

Response to GPI - Second Peer Review – Stormwater Design; dated August 2, 2019

The following documents prepared by Williams & Sparages, serve as the bases for the following responses:

- **Stormwater Revision Letter** - November 17, 2019.
- **Definitive Site Plan** - A Planned Residential Development; Revised November 12, 2019.
- **Stormwater Report** - Revised November 18, 2019.
- **Existing Watershed Map** - Revised October 18, 2019.
- **Proposed Watershed Map** - Revised November 18, 2019.
- **Rational Method Divide Plan** - dated November 18, 2019.
- **Construction Period Pollution Prevention Plan (CPPPP)** – November 12, 2019.
- **Construction Plan – Revised November 12, 2019** (Included in CPPPP).
- **Long-Term Pollution Prevention Plan (LTPPP)** - – November 12, 2019.
- **Operation & Maintenance Plan** - dated November 12, 2019 (Included in LTO&M).
- **Fire Truck Vehicle Turning Path** - dated November 12, 2019.

SECTION 1: INITIAL REVIEW – STORMWATER DESIGN COMMENTS – [OUTSTANDING]

2. **[PROVIDED]** – The depth to groundwater at each Observation Test Hole location has been provided on both the Existing Condition Plan & Existing Watershed Map.
3. **[PROVIDED]** – The Subsurface Chamber – Design Criteria Table added to the (Sheet 10), has been added to show the estimated seasonal high groundwater (SHGW) elevation with required vertical separation (2.0 Min) to bottom of all Stormwater Areas (SWMA-) & Roof Drywell (RD-) Areas.
6. **[PROVIDED]** – A Rational Method Divide Plan has been prepared (See Stormwater Report).

SECTION 2: INITIAL REVIEW – NPDES COMPLIANCE REVIEW COMMENTS – [OUTSTANDING]

1. **[PROVIDED]** – A Plan has been included within the LTO&M document.
3. **[PROVIDED]** – Separate documents are now provided for the CPPPP and the LTPPP.
10. **[SPECIAL CONDITION OF PRD PERMIT]** – Prior to start of construction, Applicant shall provide written authorization to allow representatives of the Town to enter the site to inspect erosion and sedimentation control measures during the period of land disturbance.

Revised Submission Review – New Stormwater Design Review comments – [OUTSTANDING]

1. **[PROVIDED]** – Storm Drain Capacity calculations have been performed for all conveyance BMPs utilizing the Rational Method for a 100-year frequency storm event and calculations have been provided for the 100-year storm event (See Stormwater Report & Rational Method Divide Plan).
2. **[PROVIDED]** - Labels for all drainage structures have been updated on all plans.
3. **[PROVIDED]** - The Datum elevation has been added to bottom right corner of Profile on Sheet 7.

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4. [PROVIDED] –

The Utility Plan (Sheet 5) has been updated to provide the Plan View detail for each SWMA, illustrating the number of rows, chambers per row, inspection port locations and stone outline for each (SWMA) & each Roof Drywell System.

The Construction Detail Plan (Sheet 10) provides a Cross-Section Detail for the Stormtech MC-3500 & MC-4500 Chamber Systems; Isolator Row Detail; End Cap Insertion Detail; Inserta-Tee Side Inlet Detail for the Roof Drain connections; Installation Notes; Inspection Port Detail; Downspout Detail and Cleanout Detail for construction of each SWMA & RD.

The Subsurface Chamber – Design Criteria Table (Sheet 10) provides the following detailed construction information for each SWMA & RD as follows:

Stormwater Area – Name, Chamber Size & Chamber Height

Elevation Schedule – bottom stone, bottom chamber, top of chamber, top of stone, 100-year maximum elevation, Inlet & Outlet Pipe Invert & Pipe Diameter.

Groundwater Offset - Observation Test Hole No., ESHWT & Vertical Offset (2.0' Min).

Quantity – Number of Rows & Chambers per Row.

Dimension Schedule – Overall Length, Width and Depth of Stone.

- a. Depth of Stone elevation (SWMA-1P) has been clarified at 0.75'; (Sheet 6) and also within the Stormwater Report.***
- b. Structure Labels have been renamed and coordinated on all sheets.***
- c. CB3 & CB4 inverts have been adjusted from 139.70 to 140.20; a Contech CDS-Unit (CDS-7) has been included prior to Diversion Manhole (DMH-7P) at Isolator Row for SWMA-7P .***
- d. The footprint and location of each drain manhole structure and SWMA has been revised and adjusted on the Topographic Plan (Sheet 4), Plan & Profile (Sheet 6 & 7); Subsurface Chamber – Design Criteria Table (Sheet 10). Calculations updated accordingly (See Stormwater Report).***
- e. (See response Item d. above).***

The stormwater design has been updated accordingly on each plan sheet. Structure Labels have been renamed to coordinate with each SWMA; details for each SWMA have been updated on Utility Plan (Sheet 5) and Construction Details (Sheet 10). Elevations for each catch basin (CB), Contech Unit (CDS) & Drain Manhole (DMH) are provided on the Plan & Profile (Sheet 6 & 7); Elevations for the Stormwater management Systems (SWMA & RD) are provided on the Construction Details (Sheet 10) in Table Format.

- i. Oil gas Separators have been replaced with Contech CDS Units.***

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- ii. DMH Structure locations have been adjusted on all sheets.*
 - iii. SWMA locations and outlines have been adjusted on all sheets.*
 - iv. Catch Basin labels and locations have been updated on all sheets.*
 - v. DMH Structure near STA 9+50 has been added to the Profile.*
- 5. [PROVIDED] - The unused Bioretention Detail (Sheet 9) has been removed.**
- 6. [PROVIDED] - The Narrative for Standard 3, within the Stormwater Report, has been updated to indicate that recharge is provided within the sand layer at each subsurface infiltration system, as confirmed within every Observation Test Hole conducted (See Soils Logs in Stormwater Report).**
- 7. [PROVIDED] – Separate subcatchments (P-17 & P18) have been provided for each lawn Area Drains (AD-2 & AD-3); subcatchment to IVW has been renumbered from P-18 to P-19.**
- 8. [PROVIDED]- The chambers proposed within each SWMA Pond Report have been updated accordingly within the HydroCAD Model, the Plan Set & Stormwater Report.**
- 9. [PROVIDED]- (See response to Comment 8. Above).**
- 10. [PROVIDED]- The Chamber Size (MC-3500 or MC-4500) indicated within the Recharge Volume and Water Quality Volume calculations have been clarified based upon the plan revisions.**
- 11. [PROVIDED]- The Utility Plan Labels and HydroCAD model have been updated relative to the redesign of the roof drywell sizes and locations. Dwelling units designated to connect to each roof drywell have been updated.**
- 12. [PROVIDED]- Only CB7 & CB 13 connect to SWMA-5P. CB8 thru CB12 connect to SWMA-4P.**
- 13. [PROVIDED]- The model has been expanded to include the overflows such that it is consistent with the design.**
- 14. [PROVIDED]- Drawdown calculations have been updated for each redesigned SWMA.**
- 15. [PROVIDED]- Sediment Forebay sizing calculations, for the prescribed water quality volume, have been updated for each Isolator Row.**