#### **CULTEC RECHARGER® 300HD PRODUCT SPECIFICATIONS**

CULTEC RECHARGER® 300HD 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.

## THE CHAMBERS SHALL BE MANUFACTURED IN THE U.S.A. BY CULTEC, OF BROOKFIELD, CT.

- THE CHAMBERS SHALL BE DESIGNED AND TESTED IN ACCORDANCE WITH ASTM F2787
- "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS. THE LOAD CONFIGURATION SHALL INCLUDE: A: INSTANTANEOUS AASHTO DESIGN TRUCK LIVE LOAD AT MINIMUM COVER.
- B: MAXIMUM PERMANENT (50-YEAR) COVER LOAD. C: 1-WEEK PARKED AASHTO DESIGN TRUCK LOAD.
- THE CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION

THE INSTALLED CHAMBER SYSTEM SHALL PROVIDE RESISTANCE TO THE LOADS AND LOAD

- FACTORS AS DEFINED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12, WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS. THE STRUCTURAL DESIGN OF THE CHAMBERS SHALL INCLUDE THE
- A: THE CREEP MODULUS SHALL BE 50-YEAR AS SPECIFIED IN ASTM F2418.
- B: THE MINIMUM SAFETY FACTOR FOR LIVE LOADS SHALL BE 1.75. C: THE MINIMUM SAFETY FACTOR FOR DEAD LOADS SHALL BE 1.95.
- THE CHAMBER SHALL BE INJECTION MOLDED OF BLUE VIRGIN IMPACT-MODIFIED POLYPROPYLENE.
- THE CHAMBER SHALL BE ARCHED IN SHAPE.
- '. THE CHAMBER SHALL BE OPEN-BOTTOMED.
- THE CHAMBER SHALL BE JOINED USING AN INTERLOCKING OVERLAPPING RIB METHOD. CONNECTIONS MUST BE FULLY SHOULDERED OVERLAPPING RIBS, HAVING NO SEPARATE COUPLINGS.
- THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC RECHARGER® 300HD SHALL BE 30 INCHES (762 mm) TALL, 51 INCHES (1295 mm) WIDE AND 90.5 INCHES (2299 mm) LONG. THE INSTALLED LENGTH OF A JOINED RECHARGER® 300HD SHALL BE 7.08 FEET (2.159 m).
- 0.MULTIPLE CHAMBERS MAY BE CONNECTED TO FORM DIFFERENT LENGTH ROWS. EACH ROW SHALL BEGIN AND END WITH A SEPARATELY FORMED CULTEC RECHARGER® 300HD END CAP, MAXIMUM INLET OPENING ON THE END CAP IS 24 INCH (600 mm) HDPE.
- . THE CHAMBER SHALL HAVE TWO SIDE PORTALS TO ACCEPT CULTEC HVLV™ FC-24 FEED CONNECTORS TO CREATE AN INTERNAL MANIFOLD. MAXIMUM ALLOWABLE PIPE SIZE IN THE SIDE PORTAL IS 10 INCH (250mm) HDPE OR 12 INCH (300mm) PVC.
- 2. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLV™ FC-24 FEED CONNECTOR SHALL BE 12 INCHES (305 mm) TALL, 16 INCHES (406 mm) WIDE AND 24.2 INCHES (615 mm)
- 13. THE NOMINAL STORAGE VOLUME OF THE RECHARGER® 300HD CHAMBER SHALL BE 6.53 FT3 / FT (.607 m<sup>3</sup> / m) - WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF A JOINED
- RECHARGER® 300HD SHALL BE 46.27 FT³ / UNIT (1.310 m³ / UNIT) WITHOUT STONE. 14. THE RECHARGER® 300HD CHAMBER SHALL HAVE 14 CORRUGATIONS.
- 5. THE CHAMBER SHALL BE MANUFACTURED IN A FACILITY EMPLOYING CULTEC'S QUALITY
- CONTROL AND ASSURANCE PROCEDURES. 6.MAXIMUM ALLOWABLE COVER OVER THE TOP OF THE CHAMBER SHALL BE 12.0 FEET
- END CAP PARAMETERS
- THE CULTEC RECHARGER® 300HD END CAP (REFERRED TO AS 'END CAP') SHALL BE MANUFACTURED IN THE U.S.A. BY CULTEC, OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832).
- THE END CAP SHALL BE INJECTION MOLDED OF BLUE VIRGIN IMPACT-MODIFIED POLYETHYLENE COPOLYMERS.
- THE END CAP SHALL BE ARCHED IN SHAPE. . THE END CAP SHALL BE OPEN-BOTTOMED.
- 5. 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.
- THE NOMINAL DIMENSIONS OF THE END CAP SHALL BE 29.3 INCHES (744 mm) TALL, 45.9 INCHES (1166 mm) WIDE AND 12.2 INCHES (310 mm) LONG. WHEN JOINED WITH A RECHARGER 300HD CHAMBER, THE INSTALLED LENGTH OF THE END CAP SHALL BE 9.6
- ). THE NOMINAL STORAGE VOLUME OF THE END CAP SHALL BE  $3.32~{
  m FT}^3~/{
  m FT}$  ( $0.31~{
  m m}^3~/{
  m m})$  -WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF AN INTERLOCKED END CAP SHALL BE 2.66 FT3 / UNIT (0.08 m3 / UNIT) - WITHOUT STONE.
- D. MAXIMUM INLET OPENING ON THE END CAP IS 24 INCH (600 mm) HDPE.
- 1. THE CHAMBER SHALL BE MANUFACTURED IN A FACILITY EMPLOYING CULTEC'S QUALITY CONTROL AND ASSURANCE PROCEDURES.
- 12. THE END CAP SHALL PROVIDE RESISTANCE TO THE LOADS AND LOAD FACTORS AS DEFINED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12.

#### **CULTEC HVLV FC-24 FEED CONNECTOR PRODUCT SPECIFICATIONS**

CULTEC HVLV FC-24 FEED CONNECTORS ARE DESIGNED TO CREATE AN INTERNAL MANIFOLD FOR CULTEC RECHARGER MODEL 330XLHD STORMWATER CHAMBERS.

## 1. THE CHAMBERS SHALL BE MANUFACTURED IN THE U.S.A. BY CULTEC, OF BROOKFIELD,

FINAL ASSEMBLY

CULTEC 12" [600mm] DUCTILE IRON SQUARE BASIN COVER

CULTEC 12" [600mm] PVC UNIVERSAL INLINE DRAIN BODY

[PART #1299CGC - SOLID]

[PART #2712AGSB]

[PART #1299CGS - SLOTTED]

SDR-35 RISER PIPE CUT TO LENGTH

BASED ON SYSTEM DEPTH. PIPE SHALL

BE INSERTED INTO SDR-35 BELL END. SDR-35 RISER PIPE MAY BE 6" [150 mm]

8" [200 mm] OR 10" [250 mm] DIAMETER

[PART NOT PROVIDED BY CULTEC]

[PART NOT PROVIDED BY CULTEC]

THE DESIGN ENGINEED IS DESPONSIBLE FOR ENSURING THAT THE

REQUIRED BEARING CAPACITY OF SUB-GRADE SOILS HAVE BEEN MET

CENTER TO CENTER

\*FOR COVER DEPTHS FROM 18.0" - 8.0' (457mm - 2.44m). INCREASE DEPTH OF BEDDING STONE TO 9.0" (229mm) MIN. FOR COVER DEPTHS GREATER THAN 8.0' (2.44m)

ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS. THE STRUCTURAL DESIGN OF THE CHAMBERS SHALL INCLUDE THE FOLLOWING:

I. THE CHAMBERS SHALL BE DESIGNED AND TESTED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER

THE INSTALLED CHAMBER SYSTEM SHALL PROVIDE RESISTANCE TO THE LOADS AND LOAD FACTORS AS DEFINED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12, WHEN INSTALLED

THE CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS"

\*\*UTILIZE HVLV FC-24 FEED CONNECTOR FOR 6" (152mm) ROW SPACING. UTILIZE HVLV FC-48 FEED CONNECTOR FOR ROW SPACING GREATER THAN 6" (152mm)

SDR-35 BELL END INSERTED

6" [150mm] INTO CHAMBER

CULTEC CHAMBER

1-2 INCH [25-50mm] WASHED, CRUSHED

CULTEC RECHARGER 300HD

IN SEPARATOR ROW CONFIGURATION

COLLECTION CHAMBERS "THE LOAD CONFIGURATION SHALL INCLUDE:

MAXIMUM PERMANENT (50-YEAR) COVER LOAD

1-WEEK PARKED AASHTO DESIGN TRUCK LOAL

**CULTEC HVLV FC-24** 

FEED CONNECTOR THREE VIEW

1.a. INSTANTANEOUS AASHTO DESIGN TRUCK LIVE LOAD AT MINIMUM COVER

THE CREEP MODULUS SHALL BE 50-YEAR AS SPECIFIED IN ASTM F2418

THE MINIMUM SAFETY FACTOR FOR LIVE LOADS SHALL BE 1.75

18.0" [457mm] MIN. FOR UNPAVED (REDUCE TO 12.0" [305mm] FOR

12' [3.66m] MAX. COVER DEPTH

STONE SURROUNDING CHAMBERS

(IF APPLICABLE)

- CT. (203-775-4416 OR 1-800-428-5832) 2. THE CHAMBER SHALL BE VACUUM THERMOFORMED OF HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE) WITH A BLACK INTERIOR AND BLUE
- 3. THE CHAMBER SHALL BE ARCHED IN SHAPE.
- 4. THE CHAMBER SHALL BE OPEN-BOTTOMED.
- 5. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLV FC-24 FEED CONNECTOR SHALL BE 12 INCHES (305 mm) TALL, 16 INCHES (406 mm) WIDE AND 24.2 INCHES (614
- 6. THE NOMINAL STORAGE VOLUME OF THE HVLV FC-24 FEED CONNECTOR SHALL BE 0.913 FT<sup>3</sup> / FT (0.085 m<sup>3</sup> / m) - WITHOUT STONE.
- 7. THE HVLV FC-24 FEED CONNECTOR CHAMBER SHALL HAVE 2 CORRUGATIONS.
- 8. THE HVLV FC-24 FEED CONNECTOR MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO OPEN END WALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT SHALL FIT INTO THE SIDE PORTALS OF THE CULTEC RECHARGER STORMWATER CHAMBER AND ACT AS CROSS FEED CONNECTIONS CREATING AN
- 9. THE CHAMBER SHALL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.
- 10. THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2015 CERTIFIED FACILITY.

### **CULTEC NO. 410™ NON-WOVEN GEOTEXTILE**

(203-775-4416 OR 1-800-428-5832)

CULTEC NO. 410™ NON-WOVEN GEOTEXTILE MAY BE USED WITH CULTEC CONTACTOR® AND RECHARGER® STORMWATER INSTALLATIONS TO PROVIDE A BARRIER THAT PREVENTS SOIL INTRUSION INTO THE STONE.

- 1. THE GEOTEXTILE SHALL BE PROVIDED BY CULTEC, OF BROOKFIELD, CT.
- 2. THE GEOTEXTILE SHALL BE BLACK IN APPEARANCE.
- 3. THE GEOTEXTILE SHALL HAVE A TYPICAL WEIGHT OF 4.5 OZ/SY (142 G/M).
- 4. THE GEOTEXTILE SHALL HAVE A TENSILE STRENGTH VALUE OF 120 LBS (533 N) PER ASTM D4632 TESTING METHOD.
- 5. THE GEOTEXTILE SHALL HAVE AN ELONGATION @ BREAK VALUE OF 50% PER ASTM
- 6. THE GEOTEXTILE SHALL HAVE A MULLEN BURST VALUE OF 225 PSI (1551 KPA) PER
- 7. THE GEOTEXTILE SHALL HAVE A PUNCTURE STRENGTH VALUE OF 65 LBS (289 N) PER
- 8. THE GEOTEXTILE SHALL HAVE A CBR PUNCTURE VALUE OF 340 LBS (1513 N) PER ASTM D6241 TESTING METHOD.
- 9. THE GEOTEXTILE SHALL HAVE A TRAPEZOID TEAR VALUE OF 50 LBS (222 N) PER ASTM D4533 TESTING METHOD.
- 10. THE GEOTEXTILE SHALL HAVE A AOS VALUE OF 70 U.S. SIEVE (0.212 MM) PER ASTM D4751 TESTING METHOD
- 11. THE GEOTEXTILE SHALL HAVE A PERMITTIVITY VALUE OF 1.7 SEC-1 PER ASTM D4491

13. THE GEOTEXTILE SHALL HAVE A UV STABILITY @ 500 HOURS VALUE OF 70% PER ASTM

12. THE GEOTEXTILE SHALL HAVE A WATER FLOW RATE VALUE OF 135 GAL/MIN/SF (5500 L/MIN/SM) PER ASTM D4491 TESTING METHOD.

### **CULTEC AFAB-HPF™ WOVEN GEOTEXTILE**

CULTEC AFAB-HPF WOVEN GEOTEXTILE IS DESIGNED AS A UNDERLAYMENT TO PREVENT SCOURING CAUSED BY WATER MOVEMENT WITHIN THE CULTEC CHAMBERS AND FEED CONNECTORS UTILIZING THE CULTEC MANIFOLD FEATURE IT MAY ALSO BE USED AS A COMPONENT OF THE CULTEC SEPARATOR ROW TO ACT AS A BARRIER TO PREVENT SOIL/CONTAMINANT INTRUSION INTO THE STONE WHILE ALLOWING FOR MAINTENANCE.

## **GEOTEXTILE PARAMETERS**

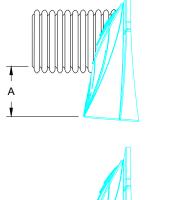
D4355 TESTING METHOD.

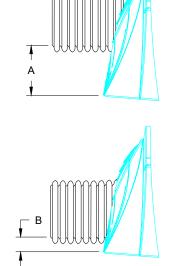
- 1. THE GEOTEXTILE SHALL BE PROVIDED BY CULTEC, OF BROOKFIELD, CT.
- (203-775-4416 OR 1-800-428-5832) THE GEOTEXTILE SHALL BE BLACK AND WHITE IN APPEARANCE.
- 3. THE GEOTEXTILE SHALL HAVE A TENSILE STRENGTH OF 320 X 320 LBS (1,420 X 1,420 N) PER ASTM D4632 TESTING METHOD.
- 4. THE GEOTEXTILE SHALL HAVE A ELONGATION @ BREAK RESISTANCE OF 15 X
- 15% PER ASTM D4632 TESTING METHOD.
- 5. THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE OF 3,563 X 3,563 LBS/FT (52 X 52 KN/M) PER ASTM D4595 TESTING METHOD. 6. THE GEOTEXTILE SHALL HAVE A CBR PUNCTURE RESISTANCE OF 1,500 LBS
- (6,670 N) PER ASTM D6241 TESTING METHOD. 7. THE GEOTEXTILE SHALL HAVE A TRAPEZOIDAL TEAR RESISTANCE OF 120 X
- 120 LBS (540 X 540 N) PER ASTM D4533 TESTING METHOD.
- 8. THE GEOTEXTILE SHALL HAVE AN APPARENT OPENING SIZE OF 30 US STD. SIEVE (0.60 MM) PER ASTM D4751 TESTING METHOD.
- 9. THE GEOTEXTILE SHALL HAVE A PERMITTIVITY RATING OF 0.2 SEC-1 PER
- ASTM D4491 TESTING METHOD.
- 10. THE GEOTEXTILE SHALL HAVE A WATER FLOW RATING OF 22 GPM/FT2 (900 LPM/M2) PER ASTM D4491 TESTING METHOD.
- 11. THE GEOTEXTILE SHALL HAVE A UV RESISTANCE OF 70% @ 500 HRS. PER
- ASTM D4355 TESTING METHOD.

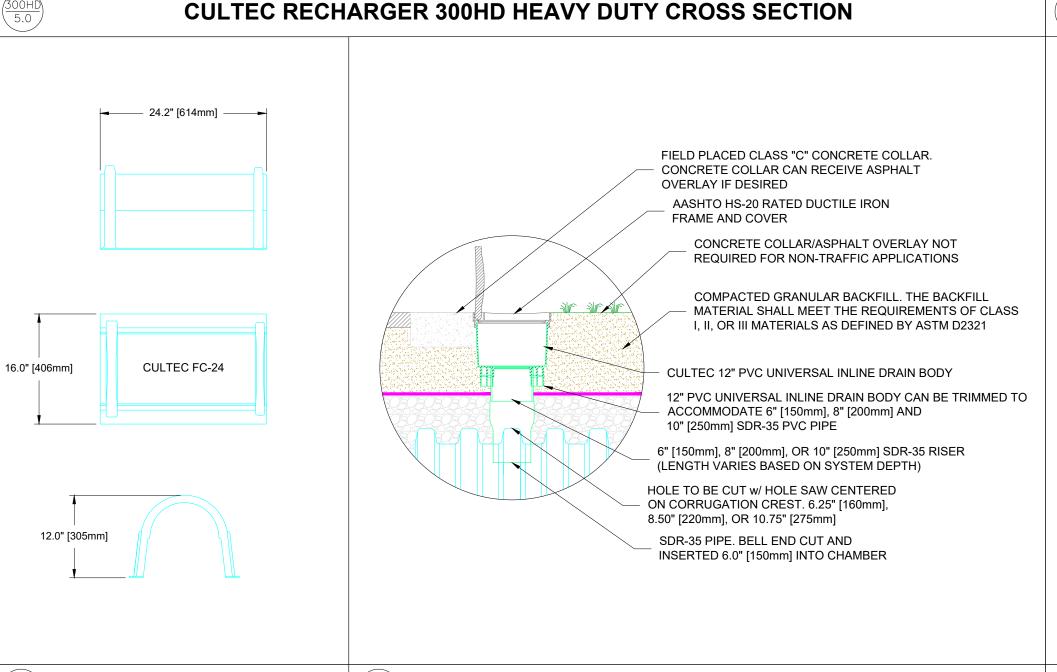
# **GENERAL NOTES**

PIPE	Α	В
6" [150 mm]	18.50" [470 mm]	0.50" [13 mm]
8" [200 mm]	16.50" [420 mm]	0.75" [20 mm]
10" [250 mm]	14.50" [369 mm]	1.00" [26 mm]
12" [300 mm]	12.50" [318 mm]	1.25" [32 mm]
15" [375 mm]	9.00" [229 mm]	1.50" [39 mm]
18" [450 mm]	5.00" [127 mm]	1.75" [45 mm]
24" [600 mm]	N/A	2.50" [64 mm]

\*THE TYPICAL INVERT TABLE ABOVE IS BASED ON THE INSIDE DIAMETER OF STANDARD CORRUGATED PLASTIC PIPE. THE HEAVY DUTY END CAP HAS PRE-MARKED TRIM LINES FOR PIPE DIAMETERS 6" (150mm), 8" (200mm), 10" (250mm), 12" (300mm), 15" (375mm), 18" (450mm) AND 24" (600mm), PIPES OF ANY SIZE AND MATERIAL UP TO 24" (600mm) MAY BE PLACED AT CUSTOM LOCATIONS AND CUSTOM INVERTS. THE CROWN OF THE PIPE MUST REMAIN A MINIMUM OF 3" (75mm) FROM THE EDGE OF THE HEAVY DUTY END CAP.







**SLOTTED COVER OPTION** 

**PVC BODY ELEVATION VIEW** 

11.0" [279 mm

CULTEC NON-WOVEN GEOTEXTILE AROUND STONE. TOP AND SIDES MANDATORY, BOTTOM PER ENGINEER'S DESIGN PREFERENCE

30.0" [762mm

CUI TEC WOVEN GEOTEXTILE TO BE PLACED BENEATH INTERNAL MANIFOLD

OPTIONAL CULTEC INSPECTION PORT - ZOOM DETAIL

FEATURE AND BENEATH ALL INLET/OUTLET PIPES (FOR SCOUR PROTECTION)

6.0" [152mm] MIN.\* (SEE NOTES BELOW)

– 12.5" [317 mm] *—* 

12.0" [305mm] MIN. FOR RIGID PAVEMENT

12 0" [305mm] MIN\_FOR

FLEXIBLE PAVEMENT

DUCTILE IRON FRAME

HINGE FOR EASY ACCESS

SLOTTED DUCTILE IRON COVER

TOTAL OPEN AREA = 60.62 IN<sup>2</sup>

SOLID COVER OPTION

→ 13.6" [346 mm] —

**PVC BODY PLAN VIEW** 

13.6" [346 mm]

6" [150 mm] SDR-35 RISER PIPE

PVC BODY CAN BE TRIMMED IN FIELD

TO ACCOMMODATE 8" [200 mm] AND

**CULTEC UNIVERSAL INSPECTION PORT KIT DETAIL** 

WHERE SPECIFIED\*\*

10" [250 mm] SDR-35 RISER PIPE SIZES

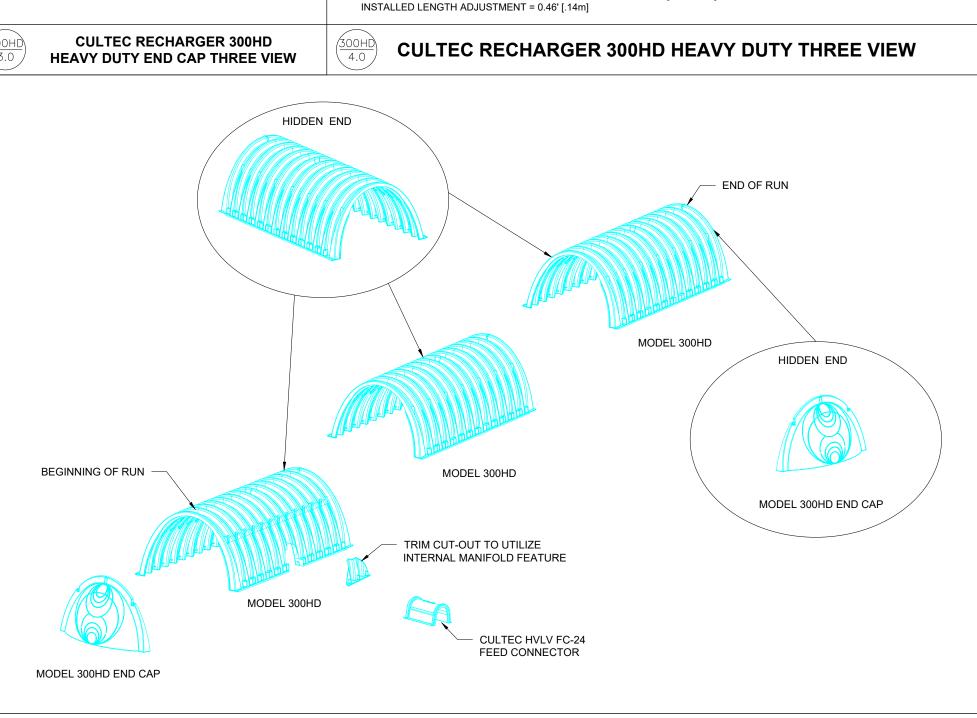
CULTEC HVLV FC-24 FEED CONNECTOR

MIN. 95% COMPACTED FILL

DUCTILE IRON FRAME

HINGE FOR EASY ACCESS

SOLID DUCTILE IRON COVER



6.0" DIA. INSPECTION PORT KNOCK-OUT

90.5" [2299mm]

Ш

30

[762mm]

LARGE RIB

MAXIMUM PIPE SIZE:

12" [300mm] PVC 10" [250mm] HDPE

CULTEC RECHARGER 300HD CHAMBER STORAGE = 6.53 CF/FT [0.60 m<sup>3</sup>/m]

- SIDE PORTAL FOR OPTIONAL INTERNAL MANIFOLD

(ACCOMMODATES CULTEC HVLV FC-24 FEED CONNECTOR OR STORM PIPE)

90.5" [2299mm]

- 85.0" [2159mm] INSTALLED LENGTH -

→ 51.0" [1295mm] -

29.3"

45.9" 1166mm]

9.6" [244mm] INSTALLED

**CULTEC RECHARGER 300HD** 

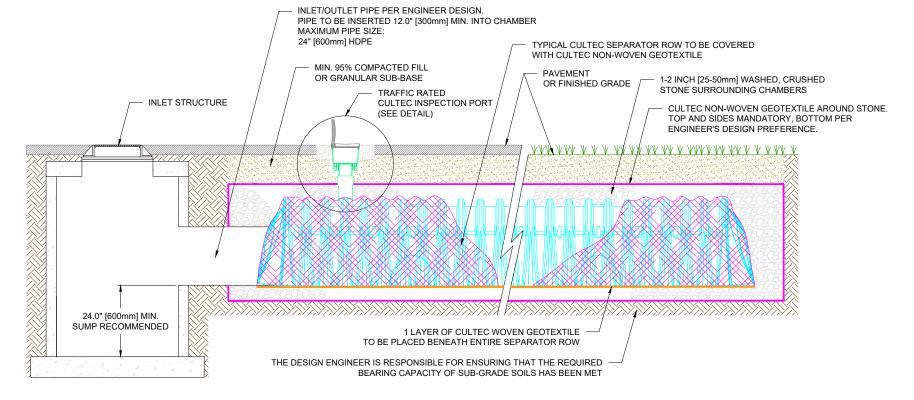
END CAP STORAGE = 2.66 CF [0.08 m<sup>3</sup>] / UNIT

END CAP STORAGE =  $3.32 \text{ CF/FT } [0.31 \text{ m}^3/\text{m}]$ 

INSTALLED LENGTH ADJUSTMENT = 0.22' [.067m]

**→** 12.2" [310mm]



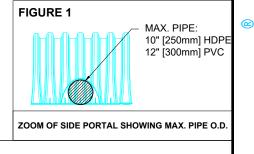


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1-WEEK PARKED AASHTO DESIGN TRUCK LOAD THE CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" THE INSTALLED CHAMBER SYSTEM SHALL PROVIDE RESISTANCE TO THE LOADS AND LOAD FACTORS AS DEFINED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12, WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS. THE STRUCTURAL DESIGN OF THE

CHAMBERS SHALL INCLUDE THE FOLLOWING: THE CREEP MODULUS SHALL BE 50-YEAR AS SPECIFIED IN ASTM F2418 THE MINIMUM SAFETY FACTOR FOR LIVE LOADS SHALL BE 1.75 THE MINIMUM SAFETY FACTOR FOR DEAD LOADS SHALL BE 1.95

MAXIMUM PERMANENT (50-YEAR) COVER LOAD



**CULTEC SEPARATOR ROW - CULTEC INSPECTION PORT DETAIL (IF APPLICABLE)** 

**CULTEC RECHARGER 300HD TYPICAL PIPE INVERTS**