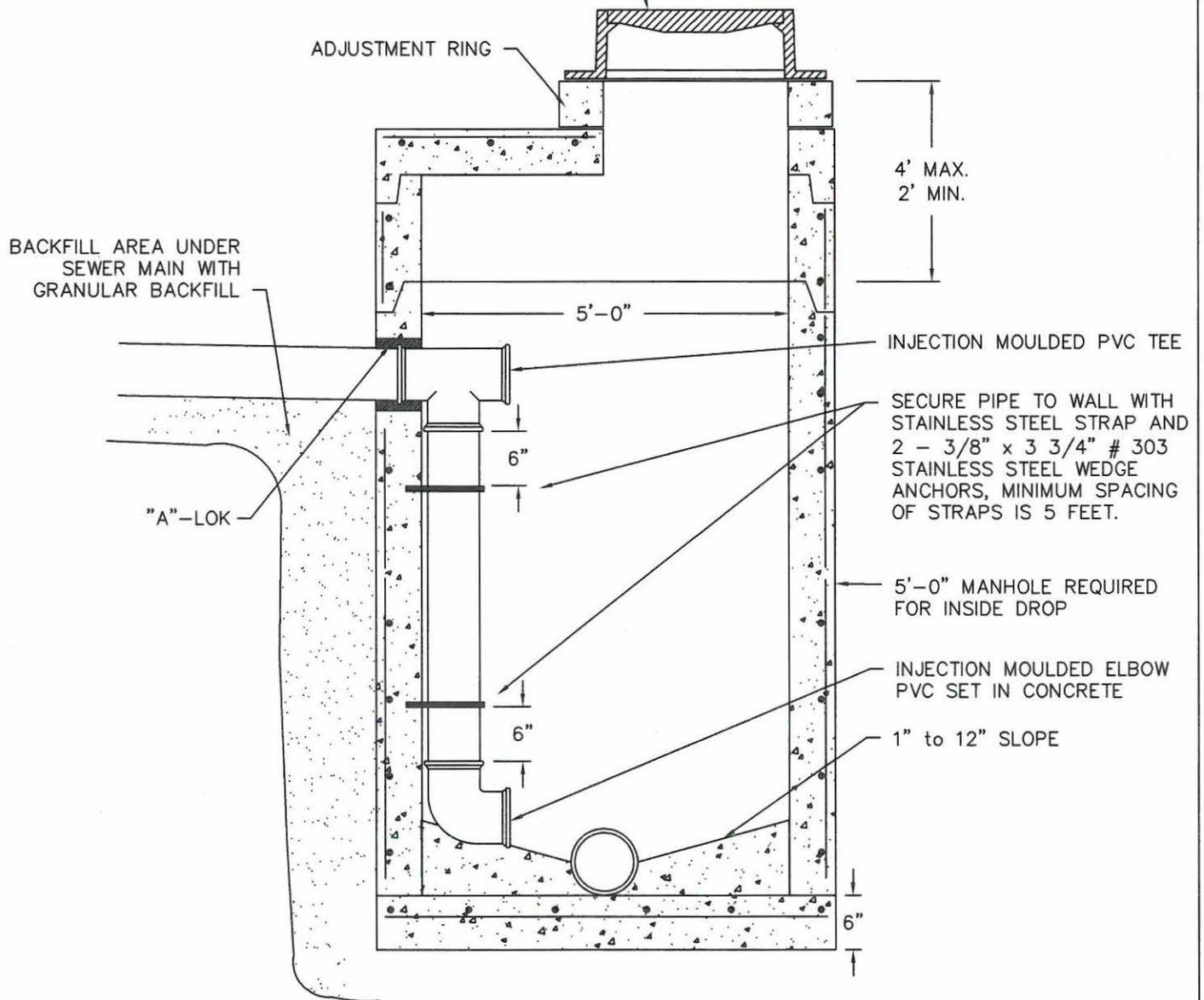


MANHOLE  
 8" TO 24" PIPE

01-01-2015

MANHOLE FRAME & COVER  
 -TYPE "A". IF MANHOLE IS  
 IN FLOODPLAIN OR PRONE  
 TO SUBMERSION, USE  
 WATER-TIGHT, HINGED  
 PAMREX OR EJ 24" ERGO  
 NO. EJ001040013L01  
 LID AND FRAME

NOTE:  
 NO MORE THAN 2 ADJUSTMENT RINGS,  
 NOT TO EXCEED 12-INCHES



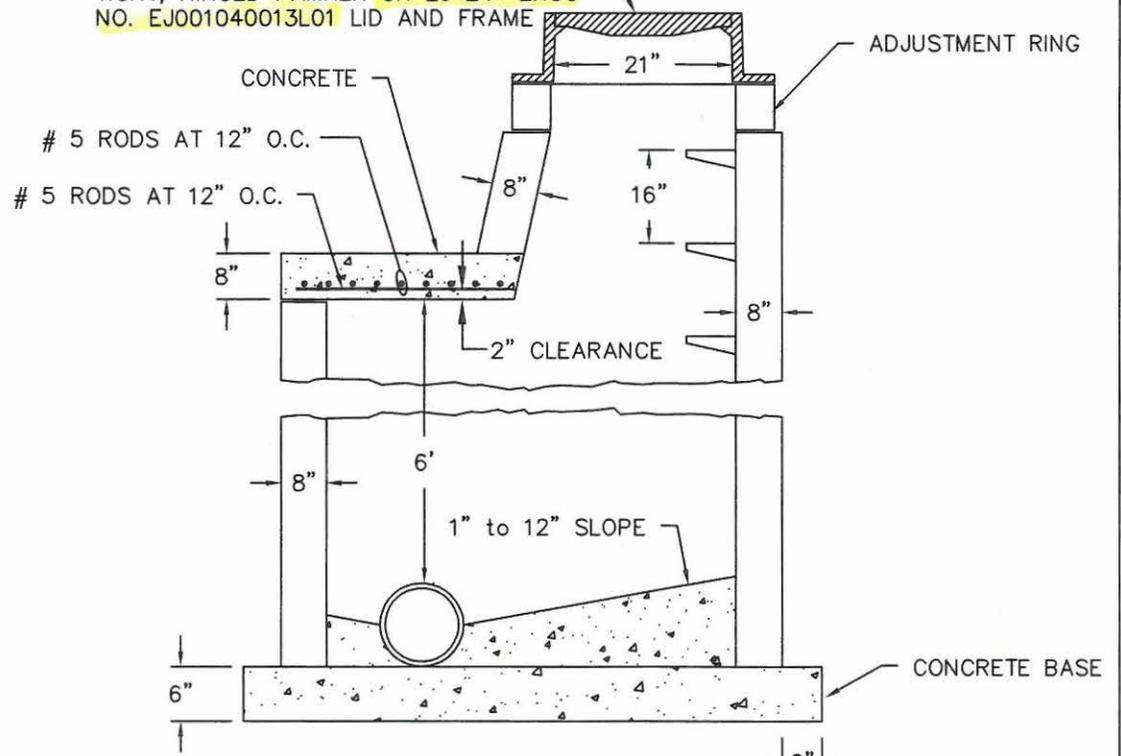
DISTANCE FROM PIPE INLET TO  
 MANHOLE FLOWLINE FOR 8" PIPE.  
 0'-2' BUILD INSIDE FLUME  
 2'-3' SPECIAL DESIGN REQUIRED  
 3'- BUILD DROP MANHOLE

CONSTRUCTION METHODS  
 FOR DROP MANHOLE TO BE  
 SAME AS MANHOLE SAN-3

### INSIDE DROP MANHOLE 8" TO 24" PIPE

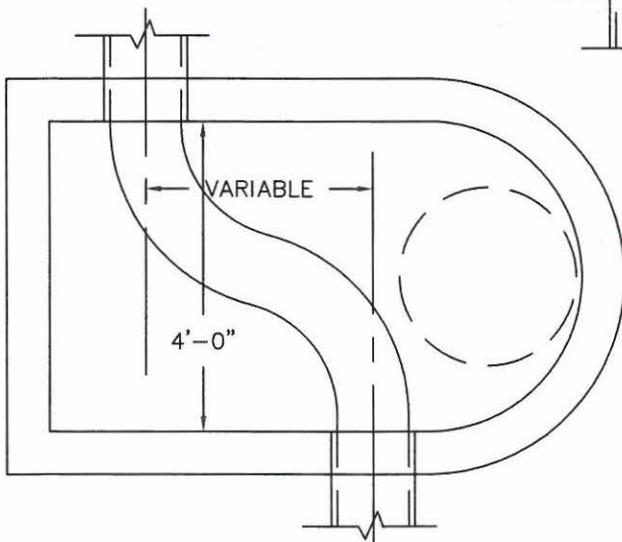
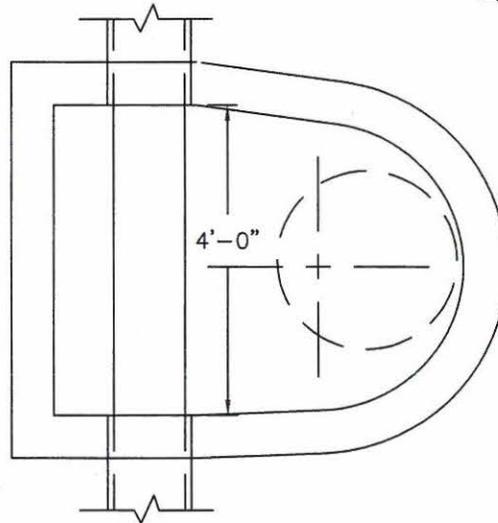
01-01-2015

MANHOLE FRAME & COVER -TYPE "A".  
 IF MANHOLE IS IN FLOODPLAIN OR  
 PRONE TO SUBMERSION, USE WATER-  
 TIGHT, HINGED PAMREX OR EJ 24" ERGO  
 NO. EJ001040013L01 LID AND FRAME



NOTES:

1. WALLS SHALL BE POURED CONCRETE OR PRECAST.
2. THICKNESS OF WALLS TO BE INCREASED TO 12" AT 12' BELOW UNDERSIDE OF FRAME.
3. CONSTRUCTION METHODS TO BE SAME AS STANDARD MANHOLES.

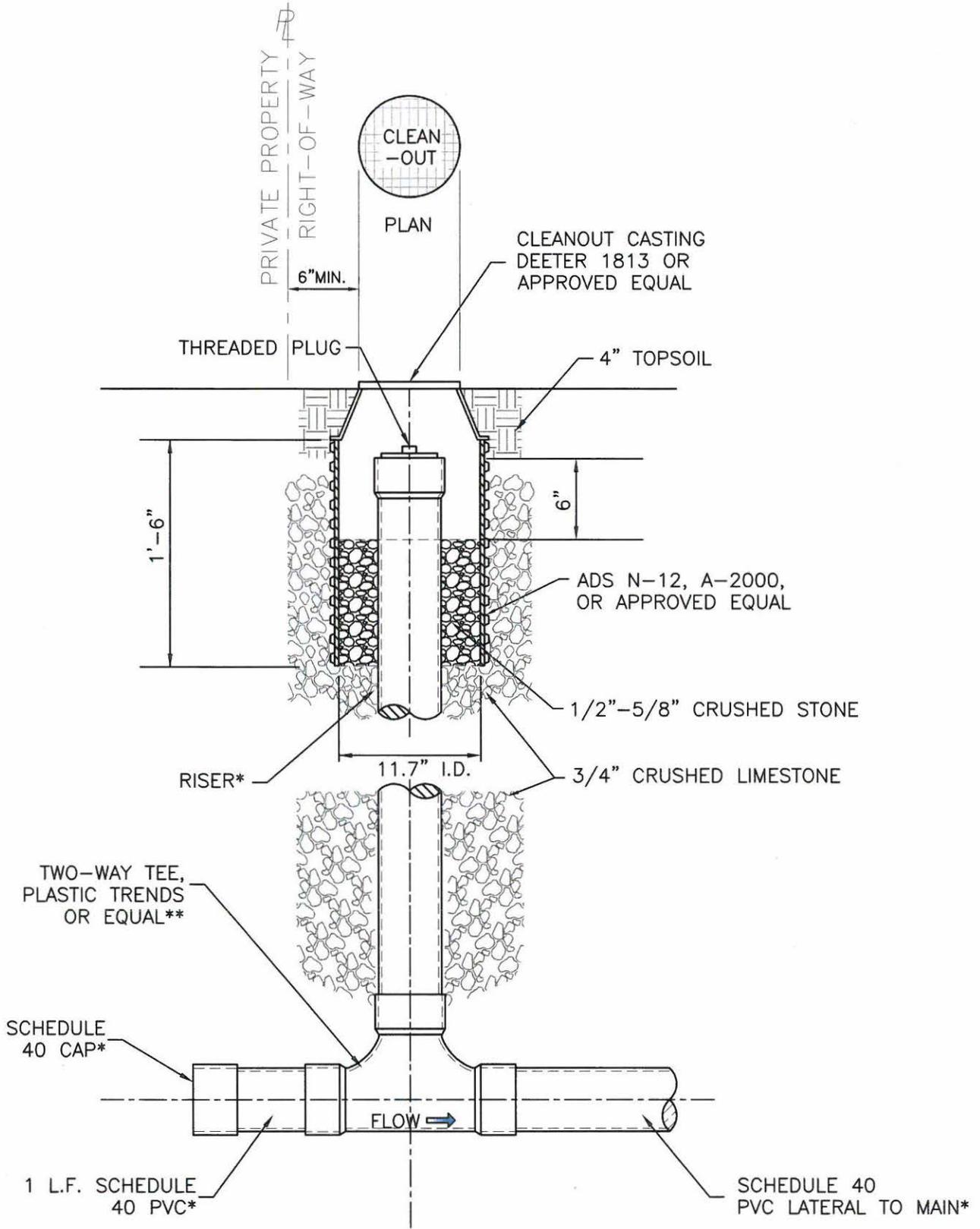


NOTE:  
 NO MORE THAN 2 ADJUSTMENT RINGS,  
 NOT TO EXCEED ~~18~~ INCHES

12

01-01-2015

NEW



- NOTES:
- NOT MAINTAINED BY ENVIRONMENTAL SERVICES.
  - ADJUST LATERAL DEPTH AS NECESSARY TO AVOID UTILITY CONFLICT.
  - RISER TO BE LOCATED A MIN. OF 6" INSIDE RIGHT-OF-WAY.
  - \* 4" OR 6" SCHEDULE 40 PVC.
  - \*\* 4"X4" NO. #D1004; 6"X6" NO. #D1006 BY PLASTIC TRENDS.

01-01-2015

DEPARTMENT OF PUBLIC WORKS  
SPRINGFIELD, MO.

### TYPICAL CLEANOUT RISER

ADOPTED: ~~9-4-2014~~  
SAN-24

NEW

R OR  
EASEMENT

TERMINATE TRACER  
WIRE AT CLEANOUT

COIL EXCESS  
TRACER WIRE  
AROUND RISER  
ABOVE GRANULAR  
FILL IN VAULT

TAPE TRACER WIRE TO  
LATERAL AS SPECIFIED  
BELOW

LATERAL TRACER  
WIRE(GREEN).  
PLACE DIRECTLY  
OVER AND ABOVE  
SEWER LATERAL

ANODE. SEE  
BELOW. PLACE  
DIRECTLY  
OVER MAIN.

SEWER SERVICE  
LATERAL

TWO-WAY  
CLEANOUT

SEWER  
MAIN

HDPE CAP

WIRE

THE LOCATOR WIRE SHALL BE GREEN NO. 12 AWG COPPER CLAD STEEL(CCS). TO ALLOW FOR GRADE ADJUSTMENT, A MINIMUM OF 12" OF EXCESS WIRE SHALL BE COILED AT THE CLEANOUT FOR ALL WIRES.

18.5"

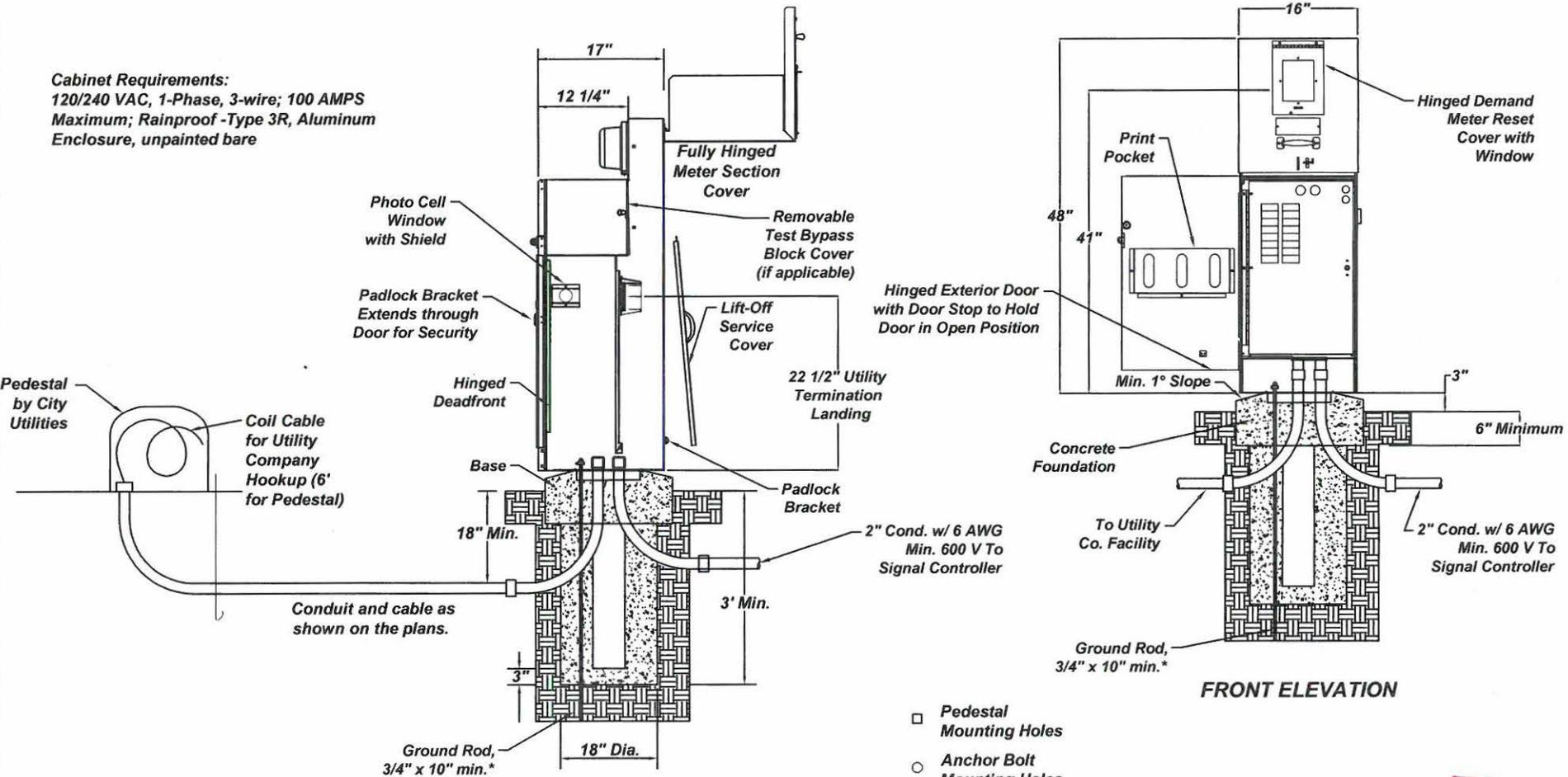
ANODES

THE ANODE SHALL BE 1/2 LB BARE ZINC OR MAGNESIUM. THE ANODES SHALL BE BURIED AT THE SAME ELEVATION AND IN CLOSE PROXIMITY TO THE SEWER LATERAL. THE ANODES SHALL BE CONNECTED TO THE GREEN NO. 12 AWG COPPER CLAD STEEL(CCS) WIRE. 1.315"Ø

TRACER WIRE DETAIL

CONDUCTIVE TYPE PIPE LOCATOR/TRACER WIRE SHALL BE INSTALLED TO LOCATE ALL SEWER LATERALS. THE WIRE SHALL EXTEND THE ENTIRE LENGTH OF THE PROPOSED LATERAL. THE WIRE SHALL BE INSTALLED DIRECTLY ON TOP THE PIPE AND SECURED TO THE LATERAL BY TAPE AT BASE OF RISER, SEWER MAIN AND EVERY 15'. CORROSION PROOF/FILLED WIRE CONNECTORS SHALL BE USED AT SPLICE LOCATIONS. ELECTRICAL TAPE SHALL BE USED AND NO BARE WIRE SHALL BE EXPOSED. TEST STATIONS SHALL BE INSTALLED INSIDE ALL CLEANOUT VAULTS AND EXISTING WIRES SHALL BE CONNECTED. ZINC OR MAGNESIUM ANODES SHALL BE ATTACHED AT BOTH THE BEGINNING AND THE END OF THE TRACER WIRE. A TYPICAL LAYOUT OF THE LOCATOR WIRE AND CLEANOUT IS PROVIDED IN THE FIGURE ABOVE. CONDUCTIVITY TO BE TESTED BEFORE ACCEPTANCE.

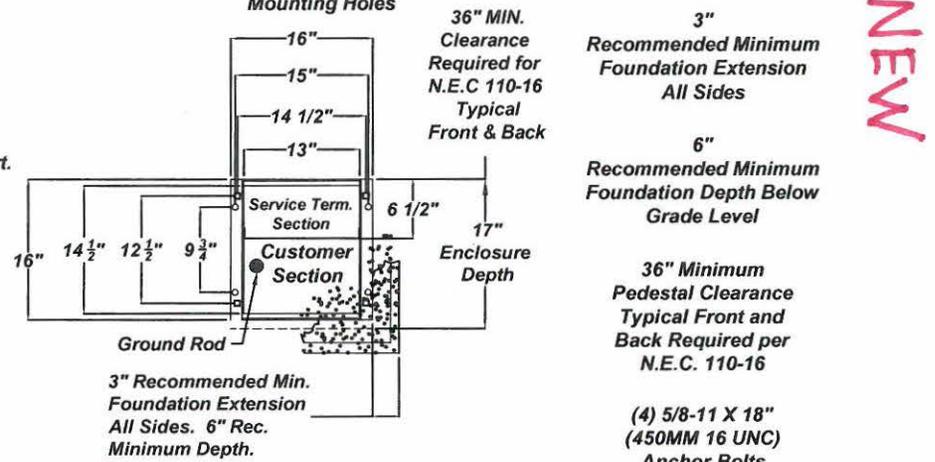
01-01-2015



SIDE ELEVATION

FRONT ELEVATION

\*Drive two ground rods six feet apart.



MOUNTING BASE DETAIL

The Contractor is required to obtain an Electrical permit from Building Development Services for new or relocated power supplies. The permit fee is the responsibility of the Contractor.

NOT TO SCALE

NEW