

DATE:	10/18/97
FILE NAME:	617S
CHECKED BY:	TRA
DRAWN BY:	NDG
SCALE:	1" = 4'-0"

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REVISIONS	

MERRILL MARINE TREATMENT, PORTLAND, ME  
STORMWATER TREATMENT SYSTEM  
VORTECHS™ MODEL #5000 PATENT PENDING

APPROXIMATE WEIGHTS:  
TOP SLAB = 7 TONS  
RISER SECTION = 9 TONS  
BASE SECTION = 13 TONS (INCLUDES BAFFLES)  
TOTAL = 29 TONS

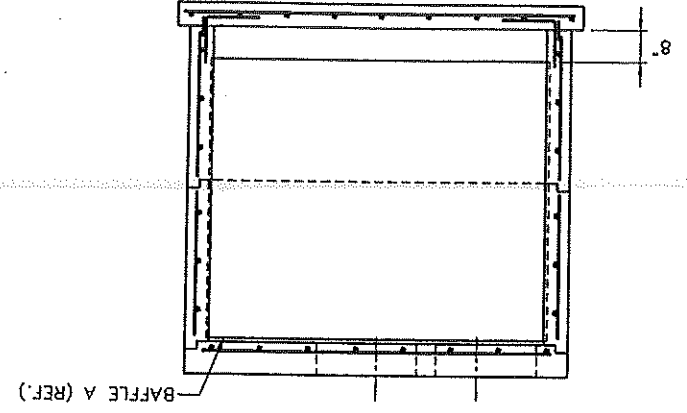
STEEL REINFORCEMENT AS SHOWN IS SUBJECT TO CHANGE. FINAL CONSTRUCTION SHALL MEET H-20 LOADING DESIGN CRITERIA. JOINT LOCATIONS MAY VARY DUE TO MANUFACTURERS REQUIREMENTS.

(3) 24" DIA. MANHOLE FRAMES AND PERFORATED COVERS SHALL BE PROVIDED BY VORTECHS.

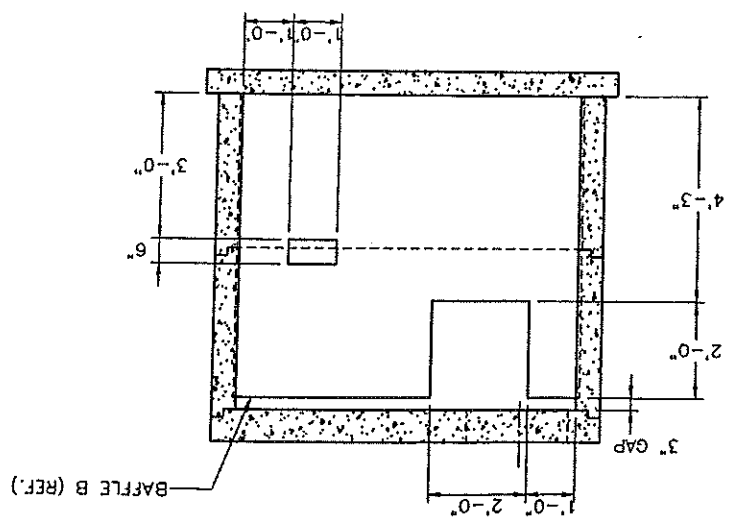
- ASSUMPTIONS:
1. GROUND WATER @ 3'-6" BELOW FINISHED GRADE
  2. EARTH COVER 0'-0" MIN. 5'-0" MAX.
  3. 2'-0" LIVE LOAD SURCHARGE APPLIED TO 8'-0" DEPTH
  4. LIVE LOAD IMPACT 0' TO 1'-0" COVER = 30%
  5. COEFFICIENT OF ACTIVE EARTH PRESSURE  $K_a = .33$
  6. DRY EARTH DENSITY 120 PCF
  7. SATURATED EARTH DENSITY 120 PCF
  8. DRY EARTH LATERAL PRESSURE = 120 (.33) = 39.6 PSF
  9. SATURATED EARTH LATERAL PRESSURE = 120 PCF - 62.4 = 57.6 PCF
  10. 57.6 PCF (.33) = 19.0 PSF
  11. SATURATED EARTH LATERAL PRESSURE = 19.0 + 62.4 = 81.4 PSF
8. TANK WILL FILL COMPLETELY WITH WATER IN DESIGN STORM.

- DESIGN NOTES:
1. CONCRETE MINIMUM STRENGTH - 5000 PSI @ 28 DAYS
  2. STEEL REINFORCEMENT - ASTM A-615, GRADE 60, 1" COVER
  3. DESIGN LOADING - AASHTO HS20-44
  4. CONSTRUCTION JOINT - SEALED W/1" DIA. BUTYL RUBBER
  5. DESIGN SPECIFICATION - ACI 318 & AASHTO LOAD FACTOR DESIGN METHOD

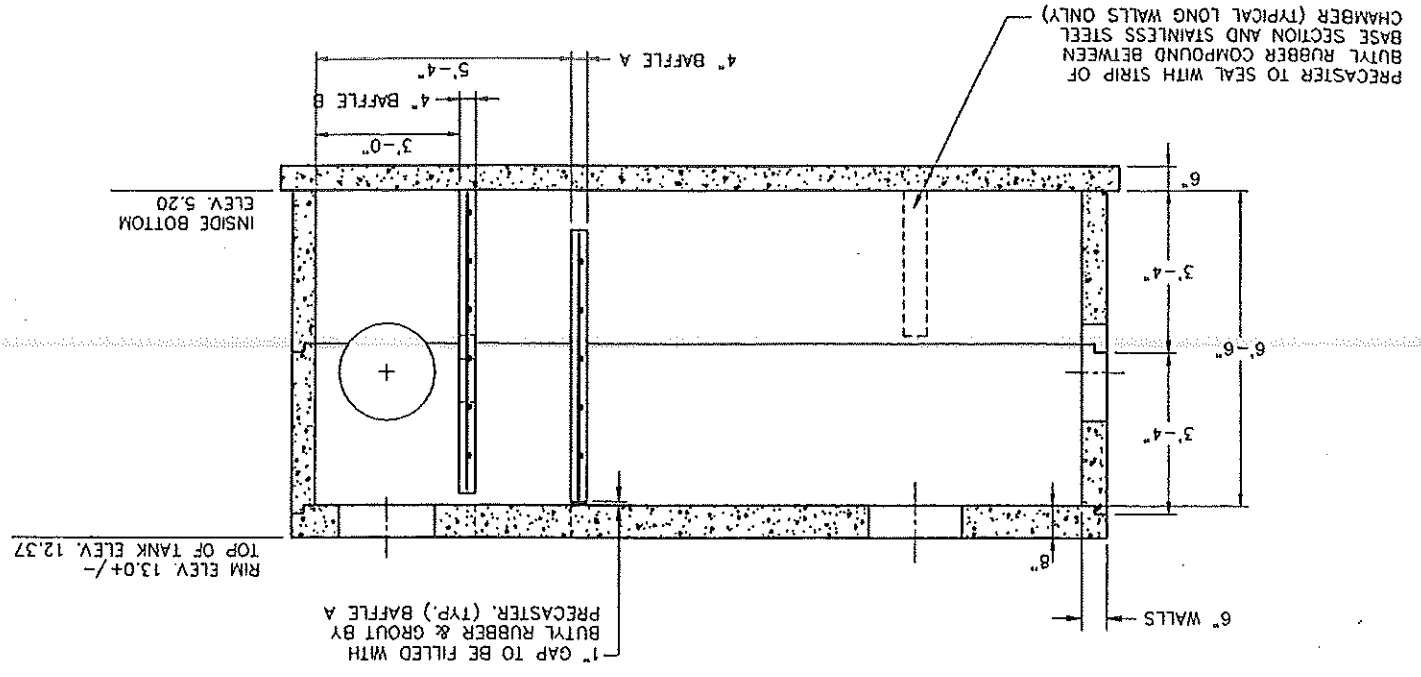
SECTION B-B



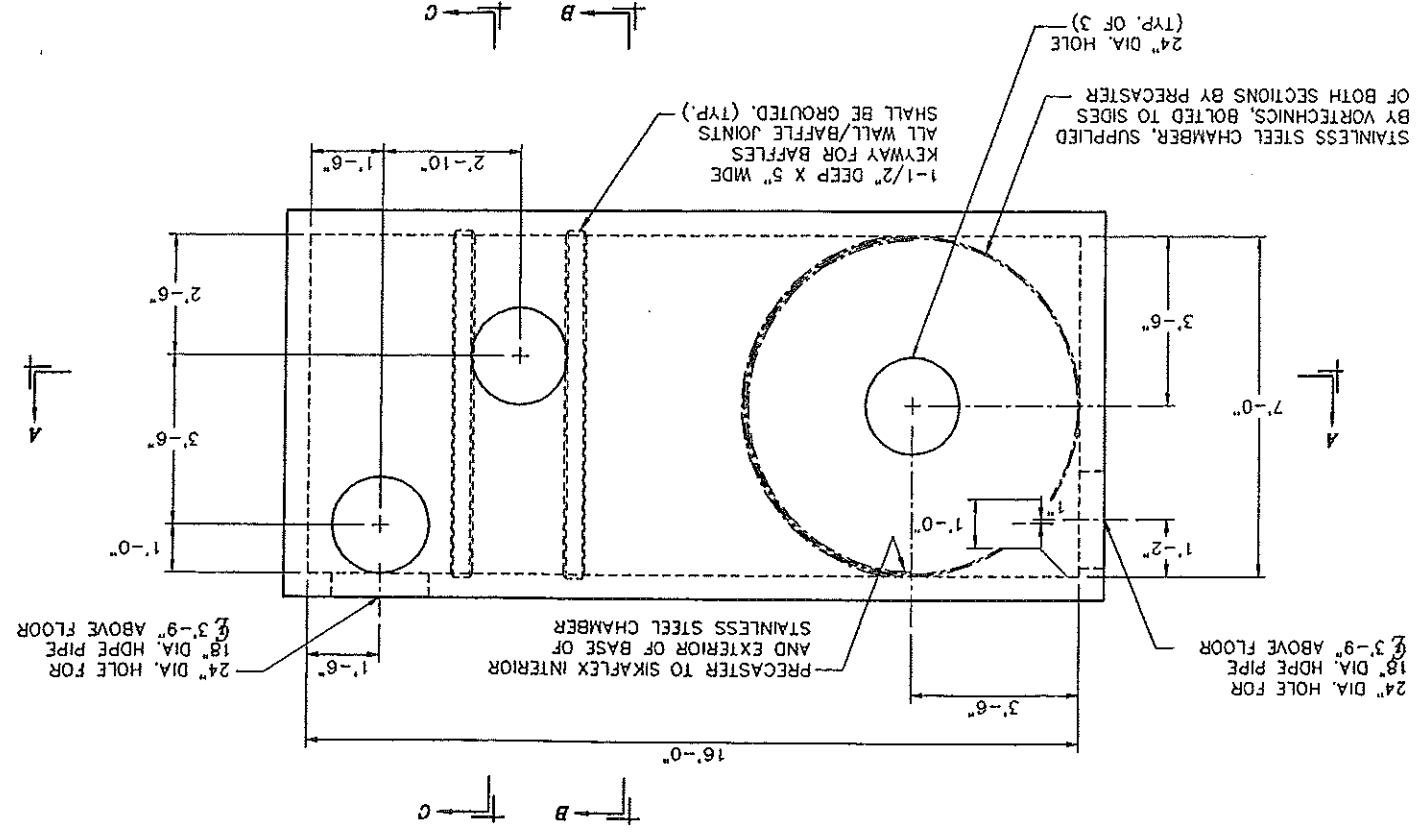
SECTION C-C



SECTION A-A (ALUMINUM CHAMBER NOT SHOWN)



PLAN VIEW



NOTE: WEIR & ORIFICE PLATES TO BE SUPPLIED BY VORTECHS AND INSTALLED IN BAFFLE "B" BY PRECASTER.