MORGANTOWN PLANNING COMMISSION

May 8, 2014
6:30 PM
City Council Chambers

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Jennifer Selin, City Councilor

Development Services
Christopher Fletcher, AICP
Director

Planning Division

389 Spruce Street
Morgantown, WV 26505
304.284.7431

STAFF REPORT

CASE NO: S14-01-III / CA Student Living / 494 Spruce Street

REQUEST and LOCATION:

Request by Lisa Mardis of Project Management Services, on behalf of CA Student Living, for Development of Significant Impact Type III Site Plan approval of a mixed-use development at 494 Spruce Street

TAX MAP NUMBER(s) and ZONING DESCRIPTION:

Tax Map 26, Parcels 245 and 246; B-4, General Business District.

SURROUNDING ZONING:

South and West: B-4, General Business District

North and East: B-1, Neighborhood Business District

BACKGROUND:

The petitioner seeks to redevelop the VFW Post 548 site at the corner of Spruce Street and Willey Street. Addendum A of this report illustrates the location of the subject site.

Proposed Development Program

The following generally summarizes the proposed development program illustrated in the petitioner's application documents.

- Eleven (11) stories with portions of the lowest two stories below the adjoining grade.
- 92 four-bedroom mixed-use dwelling units for a total of 368 bedrooms.
- 7,104 square feet of non-residential space on three (3) levels with approximately 3,237 square feet of retail space on the lowest level (Level P1) facing Spruce Street.
- 126 vehicle parking spaces and three (3) motorcycle parking spaces on three (3) parking decks. Access to the lowest parking deck (Level P1) is proposed from one driveway entrance on Spruce Street and access to the upper two (2) parking decks (Level P2 and Level 01) is proposed from one driveway entrance on Willey Street. Additionally, 101 bicycle storage spaces are proposed.
- The developer is proposing to relocate above ground utility facilities along the development site's Spruce Street and Willey Street frontages to below ground utility service trenches or vaults.

The petitioner participated in a pre-application meeting with the City's Technical Review Team on 14 JAN 2014 at and has made a number of site plan modifications since said meeting to increase conformity with related Planning and Zoning Code provisions.

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The petitioner participated in two (2) Design Review Committee meetings on 25 FEB 2014 and 25 MAR 2014 and has made a number of modifications since said meetings to address the Committee's comments.

Staff Report Exhibits

The following exhibits are attached hereto:

Exhibit 1 ..... 30 APR 2014 Planning and Zoning Conformity Report for revised plans received 25 APR 2014 and dated 04 APR 2014 by Erdy McHenry Architecture, LLC and plans dated 07 MAR 2014 by Alpha Associates, Inc.

Exhibit 2 ..... 16 APR 2014 Planning and Zoning Conformity Report for plans received 04 APR 2014 and dated 04 APR 2014 by Erdy McHenry Architecture, LLC and plans dated 07 MAR 2014 by Alpha Associates, Inc.

Exhibit 3 ..... Downtown Design Review Committee agendas, sign-in sheets, and meeting notes.

Exhibit 4 ..... Memorandum from City Engineer Terry Hough, PE concerning the present status of the City's and West Virginia Division of Highways' review of and comment on the Draft Final Traffic Impact Study prepared by Gannett Fleming and dated 03 APR 2014.

Exhibit 5 ..... Memorandum from City Engineer Terry Hough, PE concerning corner visibility at the proposed driveway entrances.

DSI Application Exhibits

The following list identifies documents submitted by the petitioner as a part of the subject Development of Significant Impact Site Plan petition.

- Type III Development of Significant Impact Site Plan Application.
- Drawings prepared by Erdy McHenry Architecture, LLC dated 04 APR 2014.
- Drawings prepared by Alpha Associates, Inc. dated 07 MAR 2014.
- Pedestrian Wind Flow Analysis Report prepared by ISOENV Environmental Design Lab dated 27 MAR 2014.
- "Draft Final" Traffic Impact Study prepared by Gannett Fleming dated 03 APR 2014.

Required Planning and Zoning Code Approvals

The following Planning and Zoning Code related approvals are required for the development program as proposed. Each case number is followed with a brief description.

Planning Commission

Case No. S14-01-III ..... Development of Significant Impact Site Plan.

Article 1385.05 provides that developments with 12 to 99 dwelling units are considered "Developments of Significant Impact" (DSI) which are those that have a neighborhood or citywide impact and involve the transportation network, environmental features such as parks or corridor streams, and local schools. DSI Site Plans are reviewed and approved by the Planning Commission.

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Case No. MNS14-05.....Minor Subdivision.

The development site includes Parcels 245 and 246 of Tax Map 26, which must be combined so that the proposed structure is situated on one (1) parcel rather than crossing two (2) parcels.

Board of Zoning Appeals

Case No. CU14-06.....Conditional use request to reduce the minimum number of required parking spaces.

Article 1365.04(P) provides parking reductions, with conditional use approval by the BZA, for developments within the B-4 District based on the site's proximity to a fixed public transit stop; the site's proximity to publicly-owned and controlled parking spaces; the number of dedicated motorcycle parking spaces developed; and, the number of bicycle storage spaces developed in excess of minimum requirements. The petitioner will be seeking conditional use approval to reduce the minimum parking requirement from 173 spaces to 124 spaces under all four (4) parking reduction elements. This conditional use petition is scheduled for consideration by the BZA's at its 21 MAY 2014 hearing.

Case No. V14-22 .....Variance relief as it relates to the minimum number of loading spaces.

Article 1349.08(D) provides that residential uses in the B-4 District containing thirty (30) or more dwelling units shall conform to the loading requirements set forth in Article 1365.10 as a "Type II Use." Table 1365.10.01 "Required Loading Spaces" provides a minimum of two (2) loading spaces up to 100,000 square feet and one (1) additional loading space for each 20,000 square feet above 100,000 square feet. The petitioner's proposed development program includes 151,496 square feet of residential use, which calculates to a minimum of five (5) loading spaces for the subject development. The petitioner will be seeking variance relief from providing five (5) loading spaces. This variance petition is scheduled for consideration by the BZA's at its 21 MAY 2014 hearing.

Case No. V14-24 .....Variance relief as it relates to minimizing canyon effects.

Article 1351.01(I) provides that buildings taller than three (3) stories shall incorporate design elements that preserve adequate light and airflow to public spaces including streets and sidewalks. A variance petition has been submitted so that the BZA can determine whether or not proposed design elements minimize canyon effects as required. If the BZA agrees that said elements further desired mitigation design techniques, than it can rule accordingly. If the BZA does not agree that said elements meet desired mitigation design techniques, that it can determine whether or not to grant variance relief accordingly. This variance petition is scheduled for consideration by the BZA's at its 21 MAY 2014 hearing.

It should be noted that Variance Petition Case No. V14-23 pertaining to the design and location of the two (2) proposed curb cuts, which was included in the legal notice

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advertised on 22 APR 2014, has been withdrawn by the petitioner as a result of design modifications made to conform with related performance standards.

ANALYSIS:

Comprehensive Plan and Downtown Strategic Plan

As recommended in Chapter 9 "Implementation" of the 2013 Comprehensive Plan Update, Addendum B of this report identifies how the proposed development program relates to the land management intent, location, and pattern and character principles of the current Comprehensive Plan.

Additionally, Addendum B includes sections of the 2010 Downtown Strategic Plan Update. It should be noted that "shall" statements within the Comprehensive Plan and/or Downtown Strategic Plan should be understood as desired objectives and strategies that do not have the authority of law unless incorporated into the City's Planning and Zoning Code.

Staff encourages the Planning Commission to review both Plans for guidance as Addendum B is not intended to represent a complete comparative assessment.

Site Location

The VFW Post 548 site represents a unique opportunity to strategically locate higher residential density in close proximity to West Virginia University's downtown campus. Because the site is well served by public transit and is within walking and biking distance of primary destinations, residents can access alternate modes of transportation thereby reducing auto dependency and mitigating increased traffic congestion created by commuting traffic from higher density residential development outside the City of Morgantown.

To this point, Land Management Objective LM 5.2 of the 2013 Comprehensive Plan Update provides, "Permit higher density development in areas that are well-supported by existing or planned transportation infrastructure or transit services."

Residential Density

The original development plans dated 07 JAN 2014 and reviewed by Staff on 12 FEB 2014 included 160 one-, two-, three-, and four-bedroom type units for a total of 387 occupants. The development plans presently before the Planning Commission include 92 four-bedroom dwelling units for a total of 368 occupants. The purpose for the modification by the developer was to eliminate the need to pursue variance relief to exceed the maximum residential density standard of 92 units for the subject site.

The development program modification resulted in one (1) story being eliminated, a reduction of 68 dwelling units; and a reduction of 19 occupants.

As Addendum B of this report identifies, the desired residential development pattern within the downtown stated under Land Management Objective LM 1.5 of the 2013

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Comprehensive Plan Update is to, "…build residential units downtown that will serve a broad age and socioeconomic range."

Additionally, Action 6.6.5 of the 2010 Downtown Strategic Plan Update provides that, "New housing should support and integrate a diversity of age groups and income levels."

The petitioner's proposed bedroom composition of all four-bedroom units is homogeneous and could be viewed as contradicting the objective of delivering dwelling units that meet diverse housing interests and needs of a broader age and socioeconomic range.

Conversely, the delivery of four-bedroom units could be viewed as integrating larger four-bedroom units into nearby existing and under-construction housing thereby diversifying the stock within the immediate area.

The maximum residential density standard provided in Article 1349.07 is based on the number of dwelling units in relation to the area of the development site. Bedroom composition of the proposed dwelling units or the number of proposed occupants is not measured in the maximum residential density standard. This is a land use policy challenge for any college/university community with a multi-family and mixed-use housing stock that functions and performs very differently than conventional higher density housing occupied by more diverse and less transient households.

Should the Planning Commission find that the proposed all four-bedroom dwelling unit development program conflicts with the goals, objectives, and strategies detailed in the 2013 Comprehensive Plan Update and the 2010 Downtown Strategic Plan Update in terms of supporting diversity in downtown housing stock development, than discussion and consideration of development program modification may be merited.

Traffic Impact Analysis

Article 1385.08(A)(1)(g) of the Planning and Zoning Code provides that site plan applications for Developments of Significant Impact must be accompanied by an approved West Virginia Division of Highways (WVDOH) Access Permit, if applicable. Because Spruce Street and Willey Street are both a part of the WVDOH's roadway system, this application element is required.

The petitioner's "Draft Final" Traffic Impact Analysis has been submitted to WVDOH and the City Engineer for review and comments. The status of this review and comment process is discussed in the attached memorandum from City Engineer Terry Hough, PE (see Exhibit 4). Because final review has not been completed, WVDOH access permits have not been issued.

It should be noted that the City and WVDOH follow a collaborative review and comment process for traffic impact studies so that both authorities' concerns are addressed prior to access permitting. Enforcing a literal application of Article 1385.08(A)(1)(g) can complicate this collaborative review process in terms of ensuring City Administration and Planning Commission capability to fully participate in and influence related decision-making.

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Staff understands, based on discussions with the City Engineer subsequent to the memorandum provided in Exhibit 4, that the trip generation numbers used in the draft traffic impact analysis and the proposed access locations, turning restrictions, and designs appear to be acceptable to the City Engineer and WVDOH. However, final review and approval is awaiting the execution of the requisite agreement between WVDOH and the developer.

It is the opinion of the Planning Division that the Planning Commission may proceed in its review of the present DSI site plan petition relative to final traffic impact analysis approval and WVDOH access permitting by:

1. Tabling the present DSI site plan petition until final review and comment by the City Engineer and WVDOH are completed; or,
2. Tabling the present DSI site plan petition until final WVDOH access permitting is determined; or,
3. Include a condition, should the Planning Commission approve the present DSI site plan petition, that requires WVDOH access permit approval; provided there are no changes in the locations and/or designs, as a result of WVDOH access permit approval, of the proposed driveway entrances illustrated on the plans presented herein.

Parking Reduction

As noted above, the petitioner will be seeking a parking reduction under Article 1365.04(P) for all four (4) parking reduction elements. The element regarding the site's proximity to publicly-owned and controlled parking spaces raises concerns for the Morgantown Parking Authority (MPA). Specifically, MPA's Lot B, located behind the former *Daniel's Clothing Store*, is within 500 feet of the subject development site. However, Lot B is not considered a parking pass or storage lot but rather a high performing metered turnover lot for day-time and night-time downtown visitors. The Planning and Zoning Code does not distinguish between storage and turnover parking facilities. However, this parking reduction element assumes that the publicly-owned and controlled parking facility, because of its proximity, can serve a portion of the parking needs for a proposed development.

Corner Visibility

A memorandum from City Engineer Terry Hough, PE is attached hereto (see Exhibit 5) concerning her evaluation of corner visibility for exiting motorists utilizing the proposed Spruce Street and Willey Street driveway entrances given existing and proposed conditions. She notes that there will be sufficient site clearance for the proposed driveway entrance onto Spruce Street. However, Ms. Hough notes concerns as to whether or not there is sufficient site distance for the proposed driveway entrance onto Willey Street and accordingly suggests consideration of moving the at-grade portion of the building back an additional three (3) feet along Willey Street.

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Construction next to Daycare Playground

The Planning Division encourages the Planning Commission to learn from the developer what measures will be taken to ensure the protection and safety of users of the adjoining playground during construction. Additionally, there is merit in learning what design elements have been considered and included to reduce the impact of the proposed a 24- to 36-foot tall wall at the property boundary shared with the adjoining playground.

STAFF RECOMMENDATION:

Staff recommends that at least the following conditions be included should the Commission approve the site plan for Case No. S14-01-III as proposed:

1. That all required conditional use and variance petitions be approved by the Board of Zoning Appeals (BZA) and all related conditions therein observed and/or addressed accordingly.

2. That a minor subdivision petition combining Parcels 245 and 246 of Tax Map 26 be approved and final plat recorded prior to issuance of certificate of occupancy.

3. That access permitting from the West Virginia Division of Highways must be obtained; provided said approval does not alter the arrangement of driveway locations and/or designs illustrated on the site plans reviewed and approved herein. Should access permitting alter the arrangement of said driveway locations and/or designs, than Planning Commission review and approval must be obtained prior to the issuance of any building permit for the site.

4. That the developer shall continue to consult with the Downtown Design Review Committee and accordingly address the Committee's comments and concerns where practicable.

5. That the final Landscape Plan and Erosion Control Plan be submitted with the building permit application for review and approval. Variance approval must be obtained should said plans not conform to the related performance standards set forth in the City's Planning and Zoning Code.

6. That the specific land use for the 3,237 square feet retail/commercial/office space at-grade with Spruce Street must conform to Table 1331.05.01 "Permitted Land Uses" and supplemental regulations thereto.

7. That a master Signage Plan must be submitted and reviewed under the standard building permit application process once nonresidential uses are identified. Variance approval must be obtained should the master Signage Plan not conform to related performance standards set forth in the City's Planning and Zoning Code.

8. That the development must meet all applicable federal Fair Housing and Americans with Disabilities Act standards as determined by the City's Chief Building Code Official.

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9. That public sidewalks along the development site's Spruce Street and Willey Street frontages shall be reconstructed to the satisfaction of the City Engineer and, where practicable, incorporate design elements utilized in the High Street streetscape improvement projects and the planned Walnut Street streetscape improvement project.

10. That, as proposed by the petitioner, above ground utility facilities along the development site's Spruce Street and Willey Street frontages must be relocated underground; provided all affected utilities, the West Virginia Division of Highways, and the City Engineer approve development plans for same.

11. That the developer shall consult with the City Engineer in providing public trash receptacle(s) and bench(es) near retail entrance(s) that match existing facilities within the downtown; provided said street furniture does not reduce the width or obstruct public sidewalks.

Attachments: Noted Addenda and Exhibits; Site Plan Application; Site Plan, Floor Plan Elevation, and Civil Plan Drawings; Draft Final Traffic Impact Analysis; Wind Flow Analysis Report

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STAFF REPORT ADDENDUM A

S14-01-III / CA Student Living / 494 Spruce Street

Clipped from Google Maps
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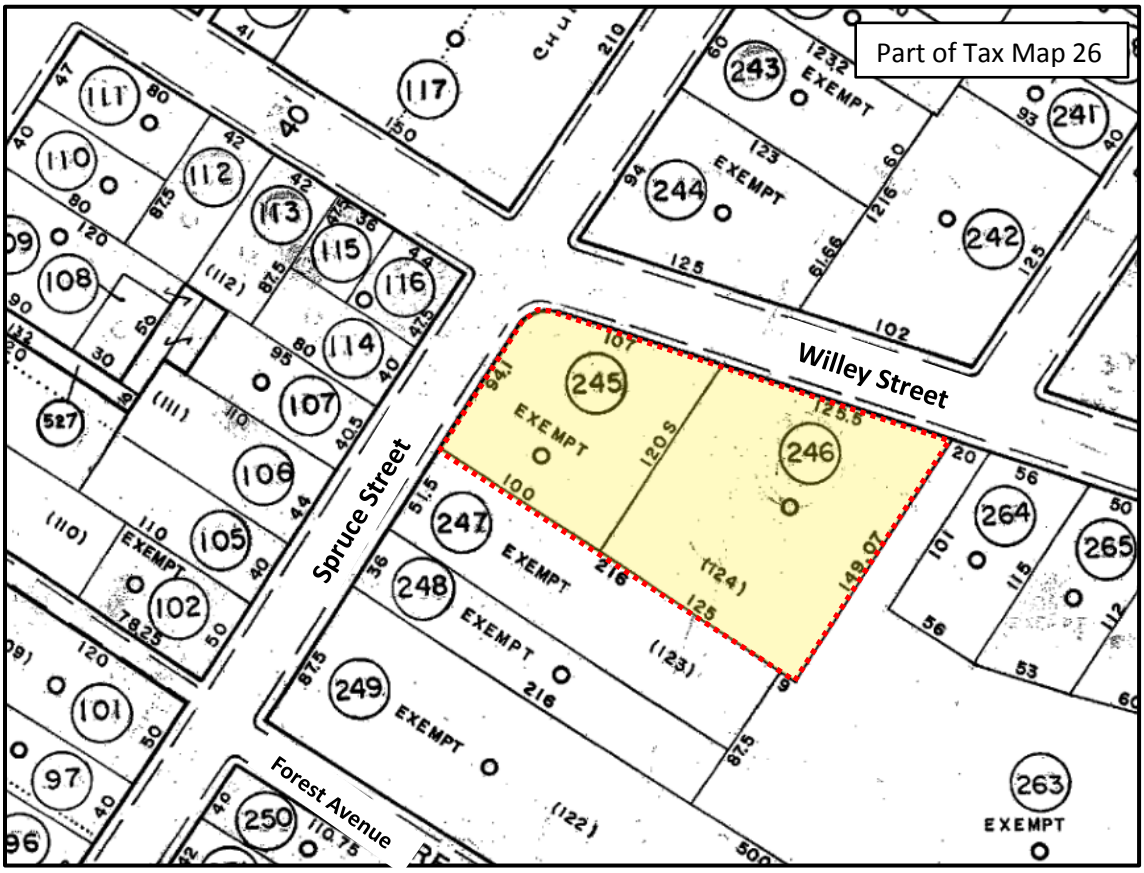
Image Date: July 2012
Report a problem


Part of Tax Map 26
Willey Street
Spruce Street
Forest Avenue
EXEMPT

STAFF REPORT ADDENDUM B

S14-01-III / CA Student Living / 494 Spruce Street

Concurrence with the 2013 Comprehensive Plan Update

The following narrative identifies where, in the opinion of the Planning Division, the subject development of significant impact is in concurrence and/or is inconsistent with the 2013 Comprehensive Plan Update.

INTENT	Development proposals will reflect the spirit and values expressed in the Plan's principals.

Principles for Land Management

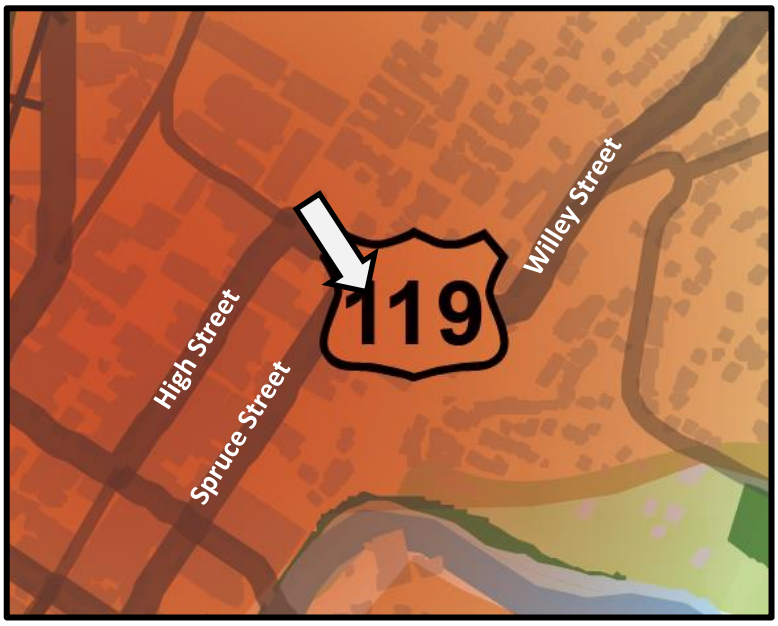
Principal 1	Infill development and redevelopment of underutilized and/or deteriorating sites takes priority over development in green field locations at the city's edge.	☒ Concurrence ☐ Inconsistent ☐ Other
	The VFW Post 548 site is located within the "Encouraged Growth" area, the "Core" pattern and character area, and the "Downtown Enhancement" area and is not located within a green field location at the city's edge.	
Principal 2	Expansion of the urban area will occur in a contiguous pattern that favors areas already served by existing infrastructure.	☒ Concurrence ☐ Inconsistent ☐ Other
	The VFW Post 548 site is located within the central urban core and appears to be supported by existing multi-modal transportation options and adequate utility infrastructure capacity.	
Principal 3	Downtown, adjacent neighborhoods and the riverfront will be the primary focus for revitalizations efforts.	☒ Concurrence ☐ Inconsistent ☐ Other
	The VFW Post 548 site is located within the B-4 District and appears to leverage its proximity with the University's downtown campus, which should further the strengthening of the city's urban core in terms of walkability, customer-base, and proximity to residents' primary destinations.	
Principal 4	Existing neighborhoods throughout the city will be maintained and/or enhanced.	☒ Concurrence ☐ Inconsistent ☐ Other
	The VFW Post 548 site is not located within or adjacent to a "Neighborhood Conservation" area.	

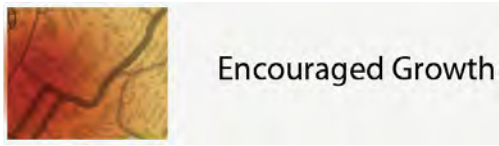
Principal 5	Quality design is emphasized for all uses to create an attractive, distinctive public and private realm and promote positive perceptions of the region.	☒ Concurrence ☐ Inconsistent ☐ Other
	The developer's professional design team has consulted with the Downtown Design Review Committee and incorporated modifications that appear to address the Committee's comments and concerns in terms of architectural style, cladding material, window rhythm, etc.	
Principal 6	Development that integrates mixed-uses (residential, commercial, institutional, civic, etc.) and connects with the existing urban fabric is encouraged.	☒ Concurrence ☐ Inconsistent ☐ Other
	The proposed development includes residential and street-level nonresidential mixed-uses. The urban fabric within the immediate built environment is heterogeneous given the various development pattern and character types, scales and densities, forms and functions, and construction periods.	
Principal 7	Places will be better connected to improve the function of the street network and create more opportunities to walk, bike and access public transportation throughout the region.	☒ Concurrence ☐ Inconsistent ☐ Other
	The VFW Post 548 site is well served by public transit along Spruce Street and Willey Street and is within walking and biking distance of the University campus, downtown PRT station, the downtown central business district. Redevelopment of the site to a higher residential density links residents to alternate modes of transportation thereby reducing auto dependency within the City and mitigating increased traffic congestion created by commuting traffic from outside the City. The proposed at-grade setbacks appear to functionally widen adjoining public sidewalks. Significant bicycle storage is proposed.	
Principal 8	A broad range of housing types, price levels and occupancy types will provide desirable living options for a diverse population.	☐ Concurrence ☐ Inconsistent ☒ Other
	The proposed development program increases housing choice and diversity in the context of the immediate residential area, which includes the Courtyard East and Courtyard West multi-family developments (four and five stories respectively); the ten-story, multi-family high-rise, age-restricted Unity Manor building; the six-story Central Place multi-family development under construction; various duplex and triplex configurations; and, converted single-family residential units. However, the proposed all four-bedroom units does not appear to be as attractive in diversifying population and housing unit types as a combination of one-, two-, and three-bedroom units would. Given the infancy of the 2013 Comprehensive Plan adoption, zoning ordinance dictates and/or guidelines concerning desired tenancy, affordability, and workforce opportunities have not been developed or enacted.	

Principal 9	Residential development will support the formation of complete neighborhoods with diverse housing, pedestrian-scaled complete streets, integrated public spaces, connection to adjacent neighborhoods, and access to transportation alternative and basic retail needs.	☒ Concurrence ☐ Inconsistent ☐ Other
	The VFW Post 548 site is within the B-4, General Business District and located within a two to five minute relatively flat walk to basic retail goods and services, civic, institutional, and public spaces located within the central downtown business district and University's downtown campus. Semi-public indoor and outdoor spaces have been incorporated to further quality of life, convenience, and enjoyment of the development's residents.	
Principal 10	Parks, open space, and recreational areas are incorporated as part of future development.	☒ Concurrence ☐ Inconsistent ☐ Other
	Semi-public indoor and outdoor spaces have been incorporated to further quality of life, convenience, and enjoyment of the development's residents. The proposed at-grade setbacks appear to functionally widen adjoining public sidewalks. Green-wall landscaping treatments along Willey Street should serve to soften the relationship between the public sidewalk realm and building's at-grade edge.	
Principal 11	Environmentally sensitive and sustainable practices will be encouraged in future developments.	☐ Concurrence ☐ Inconsistent ☒ Other
	Stormwater management best practices will be required for a large site currently lacking such measures. The developer's goals and objectives concerning sustainable construction techniques and industry accepted best practices have not been fully developed.	

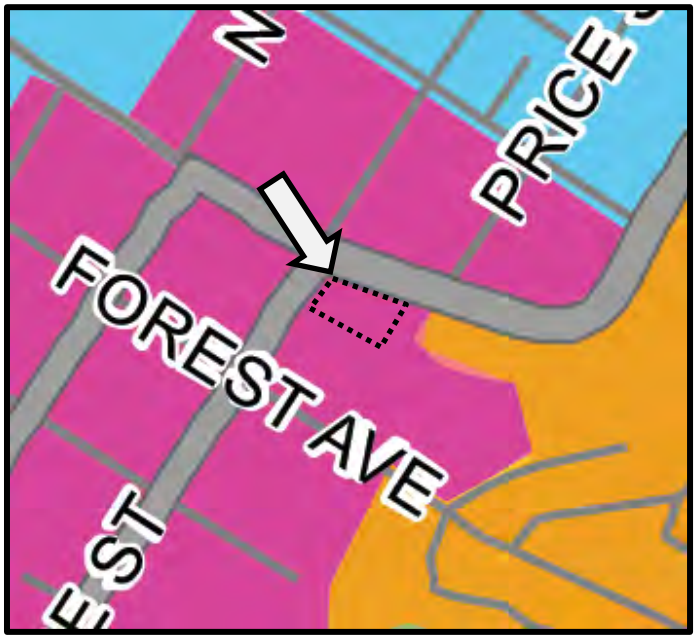
LOCATION	Development proposals will be consistent with the Land Management Map. If the proposal applies to an area intended for growth, infill, revitalization, or redevelopment, then it should be compatible with that intent and with any specific expectations within Areas of Opportunity. If the proposal applies to an area of conservation or preservation, it should be compatible with and work to enhance the existing character of the immediate surroundings.

The following graphic is clipped from the **Conceptual Growth Framework Map** included on Page 19 of the 2013 Comprehensive Plan Update. The subject development site is located within the **"Encouraged Growth"** area.



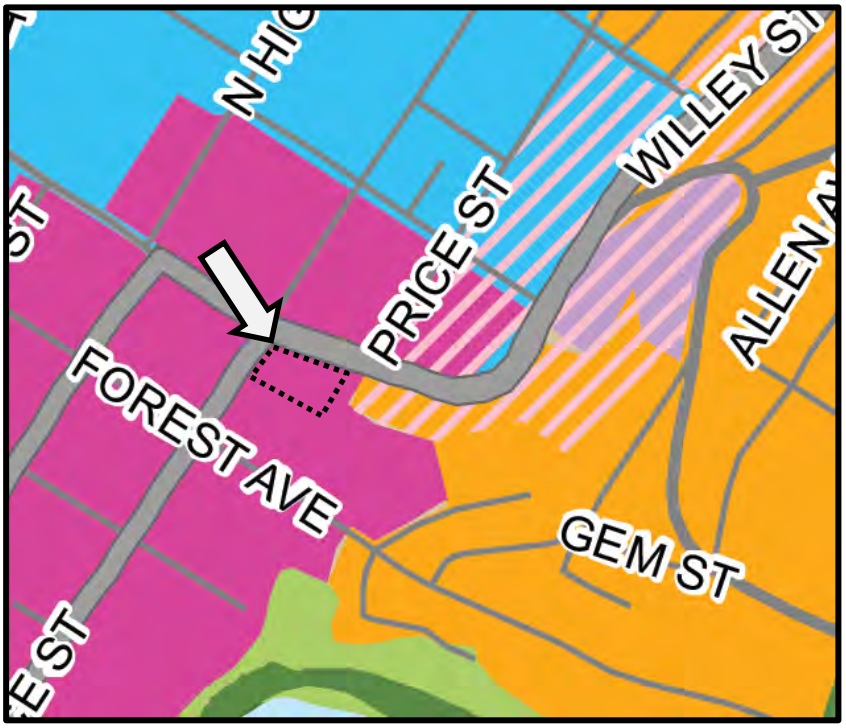


The following graphic is clipped from **Map 3 – Pattern and Character** included on Page 27 of the 2013 Comprehensive Plan Update. The subject development site is located within the **"Core"** pattern and character area.



Core. The Core is the zone of densest development and is generally defined as Downtown Morgantown. The area has the highest level of connectivity with a grid street pattern with short walkable block lengths. Buildings range from two to twelve stories and are located close to each other and to the street. A mixed-use district, the core contains a range of retail, office, institutional and residential activities, with many buildings containing multiple uses within them. The street, network, building density and mix of uses support a high degree of pedestrian mobility.

The following graphic is clipped from **Map 4 – Land Management** included on Page 39 of the the 2013 Comprehensive Plan Update. The subject development site is located within the "**Downtown Enhancement"** concept area.



Downtown Enhancement: Continued infill and redevelopment in the Downtown core with a mix of employment, civic, commercial and residential uses as described in the 2010 Downtown Strategic Plan Update.

PATTERN AND CHARACTER	Development proposals in growth areas will be consistent with preferred development types. Development in areas where growth is not intended should be compatible with the relevant Character Areas description and expectations for how those areas should evolve in the future.

The following graphics are clipped from Pages 41 through 43 of the 2013 Comprehensive Plan Update and identify the development types desired within the "**Core Enhancement**" concept area.

Appropriate Development Types

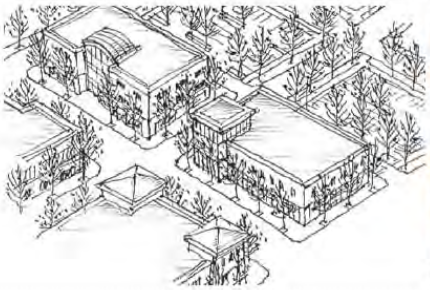
CONCEPT AREA	SF	TF	MF	C	NX	UC	CC	O	I	CD	OS
Core Enhancement			•	•	•	•					•

MF **Multi-family Residential**
Includes various forms such as apartment buildings where three or more separate residential dwelling units are contained with a structure and townhouse dwelling types. They vary considerably in form and density depending on the context – from four-story or larger buildings set close to the street in and at the edge of the downtown core and along major corridors, to smaller two- to four-story buildings with greater street setbacks in areas between the downtown core and single-family neighborhoods.

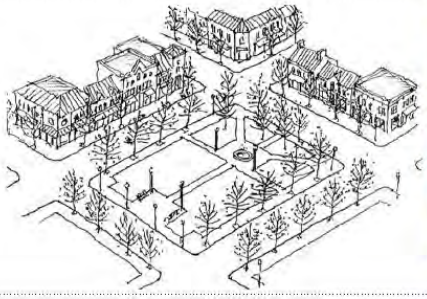
C **Civic and Institutional**
These sites include both public uses (government buildings, libraries, community recreation centers, police and fire stations, and schools) and semi-public or private uses (universities, churches, hospital campuses). Public uses should be strategically located and integrated with surrounding development. Civic and Institutional sites may be distinctive from surrounding buildings in their architecture or relationship to the street.

NX **Neighborhood Center Mixed-Use**
A mix of housing, office, commercial, and civic uses adjacent to one another or contained within the same structure (such as offices or apartments above ground-floor retail). Such uses should be compatible with and primarily serve nearby neighborhoods (within 1/2 mile). Parking should be located behind or to the side of buildings and may be shared between multiple uses.

UC **Urban Center Mixed-Use**
A mix of housing, office, commercial, and civic uses located adjacent to one another or sharing the same building. Buildings are generally larger in scale than neighborhood mixed-use and contain more employment and commercial uses that serve the broader community. Buildings should be located near the street with parking provided on-street or in shared parking configurations behind or between buildings.



OS **Greenspace**
Includes formal parks, recreation areas, trails, and natural open space.



OBJECTIVES AND STRATEGIES — Land Management

A. Goal

Efficient and attractive use of land resources that strengthens the quality, character, and upkeep of the built environment while balancing redevelopment and strategic expansion with open space preservation.

Objective 1. Strengthen Downtown.

LM 1.5 Create incentives for developers to build residential units downtown that will serve a broad age and socioeconomic range.

Objective 5. Encourage land use patterns that support improved transportation choice and efficiency.

LM 5.2 Permit higher density development in areas that are well-supported by existing or planned transportation infrastructure or transit services.

Objective 6. Improve community appearance, particularly at city gateways.

LM 6.5 Encourage major redevelopment projects to relocate utilities from view of primary corridors, arterials, and collectors with emphasis on underground placement.

OBJECTIVES AND STRATEGIES	Neighborhoods and Housing

A. Goal

Attractive, well-maintained neighborhoods that offer a broad mix of desirable housing options and convenient access to services and amenities.

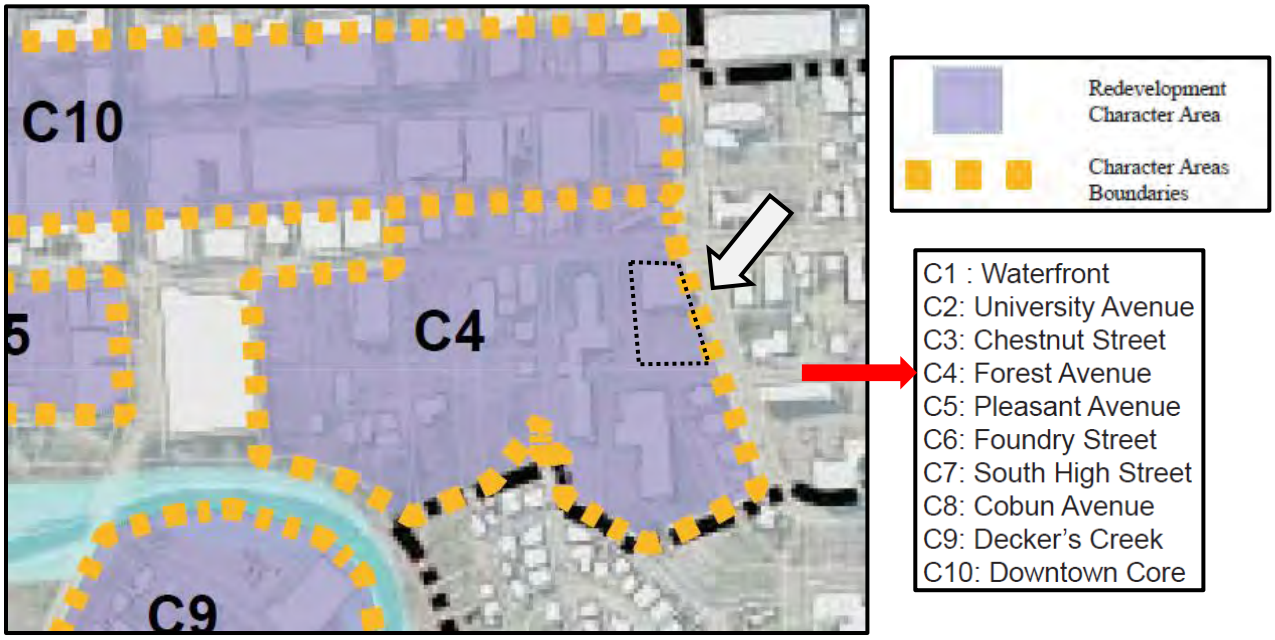
Objective 4. Promote the development of a broad range of housing types and prices.

NH 4.1 Provide incentives to developers to encourage development of alternative housing types (i.e. higher density, live-work, mixed-use) in designated growth areas.

2010 Downtown Strategic Plan

Concurrence with the 2010 Downtown Strategic Plan

The following graphics have been clipped from the 2010 Downtown Strategic Plan.



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6.3.1.4 Character Area C4 – Forest Avenue

STRENGTHS	CHALLENGES
• Farmer's Market. • Immediately adjacent to WVU campus. • Proximity to High Street retail. • Gateway and downtown access point both to and from Woodburn residential neighborhood. • Various historic architecture, churches, and homes provide scale and interest. • Access to Whitmore Park and trails with access to downtown and Sabraton. • Plans are currently underway for the redevelopment of the old Central School site.	• Some areas of steep topography. • Poorly designed, planned and managed student housing. • Minimal lighting and sidewalks are in disrepair. • Underutilized existing properties and original street grid has been disrupted in some places. • Insufficient supply of off-street parking.
OPPORTUNITIES	
• New mixed-use student housing village with live-work units for young professionals. • Additional mixed-use infill at the north end of Spruce Street. • Entertainment or cultural facilities. • Direct access to Deckers Creek and Deckers Creek Trial. • A cohesive sense of place in this area through urban design streetscapes, signage, lighting, art and landscaping. • Enhance the setting for the Farmer's Market. • Promote the redevelopment of derelict student housing into new attractive student housing near campus.	

VISION / DEVELOPMENT THEME

A neighborhood with mixed-use live-work opportunities interspersed throughout, that is directly adjacent to downtown and the Farmer's Market. This area will also incorporate townhouses along Deckers Creek and some high quality student/young professional housing sprinkled throughout the area.

ACTIONS

6.3.1.4a Create a more permanent structure for the Farmer's Market while still retaining the site's principal parking use (i.e. covered parking stalls); study the feasibility of allowing evening parking for performances at the Metropolitan Theatre.

6.3.1.4b Offer incentives to enable consolidation of parcels and consistency in development theme and pattern. These lot consolidation incentives options are;

- Offer an increased floor area ratio (FAR) bonus to properties requesting lot consolidation. The bonus incentives would apply to the gross square footage of a single parcel following consolidation.
- Offer residential density bonus incentives. The density bonus incentives would apply to the gross square footage of a single parcel following consolidation.
- At the discretion of the city, fee assistance and other financial incentives could be made available to encourage lot consolidation activities, subject to available resources. Financial incentives may include, but not limited to:
  - i. Permit fee assistance (waivers, reduced fees, etc.)
  - ii. Reductions in approval procedure timeline.
  - iii. Others as deemed appropriate by the Planning Commission

6.3.1.4c Create more green space around new residential development in order to manage and clean stormwater before it enters Deckers Creek and travels into the Monongahela River.

6.3.1.4d Expand the government service needs of Morgantown into this area, which is adjacent to the existing government core.

6.3.1.4e Adopt and enforce Main Street Morgantown Urban Design Guidelines and Design Guidelines for Public Projects.

6.3.1.4f Create specific design guidelines for the "Forest Avenue Character Area".

DESIGN GUIDELINES CONSIDERATIONS

General Intent / Goals

Dense pedestrian friendly village with buildings that are organized on an urban street pattern and along open space connections to Deckers Creek.

Planning Requirements

- Reinforce the urban quality by increasing the mass, density, and mixed-use quality buildings that front on well designed pedestrian streets.
- Maximize residential opportunities to take advantage of the location near WVU campus.
- Create north-south pedestrian and bicycle access to the River at regular intervals at the ends of the alleys that extend to downtown.
- Create balance and harmony in the vertical and horizontal massing of buildings.
- Create a consistent architectural style and palette of materials.
- Areas characterized as "New Mixed-Use Development" in Figure 17 will offer retail/commercial on the ground floor and either office or residential on the upper floors.

Building Height

New buildings shall be a maximum height of four (4) stories or 50' or a minimum of three (3) stories or 30' in height to promote a mix of uses and a continuous urban edge.

6.0 Downtown Strategies

Setbacks

As described in B-4 zoning district.

Parking and Access

As described in the B-4 standards with the addition of the City offering an option for reduced required parking amounts for downtown residential developers as described under Transportation Section 6.4.2.

Building Placement

- Buildings should be oriented toward streets and open spaces along an established "build to line" so that an urban edge is created with the buildings.
- Buildings should exhibit continuity in the design of their facades.
- Buildings that front streets and open spaces should have a well designed and scaled first floor with human scaled elements, doors, windows, awnings, and stoops.
- Buildings should consider pedestrian scaled rhythms along the street and open space network and provide architectural breaks or interest every 30 - 50 feet of horizontal distance.

Inspirational imagery for Action 6.3.1.4c taken from Bloomington, Indiana depicting a pocket park located between two condominium buildings.

Materials

Materials should conform to existing B-4 standards and be consistent with the materials chosen for the existing historic buildings within the "Forest Avenue Character Area". Materials, methods, treatment, and type for private projects should adhere to the Design Guidelines found under Section N of the Main Street Morgantown Urban Design Document. Materials, methods, treatments, and types for public projects should adhere to Main Street Morgantown's Design Guidelines for Public Projects found in Sections II to V. Select materials and finishes for proposed new buildings that are compatible with historic materials and finishes found in the surrounding buildings that contribute to the special character of the historic district in terms of composition, scale, module, pattern, detail, texture, finish, color, and sheen.

Colors Palette

Warm and earth-toned colors will be encouraged predominantly. Brighter colors will be allowed but in limited accent areas.

Architectural Style

Encourage an architectural reference for the "Forest Avenue Character Area" that draws inspiration from the many historic buildings that are part of the downtown core as described within the Main Street Morgantown Urban and Public Projects Design Guidelines. Existing building renovations, rehabilitations, and adaptive reuses will follow the Main Street Morgantown Urban and Public Projects Design Guidelines.

Inspirational imagery for Action 6.3.1.4a taken from Bloomington, Indiana depicting a Farmer's Market space that also serves as a parking lot during the weekdays. They have built a set of permanent overhead structures that serve as shading devices for the various users of this space throughout the week.

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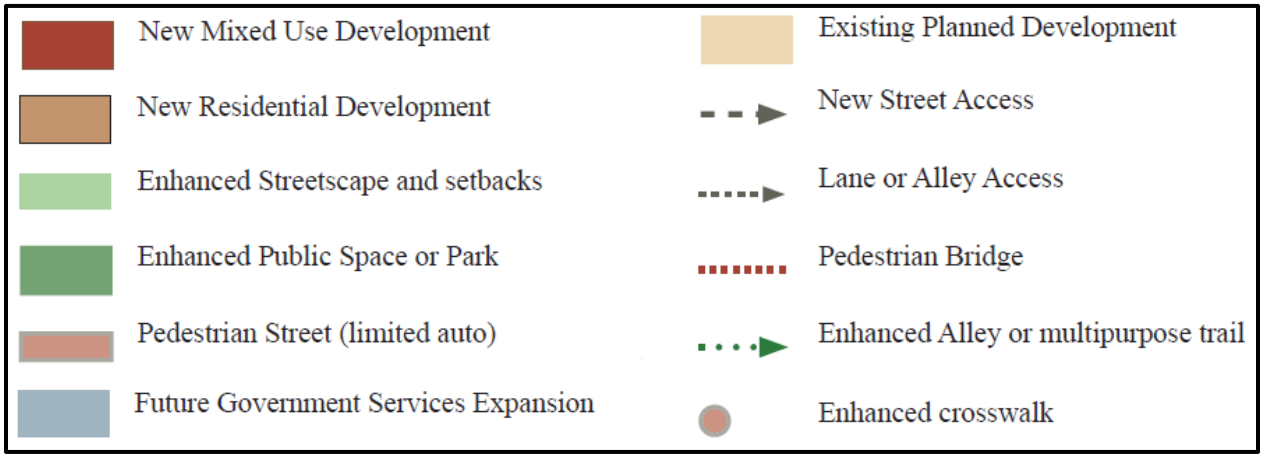

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6.0 Downtown Strategies

6.6 Housing and Redevelopment

Goal: Redevelop vacant and underperforming properties throughout the downtown and promote a variety of mixed-use housing in order to increase density and diversify the demographics of downtown residents.

Objectives:

- Increase the supply, diversity, range, and affordability of housing opportunities within the downtown.
- Increase the utilization of various tax credit programs that support the revitalization of existing buildings.
- Pursue the development of mixed-use and residential development along the Riverfront and Deckers Creek.
- Redevelop underutilized upper-floor spaces throughout the downtown to create 100-200 new housing units.

Actions:

6.6.1 Grow the downtown resident population by creating more, and a broader range of, housing opportunities. The following downtown and community-wide benefits are expected from the increase in housing:

- Boost the captive market for community-serving retail goods and services downtown that will support new downtown residents and the residents of nearby neighborhoods.
- Increase occupancy and mixed-uses of underutilized downtown buildings.
- 24/7/365 living, activity, commerce, and energy will create a safer downtown.

6.6.2 Encourage the reuse and conversion of underutilized upper floors for new residential uses.

One of the functions of the recommended development subsidiary of Main Street Morgantown will be to provide property owners with historic rehabilitation and New Markets tax credit technical assistance that can cover a portion of rehabilitation costs. Technical assistance could be in the form of raising awareness of and participation in these and other similar financing tools; involving several property owners in aggregating their properties to make tax credit financing more efficient; identifying potential local tax credit investors; and, providing pro bono rehabilitation financing assistance.

6.6.3 Stimulate infill development of mixed-use buildings on vacant lots throughout the downtown.

6.6.4 Redevelop the areas along the Monongahela River in order to attract revitalization and infill projects in the downtown.

6.6.5 New housing should support and integrate a diversity of age groups and income levels.

6.6.6 Use development of new housing to better connect surrounding neighborhoods to the downtown.

Residents and workers in the surrounding neighborhoods pass through many of the downtown "Character Areas" when traveling to work, visiting businesses, and accessing recreational sites.

Developing housing along the Creek and the River will make these areas livelier and, in turn, will make the connections between the downtown and adjacent neighborhoods safer.

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PLANNING AND ZONING CODE CONFORMITY REPORT FOR REVISED PLANS SUBMITTED 25 APR 2014

Planning Division

EXHIBIT 1

"CA Student Living" – 494 Spruce Street; Tax Map 26; Parcels 245 and 246

The following information identifies Planning and Zoning (P&Z) Code provisions related to the above referenced development. Revised plans reviewed herein are dated 04 APR 2014 (emArchitecture) and 07 MAR 2014 (Alpha Associates) and were submitted on 25 APR 2014 in response to the conformity report dated 16 APR 2014. Also identified is whether or not the subject development meets P&Z requirements; whether additional information is required; and, whether variance(s) and/or conditional use approval(s) are necessary.

PROPOSED DEVELOPMENT PROGRAM

- The development site is currently occupied by the VFW Post 548 and related parking.
- The combined area of the two parcels that comprise the proposed development site is approximately 27,459 sq. ft.
- The proposed building footprint is 23,763 sq. ft., which includes cantilevered portions of the building.
- The following table was clipped from emArchitecture's Sheet Z0.01, which describes the land use gross floor areas:

RESIDENTIAL		NONRESI.	PARKING	TOTALS
_Level 09	18,262 SF			18,262 SF
_Level 08	18,262 SF			18,262 SF
_Level 07	18,262 SF			18,262 SF
_Level 06	18,262 SF			18,262 SF
_Level 05	18,262 SF			18,262 SF
_Level 04	18,262 SF			18,262 SF
_Level 03	18,262 SF			18,262 SF
_Level 02	16,822 SF			21,842 SF
_Level 01	2,409 SF	2,197 SF	15,389 SF	19,996 SF
_Level P2	1,960 SF	1,670 SF	17,699 SF	21,329 SF
_Level P1	2,468 SF	3,237 SF	15,914 SF	21,618 SF
	151,496 SF	**7,104 SF**	**49,001 SF**	
TOTAL GROSS AREA				**212,620 SF**
TOTAL GROSS AREA (excluding parking, FAR = 5.96)				**163,619 SF**

- The proposed residential use includes 92 four-bedroom dwelling units for a total of 368 occupants.
- The proposed building includes three parking decks, which is described in the following table clipped from emArchitecture's Sheet Z0.01:

EXHIBIT
1

PARKING		
Size	Count	Comments
_Level 01		
UNIVERSAL SPACE	1	
Parking Space_8'-6"x18'-0"	31	
Parking Space_8'-0"x15'-0"	5	Compact Parking Spaces
Parking Space_4'-0"x9'-0"	3	Motorcycle Parking Spaces
_Level P2		
Parking Space_8'-6"x18'-0"_Option	2	Optional Parking Spaces
Parking Space_8'-6"x18'-0"	45	
Parking Space_8'-0"x15'-0"	1	Compact Parking Spaces
_Level P1		
Parking Space_8'-6"x18'-0"	38	
Parking Space_8'-0"x15'-0"	3	Compact Parking Spaces
	124	
	129	With Optional Parking Spaces & Motorcycle Spaces

- The proposed building includes eleven (11) levels with the lowest two levels partially below the adjoining grade.
- Solid waste storage will be internal and accessed from the upper floors through garbage chutes. The solid waste hauler will access the dumpsters from Willey Street.
- There are 101 bicycle parking spaces proposed in one common facility with access from Willey Street, which includes 9 more spaces than the minimum requirement.
- It appears from the grades identified by Alpha Associates that the site rises approximately 23 feet in elevation with the lowest point at the southwest corner along Spruce Street and the highest point at the northeast corner along Willey Street.

SUMMARY OF CONFORMITY OBSERVATIONS

Planning and Zoning Code Reference	
Conformity (Y, N, TBD)	Conformity review observations; required approvals noted in **bold highlighted (yellow) font**.

1349.02 Permitted and Conditional Uses	
TBD	The specific land use for the 3,237 sq. ft. retail/commercial/office space at grade with Spruce Street was not identified in the plans reviewed herein. A land use determination will be made during building permit and/or certificate of occupancy review.
Y	"Mixed-Use Dwellings" are permitted in the B-4 District by-right. However, Article 1331.06(26)(a) provides that "Mixed-Use Dwelling" uses must have at least 20 percent of the ground floor area dedicated to commercial or office space uses located on the ground floor and in the front of the building facing the primary street frontage. Article 1329.02 defines "Lot Front" as, "The side of a lot that abuts a public street is the front of the lot. For corner lots, the shortest side fronting upon a street shall be considered the front of the lot." As such, the primary street frontage for the subject site is that facing Spruce Street.

EXHIBIT
1

	Article 1329.02 defines "Floor Area" as, "The sum of the gross horizontal areas of all floors, including basements, of a building measured from the exterior faces of the exterior walls or from the centerline of walls separating two buildings. Floor area of enclosed required off-street parking areas shall not be included." The total gross floor area of Level P1, excluding parking, is 5,705 sq. ft. The minimum floor area dedicated to commercial or office space located on the ground floor and in the front of the building facing Spruce Street is 1,141 sq. ft. and the maximum area is 3,423 sq. ft. Sheet Z0.01 identifies 3,237 sq. ft. for the retail space facing Spruce Street.

1349.03 Lot Provisions		
Y	(A)	Minimum lot size – 1,500 sq. ft.
Y	(B)	Minimum lot frontage – 30 ft.
Y	(C)	Minimum lot depth – 50 ft.
Y	(D)	Maximum lot coverage – 90%. The stated lot coverage in the plans reviewed herein is 86.5%.

1349.04 Setbacks and Encroachments			
	Provision	Requirement	Proposed
Y	(A)(1) Minimum Front	0 ft.	0 ft.
N/A	(A)(2) Maximum Front	Average depth of the nearest 2 lots on either side or 10 feet, whichever is less	0 ft.
N/A	(A)(3) Exceptions to max. front	*Exceptions not requested.*	
Y	(A)(4) Minimum Side	0 ft.	0 ft.
Y	(A)(5) Minimum Rear	22.5 ft. (10% of lot depth)	22.5 ft.
N/A	(B) Minimum setback for accessory structures – No accessory structure is illustrated in plans reviewed herein.		

EXHIBIT
1

1349.05 Building Height			
	Provision	Requirement	Proposed
Y	(A) Minimum Height	2 stories	11 stories
Y	(B) Maximum Height	120’	NW Corner – 118’ NE Corner – 100’ SW Corner – 122’ SE Corner – 108’ Average Height = 111’
N/A	(C) Maximum Height (accessory structure). No accessory structure is illustrated in plans reviewed herein.		

1349.06 Floor Area Ratio (FAR)	
Y	Maximum FAR is 7.0. However, area designed, constructed, and utilized to provide parking structure facilities for less than the maximum parking standard is exempt from maximum FAR standard. Maximum FAR calculation: 7.0 x 27,459 sq. ft. = 192,213 sq. ft. Proposed FAR: 212,620 sq. ft. LESS 7,104 sq. ft. for parking = 163,619 sq. ft. or 5.96 FAR

1349.07 Maximum Residential Density	
Y	Minimum lot area per dwelling unit is 300 sq. ft. Maximum residential density calculation: 27,459 sq. ft. / 300 sq. ft. = max. of 92 units. Proposed dwelling unit count is 92.

1349.08 Parking and Loading Standards	
TBD	(A)(1) Residential – 0.5 parking spaces per occupant (except first 22 occupants) 368 occupants – first 22 occupants = 346 occupants 346 occupants x 0.5 = <u>minimum of 173 parking spaces</u> Proposed: 126 parking spaces (includes 2 “option” spaces) See comments under Article 1365.04(P) concerning conditional use parking reduction.
N/A	(A)(2) Nonresidential – The proposed retail/commercial space is less than 15,000 sq. ft. of GFA and therefore no parking spaces are required for the non-residential use.
N/A	(A)(3) Movie Theaters
	(A)(4) Reduction in Minimum Required Parking See comments below under Article 1365.05(P)

EXHIBIT 1

N/A	(A)(5)	Fee In-Lieu-Of Parking - RESERVED
N/A	(A)(6)	"Alternate Off-Site Parking Strategies". No alternative strategy appears to be proposed in plans reviewed herein.
N/A	(B)	On-site surface parking must be located to the rear of the building or otherwise screened. No surface parking spaces proposed in plans reviewed herein.
Y	(C)	Bicycle Storage – One (1) indoor, secured, sheltered bicycle storage space is required per dwelling unit that meets minimum design standards. Plans reviewed herein identify a common parking facility for 101 bicycles. Additional information during building permit review will be required to ensure compliance with bicycle storage design and performance standards.
N	(D)	Loading for Residential uses containing thirty (30) or more dwelling units. According to the information stated in the plans reviewed herein, the proposed area of the residential use is 151,496 sq. ft. According to Table 1365.10.01, a minimum of five (5) loading spaces is required. No loading spaces are proposed in the plans reviewed herein, which requires **variance** relief by the BZA.

1349.09 Performance Standards	
	See comments below under Article 1351.

1349.10 Landscaping	
	See comments below under Article 1367.

1351 Performance Standards for Buildings in the B-4 District		
Y	(A)	Height exemptions for certain facilities and appurtenances. The elevator and stair-tower bulkheads/penthouses and mechanical appurtenances illustrated on the elevations are exempt from the maximum height limit.
TBD	(B)	Private pedestrian walks, street furniture, and open space on private property. Plans reviewed herein identify the reconstruction of public sidewalks along the site's Spruce Street and Willey Street frontages. Consideration should be given to providing trash receptacle(s) and bench(es) near retail entrances that match existing facilities within the downtown area; provided said street furniture does not reduce with the width of public sidewalks. Additionally, coordination with City Engineering and WVDOH will be necessary concerning traffic light and sign post location and/or relocation.
Y	(C)	Private parking facilities. Parking decks will be constructed using concrete. Stormwater management will be reviewed and approved by MUB. Adequate ingress and egress to/from Spruce Street and Willey Street must be reviewed and approved by WVDOH as a part of the Traffic Impact Study.

	(D) Curb Cuts. The following provides the minimum curb cut performance standards along with proposed conditions.			
	Provision	Standard	Proposed	
			Spruce St.	Willey St.
Y	Minimum distance of any part of driveway to the street right-of-way line of any intersecting street.	35 feet	71 feet	172 feet
Y	Minimum distance of any part of driveway to the end of a curb radius at an intersecting street.	30 feet	30 feet	133 feet
Y	Minimum distance of any part of a driveway to any other part of another driveway.	30 feet	N/A	38 feet
Y	Maximum width of a driveway at the curb line.	26 feet	24 feet	24 feet
Y	Maximum width of a driveway at the street right-of-way line.	22 feet	20 feet	20 feet
TBD	(E) Corner Visibility. A memorandum from the City Engineer concerning clear vision triangle will be presented to the PC and BZA.			
	(F) Landscaping. See comments below under Article 1351.			
N/A	(G) Vacant Lots.			
TBD	(H) Main Street Morgantown Urban Design Guidelines. The project's design professional met with the Downtown Design Review Committee on 25 FEB 2014 and on 25 MAR 2014. Several architectural design elements have been revised in the plans reviewed herein to address the Committee's comments. The Committee requested to meet with the project's design professionals once more to review building material samples.			
TBD	(I) Minimize Canyon Effects for Buildings Taller than Three (3) Stories. Site plan applications for buildings taller than three (3) stories must include an Air Flow Analysis and a Sunlight Distribution Analysis. A variance petition has been submitted so that the BZA can determine whether or not proposed design elements minimize canyon effects as required. If the BZA agrees that said elements further desired mitigation design techniques, than it can rule accordingly. If the BZA does not agree that said elements meet desirect mitigation design techniques, that it can determine whether or not to grant variance relief accordingly.			

Y	(J)	Floor-to-Floor Heights and Floor Area of Ground-floor Space. The non-residential floor space on Levels P1, P2, and 01, all of which have ground floor characteristics given grade changes along the adjoining public sidewalk, appear to meet the minimum floor-to-ceiling height of eleven (11) feet. Additionally, the total gross floor area of the nonresidential floor space on said levels is 7,104 sq. ft. (26% of lot area), which exceeds the minimum 20% of lot area standard.
Y	(K)	Transparency. Sheet Z0.11 identifies a transparency percentage of 65% of the street-facing building façade between three (3) feet and eight (8) feet, which exceeds the minimum 60% standard.
Y	(L)	Doors and Entrances. The primary entrance to the unspecified retail space on Spruce Street faces Spruce Street. The primary entrance to the residential space utilizes a grand staircase along Willey Street with a turnstile glass door facing Spruce Street. The primary entrance to the nonresidential space (bike repair and storage area) along Willey Street faces Willey Street.
Y	(M)	Solid Waste. It appears that collection and storage of garbage is contained within the building utilizing chutes from upper residential levels. The solid waste hauler will access the dumpster by-way-of the Willey Street driveway entrance.

1365.04(P) B-4 Minimum Parking Reductions		
TBD	(1)	By a factor of ten (10) percent if the land use is located within 500 feet, measured from the closest edge of the building, of a parcel containing a fixed public transit stop, whether a bus, trolley, or Personal Rapid Transit (PRT) station.
	Sheet Z0.11 illustrates that the subject site is located within 500 feet of Mountain Line Transit's fixed bus stop and shelter at 400 Willey Street (Unity Manor). As such, the site qualifies to seek **conditional use** approval for a parking reduction of 10% or 17 parking spaces (173 X 0.1).	
TBD	(2)	By a factor of ten (10) percent if the land use is located within 500 feet, measured from the closest edge of the building, of a parcel containing 25-50 publicly owned and controlled parking spaces. If within 500 feet of a parcel containing more than 50 public parking stalls, the reduction may be a factor of fifteen (15) percent.
	Sheet Z0.11 illustrates that the subject site is located within 500 feet of Morgantown Parking Authority's publicly owned and controlled Parking Lot B (behind former *Daniel's Clothing Store*). Lot B includes approximately 75 parking spaces. As such, the site qualifies to seek **conditional use** approval for a parking reduction of 15% or 26 parking spaces (173 X 0.15).	
TBD	(3)	By a factor of one (1) automobile parking space for each dedicated motorcycle parking space, up to a maximum reduction of three (3) automobile parking spaces. This reduction shall not be permitted for uses that are required to provide six (6) or fewer parking stalls. Nor shall this reduction be permitted for uses that primarily sell large, bulky merchandise not typically transported via motorcycle.

EXHIBIT
1

	Sheet Z0.02 illustrates three (3) motorcycle parking spaces on Level 01. As such, the development qualifies to seek **conditional use** approval for a parking reduction of three (3) spaces.
TBD	(4) By a factor of one (1) automobile parking space for every three (3) bicycle parking spaces provided, up to a maximum reduction of three (3) automobile parking spaces. This reduction shall not be permitted for uses that are required to provide six (6) or fewer parking stalls. Nor shall this reduction be permitted for uses that primarily sell large, bulky merchandise not typically transported via bicycle. Required bicycle storage may not be used to reduce minimum parking requirements.
	Sheet Z0.02 illustrates 101 bicycle parking spaces on Level 01, nine (9) more storage spaces than required under Article 1349.08(C). As such, the development qualifies to seek **conditional use** approval for a parking reduction of three (3) spaces.
	The adjusted minimum parking requirement, with conditional use approval, is 173 minimum required spaces MINUS 49 space reduction EQUALS 124 spaces.

1365.07(A)(2) Off-Site Parking Facilities within the B-4 District	
N/A	The BZA may grant conditional use approval to provide required parking spaces on a site that is within 500 feet of the principal use (with certain restrictions). Off-site parking does not appear to be proposed for proposed development program.

1367 Landscaping and Screening	
TBD	Sheet 5 illustrates proposed landscape areas. Staff understands that project's landscape design professional, RoofMeadow, is researching appropriate green-screen and shade tolerant shrubs and ground cover that will be identified in building permit application plans.

1369 Signs	
TBD	Tenant(s) for non-residential leasable space have not been identified yet. As such, signage planning will be reviewed separately under the standard building permit application process once nonresidential uses are identified. Variance approval must be obtained should the Signage Plan not conform to related performance standards set forth in the City's Planning and Zoning Code.

1371 Lighting	
Y	A Lighting Plan was provided on Sheet Z0.13 of the plans reviewed herein. Said plan provides photometric layouts in footcandles for the exterior of the building and confirms that light glare onto adjoining properties or public rights-of-way is not proposed.

EXHIBIT 1

SUMMARY OF REQUIRED APPROVALS

1. Requirement Planning Commission approvals:
   a. Development of Significant Impact (DSI) Site Plan. Case No. S14-01-III is scheduled for the Planning Commission's 08 MAY 2014 hearing.
   b. Minor Subdivision to combine Parcels 245 and 246 of Tax Map 26. Case No. MNS14-05 is schedule for the Planning Commission's 08 MAY 2014 hearing.

2. Required BZA approvals:
   a. Variances
      i. Article 1349.08(D) – Loading. Variance relief from providing a minimum of five (5) loading spaces. Case No. V14-22 is scheduled for the BZA's 21 MAY 2014 hearing.
      ii. Article 1351.01(I). Variance relief from providing desired design elements that minimize canyon effects for buildings taller than three (3) stories. Case No. V14-23 is scheduled for the BZA's 21 MAY 2014 hearing.

      It should be noted that variance petition Case No. V14-23 pertaining to the design and location of the curb cuts, which was included in the legal notice advertised on 22 APR 2014, has been withdrawn by the petitioner as a result of design modifications made to conform with related performance standards.

   b. Conditional Use
      i. Article 1365.04(P) – B-4 District Parking Reduction (Case No. CU14-06). Conditional use approval to reduce the minimum parking requirement from 173 spaces to 124 spaces based on proximity to a fixed bus-stop, proximity to a Morgantown Parking Authority's Lot B, motorcycle parking spaces provided, and bicycle storage spaces provided in excess of minimum requirement.

Please contact the undersigned with any additional questions or further clarification of the information provided in this report. We look forward to serving your plans review and approval needs.

Prepared by: Christopher M. Fletcher

Digitally signed by Christopher M. Fletcher, AICP
Date: 2014.05.01 08:39:22 -04'00'

Christopher M. Fletcher, AICP
Director of Development Services
304-284-7431
cfletcher@cityofmorgantown.org

EXHIBIT
2

"CA Student Living" – 494 Spruce Street; Tax Map 26; Parcels 245 and 246

The following information identifies Planning and Zoning (P&Z) Code provisions related to the above referenced development. Plans reviewed herein are dated 04 APR 2014 (emArchitecture) and 07 MAR 2014 (Alpha Associates). Also identified is whether or not the subject development meets P&Z requirements; whether additional information is required; whether variance(s) and/or conditional use approval(s) are necessary; and, suggested design and/or development programming revisions.

CONTEMPLATED DEVELOPMENT PROGRAM

- The development site is currently occupied by the VFW Post 548 and related parking.
- The combined area of the two parcels that comprise the contemplated development site is approximately 27,459 sq. ft.
- The contemplated building footprint is 23,763 sq. ft., which includes cantilevered portions of the building.
- The following table was clipped from emArchitecture's Sheet Z0.01, which describes the land use gross floor areas:

RESIDENTIAL		NONRESI.	PARKING	TOTALS
_Level 09	18,262 SF			18,262 SF
_Level 08	18,262 SF			18,262 SF
_Level 07	18,262 SF			18,262 SF
_Level 06	18,262 SF			18,262 SF
_Level 05	18,262 SF			18,262 SF
_Level 04	18,262 SF			18,262 SF
_Level 03	18,262 SF			18,262 SF
_Level 02	16,822 SF			21,842 SF
_Level 01	2,409 SF	2,197 SF	15,389 SF	19,996 SF
_Level P2	1,960 SF	1,670 SF	17,699 SF	21,329 SF
_Level P1	2,468 SF	3,237 SF	15,914 SF	21,618 SF
	151,496 SF	**7,104 SF**	**49,001 SF**	
TOTAL GROSS AREA				**212,620 SF**
TOTAL GROSS AREA (excluding parking, FAR = 5.96)				**163,619 SF**

- The proposed residential use includes 92 four-bedroom dwelling units for a total of 368 occupants.
- The proposed building includes three parking decks with a total of 126 parking spaces. The lowest deck will be accessed from Spruce Street while the upper two decks will be accessed via the same driveway entrance from Willey Street.
- The contemplated building includes eleven (11) levels with the lowest two levels partially below the adjoining grade.
- Solid waste storage will be internal and accessed from the upper floors through garbage chutes. The solid waste hauler will access the dumpsters from Willey Street.

EXHIBIT 2

- There are 101 bicycle parking spaces contemplated in one common facility with access from Willey Street.
- It appears from the grades identified by Alpha Associates that the site rises approximately 23 feet in elevation with the lowest point at the southwest corner along Spruce Street and the highest point at the northeast corner along Willey Street.

SUMMARY OF CONFORMITY OBSERVATIONS

Planning and Zoning Code Reference	
Conformity (Y, N, TBD)	Conformity review observations; required approvals noted in **bold highlighted (yellow) font**.

1349.02 Permitted and Conditional Uses	
TBD	The specific land use for the 3,237 sq. ft. retail/commercial/office space at grade with Spruce Street was not identified in the plans reviewed herein.
Y	"Mixed-Use Dwellings" are permitted in the B-4 District by-right. However, Article 1331.06(26)(a) provides that "Mixed-Use Dwelling" uses must have at least 20 percent of the ground floor area dedicated to commercial or office space uses located on the ground floor and in the front of the building facing the primary street frontage. Article 1329.02 defines "Lot Front" as, "The side of a lot that abuts a public street is the front of the lot. For corner lots, the shortest side fronting upon a street shall be considered the front of the lot." As such, the primary street frontage for the subject site is that facing Spruce Street. Article 1329.02 defines "Floor Area" as, "The sum of the gross horizontal areas of all floors, including basements, of a building measured from the exterior faces of the exterior walls or from the centerline of walls separating two buildings. Floor area of enclosed required off-street parking areas shall not be included." The total gross floor area of Level P1, excluding parking, is 5,705 sq. ft. The minimum floor area dedicated to commercial or office space located on the ground floor and in the front of the building facing Spruce Street is 1,141 sq. ft. and the maximum area is 3,423 sq. ft. Sheet Z0.01 identifies 3,237 sq. ft. for the retail space facing Spruce Street.

1349.03 Lot Provisions		
Y	(A)	Minimum lot size – 1,500 sq. ft.
Y	(B)	Minimum lot frontage – 30 ft.
Y	(C)	Minimum lot depth – 50 ft.
Y	(D)	Maximum lot coverage – 90%. The stated lot coverage in the plans reviewed herein is 86.5%.

PLANNING AND ZONING CODE CONFORMITY REPORT FOR PLANS SUBMITTED 04 APR 2014

Planning Division

1349.04 Setbacks and Encroachments			
	Provision	Requirement	Proposed
Y	(A)(1) Minimum Front	0 ft.	0 ft.
N/A	(A)(2) Maximum Front	Average depth of the nearest 2 lots on either side or 10 feet, whichever is less	0 ft.
N/A	(A)(3) Exceptions to max. front	*Exceptions not requested.*	
	(A)(4) Minimum Side	0 ft.	0 ft.
Y	(A)(5) Minimum Rear	22.5 ft. (10% of lot depth)	22.5 ft.
N/A	(B) Minimum setback for accessory structures – No accessory structure is illustrated in plans reviewed herein.		

1349.05 Building Height			
	Provision	Requirement	Proposed
Y	(A) Minimum Height	2 stories	12 levels
Y	(B) Maximum Height	120’	NW Corner – 118’ NE Corner – 100’ SW Corner – 122’ SE Corner – 108’ Average Height = 111’
N/A	(C) Maximum Height (accessory structure). No accessory structure is illustrated in plans reviewed herein.		

1349.06 Floor Area Ratio (FAR)	
Y	Maximum FAR is 7.0. However, area designed, constructed, and utilized to provide parking structure facilities for less than the maximum parking standard is exempt from maximum FAR standard. Maximum FAR calculation: 7.0 x 27,459 sq. ft. = 192,213 sq. ft. Proposed FAR: 212,620 sq. ft. LESS 7,104 sq. ft. for parking = 163,619 sq. ft. or 5.96 FAR

1349.07 Maximum Residential Density	
Y	Minimum lot area per dwelling unit is 300 sq. ft. Maximum residential density calculation: 27,459 sq. ft. / 300 sq. ft. = max. of 92 units. Proposed dwelling unit count is 92.

EXHIBIT 2

1349.08 Parking and Loading Standards		
TBD	(A)(1)	Residential – 0.5 parking spaces per occupant (except first 22 occupants) 368 occupants – first 22 occupants = 346 occupants 346 occupants x 0.5 = minimum of 173 parking spaces Proposed: 126 parking spaces See comments under Article 1365.04(P) concerning conditional use parking reduction.
N/A	(A)(2)	Nonresidential – Contemplated retail/commercial space is less than 15,000 sq. ft. of GFA and therefore no parking spaces are required for the non-residential use.
N/A	(A)(3)	Movie Theaters
	(A)(4)	Reduction in Minimum Required Parking See comments below under Article 1365.05(P)
N/A	(A)(5)	Fee In-Lieu-Of Parking - RESERVED
N/A	(A)(6)	"Alternate Off-Site Parking Strategies". No alternative strategy appears to be proposed in plans reviewed herein.
N/A	(B)	On-site surface parking must be located to the rear of the building or otherwise screened. No surface parking spaces proposed in plans reviewed herein.
Y	(C)	Bicycle Storage – One (1) indoor, secured, sheltered bicycle storage space is required per dwelling unit that meets minimum design standards. Plans reviewed herein identify a common parking facility for 101 bicycles. Additional information during building permit review will be required to ensure compliance with bicycle storage design and performance standards.
N	(D)	Loading for Residential uses containing thirty (30) or more dwelling units. According to the information stated in the plans reviewed herein, the contemplated area of the residential use is 151,496 sq. ft. According to Table 1365.10.01, a minimum of five (5) loading spaces is required. No loading spaces are proposed in the plans reviewed herein, which requires **variance** relief by the BZA.

1349.09 Performance Standards	
	See comments below under Article 1351.

1349.10 Landscaping	
	See comments below under Article 1367.

1351 Performance Standards for Buildings in the B-4 District		
Y	(A)	Height exemptions for certain facilities and appurtenances. The elevator and stair-tower bulkheads/penthouses and mechanical appurtenances illustrated on the elevations are exempt from the maximum height limit.
TBD	(B)	Private pedestrian walks, street furniture, and open space on private property. Plans reviewed herein identify the reconstruction of public sidewalks along the site's Spruce Street and Willey Street frontages. Consideration should be given to providing trash receptacle(s) and bench(es) near retail entrances that match existing facilities within the downtown area; provided said street furniture does not reduce with the width of public sidewalks. Additionally, coordination with City Engineering and WVDOH will be necessary concerning traffic light and sign post location and/or relocation.
Y	(C)	Private parking facilities. Parking decks will be constructed using concrete. Stormwater management will be reviewed and approved by MUB. Adequate ingress and egress to/from Spruce Street and Willey Street must be reviewed and approved by WVDOH as a part of the Traffic Impact Study.
	(D)	Curb Cuts. The 40-foot widths labeled on Sheet Z0.02 for the driveway entrances onto Spruce Street and onto Willey Street appear to be wider than the illustrated points of tangency for both entrances. It appears that the widths between the "true" points of tangency are 36 feet. Agreement on the points of tangency is critical in determining the extent of requisite **variance** relief. The following table identifies the five (5) curb cut related standards and proposed conditions. The dimensions listed in *italic font* represent "true" points of tangency dimensions measured by scale. The measurements in **bold font** represent requisite variance relief as presently designed. The undersigned spoke with Carl Emberger on 16 APR 2014 concerning the points of tangency issue and also discussed the merits of modifying the driveway "flares" to comply with the maximum width standard of 26 feet at the curb line. By doing so, it appears that the Spruce Street driveway will also comply with the curb radius distance from the Spruce – Willey intersection. See (1) under "OBSERVATIONS" below for further commentary.

	Provision	Standard	Proposed	
			Spruce St.	Willey St.
Y	Minimum distance of any part of driveway to the street right-of-way line of any intersecting street.	35 feet	54 feet *56 feet*	160.5 feet *162.5 feet*
TBD	Minimum distance of any part of driveway to the end of a curb radius at an intersecting street.	30 feet	**23 feet** *25 feet*	128 feet *130 feet*

Y	Minimum distance of any part of a driveway to any other part of another driveway.	30 feet	N/A	30 feet *32 feet*
TBD	Maximum width of a driveway at the curb line.	26 feet	**40 feet** *36 feet*	**40 feet** *36 feet*
Y	Maximum width of a driveway at the street right-of-way line.	22 feet	22 feet	22 feet
TBD	(E) Corner Visibility. A memorandum from the City Engineer concerning clear vision triangle will be presented to the PC and BZA.			
	(F) Landscaping. See comments below under Article 1351.			
N/A	(G) Vacant Lots.			
TBD	(H) Main Street Morgantown Urban Design Guidelines. The project's design professional met with the Downtown Design Review Committee on 25 FEB 2014 and on 25 MAR 2014. Several architectural design elements have been revised in the plans reviewed herein to address the Committee's comments. The Committee requested to meet with the project's design professionals once more to review building material samples.			
TBD	(I) Minimize Canyon Effects for Buildings Taller than Three (3) Stories. Site plan applications for buildings taller than three (3) stories must include an Air Flow Analysis and a Sunlight Distribution Analysis. Both studies were submitted. Because desired design elements (e.g., recessing or "stepping back" upper floors, increase front and/or street side setbacks, etc.) do not appear to have been included in the project's design, **variance** relief from the BZA is required.			
Y	(J) Floor-to-Floor Heights and Floor Area of Ground-floor Space. The non-residential floor space on Levels P1, P2, and 01, all of which have ground floor characteristics given grade changes along the adjoining public sidewalk, appear to meet the minimum floor-to-ceiling height of eleven (11) feet. Additionally, the total gross floor area of the nonresidential floor space on said levels is 7,104 sq. ft. (26% of lot area), which exceeds the minimum 20% of lot area standard.			
Y	(K) Transparency. Sheet Z0.11 identifies a transparency percentage of 65% of the street-facing building façade between three (3) feet and eight (8) feet, which exceeds the minimum 60% standard.			
Y	(L) Doors and Entrances. The primary entrance to the unspecified retail space on Spruce Street faces Spruce Street. The primary entrance to the residential space utilizes a grand staircase along Willey Street with a turnstile glass door facing Spruce Street. The primary entrance to the nonresidential space (bike repair and storage area) along Willey Street faces Willey Street.			
Y	(M) Solid Waste. It appears that collection and storage of garbage is contained within the building utilizing chutes from upper residential levels. The solid waste hauler will access the dumpster by-way-of the Willey Street driveway entrance.			

EXHIBIT 2

1365.04(P) B-4 Minimum Parking Reductions	
TBD	(1) By a factor of ten (10) percent if the land use is located within 500 feet, measured from the closest edge of the building, of a parcel containing a fixed public transit stop, whether a bus, trolley, or Personal Rapid Transit (PRT) station.
	Sheet Z0.11 illustrates that the subject site is located within 500 feet of Mountain Line Transit's fixed bus stop and shelter at 400 Willey Street (Unity Manor). As such, the site qualifies to seek **conditional use** approval for a parking reduction of 10% or 17 parking spaces (173 X 0.1).
TBD	(2) By a factor of ten (10) percent if the land use is located within 500 feet, measured from the closest edge of the building, of a parcel containing 25-50 publicly owned and controlled parking spaces. If within 500 feet of a parcel containing more than 50 public parking stalls, the reduction may be a factor of fifteen (15) percent.
	Sheet Z0.11 illustrates that the subject site is located within 500 feet of Morgantown Parking Authority's publicly owned and controlled Parking Lot B (behind former *Daniel's Clothing Store*). Lot B includes approximately 75 parking spaces. As such, the site qualifies to seek **conditional use** approval for a parking reduction of 15% or 26 parking spaces (173 X 0.15).
TBD	(3) By a factor of one (1) automobile parking space for each dedicated motorcycle parking space, up to a maximum reduction of three (3) automobile parking spaces. This reduction shall not be permitted for uses that are required to provide six (6) or fewer parking stalls. Nor shall this reduction be permitted for uses that primarily sell large, bulky merchandise not typically transported via motorcycle.
	Sheet Z0.02 illustrates three (3) motorcycle parking spaces on Level 01. As such, the development qualifies to seek **conditional use** approval for a parking reduction of three (3) spaces.
TBD	(4) By a factor of one (1) automobile parking space for every three (3) bicycle parking spaces provided, up to a maximum reduction of three (3) automobile parking spaces. This reduction shall not be permitted for uses that are required to provide six (6) or fewer parking stalls. Nor shall this reduction be permitted for uses that primarily sell large, bulky merchandise not typically transported via bicycle. Required bicycle storage may not be used to reduce minimum parking requirements.
	Sheet Z0.02 illustrates 101 bicycle parking spaces on Level 01, nine (9) more storage spaces than required under Article 1349.08(C). As such, the development qualifies to seek **conditional use** approval for a parking reduction of three (3) spaces.
	The adjusted minimum parking requirement, with conditional use approval, is 173 minimum required spaces MINUS – 49 space reduction EQUALS 124 spaces.

EXHIBIT
2

1365.07(A)(2) Off-Site Parking Facilities within the B-4 District	
N/A	The BZA may grant conditional use approval to provide required parking spaces on a site that is within 500 feet of the principal use (with certain restrictions). Off-site parking does not appear to be proposed for contemplated development program.

1367 Landscaping and Screening	
TBD	Sheet 5 illustrates contemplated landscape areas. Staff understands that project's landscape design professional is researching appropriate green screen and shade tolerant shrubs and ground cover that will be identified in building permit application plans.

1369 Signs	
TBD	Tenant(s) for non-residential leasable space have not been identified yet. As such, signage planning will be reviewed separately under the standard building permit application process once nonresidential uses are identified. Variance approval must be obtained should the Signage Plan not conform to related performance standards set forth in the City's Planning and Zoning Code.

1371 Lighting	
TBD	A preliminary Lighting Plan was provided on Sheet Z0.13 of the plans reviewed herein. Said plan must be revised to include photometric layouts in footcandles for the exterior of the building. Variance approval must be obtained should the Lighting Plan not conform to related performance standards set forth in the City's Planning and Zoning Code.

SUMMARY OF REQUIRED APPROVALS

1. Requirement Planning Commission approvals:
   a. Development of Significant Impact (DSI) Site Plan.
   b. Minor Subdivision to combine Parcels 245 and 246 of Tax Map 26.
2. Required BZA approvals:
   a. Variances
      i. Article 1349.08(D) – Loading. Variance relief from providing a minimum of five (5) loading spaces.
      ii. Article 1351.01(D) – Curb Cuts. **TO BE DETERMINED**
      iii. Article 1351.01(I). Variance relief from providing desired design elements that minimize canyon effects for buildings taller than three (3) stories.

b. Conditional Use

i. Article 1365.04(P) – B-4 District Parking Reduction. Conditional use approval to reduce the minimum parking requirement from 173 spaces to 124 spaces based on proximity to a fixed bus-stop, proximity to a Morgantown Parking Authority's Lot B, motorcycle parking spaces provided, and bicycle storage spaces provided in excess of minimum requirement.

The DSI Site Plan, Variance, and Conditional Use applications were submitted to this office on 04 APR 2014 and will be accordingly advertised and included on the Planning Commission's 08 MAY 2014 and the BZA's 21 MAY 2014 respective agendas. However, additional information is required as noted under OBSERVATIONS below.

OBSERVATIONS

(1) Concerning "Curb Cut" standards provided under Article 1351.01(D), agreement on the points of tangency for the driveway flares must be achieved so that the extent of requisite variance relief, as currently designed, can be identified.

As discussed with Mr. Carl Emberger this day, modification of the driveway "flares" to meet the maximum 26-foot standard provided under Article 1351.01(D) would eliminate variance relief in terms of width and in terms of proximity to the Spruce – Willey intersection. The City Engineer's Office has agreed to model and compare the proposed design and the Article 1351.01(D) standards and advise the undersigned and the project's design professionals accordingly. However, a final decision from the project's design team is necessary on whether the presently designed driveway "flares" will be pursued or modified to conform with related standards.

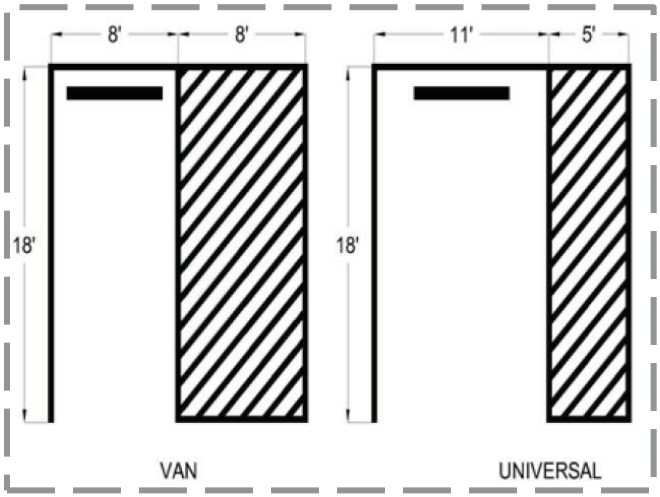
Regardless of whether the present design or modified conforming design is pursued, please submit an inset drawing or separate sheet (hard copy) to this office no later than FRI 25 APR 2014 that identifies and labels the relational dimensions and distances between "true" points of tangency and the five (5) performance standards provided under Article 1351.01(D).

(2) Sheets 3B, 4, and 5 of the drawings prepared by Alpha Associates appear to include a structural ramp and below grade parking on the P1 level. The undersigned understands that these elements are from a previous design iteration and have since been removed as illustrated on the emArchitecture drawings reviewed herein. Said Alpha Associates sheets must be revised to coincide with the emArchitecture drawings and hard copies submitted to this office no later than FRI 25 APR 2014.

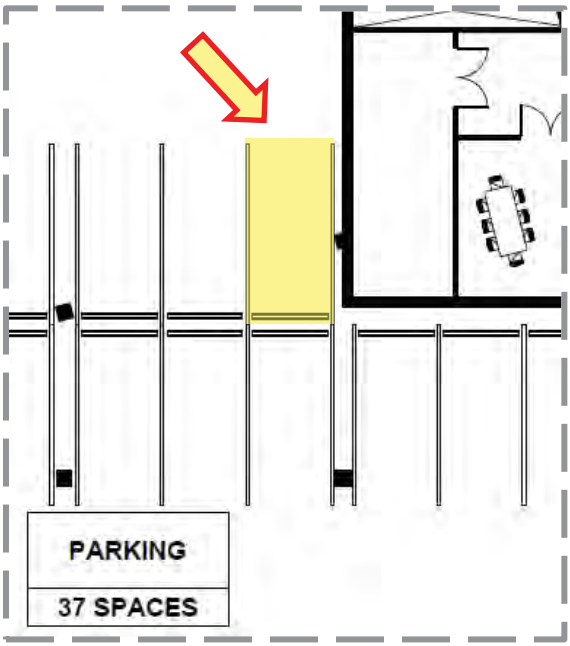
(3) The preliminary Lighting Plan provided on Sheet Z0.13 of the plans reviewed herein must be revised and hard copy submitted to this office no later than FRI 25 APR 2014 and include photometric layouts in footcandles for the exterior of the building.

(4) At least one (1) one of the accessible parking spaces must be designed as a van or universal accessible parking space. The following graphic is clipped from Article 1365.06 of the P&Z Code to illustrate the minimum performance standards for van and universal accessible parking spaces.

EXHIBIT
2

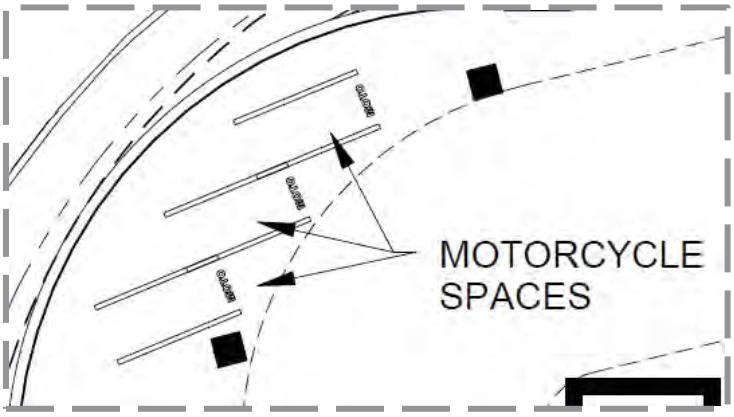


(5) The following graphic is clipped from Sheet Z0.02 illustrating a portion of the Level 01 Floor Plan. The parking space highlighted in yellow should be designed and managed as a compact space to ensure sufficient depth for maneuvering.



(6) Motorcycle design standards in Article 1329.02 provide for a minimum of four (4) feet wide and a minimum of nine (9) feet deep, which appears to have been provided on Level 01 as illustrated on Sheet Z0.02 (see clipped graphic below). However, the angles of said motorcycle parking spaces should be modified slightly to ease maneuvering for all spaces given the locations of structural columns; provided the drive aisle in not obstructed.

EXHIBIT
2



(7) 3D simulation of the building in the existing built environment will be required for presentations to the Planning Commission, and the BZA to better inform massing, scale, density, and context. Capturing taller nearby buildings (e.g., Unity Manor, WVU's Arnold Hall, Metro Property's Courtyard East and West Buildings, etc.) will be critical to visualizing scale and massing context. The electronic presentation (i.e., PowerPoint) to the Planning Commission and BZA that, which includes building renderings and 3D simulation, will become a part of the public record. As such, an electronic copy (PDF) must be provided to Planning Division the night of the respective hearings.

Please note that this P&Z Code Conformity Report will be updated prior to submission to the Planning Commission and BZA for review and consideration as an attachment to related Staff Reports. Additionally, a separate Comprehensive Plan Concurrence Report will be attached to related Staff Reports identifying how the proposed development program aligns and concurs with the land management intent, location, and pattern and character principles of the 2013 Comprehensive Plan.

Please contact the undersigned with any additional questions or further clarification of the information provided in this report. We look forward to serving your plans review and approval needs.

Prepared by: Christopher M. Fletcher

Digitally signed by Christopher M. Fletcher, AICP
Date: 2014.04.16 15:05:19 -04'00'

Christopher M. Fletcher, AICP
Director of Development Services
304-284-7431
cfletcher@cityofmorgantown.org

DOWNTOWN DESIGN REVIEW COMMITTEE

February 25, 2014
5:30 PM
Public Safety Building – Conference Room

EXHIBIT
3

Committee Members:

Bill Kawecki
Planning Commissioner

Sam Loretta
Planning Commissioner

Tom Anderson

Bob Carubia

Steve McBride

Constance Merandi

Michael Mills

Terri Cutright, Ex-Officio
Main Street Morgantown

A G E N D A

I. NEW BUSINESS

A. Campus Acquisitions: 494 Spruce Street – New Development

III. FOR THE GOOD OF THE COMMITTEE

IV. ADJOURNMENT

If you need an accommodation, please contact 304-284-7431.

Development Services
Christopher Fletcher, AICP
Director

Planning Division
389 Spruce Street
Morgantown, WV 26505
304.284.7431

DOWNTOWN DESIGN REVIEW COMMITTEE

February 25, 2014
5:30 PM
Public Safety Building – Conference Room

EXHIBIT
3

Committee Members:

Bill Kawecki
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Sam Loretta
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Bob Carubia

Steve McBride

Constance Merandi

Michael Mills

Terri Cutright, Ex-Officio
Main Street Morgantown

ATTENDENCE SHEET

NAME (PLEASE PRINT)	ADDRESS
Sam Loretta	228 Wagner Rd
Jack Cutright	Suite 2 201 High Street
bob carubia	132 Carubia Dr
Steve Bos	161 N Clark St #1900 Chicago
SCOTT ERDY	915 N. ORMANDSI ST. PHILA, PA
DAVID McHENRY	" " " "
CARL EMBERGER	" " " "
Lisa Mardis	160 Fayette Street
TOM ANDERSON	37 Tibbs Road
Bill Kawecki	324 CORBIN AVE

Development Services
Christopher Fletcher, AICP
Director

Planning Division
389 Spruce Street
Morgantown, WV 26505
304.284.7431

EXHIBIT

3

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Downtown Design Review Committee

Public Safety Building

February 25, 2014 ● 5:30PM

MEETING SUMMARY

Members Present:	Sam Loretta, Terri Cutwright, Bob Carubia, Tom Anderson, Bill Kawecki, Connie Merandi, and Michael Mills (via tele-conference)
Staff Present:	Chris Fletcher, Stacy Hollar

Development: CA Student Living – VFW Site

Developer's Respresentatives: Steven Bus, Scott Erdy, David McHenry, Carl Emberger and Lisa Mardis

- Developer's design team representatives provided a detailed PowerPoint presentation explaining and illustrating the proposed development program, site plan, elevations, renderings, etc. Cladding and window materials examples were circulated. A PDF copy of the PowerPoint presentation will be provided to the Planning Division so that it is a part of the record.

- Mr. Bus stated that CA Living will be the owner/operator and will manage the complex after delivery.

- Mr. Erdy stated that garbage and recycling facilities will be inside the building via one of the parking decks with each floor utilizing a garbage chute. Concern was expressed of how the retail tenant would access the garbage and recycling facilities.

- HVAC units to be located on the roof; below window units would not be utilized; rooftop units would be screened. Committee members wanted to see more information on how the screening would be accomplished.

- The contemplated cladding is a corrugated or standing seam gray metal material. The material was selected to provide a lighter feel that will display different shadow lines and material colors during different times of the day and season.

- A Sunlight and Air Distribution analysis is currently be done to access effect on the surrounding environment. The proposed metal material reflects sunlight differently than a brick material.

- A suggestion was made to eliminate landscaping on the Willey Street side and instead create a green wall. This would allow for a functional widening of the sidewalk from 5 feet to 8 feet. An English Ivy or similar plant material was suggested as it stays green in the winter months.

- Concern was offered that more design consideration is warranted for the southern wall

EXHIBIT
3
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that best complements and mitigates impact the adjoining future daycare playground facility.

- Committee members generally agreed that the corrugated metal and stark grey color appears to be more industrial in nature and may not compliment the characters of downtown Morgantown.

- The committee requested a follow up meeting to review plans that addressed the committee's concerns and suggestions.

DOWNTOWN DESIGN REVIEW COMMITTEE

March 25, 2014
5:30 PM
Mills Group Office Building– 206 High Street

EXHIBIT
3

Committee Members:

Bill Kawecki
Planning Commissioner

Sam Loretta
Planning Commissioner

Tom Anderson

Bob Carubia

Steve McBride

Constance Merandi

Michael Mills

Terri Cutright, Ex-Officio
Main Street Morgantown

A G E N D A

I. NEW BUSINESS: None

II. **OLD BUSINESS**

A. Campus Acquisitions: 494 Spruce Street – New Development

B. CVS Pharmacy: 496 High Street – New Development

III. FOR THE GOOD OF THE COMMITTEE

IV. ADJOURNMENT

If you need an accommodation, please contact 304-284-7431.

Development Services
Christopher Fletcher, AICP
Director

Planning Division
389 Spruce Street
Morgantown, WV 26505
304.284.7431

DOWNTOWN DESIGN REVIEW COMMITTEE

March 25, 2014
5:30 PM
Mills Group Office – 206 High Street

EXHIBIT 3

Committee Members:

Bill Kawecki
Planning Commissioner

Sam Loretta
Planning Commissioner

Tom Anderson

Bob Carubia

Steve McBride

Constance Merandi

Michael Mills

Terri Cutright, Ex-Officio
Main Street Morgantown

ATTENDENCE SHEET

NAME (PLEASE PRINT)	ADDRESS
Terri R. Cutright	27 Cedarwood Rd.
Samuel Loretta	228 Wagner Rd.
Michael Mills MICHAEL MILLS	78 LAWRENCE STREET
Sam Kawecki	324 CORUN AVE
Lisa Merandi	160 Fayette St Ste 101
Bob Carubia	Cass WV

Development Services
Christopher Fletcher, AICP
Director

Planning Division
389 Spruce Street
Morgantown, WV 26505
304.284.7431

EXHIBIT

3

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Downtown Design Review Committee

Mills Group Office
206 High Street
March 25, 2014 ● 5:30PM
MEETING SUMMARY

Members Present:	Sam Loretta, Terri Cutwright, Bob Carubia, Bill Kawecki, and Michael Mills
Staff Present:	Chris Fletcher, Stacy Hollar

Development: CA Student Living – VFW Site

Developer's Representatives: via tele-conference – Steven Bus, Scott Erdy, David McHenry, Dan McCausky, Carl Emberger; in person – Lisa Mardis

- Developer's design team representatives provided a detailed PowerPoint presentation using Go-to-Meeting teleconferencing. The team explained materiality revisions and scale of building which included an altered bedroom configuration. The plan eliminated one story from the building. The plan pulls upper floors of the building back away from the southern property line. The plan provides additional windows to soften the southern facade. Ninety-two (92) Four-bedroom units are now planned along with expanding public realm with stairs from Willey Street down to Spruce Street retail. A PDF copy of the PowerPoint presentation will be provided to the Planning Division so that it is a part of the record.

- Screening of the rooftop elevator bulkhead/penthouse and mechanical appurtenances will be provided using the material, or similar, that will be used for parking deck screening.

- A sun study was conducted that shows more sunlight and less shading with one less floor.

- A contemporary light-grey colored brick with a vertical articulation will be used for the majority of the façade. Fiber cement board will be used to accent the lower portion of the northeast façade. Accent tile will be strategically used to add color near some windows. A perforated metal material will enclose the garage façade portions.

- The sidewalk along Willey Street will be functionally expanded by approximately three (3) feet. A green-screen wall will be used along the Willey Street sidewalk for the solid walls where the bicycle storage area is. Green-screen walls will also be used for portions of the at grade level façade shared with the adjoining playground.

- Mills inquired on the transparency of the perforated material and suggested material be staggered for a more solid look and so people cannot see vehicles from the sidewalk. Mr. Erdy stated that the material will be perforated just enough to maintain ventilation

EXHIBIT

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requirements under Building and Fire Codes. The lower portions can be solid.

- Windows will have punched opening and no sills. Mills suggested adding two (2) more larger-scaled window bays with hardy board accents on both the Willey Street and Spruce Street facades.

- Loretta asked if the accent material will match the color of brick. Erdy explained the material would not match but rather used to accent with color.

- Mills inquired on the fenestration to the bike shop. Suggested using a glass material to show inside activity and provide transparency to the public given the developer's interest in establish a bicycle-related retail/service component (repair, rental, etc.) as a part of the require bicycle storage.

- Committee members felt tremendous improvements had been made in the south elevation and by reducing the structure by one (1) story.

- The development's design team noted that material samples were not available in time for this meeting. The committee requested to meet with the developer again should approval be granted by the Planning Commission and BZA so that they can review material samples.

EXHIBIT

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Memo

City of Morgantown
Department of Public Works and Engineering

To: Chris Fletcher, Director of Development Services

From: Terry Hough, Director

Subject: 494 Spruce Street Traffic Impact Study

Date: April 30, 2014

A draft Traffic Impact Study (TIS) was submitted to this office along with the West Virginia Division of Highways (WVDOH) regarding the proposed residential development located at 494 Spruce Street. This study was sent to WVDOH as the development fronts, and requires access onto, two State routes.

The draft was submitted for comments from both the City of Morgantown and the WVDOH with regards to the methodology used in determining the trips to be generated by the project. The actual impacts, with respect to queuing lengths, level of service, and other issues were not discussed within the report. This discussion will occur once the engineering consultant has received comments from both the City and WVDOH. This department had only minor comments regarding the trip generation information and subsequent assumptions that were made. It is anticipated that WVDOH will also have only minor comments regarding the approach used by the engineering consultant regarding trip generation.

The WVDOH requires an executed agreement from the developer prior to the final review of a TIS and approval for access onto the State's rights-of-way. As of this date, that has not occurred. WVDOH has had conversations with the developer regarding this issue and it is anticipated that an agreement will be forth coming within the next few days. Once this has occurred, then DOH is prepared to offer comments to allow for the study to proceed determining what traffic impacts the development will have with respect to the surrounding roadways and intersections. Once the completed TIS has been submitted, to both the City and WVDOH, then both entities will submit final comments. This will take approximately 3-4 weeks upon submittal of the report.

Site plans will also be required to be submitted to WVDOH for their approval to make certain that any access points onto the State's rights-of-way are in compliance with their engineering standards. Again, the executed agreement between WVDOH and the developer will be addressing this issue. This office has been, and will continue to be, in conversations with the WVDOH to make certain that any changes that WVDOH requests/requires to any of the site plans also meet with the City's requirements.

This office will continue to keep you informed on any additional information that is received regarding his ongoing project.

EXHIBIT

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Memo

City of Morgantown
Department of Public Works and Engineering

To: Chris Fletcher, Director of Development Services

From: Terry Hough, Director

Subject: 494 Spruce Street
Access Site Distance

Date: May 1, 2014

This memo is to address the site distance for the proposed development located at 494 Spruce Street. There are two access drives proposed, one located on Spruce Street and one on Willey St. The driveway on Spruce St. is a right-in, right-out only due to the one-way configuration of Spruce Street. The driveway on Willey St. is a right-in, right-out, left-in configuration.

Assumptions:

The site distance evaluation is based upon the following assumptions:

1. The driver is located ten (10) feet behind the curb line of the roadway.
2. The driver is located approximately three (3) feet above the proposed ground elevation.
3. The driver is located approximately seven (7) feet in from the edge of the driveway exiting the site.
4. The traveling speed of oncoming traffic is 25 mph.
5. The driver must be able to see 150 feet of the oncoming traffic lane(s) in order to give oncoming traffic sufficient braking time to stop for the emerging vehicle.

Spruce Street Access:

Using the aforementioned assumptions and the proposed site plan design for the driveway access onto Spruce St. there will be sufficient site clearance for access onto Spruce St. There is a support post that is located on the South side of the driveway which may block some of the view. However, given the size of the post, the blockage would be no more problematic than a utility pole.

Willey Street Access:

Using the aforementioned assumptions and the proposed site plan design for the driveway access onto Willey St. there are concerns whether or not there is sufficient site distance for

EXHIBIT

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access onto Willey St. Given the proposed location of building walls and exterior stairs along Willey St., the driver may have to proceed closer to the roadway in order to see oncoming traffic. This may put the front of the vehicle further into what would be the extension of the sidewalk and may thereby impede some of the pedestrian flow. However, there should be sufficient room to allow for the vehicle to enter the roadway without placing the vehicle prematurely within oncoming traffic. From a strictly site plan perspective, the easiest solution to remedy this would be to set the building back from the property line an additional three (3) feet along Willey St.

Once again, this analysis was based on the assumptions presented. If you have any questions or need any additional information regarding this, please do not hesitate to contact me.

City of Morgantown, West Virginia

APPLICATION FOR TYPE III SITE PLAN REVIEW

OFFICE USE	
CASE NO.	S14-01-III
RECEIVED:	1/7/14
COMPLETE:	

The Morgantown Planning Commission is responsible for approving Type III Site Plan Review Applications. There are two categories of Type III Site Plans Review Applications, 1) Developments of Significant Impact and 2) Major Developments of Significant Impact. Please check the category that best describes your proposed development:

UM ☑ Developments of Significant Impact (DSI):

- Residential Projects:.....12 to 99 dwelling units
- Commercial Projects: .....15,000 square feet of gross floor area
- Office / Institution Projects:....15,000 square feet of gross floor area
- Industrial Projects.....0 square feet to 99,999 square feet of gross floor area
- Mixed Use Projects .....15,000 square feet of gross floor area

UM ☒ Major Developments of Significant Impact (Major DSI):

- Residential Projects:.....100 or dwelling units
- Commercial Projects: .....100,000 or more square feet of gross floor area
- Office / Institution Projects:....100,000 or more square feet of gross floor area
- Industrial Projects.....100,000 or more square feet of gross floor area
- Mixed Use Projects .....100,000 or more square feet of gross floor area

(PLEASE TYPE OR PRINT IN BLACK INK)

I. APPLICANT			
Name:	Campus Acquisitions / CA student living	Phone:	312-994-1871
Mailing Address:	161 N. Clark Suite 4900 (Street)	Mobile:	312-590-9700
	Chicago (City) IL (State) 60601 (Zip)	Email:	sbus@ca-ventures.com

II. AGENT / CONTACT INFORMATION			
Name:	Project Management Services / Lisa Mardis	Phone:	304-212-5256
Mailing Address:	160 Fayette Street Suite 101 (Street)	Mobile:	304-692-7116
	Morgantown (City) WV (State) 26505 (Zip)	Email:	pms160@comcast.net
Mailings –	Send all correspondence to (check one): ☐ Applicant OR ☑ Agent/Contact		

III. PROPERTY			
Owner:	VFW Post #548	Phone:	304-292-3927
Mailing Address:	494 Spruce Street (Street)	Mobile:	
	Morgantown (City) WV (State) 26505 (Zip)	Email:	

City of Morgantown, West Virginia

APPLICATION FOR TYPE III SITE PLAN REVIEW

OFFICE USE	
CASE NO.	S14-01-III
RECEIVED:	
COMPLETE:	

IV. SITE

Street Address (if assigned):	494 Spruce Street	Zoning:	B-4
Tax Map(s) #:	26	Parcel(s) #:	245 & 246
Existing Use of Structure or Land:	Fraternal Orgization		
Proposed Use of Structure of Land:	Mixed Use		

V. STRUCTURE

Proposed Setbacks: Front: 0-10 ft. Rear: 22'6" ft. Side A: ft. Side B: ft.

Proposed Height of Structure: ~~120'~~ 118' UM No. of Proposed Off-Street Parking Spaces: 124

No. of Dwelling Units (if applicable): 92 No. of Bedrooms: 368 No. of Employees: TBD

Square Footage of all Proposed Structures (please explain):

VI. SITE PLAN REQUIREMENTS

All applications for Type III Site Plan Review must be accompanied by complete and accurate site plan exhibits that meet the requirements set forth in Article 510.08 of the Zoning Ordinance and provided herein as:

Addendum A.....Developments of Significant Impact

Addendum B.....Major Developments of Significant Impact

IX. ATTEST

I hereby certify that I am the owner of record of the named property, or that this application is authorized by the owner of record and that I have been authorized by the owner to make this application as his/her authorized agent and I agree to conform to all applicable laws of this jurisdiction. I certify that the information submitted herein and attached hereto is true and accurate and understand that if found otherwise may result in the denial of this request or subsequent revocation of any and all related approvals. The undersigned has the power to authorize and does hereby authorize City of Morgantown representatives on official business to enter the subject property as necessary to process the application and enforce related approvals and conditions.

Lisa Mardis	Lisa Mardis	01/07/2014
Type/Print Name of Applicant/Agent	Signature of Applicant/Agent	Date

- **Applicants will be advised of the Technical Review Committee meeting date/time.**
- **Site Plan Review Fee – $75 for first $200,000 in construction costs; $10 for each additional $100,000**

S14-01-III

City of Morgantown, West Virginia

TYPE III SITE PLAN REVIEW ADDENDUM A

DEVELOPMENTS OF SIGNIFICANT IMPACT

Developments of Significant Impact are those that have a citywide impact. Such impacts would typically involve the transportation network, environmental features such as parks or stream corridor, and local schools.

(1) All applications for a Development of Significant Impact shall be accompanied by the following:

(a) A site plan (14 copies), drawn to scale, that includes the following for the use of the Planning Director:

(i) The actual dimensions, size, square footage, and shape of the lot to be built upon as shown on an actual survey by a licensed land surveyor or registered design professional licensed by the State of West Virginia and as authorized by West Virginia State law, said survey to be provided by the applicant.

(ii) The exact sizes and locations on the lot of existing structures, if any.

(iii) The location, square footage, and dimensions of the proposed structure or alteration.

(iv) The location of the lot with respect to adjacent rights-of-way.

(v) The existing and proposed uses of the structure and land.

(vi) The number of employees, families, housekeeping units, bedrooms, or rental units the structure is designed to accommodate.

(vii) The location and dimensions of off-street parking and means of ingress and egress for such space.

(viii) Height of structure;

(ix) Setbacks;

(x) Buffer yard and screening, if applicable;

(xi) Location of garbage collection area and screening;

(xii) Location of sign;

(xiii) Layout of all internal roadways;

(xiv) Location of stormwater management facilities;

(xv) Utility lines and easements; and

(xvi) Signature of applicant.

(b) Grading plans and drainage plans and calculations are not required for Planning Commission site plan review, but shall be required prior to issuance of any building permits. Such plans shall be prepared by a registered design professional licensed by the State of West Virginia, and as authorized by West Virginia State law; and shall also meet all applicable local, state and federal regulations.

(c) Parking plan

(d) Landscaping plan

(e) Sign plan

(f) Approved WV Division of Highways Access Permit, if applicable

(g) Any other such information concerning the lot or neighboring lots as may be required by the Planning Director to determine conformance with, and provide for the enforcement of, this ordinance; where deemed necessary, the Planning Director may require that in

S14-01-III

the case of accessory structures or minor additions, all dimensions shown on plans relating to the size of the lot and the location of the structure(s) thereon be based on an actual survey by a registered land surveyor or registered design professional licensed by the State of West Virginia and as authorized by West Virginia State law, said survey to be provided by the applicant.

(3) The Planning Director may require that the lot and location of the building(s) thereon shall be staked out on the ground before construction.

(4) For uses which, in the opinion of the City Engineer, may create excessive negative traffic impacts on dedicated City streets in the immediate vicinity that serve the use, the City may require an analysis of the proposed development's impact on current or future traffic flows, at the developer's expense, prepared by a qualified professional engineer. The Planning Commission may also table consideration of a development and refer such development to the City Engineer to ask his or her opinion as to whether a traffic study may be warranted. If the study indicates that the projected traffic impact of the use would result in a two (2) full letter grade decline in the existing Level of Service (e.g., going from a Level of Service B to a Level of Service D) of any dedicated City street directly serving the use, such finding *may* be considered sufficient grounds for denial of the project, or a requirement that sufficient improvements be made to said streets, at the developer's expense, or that the project be reduced in size and scope to the point where no such negative impact on the Level of Service results. Level of Service refers to the traffic grading system described in the latest edition of the Highway Capacity Manual, published by the Transportation Research Board.

(5) Site plans approved by the Planning Commission authorize only the use, arrangement, and construction set forth in such approved site plans and no other use, arrangement or construction. Furthermore, the approval of a site plan shall not be construed to be approval of any violation of the provisions of this ordinance. The issuance of a building permit based upon site plans given approval by the Planning Commission shall not prevent the Planning Director from thereafter requiring the correction of errors in said site plans or from preventing operations from being carried on thereunder when in violation with this ordinance. Site plan approval does not eliminate the need to obtain an approved building permit and the applicant's responsibility to meet all other requirements established by local, state and federal regulations.

(6) One copy of the site plan submitted for a permit to the Planning Department shall be returned to the applicant after the Planning Director has marked such copy as either approved or disapproved as to the provisions of this ordinance and attested to same by his signature on such copy. The original, similarly marked, shall be retained by the Planning Director.

I hereby certify that I have read the site plan submission requirements provided herein and understand that failure to submit said exhibits constitutes an incomplete application which will result in application review delays.

Lisa Mardis	Lisa Mardis	1/7/14
Type/Print Name of Applicant/Agent	Signature of Applicant/Agent	Date

S14-01-III

City of Morgantown, West Virginia

TYPE III SITE PLAN REVIEW ADDENDUM B

MAJOR DEVELOPMENTS OF SIGNIFICANT IMPACT

The review process for all **Major Developments of Significant Impact** shall be identical to that for Developments of Significant Impact, except as otherwise noted in the plan submission requirements listed below.

Major Developments of Significant Impact are those that are of such scope and scale that they have an impact on the region in terms of the transportation network, the environment, the schools, etc. Such projects could include regional shopping centers and large scale residential developments. **All** applications for a **Major Development of Significant Impact** shall be accompanied by a site plan submitted under the seal and signature of a registered design professional licensed by the State of West Virginia and as authorized by West Virginia State law. All sheets shall be 24" x 36" size drawn to scale at a minimum 1"=50' and a maximum 1"=10' with the exception of the maps on Sheet One, unless otherwise approved by the City Engineer. Eighteen (18) copies of the site plans shall be submitted for review and shall observe the following format:

(1) Sheet One (Title Sheet)

The following information shall be submitted as part of Sheet One:

(a) Full legal description with sufficient reference to section corners and boundary map of the subject project, including appropriate benchmark references;

(b) Name of the project;

(c) Name and address of the owner, developer, and person who prepared the plans;

(d) Total acreage within the project and the number of residential dwelling units or the gross square footage of non-residential buildings whichever is applicable;

(e) Existing zoning of the subject land and all adjacent lands;

(f) Boundary lines of adjacent tracts of land, showing owners of record;

(g) A key or vicinity map at a scale of one inch equals four hundred feet or less, showing the boundaries of the proposed project and covering the general area within which it is to be located;

(h) A statement of the proposed uses, stating the type and size of residential and non-residential buildings, and the type of business, commercial or industry, so as to reveal the effect of the project on traffic, fire hazards, or congestion of population;

(i) Any existing or proposed covenants and restrictions affecting property owners and/or homeowners associations; and

(j) Statement of proposed starting and completion dates for the project, including any proposed phasing and sequencing.

(2) Sheet Two (Existing Site Conditions)

The following information shall be submitted as part of Sheet Two:

(a) Location, widths, and type of construction of all existing streets, street names, alleys, or other public ways and easements, street classifications as per the approved regional transportation plan, railroad and utility rights-of-way or easements, parks, wooded areas, cemeteries, watercourses, drainage ditches, designated wetlands, low areas subject to

flooding, permanent buildings, bridges, and other data considered pertinent by the Planning Commission or the Planning Director for the subject land, and within three hundred (300) feet of the proposed project;

(b) Existing water mains, fire hydrants, storm sewers, sanitary sewers, culverts, bridges, and other utility structures or facilities within, adjacent to, or serving the subject land, including pipe sizes, grades, and exact locations, as can best be obtained from public or private records;

(c) Existing contours based in U.S.G.S. datum with intervals of not more than two (2) feet. Elevations shall be based on sea level datum; and

(d) The water elevation at the date of the survey of rivers, lakes, streams, or designated wetlands within the project or affecting it, as well as the approximate high and low water elevation of such rivers, lakes, streams, or designated wetlands. The plan shall also show the boundary line of the regulatory 100-year flood. The plan shall also show the base flood elevation of the regulatory 100-year flood at any building location along with the elevation of the lowest finished floor. All elevations shall be based on sea level datum;

(3) Sheet Three (Proposed Site Conditions)

The following information shall be submitted as part of Sheet Three:

(a) Location, widths, and type of construction of all existing and proposed streets, street names, alleys, or other public ways and easements, railroad and utility rights-of-way or easements, parks, wooded areas, cemeteries, watercourses, drainage ditches, designated wetlands, low areas subject to flooding, permanent buildings, bridges, and other data considered pertinent by the Planning Commission or the Planning Director for the subject land, and within three hundred (300) feet of the proposed project;

(b) Existing and proposed water mains, fire hydrants, storm sewers, sanitary sewers, culverts, bridges, and other utility structures or facilities within, adjacent to, or serving the subject land, including pipe sizes, grades, and exact locations, as can best be obtained from public or private records;

(c) Building setback lines, showing dimensions;

(d) Full description and details, including engineering calculations, for provision of storm water drainage plans and facilities, as required by the City's stormwater management ordinance;

(e) Internal and perimeter sidewalk system/pedestrian circulation plan; and

(f) Proposed contours with intervals of not more than two (2) feet. The plan shall also show the contour line for the floodway fringe boundary.

(g) Show the location and detail plans for all trash dumpsters.

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(4) Sheet Four (Erosion Control Plan)

The following information shall be submitted as part of Sheet Four and shall be reviewed prior to issuance of a building permit:

(a) Location, widths, and type of construction of all existing and proposed streets, street names, alleys, or other public ways and easements, railroad and utility rights-of-way or easements, parks, wooded areas, cemeteries, watercourses, drainage ditches, designated wetlands, low areas subject to flooding, permanent buildings, bridges, and other data considered pertinent by the Planning Commission or the Planning Director for the subject land, and within three hundred (300) feet of the proposed project;

(b) Proposed contours with intervals of not more than two (2) feet.

(c) Details of terrain and area drainage, including the identity and location of watercourses, intermittent and perennial streams, receiving waters, and springs, and the total acreage of land that will be disturbed.

(d) The direction of drainage flow and the approximate grade of all existing or proposed streets.

(e) Detailed plans and locations of all surface and subsurface drainage devices, walls, dams, sediment basins, storage reservoirs, and other protective devices to be constructed with, or as part of, the proposed project, together with a map showing drainage area, the complete drainage network, including outfall lines and natural drainage ways which may be affected by the proposed development, and the estimated runoff of the area served by the drains.

(f) A description of the methods to be employed in disposing of soil and other material that is removed from the grading site, including the location of the disposal site.

(g) Measures for soil erosion and sediment control which must meet of exceed the methods and standards adopted by the West Virginia Department of Natural Resources and/or set forth in the West Virginia Handbook For Erosion Control in Developing Areas and which must comply with the design principles, performance standards, and requirements set forth in this chapter.

(h) A schedule of the sequence of installation of planned erosion and sediment control measures as related to the progress of the project, including the total area of soil surface that is to be disturbed during each stage, the anticipated starting and completion dates, and a schedule for the maintenance of such measures.

(i) Include the following notes on the sheet:

  (i) "All erosion control practices shall be in accordance with the WVDNR "West Virginia Handbook For Erosion Control In Developing Areas" dated October 1992 and the SCS "Field Office Technical Guide."

  (ii) "The City Engineer has the right to require additional erosion control measures in the field as conditions warrant."

(j) Copies of the letter of intent and response from the Monongalia County Soil and Water Conservation District office for compliance, when required.

(k) Any other information reasonably required by the Planning Commission or Planning Director to properly evaluate the plan.

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City of Morgantown, West Virginia

TYPE III SITE PLAN REVIEW ADDENDUM B

MAJOR DEVELOPMENTS OF SIGNIFICANT IMPACT

(5) Sheet Five (Landscape Plan)

A landscape plan prepared to the standards specified in this zoning ordinance.

(6) Sheet Six (Plat-like dedication sheet, if necessary)

The following information shall be submitted as part of Sheet Five if a plat-like dedication document for easements and rights-of-way is deemed necessary by the Planning Commission or its authorized designee:

(a) Parcels of land proposed to be dedicated or reserved for public use, or reserved for common use of all property owners within the project, with the proposed conditions and maintenance requirements, if any, shall be designated as such and clearly labeled on the plans;

(i) Radii, internal angles, points of curvature; tangent bearings and lengths of all arcs, chord, and chord bearings; and

(ii) Accurate location of all survey monuments erected, corners and other points established in the field in their proper places.

(7) All sheets shall contain the following information:

(a) The proposed name by which the project shall be legally and commonly known;

(b) Date of survey, scale, and north point;

(c) All lots or outlots intended for sale or lease shall be designated with boundary lines and numbered or labeled for identification purposes;

(d) Private parks, common areas, or excluded parcels shall be designated as such and clearly labeled on the plans;

(e) A traffic impact study, if required by the City Engineer;

(f) Such other information as may be deemed necessary for proper review of the site plan by the Planning Director, City Engineer, or Planning Commission;

(g) All necessary reference points tying the subject property to the appropriate section corners;

(h) Each sheet shall be sealed and signed by the professional preparing the drawings;

(i) All sheets shall be tied to state plane coordinates for horizontal and vertical controls;

(j) Names and addresses of the parties within 200 feet of the property; and,

(k) The applicant must provide self-addressed stamped envelopes in sufficient quantities to provide notification to the parties identified in the item above. Return address is not required.

I hereby certify that I have read the site plan submission requirements provided herein and understand that failure to submit said exhibits constitutes an incomplete application which will result in application review delays.

Lisa Mardis	Lisa Mardis	1/7/14
Type/Print Name of Applicant/Agent	Signature of Applicant/Agent	Date

494 Spruce Street / CA Student Living

- 494 Spruce Street
- Subject Site
- Located on the corner of Willey and Spruce Streets
- Dated underutilized building

- Subject site
- Spruce Street front-age
- Entrance off of Willey for First Presbyterian no longer exists.

- Subject Site
- Willey Street side

- 494 Spruce Street
- Corner of Willey and Spruce Streets

- 494 Spruce Street
- Building and parking area

- Willey Street
- Unity Manor in the background is currently a 10-story building

Property located directly across Spruce Street from subject site.

- Unity Manor
- Located on Willey Street
- 10 story building

- Arnold Hall
- Located on Willey Street
- 10 Story Building

- Water Commission Building
- High Street
- 8 story building

- Citizen's Bank Building
- High Street
- 7 Stories

- Monongalia Building
- High Street
- 8 Stories

- Hotel Morgan
- High Street
- 8 Stories

- Located at the corner of Spruce Street and Forest Avenue
- Buildings with little to no rear setback and full lot coverage

Examples of no rear setback and full lot coverage

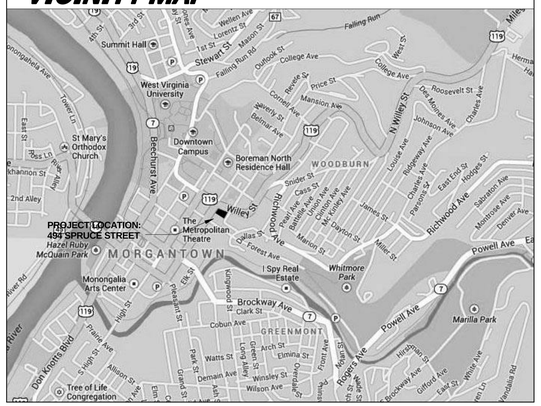
SYMBOLS

ROOM / 000	ROOM NAME ROOM NUMBER
ROOM / 000	ROOM NAME ROOM NUMBER ROOM WALL FINISH, UNO ROOM BASE FINISH, UNO ROOM FLOOR FINISH, UNO
00 0000 01	PROJECT KEYNOTE (BASED ON CSI FORMAT)
A1 1 A	PARTITION TYPE TAG
000X / XX.00	DOOR NUMBER HARDWARE SET DOOR GROUP
	WINDOW TAG
L0	LOUVER TAG
	WORK POINT / DATUM

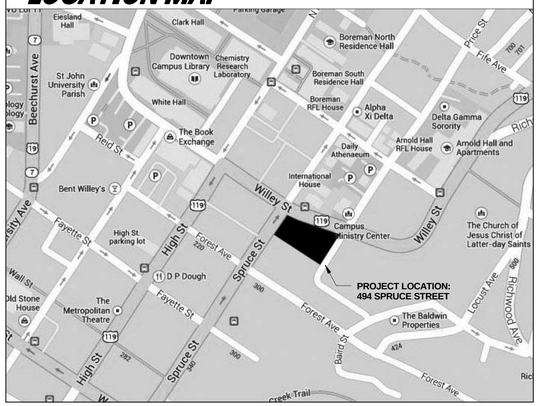
MATERIALS

EXISTING
METAL
COMPACTED EARTH/FILL
GYPSUM WALL BOARD
GRAVEL
RIGID INSULATION
CONCRETE
BATT INSULATION
CONCRETE MASONRY UNIT
CONTINUOUS BLOCKING
STONE
DISCONTINUOUS BLOCKING
BRICK
PLYWOOD
GROUT
FINISH WOOD

VICINITY MAP



LOCATION MAP



DRAWING INDEX

Sheet No.	Sheet Name
ARCHITECTURAL	
Z0.01	Cover Sheet
Z0.02	Ground Floor Plans - Levels P1-01
Z0.03	Residential Floor Plans - Levels 02-09
Z0.04	Building Elevations
Z0.11	Perspectives & Site Proximities
Z0.12	Sun Studies
Z0.13	Lighting Plans
CIVIL	
SHEET 1	TITLE SHEET
SHEET 2	EXISTING CONDITIONS
SHEET 3A	DEMOLITION PLAN
SHEET 3B	PROPOSED SITE CONDITIONS
SHEET 4	EROSION CONTROL PLAN
SHEET 5	LANDSCAPE PLAN

Drawing Issue	Date
PC/BZA SUBMISSION	2014-04-04

PLANNING AND ZONING CODE ANALYSIS SUMMARY

	Reference	Permitted/Required	Actual/Proposed		Comments
ZONING DISTRICT	Official Zoning Map 1331.01 (A)	B-4 General Business			
PERMITTED LAND USES	TABLE 1331.05.01	Dwelling, Mixed Use	**Mixed Use – Residential and Retail**		
	1331.06 (26) (a)	The commercial or office space shall not be less than 20 percent and not more than 60 percent of the ground floor area.	**Ground Floor Area** **Commercial or Office Space**	**13,870 SF** **7,104 SF**	
LOT PROVISIONS	1349.03 (D)	Maximum lot coverage = 90% (Lot Area = 27,459 SF)	**Lot Coverage**	**86.5% (23,763 SF)**	
SETBACKS AND ENCROACHMENTS	1349.04 (A) (1)	No minimum front or street side building setback is required.	**Min Front Setback**	**00'-0"**	
	1349.04 (A) (2)	The maximum front and street side building setback may not exceed the average front yard depth of the nearest two (2) lots on either side of the subject lot or 10 feet, whichever is less.	**Max Front Setback**	**10'-0"**	
	1349.04 (A) (4)	No interior side setbacks are required for the first floor.	**Min Side Setback**	**00'-0"**	
	1349.04 (A) (5)	The minimum rear setback shall be ten percent (10%) of the lot depth or ten (10) feet, whichever is greater.	**Spruce Street Front**	**22'-6"** (East Side)	
BUILDING HEIGHT	1349.05 (B)	The maximum height of a principal structure shall not exceed 120 feet.	**Building Height**	**110'-0"**	Average Grade = 935 FT, Building Height = 1045 FT
FLOOR AREA RATIO (FAR)	1349.06	The maximum FAR for all development in this district is 7.0. Area designed, constructed, and utilized to provide parking structure facilities shall be exempt from the maximum FAR, provided such area does not exceed 115% of the minimum parking requirement. (Lot Area = 27,459 SF; Allowable Floor Area = 192,213 SF)	**Total Floor Area**	**163,619 SF**	
LOT AREA PER DWELLING UNIT	1349.07	The minimum lot area per dwelling unit in this district is 300 square feet. (Lot Area = 27,459 SF; Allowable Number of Units = 92)	**Number of Units**	**92**	
SAFETY AND VISION	1363.02	Clear vision triangle of the area of the lot twenty-five (25) feet along the property line from the street right-of-way at intersections.			
PARKING AND LOADING STANDARDS	1349.08 (A) (1) Table 1365.04.01	Residential: Parking shall not be required for the first twenty-two (22) occupants. With the exception of the first twenty-two (22) occupants, the minimum number of parking spaces for permitted residential uses shall be one-half a space (0.5) per occupant, as determined by the West Virginia State Building Code and adopted and implemented by the City. Required Residential Parking = 173 Spaces	**Parking Provided**	**124**	Based on 368 Bed Count
	1365.04 (P) (1)	Public transit stop reduction (10%) or 17 Spaces			
	1365.04 (P) (2)	Public parking reduction (15%) or 26 Spaces			
	1365.04 (P) (3)	Motorcycle parking reduction (3 space Maximum)			
	1365.04 (P) (4)	Bicycle parking reduction (3 space Maximum)			
	1349.08 (A) (1)	Bicycle Storage: One (1) indoor, secured, sheltered bicycle storage space per dwelling unit.	**Bicycle Spaces Provided**	**101**	
PERFORMANCE STANDARDS	1351.101 (J) (2) (b)	All nonresidential floor space provided on the ground floor of a mixed-use building must contain at least 20 percent of the lot area on lots with 50 feet of street frontage or more. (Lot Area = 27,459 SF; Minimum Area = 5,492 SF)	**Ground Floor Area** **Nonresidential Space**	**27,459 SF** **7,104 SF**	
	1351.101 (K) (1)	Transparency: Min (60%) of the streetfacing building façade between 3'-0" and 8'-0".	**Transparency**	**65%**	
LOADING REQUIREMENTS	1365.10 (b)	For local pick-up and delivery trucks: 12 '-0" w x 30'-0" l with 45'-0" maneuvering apron 12'-0" h clearance.	**Loading Spaces Provided**	**0**	Owner-Developer furnishes the residential units provided and so heavy loading requirements are not anticpated for residential levels.
	Table 1365.10.01	Type II: 1 for each 20,000 above 100,000 5 Loading Spaces Required			

UNIT MIX & GSF SUMMARY

UNIT TYPES

Level	4 x 4	4 x 2	3 x 2	2 x 2	1 x 1	Studio	Units / Floor	Beds / Floor
Level 09	9	3	0	0	0	0	12	48
Level 08	9	3	0	0	0	0	12	48
Level 07	9	3	0	0	0	0	12	48
Level 06	9	3	0	0	0	0	12	48
Level 05	9	3	0	0	0	0	12	48
Level 04	9	3	0	0	0	0	12	48
Level 03	9	3	0	0	0	0	12	48
Level 02	6	2	0	0	0	0	8	32
	69	23	0	0	0	0	92	368
%	75%	25%	0%	0%	0%	0%		
AREA	1,243 SF	1,243 SF						

RESIDENTIAL		NONRESI.	PARKING	TOTALS
Level 09	18,262 SF			18,262 SF
Level 08	18,262 SF			18,262 SF
Level 07	18,262 SF			18,262 SF
Level 06	18,262 SF			18,262 SF
Level 05	18,262 SF			18,262 SF
Level 04	18,262 SF			18,262 SF
Level 03	18,262 SF			18,262 SF
Level 02	16,822 SF			21,842 SF
Level 01	2,409 SF	2,197 SF	15,389 SF	19,996 SF
Level P2	1,960 SF	1,670 SF	17,699 SF	21,329 SF
Level P1	2,468 SF	3,237 SF	15,914 SF	21,618 SF
	151,496 SF	7,104 SF	49,001 SF	

TOTAL GROSS AREA	212,620 SF
TOTAL GROSS AREA (excluding parking, FAR = 5.96)	163,619 SF

PARKING

Size	Count	Comments
Level 01		
UNIVERSAL SPACE	1	
Parking Space_8'-6"x18'-0"	31	
Parking Space_8'-0"x15'-0"	5	Compact Parking Spaces
Parking Space_4'-0"x9'-0"	3	Motorcycle Parking Spaces
Level P2		
Parking Space_8'-6"x18'-0"_Option	2	Optional Parking Spaces
Parking Space_8'-6"x18'-0"	45	
Parking Space_8'-0"x15'-0"	1	Compact Parking Spaces
Level P1		
Parking Space_8'-6"x18'-0"	38	
Parking Space_8'-0"x15'-0"	3	Compact Parking Spaces
	124	
	129	With Optional Parking Spaces & Motorcycle Spaces

BICYCLE STORAGE

Type	Count	Comments
Bike Storage Space Saver Double Sided	64	
Bike Storage Space Saver Wall Mounted	37	
	101	Incudes 9 Spaces for Parking Reduction

494 Spruce Street
Morgantown, WV

Client:

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161 N Clark Suite 2050
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312-994-1874

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DAVID McHENRY, AIA LIC. # NO-4615
REGISTERED ARCHITECT - STATE OF WEST VIRGINIA

Architect: SCOTT A. ERDY, AIA
DAVID S. MCHENRY, AIA

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Cover Sheet

SCALE: 1/4" = 1'-0"	DATE: 04/04/2014
DRAWN BY: BA / CE	PROJECT NO: 1149.00
DRAWING NUMBER:	

494 Spruce Street

NOT FOR CONSTRUCTION

Z0.01

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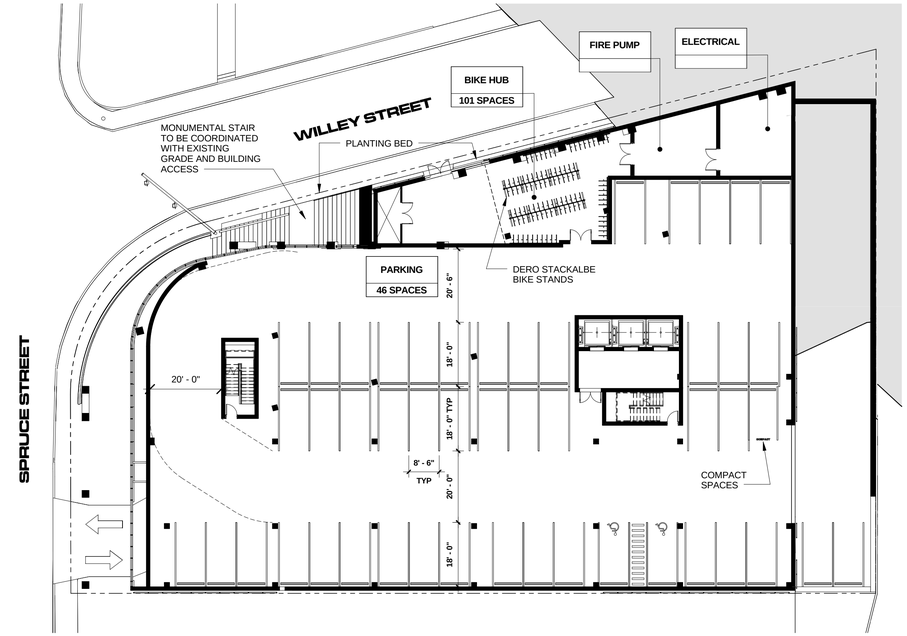
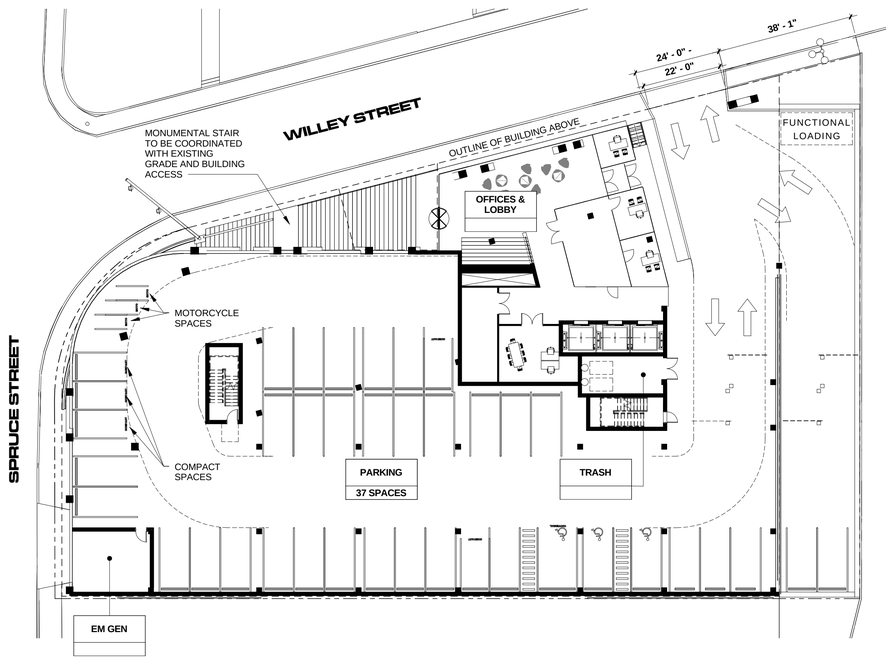
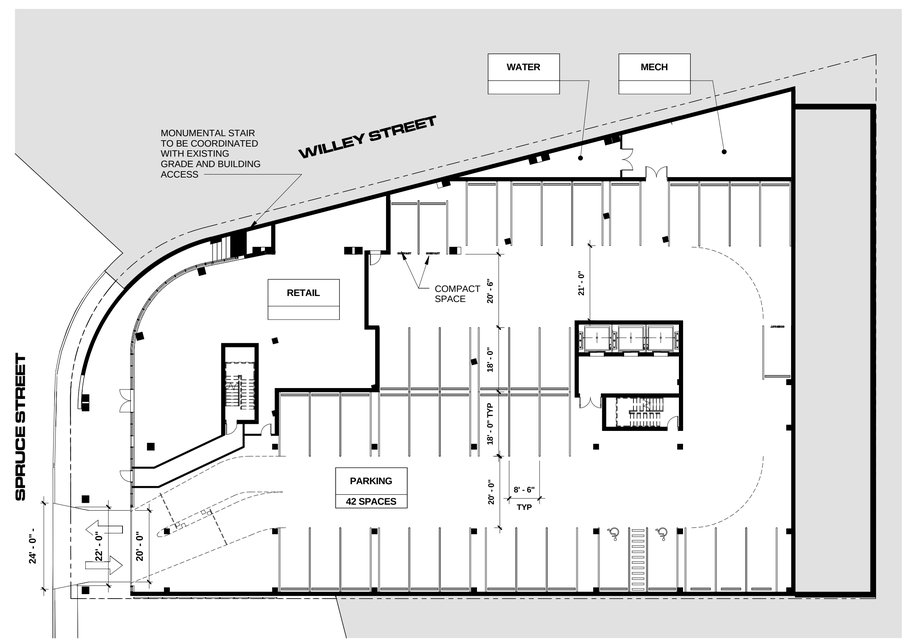


2 Level P2 Floor Plan
Scale: 1" = 20'-0"



3 Level 01 Floor Plan
Scale: 1" = 20'-0"



1 Level P1 Floor Plan
Scale: 1" = 20'-0"

Drawing Issue	Date
PC/BZA SUBMISSION	2014-04-04
PC/BZA SUBMISSION REVISIONS	2014-04-25

494 Spruce Street
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DAVID McHENRY, AIA LIC. # NO-4615
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Ground Floor Plans - Levels P1-01

SCALE:	DATE:
1" = 20'-0"	04/04/2014
DRAWN BY: BA / CE	PROJECT NO: 1149.00

DRAWING NUMBER:

Z0.02

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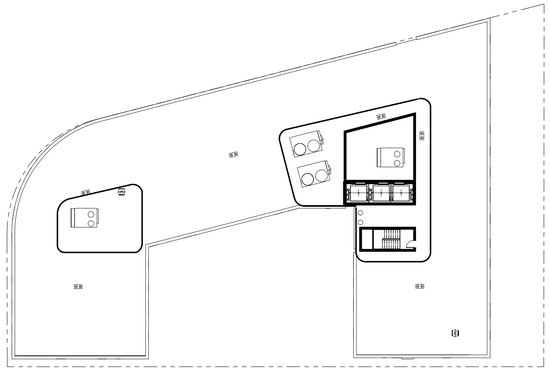
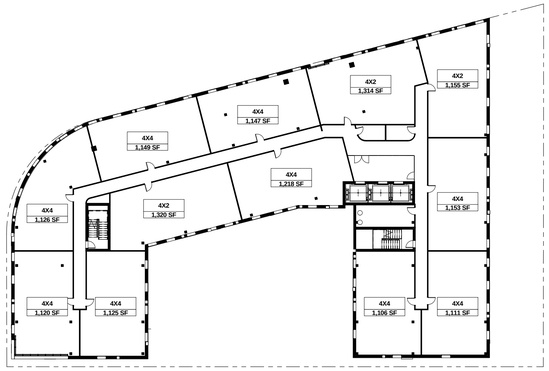


8 Roof Plan
Scale: 1" = 30'-0"



5 Level 07 Floor Plan
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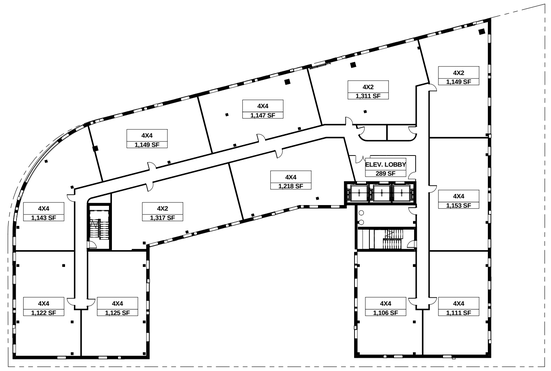
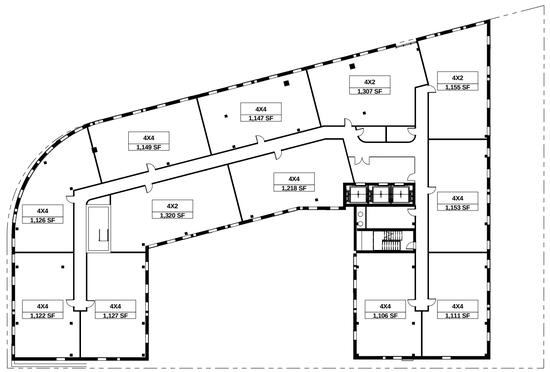
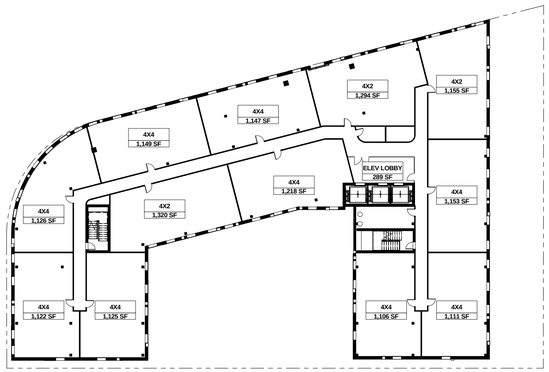


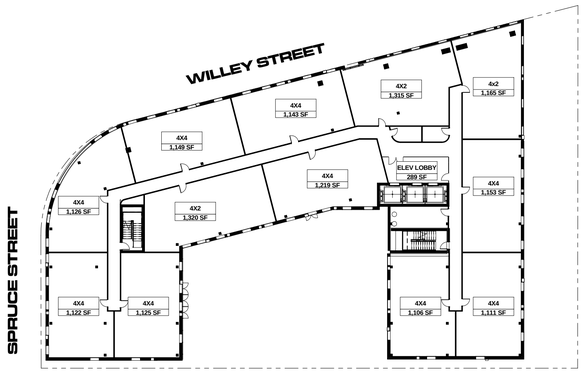
2 Level 04 Floor Plan
Scale: 1" = 30'-0"



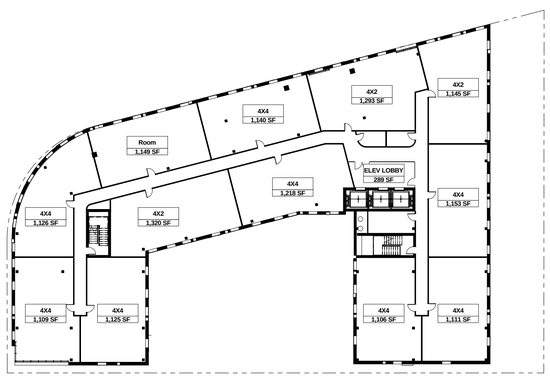
7 Level 09 Floor Plan
Scale: 1" = 30'-0"



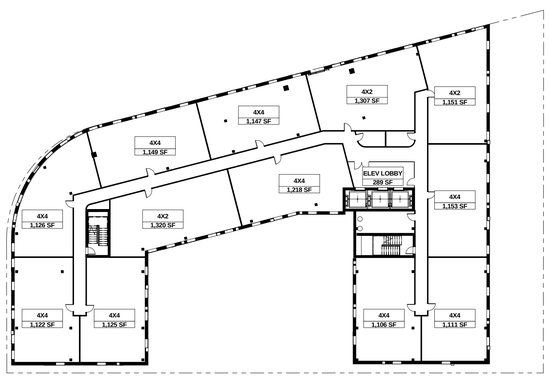
4 Level 06 Floor Plan
Scale: 1" = 30'-0"



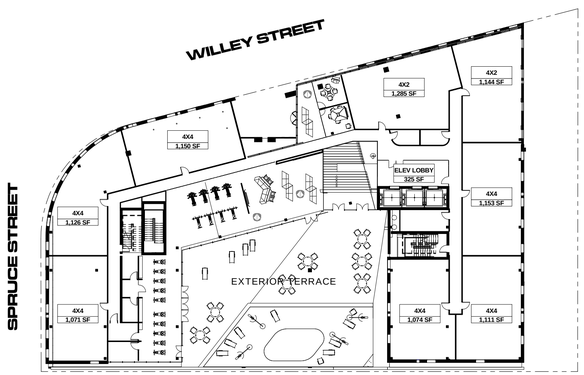
1 Level 03 Floor Plan
Scale: 1" = 30'-0"



6 Level 08 Floor Plan
Scale: 1" = 30'-0"



3 Level 05 Floor Plan
Scale: 1" = 30'-0"



9 Level 02 Floor Plan
Scale: 1" = 30'-0"

Drawing Issue	Date
PC/BZA SUBMISSION	2014-04-04

494 Spruce Street
Morgantown, WV

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DAVID McHENRY, AIA LIC. # NO-4615
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Architect: SCOTT A. ERDY, AIA
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Residential Floor Plans - Levels 02-09

SCALE:	DATE:
1" = 30'-0"	04/04/2014
DRAWN BY:	PROJECT NO:
BA / CE	1149.00

DRAWING NUMBER:

Z0.03

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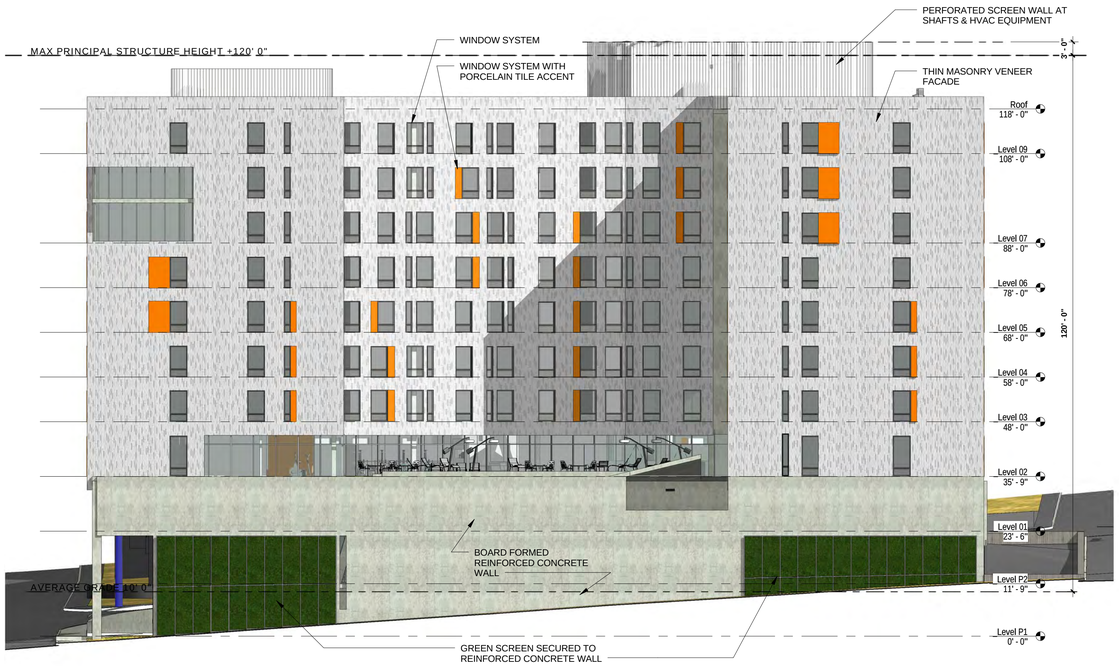
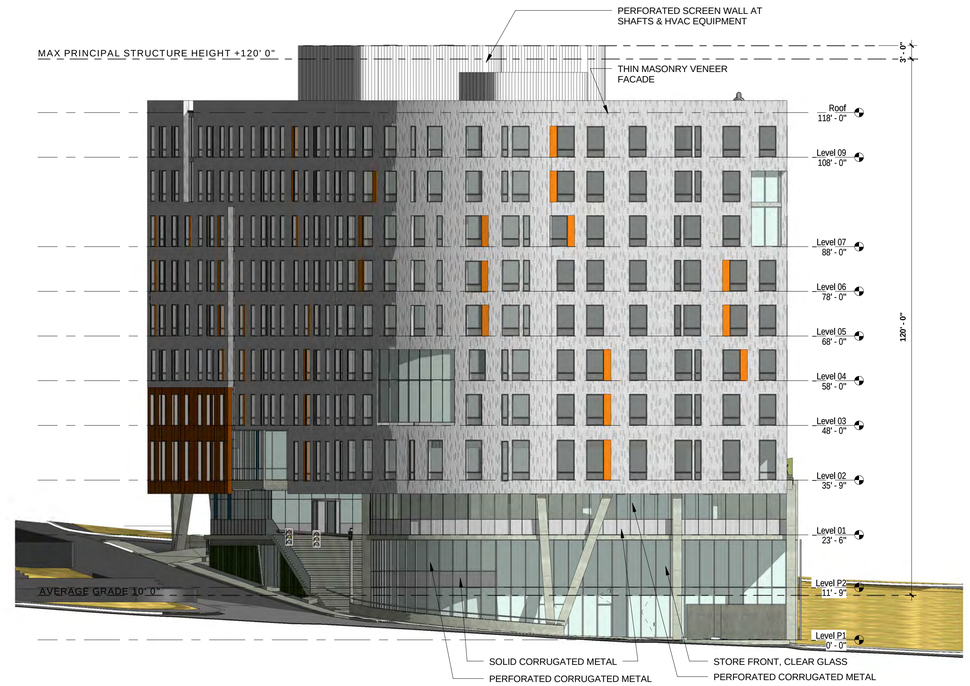
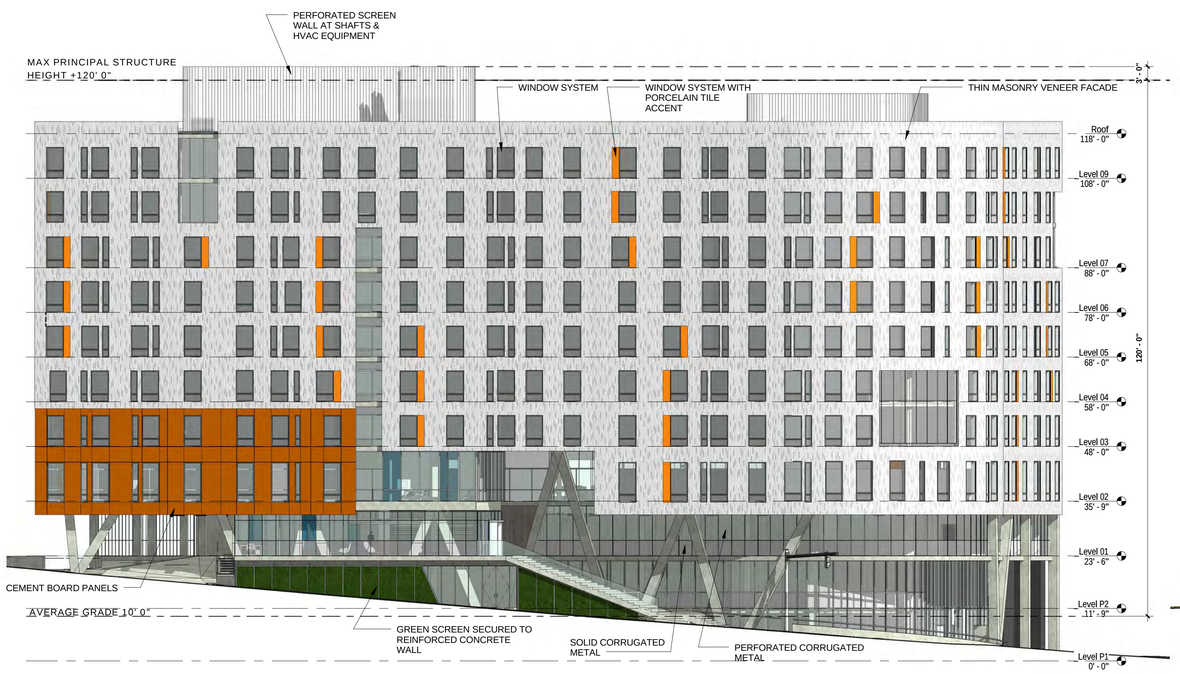


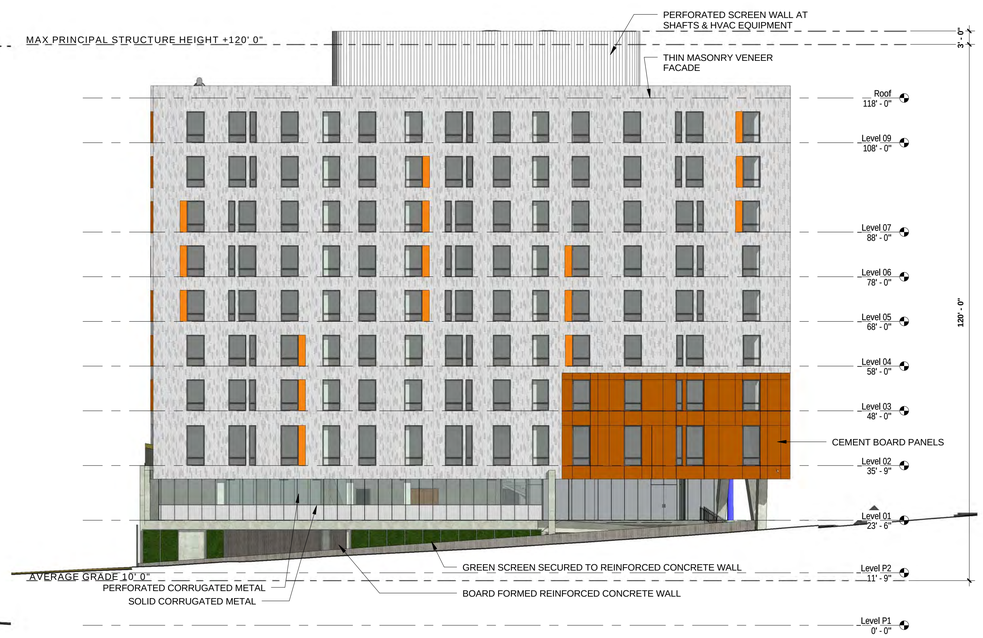
4 **South Building Elevation**
Scale: 1/16" = 1'-0"



2 **West Building Elevation**
Scale: 1/16" = 1'-0"



3 **North_Elevation**
Scale: 1/16" = 1'-0"



1 **East Building Elevation**
Scale: 1/16" = 1'-0"

Drawing Issue	Date
PC/BZA SUBMISSION	2014-04-04

494 Spruce Street
Morgantown, WV

Client:

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MEP/FP/IT Engineer:

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DAVID McHENRY, AIA LIC. # NO-4615
REGISTERED ARCHITECT - STATE OF WEST VIRGINIA

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Building Elevations

SCALE:	DATE:
1/16" = 1'-0"	04/04/2014
DRAWN BY: BA / CE	PROJECT NO: 1149.00

DRAWING NUMBER:

Z0.04

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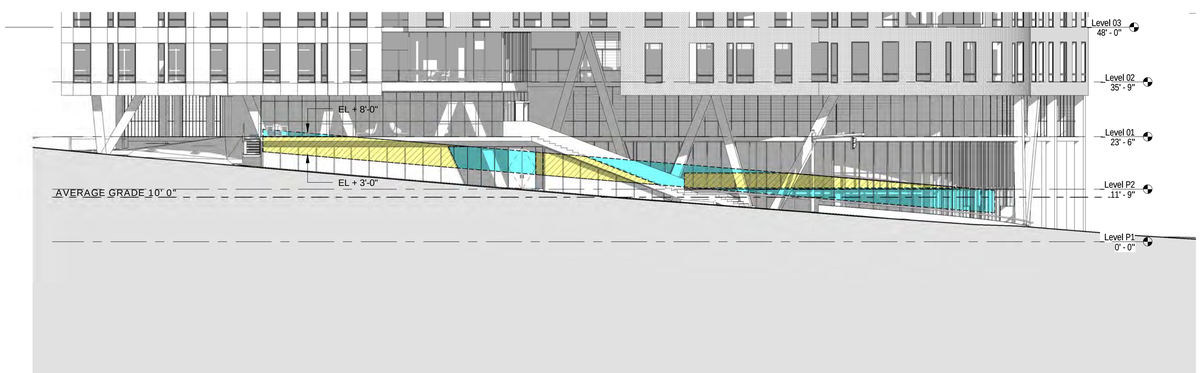
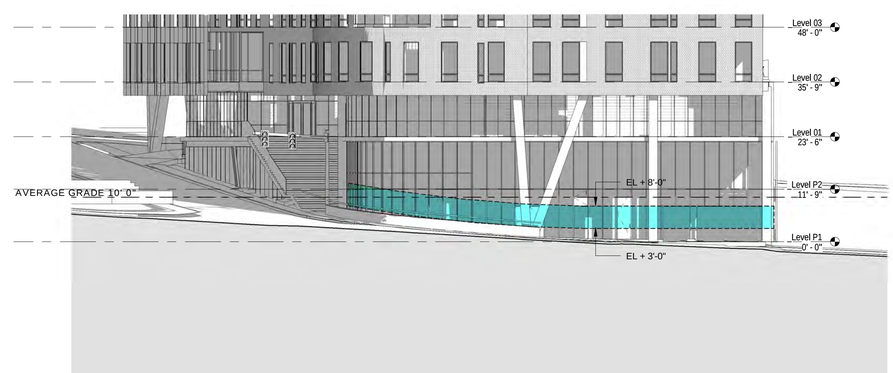
Total Building Facade 1299 SF
Non Transparent Building Facade 449 SF
Transparent Building Facade 850 SF

Transparency: of the street-facing building facade between 3'-0" and 8'-0" is 65%

2 Site Proximity Diagram for Parking Reductions
Scale: 1" = 160'-0"



3 North_Elevation- Transparency Study
NTS



1 West Building Elevation
NTS

Drawing Issue	Date
PC/BZA SUBMISSION	2014-04-04

494 Spruce Street
Morgantown, WV

Client:

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Perspectives & Site Proximities

SCALE:	DATE:
As indicated	04/04/2014
DRAWN BY: BA / CE	PROJECT NO: 1149.00

DRAWING NUMBER:

Z0.11

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12 Sun Study_ Winter - 3pm
Scale: 1" = 200'-0"

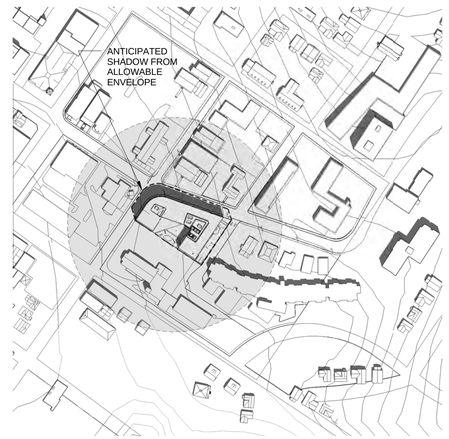
9 Sun Study_ Autumn - 4pm
Scale: 1" = 200'-0"

6 Sun Study_ Summer - 5pm
Scale: 1" = 200'-0"

3 Sun Study_ Spring - 4pm
Scale: 1" = 200'-0"

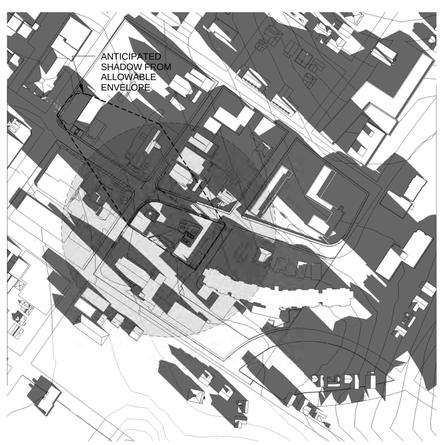
11 Sun Study_ Winter - 12pm
Scale: 1" = 200'-0"

8 Sun Study_ Autumn - 12pm
Scale: 1" = 200'-0"



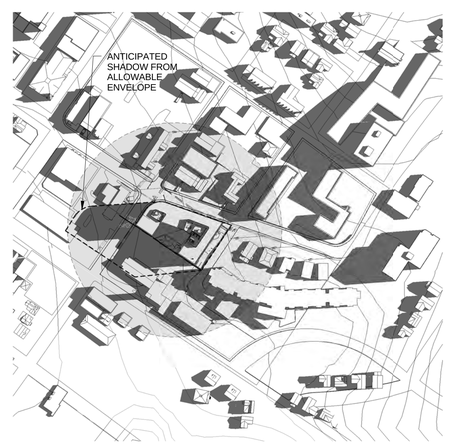
5 Sun Study_ Summer - 12pm
Scale: 1" = 200'-0"

2 Sun Study_ Spring - 12pm
Scale: 1" = 200'-0"



10 Sun Study_ Winter - 10am
Scale: 1" = 200'-0"

7 Sun Study_ Autumn - 9am
Scale: 1" = 200'-0"



4 Sun Study_ Summer - 8am
Scale: 1" = 200'-0"

1 Sun Study_ Spring - 9am
Scale: 1" = 200'-0"

Drawing Issue	Date
PC/BZA SUBMISSION	2014-04-04
PC/BZA SUBMISSION REVISIONS	2014-04-25

494 Spruce Street
Morgantown, WV

Client:

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Sun Studies

SCALE:	DATE:
1" = 200'-0"	04/04/2014
DRAWN BY:	PROJECT NO:
BA / CE	1149.00

DRAWING NUMBER:

Z0.12

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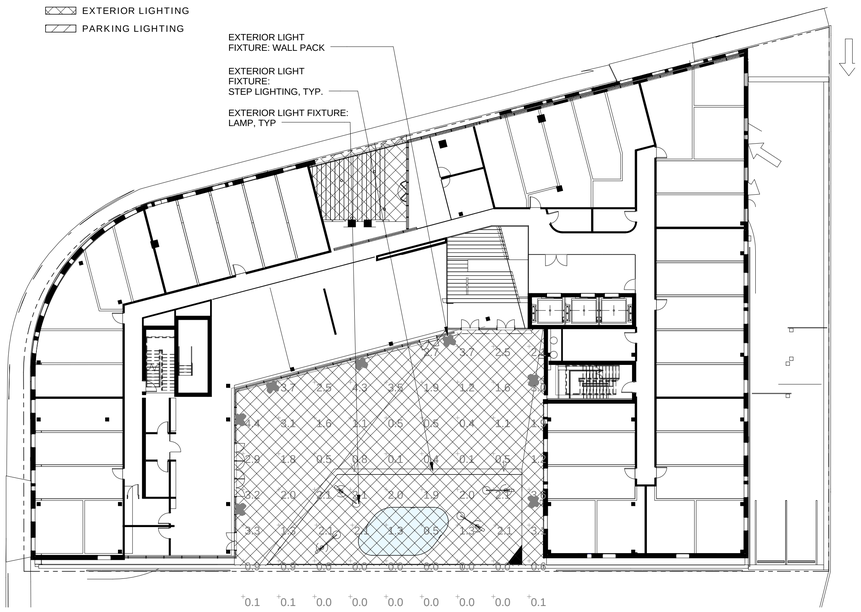
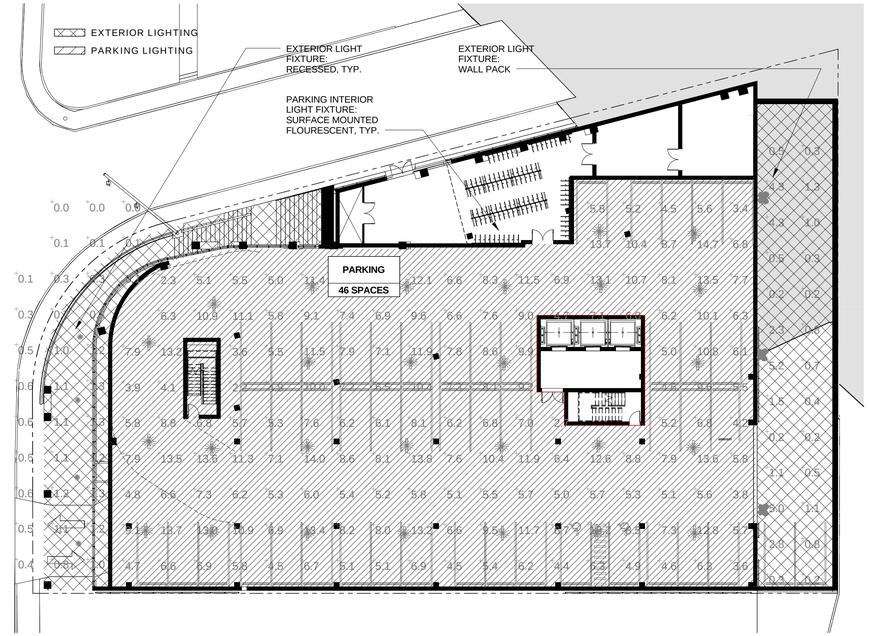
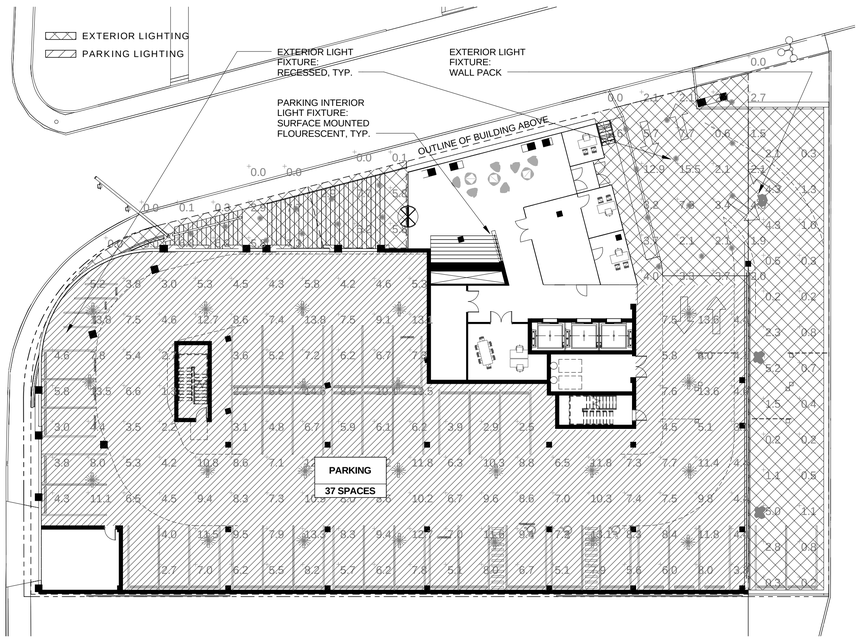
GENERAL NOTE:
FOOT CANDLE CALCULATIONS
PROVIDED BY ILLUMINATIONS, INC.



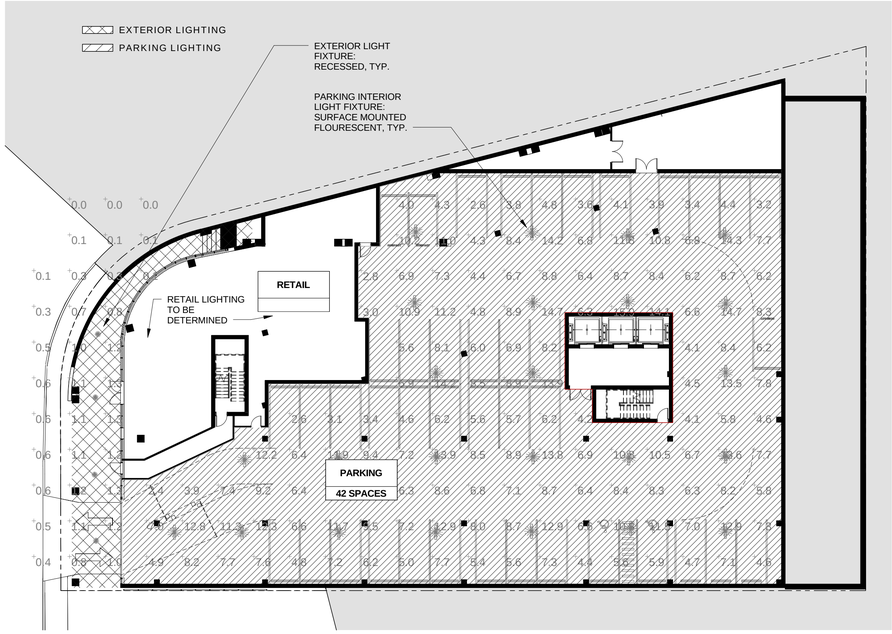
4 Level 02 Lighting Plan
Scale: 1" = 20'-0"



2 Level P2 Lighting Plan
Scale: 1" = 20'-0"



3 Level 01 Lighting Plan
Scale: 1" = 20'-0"



1 Level P1 Lighting Plan
Scale: 1" = 20'-0"

Drawing Issue	Date
PC/BZA SUBMISSION	2014-04-04
PC/BZA SUBMISSION REVISIONS	2014-04-25

494 Spruce Street
Morgantown, WV

Client:

STUDENT LIVING
Campus Acquisitions Holdings, LLC
161 N Clark Suite 2050
Chicago, IL 60601
312-994-1874

Landscape Architect:

RoofMeadow
7135 Germantown Avenue
2nd Flr
Phialdelphia, PA 19119

MEP/FP/IT Engineer:

Environetics Design, Inc.
One Penn Center
1617 JFK Blvd, Suite 1600
Philadelphia, PA 19103

Structural Engineer:

O'Donnel & Naccarato
111 S. Independence Mall East
Suite 950
Philadelphia, PA 19106

Civil Engineer

Alpha Associates, Inc.
209 Prarie Avenue
Morgantown, WV 26501-5934

DAVID McHENRY, AIA LIC. # NO-4615
REGISTERED ARCHITECT - STATE OF WEST VIRGINIA

Architect: SCOTT A. ERDY, AIA
DAVID S. MCHENRY, AIA

emArchitecture

Erdy McHenry Architecture, LLC
915 North Orianna Street
Philadelphia, Pennsylvania 19123
ph: 215.925.7000 fax: 215.925.1990
web: http://www.em-arc.com

Lighting Plans

SCALE:	DATE:
1" = 20'-0"	04/04/2014
DRAWN BY: BA / CE	PROJECT NO: 1149.00

DRAWING NUMBER:

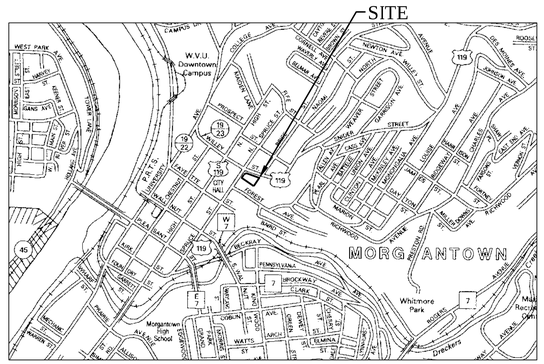
Z0.13

© 2014 Erdy McHenry Architecture, LLC

CONTROL POINTS				
BENCHMARK	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP#1	412310.74	1841054.80	941.06	PK NAIL
CP#2	412429.44	1841127.35	945.05	PK NAIL
CP#3	412428.47	1840817.51	921.64	PK NAIL
CP#4	412535.10	1840957.48	930.81	PK NAIL

HORIZONTAL DATUM: NAD 83 WEST VIRGINIA NORTH STATE PLANE
VERTICAL DATUM: NGVD 29

NOTE: THE LOCATION, TYPE, AND SIZES OF POTABLE WATERLINES, STORM SEWERS, AND SANITARY SEWERS ARE APPROXIMATE, BASED ON SYSTEM MAPS PROVIDED BY THE MORGANTOWN UTILITY BOARD.



LOCATION MAP
NOT TO SCALE

NOTES:

1. OWNER-DEVELOPER: CAMPUS ACQUISTIONS HOLDINGS, LLC
161 N CLARK SUITE 2050
CHICAGO, IL 60601
312-994-1874
ATTN: STEPHEN BUS

2. NUMBER OF DWELLING UNITS: 387 BEDS

3. PROPOSED USES: STUDENT HOUSING AND RETAIL

4. PROPOSED STARTING DATE: MAY 1, 2014
PROPOSED COMPLETION DATE: JULY 15, 2015

DESCRIPTION OF ALTA/ACSM LAND TITLE SURVEY

THIRD WARD, CITY OF MORGANTOWN, MONONGALIA COUNTY, WEST VIRGINIA
TAX MAP 26, PARCELS 245 AND 246

ALL OF THAT PARCEL OF LAND DESIGNATED AS TAX MAP 26, PARCELS 245 AND 246 IN THE THIRD WARD OF THE CITY OF MORGANTOWN, MONONGALIA COUNTY, WEST VIRGINIA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A PK NAIL, FOUND, IN THE SOUTHERN RIGHT-OF-WAY LINE OF WILLEY STREET, BEING THE COMMON NORTHERN CORNER OF TRUSTEES OF THE FIRST PRESBYTERIAN CHURCH OF MORGANTOWN (DEED BOOK 1364 AT PAGE 40 AND DEED BOOK 511 AT PAGE 498); THENCE WITH SAID CHURCH FOR TWO (2) LINES

S 34 17' 28" W, 152.24 FEET TO A 5/8-INCH IRON ROD, FOUND; THENCE

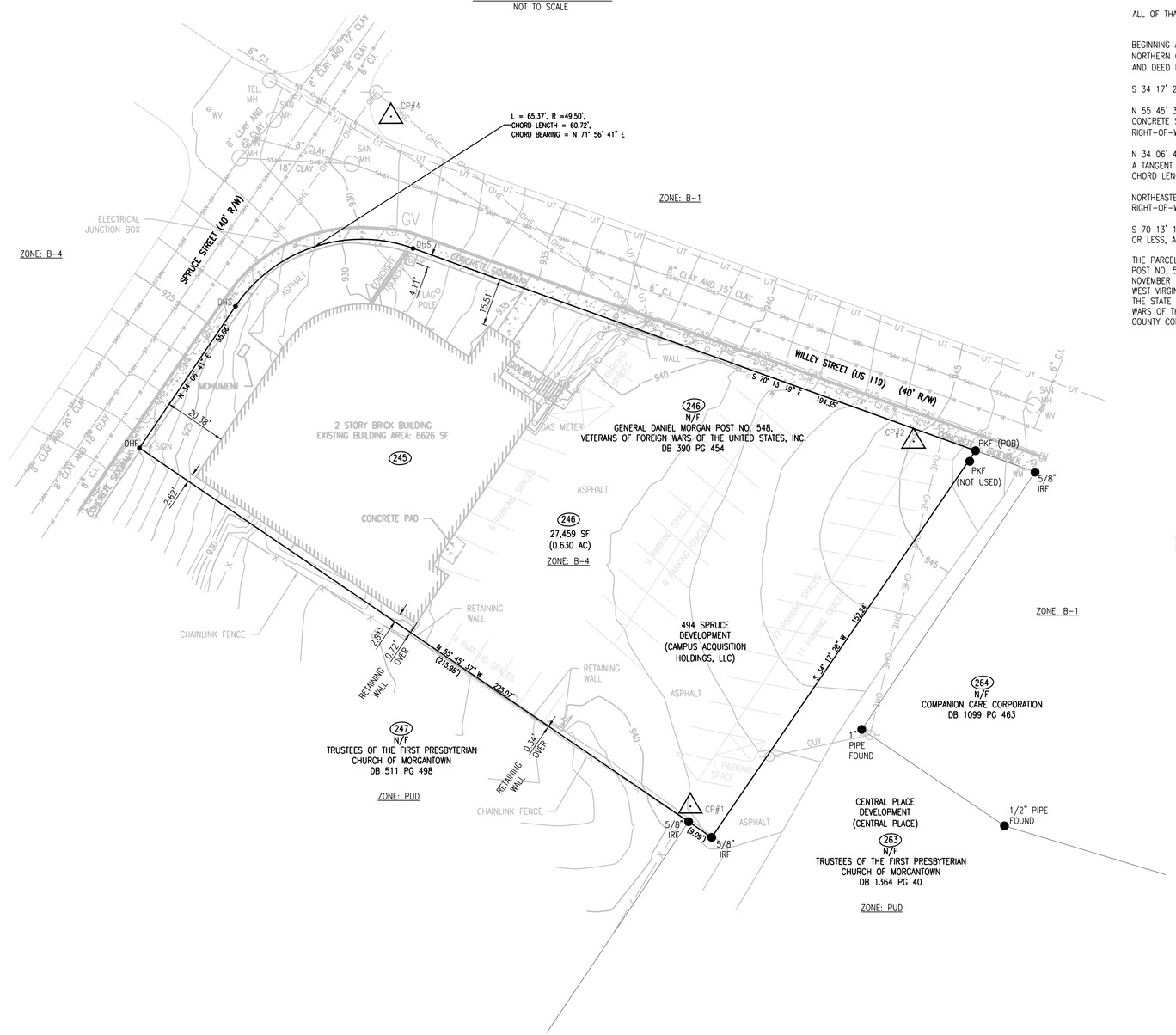
N 55 45' 37" W, AT 9.09 FEET PASSING A 5/8-INCH IRON ROD, FOUND, IN ALL 225.07 FEET TO A DRILL HOLE IN CONCRETE SIDEWALK, FOUND, IN THE EASTERN RIGHT-OF-WAY LINE OF SPRUCE STREET; THENCE WITH SAID EASTERN RIGHT-OF-WAY FOR TWO (2) LINES

N 34 06' 41" E, 55.66 FEET TO A 3/8-INCH DRILL HOLE IN CONCRETE SIDEWALK, SET THIS SURVEY, THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 49.50 FEET, A CHORD BEARING OF N 71 56' 41" E, AND A CHORD LENGTH OF 60.72 FEET; THENCE ALONG SAID CURVE

NORTHEASTERLY, 65.37 FEET TO A 3/8-INCH DRILL HOLE IN CONCRETE SIDEWALK, SET THIS SURVEY, IN SAID SOUTHERN RIGHT-OF-WAY LINE OF WILLEY STREET; THENCE WITH SAID SOUTHERN RIGHT-OF-WAY LINE

S 70 13' 19" E, 194.35 FEET TO THE PLACE OF BEGINNING AND CONTAINING 27,459 SQUARE FEET (0.630 ACRES), MORE OR LESS, AS SURVEYED IN OCTOBER 2013 BY ALPHA ASSOCIATES, INCORPORATED, MORGANTOWN, WEST VIRGINIA.

THE PARCEL OF LAND HEREINABOVE DESCRIBED IS THE SAME REAL ESTATE CONVEYED UNTO GENERAL DANIEL MORGAN POST NO. 548, VETERANS OF FOREIGN WARS OF THE UNITED STATES, INC. FROM JOHN L. HATFIELD, BY DEED DATED NOVEMBER 18, 1946 OF RECORD IN THE OFFICE OF THE CLERK OF THE COUNTY COMMISSION OF MONONGALIA COUNTY, WEST VIRGINIA, IN DEED BOOK 390 AT PAGE 459 SUBJECT TO AN OUT-CONVEYANCE TO THE STATE OF WEST VIRGINIA BY THE STATE ROAD COMMISSION OF WEST VIRGINIA FROM GENERAL DANIEL MORGAN POST NO. 548, VETERANS OF FOREIGN WARS OF THE UNITED STATES, INC., BY DEED DATED JULY 8, 1949 OF RECORD IN THE OFFICE OF THE CLERK OF THE COUNTY COMMISSION OF MONONGALIA COUNTY, WEST VIRGINIA, IN DEED BOOK 437 AT PAGE 101.



DRAWING KEY

- XXX — INDICATES TAX MAP 26 PARCEL NUMBER
- N/F — NOW OR FORMERLY
- IRF — INDICATES IRON ROD FOUND SIZE AS INDICATED
- PKF — INDICATES PK NAIL FOUND
- DHF — INDICATES 3/8" DRILL HOLE IN CONCRETE FOUND.
- DHS — INDICATES 3/8" DRILL HOLE SET THIS SURVEY
- IRS — INDICATES 5/8"x30" IRON ROD WITH ORANGE CAP STAMPED "ALPHA ASSOC. PROP CORNER" SET THIS SURVEY.
- EXISTING UTILITY POLE
- LP — EXISTING LIGHT POLE
- TSP — EXISTING TRAFFIC SIGNAL POLE
- TEL. — EXISTING TELEPHONE MANHOLE
- SAN MH — EXISTING SANITARY MANHOLE
- GV — EXISTING GAS VALVE
- WV — EXISTING WATER VALVE
- WM — EXISTING WATER METER
- EXISTING UNDERGROUND TELEPHONE
- E — EXISTING OVERHEAD ELECTRIC
- GAS — EXISTING GAS LINE
- X — EXISTING CHAINLINK FENCE
- ST — EXISTING STORM SEWER
- SAN — EXISTING SANITARY SEWER

SCALE: 0 20'

CAMPUS ACQUISTIONS HOLDINGS, LLC
494 SPRUCE STREET
FOR
MORGANTOWN, WEST VIRGINIA

STEVEN V. BUCHANAN REGISTERED 11060 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
3/7/14
STEVEN V. BUCHANAN, P.E. NO. 11060

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REVISIONS

ITEM	DATE

Alpha ARCHITECTS ENGINEERS
ALPHA ASSOCIATES, INC.
209 PRAIRIE AVENUE
MORGANTOWN, WV 26501
PHONE/FAX: 304-296-8216
TOLL FREE: 800-640-8216
www.thinkALPHAfirst.com

PROJ. NO.: 1310125.01
DATE: 03/07/2014
SHEET NO.:
SHEET 1

TITLE SHEET

ISSUED FOR: SCHEMATIC DESIGN

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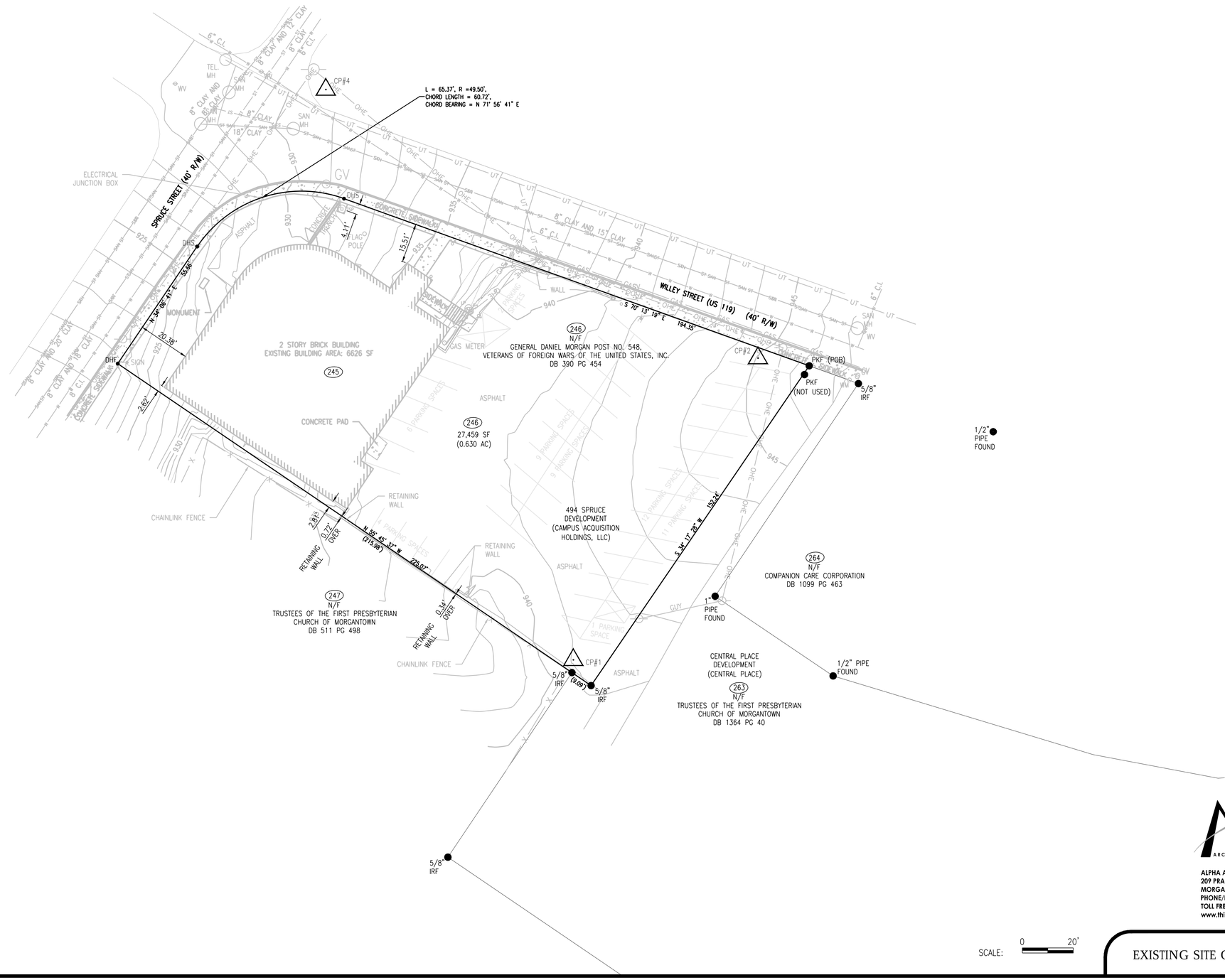
CONTROL POINTS				
BENCHMARK	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP#1	412310.74	1841054.80	941.06	PK NAIL
CP#2	412429.44	1841127.35	945.05	PK NAIL
CP#3	412428.47	1840817.51	921.64	PK NAIL
CP#4	412535.10	1840957.48	930.81	PK NAIL

HORIZONTAL DATUM: NAD 83 WEST VIRGINIA NORTH STATE PLANE
VERTICAL DATUM: NGVD 29

NOTE: THE LOCATION, TYPE, AND SIZES OF POTABLE WATERLINES, STORM SEWERS, AND SANITARY SEWERS ARE APPROXIMATE, BASED ON SYSTEM MAPS PROVIDED BY THE MORGANTOWN UTILITY BOARD.

NOTES:
1. FLOOD ZONE CLASSIFICATION: ALL OF THE PROPERTY IN THIS SURVEY IS LOCATED OUTSIDE OF THE 500-YEAR FLOOD PLAIN IDENTIFIED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP 54061C0114E DATED JANUARY 20, 2010.
2. NO WETLAND AREAS AS DELINEATED BY APPROPRIATE AUTHORITIES WERE OBSERVED DURING THE SURVEY.



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	EXISTING UTILITY POLE
LP	EXISTING LIGHT POLE
TSP	EXISTING TRAFFIC SIGNAL POLE
TEL.	EXISTING TELEPHONE MANHOLE
SAN MH	EXISTING SANITARY MANHOLE
GV	EXISTING GAS VALVE
WV	EXISTING WATER VALVE
WM	EXISTING WATER METER
	EXISTING UNDERGROUND TELEPHONE
E	EXISTING OVERHEAD ELECTRIC
GAS	EXISTING GAS LINE
X	EXISTING CHAINLINK FENCE
ST	EXISTING STORM SEWER
SAN	EXISTING SANITARY SEWER

SCALE: 0 20'

494 SPRUCE STREET
FOR
CAMPUS ACQUISITIONS HOLDINGS, LLC
MORGANTOWN, WEST VIRGINIA

STEVEN V. BUCHANAN
REGISTERED
11060
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
3/7/14
STEVEN V. BUCHANAN. P.E. NO. 11060

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REVISIONS

ITEM	DATE

ALPHA ASSOCIATES, INC.
209 PRAIRIE AVENUE
MORGANTOWN, WV 26501
PHONE/FAX: 304-296-8216
TOLL FREE: 800-640-8216
www.thinkALPHAfirst.com

EXISTING SITE CONDITIONS

PROJ. NO.: 1310125.01
DATE: 03/07/2014
SHEET NO.:
SHEET 2

ISSUED FOR: SCHEMATIC DESIGN

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CONTROL POINTS				
BENCHMARK	NORTHING	EASTING	ELEVATION	DESCRIPTION
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CP#2	412429.44	1841127.35	945.05	PK NAIL
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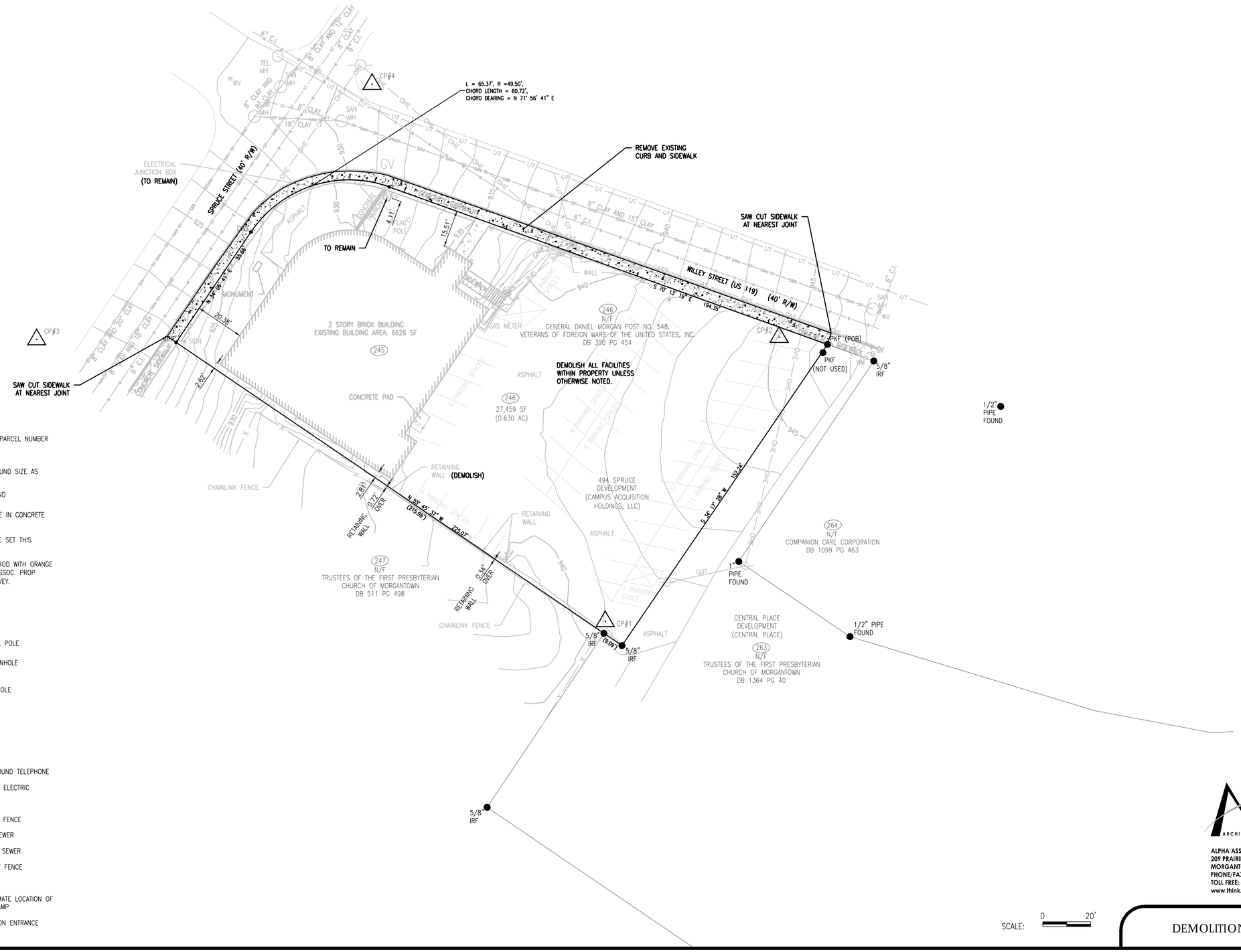

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- X EXISTING CHAINLINK FENCE
- ST EXISTING STORM SEWER
- SAN EXISTING SANITARY SEWER
- SF FILTER FABRIC SILT FENCE
- IP INLET PROTECTION
- DENOTES APPROXIMATE LOCATION OF ADA COMPLIANT RAMP
- RCE (LOCATION TO BE DETERMINED) ROCK CONSTRUCTION ENTRANCE

SCALE: 0 20'

494 SPRUCE STREET
FOR
CAMPUS ACQUISITIONS HOLDINGS, LLC
MORGANTOWN, WEST VIRGINIA

STEVEN V. BUCHANAN REGISTERED 11060 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
3/7/14
STEVEN V. BUCHANAN P.E. NO. 11060

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REVISIONS

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ALPHA ASSOCIATES, INC.
209 PRAIRIE AVENUE
MORGANTOWN, WV 26501
PHONE/FAX: 304-296-8216
TOLL FREE: 800-640-8216
www.thinkALPHAfirst.com

PROJ. NO.: 1310125.01
DATE: 03/07/2014
SHEET NO.:
SHEET 3A

DEMOLITION PLAN

ISSUED FOR: SCHEMATIC DESIGN

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CONTROL POINTS				
BENCHMARK	NORTHING	EASTING	ELEVATION	DESCRIPTION
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CP#2	412429.44	1841127.35	945.05	PK NAIL
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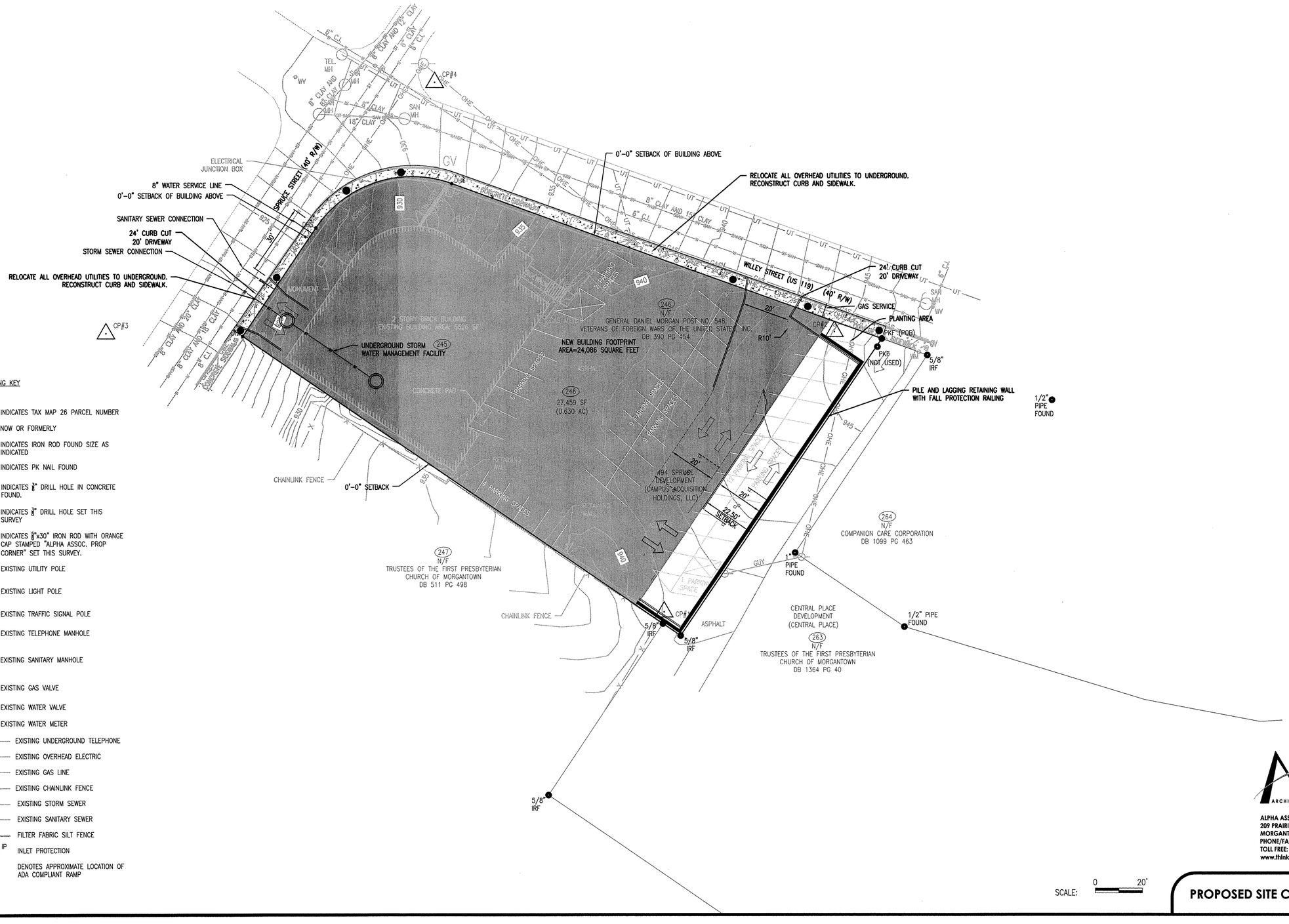
HORIZONTAL DATUM: NAD 83 WEST VIRGINIA NORTH STATE PLANE
VERTICAL DATUM: NGVD 29

NOTE: THE LOCATION, TYPE, AND SIZES OF POTABLE WATERLINES, STORM SEWERS, AND SANITARY SEWERS ARE APPROXIMATE, BASED ON SYSTEM MAPS PROVIDED BY THE MORGANTOWN UTILITY BOARD.



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- GAS EXISTING GAS LINE
- X EXISTING CHAINLINK FENCE
- ST EXISTING STORM SEWER
- SAN EXISTING SANITARY SEWER
- SF FILTER FABRIC SILT FENCE
- IP INLET PROTECTION
- DENOTES APPROXIMATE LOCATION OF ADA COMPLIANT RAMP

494 SPRUCE STREET
FOR
CAMPUS ACQUISTIONS HOLDINGS, LLC
MORGANTOWN, WEST VIRGINIA

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REVISIONS

ITEM	DATE

ALPHA ASSOCIATES, INC.
209 PRAIRIE AVENUE
MORGANTOWN, WV 26501
PHONE/FAX: 304-296-8216
TOLL FREE: 800-640-8216
www.thinkALPHAfirst.com

PROJ. NO.: 1310125.01
DATE: 04/25/2014
SHEET NO.:
3B

ISSUED FOR: SCHEMATIC DESIGN

PROPOSED SITE CONDITIONS

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CONTROL POINTS				
BENCHMARK	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP#1	412310.74	1841054.80	941.06	PK NAIL
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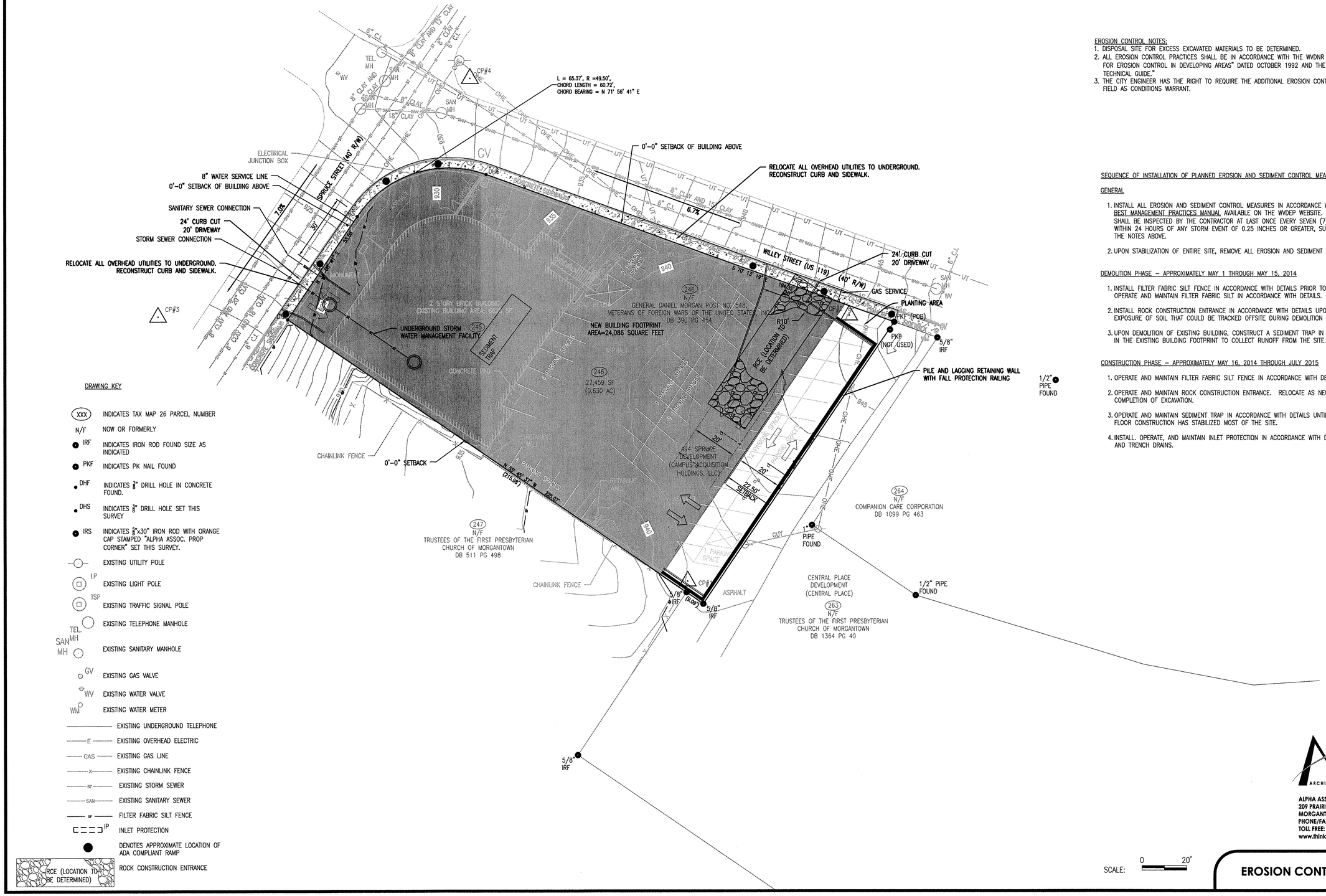

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- SF FILTER FABRIC SILT FENCE
- IP INLET PROTECTION
- DENOTES APPROXIMATE LOCATION OF ADA COMPLIANT RAMP
- RCE (LOCATION TO BE DETERMINED) ROCK CONSTRUCTION ENTRANCE

EROSION CONTROL NOTES:

1. DISPOSAL SITE FOR EXCESS EXCAVATED MATERIALS TO BE DETERMINED.
2. ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE WVDNR "WEST VIRGINIA HANDBOOK FOR EROSION CONTROL IN DEVELOPING AREAS" DATED OCTOBER 1992 AND THE SCS "FIELD OFFICE TECHNICAL GUIDE."
3. THE CITY ENGINEER HAS THE RIGHT TO REQUIRE THE ADDITIONAL EROSION CONTROL MEASURES IN THE FIELD AS CONDITIONS WARRANT.

SEQUENCE OF INSTALLATION OF PLANNED EROSION AND SEDIMENT CONTROL MEASURES

GENERAL

1. INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE WEST VIRGINIA BEST MANAGEMENT PRACTICES MANUAL AVAILABLE ON THE WVDEP WEBSITE. ALL CONTROL MEASURES SHALL BE INSPECTED BY THE CONTRACTOR AT LAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF ANY STORM EVENT OF 0.25 INCHES OR GREATER, SUBJECT TO THE PROVISIONS IN THE NOTES ABOVE.
2. UPON STABILIZATION OF ENTIRE SITE, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES.

DEMOLITION PHASE – APPROXIMATELY MAY 1 THROUGH MAY 15, 2014

1. INSTALL FILTER FABRIC SILT FENCE IN ACCORDANCE WITH DETAILS PRIOR TO COMMENCING DEMOLITION. OPERATE AND MAINTAIN FILTER FABRIC SILT IN ACCORDANCE WITH DETAILS.
2. INSTALL ROCK CONSTRUCTION ENTRANCE IN ACCORDANCE WITH DETAILS UPON REMOVAL OF ASPHALT AND EXPOSURE OF SOIL THAT COULD BE TRACKED OFFSITE DURING DEMOLITION AND EXCAVATION.
3. UPON DEMOLITION OF EXISTING BUILDING, CONSTRUCT A SEDIMENT TRAP IN ACCORDANCE WITH DETAILS IN THE EXISTING BUILDING FOOTPRINT TO COLLECT RUNOFF FROM THE SITE.

CONSTRUCTION PHASE – APPROXIMATELY MAY 16, 2014 THROUGH JULY 2015

1. OPERATE AND MAINTAIN FILTER FABRIC SILT FENCE IN ACCORDANCE WITH DETAILS.
2. OPERATE AND MAINTAIN ROCK CONSTRUCTION ENTRANCE. RELOCATE AS NECESSARY. REMOVE UPON COMPLETION OF EXCAVATION.
3. OPERATE AND MAINTAIN SEDIMENT TRAP IN ACCORDANCE WITH DETAILS UNTIL SUCH TIME AS GROUND FLOOR CONSTRUCTION HAS STABILIZED MOST OF THE SITE.
4. INSTALL, OPERATE, AND MAINTAIN INLET PROTECTION IN ACCORDANCE WITH DETAILS AT ALL NEW INLETS AND TRENCH DRAINS.

494 SPRUCE STREET
FOR
CAMPUS ACQUISTIONS HOLDINGS, LLC
MORGANTOWN, WEST VIRGINIA

ALPHA ASSOCIATES, INC.
209 PRAIRIE AVENUE
MORGANTOWN, WV 26501
PHONE/FAX: 304-296-8216
TOLL FREE: 800-640-8216
www.thinkALPHAfirst.com

SCALE: 0 20'

EROSION CONTROL PLAN

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REVISIONS

ITEM	DATE

PROJ. NO.: 1310125.01
DATE: 04/25/2014
SHEET NO.: 4

ISSUED FOR: SCHEMATIC DESIGN

4.25.14

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CONTROL POINTS				
BENCHMARK	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP#1	412310.74	1841054.80	941.06	PK NAIL
CP#2	412429.44	1841127.35	945.05	PK NAIL
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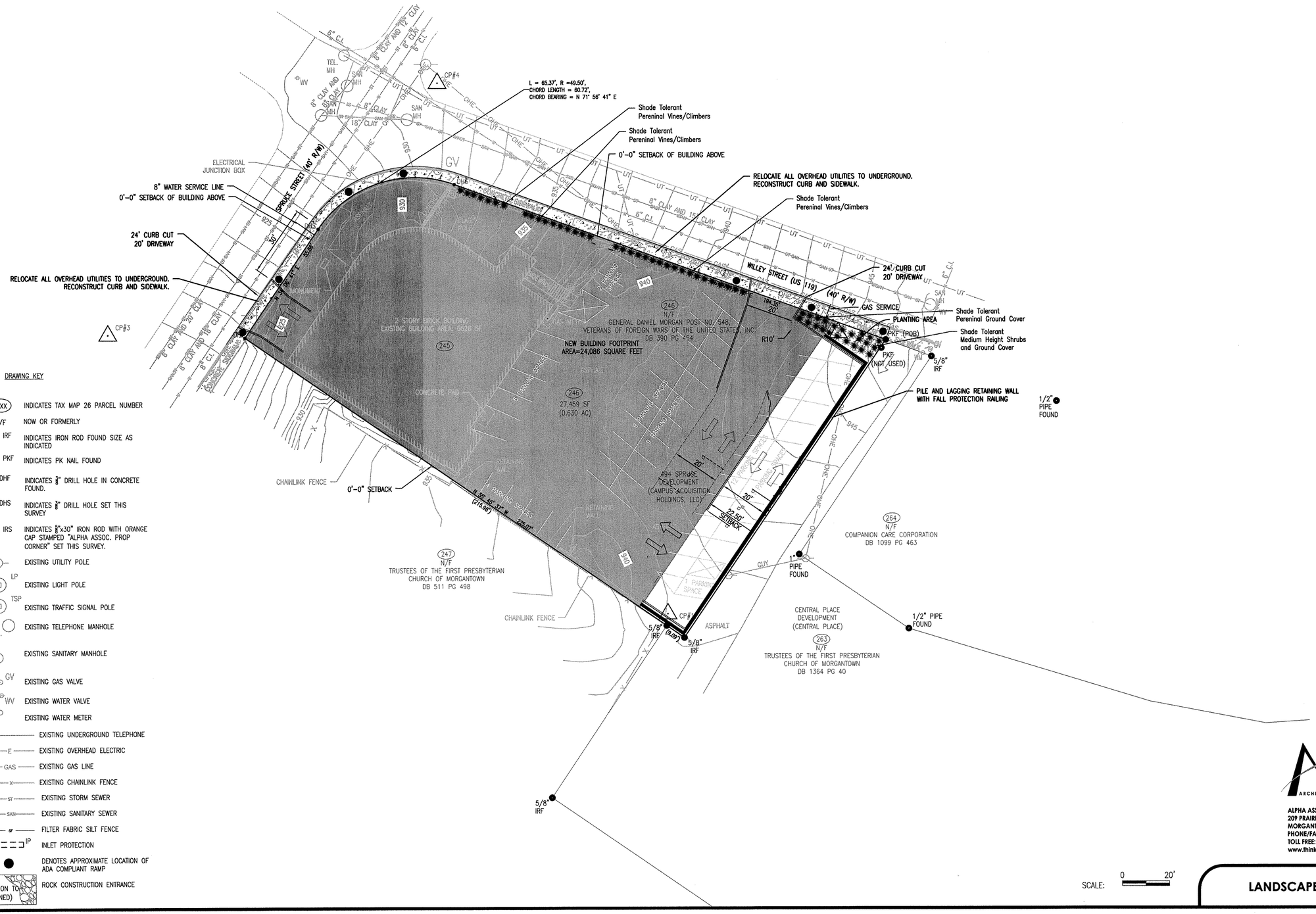

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- DHF INDICATES 5/8" DRILL HOLE IN CONCRETE FOUND.
- DHS INDICATES 5/8" DRILL HOLE SET THIS SURVEY
- IRS INDICATES 5/8"x30" IRON ROD WITH ORANGE CAP STAMPED "ALPHA ASSOC. PROP CORNER" SET THIS SURVEY.
- EXISTING UTILITY POLE
- LP EXISTING LIGHT POLE
- TSP EXISTING TRAFFIC SIGNAL POLE
- EXISTING TELEPHONE MANHOLE
- TEL MH / SAN MH EXISTING SANITARY MANHOLE
- GV EXISTING GAS VALVE
- WV EXISTING WATER VALVE
- WM EXISTING WATER METER
- EXISTING UNDERGROUND TELEPHONE
- E EXISTING OVERHEAD ELECTRIC
- GAS EXISTING GAS LINE
- X EXISTING CHAINLINK FENCE
- ST EXISTING STORM SEWER
- SAN EXISTING SANITARY SEWER
- SF FILTER FABRIC SILT FENCE
- IP INLET PROTECTION
- DENOTES APPROXIMATE LOCATION OF ADA COMPLIANT RAMP
- RCE (LOCATION TO BE DETERMINED) ROCK CONSTRUCTION ENTRANCE

494 SPRUCE STREET
FOR
CAMPUS ACQUISTIONS HOLDINGS, LLC
MORGANTOWN, WEST VIRGINIA

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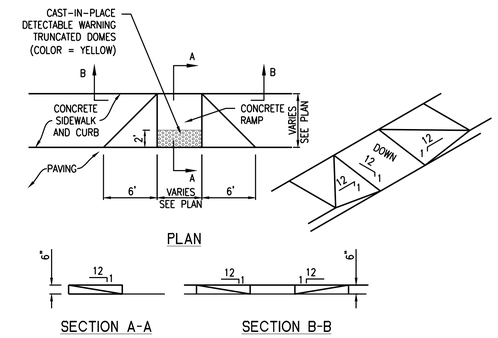
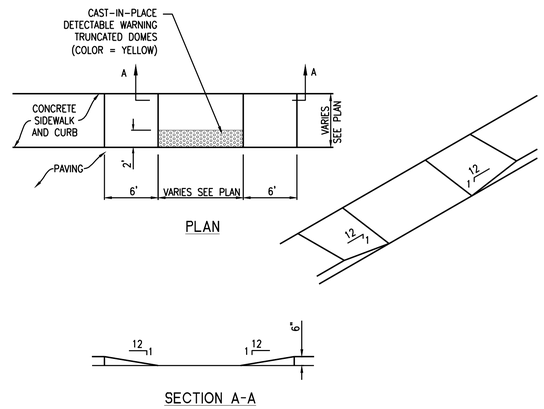
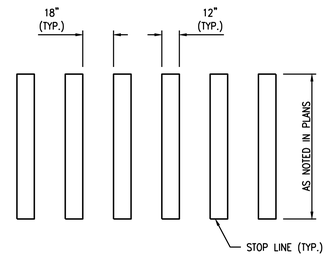
LANDSCAPE PLAN



SIDEWALK RAMP DETAILS

NO SCALE

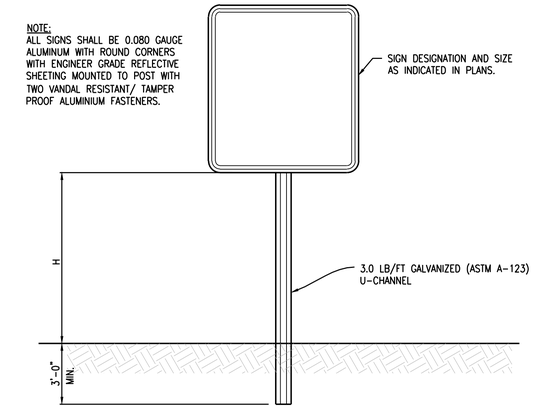




NOTE:
1. ALL STOP LINE USED FOR CROSSWALK SHALL BE WVDOH TYPE V (SECTION 715.40.2).

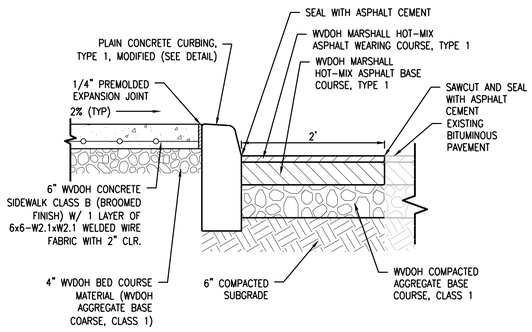
CROSS WALK DETAIL

NO SCALE



SIGN DETAIL

NO SCALE

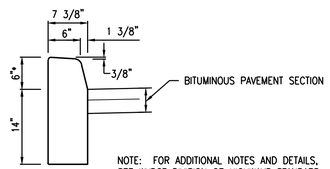


NOTES:

1. FOR SIDEWALK, PROVIDE 3/8" WIDE CONTROL JOINTS TO A DEPTH OF 1/4TH THE SIDEWALK THICKNESS AT INTERVALS EQUAL TO THE SIDEWALK WIDTH, AT ALL CHANGES OF DIRECTION, AND AT THE BEGINNING AND ENDING OF ALL TAPERED CURBS.
2. FOR CURBS, PROVIDE 3/8" WIDE CONTROL JOINTS TO A DEPTH OF 2" MINIMUM IN UNIFORM INTERVALS NOT TO EXCEED 20 FEET, AT ALL CHANGES OF DIRECTION, AND AT THE BEGINNING AND ENDING OF ALL TAPERED CURBS.
3. PROVIDE 1/4" PREMOLDED EXPANSION JOINT MATERIAL AT INTERVALS OF 30' MAXIMUM, AT THE END OF THE WORK DAY, AND AT ALL STRUCTURES AND RIGID SURFACES.
4. AROUND UTILITY POLES, METERS, FIRE HYDRANTS, AND OTHER LIKE FEATURES, CONSTRUCT AN INDEPENDENT RETANGULAR-SHAPED SLAB A MINIMUM OF 1' IN ALL DIRECTIONS. PROVIDE 1/4" PREMOLDED EXPANSION JOINT MATERIAL AT ALL INTERFACES WITH ADJOINING CONCRETE.
5. ALL JOINTS SHALL BE NEATLY FILLED WITH WHITE ELASTOMERIC SEALING COMPOUND TO WITHIN 1/8" OF THE SURFACE.
6. ANY EXISTING FACILITIES INCLUDING, BUT NOT LIMITED TO, PARKING METERS AND FLAG POLE HOLDERS IN THE SIDEWALK REQUIRING REINSTALLATION SHALL BE REINSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST.
7. CURB AND SIDEWALK MAY BE POURED INTEGRALLY UNLESS OTHERWISE NOTED OR REQUIRED.

SIDEWALK AND CONCRETE CURBING 6" REVEAL (TYP.)

NO SCALE

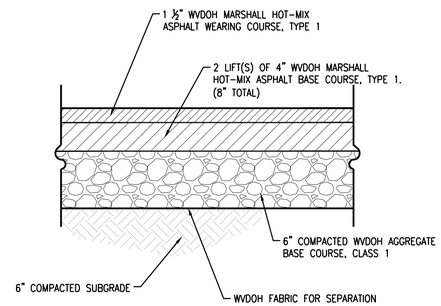


NOTE: FOR ADDITIONAL NOTES AND DETAILS, SEE WVDOT DIVISION OF HIGHWAYS STANDARD DETAILS BOOK VOL. I DATED JANUARY 1, 2000, SHEET PVT6 (SHEET 1 OF 2).

* INDICATES MODIFIED DIMENSION

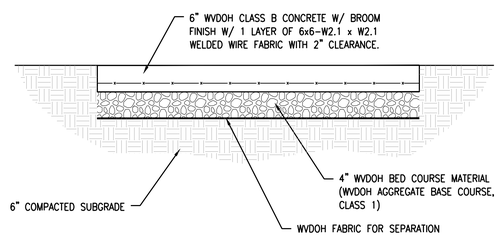
PLAIN CONCRETE CURBING, TYPE I, MODIFIED

NO SCALE



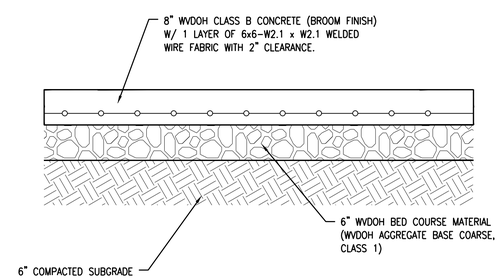
(LOCATION) BITUMINOUS PAVEMENT DETAIL

NOT TO SCALE



CONCRETE SIDEWALK DETAIL

NO SCALE



CONCRETE PAD DETAIL

NO SCALE

SIGNING AND PAVEMENT MARKING NOTES

1. ALL 4" AND 6" SOLID WHITE OR SOLID YELLOW EDGE LINES, LANE LINES, CENTERLINES AND BARRIER LINES SHALL BE TYPE II PAVEMENT MARKING MATERIAL.
2. ALL STOP LINES SHALL BE 12" OR 24" WIDE, TYPE V, UNLESS OTHERWISE NOTED.
3. EDGE LINES SHALL BE PLACED BASED ON PLANNED LANE WIDTHS (12" TYP.) AND NOT THE EDGE OF PAVEMENT.
4. ALL MARKINGS SHALL BE CONTINUOUS AND CONSISTENT WITH EXISTING MARKINGS WHERE THEY JOIN.
5. NO MARKINGS SHALL BE PLACED ON EXPANSION JOINTS OR STRUCTURES OR ON LONGITUDINAL CONSTRUCTION JOINTS UNLESS SO DIRECTED BY THE ENGINEER.
6. CONTRACTOR SHALL NOTIFY THE ENGINEER AND WVDOH PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS TO VERIFY LOCATION.

494 SPRUCE STREET
FOR
CAMPUS ACQUISITIONS HOLDINGS, LLC
MORGANTOWN, WEST VIRGINIA

STEVEN V. BUCHANAN REGISTERED 11060 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
3/7/14
STEVEN V. BUCHANAN, P.E. NO. 11060

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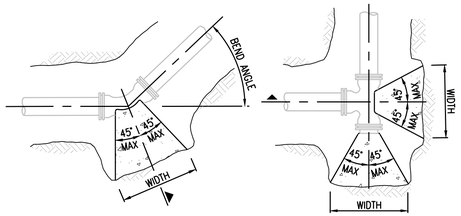
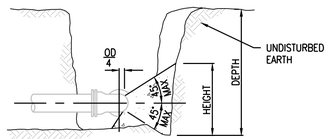
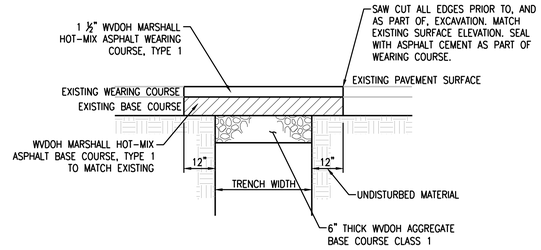


TYPICAL BEND

TYPICAL TEE AND CAP



TYPICAL SECTION



BITUMINOUS PAVEMENT REPLACEMENT FOR TRENCH DETAIL

NO SCALE

BEARING AREAS ARE BASED ON 200 PSI TEST PRESSURE, A SOIL RESISTANCE OF 1500 PSF, AND A SAFETY FACTOR OF 1.5 IF WEAK (LESS THAN 1500 PSF RESISTANCE) SOIL POCKETS ARE ENCOUNTERED, INCREASE THE BEARING AREAS SHOWN TO PREVENT MOVEMENT UNDER TEST OR OPERATING PRESSURES.

PIPE SIZE	MINIMUM BEARING AREA (SF) = WIDTH X HEIGHT				TEE, CAP,
	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND	OR PLUG
2"	0.6	0.4	0.2	0.1	0.5
4"	2.4	1.3	0.7	0.4	1.7
6"	5.4	2.9	1.5	0.8	3.8
8"	9.5	5.2	2.7	1.4	6.8
10"	14.8	8.1	4.1	2.1	10.5
12"	21.4	11.6	5.9	3.0	15.1

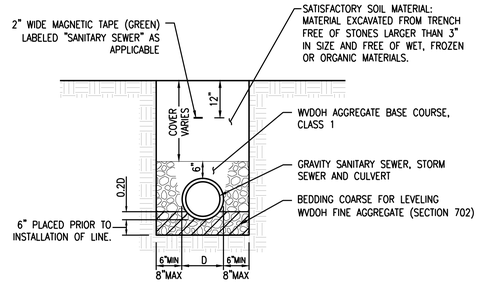
THRUST BLOCKS SHALL BE 3000 PSI CONCRETE

NOTES:

1. BEARING SURFACE SHALL BE PLACED AGAINST UNDISTURBED SOIL. WHERE THIS IS NOT POSSIBLE, COMPACT FILL BETWEEN BEARING SURFACE AND UNDISTURBED SOIL.
2. BLOCK HEIGHT SHALL NOT EXCEED 1/2 OF THE TOTAL DEPTH TO THE BOTTOM OF THE BLOCK, BUT NOT LESS THAN THE PIPE DIAMETER.
3. BLOCK WIDTH SHALL BE 1 TO 2 TIMES THE BLOCK HEIGHT.
4. PROVIDE CLEARANCE FOR BOLT REMOVAL.
5. ALL FITTINGS FOR 4" PIPE OR GREATER SHALL ALSO INCLUDE EBAA IRON, INC. OR FORD MECHANICAL JOINT RESTRAINTS OR EQUAL. THESE SHALL BE INCIDENTAL TO THE ITEMS OF WORK FOR WHICH THESE ARE REQUIRED.
6. THRUST BLOCKING SHALL BE INCIDENTAL.

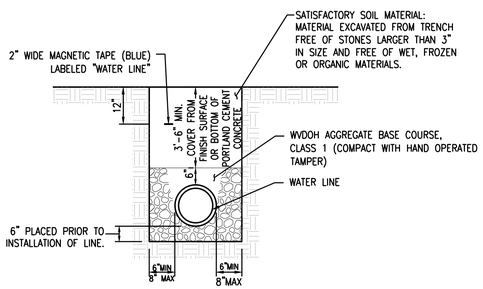
WATER LINE HORIZONTAL THRUST BLOCKING DETAIL

NOT TO SCALE



TRENCH DETAIL FOR GRAVITY SANITARY SEWER, STORM SEWER & CULVERT

NO SCALE

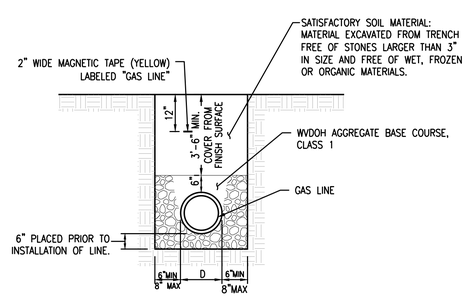


TRENCH DETAIL FOR WATER LINE

NO SCALE

TRENCH DETAIL NOTES:

1. ALL EXCAVATION SHALL BE UNCLASSIFIED REGARDLESS OF THE MATERIALS ENCOUNTERED.
2. THE CONTRACTOR SHALL BACKFILL ALL TRENCHES IN LIFTS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
3. THE CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL SURPLUS EXCAVATED MATERIAL.



TRENCH DETAIL FOR GAS LINE

NO SCALE

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MORGANTOWN, WEST VIRGINIA

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REGISTERED
11060
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
3/7/14

STEVEN V. BUCHANAN. P.E. NO. 11060

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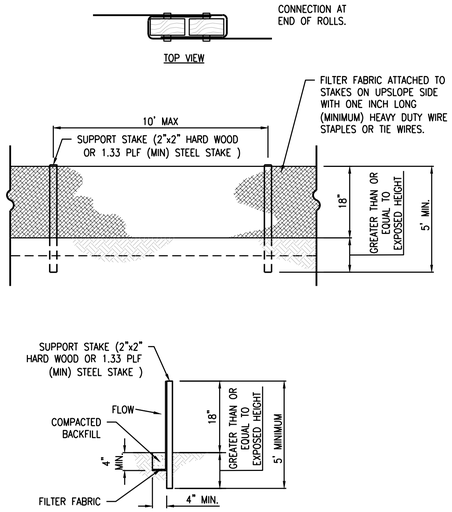


18" FILTER FABRIC SILT FENCE

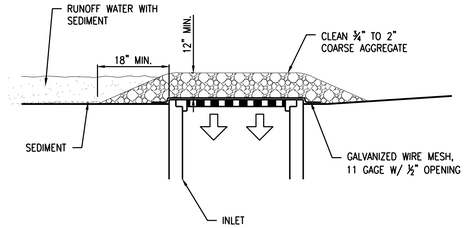
NO SCALE

NOTES:

1. FILTER FABRIC SILT FENCE SHALL BE CONSTRUCTED PARALLEL TO GROUND CONTOUR.
2. BOTH ENDS OF THE FILTER FABRIC SILT FENCE SHALL EXTEND A MINIMUM OF 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN ALIGNMENT.

MAINTENANCE:

1. SILT FENCE SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL OF 0.5 INCH OR GREATER AND AT LEAST DAILY DURING PROLONGED RAINFALL OR ONCE A WEEK. ANY REQUIRED REPAIRS OR MAINTENANCE SHALL BE MADE IMMEDIATELY.
2. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF THE DAMAGED SILT FENCE RESULTING FROM END RUNS AND UNDERCUTTING. IF THE FENCE IS NOT INSTALLED ON THE CONTOUR (PERPENDICULAR TO THE FLOW OF THE WATER) BOTH OF THESE CONDITIONS CAN OCCUR.
3. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
4. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
5. IF ANY SECTION OF SILT FENCE IS KNOCKED DOWN DURING A RAIN EVENT (BECAUSE IT WAS INSTALLED IN AN AREA OF CONCENTRATED FLOW) THEN OTHER MEASURES SUCH AS SEDIMENT TRAP AND DIVERSION OR SUPER SILT FENCE MUST BE INSTALLED.



INLET PROTECTION

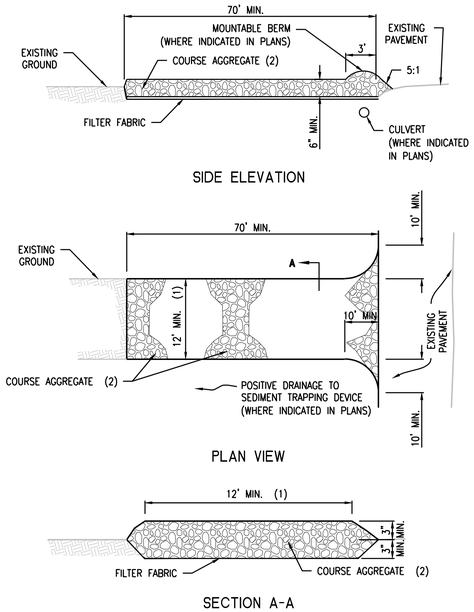
NO SCALE

NOTES:

1. OTHER EFFECTIVE METHODS OF PROVIDING INLET PROTECTION MAY BE USED UPON THE ENGINEERS REVIEW.

MAINTENANCE:

1. THE STRUCTURE SHALL BE INSPECTED AFTER EACH 0.5" OF RAIN AND AT LEAST ONCE A WEEK AND REPAIRS MADE AS NEEDED. CONSTRUCTION TRAFFIC HAS A TENDENCY TO DESTROY THESE PRACTICES SO FREQUENT INSPECTIONS ARE NECESSARY.
2. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
3. INLET PROTECTION SHOULD REMAIN IN PLACE AND OPERATIONAL UNTIL THE DRAINAGE AREA IS COMPLETELY STABILIZED. IMMEDIATELY STABILIZE THE AREA DISTURBED BY THE INSTALLATION AND REMOVAL OF THE PRACTICE.
4. IT IS ESSENTIAL THAT MAINTENANCE BE DONE TO INSURE THAT STRUCTURES DO NOT FAIL, ESPECIALLY TO PREVENT CLOGGING. FAILURE OF ONE PRACTICE CAN CREATE A DOMINO EFFECT OF FAILURES, WITH THE POTENTIAL OF SEVERE FLOODING OF ADJACENT PROPERTIES.



STABILIZED STONE CONSTRUCTION ENTRANCE

NO SCALE

NOTES:

(1) WIDTH SHALL EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION

(2) COURSE AGGREGATE SHALL BE 2-4 INCH STONE FOR LOW VOLUME ENTRANCES OR 4-6 INCH STONE FOR HEAVY USE OR MATERIAL DELIVERY ENTRANCES.

MAINTENANCE:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
2. WHEELS ON ALL VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCES ONTO PUBLIC RIGHTS-OF-WAY.
3. INSPECTION AND NEEDED MAINTENANCE SHOULD BE PROVIDED DAILY BUT AT A MINIMUM EVERY SEVEN DAYS AND AFTER EVERY RAIN OF 0.5 INCH OR GREATER.

EROSION AND SEDIMENT CONTROL NOTES

1. INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE WEST VIRGINIA BEST MANAGEMENT PRACTICES MANUAL, AVAILABLE ON THE WVDEP WEBSITE http://www2.wvdep.org/dwwm/stormwater/BMP/index.html. ALL CONTROL MEASURES SHALL BE INSPECTED BY THE CONTRACTOR AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF ANY STORM EVENT OF 0.25 INCHES OR GREATER.
2. PRIOR TO CLEARING AND GRUBBING AND BEGINNING EARTH WORK, INSTALL, OPERATE, AND MAINTAIN FILTER FABRIC SILT FENCE, "STABILIZED CONSTRUCTION ENTRANCE, AND "INLET PROTECTION" ON ALL EXISTING INLETS. AS NEW INLETS ARE CONSTRUCTED AND BECOME OPERATIONAL, INSTALL, OPERATE, AND MAINTAIN "INLET PROTECTION" AROUND THOSE INLETS.
3. UPON STABILIZATION OF ENTIRE SITE, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES AND SEED AND MULCH THOSE AREAS DISTURBED BY THEIR REMOVAL IN ACCORDANCE WITH THE SPECIFICATIONS.
4. INSTALL, OPERATE, AND MAINTAIN FILTER FABRIC SILT FENCE AS PER DETAIL.
5. "STABILIZED CONSTRUCTION ENTRANCE" SHALL BE COMPLETE IN PLACE AS PER DETAIL AND SHALL INCLUDE ALL OPERATIONS AND MAINTENANCE.
6. "INLET PROTECTION" SHALL BE COMPLETE IN PLACE AS PER DETAIL AND SHALL INCLUDE ALL OPERATIONS AND MAINTENANCE.
7. ALL TOP SOIL IN THE DISTURBED AREAS SHALL BE STRIPPED AND STORED FOR USE IN AREAS RECEIVING PERMANENT VEGETATION.
8. AS REQUIRED UNDER PERMIT WV0115924, STABILIZATION MEASURES, INCLUDING, BUT NOT LIMITED TO, PERMANENT SEEDING AND MULCHING SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
9. "PERMANENT SEEDING AND MULCHING" SHALL BE COMPLETE AND IN PLACE IN ACCORDANCE WITH WVDOH SPECIFICATION SECTION 652 AND SHALL INCLUDE THE FOLLOWING:

- SEED MIX, TYPE C-2 APPLIED AT A RATE OF 97 POUNDS PER ACRE.
- STRAW MULCH APPLIED AT A RATE OF 2 TONS PER ACRE.
- FERTILIZER APPLIED AT A RATE OF 1000 POUNDS PER ACRE OF 10-20-10 FERTILIZER OR EQUIVALENT.
- SLOW RELEASE UREA FORMALDEHYDE FERTILIZER AT A RATE OF 300 POUNDS PER ACRE.
- AGRICULTURAL LIMESTONE APPLIED AT A RATE OF 1.5 TON PER ACRE.

SF	18" FILTER FABRIC SILT FENCE
IP	INLET PROTECTION
S.S.C.E.	STABILIZED STONE CONSTRUCTION ENTRANCE
RCD	ROCK CHECK DAM

LEGEND

494 SPRUCE STREET
FOR
CAMPUS ACQUISITIONS HOLDINGS, LLC
MORGANTOWN, WEST VIRGINIA

STEVEN V. BUCHANAN REGISTERED 11060 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
3/7/14
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494 Spruce Street
Morgantown, WV 26505

PEDESTRIAN WIND FLOW ANALYSIS REPORT

Submitted to: The City of Morgantown Planning and Zoning
389 Spruce Street
Morgantown, WV 26505

Figure 1 Site Location (source: google map) 100ft N

Consultant: ISOENV Environmental Design Lab
2200 Benjamin Franklin Pkwy
Philadelphia, PA 19130

REGISTERED ARCHITECT
PENNSYLVANIA
JIHUN KIM RA405933

2014/03/27

Jihun Kim, Principal Investigator

SUMMARY

The objective of current research is to predict the change in wind condition at the pedestrian level. Computational wind tunnel analysis was conducted to understand impact of the proposed building on wind condition at its neighborhood. Only the immediate surrounding buildings are geometrically modeled because they have the most significant impact on wind flow. The purpose of the analysis is for the city of Morgantown to estimate the microclimate change caused by new construction compared to the existing condition.

Computational wind tunnel analysis has been validated and widely accepted in wind engineering and urban scale environmental analysis, replacing physical wind tunnel test that costs much more resources and time along with its own uncertainties, such as translation issue to real-life size from scale model in the test. The consultant used one of the most advanced wind simulation in the industry for high prediction accuracy: ANSYS Fluent v14. Please note that there will be a simplification process, as the general wind engineering approach, by selectively including geometries that are significant to wind speed and pattern in urban scale. For example, buildings are considered but street lights are not.

The climate data in use is 'Typical Meteorological Year' (TMY), which is available from the National Oceanic and Atmospheric Administration (www.noaa.gov). We use this data type because it is synthesized with 30 year period weather so that it would better represent the longevity of buildings. It is also generally acceptable in wind engineering and urban climate analysis. 'Morgantown Municipal Airport' is chosen, given it is the nearest available TMY data that is only 2.5 miles away from the site of interest.

As results, our statistical analyses with the simulation outcome showed the minor impact on pedestrian wind condition. Average 0.9% of wind velocity is reduced at +2m above ground of the entire neighborhood, as it is shown at Table 1. It is because larger foot print of the building allowed less wind on the narrower street so that more wind was pushed to atmosphere, when comparing Figure 3 to 4. Another reason is 'wind shade effect', which reduced overall wind speed behind the proposed building that is taller than the existing, comparing Figure 5 to 6. We came to conclude that the proposed building may reduce pedestrian wind speed with minor degree based on our prediction result.

Table 1 Wind speed analysis at pedestrian level

	maximum	minimum	average	median
proposed	4.59	0.00	1.20	0.91
existing	4.62	0.00	1.32	1.05

REGIONAL WIND ANALYSIS

Annual wind condition of Morgantown is graphically represented at Figure 2, which shows more than 35 % of time wind comes from southwest with average speed of 4.5 m/s. Therefore, with this high frequency, this condition constitutes prevailing wind, which will be used as the input values for wind flow analysis.

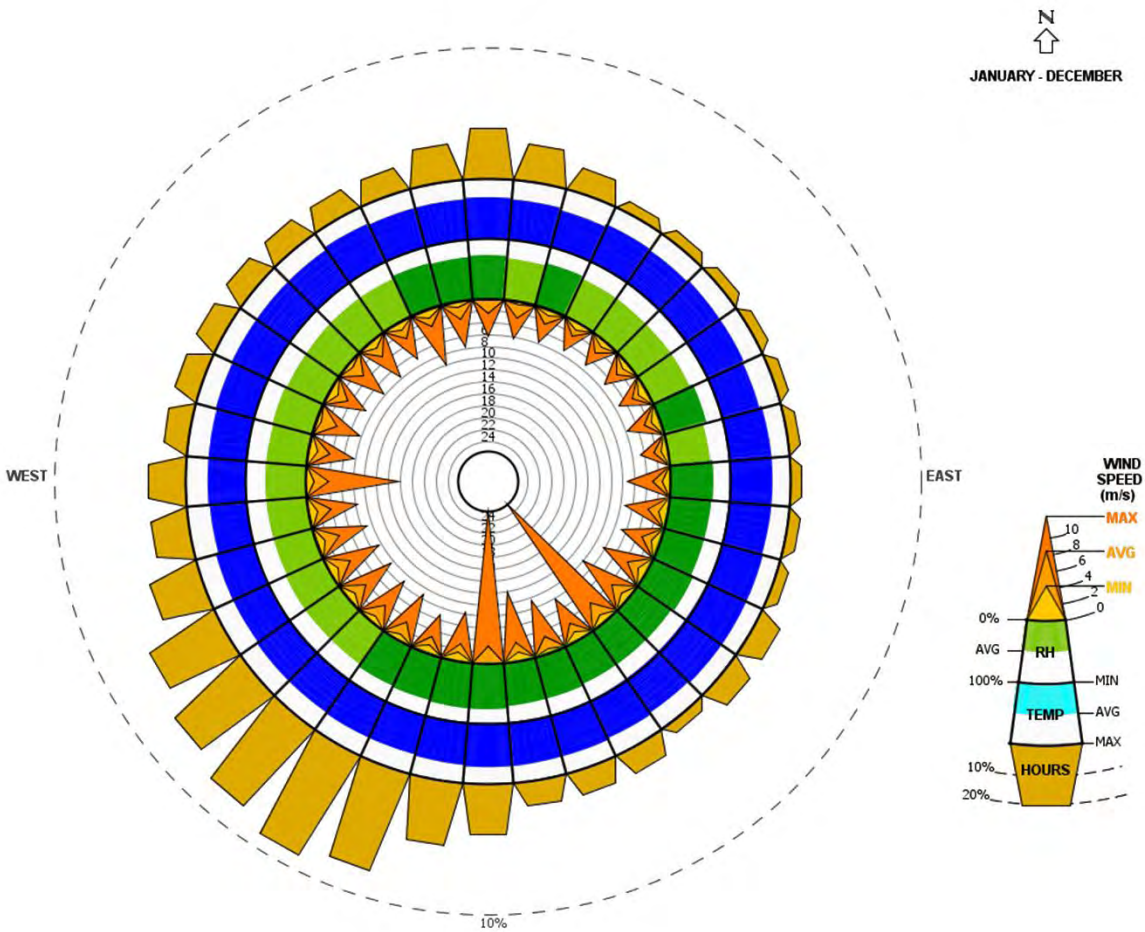


Figure 2 Annual Wind Rose

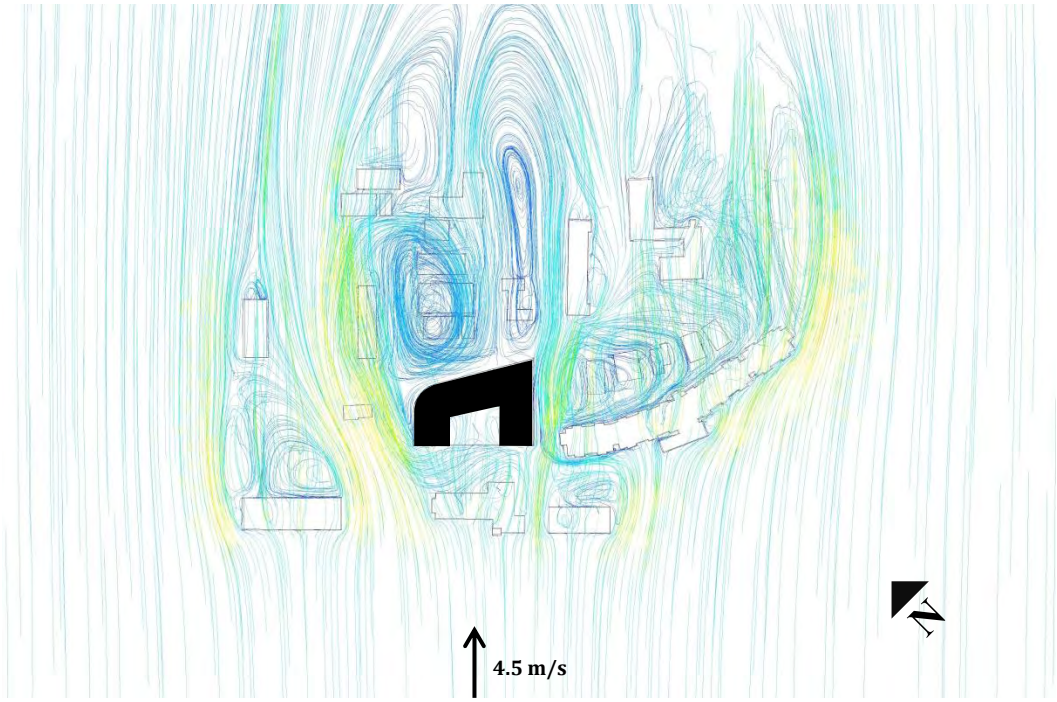
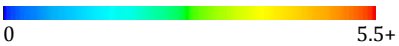


Figure 3 Proposed Building in Dark Shade - Wind Path lines at Pedestrian Level at +2m *



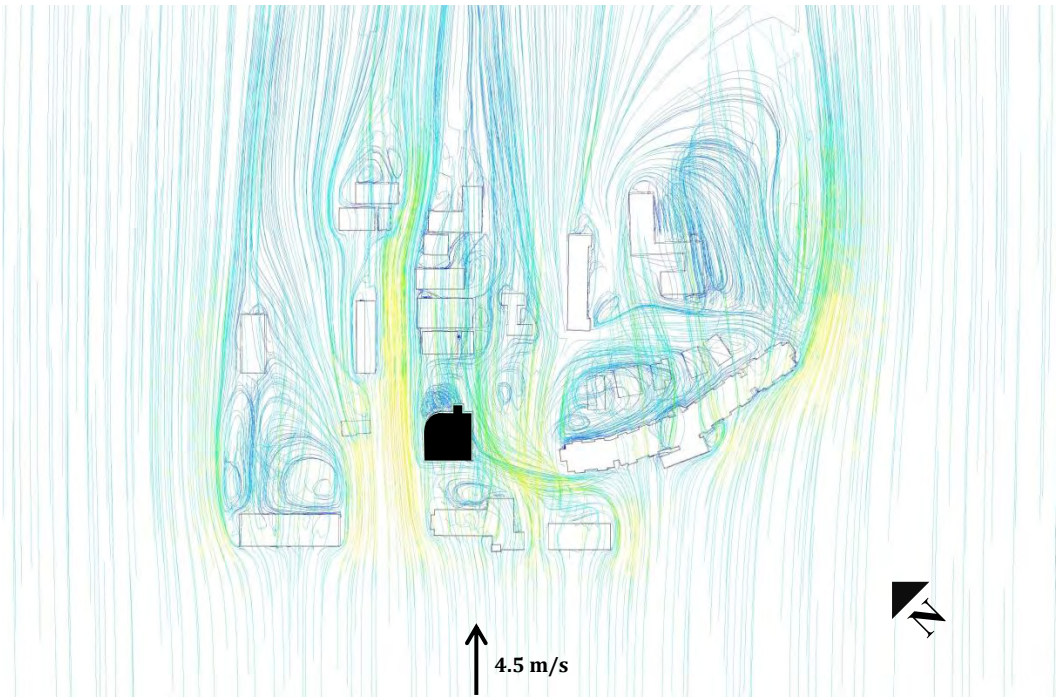
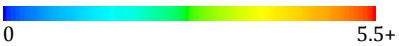


Figure 4 Existing Building in Dark Shade - Wind Path lines at Pedestrian Level at +2m *



* Color represents wind velocity and path lines represent the track of wind flow.

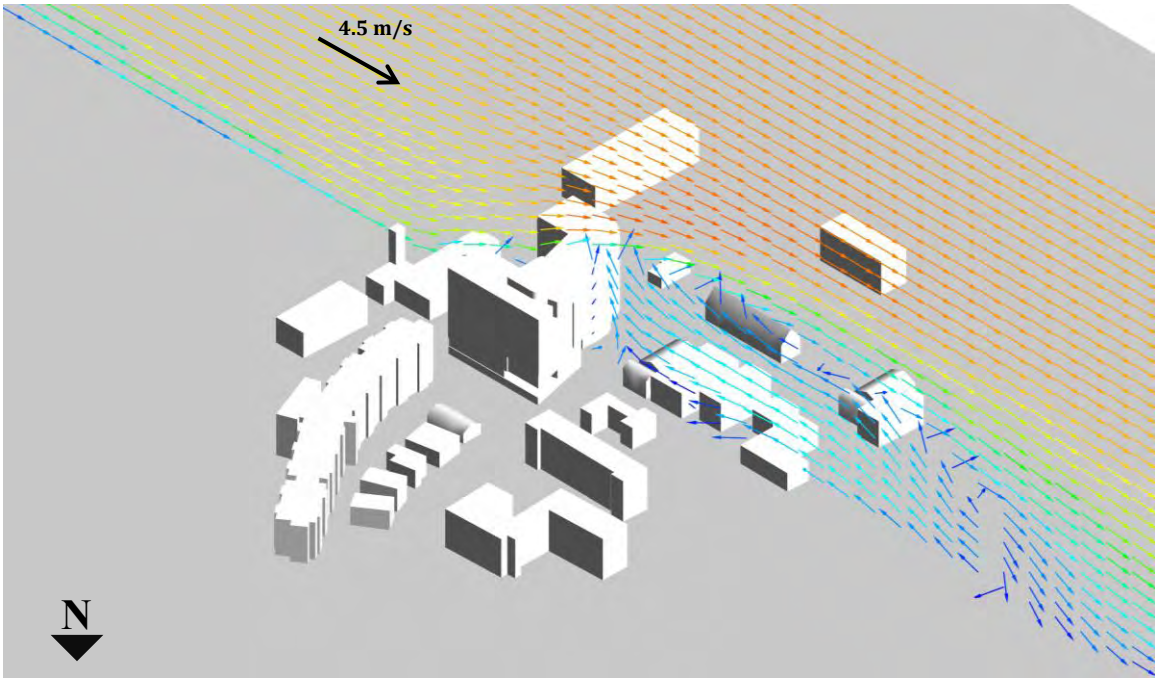
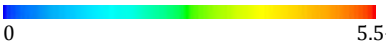


Figure 5 Proposed - Vector on Vertical Plane **



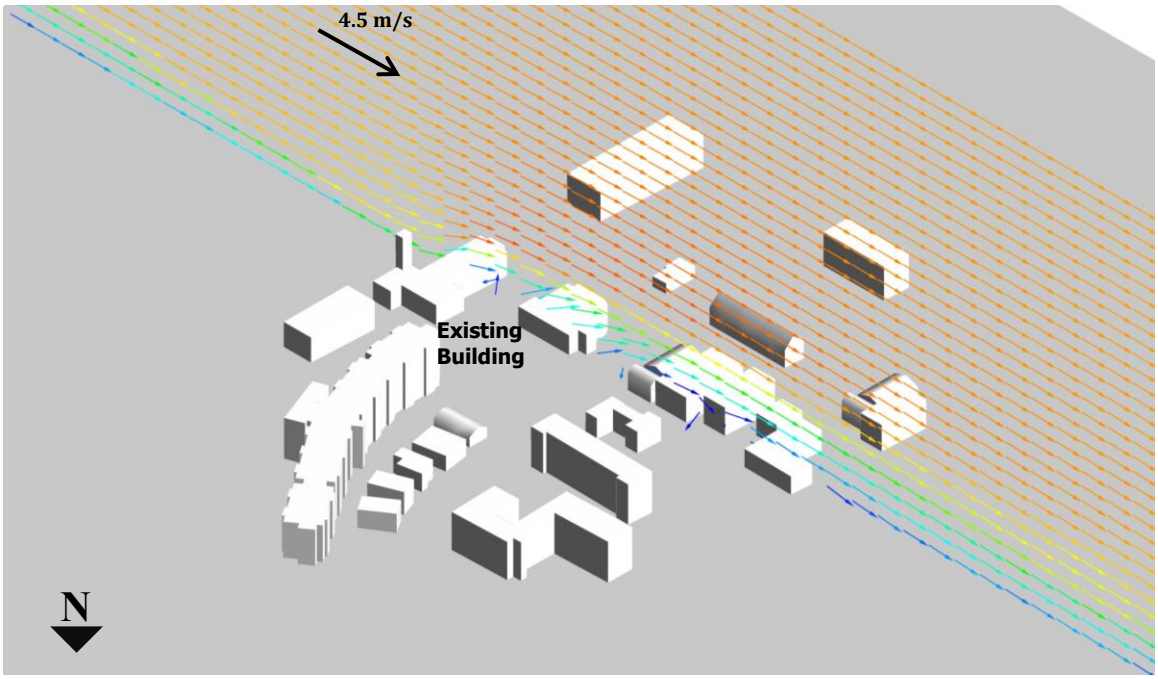
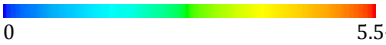


Figure 6 Existing - Vector on Vertical Plane **



** Arrow represents direction and color represents velocity

Traffic Impact Study
Proposed 494 Spruce Street
Residential/Commercial Development

City of Morgantown, West Virginia

DRAFT FINAL

Prepared for: Campus Acquisitions
Chicago, IL

Prepared by: Gannett Fleming
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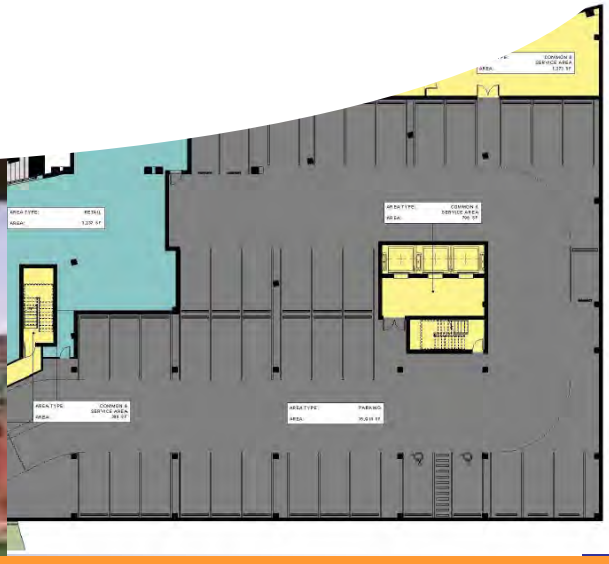

April 3, 2014

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1.0 EXECUTIVE SUMMARY

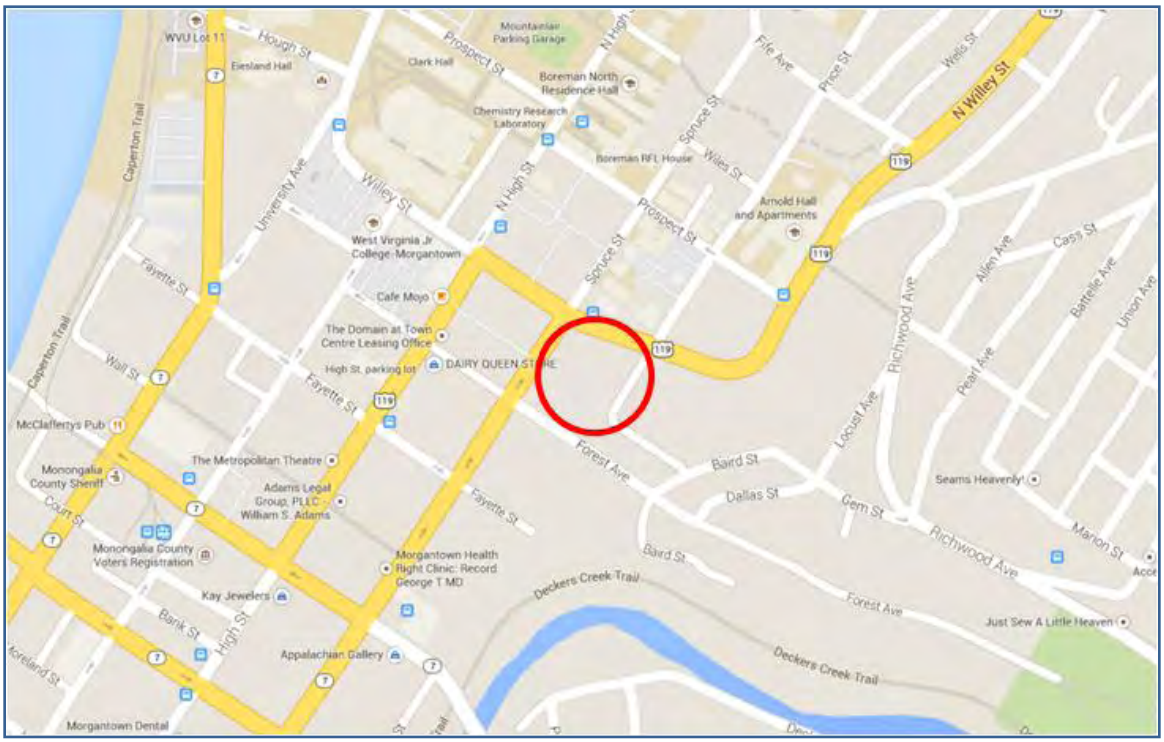
Gannett Fleming has completed a Traffic Impact Study (TIS) for the proposed 494 Spruce residential/commercial development to be located in Morgantown, WV. This study was performed in accordance with West Virginia Division of Highways (DOH) Traffic Engineering Directive (TED) 106-2.

To be completed per WVDOH review/concurrence of trip generation and distribution assignments.

2.0 GENERAL OVERVIEW OF THE DEVELOPMENT

The proposed 494 Spruce development will be located on a parcel of land on the south side of Willey Street between Spruce Street (US Route 119 Northbound) and Price Street (Figure 1).

Figure 1. Site Location Map



The development will consist of 92 apartment units and approximately 3,500 SF of retail/commercial space. A three-level parking garage is also proposed that will accommodate approximately 126 parking spaces and provide access to Willey Street and Spruce Street. Left-turn movements from the Willey Street access will be restricted. The anticipated opening year for the development is 2016.

3.0 EXISTING ROADWAY CONDITIONS

3.1 Study Area

Based on discussions with representatives from the West Virginia Division of Highways and the City of Morgantown, the following intersections were identified for analysis:

- Willey Street and High Street (US Route 119 Southbound)
- Willey Street and Spruce Street (US Route 119 Northbound)
- Willey Street and Price Street.

3.2 Existing Roadway Conditions

A field reconnaissance was conducted of the study area to inventory existing roadway widths, number of lanes, posted speed limits, and traffic control. Photos of each study intersection are included in Appendix A, and applicable traffic signal plans are contained in Appendix B. The following provides a description of each intersection.

3.2.1 Intersection of Willey Street and High Street (US Route 119 Southbound)

The intersection of Willey Street with High Street (US Route 119 Southbound) is a four-leg intersection controlled by a traffic signal. The traffic signal provides four phases including a protected/permitted left-turn phase for Willey Street westbound and an exclusive pedestrian phase. High Street is one-way southbound while Willey Street accommodates traffic in both directions. The High Street southbound approach provides two lanes consisting of an exclusive right-turn lane and a combination left-turn/thru lane. Willey Street eastbound provides one lane to accommodate left-turns and thru movements. Willey Street westbound provides two lanes consisting of an exclusive left-turn lane and a thru lane. There were no posted speed limits observed in the vicinity of the intersection.

3.2.2 Intersection of Willey Street and Spruce Street (US Route 119 Northbound)

The intersection of Willey Street and Spruce Street (US Route 119 Northbound) is a four-leg intersection controlled by a traffic signal. The traffic signal provides three phases including an exclusive pedestrian phase. Spruce Street is one-way northbound while Willey Street accommodates traffic in both directions. The Spruce Street northbound approach provides three lanes consisting of exclusive left, thru, and right-turn lanes. One lane is provided on the Willey Street approaches. There were no posted speed limits observed in the vicinity of the intersection.

3.2.3 Intersection of Willey Street and Price Street

The intersection of Willey Street and Price Street is a three-leg intersection controlled by a STOP sign on the Price Street approach. There is also currently a driveway located immediately opposite Price Street. Each approach to the intersection provides one lane to accommodate all movements. There were no posted speed limits observed in the vicinity of the intersection.

4.0 EXISTING TRAFFIC VOLUMES

The data collection effort for the study consisted of intersection turning movement counts (TMCs) conducted within the identified study area.

4.1 Intersection Turning Movement Counts (TMCs)

Turning Movement Counts (TMCs) were conducted from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on Friday, March 21, 2014, at each of the study intersections. Table 1 summarizes the total peak hour intersection volumes for each location, and Figure 2 illustrates the peak hour intersection turning movement volumes. The raw traffic data collected at each intersection is included in Appendix C.

Table 1. Total Peak Hour Intersection Volumes

Intersection	AM Peak Hour	PM Peak Hour
Willey Street and High Street	870	1,367
Willey Street and Spruce Street	935	1,447
Willey Street and Price Street	609	960

4.2 Average Daily Traffic (ADT) Volumes

2011 Average Daily Traffic (ADT) Volumes were obtained from the West Virginia Department of Transportation's website. Table 2 and Figure 3 summarize the available ADTs for the study area.

Table 2. 2011 Average Daily Traffic Volumes

Location	Average Daily Traffic Volume
High Street north of Willey Street	2,396
Spruce Street south of Willey Street	10,030
Willey Street east of Spruce Street	11,522

5.0 TRIP GENERATION AND DISTRIBUTION

As indicated earlier, the proposed development will consist of 92 apartment units and approximately 3,500 SF of retail/commercial space. Each of the apartment units will provide four bedrooms for a total of 368 beds. Additionally, the development will include the provision of a three-level parking garage containing 124 parking spaces.

5.1 Trip Generation

Trip generation estimates are generally developed utilizing the Institute of Transportation Engineers (ITE) publication *Trip Generation*. However, the publication does not provide a land use code for student housing. One of the most comprehensive trip generation studies related to student housing was conducted for the University of Minnesota. This study examined the trip generation characteristics of six typical student housing apartment buildings ranging from 44 to 135 units per building based on number of units, number of beds, and number of parking spaces. The entire summary of this study is included as Appendix D. The trip generation rates obtained from this study were applied to the proposed development to yield the estimated number of trips shown in Table 3 based on the three different independent variables.

Table 3. Trip Generation Estimates by Independent Variable

Independent Variable	AM Peak Hour Total Trips	PM Peak Hour Total Trips
92 Apartment Units	12	22
368 Bedrooms	26	48
124 Parking Spaces	16	33

Utilizing the research rates appears to yield a reasonable estimate of trips for the proposed use. To provide a conservative analysis, the estimates based on number of bedrooms was utilized for this study.

For the commercial portion of the development, ITE Land Use Code 814 - Specialty Retail Center was utilized since the building area is fairly small and will likely provide a variety of specialized stores. Also, with the limited number of available studies, the average rates for peak hour of generator were utilized. A summary of the total trips for the proposed development is illustrated in Table 4.

Table 4. 494 Spruce Trip Generation Estimates

	AM Peak Hour			PM Peak Hour			Daily		
Land Use	In	Out	Total	In	Out	Total	In	Out	Total
368 Bedrooms	11	15	26	25	23	48	261	262	523
3,500 SF Retail	12	12	24	10	8	18	78	77	155
Total	**23**	**27**	**50**	**35**	**31**	**66**	**339**	**339**	**678**

5.2 Trip Distribution

In order to distribute the site generated traffic to the adjacent street system, the trip generation per level, and the associated trip generation by access point, was determined. The proportion of parking spaces for each level is summarized in Table 5.

Table 5. Proportion of Parking Spaces by Level

Parking Level	# of Parking Spaces	Access Location	% of Total Parking
Level P1	41	Spruce Street	33%
Level P2	46	Willey Street	37%
Level 01	37	Willey Street	30%
Total	**124**		**100%**

Therefore, it is estimated that 67% of the site generated traffic will utilize the Willey Street access, and the remaining 33% will use the Spruce Street access. Applying these percentages to the anticipated trip generation yields the projected trips by access location shown in Table 6.

Table 6. Projected Trips by Parking Level/Access Location

Parking	Access	AM Peak Hour			PM Peak Hour			Daily		
Level	Location	In	Out	Total	In	Out	Total	In	Out	Total
Level P1	Spruce	8	9	17	12	10	22	112	112	224
Level P2/01	Willey	15	18	33	23	21	44	227	227	454
Total		**23**	**27**	**50**	**35**	**31**	**66**	**339**	**339**	**678**

The overall distribution of site traffic was based on its proximity to the campus and existing travel patterns in the study area. Since the development will consist of student housing, it is anticipated that the majority of the site generated traffic (90%) will have origins and destinations to campus. Considering this, Table 7 outlines the anticipated distribution of site generated traffic for each access location. It should be noted that it has been agreed that left-turn movements from the Willey Street access will be restricted.

Table 7. Trip Distribution Pattern by Access Location

	Spruce Street		Willey Street	
Direction	Inbound	Outbound	Inbound	Outbound
Willey Street West	68%	68%	68%	0%
High Street North	22%	0%	22%	0%
High Street South	0%	7%	0%	7%
Spruce Street North	0%	22%	0%	0%
Spruce Street South	7%	0%	7%	0%
Willey Street East	3%	3%	3%	3%
Price Street North	0%	0%	0%	90%
Price Street South	0%	0%	0%	0%

Applying the above distribution pattern to the anticipated site generated traffic yields the peak hour site generated traffic illustrated in Figure 4.

6.0 PROJECTED TRAFFIC VOLUMES

As directed by the West Virginia Division of Highways and the City of Morgantown, projected traffic volumes for the study area should include the application of a background growth rate and anticipated site generated traffic from other area developments.

6.1 Other Area Development Trip Generation and Distribution

In addition to the proposed development, several other area developments are anticipated to be constructed during the same timeframe, including Central Place and College Park. Central Place is a proposed 120 unit apartment complex development to be located immediately adjacent to 494 Spruce that will provide access directly opposite of Price Street. College Park is located between Mountaineer Middle School and North Willey Street and will provide 224 apartment units with 567 bedrooms. Anticipated trip generation for both developments was based on the research study cited earlier in this report and is summarized in Table 8.

Table 8. Other Area Development Trip Generation Estimates

	AM Peak Hour			PM Peak Hour			Daily		
Development	In	Out	Total	In	Out	Total	In	Out	Total
Central Place	14	19	34	32	30	62	341	341	682
College Park	17	23	40	39	35	74	402	403	805

The distribution pattern utilized to distribute site generated traffic for the 494 Spruce development was also applied to the Central Place development. For College Park, it is anticipated that 10% of the site generated traffic will pass through the study area via US Route 119. Figures 5 and 6 illustrate the resulting peak hour site generated traffic for each development.

6.2 2016 Projected Traffic Volumes

The projected opening year for the 494 Spruce development is 2016. Therefore, a 2% per year growth rate was applied to the 2014 Existing Traffic Volumes to achieve 2016 base traffic volumes. This growth rate is appropriate for the Morgantown area. Site generated traffic for all three developments was then added to achieve the 2016 Full Development Traffic Volumes illustrated in Figure X.

7.0 OPERATIONAL ANALYSIS

Utilizing the Synchro traffic analysis software and the methodologies outlined in the *Highway Capacity Manual 2010* published by the Transportation Research Board, capacity calculations were performed for each study intersection. Based on this methodology, the operational characteristics of an intersection can be identified based on the assignment of a Level of Service (LOS). LOS ranges from A to F, with A representing the best operating conditions with little delay, and F representing conditions at or beyond capacity with substantial delay and queuing.

To be completed per WVDOH review/concurrence of trip generation and distribution assignments.

8.0 QUEUE ANALYSIS

A queuing analysis was conducted for the study intersections using the Synchro traffic analysis software package distributed by TrafficWare. The 95th percentile queues for the AM and PM peak periods for each scenario were compared to the existing auxiliary lane lengths to determine if the storage lanes are adequate.

To be completed per WVDOH review/concurrence of trip generation and distribution assignments.

9.0 CONCLUSIONS

To be completed per WVDOH review/concurrence of trip generation and distribution assignments.

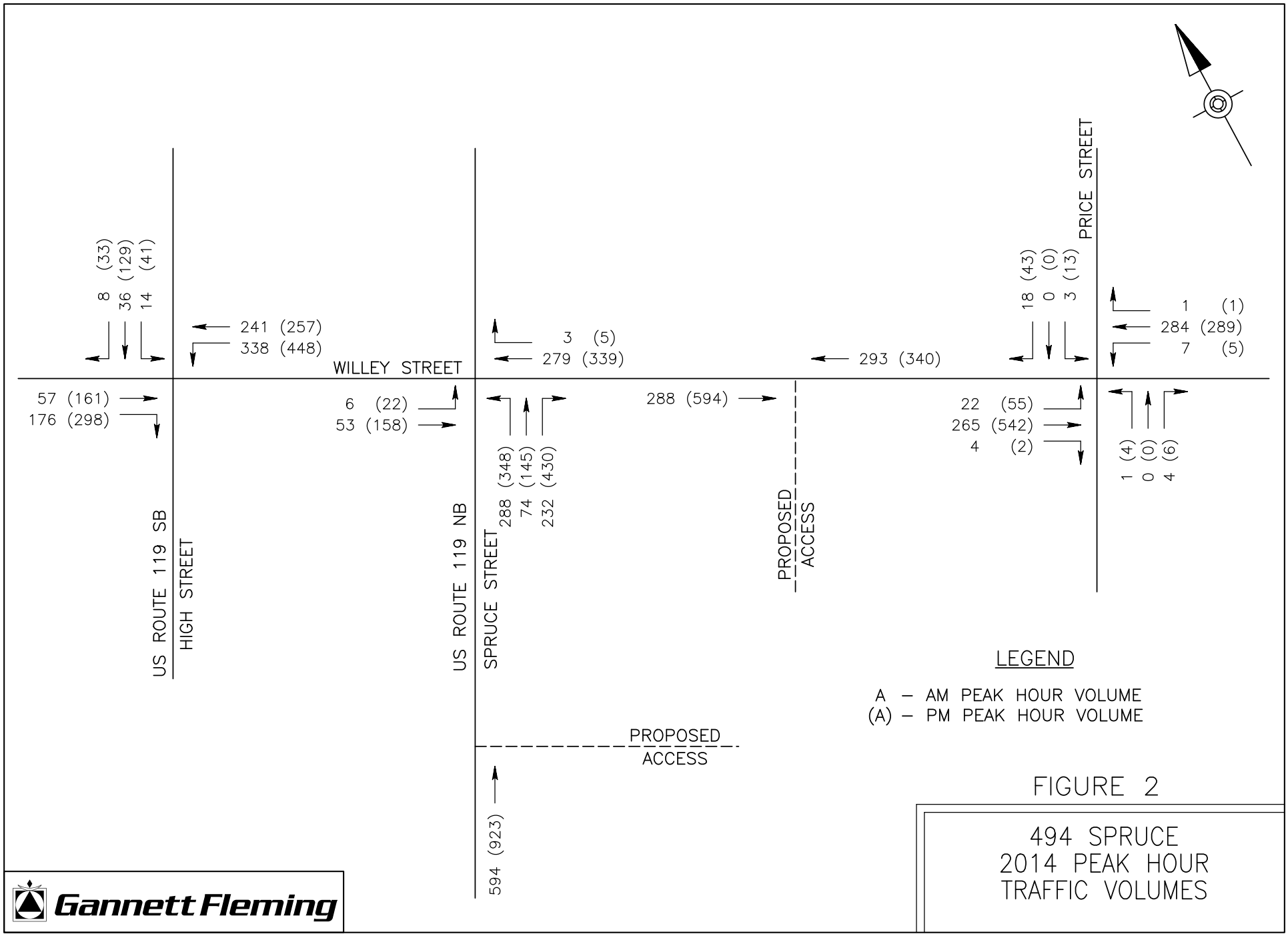


FIGURE 2

494 SPRUCE
2014 PEAK HOUR
TRAFFIC VOLUMES

Gannett Fleming

FILENAME: S:\DIV-2\100209\Project\058486 – CampAcq – 494 Spruce – WVU\Project Working\CADD\FIG 02_58486 494 Spruce 2014 Peak Hour.dgn
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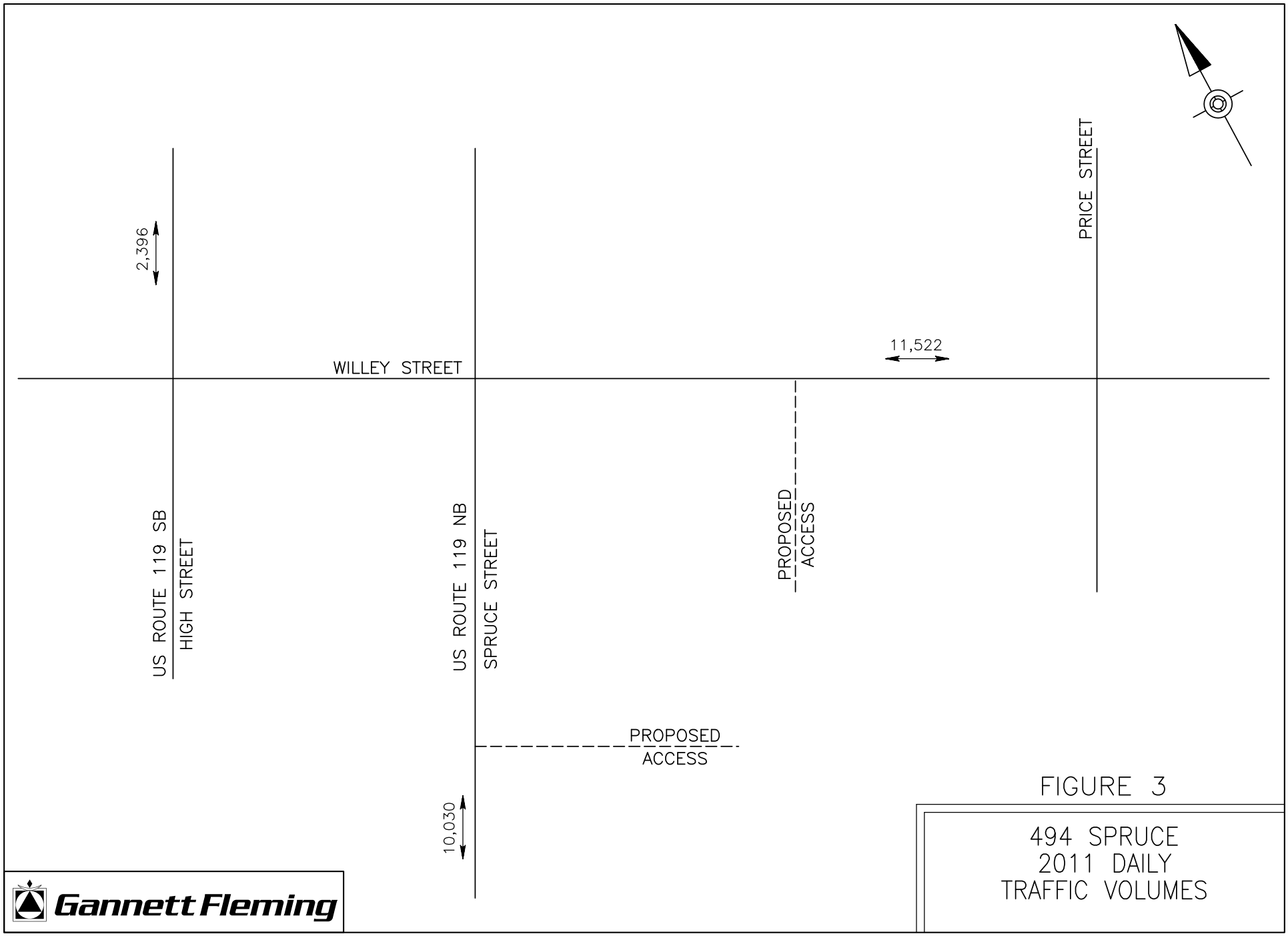

FIGURE 3

494 SPRUCE
2011 DAILY
TRAFFIC VOLUMES

FILENAME: S:\DIV-2\100209\Project\058486 - CampAcq - 494 Spruce - WVU\Project Working\CADD\FIG 03_58486 494 Spruce 2011 Avg Daily Traff.dgn
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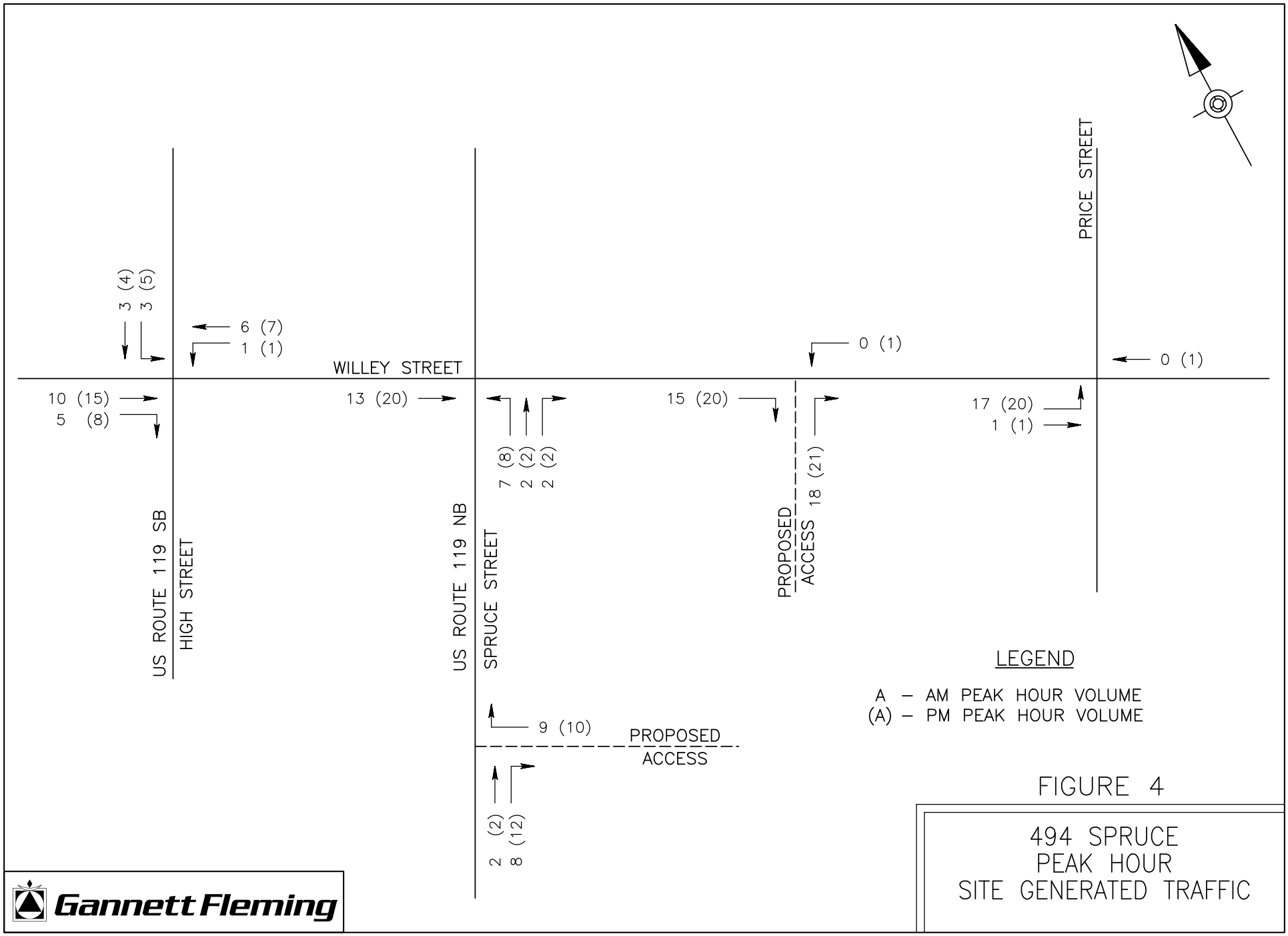

FIGURE 4

494 SPRUCE
PEAK HOUR
SITE GENERATED TRAFFIC

Gannett Fleming

FILENAME: S:\DIV-2\100209\Project\058486 – CampAcq – 494 Spruce – WVU\Project Working\CADD\FIG 04_58486 494 Spruce Peak Hour Site Gen.dgn
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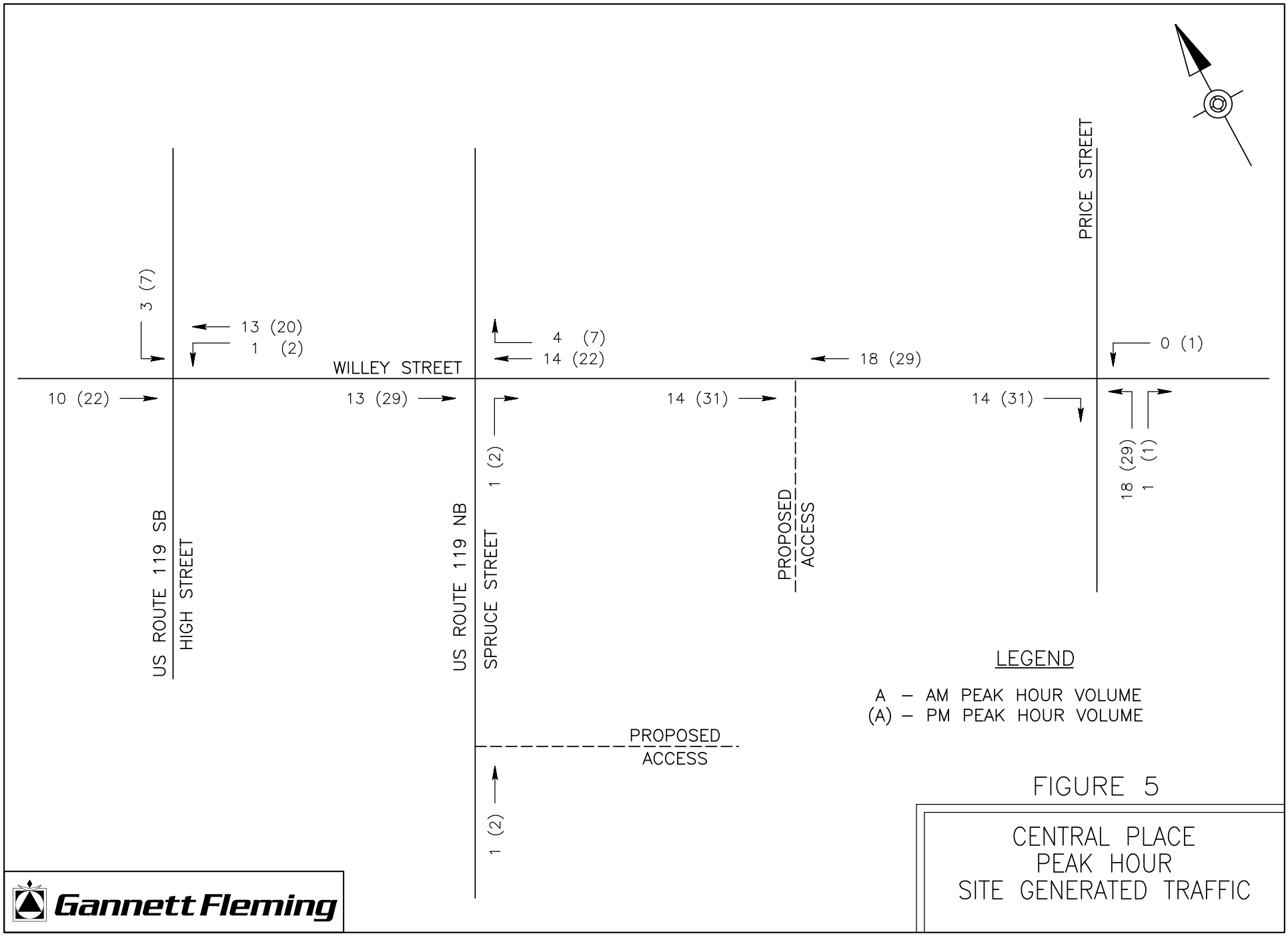

FIGURE 5

CENTRAL PLACE
PEAK HOUR
SITE GENERATED TRAFFIC

FILENAME: S:\DIV-2\100209\Project\058486 – CampAcq – 494 Spruce – WVU\Project Working\CADD\FIG 05_58486 494 Spruce Central Place Peak Hour.dgn
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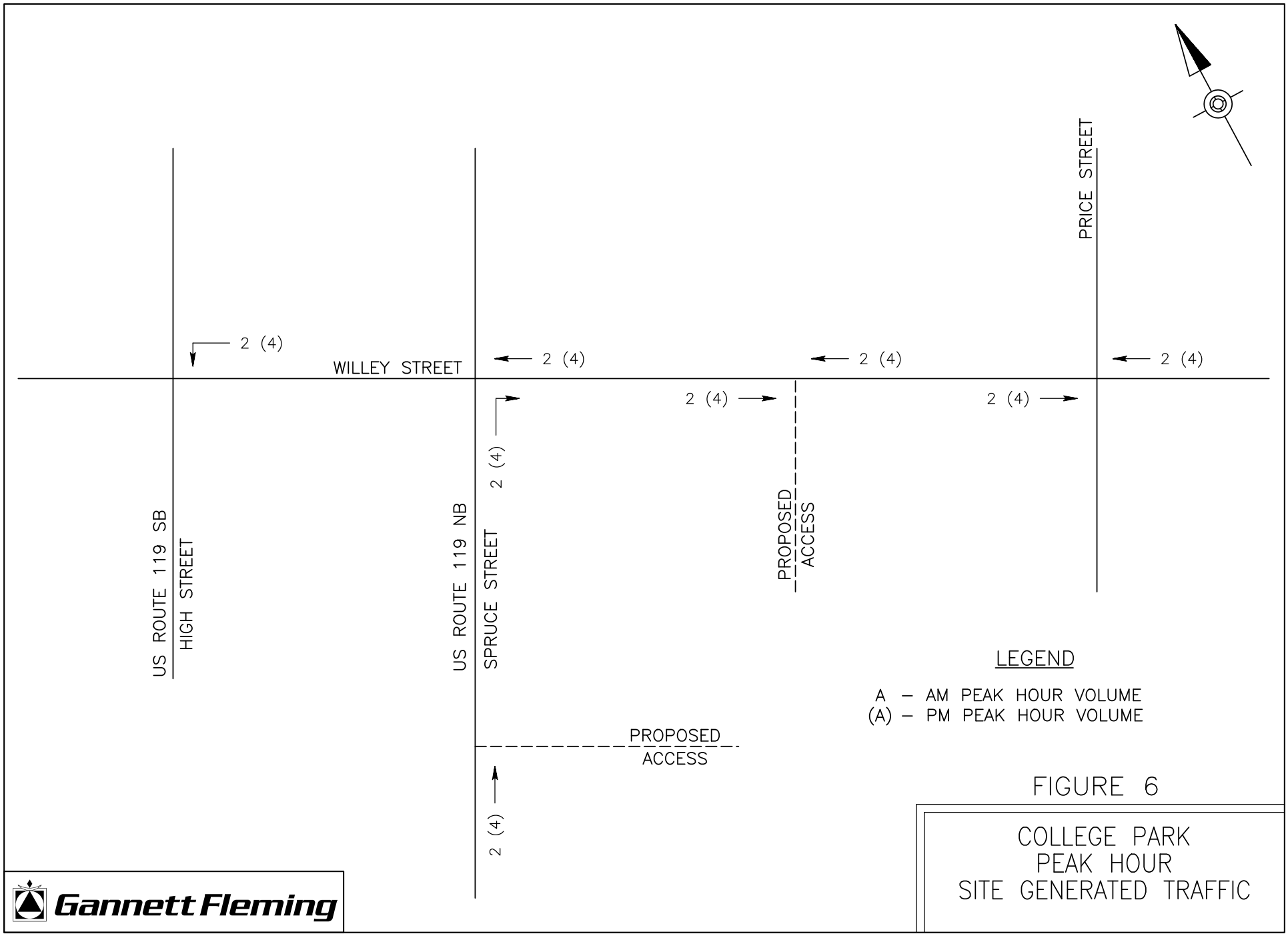

FIGURE 6

COLLEGE PARK
PEAK HOUR
SITE GENERATED TRAFFIC

Gannett Fleming

FILENAME: S:\DIV-2\100209\Project\058486 – CampAcq – 494 Spruce – WVU\Project Working\CADD\FIG 06_58486 494 Spruce College Park Peak Hour.dgn
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APPENDIX C
INTERSECTION TURNING MOVEMENT COUNTS

Intersection Turning Movement Count Summary

Intersection: Wiley Street and High Street
Date: 3/21/2014
Weather: Dry

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Wiley Street				*Wiley Street*				*High Street*				*High Street*				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	TOTAL
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	8	47	1	56	92	1	0	0	0	0	1	0	6	0	0	210
7:15 AM	0	5	25	2	37	68	0	0	0	0	0	0	0	5	0	0	140
7:30 AM	0	23	21	6	65	98	0	0	0	0	0	5	1	7	1	6	216
7:45 AM	0	13	33	7	57	82	0	9	0	0	0	6	3	7	1	2	196
8:00 AM	0	13	33	14	68	62	0	7	0	0	0	6	0	7	3	11	186
8:15 AM	0	16	53	12	97	70	0	4	0	0	0	2	3	11	2	4	252
8:30 AM	0	6	40	14	73	56	0	12	0	0	0	4	2	3	1	5	181
8:45 AM	0	22	50	10	100	53	0	10	0	0	0	10	9	15	2	3	251
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM PEAK HR 8:00 AM - 9:00 AM	0	57	176	50	338	241	0	33	0	0	0	22	14	36	8	23	870
PHF		0.65	0.83		0.85	0.86							0.39	0.60	0.67		

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Wiley Street				*Wiley Street*				*High Street*				*High Street*				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	TOTAL
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PEAK HR 12:00 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF																	

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Wiley Street				*Wiley Street*				*High Street*				*High Street*				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	TOTAL
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	44	60	48	100	66	0	13	0	0	0	8	7	22	5	15	304
4:15 PM	0	43	71	52	120	72	0	16	0	0	0	8	12	27	8	8	353
4:30 PM	0	42	62	54	115	74	0	41	0	0	0	10	10	30	7	10	340
4:45 PM	0	40	78	65	104	50	0	26	0	2	1	8	10	40	10	4	335
5:00 PM	0	36	87	53	109	61	0	20	0	0	0	8	9	32	8	17	342
5:15 PM	0	38	79	72	107	69	0	13	0	0	0	18	10	20	10	15	333
5:30 PM	0	33	64	75	105	46	0	32	0	0	0	16	12	30	9	11	299
5:45 PM	0	50	77	71	114	43	0	16	0	0	0	6	14	22	5	27	325
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PEAK HOUR 4:15 PM - 5:15 PM	0	161	298	224	448	257	0	103	0	2	1	34	41	129	33	39	1370
PHF		0.94	0.86		0.93	0.87				0.25	0.25		0.85	0.81	0.83		

, ,

Turn Count Summary

Location: at ,
GPS Coordinates:
Date: 2014-03-19
Day of week: Wednesday
Weather:
Analyst:

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	2	0	3	3	47	0	0	0	0	4	55	5	119
07:15	2	0	5	1	41	0	0	0	1	2	61	1	114
07:30	1	0	11	1	51	1	1	0	1	2	64	1	134
07:45	0	0	7	1	66	0	0	0	0	8	75	1	158
08:00	0	0	4	5	75	0	1	0	2	4	58	1	150
08:15	2	0	4	1	74	0	0	0	0	8	62	2	153
08:30	1	0	3	0	69	1	0	0	2	2	70	0	148
08:45	0	0	8	0	70	0	0	0	0	2	55	0	135
09:00	0	0	0	0	2	0	0	0	0	0	1	0	3

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	1	0	3	3	46	0	0	0	0	3	52	5	113
07:15	2	0	5	1	39	0	0	0	1	2	60	1	111
07:30	1	0	11	1	49	1	1	0	1	2	58	1	126
07:45	0	0	7	1	63	0	0	0	0	8	74	1	154
08:00	0	0	4	5	71	0	1	0	2	4	56	1	144
08:15	2	0	4	1	74	0	0	0	0	7	62	2	152
08:30	1	0	3	0	66	1	0	0	2	2	67	0	142
08:45	0	0	8	0	67	0	0	0	0	2	54	0	131
09:00	0	0	0	0	2	0	0	0	0	0	1	0	3

Truck traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	1	0	0	0	1	0	0	0	0	1	3	0	6
07:15	0	0	0	0	2	0	0	0	0	0	1	0	3
07:30	0	0	0	0	2	0	0	0	0	0	6	0	8
07:45	0	0	0	0	3	0	0	0	0	0	1	0	4
08:00	0	0	0	0	4	0	0	0	0	0	2	0	6
08:15	0	0	0	0	0	0	0	0	0	1	0	0	1
08:30	0	0	0	0	3	0	0	0	0	0	3	0	6
08:45	0	0	0	0	3	0	0	0	0	0	1	0	4
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	1	1	0	0	0	1
07:30	0	0	0	0	1	1	0	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	1	1	1	0	1	2
08:00	0	0	0	1	0	1	0	0	0	3	0	3	4
08:15	0	2	2	1	0	1	2	2	4	0	0	0	7
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	1	1	0	1	1	0	1	1	0	0	0	3
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

07:45 - 08:45

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	3	0	18	7	284	1	1	0	4	22	265	4	609
Factor	0.38	0.00	0.64	0.35	0.95	0.25	0.25	0.00	0.50	0.69	0.88	0.50	0.96
Approach factor	0.75			0.91			0.42			0.87			

Peak Hour Vehicle Summary

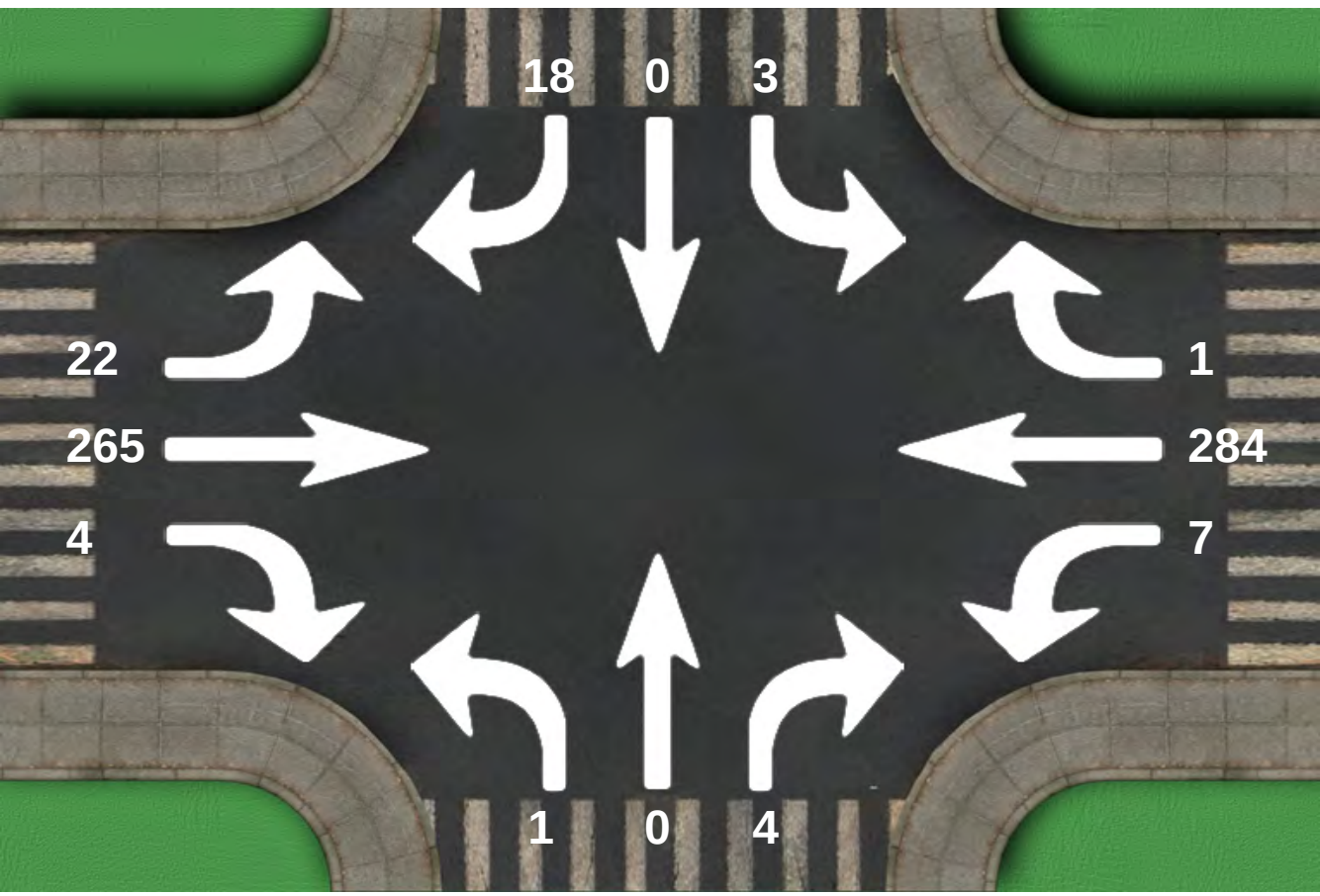
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	3	0	18	7	274	1	1	0	4	21	259	4	592
Truck	0	0	0	0	10	0	0	0	0	1	6	0	17
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	2	2	2	0	2	2	3	5	4	0	4	13

Intersection Peak Hour

Location: at ,
GPS Coordinates:
Date: 2014-03-19
Day of week: Wednesday
Weather:
Analyst:



Intersection Peak Hour

07:45 - 08:45

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	3	0	18	7	284	1	1	0	4	22	265	4	609
Factor	0.38	0.00	0.64	0.35	0.95	0.25	0.25	0.00	0.50	0.69	0.88	0.50	0.96
Approach factor	0.75			0.91			0.42			0.87			

, ,

Turn Count Summary

Location: at ,
GPS Coordinates:
Date: 2014-03-21
Day of week: Friday
Weather:
Analyst:

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	3	0	8	2	65	0	1	0	1	16	125	0	221
16:15	3	0	9	3	77	0	3	0	1	20	130	1	247
16:30	7	0	13	0	77	0	1	0	2	15	131	0	246
16:45	3	0	9	0	60	0	2	0	1	9	136	1	221
17:00	0	0	10	3	71	1	1	0	3	15	139	1	244
17:15	3	0	11	2	81	0	0	0	0	16	136	0	249
17:30	2	0	10	2	79	2	1	0	0	13	108	1	218
17:45	5	1	6	0	86	0	1	2	0	9	127	0	237
18:00	0	0	0	0	2	0	0	0	0	2	5	0	9

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	3	0	8	2	64	0	1	0	1	16	121	0	216
16:15	3	0	9	3	77	0	3	0	1	20	129	1	246
16:30	7	0	13	0	76	0	1	0	2	15	130	0	244
16:45	3	0	9	0	60	0	2	0	1	9	135	1	220
17:00	0	0	10	3	71	1	1	0	3	15	139	1	244
17:15	3	0	11	2	81	0	0	0	0	16	133	0	246
17:30	2	0	10	2	79	2	1	0	0	13	108	1	218
17:45	5	1	6	0	85	0	1	2	0	9	127	0	236
18:00	0	0	0	0	2	0	0	0	0	2	5	0	9

Truck traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	0	1	0	0	0	0	0	4	0	5
16:15	0	0	0	0	0	0	0	0	0	0	1	0	1
16:30	0	0	0	0	1	0	0	0	0	0	1	0	2
16:45	0	0	0	0	0	0	0	0	0	0	1	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	3	0	3
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	1	0	0	0	0	0	0	0	1
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:00	1	3	4	1	1	2	0	0	0	7	0	7	13
16:15	0	0	0	0	0	0	3	5	8	13	0	13	21
16:30	0	6	6	1	0	1	2	1	3	5	0	5	15
16:45	0	1	1	0	1	1	1	10	11	8	1	9	22
17:00	1	0	1	3	0	3	0	4	4	10	0	10	18
17:15	1	3	4	0	3	3	3	3	6	2	1	3	16
17:30	0	7	7	3	0	3	0	6	6	7	0	7	23
17:45	0	0	0	0	2	2	0	2	2	8	0	8	12
18:00	0	0	0	0	0	0	0	1	1	0	0	0	1

Intersection Peak Hour

16:30 - 17:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	13	0	43	5	289	1	4	0	6	55	542	2	960
Factor	0.46	0.00	0.83	0.42	0.89	0.25	0.50	0.00	0.50	0.86	0.97	0.50	0.96
Approach factor	0.70			0.89			0.62			0.97			

Peak Hour Vehicle Summary

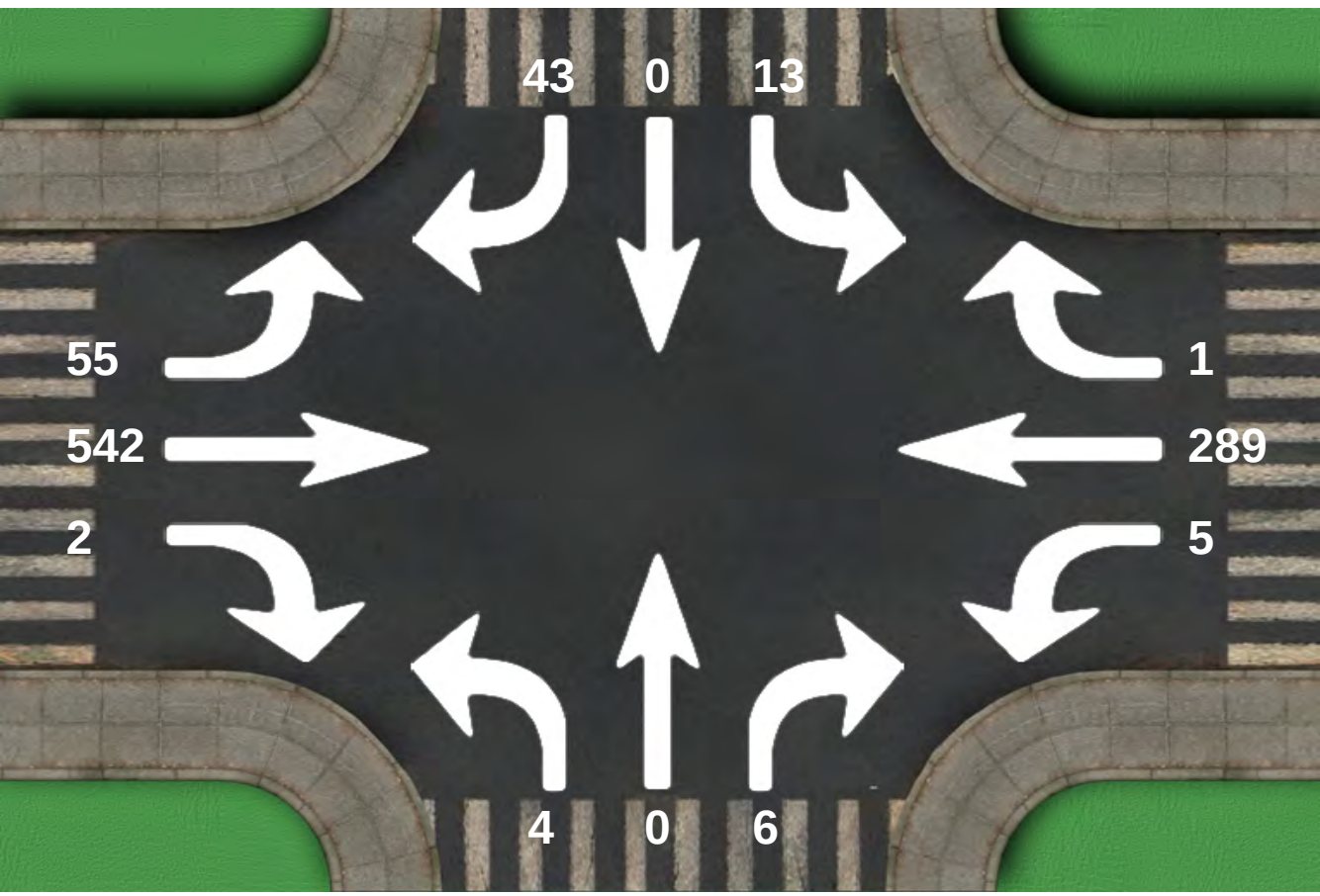
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	13	0	43	5	288	1	4	0	6	55	537	2	954
Truck	0	0	0	0	1	0	0	0	0	0	5	0	6
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	2	10	12	4	4	8	6	18	24	25	2	27	71

Intersection Peak Hour

Location: at ,
GPS Coordinates:
Date: 2014-03-21
Day of week: Friday
Weather:
Analyst:



Intersection Peak Hour

16:30 - 17:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	13	0	43	5	289	1	4	0	6	55	542	2	960
Factor	0.46	0.00	0.83	0.42	0.89	0.25	0.50	0.00	0.50	0.86	0.97	0.50	0.96
Approach factor	0.70			0.89			0.62			0.97			

Intersection Turning Movement Count Summary

Intersection: Wiley Street and Spruce Street
Date: 3/21/2014
Weather: Dry

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Wiley Street				*Wiley Street*				*Spruce Street*				*Spruce Street*				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	TOTAL
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	7	0	0	0	50	2	0	54	6	57	0	0	0	0	0	176
7:15 AM	0	1	0	3	1	43	0	1	86	11	62	1	0	0	0	2	204
7:30 AM	2	7	0	1	0	57	2	1	80	13	55	2	0	0	0	0	216
7:45 AM	0	18	0	2	0	69	0	2	70	23	63	1	0	0	0	1	243
8:00 AM	2	12	0	4	0	70	1	4	61	31	54	6	0	0	0	1	231
8:15 AM	2	11	0	5	0	69	1	4	87	15	59	2	0	0	0	6	244
8:30 AM	2	12	0	4	0	71	1	1	70	5	56	1	0	0	0	2	217
8:45 AM	1	13	0	7	0	69	1	1	48	20	51	6	0	0	0	3	203
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM PEAK HR 7:45 AM - 8:45 AM	6	53	0	15	0	279	3	11	288	74	232	10	0	0	0	10	935
PHF	0.75	0.74				0.98	0.75		0.83	0.60	0.92						

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Wiley Street				*Wiley Street*				*Spruce Street*				*Spruce Street*				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	TOTAL
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PEAK HR 12:00 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF																	

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Wiley Street				*Wiley Street*				*Spruce Street*				*Spruce Street*				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	TOTAL
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	5	29	0	4	0	62	3	5	102	30	96	3	0	0	0	0	327
4:15 PM	2	42	0	5	0	91	1	7	99	29	106	10	0	0	0	12	370
4:30 PM	4	43	0	5	0	82	2	4	93	29	102	6	0	0	0	14	355
4:45 PM	4	38	0	1	0	63	0	2	78	32	98	5	0	0	0	11	313
5:00 PM	3	40	0	3	0	69	2	15	99	46	126	7	0	0	0	0	385
5:15 PM	6	36	0	9	0	84	0	5	93	30	107	8	0	0	0	12	356
5:30 PM	7	36	0	10	0	87	1	6	82	30	87	12	0	0	0	10	330
5:45 PM	6	46	0	3	0	99	2	7	74	39	110	17	0	0	0	1	376
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PEAK HOUR 5:00 PM - 6:00 PM	22	158	0	25	0	339	5	33	348	145	430	44	0	0	0	23	1447
PHF	0.79	0.86				0.86	0.63		0.88	0.79	0.85						

APPENDIX D
TRIP GENERATION RESEARCH

Technical Memorandum

From: Mike Spack, P.E., P.T.O.E., Lindsay deLeeuw
Date: April 12, 2012
Re: Trip Generation Study – Private Student Housing Apartments

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A recent spike in new construction surrounding the University of Minnesota led to an interest in determining how trips generated by student housing apartments vary from trips generated by a generic apartment building (as defined by ITE's *Trip Generation, 8th Edition* Code 220). This report provides trip generation data for six student housing apartment buildings. Weekday daily, a.m., and p.m. peak hour trip generation rates are provided. In additon to providing trip generation rates per Dwelling Unit (as in *Trip Generation*), trip generation data is also provided based on number of bedrooms and number of parking stalls.

Overall, it was found student housing apartments generate approximately a third the amount of traffic compared to a similarly sized, generic apartment building. Using ITE's guideline of preparing full traffic impact studies only if a development will generate more than 100 peak hour trips, a student housing apartment complex would need to have 416 dwelling units to trigger the need for a full traffic impact study.

Methodology

Data was collected on Thursday, March 29, 2012 (while school was in full session) at six typical student-housing apartment buildings near the University of Minnesota – Twin Cities using COUNTcam video recording systems. Each building is specifically designated for students by the property managers but none are directly associated with the university. The range of total apartment units is 44 to 253, with an average of 118, and the apartment types vary from studios to four-bedroom units. Additionally, all the buildings observed have parking with the number of stalls ranging from 40 to 135, with an average of 57 stalls.

The parking lot for each student housing apartment building was recorded for 24 hours on a weekday (multiple cameras were used for parking lots with more than one entrance or exit). The videos were watched at high speeds with the PC-TAS counting software and the vehicles in and out were tallied in 15-minute intervals.

Findings

Statistics and data plots for each trip generation period studied are attached. A summary of the student housing average trip generation rates is shown in Table 1 alongside the trip generation rates for Apartments from the Institute of Transportation Engineers' *Trip Generation, 8th Edition* (ITE Code 220).

Table 1 – Average Trip Generation Rates for Student Housing and Apartment per Number of Dwelling Units

	Student Housing Apartments	Apartment from *Trip Generation, 8th Edition*
Weekday	2.82	6.65
Weekday A.M. Peak Hour (between 7-9 a.m.)	0.13	0.51
Weekday P.M. Peak Hour (between 4-6 p.m.)	0.24	0.62

The results in Table 1 show that student-housing apartments generate approximately one-third of the trips generated by regular apartment buildings. The student housing data was consistent where the fitted curves often resulted in R^2 values greater than 0.8 (anything higher than 0.75 indicates the data fits the best fit line equation well).

Similar trip generation reports (attached) were created based on the number of parking stalls and the number of bedrooms. The results for the number of parking stalls were as statistically significant as the number of dwelling units. However, the trip generation based on the number of bedrooms was less statistically valid with R^2 values less than 0.55.

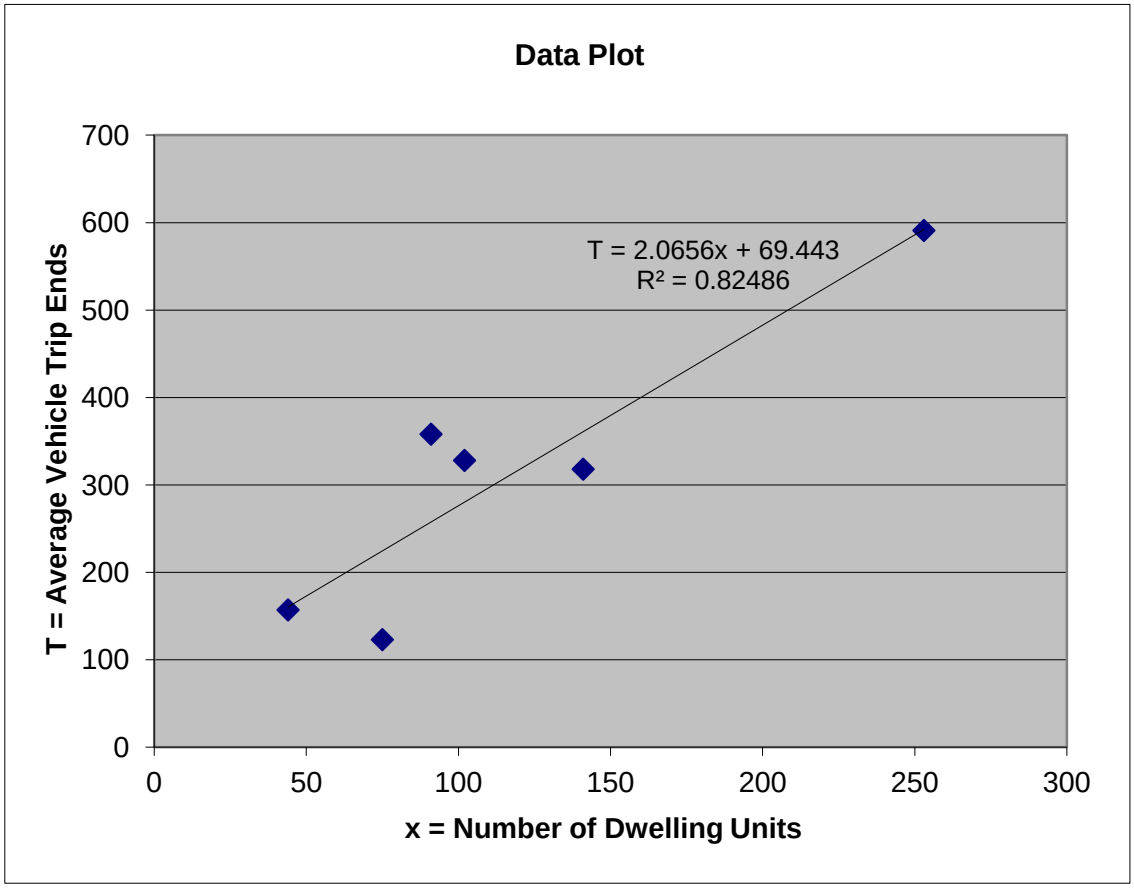
Student Housing Apartment Building

Average Vehicle Trip Ends vs: Number of Dwelling Units
On a: Weekday

Number of Studies: 6
Average Number of Units: 117.67
Directional Distribution: 50% Entering
50% Exiting

Trip Generation per Number of Dwelling Units

Average Rate	Range of Rates	Standard Deviation
2.82	1.64-3.93	0.88



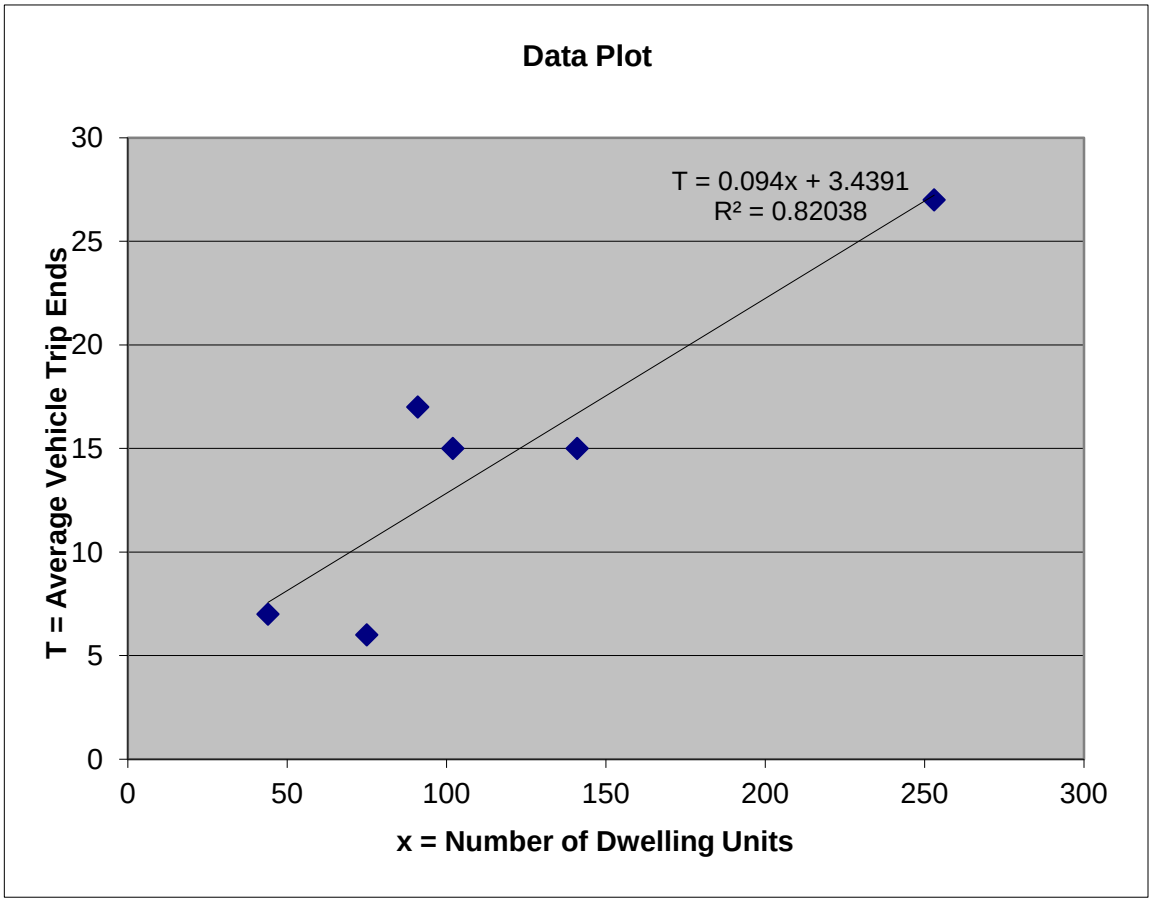
Student Housing Apartment Building

Average Vehicle Trip Ends vs: Number of Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Number of Studies: 6
Average Number of Units: 117.67
Directional Distribution: 39% Entering
61% Exiting

Trip Generation per Number of Dwelling Units

Average Rate	Range of Rates	Standard Deviation
0.13	0.08-0.19	0.04



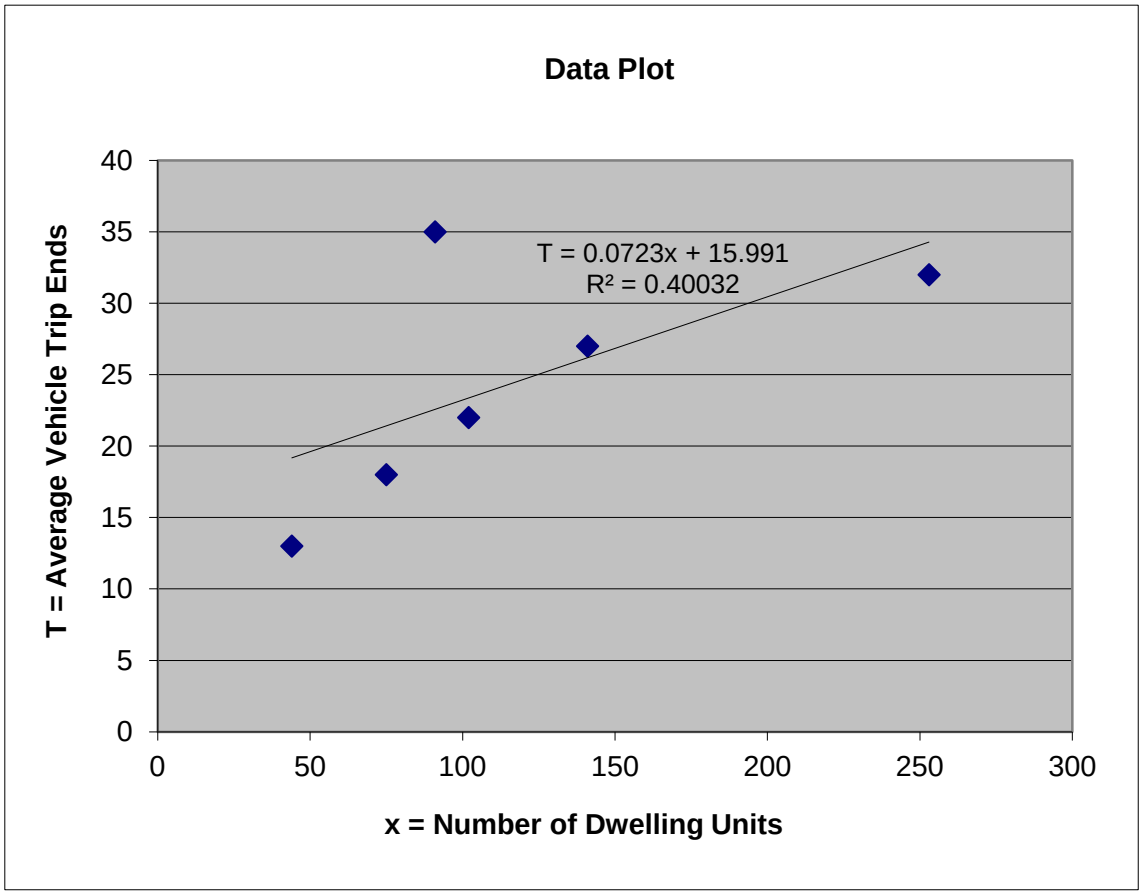
Student Housing Apartment Building

Average Vehicle Trip Ends vs: Number of Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Number of Studies: 6
Average Number of Units: 117.67
Directional Distribution: 54% Entering
46% Exiting

Trip Generation per Number of Dwelling Units

Average Rate	Range of Rates	Standard Deviation
0.24	0.13-0.38	0.09



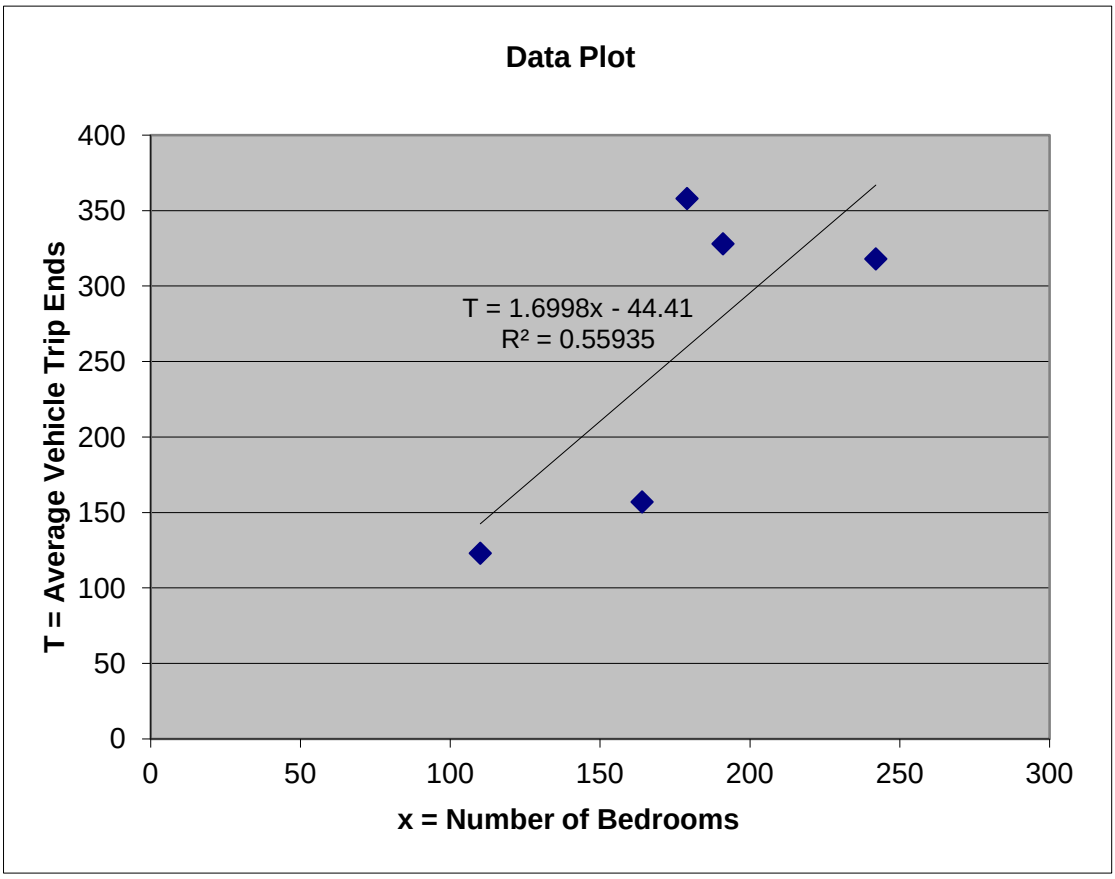
Student Housing Apartment Building

Average Vehicle Trip Ends vs: Number of Bedrooms
On a: Weekday

Number of Studies: 6
Average Number of Units: 147.67
Directional Distribution: 50% Entering
50% Exiting

Trip Generation per Number of Bedrooms

Average Rate	Range of Rates	Standard Deviation
1.42	0.96-2.00	0.43



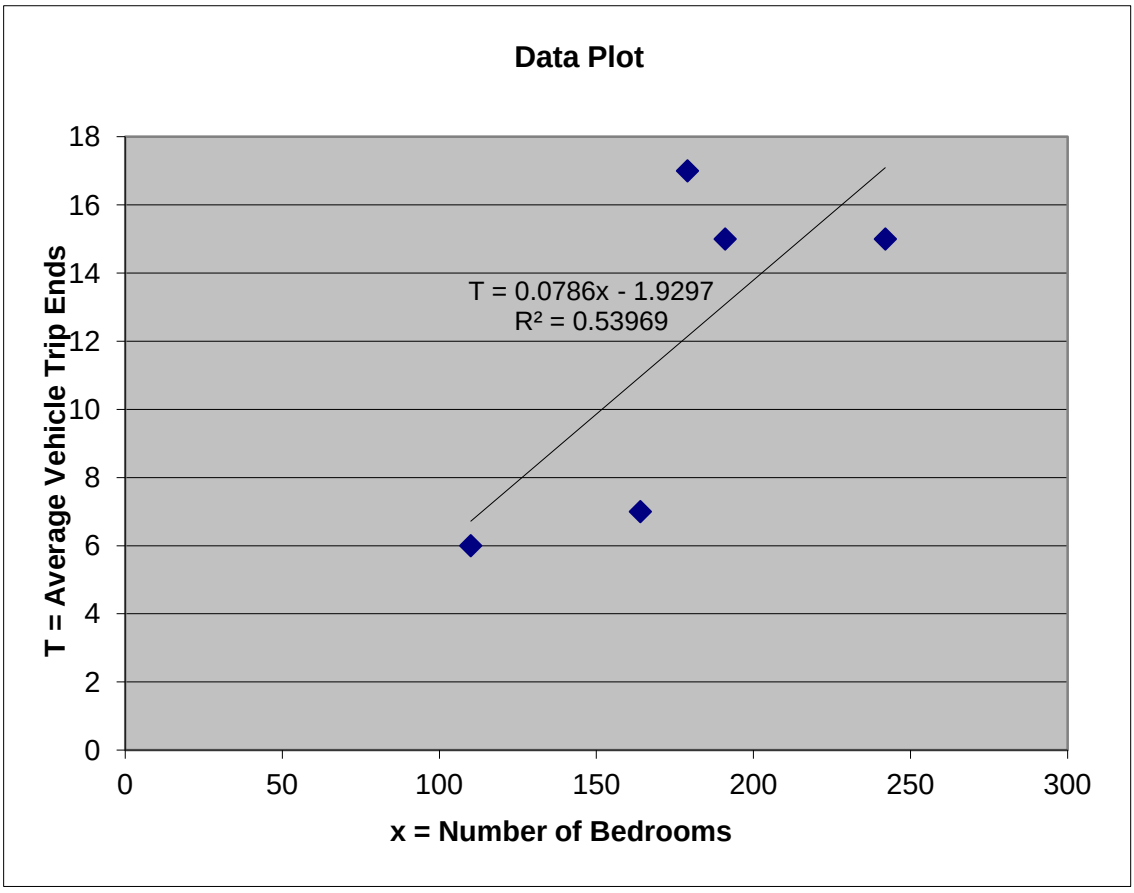
Student Housing Apartment Building

Average Vehicle Trip Ends vs: Number of Bedrooms
On a: Weekday,
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Number of Studies: 6
Average Number of Units: 147.67
Directional Distribution: 43% Entering
57% Exiting

Trip Generation per Number of Bedrooms

Average Rate	Range of Rates	Standard Deviation
0.07	0.04-0.09	0.02



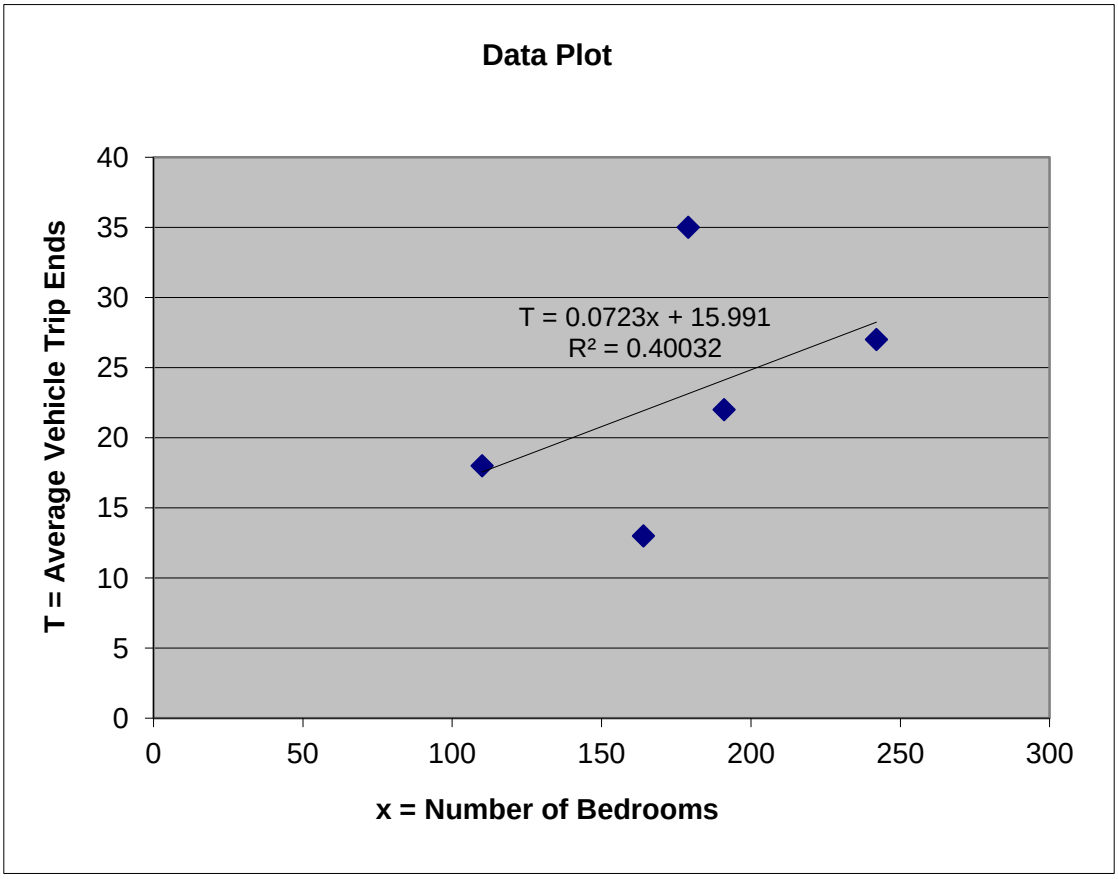
Student Housing Apartment Building

Average Vehicle Trip Ends vs: Number of Bedrooms
On a: Weekday,
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Number of Studies: 6
Average Number of Units: 147.67
Directional Distribution: 53% Entering
47% Exiting

Trip Generation per Number of Bedrooms

Average Rate	Range of Rates	Standard Deviation
0.13	0.11-0.20	0.05



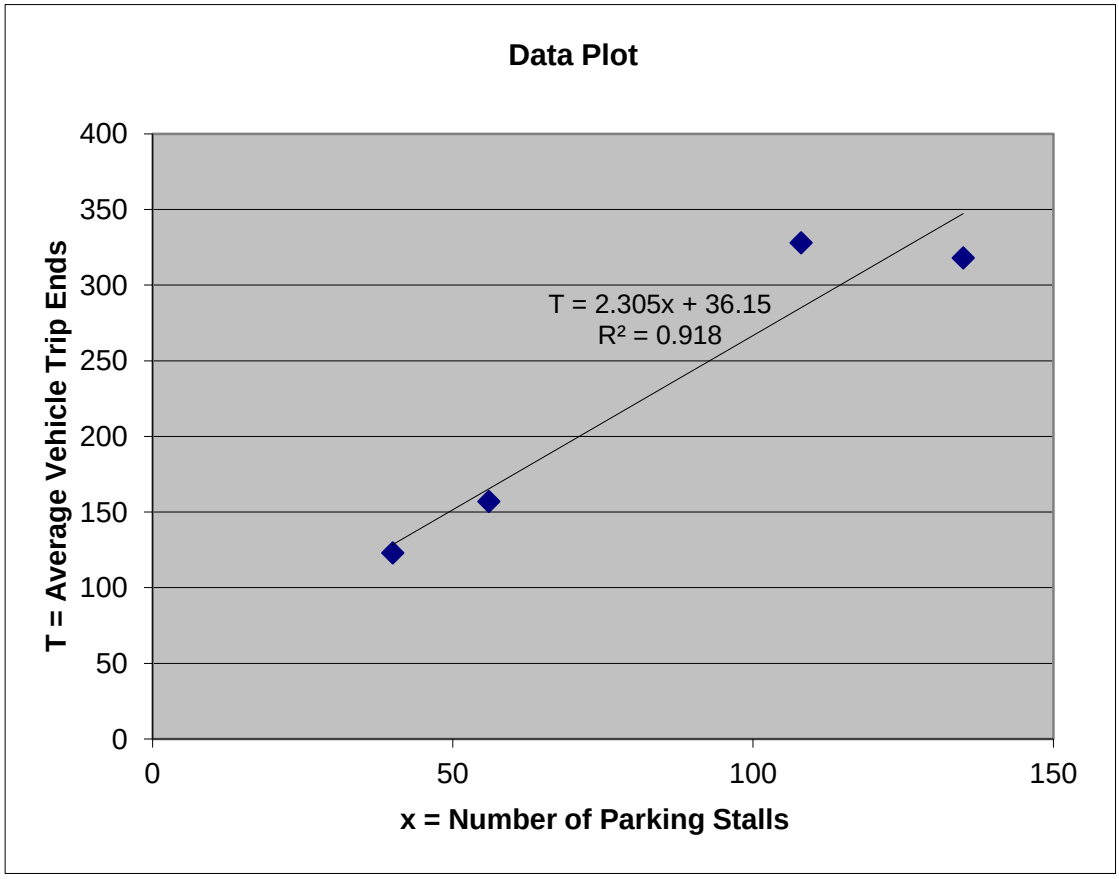
Student Housing Apartment Building

Average Vehicle Trip Ends vs: Number of Parking Stalls
On a: Weekday

Number of Studies: 6
Average Number of Units: 56.50
Directional Distribution: 50% Entering
50% Exiting

Trip Generation per Number of Parking Stalls

Average Rate	Range of Rates	Standard Deviation
2.82	2.36-3.08	0.33



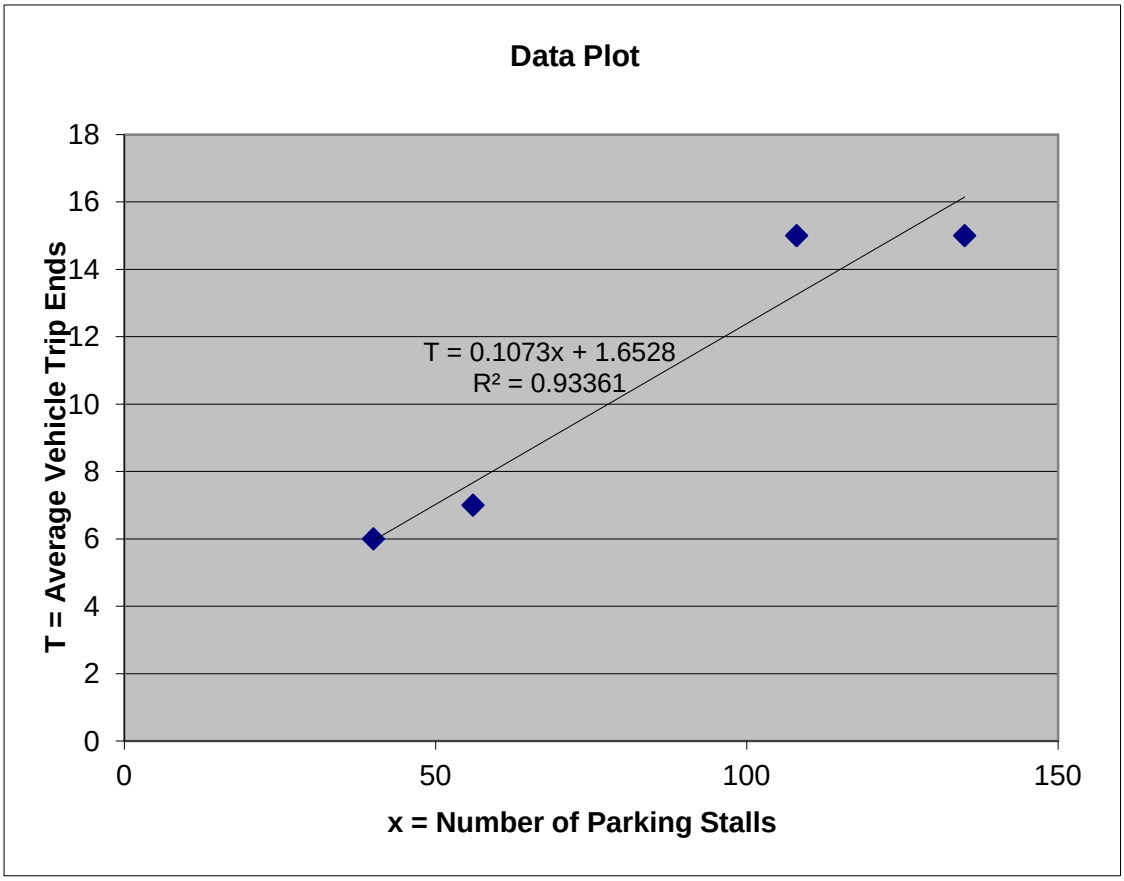
Student Housing Apartment Building

Average Vehicle Trip Ends vs: Number of Parking Stalls
On a: Weekday,
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Number of Studies: 6
Average Number of Units: 56.50
Directional Distribution: 47% Entering
53% Exiting

Trip Generation per Number of Parking Stalls

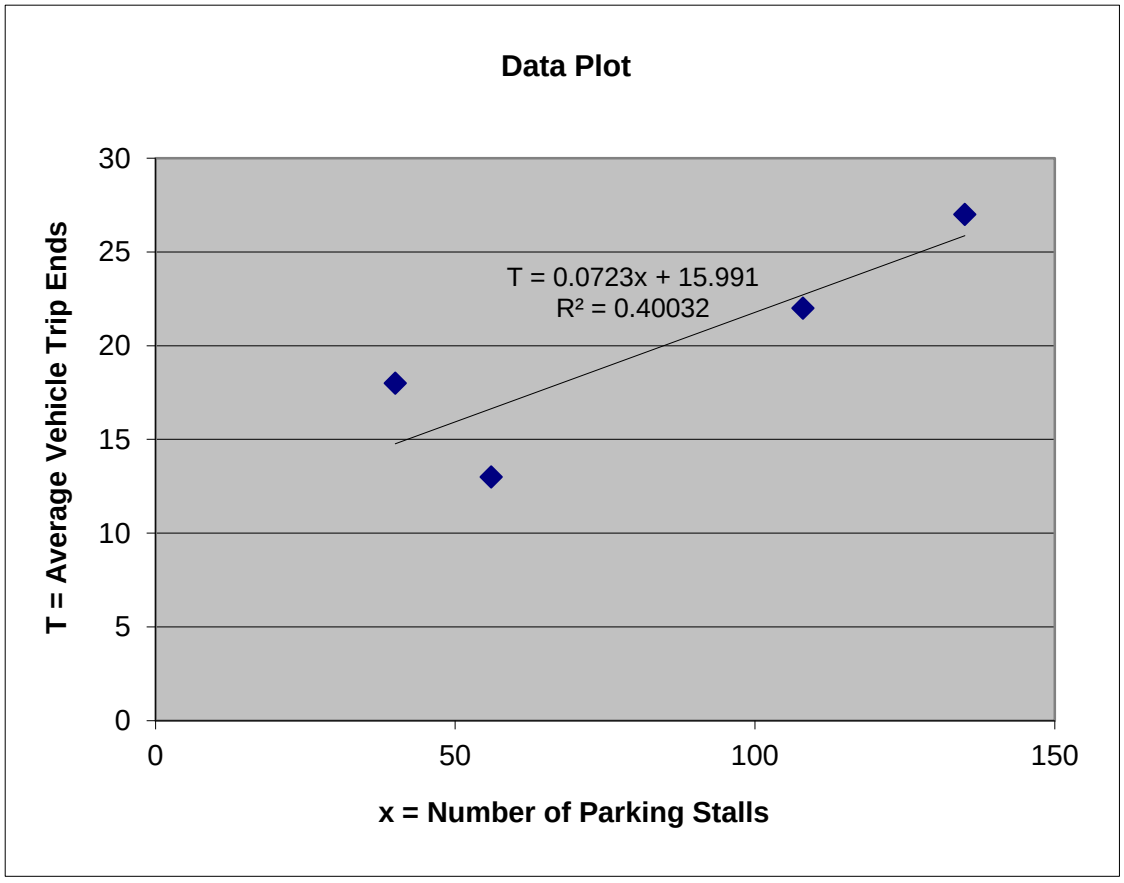
Average Rate	Range of Rates	Standard Deviation
0.13	0.11-0.15	0.02



Student Housing Apartment Building

Average Vehicle Trip Ends vs: Number of Parking Stalls
On a: Weekday,
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Number of Studies: 6
Average Number of Units: 56.50
Directional Distribution: 54% Entering
46% Exiting

Trip Generation per Number of Parking Stalls

Average Rate	Range of Rates	Standard Deviation
0.27	0.20-0.45	0.12