

March 18, 2024

Historic Preservation Commission
City Planning
1 Jackson Square, 2nd Floor
Jersey City, New Jersey 07305
201-547-5010

CIVIL ENGINEERING
WATER RESOURCES
ENVIRONMENTAL
LANDSCAPE ARCHITECTURE

Re: Temple Beth-El Site Plan Application
2419 John F. Kennedy Blvd
Jersey City, New Jersey 07304

Dear Historic Commission Officials:

Engineering & Land Planning (E&LP) has prepared this Stormwater and Drainage Narrative for Temple Beth El, Jersey City. Temple Beth El has faced recurring issues with onsite drainage, leading to interior damage over time. In response to these concerns, an evaluation was conducted by E&LP through a site visit on February 20, 2024. The site visit revealed deficiencies in the existing drainage infrastructure, primarily due to lack of maintenance, excessive silt accumulation and poor site grading. Consequently, it is imperative to implement drainage improvements to mitigate the potential for future damage.

The site currently contains a multi-story house of worship. The existing site contains roughly 11,287 square feet of impervious coverage with building area, sidewalks, and ramps. Based on our site investigation, and topographic surveys, we reviewed, the existing site appears to drain from high point along the eastern property boundary towards a low point along the western property boundary. The existing structure is generally located within the western portion of the property. The structure's roof appears to have a parapet and the majority of the roof runoff is captured on the roof and is directed to interior drainage infrastructure. On either side of the structure, there are existing uncovered alleyways that are sunken to access the basement of the structure. At the bottom of each of the uncovered alleyways is an existing 2" drain pipe, upon our site investigation, these drains appear to be clogged from silt, leaves, and other debris from the surrounding areas. The clogs have in essence, rendered these drain pipes inoperable.

In reviewing the site and the current conditions, E&LP, along with Temple's architect, has prepared various proposed improvements to the property to help alleviate the ongoing drainage issues. The first improvement would be to jet and clean all existing interior and exterior drain pipes, then do a CCTV inspection on the existing lines, any lines found to be obstructed, cracked, or otherwise in disrepair would need to be repaired or replaced immediately. Additional drainage improvements would include adding canopies over existing sunken alleyways, minor site regrading to redirect site drainage and installation of a subsurface infiltration stormwater device. The canopies over the alleyways are to be designed with a gutter system that will lead to a roof leader. On the Harrison Avenue side of the Temple, the roof leader would be directed to discharge at the Harrison Avenue curblin via a pedestrian safe trench drain. On the Bentley Avenue side of the Temple, the roof leader would be directed to the proposed subsurface infiltration device. This device would capture the canopy's roof area, contain it and ultimately infiltrate into the subsurface for a storm event up to 9" of



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rainfall. Additionally on the Bentley Avenue side, minor site grading is proposed to redirect existing drainage that currently drains toward the building to a new drainage swale that will direct this water away from the structure. The proposed site improvements do not increase the impervious coverage on site, therefore there is no change in the stormwater flows generated by the project. The project is proposing to just redirect runoff that already occurs on the property to existing and proposed infrastructure around the site.

The site is located within area serviced by Jersey City's Combined Sewer System ("CSS"). CSS carry stormwater and wastewater in the same pipes to treatment facilities. Accordingly, our office has been in contact with the Jersey City MUA Sewer Engineer to present them the proposed drainage improvements to the site, as the site runoff and the drainage improvements are directly under their jurisdiction. The JCMUA has reviewed the proposed improvements as shown on the accompanying plans and as described herein. They have agreed with our analysis and have approved the proposed drainage improvements. Please see the attached correspondence.

Additionally, E&LP has reviewed Jersey City's Stormwater Control Ordinance (§345-74). As noted within that ordinance, this project is exempt from the requirements of ordinance as the project does not meet the threshold of "Major" or "Minor" Development. However, within the ordinance it is noted that an objective of the ordinance is to incorporate "Low Impact Development (LID) or Green Infrastructure devices/practices which allow for rainwater to infiltrate the soil. This project, though not required by ordinance, is meeting the objective of the ordinance by providing the proposed subsurface infiltration basin, that will capture and infiltrate some stormwater.

In conclusion, Addressing the stormwater and drainage issues at Temple Beth El is crucial to safeguarding the facility and mitigating the risk of future damage. By implementing the recommended drainage improvements and establishing a proactive maintenance plan, the congregation can ensure a resilient and sustainable drainage system while preserving the architectural heritage of the Temple. We trust that the Historic Commission will find that the proposed drainage improvements to the site are not only needed but have been designed in a way that meet the requirements of Jersey City and further the purpose of its Stormwater Control Ordinance.

Sincerely,
Engineering & Land Planning Associates, Inc.



Kelley F. O'Such, P.E.



*To create solutions that inspire through the
innovation of the natural and built environment.*

DRY WELL CALCULATIONS:

ESTIMATE OF EXCESS IMPERVIOUS COVERAGE TO BE INFILTRATED: 325 SF

PROPOSED DRY WELL RETENTION VOLUME:

COVERAGE TO DRYWELL: $325 \text{ SF} \times 9" \text{ RAIN} = 243.75 \text{ CF}$

TOTAL REQUIRED STORAGE = 245 CF

PROPOSED DRY WELL STORAGE CAPACITY:

DIA: 8 FT (7.33 ID) DEPTH: 3.75 FT

$(3.14/4) \times 7.33 \times 7.33 \times 3.75 = 158.16 \text{ CF}$

VOLUME OF PRECAST STRUCTURE : 158.16 CF

STONE VOLUME (10 FT X 10 FT X 4.17 FT DEEP)

$10 \times 10 \times 4.17 = 417 \text{ CF}$

LESS OD OF DRY WELL (8 FT O.D.)

$(3.14/4) \times 8 \times 8 \times 3.75 = 188.4 \text{ CF}$

VOL. OF VOIDS: $0.40 \times (417 - 188.4) = 91.44 \text{ CF}$

TOTAL STORAGE VOLUME: $158.16 + 91.44 \text{ CF} = 249.6 \text{ CF}$

USE ONE (1) DRYWELL

TOTAL STORAGE VOLUME = 249.6 CF

249.6 CF PROPOSED > 245 CF REQUIRED

Drywell Calculations



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