Bio Clean
A Forterra Company

Section [_____]
Stormwater Connector Pipe Screen

PART 1 – GENERAL

01.01.00 Purpose
The purpose of this specification is to establish generally acceptable criteria for Connector Pipe Screens used for collecting trash and debris inside catch basins. It is intended to serve as a guide to producers, distributors, architects, engineers, contractors, plumbers, installers, inspectors, agencies and users; to promote understanding regarding materials, manufacture and installation; and to provide for identification of devices complying with this specification.

01.02.00 Description
Stormwater Connector Pipe Screens (CPS) are used to prevent trash and debris from entering the stormwater system during dry weather and moderate storm flows by keeping the trash inside the catch basin. The CPS is a screen placed permanently or temporarily in a catch basin at the location of the outlet pipe. The screen separates trash and debris from stormwater treatment flows. Flows that exceed the treatment flow rate bypass over the top of the screen. When the outlet pipe is located below a curb opening the CPS features a lid to prevent debris from passing behind the screen and flowing directly to the outlet pipe. The CPS shall be designed to retain all trash larger than 5 mm (0.197 inches) in the catch basin.

01.03.00 Manufacturer
The manufacturer of the CPS shall be one that is regularly engaged in the engineering, design and production of systems developed for the treatment of stormwater runoff for at least (10) years, and which has a history of successful production, acceptable to the engineer of work. In accordance with the drawings, the CPS(s) shall be a screen device manufactured/distributed by Bio Clean Environmental Services, Inc., or assigned distributors or licensees. Bio Clean Environmental Services, Inc. can be reached at:

5796 Armada Drive, Suite 250
Carlsbad, CA 92008
Phone: (760) 433-7640
Fax: (760) 433-3176
www.biocleanenvironmental.net

01.04.00 Submittals

01.04.01 Submittal drawings will be provided with each order to the contractor and engineer of work.

01.04.02 Submittal drawings are to detail the CPS, its components and the sequence for installation, including:

- CPS configuration with primary dimensions
- Various CPS components
- Any accessory equipment

01.04.03 Inspection and maintenance documentation submitted upon request.

01.05.00 Work Included

01.05.01 Specification requirements for installation of CPS.

01.05.02 Manufacturer to supply CPS(s):

- Screen
- Mounting hardware
- Bypass lid with supports (when required)

PART 2 – COMPONENTS

02.01.01 The CPS shall have a sufficient structural integrity to withstand a lateral force of standing water within the catch basin area when the screen becomes 100% clogged. The CPS unit shall be bolted to the catch basin walls.

02.01.02 The CPS shall be configured with deflector plates or screens preventing trash from falling between the screen and connector pipe. The deflector plate shall be designed to withstand a vertical load.

02.01.03 The gap at the bottom, sides, and joints of the CPS unit shall not exceed 5 mm (0.197 inches).

02.01.04 The CPS shall include vertical structural stiffeners extending the full length of the screen in the form as bends in the screen itself, a bolting surface to fasten the CPS to the wall of the catch basin, and support for the upper portion of the CPS unit referred to as the "bypass."

02.01.05 All parts/components of the CPS unit must be sized to fit through the catch basin's manhole opening.

02.01.06 The CPS frame shall be fabricated from 304 stainless steel.

02.01.07 The CPS screen shall be fabricated from perforated 304 stainless steel. The screen shall have a minimum thickness of 16 gauge. The geometrical opening shape shall have a diameter of 5 mm (0.197 inches).

02.01.08 The screen material used shall have at least 45% open area.

02.01.09 Any edge of the CPS that is not flush with the wall or floor of the catch basin shall be smooth with no prongs or jagged edges.

02.01.10 The assembly bolts, screws, nuts, and washers shall be fabricated entirely from 316 stainless steel. The concrete anchor bolts shall use a wedge anchor, with Type 316 stainless steel threaded rods, nuts, and washers.

PART 3 – PERFORMANCE

03.01.00 General

03.01.01 Function - The CPS has no moving internal components and functions based on gravity flow, unless otherwise specified. Stormwater runoff enters the catch basin through a curb opening and flows toward the connector pipe. The CPS is placed to intercept flows prior to exiting the catch basin through the connector pipe. The CPS must be able to be removed through the catch basin opening. Stormwater flow up to the peak treatment rate is processed through the screen. Flows in excess of the peak treatment rate will overtop the screen in a bypass. The lid (when required) shall be place high enough above the screen to allow for full bypass flow.

03.01.02 Pollutants - The CPS will remove and retain trash and debris larger than 5 mm in diameter entering the catch basin during frequent storm events and specified flow rates.

03.01.03 Treatment Flow Rate - The CPS operates through gravity flow. The CPS is to be sized so the screen is capable of passing the calculated project specific water quality flow rate per local standards. All treatment flow rates must include a 50% screen clogging factor.

03.01.04 Bypass Flow Rate – The CPS is designed to fit within the catch basin in a way not to affect the existing hydraulics and treat or bypass all flows. The bypass must be sized with a surface area greater than the outlet pipe size, thus the CPS shall not be a critical point of flow restriction.

PART 4 - EXECUTION

04.01.00 General

The installation and use of the CPS shall conform to all applicable national, state, municipal and local specifications.

04.02.00 Installation

The contractor shall furnish all labor, equipment, materials and incidentals required to install the CPS device(s) and appurtenances in accordance with the drawings, installation manual, and these specifications, and be inspected and approved by the local governing agency. Any damage to catch basin and surrounding infrastructure caused by the installation of the CPS is the responsibility of the installation contractor.

04.02.01 CPS and all components or accessories shall be inserted through the catch basin and properly secured per manufactures installation manual and these specifications.

04.03.00 Shipping, Storage and Handling

04.03.01 Shipping – CPS shall be shipped to the contractor's address and is the responsibility of the contractor to transport the unit(s) to the exact site of installation.

04.03.02 Storage and Handling– The contractor shall exercise care in the storage and handling of the CPS(s) and its components prior to and during installation. Any repair or replacement costs associated with events occurring after delivery is accepted, and unloading has commenced shall be born by the contractor. The CPS(s) and its components shall always be stored indoors and transported inside the original shipping container(s) until the CPS(s) are ready to be installed. The CPS shall always be handled with care and lifted according to OSHA and NIOSA lifting recommendations and/or contractor's workplace safety professional recommendations.

04.04.00 Maintenance and Inspection

04.04.01 Inspection – After installation, the contractor shall demonstrate that the CPS has been properly installed at the correct location(s), elevations, and with appropriate supports and fasteners. All components associated with the CPS and its installation shall be subject to inspection by the engineer of work, governing agency, and the manufacture at the place of installation. In addition, the contractor shall demonstrate that the CPS has been installed per the manufacturer's specifications and recommendations. CPS(s) shall be physically inspected regularly in accordance to owner's Stormwater Pollution Prevention Plans (SWPPP) and manufacture's recommendations. An inspection record shall be kept by the inspection operator. The record shall include the condition of the CPS and its appurtenances. The most current copy of the inspection record shall always be copied and placed in the owner's SWPPP.

04.04.02 Maintenance – The maintenance shall be performed by someone qualified. A Maintenance Manual is available upon request from the manufacturer. The

manual has detailed information regarding the maintenance of the CPS(s). A detailed Maintenance Record shall be kept by the maintenance operator. The Maintenance Record shall include any maintenance activities preformed, amount and description of debris collected, and the condition of the CPS. The most current copy of the Maintenance Record shall always be copied and placed in the owner's Stormwater Pollution Prevention Plan (SWPPP) per governing agency. Upon cleaning: no trash or debris shall be located in the catch basin, on top of the bypass lid, or between the screen; no vegetation shall block the catch basin opening or connector pipe; and no trash or debris shall be located within the catch basin opening.

04.04.03 Material Disposal - All debris, trash, organics, and sediments captured and removed from the CPS shall be transported and disposed of at an approved facility for disposal in accordance with local and state regulations. Please refer to state and local regulations for the proper disposal of toxic and non-toxic material.

PART 5 – QUALITY ASSURANCE

05.01.00 Warranty

The manufacturer shall guarantee the CPS against all manufacturing defects in materials and workmanship for a period of (1) year from the date of delivery to the contractor. The manufacturer shall be notified of repair or replacement issues in writing within the warranty period. The CPS is limited to recommended application for which it was designed.

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