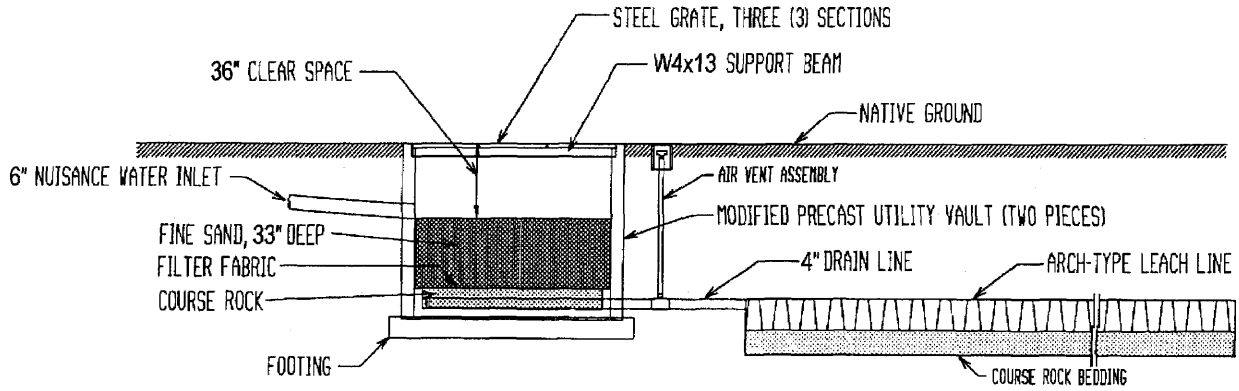
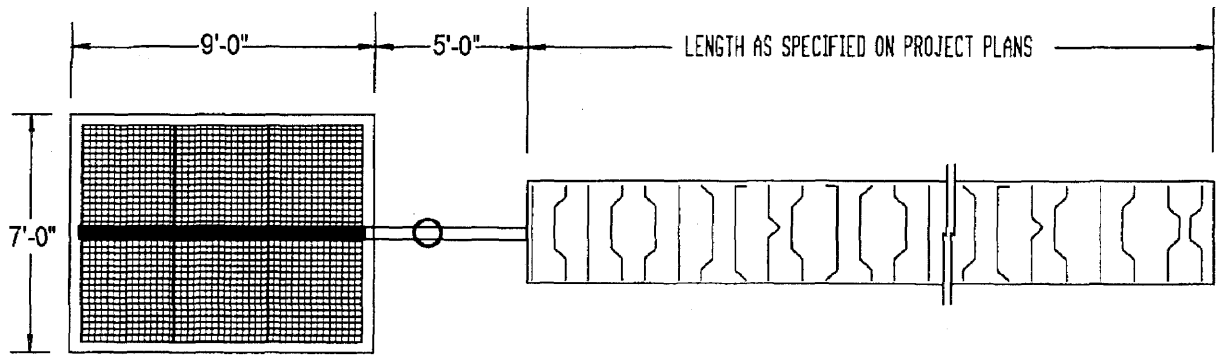


ELEVATION VIEW



PLAN VIEW

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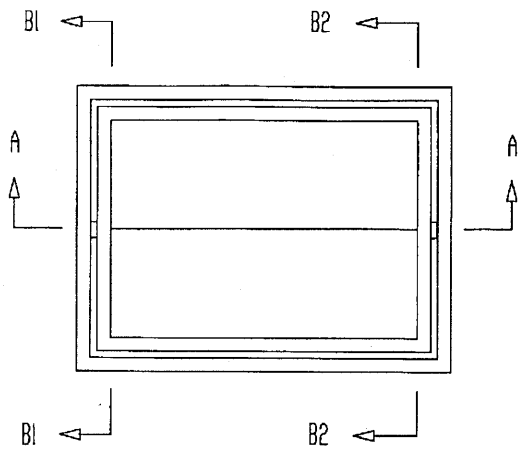
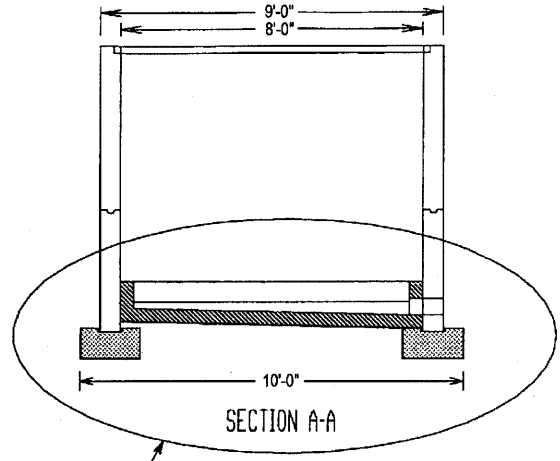
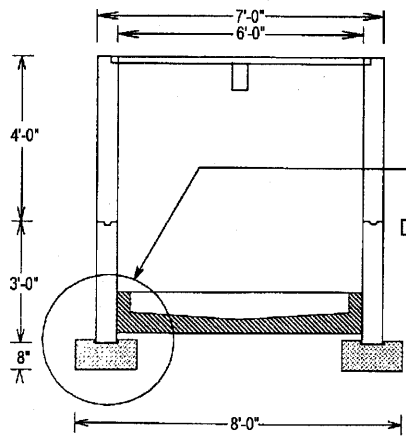


PLAN VIEW

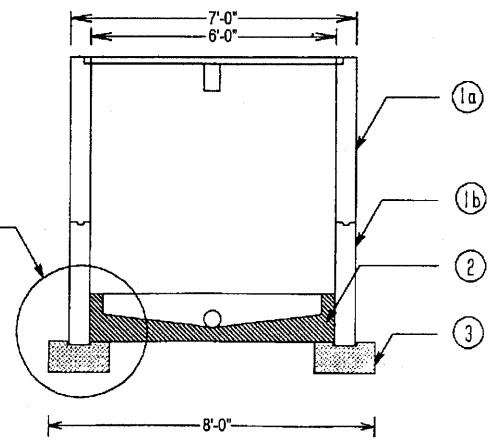


SECTION A-A

DETAIL 1, PAGE 3 OF 6



SECTION B1-B1



SECTION B2-B2

(1a) PRECAST UPPER VAULT SECTION - 8'-0" x 6'-0" x 4'-0" I.D.

(1b) PRECAST LOWER VAULT SECTION - 8'-0" x 6'-0" x 3'-0" I.D

(2) CAST-IN-PLACE CONCRETE FLOOR

(3) CAST-IN-PLACE CONCRETE FOOTING

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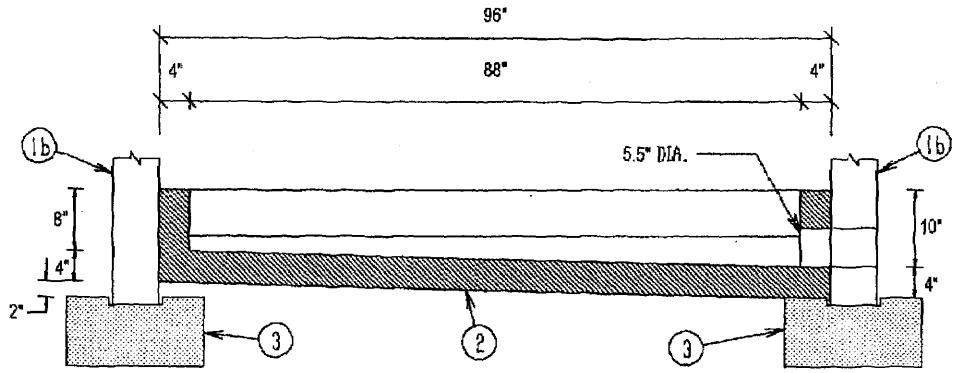
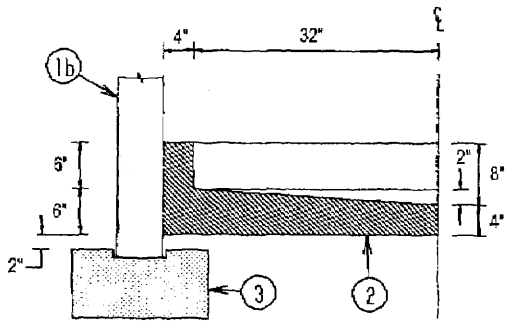
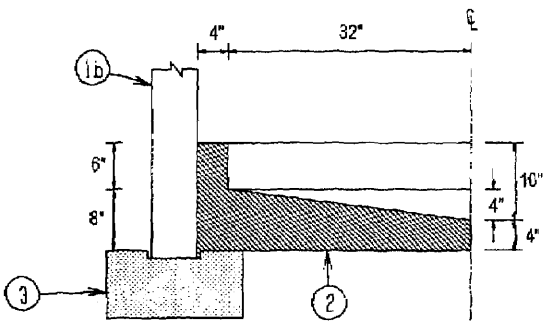


DETAIL 1



DETAIL 2



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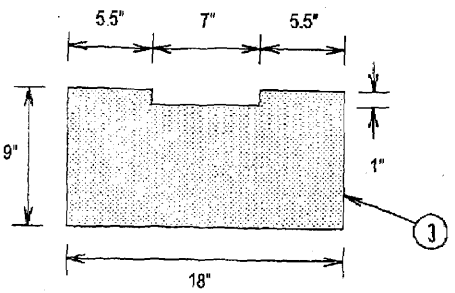

DETAIL 4

(1b) PRECAST LOWER WALL PIECE

(2) CAST-IN-PLACE CONCRETE FLOOR (520-C-2500)

(3) CAST-IN-PLACE CONCRETE FOOTING (520-C-2500)

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CITY ENGINEER
RCE 44250

City of La Quinta

SAND FILTER (floor & footing details)

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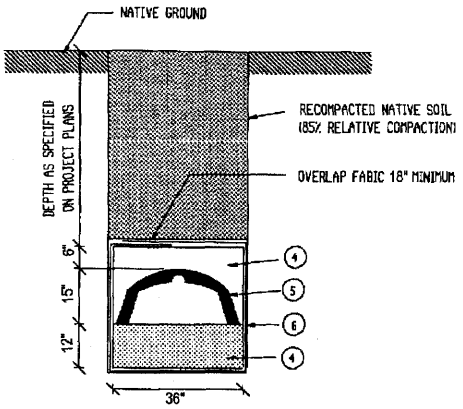
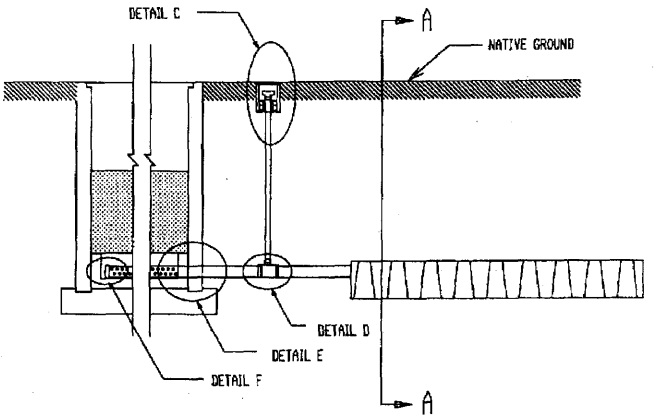
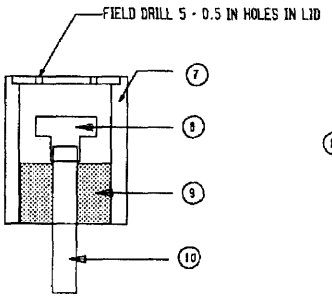
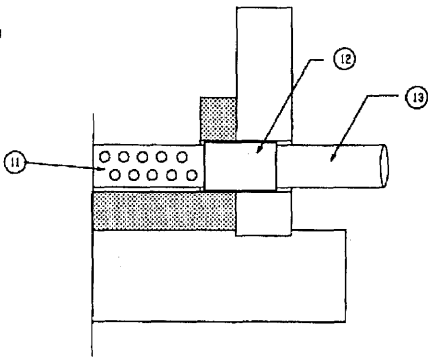


SECTION A-A

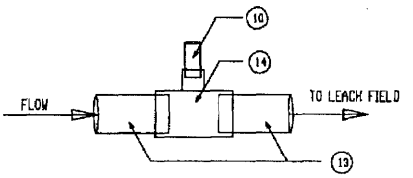




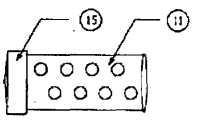
DETAIL C



DETAIL E



DETAIL D



DETAIL F

4	1"-2" OPEN GRADED GRAVEL	10	2" O.D. SCHEDULE 40 PVC PIPE
5	34" WIDE x 15" HIGH ARCH-TYPE CHAMBER	11	4" O.D. PERFORATED SCHEDULE 40 PVC PIPE
6	NON-WOVEN GEOTEXTILE ENGINEERING FABRIC	12	4" O.D. SCHEDULE 40 PVC COUPLING
7	10" DIA. IRRIGATION VALVE BOX	13	4" O.D. SCHEDULE 40 PVC PIPE
8	1"x1"x2" SCHEDULE 40 PVC TEE	14	4"x4"x2" SCHEDULE 40 PVC TEE
9	SAND	15	4" SCHEDULE 40 PVC PIPE CAP

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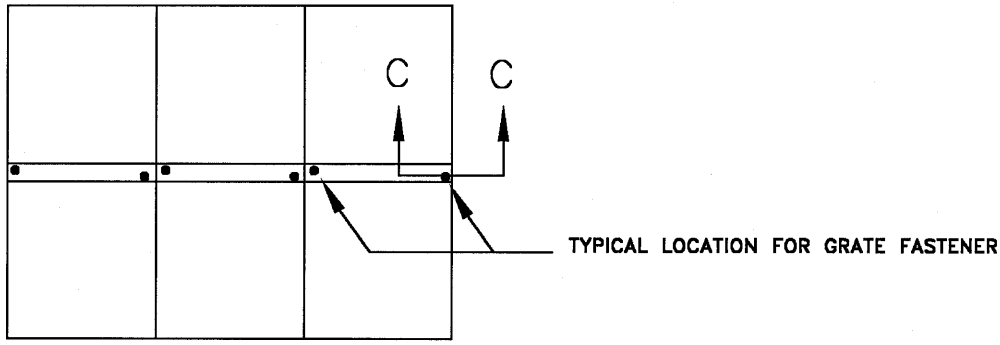
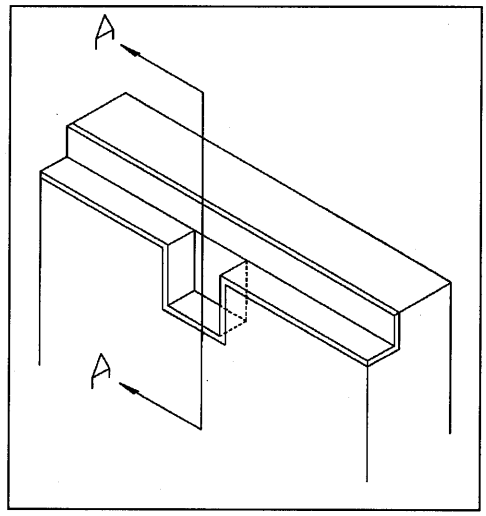
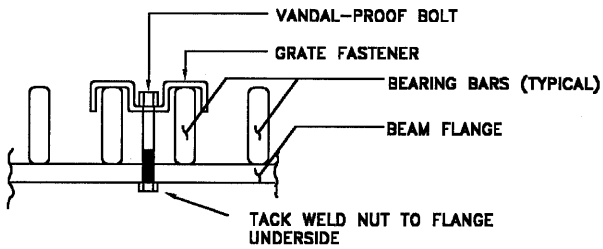
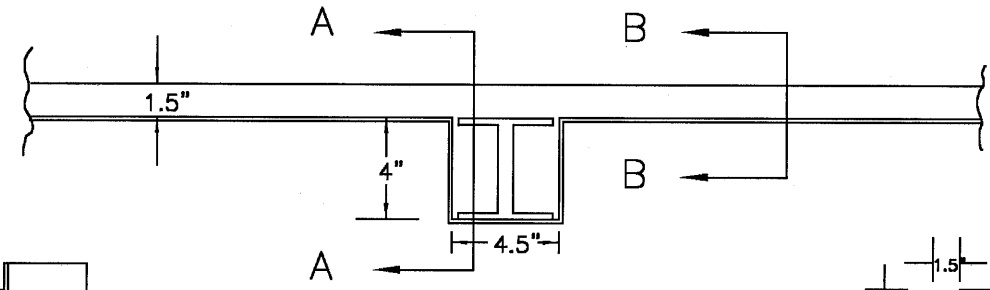


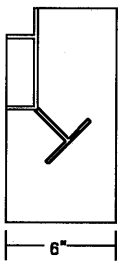
PLAN VIEW OF GRATE



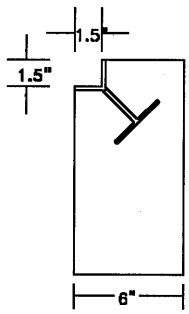


C— C





A— A



B— B

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SANDFILTER SIZING CALCULATIONS

Calculation #1 Determines how many standard size sandfilters are needed.

No.* of Sandfilters = _____ homes ÷ 40 homes/sandfilter

* Round all fractions up to the nearest whole number

Each sandfilter has 48 sf of filter surface (ie 6' x 8'); assume the incoming nuisance water will percolate through the sand at the rate of 4.6 inches per hour. The sandfilter must be sized to handle the "surge inflow rate" of 0.458 cf/house/hour, which is based on the assumption that, on average, each house releases 12 gallons in a 3.5 hour "surge" period. Therefore, each sandfilter is capable of handling 18.4 cf/hour. As a result, each sandfilter can handle the nuisance water released by 40 homes (18.4/0.458=40).

Calculation #2 - Determines how long the leach line must be.

Leach Line Length* = _____ homes x 1.9 lf/home (sandy soil)

* In feet to be divided evenly between the number of sandfilters

Leach Line Length* = _____ homes x 3.8 lf/home (silty soil)

* In feet to be divided evenly between the number of sandfilters

The critical aspect in sizing the leach line length is related to its ability to maintain a sustained percolation rate (ie 24-7-365) in saturated soil, therefore, for the purposes of this calculation, it is assumed that the sustained percolation rate in saturated soil is 0.25 in/hr (Note: if the soil is silty, more than 5% by weight passing the 200 sieve, the percolation rate shall be reduced to 0.125 in/hr). The leach line arch provides 2.8 sf of percolation surface per lineal foot of leach line length. If the average nuisance water discharge per house in the neighborhood is 20 gallons per day that means each house must have 5.35 sf of percolation area in the leach field to percolate its 24-hr nuisance water discharge. Therefore, the leach line length must be 1.9 lf/home.

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SANDFILTER

Materials Specifications

- Precast Vault Structure - The vault structure shall be a precast utility vault manufactured in two sections: 1-36" section, and 1-48" section, similar to Part No. 6080W7-QTA370 as manufactured by J&R Concrete Products, Inc., of Perris, CA (1-909-943-5855), or approved equal. A galvanized steel frame to accommodate the grate shall be fitted per Sheet 5 of 7 prior to casting the top section.

- Sandfilter Grate - The sandfilter grate shall be galvanized welded steel bar, Model GW-100 with (1 x 3/16" bars) and banded ends, as manufactured by the McNichols Co. (1-800-237-3820), or approved equal. Four (4) grate panels measuring 37" x 49" shall be provided, (Note: Gross opening size is 8'-3" x 6'-3"). Use CB saddle type retainer clips as manufactured by McNichols, or an approved alternate method to secure the grates.

- Support Beam - The grate support beam shall be W4x13, 8'-2" long, Fy=36 ksi steel.

- Leach Line - The leach line shall be constructed of arch-type chamber sections, High Capacity Infiltrator™ model, as distributed by Boyd Tanks Co. (1-909-657-6966), or approved equal.

- Engineering Fabric - The engineering fabric shall be fine spun non-woven, Dupont's Typar Style 3601, as distributed by Aldrich Supply Co (1-909-371-3018), or approved equal.

- Filter Sand - The fine filter sand shall be, 100% passing a No. 45 sieve (.35mm) with a *uniformity coefficient* between 2 and 3.

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