

***SPECIAL  
BOARD OF COMMISSIONERS  
AGENDA  
Tuesday, July 7, 2015 - 6:30 PM***

Pledge of Allegiance

Resolution #2015-70 – Authorization for Gannett Fleming Incorporated to Perform Preliminary Engineering Evaluation on the Maplewood Ave/Mill Dam Embankment

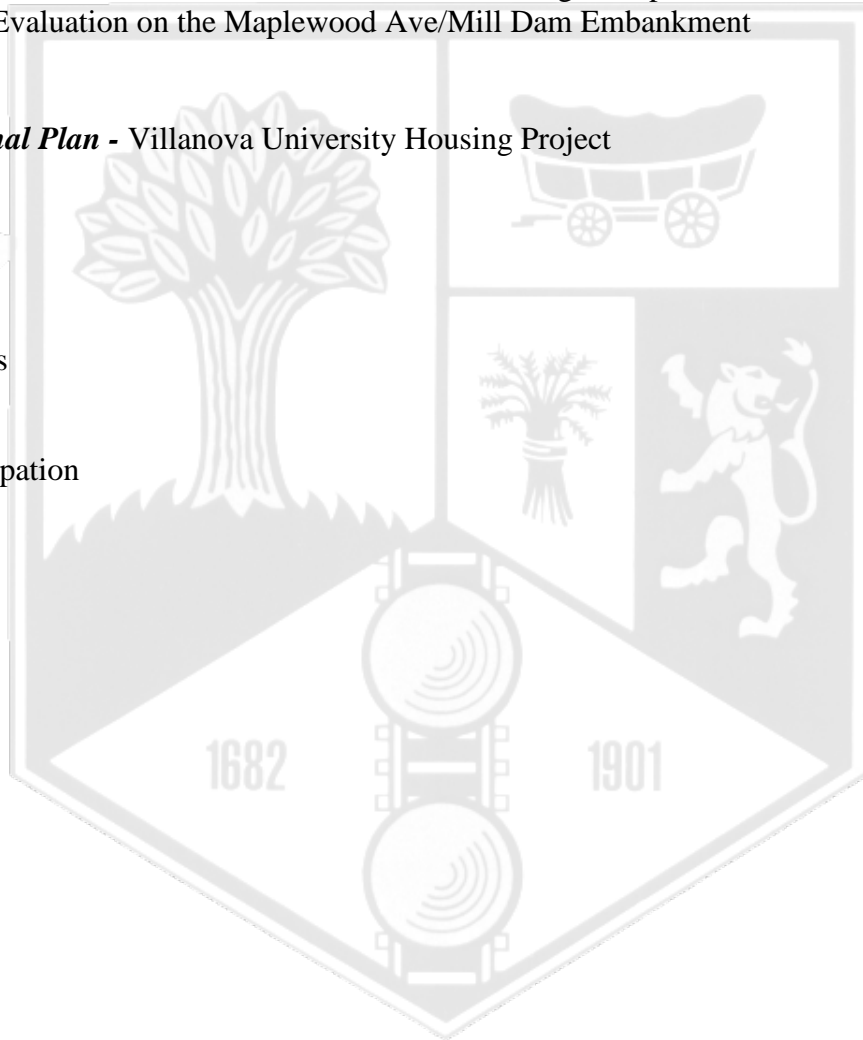
***Caucus – Final Plan - Villanova University Housing Project***

Old Business

New Business

Public Participation

Adjournment



**RESOLUTION NO. 2015-70**

**A RESOLUTION OF RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA, AUTHORIZING GANNETT FLEMING, INCORPORATED, TO PERFORM A PRELIMINARY ENGINEERING EVALUATION ON THE MAPLEWOOD AVENUE/MILL DAM EMBANKMENT.**

*WHEREAS*, Radnor Township is responsible for the embankment at Mill Dam/Maplewood Avenue

*WHEREAS*, there is settlement occurring on the embankment, which needs to be addressed

*WHEREAS*, Gannett Fleming, Incorporated, the Township's appointed engineering firm, has submitted a cost proposal Not To Exceed \$10,000 to perform a preliminary evaluation of the embankment

*NOW, THEREFORE*, be it *RESOLVED* Authorizes Gannett Fleming, Incorporated to Perform a Preliminary Engineering Evaluation on the Maplewood Avenue/Mill Dam Embankment for the Not To Exceed Amount of \$10,000

*SO RESOLVED* this 7<sup>th</sup> day of July, A.D., 2015

**RADNOR TOWNSHIP**

By: \_\_\_\_\_  
Name: William A. Spingler  
Title: President

ATTEST: \_\_\_\_\_  
Robert A. Zienkowski  
Manager/Secretary

# Radnor Township

## PROPOSED LEGISLATION

DATE: April 7, 2015

TO: Radnor Township Board of Commissioners

CC: Robert A. Zienkowski, Township Manager

FROM: Stephen F. Norcini, P.E., Director of Public Works *SFN*

Legislation: Resolution #2015-70: Authorization for Gannett Fleming, Incorporated to Perform a Preliminary Engineering Evaluation on the Maplewood Avenue/Mill Dam Embankment.

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**LEGISLATIVE HISTORY:** This issue has not been before the Board of Commissioners previously.

**PURPOSE AND EXPLANATION:** A portion of Maplewood Avenue, near the intersection of West Wayne Avenue, is actually the embankment of Mill Dam. Little Darby Creek is what feeds Mill Dam (Mill Dam Swim Club). Many years ago, a portion of the dam was excavated, and a repair was made. Over the years, in the general vicinity of the repair, the dam has settled. This settlement is of concern regarding our downstream residents.

I have requested from Gannett Fleming, Incorporated, a cost proposal for a preliminary evaluation of the situation at the dam. Aside from being our appointed Township Engineering firm, Gannett Fleming also has a Dam Group. The preliminary evaluation will consist of research of existing permits, files, and reviews, site visits for visual inspection, interviews regarding past repairs, and most importantly, a plan for moving forward. The fee for this evaluation is a NTE limit of \$10,000.

**IMPLEMENTATION SCHEDULE:** Pending Board of Commissioners approval, a purchase order will be processed. Upon purchase order approval, Gannett Fleming will be authorized to begin the evaluation.


**FISCAL IMPACT:** This work will be funded from account 04-421-4360, the stormwater fund, for the Not To Exceed amount of \$10,000.

**RECOMMENDED ACTION:** *I respectfully request the Board of Commissioners approve Resolution #2015-70: Authorization for Gannett Fleming Incorporated to Perform a Preliminary Engineering Evaluation on the Maplewood Ave/Mill Dam Embankment.*

**MOVEMENT OF LEGISLATION:** It is being requested that the Board of Commissioners approve the legislation for this project.

**MEMORANDUM**

**TO:** Steve Norcini, PE, Public Works Director

**FROM:** Steve Gabriel, PP, Township Planning Consultant 

**CC:** Suzan Jones  
Kevin Kochanski, RLA, CZO  
Roger Phillips, PE  
Amy Kaminski, PE  
John B. Rice, Esq.  
Peter Nelson, Esq.

**DATE:** June 24, 2015

**PROJECT NAME:** Villanova CICD Conditional Use      **PROJECT NO.:** 101442003

**SUBJECT:** Status of Compliance with Conditional Use Order Conditions

Below is the list of 17 Villanova CICD Conditional Use Order Conditions with the status (shown in *italics*) of Villanova's compliance with each of the Conditions as of June 8, 2015 and updated following discussions at the June 17, 2015 Township Planning Commission meeting. Confirmation of some of the conditions will require follow up over time with certain parties and/or be shown in future plan submittals and may not be able to be assured until after plan review or until during plan construction. Please note that a number of items require action by Township staff to verify completion.

1. The applicant shall comply with all other applicable Township Ordinances and shall submit a land development plan pursuant to the Township's Subdivision and Land Development Ordinance prior to the construction of any facilities – *the applicant has submitted a land development plan and Township review has proceeded to the point that the Township Planning Commission recommended conditional Final Plan approval at its June 17, 2015 meeting.*
2. The transportation, roadway and signalization and improvements necessary for the construction to have full access to Ithan Avenue from both the Pike Lot Parking Garage and Lancaster Avenue housing parking area with provisions for stop control for both parking accesses to Ithan Avenue and a pedestrian activated signal including the new pedestrian crosswalk be required if approved by PennDOT, unless waived by the Board of Commissioners during the land development process – *the requirement for a highway occupancy permit, signal permitting or pedestrian signals have not been satisfied to date. Township and PennDOT review for these improvements is ongoing.*
3. During the land development process an event circulation plan be developed to address event parking and traffic circulation with the input of the Radnor Township Police Department and Township traffic engineer outlining procedures, traffic patterns, parking configurations and way-finding techniques for the various sporting and other events held at the University. Upon development of the event circulation plan, Villanova shall be responsible for constructing and/or installing such signs, structures, or other directional aids necessary to implement the event circulation plan – *an event circulation plan has been submitted and is pending Township Police and Township Traffic Engineer review.*



4. That Villanova University contributes the sum of One Hundred Seventy-Five Thousand Dollars (\$175,000.00) towards the design, approval and installation of a traffic adaptive signal system that would incorporate the following signalized intersections along Lancaster Avenue:
  - a. Sproul Road/Spring Mill Road; Aldwyn Lane/Kenilworth Street
  - b. Church Walk
  - c. Ithan Avenue
  - d. Lowrys Lane
  - e. Airdale Road
  - f. County Line Road

*This requirement will likely be made part of the Development Agreement and Township staff will confirm upon receipt of the required \$175,000.*

5. During the land development process an emergency evacuation plan for the new student housing be developed – *an emergency evacuation plan for the new student housing has been submitted and is pending Township Police and Fire review.*
6. Appropriate fencing be provided on both the north and south sides of Lancaster Avenue in the area of the church walk pedestrian bridge in an effort to restrict pedestrian traffic from accessing the campus. A gate shall be provided for vehicular and pedestrian access during church events if approved by the Board of Commissioners during the land development approval process – *such fencing and gate are provided on the plan. The Township needs to determine if the style of the proposed safety fencing along the R-100 rail line and the safety fencing along Ithan Avenue is acceptable (see Safety Fence detail on Sheet L2.2).*
7. The University preserve the entire area known as the Aldwyn Triangle and restrict it as open space except for that portion of the area necessary to provide pedestrian activity and handicap accessibility improvements for the adjacent SEPTA rail line – *the plan shows nearly all of the Aldwyn Triangle property being proposed for preservation. The form of preservation needs to be indicated and documented to the Township when it is achieved.*
8. That a landscape and buffer plan be developed to comply with Section 280-68.1D(3)(b) of the Zoning Ordinance – *a landscaping and buffer plan and additional information have been submitted that demonstrate compliance with Section 280-68.1D(3)(b). In addition, elevation views in an east to west direction from the Barley Cone Lane residences are needed on the plan upon consultation with property owners to reflect any planting that will occur behind the residences on the Pike Field property.*
9. Villanova seek permission from PECO to plant screening on the south side of the PECO R-100 line to visually screen the SEPTA bridge from the adjacent residential neighbors. Provided that the applicant receives permission, Villanova shall provide an installation and maintenance plan of the vegetation necessary for this screening during land development – *a response from PECO to Villanova's inquiry was submitted and PECO indicates that its "guidelines call for a minimum of 32 feet of clearance from its transmission lines to the nearest trees on either side. Large trees situated within this area are removed, and trees situated beyond this distance are pruned to the 32 foot mark or the edge of the ROW." These parameters do not allow any room for screening planting in the subject location.*

10. Villanova shall provide Radnor Township a list of contractors, subcontractors and vendors and their addresses within twenty (20) days of the execution of any contracts by Villanova in connection with the development and/or construction of the proposed project. The purpose of this list is to permit the Township to audit for required business privilege/mercantile taxes – *such a list needs to be provided prior to any permit being issued for any of the improvements proposed in the land development plan including the 4 Phases Plan and then supplemented as each phase is pursued in turn. The Township will confirm receipt of each contractor list.*
11. During the land development process, the Applicant shall use its best efforts to develop and construct storm water management facilities, including green infrastructure practices and components that meet or exceed infiltration or retention requirements as currently required by the Radnor Township Stormwater Management Ordinance. The Applicant shall conduct soil testing as necessary to determine whether the site can accommodate volume management in excess of one (1) inch of run-off from all impervious surfaces resulting from the project. If soil testing indicates that it is possible to provide volume management in excess of one (1) inch of run-off, the Applicant shall construct such necessary storm water facilities on the site to accommodate this increased volume – *the Township Engineer has indicated that its review of the storm water information submitted by the applicant confirms that Villanova’s plans satisfy this condition.*
12. The Applicant shall obtain revisions to both the Radnor Township and Lower Merion Township Act 537 Plans in order to accommodate the increased waste water disposal generated by the project – *applications by Villanova to obtain revisions to the Radnor and Lower Merion Township Act 537 Plans must be reviewed and approved by each Township and the PA Department of Environmental Protection.*
13. Applicant shall develop a traffic plan during the land development process delineating the paths by which the existing population of commuting and part-time students will be directed to and from parking for each phase of the construction – *review of the plan by the Township Traffic Engineer has found that it does not provide sufficient detail for the Phase 2A temporary pedestrian path during construction of Phase 2.*
14. The Applicant shall permit parishioners to park, on a space available basis, on the north side of Lancaster Avenue on existing Villanova property adjacent to the church for church related events - *Villanova has indicated that it will permit parishioners to park on campus adjacent to the Church as needed. So that parishioners know which spaces are intended, Villanova provided as part of a September 10, 2014 response to residents regarding church parking an informal site plan showing the particular areas adjacent to the church.*
15. The Applicant shall maintain a pedestrian crosswalk from the proposed project site to the existing church at the present church walk location if approved by PennDOT – *the proposed land development plan shows a pedestrian crosswalk at grade across Lancaster Avenue a little west of Church Walk. However, per the Township Traffic Engineer, a more complete plan for the crosswalk still needs to be submitted to PennDOT for review.*
16. The Applicant shall ensure that no amplified music or other excessive noise shall emanate from any of the south facing dormitories. During the land development process, the Township and applicant shall establish a permissible sound level at the property boundary of the Aldwyn Lane residential uses – *General*

*Note #19 on Sheet C2.0 of the Lancaster Housing land development plan includes a nighttime maximum sound level permitted at the property boundary of the Aldwyn Lane residential uses of 55 dBA. This sound level is consistent with the typical weekend sound levels throughout the day and night in the midst of the West Campus quad of Gallen Hall revealed by Villanova's noise consultant's study in September 2014. Aldwyn Lane residences' property lines are at least 200 feet from the proposed new dormitories. For comparison purposes, a slightly louder 60 to 65 dBA is the sound level of a typical conversation between two people separated by a 3 feet distance.*

17. The Applicant's land development plans shall be in substantial conformity with the Conditional use plans dated May 2, 2014 as amended during the hearings – *the land development plan appears to be comparable to the applicant's approved conditional use plans. Township review of land development plan compliance with Township ordinances is well under way and will confirm compliance with this condition.*

Should you have any questions regarding this report, please let me know.

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June 24, 2015

Mr. Stephen F. Norcini, PE  
Public Works Director  
Radnor Township  
301 Iven Avenue  
Wayne, PA 19087-5297

RE: Villanova University  
Lancaster Avenue Housing, Related Parking Improvements, and  
Performing Arts Center  
Final Land Development Plan  
**Review No. 1 (REVISED)**  
RETTEW Project No. 101442003

Dear Steve:

We have completed our review of the above referenced plan as prepared by Nave Newell, Inc. Our review was of the following information received on June 1, 2015, lighting and mechanicals information supplements received on April 1, 2015, landscaping elevation views received on April 3, 2015, as well as the responses presented by the applicant verbally and in writing at the April 25 and May 11, 2015 Board of Commissioners meetings and May 4 and June 17 Township Planning Commission meetings:

1. Forty-one (41) plan sheets for Lancaster Avenue Housing dated December 5, 2014 and last revised May 26, 2015;
2. Thirty-two (32) plan sheets for West Lancaster Parking dated March 6, 2015 and revised May 26, 2015;
3. Thirty-seven (37) plan sheets for Pike Field Garage dated March 6, 2015 and revised May 26, 2015;
4. Nineteen (19) plan sheets for the Performing Arts Center dated March 6, 2015 and revised May 26, 2015;
5. Four (4) sheets for the Event Circulation Plan dated May 26, 2015;
6. Pedestrian, Parking, and Traffic Phasing Plan dated May 26, 2015;
7. Lancaster Avenue Housing Evacuation Plan with diagram dated March 2, 2015;
8. PECO response letter concerning additional landscape material stamped received December 19, 2014 by the Facilities Management Office;
9. Storm Water Management Report and Site Drainage Calculations dated March 6, 2015 and revised May 26, 2015; and,
10. A plan review comments response letter dated March 6, 2015.

**Project Overview:**

Applicant: Villanova University

Requested Action/Use: Final Land Development Plan Review:  
Lancaster Avenue Housing  
West Lancaster Parking





Pike Field Garage  
Performing Arts Center

Zoning District: PI-Planned Institutional; CO-Commercial Office; R-3-Residence

Location and Size: Lancaster Avenue Student Housing and most related parking improvements properties are located between Lancaster Avenue and the SEPTA R-100 tracks, and between Pike Field and Farrell Hall on the Villanova campus. Improvements to the SAC Garage are located on land at the north end of the Main Campus along the AMTRAK/SEPTA rail lines. Apart from the SAC Garage site, the subject lands are roughly coincidental with the CICD development proposal which the applicant indicated contained gross site area of approximately 13.81 acres.

Existing Use: Surface parking lots and small University office buildings.

Proposed Use: Student dormitories, student-centered retail, Performing Arts Center, and related Pike Parking Garage, West Lancaster Avenue parking lot, and SAC Garage expansion.

We performed a compliance review of the land development plans with certain elements of the Radnor Township Zoning Ordinance, with the applicant's phasing plan, and with the Radnor Township Comprehensive Plan. Following discussions at the June 17 Township Planning Commission meeting, our June 8, 2015 review letter was revised and is submitted here to reflect the latest discussions on the review letter comments. In addition, our June 8, 2015 report on the status of the applicant's compliance to date with the conditions of the Board of Commissioners' CICD conditional use approval was updated and is provided to you for the Board of Commissioners in a separate memorandum. We have the following remaining comments here on Villanova's Final Plan submittal:

### **SPECIFIC ZONING**

1. Landscaping information has been provided by the applicant including section and elevation drawings along the south property line of the Housing portion of the site showing new and existing vegetation looking in a west to east direction as well as in a south to north direction. These views demonstrate that the proposed Buffer Planting Strip along the R-100 line provides a screen of sufficient density not to be seen through and of sufficient height to constitute an effective screen and give maximum protection and immediate visual screening to an abutting property or district (§ 280-4B, § 280-68.1.D(3), and § 280-71.D). The same views of the landscaping proposed for the West Lancaster Parking Plan have been provided and demonstrate the same buffering sufficiency.
2. Sub-section 71.A of the zoning ordinance requires buffer planting strips to be not less than 20 feet in width. There are places at the rear of the West Lancaster Parking and Lancaster Housing where the width of the buffer planting strip is less than 20 feet wide. However, Sub-section 71.D allows for alternative buffer planting strips stating, "As an alternative to the possibly linear appearance

of the minimum requirements above, applicants are encouraged to provide innovative, free-form buffers which need not be located entirely within the minimum required width. Such alternative buffers shall be subject to approval by the Township." Such alternative buffer planting strips would be required to meet the same "screen of sufficient density not to be seen through...and immediate visual screening..." standard as noted above and our review concludes that the standard is met.

3. Landscaping information has been provided by the applicant including a plan view of the landscaping proposed to surround the Pike Field Parking Garage and the Performing Arts Center. Further, the applicant indicated during its presentation at the March 10 Planning Commission meeting that it will provide additional landscaping along the eastern boundary of Pike Field as desired by residents of Barley Cone Lane to buffer their view of the Pike Field Parking Garage and Performing Arts Center. The development plan needs to reflect this additional landscaping desired by the Barley Cone Lane residents. The ultimate standard required of such landscaping is the same as above "a screen of sufficient density not to be seen through and of sufficient height to constitute an effective screen and give maximum protection and immediate visual screening to an abutting property or district," as called for by § 280-68.1D(3)(b) and § 280-71.D.
4. The submitted lighting plan information for all four development plans includes isometrics that demonstrate light at the nearby residential property lines is well below the maximum 0.5 foot-candles allowed. The information also demonstrates that the site and area lighting proposed within the CICD complies with International Dark Sky Association (IDA) full cut-off standards (§ 280-68.1.D(3)[g]).
5. The Housing plan needs to include information describing the sound attenuation devices that are a part of or are to be installed on all mechanical, electrical, and trash equipment to minimize noise pollution at any adjacent residential property line (§ 280-68.1.D(3)[f]). A fence and gate enclosure are proposed to surround the trash compactor shown at the R-100 end of the eastern portion of Building 1-C in the Housing Plan, and an Acoustifence noise reducing fence cover will be woven into the full fence and gate. The equipment in the mechanical pit adjacent to South Ithan Avenue sits below grade and will be bounded by a safety fence such that sound will be contained and should not unacceptably spill over onto Ithan Avenue.

#### **CHURCH WALK AND PEDESTRIAN BRIDGE PLAN**

1. On Sheet L1.1, diagonal lines cover nearly all of the Aldwyn Triangle. If those diagonal lines are meant to indicate that virtually all of the Triangle is being preserved, a note to explain that should be added to the plan.

#### **PHASING AND PEDESTRIAN PARKING AND TRAFFIC PLAN**

1. Phase 1 - the buffer planting strip that is proposed between the proposed West Lancaster Parking Lot and the R-100 line needs to be ordinance compliant and in place prior to the start of construction of any part of Phase 2.

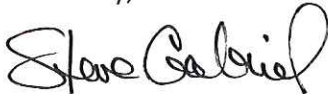
2. Phase 1 – any landscaping to be installed on Villanova property along the Barley Cone Lane properties at the request of the property owners needs to be installed during Phase 1 construction activities and before the start of construction of the Pike Field Garage in Phase 2A.
3. Phase 3 – according to the land development plan, vehicular access to the Pike Garage will be provided through the parking lot aisle behind the proposed dormitories and needs to be available when the Pike Garage opens after its completion in Phase 2A. Until the dormitories and parking lot behind are completed in Phase 3, Villanova and its contractors working on the dormitories and associated parking lot need to maintain temporary access through the dormitories/parking lot construction site to the Pike Garage in order for the traffic and special event management to work as proposed by Villanova.
4. Phase 3 - the buffer planting strip that is proposed between the proposed parking to the rear of the proposed new dormitories and the R-100 line needs to be ordinance compliant and in place prior to occupancy of the dormitories and prior to the construction start of any part of Phase 4.

#### COMPREHENSIVE PLAN CONSISTENCY

1. Our previous review indicated that Villanova's proposed development plan was generally consistent with various components of the Township's Comprehensive Plan including Institutional uses, Environment and Natural Resources, Transportation and Circulation, and Stormwater policies.

Should you have any questions or require any additional information, please do not hesitate to contact us at any time.

Sincerely,



Stephen R. Gabriel, PP  
Township Planning Consultant

copy: Steve Norcini, Public Works Director (email: [snorcini@radnor.org](mailto:snorcini@radnor.org))  
Suzan Jones (email: [sjones@radnor.org](mailto:sjones@radnor.org))  
Kevin Kochanski, RLA, CZO – [kkochanski@radnor.org](mailto:kkochanski@radnor.org)  
Roger Phillips, PE – [rphillips@gfnet.com](mailto:rphillips@gfnet.com)  
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Peter Nelson, Esq. – [pnelson@grimlaw.com](mailto:pnelson@grimlaw.com)



**Date:** June 30, 2015

**To:** Radnor Township Board of Commissioners

**From:** Roger Phillips, PE

**cc:** Robert Zienkowski – Township Manager  
Stephen Norcini, P.E. – Director of Public Works  
Kevin W. Kochanski, RLA, CZO – Director of Community Development  
John Rice, Esq – Grim, Biehn, and Thatcher  
Amy Kaminski, PE – Gilmore and Assoc.  
Steve Gabriel - Rettew

**RE:** Villanova University – Lancaster Avenue Housing  
Villanova University – Applicant

Date Accepted: June 1, 2015  
90 Day Review: August 30, 2015

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Gannett Fleming, Inc. has completed a review of the Villanova University Lancaster Avenue Housing Final Plan for compliance with the Radnor Township Code. This Final Plan was reviewed for conformance with Zoning, Subdivision and Land Development, Stormwater Management, and other applicable codes of the Township of Radnor. A review was also completed for the accompanying plans for the West Lancaster Parking Lot, Pike Field Garage, the Performing Arts Center, and the Church Walk Bridge submitted in support of the Lancaster Avenue Housing Land Development.

Conditional use approval was granted on November 24, 2014 to permit the development under CICD (decision attached). The applicant is proposing to construct a 1,138 bed student housing facility in six buildings with associated retail space.

The following waivers were approved during preliminary approval:

- §255-27.H – To permit a 30 ft radius curb on the southwest corner of Ithan Avenue and Lancaster Avenue intersection.
- §255-29.A.(12) – To permit 22' entry/exit drives as shown on the Plan.

**Gannett Fleming, Inc.**

P.O. Box 80794 • Valley Forge, PA 19484-0794 | 1010 Adams Avenue • Audubon, PA 19403-2402

t: 610.650.8101 • f: 610.650.8190

[www.gannettfleming.com](http://www.gannettfleming.com)



The applicant appeared before the Planning Commission on June 17, 2015. The Planning Commission recommended approval of the plans based on the following conditions:

- That the applicant complies with the consultants letters.
- When construction is complete, if the Performing Arts Center is not an active project, the applicant must submit an amended land development plans and application (for the future use of the Performing Arts Center temporary parking area).
- That the applicant request a waiver for the 18' wide driveway at Stone and Farrell.
- Revisit the accessibility to the bridge and provide an accessible entrance at Lancaster Avenue for handicapped persons in addition to the staircase.
- The applicant is to discuss the elimination of 3 SEPTA parking spots and the relocation that is acceptable with Staff.
- Staff and Villanova are to work out the issues of comments under the Pike Parking Garage specifically relating to extending the southbound left-turn lane at Ithan Avenue and the main lot access to Ithan Avenue be altered at two separate driveways.

Lancaster Avenue Housing

Plans Prepared By: Nave Newell

Dated: 12/05/2015 and revised 05/26/2015

I Zoning

1. §280-68.1.D(3)(f)[2] – Mechanical/electrical equipment and trash shall be screened from view. In addition, sound attenuation shall be installed on all equipment to minimize noise pollution at any adjacent residential property line. The applicant has provided a detail of a “wood fence and rolling gate with sound barrier @ service area”. The applicant must clearly label on the plans where this will be located.
2. §280-68.1.D(3)(g) – Light fixtures shall be shielded to reduce light spillage beyond the property line of the campus; provided, however, that at no point shall any light trespass onto adjacent residential properties or exceed 0.5 footcandles at the residential property line. All proposed exterior site and building-mounted lighting shall meet the International Dark-Sky Association (IDA) full cutoff requirements. The applicant has provided a lighting design book for this project that indicates compliance with the IDA requirements.

II Subdivision and Land Development

1. §255-21.B(1)(j) – A complete outline survey of the property to be subdivide or developed, showing all courses, distances, tie-ins to all adjacent intersections and areas must be provided on the plans.
2. §255-27.H(6) - Minimum curb radii at street intersections shall be 25 feet for local streets; 30 feet for collectors; 35 feet for arterials; and 10 feet for driveways. The applicant received a waiver during preliminary plan approval to provide a 30 foot curb radius at the southwest corner of the Ithan/Lancaster Avenue intersection.
3. §255-29.A.(12) – The width of entrance and exit drives shall be a minimum of 25 feet for two-way use. The entrance exit drive shown on the plan into the proposed parking area behind the student housing from Ithan Avenue is 22 feet. The applicant received a waiver during preliminary plan approval for this requirement.
4. §255-43.1.E(2) – Where, upon agreement with the applicant or developer, it is determined that the dedication of all or any portion of the land area required for park and recreation purposes is not feasible, the applicant or developer shall pay a fee in lieu of dedication of any such land to the Township. The fee for non-residential subdivisions or land developments shall be \$3,307 per 4,000 square feet of building area. The fee is \$174,408.00 based on 210,957 square feet.
5. §255-54.B. – The central water supply system shall be designed with adequate capacity and appropriately spaced fire hydrants for firefighting purposes pursuant to the specifications of the National Fire Protection Association. Review and approval by the Township Engineer and the Township Fire Marshall shall be required in order to ensure that adequate fire protection is provided. This will be confirmed at the building permit phase.

III Stormwater Management

1. §245-22.A.1.(a) – Infiltration BMPs must have a minimum depth of 24 inches between the BMP and the top of the limiting zone. At this time the infiltration tests which have been submitted were at a depth of 5 feet, however, the infiltration systems (201 and 202) appear to be located at a depth of 7-7.5 feet.
2. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time.

IV General Comments

1. The applicant shall obtain revisions to both the Radnor Township and Lower Merion Township Act 537 Plans in order to accommodate the increase wastewater disposal generated by the project.
2. There must be 10 feet of horizontal clearance between the sanitary sewer and the storm sewer between MH S12 and MH S10, shown on sheet C4.1.
3. The size of all proposed sanitary sewer laterals must be shown on the plan.
4. A grease trap must be provided for the restaurant located in building 2A. Only the wastewater from food preparation areas and/or kitchen wastes may be routed through the grease trap. Restroom wastes may not be discharged to the grease trap.
5. We note that the number of parking spaces for the entire project has increased from the previous submission. There will be a reduction of 1 parking space in the Nevin Field House parking area along North Ithan Avenue and the addition of 4 parking spaces in the West Lancaster Parking Lots.
6. On Sheet C2.3, the parking tabulation chart for Phase 2 indicates that there will be 4,853 parking spaces provided during construction. The chart lists parking spaces that total 4,873. This must be revised to be consistent.
7. The revised phasing plan provided with the Final plan submission must be replaced in the TIS. The plan provided in the TIS is outdated.

West Lancaster Parking

Plans Prepared By: Nave Newell

Dated: 03/06/2015 and revised 05/26/2015

I Stormwater Management

1. The “Volume – One Inch” calculations provided on page 24-26 appears to have some inconsistencies and should be reconciled.
  - a. The rainfall depth “P” is variable for each BMP when a value of 1-inch appears to be required. The applicant must explain/correct as appropriate.
  - b. The applicant must provide supporting calculation/documentation for the volumetric storage and volume credit for Infiltration Systems No. 101, 102, 103, and 104.

2. The applicant must provide a typical section for Infiltration System 3.
3. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time.

II General Comments

1. All existing utility service laterals must be shown on the plans.
2. Sheet 2.1 of the plans indicate that there are 21 Septa parking spaces. The response letter submitted and landscaping plans indicate that there are 20 Septa parking spaces. This must be revised to be consistent.

Pike Field Garage

Plans Prepared By: Nave Newell

Dated: 03/06/2015 and revised 05/26/2015

I Subdivision Land Development

6. §255-54.B. – The central water supply system shall be designed with adequate capacity and appropriately spaced fire hydrants for firefighting purposes pursuant to the specifications of the National Fire Protection Association. Review and approval by the Township Engineer and the Township Fire Marshall shall be required in order to ensure that adequate fire protection is provided. The proposed fire access lane is proposed to be grass pavers. This will be confirmed at the building permit phase.

II Stormwater Management

1. §245-22.A.1.(a) – Infiltration BMPs must have a minimum depth of 24 inches between the BMP and the top of the limiting zone. At this time the infiltration tests which have been submitted were at a depth of 5 feet, however, the infiltration systems appear to be located at a depth of 10 to 11.5 feet.
2. The applicant must provide supporting calculation/documentation for the volume value reported on page 52 for “POI-3A - Elevate Low flow Orifice 6” to 411.00”. It is not clear from the report or the plans how this value was determined.



3. It is unclear from the charts provided on page 140-141 of the stormwater report how the tributary drainage area for YD-G3 is accounted for.
4. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time.

Performing Arts Center

Plans Prepared By: Nave Newell

Dated: 03/06/2015 and revised 05/26/2015

I Zoning

1. §280-68.1.D(3)(g) – Light fixtures shall be shielded to reduce light spillage beyond the property line of the campus; provided, however, that at no point shall any light trespass onto adjacent residential properties or exceed 0.5 footcandles at the residential property line. All proposed exterior site and building-mounted lighting shall meet the International Dark-Sky Association (IDA) full cutoff requirements. The applicant has provided a lighting design book for this project that indicates compliance with the IDA requirements.
2. §280-68.1.D(3)(g) – The photometric layout or plan grid (showing footcandle levels) must be shown on sheet 7.1.

II Stormwater Management

1. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time.

Church Walk and Bridge

Plans Prepared By: Nave Newell

Dated: 03/13/2015 and revised 05/26/2015

I Zoning

1. §280-68.1.D(2)(b) – Setbacks from the ultimate right-of way for major collector streets shall be 60 feet for surface parking lots. The visitors parking lot is less than 60 feet from

the proposed right of way line. This is a non-conformity that the applicant intends to continue.

2. §280-69.E(3) – Surface parking areas are classified as a category of use 1. Category 1 uses and structures shall be set back from rear and side property lines by 75 feet. The existing parking area is set back 20 feet. This is a non-conformity that the applicant intends to continue.

II Stormwater Management

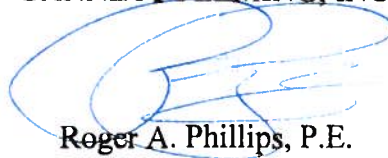
1. §245-22.A.1.(a) – Infiltration BMPs must have a minimum depth of 24 inches between the BMP and the top of the limiting zone. At this time the infiltration tests which have been submitted were at a depth of 5 feet, however, the infiltration system appear to be located at a depth of 7.5 feet.
2. The “Volume – One Inch” calculations provided on page 24-26 appears to have some inconsistencies and should be reconciled.
  - a. The rainfall depth “P” is variable for each BMP when a value of 1-inch appears to be required. The applicant must explain/correct as appropriate.
  - b. The applicant must provide supporting calculation/documentation for the volumetric storage and volume credit for Infiltration Systems No.104.
3. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time.

We recommend that the plans be revised to address the comments stated above along with comments provided in the review memo from Gilmore and Associates prior to consideration for approval, or conditional approval shall include the applicant addressing the comments to the satisfaction of the Township Engineer.

If you have any questions or require any additional information, please contact me.

Very truly yours,

GANNETT FLEMING, INC.



Roger A. Phillips, P.E.  
Senior Project Manager

**ORDER**

*AND NOW*, this 24<sup>th</sup> day of November, 2014, after due deliberation and discussion at public hearings, the Radnor Township Board of Commissioners does hereby grant the Conditional Use Application of Villanova University, subject to the following conditions:

1. The applicant shall comply with all other applicable Township Ordinances and shall submit a land development plan pursuant to the Township's Subdivision and Land Development Ordinance prior to the construction of any facilities.

2. That the transportation, roadway and signalization and improvements necessary for the construction have full access to Ithan Avenue from both the Pike Lot Parking Garage and Lancaster Avenue housing parking area with provisions for stop control for both parking accesses to Ithan Avenue and a pedestrian activated signal including the new pedestrian crosswalk be required if approved by PennDOT, unless waived by the Board of Commissioners during the land development process.

3. That during the land development process an event circulation plan be developed to address event parking and traffic circulation with the input of the Radnor Township Police Department and Township traffic engineer outlining procedures, traffic patterns, parking configurations and way finding techniques for the various sporting and other events held at the University. Upon development of the event circulation plan, Villanova shall be responsible for constructing and/or installing such signs, structures, or other directional aids necessary to implement the event circulation plan.

4. That Villanova University contributes the sum of One Hundred Seventy-Five Thousand Dollars (\$175,000.00) towards the design, approval and installation of a traffic adaptive signal system that would incorporate the following signalized intersections along Lancaster Avenue:

- a. Sproul Road/Spring Mill Road; Aldwyn Lane/ Kenilworth Street
- b. Church Walk
- c. Ithan Avenue
- d. Lowrys Lane
- e. Airdale Road
- f. County Line Road

5. That during the land development process an emergency evacuation plan for the new student housing be developed.

6. That appropriate fencing be provided on both the north and south sides of Lancaster Avenue in the area of the church walk pedestrian bridge in an effort to restrict pedestrian traffic from accessing the campus. A gate shall be provided for vehicular and pedestrian access during church events if approved by the Board of Commissioners during the land development approval process.

7. That the University preserve the entire area known as the Aldwyn Triangle and restrict it as open space except for that portion of the area necessary to provide pedestrian activity and handicap accessibility improvements for the adjacent SEPTA rail line.

8. That a landscape and buffer plan be developed to comply with Section 280-68.1.D. (3)(b) of the Zoning Ordinance.

9. That Villanova seek permission from PECO to plant screening on the south side of the PECO R-100 line to visually screen the SEPTA bridge from the adjacent residential neighbors. Provided that the applicant receives permission, Villanova shall provide an installation and maintenance plan of the vegetation necessary for this screening during land development.

10. Villanova shall provide Radnor Township a list of contractors, subcontractors and vendors and their addresses within twenty (20) days of the execution of any contracts by Villanova in connection with the development and/or construction of the proposed project. The purpose of this list is to permit the Township to audit for required business privilege/mercantile taxes.

11. During the land development process, the Applicant shall use its best efforts to develop and construct stormwater management facilities, including green infrastructure practices and components that meet or exceed infiltration or retention requirements as currently required by the Radnor Township Stormwater Management Ordinance. The Applicant shall conduct soil testing as necessary to determine whether the site can accommodate volume management in excess of 1-inch of run-off from all impervious surfaces resulting from the project. If soil testing indicates that it is possible to provide volume management in excess of 1-inch of run-off, the Applicant shall construct such necessary stormwater facilities on the site to accommodate this increased volume.

12. The Applicant shall obtain revisions to both the Radnor Township and Lower Merion Township Act 537 Plans in order to accommodate the increased waste water disposal generated by the project.

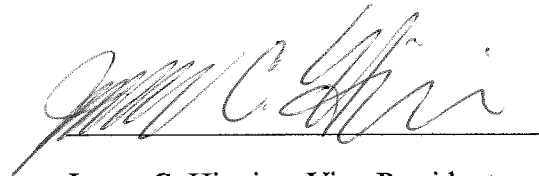
13. The Applicant shall develop a traffic plan during the land development process delineating the paths by which the existing population of commuting and part-time students will be directed to and from parking for each phase of the construction.

14. The Applicant shall permit parishioners to park, on a space available basis, on the north side of Lancaster Avenue on existing Villanova property adjacent to the church for church related events.

15. The Applicant shall maintain a pedestrian crosswalk from the proposed project site to the existing church at the present church walk location if approved by Penn Dot.

16. The Applicant shall insure that no amplified music or other excessive noise shall emanate from any of the south facing dormitories. During the land development process, the Township and applicant shall establish a permissible sound level at the property boundary of the the Aldwyn Lane residential uses.

17. The Applicant's land development plans shall be in substantial conformity with the Conditional use plans dated May 2, 2014 as amended during the hearings.



James C. Higgins, Vice-President

Radnor Township Board of Commissioners

Date of mailing \_\_\_\_\_



**MEMORANDUM**

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**Date:** June 22, 2015

**To:** Steve Norcini, P.E.  
Radnor Township Public Works Director

**From:** Amy Kaminski, P.E., PTOE  
Transportation Services Manager

**cc:** Kevin Kochanski, ASLA, R.L.A., Director of Community Development  
Roger Phillips, P.E., Senior Project Manager, Gannett Fleming, Inc.  
Steve Gabriel, PP, RETTEW  
Damon Drummond, P.E., PTOE, Gilmore & Associates, Inc.

**Reference:** Villanova University – Lancaster Avenue Redevelopment  
Final Land Development Review #1 - *Revised*  
Radnor Township, Delaware County, PA

G&A 12-04054

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Gilmore & Associates, Inc. (G&A) has completed a transportation review for the referenced project and offers the following transportation comments for Radnor Township consideration:

**I. BACKGROUND**

The applicant, Villanova University, intends to develop/redevelop several parcels located along Lancaster Avenue, southeast and southwest of the Ithan Avenue intersection, in Radnor Township, Delaware County. The project includes construction of student housing (1,135 bed apartment-style residence halls), retail shops (University Bookstore, bistro and small convenience store, size to be determined) along with 147 surface parking spaces to be located on the southwest corner of Lancaster Avenue and Ithan Avenue. In addition, the project includes construction of a Performing Arts Center (with 500 – 650 total seats in two theaters) and a multilevel parking structure (1,293 spaces) to be located on the southeast corner of Lancaster Avenue and Ithan Avenue. Villanova University intends to eliminate many of the existing driveway accesses located on the south side of Lancaster Avenue, west of Ithan Avenue and construct a shared surface parking lot to the rear of the existing university buildings along the south side of Lancaster Avenue. The Church Walk access and associated signalization will be relocated west of the present location and a new right in driveway will be constructed west of Church Walk. The applicant also intends to construct a pedestrian walkway over Lancaster Avenue at the present Church Walk access location.

## II. DOCUMENTS REVIEWED

1. Final Land Development Submission for West Lancaster Parking, consisting of 32 sheets, prepared for Villanova University, prepared by Nave Newell, Inc., dated March 6, 2015, last revised May 26, 2015.
2. Final Land Development Submission for Church Walk and Bridge, consisting of 20 sheets, prepared for Villanova University, prepared by Nave Newell, Inc., dated March 13, 2015 last revised May 26, 2015.
3. Final Land Development Submission for Pike Field Garage, consisting of 37 sheets, prepared for Villanova University, prepared by Nave Newell, Inc., dated March 6, 2015, last revised May 26, 2015.
4. Final Land Development Submission for Lancaster Avenue Housing, consisting of 41 sheets, prepared for Villanova University, prepared by Nave Newell, Inc., dated December 5, 2014, last revised May 26, 2015.
5. Final Land Development Submission for Performing Arts Center, consisting of 19 sheets, prepared for Villanova University, prepared by Nave Newell, Inc., dated March 6, 2015, last revised May 26, 2015.
6. Pedestrian Parking & Traffic Plan, consisting of 5 sheets prepared for Villanova University, prepared by Nave Newell, Inc., dated May 26, 2015.
7. Event Traffic Circulation Plan, consisting of 4 sheets, prepared for Villanova University, prepared by Nave Newell, Inc., dated May 26, 2015.
8. Response Letter, prepared for Villanova University, prepared by Nave Newell, Inc., dated May 26, 2015.
9. Transportation Impact Study dated May 25, 2015 prepared by F. Tavani Associates, Inc.
10. Response Letter dated May 25, 2015 prepared by F. Tavani Associates, Inc.

## III. CONSTRUCTION PHASING

The applicant has identified the following construction phasing Sheet 7 of 41(C2.3) *Project Phasing Plan* of the Lancaster Avenue Plan set.

1. During all Construction phasing, pedestrian facilities must be provided including along Lancaster Avenue and Ithan Avenue.
2. Phase 1 Improvements
  - i. St. Augustines Center Garage Expansion
  - ii. Improvements to the West Lancaster Parking facilities
  - iii. Ingress from Lancaster Avenue at existing driveways
  - iv. Egress to Lancaster Avenue at signal at the existing Church Walk driveway
  - v. Closure of Pike Lot surface parking field

**Comment:** Pedestrian movement is unimpeded during this phase.

3. Phase 2 Improvements (includes Highway Occupancy Permitting)
  - i. Construction of the Pike Field Parking Garage
  - ii. Temporary improvements to Pike Lot surface lot at the site of the future Performing Arts Center – PAC
  - iii. Construction of the Pedestrian Bridge over Lancaster Avenue
  - iv. Improvements to visitor lot, west of existing Church Walk

v. Lancaster Avenue and Ithan Avenue improvements

**Comment:** During the Phase 2 construction, a temporary walkway for the SEPTA Facility/South Campus student walkers is required. In addition, the pedestrian facilities and crosswalks at Lancaster Avenue and Ithan Avenue must be provided.

4. Phase 3 Improvements

- i. Construction of Student Housing Complexes 1 and 2
- ii. Continued use of Pike Lot surface lot at the site of the future Performing Arts Center – PAC

**Comment:** Pedestrian movement is unimpeded during this phase.

5. Phase 4 Improvements (Upon availability of funding)

- i. Elimination of Pike Lot surface lot
- ii. Construction of Performing Arts Center

**Comment:** Pedestrian movement is unimpeded during this phase.

#### IV. REQUESTED WAIVERS

1. §255-27.H – The applicant has been granted a waiver to permit a 30ft. curb radii for the curb on the southwest corner of Ithan Avenue and Lancaster Avenue.

#### V. GENERAL COMMENTS

1. Depending on the outcome for the preliminary/final approval for the proposed lot consolidation for the West Lancaster Avenue plan (dated 4/9/2015), the following comments may apply to the proposed improvements for the West Lancaster Parking Plan:
  - i. §255-29.A(1) – Parking aisle widths shall be a minimum of 18' for one-way aisles. The aisle between Stone and Farrell Hall is less than 18 feet and appears to include two-way vehicular movement.
  - ii. §255-29.A(15) All dead-end parking areas shall be designed to provide sufficient backup area for end stalls in the parking area located south of Farrell Hall.
  - iii. §255-29.A(21) – Concrete curbing is required along the perimeter of the parking areas in the area south of Farrell Hall.
2. Provide detectible warning surfaces for all pedestrian curb ramps.
3. Structural drawings for the pedestrian bridge and ramp should be provided for Township review.
4. Americans with Disabilities Act Accessibility Guidelines (ADAAG) comments:



- i. §4.1.1.(1) and (4) – During construction, ADA accessible facilities must be maintained or temporary facilities provided for all existing pedestrian routes onsite and along Lancaster Avenue and Ithan Avenue.
  - ii. §4.3.2(1) – An accessible route shall, to the maximum extent feasible, coincide with the route for the general public. Several locations require an ADA accessible route as follows:
    - a. Provide an accessible route near the proposed staircase located adjacent to the Lancaster Avenue sidewalk or eliminate the staircase from the design.
    - b. Provide an accessible route or eliminate the proposed steps/risers between Geraghty and Griffin Hall.
    - c. Provide an accessible route or eliminate the proposed steps/risers between the Farrell Hall surface lot and the pedestrian route to Geraghty Hall. Include a curb ramp from the sidewalk to cross the proposed driveway access.
  - iii. §4.6.2 – Accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an accessible entrance. Each building should include a minimum of one accessible parking space.
  - iv. §4.9.4 – Handrails shall be included and continuous along both sides of stairs and ramps. Additional detail must be provided to verify handrails are included in the design.
5. Consider including phasing numbers in the title of all plan sets to clarify the progression of work.
6. Traffic calming elements should be discussed with nearby affected neighborhoods, particularly residents on Aldwyn Lane.
7. Final Land Development Requirements:
- i. For plan clarity, provide a separate Pavement Marking and Signage Plan (PMSP). On the PSMP include final pavement markings and signage and exclude any existing pavement markings and signage that will be eradicated.
  - ii. Provide traffic signal construction and permit plans for both signalized intersections along with the construction and permit plans for the two proposed pedestrian-activated Rectangular Rapid Flashing Beacons (RRFB) on Ithan Avenue. The applicant has indicated these plans will be provided with the Highway Occupancy Permit application.
  - iii. Identify the design details for all proposed curb ramps. Provide PennDOT CS-4401 forms for all proposed curb ramps within any public rights-of-way.
8. Revise all stop bars locations to a minimum of 4 feet from any pedestrian crosswalk.

## **VI. WEST LANCASTER AVENUE (WLA) PARKING PLAN COMMENTS**

1. Sheet 5 of 32 (C2.1):
  - i. Provide an accessible route or eliminate the proposed steps/risers along the sidewalk located between Geraghty and Griffin Hall.
  - ii. Provide an ADA compliant curb ramp at the proposed curb adjacent to the existing sidewalk near Farrell Hall.
  - iii. Provide curb ramps for the revised Emergency Access to Lancaster Avenue.
  - iv. Clarify the intended use of the gore striping near the Farrell Hall building. If this is intended to be used as a loading area or restricted parking, include signage and pavement markings as needed.
  - v. Provide an accessible pedestrian route from the Farrell Hall surface lots that cross the new right in/right out driveway and continues east to the new surface lot between the new driveway and Geraghty Hall; the proposed stairs are not accessible to individuals with disabilities. Include a sidewalk parallel to the Farrell Hall driveway access to eliminate the need for pedestrians to walk in the active driveway.
  - vi. Straighten the skewed walking route proposed for the right in/right out access to Lancaster Avenue to a more direct route. It is unlikely pedestrians will follow the current design.
2. Sheet 6 of 32 (C2.2):
  - i. Revise the phasing for the construction of the fence across Church Walk to a later phase (Phase 2B). The existing Church Walk driveway will need to be fully operational during Phases 1 and 2A and the proposed fence extends across a portion of the driveway.
  - ii. Revise the phasing for the construction of the fence on the north side of Lancaster Avenue, to follow the completion of the Pedestrian Bridge. The Church Walk Pedestrian Access/or the proposed temporary pedestrian route must remain accessible during the WLA construction.
3. Provide direct ADA access from the WLA Visitor Parking lot to the sidewalk adjacent to Lancaster Avenue. Include an ADA ramp that runs parallel to the sidewalk in place of one set of the proposed stairs.
4. Eliminate the three parking spaces adjacent to the railroad tracks in the middle of the new Church Walk intersection to reduce potential conflicts with moving traffic at the intersection.
5. Provide a 4" yellow line instead of a 4" white line perpendicular to the stop bar at the new Church Walk intersection near the railroad tracks.

## **VII. CHURCH WALK PLAN**

1. Provide a construction narrative within the plan set. The new Church Walk access to Lancaster Avenue must be fully operational (fully constructed and signaled) prior to construction of the Pedestrian Bridge.

2. Sheet 4 of 20 (C2.1): Include a Stop Sign (R1-1) for the WLA visitor lot exit.
3. Sheet 6 of 20 (C4.1): Church Walk and Lancaster Avenue
  - i. Provide the proper lane use control signage for each approach to the intersection.
  - ii. Extend the stop bar on the eastbound approach to the edge of the curb line.
  - iii. Refer to PennDOT Publication 111 *Traffic Control Pavement Markings and Signing Standards, TC-8600 Pavement Markings* for the following corrections:
    - a. Revise the 4" broken white line to a 6" solid white line for distance of 150' measured from the stop bar, on the east and westbound approaches to the intersection.
    - b. The ARROW/ONLY templates should be located 60' from the stop bar.
  - iv. ADAAG §4.3.2(1) – An accessible route shall, to the maximum extent feasible, coincide with the route for the general public. Provide an accessible route for access to the Pedestrian Bridge near the proposed staircase located adjacent to the Lancaster Avenue or eliminate the staircase closest to Lancaster Avenue from the design.

#### **VIII. PIKE GARAGE PLAN COMMENTS**

1. Sheet 7 of 37 (C2.2):
  - i. ADAAG §4.3.2(1) – An accessible route shall, to the maximum extent feasible, coincide with the route for the general public. Provide an accessible pedestrian route to the multipurpose athletic field or eliminate the proposed stairs.
  - ii. Provide an accessible route from the handicapped parking spaces located in the northwest corner of the Pike Field surface lot to the Lancaster Avenue and Ithan Avenue intersection.
  - iii. Include an accessible curb ramp for the pedestrian crosswalk receiving ramp located on the northeast corner of Lancaster and Ithan Avenue.
  - iv. Revise the location of the arrow leader for the CURB RAMP TYPE 1 on the southeast corner of Lancaster and Ithan Avenue intersection. It appears to point to the sidewalk.
  - v. The applicant has extended the southbound Ithan Avenue left turn lane width to a full width length of 175' with a 100' taper. Please include truck turning templates to ensure proper placement of stop bars on both Lancaster Avenue and Ithan Avenue; adjust the locations as need to accommodate truck turns. It is likely the Lancaster Avenue westbound left turn stop bar will need to be adjusted.
  - vi. The plans include a midblock pedestrian crosswalk on Ithan Avenue, between Bartley Hall and Jake Nevin Field House, north of Lancaster Avenue.
    - a. The 2009 MUTCD Section 3B.18 indicates that an engineering and traffic study should be performed before crosswalks are installed at a location away from a signalized intersection or a stop controlled intersection.

- b. Revise the plan to include a sight distance analysis and include the analysis on the plans.
  - c. Include a PEDESTRIAN warning sign (W11-2) sign along with a DIAGONAL DOWNWARD POINTING ARROW plaque (W16-7P) for both approaches to the midblock crosswalk.
  - d. Include detectible warning surfaces and accessible curb ramps for any pedestrian crossings.
  - e. Consider including a pedestrian-activated Rectangular Rapid Flashing Beacon (RRFB) at the proposed mid-block crossing.
2. Sheet 8 of 37 (C2.3):
  - i. Revise the curb radii on the southwest corner of Ithan Avenue and Lancaster Avenue to provide a minimum 30ft. curb radii.
  - ii. Eliminate the stop bar on the southbound approach of Ithan Avenue at the proposed LAH/Pike Garage accesses.
  - iii. Relocate the proposed stop bar from the Pike Garage access to Ithan Avenue a minimum of 4 ' from the pedestrian crosswalk.
  - iv. It is unclear how the "Main Lot" access to Ithan Avenue was altered from the existing two separate driveways (one ingress and one egress to Ithan Avenue) to the proposed 25' wide full access to Ithan Avenue. Provide additional details and revise the plans as necessary. The proposed access location appears to be centered on the transition for the back to back left turn lanes on Ithan Avenue and will introduce turning conflicts that should be avoided.
3. Construction for the pedestrian-activated Rectangular Rapid Flashing Beacon (RRFB) at the Pike Garage is planned to coincide with the construction of the Pike Garage; however, the signal should remain hooded until after the LAH improvements are constructed and the pedestrian crosswalk is fully constructed during the LAH improvements.
4. Provide a KEEP RIGHT sign (R4-7) and OBJECT MARKER (OM1-3) on each end of the driveway median at Lancaster Avenue.

## **IX. LANCASTER AVENUE HOUSING PLAN COMMENTS**

1. Sheet 6 of 41 (C2.2)
  - i. The plan identifies two pedestrian-activated Rectangular Rapid Flashing Beacons (RRFB) for the midblock pedestrian crossings on Ithan Avenue near both the South Campus dormitories and Aldwyn Triangle, and the LAH and Pike Garage accesses; Flashing Warning Beacon permits and construction plans are required for both locations. The applicant has indicated plans will be provided along with the Highway Occupancy Permit application.
  - ii. Eliminate the stop bar on southbound Ithan Avenue at the proposed LAH/PAC driveways.

- iii. Verify sight distance is available for the proposed crosswalks on Ithan Avenue and include a note on the plan indicating the existing and required sight distance for both pedestrian crosswalks.
2. Sheet 9 (C2.5): Revise the Lancaster Avenue median gore at Church Walk in Exhibit 4 to accommodate the left-turn exits from Church Walk.
3. The applicant may want to consider designating short term parking for spaces located near the proposed retail space in the LAH parking area to encourage parking turnover.
4. Relocate bus stops along eastbound Lancaster Avenue to align with the future proposed pedestrian access. Include the relocated bus stops on the proposed plan.
5. Provide ADA compliant curb ramps for the SEPTA station including access to the platform and the pedestrian bridge ramp area.

**X. PERFORMING ARTS CENTER PLAN**

No transportation comments.

**XI. LANCASTER AVENUE HOUSING PEDESTRIAN PARKING & TRAFFIC PLAN**

1. Phase 1: Phase 1 improvements may require signal timing modifications at the Church Walk intersection due to the redistribution of traffic from Ithan Avenue to the Church Walk signal. In addition, a Highway Occupancy Permit will be required to eliminate and construct driveway accesses along Lancaster Avenue.
2. Phase 2A: Revise the new temporary walkway to extend to the existing walkway.
3. Phase 2B: The proposed temporary pedestrian route for Phase 2B appears to utilize an unimproved surface along a grassy hill. The pedestrian route surface must be a stable, firm, slip-resistant surface and free of any tripping hazards. Provide additional detail on the Phase 2B pedestrian route in future submissions.

**XII. EVENT CIRCULATION PLAN**

1. The Radnor Police Department should review the Event Traffic Circulation Plan.
2. Refer to the Manual of Uniform Traffic Control Devices (MUTCD) 2009 (Chapter 2L *Changeable Message Signs*) and PennDOT Publication 646 *Intelligent Transportation Systems Design Guide* and verify the DMS sign placement/location based on the reading and decision zone, number of lines, character length and height is adequate for roadway conditions. Although the applicant has indicated the designer will refer to MUTCD 2009; the plans should be reviewed by the Township,

3. For ease of recognition and memory retainage, the applicant should consider reducing the message length and eliminate parking structure names in favor of structure and sign colors.

**XIII. TRAFFIC IMPACT STUDY**

We have no additional comments.



**Date:** June 9, 2015

**To:** Radnor Township Planning Commission

**From:** Roger Phillips, P.E.

**cc:** Stephen Norcini, P.E. – Director of Public Works  
Kevin W. Kochanski, RLA, CZO – Director of Community Development  
Peter Nelson, Esq. – Grim, Biehn, and Thatcher  
Amy B. Kaminski, P.E. – Gilmore & Associates, Inc.  
Steve Gabriel - Rettew  
Suzan Jones – Radnor Township Engineering Department  
William Miller – Radnor Township Codes Official  
Ray Daly – Radnor Township Codes Official

**RE:** Villanova University – Lancaster Avenue Housing  
Villanova University – Applicant

Date Accepted: June 1, 2015  
90 Day Review: August 30, 2015

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Gannett Fleming, Inc. has completed a review of the Villanova University Lancaster Avenue Housing Final Plan for compliance with the Radnor Township Code. This Final Plan was reviewed for conformance with Zoning, Subdivision and Land Development, Stormwater Management, and other applicable codes of the Township of Radnor. A review was also completed for the accompanying plans for the West Lancaster Parking Lot, Pike Field Garage, the Performing Arts Center, and the Church Walk Bridge submitted in support of the Lancaster Avenue Housing Land Development. We note that detailed plans have not been submitted for the SAC Parking Garage.

Conditional use approval was granted on November 24, 2014 to permit the development under CICD (decision attached). The applicant is proposing to construct a 1,138 bed student housing facility in six buildings with associated retail space.

The following waivers were approved during preliminary approval:

- §255-27.H – To permit a 30 ft radius curb on the southwest corner of Ithan Avenue and Lancaster Avenue intersection.
- §255-29.A.(12) – To permit 22' entry/exit drives as shown on the Plan.

Gannett Fleming, Inc.

P.O. Box 80794 • Valley Forge, PA 19484-0794 | 1010 Adams Avenue • Audubon, PA 19403-2402

t 610.650.8101 • f 610.650.8190

www.gannettfleming.com



Lancaster Avenue Housing

Plans Prepared By: Nave Newell

Dated: 12/05/2015 and revised 05/26/2015

I Zoning

1. §280-68.1.D(3)(f)[2] – Mechanical/electrical equipment and trash shall be screened from view. In addition, sound attenuation shall be installed on all equipment to minimize noise pollution at any adjacent residential property line. The applicant has provided a detail of a “wood fence and rolling gate with sound barrier @ service area”. The applicant must clearly label on the plans where this will be located.
2. §280-68.1.D(3)(g) – Light fixtures shall be shielded to reduce light spillage beyond the property line of the campus; provided, however, that at no point shall any light trespass onto adjacent residential properties or exceed 0.5 footcandles at the residential property line. All proposed exterior site and building-mounted lighting shall meet the International Dark-Sky Association (IDA) full cutoff requirements. The applicant has provided a lighting design book for this project that indicates compliance with the IDA requirements.

II Subdivision and Land Development

1. §255-21.B(1)(j) – A complete outline survey of the property to be subdivide or developed, showing all courses, distances, tie-ins to all adjacent intersections and areas must be provided on the plans.
2. §255-27.H(6) - Minimum curb radii at street intersections shall be 25 feet for local streets; 30 feet for collectors; 35 feet for arterials; and 10 feet for driveways. The applicant received a waiver during preliminary plan approval to provide a 30 foot curb radius at the southwest corner of the Ithan/Lancaster Avenue intersection.
3. §255-29.A.(12) – The width of entrance and exit drives shall be a minimum of 25 feet for two-way use. The entrance exit drive shown on the plan into the proposed parking area behind the student housing from Ithan Avenue is 22 feet. The applicant received a waiver during preliminary plan approval for this requirement.
4. §255-43.1.E(2) – Where, upon agreement with the applicant or developer, it is determined that the dedication of all or any portion of the land area required for park and recreation purposes is not feasible, the applicant or developer shall pay a fee in lieu of dedication of any such land to the Township. The fee for non-residential subdivisions or



land developments shall be \$3,307 per 4,000 square feet of building area. The fee is \$174,408.00 based on 210,957 square feet.

5. §255-54.B. – The central water supply system shall be designed with adequate capacity and appropriately spaced fire hydrants for firefighting purposes pursuant to the specifications of the National Fire Protection Association. Review and approval by the Township Engineer and the Township Fire Marshall shall be required in order to ensure that adequate fire protection is provided.

### III Stormwater Management

1. Please provide supporting calculation/documentation for the volumetric storage values reported for infiltration system 201 and 202. §245-27.J requires that the entire storm be placed in the pipe (i.e. the stone bedding around the pipe is not to be included in the volume calculation).
2. §245-22.A.1.(a) – Infiltration BMPs must have a minimum depth of 24 inches between the BMP and the top of the limiting zone. At this time the infiltration tests which have been submitted were at a depth of 5 feet, however, the infiltration systems (201 and 202) appear to be located at a depth of 7-7.5 feet.
3. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time.

### IV General Comments

1. The applicant shall obtain revisions to both the Radnor Township and Lower Merion Township Act 537 Plans in order to accommodate the increase wastewater disposal generated by the project.
2. There must be 10 feet of horizontal clearance between the sanitary sewer and the storm sewer between MH S12 and MH S10, shown on sheet C4.1.
3. The size of all proposed sanitary sewer laterals must be shown on the plan.
4. A grease trap must be provided for the restaurant located in building 2A. Only the wastewater from food preparation areas and/or kitchen wastes may be routed through the grease trap. Restroom wastes may not be discharged to the grease trap.

5. We note that the number of parking spaces for the entire project has increased from the previous submission. There will be a reduction of 1 parking space in the Nevin Field House parking area along North Ithan Avenue and the addition of 4 parking spaces in the West Lancaster Parking Lots.
6. On Sheet C2.3, the parking tabulation chart for Phase 2 indicates that there will be 4,853 parking spaces provided during construction. The chart lists parking spaces that total 4,873. This must be revised to be consistent.
7. The revised phasing plan provided with the Final plan submission must be replaced in the TIS. The plan provided in the TIS is outdated.
8. The executive summary of the TIS indicates that there will be approximately 20,440 SF of Villanova-centric retail space on either side of Ithan Ave that is targeted to open in 2019. This must be revised to indicate that actual amount of retail space proposed.

West Lancaster Parking

Plans Prepared By: Nave Newell

Dated: 03/06/2015 and revised 05/26/2015

I Stormwater Management

1. The “Volume – One Inch” calculations provided on page 24-26 appears to have some inconsistencies and should be reconciled.
  - a. The rainfall depth “P” is variable for each BMP when a value of 1-inch appears to be required. The applicant must explain/correct as appropriate.
  - b. The applicant must provide supporting calculation/documentation for the volumetric storage and volume credit for Infiltration Systems No. 101, 102, 103, and 104. It is not clear how the applicant arrived at the values report, but it appears that the stone volume is being counted. §245-27.J requires that the entire storm be placed in the pipe (i.e. the stone bedding around the pipe is not to be included in the volume calculation).
2. The applicant must provide a typical section for Infiltration System 3.

3. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time.

## II General Comments

1. All existing utility service laterals must be shown on the plans.
2. Sheet 2.1 of the plans indicate that there are 21 Septa parking spaces. The response letter submitted and landscaping plans indicate that there are 20 Septa parking spaces. This must be revised to be consistent.

### Pike Field Garage

Plans Prepared By: Nave Newell

Dated: 03/06/2015 and revised 05/26/2015

## I Subdivision Land Development

1. §255-54.B. – The central water supply system shall be designed with adequate capacity and appropriately spaced fire hydrants for firefighting purposes pursuant to the specifications of the National Fire Protection Association. Review and approval by the Township Engineer and the Township Fire Marshall shall be required in order to ensure that adequate fire protection is provided. The proposed fire access lane is proposed to be grass pavers.

## II Stormwater Management

1. §245-22.A.1.(a) – Infiltration BMPs must have a minimum depth of 24 inches between the BMP and the top of the limiting zone. At this time the infiltration tests which have been submitted were at a depth of 5 feet, however, the infiltration systems appear to be located at a depth of 10 to 11.5 feet.
2. §245-27.J – Underground stormwater management systems must be designed to store the two- through one-hundred-year storms within a pipe or other open system that will permit the inspection and maintenance of the system. The entire storm must be placed in the pipe (i.e., the stone bedding around the pipe is not to be included in the volume calculations). The applicant indicates within the report and on the details for the SW BMPs (i.e. Proposed Garage Basin for POI 2B, SW BMPs for POI 3A, etc.) that stone volume below the system is being counted towards the volume control total.

3. The applicant must provide supporting calculation/documentation for the volume value reported on page 52 for “POI-3A - Elevate Low flow Orifice 6” to 411.00”. It is not clear from the report or the plans how this value was determined.
4. It is unclear from the charts provided on page 140-141 of the stormwater report how the tributary drainage area for YD-G3 is accounted for.
5. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time.

Performing Arts Center

Plans Prepared By: Nave Newell

Dated: 03/06/2015 and revised 05/26/2015

I Zoning

1. §280-68.1.D(3)(g) – Light fixtures shall be shielded to reduce light spillage beyond the property line of the campus; provided, however, that at no point shall any light trespass onto adjacent residential properties or exceed 0.5 footcandles at the residential property line. All proposed exterior site and building-mounted lighting shall meet the International Dark-Sky Association (IDA) full cutoff requirements. The applicant has provided a lighting design book for this project that indicates compliance with the IDA requirements.
2. §280-68.1.D(3)(g) – The photometric layout or plan grid (showing footcandle levels) must be shown on sheet 7.1.

II Stormwater Management

1. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time.

Church Walk and Bridge

Plans Prepared By: Nave Newell

Dated: 03/13/2015 and revised 05/26/2015

I Zoning

1. §280-68.1.D(2)(b) – Setbacks from the ultimate right-of way for major collector streets shall be 60 feet for surface parking lots. The visitors parking lot is less than 60 feet from the proposed right of way line. This is a non-conformity that the applicant intends to continue.
2. §280-69.E(3) – Surface parking areas are classified as a category of use 1. Category 1 uses and structures shall be set back from rear and side property lines by 75 feet. The existing parking area is set back 20 feet. This is a non-conformity that the applicant intends to continue.

II Stormwater Management

1. §245-22.A.1.(a) – Infiltration BMPs must have a minimum depth of 24 inches between the BMP and the top of the limiting zone. At this time the infiltration tests which have been submitted were at a depth of 5 feet, however, the infiltration system appear to be located at a depth of 7.5 feet.
2. The “Volume – One Inch” calculations provided on page 24-26 appears to have some inconsistencies and should be reconciled.
  - a. The rainfall depth “P” is variable for each BMP when a value of 1-inch appears to be required. The applicant must explain/correct as appropriate.
  - b. The applicant must provide supporting calculation/documentation for the volumetric storage and volume credit for Infiltration Systems No.104. It is not clear how the applicant arrived at the value report, but it appears that the stone volume is being counted. §245-27.J requires that the entire storm be placed in the pipe (i.e. the stone bedding around the pipe is not to be included in the volume calculation).
3. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time.



We recommend that the plans be revised to address the comments stated above along with comments provided in the review memo from Gilmore and Associates prior to consideration for approval, or conditional approval shall include the applicant addressing the comments to the satisfaction of the Township Engineer.

If you have any questions or require any additional information, please contact me.

Very truly yours,

GANNETT FLEMING, INC.



Roger A. Phillips, P.E.  
Senior Project Manager

**ORDER**

*AND NOW*, this 24<sup>th</sup> day of November, 2014, after due deliberation and discussion at public hearings, the Radnor Township Board of Commissioners does hereby grant the Conditional Use Application of Villanova University, subject to the following conditions:

1. The applicant shall comply with all other applicable Township Ordinances and shall submit a land development plan pursuant to the Township's Subdivision and Land Development Ordinance prior to the construction of any facilities.

2. That the transportation, roadway and signalization and improvements necessary for the construction have full access to Ithan Avenue from both the Pike Lot Parking Garage and Lancaster Avenue housing parking area with provisions for stop control for both parking accesses to Ithan Avenue and a pedestrian activated signal including the new pedestrian crosswalk be required if approved by PennDOT, unless waived by the Board of Commissioners during the land development process.

3. That during the land development process an event circulation plan be developed to address event parking and traffic circulation with the input of the Radnor Township Police Department and Township traffic engineer outlining procedures, traffic patterns, parking configurations and way finding techniques for the various sporting and other events held at the University. Upon development of the event circulation plan, Villanova shall be responsible for constructing and/or installing such signs, structures, or other directional aids necessary to implement the event circulation plan.

4. That Villanova University contributes the sum of One Hundred Seventy-Five Thousand Dollars (\$175,000.00) towards the design, approval and installation of a traffic adaptive signal system that would incorporate the following signalized intersections along Lancaster Avenue:

- a. Sproul Road/Spring Mill Road; Aldwyn Lane/ Kenilworth Street
- b. Church Walk
- c. Ithan Avenue
- d. Lowrys Lane
- e. Airdale Road
- f. County Line Road

5. That during the land development process an emergency evacuation plan for the new student housing be developed.

6. That appropriate fencing be provided on both the north and south sides of Lancaster Avenue in the area of the church walk pedestrian bridge in an effort to restrict pedestrian traffic from accessing the campus. A gate shall be provided for vehicular and pedestrian access during church events if approved by the Board of Commissioners during the land development approval process.

7. That the University preserve the entire area known as the Aldwyn Triangle and restrict it as open space except for that portion of the area necessary to provide pedestrian activity and handicap accessibility improvements for the adjacent SEPTA rail line.

8. That a landscape and buffer plan be developed to comply with Section 280-68.1.D. (3)(b) of the Zoning Ordinance.

9. That Villanova seek permission from PECO to plant screening on the south side of the PECO R-100 line to visually screen the SEPTA bridge from the adjacent residential neighbors. Provided that the applicant receives permission, Villanova shall provide an installation and maintenance plan of the vegetation necessary for this screening during land development.

10. Villanova shall provide Radnor Township a list of contractors, subcontractors and vendors and their addresses within twenty (20) days of the execution of any contracts by Villanova in connection with the development and/or construction of the proposed project. The purpose of this list is to permit the Township to audit for required business privilege/mercantile taxes.

11. During the land development process, the Applicant shall use its best efforts to develop and construct stormwater management facilities, including green infrastructure practices and components that meet or exceed infiltration or retention requirements as currently required by the Radnor Township Stormwater Management Ordinance. The Applicant shall conduct soil testing as necessary to determine whether the site can accommodate volume management in excess of 1-inch of run-off from all impervious surfaces resulting from the project. If soil testing indicates that it is possible to provide volume management in excess of 1-inch of run-off, the Applicant shall construct such necessary stormwater facilities on the site to accommodate this increased volume.

12. The Applicant shall obtain revisions to both the Radnor Township and Lower Merion Township Act 537 Plans in order to accommodate the increased waste water disposal generated by the project.



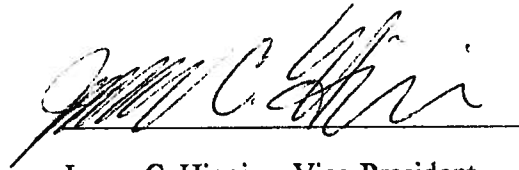
13. The Applicant shall develop a traffic plan during the land development process delineating the paths by which the existing population of commuting and part-time students will be directed to and from parking for each phase of the construction.

14. The Applicant shall permit parishioners to park, on a space available basis, on the north side of Lancaster Avenue on existing Villanova property adjacent to the church for church related events.

15. The Applicant shall maintain a pedestrian crosswalk from the proposed project site to the existing church at the present church walk location if approved by Penn Dot.

16. The Applicant shall insure that no amplified music or other excessive noise shall emanate from any of the south facing dormitories. During the land development process, the Township and applicant shall establish a permissible sound level at the property boundary of the the Aldwyn Lane residential uses.

17. The Applicant's land development plans shall be in substantial conformity with the Conditional use plans dated May 2, 2014 as amended during the hearings.



James C. Higgins, Vice-President

Radnor Township Board of Commissioners

Date of mailing \_\_\_\_\_



**MEMORANDUM**

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**Date:** June 10, 2015

**To:** Steve Norcini, P.E.  
Radnor Township Public Works Director

**From:** Amy Kaminski, P.E., PTOE  
Transportation Services Manager

**cc:** Kevin Kochanski, ASLA, R.L.A., Director of Community Development  
Roger Phillips, P.E., Senior Project Manager, Gannett Fleming, Inc.  
Steve Gabriel, PP, RETTEW  
Damon Drummond, P.E., PTOE, Gilmore & Associates, Inc.

**Reference:** Villanova University – Lancaster Avenue Redevelopment  
Final Land Development Review #1  
Radnor Township, Delaware County, PA

G&A 12-04054

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Gilmore & Associates, Inc. (G&A) has completed a transportation review for the referenced project and offers the following transportation comments for Radnor Township consideration:

**I. BACKGROUND**

The applicant, Villanova University, intends to develop/redevelop several parcels located along Lancaster Avenue, southeast and southwest of the Ithan Avenue intersection, in Radnor Township, Delaware County. The project includes construction of student housing (1,135 bed apartment-style residence halls), retail shops (University Bookstore, bistro and small convenience store, size to be determined) along with 147 surface parking spaces to be located on the southwest corner of Lancaster Avenue and Ithan Avenue. In addition, the project includes construction of a Performing Arts Center (with 500 – 650 total seats in two theaters) and a multilevel parking structure (1,293 spaces) to be located on the southeast corner of Lancaster Avenue and Ithan Avenue. Villanova University intends to eliminate many of the existing driveway accesses located on the south side of Lancaster Avenue, west of Ithan Avenue and construct a shared surface parking lot to the rear of the existing university buildings along the south side of Lancaster Avenue. The Church Walk access and associated signalization will be relocated west of the present location and a new right in driveway will be constructed west of Church Walk. The applicant also intends to construct a pedestrian walkway over Lancaster Avenue at the present Church Walk access location.

## II. DOCUMENTS REVIEWED

1. Final Land Development Submission for West Lancaster Parking, consisting of 32 sheets, prepared for Villanova University, prepared by Nave Newell, Inc., dated March 6, 2015, last revised May 26, 2015.
2. Final Land Development Submission for Church Walk and Bridge, consisting of 20 sheets, prepared for Villanova University, prepared by Nave Newell, Inc., dated March 13, 2015 last revised May 26, 2015.
3. Final Land Development Submission for Pike Field Garage, consisting of 37 sheets, prepared for Villanova University, prepared by Nave Newell, Inc., dated March 6, 2015, last revised May 26, 2015.
4. Final Land Development Submission for Lancaster Avenue Housing, consisting of 41 sheets, prepared for Villanova University, prepared by Nave Newell, Inc., dated December 5, 2014, last revised May 26, 2015.
5. Final Land Development Submission for Performing Arts Center, consisting of 19 sheets, prepared for Villanova University, prepared by Nave Newell, Inc., dated March 6, 2015, last revised May 26, 2015.
6. Pedestrian Parking & Traffic Plan, consisting of 5 sheets prepared for Villanova University, prepared by Nave Newell, Inc., dated May 26, 2015.
7. Event Traffic Circulation Plan, consisting of 4 sheets, prepared for Villanova University, prepared by Nave Newell, Inc., dated May 26, 2015.
8. Response Letter, prepared for Villanova University, prepared by Nave Newell, Inc., dated May 26, 2015.
9. Transportation Impact Study dated May 25, 2015 prepared by F. Tavani Associates, Inc.
10. Response Letter dated May 25, 2015 prepared by F. Tavani Associates, Inc.

## III. CONSTRUCTION PHASING

The applicant has identified the following construction phasing Sheet 7 of 41(C2.3) *Project Phasing Plan* of the Lancaster Avenue Plan set.

1. During all Construction phasing, pedestrian facilities must be provided including along Lancaster Avenue and Ithan Avenue.
2. Phase 1 Improvements
  - i. St. Augustines Center Garage Expansion
  - ii. Improvements to the West Lancaster Parking facilities
  - iii. Ingress from Lancaster Avenue at existing driveways
  - iv. Egress to Lancaster Avenue at signal at the existing Church Walk driveway
  - v. Closure of Pike Lot surface parking field

**Comment:** Pedestrian movement is unimpeded during this phase.

3. Phase 2 Improvements (includes Highway Occupancy Permitting)
  - i. Construction of the Pike Field Parking Garage
  - ii. Temporary improvements to Pike Lot surface lot at the site of the future Performing Arts Center – PAC
  - iii. Construction of the Pedestrian Bridge over Lancaster Avenue
  - iv. Improvements to visitor lot, west of existing Church Walk

v. Lancaster Avenue and Ithan Avenue improvements

**Comment:** During the Phase 2 construction, a temporary walkway for the SEPTA Facility/South Campus student walkers is required. In addition, the pedestrian facilities and crosswalks at Lancaster Avenue and Ithan Avenue must be provided.

4. Phase 3 Improvements

- i. Construction of Student Housing Complexes 1 and 2
- ii. Continued use of Pike Lot surface lot at the site of the future Performing Arts Center – PAC

**Comment:** Pedestrian movement is unimpeded during this phase.

5. Phase 4 Improvements (Upon availability of funding)

- i. Elimination of Pike Lot surface lot
- ii. Construction of Performing Arts Center

**Comment:** Pedestrian movement is unimpeded during this phase.

#### IV. REQUESTED WAIVERS

1. §255-27.H – The applicant has been granted a waiver to permit a 30ft. curb radii for the curb on the southwest corner of Ithan Avenue and Lancaster Avenue.

#### V. GENERAL COMMENTS

1. Depending on the outcome for the preliminary/final approval for the proposed lot consolidation for the West Lancaster Avenue plan (dated 4/9/2015), the following comments may apply to the proposed improvements for the West Lancaster Parking Plan:
  - i. §255-29.A(1) – Parking aisle widths shall be a minimum of 18' for one-way aisles. The aisle between Stone and Farrell Hall is less than 18 feet and appears to include two-way vehicular movement.
  - ii. §255-29.A(15) All dead-end parking areas shall be designed to provide sufficient backup area for end stalls in the parking area located south of Farrell Hall.
  - iii. §255-29.A(21) – Concrete curbing is required along the perimeter of the parking areas in the area south of Farrell Hall.
2. Provide detectible warning surfaces for all pedestrian curb ramps.
3. Structural drawings for the pedestrian bridge and ramp should be provided for Township review.
4. Americans with Disabilities Act Accessibility Guidelines (ADAAG) comments:

- i. §4.1.1.(1) and (4) – During construction, ADA accessible facilities must be maintained or temporary facilities provided for all existing pedestrian routes onsite and along Lancaster Avenue and Ithan Avenue.
  - ii. §4.3.2(1) – An accessible route shall, to the maximum extent feasible, coincide with the route for the general public. Several locations require an ADA accessible route as follows:
    - a. Provide an elevator or an additional ramp for access to the Pedestrian Bridge near the proposed staircase located adjacent to the Lancaster Avenue sidewalk or eliminate the staircase from the design.
    - b. Eliminate the proposed steps/risers between Geraghty and Griffin Hall.
    - c. Eliminate the proposed steps/risers between the Farrell Hall surface lot and the pedestrian route to Geraghty Hall. Include a curb ramp from the sidewalk to cross the proposed driveway access.
  - iii. §4.6.2 – Accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an accessible entrance. Each building should include a minimum of one accessible parking space.
  - iv. §4.9.4 – Handrails shall be included and continuous along both sides of stairs and ramps. Additional detail must be provided to verify handrails are included in the design.
5. Consider including phasing numbers in the title of all plan sets to clarify the progression of work.
  6. Traffic calming elements should be discussed with nearby affected neighborhoods, particularly residents on Aldwyn Lane.
  7. Revise the sidewalk easement along the site frontage to include the full width of the sidewalk and the seating wall area.
  8. Final Land Development Requirements:
    - i. For plan clarity, provide a separate Pavement Marking and Signage Plan (PMSP). On the PSMP include final pavement markings and signage and exclude any existing pavement markings and signage that will be eradicated.
    - ii. Provide traffic signal construction and permit plans for both signalized intersections along with the construction and permit plans for the two proposed pedestrian-activated Rectangular Rapid Flashing Beacons (RRFB) on Ithan Avenue. The applicant has indicated these plans will be provided with the Highway Occupancy Permit application.
    - iii. Identify the design details for all proposed curb ramps. Provide PennDOT CS-4401 forms for all proposed curb ramps.
  9. Revise all stop bars locations to a minimum of 4 feet from any pedestrian crosswalk.

## **VI. WEST LANCASTER AVENUE (WLA) PARKING PLAN COMMENTS**

1. Sheet 5 of 32 (C2.1):
  - i. Eliminate the proposed steps/risers along the sidewalk located between Geraghty and Griffin Hall to meet current ADA accessibility requirements.
  - ii. Provide an ADA compliant curb ramp at the proposed curb adjacent to the existing sidewalk near Farrell Hall.
  - iii. Provide curb ramps for the revised Emergency Access to Lancaster Avenue.
  - iv. Clarify the intended use of the gore striping near the Farrell Hall building. If this is intended to be used as a loading area or restricted parking, include signage and pavement markings as needed.
  - v. Include an accessible pedestrian route from the Farrell Hall surface lots that crosses the new right in/right out driveway, and replace the stairway/risers with a ramp. Include a sidewalk parallel to the Farrell Hall driveway access to eliminate the need for pedestrians to walk in the active driveway.
  - vi. Straighten the skewed walking route proposed for the right in/right out access to Lancaster Avenue to a more direct route. It is unlikely pedestrians will follow the current design.
2. Sheet 6 of 32 (C2.2):
  - i. Revise the phasing for the construction of the fence across Church Walk to a later phase (Phase 2B). The existing Church Walk driveway will need to be fully operational during Phases 1 and 2A and the proposed fence extends across a portion of the driveway.
  - ii. Revise the phasing for the construction of the fence on the north side of Lancaster Avenue, to follow the completion of the Pedestrian Bridge. The Church Walk Pedestrian Access/or the proposed temporary pedestrian route must remain accessible during the WLA construction.
3. Provide direct ADA access from the WLA Visitor Parking lot to the sidewalk adjacent to Lancaster Avenue. Include an ADA ramp that runs parallel to the sidewalk in place of one set of the proposed stairs.
4. Eliminate the three parking spaces adjacent to the railroad tracks in the middle of the new Church Walk intersection to reduce potential conflicts with moving traffic at the intersection.
5. Provide a 4" yellow line instead of a 4" white line perpendicular to the stop bar at the new Church Walk intersection near the railroad tracks.

## **VII. CHURCH WALK PLAN**

1. Provide a construction narrative within the plan set. The new Church Walk access to Lancaster Avenue must be fully operational (fully constructed and signaled) prior to construction of the Pedestrian Bridge.

2. Sheet 4 of 20 (C2.1): Include a Stop Sign (R1-1) for the WLA visitor lot exit.
3. Sheet 6 of 20 (C4.1): Church Walk and Lancaster Avenue
  - i. Provide the proper lane use control signage for each approach to the intersection.
  - ii. Extend the stop bar on the eastbound approach to the edge of the curb line.
  - iii. Refer to PennDOT Publication 111 *Traffic Control Pavement Markings and Signing Standards, TC-8600 Pavement Markings* for the following corrections:
    - a. Revise the 4" broken white line to a 6" solid white line for distance of 150' measured from the stop bar, on the east and westbound approaches to the intersection.
    - b. The ARROW/ONLY templates should be located 60' from the stop bar.
  - iv. ADAAG §4.3.2(1) – An accessible route shall, to the maximum extent feasible, coincide with the route for the general public. Provide an elevator or an additional ramp for access to the Pedestrian Bridge near the proposed staircase located adjacent to the Lancaster Avenue sidewalk or eliminate the staircase closest to Lancaster Avenue from the design.
  - v. We recommend the applicant provide additional accessible parking spaces near the ramp to the Pedestrian Bridge. The applicant has only provided one space near the Pedestrian Bridge.

#### **VIII. PIKE GARAGE PLAN COMMENTS**

1. Sheet 7 of 37 (C2.2):
  - i. ADAAG §4.3.2(1) – An accessible route shall, to the maximum extent feasible, coincide with the route for the general public. Replace the proposed staircase from the sidewalk to the multipurpose athletic field with an accessible route.
  - ii. Provide an accessible route from the handicapped parking spaces located in the northwest corner of the Pike Field surface lot to the Lancaster Avenue and Ithan Avenue intersection
  - iii. Include an accessible curb ramp for the pedestrian crosswalk receiving ramp located on the northeast corner of Lancaster and Ithan Avenue.
  - iv. Revise the location of the arrow leader for the CURB RAMP TYPE 1 on the southeast corner of Lancaster and Ithan Avenue intersection. It appears to point to the sidewalk.
  - v. The applicant has extended the southbound Ithan Avenue left turn lane width to a full width length of 175' with a 100' taper. Please include truck turning templates to ensure proper placement of stop bars on both Lancaster Avenue and Ithan Avenue; adjust the locations as need to accommodate truck turns. It is likely the Lancaster Avenue westbound left turn stop bar will need to be adjusted.

- vi. The plans include a midblock pedestrian crosswalk on Ithan Avenue, between Bartley Hall and Jake Nevin Field House, north of Lancaster Avenue.
  - a. The 2009 MUTCD Section 3B.18 indicates that an engineering and traffic study should be performed before crosswalks are installed at a location away from a signalized intersection or a stop controlled intersection.
  - b. Revise the plan to include a sight distance analysis and include the analysis on the plans.
  - c. Include a PEDESTRIAN warning sign (W11-2) sign along with a DIAGONAL DOWNWARD POINTING ARROW plaque (W16-7P) for both approaches to the midblock crosswalk.
  - d. Include detectible warning surfaces and accessible curb ramps for any pedestrian crossings.
  - e. Consider including a pedestrian-activated Rectangular Rapid Flashing Beacon (RRFB) at the proposed mid-block crossing.
2. Sheet 8 of 37 (C2.3):
  - i. Revise the curb radii on the southwest corner of Ithan Avenue and Lancaster Avenue to provide a minimum 30ft. curb radii.
  - ii. Eliminate the stop bar on the southbound approach of Ithan Avenue at the proposed LAH/Pike Garage accesses.
  - iii. Relocate the proposed stop bar from the Pike Garage access to Ithan Avenue a minimum of 4' from the pedestrian crosswalk.
  - iv. It is unclear how the "Main Lot" access to Ithan Avenue was altered from the existing two separate driveways (one ingress and one egress to Ithan Avenue) to the proposed 25' wide full access to Ithan Avenue. Provide additional details and revise the plans as necessary. The proposed access location appears to be centered on the transition for the back to back left turn lanes on Ithan Avenue and will introduce turning conflicts that should be avoided.
3. Construction for the pedestrian-activated Rectangular Rapid Flashing Beacon (RRFB) at the Pike Garage is planned to coincide with the construction of the Pike Garage; however, the signal should remain hooded until after the LAH improvements are constructed and the pedestrian crosswalk is fully constructed during the LAH improvements.
4. Provide a KEEP RIGHT sign (R4-7) and OBJECT MARKER (OM1-3) on each end of the driveway median at Lancaster Avenue.

## **IX. LANCASTER AVENUE HOUSING PLAN COMMENTS**

1. Sheet 6 of 41 (C2.2)
  - i. The plan identifies two pedestrian-activated Rectangular Rapid Flashing Beacons (RRFB) for the midblock pedestrian crossings on Ithan Avenue near both the South Campus dormitories and Aldwyn Triangle, and the LAH and Pike



Garage accesses; Flashing Warning Beacon permits and construction plans are required for both locations. The applicant has indicated plans will be provided along with the Highway Occupancy Permit application.

- ii. Eliminate the stop bar on southbound Ithan Avenue at the proposed LAH/PAC driveways.
  - iii. Verify sight distance is available for the proposed crosswalks on Ithan Avenue and include a note on the plan indicating the existing and required sight distance for both pedestrian crosswalks.
2. Sheet 9 (C2.5): Revise the Lancaster Avenue median gore at Church Walk in Exhibit 4 to accommodate the left-turn exits from Church Walk.
  3. The applicant may want to consider designating short term parking for spaces located near the proposed retail space in the LAH parking area to encourage parking turnover.
  4. Relocate bus stops along eastbound Lancaster Avenue to align with the future proposed pedestrian access. Include the relocated bus stops on the proposed plan.
  5. Provide ADA compliant curb ramps for the SEPTA station including access to the platform and the pedestrian bridge ramp area.

**X. PERFORMING ARTS CENTER PLAN**

No transportation comments.

**XI. LANCASTER AVENUE HOUSING PEDESTRIAN PARKING & TRAFFIC PLAN**

1. Phase 1: Phase 1 improvements may require signal timing modifications at the Church Walk intersection due to the redistribution of traffic from Ithan Avenue to the Church Walk signal. In addition, a Highway Occupancy Permit will be required to eliminate and construct driveway accesses along Lancaster Avenue.
2. Phase 2A: Revise the new temporary walkway to extend to the existing walkway.
3. Phase 2B: The proposed temporary pedestrian route for Phase 2B appears to utilize an unimproved surface along a grassy hill. The pedestrian route surface must be a stable, firm, slip-resistant surface and free of any tripping hazards. Provide additional detail on the Phase 2B pedestrian route in future submissions.

**XII. EVENT CIRCULATION PLAN**

1. The Radnor Police Department should review the Event Traffic Circulation Plan.
2. Refer to the Manual of Uniform Traffic Control Devices (MUTCD) 2009 (Chapter 2L *Changeable Message Signs*) and PennDOT Publication 646 *Intelligent*

*Transportation Systems Design Guide* and verify the DMS sign placement/location based on the reading and decision zone, number of lines, character length and height is adequate for roadway conditions. Although the applicant has indicated the designer will refer to MUTCD 2009; the plans should be reviewed by the Township,

3. For ease of recognition and memory retainage, the applicant should consider reducing the message length and eliminate parking structure names in favor of structure and sign colors.

### **XIII. TRAFFIC IMPACT STUDY**

We have no additional comments.



May 26, 2015

VIA HAND DELIVERY

Stephen Norcini, P.E., Director of Public Works  
Radnor Township  
301 Iven Avenue  
Wayne, PA 19087

**Reference: Villanova University – Lancaster Avenue Housing  
Final Land Development  
Nave Newell No. 2011-005.00**

Dear Mr. Norcini:

On behalf of Villanova University we are submitting for Final Land Development review and approval responding to comments from Township consultants, Township staff, the Planning Commission and the conditions of Preliminary Approval and respectfully request to be placed on the Planning Commission's agenda. The quantities enclosed are listed after each item:

1. Notarized Final Plan Sets, last revised May 26, 2015 (3);
2. Reduced Size copies of Final Plan Sets (11X17), last revised May 26, 2015 (25);
3. Storm Water Management Report and Site Drainage Calculations last revised May 26, 2015 (2);
4. Event and Circulations Plans, prepared by Villanova (25);
5. Pedestrian Parking and Traffic Circulations Plans, prepared by Villanova (25);
6. Evacuation Plan, prepared by Villanova (25);
7. Pike Parking Garage Design Plans, prepared by Harman Group (2);
8. Approved Softball Field Grading Permit and Drawing prepared by AEC (2);
9. PECO letter related to supplemental planting within their Right-of-Way (2);
10. Villanova Site Lighting Design Book, prepared by O'Donohoe and Rose (1);
11. Radnor Township Land Development Application (1);
12. Delaware County Application for Act 247 Review (1);
13. Check No. 16141536 in the amount of \$15,000.00 and check No. 16141537 in the amount of \$5,350.00 made payable to Radnor Township for the Land Development escrow and review fee (1 each);
14. Check No. 16141538 in the amount of \$12,650.00 made payable to Treasurer of Delaware County for the Act 247 review fee (1);
15. Transportation Impact Study prepared by F. Tavani and Associates (2).
16. Thumb drives with electronic copies of above noted submission documents (25).

We are in receipt of the review letters from the Township Engineer, dated May 4, 2015; Township Traffic Engineer, dated May 5, 2015; and Township Planner, dated May 4, 2015; and offer the following responses in corresponding order:

**Township Engineer Review (May 4, 2015) [Exhibit A of Preliminary Approval]**

**I. Zoning**

1. We have revised the Zoning Tables on all the Sheets C2.0 to provide the individual building areas (which total the 4.9 Ac. noted on the plans).
2. We have revised the Zoning Table to correct the typo.
3. The existing parking lots, exclusive of Ithan Avenue Right-of-Way, contain 10.8 Acres of impervious. Then Net Lot Area is 11.71 Acres. 10.8/11.71 is the 92% existing coverage. We have revised the Zoning Table and calculations to clarify that the Main Parking lot (exclusive of R/W) is 6.8 Acres of impervious and the Pike Parking lot (exclusive of R/W) is 4.0 Acres of impervious.
4. We have provided revised lighting plans and a lighting design book to verify the IDA compliance, where required.
5. We have revised the lighting fixture schedule on the lighting plans to include a column detailing the overall height of each fixture.
6. No response necessary.

**II. Subdivision and Land Development**

1. We have revised the Composite Site Plan to label the zoning boundaries.
2. We have revised the southwest corner of Ithan Avenue and Lancaster Avenue to be in compliance with the waiver granted as part of Preliminary Approval to allow a 30 ft radius and a 10 degree angle to the curb line.
3. No revision to the plans is necessary due to the waiver granted during Preliminary Approval.
4. The applicant will be paying the fee in lieu, as required by Preliminary Approval.
5. The applicant will be paying the fee in lieu, as required by Preliminary Approval.
6. We await formal comments from the Fire Marshal's review of the submitted documents, which are based on direction provided by the Fire Marshal during their preliminary review.

**III. Stormwater Management**

1. We have corrected the typo to list 6,216 SF in all locations.

**IV. General Comments**

1. Villanova University is working with the Township to resolve sewer service and Act 537 approvals for this development.
2. We have revised the plans to provide a detail for the gate enclosure that will be used to provide both visual and acoustic buffering for the Building 1C loading dock.

Stephen Norcini, P.E. - Radnor Township  
Nave Newell No. 2011-005.00  
May 26, 2015  
Page 3

West Lancaster Parking

V. Zoning

1. No response necessary.

VI. Subdivision and Land Development

1. We have revised the Landscape schedule to resolve the discrepancy to base the calculations on 290 parking spaces, which excludes the 22 parking stalls at Stone and Farrell Halls that are outside the project limits and not subject to the landscape requirements, but includes the 20 parking spaces being provided for SEPTA parking which are not included in our Zoning charts ( $244+48+20-22=290$ ).
2. We have revised the design of the parking area to have the required back-up area.

VII. Stormwater Management

1. We have revised the Stormwater management report to correct the typo to list 47,326 SF as the overall drainage area.
2. We have revised the volume calculations to clarify the soil storage volume that is used in the volume calculations but not the peak rate calculations, which addresses inconsistencies noted in the review letter.
3. We have revised the Stormwater Narrative to include information on the drainage area to each BMP.
4. We have revised the Post-Development Drainage Plan to include a chart providing the requested information.
5. We have revised the storm drainage charts to include the "off-site" PennDOT inlets.
6. We have revised the Stormwater narrative and report to address the Church Walk improvements which are part of POI 1.
7. We have revised the plans to include the requested note.

Pike Field Garage

VIII. Zoning

1. We have provided revised lighting plans and a lighting design book to verify the IDA compliance, where required.
2. We have provided detailed garage plans that dimension the parking stall sizes, for review.
3. We have provided copies of the grading permit and plan from 2006 which verifies the slope between the parking lot and the softball field was created under a grading permit and therefore not a regulated slope.

IX. Subdivision and Land Development

1. We await formal comments from the Fire Marshal's review of the submitted documents. We have also revised the plans to note "The Property Owner shall maintain fire lane

accessibility after snow events by utilizing snow plow skids to preserve the grass pavers while also limiting snow accumulation within the limits of the fire lane to a maximum of 3 inches".

X. Stormwater Management

1. We have revised the Stormwater Narrative to include information on the drainage area to each BMP.
2. We have revised the Post-Development Drainage Plan to include a chart providing the requested information.
3. We have revised the Stormwater Report to include additional information related to the drainage areas.
4. The conveyance into the POI 2B system is directly via a roof drain from the garage and conveyance sizing will be prepared by the MEP during plumbing design. Therefore, no conveyance sizing calculations have been provided for this drainage area, but the flow is accounted for the post-development drainage area.
5. We have provided additional information in the Stormwater Management Report and corrected the typo to list elevation 414.50 not 411.50.
6. We have revised the Stormwater Management Report to clarify this item.
7. We have revised the plans to include a detail of the existing Pike Field system.
8. We have revised the Stormwater Management Report to clarify this item.
9. We have revised the plans to include the requested note.

XI. General

1. We await formal comments from the Fire Marshal's review of the submitted documents.
2. We have provided the detailed parking structure plans.

Performing Arts Center

XII. Zoning

1. We have verified the plans dimension the spacing of 30ft between the PAC and the Pike Garage.
2. We have revised the PAC drawings to include details of the dumpster enclosures.
3. We have provided revised lighting plans and a lighting design book to verify the IDA compliance, where required.

XIII. Stormwater Management

1. We have revised the Stormwater Narrative to include information on the drainage area to each BMP.
2. We have revised the Post-Development Drainage Plan to include a chart providing the requested information.

Stephen Norcini, P.E. - Radnor Township  
Nave Newell No. 2011-005.00  
May 26, 2015  
Page 5

3. The noted inlets have a direct connection to the system that does not require conveyance sizing calculations but have been provided in the Post Development Drainage areas to the PAC detention system
4. We have revised the plans to include the requested note.

### Church Walk and Bridge

#### I. Zoning

1. No response necessary.
2. No response necessary.
3. We have revised the plans to depict the areas of steep slopes. The plaza widening is permitted in the area of steep slopes since it is widening of an existing driveway with no alternative alignment.

#### II. Subdivision and Land Development

1. We have provided lighting design plans that verify that no direct rays fall upon neighboring property nor are any high-brightness surfaces visible from neighboring residential properties.
2. We have revised the Site Plans to depict the sidewalk easement proposed.

#### III. Stormwater Management

1. We have revised POI 1 of the Stormwater Management Report to address the improvements at Church Walk and Bridge.
2. We have revised the Stormwater Narrative to include information on the drainage area to each BMP.
3. We have revised the Post-Development Drainage Plan to include a chart providing the requested information.

### **Township Traffic Engineer Review (May 5, 2015)**

#### XIV. Construction Phasing

1. We will provide signal timing modifications, if necessary, during the PennDOT HOP Permitting process.

#### XV. Requested Waivers

1. We have revised the design to be in accordance with the waiver granted during Preliminary Approval.

#### XVI. General Comments

1. We have revised the plans to provide the requested sidewalk easement.
2. No response necessary.
3. We have revised the Final Land Development Plans to include:

Stephen Norcini, P.E. - Radnor Township  
Nave Newell No. 2011-005.00  
May 26, 2015  
Page 6

- i. We have provided information on Pavement Markings and Signage on the Site Plans.
  - ii. The Applicant will include the required signal construction and permit plans with the PennDOT Applications.
4. We have revised the stop bars to provide a minimum of 4 ft from any crosswalk.

**XVII. Lancaster Avenue Housing Plan Comments**

1. We have revised Sheet C2.2:
  - i. The Applicant will include the required signal construction and permit plans with the PennDOT Applications.
  - ii. No response necessary.
  - iii. We have verified the drawings do to depict any stop bars along Ithan Avenue. We have revised the plans to include sight line profiles for the proposed crosswalks and have dimensioned all sidewalks along Ithan Ave.
2. We have provided ADA ramp labels specifying the type of ADA ramp required and the necessary PennDOT construction details in addition to detailed spot elevations on the grading plans.
3. We have verified the Truck Turning Plan includes the requested movement.
4. We have revised the Truck Turning Plans to include the requested movements.
5. We have revised the plans to include a note prohibiting the noted movements.
6. We have revised the plans to include signage requiring the WB-40 modified to turn from the right lane.
7. No response necessary.

**XVIII. West Lancaster Parking Comments**

1. We have revised the plans to clarify this feature as a gate and have provided the requested note.
2. We have revised the ADA parking throughout WLA to locate more parking adjacent to the sidewalk near Moriarty Hall.
3. We have revised the plans to depict the required fencing on the North side of Lancaster Avenue.
4. We have revised the Truck Turning Plan to depict the dual SU-30 movement.

**XIX. Church Walk Plan**

1. We have revised the plans to include internal stop bars and pavement marking information.

**XX. Pike Field Garage Plan Comments**

1. We have revised the limits of the mountable island to eliminate the SU-30 conflict.
2. We have revised the truck turning plan to depict the SU-30 right turn.
3. No response necessary.



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Nave Newell No. 2011-005.00  
May 26, 2015  
Page 7

XXI. Performing Arts Center Plan

XXII. Lancaster Avenue Housing Pedestrian Parking & Traffic Plan

1. We have revised the plans to include North Arrows and Roadway labels.
2. We have revised the drawings to separate Phases 2A and 2B.

XXIII. Event Circulation Plan

1. We await formal comments from Radnor Police on the submitted documents.
2. The Applicant's signage designer will refer to MUTCD 2009.
3. We have revised the Sign Messages as requested.

**Township Planner Review (May 4, 2015)**

Zoning

1. An Elevation View of the entire length of WLA Parking and the Housing project has been provided.
2. No response necessary.
3. We have revised the plans to include a note requiring the supplemental plantings along the Barley Cone neighbors. A supplemental landscape plan will be provided by the Applicant under separate cover at a later date.
4. We have provided a lighting design package that includes all required lighting information relative to light levels and ADA compliance.
5. We have revised the plans to include details on the loading docks with information related to the sound buffering methods.
6. We have revised the fence layout to avoid the encroachment into the Right of Way.
7. Comment excluded during Preliminary Approval.

Phasing and Pedestrian Parking and Traffic Plan

1. No response necessary.
2. No response necessary.
3. No response necessary.

Church Walk and Bridge

1. We have revised the drawings to clarify the phasing on the landscape installation.
2. We have revised the Aldwyn Triangle background to depict the proper preservation area.
3. We have revised the ADA parking within West Lancaster Parking provide additional parking within the Visitor Lot and the Lot adjacent to Moriarty.
4. The Board of Commissioners reviewed the pedestrian access in this area and determined a sidewalk is not warranted or required.



Stephen Norcini, P.E. - Radnor Township  
Nave Newell No. 2011-005.00  
May 26, 2015  
Page 8

Please feel free to contact me at (610)265-8323 or via email at [atweedie@navenewell.net](mailto:atweedie@navenewell.net) if you should have any questions or need additional information.

Respectfully submitted,

A handwritten signature in black ink that reads 'D. Alexander Tweedie'.

D. Alexander Tweedie, PE

DAT/jih  
Enclosures

cc via email: Roger Phillips, PE - Gannett Fleming  
Amy Kaminski, PE - Gilmore Assoc.  
Steve Gabriel, PP - RETTEW  
Marilou Smith, LEED - Villanova University  
Steve Hildebrand, PE - Villanova University  
John Cluver, AIA, LEED AP - Voith & MacTavish Architects, LLP  
Dan Chieco, RLA - Sikora Wells Appel  
Nick Caniglia, Esq. - Pierce, Caniglia and Taylor

K:\11Proj\11005\RevResp\Township\Final LD\Norcini\_Ltr\_15-05-26.doc

**RADNOR TOWNSHIP**  
301 IVEN AVE  
WAYNE PA 19087  
P) 610 688-5600  
F) 610 971-0450  
WWW.RADNOR.COM

**SUBDIVISION ~ LAND DEVELOPMENT**

Location of Property 800 East Lancaster Ave.

Zoning District PI

Application No. 2014-D-07  
(Twp. Use)

Fee \$5,350.00 Ward No. 4 Is property in HARB District no

Applicant: (Choose one) Owner x Equitable Owner \_\_\_\_\_

Name Villanova University

Address 800 East Lancaster Ave.

Telephone 510-519-4500 Fax \_\_\_\_\_ Cell \_\_\_\_\_

Email steven.hildebrand@villanova.edu

Designer: (Choose one) Engineer x Surveyor \_\_\_\_\_

Gregory C. Newell, P.E.

Name Nave Newell, Inc.

Address 900 West Valley Road, Suite 1100, Wayne, PA 19087

Telephone 610-265-8323 Fax 610-265-4299

Email gnewell@navenewell.net

Area of property 240 ac. Area of disturbance 13.81 ac.

Number of proposed buildings 7 Proposed use of property CICD / Student Housing /  
Performing Arts Center

Number of proposed lots 1 (existing campus)

Plan Status: Sketch Plan \_\_\_\_\_ Preliminary \_\_\_\_\_ Final x Revised \_\_\_\_\_

Are there any requirements of Chapter 255 (SALDO) that are not in compliance with?

Are there any requirements of Chapter 255 (SALDO) not being adhered to?  
Explain the reason for noncompliance.

N/A

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Are there any infringements of Chapter 280 (Zoning), and if so what and why?

N/A

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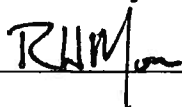
Individual/Corporation/Partnership Name

Villanova University

---

I do hereby certify that I am the owner, equitable owner or authorized representative of the property which is the subject of this application.

Signature



Print Name Robert Morro, Associate Vice President of Facilities Management

By filing this application, you are hereby granting permission to Township officials to visit the site for review purposes.

NOTE: All requirements of Chapter 255 (Subdivision of Lane) of the Code of the Township of Radnor must be complied with whether or not indicated in this application.

**DELAWARE COUNTY PLANNING COMMISSION**

**APPLICATION FOR ACT 247 REVIEW**

**Incomplete applications will be returned and will not be considered "received" until all required information is provided.**

Please type or print legibly

**DEVELOPER/APPLICANT**

Name Villanova University E-mail steven.hldebrand@villanova.edu

Address 800 East Lancaster Ave., Villanova, PA 19085 Phone 610-519-4500

Name of Development Lancaster Avenue Housing

Municipality Radnor Township

**ARCHITECT, ENGINEER, OR SURVEYOR**

Name of Firm Nave Newell, Inc. Phone 610-265-8323

Address 900 West Valley Road, Suite 1100, Wayne, PA 19087

Contact D. Alexander Tweedie, PE E-mail atweedie@navenewell.net

Type of Review	Plan Status	Utilities		Environmental Characteristics
		Existing	Proposed	
<input type="checkbox"/> Zoning Change	<input type="checkbox"/> Sketch	<input type="checkbox"/> Public Sewerage	<input checked="" type="checkbox"/> Public Sewerage	
<input checked="" type="checkbox"/> Land Development	<input type="checkbox"/> Preliminary	<input type="checkbox"/> Private Sewerage	<input type="checkbox"/> Private Sewerage	<input type="checkbox"/> Wetlands
<input type="checkbox"/> Subdivision	<input checked="" type="checkbox"/> Final	<input type="checkbox"/> Public Water	<input checked="" type="checkbox"/> Public Water	<input type="checkbox"/> Floodplain
<input type="checkbox"/> PRD	<input type="checkbox"/> Tentative	<input type="checkbox"/> Private Water	<input type="checkbox"/> Private Water	<input type="checkbox"/> Steep Slopes

Zoning District P1

Tax Map # 38 / 24 / 33

Tax Folio # 36 / 04 / 02400 / 10

**STATEMENT OF INTENT**  
WRITING "SEE ATTACHED PLAN" IS NOT ACCEPTABLE.

Existing and/or Proposed Use of Site/Buildings:

Existing Use = asphalt parking lot

Proposed Use = construction of 1,138 bed student housing in six buildings with associated retail space and a performing arts center under C1CD use  
of P1 Zoning with associated structured and surface parking.

Total Site Area	13.81	Acres
Size of All Existing Buildings	0	Square Feet
Size of All Proposed Buildings	497,334	Square Feet
Size of Buildings to be Demolished	0	Square Feet

Robert Morro, Assoc. Vice President of Facilities Mgt.  
Print Developer's Name  
Villanova University

  
Developer's Signature

**MUNICIPAL SECTION**  
ALL APPLICATIONS AND THEIR CONTENT ARE A MUNICIPAL RESPONSIBILITY.

Local Planning Commission Regular Meeting \_\_\_\_\_  
Local Governing Body Regular Meeting \_\_\_\_\_

Municipal request for DCPD staff comments prior to DCPC meeting, to meet municipal meeting date:

Actual Date Needed \_\_\_\_\_

IMPORTANT: If previously submitted, show assigned DCPD File #

34-1522-77-83-90-92-94-97-98  
99-00-01-02-06-13-15

Roger A. Phillips, PE, Township Engineer  
Print Name and Title of Designated Municipal Official

610-650-8101  
Phone Number

  
Official's Signature

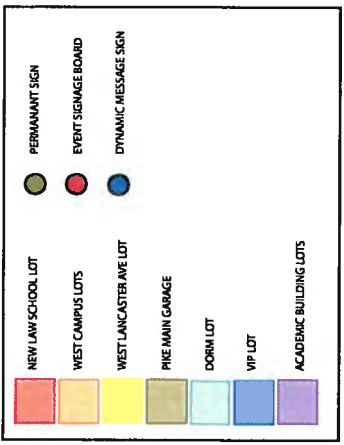
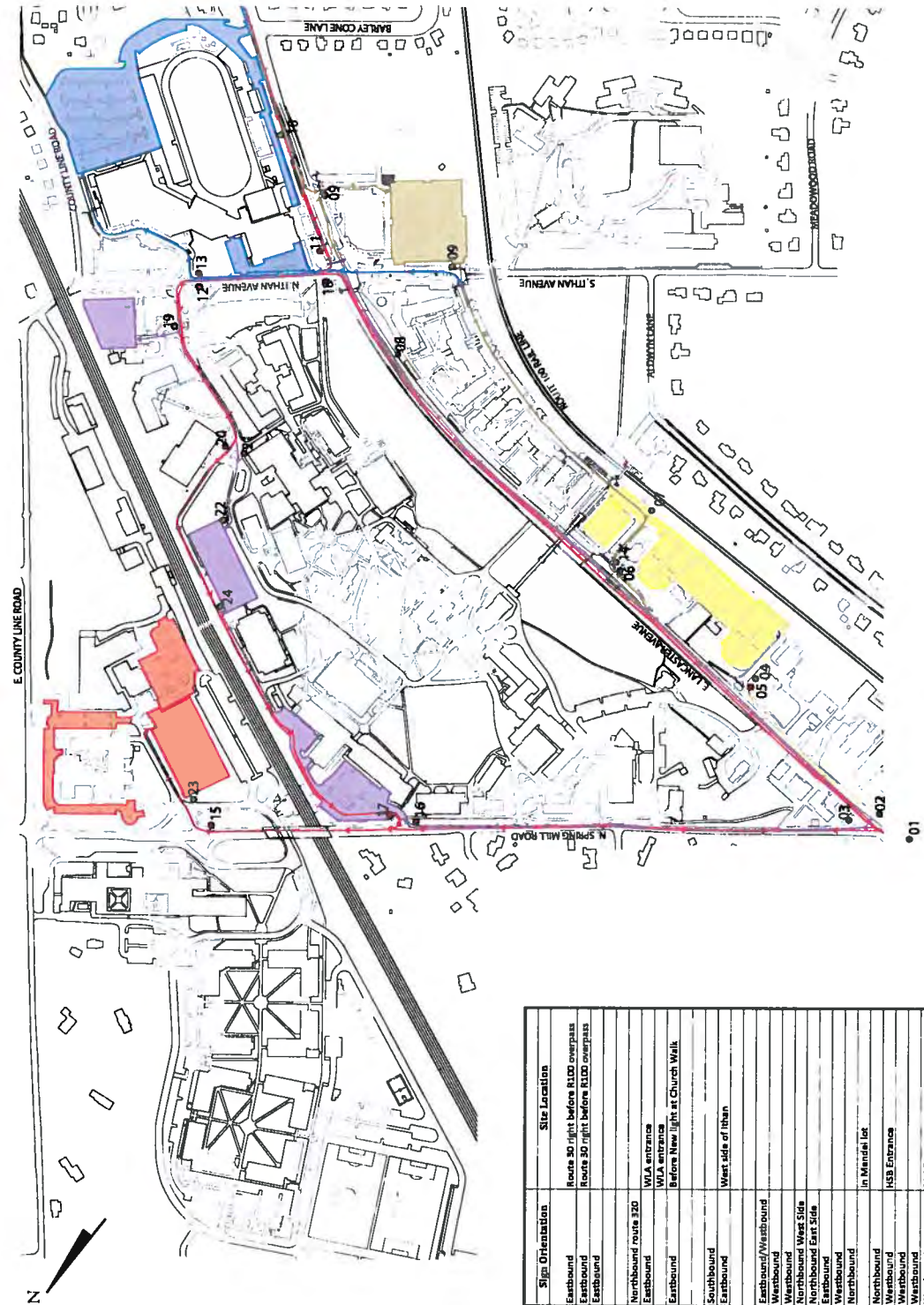
6/4/2015  
Date

**FOR DCPD USE ONLY**

Review Fee: Check # \_\_\_\_\_ Amount \$ \_\_\_\_\_ Date Received \_\_\_\_\_

Applications with original signatures must be submitted to DCPD.

VILLANOVA LANCASTER AVENUE HOUSING  
 BASKETBALL WEEKNIGHT AND WEEKEND EVENTS CIRCULATION PLAN  
 MAY 26, 2015

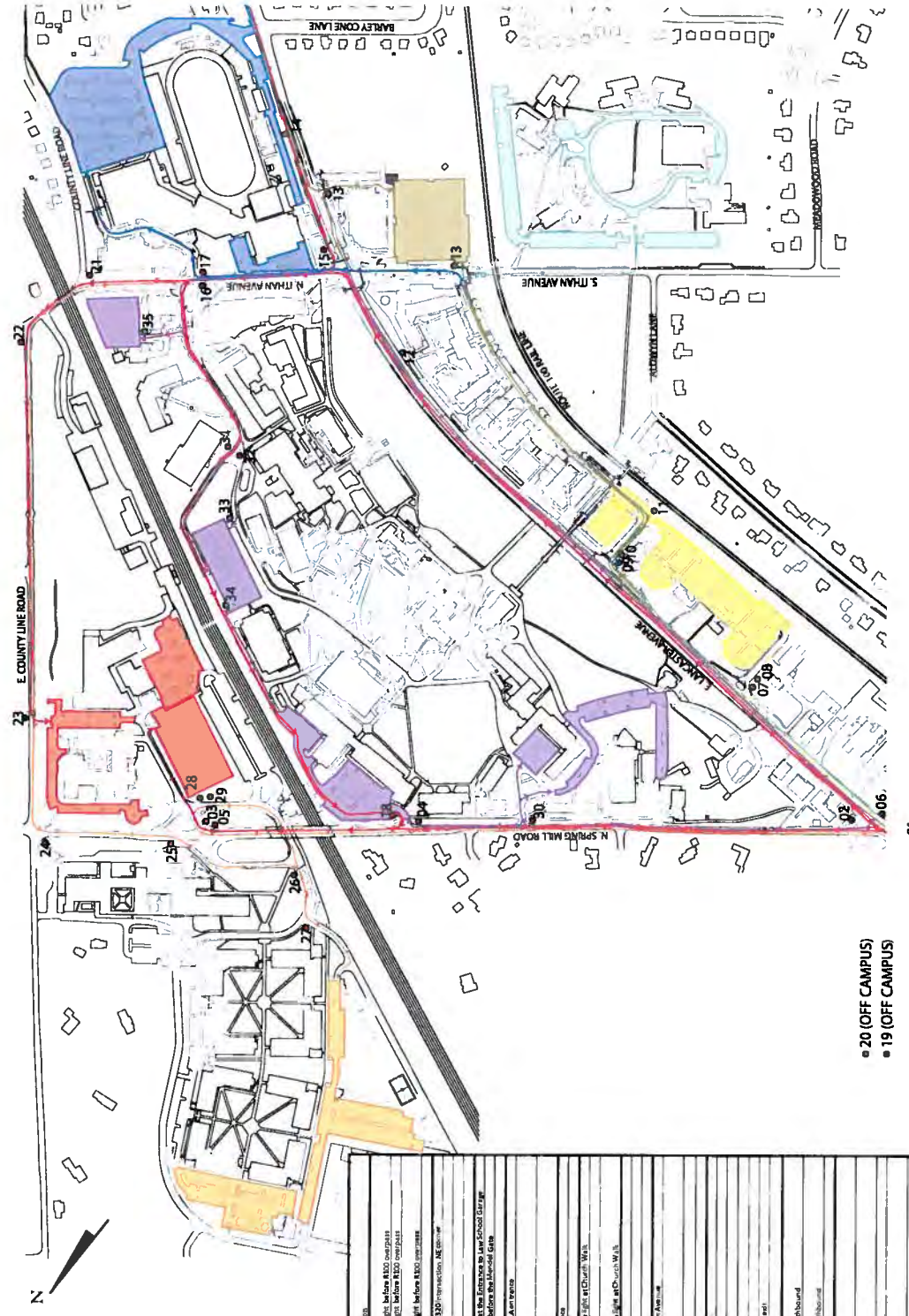


Villanova University  
 Event Circulation Plan  
 BASKETBALL WEEKNIGHT EVENTS and WEEKEND EVENTS  
 Location and Message for Future Wayfinding Signs

Sign No.	Sign Type	Sign Message	Sign Orientation	Site Location
1	DMS	WELCOME TO VILLANOVA UNIVERSITY	Eastbound Eastbound Eastbound	Roads 50' right before R100 overpass Roads 30' right before R100 overpass
2	DMS	EVENT PARKING AHEAD	Eastbound Eastbound	
3	DMS	PIKE GARAGE FULL ADDITIONAL PARKING AHEAD	Northbound route 320 Eastbound	
4	ESB	WLA PARKING LOT FULL ADDITIONAL PARKING AHEAD TURN LEFT	Eastbound	WLA entrance WLA entrance
5	PS	EVENT PARKING TURN RIGHT	Eastbound	Before New light at Church Walk
6	DMS	EVENT PARKING TURN RIGHT	Eastbound	
7	PS	PIKE GARAGE PARKING TURN RIGHT	Southbound Eastbound	West side of them
8	DMS	PIKE GARAGE TURN RIGHT AHEAD AFTER ITHAM AVENUE	Eastbound	
9	PS	PIKE GARAGE FULL ADDITIONAL PARKING TURN LEFT	Eastbound/Westbound Westbound	
10	PS	PIKE GARAGE TURN LEFT	Westbound	
11	ESB	SAC/VIP/LAW SCHOOL PARKING TURN RIGHT	Northbound West Side Northbound East Side	
12	ESB	SAC/VIP/LAW SCHOOL PARKING TURN LEFT	Eastbound Northbound	
13	ESB	VIP PARKING TURN RIGHT	Northbound	
14	ESB	VIP PARKING TURN LEFT	Northbound	
15	ESB	LAW SCHOOL PARKING TURN RIGHT	Northbound	
16	ESB	LAW SCHOOL PARKING TURN LEFT	Northbound	
17	ESB	LAW SCHOOL PARKING TURN RIGHT	Northbound	in Mandel lot
18	ESB	LAW SCHOOL PARKING TURN LEFT	Westbound	
19	PS	HSE GARAGE	Westbound	HSE Entrance
20	ESB	LAW SCHOOL PARKING TURN RIGHT	Westbound	
21	PS	SAC PARKING GARAGE	Westbound	SAC Entrance Law School Lot Entrance
22	PS	SAC PARKING GARAGE	Eastbound	SAC Entrance
23	PS	LAW SCHOOL PARKING GARAGE	Eastbound	SAC Entrance
24	PS	SAC PARKING GARAGE	Eastbound	SAC Entrance

NOTE: FINAL MANIFESTATION OF PARKING AREAS TO BE DETERMINED.  
 DMS= Dynamic Message Sign (DMS) - Portable  
 ESB= Event Signage Board  
 PS = Permanent sign

# VILLANOVA LANCASTER AVENUE HOUSING COMMENCEMENT WEEKEND CIRCULATION PLAN MAY 26, 2015



**Legend:**

- NEW LAW SCHOOL LOT
- WEST CAMPUS LOTS
- WEST LANCASTER AVE LOT
- PIKE MAIN GARAGE
- DORM LOT
- VIP LOT
- ACADEMIC BUILDING LOTS
- PERMANENT SIGN
- EVENT SIGNAGE BOARD
- DYNAMIC MESSAGE SIGN

**Map of Villanova University  
Event Circulation Plan  
Location and Message for Phase Two (Friday) Sign**

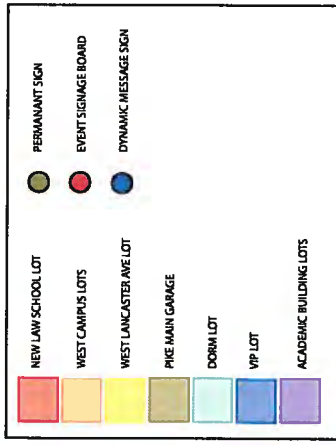
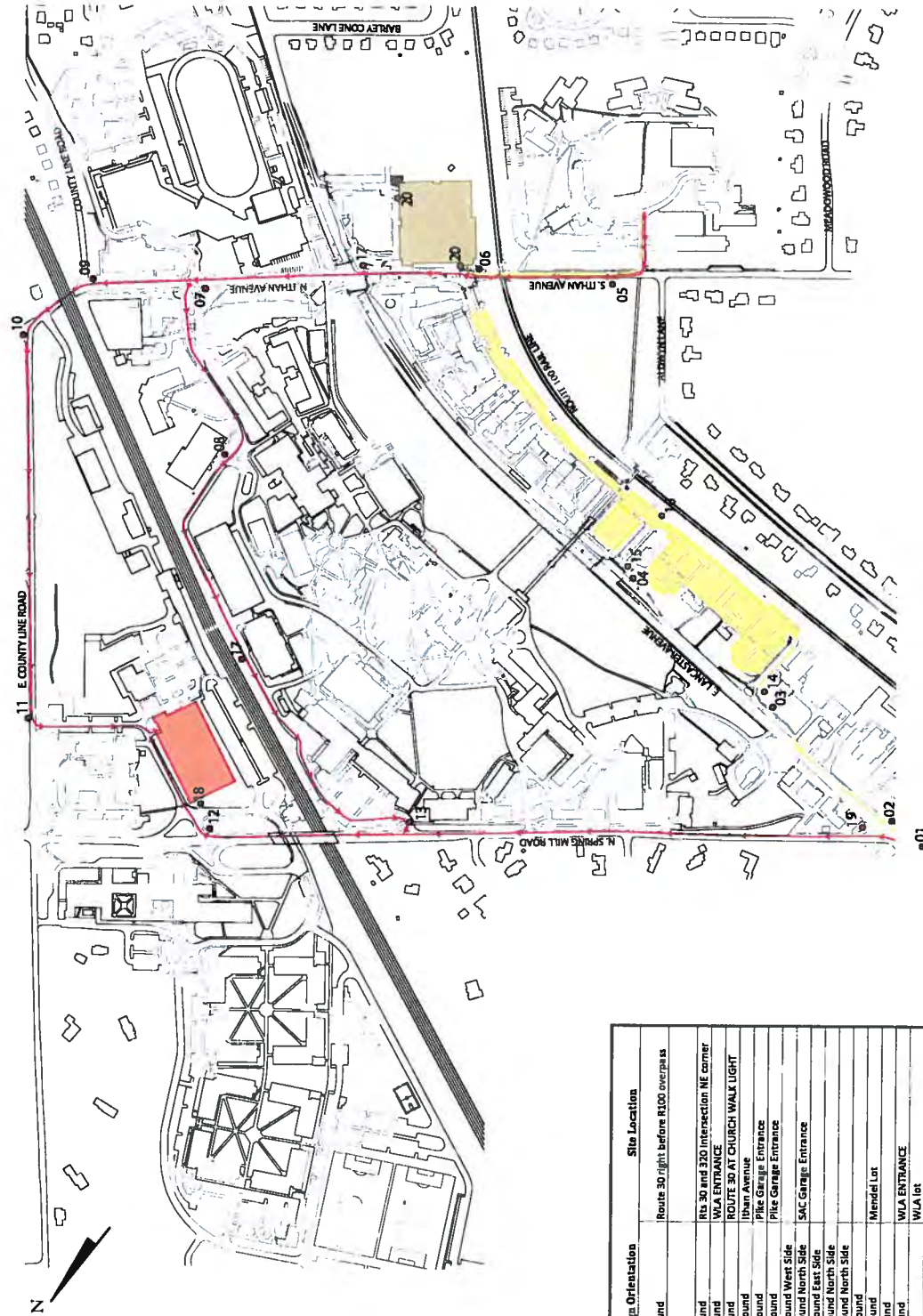
Sign No.	Sign Type	Sign Message	Sign Orientation	Sign Location
1	DMS	WELCOME TO VILLANOVA UNIVERSITY COMMENCEMENT WEEKEND THIS MORNING WEST CAMPUS, LAW SCHOOL AND SAC PARKING LOTS LEFT LANE	Eastbound	Near 20 right before 2000 overpass Near 20 right before 2000 overpass
2	DMS	WEST CAMPUS TURN LEFT LAW SCHOOL PARKING TURN LEFT	Eastbound	Near 20 right before 2000 overpass
3	ESB	WEST CAMPUS TURN RIGHT	Northbound	South 200 ft. before 2000 overpass
4	ESB	LAW SCHOOL PARKING TURN RIGHT	Northbound	South 200 ft. before 2000 overpass
5	DMS	PIKE MAIN GARAGE ADDITIONAL PARKING AHEAD	Eastbound	West of Thuan Avenue
6	DMS	ADDITIONAL PARKING AHEAD	Eastbound	West of Thuan Avenue
7	ESB	DO NOT PASS TURN RIGHT	Eastbound	Near entrance
8	PS	PIKE GARAGE	Eastbound	Near New Sign at Church Walk
9	DMS	PIKE GARAGE ADDITIONAL PARKING AHEAD	Eastbound	Near New Sign at Church Walk
10	PS	PIKE GARAGE AND WAITING	Eastbound	Near New Sign at Church Walk
11	PS	PIKE GARAGE TURN LEFT FIRST TURN RIGHT	Southbound	Near New Sign at Church Walk
12	DMS	PIKE GARAGE TURN RIGHT AFTER THUAN	Eastbound	Near New Sign at Church Walk
13	PS	PIKE GARAGE ADDITIONAL PARKING TURN LEFT	Eastbound	Near New Sign at Church Walk
14	PS	PIKE GARAGE ADDITIONAL PARKING TURN LEFT	Eastbound	Near New Sign at Church Walk
15	ESB	SAC PARKING TURN LEFT	Westbound	2 1/2 mile sign
16	ESB	SAC PARKING TURN RIGHT	Westbound	2 1/2 mile sign
17	ESB	LAW SCHOOL PARKING TURN LEFT	Near Thuan Avenue	Near Thuan Avenue
18	ESB	LAW SCHOOL PARKING TURN RIGHT	Near Thuan Avenue	Near Thuan Avenue
19	DMS	UNRESERVED PARKING FOR COMMENCEMENT TURN LEFT	Westbound	Near Thuan Avenue
20	DMS	UNRESERVED PARKING FOR COMMENCEMENT TURN LEFT	Westbound	Near Thuan Avenue
21	ESB	WEST CAMPUS LAW SCHOOL PARKING AHEAD TURN LEFT	Northbound	off 478 northbound
22	ESB	WEST CAMPUS LAW SCHOOL PARKING AHEAD TURN LEFT	Northbound	off 478 northbound
23	DMS	WEST CAMPUS LAW SCHOOL PARKING AHEAD TURN LEFT	Westbound	off 478 southbound
24	ESB	WEST CAMPUS PARKING AHEAD	Southbound	off 478 southbound
25	ESB	WEST CAMPUS PARKING TURN RIGHT	Southbound	off 478 southbound
26	ESB	WEST CAMPUS PARKING TURN LEFT	Southbound	off 478 southbound
27	ESB	WEST CAMPUS PARKING TURN LEFT	Westbound	off 478 southbound
28	PS	LAW SCHOOL PARKING GARAGE	Westbound	off 478 southbound
29	PS	LAW SCHOOL PARKING KEEP RIGHT	Westbound	off 478 southbound
30	ESB	LAW SCHOOL PARKING TURN LEFT	Northbound	off 478 southbound
31	ESB	LAW SCHOOL PARKING TURN LEFT	Northbound	off 478 southbound
32	PS	SAC GARAGE	Westbound	off 478 southbound
33	PS	SAC GARAGE	Westbound	off 478 southbound
34	PS	SAC GARAGE	Westbound	off 478 southbound
35	PS	SAC GARAGE	Westbound	off 478 southbound

● 20 (OFF CAMPUS)  
● 19 (OFF CAMPUS)

**NOTE: FINAL MESSAGE ORIENTATION OF PARKING AREAS TO BE DETERMINED.**

© 2015 Villanova University  
DMS - Dynamic Message Sign  
ESB - Event Signage Board  
PS - Permanent Sign





Villanova University  
 Event Circulation Plan  
**FRESHMAN MOVE-IN AND DEPARTURE**  
 Location and Message for Future Wayfinding Signs

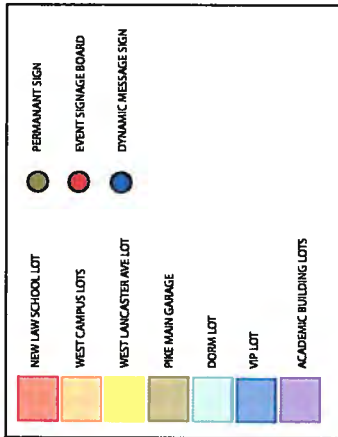
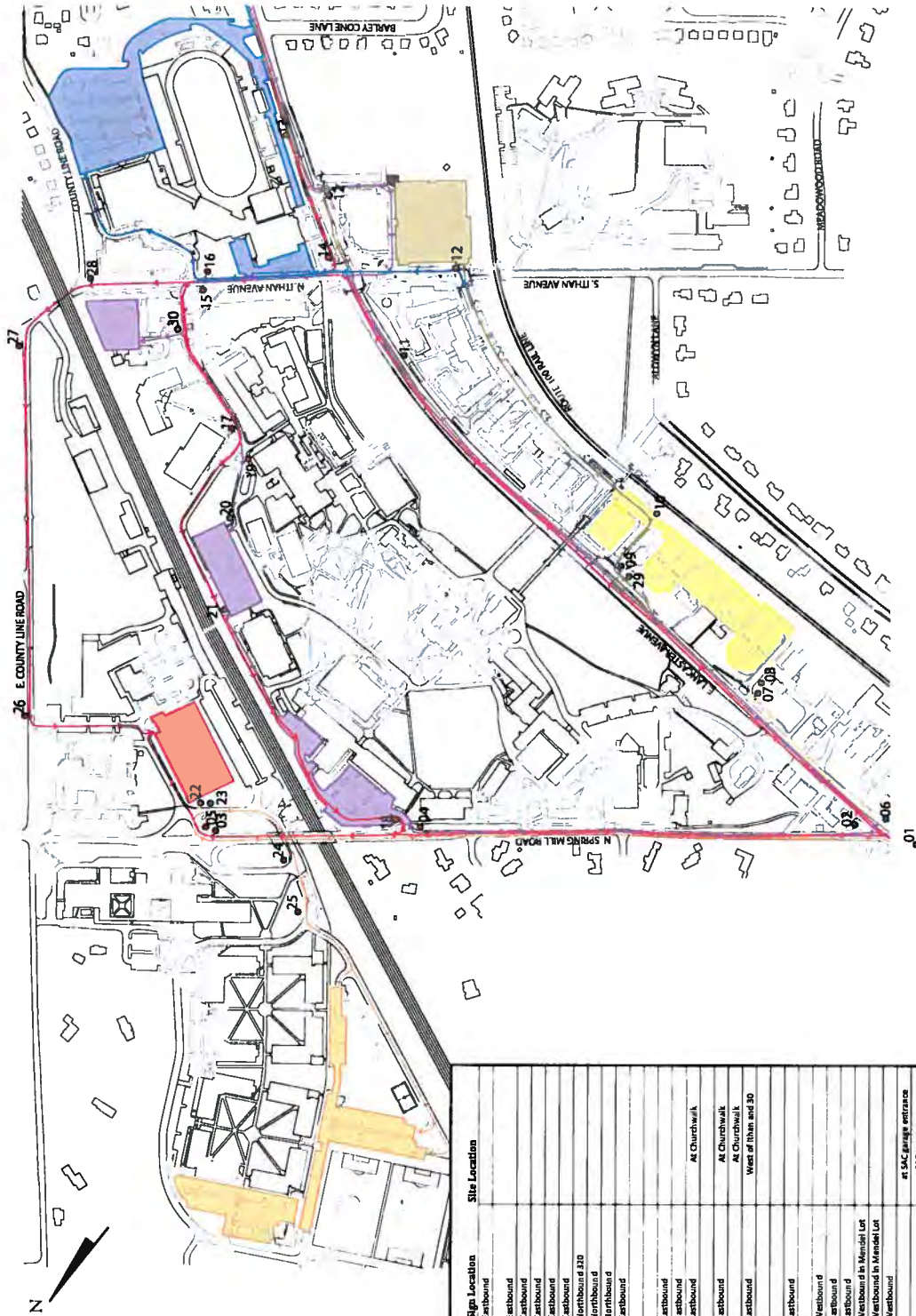
Sign No.	Sign Type	Sign Message(s)	Sign Orientation	Site Location
1	DMS	WELCOME TO VILLANOVA UNIVERSITY	Eastbound	Route 30 right before R100 overpass
2	DMS	FRESHMAN MOVE IN AHEAD	Eastbound	
3	ESB	LAW SCHOOL PARKING LEFT LANE	Eastbound	Rts 30 and 320 intersection NE corner
4	ESB	FRESHMAN MOVE IN PARKING AHEAD	Eastbound	WLA ENTRANCE
5	ESB	FRESHMAN MOVE IN TURN RIGHT	Eastbound	ROUTE 30 AT CHURCH WALK LIGHT
6	DMS	PARKING TURN RIGHT	Southbound	Libani Avenue
7	ESB	PIKE GARAGE FULL ADDITIONAL PARKING AHEAD	Northbound	Pike Garage Entrance
8	ESB	LAW SCHOOL PARKING TURN LEFT	Northbound	Pike Garage Entrance
9	ESB	LAW SCHOOL PARKING TURN RIGHT	Northbound	SAC Garage Entrance
10	ESB	LAW SCHOOL PARKING TURN LEFT	Westbound	SAC Garage Entrance
11	ESB	LAW SCHOOL PARKING TURN LEFT	Westbound	Northbound North Side
12	ESB	LAW SCHOOL PARKING TURN LEFT	Westbound	Westbound North Side
13	ESB	LAW SCHOOL PARKING TURN RIGHT	Westbound	Westbound North Side
14	PS	WLA PARKING LOT	Westbound	Mendel Lot
15	PS	PIKE GARAGE & WLA LOT	Eastbound	WLA lot
16	PS	PIKE GARAGE TURN LEFT, WLA PARKING TURN RIGHT	Eastbound	WLA ENTRANCE
17	ESB	EVENT PARKING AHEAD	Northbound	WLA lot
18	PS	LAW SCHOOL PARKING GARAGE	Northbound	Law school lot entrance
19	ESB	LAW SCHOOL PARKING TURN LEFT	Northbound	Law school lot entrance
20	PS	PIKE GARAGE	Northbound	Pike Garage Entrance

Public Safety and Traffic Police will Man all parking areas at departure time and direct traffic according to site plans.

NOTE: DYNAMIC MESSAGE SIGN (DMS) OR CHANGING AREAS TO BE DETERMINED.  
 ESB= Event Signage Board  
 PS=Permanent Sign

VILLANOVA LANCASTER AVENUE HOUSING  
 FRESHMAN MOVE-IN AND DEPARTURE CIRCULATION PLAN  
 MAY 26, 2015

# VILLANOVA LANCASTER AVENUE HOUSING PARENTS/HOMECOMING WEEKEND CIRCULATION PLAN MAY 26, 2015



Villanova University  
Event Circulation Plan  
PARENTS' WEEKEND/HOMECOMING EVENTS  
Location and Message for Future Warning Signs

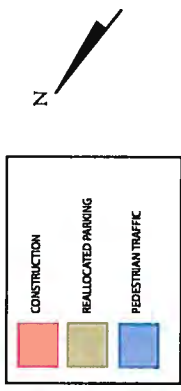
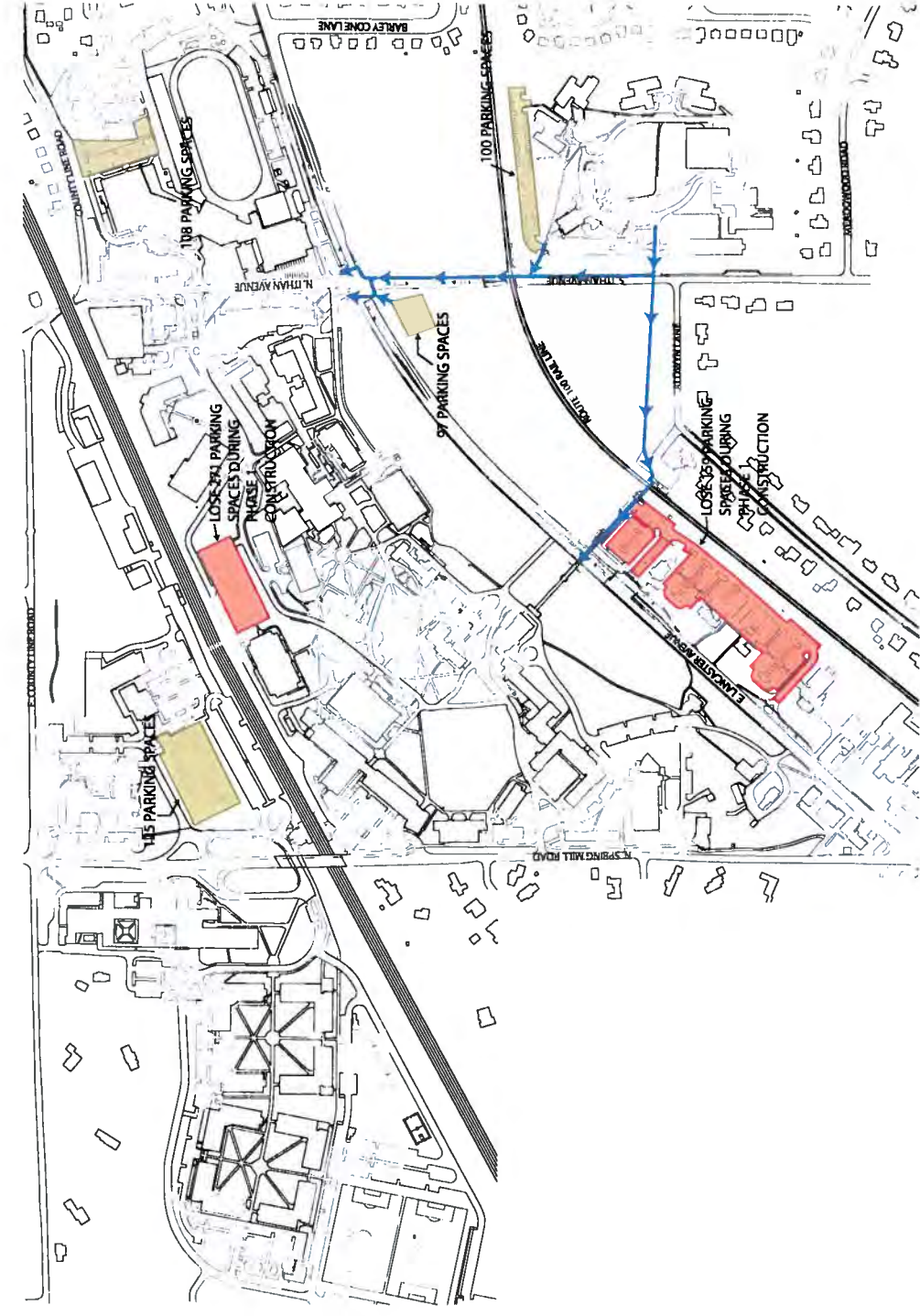
Sign No.	Sign Type	Sign Message	Site Location	Sign Location
1	DMS	TALGATING TURN LEFT/EVENT PARKING AHEAD PHE GARAGE FULL, ADDITIONAL PARKING AHEAD TURN LEFT		Eastbound
2	DMS	TALGATING LOT FULL, ADDITIONAL PARKING AHEAD TALGATING TURN LEFT		Eastbound
3	ESB	WEST CAMPUS PARKING TURN LEFT		Eastbound
4	ESB	TALGATING PARKING TURN LEFT		Eastbound
5	ESB	WEST CAMPUS PARKING TURN RIGHT		Northbound 210
6	DMS	WEST CAMPUS PARKING TURN RIGHT		Northbound
7	ESB	WEST CAMPUS PARKING TURN LEFT		Eastbound
8	PS	VIA PARKING LOT		Eastbound
9	DMS	VIA PARKING LOT FULL, ADDITIONAL PARKING AHEAD PHE GARAGE TURN RIGHT		Eastbound
10	PS	VIA PARKING LOT FULL, ADDITIONAL PARKING AHEAD PHE GARAGE TURN LEFT		Eastbound
11	DMS	PHE GARAGE FULL, ADDITIONAL PARKING TURN LEFT		Eastbound
12	PS	PHE GARAGE TURN LEFT		Eastbound
13	PS	PHE GARAGE TURN RIGHT		Eastbound
14	ESB	SAC/NP/ANSCHOOL PARKING TURN RIGHT		Westbound
15	ESB	SAC/NSH AND LAW SCHOOL PARKING TURN LEFT		Eastbound
16	ESB	VP PARKING TURN RIGHT		Westbound
17	ESB	LAW SCHOOL PARKING TURN RIGHT		Westbound in Memorial Lot
18	ESB	LAW SCHOOL PARKING TURN LEFT		Westbound in Memorial Lot
19	ESB	SAC PARKING KEEP LEFT		Westbound
20	PS	SAC PARKING GARAGE		at SAC garage entrance
21	PS	SAC PARKING GARAGE		at SAC garage entrance
22	PS	LAW SCHOOL GARAGE		at SAC garage entrance
23	PS	LAW SCHOOL GARAGE		at SAC garage entrance
24	ESB	WEST CAMPUS PARKING TURN RIGHT		Southbound
25	ESB	WEST CAMPUS EVENT PARKING AHEAD		Westbound
26	ESB	WEST CAMPUS EVENT PARKING TURN LEFT		Westbound north side
27	ESB	LAW SCHOOL PARKING TURN LEFT		Westbound north side
28	PS	LAW SCHOOL PARKING TURN LEFT		Northbound
29	PS	PHE GARAGE & VIA PARKING		Eastbound
30	PS	HSB PARKING GARAGE		at HSB entrance

NOTE: FINAL NAMES/IDENTIFICATION OF PARKING AREAS TO BE DETERMINED.

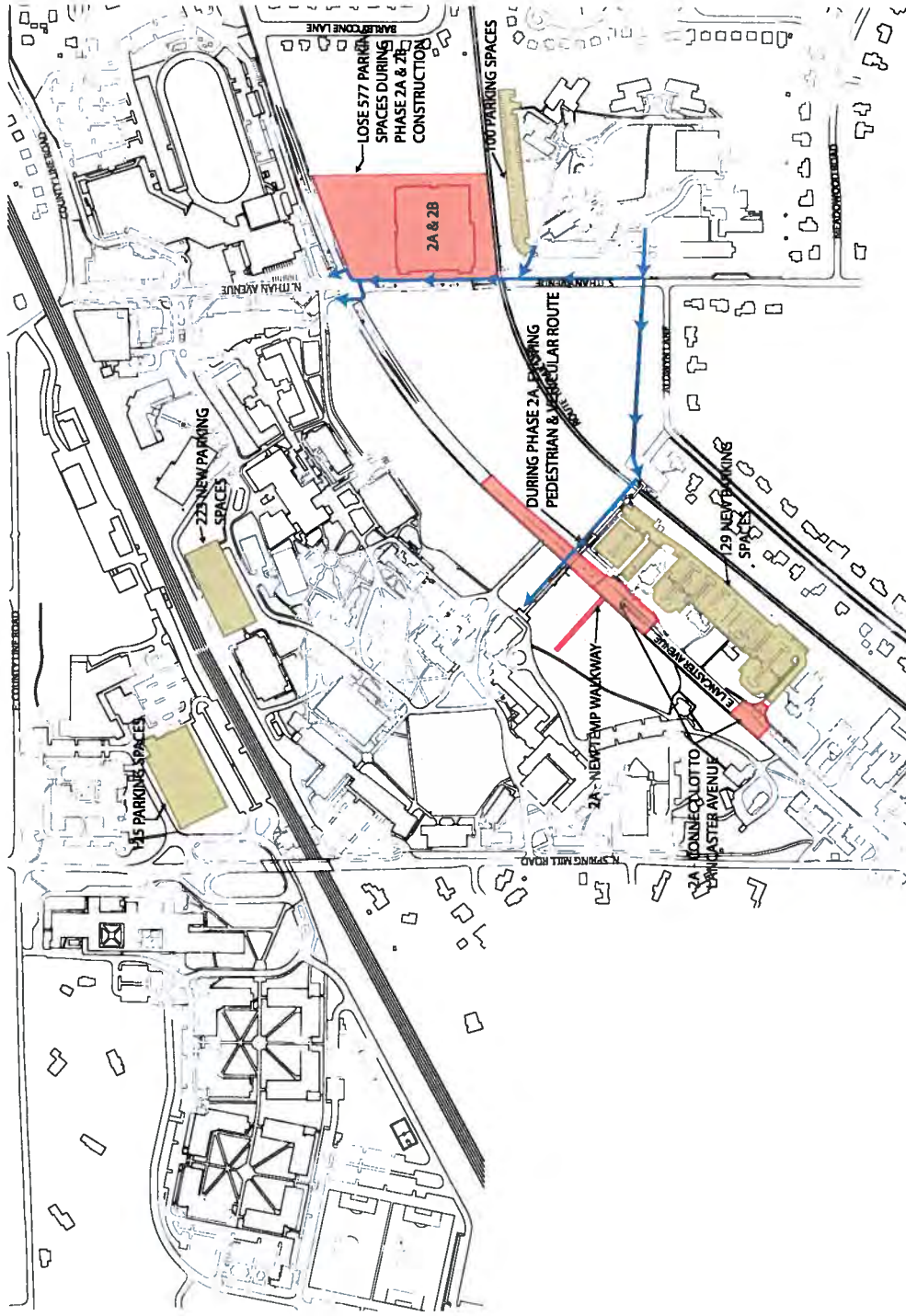
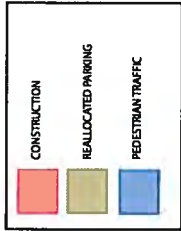
DMS- Dynamic Message Sign ( DMS) - Portable

ESB - Event Signage Board

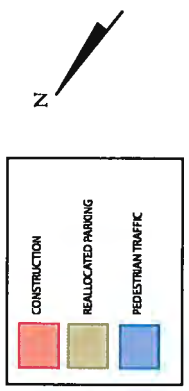
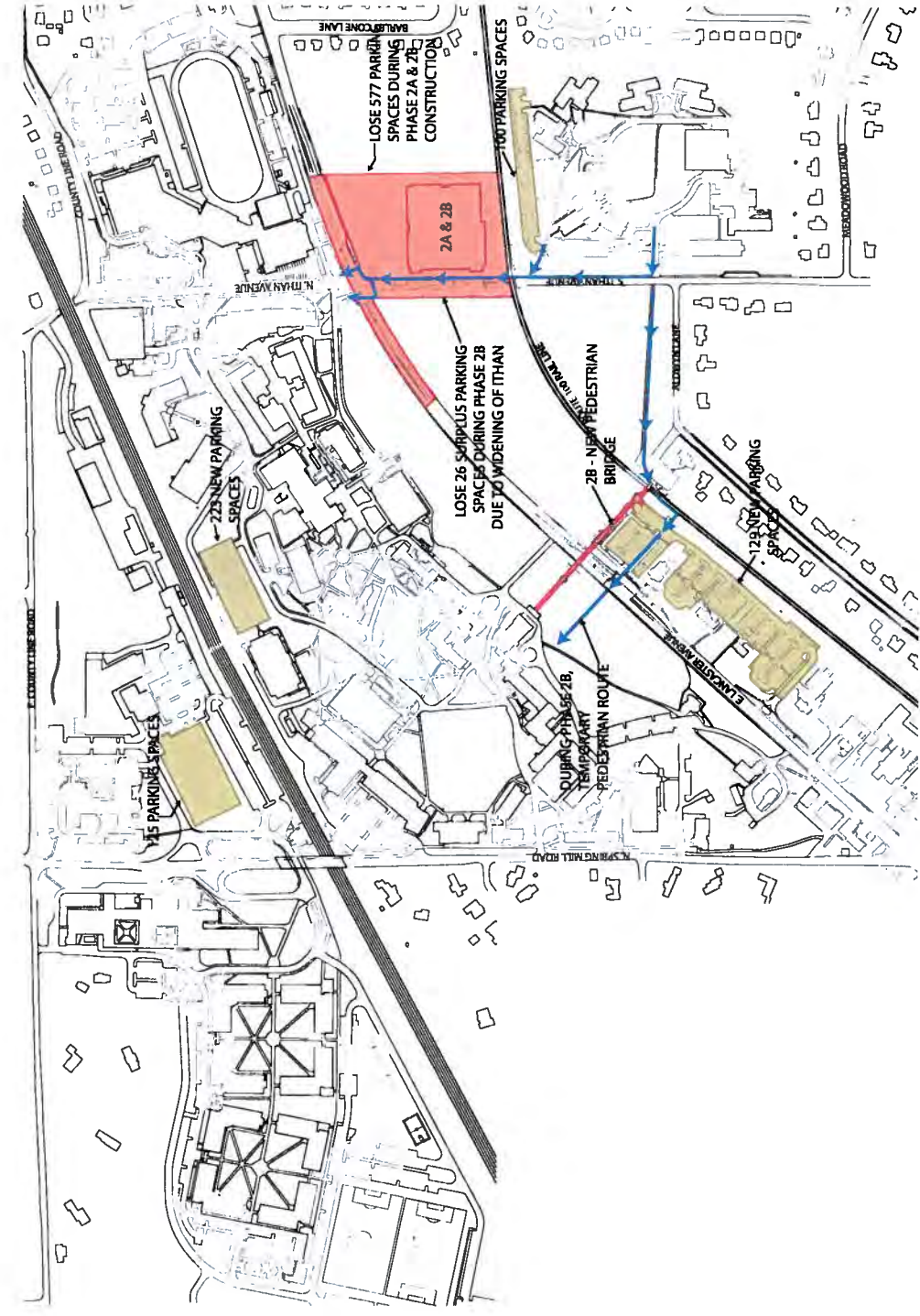
PS-Permanent Sign



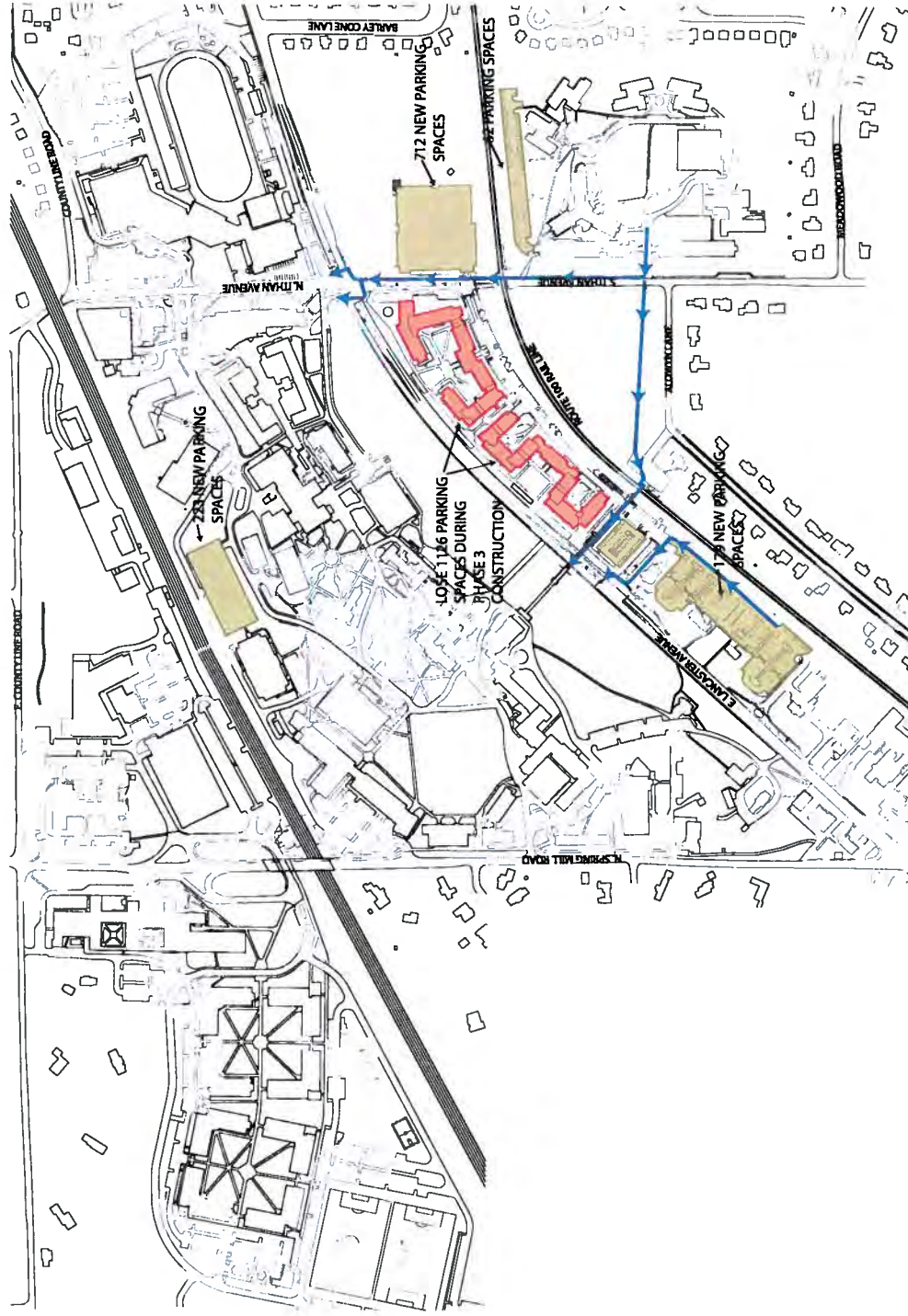
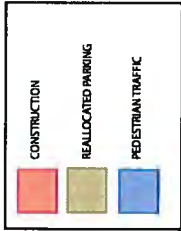
**VILLANOVA LANCASTER AVENUE HOUSING  
PEDESTRIAN PARKING & TRAFFIC PLAN**  
 PHASE 1 CONSTRUCTION: SAC GARAGE  
 WEST LANCASTER AVENUE LOT  
 & SAC PARKING GARAGE  
 MAY 26, 2015



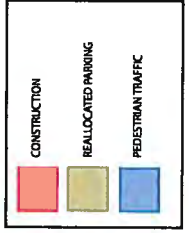
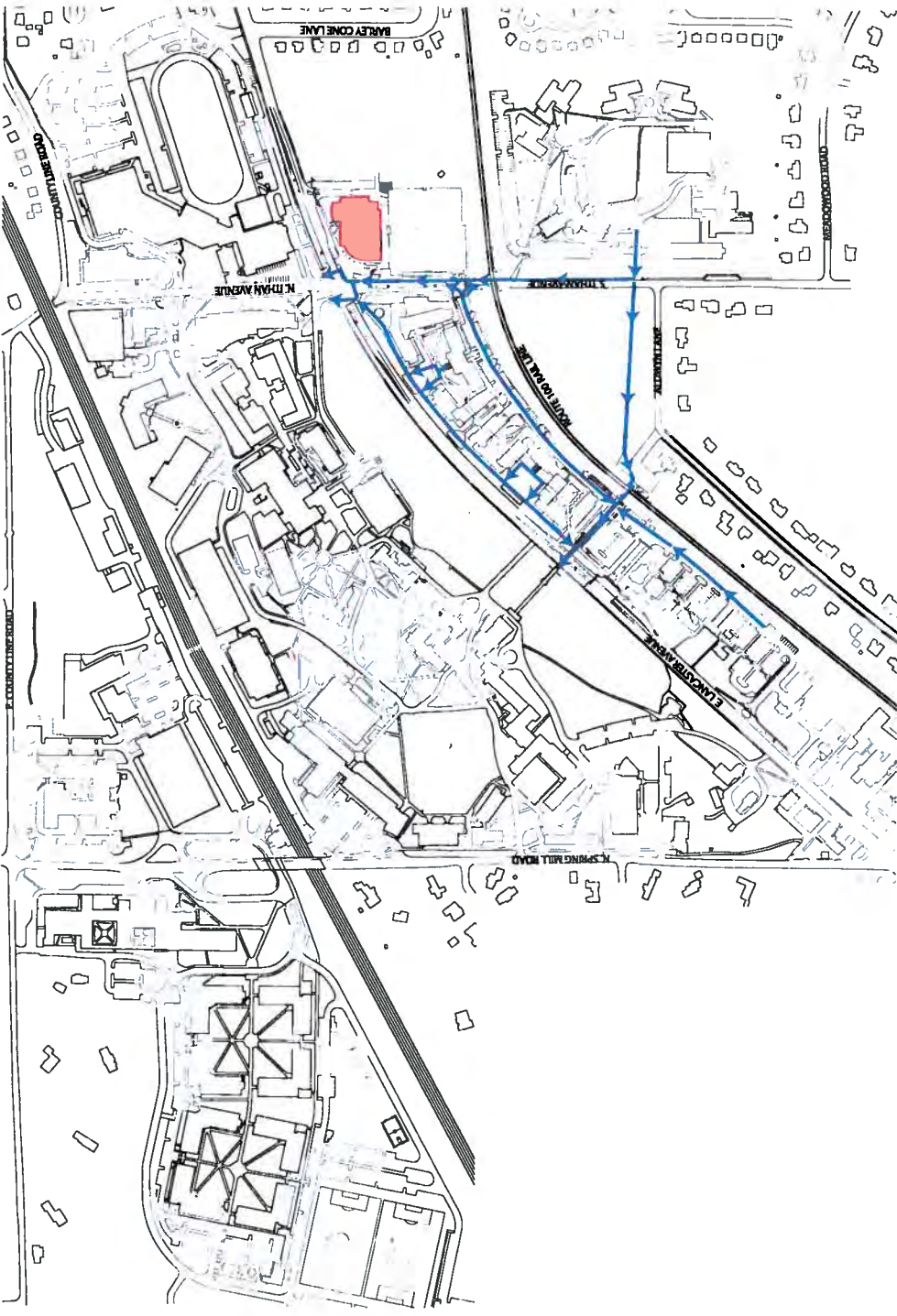
VILLANOVA LANCASTER AVENUE HOUSING  
 PEDESTRIAN PARKING & TRAFFIC PLAN  
 PHASE 2A CONSTRUCTION: PIKE GARAGE  
 & WEST LANCASTER AVENUE ROAD CONNECTIONS  
 MAY 26, 2015



**VILLANOVA LANCASTER AVENUE HOUSING**  
**PEDESTRIAN PARKING & TRAFFIC PLAN**  
 PHASE 2B CONSTRUCTION: PIKE GARAGE  
 & PEDESTRIAN BRIDGE  
 MAY 26, 2015



VILLANOVA LANCASTER AVENUE HOUSING  
 PEDESTRIAN PARKING & TRAFFIC PLAN  
 PHASE 3 CONSTRUCTION: NEW HOUSING  
 MAY 26, 2015



VILLANOVA LANCASTER AVENUE HOUSING  
 PEDESTRIAN PARKING & TRAFFIC PLAN  
 PHASE 4 CONSTRUCTION: PERFORMING ARTS CENTER  
 PARKING NEUTRAL  
 MAY 26, 2015



Mr. Robert Morro  
Associate Vice President, Facilities Management  
Villanova University  
800 Lancaster Avenue  
Villanova, PA 19085



Re: Your inquiry concerning vegetation plantings on or next to a PECO transmission line right-of-way

Dear Mr. Morro:

You recently inquired about the possibility of planting vegetation management on or near a PECO transmission right-of-way, for the purposes of visual screening. You particularly referenced a condition in Villanova's Proposed Conditions of Approval for expanded utility facilities, which states:

7. That, prior to the submission of final land development plans, the University shall seek the approval of PECO to plant screening on the south side of the PECO R-100 line to visually screen the SEPTA bridge from the impacted residential neighbors and, if said permission is received, the installation and maintenance of the vegetation necessary to establish it.

I have conferred with PECO's Vegetation Management team, which has provided the following information:

PECO does not allow the planting of trees or shrubs on its transmission rights-of-way. Only low-growing herbaceous plants and grasses are permitted in the area below the lines. PECO's guidelines call for a minimum of 32 feet of clearance from the line to the nearest trees on either side. Large trees situated within this area are removed, and trees situated beyond this distance are pruned to the 32 foot mark or the edge of the right-of-way.

I also note that this right-of-way has active SEPTA train traffic, which creates an additional set of clearance requirements for the SEPTA facilities.

I hope this provides the information that you require.

Sincerely,

Joan Renye  
Senior Account Executive  
215-841-5503



## **Villanova University**

### **Lancaster Avenue Residential Housing Evacuation Plan**

There are (4) Courtyards for the 6 buildings, (3) smaller individual courtyards in the Building 1 complex and (1) large courtyard, which opens up to Lancaster Avenue in the Building 2 Complex. See attached plan for site layout.

In the event of a Large Scale Evacuation, information and direction will be sent to campus through NOVA Alert, email and the University website.

Those in need of transportation will be directed to areas to await transport to an off-campus site.

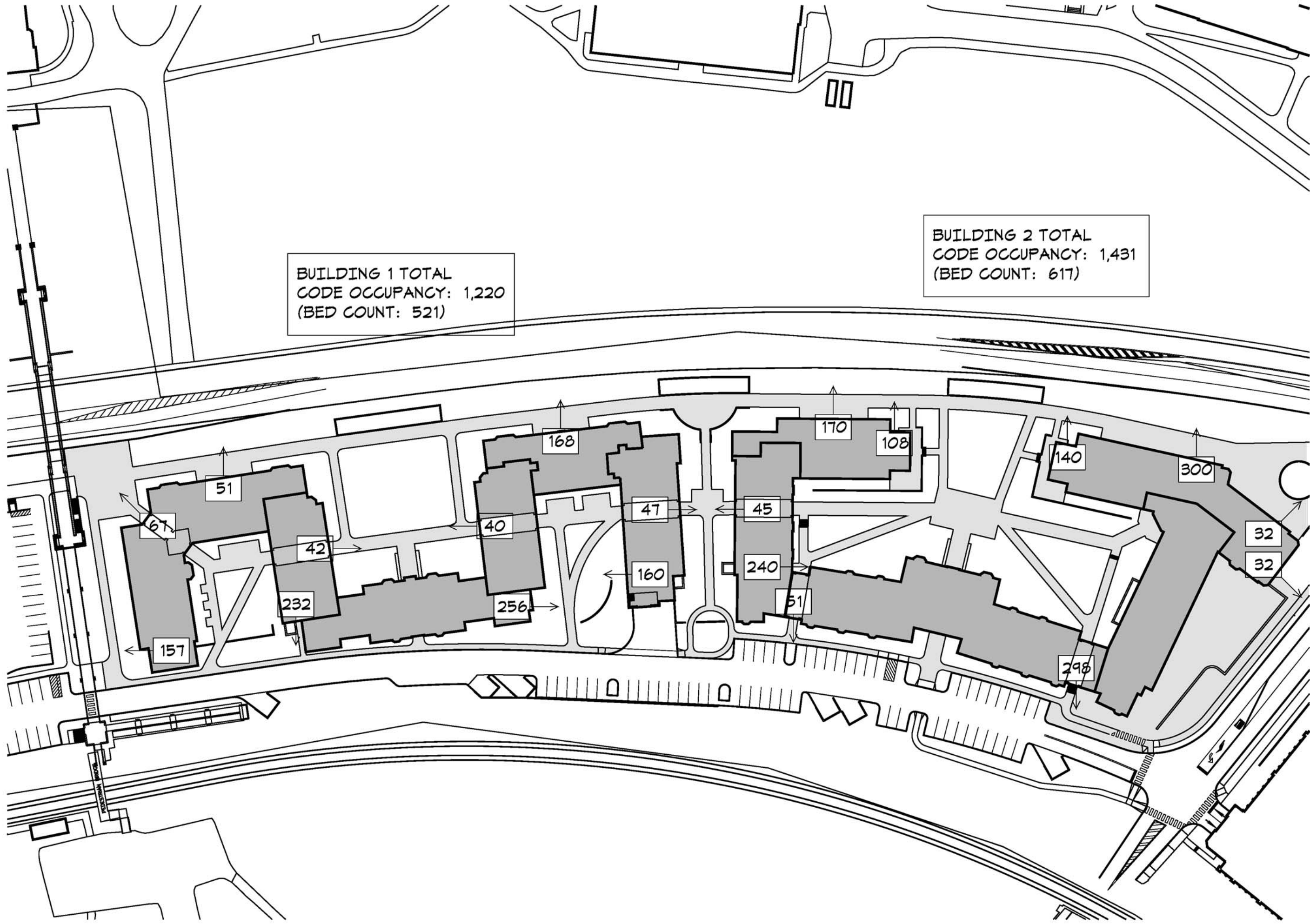
#### **Fire**

Should we have to evacuate Building Complex 1, which houses 521 students, they will evacuate the buildings as shown in the attachment plan and will be directed to the Building 2 Courtyard depending on the event. At which time Public Safety and Radnor Police will direct the students away from the event and to a safe area.

Should we have to evacuate Building Complex 2, which houses 617 students, they will evacuate the buildings as shown in the attachment plan and will be directed to the Building 1 Courtyards depending on the event. At which time Public Safety and Radnor Police will direct the students away from the event and to a safe area.

#### **Shooter/Intruder**

Shelter in place and evacuate when opportunity is safe.



154144

**RADNOR TOWNSHIP**

301 Iven Avenue  
Wayne, PA 19087-5297  
(610) 688-5600

**RECEIPT**

9/29/2006

DATE

VILLANOVA UNIVERSITY  
800 E LANCASTER AVE  
VILLANOVA

PA 19085-

01.320 3052

GRADING PERMIT APPLICATION NUMBER:

06-189

FOR LOCATION:

800 E LANCASTER AV  
VILLANOVA , PA 19085-

FOR:

REMOVE PORTION OF DRIVEWAY & CONSTRUCT NEW SOFTBALL FIELD  
ADD NEW DRIVE 490 SQ FT (NET DECREASE OF 2,280 SQ FT)

CHECK NUMBER: 15943415

\$300.00

PAID  
2006 SEP 29 AM 10:21  
12:12 PM 02 SEP 2006



White - CUSTOMER COPY • Canary - DEPARTMENT COPY • Pink - BOOKKEEPING COPY • Goldenrod - TREASURER COPY

# GRADING PERMIT



**RADNOR TOWNSHIP  
ENGINEERING DEPARTMENT  
301 IVEN AVENUE  
WAYNE, PA 19087**

Plans covering grading of property located at **800 E LANCASTER AV, VILLANOVA**  
to/for **REMOVE PORTION OF DRIVEWAY & CONSTRUCT NEW SOFTBALL  
FIELD ADD NEW DRIVE 490 SQ FT (NET DECREASE OF 2,280 SQ FT)**

filed with application # **06-189** under the provisions of Radnor Township Grading  
Chapter 175, having been approved by the Township, permission is hereby granted to

## **VILLANOVA UNIVERSITY**

to proceed with work specified and set forth in said application and plans, subject to any  
voluntary stormwater management and modifications and conditions noted thereon. Such work  
to be performed in all respects in strict accordance with the requirements of the Township.

This permit is an approval for grading only.

---

**DATE APPROVED:**

Monday, October 23, 2006

**ISSUED BY:**

**DANIEL E. MALLOY, P.E.  
TOWNSHIP ENGINEER  
ENGINEERING DEPARTMENT**

This permit shall become null and void if the work is not commenced within six months, or is  
not completed within one year from the date of issue. A reasonable extension may be granted if  
applied for prior to expiration of permit.

## **NON-TRANSFERABLE**

---

**NOTICE**

**BEFORE YOU BEGIN GRADING OR INSTALLING A STORMWATER MANAGEMENT OR  
GROUNDWATER RECHARGE SYSTEM, YOU MUST CONTACT DOUG MEDER IN THE  
ENGINEERING DEPARTMENT WITH A START DATE. HE CAN BE REACHED AT 610-688-  
5600 EXTENSION 129 OR 133.**

# APPLICATION FOR GRADING PERMIT

RADNOR TOWNSHIP ENGINEERING DEPARTMENT

*The undersigned hereby makes application for Grading Permit under Chapter 175 and any amendments thereof.*

LOCATION: 800 LANCASTER AVENUE VILLANOVA  
 WHAT ARE YOU BUILDING: SOFTBALL FIELD  
 OWNER OF PROPERTY: VILLANOVA UNIVERSITY  
 OWNER ADDRESS: 800 LANCASTER AVENUE  
VILLANOVA, PA 19085

TOWNSHIP USE ONLY	
PERMIT NO. <u>06-189</u>	
SUBMISSION DATE <u>SEP 28 2006</u>	
SHADE TREE DATE <u>OCT 25</u>	
REVISION DATES _____	
FINAL APPROVAL DATE: <u>10/23/06</u>	

**Permit Void: If work not started in six (6)**

Five (5) copies of site plan to be submitted with application. \* Plans must be folded and no larger than 24" x 34" \*  
 ASSOCIATED ENGINEERING  
 PREPARED BY: CONSULTANTS, INC. DATE: 9/29/06 REGISTERED SURVEYOR: \_\_\_\_\_ REGISTERED ENGINEER X  
 DO PLANS SHOW ALL ITEMS LISTED ON PAGE 2? YES GROSS LOT AREA: 9,801,000 ± SQ. FT.

COVER TYPE	EXISTING SQUARE FEET	REMOVED SQUARE FEET	ADDED SQUARE FEET	TOTAL SQUARE FEET	
BUILDINGS	1,136,444	-	+	= 1,136,444	TOTAL NEW % OF LOT
WALKS		-	+	=	
PATIOS		-	+	=	
DRIVES	2,554,645	- 2,770	+ 490	= 2,552,365	
DECKS		-	+	=	
OTHER		-	+	=	
<b>TOTAL</b>	<b>3,691,089</b>	<b>- 2,770</b>	<b>+ 490</b>	<b>= 3,688,809</b>	

- Ground Water Recharge and Storm Water Calculations
- No credit for removal of impervious.
  - Calculations are based on the total added impervious not the net.

↑ 500 to 1499 sq. ft. Ground Water Recharge Required  
 1500 sq. ft. and over Storm Water Management Required  
 (For additional information see Ordinance 05-11)

**Circle Zoning District / Maximum Impervious Coverage Applicable**

R-1	R-2	R-3	R-4	R-5 Semi/ 2 Family Detach	R-5 Multi Dwelling	R-6	R-1A	CO (2 + 3 stories)	C-1	C-2	C-3	PI
22%	30%	35%	40%	40%	36%	70%	30%	50%	60%	70%	65%	45%

Estimated cubic yards of dirt involved (Total cut and fill) 850 CY Will this fill be taken off site X Yes \_\_\_\_\_ No  
 Number of trees to be removed (over 6" in diameter) NONE Is property in the Historical District? \_\_\_\_\_ Yes X No

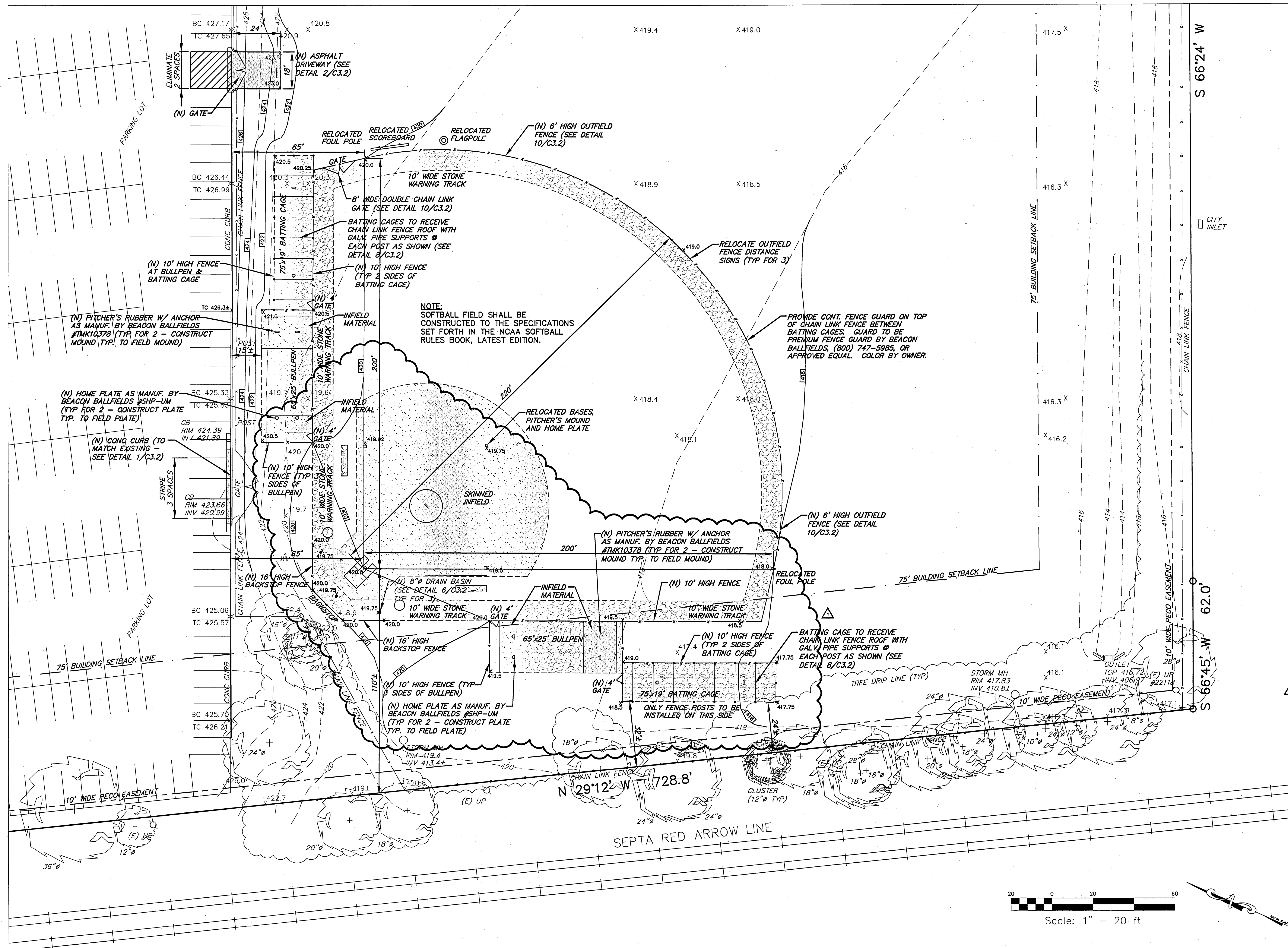
**Permit Fees:**

Minor Permit Review	\$25.00
First 50 cubic yards cut and fill	\$100.00
51- 1,000 cubic yards cut and fill	Add \$200.00
Each additional 1,000 cubic yards or portion thereof	Add \$200.00
Permit requiring storm water management	\$500.00
Permit requiring groundwater recharge	\$100.00

Signature of Owner: RHM  
 Date: 9-28-06  
 Applicant: Robert H. Morro  
 Relation to Owner: Executive Director, Facilities Management  
 Phone Number: 610. 519. 4589  
 Fax Number: 610. 519. 6903  
 Email: robert.morro@villanova.edu

Received from Applicant \$ 300

I:\MFC\_Proj\105\062700\Cvg\7006-11-03\_Field\_Constr.ruc:lon Set\1-Files\Field\_LFD\_VTD\_2006-11-15.dwg, 1/5/2006 10:17:20 AM



**Associated Engineering Consultants Incorporated**  
 485 Devon Park Drive Suite 113 Wayne Pennsylvania 19087 Tel: 610 688 3980 Fax: 610 688 4566  
 www.aecinc.net

Chil Structural HVAC Plumbing Electrical Fire Protection

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SEAL

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PROJECT

**VILLANOVA UNIVERSITY**

SOFTBALL FIELD RELOCATION

800 LANCASTER AVENUE  
 VILLANOVA, PENNSYLVANIA 19085  
 RADNOR TOWNSHIP, DELAWARE COUNTY

---

DATE	REVISION
09/27/06	EAS/NPDES SUBMISSION
09/29/06	FOR GRADING PERMIT
11/03/06	ISSUED FOR CONSTRUCTION
11/15/06	BULLETIN #1

---

SHEET TITLE

**SITE DEVELOPMENT PLAN**

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DRAWN BY: BJD  
 CHECKED BY: KRM

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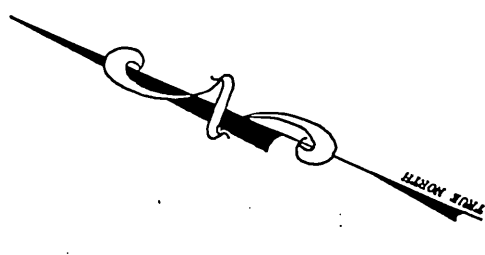
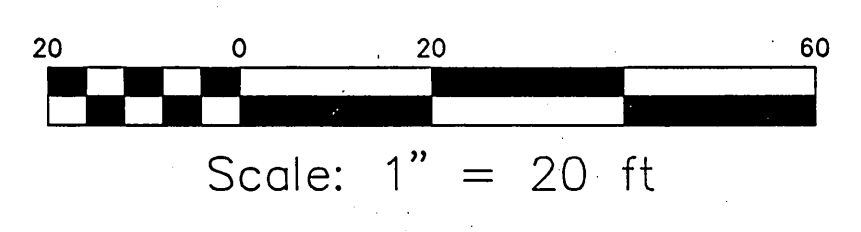
SHEET NO.

C2.1

SHEET NO. 5 OF 10

---

PROJECT NO. 0105.062  
 DATE: SEPTEMBER 27, 2006



# Memorandum

**To:** Board of Commissioners  
**From:** Stephen F. Norcini, PE *SN*  
**CC:** Robert A. Zienkowski, Township Manager  
**Date:** 7/1/2015  
**Re:** Villanova University – Lancaster Avenue Housing

---

Please find attached the University's responses to our consultants' review letters.

**Date:** June 25, 2015

**To:** Radnor Township Board of Commissioners

**From:** Roger Phillips, PE

**cc:** Robert Zienkowski – Township Manager  
Stephen Norcini, P.E. – Director of Public Works  
Kevin W. Kochanski, RLA, CZO – Director of Community Development  
John Rice, Esq – Grim, Biehn, and Thatcher  
Amy Kaminski, PE – Gilmore and Assoc.  
Steve Gabriel - Rettew

**RE:** Villanova University – Lancaster Avenue Housing  
Villanova University – Applicant

Date Accepted: June 1, 2015  
90 Day Review: August 30, 2015

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Gannett Fleming, Inc. has completed a review of the Villanova University Lancaster Avenue Housing Final Plan for compliance with the Radnor Township Code. This Final Plan was reviewed for conformance with Zoning, Subdivision and Land Development, Stormwater Management, and other applicable codes of the Township of Radnor. A review was also completed for the accompanying plans for the West Lancaster Parking Lot, Pike Field Garage, the Performing Arts Center, and the Church Walk Bridge submitted in support of the Lancaster Avenue Housing Land Development. We note that detailed plans have not been submitted for the SAC Parking Garage.

Conditional use approval was granted on November 24, 2014 to permit the development under CICD (decision attached). The applicant is proposing to construct a 1,138 bed student housing facility in six buildings with associated retail space.

The following waivers were approved during preliminary approval:

- §255-27.H – To permit a 30 ft radius curb on the southwest corner of Ithan Avenue and Lancaster Avenue intersection.
- §255-29.A.(12) – To permit 22' entry/exit drives as shown on the Plan.



The applicant appeared before the Planning Commission on June 17, 2015. The Planning Commission recommended approval of the plans based on the following conditions:

- That the applicant complies with the consultants letters.
- When construction is complete, if the Performing Arts Center is not an active project, the applicant must submit an amended land development plans and application(for the future use of the Performing Arts Center temporary parking area).
  - i. That the applicant request a waiver for the 18’ wide driveway at Stone and Farrell.  
**We will comply by eliminating one side of parallel parking between Stone and Farrell Halls which will allow the preservation of one side of parallel parking and a Two-Way 18 ft wide drive aisle per Section 255-29 A(1).**
- Revisit the accessibility to the bridge and provide an accessible entrance at Lancaster Avenue for handicapped persons in addition to the staircase.
- The applicant is to discuss the elimination of 3 SEPTA parking spots and the relocation that is acceptable with Staff.
- Staff and Villanova are to work out the issues of comments under the Pike Parking Garage specifically relating to extending the southbound left-turn lane at Ithan Avenue and the main lot access to Ithan Avenue be altered at two separate driveways.

Lancaster Avenue Housing

Plans Prepared By: Nave Newell

Dated: 12/05/2015 and revised 05/26/2015

I Zoning

1. §280-68.1.D(3)(f)[2] – Mechanical/electrical equipment and trash shall be screened from view. In addition, sound attenuation shall be installed on all equipment to minimize noise pollution at any adjacent residential property line. The applicant has provided a detail of a “wood fence and rolling gate with sound barrier @ service area”. The applicant must clearly label on the plans where this will be located. **We will comply by labeling the location of the rolling gate on the Site Plans.**
2. §280-68.1.D(3)(g) – Light fixtures shall be shielded to reduce light spillage beyond the property line of the campus; provided, however, that at no point shall any light trespass onto adjacent residential properties or exceed 0.5 footcandles at the residential property line. All proposed exterior site and building-mounted lighting shall meet the International Dark-Sky Association (IDA) full cutoff requirements. The applicant has provided a lighting design book for this project that indicates compliance with the IDA requirements. **No response required.**

## II Subdivision and Land Development

1. §255-21.B(1)(j) – A complete outline survey of the property to be subdivide or developed, showing all courses, distances, tie-ins to all adjacent intersections and areas must be provided on the plans. **We will comply by updating the metes and bounds of the property to comply with the Lot Consolidation Plans currently submitted to the Township.**
2. §255-27.H(6) - Minimum curb radii at street intersections shall be 25 feet for local streets; 30 feet for collectors; 35 feet for arterials; and 10 feet for driveways. The applicant received a waiver during preliminary plan approval to provide a 30 foot curb radius at the southwest corner of the Ithan/Lancaster Avenue intersection. **No response required.**
3. §255-29.A.(12) – The width of entrance and exit drives shall be a minimum of 25 feet for two-way use. The entrance exit drive shown on the plan into the proposed parking area behind the student housing from Ithan Avenue is 22 feet. The applicant received a waiver during preliminary plan approval for this requirement. **No response required.**
4. §255-43.1.E(2) – Where, upon agreement with the applicant or developer, it is determined that the dedication of all or any portion of the land area required for park and recreation purposes is not feasible, the applicant or developer shall pay a fee in lieu of dedication of any such land to the Township. The fee for non-residential subdivisions or land developments shall be \$3,307 per 4,000 square feet of building area. The fee is \$174,408.00 based on 210,957 square feet. **No response required.**
5. §255-54.B. – The central water supply system shall be designed with adequate capacity and appropriately spaced fire hydrants for firefighting purposes pursuant to the specifications of the National Fire Protection Association. Review and approval by the Township Engineer and the Township Fire Marshall shall be required in order to ensure that adequate fire protection is provided. This will be confirmed at the building permit phase. **No response required.**

## III Stormwater Management

1. §245-22.A.1.(a) – Infiltration BMPs must have a minimum depth of 24 inches between the BMP and the top of the limiting zone. At this time the infiltration tests which have

been submitted were at a depth of 5 feet, however, the infiltration systems (201 and 202) appear to be located at a depth of 7-7.5 feet. **We will comply by conducting additional infiltration testing, as requested.**

2. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time. **No response necessary.**

#### IV General Comments

1. The applicant shall obtain revisions to both the Radnor Township and Lower Merion Township Act 537 Plans in order to accommodate the increase wastewater disposal generated by the project. **We will comply by obtaining the required Act 537 Plan revisions to support the project.**
2. There must be 10 feet of horizontal clearance between the sanitary sewer and the storm sewer between MH S12 and MH S10, shown on sheet C4.1. **We will comply by relocating the storm sewer to provide the required 10 ft separation.**
3. The size of all proposed sanitary sewer laterals must be shown on the plan. **We will comply by labeling the proposed sanitary sewer lateral sizes.**
4. A grease trap must be provided for the restaurant located in building 2A. Only the wastewater from food preparation areas and/or kitchen wastes may be routed through the grease trap. Restroom wastes may not be discharged to the grease trap. **We will comply by providing details on the required grease trap location during the Building Permit Application period.**
5. We note that the number of parking spaces for the entire project has increased from the previous submission. There will be a reduction of 1 parking space in the Nevin Field House parking area along North Ithan Avenue and the addition of 4 parking spaces in the West Lancaster Parking Lots. **No response required.**
6. On Sheet C2.3, the parking tabulation chart for Phase 2 indicates that there will be 4,853 parking spaces provided during construction. The chart lists parking spaces that total 4,873. This must be revised to be consistent. **We will comply by correcting the text typo.**
7. The revised phasing plan provided with the Final plan submission must be replaced in the TIS. The plan provided in the TIS is outdated. **We will comply by updating the phasing plan within the TIS.**

West Lancaster Parking

Plans Prepared By: Nave Newell

Dated: 03/06/2015 and revised 05/26/2015

I Stormwater Management

1. The “Volume – One Inch” calculations provided on page 24-26 appears to have some inconsistencies and should be reconciled.
  - a. The rainfall depth “P” is variable for each BMP when a value of 1-inch appears to be required. The applicant must explain/correct as appropriate. **We will comply by clarifying that this is the effective treated volume of runoff which exceeds the 1 inch requirement.**
  - b. The applicant must provide supporting calculation/documentation for the volumetric storage and volume credit for Infiltration Systems No. 101, 102, 103, and 104. **We will comply by providing the requested supporting calculations.**
2. The applicant must provide a typical section for Infiltration System 3. **We will comply by providing the requested detail.**
3. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time. **No response necessary.**

II General Comments

1. All existing utility service laterals must be shown on the plans. **We will comply by depicting the utility service laterals.**
2. Sheet 2.1 of the plans indicate that there are 21 Septa parking spaces. The response letter submitted and landscaping plans indicate that there are 20 Septa parking spaces. This must be revised to be consistent. **We will comply by clarifying that during the temporary phase there is 1 extra SEPTA parking space, but in final condition 20 parking spaces are provided to SEPTA.**

Pike Field Garage

Plans Prepared By: Nave Newell

Dated: 03/06/2015 and revised 05/26/2015

I Subdivision Land Development

6. §255-54.B. – The central water supply system shall be designed with adequate capacity and appropriately spaced fire hydrants for firefighting purposes pursuant to the specifications of the National Fire Protection Association. Review and approval by the Township Engineer and the Township Fire Marshall shall be required in order to ensure that adequate fire protection is provided. The proposed fire access lane is proposed to be grass pavers. This will be confirmed at the building permit phase. **No response required.**

II Stormwater Management

1. §245-22.A.1.(a) – Infiltration BMPs must have a minimum depth of 24 inches between the BMP and the top of the limiting zone. At this time the infiltration tests which have been submitted were at a depth of 5 feet, however, the infiltration systems appear to be located at a depth of 10 to 11.5 feet. **We will comply by conducting additional infiltration testing, as requested.**
2. The applicant must provide supporting calculation/documentation for the volume value reported on page 52 for “POI-3A - Elevate Low flow Orifice 6” to 411.00”. It is not clear from the report or the plans how this value was determined. **We will comply by providing the requested supporting calculations.**
3. It is unclear from the charts provided on page 140-141 of the stormwater report how the tributary drainage area for YD-G3 is accounted for. **We will comply by providing the requested supporting calculations.**
4. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time. **No response required.**

Performing Arts Center

Plans Prepared By: Nave Newell

Dated: 03/06/2015 and revised 05/26/2015

I Zoning

1. §280-68.1.D(3)(g) – Light fixtures shall be shielded to reduce light spillage beyond the property line of the campus; provided, however, that at no point shall any light trespass onto adjacent residential properties or exceed 0.5 footcandles at the residential property line. All proposed exterior site and building-mounted lighting shall meet the

International Dark-Sky Association (IDA) full cutoff requirements. The applicant has provided a lighting design book for this project that indicates compliance with the IDA requirements. **No response required.**

2. §280-68.1.D(3)(g) – The photometric layout or plan grid (showing footcandle levels) must be shown on sheet 7.1. **We will comply by showing the footcandle levels on Sheet 7.1**

## II Stormwater Management

1. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time. **No response required.**

### Church Walk and Bridge

Plans Prepared By: Nave Newell

Dated: 03/13/2015 and revised 05/26/2015

## I Zoning

1. §280-68.1.D(2)(b) – Setbacks from the ultimate right-of way for major collector streets shall be 60 feet for surface parking lots. The visitors parking lot is less than 60 feet from the proposed right of way line. This is a non-conformity that the applicant intends to continue. **No response required.**
2. §280-69.E(3) – Surface parking areas are classified as a category of use 1. Category 1 uses and structures shall be set back from rear and side property lines by 75 feet. The existing parking area is set back 20 feet. This is a non-conformity that the applicant intends to continue. **No response required.**
- 3.

## II Stormwater Management

1. §245-22.A.1.(a) – Infiltration BMPs must have a minimum depth of 24 inches between the BMP and the top of the limiting zone. At this time the infiltration tests which have been submitted were at a depth of 5 feet, however, the infiltration system appear to be located at a depth of 7.5 feet. **We will comply by conducting additional infiltration testing, as requested.**

2. The “Volume – One Inch” calculations provided on page 24-26 appears to have some inconsistencies and should be reconciled.
  - a. The rainfall depth “P” is variable for each BMP when a value of 1-inch appears to be required. The applicant must explain/correct as appropriate. **We will comply by clarifying that this is the effective treated volume of runoff which exceeds the 1 inch requirement.**
  - b. The applicant must provide supporting calculation/documentation for the volumetric storage and volume credit for Infiltration Systems No.104. **We will comply by providing the requested supporting calculations.**
3. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time. **No response required.**

We recommend that the plans be revised to address the comments stated above along with comments provided in the review memo from Gilmore and Associates prior to consideration for approval, or conditional approval shall include the applicant addressing the comments to the satisfaction of the Township Engineer.

If you have any questions or require any additional information, please contact me.

Very truly yours,

GANNETT FLEMING, INC.

Roger A. Phillips, P.E.  
Senior Project Manager

June 24, 2015

Mr. Stephen F. Norcini, PE  
Public Works Director  
Radnor Township  
301 Iven Avenue  
Wayne, PA 19087-5297

Engineers  
Planners  
Surveyors  
Landscape  
Architects  
Environmental  
Consultants

RE: Villanova University  
Lancaster Avenue Housing, Related Parking Improvements, and  
Performing Arts Center  
Final Land Development Plan  
**Review No. 1 (REVISED)**  
RETTEW Project No. 101442003

Dear Steve:

We have completed our review of the above referenced plan as prepared by Nave Newell, Inc. Our review was of the following information received on June 1, 2015, lighting and mechanicals information supplements received on April 1, 2015, landscaping elevation views received on April 3, 2015, as well as the responses presented by the applicant verbally and in writing at the April 25 and May 11, 2015 Board of Commissioners meetings and May 4 and June 17 Township Planning Commission meetings:

1. Forty-one (41) plan sheets for Lancaster Avenue Housing dated December 5, 2014 and last revised May 26, 2015;
2. Thirty-two (32) plan sheets for West Lancaster Parking dated March 6, 2015 and revised May 26, 2015;
3. Thirty-seven (37) plan sheets for Pike Field Garage dated March 6, 2015 and revised May 26, 2015;
4. Nineteen (19) plan sheets for the Performing Arts Center dated March 6, 2015 and revised May 26, 2015;
5. Four (4) sheets for the Event Circulation Plan dated May 26, 2015;
6. Pedestrian, Parking, and Traffic Phasing Plan dated May 26, 2015;
7. Lancaster Avenue Housing Evacuation Plan with diagram dated March 2, 2015;
8. PECO response letter concerning additional landscape material stamped received December 19, 2014 by the Facilities Management Office;
9. Storm Water Management Report and Site Drainage Calculations dated March 6, 2015 and revised May 26, 2015; and,
10. A plan review comments response letter dated March 6, 2015.

**Project Overview:**

<u>Applicant:</u>	Villanova University
<u>Requested Action/Use:</u>	Final Land Development Plan Review: Lancaster Avenue Housing





West Lancaster Parking  
Pike Field Garage  
Performing Arts Center

Zoning District: PI-Planned Institutional; CO-Commercial Office; R-3-Residence

Location and Size: Lancaster Avenue Student Housing and most related parking improvements properties are located between Lancaster Avenue and the SEPTA R-100 tracks, and between Pike Field and Farrell Hall on the Villanova campus. Improvements to the SAC Garage are located on land at the north end of the Main Campus along the AMTRAK/SEPTA rail lines. Apart from the SAC Garage site, the subject lands are roughly coincidental with the CICD development proposal which the applicant indicated contained gross site area of approximately 13.81 acres.

Existing Use: Surface parking lots and small University office buildings.

Proposed Use: Student dormitories, student-centered retail, Performing Arts Center, and related Pike Parking Garage, West Lancaster Avenue parking lot, and SAC Garage expansion.

We performed a compliance review of the land development plans with certain elements of the Radnor Township Zoning Ordinance, with the applicant's phasing plan, and with the Radnor Township Comprehensive Plan. Following discussions at the June 17 Township Planning Commission meeting, our June 8, 2015 review letter was revised and is submitted here to reflect the latest discussions on the review letter comments. In addition, our June 8, 2015 report on the status of the applicant's compliance to date with the conditions of the Board of Commissioners' CICD conditional use approval was updated and is provided to you for the Board of Commissioners in a separate memorandum. We have the following remaining comments here on Villanova's Final Plan submittal:

### SPECIFIC ZONING

1. Landscaping information has been provided by the applicant including section and elevation drawings along the south property line of the Housing portion of the site showing new and existing vegetation looking in a west to east direction as well as in a south to north direction. These views demonstrate that the proposed Buffer Planting Strip along the R-100 line provides a screen of sufficient density not to be seen through and of sufficient height to constitute an effective screen and give maximum protection and immediate visual screening to an abutting property or district (§ 280-4B, § 280-68.1.D(3), and § 280-71.D). The same views of the landscaping proposed for the West Lancaster Parking Plan have been provided and demonstrate the same buffering sufficiency. **No response required**
2. Sub-section 71.A of the zoning ordinance requires buffer planting strips to be not less than 20 feet in width. There are places at the rear of the West Lancaster Parking and Lancaster Housing

where the width of the buffer planting strip is less than 20 feet wide. However, Sub-section 71.D allows for alternative buffer planting strips stating, "As an alternative to the possibly linear appearance of the minimum requirements above, applicants are encouraged to provide innovative, free-form buffers which need not be located entirely within the minimum required width. Such alternative buffers shall be subject to approval by the Township." Such alternative buffer planting strips would be required to meet the same "screen of sufficient density not to be seen through...and immediate visual screening..." standard as noted above and our review concludes that the standard is met. **No response required**

3. Landscaping information has been provided by the applicant including a plan view of the landscaping proposed to surround the Pike Field Parking Garage and the Performing Arts Center. Further, the applicant indicated during its presentation at the March 10 Planning Commission meeting that it will provide additional landscaping along the eastern boundary of Pike Field as desired by residents of Barley Cone Lane to buffer their view of the Pike Field Parking Garage and Performing Arts Center. The development plan needs to reflect this additional landscaping desired by the Barley Cone Lane residents. The ultimate standard required of such landscaping is the same as above "a screen of sufficient density not to be seen through and of sufficient height to constitute an effective screen and give maximum protection and immediate visual screening to an abutting property or district," as called for by § 280-68.1D(3)(b) and § 280-71.D. **We will comply by providing a plan showing the existing buffering and the new buffering where desired by the residents and as called out by § 280-71.D. We are in the process of reaching out to the neighbors asking them whether or not they desire buffering.**
4. The submitted lighting plan information for all four development plans includes isometrics that demonstrate light at the nearby residential property lines is well below the maximum 0.5 foot-candles allowed. The information also demonstrates that the site and area lighting proposed within the CICD complies with International Dark Sky Association (IDA) full cut-off standards (§ 280-68.1.D(3)[g]). **No response required**
5. The Housing plan needs to include information describing the sound attenuation devices that are a part of or are to be installed on all mechanical, electrical, and trash equipment to minimize noise pollution at any adjacent residential property line (§ 280-68.1.D(3)[f]). A fence and gate enclosure are proposed to surround the trash compactor shown at the R-100 end of the eastern portion of Building 1-C in the Housing Plan, and an Acoustifence noise reducing fence cover will be woven into the full fence and gate. The equipment in the mechanical pit adjacent to South Ithan Avenue sits below grade and will be bounded by a safety fence such that sound will be contained and should not unacceptably spill over onto Ithan Avenue. **No response required**

#### **CHURCH WALK AND PEDESTRIAN BRIDGE PLAN**

1. On Sheet L1.1, diagonal lines cover nearly all of the Aldwyn Triangle. If those diagonal lines are meant to indicate that virtually all of the Triangle is being preserved, a note to explain that should be added to the plan. **We will comply by adding a note to Sheet L1.1, referencing sheet C2.0 which clarifies the preservation of the Aldwyn Triangle.**

### **PHASING AND PEDESTRIAN PARKING AND TRAFFIC PLAN**

1. Phase 1 - the buffer planting strip that is proposed between the proposed West Lancaster Parking Lot and the R-100 line needs to be ordinance compliant and in place prior to the start of construction of any part of Phase 2. **No response required**
2. Phase 1 – any landscaping to be installed on Villanova property along the Barley Cone Lane properties at the request of the property owners needs to be installed during Phase 1 construction activities and before the start of construction of the Pike Field Garage in Phase 2A. **We will comply by adding a note to the Landscape Plan noting this requirement**
3. Phase 3 – according to the land development plan, vehicular access to the Pike Garage will be provided through the parking lot aisle behind the proposed dormitories and needs to be available when the Pike Garage opens after its completion in Phase 2A. Until the dormitories and parking lot behind are completed in Phase 3, Villanova and its contractors working on the dormitories and associated parking lot need to maintain temporary access through the dormitories/parking lot construction site to the Pike Garage in order for the traffic and special event management to work as proposed by Villanova. **We will comply by adding a note to the Planset noting this requirement**
4. Phase 3 - the buffer planting strip that is proposed between the proposed parking to the rear of the proposed new dormitories and the R-100 line needs to be ordinance compliant and in place prior to occupancy of the dormitories and prior to the construction start of any part of Phase 4. **No response required**

### **COMPREHENSIVE PLAN CONSISTENCY**

1. Our previous review indicated that Villanova's proposed development plan was generally consistent with various components of the Township's Comprehensive Plan including Institutional uses, Environment and Natural Resources, Transportation and Circulation, and Stormwater policies. **No response required**

Should you have any questions or require any additional information, please do not hesitate to contact us at any time.

Sincerely,

Stephen R. Gabriel, PP  
Township Planning Consultant

copy: Steve Norcini, Public Works Director (email: [snorcini@radnor.org](mailto:snorcini@radnor.org))  
Suzan Jones (email: [sjones@radnor.org](mailto:sjones@radnor.org))  
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Page 5 of 5  
Radnor Township  
June 24, 2015  
RETTEW Project No. 101442003  
Lancaster Avenue Housing Land Development Final Plan  
Final Plan Review No. 1 (REVISED)

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**RETTEW**

## I. GENERAL COMMENTS

1. Depending on the outcome for the preliminary/final approval for the proposed lot consolidation for the West Lancaster Avenue plan (dated 4/9/2015), the following comments may apply to the proposed improvements for the West Lancaster Parking Plan:
  - i. §255-29.A(1) – Parking aisle widths shall be a minimum of 18' for one-way aisles. The aisle between Stone and Farrell Hall is less than 18 feet and appears to include two-way vehicular movement. **We will comply by eliminating one side of parallel parking between Stone and Farrell Halls which will allow the preservation of one side of parallel parking and a Two-Way 18 ft wide drive aisle per Section 255-29 A(1).**
  - ii. §255-29.A(15) All dead-end parking areas shall be designed to provide sufficient backup area for end stalls in the parking area located south of Farrell Hall. **The submitted drawings provide a backup area in the location noted.**
  - iii. §255-29.A(21) – Concrete curbing is required along the perimeter of the parking areas in the area south of Farrell Hall. **We will comply by revising the drawings to propose curbing along the perimeter of the parking area.**
2. Provide detectible warning surfaces for all pedestrian curb ramps. **We will comply by updating the ramp graphics to depict the required warning surfaces.**
3. Structural drawings for the pedestrian bridge and ramp should be provided for Township review. **We'll comply by providing during the building permit period.**
4. Americans with Disabilities Act Accessibility Guidelines (ADAAG) comments:
  - i. §4.1.1.(1) and (4) – During construction, ADA accessible facilities must be maintained or temporary facilities provided for all existing pedestrian routes onsite and along Lancaster Avenue and Ithan Avenue. **We will comply by providing the necessary pedestrian routes during construction.**
  - ii. §4.3.2(1) – An accessible route shall, to the maximum extent feasible, coincide with the route for the general public. Several locations require an ADA accessible route as follows:
    - a. Provide an accessible route near the proposed staircase located adjacent to the Lancaster Avenue sidewalk or eliminate the staircase from the design. **We will comply by providing an elevator at the staircase adjacent to the Lancaster Avenue sidewalk.**

- b. Provide an accessible route or eliminate the proposed steps/risers between Geraghty and Griffin Hall. **We will comply by providing a ramp in addition to the staircases which will be preserved.**
  - c. Provide an accessible route or eliminate the proposed steps/risers between the Farrell Hall surface lot and the pedestrian route to Geraghty Hall. Include a curb ramp from the sidewalk to cross the proposed driveway access. **We will comply by eliminating the staircase between Farrell Hall and Geraghty Hall. The curb ramp is no longer required because the sidewalk along the entrance drive will also be eliminated.**
- iii. §4.6.2 – Accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an accessible entrance. Each building should include a minimum of one accessible parking space. **We will comply by adding an ADA parking space to Stone Hall parking area. All other buildings have at least one ADA parking space.**
- iv. §4.9.4 – Handrails shall be included and continuous along both sides of stairs and ramps. Additional detail must be provided to verify handrails are included in the design. **We will comply by including a graphic depiction of the handrails as well as the required details.**
- 5. Consider including phasing numbers in the title of all plan sets to clarify the progression of work. **No revision required as the phasing plan clarifies the progression of work.**
- 6. Traffic calming elements should be discussed with nearby affected neighborhoods, particularly residents on Aldwyn Lane. **We will comply by discussing with the neighbors.**
- 7. Final Land Development Requirements:
  - i. For plan clarity, provide a separate Pavement Marking and Signage Plan (PMSP). On the PSMP include final pavement markings and signage and exclude any existing pavement markings and signage that will be eradicated. **We will comply by preparing a Pavement Marking and Signage Plan.**
  - ii. Provide traffic signal construction and permit plans for both signalized intersections along with the construction and permit plans for the two proposed pedestrian-activated Rectangular Rapid Flashing Beacons (RRFB) on Ithan Avenue. The applicant has indicated these plans will be provided with the Highway Occupancy Permit application. **We will comply by submitting the required PennDOT Signal Applications for RRFBs.**
  - iii. Identify the design details for all proposed curb ramps. Provide PennDOT CS-4401 forms for all proposed curb ramps within any public rights-of-way. **We will comply by preparing and submitting all required CS-4401 forms with the required PennDOT HOP and/or Signal permit applications.**

8. Revise all stop bars locations to a minimum of 4 feet from any pedestrian crosswalk. **We will comply by revising the striping location of Pike Garage stop bar onto Ithan Ave.**

## II. WEST LANCASTER AVENUE (WLA) PARKING PLAN COMMENTS

1. Sheet 5 of 32 (C2.1):
  - i. Provide an accessible route or eliminate the proposed steps/risers along the sidewalk located between Geraghty and Griffin Hall. **We will comply by providing a ramp in addition to the staircases which will be preserved.**
  - ii. Provide an ADA compliant curb ramp at the proposed curb adjacent to the existing sidewalk near Farrell Hall. **We will comply by providing the necessary ADA curb ramp near Farrell Hall.**
  - iii. Provide curb ramps for the revised Emergency Access to Lancaster Avenue. **We will comply by constructing the Emergency Access connection to Lancaster Avenue as a driveway apron, in accordance with PennDOT Standard Detail "Type 5 Driveway Apron".**
  - iv. Clarify the intended use of the gore striping near the Farrell Hall building. If this is intended to be used as a loading area or restricted parking, include signage and pavement markings as needed. **We will comply by clarifying that this gore marking is intended to provide a 3ft wide walkable area within the parking lot between the active drive aisle and a parking space adjacent to Farrell Hall.**
  - v. Provide an accessible pedestrian route from the Farrell Hall surface lots that cross the new right in/right out driveway and continues east to the new surface lot between the new driveway and Geraghty Hall; the proposed stairs are not accessible to individuals with disabilities. Include a sidewalk parallel to the Farrell Hall driveway access to eliminate the need for pedestrians to walk in the active driveway. **We will comply by eliminating the staircase between Farrell Hall and Geraghty Hall. We will provide the requested walk area via the gore marking noted above as well as a sidewalk extension on the west side of the right in/right out driveway connecting Farrell Hall parking to the sidewalk along Lancaster Avenue.**
  - vi. Straighten the skewed walking route proposed for the right in/right out access to Lancaster Avenue to a more direct route. It is unlikely pedestrians will follow the current design. **We will comply by modifying the alignment of the walking path to a more linear route.**
2. Sheet 6 of 32 (C2.2):
  - i. Revise the phasing for the construction of the fence across Church Walk to a later phase (Phase 2B). The existing Church Walk driveway will need to be fully operational during Phases 1 and 2A and the proposed fence extends across a portion of the driveway. **We will comply by clarifying the phasing of the fence construction, as noted in the comment.**
  - ii. Revise the phasing for the construction of the fence on the north side of Lancaster Avenue, to follow the completion of the Pedestrian Bridge. The Church Walk Pedestrian Access/or the proposed temporary pedestrian route must remain accessible during the WLA construction. **We will comply by clarifying the phasing of the fence construction, while accounting for the**

proposed temporary pedestrian route during the Pedestrian Bridge construction.

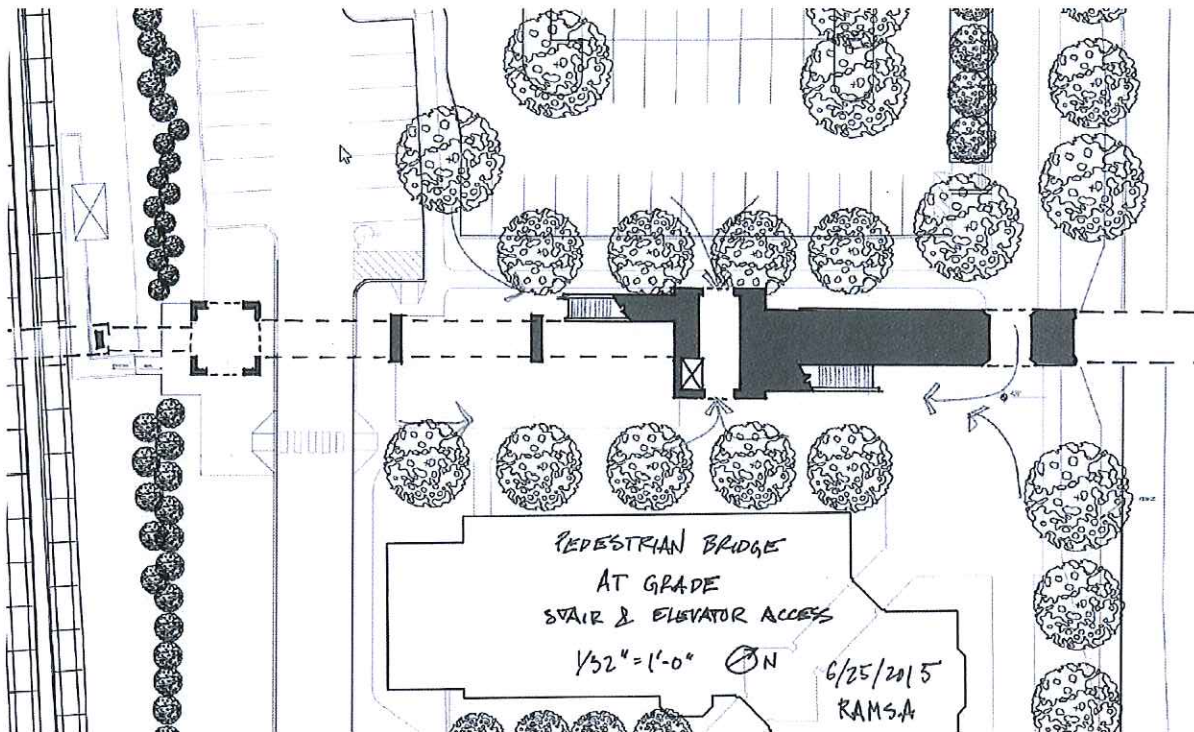
3. Provide direct ADA access from the WLA Visitor Parking lot to the sidewalk adjacent to Lancaster Avenue. Include an ADA ramp that runs parallel to the sidewalk in place of one set of the proposed stairs. **We will comply by providing an ADA ramp in addition to the sets of proposed stairs**
4. Eliminate the three parking spaces adjacent to the railroad tracks in the middle of the new Church Walk intersection to reduce potential conflicts with moving traffic at the intersection. **We will comply by relocating SEPTA's required parking spaces to the visitor lot area.**
5. Provide a 4" yellow line instead of a 4" white line perpendicular to the stop bar at the new Chuck Walk intersection near the railroad tracks. **We will comply by providing the 4" yellow line.**

### III. CHURCH WALK PLAN

1. Provide a construction narrative within the plan set. The new Church Walk access to Lancaster Avenue must be fully operational (fully constructed and signalized) prior to construction of the Pedestrian Bridge. **We will comply by including a construction sequence within the plan set to clarify the required phasing of construction relative to Church Walk Drive compared to the Pedestrian Bridge.**
2. Sheet 4 of 20 (C2.1): Include a Stop Sign (R1-1) for the WLA visitor lot exit. **We will comply by adding the requested Stop Sign.**
3. Sheet 6 of 20 (C4.1): Church Walk and Lancaster Avenue
  - i. Provide the proper lane use control signage for each approach to the intersection. **We will comply by updating the Land Development Drawings to match the PennDOT HOP submission.**
  - ii. Extend the stop bar on the eastbound approach to the edge of the curb line. **We will comply by extending the stop bar, as requested.**
  - iii. Refer to PennDOT Publication 111 *Traffic Control Pavement Markings and Signing Standards, TC-8600 Pavement Markings* for the following corrections:
    - a. Revise the 4" broken white line to a 6" solid white line for distance of 150' measured from the stop bar, on the east and westbound approaches to the intersection. **We will comply by revising the striping, as requested**
    - b. The ARROW/ONLY templates should be located 60' from the stop bar. **We will comply by relocating the ARROW/ONLY templates, as requested**
  - iv. ADAAG §4.3.2(1) – An accessible route shall, to the maximum extent feasible, coincide with the route for the general public. Provide an accessible route for access to the Pedestrian Bridge near the proposed staircase located adjacent



to the Lancaster Avenue or eliminate the staircase closest to Lancaster Avenue from the design. We will comply by consolidating the (2) routes of entry into (1) more centrally located route with an elevator in lieu of a ramp. See sketch below for more detail.



#### IV. PIKE GARAGE PLAN COMMENTS

1. Sheet 7 of 37 (C2.2):
  - i. ADAAG §4.3.2(1) – An accessible route shall, to the maximum extent feasible, coincide with the route for the general public. Provide an accessible pedestrian route to the multipurpose athletic field or eliminate the proposed stairs. We will comply by eliminating the proposed staircase.
  - ii. Provide an accessible route from the handicapped parking spaces located in the northwest corner of the Pike Field surface lot to the Lancaster Avenue and Ithan Avenue intersection. We will comply by clarifying the accessible route within the temporary parking lot to the Lancaster and Ithan Avenue intersection.
  - iii. Include an accessible curb ramp for the pedestrian crosswalk receiving ramp located on the northeast corner of Lancaster and Ithan Avenue. We will comply by clarifying that there is an existing accessible curb ramp in this location.
  - iv. Revise the location of the arrow leader for the CURB RAMP TYPE 1 on the southeast corner of Lancaster and Ithan Avenue intersection. It appears to point to the sidewalk. We will comply by revising the arrow leader.
  - v. The applicant has extended the southbound Ithan Avenue left turn lane width to a full width length of 175' with a 100' taper. Please include truck turning templates to ensure proper placement of stop bars on both Lancaster Avenue

and Ithan Avenue; adjust the locations as need to accommodate truck turns. It is likely the Lancaster Avenue westbound left turn stop bar will need to be adjusted. **We will comply by revising the stop bar locations in accordance with the truck turning templates.**

- vi. The plans include a midblock pedestrian crosswalk on Ithan Avenue, between Bartley Hall and Jake Nevin Field House, north of Lancaster Avenue. **We will comply by eliminating the proposed midblock crosswalk.**
    - a. The 2009 MUTCD Section 3B.18 indicates that an engineering and traffic study should be performed before crosswalks are installed at a location away from a signalized intersection or a stop controlled intersection.
    - b. Revise the plan to include a sight distance analysis and include the analysis on the plans.
    - c. Include a PEDESTRIAN warning sign (W11-2) sign along with a DIAGONAL DOWNWARD POINTING ARROW plaque (W16-7P) for both approaches to the midblock crosswalk.
    - d. Include detectible warning surfaces and accessible curb ramps for any pedestrian crossings.
    - e. Consider including a pedestrian-activated Rectangular Rapid Flashing Beacon (RRFB) at the proposed mid-block crossing.
2. Sheet 8 of 37 (C2.3):
- i. Revise the curb radii on the southwest corner of Ithan Avenue and Lancaster Avenue to provide a minimum 30ft. curb radii. **We will comply by correcting the text typo.**
  - ii. Eliminate the stop bar on the southbound approach of Ithan Avenue at the proposed LAH/Pike Garage accesses. **We will comply by eliminating the stop bar.**
  - iii. Relocate the proposed stop bar from the Pike Garage access to Ithan Avenue a minimum of 4 ' from the pedestrian crosswalk. **We will comply by revising the stop bar location, as requested.**
  - iv. It is unclear how the "Main Lot" access to Ithan Avenue was altered from the existing two separate driveways (one ingress and one egress to Ithan Avenue) to the proposed 25' wide full access to Ithan Avenue. Provide additional details and revise the plans as necessary. The proposed access location appears to be centered on the transition for the back to back left turn lanes on Ithan Avenue and will introduce turning conflicts that should be avoided. **We will work with Township Staff to locate this temporary access in the best location relative to the back to back turn lanes as well the required grading to access the main parking lot after the widening of Ithan Avenue.**
3. Construction for the pedestrian-activated Rectangular Rapid Flashing Beacon (RRFB) at the Pike Garage is planned to coincide with the construction of the Pike Garage; however, the signal should remain hooded until after the LAH improvements are constructed and the pedestrian crosswalk is fully constructed during the LAH improvements. **We will comply by revising the construction of the RRFB to occur during the LAH construction rather than during Pike Garage Construction or hooding the RRFB if constructed during the Pike Garage Phase.**

4. Provide a KEEP RIGHT sign (R4-7) and OBJECT MARKER (OM1-3) on each end of the driveway median at Lancaster Avenue. **We will comply by adding the requested signage.**

## V. LANCASTER AVENUE HOUSING PLAN COMMENTS

1. Sheet 6 of 41 (C2.2)
  - i. The plan identifies two pedestrian-activated Rectangular Rapid Flashing Beacons (RRFB) for the midblock pedestrian crossings on Ithan Avenue near both the South Campus dormitories and Aldwyn Triangle, and the LAH and Pike Garage accesses; Flashing Warning Beacon permits and construction plans are required for both locations. The applicant has indicated plans will be provided along with the Highway Occupancy Permit application. **We will comply by submitting the required PennDOT Signal Permit Plans for the RRFBs.**
  - ii. Eliminate the stop bar on southbound Ithan Avenue at the proposed LAH/PAC driveways. **We will comply by eliminating the stop bar.**
  - iii. Verify sight distance is available for the proposed crosswalks on Ithan Avenue and include a note on the plan indicating the existing and required sight distance for both pedestrian crosswalks. **We will comply by adding a note to reference the sight distance profiles that were provided on C6.1 of the Pike Garage Set. The South Campus crosswalk is existing and sight distance will be noted on the RRFB PennDOT Signal Plan for that intersection.**
2. Sheet 9 (C2.5): Revise the Lancaster Avenue median gore at Church Walk in Exhibit 4 to accommodate the left-turn exits from Church Walk. **We will comply by updating the Land Development Drawings to match the PennDOT HOP submission which accommodates the left turn exits from Church Walk Drive.**
3. The applicant may want to consider designating short term parking for spaces located near the proposed retail space in the LAH parking area to encourage parking turnover. **The University will consider this.**
4. Relocate bus stops along eastbound Lancaster Avenue to align with the future proposed pedestrian access. Include the relocated bus stops on the proposed plan. **We will comply by revising the Site Plans to depict the location of the proposed relocated SEPTA bus stops.**
5. Provide ADA compliant curb ramps for the SEPTA station including access to the platform and the pedestrian bridge ramp area. **We will comply by revising the design per the updated ADA access sketch previously provided. ADA access for the Bridge "Pavilion" is provided by a raised crosswalk as shown on the plans previously submitted.**

## VI. PERFORMING ARTS CENTER PLAN

No transportation comments.

## VII. LANCASTER AVENUE HOUSING PEDESTRIAN PARKING & TRAFFIC PLAN

1. Phase 1: Phase 1 improvements may require signal timing modifications at the Church Walk intersection due to the redistribution of traffic from Ithan Avenue to the Church Walk signal. In addition, a Highway Occupancy Permit will be required to eliminate and construct driveway accesses along Lancaster Avenue. **We have complied by providing the necessary signal timing modifications within the PennDOT HOP Application which has been submitted to PennDOT.**
2. Phase 2A: Revise the new temporary walkway to extend to the existing walkway. **We will comply by revising our drawings to include details of the temporary walkway which will connect to the existing walkway.**
3. Phase 2B: The proposed temporary pedestrian route for Phase 2B appears to utilize an unimproved surface along a grassy hill. The pedestrian route surface must be a stable, firm, slip-resistant surface and free of any tripping hazards. Provide additional detail on the Phase 2B pedestrian route in future submissions. **We will comply by revising our drawings to include details of the temporary walkway which will be stable, firm, and slip-resistant.**

## VIII. EVENT CIRCULATION PLAN

1. The Radnor Police Department should review the Event Traffic Circulation Plan. **The University has submitted an Event Traffic Circulation Plan to the Radnor Police Department for review.**
2. Refer to the Manual of Uniform Traffic Control Devices (MUTCD) 2009 (Chapter 2L *Changeable Message Signs*) and PennDOT Publication 646 *Intelligent Transportation Systems Design Guide* and verify the DMS sign placement/location based on the reading and decision zone, number of lines, character length and height is adequate for roadway conditions. Although the applicant has indicated the designer will refer to MUTCD 2009; the plans should be reviewed by the Township, **. We will comply by reviewing our signage plans with the township.**
3. For ease of recognition and memory retainage, the applicant should consider reducing the message length and eliminate parking structure names in favor of structure and sign colors. **We will consider.**

## IX. TRAFFIC IMPACT STUDY

We have no additional comments.