**DESIGN NOTES:**

1. IT IS THE RESPONSIBILITY OF THE DESIGN ENGINEER TO SIZE, DESIGN AND DETAIL ALL SAND FILTER BASIN STRUCTURES.
2. PERIMETER WALL SHALL BE CAST-IN-PLACE REINFORCED CONCRETE. PROFESSIONAL ENGINEER IS RESPONSIBLE FOR STRUCTURAL DESIGN OF ALL WALLS, OUTLET STRUCTURES AND OTHER CONCRETE ELEMENTS INCLUDING REBAR AND MOLDING. IN ADDITION, ENGINEER MUST DETAIL AND CONNECT ALL CONCRETE ELEMENTS VIA CONCRETE, THROUGHOUT PHASED CONCRETE FOUNDATION.
3. FOR NO INFILTRATION SECTION, SPRAY ON WATERPROOF LINING SHALL BE APPLIED TO ALL INTERNAL CONCRETE SURFACES. SPRAY ON WATERPROOF LINING SHALL BE RASOR INDUSTRIES ECO-RAP 50/50 A.A.T. SPRAY LINER SYSTEM OR APPROVED EQUAL.
4. AS AN ALTERNATE TO SPRAY ON WATER PROOFING, AN IMPERMEABLE GEOMEMBRANE LINER MAY BE USED. IMPERMEABLE GEOMEMBRANE LINER INSTALLATION BELOW DRAINAGE MEDIA, LAYER OF NONWOVEN GEOTEXTILE SHALL BE PLACED BETWEEN THE LINER AND THE DRAINAGE MEDIA. GEOMEMBRANE CONTAINS ANGULAR ROCKS OR OTHER MATERIAL THAT COULD PUNCTURE THE LINER. A LAYER OF NONWOVEN GEOTEXTILE SHALL ALSO BE PLACED BETWEEN THE LINER AND THE SUBGRADE. (SEE CONSTRUCTION DRAWINGS FOR LINER REQUIREMENTS). LINER SHALL BE ATTACHED TO PERIMETER WALL (ALONG WITH GEOTEXTILE USING FACE-TO-FACE DETAIL). ALL LINER SEAMS SHALL BE BURIED, AND NO LINER SEAMS SHALL BE EXPOSED TO COMPRESSED DURING CONSTRUCTION OR LANDSCAPING OPERATION.
5. UNDERGROUND CLEANOUTS SHALL BE PROVIDED AT THE UPSTREAM END. UPSTREAM OF ANY BENDS 22° OR GREATERTHEAT MAXIMUM SPACING OF 160 FEET, SEE GENERAL DETAILS SHEET FOR UNDERGROUND DETAIL. ALL UNDERGROUND BENDS SHALL BE 45° OR LESS. 
6. LINER INSTALLATION ON MULCH SHALL BE INSTALLED IN THE FILTER MEDIA OF A SAND FILTER BAG.
7. PERMANENT IRRIGATION IS REQUIRED ALONG THE TOP SIDE OF ANY UNDERGROUND PIPE (UNCONSTRUCTED) AND LANDSCAPE AREAS ADJACENT TO THE PERIMETER WALL (CONSTRUCTED) TO ESPECIALLY VISUAL PROTECTION FROM EROSION AND FOR LONG TERM MAINTENANCE.
8. FINISHED GRADE SURROUNDING PERIMETER WALLS SHALL HAVE A MAXIMUM SLOPE OF 1:3. PERIMETER SEAM IS LESSER THAN 1:3 MUST BE BURIED.
9. UNIFORM SHALL BE ROUTED INTO THE SAND FILTER BAG VIA PIPE, CONCRETE RUNDOWN, VOID-FILLED RUNDOWN OR RUNDOWN, IF RUNDOWN IS UN-AIR SPIAL FOR 4 INCHES.
10. A HARD SURFACE MAINTENANCE ACCESS IS REQUIRED TO THE OUTER STRUCTURE VIA SIDEWALK, PARKING LOT OR OTHER FORMALIZED PATH.
11. UNDRAINED DRAINAGE MEDIA MINIMUM SLOPE SHOWN ON DETAIL. FOR NO INFILTRATION FACILITY, CONCRETE FLOOR CAN BE SLOPED AND/OR BLANKETED OR OTHERWISE STATED.
12. STEPS SHALL BE PROVIDED IN THE OUTER STRUCTURE WHEN THE DISTANCE FROM THE TOP OF THE OUTLET TO THE FILTER LINER IS GREATER THAN 12" (MULTIPLE CURB OPENINGS MAY BE PROVIDED). THE DISTANCE FROM THE TOP OF THE OUTLET TO THE FILTER LINER IS GREATER THAN 12".
13. ENERGY DISSIPATION RIPRIP HAS A FINISHED GRADE ELEVATION 6" LOWER THAN THE FILTER LINER AT INFLOW POINT.

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**REFERENCE SHEET**

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SAND FILTER
CONSTRAINED (WITH WALLS)
NO INFILTRATION

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**SHEET 1 OF 1**