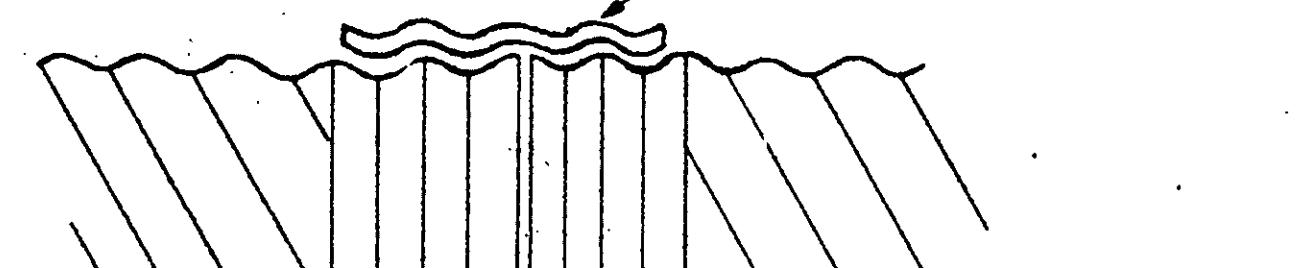
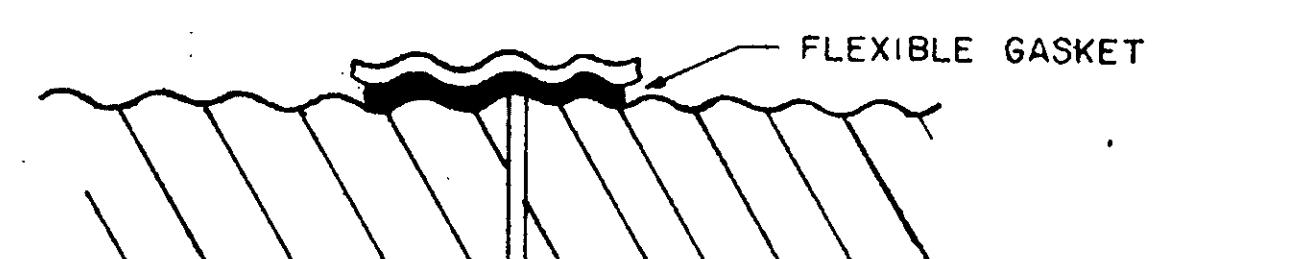


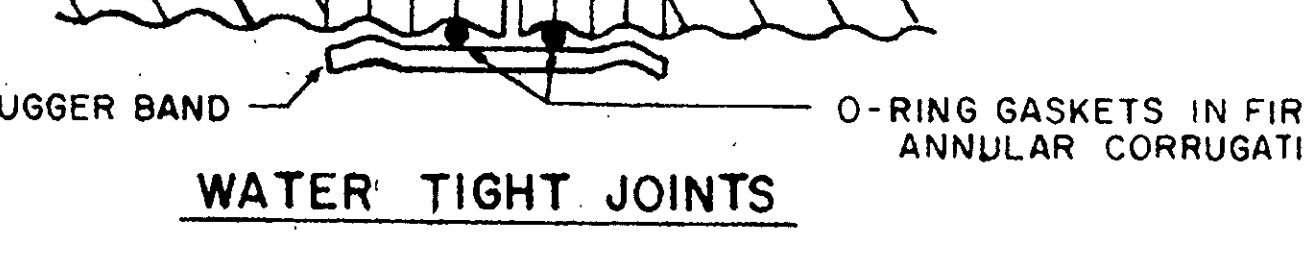
HELICALLY CORRUGATED  
ANNUAL CORRUGATED BAND  
OR HUGGER BAND SHALL BE USED.



HELICALLY CORRUGATED  
WITH ANNUAL ROLLED ENDS

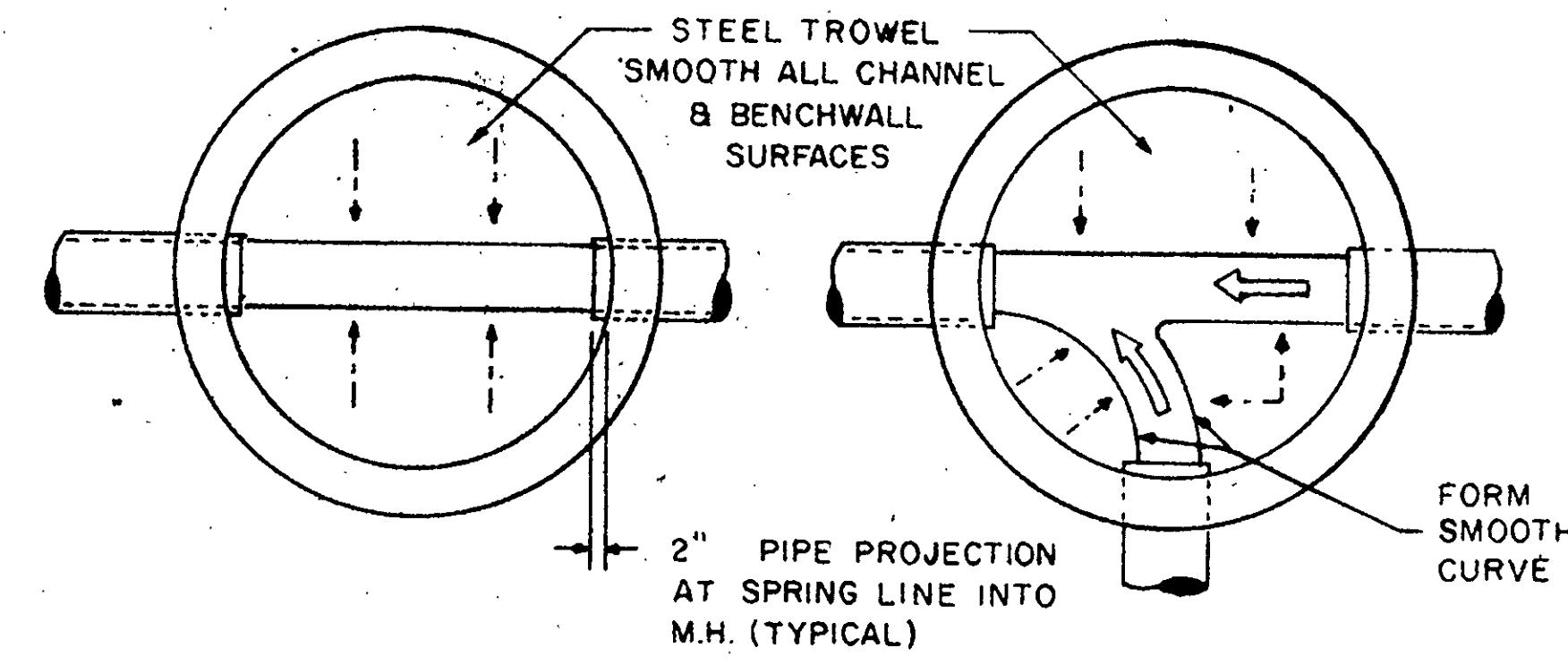


HUGGER BAND  
O-RING GASKETS IN FIRST  
ANNUAL CORRUGATION.

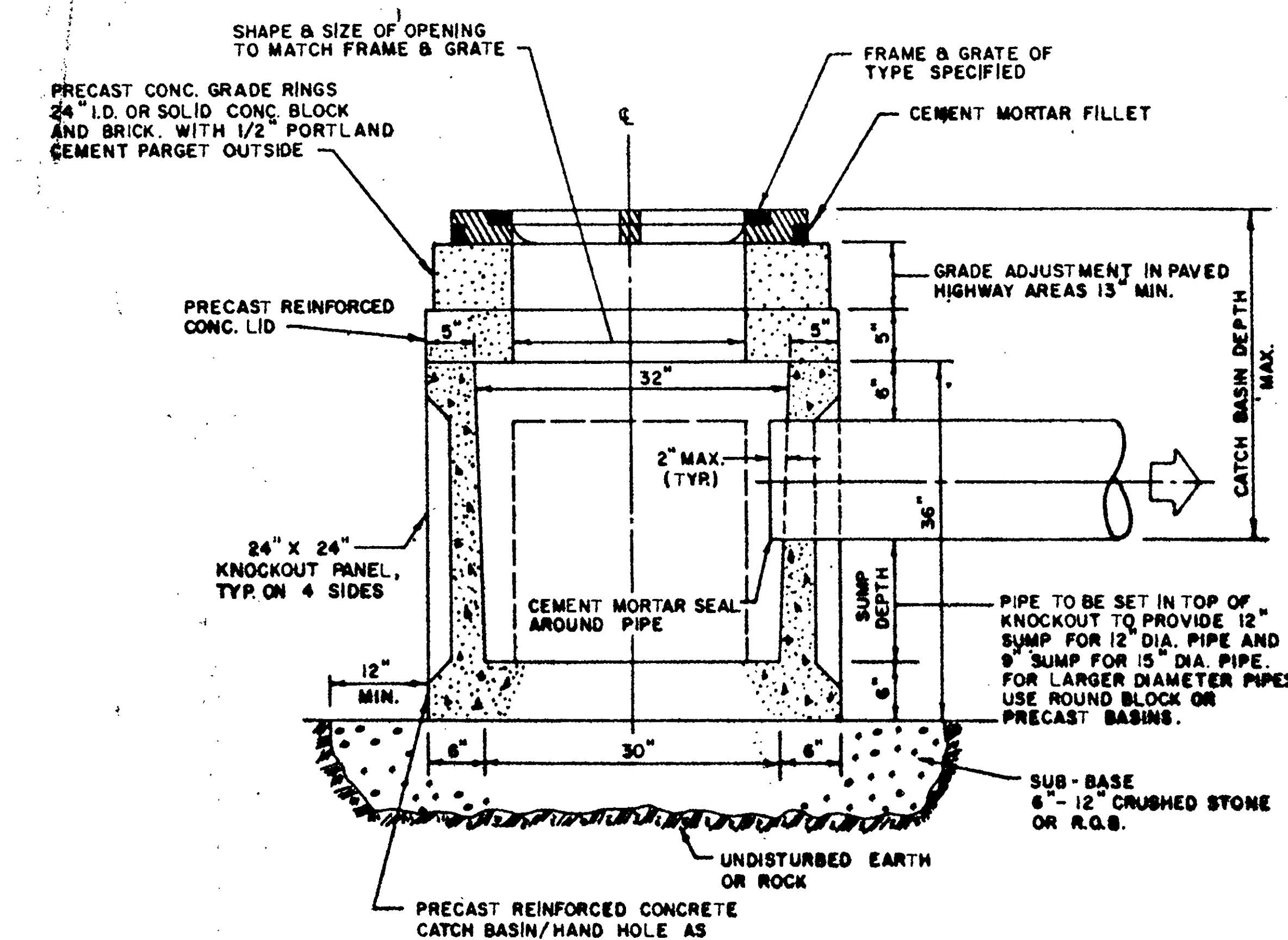


WATER TIGHT JOINTS

#### TYPICAL C.M.P. JOINT DETAILS



#### INVERT, CHANNEL AND BENCHWALL DETAILS



#### STANDARD SQUARE PRECAST CONCRETE CATCH BASIN

SCALE: NONE

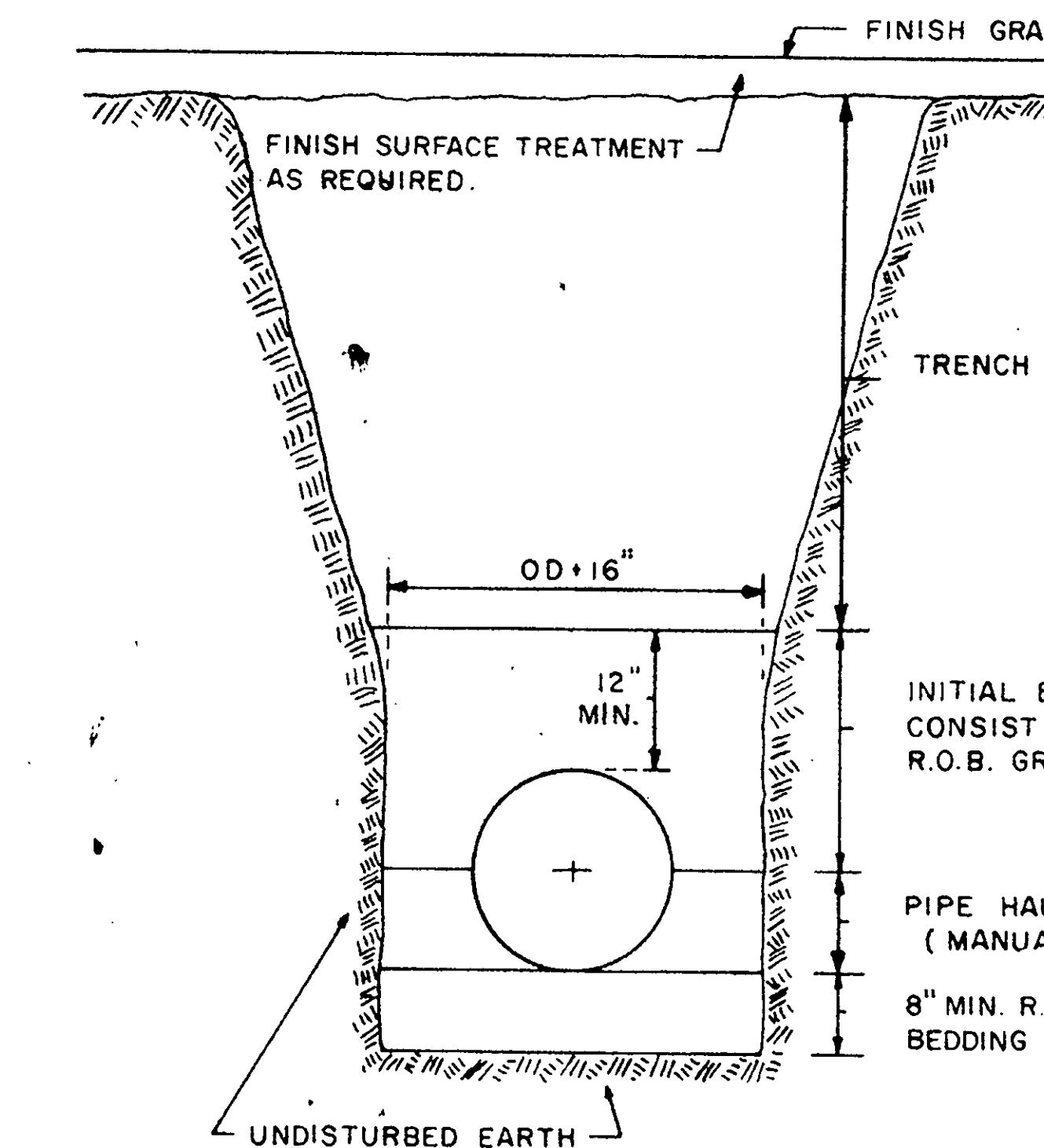
#### NOTES:

1. All storm drainage pipe shall be:
  - a) Corrugated metal pipe either fully bituminous coated with a paved invert or smooth flow type (see standard gauges and joint detail). All collars shall be of the same gauge and corrugation as the pipe being installed. Dimple collars are prohibited.
  - b) Aluminum corrugated pipe with the same gauge thickness and joint coupling as corrugated pipe.
  - c) 16 gauge U.S. composite pitch solvent-welded jointed pipe (see Note 4).
2. If lead or leaded pipe is used as a pipe line extender, fresh air must be introduced into the pipe by a mechanical blower for lines over 100' in length.
3. Extreme care shall be taken in the handling of pipe and appurtenances. Under no circumstances shall such material be dropped, rolled or skidded against another pipe. All slings, hooks or pipe tongs shall be padded and used in such a manner to prevent damage to the exterior of the pipe. Handling pipe from the interior is prohibited.
4. All pipe bedding, backfilling and initial backfill shall consist of selected R.O.B., screened or crushed gravel not exceeding 4" in diameter. All materials to be compacted A.O.B.E. shall have a moisture content suitable for proper compaction selection. Impact rammers, plate or small drum vibrators may be used with layer thickness not exceeding the capability of the compaction equipment being used. Compaction shall be performed in accordance with the use of the above described mechanical devices based upon the results of appropriate on-site field test or experience shall be final.
5. If water-tight lines are required, disregard Note 4 and use existing soil, if satisfactory to the engineer.
6. When precast marshals are to be used, a shop drawing must be submitted to the Roan for approval.
7. Precast concrete block marshals may be used if:
  - a) A 12" wide by 10' deep marshals are 6" wider than the outside diameter of the manhole used.
  - b) Concrete block 6" wide for 10' depth, 8" wide for over 10' depth is used.
  - c) Outside surface of marshals is cement mortar pargeged 3/8" thick.
  - d) Structures surface of marshals shall have approved steps every 16" on center. The imbedded portion of aluminum steps are to be bituminous coated +1" and have a 5" projection into the structure.
8. All manholes shall be backfilled with a minimum of 12" of selected R.O.B. gravel (see note 4).
9. If cellar drain stabs are installed they shall be made of P.V.C., A.B.S. (SDR 30 or SDR 40) or cast iron and be placed no lower than the top of the outlet pipe and have a maximum projection into the structure of 2".
10. Where storm drainage pipes are installed under pavement areas, the entire trench shall be backfilled with selected R.O.B. gravel (see Note 4).
11. Stone filling, if called for on the plans or by the engineer, will have a separate attached requirement labeled "Stone Filling Specifications".

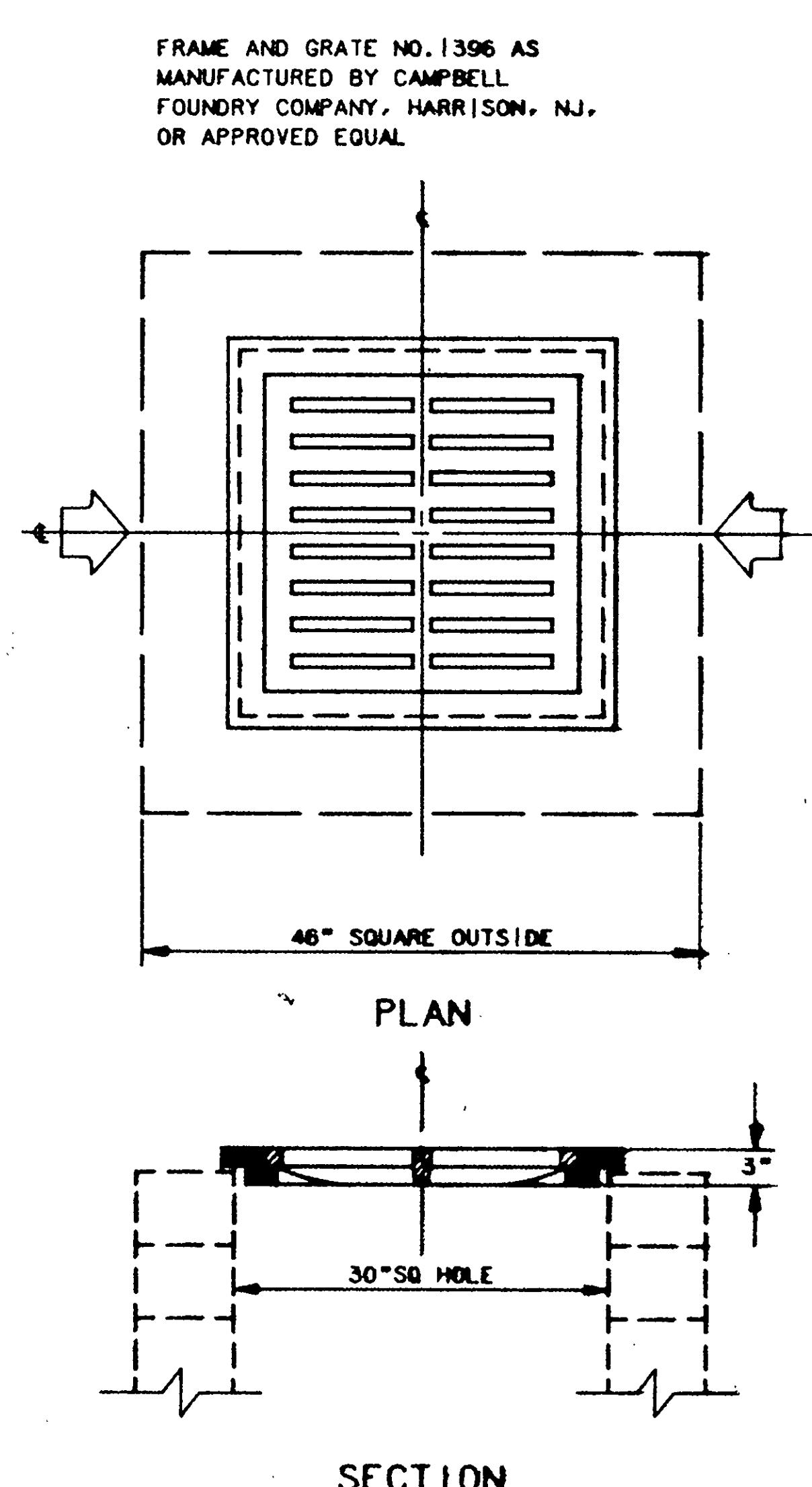
#### STANDARD GAUGES FOR CORRUGATED METAL PIPE

DIAMETER (INCHES)	REQUIRED GAUGE
6	18
8	16
10	16
12	16
15	16
18	16
21	16
24	16
30	14
36	14
42	12
48	12
54	12
60	10
72	10
84	8

NOTE: GAUGES LISTED ARE FOR STANDARD INSTALLATIONS, SHALLOW OR DEEPER INSTALLATIONS MAY REQUIRE HEAVIER GAUGES.



#### TYPICAL TRENCH DETAIL



CAST REINFORCED STANDARD MANHOLE

FRONT REINFORCED BY FORT MILLER CO., INC.

BACK REINFORCED BY FORT MILLER, NY, OR APPROVED EQUAL

STANDARD CAST IRON OR ALUMINUM  
MANHOLE STEPS AT 12 OC REG'D  
WHEN CATCH BASIN DEPTH EXCEEDS  
5'-0"

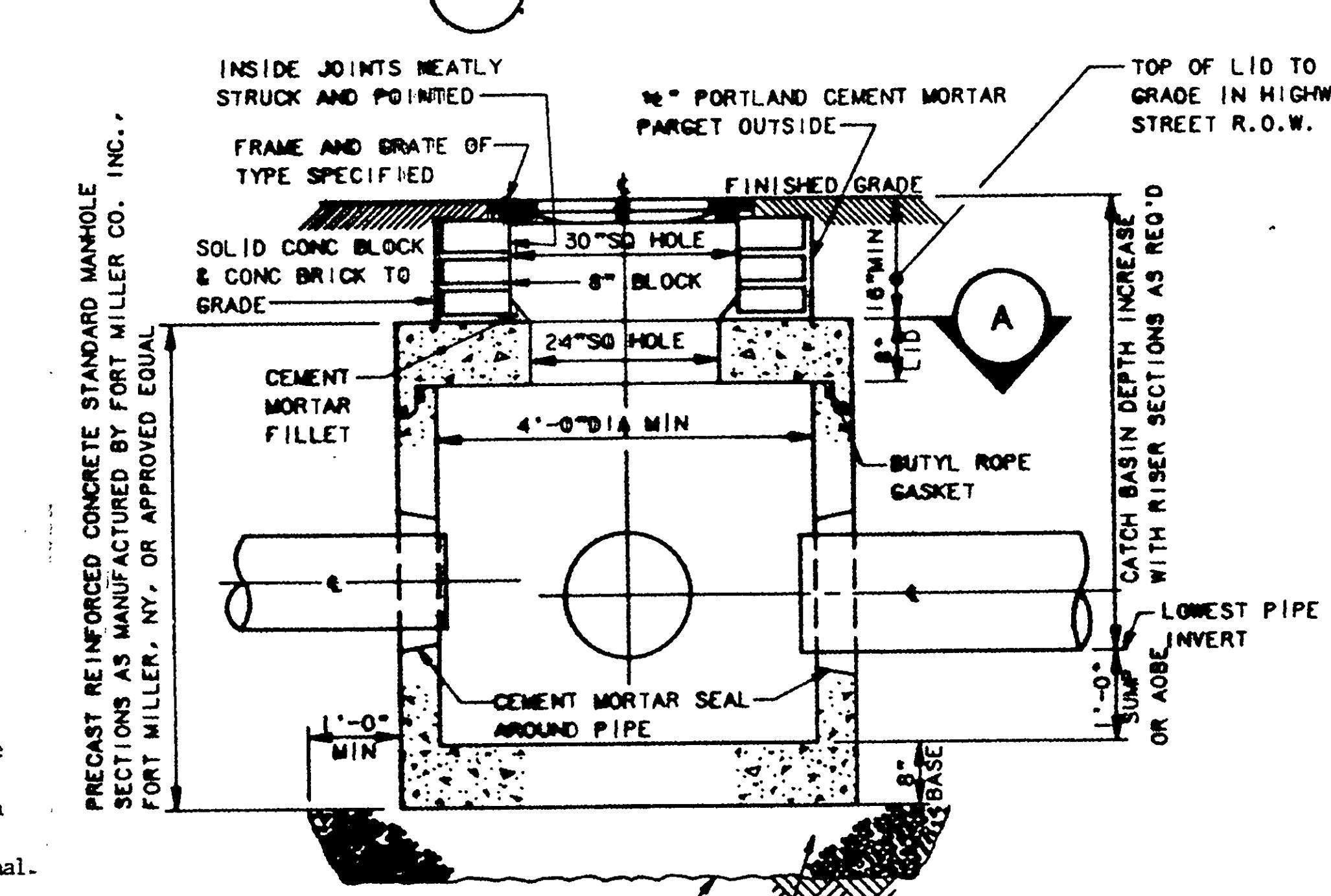
8" PRECAST LID WITH APPROPRIATE SHAPE  
AND SIZE HOLE CAST IN CENTER BY SUPPLIER  
(SEE FRAME AND GRATE TYPE FOR HOLE DIA)

NOTE: PRECAST LID TO BE DESIGNED TO  
HANDLE AND MAX AASHO H20 TRUCK  
LOADING (MAX WHEEL LOADING  
16,000LBS)

ST-1M SEWER PIPE OF  
SIZE AND TYPE REQ'D

5'-0" WALL

A SECTION



STANDARD - CRUSHED STONE OR R.O.B. GRAVEL 6"-12"  
DEEP, 1' MIN LARGER ALL AROUND THAN  
CATCH BASIN DEPTH

ALTERNATE - CAST IN PLACE REINFORCED CONCRETE AS  
(NOT SHOWN) REQ'D BY SPECIFICATIONS OR A.O.B.E.

UNAUTHORIZED ALTERATION OR ADDITION TO  
THIS DOCUMENT IS A VIOLATION OF SECTION  
7209 SUBDIVISION 2 OF THE NEW YORK STATE  
EDUCATION LAW

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C.T. MALE ASSOCIATES, P.C.

Engineering Surveying Architecture Landscape Architecture  
Laboratory Services Computer Services

DATE: 1-22-09 RECORD OF WORK Drawn Check Appr

REVISION PER 9W OVERLAY ZONING

DATE: 9/22/09

DATE: 9/22/09