Applicant: **Rider University (Alumni Gymnasium), 2083 Lawrence Road** **Appl. No.: SP-5/21**

REFERRALS

	Date Referred	Comments Dated	Date Referred	Comments Dated	Additional Reports
a. Municipal Engineer	1/3/22	2/25/22			
b. Professional Planner	"	2/25/22			
c. Traffic Consultant	—	—			
d. Construction Official	"	1/16/22			
e. Shade Tree Advisory Comm.	"	2/22/22			
f. Health Officer	"	1/12/22			
g. Tax Collector	"				
h. Public Safety	"				
i. Environ. Res. Committee		2/25/22			
j. Mercer County Planning Bd.					
k. Ewing-Law. Sewer Auth.					
l. _____Water Co.					
m. D & R Canal Commission					
n. U.S. Post Office					
o. NJDOT					
p. PSE&G Co.					
q. Board of Education					
r. Historic Preserv. Comm.					
s. NJDEPE/Wetlands					
t. NJDEPE/Stream Encroach.					
u. _____					
v. _____					
w. _____					
x. _____					
y. _____					
z. _____					

Township of Lawrence
ENGINEERING DEPARTMENT

TO: File

FROM: James F. Parvesse, Municipal Engineer

SUBJECT: Major Site Plan – Preliminary & Final Approval with Variance Application No. SP-5/21
Rider University (Alumni Gymnasium), 2083 Lawrence Road
Tax Map Pages 28.02 – 28.04, Block 2801, Lot 24

DATE: February 25, 2022

General:

Rider University has requested preliminary and final site plan approval to construct buildings additions and improvements at Alumni Gymnasium. A 5,920 sf strength and conditioning center will be constructed on the east side of the practice facility, a 4,612 sf addition will be constructed on the east side of the gym, a new entry vestibule will be constructed on the north side and a 200 kW generator will be located adjacent to the existing practice facility. Other site improvements include traffic calming speed humps, walkways, landscaping and green infrastructure for stormwater management. New building signage is also included in the project.

Our detailed report consists of minor technical items.

Detailed Report:

1.00 Site Layout

1.01 The project consists of additions and improvements to Alumni Gymnasium. The Overall Site Plan shows the additions to be constructed in separate phases; although Rider has requested the flexibility to construct the improvements based on funding availability. We have no objection to determining the actual sequencing at a later date; however, the plans shall note that in the event Phase 2B is constructed prior to Phase 1, the pavement removal shown adjacent to Skillman Avenue shall be included.

1.02 Parking lot pavement removal has been included in the project so that there will be no net increase in impervious coverage. In addition, the section of pavement to be removed directly drained to the Little Shabakunk Creek so this removal will positively impact water quality. The area will be restored with meadow grasses.

The section of pavement to be removed is parallel to Skillman Avenue and will result in the removal of 50 parking spaces. The applicant should consider removing this number of spaces adjacent to the westerly property line of Lot 30 which would be more efficient and improve the buffer to the residential homes. Buffer plantings in the pavement removal area and along Skillman Avenue to fill gap areas are also recommended.

The University has excess parking per the requirements of §530.C.2. of the Lawrence Township Land Use Ordinance; therefore, removal of these spaces will not impact campus functioning.

1.03 A rain garden has been provided as a green infrastructure measure adjacent to Alumni Gym. All other drainage will be connected to the existing stormwater system. Through pavement removal and installation of the rain garden, stormwater management will meet Township requirements.

2.00 Miscellaneous

2.01 Sidewalk adjacent to parking spaces shall be six-feet (6') wide per §530.I.6. of the Lawrence Township Land Use Ordinance. We recommend striping an access area at the new steps to the strength and conditioning center, which will result in the removal of one (1) parking space.

2.02 Testimony shall be provided regarding the current number of electric vehicle spaces and compliance with the new state regulations.

2.03 The Operations and Maintenance Manual shall be recorded with the Mercer County Clerk's Office per Engineering Department procedure.

2.04 Bonding and inspection fees will be required.

2.05 Other permits / approvals:

a. Mercer County Planning Board (or letter of no interest)
b. Delaware & Raritan Canal Commission
c. Ewing-Lawrence Sewerage Authority (availability of service)
d. Trenton Water Works
e. Lawrence Township Soil Disturbance (prior to construction)

JFP/sjs
g:engineering/rider u/alumni gym sp-5/21/review #1.doc

Documents Reviewed:

- Letter from Rider University, dated November 15, 2021
- Application No. SP-5/21
- Project Narrative, undated
- Sign Variance Addendum, undated
- Submission Waivers, undated
- Stormwater Management Measures Maintenance Plan & Field Manuals, revision dated September 17, 2021
- Engineering Report, dated September 17, 2021
- Cover Sheet, sheet CVR, dated September 17, 2021
- Vicinity Plan & Key Map, Sheet CE-1, dated September 17, 2021
- Overall Site Plan, Sheet CE-2, dated September 17, 2021
- Existing Conditions Plan, Sheet CE-3, revision dated July 30, 2021
- Site Demolition Plan, Sheet CE-4, dated September 17, 2021
- Site Layout Plan, Sheet CE-5, dated September 17, 2021
- Site Grading Plan, Sheet CE-6, dated September 17, 2021
- Site Utility Plan – Phase 1, Sheet CE-7, dated September 17, 2021
- Site Utility Plan – Phase 2, Sheet CE-8, dated September 17, 2021
- Utility Profiles, Sheet CE-9, dated September 17, 2021
- Construction Details – 1, Sheet CE-10 and Sheet CE-11, dated September 17, 2021
- Plan showing Outbound Survey, Sheet 1 of 2 and Sheet 2 of 2, revision dated December 5, 2007
- Weight Room Floor Plan, Sheet A0.1, dated September 17, 2021
- Alumni Gym Floor Plans, Sheet A0.2, dated September 17, 2021
- Roof Plan, Sheet A0.3, dated September 17, 2021
- Weight Room Elevations & Sections, Sheet A0.4, dated September 17, 2021
- Alumni Gym Building Sections & Elevations, Sheet A0.5, dated September 17, 2021
- Exterior Perspective Views, Sheet A0.6 and Sheet A0.7, dated September 17, 2021
- New Work Site Lighting Plan, Sheet E1.1, dated September 17, 2021
- Lighting Fixture Product Data, Sheet E1.2, dated September 17, 2021
- Landscape Plan, Sheet L0.1, dated September 17, 2021
- Landscaping Notes & Details, Sheet L0.2, dated September 17, 2021

KMA
KYLE+MCMANUS ASSOCIATES
POLICY
PLANNING
DESIGN

P.O. Box 236
2 East Broad Street, 2nd Floor
Hopewell, NJ 08525
609-257-6705 (v)
609-374-9939 (f)
info@kylemcmanus.com

To: Lawrence Township Planning Board

From: Elizabeth McManus, PP, AICP, LEED AP
Brett Harris, AICP

Re: **Rider University**
Preliminary and Final Major Site Plan with Sign Variances
Block 2801 Lot 24
2083 Lawrenceville Road
EGI (Education, Government & Institutions) Zoning District
Application No. SP-5/21

Date: February 25, 2022

1.0 Introduction

1.1 The Applicant is requesting Preliminary and Final Major Site Plan Approval for building additions totaling 12,000 square feet and interior renovations to the existing Alumni Gymnasium on the Rider University Campus. The subject property is Block 2801 Lot 24; however, only 1.06-acres of the lot is proposed to be disturbed.

1.2 The Applicants intends to phase the project, and will be constructed as follows:

- Phase 1 – Strength and Conditioning Center: Building addition to the existing Practice Facility
- Phase 2A – Entry Vestibule; Lobby addition to the existing Alumni Gym
- Phase 2B – Office Additions: Building additions to the existing Alumni Gym consisting of office
- Phase 3 – New Generator: Electrical Equipment upgrades to support Phase 2B

1.3 Additional site improvements include walkway reconfigurations, utility realignments, the removal of impervious surfaces, and a proposed rain garden.

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2.0 Site & Surrounding Area

2.1 The subject property is approximately 141-acres located on the Rider University Campus. The property is located in the western portion of the Township on US-206, or Lawrenceville Road.

2.2 The site is currently occupied by buildings and uses related to the University including a dining hall, classroom buildings, residential dormitories, limited commercial uses, and athletic uses such as sports fields and gymnasiums.

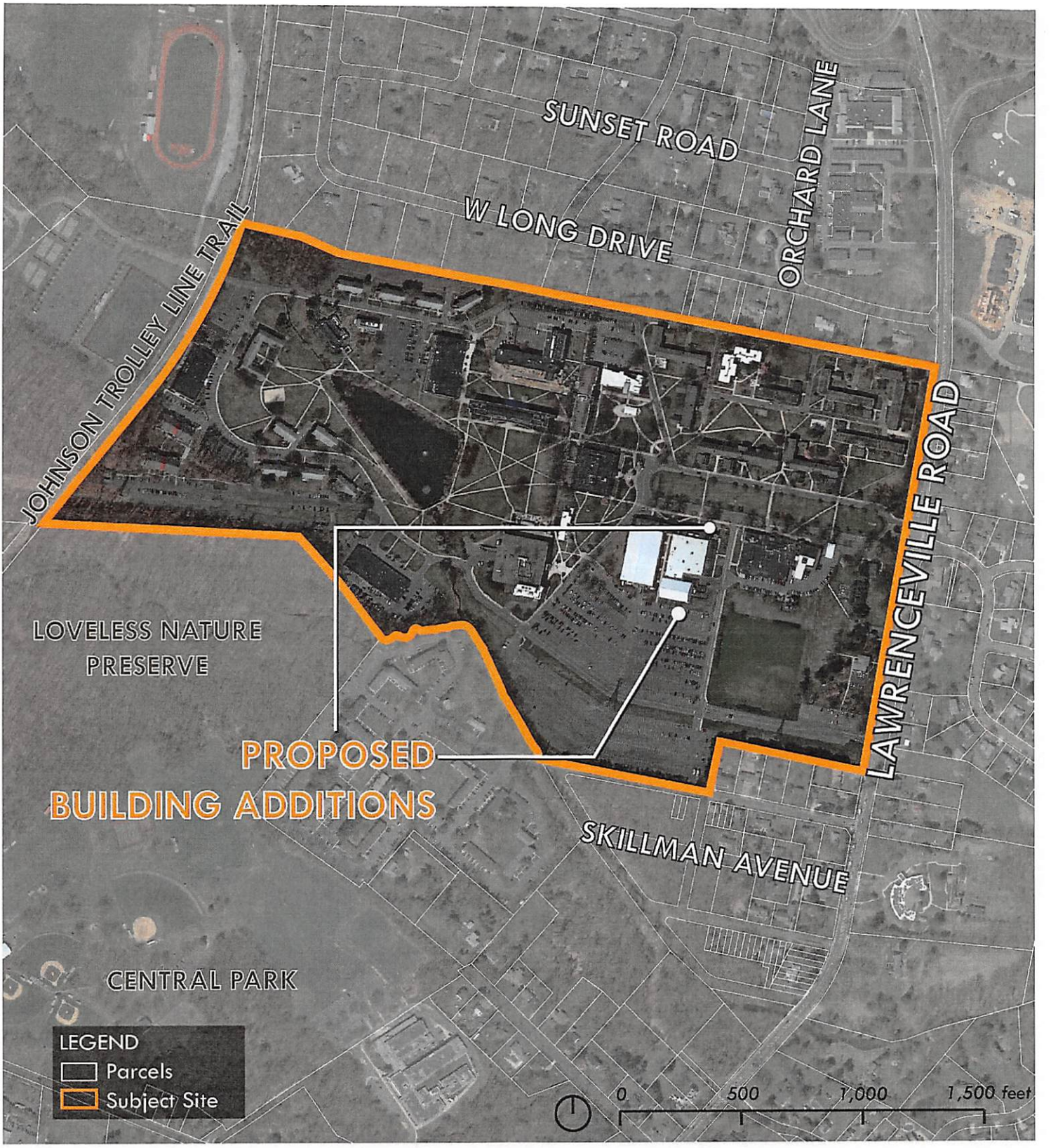
2.3 The site is located within the Education, Government & Institutions (EGI) Zoning District.

2.4 The site's surrounding area is characterized by predominately residential uses, open space and limited educational uses.

2.5 Directly adjacent to the north, is a single-family home neighborhood in the R-1 District. The Lawrence Municipal building and Police Department are also located to the north of the site.

2.6 To the east and south is a mix of wooded areas and residential neighborhoods in the R-3, R-2B and AT Zoning Districts. Further south and east is the Bridge Academy and the Lawrence Intermediate School, both located in the EGI District.

2.7 Loveless Nature Preserve, Little Shabakunk Creek, Central Park, and Johnson Trolley Line Trail are natural open space and recreational assets located to the west of the University.



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DESIGN

RIDER UNIVERSITY - 2803 LAWRENCEVILLE ROAD

BLOCK 2801 LOT 24

TOWNSHIP OF LAWRENCE, MERCER COUNTY NJ

DATA SOURCE: Aerial Imagery, Google Earth 2021; NJGIN Mercer County Parcels 2021

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3.0 EGI District Standards

3.1 The subject site is located within the EGI (Education, Government, Institutions) Zoning District. The EGI District is intended for governmental, educational, charitable, health care and religious uses presently existing in the municipality. Permitted uses include but are not limited to boarding schools, institutions of higher learning, and municipal uses. Permitted accessory uses include but are not limited to, gymnasiums, natatoriums, field houses, and athletic fields. The full permitted principal and accessory uses in the district can be found in §426 in the Township's Land Use Ordinance. The Applicant's proposal is permitted in the district.

3.2 The Application does not require bulk variance relief from the EGI District standards. Please see the following table for additional detail.

EGI District Standards (§426)				
	Required	Existing	Proposed	Variance?
Min. Lot Area	5 acres	** +/- 243 acres	No Change	No
Min. Lot Frontage	300 feet	*** +/- 689 feet	No Change	No
Min Lot Width	300 feet	+/- 690 feet	No Change	No
Min Lot Depth	600 feet	+/- 3,140 feet	No Change	No
Min. Front Yard Setback	***100 feet***	***+/- 39 feet***	***No Change***	***Yes**
Min. Side Yard	***100 feet***	***+/- 45 feet***	***No Change***	***Yes**
Min. Rear Yard	100 feet	-	No Change	No
Min. Accessory Use Setback	75 feet	N/A	N/A	No
Max. Impervious Surface Ratio	.6	.1770	.1783	No
Max. Floor Area Ratio	.2	.1110	.1131	No
Max. Building Height (Principal)	50 feet	+/- 49 feet	+/- 49.5 feet	No
Max. Building Height (Accessory)	30 feet	-	-	No
Parking	1,867 spaces	3,077 spaces	3,027 spaces	No

* Existing nonconformity

** Total combined lot areas within the EGI District

*** Measured along Lawrenceville Road Frontage

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3.3 Per §426E.5, the Ordinance states the minimum front yard shall be 100 feet, but the existing front yard setback is approximately 39 feet. We note for the Board the proposed building additions have a front yard setback of over 700 feet.

3.4 Per §426E.5, the Ordinance states the minimum side yard shall be 100 feet, but the existing side yard setback is approximately 45 feet. We note for the Board the proposed building additions have a side yard setback of over 700 feet.

4.0 Site Plan Comments

4.1 Section 530K.1.c requires institutional uses to provide one loading space (15-foot x 60-foot) for each 50,000 s.f. of floor area. While the proposal does not trigger the requirement for an additional loading space, the applicant should provide testimony as to whether the additional space will increase demand for loading and how such loading will occur.

4.2 The Applicant is proposing to shorten the sidewalk on the eastern side of the building, testimony should be provided regarding the proposed pedestrian circulation.

Location of proposed building addition and sidewalk to be removed.

4.3 The Applicant should provide testimony regarding the building use and operation for employees students, and the public, including hours of operation. Testimony should include all proposed site improvements.

4.4 Testimony should be provided regarding the timing and frequency of deliveries and trash pickup. We

note for the Board, there does not appear to be an existing refuse enclosure proximate to the building and one is not proposed.

4.5 The Applicant requires sign variance relief from the standards defined in §535 of the Township's Land Use Ordinance. Please see the following table for additional detail.

	Sign Standards (§535)			
	Required	Existing	Proposed	Variance?
Max. Facade Signs (§535AA.4)	***1 sign per building***	***2 signs***	***2 signs***	***Yes***
Max. Façade Sign Area (Rider Alumni Gymnasium) (§535AA.4)	***40 sf***	***-***	***47 sf***	***Yes***
Max. Façade Sign Area (R) (§535AA.4)	***40 sf***	***-***	***79 sf***	***Yes***

4.6 The Applicant is proposing 2 façade signs, which appear to replace the 2 existing facade signs. It appears the proposed signs are non-illuminated. The Applicant should confirm the lack of illumination in testimony.

Existing building entrance and sign. Proposed location of entry addition and façade sign.

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4.7 The Site Plans and Architecture Plans indicate proposed building mounted lights; however, a Lighting Plan has not been provided. A Lighting Plan should be provided so that the impact and compliance of the lighting can be determined.

The Applicant should provide complete details and testimony regarding all site lighting, building lighting and sign lighting. We suggest that all lighting be full cutoff fixtures to reduce off-site and skyward glare, and the color temperature of the proposed lighting fixtures should be between 3,000-3,500° Kelvin.

4.8 We suggest the Board and the Applicant discuss the hours the lights will operate, and a potential reduction overnight to security levels and/or the utilization of timers and/or motion sensors to activate the lights after hours.

4.9 Testimony should be provided regarding the preservation of existing vegetation, the proposed landscaping, and conformance with the standards set forth in §525.

Location of proposed building addition and plantings to be removed.

4.10 Testimony should be provided regarding the proposed building architecture and its conformance with the design goals and guidelines outlined in § 521. Testimony should include the existing architectural character of the University Campus and how the proposed development relates.

4.11 The color of the proposed bike rack should be specified and should complement the building.

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5.0 Land Use Policy

5.1 The Applicant should provide testimony regarding the conformance with the Township's land use policy as outlined in the 1995 Master Plan, and subsequent reexamination reports, the various Master Plan Elements, and the Township's Land Use Ordinance.

5.2 The Township's Land Use Ordinance defines the purpose of the EGI Zoning District as:

> "***The Education, Government and Institutions (EGI) district is intended for governmental, educational, charitable, health care and religious uses presently existing within the municipality. Buildings within the EGI district are often in a complex or campus form integrating residential, office, recreational, health care, houses of worship, and other ancillary uses with its primary function.***"

Testimony should be provided addressing the purpose of the zone district.

6.0 Materials Reviewed

6.1 Application SP-5/21.

6.2 *Preliminary and Final Major Site of Additions & Renovations to Alumni Gym and Strength and Conditioning Center for Rider University* consisting of 14 sheets, prepared by Van Note-Harvey Associates Inc, dated September 17, 2021.

6.3 *Architecture Plans,* consisting of 7 sheets, prepared by Spiezle Architectural Group Inc, dated September 17, 2021.

6.4 *Landscape Plans,* consisting of 2 sheets, prepared by Spiezle Architectural Group Inc, dated September 17, 2021.

7.0 Applicant Team

7.1 Applicant: Rider University 2083 Lawrenceville Road Lawrenceville, NJ 08648 609-896-5000 x 7113 reca@rider.edu

7.2 Owner: Same as Applicant

7.3 Attorney: Mark A. Solomon, General Counsel & VP 2083 Lawrenceville Road Lawrenceville, NJ 08648 609-895-5653 masolomon@rider.edu

7.4 Engineer: Tom O'Shea Van Note-Harvey Associates, inc. 103 College Road East Princeton NJ 08540 609-987-2323 x154 t.oshea@vannoteharvey.com

TOWNSHIP OF LAWRENCE
Division of Planning and Redevelopment

TO: Brenda Kraemer, Assistant Municipal Engineer
Elizabeth McManus, Planning Consultant
Edwin W. Schmierer, Planning Board Attorney
Michael Rodgers, Construction Official
Edward Tencza, Public Safety Coordinating Committee
Environmental Resources Committee
Shade Tree Advisory Committee
Keith Levine, Health Officer

FROM: James F. Parvesse, Municipal Engineer

SUBJECT: Preliminary & Final Major Site Plan w/ Variance Application No. SP-5/21
Alumni Gymnasium (Rider University), Lawrence Road (US Route 206)
Tax Map Page 28.02 – 28.04, Block 2801, Lot 24

DATE: January 3, 2022

Attached are the documents listed below with regard to the referenced site plan application:

- Application and Supporting Documentation
- Preliminary and Final Site, Architectural, Lighting and Landscape Plans
- Engineering Report
- Stormwater Management Measures Maintenance Plan & Field Manuals

This application is scheduled for review by the Planning Board at the meeting to be held Monday, March 7, 2022. Please review these documents and submit your report to this office as soon as possible, but **no later than February 25, 2022** so that reports may be provided to the applicant and Board members prior to the meeting.

SJS

G:\Planning Board\Applications\Rider University\Alumni Gym Additions and Renovations SP 5-21\Incomplete PB Letter.doc

Attachments

NO Bldg Comments 1/5/22 MR
NO Fire Comments 01/05/2022 SM
NO ELECTRIC COMMENTS 1/6/2022 JR
NO PCBG Comments 1/10/22 JG

TOWNSHIP OF LAWRENCE

P.O. Box 6006
Lawrenceville, New Jersey 08648

Department of Community Development
609-844-7087

Lawrence Township Shade Tree Advisory Committee

REPORT, Rider University Gym proposed expansion, 2/22/22, discussed at the Jan 25, 2022 STAC meeting

Committee members David Bosted (chair), Ed Sproles, Pam Mount and Mike Powers contributed to this report.

- We have reviewed these landscaping plans: T**he landscaping plan is too limited.** The proposed shrubs and trees will probably do OK in the proposed narrow remaining planting strip that will persist after the gym enlargement, but...

- **The area proposed for plantings should be expanded, to compensate for the gym expansion.** Plantings on the narrow remaining strip should be extended into the enormous adjacent parking area. Overall, the area around the gymnasium has excessive blacktop and impervious surfaces. The runoff from the expansive Rider University parking areas contributes to flooding downstream on the Shabakunk Creek and Assunpink Creek, and onto U.S. Route 1. Planting additional trees to the south of the gymnasium will help to compensate for the additional run-off from the expansion of the gym. Plantings to the rear of the gym will improve the look of this area of the campus, in addition to the environmental benefits.

- There is a **need to plant additional trees**:
  The parking area is a wasteland of asphalt and impermeable surface. The asphalted area appears to greatly exceed the permissible % of impermeable surface. Asphalt creates a **heat island** in the hot Summer months. The overall environmental impact of this sea of parking is negative. Lawrence Township has an existing problem of runoff in the Shabakunk and Assunpink drainage areas. Planting trees can help to reduce stormwater runoff and flooding, while also providing shade.

--Respectfully submitted, David Bosted, STAC Chair

LAWRENCE TOWNSHIP HEALTH DEPARTMENT

2207 Lawrenceville Road - Box 6006 - Lawrenceville, New Jersey 08648
Telephone: (609) 844-7089

Date: January 12, 2022

To: James Parvesse, P.E., Municipal Engineer, Secretary to Planning Board

From: Keith Levine, Health Officer

REVIEW FOR:

	Building Permit		Food Establishment
	Certificate of Occupancy		Sewage Disposal System
X	Planning Board		Individual Water Supply
	Zoning Board		Commercial Property
	Other:	X	Other: Prelim & Final Major Site Plan w/ Variance

PROJECT NAME: Rider University Proposed Alumni Gym Renovation SP-5/21

LOCATION: Lawrence Road (Route 206)

BLOCK: 2801 LOT # 24 PR#

OWNER: Rider University Phone: 609-896-5000 X7113

ENGINEER/ARCHITECT: Spiezle Architectural Group Inc John F. Wright AIA

ADDRESS: 1395 Yardville-Hamilton Suuare Road, Suite 2A
Hamilton, NJ 08691 PHONE: 609-695-7400

	APPROVAL		DISAPPROVAL	X	APPROVAL WITH CONDITIONS

COMMENTS:
A Retail Food Establishment Plan Review Application(s) will be required by the Health Department for the proposed Nutrition/Vending Area (Room 024) and the Concession Area (Room 192).

RECEIVED
JAN 12 2022
ENGINEERING DEPT.

Keith Levine
Health Officer

LAWRENCE TOWNSHIP
ENVIRONMENTAL & GREEN ADVISORY COMMITTEE
Lawrence Twp., NJ
CLEAN AIR, LAND, AND WATER

To: Lawrence Township Planning Board Members
From: Environmental and Green Advisory Committee
Date: February 25, 2022
Re: **Rider University Alumni Gym Additions and Renovations**
Preliminary & Final Major Site Plan w/ Variance Application No. SP-5/21
Tax Map Page 28.02, Block 2801, Lot 24

In accordance with the legal authority and responsibility of the Lawrence Township Environmental and Green Advisory Committee (EGAC), we have conducted a review of the application materials provided to the Committee by the Township of Lawrence.

SUMMARY

This is a proposal to renovate and expand gym facilities in several phases. Several Waivers, including The Environmental Impact Statement, and a Variance (signage) are requested. Previous development occurred prior to regulations protecting flood hazard areas and riparian buffers.

Recommendations/Suggestions/Questions:

1. Relocate and add Low Impact Design (LID) Stormwater Management to mitigate current and future flooding and to protect and improve water quality in the Little Shabakunk.
2. Consider additional measures to reduce the volume of stormwater runoff.
3. Replace non-native landscaping with natives (non-cultivar).
4. Take advantage of both Energy Efficiency and EV charging station rebates and financing incentives.
5. Optimize educational value and PR opportunity via faculty and student resources, signage, and promotion of environmental actions.
6. Consider designing the roof for future environmental and sustainable modifications (solar panels, green roof).

DETAILED REVIEW

In lieu of the Environmental Impact Statement (waiver requested), some considerations:

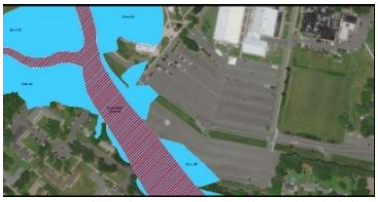
STORMWATER MANAGEMENT

From the Lawrence Township Land Use Stormwater Ordinance, § 522 Drainage and Storm Water Management.

- *B. Storm Water Management Goals… The design of all stormwater management facilities shall address water quality, flooding and groundwater recharge and* ***shall incorporate the use of nonstructural stormwater management strategies to the maximum extent practical****….*
- *C. Best Available Technology (BAT) Required. Development shall use the best available technology to minimize off-site storm water runoff****, increase on-site***

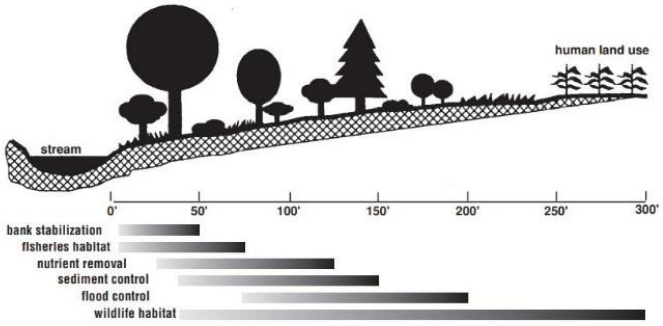
infiltration, simulate natural drainage systems, *and minimize off-site discharge of pollutants to ground and surface water and encourage* ***natural filtration functions****. Best available technology may include measures such as extended detention basins, infiltration basins, contour terraces and swales.*

1. The visitor parking lot is up against the bank of Little Shabakunk, a major tributary that flows through Lawrence, to the Assunpink and through Trenton. Sections of the parking are in a Flood Hazard Area. Frequent flooding is causing erosion and resulting in degradation of the parking lot surface, as well as rendering the parking places closest to the stream unusable after significant rain events. Also, the parking surface is vulnerable to freeze/thaw damage given the wet soil conditions. According to the DEP, annual rainfall in New Jersey is projected to increase 7% to 11% by 2050 and will often be delivered in more intense storm events so this area will continue to flood regularly. **For these reasons, we suggest de-paving this area of the parking lot immediately adjacent to the stream, rather than the corner section indicated in the existing plans.**



FEMA Flood Map. Keep in mind this is "look back" data and does not reflect current and future rain predictions.

2. Use the de-paved area along the stream for a Riparian Buffer, including trees and shrubs, to stabilize the stream banks, limit erosion and to filter and mitigate stormwater runoff. Trees and shrubs offer greater stabilization as well as stormwater mitigation through uptake and evapotranspiration than grasses while also mitigating thermal pollution.



3. Consider implementing the recommendations included in The Watershed Institute's Reduction Action Plan for the site including a rain garden and swales as indicated on the plan. (See attached). These improvements would significantly reduce the pollutants and volumes of stormwater leaving the site as indicated in the attached chart.
4. To help mitigate flooding across campus and in parking (and help mitigate HABs in lake and downstream), stop the mow 200' from stream and lake and replace little used lawn with no mow vegetation, buffer.
5. Add training/information to support landscaping/maintenance department and schedule to eliminate mowing in stream and lake buffers, increase and maintain vegetation (beyond

required rain garden maintenance manual) as well as using only enough de-icing salt as necessary. In addition to the environmental benefits, these are cost cutting measures.

6. Recent studies released by NJDEP show that stormwater systems are currently being undersized due to calculations of the 2-year storm based on historical precipitation date. Precipitation is projected to increase 20% from the 1999 baseline by 2100. Planning should occur now to protect Rider University's infrastructure in the future. Planning now can alleviate more expensive responses later.
7. Add educational signage, integrate input from faculty and students and include GI and native information into marketing material for positive PR and to attract potential students.
8. Consider design and location for future green roof (and/or solar) as well as rainwater catchment and storage.

1)Depave, add buffer to protect lot and stream; 2) Save $ and water quality with less salt; 3)Add buffer, no mow vegetation.

LANDSCAPING

1. **Natives.** Van Note Harvey Engineering Report E7: *"Provide low maintenance landscaping that encourages retention and planting of* ***native vegetation*** *and minimizes the use of lawns, fertilizers, and pesticides."* Lawrence Township MLUL § 525 Landscaping, General Provisions. 7: "*All plants shall be tolerant of specific site conditions. The use of* ***indigenous species is strongly encouraged****. Exotic, non-native invasive plant species shall not be permitted."; and* § 522 Drainage and Storm Water Management. G. Landscaping. **"***Landscaping. Stormwater management areas including retention and detention basins, drainage ditches and swales, and wetland areas shall be landscaped in accordance with the standards in §525 and shall contain* ***indigenous species to the maximum extent practical****."*

   The landscaping plan is attractive, however, only the Cardinal Flower and Coral Bells are native. Indigenous replacements similar in function and cost appear to be available for the: *Red Astilbe, Siberian Iris, Variegated Liriope, Weeping Katsura, Green Giant Arborvitae, Alaskan Weeping Cedar, Japanese Red Maple, Arctic Fire Dogwood, Cherry Laurel, Skip Laurel, Karl Foerster Reed Grass, Dwarf Hameln Fountain Grass, Creeping Juniper, Crimson Azalea.*

2. Regarding the grass meadow mix on the plans, there are alternative native seed mixes for riparian buffers or flood plain available (from Pinelands Nursery, for instance). Can also optimize mix with natives to attract mosquito eating insects and pollinators.

ENERGY EFFICIENCY

1. Applicant can take advantage of Prescriptive and Custom rebates and financing that additionally lead to lower operational costs. https:bizsavepseg.com/home/education

LIGHTING

To minimize the harmful effects of light pollution, lighting should, per International Dark-Skies Association, only be on when needed, only light the area that needs it, be no brighter than necessary, minimize blue light emissions, and be fully shielded (pointing downward).

1. Correlated Color Temp (CCT) under 3000k is recommended. The three fixture models selected are rated CCT 4000k. Can a lower blue light emission model be selected?
2. Can the 16 AA1 architectural fixture optics be downward rather than half upward/half downward? The upward light appears to be lighting upper side of buildings and perhaps unnecessary?
3. It is unclear what the flood light at the back of the new building is for. Clarify? Replace with fully shielded and lower blue light if flood light necessary?

TRANSPORTATION

1. EV Charging Station: Applicant can take advantage of the PSE&G financial incentives for EV charging equipment installations. https://nj.gov/dep/drivegreen/plugin.html
2. Bike parking for 6 is planned. Can additional bike parking be provided to encourage biking and prevent need for bikes being locked to railings?

PREFERRED SOLAR SITING

1. New building is in a preferred solar siting location. Incentives may be available. https://nj.gov/bpu/newsroom/2021/approved/20210728.html

Lawrence Township Impervious Cover Assessment and Reduction Action Plan, *Appendix E-Lawrence Township Site Designs*, pg 7-8, The Watershed Institute, December 2020.

RIDER UNIVERSITY
2083 LAWRENCE ROAD

This site currently has 1.63 million square feet of impervious cover, creating 47.8 million gallons of stormwater runoff and flushing 4,910 pounds of pollutants into Little Shabakunk Creek each year.

Three stages of BMPs could greatly improve the stormwater management of this parking lot that is prone to flooding. First, near the buildings, three rain gardens could capture roof and parking lot runoff. Then, bioswales in the median would capture runoff before it gets to the parking lot's problem areas. Finally, porous pavement in the parking spaces farthest downhill would capture the remaining runoff before the area floods.

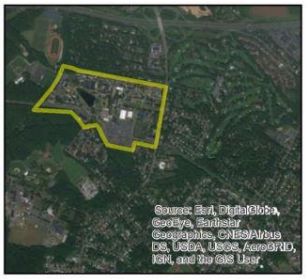
These measures would remediate 17.7% of the site's impervious cover and could remove 136 pounds of pollutants from Little Shabakunk Creek annually and restore 8.00 million gallons of water to the natural water cycle.

Table 1: Site Information

Impervious Cover		Existing Annual Loads (lb/yr)			Runoff Volume (gal)		
Square Footage	Percentage	TP	TN	TSS	Water Quality Storm	Two Year Storm	Annual Rainfall
1,631,467	33.3%	37.45	374.53	4,494.40	1,271,273	3,376,501	47,799,906

Table 2: BMPs

BMP Type	BMP Area (sq ft)	Reduction Potential (lb/yr)			Maximum Volume Reduction Potential (gal/storm)	Recharge Potential (gal/year)	Estimated Cost
		TP	TN	TSS			
Porous Pavement	25,757	0.35	2.96	56.76	363,212	4,859,421	$309,082.80
Bioswales	11,133	0.15	0.77	27.60	143,436	1,919,040	$55,663.80
Rain Garden 1	1,888	0.03	0.13	4.68	8,954	119,793	$9,437.80
Rain Garden 2	6,258	0.09	0.43	15.52	32,626	436,503	$31,291.60
Rain Garden 3	10,318	0.14	0.71	25.58	50,011	669,102	$51,591.65
Total	55,354	0.76	4.99	130.15	598,239	8,003,860	$457,067.65



RIDER UNIVERSITY
2083 LAWRENCE ROAD

Property Line
Drainage Area
Rain Garden
Bioswale
Porous Pavement

0 80 160 320 Feet

N