UNDERGROUND STORMWATER STORAGE SYSTEM(S) SPECIFICATION

PART 1.00 GENERAL

1.1 DESCRIPTION

A. This item shall govern the furnishing and installation of the EZ Storm + underground detention and infiltration system(s).

B. The manufacturer selected by the Contractor and approved by the Engineer, shall furnish all labor, materials, equipment and incidentals required to manufacture the stormwater treatment system(s) specified herein in accordance with the attached Drawing(s) and these specifications.

1.2 QUALITY CONTROL INSPECTION

A. The quality of materials, the process of manufacture, and the finished sections shall be subject to inspection by the Engineer. Such inspection may be made at the place of manufacture, or on the worksite after delivery, or at both places, and shall be subject to rejection at any time if material conditions fail to meet substantially any of the specification requirements. If a Stormwater Storage System is rejected after delivery to the site, it shall be marked for identification and removed from the site. The Stormwater Storage System(s) which have been damaged beyond repair during delivery will be rejected and, if already installed, shall be repaired to the Engineer's and manufacturer's acceptance level, if permitted.

B. All sections shall be field inspected for general appearance, dimensions, soundness, etc.

1.3 SUBMITTALS

A. Plan, elevation, and profile dimensional drawings shall be submitted to the Engineer of Record for review and approval no later than 10 days prior to bid date. The Contractor shall be provided with the approved plan, elevation, and profile dimensional drawings. Any deviation from the specified Stormwater Storage System must be reviewed by a Licensed Professional Engineer to meet the Performance requirements in Section 2.2. A document, stamped and sealed by a licensed PE must be provided stating that the alternate treatment device meets all performance requirements.

PART 2.00 PRODUCTS

2.1 MATERIALS AND DESIGN

A. Concrete structures shall be designed for H-20 traffic loading and applicable soil loads or as otherwise determined by a Licensed Professional Engineer. The materials and structural design of the devices shall be per ASTM C857 and ASTM C858.

1. The minimum compressive strength of the concrete in the manhole base, riser, and top sections shall be 4000 psi.

2. Cement shall conform to the requirements for Portland cement of Specification C150.

3. Aggregates shall conform to Specification C33, except that the requirement for gradation shall not apply.

4. Reinforcement shall consist of wire conforming to Specification A82 or Specification A496, of wire fabric conforming to Specification A185 or Specification A497, or of bars of Grade 40 steel conforming to Specification A615/A615M.

5. The access cover shall be designed for HS20-44 traffic loading and shall provide a minimum 30 inch clear opening.

6. Any grout used within the system shall meet the ASTM C 1107 "Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Non-Shrink)". Grades A, B and C at a pourable and plastic consistency at 70ºF. CRD C 621 "Corps of Engineers Specification For Non-Shrink Grout."

B. 1/2 block, full block, side panels, cover plates of the EZ Storm + underground stormwater storage system shall made of injection molded Polypropylene copolymer.

C. The EZ Storm + System shall be comprised of a configuration of modular crates 14 inches tall, 31.5 inches wide, and 31.5 inches long, stacked together in layers.

D. The EZ Storm + crate shall consist of 16 vertical columns with an inspection corridor in a biaxial orientation along the centerline of the crate, providing an inspection and maintenance corridor no less than 6.3 inches wide.

E. The EZ Storm + System is to be completely wrapped in a non-woven Geotextile. When a watertight system is specified, the watertight system shall be wrapped in an impermeable liner in between 2 layers of non-woven geotextile as per the design drawings.

F. When specified, the EZ Access inspection and maintenance structure shall be constructed of a square or rectangular concrete structure integrated into the design of the EZ Storm + system. The EZ Access inspection and maintenance structure shall directly adjoin the EZ Storm + crates and

provide inspection and maintenance windows aligned with the centerline of the EZ Storm + crates.

2.2 PERFORMANCE

A. The EZ Storm + system proposal shall be sized in accordance with the design provided and approved by the Engineer of Record. Any contractor deviating from the design shown on the plans, to inlclude: material, footprint, etc. shall provide to the Engineer of Record a summary report on stage-storage curves, design calculations, and engineering drawings.

B. The EZ Storm + system shall provide a minimum of 96% void space for water storage and at a minimum provide 14.3 cubic feet of storage per full block and 7.6 cubic feet of water storage per half block.

C. The EZ Storm + system design shall be based on NF EN 17151: Plastic piping systems for non-pressure underground conveyance and storage of non-potable water, and the design must be verified through Finite Element Analysis (FEA) for long term structural performance.

D. When specified, the Stormwater Storage System pretreatment device shall be a hydrodynamic separator which is ISO14034 Environmental Technology Verified (ETV), and an ETV verification letter must be provided with the submittal.

E. The application of wrapping a system or components with geotextile of any branding or material type, that allows the passage of stormwater, shall not be regarded as an acceptable treatment or pretreatment device.

F. The EZ Storm + system shall be assembled by clipping ½ block components together requiring no tools or additional fasteners. Lateral faces and cover plates are clipped together with no need for additional tools or fasteners.

2.3 MANUFACTURER

A. Each Stormwater Storage System shall be a NEXT : EZ Storm + system as manufactured by NEXT, 1305 Hill Ave, West Palm Beach, FL 33407. www.nextinfras.com

PART 3.00 EXECUTION

INSTALLATION

A. Installation of the Stormwater Storage System(s) shall be performed per manufacturer's Installation Instructions. Such instructions can be found at www.nextinfras.com.