

Memorandum

To: Ojetti Davis, Planning Board Secretary

CC: William Sullivan, Esq., Board Attorney
Greer Patras, PP, AICP, MCRP, Board Planner
Elnardo Webster, Esq., Applicant's Attorney

From: Eric L. Keller, P.E., P.P., LEED AP
Planning Board Consulting Engineer

Date: August 28, 2020

RE: Vose Avenue & Taylor Place Redevelopment
Application No. 274
Block 1006, Lots 1-3, 9-11, 13 & 14
57-65 South Orange Avenue
Preliminary & Final Site Plan
Technical Review #2
BCG Project # 080373-SO-026

We have received the following documents for the purposes of conducting an engineering technical review:

1. Preliminary & Final Site Plan entitled "Vose Apts. Urban Renewal, LLC, Lot 1, 2, 3, 9, 10, 11, 13 & 14 Block 1006, South Orange Avenue Redevelopment, Village of South Orange, Essex County, NJ" prepared by Petry Engineering, LLC of Fairfield, New Jersey, twelve (12) sheets, dated April 29, 2020 last revised August 20, 2020;
2. Turning Radius Exhibits consisting of two (2) sheets prepared by Petry Engineering, LLC. These sheets are undated;
3. Landscape Plans entitled "Preliminary & Final Site Plan for Taylor & Vose Development, Block 1006, Lots 1, 2, 3, 9, 10, 11, 13 and 14, Village of South Orange, Essex County, New Jersey", prepared by Arterial of Montclair, New Jersey containing nine (9) sheets, dated July 7, 2020 last revised August 21, 2020;
4. Stormwater Management Report for South Orange Avenue Redevelopment, Block 1006, Lots 1, 2, 3, 9, 10, 11, 13 & 14, Village of South Orange, Essex County, NJ prepared by Petry Engineering, LLC of Fairfield, New Jersey, dated March 26, 2020 revised through August 20, 2020;

This review memorandum represents our second technical review. The plan revisions are submitted in response to our technical review memorandum #1 and testimony presented at the public hearing held on August 17, 2020. Comments which are addressed are shown with a strike through the text.

Our technical review comments on the various submitted documents are as follows:

Site Plans

1. The cover sheet of the plan set contains a table on the right hand side of the plan which indicates several items which are not in compliance with the Village Code. The plan should either be updated to comply with applicable code sections or testimony presented in support of the variance/deviation.

8/28/20: The applicant's engineer has indicated they will provide testimony;

2. Sheet SP-2 shows both the layout plan as well as removal information, the application should consider adding a separate sheet to the plan set identifying all removals and demolition activities. It is unclear in the plan set the extent and type of removals required for the project;

8/28/20: The engineering plans are revised to show removals on one sheet and proposed improvements on the second. Sheet SP-2A should be revised so that it does not depict the proposed improvements and should clearly delineate the limits of curb and sidewalk removal.

- ~~3. Sheet SP-2 of the plan set indicates that the existing lights and hydrant are to be removed and returned to the Village. The applicant should identify if the fixtures and hydrant are owned by the Village or the individual utility owners;~~

4. The plans should identify the location of all vehicular signage (Stop, Handicap, etc)

8/28/20: The plans depict a Stop sign at the end of the alley connecting to Taylor Place. The sign size should be revised to 30" in accordance with the MUTCD in lieu of 24". The architectural plans will need to be updated to show the location of all signage within the building envelope

5. We note that the building footprint shown on the engineering plans has minor differences with the architectural plans. Door locations and other areas should be further coordinated;

8/28/20: The applicant's engineer indicates that the latest architectural floor plans are now shown. As no revised architectural plan submission is included this cannot be confirmed;

6. Sheet SP-2 provides a leader and label for the loading area. The loading area should be depicted on the plan;

8/28/20: The loading area is depicted. Details with the pavement treatment (i.e. striping color, width, etc.) should be included on the plan set;

7. ~~The parallel parking stalls on Vose Avenue are varying in length. The minimum length for a parallel parking stall should be 23 feet. Parking stalls should be redistributed, and gore striping provided on the end stalls;~~
8. ~~Street names should be shown bolder on all sheets. Some are not legible;~~
9. We note that the southern curb radius at the intersection of Taylor Place and Vose Avenue is being reduced. As there are no radial dimensions, this reduction could not be calculated. Our office has concerns with large delivery vehicles being able to circulate in this area as this will be the approach for delivery vehicles to access the loading area for this site located on Taylor Place;

8/28/20: The turning template provided shows that the SU-30 vehicle cannot maneuver in the lane provided and will encroach into the oncoming traffic. SU-30 is one of the smallest vehicles analyzed for delivery vehicles. Since this vehicle cannot be contained within the appropriate lane, larger vehicles will encroach further into the oncoming lane. Our office recommends the curb alignment be revised to permit the free flow of delivery vehicles at this intersection. As part of the applicant's plan, all deliveries will be via Taylor Place;

10. The site plans should show the location of all proposed site improvements such as handicap ramps, cross walks, etc.;

8/28/20: The plans are revised to indicate a cross walk across Taylor Place. The plans annotate that a handicap ramp on South Orange Avenue will be reconstructed. The dimensions and grading for same as well as a new cross walk should be shown on the plans

11. The plan set should include a logistics plan which contemplates staging and laydown areas during construction. Testimony should be provided with regard to sidewalk and road closures;

8/28/20: The applicant's engineer has indicated they will provide testimony;

12. Sheet SP-3 and SP-4 provide a general detail for landing area grading at the proposed entry doors. These areas should be designed as it will affect the cross slope of the sidewalk in these pedestrian circulation areas. A maximum cross slope of two (2%) percent is permitted in all circulation areas;

8/28/20: Sheet SP-4A provided additional grading information with regard to landing areas at the building entrances. Based upon the grading provided it appears that entrance areas comply with accessibility requirements. Additional grading information should be provided at the driveway proposed on Taylor Place

13. Sheet SP-3 and SP-4 should provide top and bottom of curb elevations for all proposed curb, particularly at curb returns and changes in alignment. The plans only provide contours;

8/28/20: Additional spot elevations are shown on Sheet SP-4A. Additional grading design and spot elevations should be provided at the changes in alignment for the curb on South Orange Avenue as well as the handicap ramp to be reconstructed. The handicap ramp at Taylor and Vose should include design grades throughout the ramp, all changes in curb alignment along both Taylor and Vose should have proposed grades. Additional grading comments are provided below;

- ~~14. Sheets SP-3 and SP-4 should depict the proposed elevation at all doors and adjacent curb to verify the sidewalk cross slope;~~
15. An existing 72" storm sewer crosses under the proposed building. A profile of same should be included in the plan set along with the proposed floor elevation above same;

8/28/20: The applicant has requested that this be a condition of approval. Our office has concerns with regard to the elevations shown on the architectural plans and potential conflicts with construction. We note that the section of the pipe which crosses under the building has an elevation of 155.25 (overt). The grades provided indicate the pipe has no slope through this section. The pipe slope should be determined and a profile provided to show clearances between the floor slab and the pipe. In addition, the architectural plans show a building wall crossing the edge of the proposed pipe. While footings may not be designed at this point, consideration should be given toward providing a horizontal buffer between the pipe and building footings. This will alleviate potential damage or shifting of the pipe during excavation and footing construction;

- ~~16. Our office recommends the applicant provide a video inspection of the existing 72" storm sewer prior to construction to verify the condition of same. Once construction is complete, a second video inspection should be performed to verify the condition. Any damage to the culver should be the responsibility of the redeveloper;~~
17. Several notes on sheets refer to converting a Type 'B' inlet to a Type 'A' inlet. We note that a Type 'B' inlet has different dimensions than a Type 'A' inlet. The plans should be revised accordingly to indicate the reconstruction of such inlets;

8/28/20: The plans are revised to convert the existing 'B' inlet at the intersection of Taylor and Vose to be converted to a 4' diameter manhole. Based upon the proposed inverts and grate elevation, this will need to be slab type manhole as same is less than six feet deep. Details should be provided for same. In addition, an existing inlet in the alley on the eastern side of the structure is shown to be converted. As there will be limited access to this area upon completion of construction, a new inlet should be provided

18. The plans propose to convert an existing Type 'B' inlet to Type 'A' at the intersection of Taylor Place and Vose Avenue. This inlet should remain a Type 'B' inlet and be relocated to the curblineline to collect runoff prior to entering the intersection. Same should be located prior to the curb taper at the western side of the loading area;

8/28/20: Two new inlets are proposed on Taylor Place near the intersection with Vose Avenue. Information such as pipe slope and material shall be provided on the plan

19. Sheets SP-3 and SP-4 show trench drains at the entrance to both the lower and upper level of the structured parking. A detail is also provided. The plans should be updated to provide invert and pipe information as well as show where same will discharge;

8/28/20: The applicant's engineer has indicated that the design of the inverts and trench drains is the responsibility of the MEP Engineer. This information is required to confirm clearances and connection locations and should be provided;

20. Grading should be coordinated between the Site Plans and the Architectural Plans. We note several inconsistencies between floor elevations and proposed grade. Notably along the alley connecting to South Orange Avenue;

8/28/20: The applicant's engineer has indicated that the correct grades are shown. This cannot be confirmed as revised architectural plans have not been submitted. Furthermore, we note that the alley connecting to Taylor Place directs stormwater toward the proposed structure and into the garage. This may have an impact upon the design of the stormwater detention system;

21. The grades at the doors to the retail space should be further reviewed. The grades at the doors only afford one entrance to be accessible where code requires a minimum 60% of access doors to a given space are to be accessible. The other will either require a step or an internal ramp;

8/28/20: The westerly door to the retail area fronting upon South Orange Avenue shows a grade elevation varying from elevation 159.64 to 159.62 and a finished floor elevation of 160.50. Based upon the information provided, this access does not comply with accessibility requirements. The plans should be revised to comply with accessibility requirements;

22. Additional grading information with regard to offsite areas along the alley should be provided to verify the project will be graded to prevent standing water conditions;

8/28/20: Additional grading information is shown in the alley. We have the following comments with regard to same:

- a. The high point near Taylor Place will create a cross slope on the driveway of approximately 5%. This should be reduced. Furthermore, if the applicant is going to rely upon this area for pedestrian circulation, the maximum cross slope permitted will be 2%
- b. It appears that the proposed elevation of 167.24 is to be a high point. Same should be indicated as such;

- c. There is an existing cellar door at the corner of the adjacent structure on lot 5. Based upon the plans, the grades in this area will be raised. The engineer should verify what impacts, if any, the change in grade will have upon this door;**
- d. The applicant should include drainage structures within the alley to limit the amount of runoff being directed through pedestrian circulation areas;**

23. We note that the survey shows roof leaders discharging from adjacent structures into the existing stormwater conveyance system. Same should be addressed on the plans and in the stormwater management report;

8/28/20: The plans are revised to show a proposed manhole connecting to the existing inlet to be converted. As indicated previously, our recommendation is that the inlet be reconstructed. Inverts of the proposed storm sewer should be shown on the plans, and details of the proposed connection to the 72" sewer should be provided. We recommend the connection made via a structure. Furthermore, the proposed manhole will require a slab top as the depth of this structure will more than likely be less than 6'. The invert of the proposed 15" pipe should be set to provide hydraulic efficiency of sewer system and limit the potential for water backing up into the pipe during high flow events;

24. The plans provide no information with regard to the pipe material, size or invert of the sanitary sewer system within both South Orange Avenue and Taylor Place. Same should be provided along with inverts of the two proposed sanitary sewer laterals;

8/28/20: The applicant's engineer has indicated that the sewer material will be determined during a metering study. Pipe invert elevation is required to verify lateral connections and any potential utility conflicts. This information should be appended to the plans

~~25. The property line should be shown on all sheets;~~

~~26. Sheet SP-5 should be revised to show all disturbed areas within the right-of-way. We note that the sanitary sewer lateral proposed for South Orange Avenue is not included;~~

~~27. The Granit Block Curb & Pavement Detail should be revised to show the appropriate pavement thicknesses per Village Code;~~

28. We note that several construction details have not been provided. These include, but are not limited to, the following:

- a. Pavement Restoration
- b. Water and Fire Service
- ~~c. Sanitary Sewer Lateral~~

~~d. Cleanout Detail~~

~~e. Concrete Curb (for handicap ramp areas)~~

f. Traffic Signage

g. RCP Trench

8/28/20: Several details are yet to be provided as indicated above. Furthermore, the water service detail does not appear appropriate for a 6" main, and the Water Main Construction notes directed toward a project in East Newark. Same should be updated in accordance with water purveyor requirements

29. Rim elevations for all clean outs/manholes and inspection ports on the stormwater detention system should be provided to verify adequate cover over the detention system;

8/28/20: Elevations have been provided for the system on the eastern end. Elevations should be provided for the structures on the western end of the system;

30. It is our understanding that the alley connecting to Taylor Place will only be for access to the parking garage and all deliveries will be via the proposed loading area on Taylor Place. Testimony should be provided with regard to the impacts and routes for deliveries and trash pick-up for the adjacent properties;

8/28/20: The project architect provided testimony with regard to deliveries. Additional testimony is necessary as it relates to circulation, pedestrian access, potential conflicts;

31. The proposed location for the fire hydrant at the intersection of Vose Avenue and Taylor place is within two feet of the proposed sanitary lateral. Same should be revised to provide additional separation between these utilities;

8/28/20: The applicant's engineer has indicated that the proposed fire hydrant relocation is shown on Sheet SP-3. Our office could not locate same;

32. The Turning Radius for Upper Parking Deck exhibit should be revised to reflect the latest architectural plan;

8/28/20: The applicant's engineer has provided a turning radius for vehicles accessing the public portion of parking garage. The entry area has been widened and the pedestrian door is located further north to create separation. While this is an improvement, our office has concerns with regard to conflicts between vehicles and pedestrians in this area as there is only sufficient space for the drive lanes (24').

Architectural Plans – This section is not updated as no updated plans were submitted

33. Sheet A1 shows proposed grades within the parking garage. Same should be provided on the engineering plans
34. Door locations and grades should be coordinated with the engineering plans
35. Sheet A1 shows parking stalls which are only 8'-6" wide. Same are not in compliance with the Village Code. Testimony should be provided in support of same;
36. The plans provide parking aisles which are 22' wide for 90 degree parking. Same is not in compliance with the Village Code. Testimony should be provided in support of same;
37. The plan proposes nine tandem parking stalls. It is presumed that each tandem space will be for the same unit. Testimony should be provided with regard to same. In additional, the plans should include a note to indicate same;
38. Tandem parking stalls are proposed along a building wall in two locations. Our office has concerns with regard to the maneuvering into and out of same as well as access to the side of the vehicle;
39. Sheet A1 depicts Retail space having access to the Residential Lobby. Testimony should be provided with regard to security as this space will be open to the public;
40. Testimony should be provided with regard to trash collection and pick up;
41. Our office has concerns with the parking stalls surrounding the entry drive on Sheet A2. The stall to the south of the drive has no island to separate the parking stall from traffic and is not easily accessed upon entry. This stall will create conflicts should a vehicle entering the garage try to access this space. The two spaces to the north have limited visibility to oncoming traffic entering the garage. This area should be further reviewed;
42. Sheet A2-shows two parking stalls which have no island next to same. We note that vehicles will be backing out of adjacent parking stalls which are perpendicular to same. This coupled with the reduced aisle width will create a higher potential for damage to vehicles. Our office recommends this area be further reviewed and revised to provide protection to the parked vehicles;
43. Sheet A2 shows outdoor seating areas within the alley connecting to South Orange Avenue. Testimony should be provided with regard to emergency egress as there is a stairwell north of the proposed seating;
44. Sheet A3 shows a proposed courtyard above the parking levels. We note that while a majority of this area will be surrounded by both office and residential units, a portion will be visible from adjacent properties. Testimony should be provided with regard to any lighting or noise this area may have on adjacent parcels;

45. We note that a kitchen exhaust duct is provided on Sheet A2. Same should be shown on all levels above this area;
46. Sheet A7.5 depicts a proposed generator. Testimony should be provided with regard to any noise impacts same may have on adjacent properties, anticipated exercising schedule, and if any NJDEP permits are required for same;
47. Sheet A9 depicts a Pedestrian Warning Device. Details of same should be provided to the Board;
48. The plans propose to install the electric transformer within the building. Testimony should that the applicant has verified this is permitted by the utility company and the areas as shown comply with applicable requirements;

Stormwater Management

- ~~49. The stormwater management report references the Essex County Soil Survey. Appropriate sections of same should be included in the report;~~
50. A Point of Analysis should be provided for each drainage area;

8/28/20: The point of analyses are not labeled on the plans and cannot be verified. The drainage area maps are difficult to read. The applicant's engineer should consider providing full size drawings;

51. The Proposed Drainage Area Plan does not appear to show the alley as being within the analysis area. The plan should be updated to show all areas contributory to each area. This includes offsite areas;

8/28/20: The alley is now shown as a bypass flow for the subject parcel only. Per the grading plan, stormwater is being directed into the garage. This plan is not consistent with the proposed grading and should be updated;

52. The flows should be broken down by each drainage area and then summarized as a total. Confirmation is needed to verify impacts to existing stormwater infrastructure;

8/28/20: A flow summary should be provided in the drainage report which shows the existing and calculated flows to each contributory area.

53. The stormwater calculations should be updated to show a 0.10% slope on the detention system;

8/28/20: Page 9 in the proposed hydrograph section continues to show the detention system calculations having the pipe storage with zero slope.

- ~~54. The weir coefficient on the outlet control structure should be revised to 3.2 (as required in the RSIS);~~

55. We note the survey shows roof leaders from adjacent buildings connecting to the conveyance system on the subject property. The stormwater management design shall account for same and other contributory offsite areas;

8/28/20: The plans are revised to depict the roof leaders shown on the plan set being connected to the 72" sewer. Calculations demonstrating the proposed system is adequately sized should be provided. In addition, the drainage area map nor the calculations contemplate offsite flows such as those from the adjacent buildings.

Landscape Plans

56. Sheet L-101 depicts hardscape features such as trash receptacles and benches. Testimony should be provided with regard to maintenance and trash collection in these areas;

8/28/20: Testimony was provided

57. The plans depict lighting fixtures on the property line and against existing buildings. Testimony should be provided with regard to the constructability and impacts upon adjacent parcels. In addition, testimony should also be provided with regard to ownership and operation times of the light fixtures;

8/28/20: Testimony was provided

58. Ground mounted lighting and planters are proposed along the alley connecting to Taylor Place. Testimony and applicable details should be provided as to how these improvements will be protected from the public;

8/28/20: Testimony was provided

59. We note that areas on Sheet L-102 provide dark and bright locations. The uniformity of the lighting should be further reviewed to provide a more uniform lighting for the site;

8/28/20: Revised lighting plans to be submitted

60. We note areas on adjacent properties where the light levels may have an impact upon same. The plan should be revised to eliminate glare onto adjacent properties;

8/28/20: Revised lighting plans to be submitted

61. ~~The mounting height should be included on the Luminaire Schedule;~~

62. Sheet L-104 depicts a fifth floor terrace plan. Testimony should be provided with regard to any lighting proposed on this terrace and any impact upon adjacent properties;

8/28/20: Testimony was provided

- ~~63. Sheet L-500 should be revised to show Class B concrete for all details. We note several details do not provide a concrete strength;~~
- ~~64. Sheet L-501 should be revised to show the appropriate curb ramp;~~
- 65. A detail should be provided for how the proposed sidewalk/pavers that will abut the granite block curb;

8/28/20: The Landscape Architecture Consultant has indicated that the Civil Engineer will address this

- 66. Testimony should be provided where deviations may exist between the redevelopment plan and the streetscape design. We note that Bonded Rubber Tree Wells are proposed where tree grates are required per the redevelopment plan. If this deviation is granted, the Board may consider requiring long term maintenance of this and other streetscape features to be provided by the applicant;

8/28/20: Testimony was provided

Traffic Impact Study

- ~~67. Traffic counts were performed in late February and early March 2020 and are representative days and times for a traffic evaluation. The times of the counts on each day are also representative of the peak commuter hours (weekdays) and retail activity (Saturday);~~
- ~~68. As described in the report, the studied intersections generally operate at acceptable levels of service during each of the three peak hours analyzed, except for the southbound left turn on Scotland Road during the evening peak hour;~~
- 69. Background traffic growth for the 2023 No Build conditions takes into consideration both regional growth through the use of an annual growth factor of two percent (2%) per year but also traffic generated by two other approved developments, the Landmark Restaurant at 101 South Orange Avenue and The Learning Experience child care center located at 109-115 South Orange Avenue. We note that the background growth meet or exceed the growth rates published by the NJDOT in their Annual Background Growth Rate Table; which results in conservative (or higher) future traffic volume calculations. We note that the 4th and Valley redevelopment project was not included in these no build traffic volume projections and we request testimony as to the potential impacts of this project;

8/28/20: The applicant's traffic engineer has indicated they will provide testimony;

- ~~70. The 2023 No Build capacity analyses indicate that there are no changes to the levels of service with generally nominal increases in the average delay. The only exception is~~

~~that the southbound left turn movement from Scotland Road is calculated to degrade to a LOS E during the AM peak hour due to general traffic increases at this intersection;~~

~~71. The trip generation calculations are based upon the ITE Trip Generation Manual, 10th Edition which is the current edition and are accurately calculated. The use of the "Shopping Center" land use code is a conservative approach as the proposed retail spaces are generally small spaces and will likely attract more neighborhood convenience and personal service type tenants, which would have a lower trip generation;~~

72. The traffic report applies various internal trip reductions which account for trip-making among the various proposed uses as well as mass transit reductions for the residential units based upon the proximity of the site to rail and bus service. Pass-by trip reductions are also applied for the retail use, however it is not clear what pass-by rates were used for the PM and Saturday periods and we request testimony be provided. Regardless, we believe these various trip reductions are reasonable and appropriate for this type of transit oriented, mixed use development. It is also likely that some of the retail oriented trips will be linked with other retail opportunities in the area and that patrons to the proposed retail tenants will park elsewhere in the downtown area and will walk to this site. Therefore, their trip generation calculations are conservative and more than adequately address the additional traffic to be generated;

8/28/20: We find the pass-by rates used in the analysis (34% PM, 26% Saturday) are reasonable and appropriate. It remains our opinion that the trip generation calculations are conservative and adequately address the traffic impacts of this project;

73. We request that additional information be provided on the trip assignment of the project's traffic for the residential component for the PM and Saturday conditions as it appears that the driveway volumes are lower than expected based upon the basic trip generation less the transit reduction. Any internal trip capture with the residential use would be as a walk trip not a vehicular trip;

8/28/20: We find the additional information to have satisfactorily addressed our comment.

74. The 2023 Build capacity analyses indicate that there are generally no changes to the levels of service with generally nominal increases in the average delay. The exception is that the southbound left turn movement from Scotland Road is calculated to degrade during the PM peak hour with an increase in average delay of 15.1 seconds and during the Saturday peak hour to LOS E. A mitigation plan is proposed to shift three (3) seconds of green time to this movement which will improve the levels of service. The report should be amended to include the 2023 Mitigation Condition for the Saturday peak hour which was not provided. We also request that the applicant contact Essex County and determine if they would be agreeable to this modification as South Orange Avenue is under the County's jurisdiction;

8/28/20: We find the proposed mitigation for both analysis periods to be reasonable. While we concur that the County will not formally act upon this application prior to the Village's decision, the applicant's traffic engineer should have a discussion with the County to gauge the County's interest and any conditions for adjusting the signal timing;

75. The report indicates that the queue along southbound Vose Avenue currently extends past the site's driveways and this will continue under Build conditions. Testimony should be provided as to any means to reduce the length of queue that occurs along this street to minimize the impacts on the redevelopment project;

8/28/20: The response indicates that they will provide testimony. Should the applicant's traffic engineer be of the opinion that mitigation measures would be beneficial, they should submit calculations and analyses to that effect;

76. We request clarity as to whether the bike storage is solely for residents or if it is available for the office/retail tenants of the building;

8/28/20: The response indicates that they will provide testimony;

77. While the report states that there will be an increase of 23 parking spaces on the public parking level from what currently exists in the surface lot, the retail and office components of the proposed redevelopment require 79 spaces of the 80 spaces provided. There is no discussion of the existing parking occupancy of this municipal lot and where these existing users will be accommodated. A calculation of the parking demand for the existing buildings on-site (excluding the house and child care center which appear to have their own parking facilities) should be prepared and compared to the proposed parking demand per Township code requirements;

8/28/20: The response indicates that the total area of the commercial/retail portion of the existing site is "relatively consistent" with the proposed commercial/retail space. We would request that a breakdown of the existing space be provided along with an existing parking requirement per Village code so a direct comparison may be made.

78. No parking occupancy studies of the existing Taylor Place lot were provided in the report. This lot is restricted for short-term users (2 hour limit) with no permit parking. We reviewed the parking occupancy data for this lot which was collected in November and December 2016 as part of the redevelopment of the former Village Hall. However, these data only address evening conditions (6:00 PM to 9:00 PM) on a Thursday, Friday and Saturday; and on a Sunday from 11:00 AM to 2:00 PM. These data indicate that the Taylor Place lot operates at approximately 90 percent capacity (57 available spaces) on Thursday and Friday evenings; 50 percent on a Saturday evening and 42 percent midday on Sunday. Testimony is to be provided as to the disposition of current parkers in this lot;

8/28/20: The applicant's traffic engineer has opined that since the calculated parking demand of the existing and proposed commercial/retail uses is similar, there would be no measurable change in parking occupancy. Again, we would request that a quantitative analysis be prepared for the existing uses so that it can be compared to the proposed parking requirement;

79. While it is stated that the tandem spaces in the upper parking level would be reserved for office tenants, this limits their general utility as they would have to be reserved and therefore, may not be used on any given day. Additional testimony on the operational characteristics of this spaces should be provided;

8/28/20: The response indicates that they will provide testimony;

80. We are concerned with the narrowness of the residential access (20 feet) and the proximity of the parking spaces to the entry point. This driveway has a fairly short throat from the curb line of Vose Avenue to the first parking spaces which will make maneuvering into these spaces difficult. We request that a turning template diagram be prepared showing how a car will enter and exit the first parking spaces;

8/28/20: The proposed residential driveway has been narrowed to less than 18 feet, although its alignment with the interior parking aisle has been improved. We were not provided with a turning radius exhibit for this driveway and one should be provided. The width of the opening at the lower level should be dimensioned as it is for the upper level;

81. There are a number of parking spaces that are adjacent to walls with no buffer area. The utility of these spaces and the ability to get into and out of these spaces should be addressed;

8/28/20: While the parking layout has changed somewhat, there remain a number of spaces that are adjacent to garage walls, including some which are compact spaces which are only 8.5 feet wide. Turning radius exhibits should be provided to illustrate how vehicles can access these spaces;

82. Parking spaces that are perpendicular to other parking spaces should have a curb or wheel stop to prevent a car from pulling too far forward and impacting the other parking space;

8/28/20: The response indicates that these will be provided. A note should be placed on both the civil and architectural plans to that fact. We also note that there is a compact car space in the lower level parking near South Orange Avenue that has no buffer from the compact car parking spaces across the aisle (22 feet wide) from it and a vehicle parked in this space is subject to potential damage from a vehicle exiting the spaces perpendicular to it.

83. We note that the proposed retail spaces fronting on South Orange Avenue do not have direct access to the upper parking level. Testimony should be provided as to the need

for a secondary access to these tenant spaces and the viability of access into the garage, at least for employees;

8/28/20: The response indicates that they will provide testimony.

Additional Engineering Comments – 8/28/20

- 84. Sheet SP-2 should identify the proposed lane widths for Taylor Place;
- 85. Sheet SP-2 should identify the width, color and spacing for the loading area striping;
- 86. There appears to be a graphical issue with the plan set. We note that there appears to be two sets of curb lines on all of the engineering plans;
- 87. The proposed parallel parking striping on Vose Avenue appears to be aligned with curb that is to be removed. Same should be clarified;
- 88. Proposed storm sewer pipe material, inverts and slopes should be shown on the plans. We note several areas which only show the pipe diameter;
- 89. Proposed grading for the southern side of Taylor Place shown on Sheet SP-3 shows directed runoff directed along the sidewalk. The grading should be revised to direct stormwater runoff toward the curb;
- 90. The grate and invert elevation for the existing inlet on South Orange Avenue (eastern end) does not correspond to the surrounding topography. Same should be revised
- 91. The cross slope of the sidewalk at the eastern end of the frontage on South Orange Avenue should be further reviewed. Based upon the proposed contour elevation of 163 and the existing 162 contour in the roadway, the sidewalk cross slope will be greater than 2%;
- 92. A graphic scale should be provided on Sheet SP-4A. The title block indicates the scale is 1"=20' which does not appear accurate;
- 93. Sheet SP-4A shows proposed light fixtures straddling the proposed curb line. Same should be relocated;

Any revised plans and other documents should be accompanied by a cover letter responding individually to each of the comments presented in this review letter. The cover letter should also outline those changes to the plans that were required, as well as those not readily apparent.