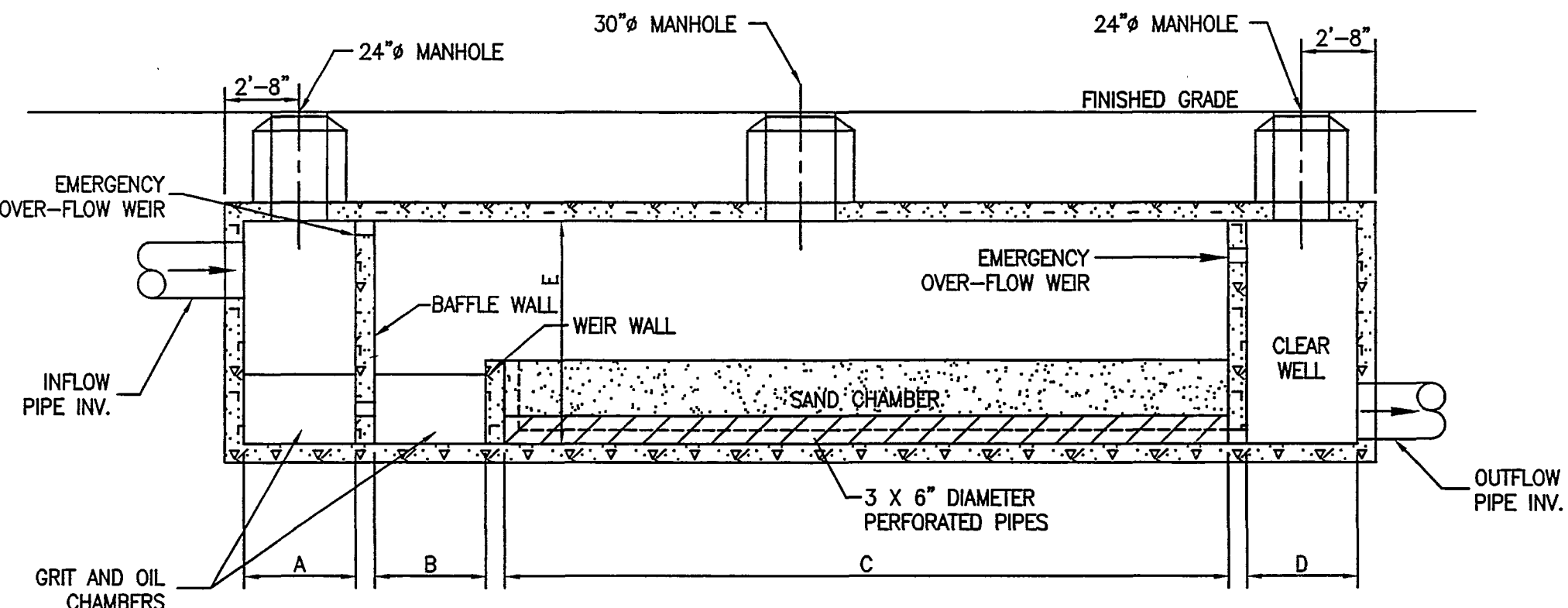
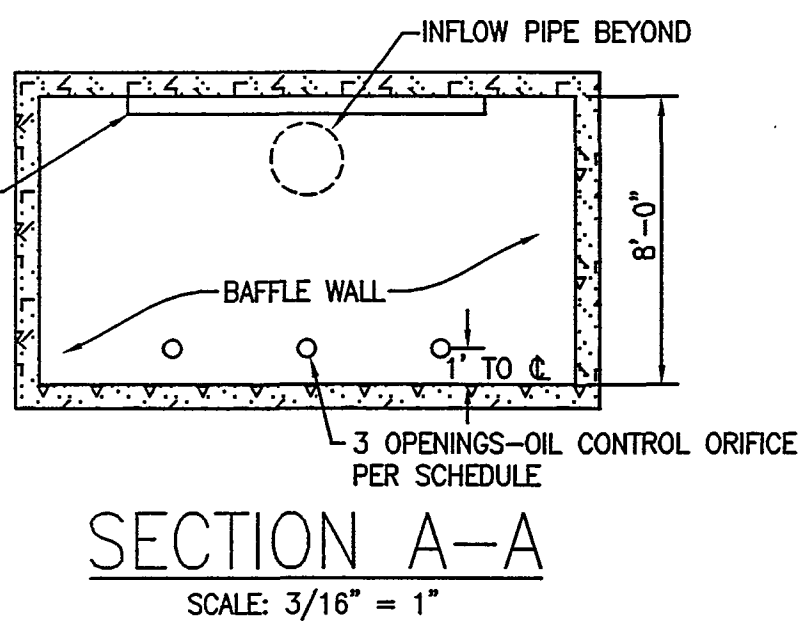


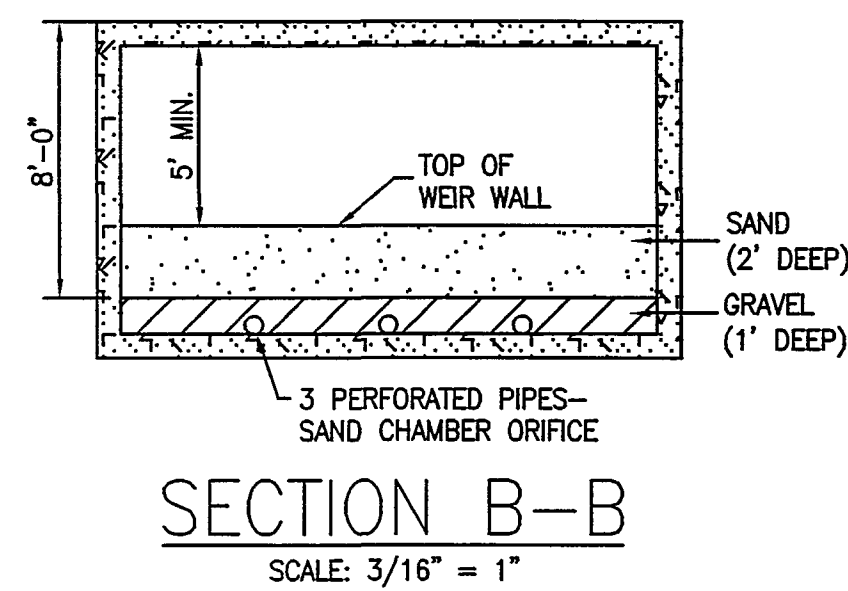
STORM CHAMBER/SAND FILTER
PLAN VIEW – TOP REMOVED
(NOTE: ALL WALLS 8" THICK)
SCALE: 3/16" = 1"



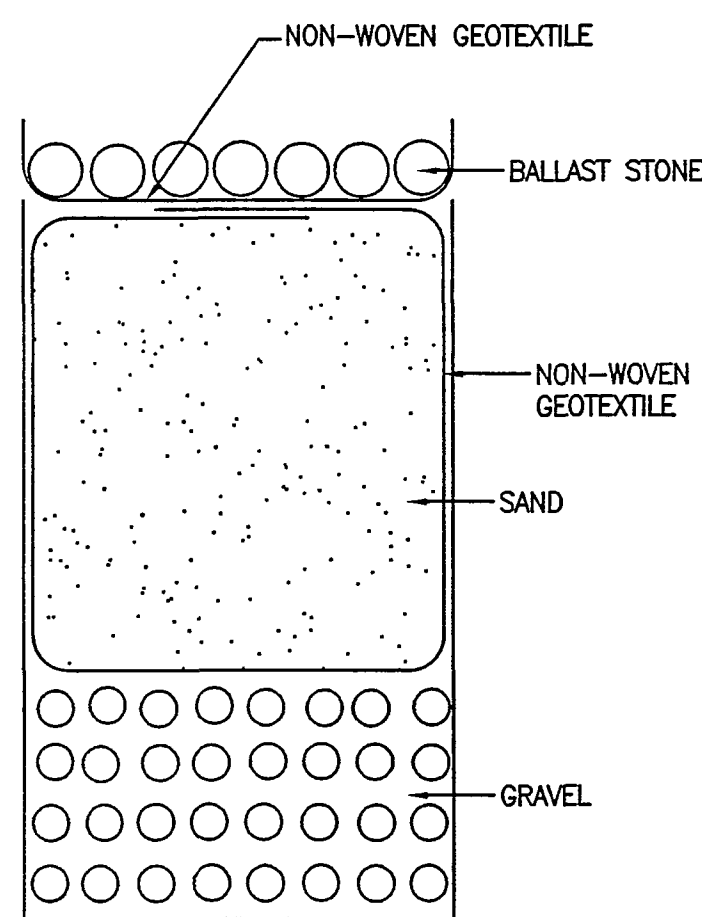
STORM CHAMBER/SAND FILTER
SECTION VIEW
(NOTE: ALL WALLS 8" THICK)
SCALE: 3/16" = 1"



SECTION A-A
SCALE: 3/16" = 1"



SECTION B-B
SCALE: 3/16" = 1"



ENLARGED CROSS SECTION
OF FILTER MEDIA

STORM CHAMBER / SAND FILTER SCHEDULE									
	A	B	C	D	E	F	PIPE IN	PIPE OUT	
	GRIT & OIL CHAMBER	SAND CHAMBER	CLEAR WELL	CHAMBER DEPTH	CHAMBER WIDTH	SIZE	INVERT	SIZE	INVERT
VAULT 1	4'-6"	4'-6"	34' - 8"	4'-0"	8'-0"	21' - 4"	36"	949.01	945.54
VAULT 2	6'-0"	6'-0"	36'-0"	4'-0"	8'-0"	21' - 4"	30"	949.02	945.00

GRIT CONTROL ORIFICE			GRIT CONTROL WEIR		SAND CHAMBER ORIFICE			EMERGENCY OVERFLOW WEIR	
NO.	DIAMETER	INVERT	WIDTH	ELEVATION	NO.	DIAMETER	INVERT	WIDTH	ELEVATION
VAULT 1	3	6"	946.04	20'-0"	948.54	3	5"	945.54	952.54
VAULT 2	3	6"	945.50	20'-0"	948.00	3	6"	945.00	952.00

INSPECTION / MONITORING SCHEDULE:

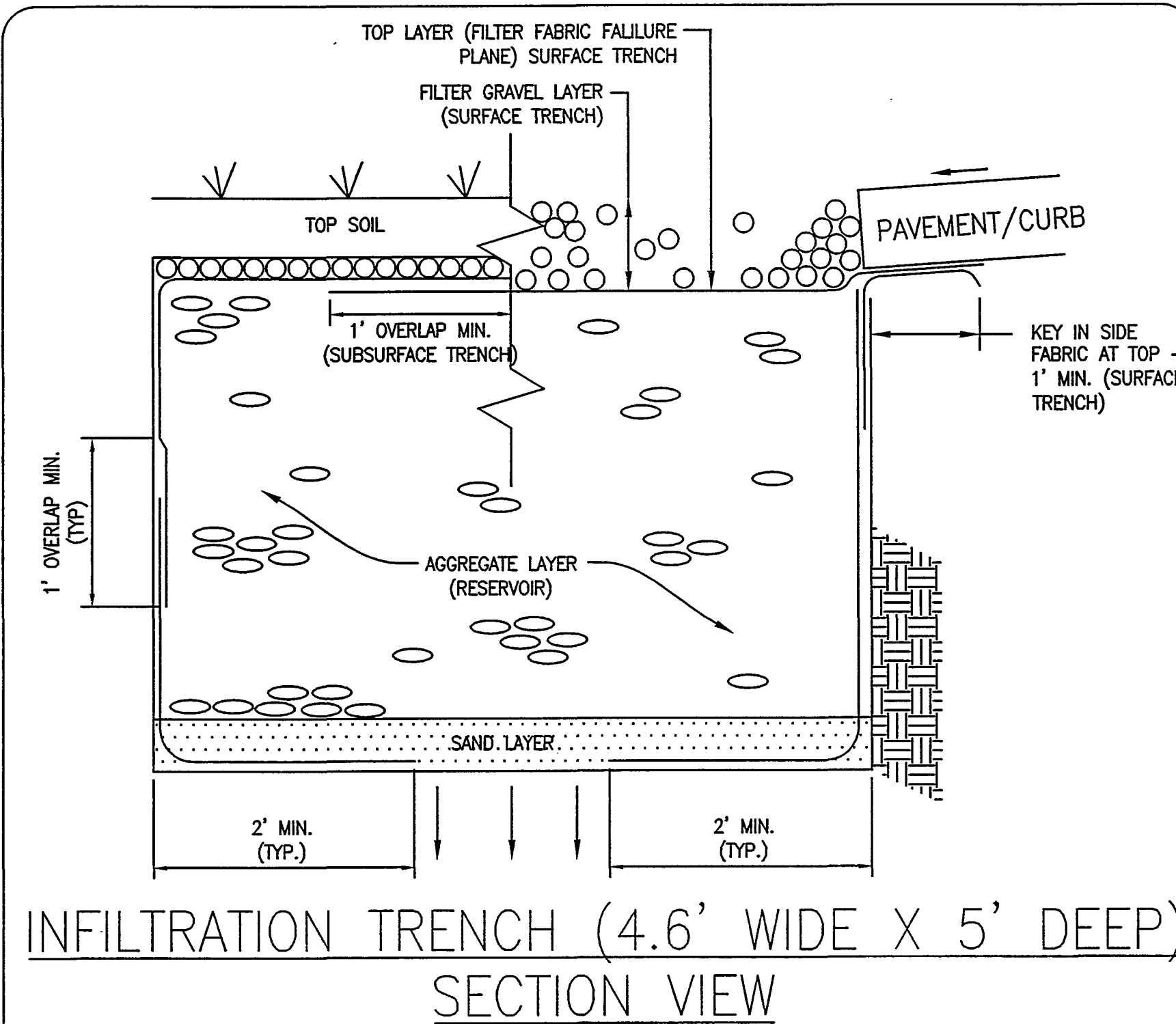
1. THE WATER LEVEL IN THE FILTER CHAMBER SHALL BE MONITORED BY THE OWNER ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM FOR THE FIRST YEAR AFTER COMPLETION OF CONSTRUCTION.
2. A LOG SHALL BE MAINTAINED OF THE RESULTS INDICATING THE RATE OF Dewatering AFTER EACH STORM AND THE WATER DEPTH FOR EACH OBSERVATION.
3. ONCE THE CITY OF ROANOKE STAFF INDICATES THAT SATISFACTORY PERFORMANCE OF THE STRUCTURE HAS BEEN DEMONSTRATED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN SEMIANNUAL BASIS.
4. THE BMP SHALL BE INSPECTED ANNUALLY BY REPRESENTATIVES OF THE OWNER AND THE CITY OF ROANOKE TO ASSURE CONTINUED PROPER FUNCTIONING.

SEDIMENT CHAMBER PUMP/OUT:

1. THE SEDIMENT CHAMBER MUST BE PUMPED OUT HALFWAY THROUGH THE INSPECTION CYCLE (SIX MONTHS) AND AFTER EACH JOINT OWNER-CITY OF ROANOKE ANNUAL INSPECTION.
2. IF THE CHAMBER CONTAINS AN OIL SKIM, IT SHOULD BE REMOVED BY A FIRM SPECIALIZING IN OIL RECOVERY AND RECYCLING. THE REMAINING MATERIAL MAY THEN BE REMOVED BY VACUUM PUMP AND DISPOSED OF IN AN APPROPRIATE LANDFILL.
3. AFTER EACH CLEANING, REFILL THE FIRST CHAMBER TO A DEPTH OF THREE FEET WITH CLEAN WATER TO REESTABLISH THE WATER SEALS.

FILTER MEDIA REPLACEMENT:

1. WHEN THE FILTER MEDIA WILL NO LONGER DRAW DOWN WITHIN THE REQUIRED 40-HOUR PERIOD, THE TOP LAYER OF FILTER CLOTH AND BALLAST GRAVEL MUST BE REMOVED AND REPLACED WITH NEW MATERIALS CONFORMING TO THE ORIGINAL SPECIFICATIONS.
2. ANY DISCOLORED OR SEDIMENT CONTAMINATED SAND SHALL ALSO BE REMOVED AND REPLACED.



INFILTRATION TRENCH (4.6' WIDE X 5' DEEP)
SECTION VIEW

INSPECTION SCHEDULE:

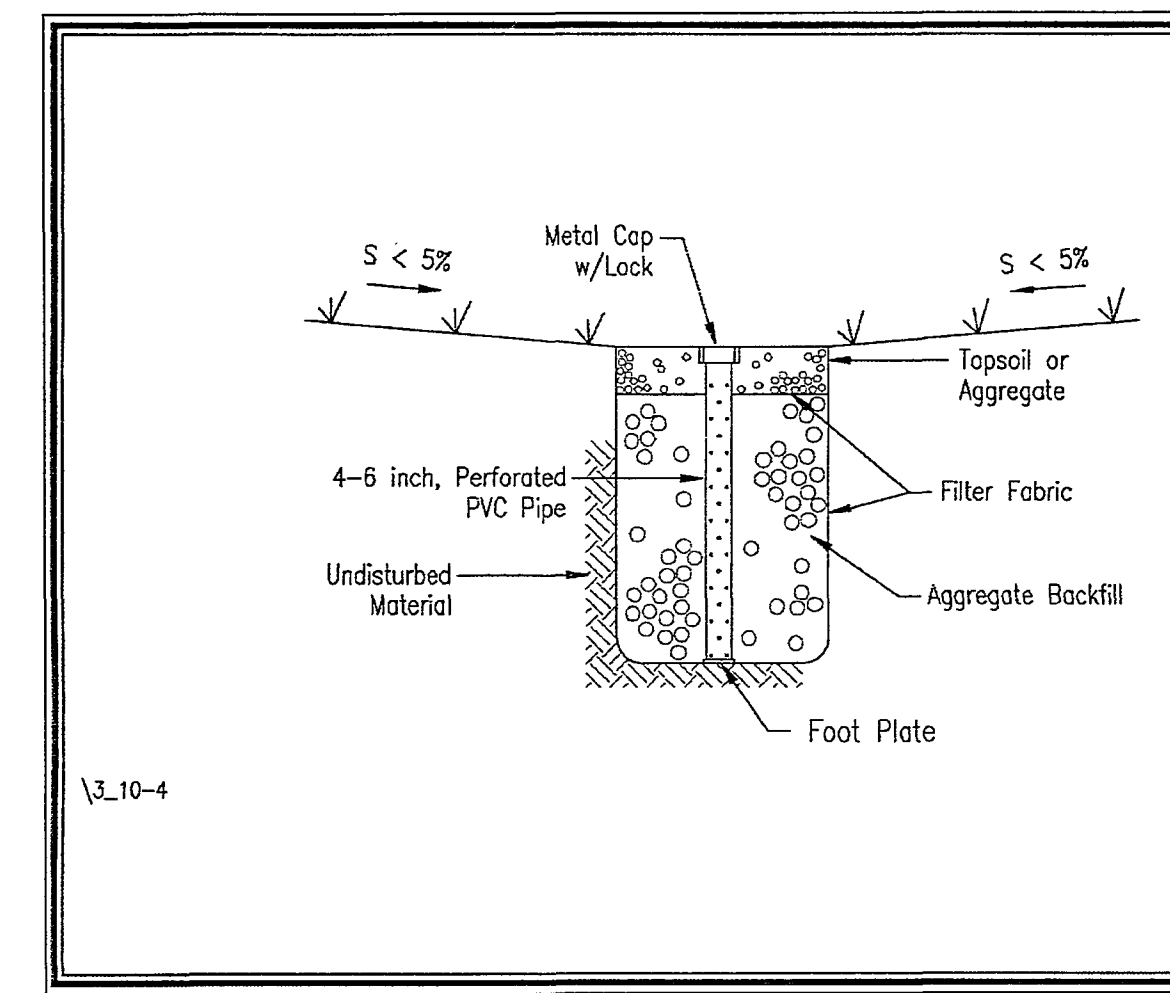
1. THE OBSERVATION WELL SHOULD BE MONITORED QUARTERLY AND AFTER EVERY LARGE STORM EVENT. A LOG BOOK SHALL BE MAINTAINED SHOWING THE DEPTH OF WATER IN THE WELL AT EACH OBSERVATION IN ORDER TO DETERMINE THE RATE AT WHICH THE FACILITY DE-WATERS AFTER RUNOFF PRODUCING STORM EVENTS.
2. ONCE THE PERFORMANCE CHARACTERISTICS OF THE STRUCTURE HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS, UNLESS THE PERFORMANCE DATA SUGGEST THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

SEDIMENT CONTROL:

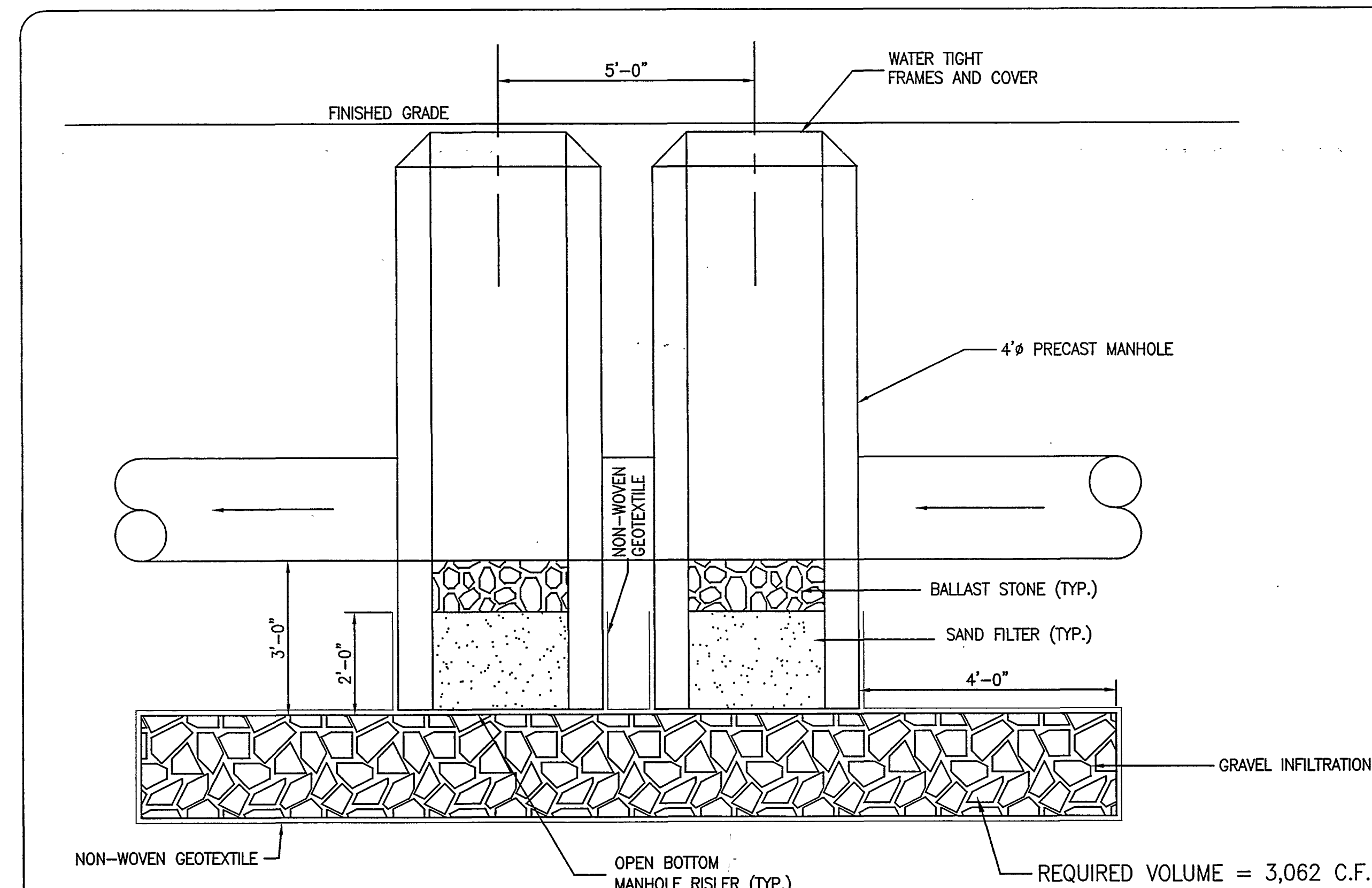
1. SEDIMENT BUILDUP IN THE TOP FOOT OF STONE AGGREGATE OR THE SURFACE INLET SHOULD BE MONITORED ON THE SAME SCHEDULE AS THE OBSERVATION WELL. A MONITORING WELL IN THE TOP FOOT OF STONE AGGREGATE SHOULD BE PROVIDED WHEN THE TRENCH HAS A STONE SURFACE.
2. SEDIMENT DEPOSITED SHOULD NOT BE ALLOWED TO BUILD UP TO THE POINT WHERE IT WILL REDUCE THE INFILTRATION RATE INTO THE TRENCH. IT IS RECOGNIZED THAT INFILTRATION FACILITIES ARE SUBJECT TO CLOGGING. ONCE A TRENCH FACILITY HAS CLOGGED, VERY LITTLE CAN BE DONE TO CORRECT IT, SHORT OF EXCAVATING THE FACILITY. MAINTENANCE EFFORTS, THEREFORE, SHOULD FOCUS ON THE MEASURES USED FOR PRETREATMENT OF RUNOFF, IN ADDITION TO THE FACILITY ITSELF.

VEGETATION MAINTENANCE:

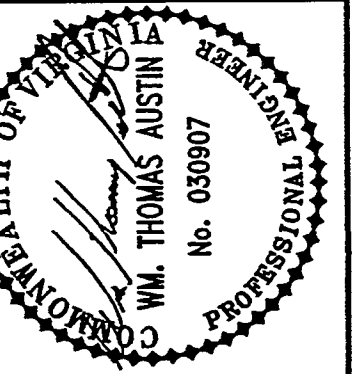
1. ANY VEGETATED BUFFERS ASSOCIATED WITH AN INFILTRATION TRENCH SHOULD BE INSPECTED REGULARLY AND MAINTAINED AS NEEDED. REGULAR MAINTENANCE OF THE BUFFER IS NECESSARY TO PROMOTE DENSE TURF WITH EXTENSIVE ROOT GROWTH, WHICH SUBSEQUENTLY ENHANCES RUNOFF FILTERING, PREVENTS EROSION AND SEDIMENTATION, AND DETERS INVASIVE WEED GROWTH.
2. BARE SPOTS SHOULD BE IMMEDIATELY STABILIZED AND REVEGETATED. FERTILIZERS SHOULD BE APPLIED ONLY AS NECESSARY AND IN LIMITED AMOUNTS TO AVOID CONTRIBUTING TO POLLUTION PROBLEMS WHICH THE INFILTRATION BASIN HELPS TO MITIGATE. CONSULT THE VESCH 992 EDITION FOR APPROPRIATE FERTILIZER TYPES AND APPLICATION RATES.



OBSERVATION WELL
SECTION VIEW



WATER QUALITY MANHOLES
SECTION VIEW



Revisions	Date	By
1. FINAL CITY OF ROANOKE REVIEW	1/15/05	

Issue Date:	OCTOBER 25, 2005
Drawn By:	CZY
Designed By:	RSM/CZY/WFA
Checked By:	WFA
Date:	10/25/2005

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SITE DEVELOPMENT PLANS
BY MARKET - PHASE I
**PLAN AND DETAILS -
STORMWATER MANAGEMENT**
CITY OF ROANOKE, VIRGINIA

Vertical Scale:	N/A
Horizontal Scale:	N/A
Commission No.	2384
Sheet No.:	C-9