Responses to Engineering Comments dated April 17, 2020
Responses from Bongiovanni Group, Inc. 6-17-20 & Weston Sampson on 6-9-20.

Comment: "Provide a landscaping plan..."
Landscaping plan is not required. Note will suffice as stated in 6.3.I.v. We will provide an expanded note on the Utilities & improvements plan

Comment: "Since soil scientist wetland delineation is different..."
No wetlands map amendment is required.

SHEET 2
1. Note added.
2. Note added.
3. Legend has been revised.
4. Sidewalk has been added
5. The entire site was evaluated. No wetlands are present in the northwest corner.

SHEET 3
6. Note added to title block
7. Frontage calculations to remain
8. Proposed Monument symbols added.
9. OK. Offset dimension note added. Detail is not necessary.

Sheet 4 Utilities and Improvements
10. Noted
11. Done.
12. Provided.
13. Town road = Town drainage
14. No longer necessary
15. Sidewalk is not required. That area is beyond the frontage of this property.
16. We are asking for a waiver.
17. No crosswalk will be proposed. Offsite improvements cannot be required.
18. No crosswalk is proposed. Offsite improvements cannot be required.
19. OK. Laterals added
20. Not required. Note 3 is expanded to include more detail
21. Not required. Note 3 is expanded to include more detail
22. 30' x 30' box has been added to sheet 5
23. Will remove trash on our property only. Note added to sheet 4.

Sheet 5 GRADING PLAN
24. Done.
25. Done. 100-yr elevation is 150.38, so the top of basin has been set at 151.5.
26. The prior spillway/level spreader has been removed. A new outlet control structure (OCS1) has been proposed and can convey peak flows for the 2 thru 100-yr storms.
27. This is not required. Maintenance access will be located on the west side of the basin (from Deming Street) where an access gate has been provided.
28. The easement has been enlarged to accommodate the resized basin.
29. Spot elevations behind conceptual houses have been added

30. Additional contours between conceptual houses have been added.
31. Not going to show oversized houses that won't be built. In our professional opinion, the conceptual houses shown are very consistent with existing houses in the neighborhood.

SHEET 6 EROSION & SEDIMENT CONTROL
32. Entrance has been revised. See detail on sheet 14 of 15.

SHEET 7 PLAN & PROFILE
33. Catch basins have been moved.
34. Sanitary laterals have been added
35. Driveway locations are purely conceptual, but laterals have been moved.
36. No change to pipe. There is enough room (6.5' from cl to edge of row) to maintain the pipe. Minimum is 5' per Section A.VI.C of the Newington Stormwater Management Guidelines (for pipe under 24").
37. Slope has been revised
38. Slope had been revised
39. Changed to satisfy staff.
40. R.O.W. line added
41. Added expanded legend
42. Note added
43. Curb radius notes added
44. No change. Three (3) foot deep sumps have already been provided and are in accordance with the Town Drainage Manual Section A.IV.C (6) as well as Addendum 1 to Appendix B "Design of Detention Systems for Small Sites", Section E.

SHEET 8 STORM SEWER PLAN AND PROFILE
45. (See responses above)

SHEET 9
46. Not necessary. Reference is made to it in the notes and it would create another 2 x 3 sheet for the set.
47. Not removed. The note is consistent with the details of "Depressed Gutter Strip" and in accordance with CT DOT requirements.
48. Note #7 was removed as it is not applicable to this project.

SHEET 10
49. This has been added to the new Outlet Control Structure detail.
50. The level spreader/spillway has been removed.

SHEET 13
51. Provided.
52. Enlarged the detail and removed first note and added as a call out in the detail. If not acceptable, please provide acceptable Town detail and we will revise to match it.

SHEET 14
53. Details has been revised
54. Detail has been revised
55. Notes have been added to Detail

SHEET 15

56. Note 24 added.

57. This note is not necessary. Due to the size of the project, it will require a (CT DEEP) *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities.* This permit requirement is reference in the Erosion Control Notes (General Notes Section – Sheet 15 of 15). Under the permit requirements, a stormwater pollution control plan (SPCP) shall be prepared by a licensed professional. The CTDEEP Stormwater Discharge Permit (once approved) requires inspections and monitoring during construction activities as follows:

- Plan Implementation Inspections
- Routine Weekly Inspections
- Monthly Stormwater Monitoring.

What is noteworthy here is that the Plan Implementation Inspections are required to be done at the beginning and end of the construction period by a qualified professional engineer. The Engineer verifies that the measures have been installed in accordance with the plan and directs the contractor to revise/replace if necessary.

58. This note has been added to the Erosion Control Notes (General Notes Section).

59. This note has been added to the Erosion Control Notes (General Notes Section).

Drainage Comments:

60. See responses to grading plan comments.

61. Additional test pits and field infiltration testing were conducted by Welti Geotechnical P.C. on May 20 and May 22, 2020. The testing indicated a variability of soil stratum and infiltration testing indicated that the resulting rates were lower than the minimum required for infiltration. The Town Engineer was contacted and, as a result, the basin has been sized so as not to include infiltration in the design. New testing info has been included in the report.

62. The field investigation (test pits) and field infiltration testing (methods) were coordinated with the Town Engineer. Refer to response to comment #61.

63. Boring #5008 was done on May 28, 2019. The CT DPH manual for septic design states that in CT, the wet season for high groundwater is between Feb 1 and May 31. This boring falls within that timeframe. Other than some soil saturation, no groundwater was observed. For the test pits dug on May 20, 2020, no groundwater or mottling was observed. Some soil saturation was observed, likely due to the recent rainfall events. The latest test pits also fall within the DPH wet season timeframe. Based on two years of wet season testing with no observance of groundwater in the location of the proposed basin, we would consider the evaluations sufficient and monitoring wells not warranted.

64. No longer required. (See response to #61) No credit will be taken for infiltration. The basin will however be constructed and maintained as an infiltration basin to promote treatment of the WQV.

65. Total storage = 118,693 cu ft (at elevation 151.5)

66. No longer applicable.

67. No longer applicable. (See response to #61)

68. No longer applicable. (Hydrograph data can be found in the report)

69. As mentioned previously, the spillway/level spreader has been removed. The proposed detention basin has been designed with the capacity to store the entire volume associated with the 100-year storm. The basin top elevation has been set 1 foot above the 100-year storm elevation of 150.38. An Outlet Control Structure (OCS1) has been designed with 6" and 8" orifices set at varying elevations to control storage associated with the lower volume storms. For the higher volume storms, runoff will flow through the grate opening at the top of the structure. The outlet structure (OCS1) will drain to an existing catch basin (labelled "EXISTING CB") through a proposed 12" HDPE outlet pipe. As-built inverts

and pipe information associated with the existing basin has been provided in Figure 4 and on the plans. The existing 15" HDPE has a slope =3.99%. According to our calculations, this pipe would have a hydraulic capacity = 13.98 CFS. This is sufficient to convey the peak flow of 12.85 CFS associated with the 100-year design storm. There should be a noticeable relief to the adjacent (Winding Brook) development for all storm events due to the significant reduction in overland flow. One other noteworthy consideration is that the proposed (Peckham) roadway drainage system is designed to capture the 10-year design storm. Larger storms will likely start to bypass the 6 CB grates (below Station 2+50) and end up on Deming Street. This is not taken into consideration of the basin design which is sized to take all the site flow from Area B. As a result of this, the basin design should be considered conservative.

70. Done. Please note that in order to meet the requirements for TSS removal, the pre-treatment forebay was insufficient. It was necessary to convert CB7 to a Water Quality Structure (WQS7). Prior to entering the detention basin, some coarse sediment removal shall occur from the use of 3-foot deep sumps with debris hoods on the outlet pipe in all catch basins. The primary means for stormwater treatment will be provided by water quality structure (WQS7). This structure is designed to treat the majority of site runoff and is specified to be a hydrodynamic separator from the CTDOT list of approved products. The structure is capable of removing 80% of total suspended solids (TSS) as well as preventing migration of oils and other floatables. It's location within the proposed roadway also allows for ease of access for maintenance by vac truck. Refer to Appendix E for water quality flow (WQF) and bypass flow for the proposed water quality structure, as well as TSS removal calculations provide by Contech.

71. No longer applicable.

72. One pipe run (Outfall to MH1) is surcharged due to the tailwater in the basin, and <u>not</u> because of insufficient capacity. The "Storm Sewer Tabulation" demonstrates that the capacity (18.9 cfs) is well above the total flow (10.8 cfs). Increasing the pipe size will not eliminate effect of tailwater.

73. Done (included in Appendix D)

74. The detention basin will drain within 32 hours. Refer to the hydrograph reports in the drainage report for more specific info. Less detention time is not feasible as the peak flow would exceed the capacity of downstream conveyance systems. This is consistent with the 72-hour timeframe required by the Town Drainage Manual (See attached Infiltration Basin Detail), and the CT Stormwater Quality Manual (Section 11-P3-8). The CT Stormwater Quality (Section 11-S1-2) also indicates that "Extended detention requires sufficient storage capacity to hold storm- water for at least 24 hours to allow solids to settle out" and "To reduce the potential for mosquito breeding, detention ponds should not be designed to hold water for longer than 5 days".

75. Done. It is not clear why this comment was made. The results indicate that the evaluation was unnecessary/inconsequential. The proposed grading of the development in that NW area clearly reduces the offsite (post-development) drainage area (beyond Area A, B, and C) over that of pre-development.

76. Done

77. Done