



Flood and Storm Water Commission Meeting Minutes  
Friday, February 4, 2022 at 10:00 AM  
Virtual Meeting - Zoom Conference

Opening Statement: Adequate notice of this meeting as required by Section 3d and 4a of the Open Public Meetings Act has been provided and filed with the Princeton Clerk.

I. Roll Call:

Members: Cohen, Van Abs, Wilson, Sillars, Zemble, Lieberman, Vadnais  
Princeton Engineering: Stockton, Filippi, Purcell  
Watershed Institute: Pisauro, Glovier  
Sustainable Princeton: Symington  
Public: Sarah Smith, Paul Schorr  
Other: Freda, Sacks, Hvozdovic

II. Approval of Agenda — Approved unanimously

III. Approval of January 7, 2022 Minutes — Approved unanimously

IV. Chair and Secretary for the meeting — Vadnais and Redeyoff

V. Public Comment

Paul Schorr Comments:

Schorr had questions: How is encroachment defined procedurally and mathematically? The ability to survey and analyze the data, how is that going to occur? What will the process be?

Sarah Smith Comments:

She is concerned about the increased flooding in the Littlebrook North area. All of her neighbors are experiencing basement flooding. She would like to learn more about how to mitigate the stormwater.

VI. Discussion and Decisions

a. 2022 Goals and Priorities

Stormwater management is a priority for Council. Within the Engineering department, stormwater management continues to be a priority; listed below are Engineering's 2022 goals:

- The municipality has a current ongoing mapping program of the entire stormwater system. Last year a consultant was hired for GIS data base and map.
- The municipality started to determine flood areas for the Harry's Brook between Snowden and Harrison since this area did not have elevations. The results would be incorporated into the FEMA Flood Insurance Rate Map (FIRM). The stream segment from Snowden to Lake Carnegie has elevations mapped.
- Resiliency projects:
  - Add flood gates to certain roads such as Mercer, Rosedale and River Road.
  - Hoping to tie in to the system with stream gauges which will alert the municipality

when water rises.

- Continue developing the Stormwater Mitigation Plan.
- Update Utility Element of the Master Plan which includes the stormwater management plan.
- Interviews to hire a consultant for the Stormwater Utility Feasibility Study.
- (5) hard infrastructure stormwater improvement projects:
  - Harry's Brook
  - Stabilizing Stony Brook bank at 206/Mercer
  - Culvert replacement on Riverside Drive East.
  - Culvert replacement at Randall and Meadowbrook.
  - Regional basin work.
  - Bridge inspection by the County.

The Engineering Department is planning to focus their efforts on the above-mentioned goals with the assistance of the Flood and Stormwater Commission.

Staff is also conducting a forensic review of 2020 Stormwater Ordinance updates to determine how these are working for individual properties and how well they are benefitting the municipality. Staff will step back and assess areas of concern and future steps.

- Cohen
  - ❖ Cohen is 100% behind staff's goals.
  - ❖ Goal for Council is to understand permitted use of Green Acres Open Space as part of the Mitigation Plan. Currently, stormwater management facilities are not permitted in Green Acres preserve open space regardless of green or gray, unless they manage stormwater from within the park. Using park (ROSI) land to manage stormwater from outside the park is currently considered a diversion of property required State House Commission approval. Van Abs recommends contacting Andrew Tabas at NJ Future, as Jersey Water Works has been working on this issue for several years with Green Acres.
- Stockton
  - ❖ Engineering has two types of road projects:
    - Resurfacing program – can't commit to do additional stormwater management detention/retention on these maintenance projects.
    - Full reconstruction projects - Witherspoon is a full reconstruction project. Look at all utilities underground to make sure they are brought up to standards. Also look at any additional stormwater improvement measures.
    - Look at each project individually to see if improvements can be made.
  - ❖ Education/outreach opportunities.
  - ❖ Need big picture, comprehensive plan with narrative to present to the

community. This should be a priority for the committee.

- ❖ Staff's priorities are Utility Element, Stormwater Utility Feasibility Study and Stormwater Mitigation Plan; these three together should create a very aggressive comprehensive plan.
- ❖ Princeton Shopping Center redevelopment is a few years out. Review all options.
- ❖ Possibly look at our Zoning regulations, is the current use of percent impervious coverage still appropriate?

b. Municipal Update:

Cohen – No report

Stockton – Municipality has a new Open Space Manager (Cindy Taylor) and one of her priorities is to produce an Environmental Resource Inventory which will lead to opportunities to make improvements to our open space.

c. Redevelopment of Stormwater Ordinance

- Cohen - Meeting was cancelled and will be rescheduled; should determine messaging first before scheduling the meeting.
- Sacks – initial thoughts were that the ordinance was related to the affordable housing project and now it is addressed. We need to see real data and determine how it relates to the bigger picture. Council needs clarity from the committee whether they want to go forward with the ordinance.
- Cohen would like to push forward with the ordinance and start the education, dialogue process now. The Mitigation Plan, Utility Feasibility Study are the priorities but work should continue on the ordinance.
- A simple communication plan presented to the community is needed. It should include two questions, what have we already accomplished and what do we want to accomplish?
- Leave the ordinance on the committee's agenda for now.
- Wilson will present a simple outline and work plan to determine if the committee wants to go forward.

d. Stormwater Flow Mapping

- Sanitary and sewer mapping is happening now through a pilot program run by a consultant; we should be getting results soon.
- For the University modeling project of the Stony Brook watershed, PU is developing a website to share information and gather information.
- CAPERS Team is finished, what is left is in-person follow-up for areas that information was not available on google maps.

- e. Stormwater Utility Feasibility Study
  - Starting interview process next week with three consultants for the feasibility study. Decision will be made by end of the month. Project is proposed to start in March.
  - 2022 DEP watershed restoration/nonpoint source grant program is concentrating on the northeast part of the state with the Delaware River basin and the Passaic and Hackensack watersheds. Princeton area is not included in this round.
  
- f. Master Plan / Utility Element / Mitigation Plan
  - The Master Plan consultant contract is still being finalized through the Planning Board.
  - What other things would we need to do to update the Utility Element?
    - Our Open Space manager is working on an Environmental Resource Inventory and part of that would include inventory of the class IV Dams which are stormwater detention facilities. First goal is to determine the location of the dams.
    - Appendix to the Utility Element which is the Stormwater Management Plan for the Boro and Township, needs to be harmonized; a draft version is available.
    - Cohen made a request to review the old Utility Element and check off things we are working on and identify gaps and strategy for going forward. Sewer Committee and Council (5G) will need to participate in the process.
  
- g. Stormwater Mitigation Plan – more to share at next meeting.

#### Cohen – Resolution

- The Watershed Institute is working on a resolution asking the state to discontinue the RSIS exemption from site plan standards and to ask that projects abide by the same rules as other development projects. Council has to act on this but would like committee input.
- Motion to pass the Resolution, all in favor, passed. Recommended to Council to pass the Resolution.

#### VII. Reports from Liaisons

- Princeton Environmental Commission (Zemble)
  - Reviewed the Terhune development and PEC would like the developer to revisit the tree removal plan to save the more matures trees and to reduce the impact of the stormwater to Harry's Brook watershed. Suggestions were to add a green roof and relocate the underground system.
  - Will attach PEC reports in the future.
  - 2022 Goals:
    - Continue open space assessment

- Educating public on the plastic laws
  - Continue the sustainable landscaping education
  - Non-toxic sprays
  - Safety of drinking water
  - Educating public on energy plans
- Sustainable Princeton (Symington)
    - Capers Team would like to assist in any GIS mapping projects.
    - 2022 Speaker Series now called Sustainable Minds. Presentation topics are:
      - Stormwater
      - Community Solar
      - Building Decarbonization
  - SPRAB Meeting

Council dissolved the committee. Planning board is establishing an ad hoc committee to discuss the purpose and responsibilities of the new committee.

Adjournment at 11:48 AM

Next meeting is Friday, March 4, 2022 at 10:00 AM



# *Municipality of Princeton*

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## **PRINCETON ENVIRONMENTAL COMMISSION**

**To:** Princeton Planning Board Members  
Michael LaPlace, Planning Director

**From:** Tammy L Sands ~ Chair, Princeton Environmental Commission

**Date:** January 26, 2022

**Re:** Terhune Development Urban Renewal  
Preliminary/Final Major Site Plan  
North Harrison Street and Terhune Road  
Block 7401, Lots 1.102 & 1.02, Zone H/T RDZ  
File #P2121-131P

In accordance with the legal authority and responsibility of the Princeton Environmental Commission (PEC), we have conducted a review of the application materials provided to the Commission by the Town of Princeton. These include, but are not limited to, architectural drawings prepared by Harry T. Osborne, dated 10/20/2021; Site Plan and engineering drawings, along with the Stormwater Management Report, Stormwater Management Facilities Operation & Maintenance Manual, dated 10/14/2021, and the Environmental Information Statement, 10/2021 prepared by Paulus, Sokolowski and Sartor, LLC; the Green Development Checklist; and the Tree Removal Plan & Schedule, dated 11/16/21.

### **PROJECT DESCRIPTION**

This project, The Harrison/Terhune Redevelopment Plan, is a portion of the North Harrison Redevelopment Area establishing the Harrison/Terhune Zone (H/TRZ). The Applicant proposes a four-story, 125-unit apartment building, ranging from one to three bedrooms. Twenty-five units (20%) will be set aside as affordable (low and moderate-income) housing. Each unit has a balcony or patio.

The project comprises close to six acres of non-developed, mostly wooded land. A new bicycle pathway will be constructed connecting Terhune Road to the shopping center along the eastern perimeter, and a new pedestrian pathway will lead from the building south to the shopping center. A new permeable asphalt road and concrete sidewalk will be constructed by others along the east side of the bike pathway.

Covered bike storage will be provided around the site for visitor and resident use. Fifteen electric bike charging stations will be provided.

Two-hundred-sixteen parking places are required by ordinance for this project. The Applicant requests a de minimus exception to provide only 163 surface spaces. Fifteen electric vehicle charging stations will be installed at the time of construction, with conduit placed to provide ten additional chargers. Eight parking spaces will be reserved for car-sharing service.

Space is indicated on the roof plan for future photo-voltaic panels. Two small roofs near the south entrance and the roof on the trash enclosure will be green roofs.

Exterior spaces include a dog run, a dog park, a playground, patios, and other seating.

There are two tributaries of Harry's Brook in close proximity to this project. One is across Terhune Road and the other runs through Grover Park. Stormwater management includes permeable pavers, five bioretention basins and two open-bottom underground detention systems. It should be noted that the neighborhood just downstream from this project has existing flooding issues. The infamous Flood House, that was demolished due to constant flooding, existed in that neighborhood.

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## **EXECUTIVE SUMMARY**

The PEC recognizes the efforts of the design team to create a green project and applauds the Applicant for striving to achieve ENERGY STAR Multifamily New Construction and Zero Ready Home Program certification. Providing car-sharing spaces is a positive step in reducing impervious surfaces, as are permeable bikeways and parking spaces. Along with these measures, the PEC recommends the planning board request the following to help advance the goals of Princeton's Climate Action Plan:

### **BUILDING + ENERGY**

1. Make the project all-electric, except for the emergency generator.
2. Design the project to meet PHIUS+ Certification.
3. Design the project to meet LEED Gold Certification.
4. A green roof should be installed on the upper roof, not just on the two lower entry roofs.
  - a. Additionally, solar panels should be placed above the sections of the upper green roof.
5. Install solar shading over windows on the south and west facades.

## STORMWATER MANAGEMENT

1. Increase the use of Low Impact Design interventions throughout the property to reduce stormwater runoff flow rates.
2. Review the impact of stormwater on the Harry's Brook Watershed together with other neighboring development projects in a systemic manner.

## TRANSPORTATION

1. Go beyond just meeting the new NJ EVSE requirement and increase the proposed number of future EV charging stations served by the conduit.
2. Allow enough space in the bike storage room for employee bike parking.
3. Ensure the traffic study report includes all future development projects in the region of the Princeton Shopping Center and adjoining areas and roads anticipating the change in the Harrison Street traffic flow.

## LANDSCAPE

1. Revisit the tree removal plan to save more of the mature trees and small groves that may serve as "tiny forests" that mix native species to support biodiversity in this urban area.
2. Reconcile the demolition plan drawing (C-03) with the tree removal plan (TR-1) to accurately show which trees will be removed and which will remain.
3. Diversify tree species along a row of trees.
4. Provide a community garden properly protected from deer.
5. Develop a leaf maintenance plan that includes mulching and/or composting the leaves – leaving the leaves on site – consistent with Princeton's Guide to Fall Leaf Management.
6. Minimize areas of lawn to only where necessary for recreation and maximize areas of native herbaceous planting.

## ENVIRONMENTAL JUSTICE

All the affordable units on the first floor face the parking lot. Some should face Terhune Road.

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## **DETAILED RECOMMENDATIONS**

### **BUILDING - ENERGY**

The building should be all-electric (except for emergency generators). Air and water should be heated by heat pumps and induction stoves should be used. Noting that Terhune Development Urban Renewal LLC has been recognized with the US Department of Energy Advanced Building Construction Award for designing and implementing prefabricated, all-electric, deep energy retrofit in affordable housing, there should be a similar attention to designing an all-electric project here.



The project should apply for PHIUS+ Certification. With this project already designed to Zero Energy Ready Home, which has been integrated into the PHIUS+ program, this should not be a heavy lift. See:

<https://www.phius.org/phius-certification-for-buildings-products/project-certification/overview>

PEC recommends applying for LEED Gold Certification in order to demonstrate that the green building standards will be achieved.

As per the Harrison/Terhune Redevelopment Plan's goals and objectives, it is a provision to "reduce building energy and stormwater impacts by installing rooftop solar panels and green roof areas." To maximize both solar potential and green roof area, green roof along the upper roof covered by solar panels will increase the efficiency of both. Installing a green roof under solar panels helps keep the panels cooler, which increases their efficiency. A biosolar roof creates a symbiotic relationship between the PV panels and the green roof.

<https://livingroofs.org/green-roofs-solar-power/>

Use of exterior solar shading over windows will block heat gain in the summer months yet allow heat to infiltrate during the cooler months, thus mitigating energy consumption and costs.

To provide natural ventilation even during rainstorms, include awning style windows where possible.

Measures should be taken to reduce the risk of bird crashes on the larger expanses of glazing.

#### LANDSCAPING AND EXTERIOR SPACES

By relocating some of the parallel parking along Terhune Road, some of the mature pine trees could be saved. This would help decrease heat island effect on the street, help to prevent erosion, increase rainwater infiltration into the soil, and provide carbon sequestration. Parking spaces in the lots as proposed are 9'x18'. Industry standard, as indicated on page 10 of the traffic study, is 8'-3" to 8'-6" for low turn-over land use, which applies in the lots. Perhaps some spaces could shift from the parallel parking on Terhune to the lot on the south side of the building.

There are trees marked for removal on the Tree Removal Plan that are not marked for removal on drawing C-03. A few of the trees identified are 348, 347, 329, 323, and 38. There may be others. This discrepancy should be fixed. In addition, the Applicant should revisit the plan to remove so many trees on the periphery of the property, especially along the border with the Princeton Shopping Center, to determine if more trees can be saved.

The plaza at the north-east corner could have increased green space and reduced paver space.

To assure durability, the snow fence protection around trees to remain during construction should be made of wood slats or chain metal, not plastic.

All sidewalks should be six feet wide to provide the minimum width for two-way pedestrian traffic. As drawn, some sidewalks are four feet wide.

All planting should be rated for success in zone 7, as climate change is pushing our region to that designation.

### STORMWATER MANAGEMENT

Data, from the Office of the New Jersey State Climatologist at Rutgers University, indicates that above average precipitation has occurred since 2000 with record amounts of rain occurring since 2010, and the likelihood that this trend will continue. The applicant should carefully reconsider stormwater management based on the increase in quantity and intensity of storms.

An approach consistent with the Town's Climate Action Plan goals would be to increase the use of green infrastructure. Mechanical stormwater treatment devices require regular maintenance and parts can become unavailable with time. There is ample space to create a generous green roof atop the apartment building which would greatly reduce stormwater flow rates.

The design team is encouraged to explore relocating the underground detention system on the north west side of the property to the west side along Harrison Street and in doing so retain a number of trees which would provide natural stormwater runoff control through absorption by the root systems as well as the leaves and needles.

### WASTE MANAGEMENT

Though organic waste collection has been challenging in the past, the municipality continues to work toward a reliable and sustainable organic waste program in order to reduce the burden on landfills. Building owners must do the same. Drawings need to clearly show ample space provided for organic waste, recycling and trash.

Along with the plan to recycle 70% (by weight) of construction material, a demolition recycling plan should be developed. With the vast area of trees to be taken down, this plan should include identifying which trees can be salvaged for lumber, millwork or veneer. The remaining wood could be chipped.

## COMMENTS

Ideally, some if not all parking would be located under the building to reduce impervious surface across the site.

Explore the possibility of using Silva Cell (or equal) bio-infiltration system in the parking areas to maximize stormwater management and provide an environment for successful growth of trees.

See:

[https://www.deeproot.com/products/silva-cell/?gclid=Cj0KCOiA\\_8OPBhDtARIsAKOu0gbHWeJGx3NG3eZ2ufuIub9JmK8flb6Tg6Av5RIVk1nV-KK-T6cNnoEaAj0QEALw\\_wcB](https://www.deeproot.com/products/silva-cell/?gclid=Cj0KCOiA_8OPBhDtARIsAKOu0gbHWeJGx3NG3eZ2ufuIub9JmK8flb6Tg6Av5RIVk1nV-KK-T6cNnoEaAj0QEALw_wcB)

The redevelopment plan includes goals put forth in Princeton's Master Plan (as stated on page 24). As "protecting the natural environment" is one of those goals, it is important to note that the existing condition of this site is undisturbed, wooded land. This project will displace the fauna and decimate the flora. Every effort should be made to preserve as much of the natural state of this property as possible.