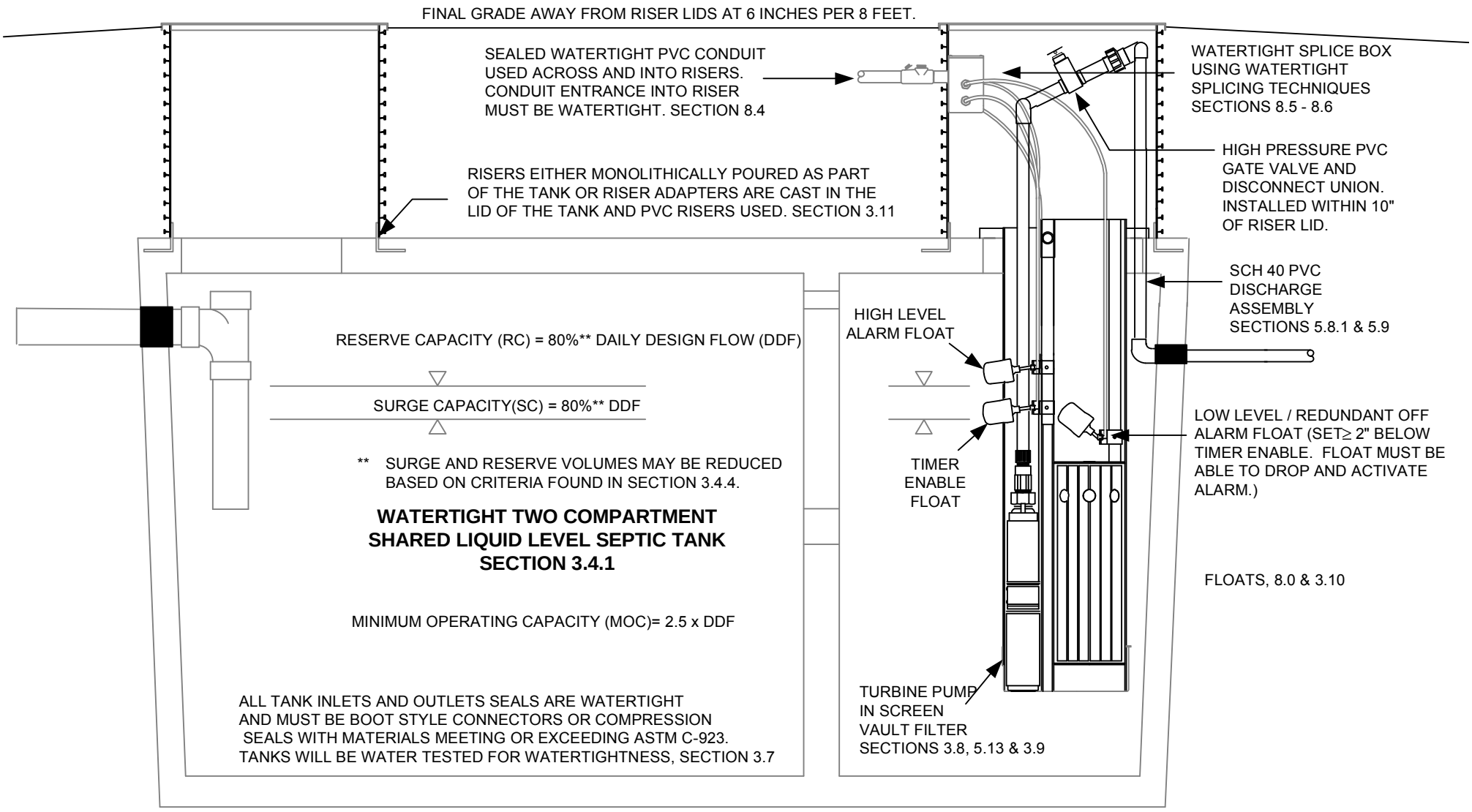
Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

22 Appendix 22.0 Drawings

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

TIME DOSED SEPTIC TANK WITH SCREEN VAULT FILTER

SECTION 3.0



ALL TANKS MUST BE BEDDED ON, AND BACKFILLED WITH GRAVEL MEETING HEALTH DISTRICT APPROVED MANUFACTURERS SPECIFICATIONS.

Profile View

Not to Scale

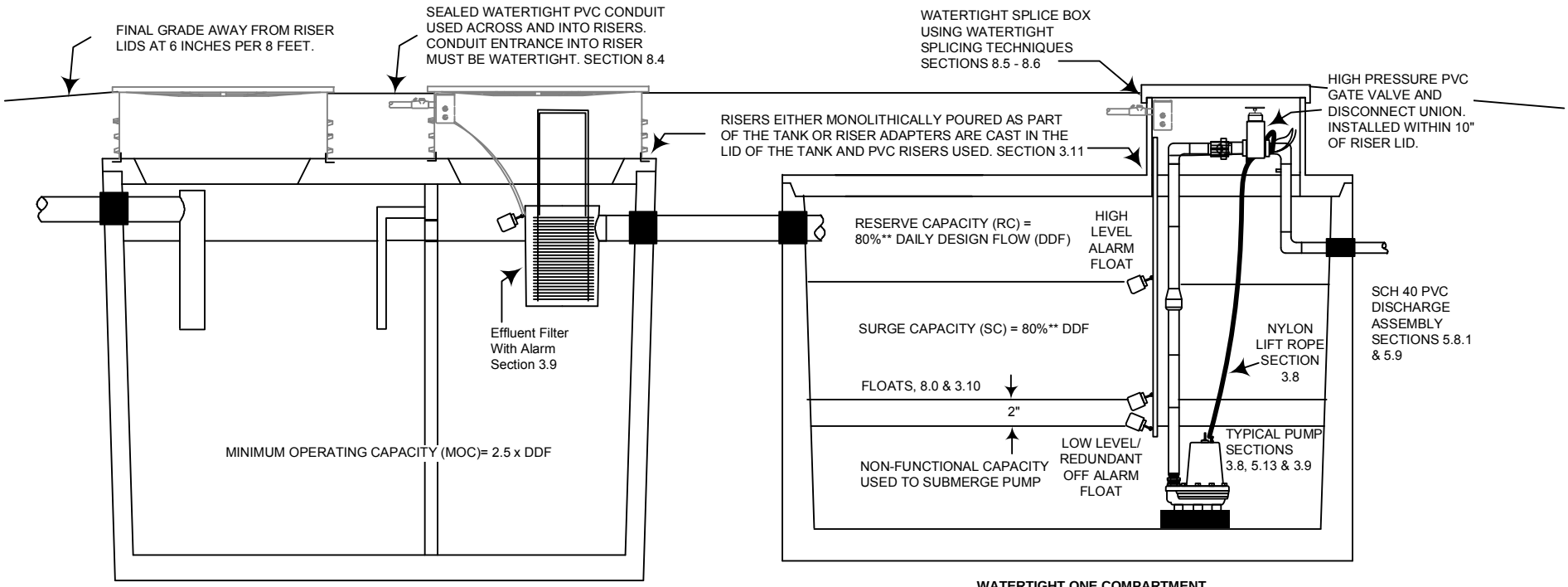
HAMILTON COUNTY GENERAL HEALTH DISTRICT Division of Water Quality			
PRIMARY TREATMENT TANKS			
Title: TIME DOSED SEPTIC TANK WITH SCREEN VAULT FILTER			
Drawn By: CMG	Date: 1/31/05	Revision #: 4.0	

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

Septic Tank And Dosing Tank Configuration

SECTION 3.0

ALL TANK INLETS AND OUTLETS SEALS ARE WATERTIGHT
AND MUST BE BOOT STYLE CONNECTORS OR COMPRESSION
SEALS WITH MATERIALS MEETING OR EXCEEDING ASTM C-923.
TANKS WILL BE WATER TESTED FOR WATERTIGHTNESS, SECTION 3.7



WATERTIGHT TWO COMPARTMENT INDIVIDUAL LIQUID LEVEL SEPTIC TANK SECTION 3.4.0

WATERTIGHT ONE COMPARTMENT DOSING TANK SECTION 3.4.0

** SURGE AND RESERVE VOLUMES MAY BE REDUCED BASED ON CRITERIA FOUND IN SECTION 3.4.4.

ALL TANKS MUST BE BEDDED ON, AND BACKFILLED WITH GRAVEL MEETING HEALTH DISTRICT APPROVED MANUFACTURERS SPECIFICATIONS.

Profile View

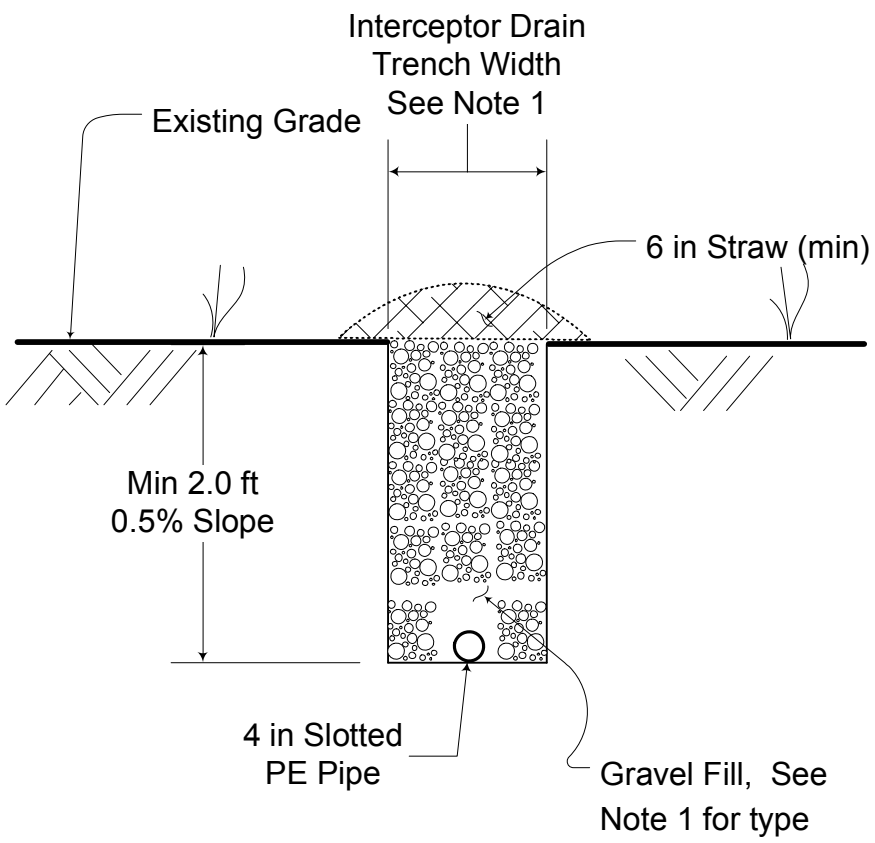
Not to Scale

HAMILTON COUNTY GENERAL HEALTH DISTRICT Division of Water Quality			
PRIMARY TREATMENT TANKS			
	Title: Septic Tank And Time Dosing Tank Configuration		
	Drawn By: CMG	Date: 1/31/05	Revision #: 2.0

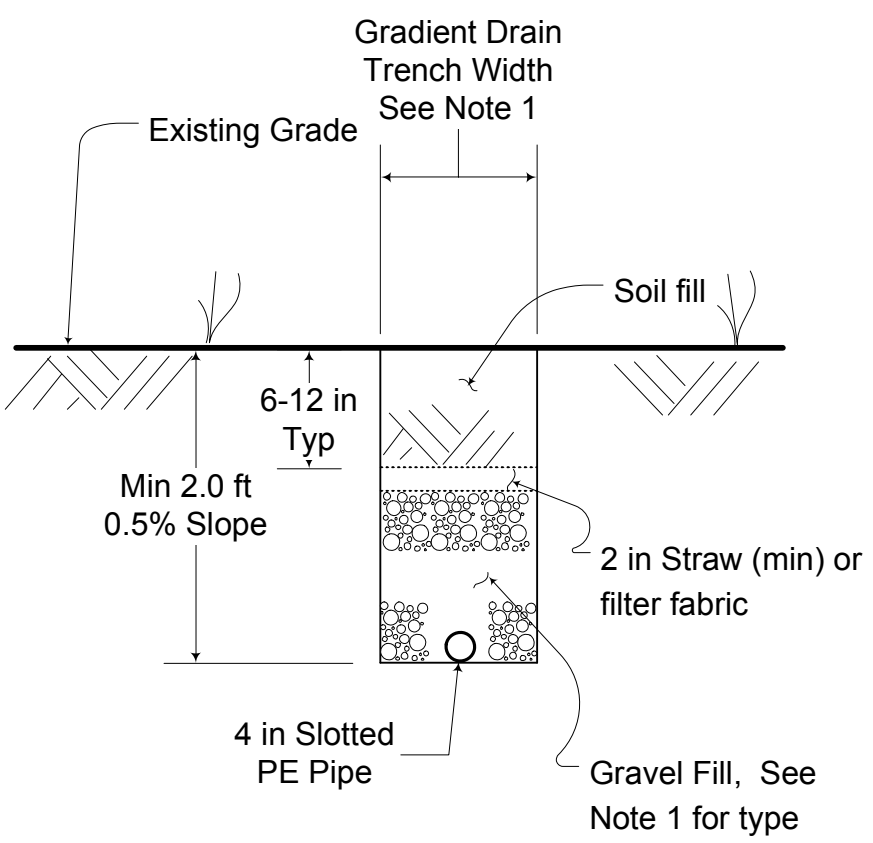
Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

Drainage Enhancement

Section 7.0

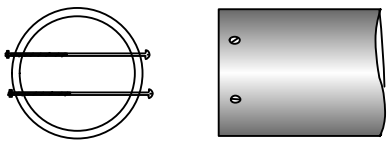


(See Section 7.6 for Interceptor Drain Collector Portion Specifications)



(See Section 7.2 for Gradient Drain Collector Portion Specifications)

1. The required aggregate backfill varies with the width of the excavated trench, See Section 7.2 and 7.6 for requirements. For aggregate specifications, See Section(s) 4.5, 4.6 or 4.7. If aggregate specified in Section 4.7 is used, then the requirements of Section 4.9 apply. This section requires special marking to allow for confirmation of pipe invert slope.
2. **Gravity Discharge Segment**- 4" pipe used dependent on the following:
   - ***Slope - >1/16" per ft.***
     -Corrugated or smooth interior solid walled pipe meeting ASTM F-405 and bedded in gravel**; or,**
     -Solid SDR 35 or SCH 40 properly backfilled.
   - ***Slope - <1/16" per ft***.
     -Solid SDR 35 or SCH 40 properly backfilled.
   - ***Areas with < 12" cover***.
     -SCH 40 PVC used regardless of slope.
   - ***Last 10' of Discharge Segment.***
     -SCH 40 PVC with animal guard.
3. A minimum of 3' separation to any pressure main, and 8' from any lateral or leaching trench must be maintained to a gradient drain. A minimum of 3' separation to any pressure main, and 5' from any lateral or leaching trench must be maintained to a interceptor drain.
4. If a pressure main must cross a drain collector segment as part of an approved plan, then the drain is hard piped across the pressure main to 5' on either side, and is backfilled with tamped dirt.



4" SCH 40 PVC With 1/4" Nuts
And Bolts (Corrosion Resistant)

ANIMAL GUARD DETAIL

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Drainage Enhancement

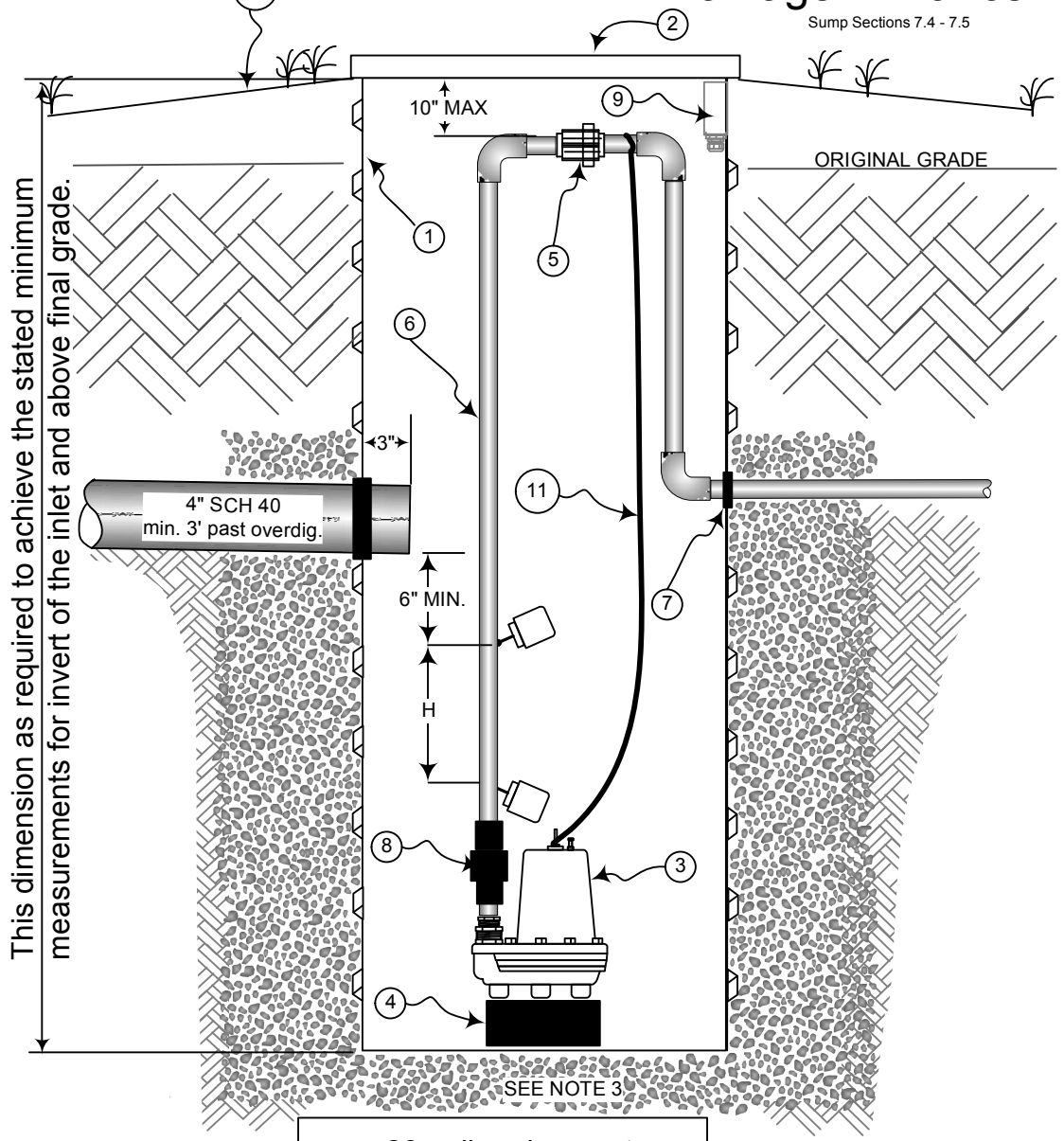
Title: **Interceptor and Gradient Drains**

Drawn By:	Date:	Revision #:
CMG	1/31/05	2.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

Drainage Enhancement

Sump Sections 7.4 - 7.5



#	DESCRIPTION
1	Gradient Drain Pump Vault - 18" Min. Road Drain Tile Or One Piece Manufactured Concrete Or Sealed Seam Unit.
2	Child Proof Cover - Heavy Concrete Lid Or 3/16" Hex/#3S Bolt Down Fiberglass / Plastic Lid.
3	Drainage Pump - Sized To Meet Inflow Volumes And Ability To Overcome Head Requirements.
4	6"(min.) Concrete Block
5	Glued Union Or Quick Disconnect
6	Min.1" - 1-1/2" SCH 40 PVC With Pressure Rated Fittings.
7	All Pipe Penetrations Are Sealed From Gravel And Dirt With Product Meant For This Intended Application.
8	Check Valve - Where Required By Pump Manufacturer or Installation Situation.
9	NEMA 4x Electrical Enclosure With Properly Fitted Cord Grips And Sealed Electrical Wire Inlet. Leave Enough Cord For Easy Removal Pump. Installed Above Original Grade.
10	Final Grade - Sloped Away From Sump Basin
11	Lifting Rope - Nylon Marine Grade

Notes:

1. The 'ON' Switch For The Pump Is To Be Min. Of 6" Below the Invert Of The Inlet Pipe.
2. Multiple Drain Tiles Are To Be Connected Together Outside Of The Sump. Only One Penetration Should Be Made Into The Basin.
3. If A Bottomless Sump Basin Is Used, Gravel Must Be Used To Line The Bottom Of The Vault.
4. Electrical Wiring And Connections To Be Made Per Local and National Electric Codes.

20 gallon dose net	
Sump Diameter	Distance H
24 Inch	10"-11"
21 Inch	13"-14"
20 Inch	15"-16"
18 Inch	18"-19"

Profile View

Not to Scale

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Drainage Enhancements

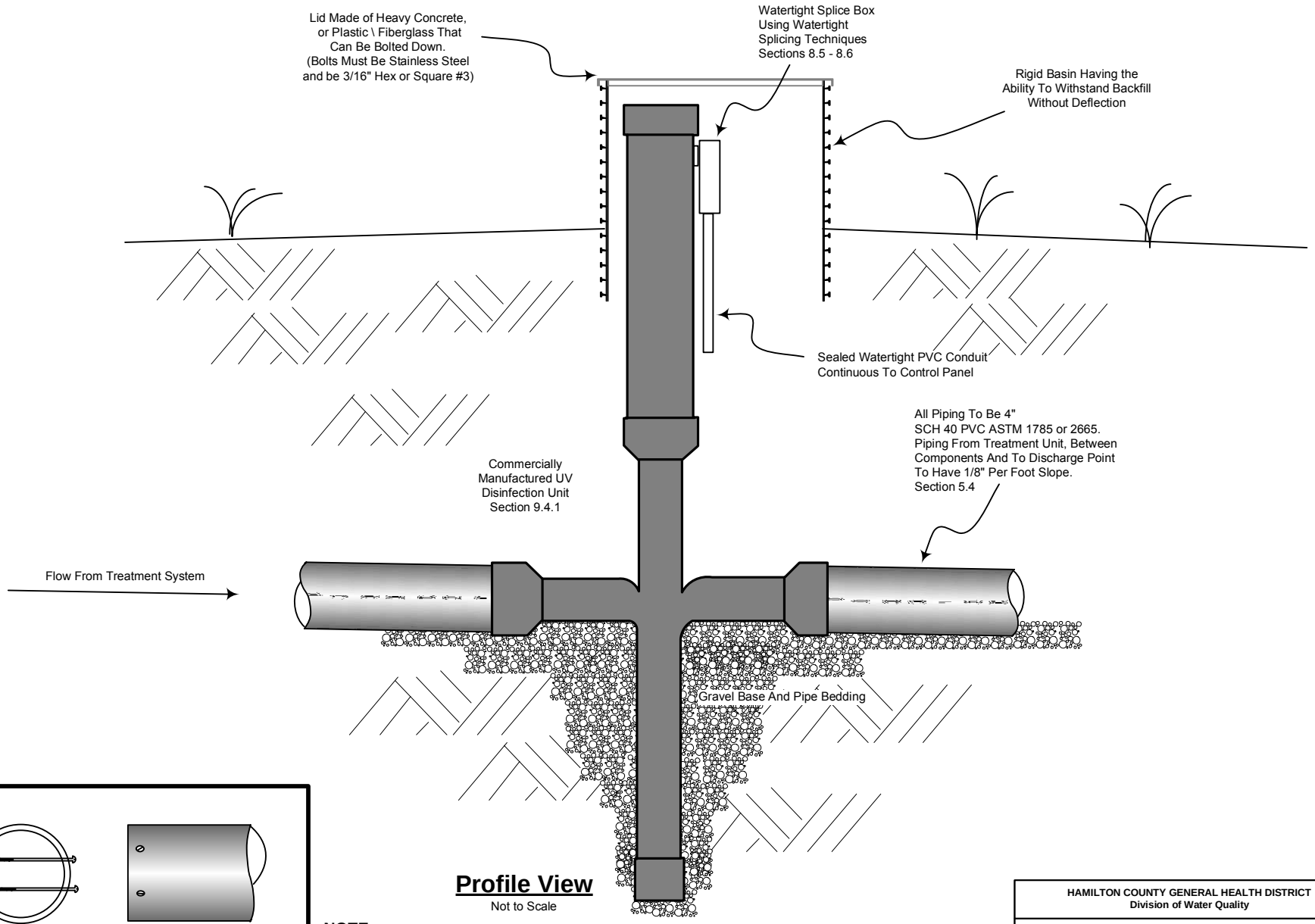
Title: **GRADIENT DRAIN SUMP**

Drawn By: CMG | Date: 1/31/05 | Revision #: 3.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

Ultraviolet Disinfection Device

Section 9.4.1



Profile View

Not to Scale

4" SCH 40 PVC With 1/4" Nuts And Bolts (Corrosion Resistant)

ANIMAL GUARD DETAIL

NOTE:

Disinfection Devices Must Be Tied Into The HSTS Control Panel. If Maintenance Is Needed The Controls Must Shut Down The Primary System Pump And Sound An Alarm. See Section 9.4. All Components Must Be Installed To Health District Approved Manufacturers Specifications. Additionally System Components and Piping Must Be Properly Bedded.

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Disinfection Device

Title:			
Ultraviolet Disinfection Device			
Drawn By: CMG	Date: 1/31/05	Revision #: 2.0	

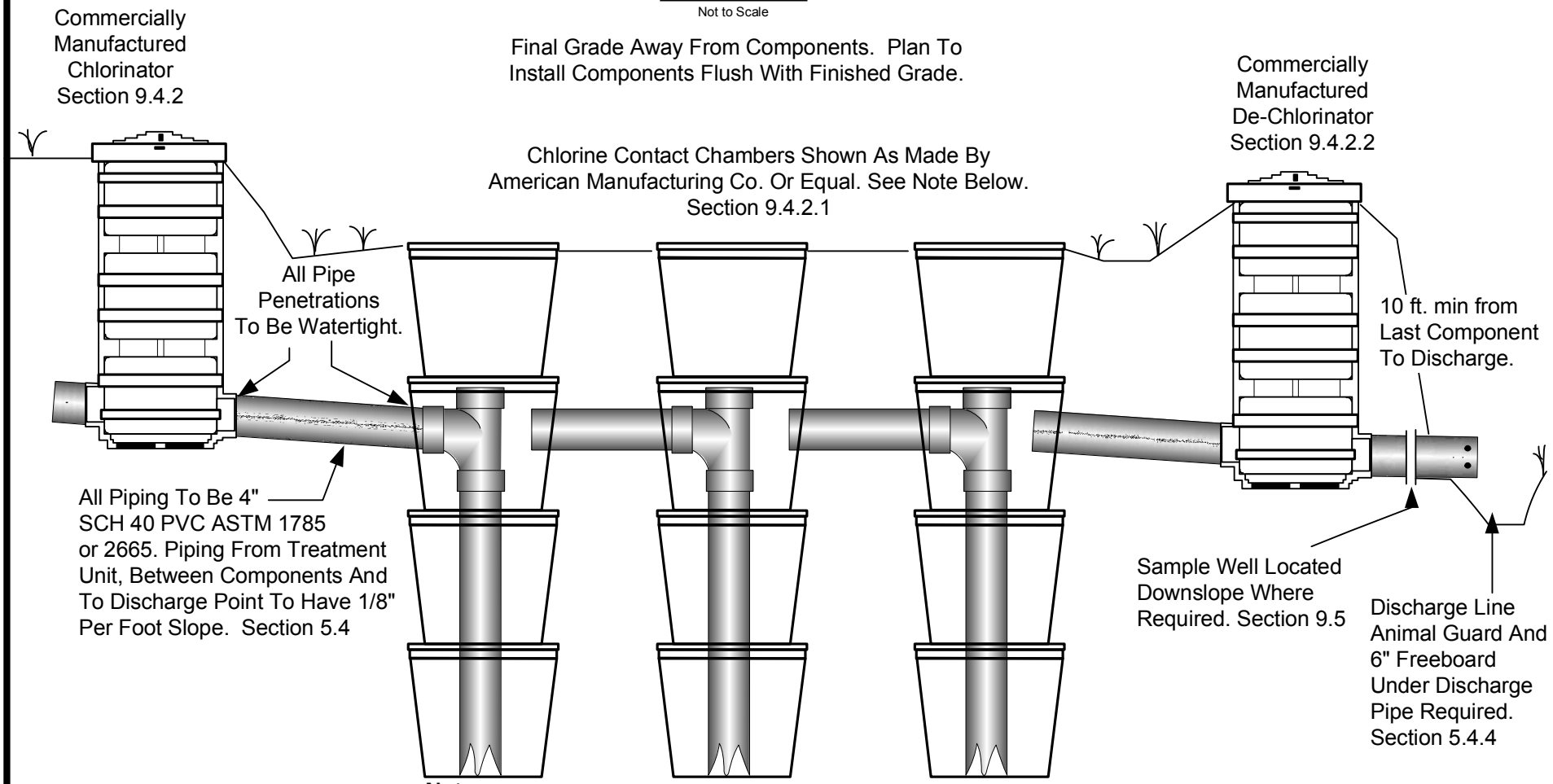
Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

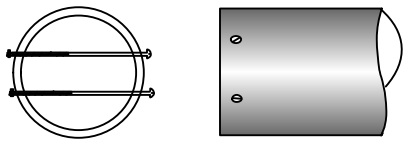
TYPICAL CHLORINATOR, CHLORINE CONTACT CHAMBER AND DECHLORINATOR

Section 9.4.2 - 9.4.2.2

Profile View

Not to Scale





4" SCH 40 PVC With 1/4" Nuts And Bolts (Corrosion Resistant)

ANIMAL GUARD DETAIL

Notes:

Contact Chamber May Be Replaced With One Made By The Installer Or Other Manufacturer. See Section 9.4.2.1 For Requirements. Disinfection Devices Must Be Tied Into The HSTS Control Panel. If Maintenance Is Needed The Controls Must Shut Down The Primary System Pump And Sound An Alarm. See Section 9.4

Chlorine Tablets To Be Calcium Hypochorite And Formulated For Residential Flow Rates. Dechlorination Tablets To Be Sodium Sulfite.

All Components Must Be Installed To Manufacturers Specifications. Additionally System Components and Piping Must Be Properly Bedded.

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

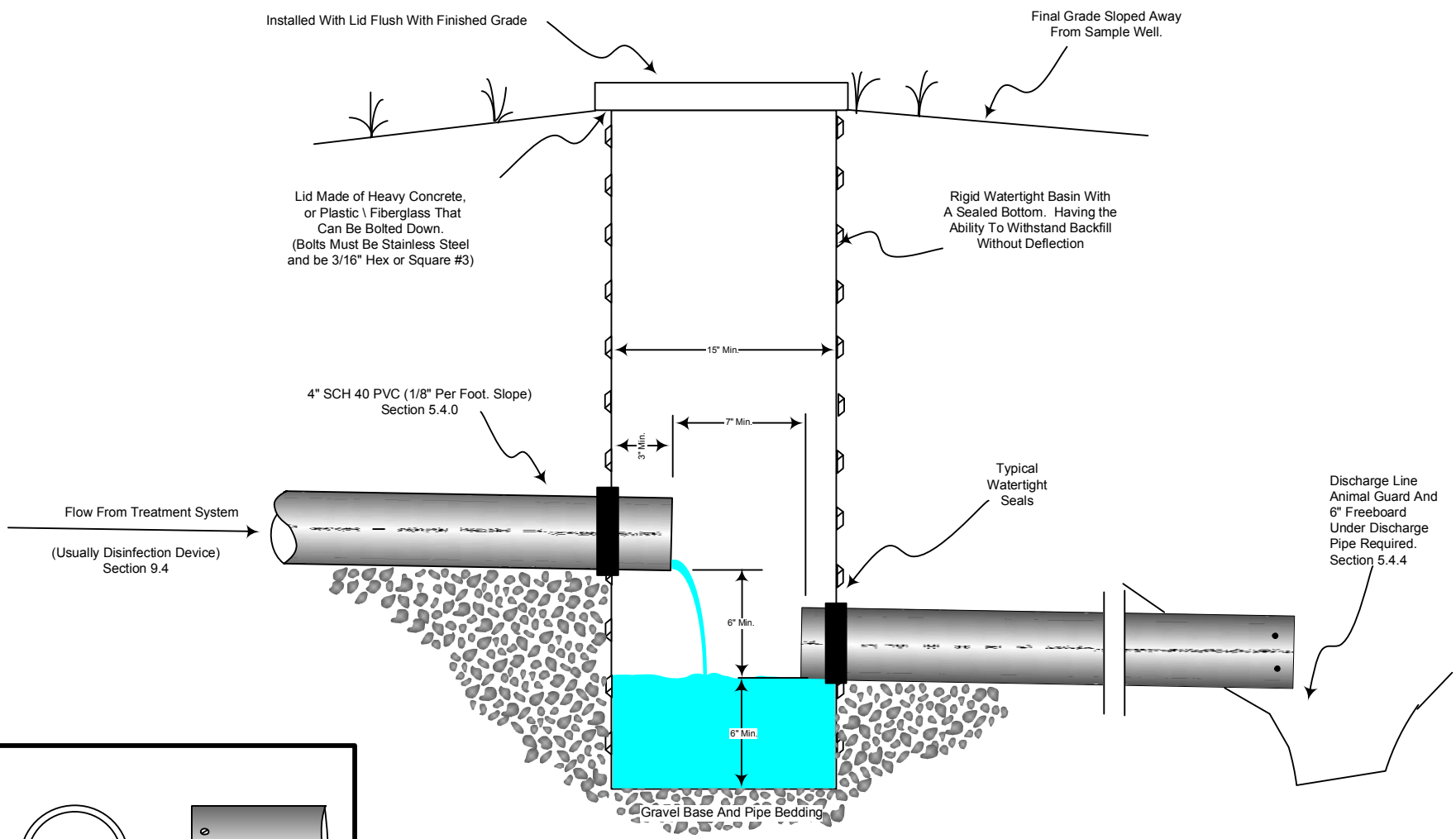
Disinfection Components

Title:	TYPICAL CHLORINATOR, CHLORINE CONTACT CHAMBER AND DECHLORINATOR	
Drawn By: CMG	Date: 1/31/05	Revision #: 4.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

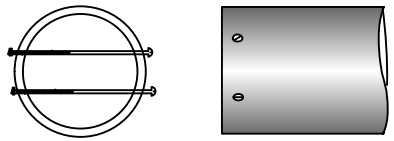
Typical Sample Well

Section 9.5



Profile View

Not to Scale



4" SCH 40 PVC With 1/4" Nuts And Bolts (Corrosion Resistant)

ANIMAL GUARD DETAIL

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Monitoring Devices

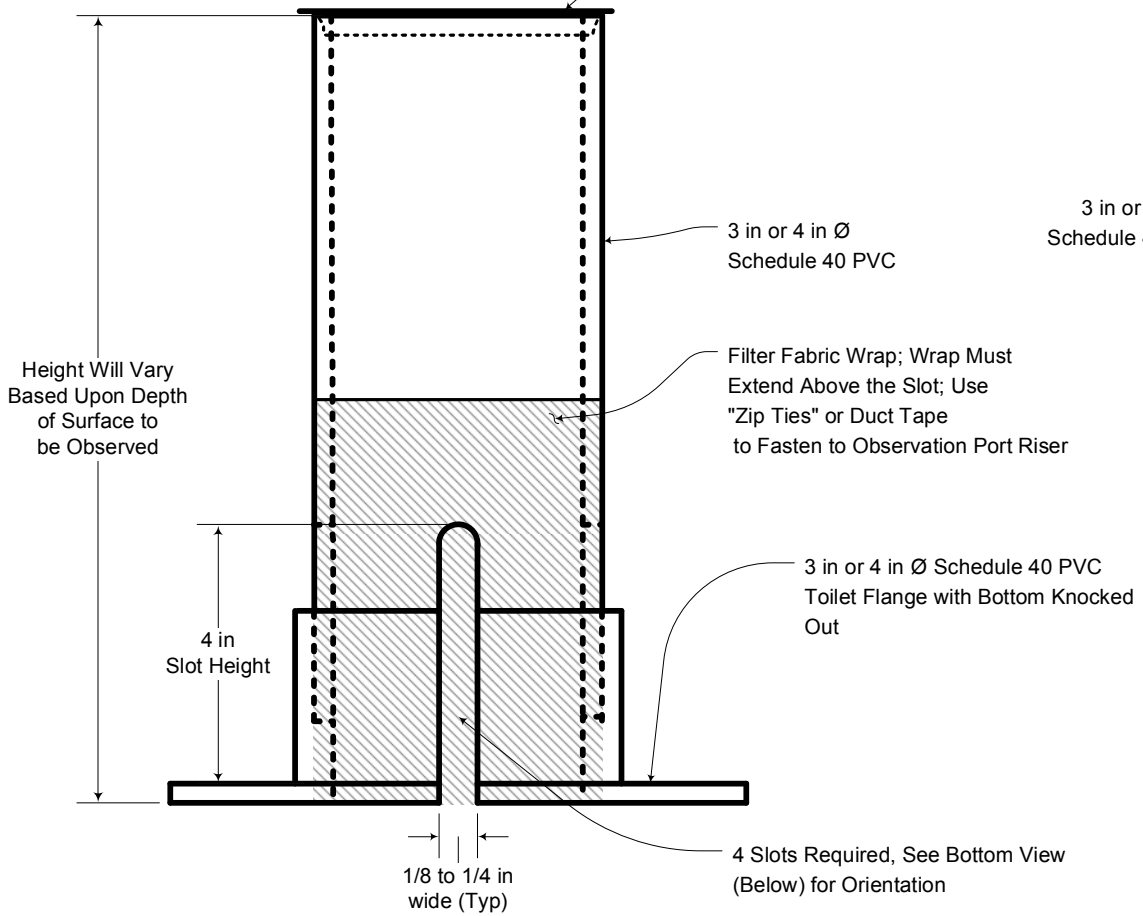
Title: **SAMPLE WELL**

Drawn By:	Date:	Revision #:
CMG	1/31/05	4.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

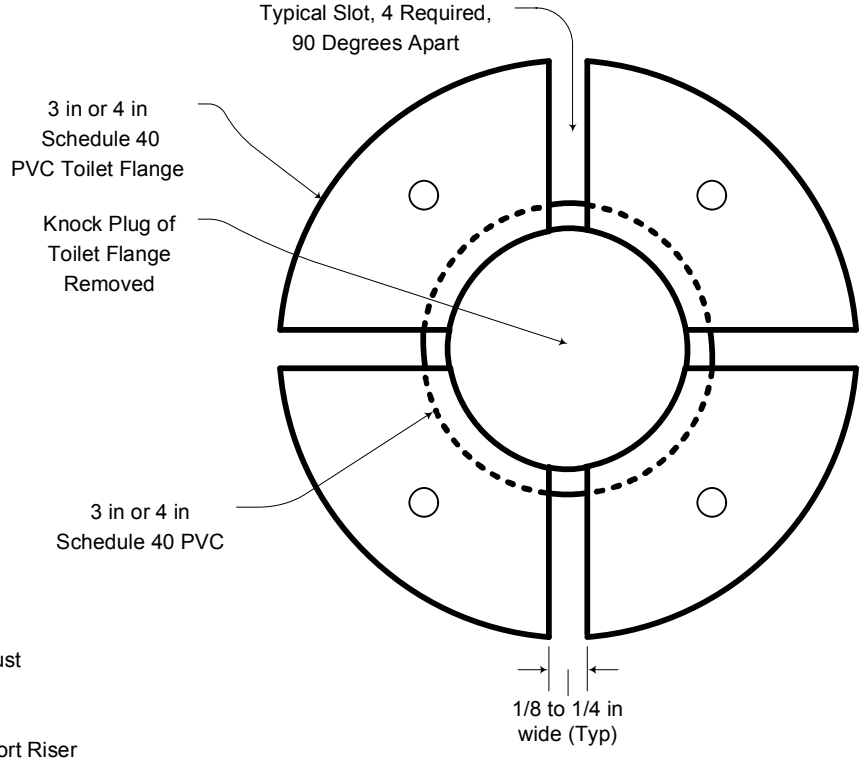
Observation Ports

Section 9.7



Elevation View

(No Scale)



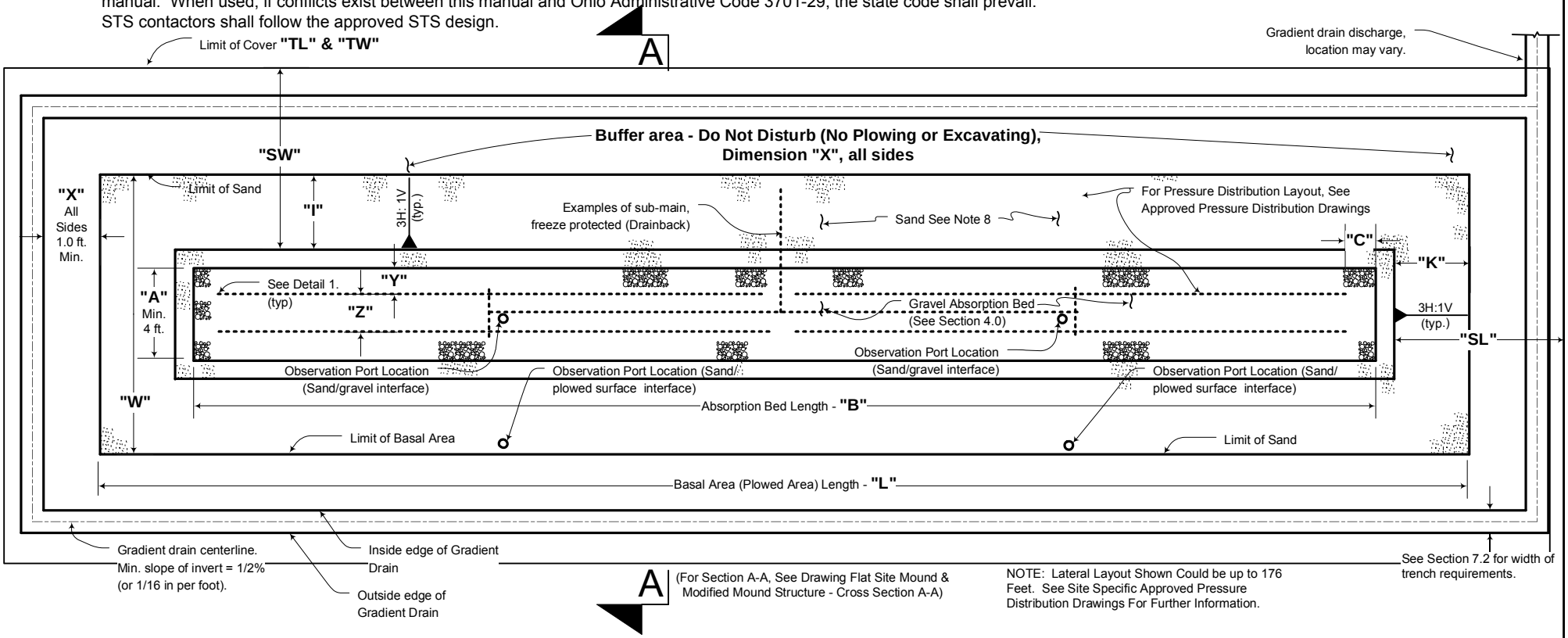
Bottom View

(No Scale)

Ø = Pipe Diameter

HAMILTON COUNTY GENERAL HEALTH DISTRICT Division of Water Quality			
Monitoring Devices			
	Title: **Observation Port**		
	Drawn By: CMG	Date: 1/31/05	Revision #: 2.0

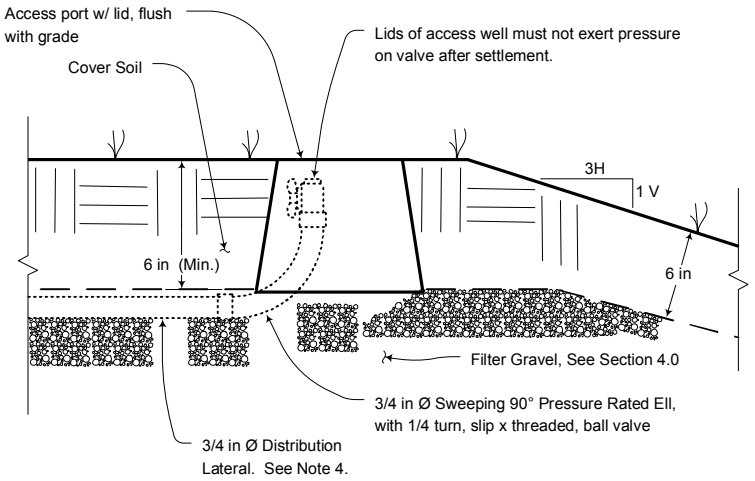
Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.



NOTE: Lateral Layout Shown Could be up to 176 Feet. See Site Specific Approved Pressure Distribution Drawings For Further Information.

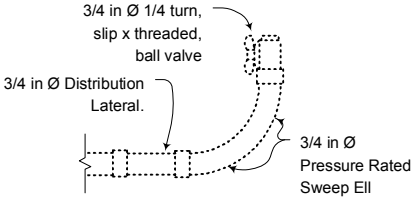
Flat Site Mound & Modified Mound Structure - General Plan

(No Scale)



Detail 1 - Lateral Cleanout

(No Scale)



Lateral Cleanout Setup

(No Scale)

Ø = Pipe Diameter

Notes:

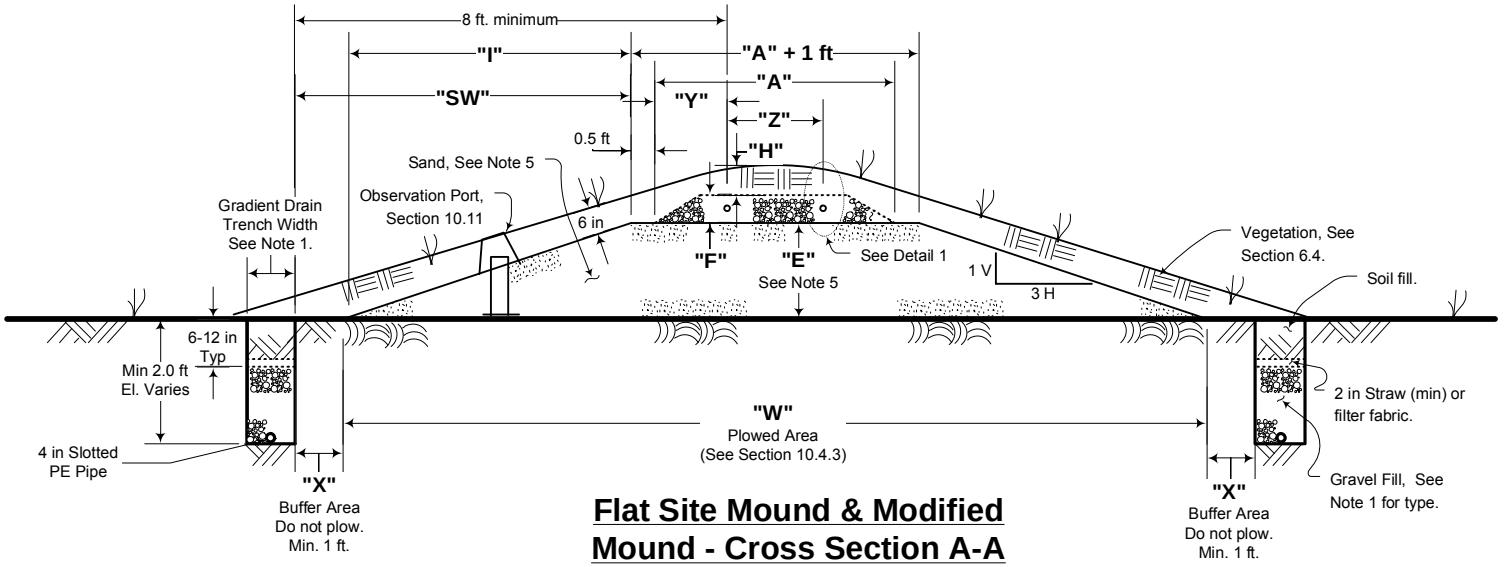
1) Observation ports to be located per Section 10.11.
2) See Approved Plan for dimensions of various mound components.
3) Buffer area to be protected. Compaction, excavation, or plowing in this area is NOT permitted.
4) Orifice spacing and orientation varies. See Approved Pressure Distribution Drawings for further information.
5) Sub-main(s) are to be sloped at a minimum of 1% (1/8 in per ft) to promote drainage back towards the force main after dosage completion.
6) Drains do not share a trench with pressure mains. Isolation distance is 3' minimum. If they must cross as part of an approved plan, then the drain is hard piped to 5' on either side of the pressure main and backfilled with tamped dirt. Interceptor drain maintains 5' from any distribution lateral. Curtain Drain maintains 8' from any distribution lateral. Both drain types maintain at least 12" from any basal area sand fill.
7) Sub-main(s) are to be sloped at a minimum of 1% (1/8 in per ft) to promote drainage back towards the force main after dosage completion.
8) Sand type complies with Section 4 (Table 4.2). Sand thickness is dependent on Approved Plan. Minimum sand thickness is based on the highest elevations found under the gravel area. Top of sand area is to be level.

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Flat Site Mound & Modified Mound Structure - General Plan

Drawn By:	Date:	Revision #:
CMG	1/31/05	3.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.



(See Section 7.2 for Gradient Drain - Collector Portion specifications)

Flat Site Mound & Modified Mound - Cross Section A-A

(No Scale)

Notes:

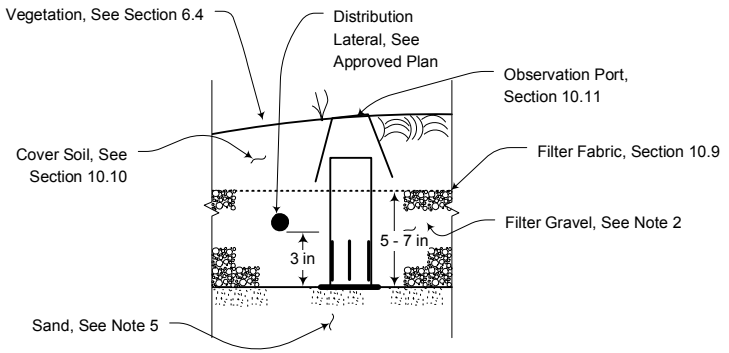
1) The required aggregate backfill varies with the width of the excavated trench, See Section 7.2 for requirements. For aggregate specifications, See Section(s) 4.5, 4.6 or 4.7. If aggregate specified in Section 4.7 is used, then the requirements of Section 4.9 apply. This section requires special marking to allow for confirmation of pipe invert slope.

2) The specified aggregate(s) in this component are summarized in Table 4.1. See Sections 4.5, 4.6 or 4.7 for individual aggregate type specifications.

3) The sub-mains and force main must be sloped to allow drainback to the point where two (2) feet of cover over the mains is maintained. The minimum slope of the force main and sub-mains for drainback is 1% (1/8 inch per foot). The mains must not penetrate the basal area.

4) The thickness of gravel above the lateral depends upon the orientation of the orifices. If the orifices are required to be at the 6 O'Clock position (Down), the laterals are to be installed flat. The gravel thickness is to be such that the distribution lateral is covered, but no more than 1 inch below the surface of the gravel. If the orifices are required to be at the 12 O'Clock position (Up), the laterals are to be installed at a minimum slope of 0.83% (1 in per 10 ft) sloping back (draining back) to the manifold. The thickness of gravel over the top of the lateral will vary, but the minimum thickness below the manifold (lowest point) is 3 inches.

5) Sand type complies with Section 4 (Table 4.2). Sand thickness is dependent on Approved Plan. Minimum sand thickness is based on the highest elevations found under the gravel area. Top of sand area is to be level.

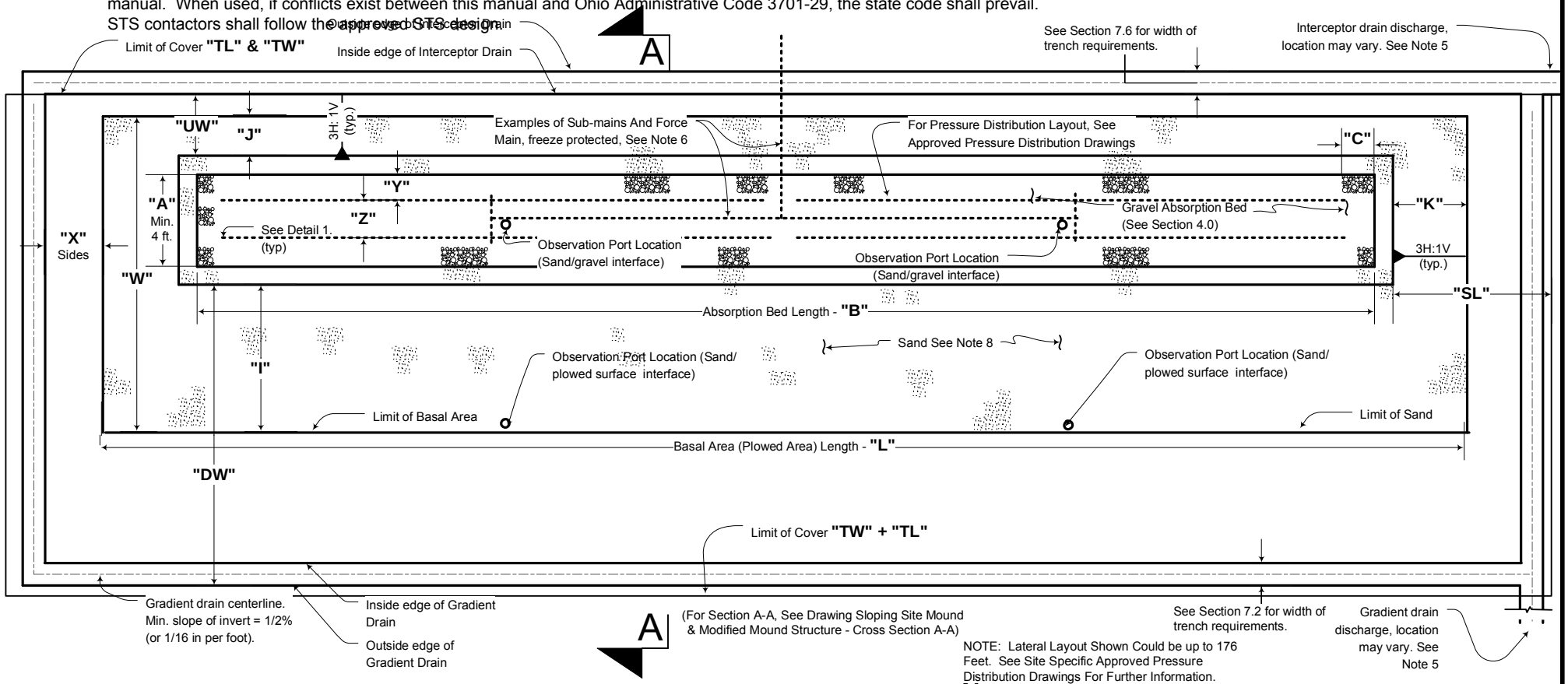


Detail 1

(No Scale)

HAMILTON COUNTY GENERAL HEALTH DISTRICT Division of Water Quality			
Flat Site Mound & Modified Mound - Cross Section A-A			
	Drawn By: CMG	Date: 1/31/05	Revision #: 2.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.



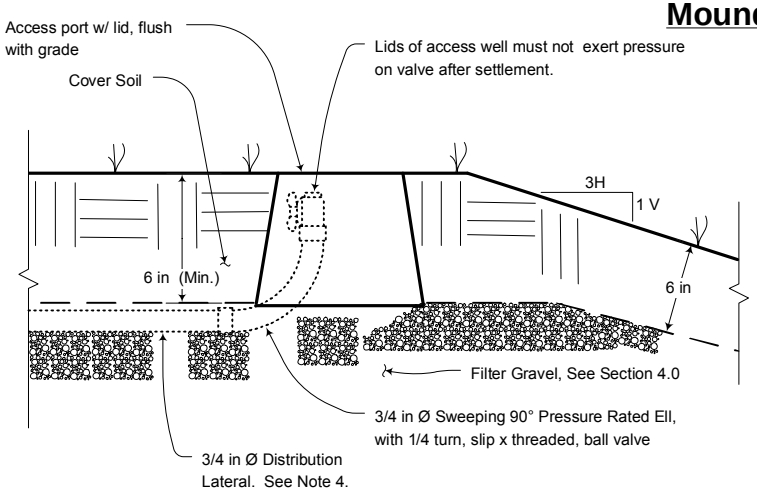
NOTE: Lateral Layout Shown Could be up to 176 Feet. See Site Specific Approved Pressure Distribution Drawings For Further Information.

Sloping Site Mound & Modified Mound Structure - General Plan

(No Scale)

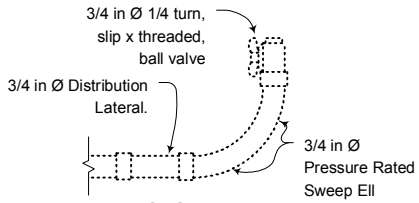
Notes:

1) Observation ports to be located per Section 10.11.
2) See Approved Plan for dimensions of various mound components.
3) Buffer area to be protected. Compaction, excavation, or plowing in this area is NOT permitted.
4) Orifice spacing and orientation varies. See Approved Pressure Distribution Drawings for further information.
5) Interceptor Drain and Gradient Drain **Do Not** share a common discharge line without a sample well on each.
6) Drains do not share a trench with pressure mains. Isolation distance is 3' minimum. If they must cross as part of an approved plan, then the drain is hard piped to 5' on either side of the pressure main and backfilled with tamped dirt. Interceptor drain maintains 5' from any distribution lateral. Curtain Drain maintains 8' from any distribution lateral. Both drain types maintain at least 12" from any basal area sand fill.
7) Sub-main(s) are to be sloped at a minimum of 1% (1/8 in per ft) to promote drainage back towards the force main after dosage completion.
8) Sand type complies with Section 4 (Table 4.2). Sand thickness is dependent on Approved Plan. Minimum sand thickness is based on the highest elevations found under the gravel area. Top of sand area is to be level.



Detail 1 - Lateral Cleanout

(No Scale)



Lateral Cleanout Setup

(No Scale)

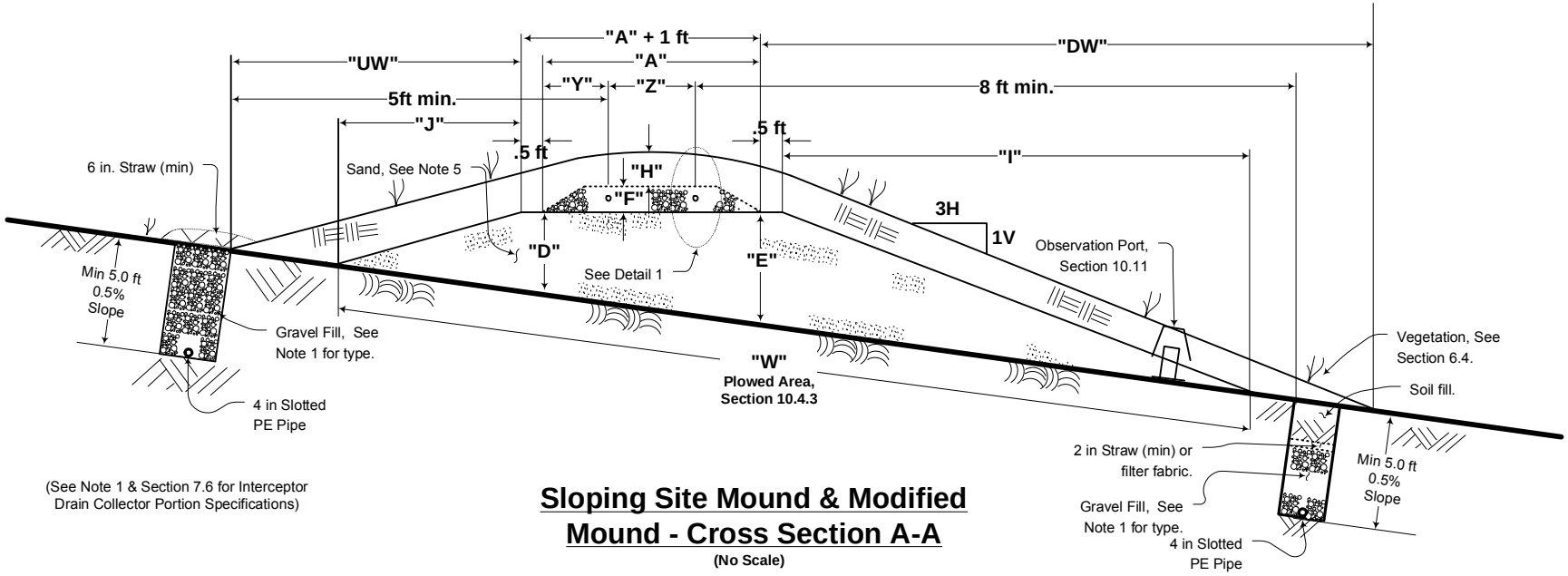
Ø = Pipe Diameter

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Sloping Site Mound & Modified Mound Structure - General Plan

Drawn By:	Date:	Revision #:
CMG	1/31/05	3.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.



(See Note 1 & Section 7.6 for Interceptor Drain Collector Portion Specifications)

(See Note 1 & Section 7.2 for Gradient Drain Collector Portion Specifications)

Sloping Site Mound & Modified Mound - Cross Section A-A

(No Scale)

Notes:

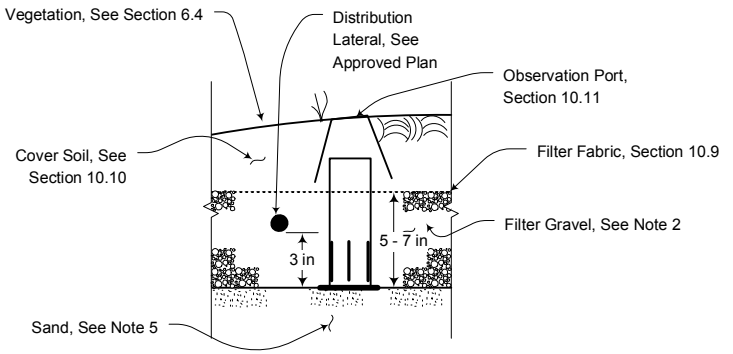
1) The required aggregate backfill varies with the width of the excavated trench, See Section 7.2 & 7.6 for requirements. For aggregate specifications, See Section(s) 4.5, 4.6 or 4.7. If aggregate specified in Section 4.7 is used, then the requirements of Section 4.9 apply. This section requires special marking to allow for confirmation of pipe invert slope.

2) The specified aggregate(s) in this component are summarized in Table 4.1. See Sections 4.5, 4.6 or 4.7 for individual aggregate type specifications.

3) The sub-mains and force main must be sloped to allow drainback to the point where two (2) feet of cover over the mains is maintained. The minimum slope of the force main and sub-mains for drainback is 1% (1/8 inch per foot). The mains must not penetrate the basal area.

4) The thickness of gravel above the lateral depends upon the orientation of the orifices. If the orifices are required to be at the 6 O'Clock position (Down), the laterals are to be installed flat. The gravel thickness is to be such that the distribution lateral is covered, but no more than 1 inch below the surface of the gravel. If the orifices are required to be at the 12 O'Clock position (Up), the laterals are to be installed at a minimum slope of 0.83% (1 in per 10 ft) sloping back (draining back) to the manifold. The thickness of gravel over the top of the lateral will vary, but the minimum thickness below the manifold (lowest point) is 3 inches.

5) Sand type complies with Section 4 (Table 4.2). Sand thickness is dependent on Approved Plan. Minimum sand thickness is based on the highest elevations found under the gravel area. Top of sand area is to be level.



Detail 1

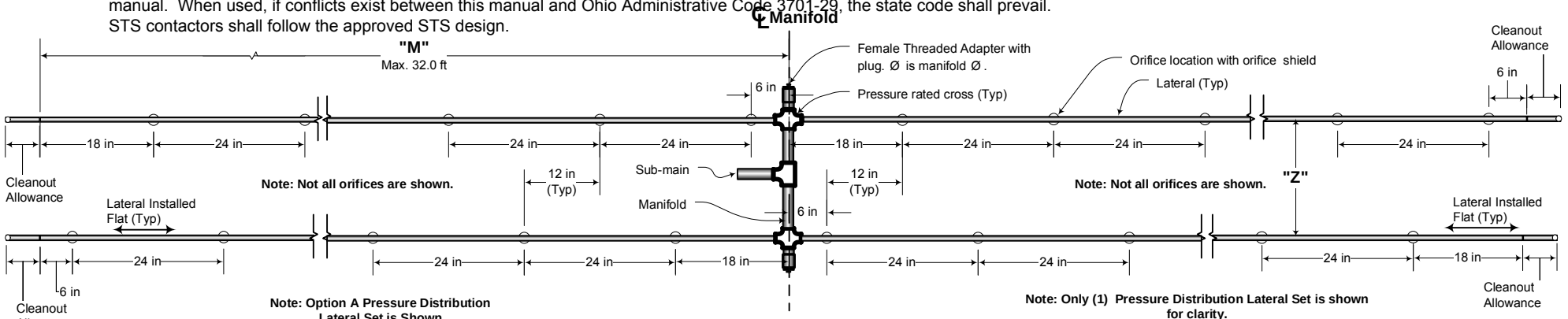
(No Scale)

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Sloping Site Mound & Modified Mound - Cross Section A-A

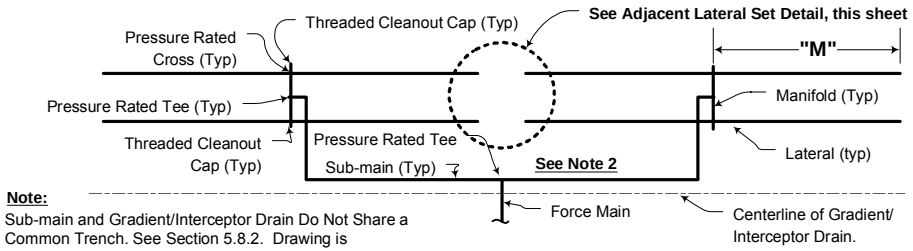
Drawn By:	Date:	Revision #:
CMG	1/31/05	2.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.



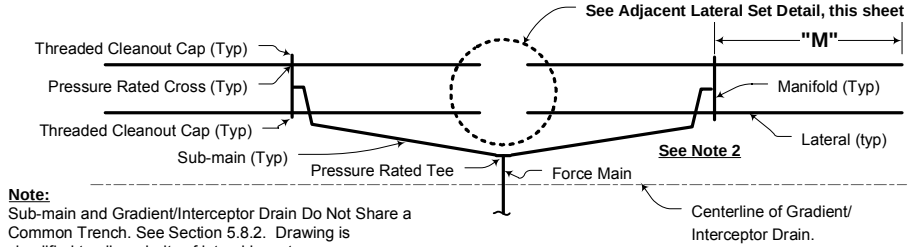
Typical Lateral Set Layout

(No Scale)



Note:
Sub-main and Gradient/Interceptor Drain Do Not Share a Common Trench. See Section 5.8.2. Drawing is simplified to allow clarity of lateral layout.

Pressure Distribution Layout - Option A

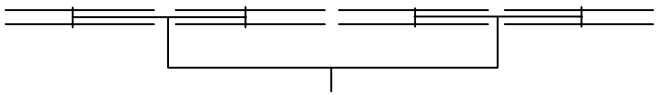


Note:
Sub-main and Gradient/Interceptor Drain Do Not Share a Common Trench. See Section 5.8.2. Drawing is simplified to allow clarity of lateral layout.

Pressure Distribution Layout - Option B

Lateral Layout Options

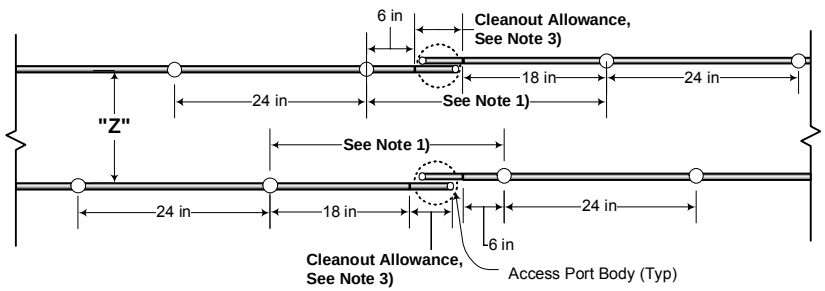
(No Scale)



Layout Used For Systems Up To 256 Ft Long

Notes:

1) This dimension may vary, but can be no less than 24 in. (Same as orifice center to center spacing)
2) The sub-main and force main must be sloped to allow drainage of pipe sections with less than 2 feet of cover. The minimum slope for drainback is 1% (1/8 in per ft).
3) Laterals may overlap or abut in these location. Ball valves on both laterals may be within a common access port. Conditions of Note 1) apply.
4) Refer to the approved plan set to determine exact lateral layout. Information given here is for reference only.
5) Laterals are 3/4" SCH 40 PVC and laid level within gravel with lateral clean outs slightly elevated and well supported.
6) Orifices are 1/8" and drilled on a press with a "Dreamer" bit. Burred or improperly sized orifices will result in disapproval.
7) Orifice orientation is in the 6 o'clock position.
8) Sub-mains must be installed at the same elevation as other sub-mains within the system. Additionally, equal amount of drainback should result. See Section 5.0, Piping.



Adjacent Lateral Set Layout

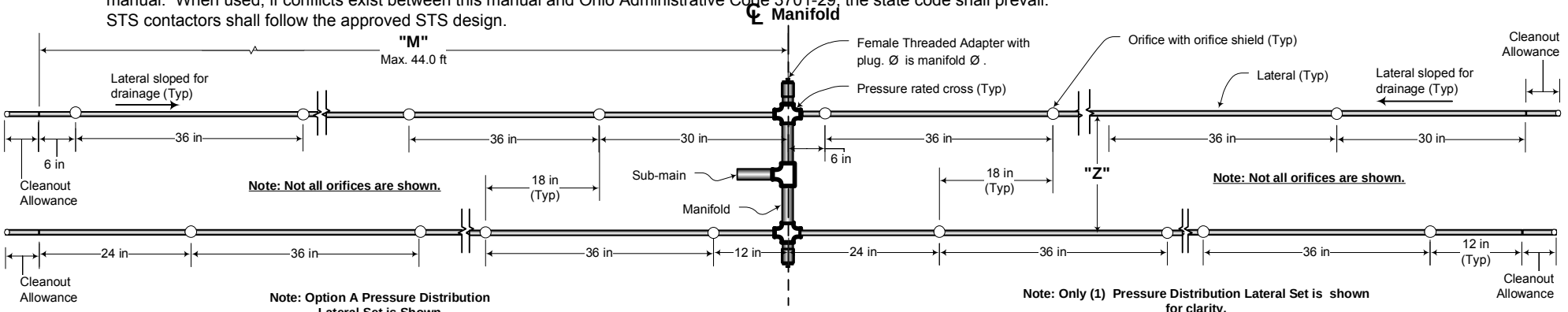
(No Scale)

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Mound & Modified Structure Pressure Distribution Network Detail (Two Foot Orifice Spacings)

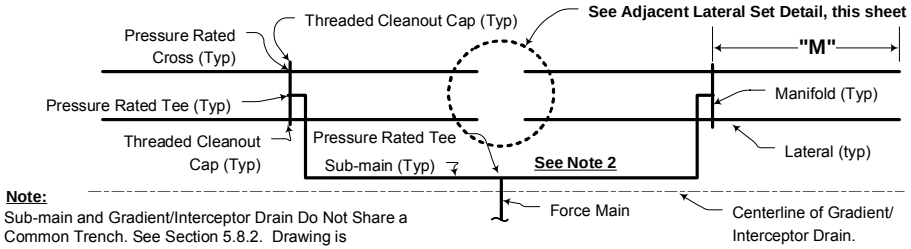
Drawn By:	Date:	Revision #:
CMG	1/31/05	3.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.



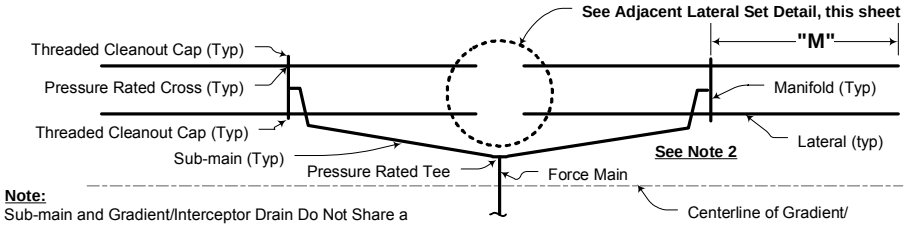
Typical Lateral Set Layout

(No Scale)



Note:
Sub-main and Gradient/Interceptor Drain Do Not Share a Common Trench. See Section 5.8.2. Drawing is simplified to allow clarity of lateral layout.

Pressure Distribution Layout - Option A

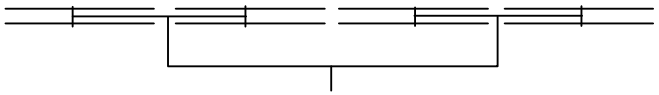


Note:
Sub-main and Gradient/Interceptor Drain Do Not Share a Common Trench. See Section 5.8.2. Drawing is simplified to allow clarity of lateral layout.

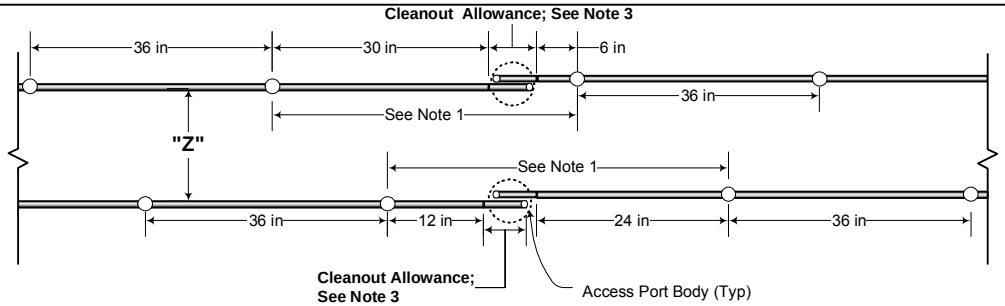
Pressure Distribution Layout - Option B

Lateral Layout Options

(No Scale)



Layout Used For Systems Up To 352 Ft Long



Adjacent Lateral Set Layout

(No Scale)

Notes:

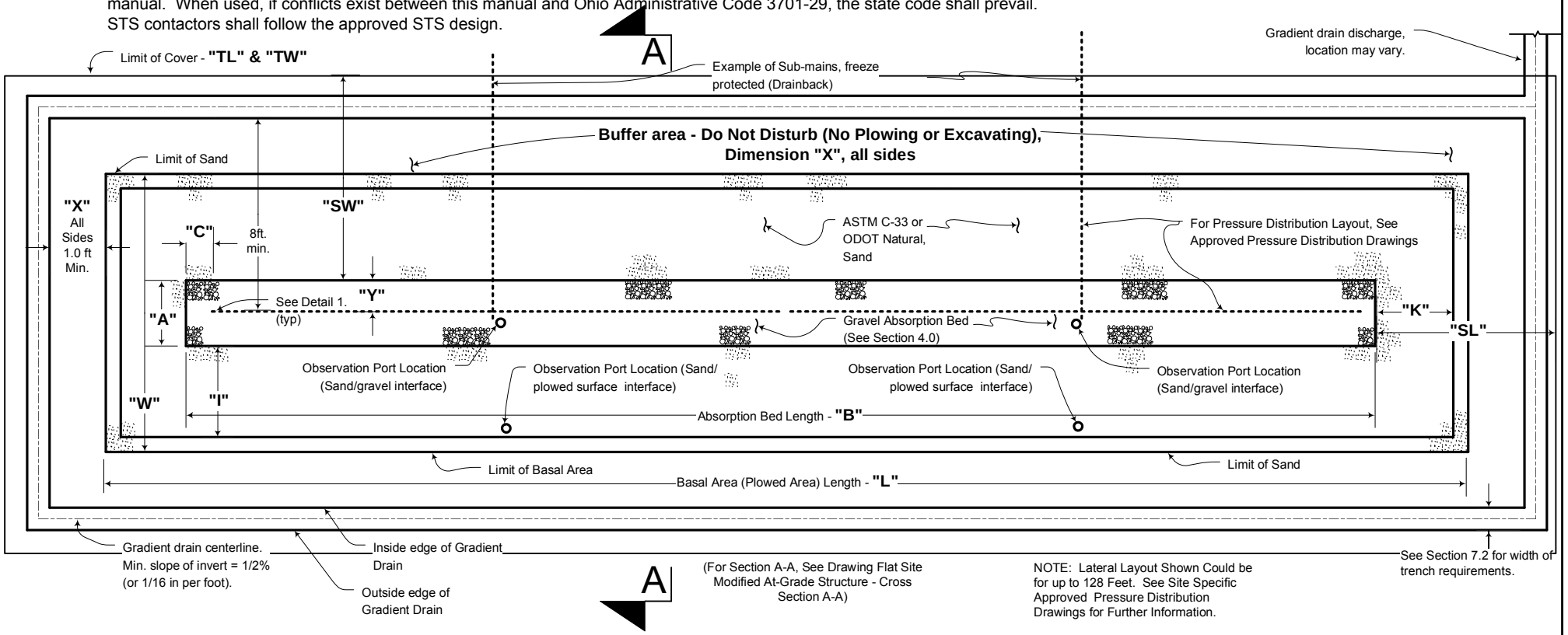
1) This dimension may vary, but can be no less than 36 in. (Same as orifice center to center spacing)
2) The sub-main and force main must be sloped to allow drainage of pipe sections with less than 2 feet of cover. The minimum slope for drainback is 1% (1/8 in per ft).
3) Laterals may overlap or abut in these location. Ball valves on both laterals may be within a common access port. Conditions of Note 1) apply.
4) Refer to the approved plan set to determine exact lateral layout. Information given here is for reference only.
5) Laterals are 3/4" SCH 40 PVC and sloped a minimum of 1in. in 10ft. (0.83%) back to the manifold. Laterals and clean outs are firmly bedded in compacted aggregate.
6) Orifices are 1/8" and drilled on a press with a "Dreamer" bit. Burred or improperly sized orifices will result in disapproval.
7) Orifice orientation is in the 12 o'clock position (up).
8) Sub-mains must be installed at the same elevation as other sub-mains within the system. Additionally, equal amount of drainback should result. See Section 5.0, Piping.

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Mound & Modified Structure Pressure Distribution Network Detail (Three Foot Orifice Spacings)

Drawn By:	Date:	Revision #:
CMG	1/31/05	3.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.



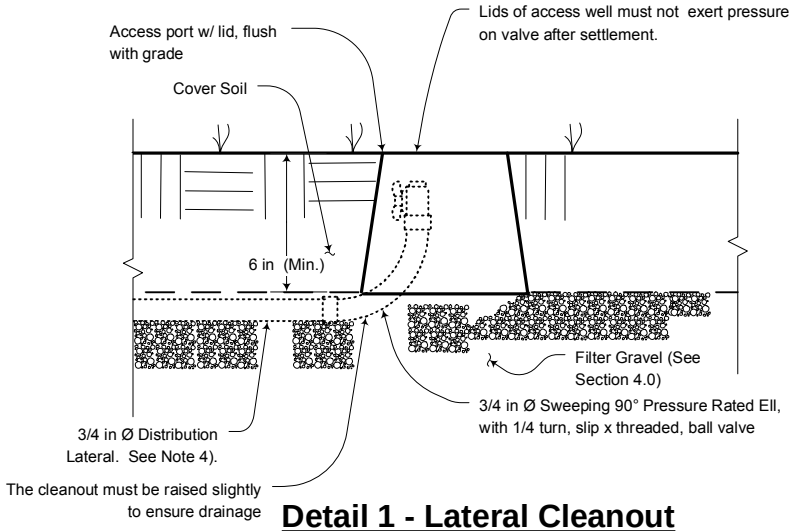
A

(For Section A-A, See Drawing Flat Site Modified At-Grade Structure - Cross Section A-A)

NOTE: Lateral Layout Shown Could be for up to 128 Feet. See Site Specific Approved Pressure Distribution Drawings for Further Information.

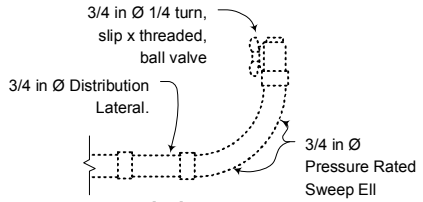
Flat Site Modified At-Grade Structure - General Plan

(No Scale)



Detail 1 - Lateral Cleanout

(No Scale)



Lateral Cleanout Setup

(No Scale)

Ø = Pipe Diameter

Notes:

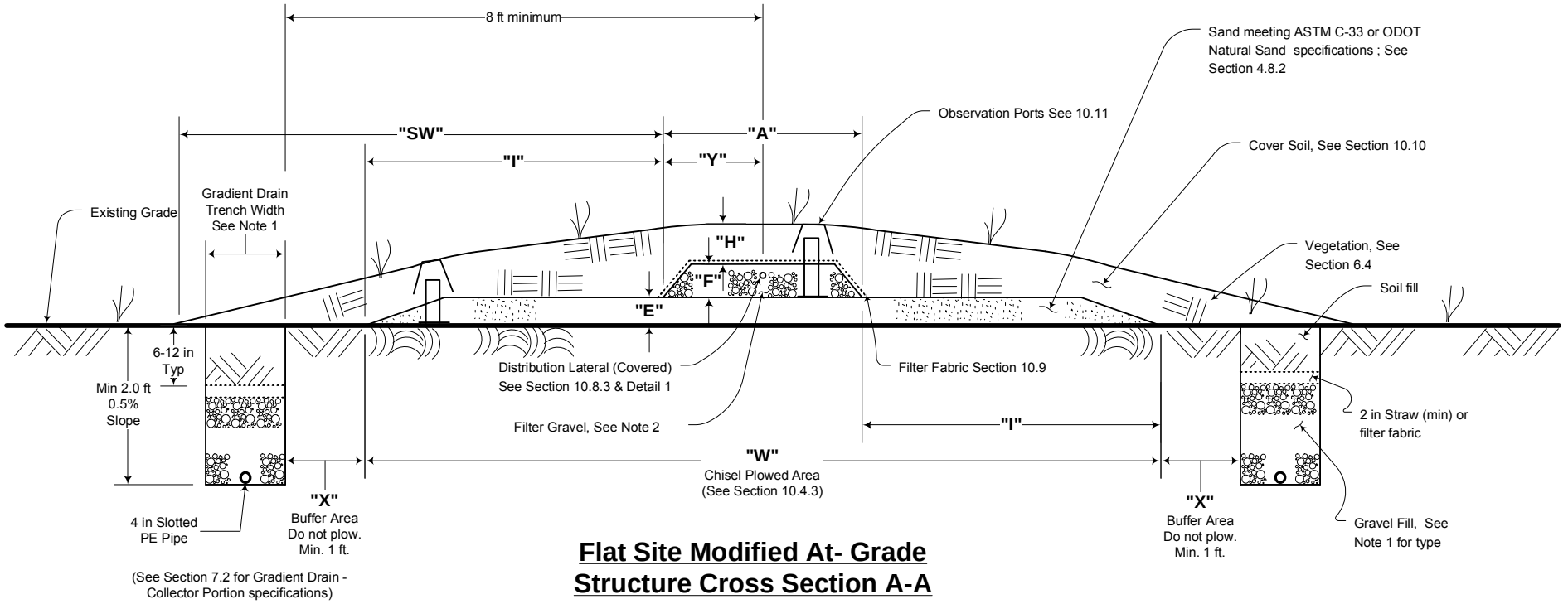
1) Observation ports to be located per Section 10.11.
2) See Approved Plan for dimensions of various mound components.
3) Buffer area to be protected. Compaction, excavation, or plowing in this area is NOT permitted.
4) Orifices are set at the 6 O'Clock position (down). See the Approved Plan for the pressure distribution layout detail.
5) Interceptor Drain and Gradient Drain Do Not share a common discharge line without a sample well on each.
6) Drains do not share a trench with pressure mains. Isolation distance is 3' minimum. If they must cross as part of an approved plan, then the drain is hard piped to 5' on either side of the pressure main and backfilled with tamped dirt. Interceptor drain maintains 5' from any distribution lateral. Curtain Drain maintains 8' from any distribution lateral. Both drain types maintain at least 12" from any basal area sand fill.

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Flat Site Modified At-Grade Structure General Detail.

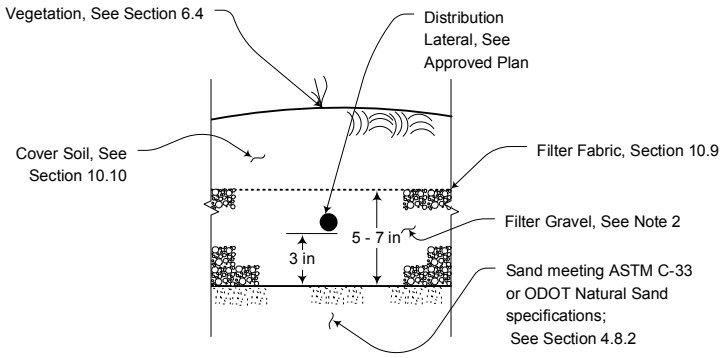
Drawn By:	Date:	Revision #:
CMG	1/31/05	3.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.



Flat Site Modified At- Grade Structure Cross Section A-A

(No Scale)



Detail 1

(No Scale)

Notes:

1) The required aggregate backfill varies with the width of the excavated trench, See Section 7.2 for requirements. For aggregate specifications, See Section(s) 4.5, 4.6 or 4.7. If aggregate specified in Section 4.7 is used, then the requirements of Section 4.9 apply. This section requires special marking to allow for confirmation of pipe invert slope.

2) The specified aggregate(s) in this component are summarized in Table 4.1. See Sections 4.5, 4.6 or 4.7 for individual aggregate type specifications.

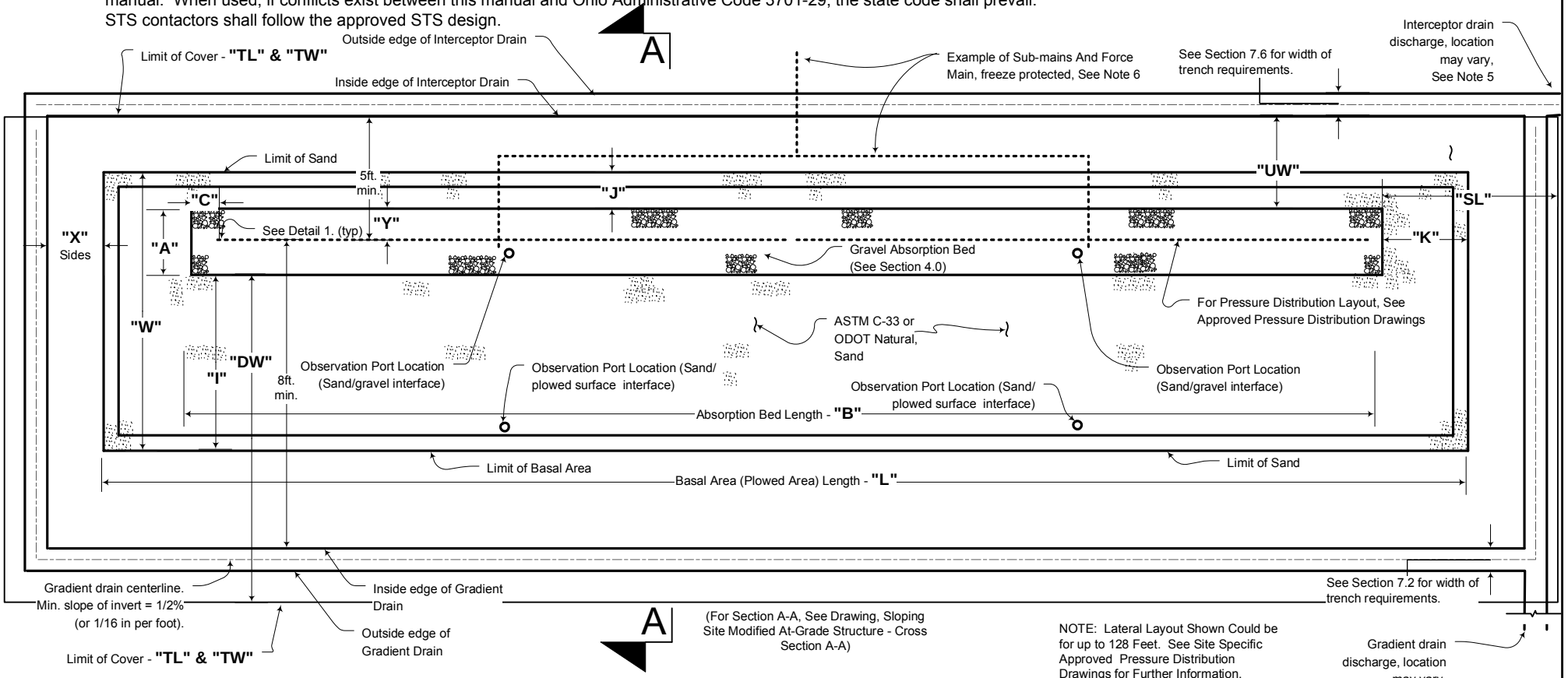
3) The Sub-main and force main must be sloped to allow drainback to the point where two (2) feet of cover over the mains is maintained. The minimum slope for this drainback is 1% (1/8 in per ft). The mains must not penetrate the basal area.

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Flat Site Modified At-Grade Structure Cross Section A-A

Drawn By:	Date:	Revision #:
CMG	1/31/05	2.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.



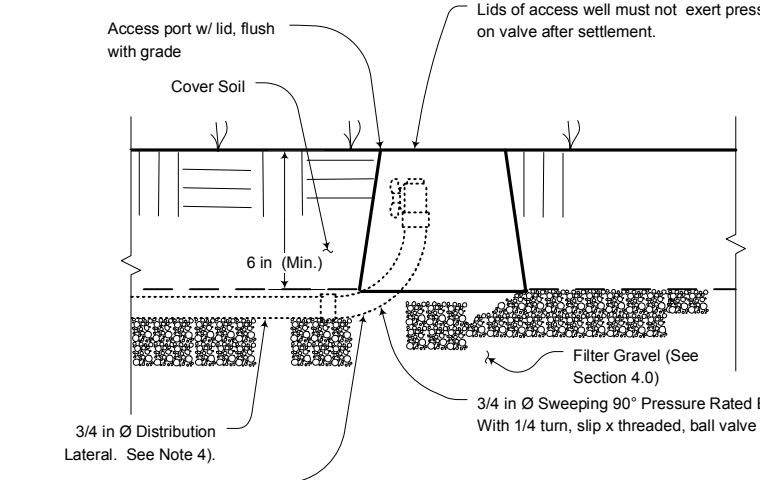
(For Section A-A, See Drawing, Sloping Site Modified At-Grade Structure - Cross Section A-A)

NOTE: Lateral Layout Shown Could be for up to 128 Feet. See Site Specific Approved Pressure Distribution Drawings for Further Information.

Gradient drain discharge, location may vary, See Note 5

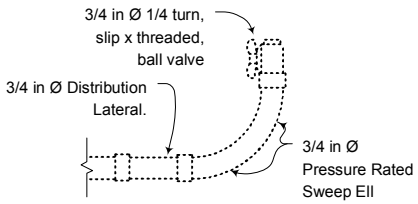
Sloping Site Modified At-Grade Structure - General Plan

(No Scale)



Detail 1 - Lateral Cleanout

(No Scale)



Lateral Cleanout Setup

(No Scale)

Ø = Pipe Diameter

Notes:

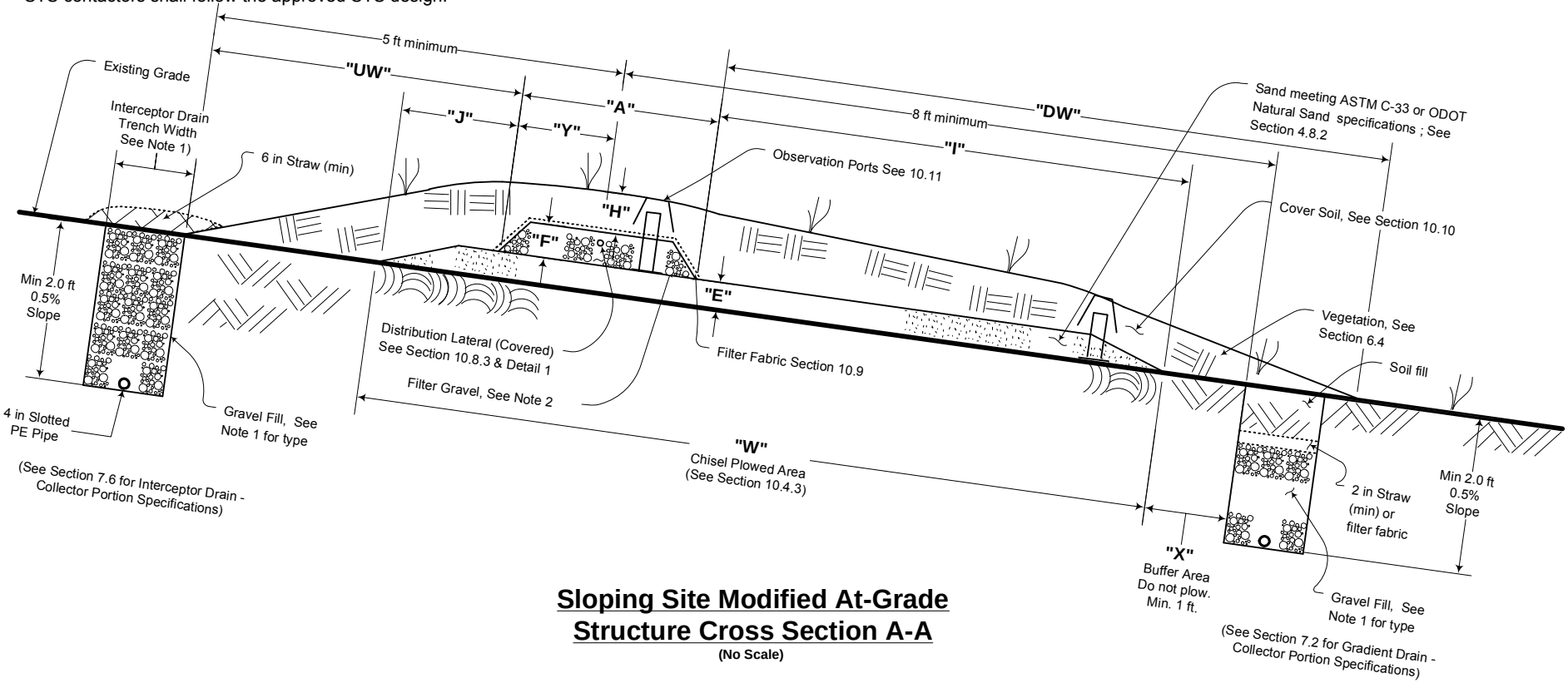
1) Observation ports to be located per Section 10.11.
2) See Approved Plan for dimensions of various mound components.
3) Buffer area to be protected. Compaction, excavation, or plowing in this area is NOT permitted.
4) Orifices are set at the 6 O'Clock position (down). See the Approved Plan for the pressure distribution layout detail.
5) Interceptor Drain and Gradient Drain **Do Not** share a common discharge line without a sample well on each.
6) Drains do not share a trench with pressure mains. Isolation distance is 3' minimum. If they must cross as part of an approved plan, then the drain is hard piped to 5' on either side of the pressure main and backfilled with tamped dirt. Interceptor drain maintains 5' from any distribution lateral. Curtain Drain maintains 8' from any distribution lateral. Both drain types maintain at least 12" from any basal area sand fill.

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Sloping Site Modified At-Grade Structure General Detail.

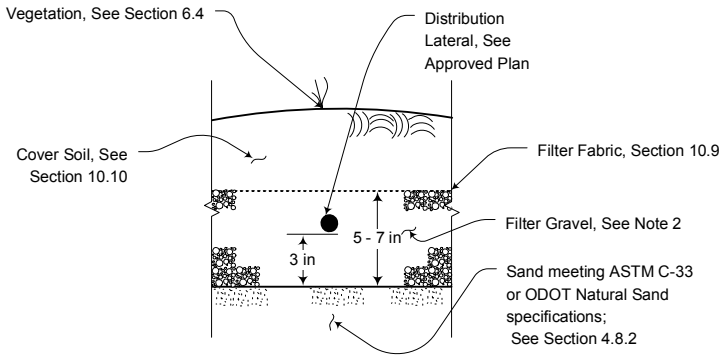
Drawn By:	Date:	Revision #:
CMG	1/31/05	3.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.



Sloping Site Modified At-Grade Structure Cross Section A-A

(No Scale)



Detail 1

(No Scale)

Notes:

1) The required aggregate backfill varies with the width of the excavated trench, See Section 7.2 & 7.6 for requirements. For aggregate specifications, See Section(s) 4.5, 4.6 or 4.7. If aggregate specified in Section 4.7 is used, then the requirements of Section 4.9 apply. This section requires special marking to allow for confirmation of pipe invert slope.

2) The specified aggregate(s) in this component are summarized in Table 4.1. See Sections 4.5, 4.6 or 4.7 for individual aggregate type specifications.

3) The Sub-main and force main must be sloped to allow drainback to the point where two (2) feet of cover over the mains is maintained. The minimum slope for this drainback is 1% (1/8 in per ft). The mains must not penetrate the basal area.

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Sloping Site Modified At-Grade Structure Cross Section A-A

Drawn By:	Date:	Revision #:
CMG	1/31/05	2.0

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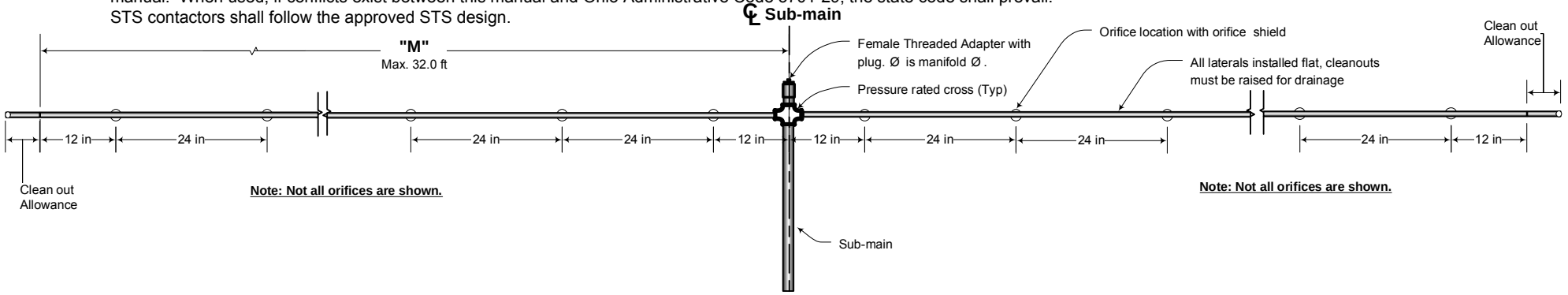
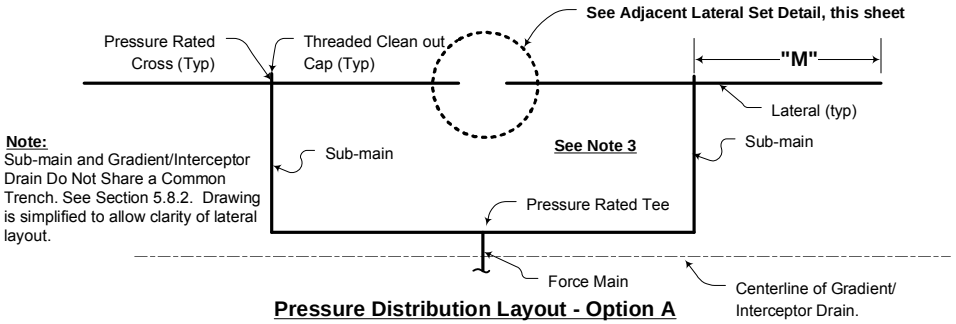


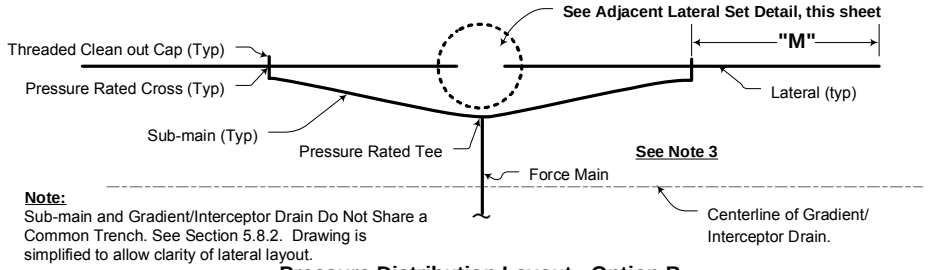
Typical Lateral Set Layout

(No Scale)

Note: Only (1) Pressure Distribution Lateral Set is shown for clarity.



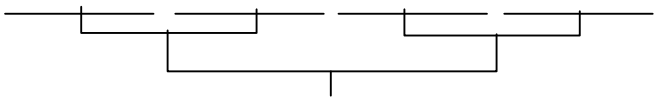
Pressure Distribution Layout - Option A



Pressure Distribution Layout - Option B

Lateral Layout Options

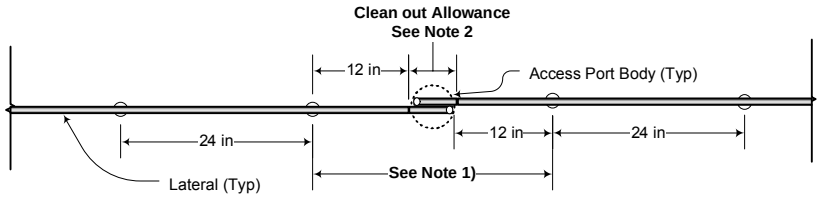
(No Scale)



Layout Used For Systems Up To 256 Ft Long

Notes:

1) This dimension may vary, but can be no less than 24 in. (Same as orifice center to center spacing)
2) Laterals may overlap or abut in these location. Ball valves on both laterals may be within a common access port. Conditions of Note 1) apply.
3) The sub-main and force main must be sloped to allow drainage of pipe sections with less than 2 feet of cover. The minimum slope for drainback is 1% (1/8 in per ft).
4) Refer to the approved plan set to determine exact lateral layout. Information given here is for reference only.
5) Laterals are 3/4" SCH 40 PVC and laid level within gravel with lateral clean outs slightly elevated and well supported.
6) Orifices are 1/8" and drilled on a press with a "Dreamer" bit. Burred or improperly sized orifices will result in disapproval.
7) Orifice orientation is in the 6 o'clock position.
8) Sub-mains must be installed at the same elevation as other sub-mains within the system. Additionally, equal amount of drainback should result. See Section 5.0, Piping.



Adjacent Lateral Set Layout

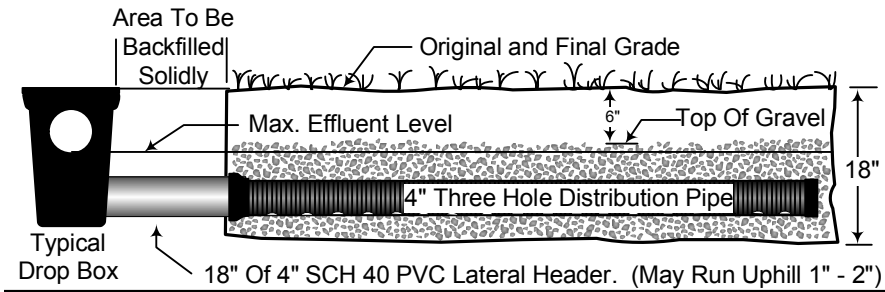
(No Scale)

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

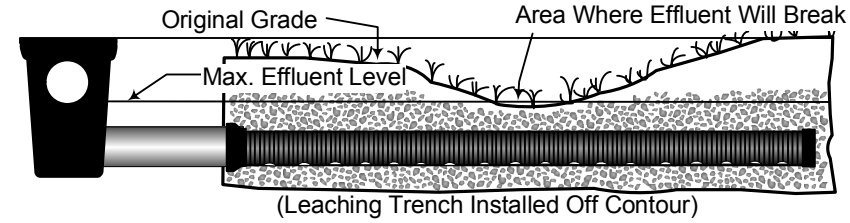
Modified At-Grade Structure Pressure Distribution Network Detail

Drawn By:	Date:	Revision #:
CMG	1/31/05	3.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

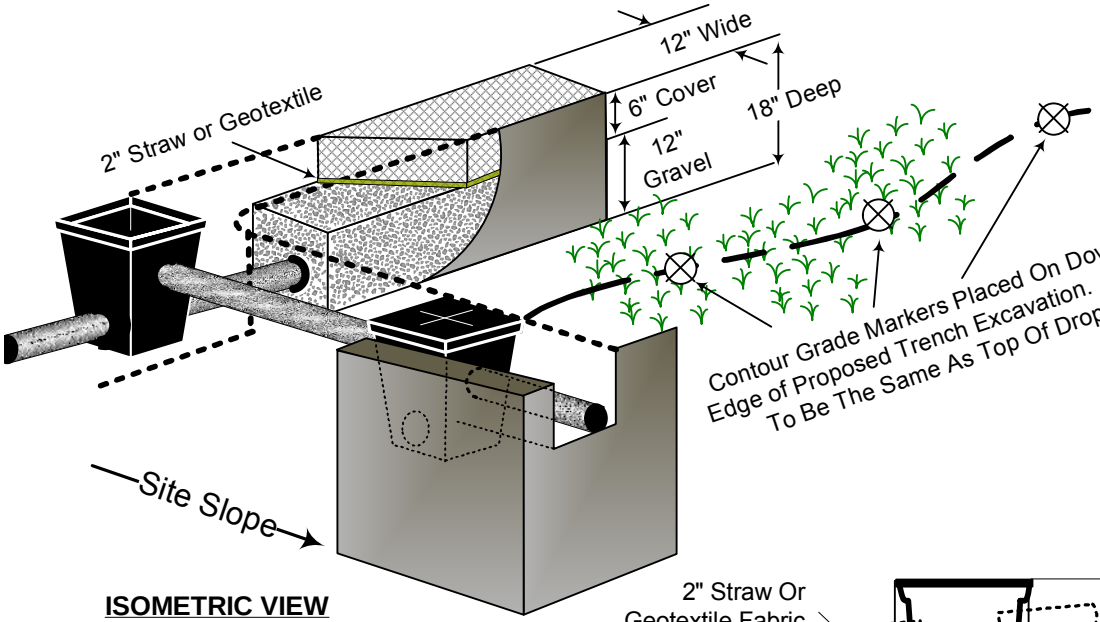


DO THIS

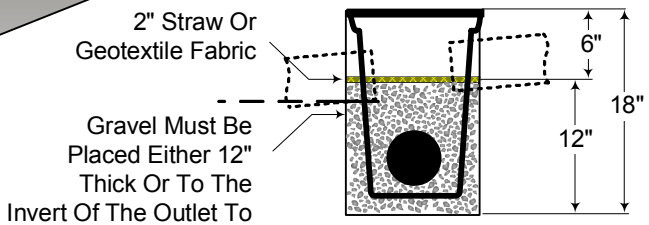


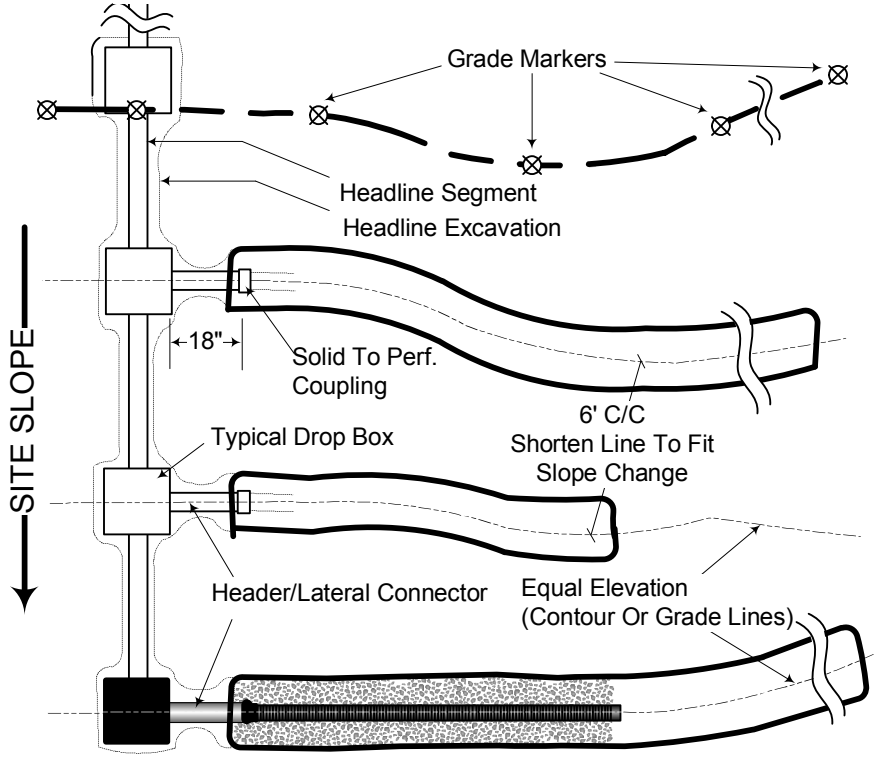
DON'T DO THIS

PROFILE VIEW
(Side Detail)
Not To Scale



ISOMETRIC VIEW
Not To Scale





PLAN VIEW
(Side Detail)
Not To Scale

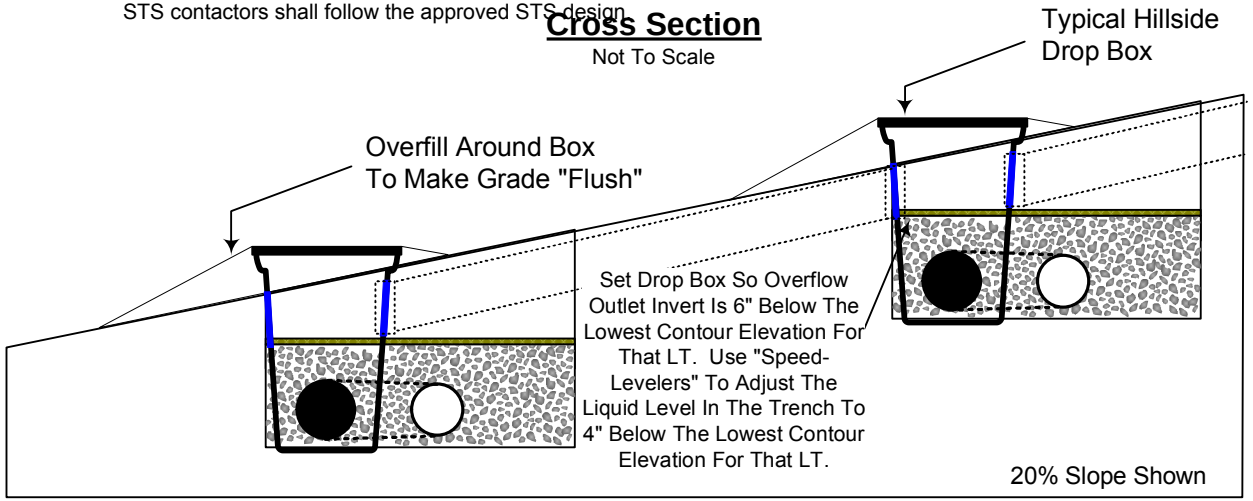
Traditional Gravel Leaching Trench Installation With Drop Boxes

- See All Requirements in Section 11.0.
- Layout lines to contour with paint or flags.
- Shallowly excavate headline trench. Do Not Overdig.
- Set drop boxes with lids at contour elevations; connect with headline segments; firmly backfill headline trench by hand after inspection.
- Excavate trenches 18" deep following contour. Trench bottom level.
- Install 18" long 4" Solid SCH 40 header / lateral connectors with end squarely cut.
- Inside the drop box, leave enough space between the ends of the pipes to insert 4" plugs (plugs may be needed later to rest selected leach lines)
- Install flow control devices on outlet pipes inside drop boxes with holes dialed down.
- Place gravel fill to 6" thickness.
- Connect 4" three hole distribution lateral pipe and fix in place roughly level.
- Place gravel fill to final 12" total thickness or to the invert of the outlet to the next trench, whichever is greater.
- Cover gravel with 2" straw layer or geotextile fabric.
- Call for inspection.
- Backfill to natural grade after approved inspection; crown fill to allow for settlement over trenches.

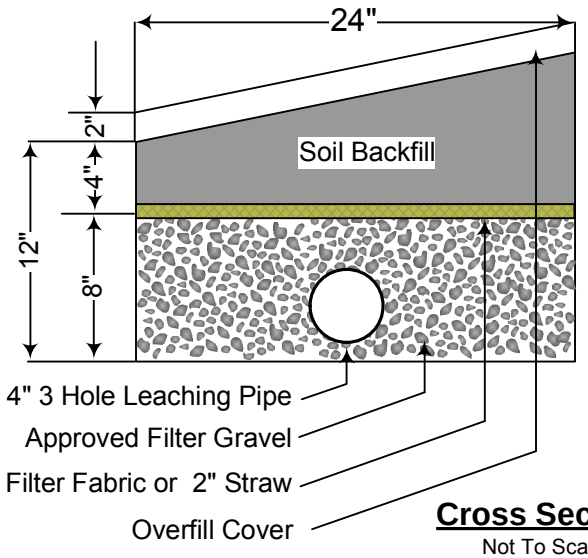
HAMILTON COUNTY GENERAL HEALTH DISTRICT Division of Water Quality			
Leaching Trenches			
	Title: Traditional Gravel Leaching Trench		
	Drawn By: CMG	Date: 1/31/05	Revision #: 4.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

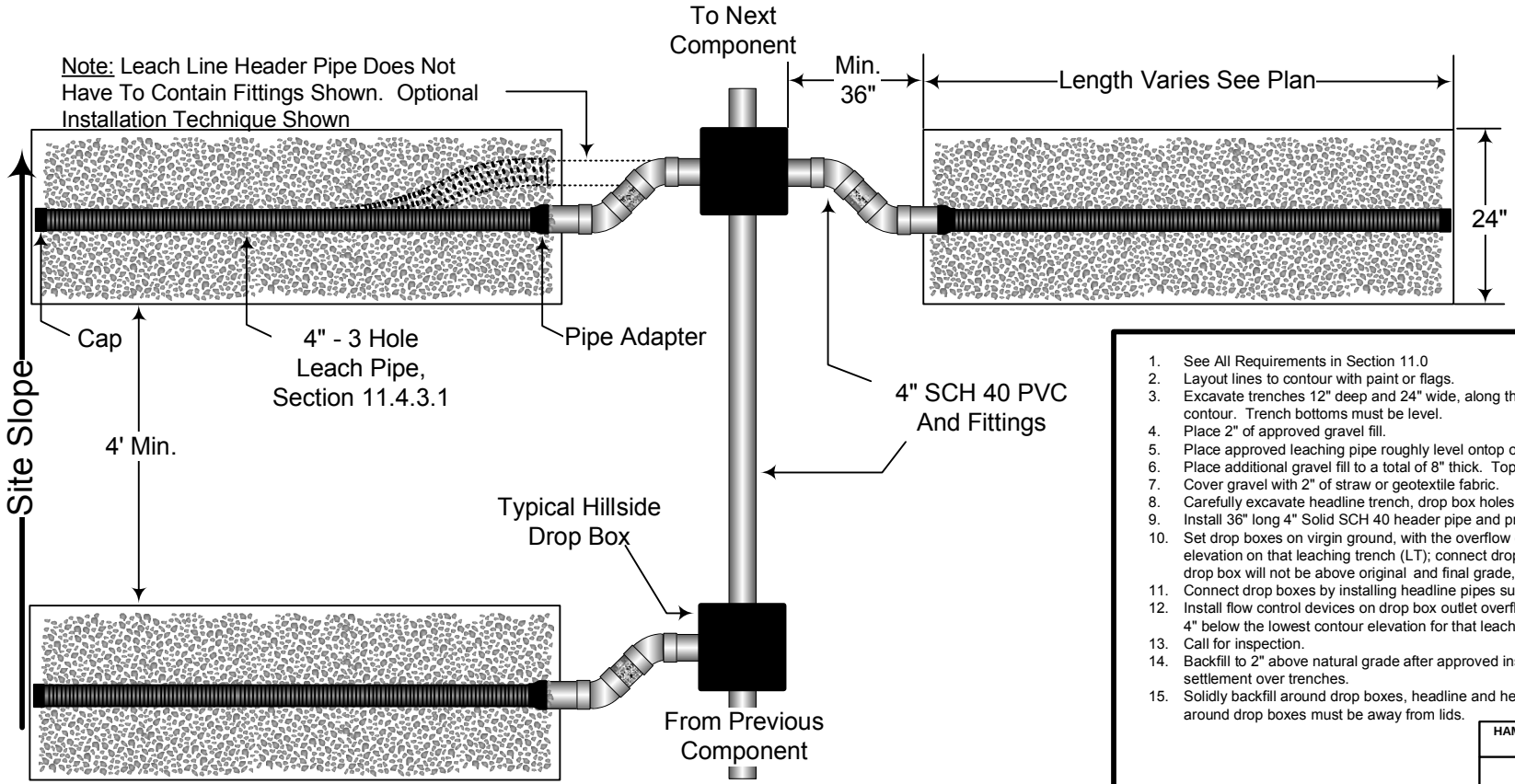
Cross Section
Not To Scale



Note: Drop Box Location Will Vary With Slope Of The Site. In Some Cases Drop Box Extensions May Be Needed



Cross Section
Not To Scale



Plan View
Not To Scale

1. See All Requirements in Section 11.0
2. Layout lines to contour with paint or flags.
3. Excavate trenches 12" deep and 24" wide, along the downslope edge of trench, following contour. Trench bottoms must be level.
4. Place 2" of approved gravel fill.
5. Place approved leaching pipe roughly level ontop of gravel.
6. Place additional gravel fill to a total of 8" thick. Top of gravel must be level throughout trench.
7. Cover gravel with 2" of straw or geotextile fabric.
8. Carefully excavate headline trench, drop box holes, and header trench. **DO NOT OVERDIG**.
9. Install 36" long 4" Solid SCH 40 header pipe and properly connect it with the leaching pipe.
10. Set drop boxes on virgin ground, with the overflow outlet invert 6" below the lowest contour elevation on that leaching trench (LT); connect drop boxes with header pipe segments. If lid of drop box will not be above original and final grade, add 6" drop box extensions.
11. Connect drop boxes by installing headline pipes supported on virgin ground.
12. Install flow control devices on drop box outlet overflow pipes, with holes dialed to hold effluent 4" below the lowest contour elevation for that leaching trench (LT).
13. Call for inspection.
14. Backfill to 2" above natural grade after approved inspection; crown fill to allow for settlement over trenches.
15. Solidly backfill around drop boxes, headline and header pipes by hand. Final grade around drop boxes must be away from lids.

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Leaching Trenches

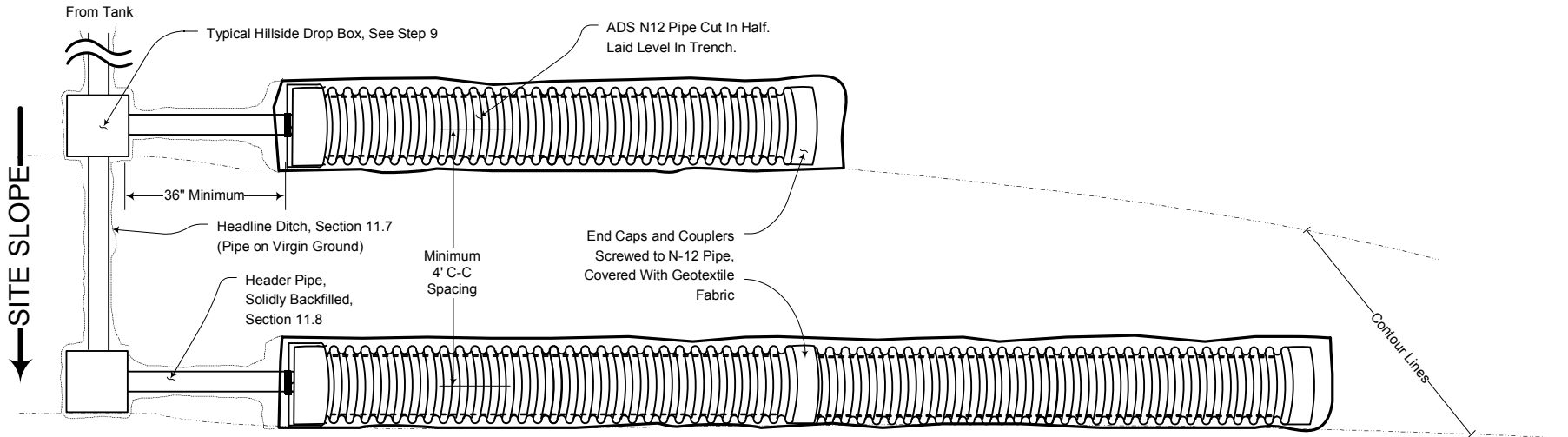
Title: **Shallow Gravel Leaching Trench 24 Inches Wide**

Drawn By:	Date:	Revision #:
CMG	1/31/05	3.0

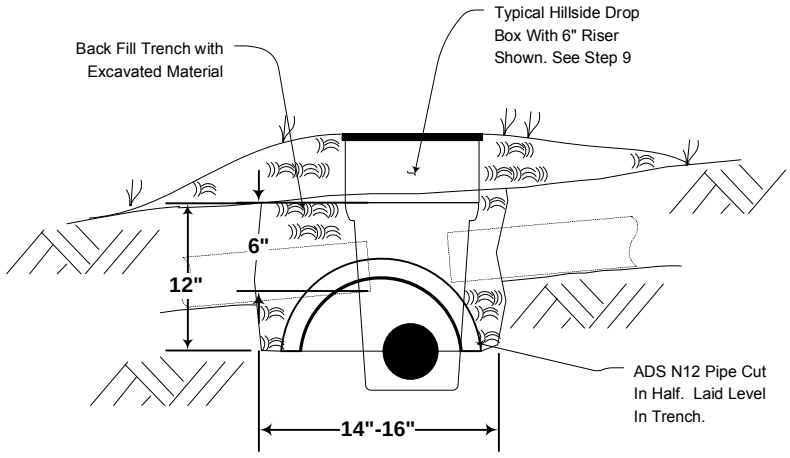
Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

Shallow Half-Pipe Leaching Trenches

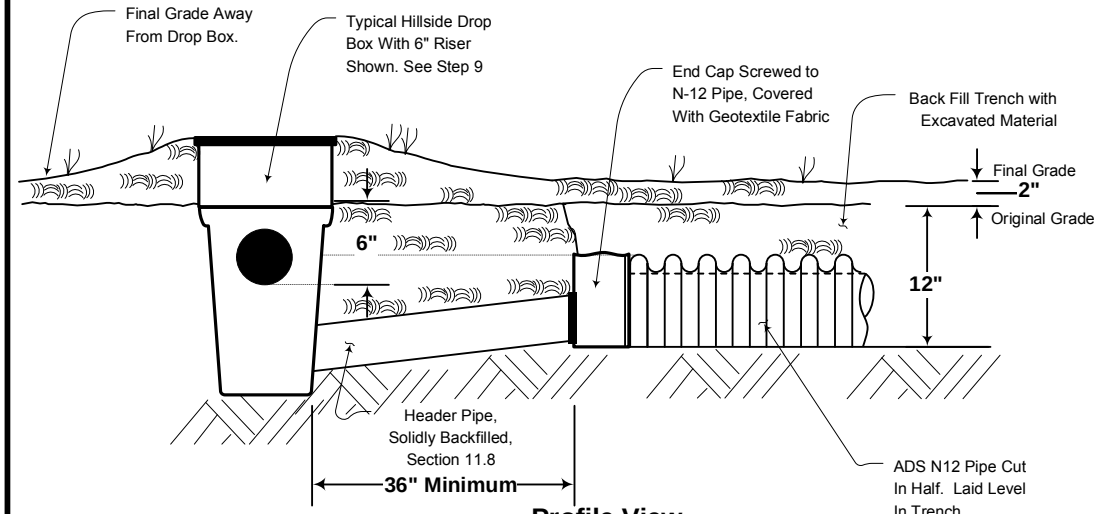
Section 11.4.3.2



Plan View
Not To Scale



Profile View
(End Detail)
Not To Scale



Profile View
(Side Detail)
Not To Scale

1. See All Requirements in Section 11.0
2. Layout lines to contour with paint or flags.
3. Excavate trenches 12" deep, along the downslope edge of trench, following contour. Trench bottoms must be level.
4. Place N12 "half-pipe" in trench with tops level.
5. Screw N12 pipe segments together at couplers and at end caps.
6. Cover couples and end caps with geotextile fabric.
7. Carefully excavate headline trench, drop box holes, and header trench. **DO NOT OVERDIG**.
8. Install 36" long 4" Solid SCH 40 header pipe into N12 pipe cap with properly drilled hole.
9. Set drop boxes on virgin ground, with the outlet invert 6" below the lowest contour elevation for that leach line; connect with header segments. If lid of drop box will not be above original and final grade, add 6" drop box extensions.
10. Connect drop boxes by installing headline pipes supported on virgin ground.
11. Install flow control devices on overflow outlet pipes, with holes dialed to hold effluent in leaching trench 4" below lowest contour elevation for that leaching trench.
12. Call for inspection.
13. Backfill to 2" above natural grade after approved inspection; crown fill to allow for settlement over trenches.
14. Solidly backfill around drop boxes, headline and header pipes by hand. Final grade around drop boxes must be flush with and graded away from lids.

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Leaching Trenches

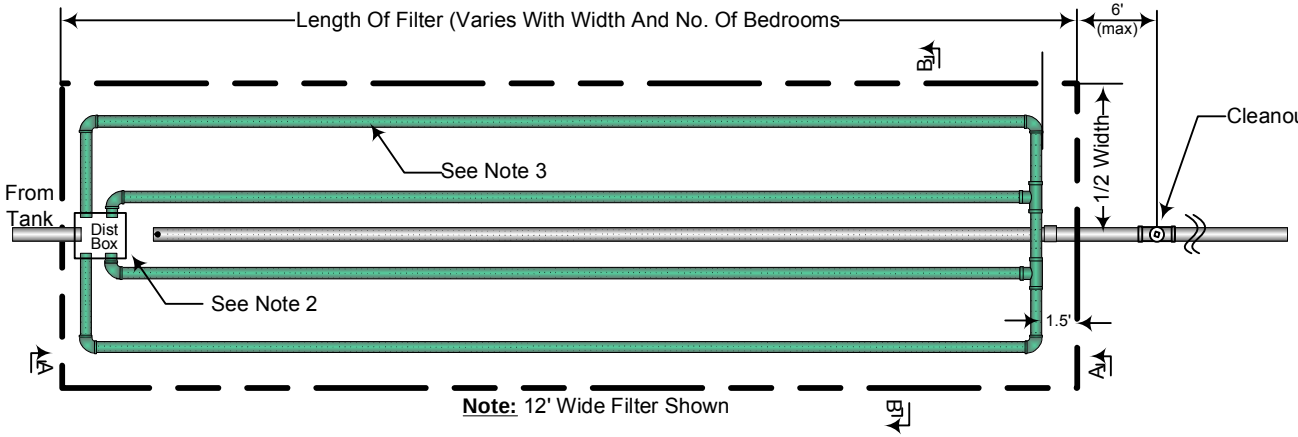
Title: **Shallow Half-Pipe Leaching Trenches**

Drawn By:	Date:	Revision #:
CMG	1/31/05	3.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

NOTES:

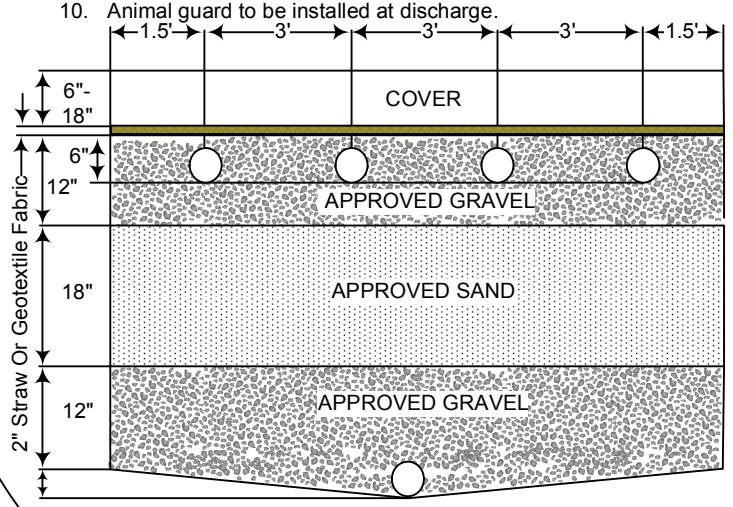
1. Filter area to be 240 sq. ft. per bedroom.
2. Distribution box to be set level with all entries sealed and to grade.
3. Lines from D-box into SF to be level with ≤ 2" of fall from distributio box to far end of filter.
4. Collection line to slope ≥1/8" per ft. Bottom of filter bed to be graded to drain to collection line.
5. Collection line to be 4" PVC pipe with 1/2" holes. This is to run the length of the sand filter one foot before this pipe leaves the filter area a 4" PVC coupler and solid 4" SCH 40 PVC is required from this point on to the discharge.
6. 4" SCH 40 PVC cleanout within 6ft. of end of sand filter and extent 10" above grade and fitted with female threaded adapter and plug.
7. Gravel and sand to be as specified in Section 4.0 of this manual.
8. Disinfection device and sample well per Section 9.0, both must be accessible to grade, and installed no closer that 10ft. from discharg point.
9. Discharge line must have 6" of freeboard under pipe.
10. Animal guard to be installed at discharge.



Note: 12' Wide Filter Shown

PLAN VIEW

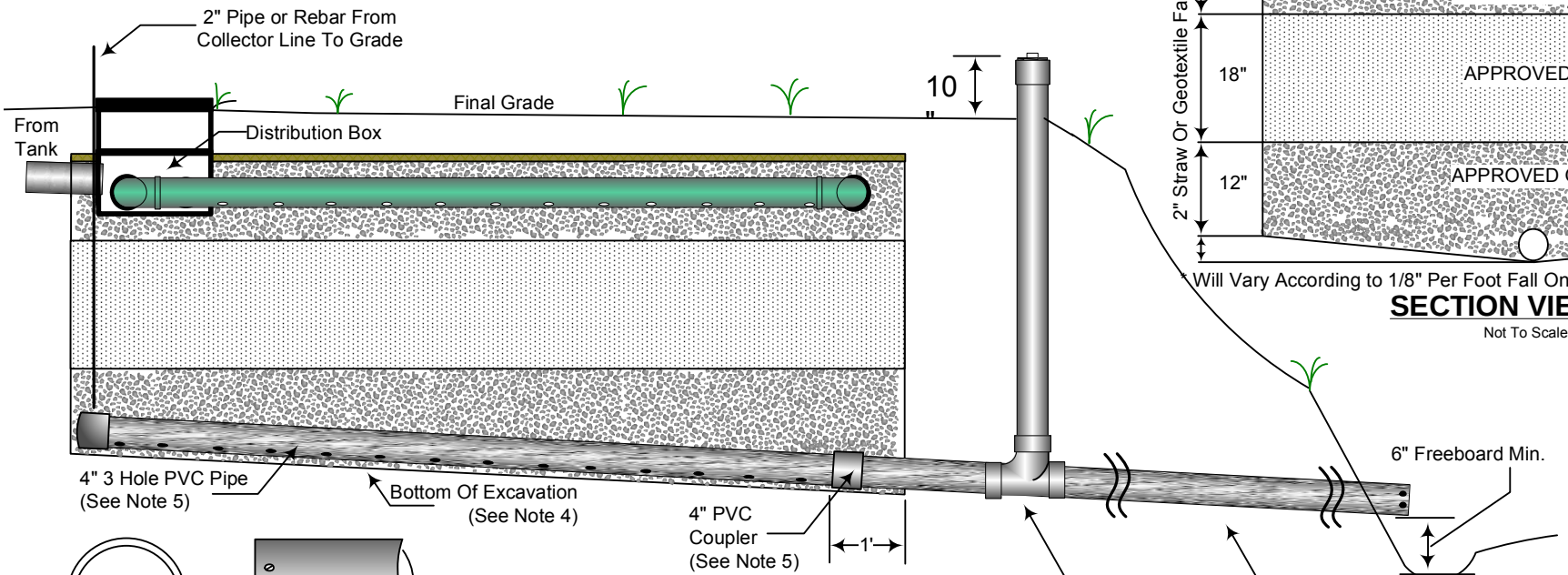
Not To Scale



* Will Vary According to 1/8" Per Foot Fall On Collector And Length Of Bed.

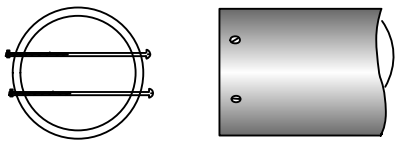
SECTION VIEW B-B

Not To Scale



SECTION VIEW A-A

Not To Scale



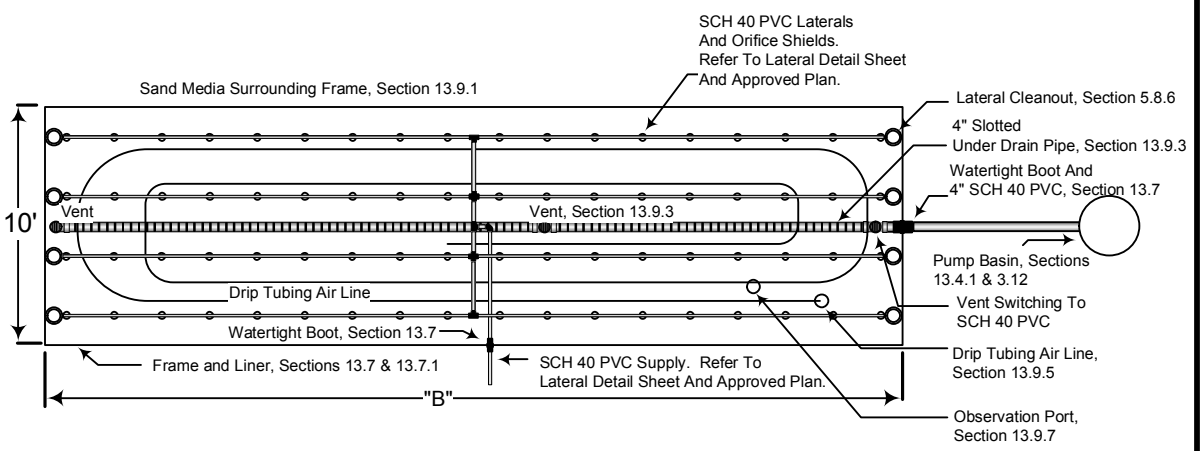
4" SCH 40 PVC With 1/4" Nuts And Bolts (Corrosion Resistant)

ANIMAL GUARD DETAIL

HAMILTON COUNTY GENERAL HEALTH DISTRICT Division of Water Quality			
Subsurface Sand Filter			
	Title: Gravity Subsurface Sand Filter		
	Drawn By: CMG	Date: 1/31/05	Revision #: 3.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

Intermittent Sand Filter (Shown With Pumped Discharge)

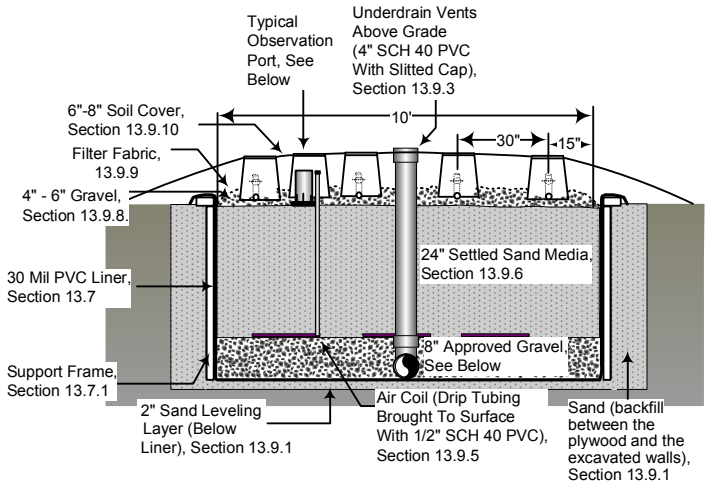


Plan View

Not to Scale

"B" =

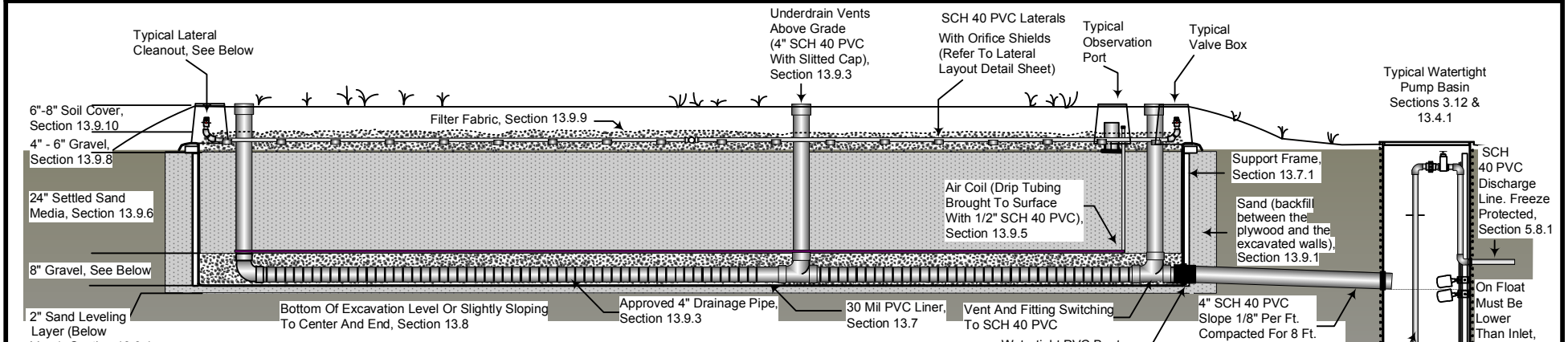
2 Bedroom - 36ft.
3 Bedroom - 36ft
4 Bedroom - 48ft
5 Bedroom - 60ft



Profile View

(End Detail)

Not to Scale

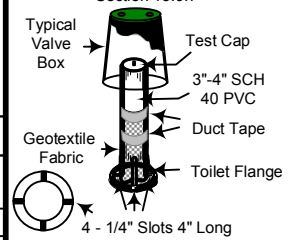


Profile View

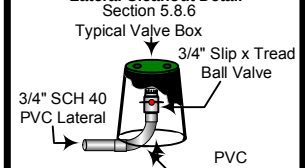
(Side Detail)

Not to Scale

OBSERVATION PORT DETAIL
Section 13.9.7



Lateral Cleanout Detail
Section 5.8.6



Underdrain Detail
Sections 13.9.3 - 13.9.4

**** An Addtional 2" of #57 Gravel Must Be Placed Under The Drain Pipe When Filter Is Unlined**

Note:
If using a Lined Filter with a gravity discharge to a secondary treatment system (ex. LL's, wetlands), then the filter must have a liner drain installed outside the filter box which outlets away from the secondary treatment system.

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Intermittent Sand Filter

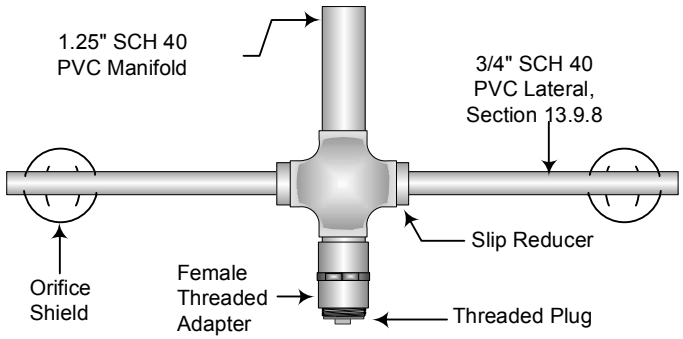
Title: Intermittent Sand Filter (Shown With Pumped Discharge)
Drawn By: CMG | Date: 1/31/05 | Revision #: 4.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29 the state code shall prevail. Contractors shall follow the approved STS design.

Lateral Distribution Network For 1-3 Bedroom Intermittent Sand Filter

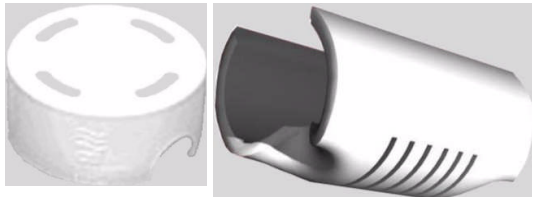
Manifold Line Cleanout Detail

Section 5.8.1 - 5.8.3



Orifice Shield Detail

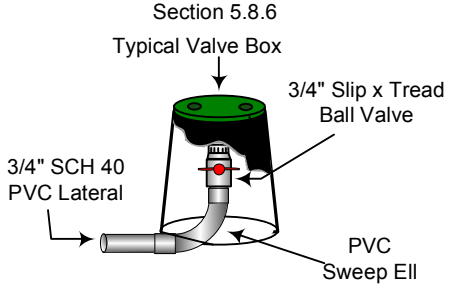
Orifice Size - 1/8" Total Orifices - 72



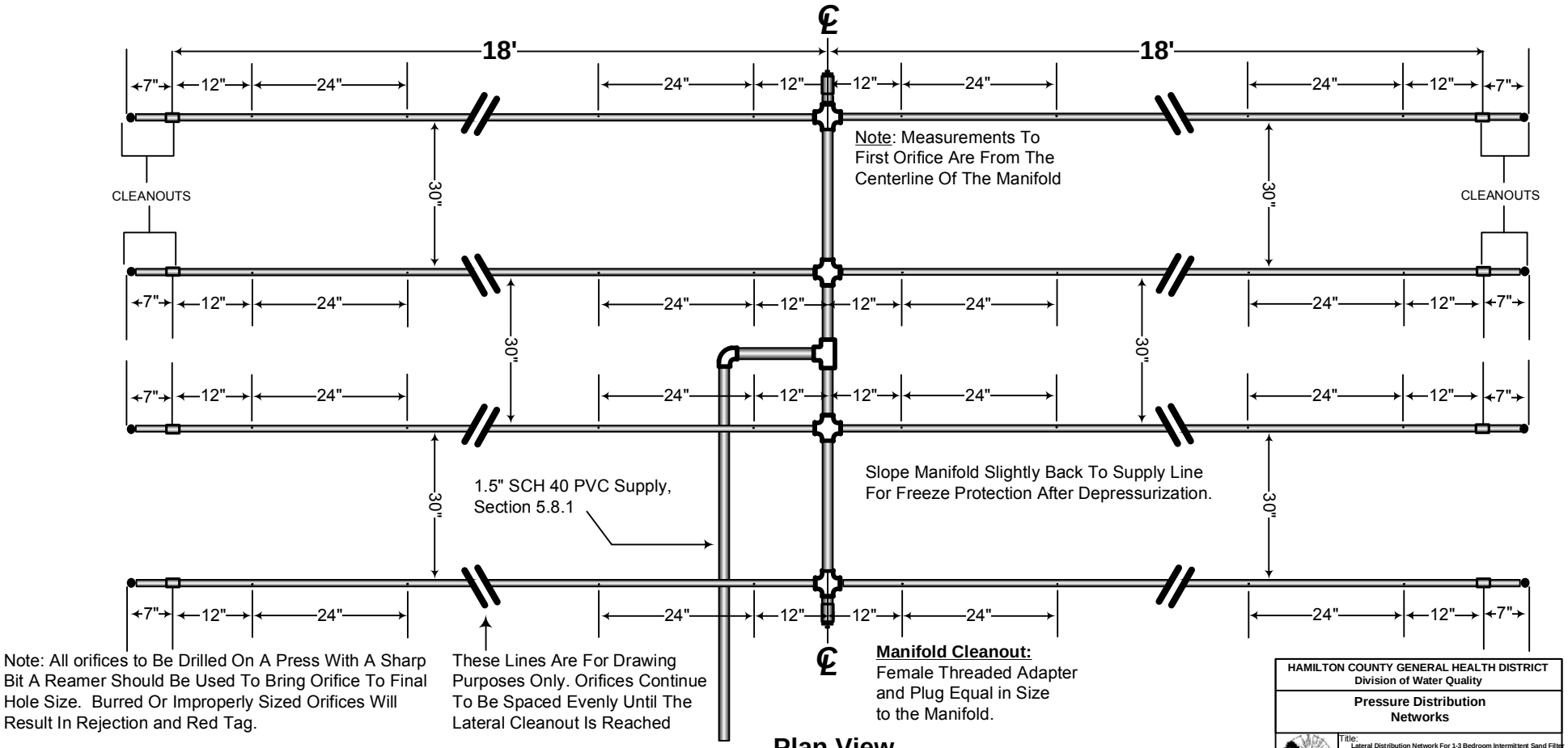
Commercially Manufactured For The Use Intended Or Fabricated By The Installer Following Health District Specs.
Section 5.10.0

Lateral Cleanout Detail

Section 5.8.6



Cleanouts Elevated 1/2" Above Lateral To Drain Effluent Back To Orifices After Depressurization.
Section 5.8.6



Note: All orifices to Be Drilled On A Press With A Sharp Bit A Reamer Should Be Used To Bring Orifice To Final Hole Size. Burred Or Improperly Sized Orifices Will Result In Rejection and Red Tag.

These Lines Are For Drawing Purposes Only. Orifices Continue To Be Spaced Evenly Until The Lateral Cleanout Is Reached

Plan View

Not to Scale

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Pressure Distribution Networks

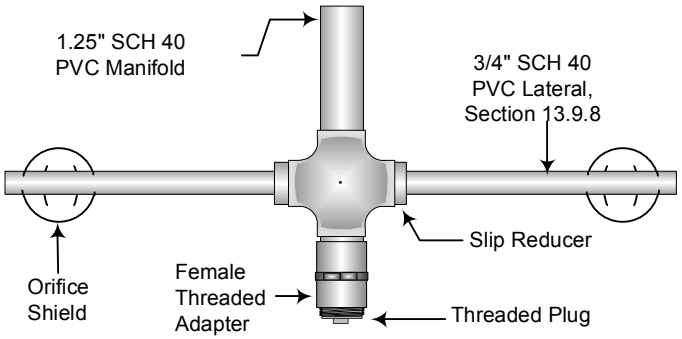
Title: Lateral Distribution Network For 1-3 Bedroom Intermittent Sand Filter		
Drawn By: CMG	Date: 1/31/05	Revision #: 4.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contractors shall follow the approved STS design.

Lateral Distribution Network For 4 Bedroom Intermittent Sand Filter

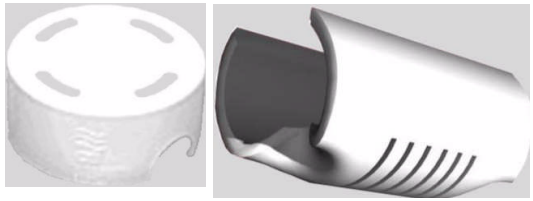
Manifold Line Cleanout Detail

Section 5.8.1 - 5.8.3



Orifice Shield Detail

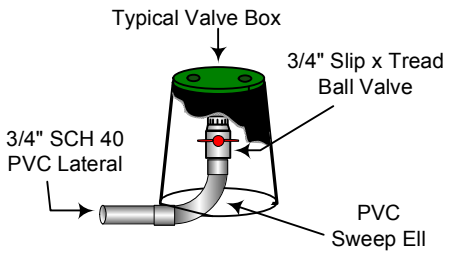
Orifice Size - 1/8" Total Orifices - 96



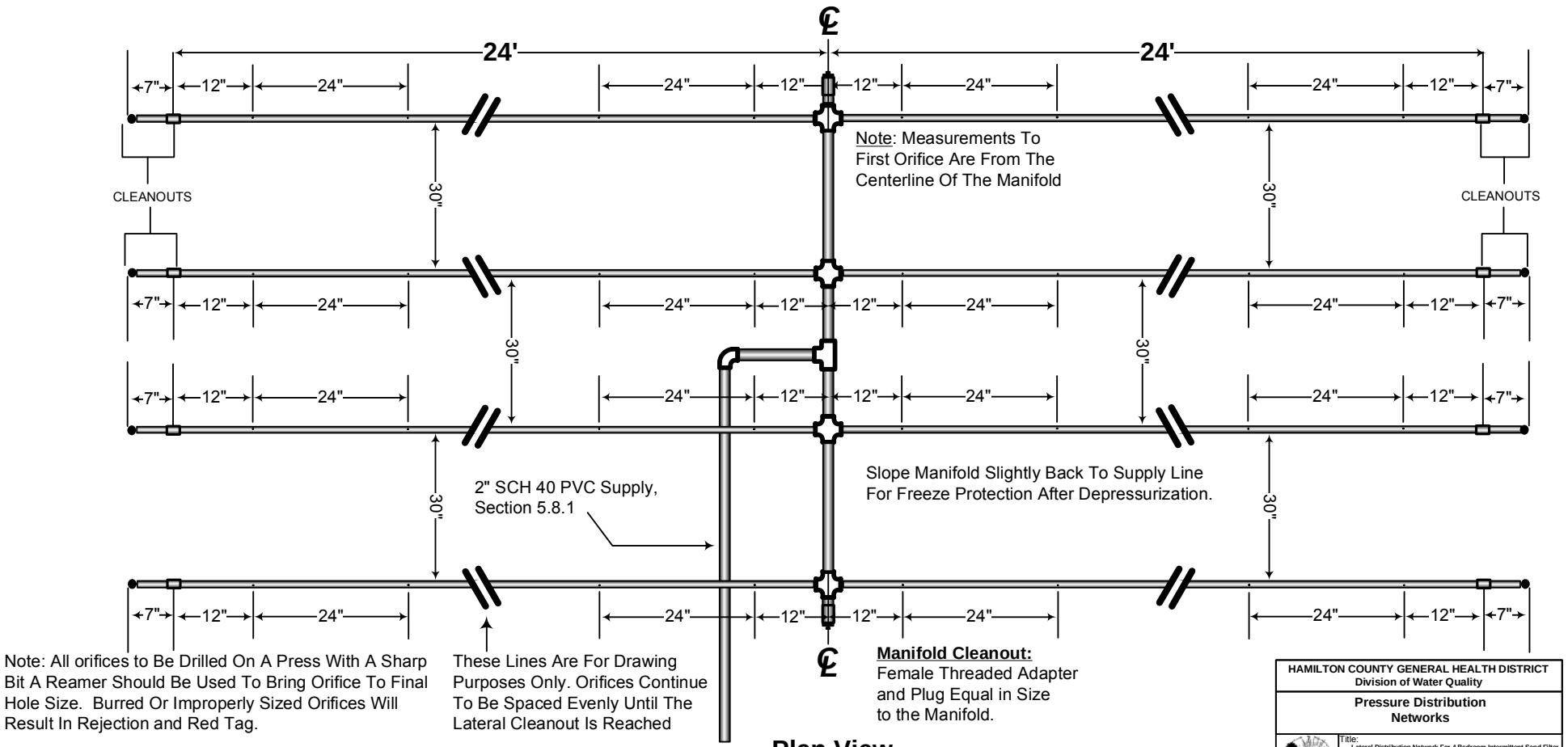
Commercially Manufactured For The Use Intended Or Fabricated By The Installer Following Health District Specs. Section 5.10.0

Lateral Cleanout Detail

Section 5.8.6



Cleanouts Elevated 1/2" Above Lateral To Drain Effluent Back To Orifices After Depressurization. Section 5.8.6



Note: All orifices to Be Drilled On A Press With A Sharp Bit A Reamer Should Be Used To Bring Orifice To Final Hole Size. Burred Or Improperly Sized Orifices Will Result In Rejection and Red Tag.

These Lines Are For Drawing Purposes Only. Orifices Continue To Be Spaced Evenly Until The Lateral Cleanout Is Reached

Plan View

Not to Scale

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

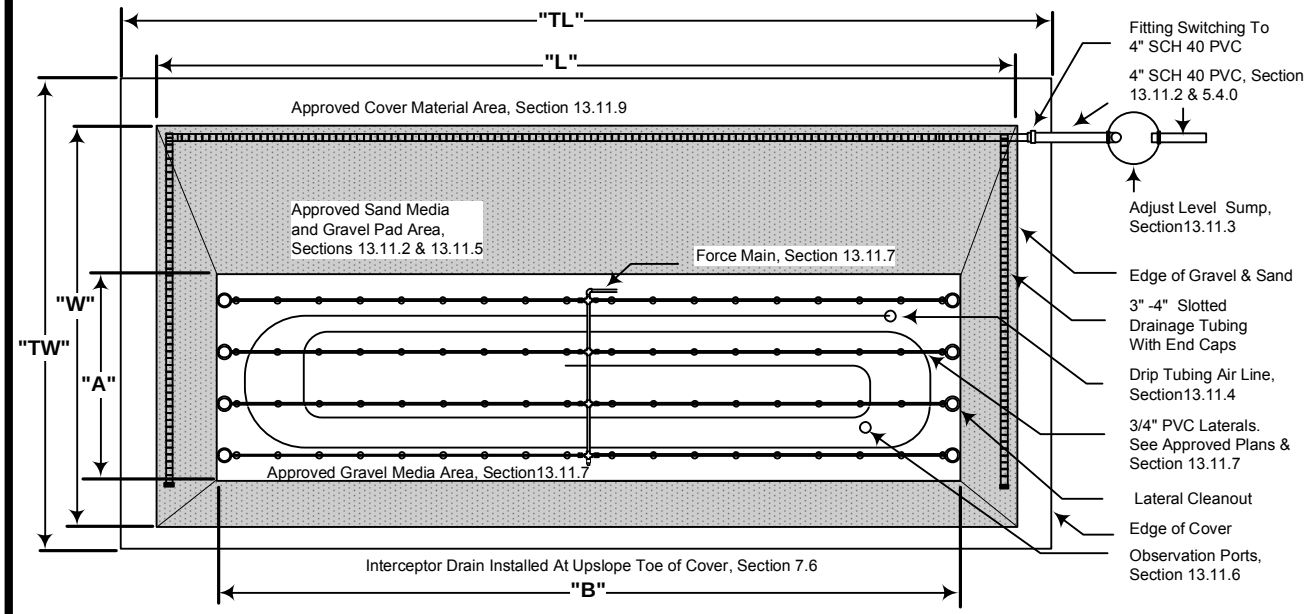
Pressure Distribution Networks

Title: Lateral Distribution Network For 4 Bedroom Intermittent Sand Filter

Drawn By:	Date:	Revision #:
CMG	1/31/05	4.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

Above Grade Intermittent Sand Filter General Plan

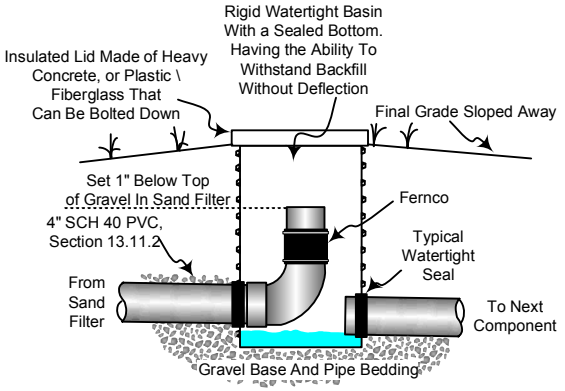


Plan View

Not to Scale

Adjust Level Sump

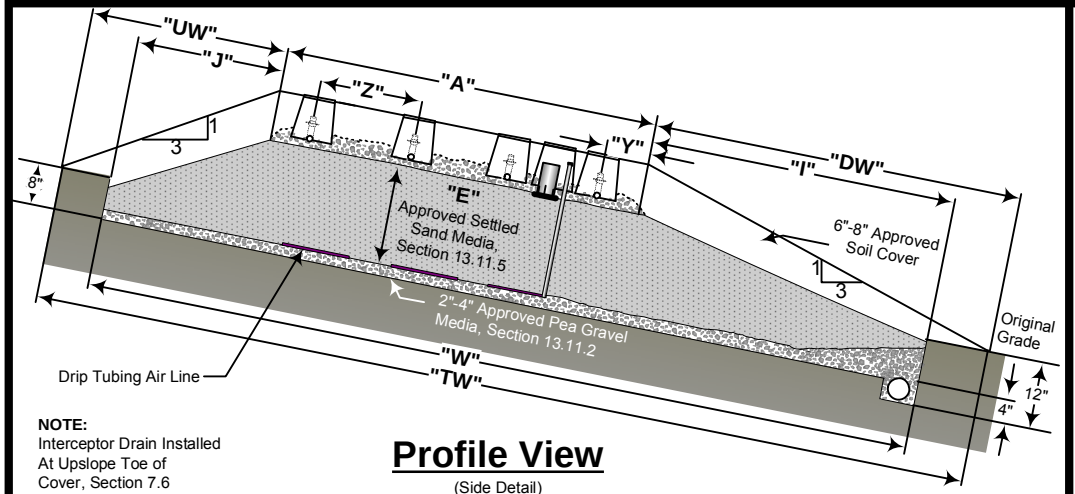
Section 13.11.3



Note: Do Not Allow Gravel Bedding To Connect With Gravel Under Sand Filter. Compact Dirt Between; 8ft. Min. Separation.

Profile View

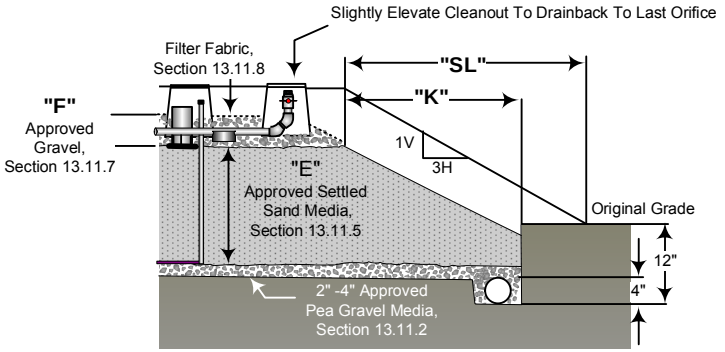
Not to Scale



NOTE:
Interceptor Drain Installed At Upslope Toe of Cover, Section 7.6

Profile View

(Side Detail)
Not to Scale



Profile View

(End Detail)
Not To Scale

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

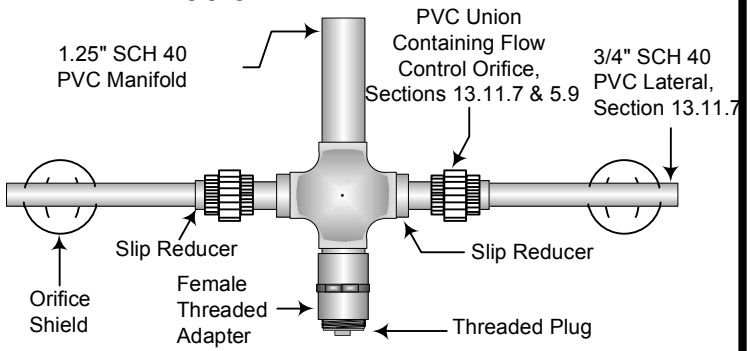
Above Grade Intermittent Sand Filter

Title: Above Grade Intermittent Sand Filter General Plan			
Drawn By: CMG	Date: 1/31/05	Revision #: 3.0	

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contractors shall follow the approved STS design.

Lateral Distribution Network For A 1-3 Bedroom Above Grade Sand Filter

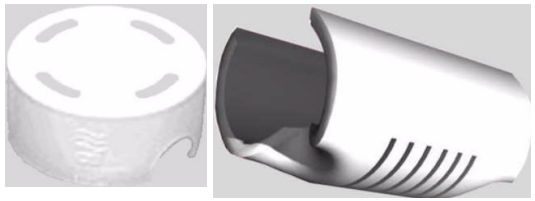
Supply Line Cleanout Detail



Section 5.8.1 - 5.8.3

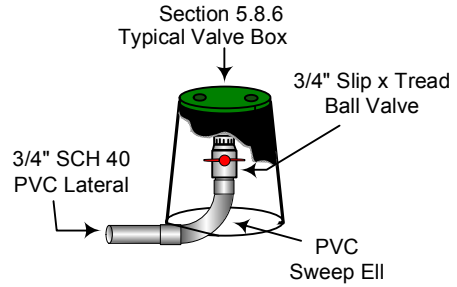
Orifice Shield Detail

Orifice Size - 1/8" Total Orifices - 72

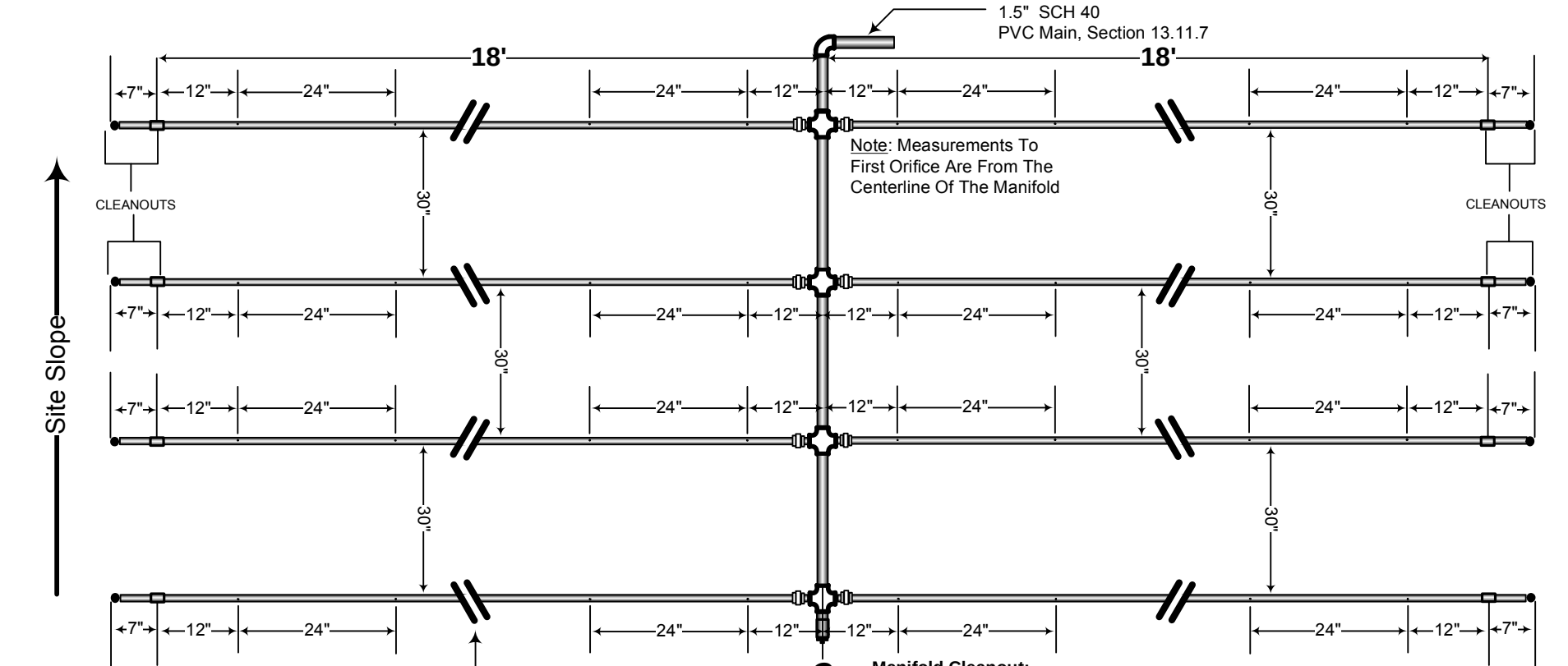


Commercially Manufactured For The Use Intended Or Fabricated By The Installer Following Health District Specs. Section 5.10.0

Lateral Cleanout Detail



Cleanouts Elevated 1/2" Above Lateral To Drain Effluent Back To Orifices After Depressurization. Section 5.8.6



Note: All orifices to Be Drilled On A Press With A Sharp Bit A Reamer Should Be Used To Bring Orifice To Final Hole Size. Burred Or Improperly Sized Orifices Will Result In Rejection and Red Tag.

These Lines Are For Drawing Purposes Only. Orifices Continue To Be Spaced Evenly Until The Lateral Cleanout Is Reached

Manifold Cleanout:
Female Threaded Adapter and Plug Equal in Size to the Manifold.

Plan View

Not to Scale

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Pressure Distribution Networks

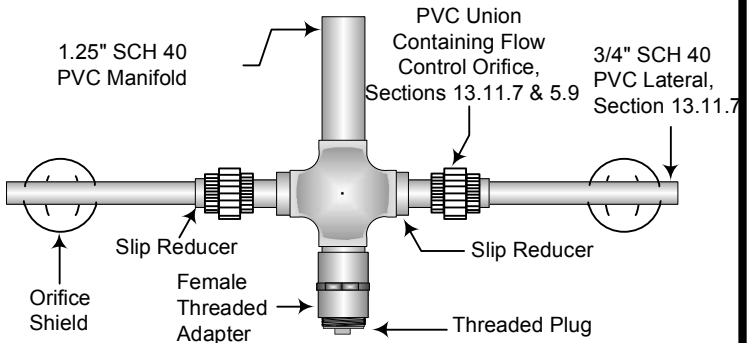
Title: Lateral Distribution Network For A 1-3 Bedroom Above Grade Sand Filter

Drawn By:	Date:	Revision #:
CMG	1/31/05	4.0

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contractors shall follow the approved STS design.

Lateral Distribution Network For A 4 Bedroom Above Grade Sand Filter

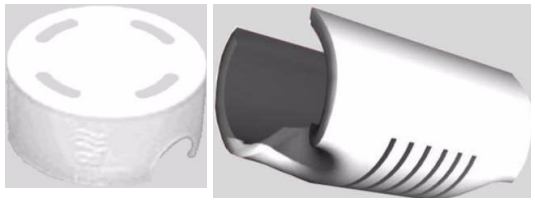
Supply Line Cleanout Detail



Section 5.8.1 - 5.8.3

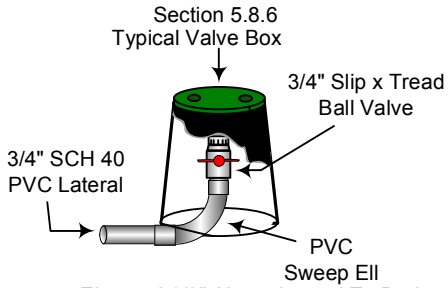
Orifice Shield Detail

Orifice Size - 1/8" Total Orifices - 96

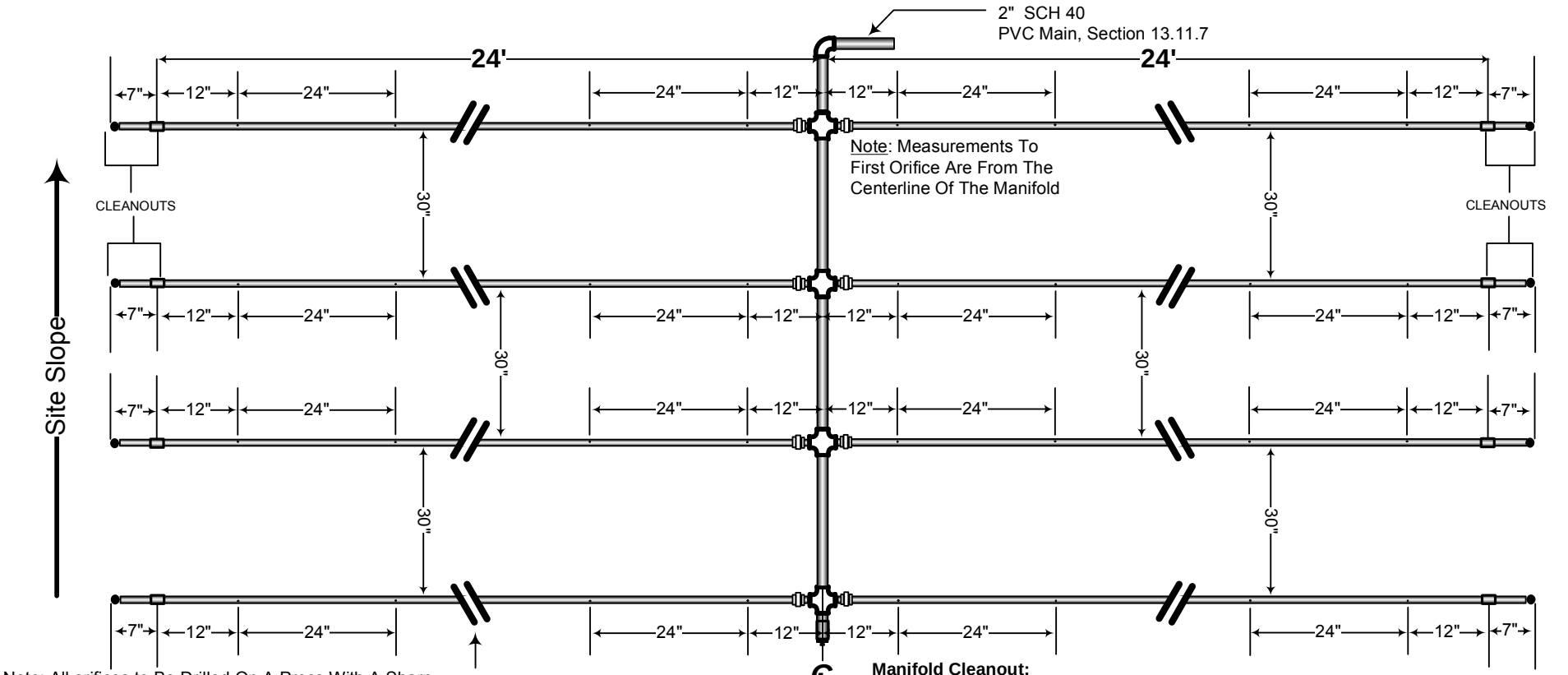


Commercially Manufactured For The Use Intended Or Fabricated By The Installer Following Health District Specs. Section 5.10.0

Lateral Cleanout Detail



Cleanouts Elevated 1/2" Above Lateral To Drain Effluent Back To Orifices After Depressurization. Section 5.8.6



Note: All orifices to Be Drilled On A Press With A Sharp Bit A Reamer Should Be Used To Bring Orifice To Final Hole Size. Burred Or Improperly Sized Orifices Will Result In Rejection and Red Tag.

These Lines Are For Drawing Purposes Only. Orifices Continue To Be Spaced Evenly Until The Lateral Cleanout Is Reached

Manifold Cleanout:
Female Threaded Adapter and Plug Equal in Size to the Manifold.

Plan View

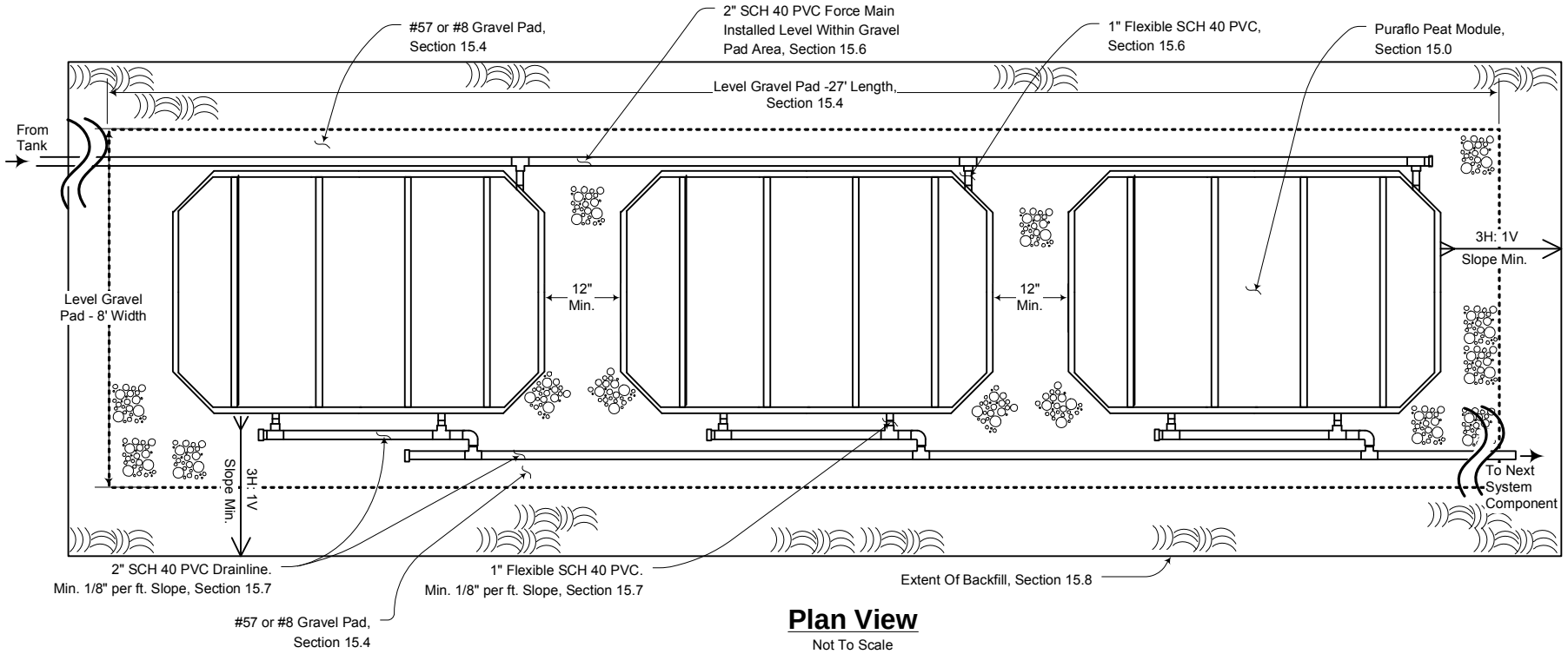
Not to Scale

HAMILTON COUNTY GENERAL HEALTH DISTRICT Division of Water Quality	
Pressure Distribution Networks	
Title: Lateral Distribution Network For A 4 Bedroom Above Grade Sand Filter	
Drawn By: CMG	Date: 1/31/05
Revision #: 4.0	

Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

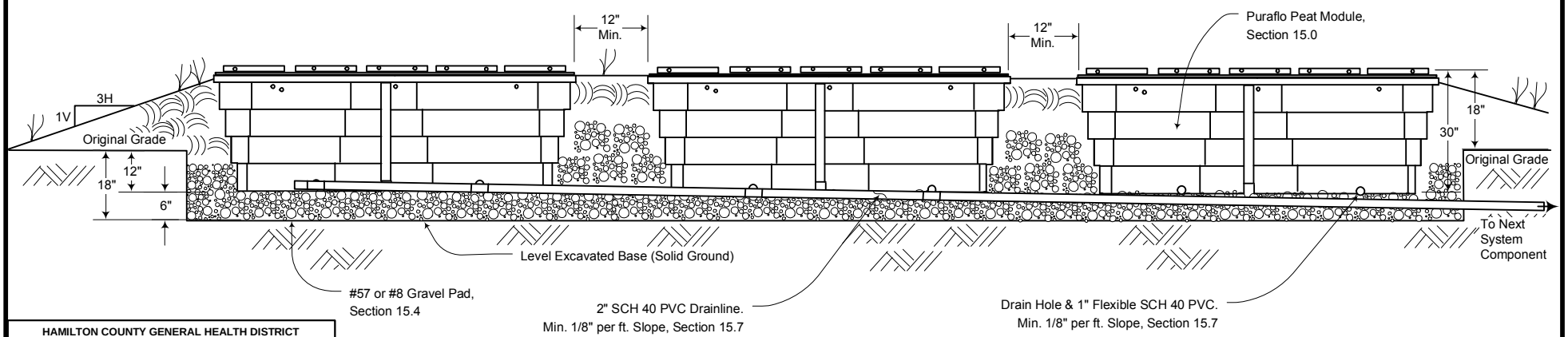
Puraflo Peat Biofilters

Section 15.0



Plan View

Not To Scale



Profile View

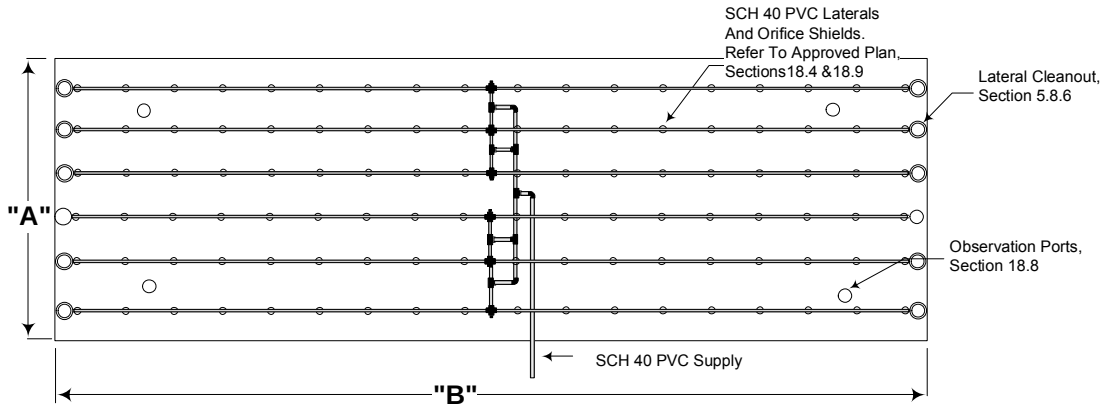
(Discharge Side)
Not To Scale

HAMILTON COUNTY GENERAL HEALTH DISTRICT Division of Water Quality			
Puraflo Peat Biofilters			
	Title: Puraflo Peat Biofilters		
	Drawn By: CMG	Date: 1/31/05	Revision #: 4.0

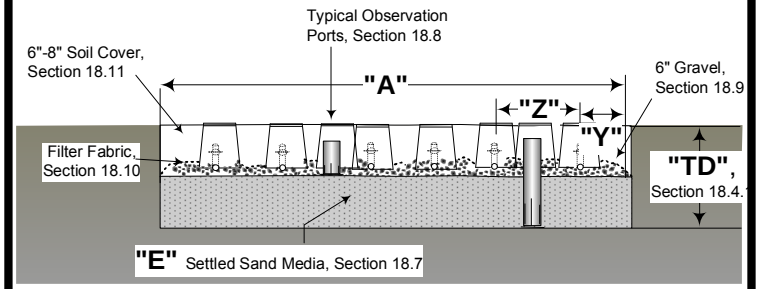
Update effective January 1, 2015 - This manual may be used as a reference by a STS designer when specifying standards for construction, installation notes and certain aggregate materials for STS components. STS designers are not be required to use this manual. When used, if conflicts exist between this manual and Ohio Administrative Code 3701-29, the state code shall prevail. STS contactors shall follow the approved STS design.

Generic Pressurized Leach Bed

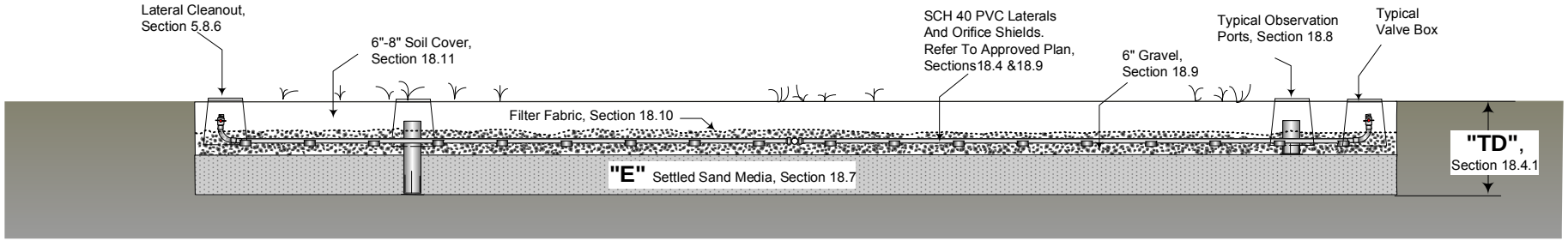
Section 18.0



Plan View
Not to Scale

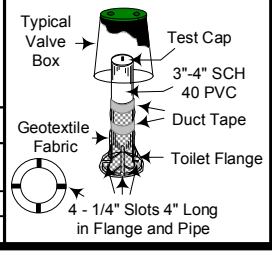


Profile View
(End Detail)
Not to Scale

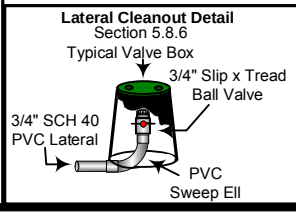


Profile View
(Side Detail)
Not to Scale

OBSERVATION PORT DETAIL



Lateral Cleanout Detail
Section 5.8.6



1. See all requirements of Section 18.0.
2. Layout the length of the filter bed as parallel as possible to the site contour +/- 8".
3. The highest point of the ground surface around the perimeter of the filter is used to set the excavation depth.
4. Pit excavated so that the bottom is level and roughened.
5. Pit walls must be vertical before material is added.
6. Health District inspection of "open pit" is required before material placement.

HAMILTON COUNTY GENERAL HEALTH DISTRICT
Division of Water Quality

Pressurized Leach Bed

Title: Generic Pressurized Leach Bed			
Drawn By: CMG	Date: 1/31/05	Revision #: 4.0	