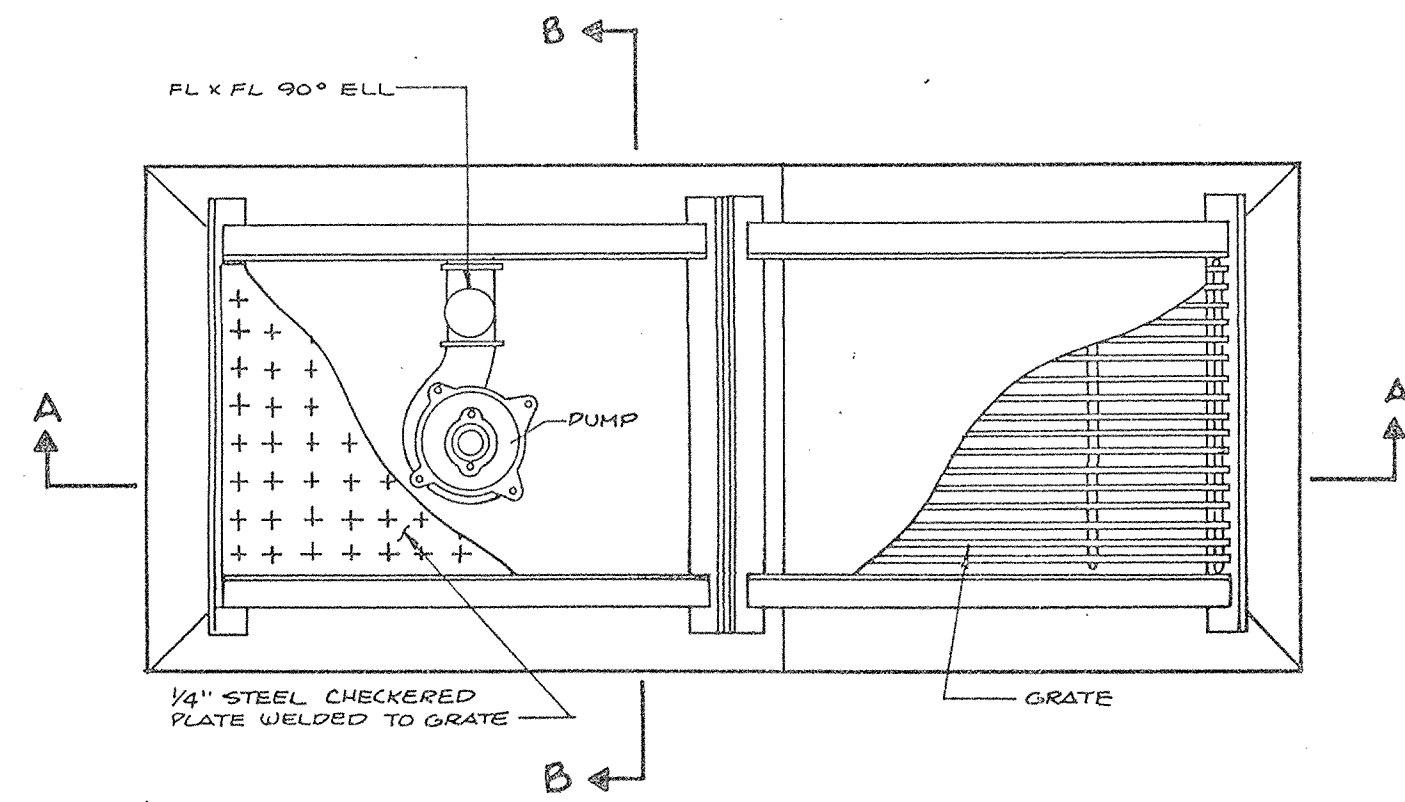
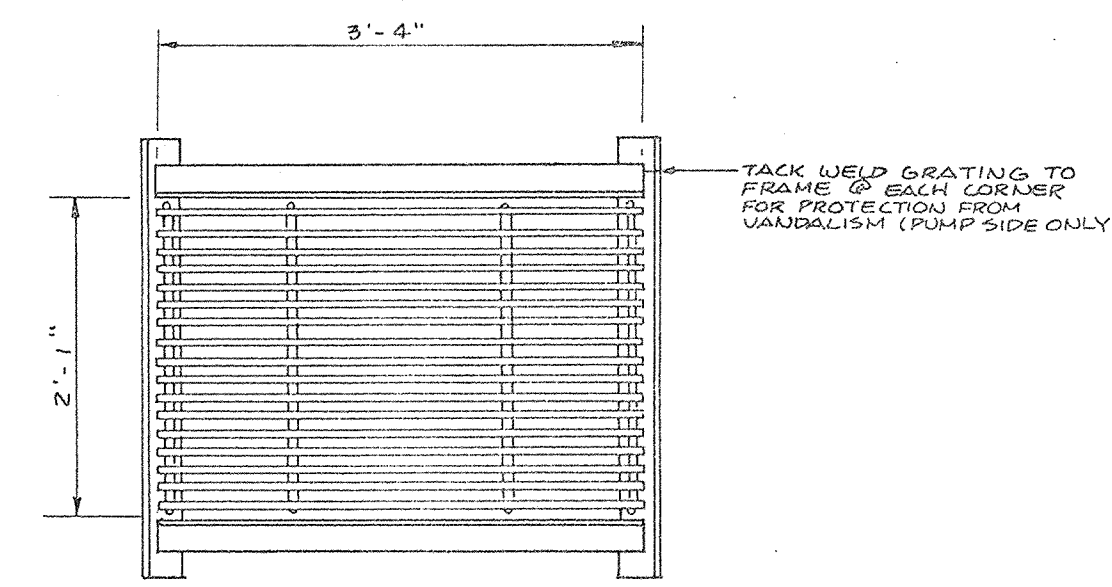
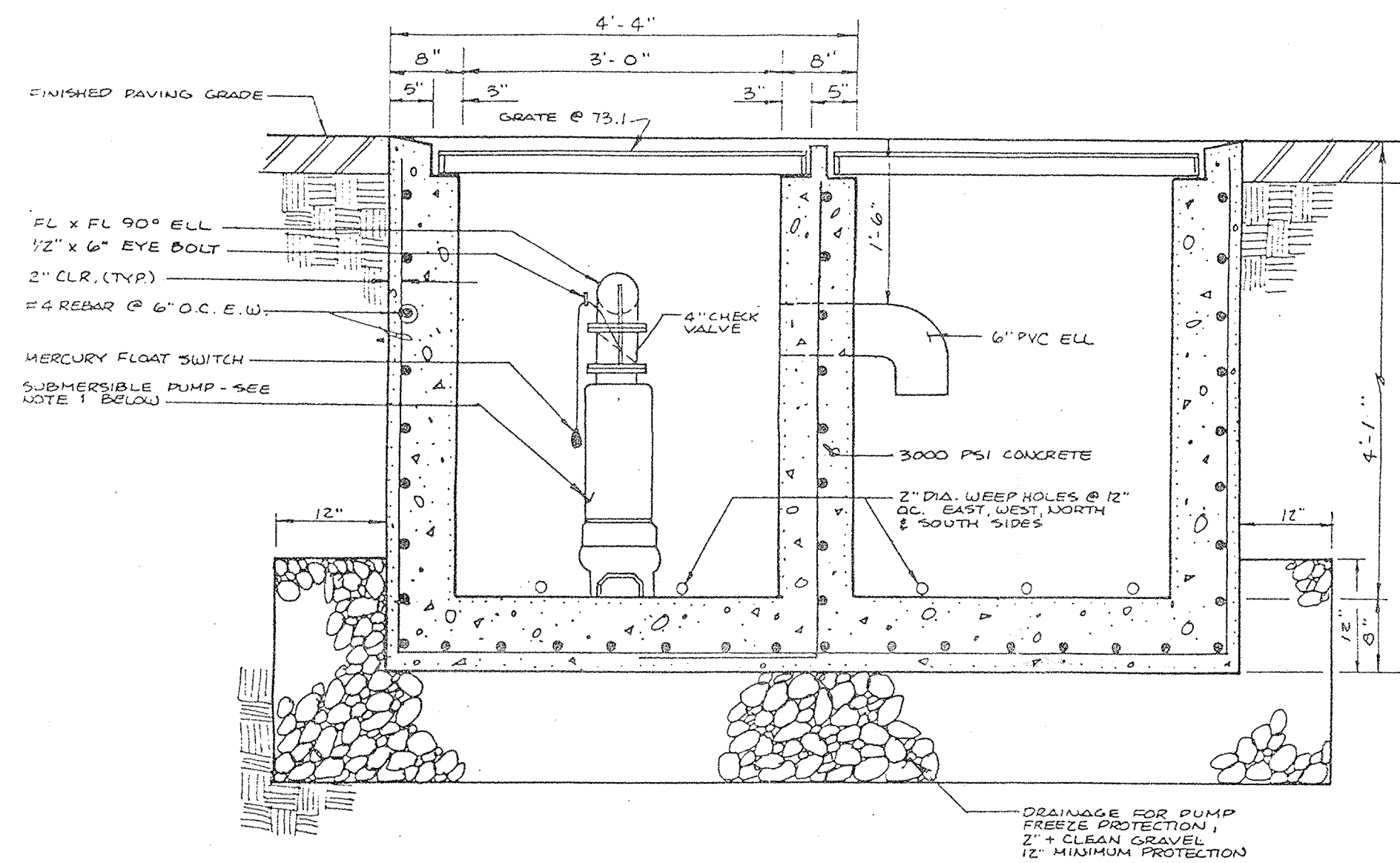




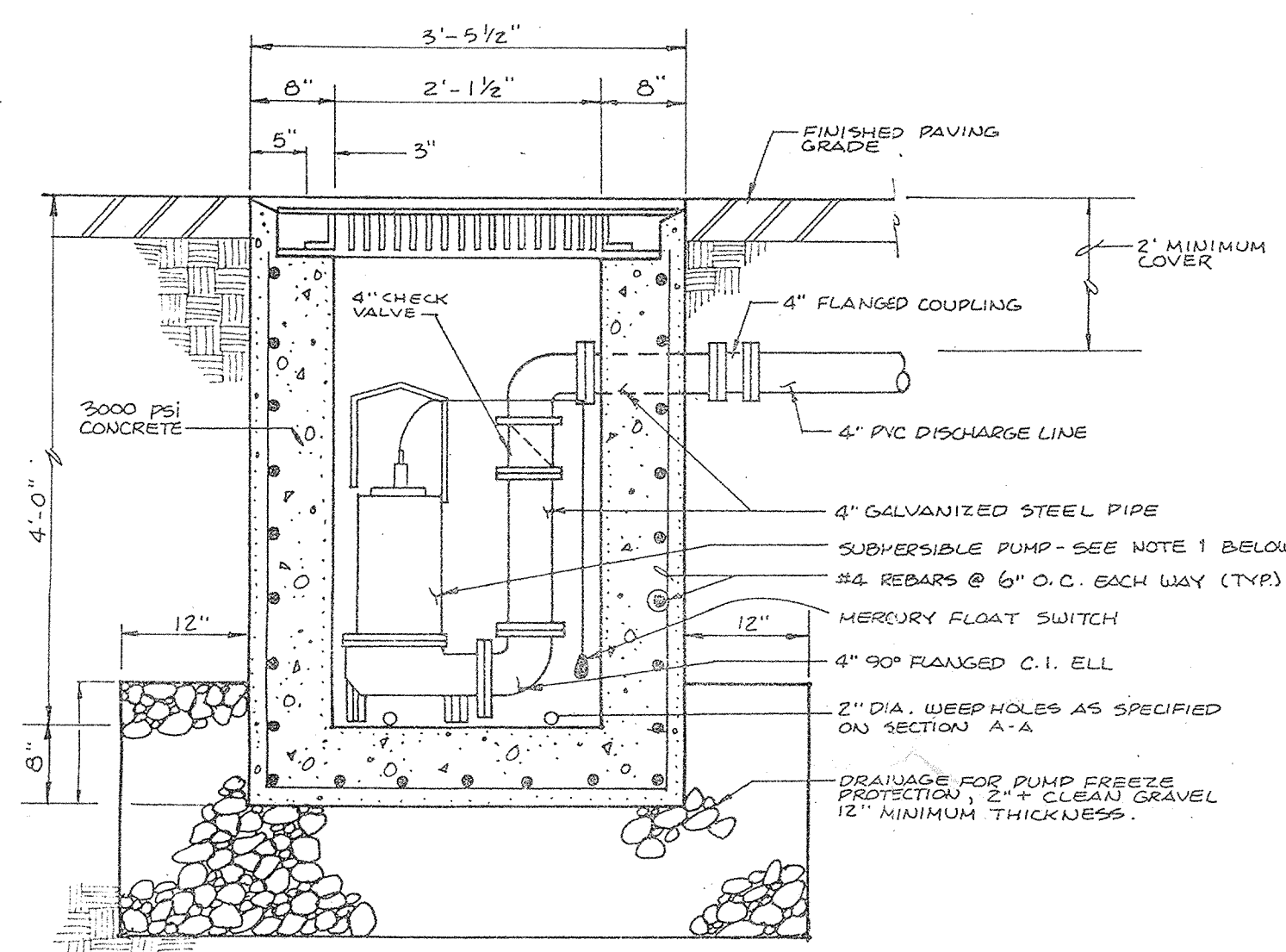
SUMP PIT AND INLET PLAN
SCALE: 3/4" = 1'-0"



TYPICAL INLET GRATE PLAN
SCALE: 3/4" = 1'-0"



SECTION A-A
SCALE: 3/4" = 1'-0"



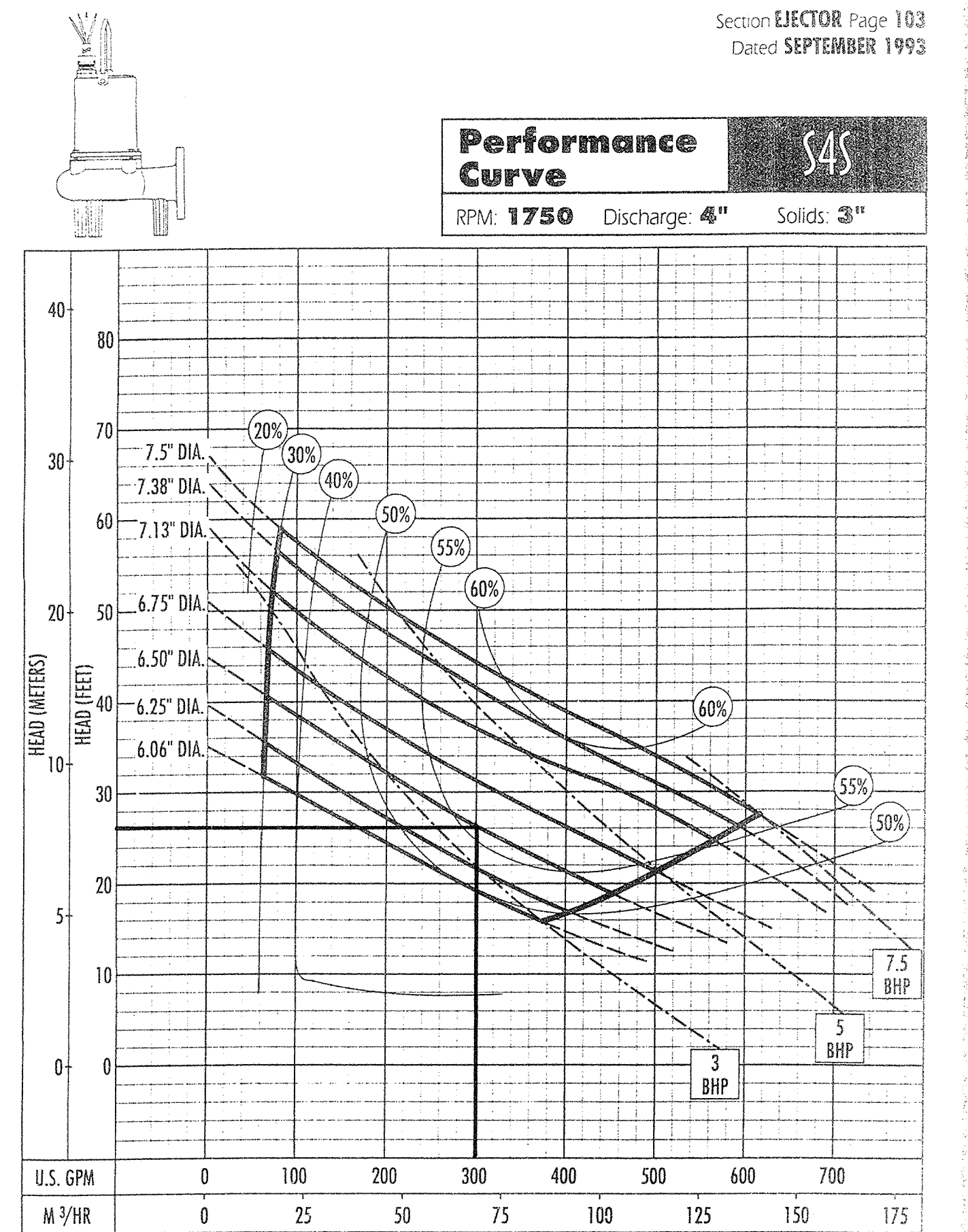
SECTION B-B
SCALE: 3/4" = 1'-0"

PUMP CALCULATIONS

- Estimated Discharge Rate = 500 gpm $\approx$ 1.1 cfs
- Head Losses
 - Elevation = 46.8 - 46.3 + 4 = 4.5 ft
 - PVC Pipe Friction (Using Hazen-Williams Formula)
 $h_f = 3.02 D^{-1.167} (V/C)^{1.85} / L.F.$ of pipe
 Let: $D = 0.33$ ft
 $V = Q/A = Q / (\pi(D/2)^2)$
 $Q = 1.1$ cfs
 $C = 130$
 $h_f = 0.1525$ ft/l.f. pipe
 For 75' +/- of pipe
 $h_f = 11.4$ ft
 - Steel Pipe Friction (Using Hazen-Williams Formula)
 $h_f = 3.02 D^{-1.167} (V/C)^{1.85} / L.F.$ of pipe
 Let: $D = 0.33$ ft
 $V = Q/A = Q / (\pi(D/2)^2)$
 $Q = 1.1$ cfs
 $C = 100$
 $h_f = 0.2478$ ft/l.f. pipe
 For 8' +/- of pipe
 $h_f = 2.0$ ft
 - Fitting Losses
 3 - 90° elbows @ 11 ft/each = 33 ft equivalent length of steel pipe
 $33(h_f \text{ steel pipe}) = 8.2$ ft
 - Total Losses
 $E = 4.5 + 11.4 + 2.0 + 8.2 = 26.1$ ft total dynamic head
- Pump Selection
 Use Discharge Rate of 300 gpm
 T.D.H. = 26.0 ft
 Install a 3 h.p. pump with a 6.50" diameter impeller

Pump Notes:

- Install one (1) HYDROMATIC submersible pump, Model S4S, 3 H.P. Motor, 6.50" impeller, or approved equal. Pump installation shall include two mercury float switches with controls set for "off" or "on" modes of operation.
- Grating and frame shall be cleaned of all scale, rust, and foreign materials and shall be painted with one shop coat of red oxide primer, then 2 finish coats of aluminum paint (AASHTO Mfg.)
- Installation of the mercury float switches shall be at levels providing optimum pumping time without excessive pump cycling.



The curves reflect maximum performance characteristics without exceeding full load (Nameplate) horsepower. All pumps have a service factor of 1.2. Operation is recommended in the bounded area with operational point within the curve limit. Performance curves are based on actual tests with clear water at 70° F. and 1280 feet site elevation.

Conditions of Service:
GPM: 300 TDH: 260 **HYDROMATIC® PUMPS**

