

8. Continued prevention
8. Certified sedement, organic solids and other settled material in the primary and grit chambers are stored in a samp area candining not less than 65.0 Cuft; entire samp area is below the settling surfaces and the freatment flow path, preventing versuspension of acquired pollutions of captured gross pollutant sump area is 66.0 Cuft 10. Minimum pass oil stronger volume is 122 galans are stronger to the continues access opening to bottom of samp area can be settled from 18 inch continues access opening to bottom of samp area can be settled from 18 inch continues access opening to bottom of samp area can be settled from 18 inch continues access opening to bottom of samp area can be settled to bottom of samp area can be settled to bottom of samp area can be settled by the settled of the settled to the information requested by Engineer to verify Performance and besign Specifications 14. Warranty: Labor and material for 4 years from date of installation in the event that the product supplied is not free from detects that materially affect its performance; Terre Kleen shall be installed and used only in the porticular application for which it was specifically estigated, engineered and manufactured (see written Terre Kleen warranty for entire warranty).

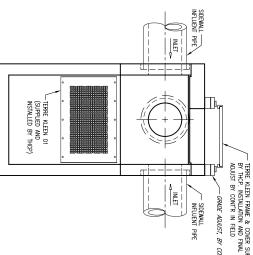
area

1. capture & permanently retain 100 percent of floatable trash & debris at all flows
2. capture & permanently retain > 90 percent of floatable free oil, grease and folds
Petroleum Hydrocarbons (CPH) of all flows; unit shall be capable of receiving "all sorbents" to permanently remore captured oil, grease and PH
3. capable of removing sill and cloty size particles
4. All storm water flows shall enter the Terre Kleen and, flows in excess of design flows, shall pass though the internal flow through duct to the effluent pipe without the use of an external bypass.
5. stacked inclined plates in the grit chamber are self cleaning settling surfaces
6. HS 25 traffic and earth loadings
7. buygnary prevention.
8. Cartified softenent., organic solids and other settled material in the primary and grit

Terre Kleen is a HYDRODYNAMIC SEPARATOR consisting of preinstalled, stacked inclined plates housed inside a precast structure. Ferre Kleen removes pollutants by separating sediment and floatables such as oils, grasse, trash and debris from starmwater. Terre Kleen features are as follows:

erre Kleen TK01 Performance, Design and Installation Specifications

TOP SLAB LAYOUT OPTIONS



REARWALL—/ SIDEWALL —

EFFLUENT — PIPE INVERT

8'-2" MINIMUM

TERRE KLEEN 01 (SUPPLIED AND INSTALLED BY THCP)

TERRE KLEEN 01
HYDRODYNAMIC
SEPARATOR SHALL
HAVE 8 SQUARE
FEET HORIZONTALLY
PROJECTED
SURFACE AREA IN
THE GRIT
CHAMBER.

SECTION A-A

INSTALL VAULT LEVEL & PLUMB ON A 6" COMPACTED 2A STONE BASE BY CONT'R

BAFFLE WALL

						-			PIPE		
SECTION B-B			(SUPPLIED AND INSTALLED BY THCP)	TERRE KIEEN OI	0 0			+)			
,,,								NIET NIET	SIDEWALL PIPE	GRADE ADJUST, BY CONT'R.	TERRE KLEEN FRAME & COVER SUPPLIED BY THOP. INSTALLATION AND FINAL GRADE ADJUST BY CONT'R IN FIELD
TK05 TK09 TK18 TK18 TK27 TK36 TK45	TK02	Model	Terre								
	LТ	_	(0	1							

346 SaFt	288 SqFt	230 SqFt	172 SqFt	115 SqFt	57 SqFt	32 SqFt	13 SqFt	8 SqFt	Settling area in sedImen- tation chamber
4.7 cfs	3.9 cfs	3.1 cfs	2.3 cfs		0.8 cfs	0.4 cfs	0.2 cfs	0.1 cfs	Design ¹ Capacity d ₅₀ =50 Mlcron
	0.13 ln	0.13 ln	0.11 ln	0.10 ln	0.09 In	< 0.50 ln.	< 0.50 In	< 0.50 ln	Design flow head loss
22.5 cfs	18.7 cfs	15.0 cfs	11.2 cfs	7.5 cfs	3.7 cfs	2.1 cfs	0.8 cfs	0.5 cfs	
3.58 h	3.08 ln	2.94 In	2.71 n	2.44 In.	1.93 ln	< 0.50 ln.	< 0.50 n.	< 0.50 ln	Design flow head loss
41.9 cfs	34.9 cfs	27.8 cfs	20.8 cfs	13.9 cfs	6.9 cfs	3.9 cfs	1.6 cfs	1.0 cfs	Design ¹ Capacity d _{go} =150 Mlcron
12 41 n	10.71	10.11	9.36	8.37	6.70	< 0.50	< 0.50 n	< 0.50 ln	Design flow head loss
74.5 cfs	In. 62.0 cfs 33.81 In. 70.0 cfs 44.00 In. 60 In. 2	49.5 cfs	37.0 cfs	24.7 cfs	12.3 cfs	6.9 cfs	2.8 cfs	1.7 cfs	Design ¹ Capacity d ₅₀ =200 Mlcron
39.25 n	33.81 In	32.06 In.	29.62 In.	26.44 In.	21.30 n.	< 0.50 ln.	< 0.50 In.	< 0.50 In	Design flow head loss
77.0 cfs	70.0 cfs	56.0 cfs	42.0 cfs	28.0 cfs	15.0 cfs	10.0 cfs	4.0 cfs	2.5 cfs	Peak flow
43 00 n	44 00 n	42.00 n.	39.00 ln.	35.00 In	33.00 ln	0.56 ln.	0.21 In.	0.08 In.	Peak ^{2,4} head loss
72 n.	60 In.	52 n.	42 n.	36 In.	24 n.	18 ln.	18 In.	18 n.	max plpe Diam.
99 CF	57 CF	16 CF	151 CF	116 CF	80 CF	132 CF	66 CF	66 CF	Standard ⁵ Sediment Storage
452 Gallon	389 Gallon	327 Gallon	265 Gallon		140 Gallon	236 Gallon	123 Gallon	192 Gallon	Standard ⁵ Trash and Oil volume
3.27 Ft	3.27 Ft	3.27 Ft	3.27 Ft	3.27 Ft	3.27 Ft	3.27 Ft		2.52 Ft	Minimum grade to pipe invert ³
6.25 Ft	6.25 Ft	6.25 Ft	6.25 Ft	6.25 Ft	6.25 Ft	6.25 Ft	6.25 Ft	6.25 Ft	Standard plpe Invert to device bottom

Design flow rates based on Weighted Removal according to NUDE? lab protocol and objected for a particle density 140hbs/cft and 60 degree Fahrenheit water temperature. Peak headloss is defined by the standard insert caparage and defines peak flow. Higher flows at reduced teatment rates are optional and avoid external by Add 9° for grade adjust and frame and cover, otherwise cost into the lid. Eccess design overflow through a covernie possible above insert. Special designs are available to increase these values.

TERRE KLEEN - GENERAL NOTES:

THE TERRE KLEEN w (US PATENT 6,676,832 B2) HYDRODYNAMIC SEPARATOR AS DESIGNED, MANUFACTURED AND INSTALLED BY TERRE HILL STORMMATER SYSTEMS AT 9.0, BOX 10, 485 WEAVERLAND VALLEY ROAD, TERRE HILL STORMMATER SYSTEMS AT 9.0, BOX 10, 485 WEAVERLAND VALLEY ROAD, TERRE HILL, PA 17581 (PHONE 1-800-242-1509) OR WWW.TERRESTORM.COM

Mointenance Procedures

1. Quarterly inspection is recommended to record sediment, oil, and trash accumulation.

2. Cleaning is recommended when the sediment reaches 16 inches in depth in one or both sediment sump onces.

3. No confirmed space entry required: Terre Meen design allows access from grade, to both charmers by vocum hose for removal of 100% of load optived political backets are sedimentally of the control of 100% of a coputer of political sediments.

5. Removed material must be handled and disposed according to local, state, and federal regulations

. In preject specific string colculations, with Jd party performance verification, clearly thowing that the unit meets or exceeds the Performance and Design Specifications of the three Klean.
. project—specific hydroulic calculations, with 3rd party performance verification, showing the hydroulic Grade Line (HQL) plotted through the structure for the design flow

. No stormwater treatment BMP shall be approved as an equivalent substitution unless the trajlaneer shall receive and approve drawings and specifications stamped and sealed by a notessional engineer registered in the state wherein the project is located showing the

DEFORMED STEEL CONFORMS TO ASTM A615 GRADE 60. WELDED WIRE FABRIC OF EQUAL SIZE MAY BE SUBSTITUTED FOR SMOO AND SHALL CONFORM TO ASTM A497. CONCRETE: f'c=5,000 PSI @ 28 DAYS, WITH ASTM C-33 NO. 57 OR NO. 67 COARSE AGGREGATE.

BITUMEN CONSEAL CS-102B JOINT MATERIAL MANUFACTURED BY CONCRETE SEAL CONFORMS TO FEDERAL SPECIFICATION SS-S-210A, JOINT SEALANT MUST BE INS WITH CONCRETE SEALANTS, INC. RECOMMENDATIONS.

ANNULAR SPACE BETWEEN PIPE AND HOLE TO BE FILLED, BY OTHERS, WITH AN GROUT OR CONCRETE AS SPECIFIED. ALL PIPES TO BE CUT FLUSH WITH INSIDE WALL, AFTER GROUT HAS DRIED.

TOP UNIT (PA TYPE 'M' SHOWN) W WELDED

STEEL GRATE SUPPLIED BY THOP, INSTALLATION
AND FINAL GRADE SOLUTS BY COUTR'R IN FELD

(PRECAST TOP UNIT SHOWN, TERRE KLEEN FRAME
& COVER MAY BE USED AT THIS LOCATION)

TERRE KLEEN FRAME & COVER SUPPLIED BY THCP. INSTALLATION AND FINAL GRADE ADJUST BY CONT'R IN FIELD

GRADE ADJUST, BY CONT'R.

7 1/4" 7

UNI LIFT ANCHORS MANUFACTURED BY UNIVERSAL FORM CLAMP COMPANY, OR ECTYPICAL FOR HANDLING. DROP-IN ANCHORS TO BE HILTI 316 STAINLESS STEEL KWIK BOLT II AS MANUFA

INSTALLATION AND MAINTENANCE MUST BE IN ACCORDANCE WITH THE MANUFACTU INSTRUCTIONS AND COMPLY WITH LOCAL ORDINANCES AND NPDES PHASE II REGI MANHOLE FRAMES AND COVERS SUPPLIED BY TERRE HILL STORMWATER SYSTEMS ADJUST BY OTHERS. COVERS TO BE MARKED WITH "TERRE KLEEN STORMWATER T

ATION AND GRADE OF STSTEM LOGO.	9 #
BY HILTI CORP. II LIFT ANCHORS ATION AND GRADE OF SYSTEM* LOCO. WITEN	BY HILTI CORP. II LET ANCHORS ATION AND GRADE OF SYSTEM* LOGO.
II LET ANCHORS ATTON AND GRADE OT SYSTEM* LOGO.	II LET ANCHORS ATTOM AND GRADE OF SYSTEM* LOCO.
ATION AND GRADE OF SYSTEM" LOGO.	ATION AND GRADE OF SYSTEM* LOCO.
ATTEN LOGO.	ATTEN LOGO.
o. puA/NLL S-PLUFIA/INVS: It is recommended that the stone sub-pass to minimum of one foot (1 ft) beyond the actival rotation for the precast installation material shall be placed and composited achieving a minimum composition from the process installation material shall be placed and composited achieving a minimum composition from the feet by ASIM A1557. Bod be a minimal composition effort, material, Native material may be used to provides an allowable bearing pressure of 2000 pounts per square tool (provides an allowable bearing pressure of 2000 pounts per square tool (provides an allowable bearing pressure of 2000 pounts per square tool (provides an allowable bearing pressure of 2000 pounts per square tool (provides and provided by the Engineer, tool (provided by the SIM A1557). 9. Controctor shall remove all (provigin material and debries, including all sed 9. Controctors shall remove all (provigin material and debries, including all sed 9.	ot, buckfull, Shouth Sh
and construction materials and debris from the inlet pipe, outlet pipe and	completion of installation.

REVISIONS JOB: 4'-0" x 6'-0" PRECAST WATER QUALITY CHAMBER TERRE HIL

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FILE NO.

SHT.1 OF 1

Initial

Release 11-12-08

B ∴ ENG'R: CONT'R:

DATE: