



ENGINEERING SUCCESS TOGETHER

## MEMORANDUM

Date: April 11, 2013  
To: Nora Loughnane, Town Planner  
From: Andrew Ogilvie BETA Project #: 4410  
Subject: University Station Peer Review

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The purpose of this memorandum is to provide review comments for the March 22, 2013 Revised Preliminary Plan submission made by the Proponent in connection with the University Station Development Project.

Documents reviewed included the following:

Site Development Plans, University Station dated March 22, 2013.

To expedite certain key issues BETA had requested the Proponent to provide a partial response to our December 26 memo. Further response to the December 26 memo is not required as those outstanding comments have been included below.

### **General Comments**

1. Continue to develop the plans to a construction document level of detail. Specific comments and information requirements to be developed are outlined in this memo
2. Sign type and location should be clarified for the entire project. Clarify to what extent signage will be shown on the “approved plan” or submitted as part of the consistency review.

### **Summary Plan:**

1. Prepare summary plan indicating all zoning classification and zoning district boundaries including boundaries of Special Flood Hazard Areas and Water Resource Protection Districts as applicable. Include a summary table which for each building identifies , # floors, height, grade elevation, roof elevation, total floor area, units total, # affordable housing by # unit size (# bedrooms) and total units, # moderate income housing by unit size, # of senior residential units by unit size and total, total residential floor area, total retail floor area, and FAR. Provide parking summary in area, # levels as applicable and # spaces, # accessible spaces. As applicable to by-law provide area designated as permanent open space, area and percentage on non-wetland area, area and percentage on impervious area. Identify areas of land within Canton.

### **Existing Lotting Plans:**

1. It is assumed that the existing lotting plan was derived from the approved Westwood Station Definitive Plan – Please confirm.

2. Is the purpose of these plans reference only. Is it intended that additional plans will be added to the drawing set illustrating the proposed lot lines or will these plans be provided as a separate submission. The location of proposed easements to remain and any proposed easement lines should be also shown on the respective Utility or Roadway Plans.

### **Proposed Layout Plan**

1. Prepare layout plan showing meets and bounds for proposed roadway layouts.
2. Show slope easements and equipment easements as determined necessary by the Town Engineer. To the extent that public water, sewer and drainage systems reside outside of the public way, show easements. Coordinate with Dedham Westwood Water District to determine easement needs for water supply systems.
3. The Site Layout plans indicate a proposed property line at the back of sidewalk along University Ave. The property line also indicates that a portion of the site driveways will be included with the street layout. We recommend the property line be revised so that the no portion of the site drive is included in the layout. Easements into private property may be required for various pieces of equipment such a loop detections, controllers etc.

### **Typical Sections:**

1. Typical Sections should be provided for primary roadways. Typical sections should be similar in content to MassDOT design requirements and indicate basic materials types and dimensions, cross slopes, lane widths, side slopes, Right of Way etc. The key for typical sections is illustration of the proposed roadway and sidewalk construction and multiple sections would only be necessary to illustrate material changes in type of construction, roadway banking etc.

### **Site Layout Plans:**

1. There is very little proposed work shown on the plans. Please prepare plans showing general material types, dimensions and locations. Show baselines, slope limits, limits of paving, box widening or mill and overlay, lane and shoulder widths proposed drainage information, ROW and easement lines, driveways, sidewalks, pedestrian ramps, curbing, edging, walls and other proposed construction features along with supporting details.
2. A Construction Baseline should be provided for each roadway on final construction plans (not required at Site Drives).
3. The northerly Site Driveway from University Avenue is shown with a 12' lane and no shoulder or offset to the curb on either side. Confirm that a one lane access is acceptable to the Fire Department. If acceptable, we further suggest adjusting the median in this section to allow for a single 14' lane. Please provide dimensions on all driveways and consider providing a one foot offset adjacent to the curb line.
4. Major structural elements above and below ground such as mast arms and foundations and major signs should be shown on the plan. Where information is not available now it should be added to the final construction plans.

5. Retaining walls are shown in several locations along Rosemont Avenue and within the detention basin area. There are no labels on these walls and it is unclear what type of construction is proposed. The only wall details included are for an MSE Wall. If the walls along the roadway are intended to be a MSE type wall then the designer should insure that the tie backs do not extend under the roadway.
6. There is an area of handicap parking with a crosswalk for access to Retail Building Q. There is ample opportunity to provide the handicap spaces adjacent to the building and avoid the need for a crosswalk. We suggest the handicap spaces be modified.
7. Please provide a summary table of the parking needs broken out by building and use, as well as a table summarizing the available parking proposed.
8. The driveway and parking area around Office Buildings B and C do not indicate any portions of the site to include heavy duty pavement. At a minimum the main access drive should be a heavy duty pavement. Please confirm if it is intended that this issue it to be finalized as part of the future phase.
9. The future phase area east of University Avenue also does not indicate any areas of heavy duty pavement. At a minimum the main site drives should be a heavy duty pavement. Please confirm if it is intended that this issue it to be finalized as part of the consistency review.
10. Consider making the circular site roadway in the eastern portion of the site adjacent to the hotel a one way circulation.
11. Show guard rail locations.
12. How is the top of the ledge/retaining wall between the office and Core Development protected – by fencing or other means.
13. There are two crosswalks in front of Retail Building K that connect handicap parking stalls to the sidewalk but do not show a ramp at the sidewalk. Is the intent to have a flush curb in this area? Please clarify.

**Roadway Profiles (with 5X vertical exaggeration)**

Add profile plans and coordinate the following:

1. Profile grades should not exceed 5% for new roadways to the extent feasible.
2. Profile grades should not exceed 2% within 50 feet of an intersection.
3. Sight distance should be included on the profiles at all crest vertical curves.
4. Drain and Sewer Trunk lines within the public way should be added to profiles.

**Grading and Drainage:**

1. Show access and utility easements
2. The proposed detention basin has a bottom contour of 47'. The intersection adjacent to the pond has an elevation of about 46.75'. Clarify whether groundwater mounding below the pond could saturate the roadway sub-base and reduce the life span of the pavements in this area.
3. The disposition of the existing drainage system is unclear. Final construction plans should identify which structures and pipes are to be removed, abandoned or left in place.
4. Major structural elements above and below ground such as mast arms and foundations and major signs should be shown on the plan. Where information is not available now, it should be added to the final construction plans.
5. Proposed drainage is not shown for University Avenue, please clarify intention.
6. For additional drainage comments please see Stormwater review comments prepared by Phil Paradis.

**Utility Plans:**

1. Show proposed lighting poles, duct and hand holes on final construction plans.
2. Show major structural elements above ground and below ground such as walls including supporting geotextiles, mast arms and foundations, major signs and foundations. Where information is not available now, it should be added to the final construction plans.
3. Verify trees, lights, plantings and other key streetscape elements are not placed above utility alignments or interfere with the proposed utilities or other infrastructure.
4. Show access and utility easements.
5. See utility plan comments review prepared by Andy Dennehy for additional comments.

**Pavement Markings Plans:**

Add pavement marking plans and indicate the following:

1. Show all pavement markings and indicate lane and shoulder widths.
2. Final construction plans should Show all proposed regulatory signs. Coordinate signs locations Urban Design and Lighting Plans.

**Signal Plans:**

Add signal plans and indicate the following:

1. Provide signal plans showing layout of equipment, conduit, pull-boxes controller and power source. Plans should include existing and proposed utilities (screened) to demonstrate no conflicts exist.

Coordinate signal locations with Urban Design and lighting plans. Strain poles shall not be acceptable.

Provide signal phasing and timing plans for each signalized intersection.

**Traffic Management Plans:**

Add traffic management plans and indicate the following:

1. Provide traffic management plans that indicate the proposed sequence and staging methodologies.

**Detail Sheets:**

1. Construction details are included for the installation of Highway Guard. There are no indications on the plans of where this is proposed. Future site plans should indicate the limits of where highway guard is proposed. Final construction plans should include the appropriate construction level of detail for driveways, wheelchair ramps and intersection grading. Reinforcement should be added at concrete driveways serving trucks.
2. Final Construction plans for the walls should include details and design calculations stamped by a Massachusetts licensed Structural Engineer indicating the wall type, materials, layout, and profile of all site walls which retain more than four feet of unbalanced fill. Provide any required subsurface explorations, geotechnical and/or subsurface information, as required by the Massachusetts State Building Code as well as for the structural wall between Development Area A and the Core Development to clarify the limits of ledge/wall interface.
3. The sign summary table provided is shown in metric units. The detail should be updated.

**Landscape Plans:**

1. The streetprint graphic at the intersections with University Avenue are potentially confusing to drivers. The circular pattern may be interpreted by drivers as pavement markings for a roundabout. Encouraging this travel pattern within a signalized intersection is a safety concern and we suggest removal of that detail.
2. Several trees or shrubs appear to be placed on top of the retaining wall along Rosemont Road. Plans should be revised.
3. The row of street trees proposed in the median of the North Site Drive is directly on top of a proposed gas main. We suggest that the gas main be placed elsewhere to avoid impacts from the root systems.
4. These comments relate to the overall site conditions for more detailed landscape comments please see review prepared by Don Leighton.

### **Additional Comments**

1. At the Canton Street intersection the proponent shall coordinate with the MassDOT to incorporate the following:
  - a. WB-65 vehicles should be able to make all turns within the intersection without interference, with the exception of the University Avenue northbound left turn and the Canton Street Eastbound right turn.
  - b. The University Avenue northbound right turn should be extended so through traffic does not cut off access to the right turn lane during peak hours.
  - c. The Dedham Street westbound approach should be extended so through traffic does not cut off access to the right turn lane during peak hours.
2. At the Blue Hill Drive intersection the proponent shall coordinate with the MassDOT to incorporate a section of depressed median opposite Whitewood Road to provide fire department vehicles access from the westbound side of Blue Hill Drive. The proponent shall also work with MassDOT to facilitate the addition of a pedestrian signal at the right turn lane at this intersection and provision of sound barriers.
3. The delta island at the right turn lane from Blue Hill Drive is an odd shape and should be adjusted to be more consistent with the proposed pavement markings and truck tracking.
4. Additional wheelchair ramps and crosswalks are to be provided at the signalized intersections along University Avenue to provide pedestrian access at all four legs of the intersection. Right and left turn turn pockets should be adjusted accordingly to maintain storage.
5. All left turn pockets should be a minimum of 75' long to provide sufficient stacking room for truck traffic.
6. Although lane dimensions are not shown on the plans, a review of the electronic files suggests that the lane dimensions at the southern end of University Avenue are inconsistent. Please clarify the intended width of the lanes and shoulder along University Avenue and provide typical sections defining the roadway.
7. The pavement design for University Avenue included a full depth pavement design only. It is the intention of the proponent to fully reconstruct the roadway or are there areas where cold plane and overlay may be proposed?
8. Truck turning movements provided for delivery access to Retail Building C indicate that the truck will be travelling eastbound on Harvard Street before beginning its turn into the loading area. Please verify that the trucks will be accessing the site by entering westbound on Harvard Street and utilizing the truck turn around area to reverse direction on Harvard.
9. It appears that the dumpster and trash facilities at most buildings have been added to the plans. A heavy line is shown adjacent to these areas in some cases but no indication is given as to what this is intended to be. We assume it is intended as screening but no proposed materials or details have been shown. Please clarify on Construction Drawings. Final Construction Plans should include details at each loading dock area to demonstrate how by-law requirements are met regarding the prevention of contaminate run off or leachate.

10. The Westwood by-law requires that all businesses greater than 10,000 SF have adequate loading areas. Please verify the location of the loading facilities at retail buildings G, N & O.
11. Please provide the latest fire vehicle access plan. Confirm overall access plan has been approved by the fire Chief.

### **Pavement Design**

1. The ADT calculations on the pavement notes should be adjusted. The method of averaging the current and future ADT is based on steady growth over the service life. In this case the growth will be almost immediate and we recommend that the initial ADT be based on the Core Development traffic. Calculations suggest that initial ADT of approx. 24,000 on University Avenue, and approximately 4500 on Harvard. ADT on Rosemount is not expected to change significantly immediately following build out of the core development and can remain as noted. Please update the calculation accordingly.
2. University Avenue should be classified as a Major Arterial. Based on MassDOT standards the subbase course should include Dense Graded Stone. Minimum top course should be 1.75" bituminous.
3. The gravel base design number is derived from one test pit location. Please verify the location of that test pit. The proponent should provide test pit and sieve data information from multiple locations, say every 500 to 600 feet in areas of full depth to verify the design is appropriate at all points on the roadway. If the required subsurface data is not available now, the data noted above should be obtained prior to any roadway construction commencing. Since the pavement design including gravel sub-bases is 1 to 2 feet deep, sub-base samples should be taken in the band of material 2 to 3 feet below finish grade.

### **Operations and Maintenance**

1. Incorporate the following requirements into the O+M Plan:

#### Section 1

Prepare and submit a traffic management plan for holiday shopping periods

#### Section 4

All back of building areas, with particular emphasis on buildings backing onto Harvard Street and University Avenue, shall be maintained in a neat, clean and orderly fashion.

#### Section 5

All landscaped areas including plant materials, street furniture and special features shall be promptly repaired or replaced in the event of damage or failure. In regards to plant materials, replacement may be delayed only until seasonal planting conditions prevail.

### **Construction.**

1. Prepare and Submit Construction Management Plan (CMP) for review and approval. The CMP should identify schedule of specific project phases to the level requested by the Town Engineer,

specific assumptions and details relative to general construction activity, staging and traffic management, limitation of operations and other construction controls deemed appropriate by the Town Engineer. The CMP shall also include the various construction permits needed for the project including but not limited to General Construction Permit, Blasting, SWPPP and NPDES.