

NOTE:
Lateral connections to have a minimum bedding depth of 3" coarse aggregate.

Trench width and concrete cradle width shall be O.D. of pipe plus 9" on each side of pipe.

TYPICAL TRENCH DETAIL
(FLEXIBLE PIPE)

TYPICAL TRENCH DETAIL
WITH CONCRETE CRADLE

TYPICAL TRENCH DETAIL
FOR CONCRETE OR DUCTILE IRON PIPE

Pipe Cover shall consist of coarse interlocking aggregate no. 57,6,67,68,7,78,or8.

Bedding shall consist of coarse interlocking aggregate no.57,6,67,68,7,78, or 8 for 60" or smaller diameter pipe. For 66" or larger diameter pipe no. 4 aggregate may also be used.

Premium Backfill shall consist of coarse interlocking aggregate no. 57,6,67,68,7,78,8,304, also limestone screenings.

For concrete and ductile iron pipe, pipe cover is to the springline or greater.

In paved areas coarse interlocking aggregate to the top of the trench on all types of pipe.

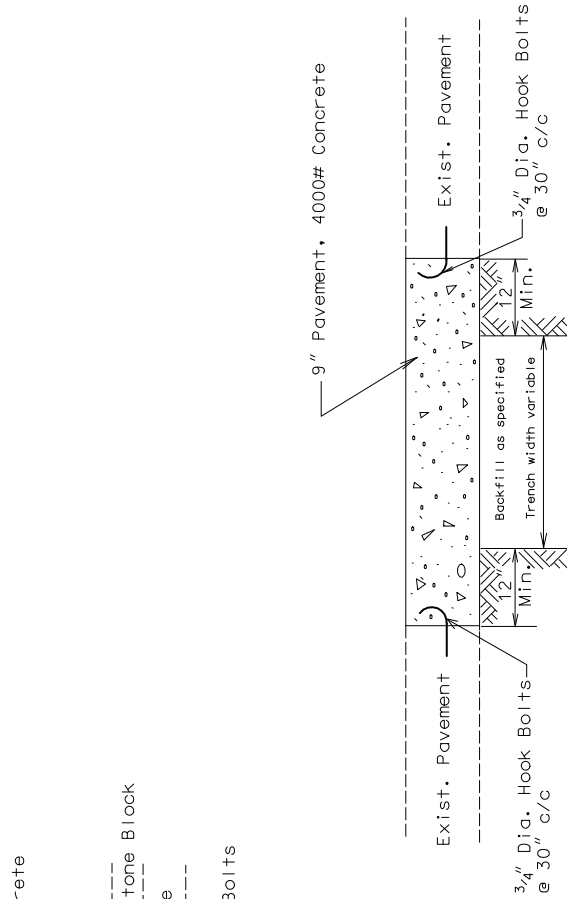
TYPICAL TRENCH DETAILS

REVISIONS:

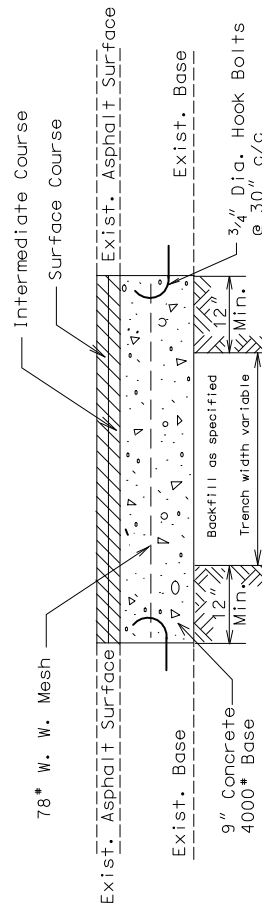
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DATE : DEC. 1998

UNIFORM STANDARDS: CLEVELAND --- CUYAHOGA COUNTY --- NORTHEAST OHIO REGIONAL SEWER DISTRICT



TYPICAL SECTION
REPAVING OVER SEWER TRENCH
IN BRICK OR STONE BLOCK PAVEMENTS WITH BASES



TYPICAL SECTION
REPAVING OVER SEWER TRENCH
IN ASPHALT PAVEMENT

TYPICAL SECTION
REPAVING OVER SEWER TRENCH
IN PAVEMENTS WITHOUT BASES

NOTE:

Hook bolts shall be required when existing pavement or base is concrete. Drill and grout hook bolts.

REPAVING OVER
SEWER TRENCH

SCALE
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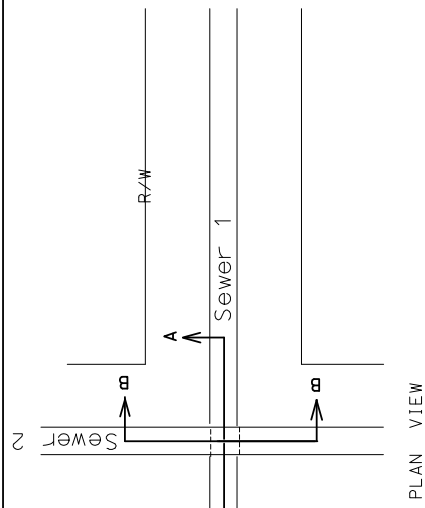
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REVISIONS:

UNIFORM STANDARDS: CLEVELAND --- CUYAHOGA COUNTY --- NORTHEAST OHIO REGIONAL SEWER DISTRICT

NOTE :

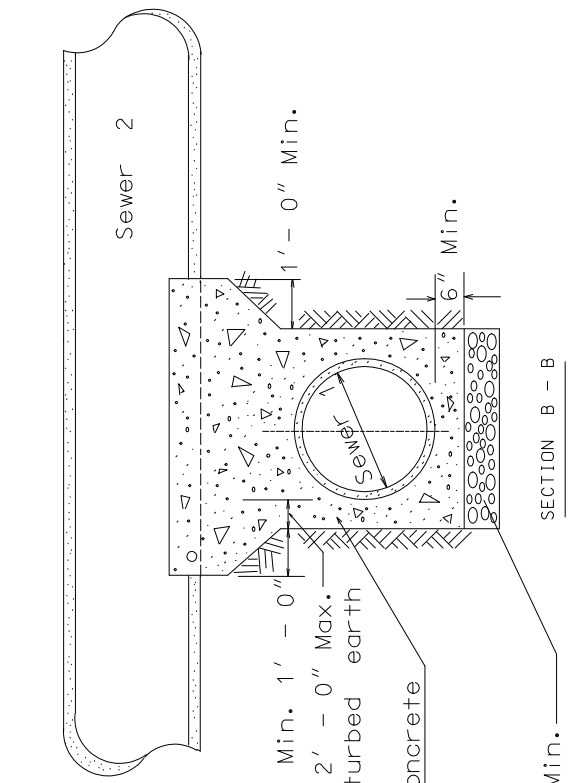
Encasement required when pipe clearance is less than 18"



PLAN VIEW

2' - 0" Max., 9" Min.
 Pipe Dia.
 9" Min. and 2' - 0" Max.
 limited by vertical
 clearance between pipes

1/4 Pipe diameter 6" min.
 6" Min., 18" Max. clearance
 between pipes
 3000 # Concrete



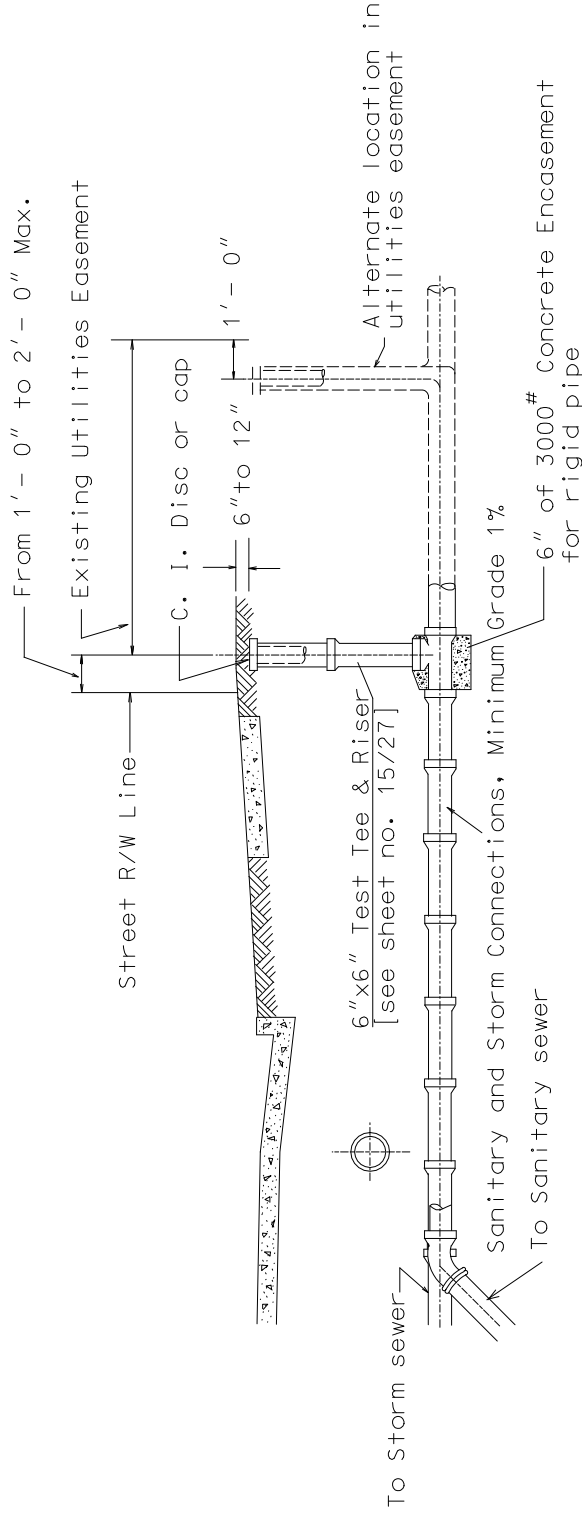
SECTION B - B

SECTION A - A

CONCRETE ENCASEMENT
 MONOLITHIC CRADLING OF UPPER PIPE

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UNIFORM STANDARDS: CLEVELAND --- CUYAHOGA COUNTY --- NORTHEAST OHIO REGIONAL SEWER DISTRICT



NOTE:

House connections shall be connected into the top half of the sewer pipe. six inch, class 200, cast iron pipe is required for all bored sewer service connections including slip on rubber joints with an ANSI thickness classification No.25, also 6 inch, ductile iron cement lined pipe may be used including slip on rubber joints with an ANSI thickness classification No. 53.

LATERAL CONNECTIONS

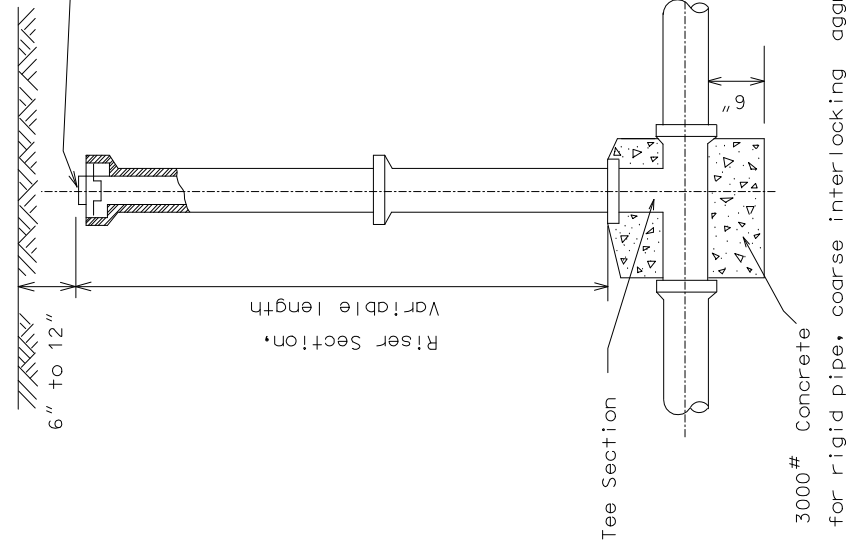
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DATE : DEC. 1998

UNIFORM STANDARDS: CLEVELAND --- CUYAHOGA COUNTY --- NORTHEAST OHIO REGIONAL SEWER DISTRICT

D.I. or C.I. Disc or Cap with a magnetic element imbedded
 In pavement top of TEE shall be flush with finished grade.
 2' x 2' x 4" pad is required in pavement.



NOTES:

The test tee riser section shall be installed when the connection is extended to the building.
 Risers shall be furnished with stoppers upon which shall be placed a cast or ductile iron disc.
 Cast or ductile iron disc shall be painted yellow on sanitary sewers.
 Concrete encasement for Test Tees is required if ground cover to "T" elevation is less than 3' - 0". If greater than 3' - 0" use coarse interlocking aggregates.

6" X 6" TEST TEE & 6" RISER FOR STORM AND SANITARY SEWERS.

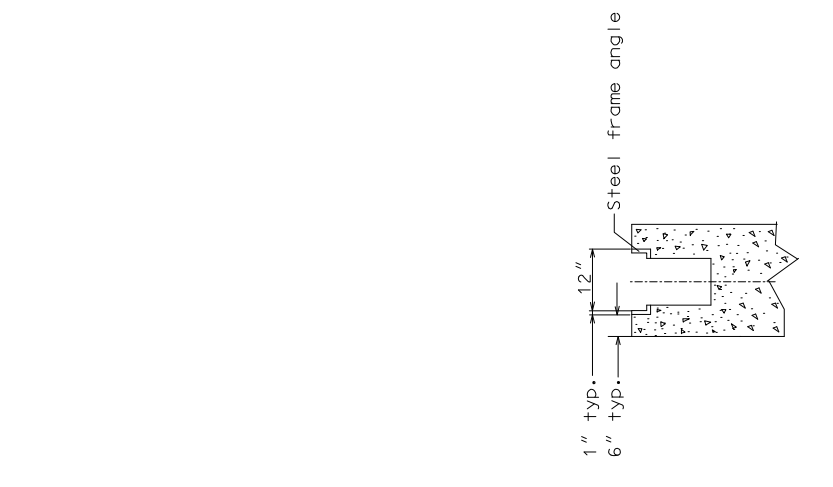
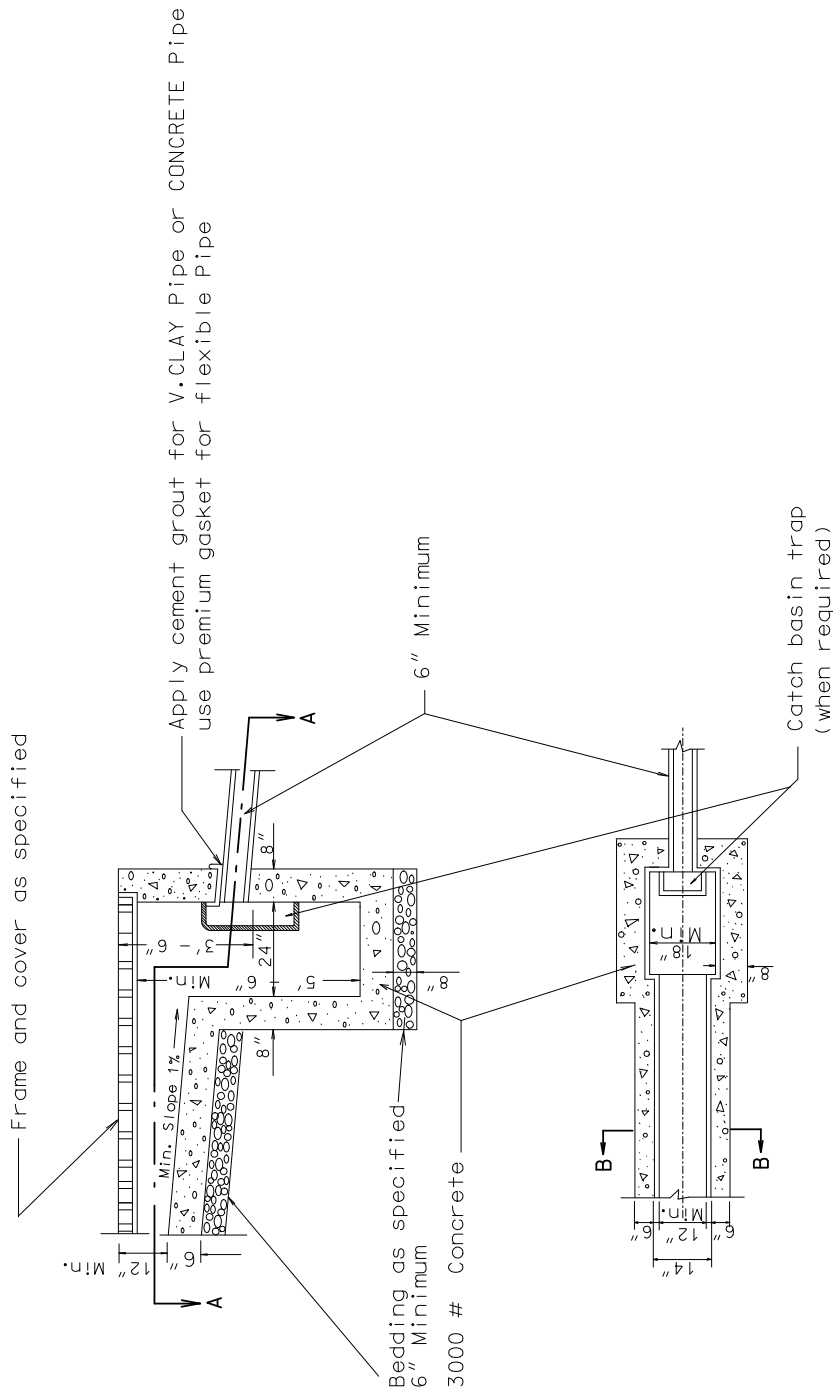
TEST TEE

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DATE: DEC. 1998

UNIFORM STANDARDS: CLEVELAND ---- CUYAHOGA COUNTY ---- NORTHEAST OHIO REGIONAL SEWER DISTRICT



SECTION A - A

SECTION B - B

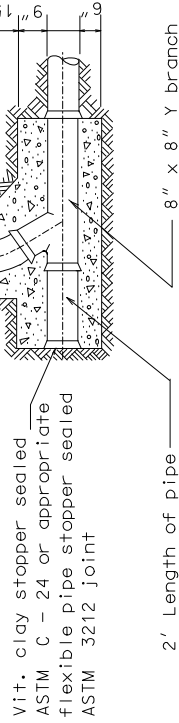
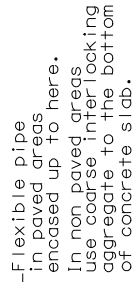
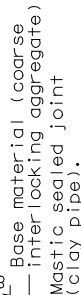
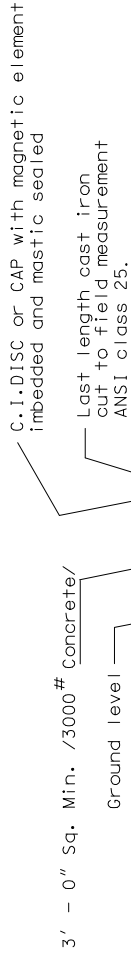
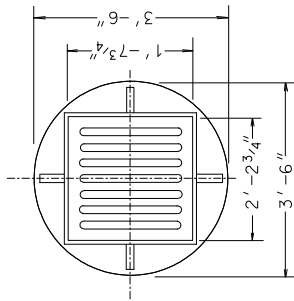
TRENCH DRAIN

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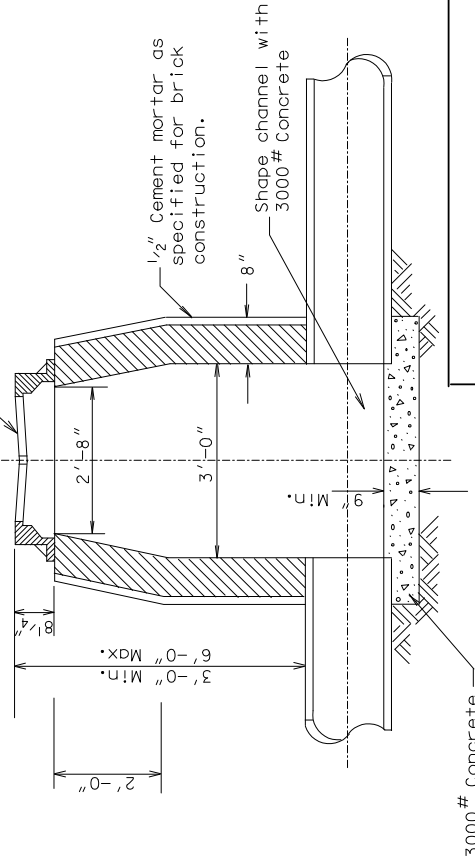
NOTE:

8" Clean out shall be used for 8" sewer and larger. Smaller size sewers and lamp holes shall have same size pipe.



CLEANOUT

Frame and Cover as specified



SPECIAL INLET

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REVISIONS:

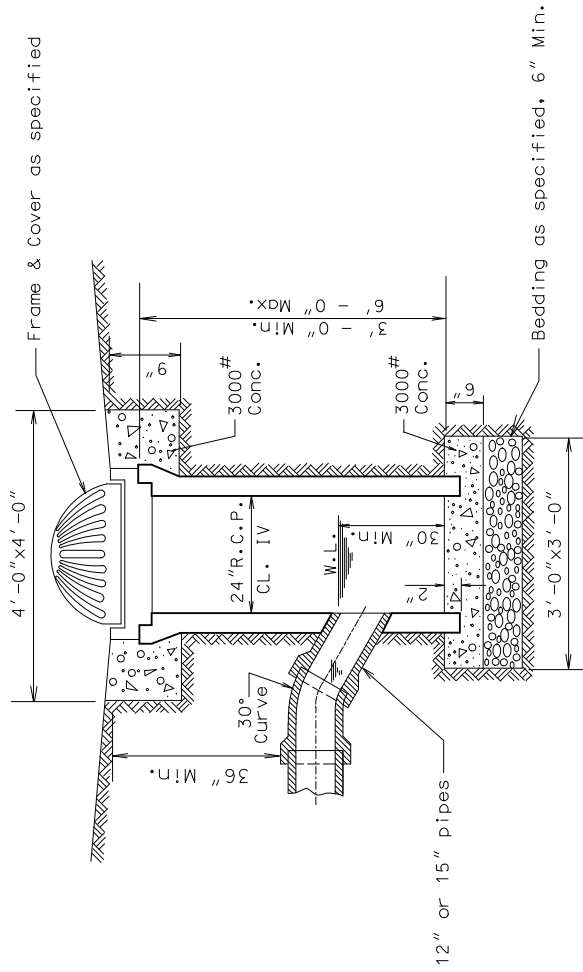
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UNIFORM STANDARDS:

CLEVELAND --- CUYAHOGA COUNTY ---

NORTHEAST OHIO REGIONAL SEWER DISTRICT



SECTION

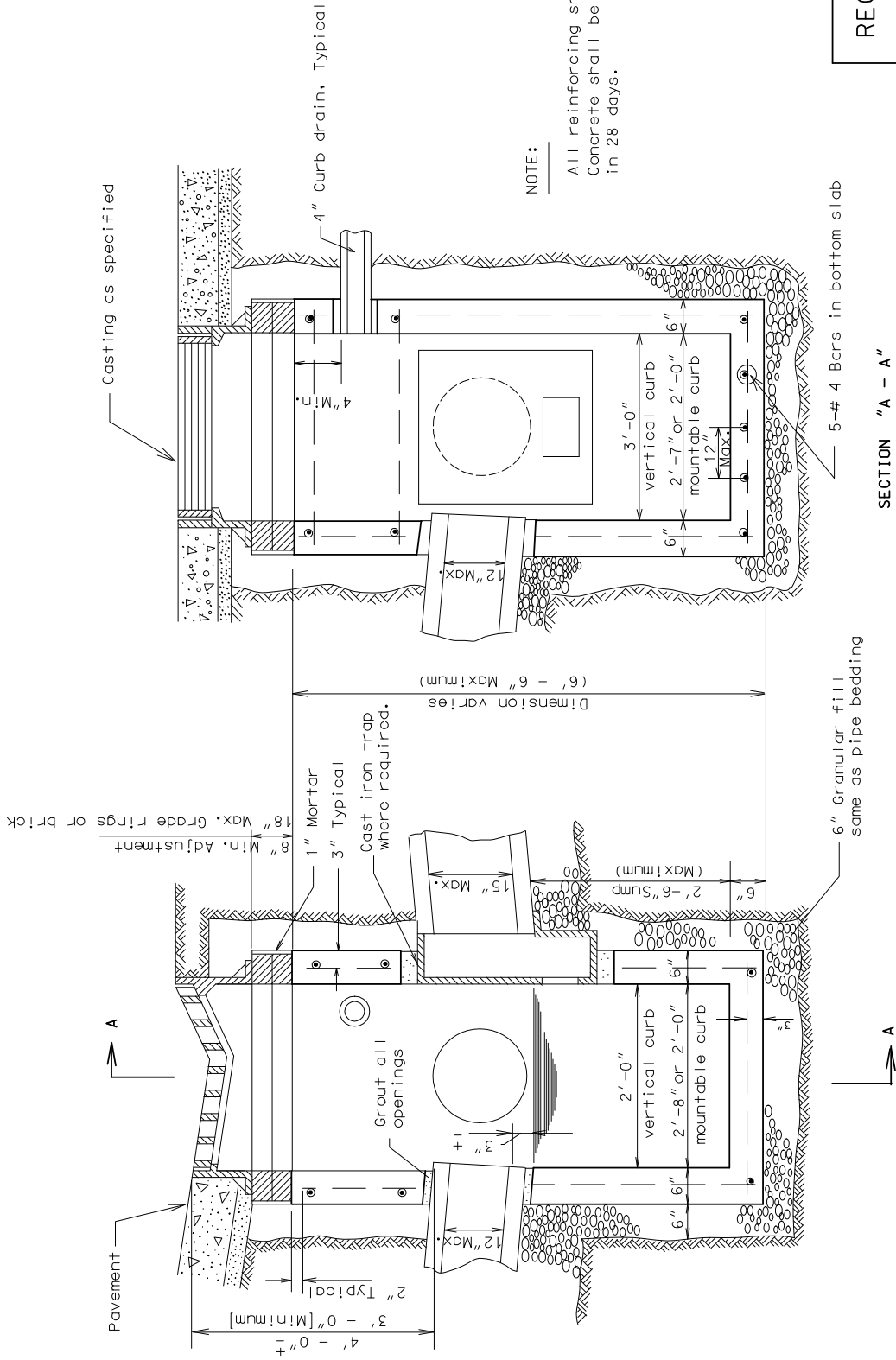
NOTE:

Grout pipe opening with cement mortar mix 1:2 if pipe is either CLAY or CONCRETE, use premium joint if pipe is flexible.
 Locations where the 3' minimum is not possible lesser depths are acceptable.
 Square catch basins will be accepted as an alternative.
 Catch basin will be constructed per O.D.O.T. item No. 604 and 706.13, PRECAST will have a minimum of 4" reinforced wall.
 SQUARE CATCH BASIN CASTINGS - EAST JORDAN No. 5110 sinusoidal grate type M-4 or NEENAH R-4859-C.
 All grates shall be bicycle safe.

YARD TYPE
CATCH BASIN

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UNIFORM STANDARDS: CLEVELAND ---- CUYAHOGA COUNTY ---- NORTHEAST OHIO REGIONAL SEWER DISTRICT



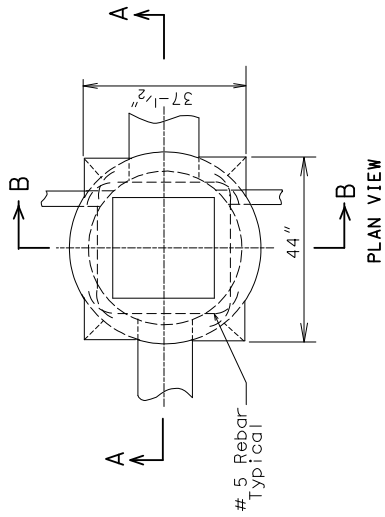
NOTE:
 All reinforcing shall be # 4 deformed bars.
 Concrete shall be 0DOT class "C" #4000 PSI
 in 28 days.

**RECTANGULAR PRECAST
 CONCRETE CATCH BASIN**

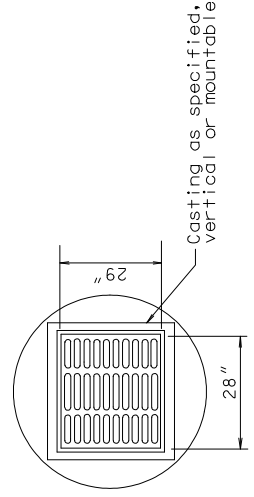
SECTION "A - A"

REVISIONS: **SCALE** NO SCALE **DATE** : DEC. 1998

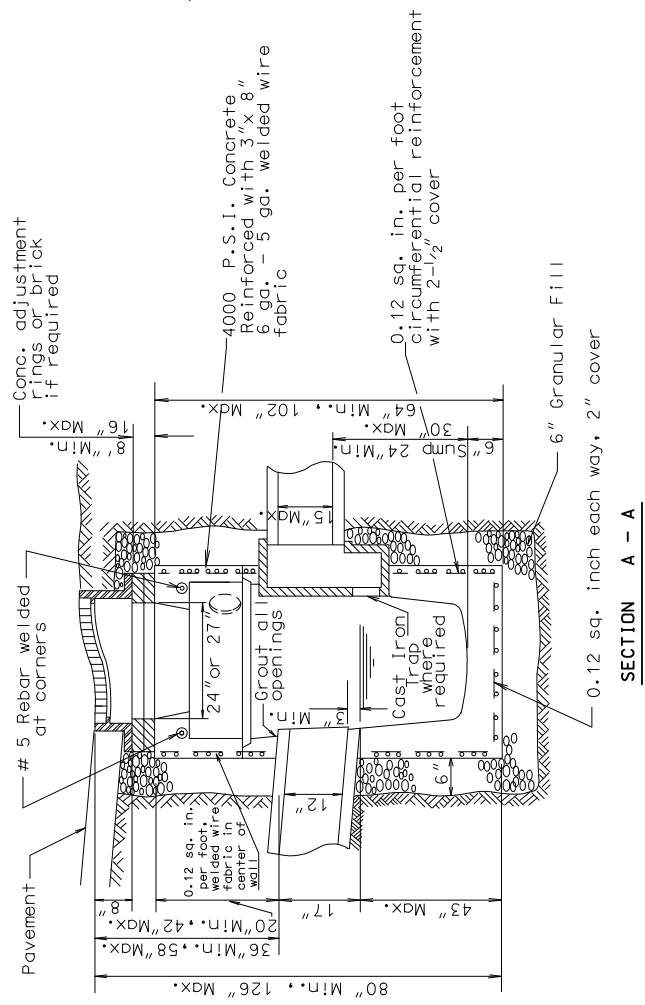
UNIFORM STANDARDS: CLEVELAND --- CUYAHOGA COUNTY --- NORTHEAST OHIO REGIONAL SEWER DISTRICT



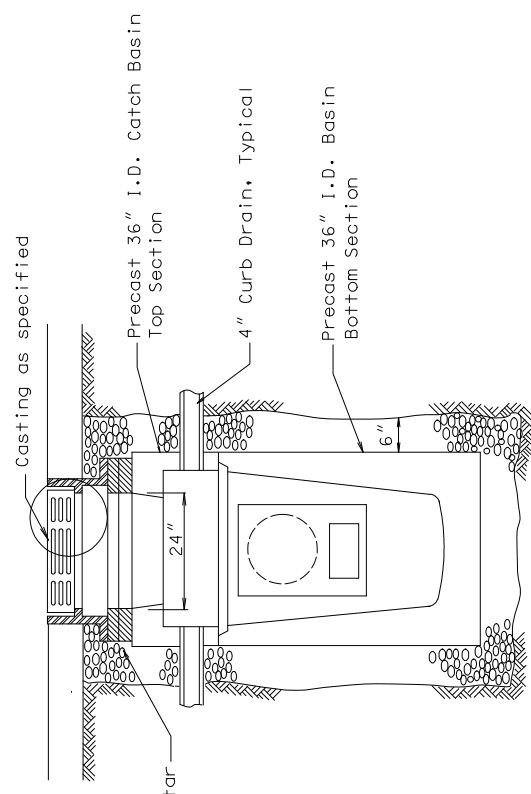
PLAN VIEW



CASTING DETAIL



SECTION A - A



SECTION B - B

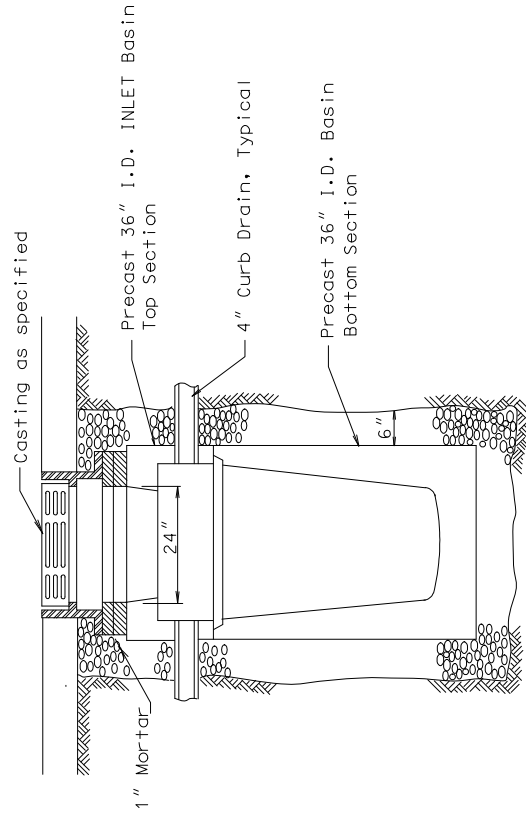
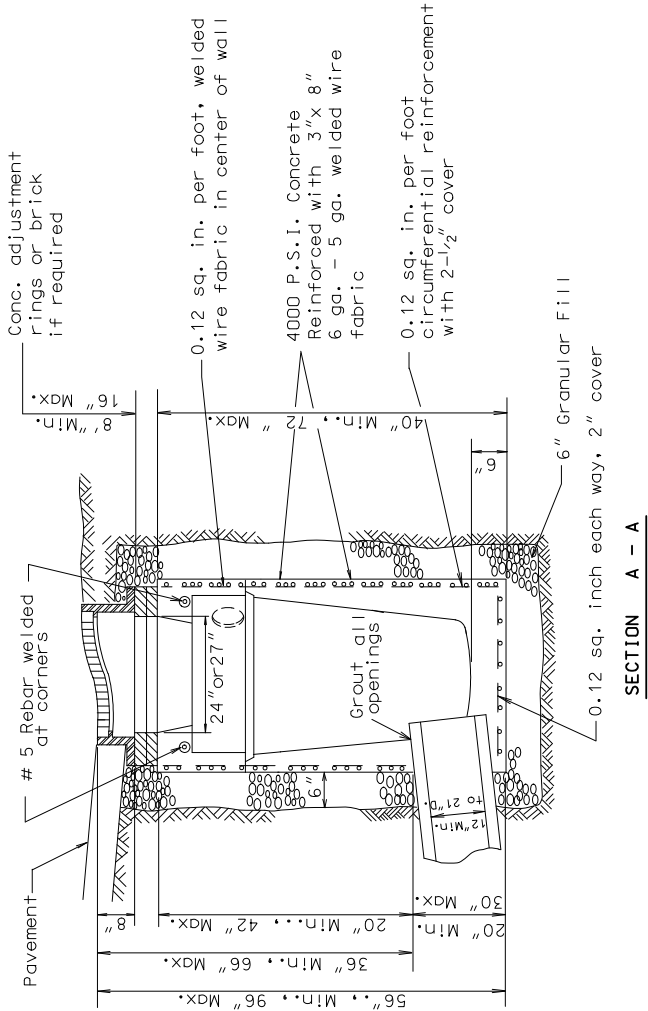
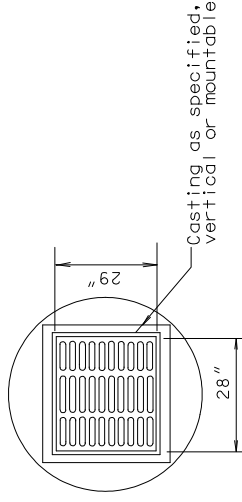
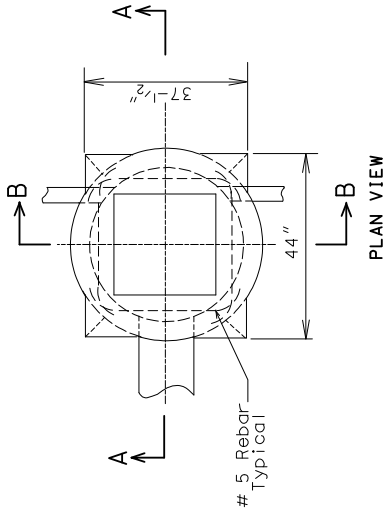
**ROUND PRECAST
CONCRETE CATCH BASIN**

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UNIFORM STANDARDS: CLEVELAND --- CUYAHOGA COUNTY --- NORTHEAST OHIO REGIONAL SEWER DISTRICT



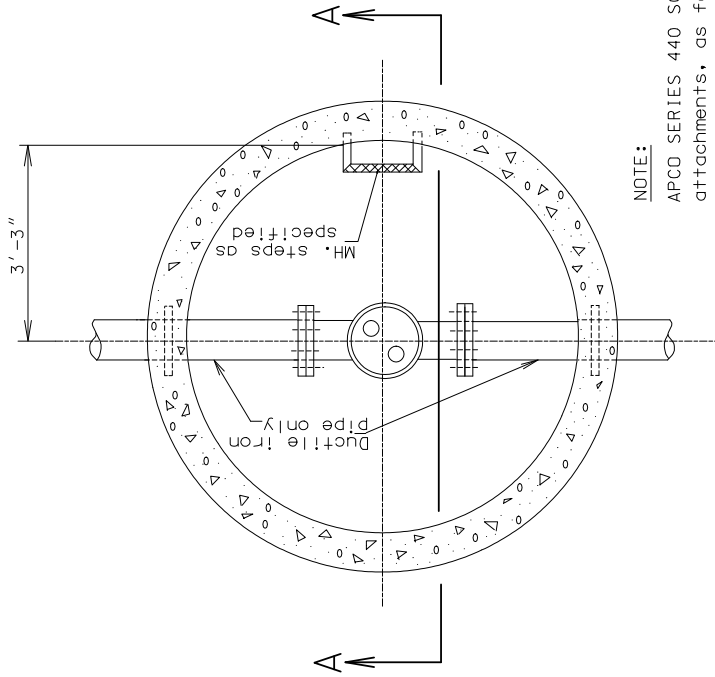
ROUND PRECAST
CONCRETE INLET BASIN

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DATE : DEC. 1998

UNIFORM STANDARDS: CLEVELAND --- CUYAHOGA COUNTY --- NORTHEAST OHIO REGIONAL SEWER DISTRICT

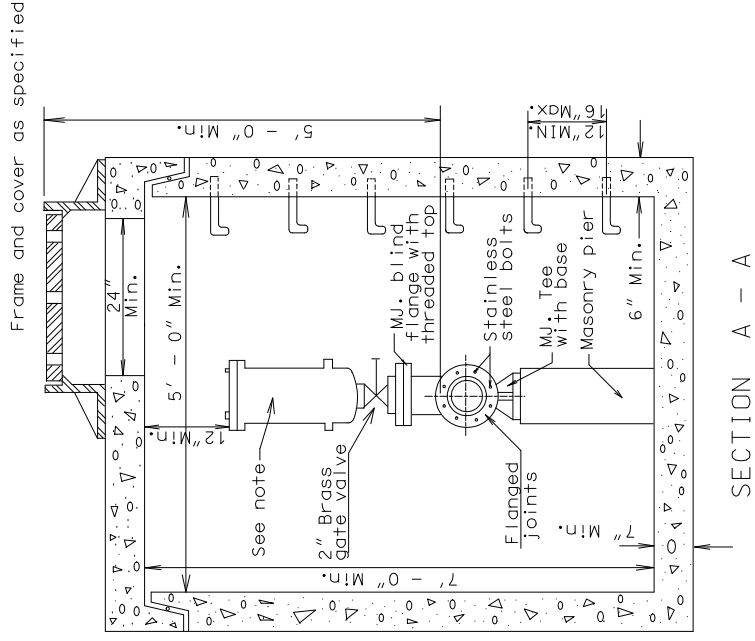


PLAN

NOTE:

APCO SERIES 440 SCAV. MODEL 443 attachments, as follows :

1. Back - flushing attachments.
 2. 2" Brass gate valve or approved equivalent.
- Precast manholes (see sheet No. 4/27)
Install a drain when sewers are available.
Waterproof outside walls.



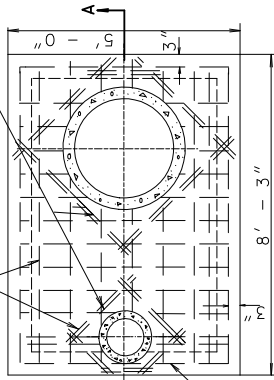
SECTION A - A

SANITARY FORCE MAIN
AIR RELEASE VALVE
CHAMBER

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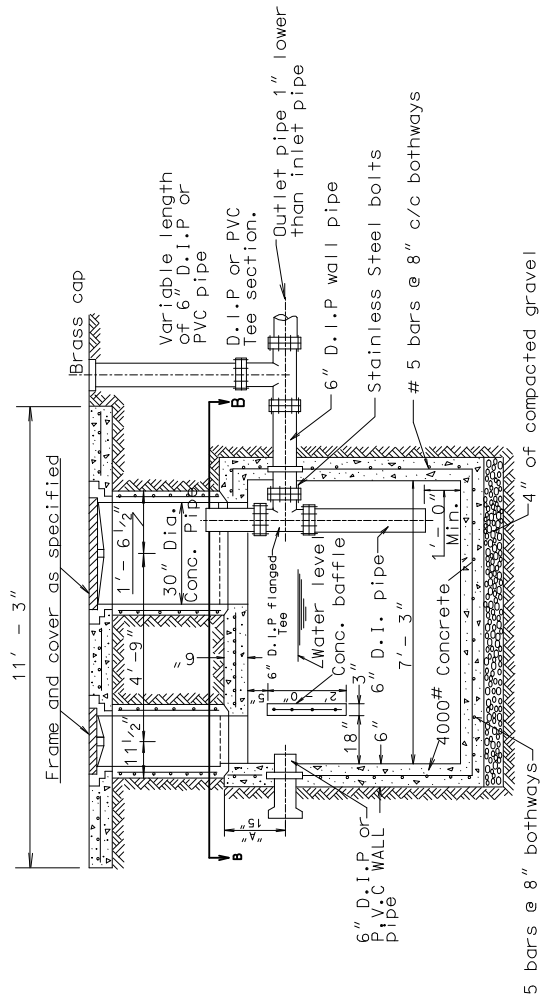
UNIFORM STANDARDS: CLEVELAND --- CUYAHOGA COUNTY --- NORTHEAST OHIO REGIONAL SEWER DISTRICT

5 Bars @ 6" c/c Additional # 5 bars around opening



SECTION B - B

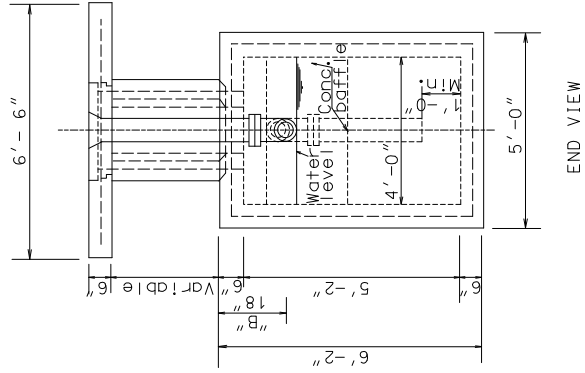
SHOWING REINFORCING LAYOUT



SECTION A - A

NOTE:

Approximate capacity is 1120 gallons
 4000# concrete pad - 4" when grease trap is not in the street.
 4000# concrete pad - 6" (H - 20 loading) when grease trap is in paved areas.
 Bedding under piping thoroughly compacted.



END VIEW

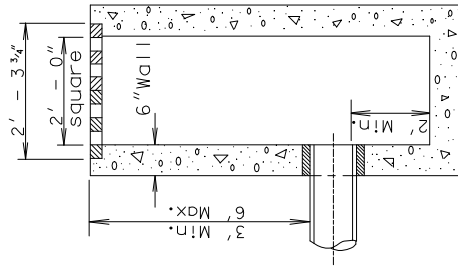
TYPICAL STANDARD
 GREASE TRAP

REVISIONS:

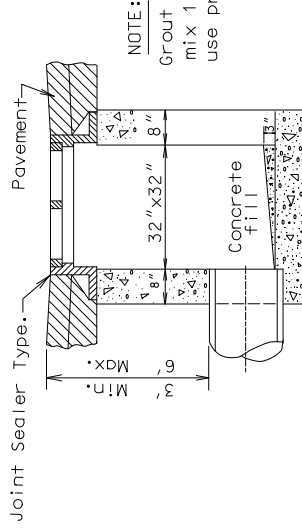
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UNIFORM STANDARDS: CLEVELAND --- CUYAHOGA COUNTY --- NORTHEAST OHIO REGIONAL SEWER DISTRICT



All precast concrete shall meet O.D.O.T. 706.13 requirement.



NOTE:
Grout pipe opening with cement mortar mix 1:2 if pipe is either CLAY or CONCRETE, use premium joint if pipe is PVC.

CATCH BASIN CASTINGS - East Jordan frame and grate No. 5110 type or Neenah R - 4899 with type C cover.

INLET BASIN CASTINGS - East Jordan No. 8313 grate No. 8313 M - 2 or Neenah R - 1878 and grate No. R - 1878 A90.

NOTE:

Locations where the 3' minimum is not possible lesser depths are acceptable. Round catch basins will be accepted as an alternative. Catch basins will be constructed per O.D.O.T. ITEM No. 604, CAST - IN - PLACE will have a minimum of 8" reinforced walls. Precast shall have a minimum of 6" reinforced concrete walls. All grates shall be bicycle safe.

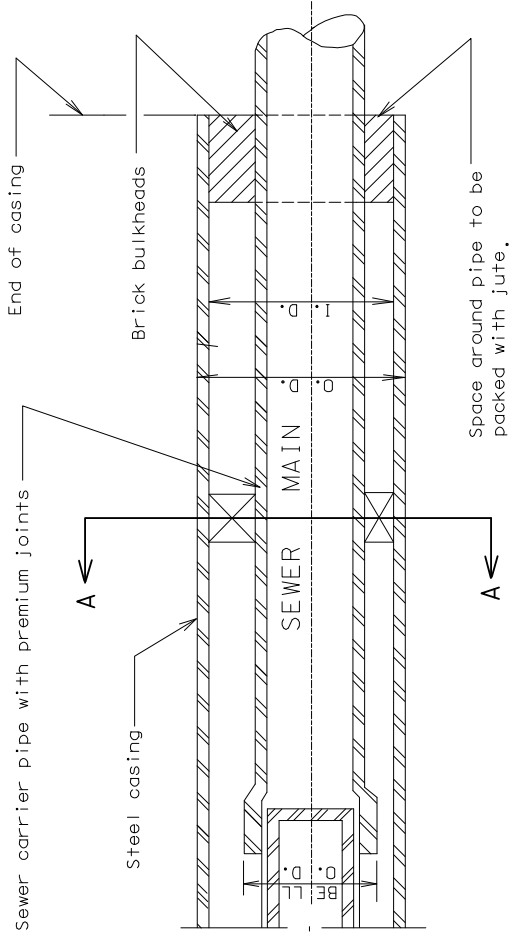
CATCH BASINS
FOR PAVED AREAS

REVISIONS:

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DATE : DEC. 1998

UNIFORM STANDARDS: CLEVELAND --- CUYAHOGA COUNTY --- NORTHEAST OHIO REGIONAL SEWER DISTRICT



NOTE:

Casing pipe to have 1.D. Minimum of 2" larger than bell O.D. of carrier pipe. Casing pipe to have a Minimum wall thickness of 0.250.

BLOCKS:

- 3 sets of treated hardwood blocks per 18' length of pipe.
- 4 sets of treated hardwood blocks per 20' length of pipe.
- Two blocks spaced 30" from joints. Additional blocks evenly spaced.

Uncoated, unprotected steel casing installed by jacking or boring methods.

Bell O.D.

Treated hardwood blocks to be spaced at 120° apart.

Space between sewer main and steel pipe to be filled with sand or grout.

1/2" Steel bands completely around the pipe and blocks.

SECTION A - A

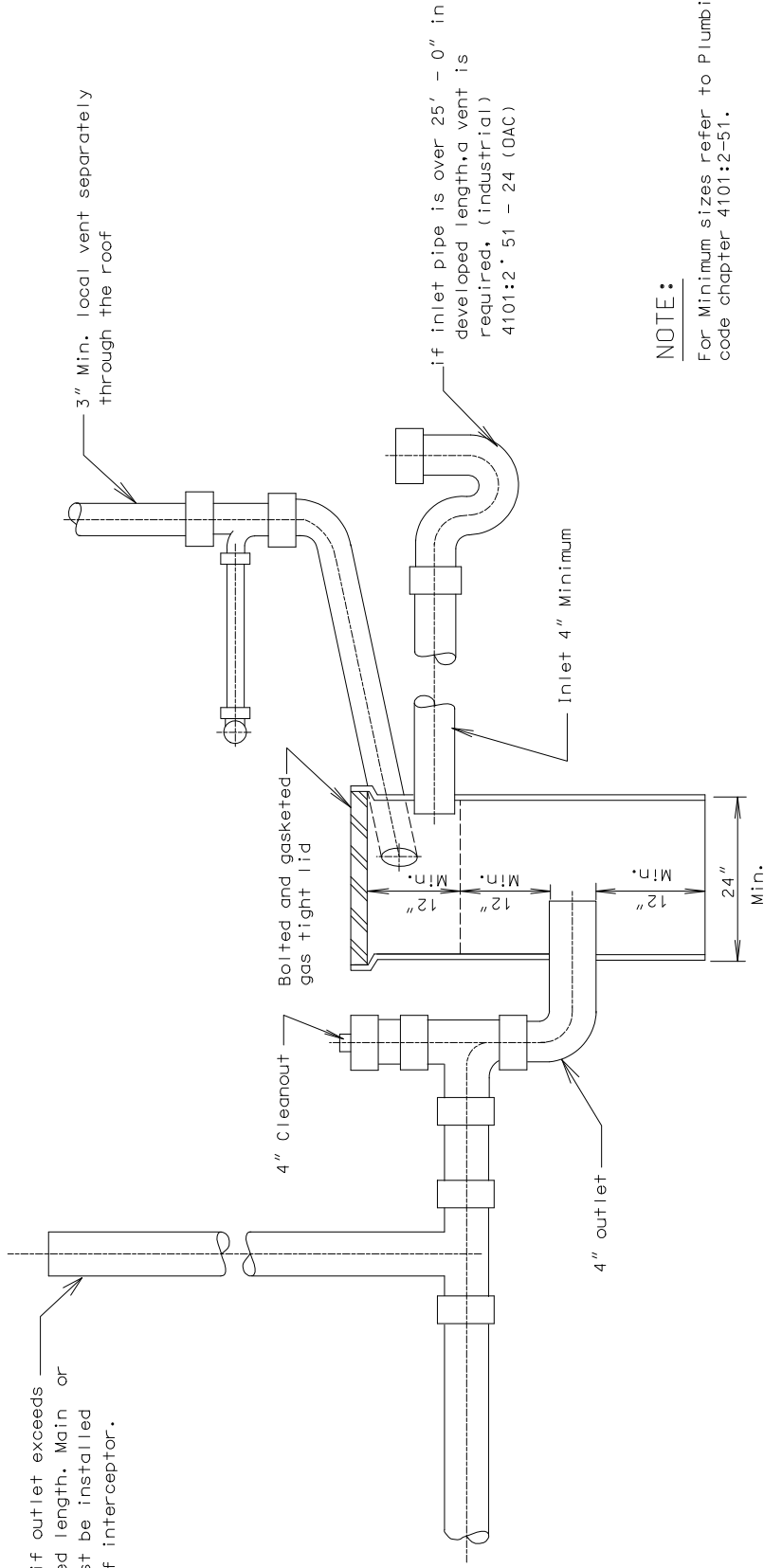
BORING DETAILS
FOR PAVED AREAS

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UNIFORM STANDARDS: CLEVELAND ---- CUYAHOGA COUNTY ---- NORTHEAST OHIO REGIONAL SEWER DISTRICT



Vent required if outlet exceeds 10 ft. developed length. Main or branch vent must be installed within 3 ft. of interceptor.

NOTE:

For Minimum sizes refer to Plumbing code chapter 4101:2-51.

TYPICAL GARAGE OIL INTERCEPTOR

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