



CULTEC Recharger® 902HD Stormwater Chamber

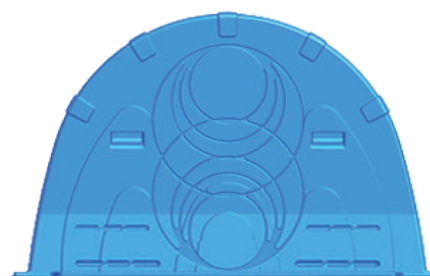
The Recharger® 902HD is a 48" (1219 mm) tall, high capacity chamber. Typically when using this model, fewer chambers are required resulting in less labor and a smaller installation area. The Recharger® 902HD has the side portal internal manifold feature. HVLV® FC-48 Feed Connectors are inserted into the side portals to create the internal manifold.

Recharger 902HD Chamber	
Size (L x W x H)	4.10' x 78" x 48" 1.25 m x 1981 mm x 1219 mm
Installed Length	3.67' 1.12 m
Length Adjustment per Row - with two end caps installed	1.03' 0.31 m
Length Adjustment per Row - when not using end caps	0.44' 0.133 m
Chamber Storage	17.66 ft³/ft 1.64 m³/m 64.75 ft³/unit 1.84 m³/unit
Min. Installed Storage	27.27 ft³/ft 2.53 m³/m 100 ft³/unit 2.83 m³/unit
Min. Area Required	26.58 ft² 2.47 m²
Min. Center-to-Center Spacing	7.25' 2.21 m
Max. Allowable Cover	8.3' 2.53 m
Max. Allowable O.D. in Side Portal	11.5" 292 mm
Compatible Feed Connector	HVLV FC-48 Feed Connector

Calculations are based on installed chamber length.
Min. installed storage includes 9" (229 mm) stone base, 12" (305 mm) stone above crown of chamber and typical stone surround at 7.25' (2.21 m) center-to-center spacing.

	Stone Foundation Depth		
	9" 229 mm	12" 305 mm	18" 457 mm
Chamber and Stone Storage Per Chamber	100 ft³ 2.83 m³	102.65 ft³ 2.91 m³	107.97 ft³ 3.06 m³
Min. Effective Depth	5.75' 1.75 m	6.00' 1.83 m	6.5' 1.98 m
Stone Required Per Chamber	3.26 yd³ 2.49 m³	3.51 yd³ 2.68 m³	4.00 yd³ 3.06 m³

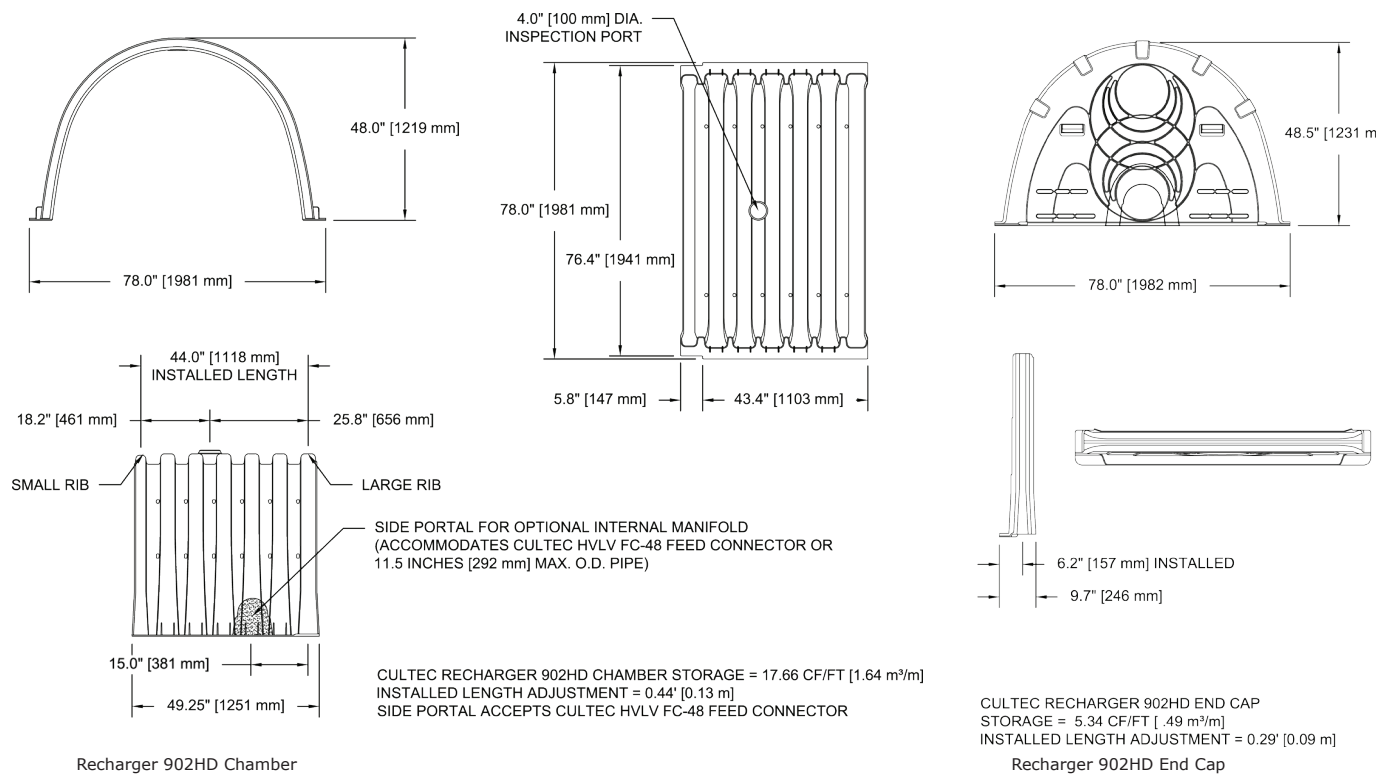
Calculations are based on installed chamber length.
Includes 12" (305 mm) stone above crown of chamber and typical stone surround at 7.25' (2.21 m) center-to-center spacing and stone foundation depth as listed in table.
Stone void calculated at 40%.



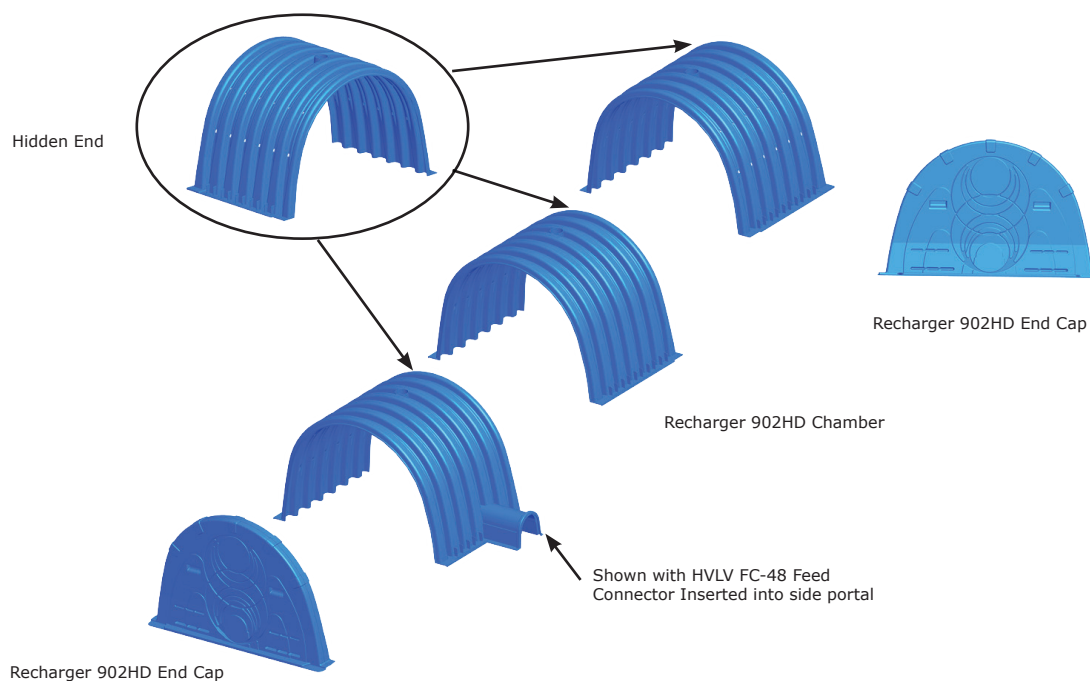
Recharger 902HD End Cap

Recharger 902HD End Cap	
Size (L x W x H)	9.7" x 78" x 48.5" 246 mm x 1982 mm x 1231 mm
Installed Length	6.2" 157 mm
End Cap Storage	5.34 ft³/ft 0.50 m³/m 2.76 ft³/unit 0.08 m³/unit
Min. Installed Storage	19.88 ft³/ft 1.85 m³/m 10.28 ft³/unit 0.29 m³/unit
Max. Inlet Opening in End Cap	24" 600 mm

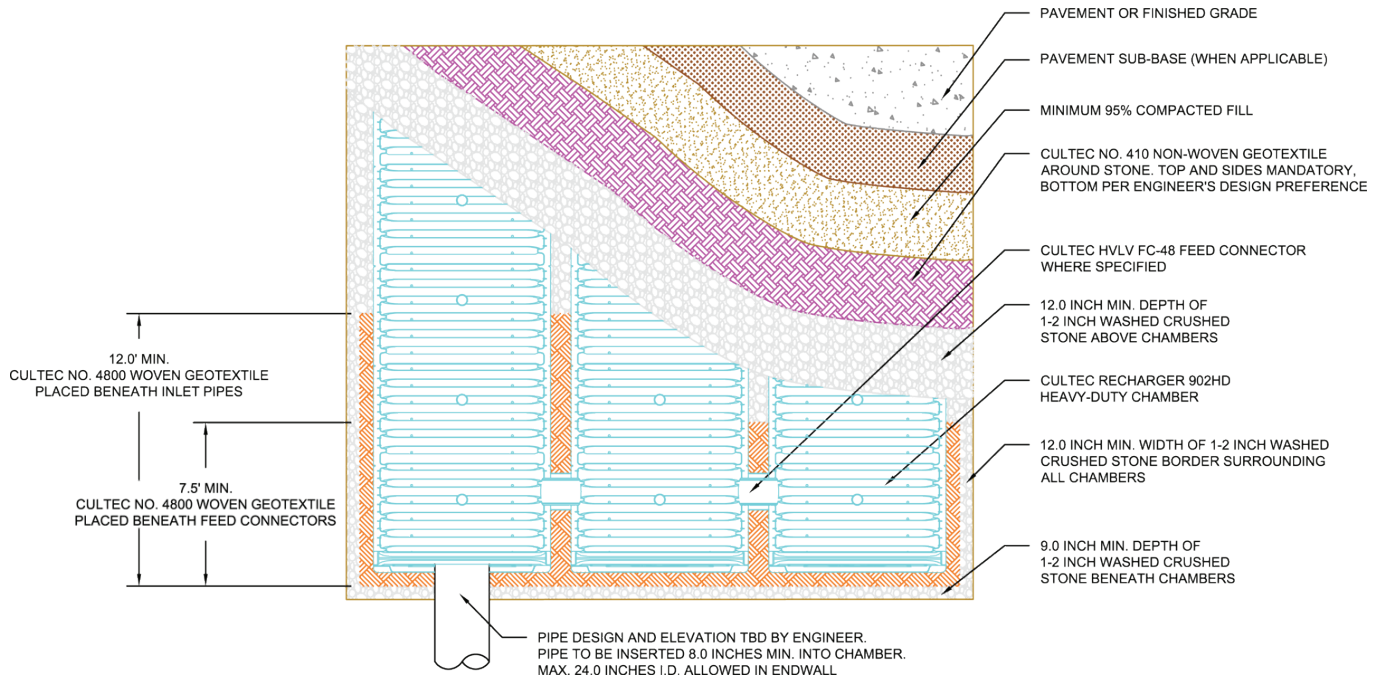
Three View Drawing



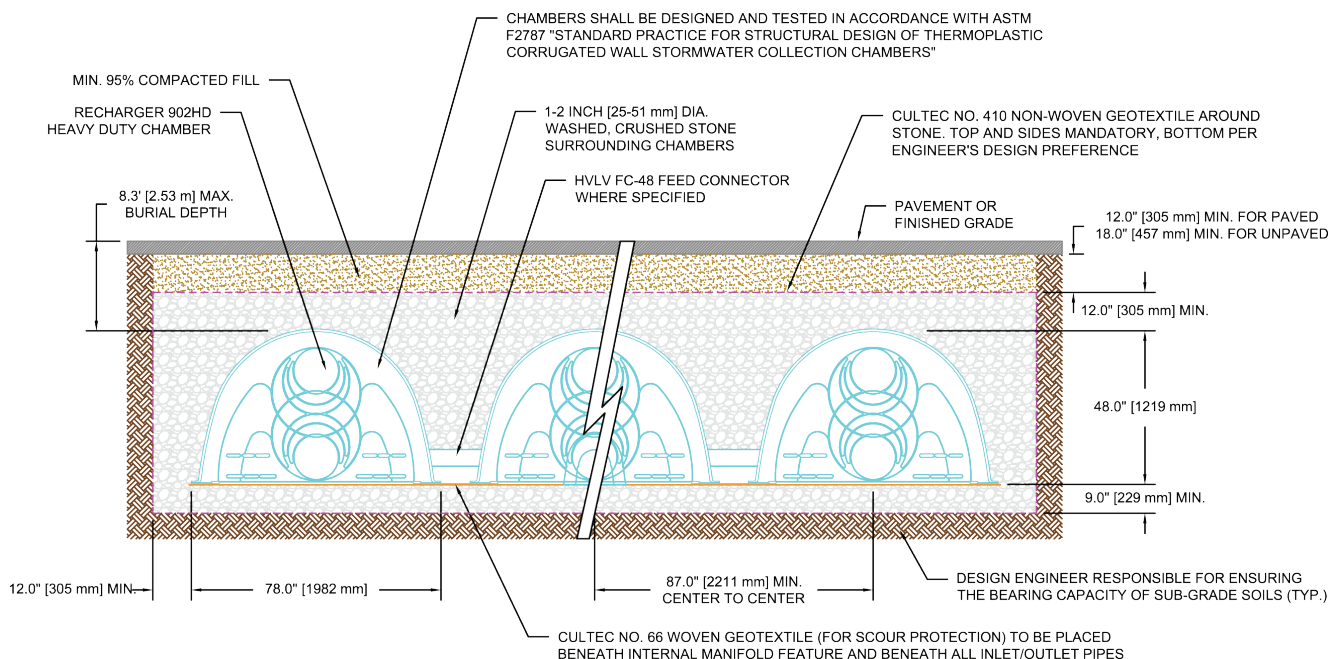
Typical Interlock Installation



Plan View Drawing



Typical Cross Section for Traffic Application





CULTEC Recharger® 902HD Stormwater Chamber

Recharger® 902HD Bare Chamber Storage Volumes

Elevation		Incremental Storage Volume				Cumulative Storage	
in.	mm	ft³/ft	m³/m	ft³	m³	ft³	m³
48	1219	0.02	0.002	0.073	0.002	64.753	1.837
47	1194	0.04	0.004	0.147	0.004	64.680	1.835
46	1168	0.08	0.007	0.293	0.008	64.533	1.831
45	1143	0.13	0.012	0.477	0.014	64.240	1.823
44	1118	0.17	0.016	0.623	0.018	63.763	1.809
43	1092	0.21	0.020	0.770	0.022	63.140	1.792
42	1067	0.23	0.021	0.843	0.024	62.370	1.770
41	1041	0.25	0.023	0.917	0.026	61.527	1.746
40	1016	0.27	0.025	0.990	0.028	60.610	1.720
39	991	0.28	0.026	1.027	0.029	59.620	1.692
38	965	0.3	0.028	1.100	0.031	58.593	1.663
37	940	0.31	0.029	1.137	0.032	57.493	1.631
36	914	0.33	0.031	1.210	0.034	56.357	1.599
35	889	0.33	0.031	1.210	0.034	55.147	1.565
34	864	0.35	0.033	1.283	0.036	53.937	1.531
33	838	0.36	0.033	1.320	0.037	52.653	1.494
32	813	0.36	0.033	1.320	0.037	51.333	1.457
31	787	0.38	0.035	1.393	0.040	50.013	1.419
30	762	0.38	0.035	1.393	0.040	48.620	1.380
29	737	0.39	0.036	1.430	0.041	47.227	1.340
28	711	0.39	0.036	1.430	0.041	45.797	1.300
27	686	0.41	0.038	1.503	0.043	44.367	1.259
26	660	0.4	0.037	1.467	0.042	42.863	1.216
25	635	0.410	0.038	1.503	0.043	41.397	1.175
24	609	0.420	0.039	1.540	0.044	39.893	1.132
23	584	0.420	0.039	1.540	0.044	38.353	1.088
22	559	0.420	0.039	1.540	0.044	36.813	1.045
21	533	0.430	0.040	1.577	0.045	35.273	1.001
20	508	0.430	0.040	1.577	0.045	33.697	0.956
19	483	0.430	0.040	1.577	0.045	32.120	0.911
18	457	0.440	0.041	1.613	0.046	30.543	0.867
17	432	0.440	0.041	1.613	0.046	28.930	0.821
16	406	0.440	0.041	1.613	0.046	27.317	0.775
15	381	0.450	0.042	1.650	0.047	25.703	0.729
14	356	0.450	0.042	1.650	0.047	24.053	0.683
13	330	0.460	0.043	1.687	0.048	22.403	0.636
12	305	0.450	0.042	1.650	0.047	20.717	0.588
11	279	0.460	0.043	1.687	0.048	19.067	0.541
10	254	0.460	0.043	1.687	0.048	17.380	0.493
9	229	0.470	0.044	1.723	0.049	15.693	0.445
8	203	0.470	0.044	1.723	0.049	13.970	0.396
7	178	0.470	0.044	1.723	0.049	12.247	0.348
6	152	0.470	0.044	1.723	0.049	10.523	0.299
5	127	0.480	0.045	1.760	0.050	8.800	0.250
4	102	0.470	0.044	1.723	0.049	7.040	0.200
3	76	0.490	0.046	1.797	0.051	5.317	0.151
2	51	0.480	0.045	1.760	0.050	3.520	0.100
1	25	0.480	0.045	1.760	0.050	1.760	0.050
Total		17.660	1.641	64.753	1.837	64.753	1.837

Recharger® 902HD Bare End Cap Storage Volumes

Elevation		Incremental Storage Volume				Cumulative Storage	
in.	mm	ft³/ft	m³/m	ft³	m³	ft³	m³
48	1219	0.039	0.004	0.020	0.0006	2.758	0.0781
47	1194	0.058	0.005	0.030	0.0008	2.738	0.0775
46	1168	0.058	0.005	0.030	0.0008	2.780	0.0767
45	1143	0.077	0.007	0.040	0.0011	2.678	0.0758
44	1118	0.097	0.009	0.050	0.0014	2.638	0.0747
43	1092	0.077	0.007	0.040	0.0011	2.588	0.0733
42	1067	0.097	0.009	0.050	0.0014	2.548	0.0722
41	1041	0.097	0.009	0.050	0.0014	2.498	0.0707
40	1016	0.097	0.009	0.050	0.0014	2.448	0.0693
39	991	0.097	0.009	0.050	0.0014	2.398	0.0679
38	965	0.097	0.009	0.050	0.0014	2.348	0.0665
37	940	0.116	0.011	0.060	0.0017	2.299	0.0651
36	914	0.097	0.009	0.050	0.0014	2.239	0.0634
35	889	0.097	0.009	0.050	0.0014	2.189	0.0620
34	864	0.116	0.011	0.060	0.0017	2.139	0.0606
33	838	0.097	0.009	0.050	0.0014	2.079	0.0589
32	813	0.097	0.009	0.050	0.0014	2.029	0.0574
31	787	0.116	0.011	0.060	0.0017	1.979	0.0560
30	762	0.097	0.009	0.050	0.0014	1.919	0.0543
29	737	0.135	0.013	0.070	0.0020	1.869	0.0529
28	711	0.097	0.009	0.050	0.0014	1.799	0.0509
27	686	0.116	0.011	0.060	0.0017	1.749	0.0495
26	660	0.116	0.011	0.060	0.0017	1.689	0.0478
25	635	0.097	0.009	0.050	0.0014	1.629	0.0461
24	609	0.116	0.011	0.060	0.0017	1.579	0.0447
23	584	0.116	0.011	0.060	0.0017	1.519	0.0430
22	559	0.135	0.013	0.070	0.0020	1.459	0.0413
21	533	0.116	0.011	0.060	0.0017	1.389	0.0393
20	508	0.116	0.011	0.060	0.0017	1.329	0.0376
19	483	0.116	0.011	0.060	0.0017	1.269	0.0359
18	457	0.116	0.011	0.060	0.0017	1.209	0.0342
17	432	0.116	0.011	0.060	0.0017	1.149	0.0325
16	406	0.135	0.013	0.070	0.0020	1.089	0.0308
15	381	0.116	0.011	0.060	0.0017	1.019	0.0289
14	356	0.116	0.011	0.060	0.0017	0.959	0.0272
13	330	0.116	0.011	0.060	0.0017	0.899	0.0255
12	305	0.135	0.013	0.070	0.0020	0.839	0.0238
11	279	0.116	0.011	0.060	0.0017	0.770	0.0218
10	254	0.135	0.013	0.070	0.0020	0.710	0.0201
9	229	0.135	0.013	0.070	0.0020	0.640	0.0181
8	203	0.135	0.013	0.070	0.0020	0.570	0.0161
7	178	0.135	0.013	0.070	0.0020	0.500	0.0141
6	152	0.116	0.011	0.060	0.0017	0.430	0.0122
5	127	0.135	0.013	0.070	0.0020	0.370	0.0105
4	102	0.135	0.013	0.070	0.0020	0.300	0.0085
3	76	0.155	0.014	0.080	0.0023	0.230	0.0065
2	51	0.135	0.013	0.070	0.0020	0.150	0.0042
1	25	0.155	0.014	0.080	0.0023	0.080	0.0023
Total		5.338	0.496	2.758	0.0781	2.758	0.0781

Calculations are based on installed chamber length of 3.67' (1.12 m).

Calculations are based on installed chamber length of 6.2" (157 mm).

For more information, contact CULTEC at (203) 775-4416 or visit www.cultec.com.



CULTEC Recharger® 902HD Specifications

GENERAL

CULTEC Recharger® 902HD chambers are designed for underground stormwater management. The chambers may be used for retention, recharging, detention or controlling the flow of on-site stormwater runoff.

CHAMBER PARAMETERS

1. The chambers shall be manufactured in the U.S.A. by CULTEC, Inc. of Brookfield, CT (cultec.com, 203-775-4416).
2. The chamber shall be structural foam injection molded of blue virgin high molecular weight impact-modified polypropylene.
3. The chamber shall be arched in shape.
4. The chamber shall be open-bottomed.
5. The chamber shall be joined using an interlocking overlapping rib method. Connections must be fully shouldered overlapping ribs, having no separate couplings.
6. The nominal chamber dimensions of the CULTEC Recharger® 902HD shall be 48 inches (1219 mm) tall, 78 inches (1981 mm) wide and 4.10 feet (1.25 m) long. The installed length of a joined Recharger 902HD shall be 3.67 feet (1.12 m).
7. Multiple chambers may be connected to form different length rows. Each row shall begin and end with a separately formed CULTEC Recharger® 902HD End Cap. Maximum inlet opening on the end cap is 24 inches (600 mm).
8. The chamber shall have two side portals to accept CULTEC HVLV™ FC-48 Feed Connectors to create an internal manifold. Maximum allowable pipe size in the side portal is 11.5 inches (292 mm).
9. The nominal chamber dimensions of the CULTEC HVLV™ FC-48 Feed Connector shall be 12 inches (305 mm) tall, 16 inches (406 mm) wide and 49 inches (1245 mm) long.
10. The nominal storage volume of the Recharger 902HD chamber shall be 17.66 ft³ / ft (1.641 m³ / m) - without stone. The nominal storage volume of a joined Recharger 902HD shall be 64.75 ft³ / unit (1.834 m³ / unit) - without stone.
11. The nominal storage volume of the HVLV™ FC-48 Feed Connector shall be 0.913 ft³ / ft (0.085 m³ / m) - without stone.
12. The Recharger 902HD chamber shall have twenty-four discharge holes bored into the sidewalls of the unit's core to promote lateral conveyance of water.
13. The Recharger 902HD chamber shall have 7 corrugations.
14. The chamber shall be designed to withstand the AASHTO design truck load and live and dead load factors as defined by AASHTO LRFD Section 12.12 when installed according to CULTEC's recommended installation instructions.
15. The chamber shall have a raised integral cap at the top of the arch near the center of each unit to be used as an optional inspection port or clean-out.
16. The units may be trimmed to custom lengths by cutting back to any corrugation.
17. The chamber shall be manufactured in a facility employing CULTEC's Quality Control and Assurance Procedures.
18. Maximum allowable cover over the top of the chamber shall be 8.3 feet (2.53 m).
19. Chambers shall be designed and tested in accordance with ASTM F2787 "Standard Practice for Structural Design of Thermoplastic Corrugated Wall Stormwater Collection Chambers".

END CAP PARAMETERS

1. The CULTEC Recharger® 902HD End Cap (referred to as 'end cap') shall be manufactured in the U.S.A. by CULTEC, Inc. of Brookfield, CT (cultec.com, 203-775-4416).
2. The end cap shall be twin-sheet thermoformed of virgin high molecular weight polyethylene.
3. The end cap shall be joined at the beginning and end of each row of chambers using an interlocking overlapping rib method. Connections must be fully shouldered overlapping ribs, having no separate couplings.
4. The nominal dimensions of the end cap shall be 48.5 inches (1231 mm) tall, 78 inches (1982 mm) wide and 9.7 inches (246 mm) long. When joined with a Recharger 902HD Chamber, the installed length of the end cap shall be 6.2 inches (157 mm).
5. The nominal storage volume of the end cap shall be 5.34 ft³ / ft (0.50 m³ / m) - without stone. The nominal storage volume of an interlocked end cap shall be 2.76 ft³ / unit (0.08 m³ / unit) - without stone.
6. Maximum inlet opening on the end cap is 24 inches (600 mm).
7. The end cap shall provide resistance to the loads and load factors as defined in the AASHTO LRFD Bridge Design Specifications Section 12.12.