

12 January 2026

Christine Woodbury, Secretary
Planning/Zoning Board
Township of Franklin
475 DeMott Lane
Somerset, New Jersey 08873

**Re: Response to Stormwater Testing Comments from Center State Engineering
1950 Easton Avenue, Franklin, New Jersey
Applications #ZBA-25-00007 and #ZBA-25-00009
Langan Project No.: 101125701**

Dear Ms. Woodbury:

This letter serves to assist the review of the enclosed geotechnical report that was revised per a supplemental geotechnical investigation performed in January 2026. In a zoning board hearing on 18 September 2025 regarding the abovementioned applications, it was determined that final site plan approval would not be provided until supplemental geotechnical stormwater testing is performed to the satisfaction of the township engineer. The required supplemental geotechnical testing was requested via email by Center State Engineering. Please find the email comments identified in italics and Langan's responses in bold.

- 1. For basin B1B, I am in agreement that two additional permeability tests are required for the project, as designed. Please make sure that one of the four tests (either previously tested or as part of this supplemental testing round) for this basin are performed at elevation 41.0 or lower.*

Response: Supplemental permeability tests and a profile pit were conducted within the footprint of Basin B1B, as shown in Figure 2 of the enclosed geotechnical report. The profile pit (LTP-3A) was excavated to 8 feet below the proposed basin bottom (elevation 35). No groundwater was encountered, and the underlying rock layer was observed to be homogeneous. Therefore, permeability testing is permitted at any elevation within the most hydraulically restrictive stratum up to 8 feet below the basin bottom (elevations 35–43).

Three basin flood tests (FTP-24, FTP-25, and FTP-13A) were performed between elevations 40 and 42 which are below the proposed bottom of basin and all passed. Detailed data is provided in Appendix G. Basin B1B has a proposed bottom elevation of 43 and requires four permeability tests. The following tests will be used for design: LTP-1 (el. 41.6), LTP-2 (el. 42.3), FTP-24 (el. 42.0), FTP-25 (el. 40.0), and FTP-13A (el. 42.0). These five passing tests are located within 25 feet of the basin footprint and below the proposed bottom elevation, with at least one test at elevation 41 or lower, as requested.

2. *For basin B1D, I am in agreement that one additional permeability test is required for the project, as designed. Please make sure that one of the two tests (either previously tested or as part of this supplemental testing round) for this basin are performed at elevation 32.5 or lower.*

Response: A supplemental permeability test and a profile pit were conducted within the footprint of Basin B1D, as shown in Figure 2 of the enclosed geotechnical report. The profile pit (LTP-8A) was excavated to 8 feet below the proposed basin bottom (elevation 26.5). No groundwater was encountered, and the underlying rock layer was observed to be homogeneous. Therefore, permeability testing is permitted at any elevation within the most hydraulically restrictive stratum up to 8 feet below the basin bottom (elevations 26.5–34.5).

A basin flood test (LTP-8) was performed at elevation 33.4 which is below the proposed bottom of basin and passed. Detailed data is provided in Appendix G. Basin B1D has a proposed bottom elevation of 34.5 and requires two permeability tests. The following tests will be used for design: FTP-5 (el. 32.1) and LTP-8 (el. 33.4). These two passing tests are located within the basin footprint and below the proposed bottom elevation, with at least one test at elevation 32.5 or lower, as requested.

3. *If I recall correctly, all of the other BMPs are not designed for recharge, and you are proposing impermeable liners. Please confirm. If that is the case then additional testing data points for groundwater will not be required. Please note, buoyancy calculations will be required for all liners.*

Response: All other BMPs are not designed for recharge, and we are proposing impermeable liners. Note that no groundwater has been observed in any of the test pits or borings performed on the site (see appendices D and E of the geotechnical report and appendix B of the Stormwater Management Report) and groundwater is not anticipated to impact any of the liners underlying the basins. However, buoyancy calculations for the remaining BMPs using hypothetical SHGW elevations are included at the end of this letter to demonstrate compliance with this comment. These calculations assume that the SHGW is at the elevation of the bottom of the lowest test pit performed for each basin or at the elevation specified by the Web Soil Survey in accordance with NJBMP Chapter 12. For basins where the SHGW is beneath the bottom of basin, the buoyant force of water is less than the weight of the soil, and therefore no uplift is anticipated. For all other basins, the uplift force does not exceed the weight of the soil above the liner in the basin.

4. *Any design revisions to the stormwater management system may result in additional comments.*

Response: This comment is acknowledged.

Given the supplemental geotechnical testing outlined above and in the revised geotechnical report, we believe we satisfy the geotechnical testing requirements for the proposed applications. We respectfully request that applications #ZBA-25-00007 (Ukrainian Orthodox Church of U.S.A. Parking Lot Improvements) and #ZBA-25-00009 (Syracuse 1950 Easton Avenue

Owner, LLC) be heard for preliminary and final site plan approval at the upcoming zoning board hearing. Should you have any questions or require any additional information, please do not hesitate to contact me directly at 973-560-4637.

Sincerely,
Langan Engineering and Environmental Services, LLC



Daniel Miola, P.E.
Senior Principal

Enclosure(s): Final Geotechnical Engineering Study - Revised 12 January 2026

cc: Darren Mazzei, P.E., C.M.E. - Center State Engineering
Applicant
Peter U. Lanfrit, Esq.

NJ Certificate of Authorization No. 24GA27996400
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Buoyancy Calculations for Basins with Impermeable Liners

Basin Name	Basin Type	Proposed Basin Bottom Elevation	Impermeable Liner Elevation	Max. Hypothetical SHGW Elevation	Method of SHGW Determination	Unit Weight of Soil Above Liner (psf)	Unit Uplift Forces (psf)	Downward Forces > Uplift Forces?
B1A	Large-scale bioretention basin with underdrains	39	36	39.7	Test Pit (FTP-10)	330	230.88	Yes, Pass
B1C	Pervious pavement with underdrains	44	44	43.5	Test Pit (FTP-15)	907.5	0	Yes, Pass
B1E	Small-scale bioretention basin with underdrains	39	36	35.2	Test Pit (FTP-8)	330	0	Yes, Pass
B2A	Large-scale bioretention basin with underdrains	40	37	41	WSS (>2m depth)	330	249.6	Yes, Pass
B2B	Small-scale bioretention basin with underdrains	45	42	42.2	Test Pit (FTP-16)	330	12.48	Yes, Pass
B2C	Pervious pavement with underdrains	44	44	39	Test Pit (TP-4)	555.5	0	Yes, Pass
B2D	Small-scale bioretention basin with underdrains	40	37	41	WSS (>2m depth)	330	249.6	Yes, Pass
B2E	Small-scale bioretention basin with underdrains	48	45	49.5	Test Pit (FTP-21A)	330	280.8	Yes, Pass

1. See Appendix E of the project Geotechnical Report for test pit logs.
2. USDA Soil Survey reports ground water depth as >200 cm for entire site, which is the maximum reportable depth.
3. Based on all soil investigations performed to date (including borings), no groundwater has been encountered on this site.