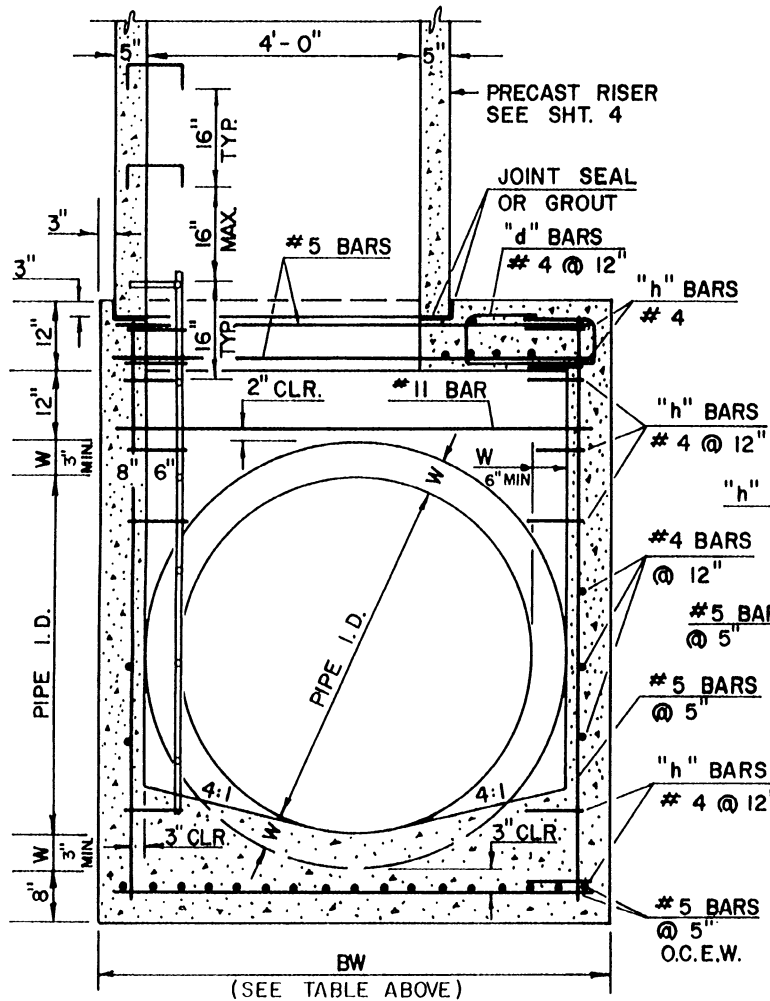
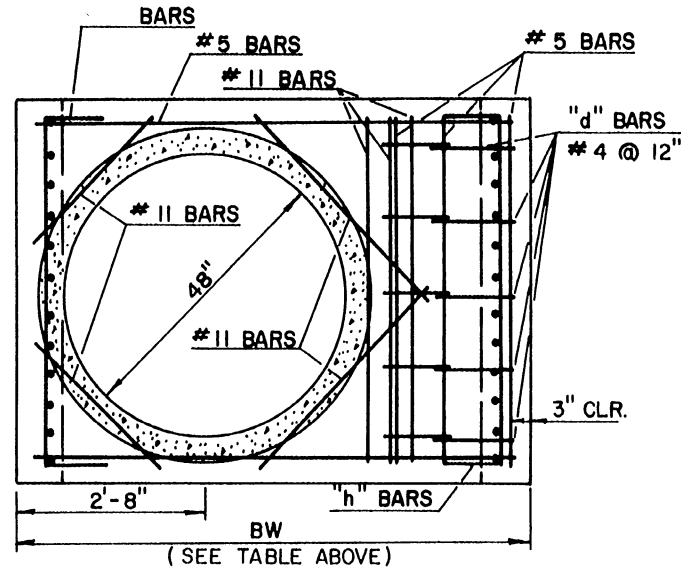


PIPE I.D.	BW
48" AND SMALLER	6'-4"
54"	6'-10"
60" AND LARGER	O.D. + 16"



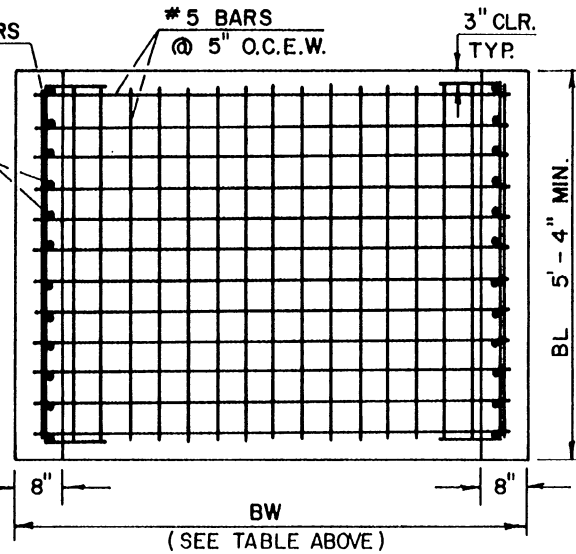
**SECTION VIEW**

SCALE: 3/8" = 1'-0"



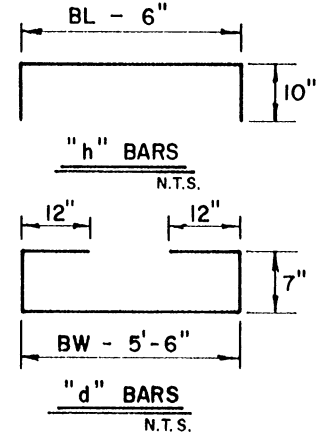
**SLAB REINFORCING**

SCALE: 3/8" = 1'-0"



**BASE REINFORCING**

SCALE: 3/8" = 1'-0"



**NOTES**

1. Type I manhole shall be used in all cases unless otherwise approved by the City Engineer
2. View and Details shown are typical for straight through design only. Design Engineer shall determine manhole base configuration and dimensions for particular pipe sizes and alignment.
3. Either ladder or steps shall be installed when manhole depth exceeds 30". Lowest step shall be a maximum of 16" above the floor.
4. Floor of the manhole shall be trowelled to a smooth, hard surface and shall slope towards the outlet (8:1 max., 1/2" per ft. min.). Floor shall be shaped and channelled; see sheet 2 for typical channel details.

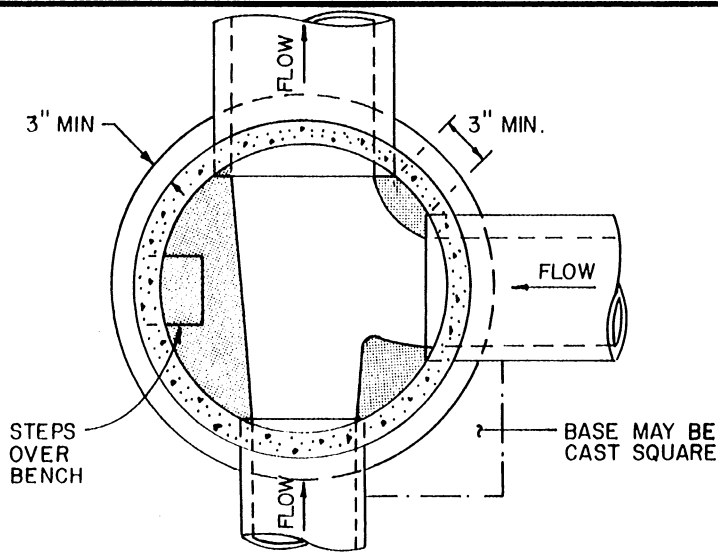
**TYPE I BASE MANHOLE**

CITY OF COLORADO SPRINGS

STORM SEWER MANHOLE-TYPE I

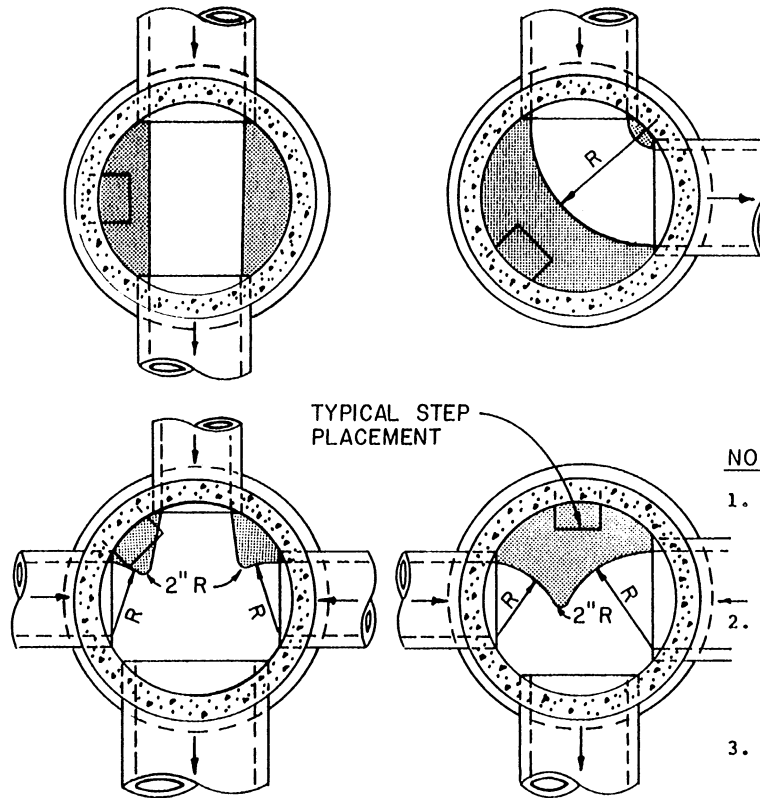
APPROVED BY *Gay K. Haynes*  
CITY ENGINEER

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**PLAN VIEW OF BASE**

SCALE 3/8" = 1'-0"

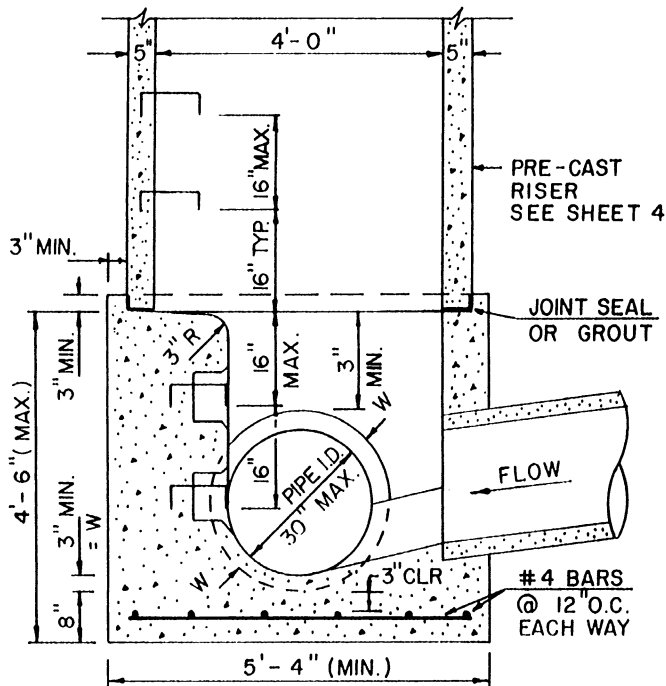


**TYPICAL CHANNEL DETAILS**

SCALE 1/4" = 1'-0"

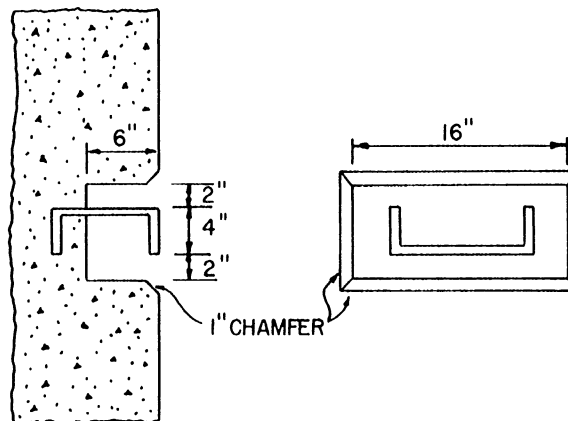
**NOTES**

1. Type II manholes shall be used only with approval of the City Engineer and only when the pipe sizes are 30" or less inside diameter.
2. View and Details are typical. Design Engineer shall determine manhole base configuration and dimensions for particular pipe sizes and alignment.
3. Either ladder or steps shall be installed when manhole depth exceeds 30". Steps in base shall be installed in "toe pockets" (see detail this sheet). Lowest step shall be a maximum of 16" above the floor.
4. Pipes shall be trimmed to final shape and set before manhole is poured.
5. Bench shall be sloped toward center of manhole base (4:1 max., 1/2" per ft. min.).
6. Floor of manhole shall be trowelled to a smooth, hard surface and shall slope towards the outlet (8:1 max., 1/2" per ft. min.). Floor shall be shaped and channelled; see details this sheet.



**SECTION VIEW**

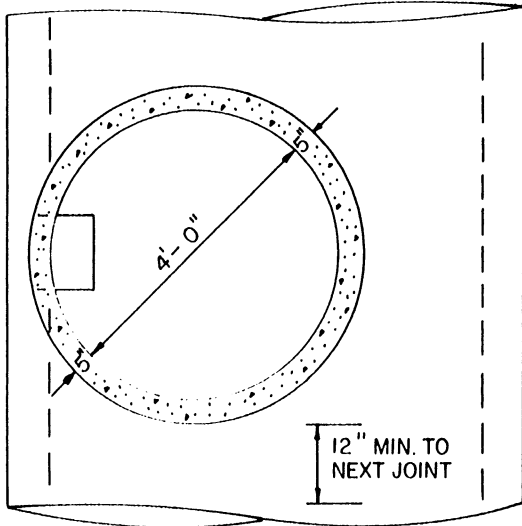
SCALE 3/8" = 1'-0"



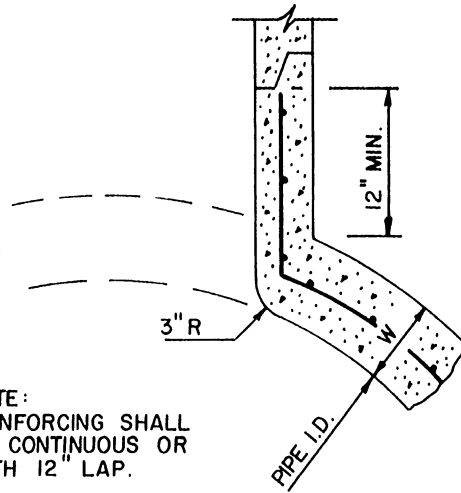
**TOE POCKETS DETAILS**

SCALE 3/4" = 1'-0"

CITY OF COLORADO SPRINGS			
STORM SEWER MANHOLE-TYPE II			
APPROVED BY <i>Jay R. Skyles</i> CITY ENGINEER			
SCALE: AS SHOWN	DATE: JAN. 89	DRAWN: P.L.B.	SHEET: D-20 B OF 4



**PLAN VIEW**  
SCALE 3/8" = 1'-0"

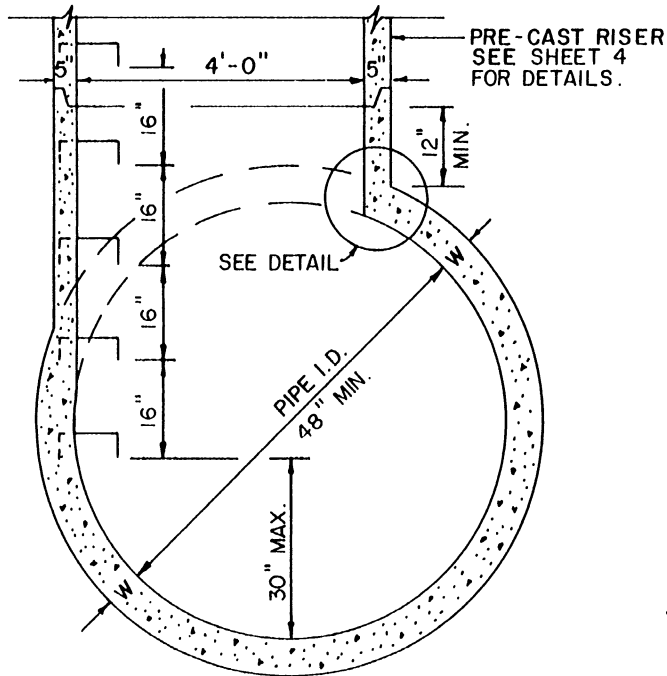


NOTE:  
REINFORCING SHALL  
BE CONTINUOUS OR  
WITH 12" LAP.

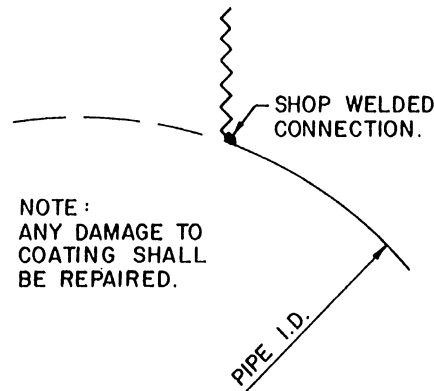
**R.C.P. CONNECTION DETAIL**  
SCALE 3/4" = 1'-0"

**NOTES:**

1. Type III manholes shall be used only with approval by the City Engineer and only when all of the following conditions are met:
  - a. Pipe is 48" or larger inside diameter
  - b. No change in pipe size
  - c. No change in pipe material
  - d. No change in horizontal alignment
  - e. Slope is flat and continuous
2. Type III manholes shall be fabricated by the manufacturer/supplier and delivered to the site as a single unit. Field fabrication shall not be permitted.
3. Either ladder or steps shall be installed. Lowest step shall be a maximum of 30" above the invert of the pipe.

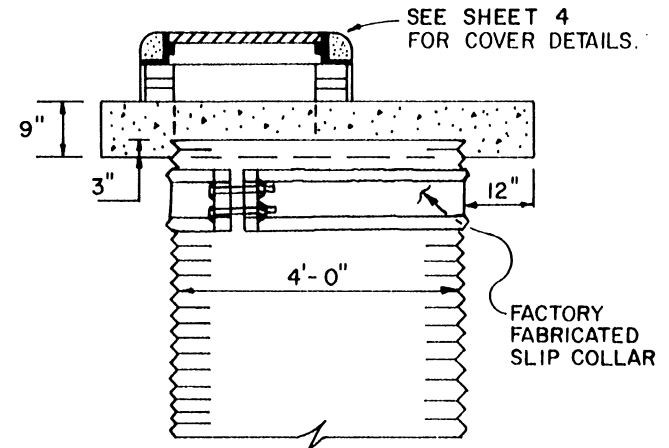


**SECTION VIEW**  
SCALE 3/8" = 1'-0"



NOTE:  
ANY DAMAGE TO  
COATING SHALL  
BE REPAIRED.

**C.S.P. CONNECTION DETAIL**  
SCALE 3/4" = 1'-0"

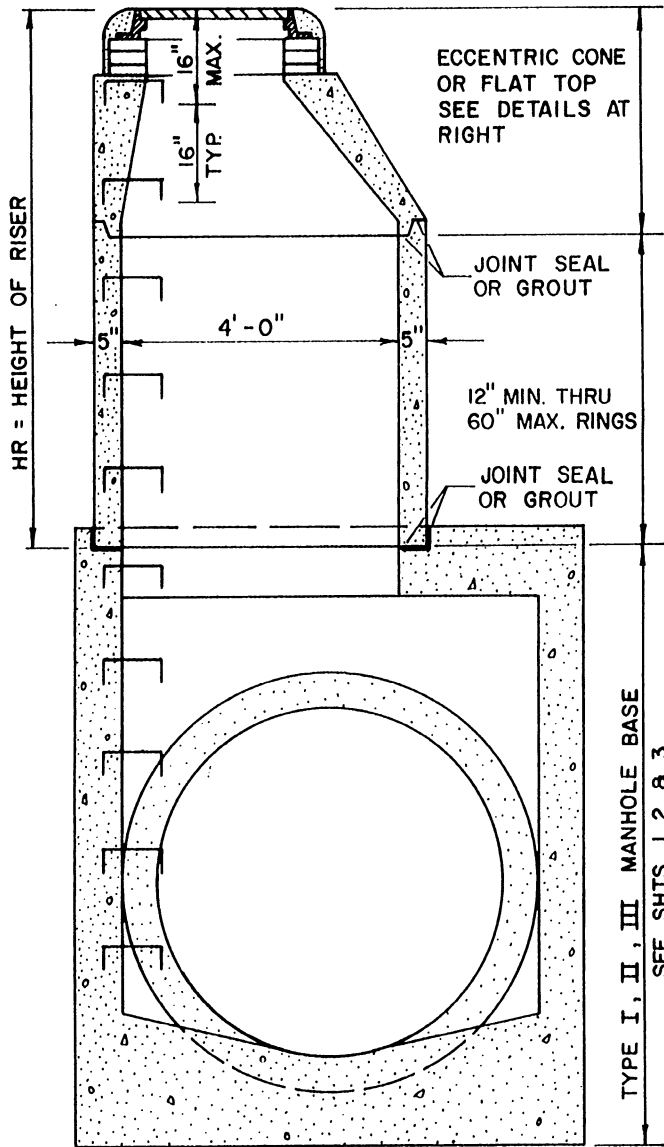


**SPECIAL LID FOR USE  
WITH C.S.P. RISER.**

SCALE 3/8" = 1'-0"

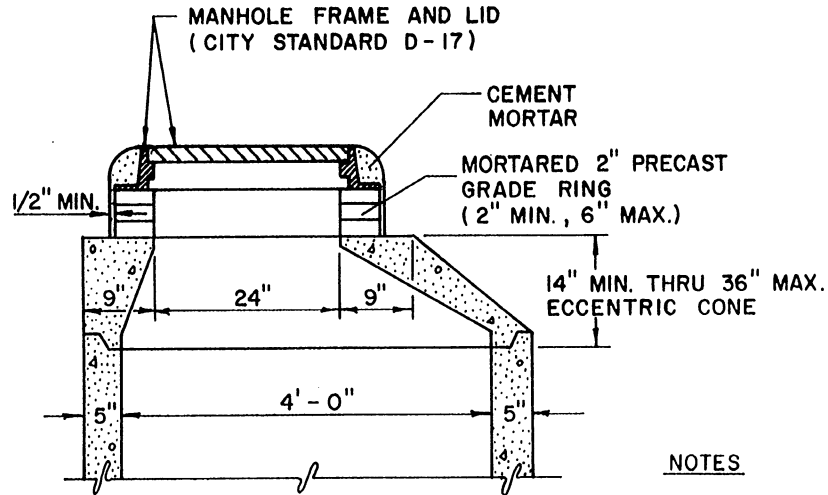
CITY OF COLORADO SPRINGS			
STORM SEWER MANHOLE - TYPE III			
APPROVED BY <i>Ray K. Haynes</i> CITY ENGINEER			

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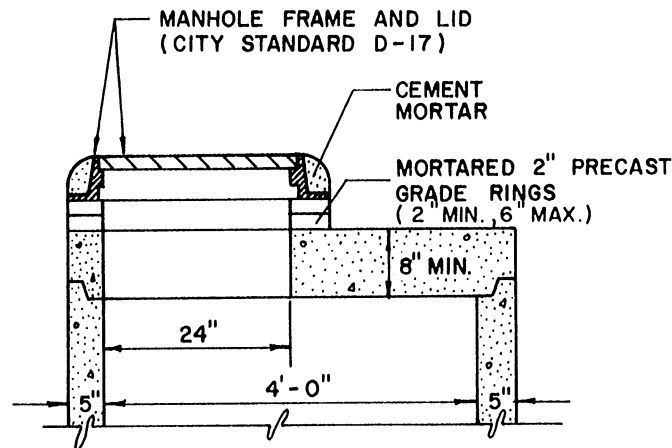
**SECTION VIEW**

SCALE: 3/8" = 1'-0"



**ECCENTRIC CONE TOP**

(FOR HR > 3' ±) SCALE: 1/2" = 1'-0"



**ECCENTRIC FLAT TOP**

(FOR HR < 3' ±) SCALE: 1/2" = 1'-0"

**NOTES**

1. All work shall be done in accordance with the standard and supplemental specifications applicable to the project.
2. Precast risers shall conform to ASTM C-478.
3. Steps shall be installed when manhole depth exceeds 30". Steps shall be cast iron or extruded aluminum, 1000 lb. capacity, 12" wide with non-skid grooves and drop front on safety noses, in accordance with approved OSHA requirements.

**STORM SEWER MANHOLE PRECAST RISER**

CITY OF COLORADO SPRINGS

STORM SEWER-COVER & RISER

APPROVED BY *Ray R. Reynolds*  
CITY ENGINEER

SCALE: AS SHOWN	DATE: JAN. 89	DRAWN: P.L.B.	SHEET: D-20D 1 OF 4
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