

Burlington Development Review Board

Department of Permitting & Inspections
645 Pine Street
Burlington, VT 05401
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Kienan Christianson
Caitlin Halpert
Sean McKenzie, (Alternate)
Ravi Venkataraman, (Alternate)



BURLINGTON DEVELOPMENT REVIEW BOARD

Tuesday, June 15, 2021, 5:00 PM

PUBLIC HEARING NOTICE

REMOTE MEETING

Zoom: <https://us02web.zoom.us/j/85976499785?pwd=WVpxRlZLclpWMWQwTVZLM01DU3gxUT09>

Password: 494251

Telephone: +1 312 626 6799 or +1 929 205 6099 or +1 301 715 8592 or +1 346 248 7799 or +1 669 900 6833 or +1 253 215 8782

- 1. 21-0909CA; 81 Dunder Road (RL-W, Ward 5S) Jonathan Heller**
Creation of accessory dwelling unit to be used as a bed and breakfast use - amending ZP18-0682CU.
- 2. 21-0785CA/CU; 57 South Williams Street (RH, Ward 1E) Chabad of Vermont**
Change of use from dormitory rooms to an elementary school.
- 3. 21-0922LL; 68-70 Conger Ave (RL-W, Ward 5S) Michele Bushey**
Appeal of lot line adjustment with 78-80 Harrison Ave.
- 4. 21-0923LL; 78-80 Harrison Ave (RL-W, Ward 5S) Michele Bushey**
Appeal of lot line adjustment with 68-70 Conger Ave.
- 5. 21-0409CA/MA; 362 Riverside Ave (NAC-RC, Ward 1E) Douglas G. Boyden**
64-unit Senior Housing development and related site work. Lot line merger included.

Plans may be viewed upon request by contacting the Department of Permitting & Inspections between the hours of 8:00 a.m. and 4:30 p.m. Participation in the DRB proceeding is a prerequisite to the right to take any subsequent appeal. Please note that ANYTHING submitted to the Zoning office is considered public and cannot be kept confidential. This may not be the final order in which items will be heard. Please view final Agenda, at www.burlingtonvt.gov/dpi/drb/agendas or the office notice board, one week before the hearing for the order in which items will be heard.

The City of Burlington will not tolerate unlawful harassment or discrimination on the basis of political or religious affiliation, race, color, national origin, place of birth, ancestry, age, sex, sexual orientation, gender identity, marital status, veteran status, disability, HIV positive status, crime victim status or genetic information. The City is also committed to providing proper access to services, facilities, and employment opportunities. For accessibility information or alternative formats, please contact Human Resources Department at (802) 540-2505.

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Agenda

- I. **Agenda**
- II. **Communications**
- III. **Minutes**
- IV. **Consent**
 1. **21-394; 15 Myrtle Street (RM, Ward 3C) Andrew Feltus**
Replace existing garage with new detached accessory dwelling unit. (Project Manager, Scott Gustin)
 2. **21-415; 6 Alexis Dr (RL-W, Ward 4N) David Cohen**
Tree clearing work on vacant lot. (Project Manager: Ryan Morrison)
- V. **Public Hearing**
 1. **21-0909CA; 81 Dunder Road (RL-W, Ward 5S) Jonathan Heller**
Creation of accessory dwelling unit to be used as a bed and breakfast use - amending ZP18-0682CU. (Project Manager, Ryan Morrison)
 2. **21-0785CA/CU; 57 South Williams Street (RH, Ward 1E) Chabad of Vermont**
Change of use from dormitory rooms to an elementary school. (Project Manager, Ryan Morrison)
 3. **21-0922LL; 68-70 Conger Ave (RL-W, Ward 5S) Michele Bushey**
Appeal of lot line adjustment denial with 78-80 Harrison Ave. (Project Manager, Scott Gustin)
 4. **21-0923LL; 78-80 Harrison Ave (RL-W, Ward 5S) Michele Bushey**
Appeal of lot line adjustment denial with 68-70 Conger Ave. (Project Manager, Scott Gustin)
 5. **21-0409CA/MA; 362 Riverside Ave (NAC-RC, Ward 1E) Douglas G. Boyden**
64-unit Senior Housing development and related site work. Lot line merger included. *Re-opened public hearing.* (Project Manager, Scott Gustin)
- VI. **Adjournment**

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Ryan Morrison, Associate Planner
Layne Darfler, Planning Technician
Alison Davis, Planning & Zoning Clerk
Ted Miles, Zoning Specialist
Charlene Orton, Permitting & Inspections Administrator



MEMORANDUM

To: Development Review Board
From: Ryan Morrison, Associate Planner
Date: June 15, 2021
RE: ZP21-0909CU; 81 Dunder Road

Note: These are staff comments only. Decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

File: ZP21-0909CU
Location: 81 Dunder Road
Zone: RL-W **Ward:** 5S
Date application accepted: April 16, 2021
Applicant/ Owner: Jonathan Heller
Parking District: Neighborhood
Request: Creation of an accessory dwelling unit to be used as a bed and breakfast use - amending ZP18-0682CU.



Applicable Regulations:

Article 3 (Applications, Permits, and Project Reviews), Article 4 (Zoning Maps & Districts), Article 5 (Citywide General Regulations), Article 8 (Parking), Appendix A (Use Table – All Zoning Districts)

Background:

- **Zoning Permit 94-013**; construction of a front entry and a gable over garage. Approved July 13, 1993.
- **Zoning Permit 06-208CA**; convert porch to living space. Approved September 16, 2005.
- **Zoning Permit 13-0310CU**; change use of single family house to boarding house. Denied November 20, 2012.
- **Zoning Permit 18-0682CU**; permit a bed and breakfast use in one room within the single family residence. Approved March 29, 2018.

Overview:

The applicant proposes to create an accessory dwelling unit (ADU) within the existing single family residence to be used as a bed and breakfast short term rental use. This proposal represents an amendment to ZP18-0682CU, which just approved a one-room bed and breakfast use within the home. That permit was approved by the DRB on March 29, 2018.

Recommendation: Conditional Use Approval, per the following findings and conditions:

I. Findings

Article 3: Applications, Permits and Project Reviews

Part 5: Conditional Use and Major Impact Review

Section 3.5.6 Review Criteria

(a) Conditional Use Review Standards

Approval shall be granted only if the DRB, after public notice and public hearing, determines that the proposed conditional use and associated development shall not result in an undue adverse effect on each of the following general standards:

1. *Existing or planned public utilities, facilities, or services are capable of supporting the proposed use in addition to the existing uses in the area;*
The proposal will have minimal impact on public utilities, facilities and services. It is possible that a state wastewater permit will be required, and if so, the applicant will be responsible for securing said permit. The applicant will have to obtain a letter from the Department of Public Works confirming that there is adequate water and sewer capacity for the ADU. **Affirmative finding as conditioned.**
2. *The character of the area affected as defined by the purpose or purposes of the zoning district(s) within which the project is located, and specifically stated policies and standards of the Municipal Development Plan;*
The property is within an established residential neighborhood and a residential zoning district. The Waterfront Residential Low Density (RL-W) zoning district is intended primarily for low-density residential development in the form of single detached dwellings and duplexes. B&Bs are allowed up to 3 rooms in the underlying zoning district. The proposal should result in little to no change in traffic and circulation impacts. The ADU and B&B are accessory to the single family home, which is consistent with the intent of the zoning district. **Affirmative finding.**
3. *The proposed use will not have nuisance impacts from noise, odor, dust, heat, and vibrations greater than typically generated by other permitted uses in the same zoning district;*

No greater impacts are anticipated than other residential uses in the area. **Affirmative finding.**

4. *The transportation system is capable of supporting the proposed use in addition to the existing uses in the area. Evaluation factors include street designations and capacity; level of service and other performance measures; access to arterial roadways; connectivity; transit availability; parking and access; impacts on pedestrian, bicycle and transit circulation, safety for all modes; and adequate transportation demand management strategies;*

This parcel is located on Dunder Road, a quiet, dead-end road. The driveway has adequate room to accommodate the 3 required parking spaces. It is expected that the ADU/B&B use will generate one additional vehicle to the property when occupied. There are no transit stops in the surrounding neighborhood. A sidewalk lines the west side of Dunder Road, and Oakledge Park is within walking distance. The proposal is not expected to create adverse impacts on the existing transportation system. **Affirmative finding.**

5. *The utilization of renewable energy resources;*

Nothing within the application prevents the use of wind, solar, water, geothermal or other renewable energy resource. **Affirmative finding.**
and;

6. *Any standards or factors set forth in existing City bylaws and city and state ordinances.*

The application and resultant change in use will be required to meet all bylaws and city and state ordinances in effect. Specific to the proposed use, the applicant will have to ensure compliance with state regulations regarding short-term B&B type rentals, including but not limited to payment of required rooms and meals taxes. **Affirmative finding as conditioned.**

(c) Conditions of Approval

In addition to imposing conditions of approval necessary to satisfy the General Standards specified in (a) or (b) above, the DRB may also impose additional conditions of approval relative to any of the following:

1. *Mitigation measures, including but not limited to screening, landscaping, where necessary to reduce noise and glare and to maintain the property in a character in keeping with the surrounding area;*

Not applicable. No changes to the site are proposed.

2. *Time limits for construction.*

Not applicable. There is no construction proposed.

3. *Hours of operation and/or construction to reduce the impact on surrounding properties.*

It is recommended that B&B guests' arrivals and departures be limited to 7:00 am – 10:00 pm to minimize noise, traffic, and neighborhood nuisances. **Affirmative finding as conditioned.**

4. *That any future enlargement or alteration of the use return for review to the DRB to permit the specifying of new conditions,*

The applicant proposes to convert space within the single family home to an ADU, which will be used for a B&B use. No other alterations are proposed. However, a new zoning permit, subject to review and approval under regulations in effect at that time, will be required if any future alterations to this permit are proposed. **Affirmative finding as conditioned.**
and

5. *Such additional reasonable performance standards, conditions and safeguards as it may deem necessary to implement the purposes of this chapter and the zoning regulations.*
None identified.

Article 4: Zoning Maps and Districts

Sec. 4.4.5, Residential Districts:

(a) Purpose

(2) Waterfront Residential Low Density (RL-W)

The Waterfront Residential Low Density (RL-W) district is intended primarily for low-density residential development in the form of single detached dwellings and duplexes. This district is typically characterized by a compact and cohesive residential development pattern reflective of the respective neighborhoods' development history. This district is distinguished from the Residential Low Density district by its proximity to Lake Champlain, and a greater consideration needed for views from the lake and stormwater runoff.

The existing single-family dwelling is consistent with this intent. Converting the existing living space above the attached garage into an ADU to be used as a one-room B&B short term rental use remains consistent with the intent of the zone. **Affirmative finding.**

(b) Dimensional Standards and Density

Not applicable.

(c) Permitted and Conditional Uses

ADUs are permitted uses within the RL-W zone, while the bed and breakfast (short term rental) use is conditional. For both an ADU and B&B to operate legally, owner occupancy of the premises is required. In this case, the applicant is the owner and lives onsite. An accessory dwelling unit can be permitted for rental on either a short or long term basis, provided that the appropriate conditional use permit for a short term rental is obtained. This permit will allow creation of an ADU within the existing single family home, which can then be used as a short term rental (B&B). **Affirmative finding as conditioned.**

(d) District Specific Regulations

Not applicable.

Article 5: Citywide General Regulations

Section 5.4.5 Accessory Dwelling Units

(a) Accessory Units, General Standards/Permitted Uses

Where there is a principal structure on a lot which exists as an owner-occupied single family residence, one accessory dwelling unit, that is located within or appurtenant to such single family dwelling, shall be allowed as a permitted use if the provisions of this subsection are met. An accessory dwelling unit means an efficiency or one bedroom apartment that is clearly subordinate to the principal dwelling, and has facilities and provisions for independent living, including

sleeping, food preparation, and sanitation. No accessory unit shall be inhabited by more than two adult occupants. An accessory unit shall not be counted as a dwelling unit for the purposes of density calculation.

The proposed one-bedroom accessory dwelling unit will be located within the existing single family residence, above the attached garage.

Additionally, there must be compliance with all the following:

1. *The property has sufficient wastewater capacity as certified by the Department of Public Works; and*

The applicant will be required to secure a letter of adequate capacity from DPW for water and sewer services. **Affirmative finding as conditioned.**

2. *The unit does not consist of more than 800 sq. ft. or 30 percent (30%) of the gross floor area of the principal home, whichever is greater; and*

The ADU will total 568 sf in size, less than the 800 sf maximum allowance. **Affirmative finding.**

3. *Applicable setback and coverage requirements are met;*

Not applicable. There are no changes with regard to the existing building setbacks and lot coverage.

4. *A deed or instrument for the property shall be entered into the land records by the owner containing a reference to the permit granting the accessory unit prior to the issuance of the certificate of occupancy for the unit. Such reference shall identify the permit number and note that the property is subject to the permit and its terms and conditions including owner occupancy. No certificate of occupancy shall be issued for the unit unless the owner has recorded such a notice.*

A condition of approval will ensure this. **Affirmative finding as conditioned.**

(c) Discontinuance of Accessory Units

Approval of an accessory dwelling unit is contingent upon owner occupancy of either the principal or accessory dwelling unit as a primary residence. For purposes of this section, owner-occupancy means that, after the creation of the accessory unit all individuals listed on the deed for the property must reside in the principal unit or in the accessory unit. If neither the principal unit nor the accessory unit is owner-occupied as a primary residence, the approval for the accessory dwelling unit is void and the kitchen of the accessory dwelling unit must be removed within 90 days with the entirety of the property being occupied as a single unit. When an accessory unit that is the result of additional square footage and/or a new accessory structure is proposed to be removed, revised floor plans and a revised site plan shall be required to be submitted for review and approval. Furthermore, where additional square footage is added to a single family home for purposes of creating an accessory unit and the accessory unit is at any point discontinued, none of the additional square footage shall be eligible for the purposes of increasing the number of unrelated adults that may be allowed to inhabit the property.

The property is owner occupied and shall continue to be so in order for the ADU and B&B to remain compliant. **Affirmative finding as conditioned.**

Article 8: Parking

Table 8.1.8-1 Minimum Off-Street Parking Requirements

In the Neighborhood Parking District, single family uses require 2 parking spaces per unit. ADUs are exempt from providing an additional parking space, but B&Bs require 1 parking space per room. The existing parking layout will provide for the 3 required spaces. The driveway/garage combination contributes to 2 tandem parking spaces, and the driveway is wide enough (23 ft) to fit the third required space. **Affirmative finding.**

Appendix A: Use Table – All Zoning Districts

Accessory Dwelling Unit is a permitted use in the RL-W zoning district, while *Bed and Breakfast* is a Conditional Use. Footnotes 4 & 6 of Appendix A apply to bed and breakfasts. Footnote #4 states: “*No more than 5 rooms permitted to be let in any district where bed and breakfast is a conditional use. No more than 3 rooms permitted to be let in the RL district.*” Footnote #6 states: “*Must be owner-occupied.*” The applicant proposes to rent out the 1 bedroom ADU as a bed and breakfast use. The owner currently resides on the property. **Affirmative finding.**

II. Conditions of Approval

1. **Prior to the release of the zoning permit**, the applicant shall obtain a letter from the Department of Public Works confirming that there is adequate water and sewer capacity for the ADU.
2. This approval is for an accessory dwelling unit / 1-bedroom Bed and Breakfast use, in association with the single family dwelling. The applicant will allow Code Enforcement to periodically confirm that the use is limited to the one bedroom rental limitation. This may include review of web-based advertising, posted guest comments, or response to neighborhood complaint.
3. The subject property must be, and remain, owner occupied as long as the accessory dwelling unit / B&B use remains in operation.
4. It is recommended that guests’ arrival and departures be limited to 7:00 am – 10:00 pm to minimize noise, traffic, and neighborhood nuisance.
5. All guest parking shall be on-site and off-street.
6. The applicant will have to ensure compliance with state regulations regarding short-term B&B type rentals, including but not limited to payment of required rooms and meals taxes.
7. Any additional physical alteration or change of use to the accessory dwelling unit / B&B rental room will require a new zoning permit, subject to regulations in effect at the time of permit application submittal.
8. **Prior to the issuance of a certificate of occupancy**, a deed or instrument for the property shall be entered into the land records by the owner containing a reference to the permit granting the accessory unit. The reference shall identify the permit number and note that the property is subject to the permit and its terms and conditions including owner occupancy.
9. The applicant/property owner is responsible for obtaining all necessary Zoning Permits and Building Permits through the Department of Public Works as well as other permit(s) as may be required, and shall meet all energy efficiency codes of the city and state as required.

10. The applicant/property owner shall secure a state wastewater permit, should one be required for the proposal.
11. Standard Permit Conditions 1-15.

25.67'

- NOTE -

ANY MODIFICATION OR DEVIATIONS FROM THESE PLANS
REQUIRE ZONING APPROVAL PRIOR TO CONSTRUCTION.
ALL ERRORS IN DIMENSIONS, PLANS, OR DETAILING ARE
FULLY THE RESPONSIBILITY OF THE APPLICANT/OWNER.

FINAL APPROVAL

SIGNED:

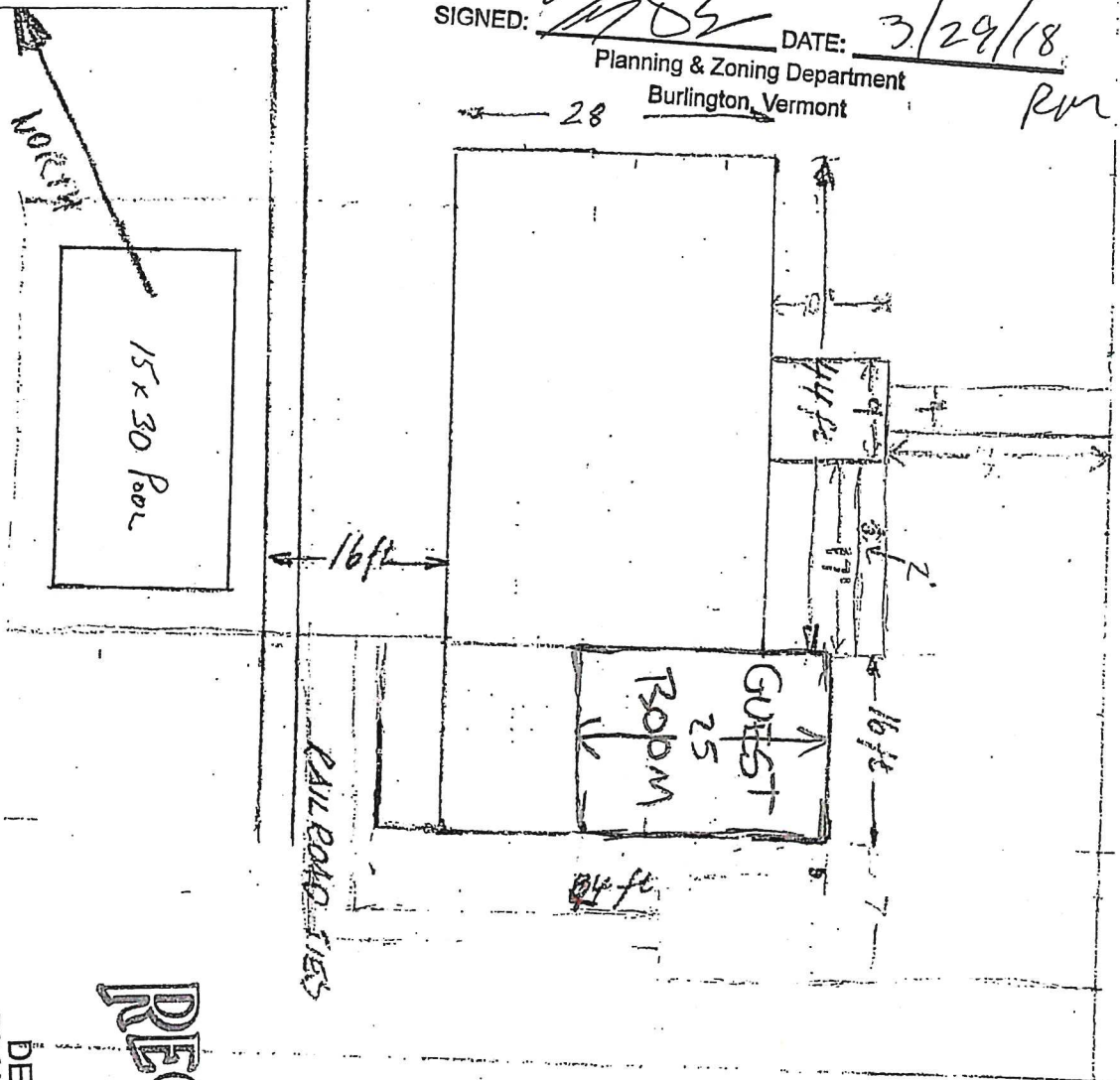
[Signature]

DATE: 3/29/18

Planning & Zoning Department
Burlington, Vermont

Rm

28



Jonathan Heller & JADPE LLC

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PLANNING & ZONING

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FINAL APPROVAL

SIGNED:

[Signature]

DATE:

7/29/18

Planning & Zoning Department
Burlington, Vermont

[Signature]

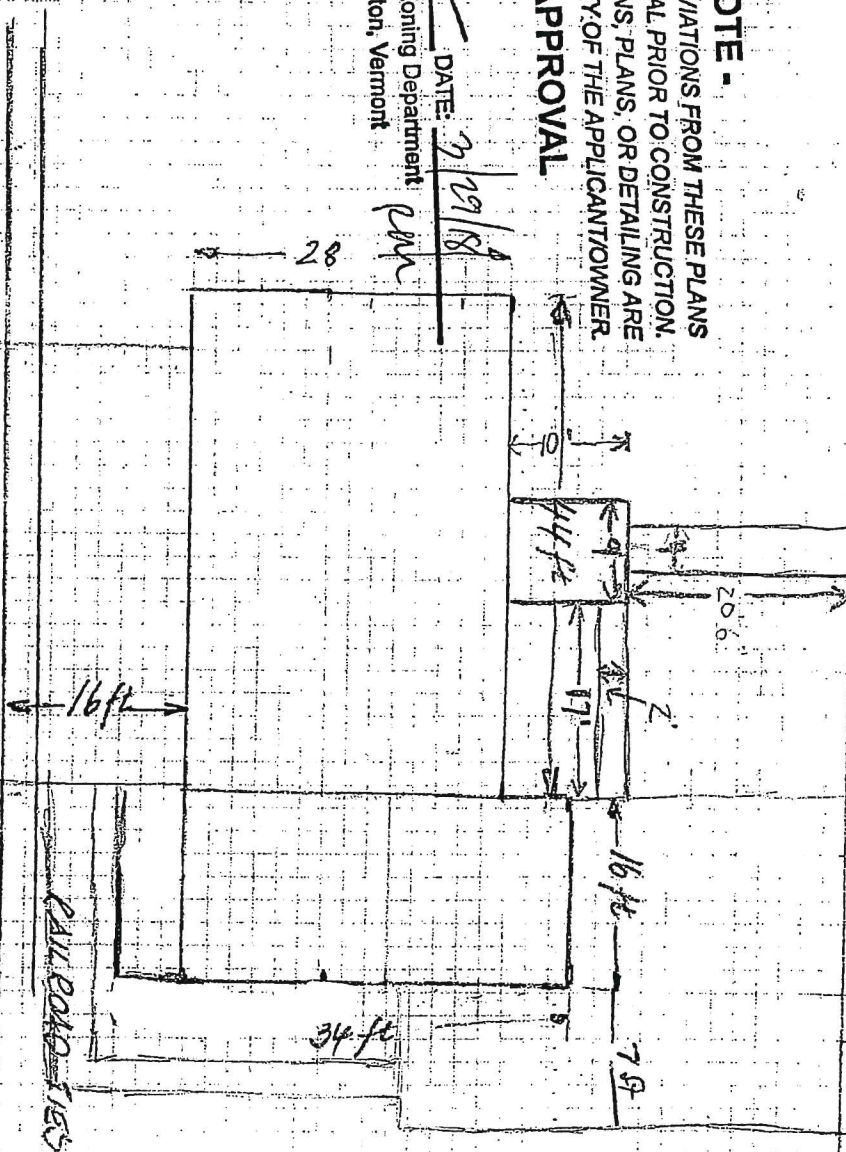
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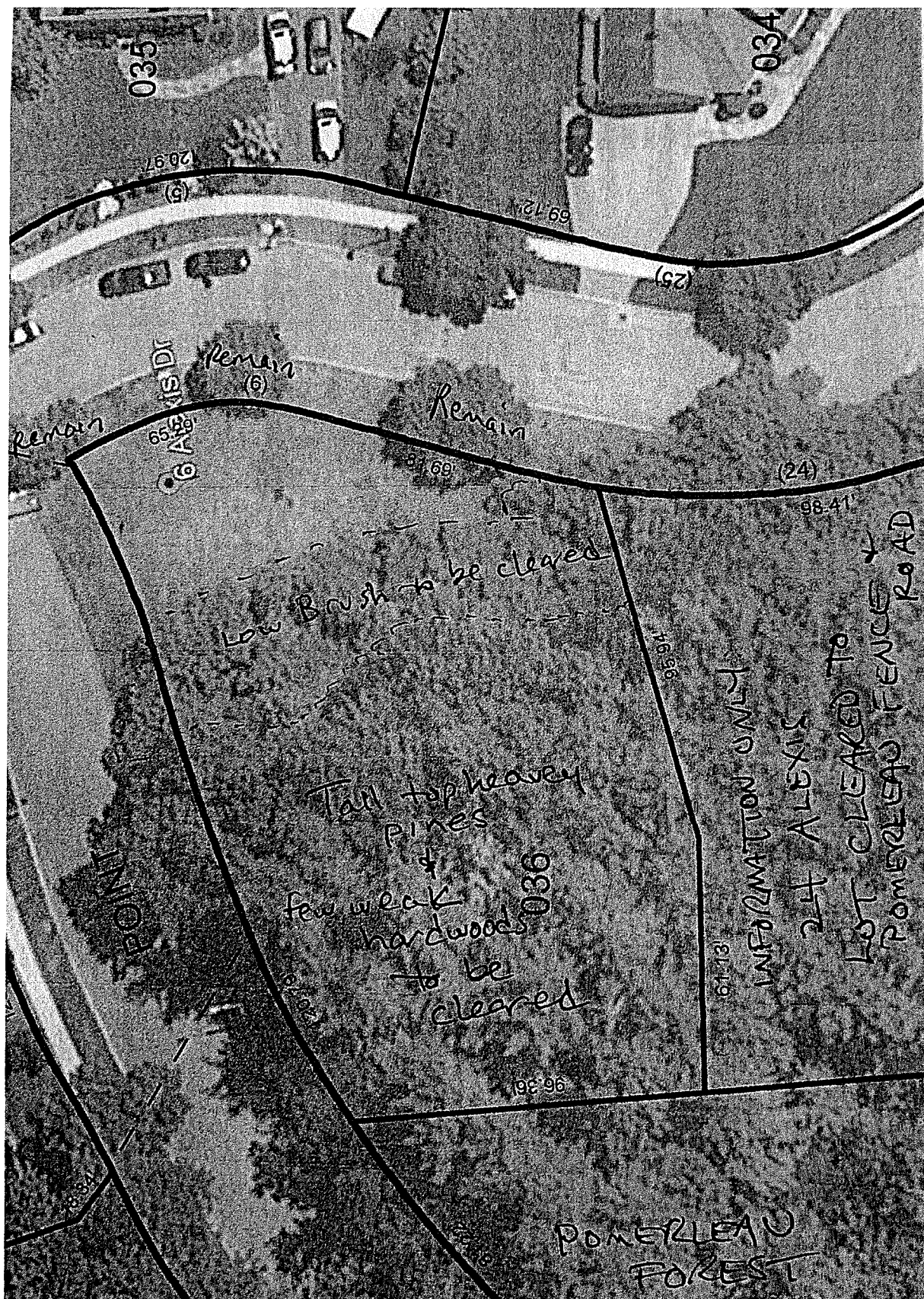
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North

15 x 30 Pool



Jonathan Heller 81 Dunder Rd.



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TO: Development Review Board
FROM: Scott Gustin
DATE: June 15, 2021
RE: 21-394; 15 Myrtle Street

=====

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Zone: RM Ward: 3C

Owner/Applicant: Andrew B. Feltus

Request: Replace existing detached garage with new detached accessory dwelling unit.

Applicable Regulations:

Article 4 (Zoning Maps and Districts), Article 5 (Citywide General Regulations), Article 6 (Development Review Standards)

Background Information:

The applicant is requesting approval to demolish a detached single-bay garage and to replace it with an accessory dwelling unit (ADU) in the same location. The proposed ADU has a larger footprint than the garage but will remain an accessory structure below 15' tall. The application includes a request to exceed the standard lot coverage limit per the standards of Sec. 5.2.3, *Lot Coverage Requirements*.

Previous zoning actions for this property are noted below.

- 7/19/19; Approval to replace front stoop overhang
- 6/10/08; Approval of PUD to construct 2nd detached single family home (relinquished)
- 12/17/79; Approval of lawyer's office home occupation

Recommendation: Consent approval as per, and subject to, the following findings and conditions.

I. Findings

Article 4: Maps & Districts

Sec. 4.4.5, Residential Districts:

(a) Purpose

(3) Residential Medium Density (RM)

The Residential Medium Density (RM) district is intended primarily for medium density residential development in the form of single-family detached dwellings and attached multi-family apartments. The residential property is consistent with this intent. The primary residence will

remain, and the apartment will be accessory thereto. The new ADU will not adversely impact the property's consistency with the character of this district. **(Affirmative finding)**

(b) Dimensional Standards and Density

Residential density remains unchanged. Accessory dwelling units specifically do not count towards allowable residential density per Sec. 5.4.5, *Accessory Dwelling Units*.

Lot coverage is presently conforming at 38.4%. As proposed, lot coverage would increase to 43.8%. Exceeding the standard 40% limit is permissible per Sec. 5.2.3 (b) below.

The proposed ADU will be located in the rear yard. The existing garage sits just 2' from the rear property line and 4' from the nearer side property line. The 2' rear yard setback is nonconforming and will be retained with the new ADU, except that the ADU will jog forward to comply with a 5' rear yard setback where the new building is wider than the existing. The ADU will comply with a 2' minimum required side yard setback. This setback is acceptable based on the 2' average side yard setbacks of neighboring properties as evidenced in the application setback table.

The existing detached garage is just a single story and less than 15' tall. The proposed ADU remains under 15' tall as well. **(Affirmative finding)**

(c) Permitted and Conditional Uses

The existing single family home is a permitted use, and the apartment is accessory to it. **(Affirmative finding)**

(d) District Specific Regulations

Not applicable.

Article 5: Citywide General Regulations

Part 2: Dimensional Requirements

Sec. 5.2.3 Lot Coverage Requirements:

(b) Exceptions to Lot Coverage

(10) The DRB may grant an exemption from maximum lot coverage limits for up to 650 sq. ft. of the lot area occupied by an ADU. To grant such an exception, the DRB must find that the existing lot coverage has been lawfully created, and that the proposed location, site design, and improvements will enable on-site management of the first one inch of stormwater runoff from the lot area of the ADU exceeding the applicable lot coverage limit, and will not have undue adverse impact on public rights of way based on the review of the DPW Stormwater Program Manager.

The RM zoning district limits lot coverage to 40%. The submitted plans indicate an existing lot coverage of 38.4% (1,426 sf). The proposed construction will increase lot coverage to 43.8% (1,626 sf), a net increase of 200 sf. All of this increase is related to the new ADU structure and is less than the 650 sf limit enabled by this criterion.

The applicant has submitted an Erosion Prevention and Sediment Control plan and a stormwater plan to the City's Stormwater Program Manager. As of June 7, 2021, the plans have been reviewed and are pending approval upon resubmission through the new online permitting portal. **(Affirmative finding as conditioned)**

Sec. 5.4.5 Accessory Dwelling Units:

(a) Accessory Units, General Standards/Permitted Uses

Where there is a principal structure on a lot which exists as an owner-occupied single family residence, one accessory dwelling unit, that is located within or appurtenant to such single family dwelling, shall be allowed as a permitted use if the provisions of this subsection are met. An accessory dwelling unit means an efficiency or one bedroom apartment that is clearly subordinate to the principal dwelling, and has facilities and provisions for independent living, including sleeping, food preparation, and sanitation. No accessory unit shall be inhabited by more than two adult occupants. An accessory unit shall not be counted as a dwelling unit for the purposes of density calculation.

The proposed ADU has an open floor plan with without a clearly defined kitchen or sleeping space. Those items should be clarified. The bathroom is clearly defined. **(Affirmative finding as conditioned)**

Additionally, there must be compliance with all the following:

1. *The property has sufficient wastewater capacity as certified by the Department of Public Works; and*

*The applicant will be required to secure a letter of adequate capacity from DPW for water and sewer services. **(Affirmative finding as conditioned)***

2. *The unit does not consist of more than 900* sq. ft. or 30 percent (30%) of the gross floor area of the principal home, whichever is greater; and [*VT statute has increased the upper limit to 900 sf or 30%]*

*The ADU will total 512 sf in size, less than the 900 sf maximum allowance. **(Affirmative finding)***

3. *Applicable setback and coverage requirements are met;*

*See Table 4.4.5-3 and Sec. 5.2.3 (b) (10) above. **(Affirmative finding)***

4. *A deed or instrument for the property shall be entered into the land records by the owner containing a reference to the permit granting the accessory unit prior to the issuance of the certificate of occupancy for the unit. Such reference shall identify the permit number and note that the property is subject to the permit and its terms and conditions including owner occupancy. No certificate of occupancy shall be issued for the unit unless the owner has recorded such a notice.*

*A condition of approval will ensure this. **(Affirmative finding as conditioned)***

Sec. 5.5.1 Nuisance Regulations

No potential nuisances are evident in the application materials. **(Affirmative finding)**

Sec. 5.5.2 Outdoor Lighting

The application contains specification sheets for two outdoor lighting fixtures. A motion-sensor flood light is proposed for the north (facing the driveway) entry, and a recessed canister fixture is proposed for the west entry. The canister fixture is acceptable. The floodlight is not. A shielded spot light may be acceptable if motion-sensor, or a different fixture altogether may be possible. A different fixture for the north elevation is needed. **(Affirmative finding as conditioned)**

Sec. 5.5.3 Stormwater and Erosion Control

See Sec. 5.2.3.

Article 6: Development Review Standards:

Part 1, Land Division Design Standards

Sec. 6.1.2, Review Standards

Not applicable.

Part 2, Site Plan Design Standards

Sec. 6.2.2, Review Standards

(a) Protection of important natural features

There are no significant natural areas on or near the subject property. Photographs of existing conditions suggest that one or two trees may be removed in order to construct the new ADU. Any existing trees to be removed need to be depicted on the site plan. **(Affirmative finding as conditioned)**

(b) Topographical alterations

The property is flat and will remain so. No significant topographic alterations are included in this proposal. **(Affirmative finding)**

(c) Protection of important public views

There are no identified view corridors near the subject property. The proposed construction will have no impact on the city's regulated view corridors. **(Affirmative finding)**

(d) Protection of important cultural resources

The subject property is not listed on an historic register, nor has it been surveyed to determine eligibility. The property is not located within an identified archaeologically sensitive area, nor does it contain any archaeologically significant site points. The proposed garage demolition and ADU construction will not adversely affect Burlington's historic or cultural resources.

(Affirmative finding)

(e) Supporting the use of alternative energy

No alternative energies are incorporated into the project design. Construction of the project will have no adverse impact on potential use of alternative energies onsite. **(Affirmative finding)**

(f) Brownfield sites

The subject property is not included on the Vermont DEC Hazardous Site List. **(Affirmative finding)**

(g) Provide for nature's events

See Sec. 5.2.3 for stormwater and erosion control.

A small overhang will provide shelter for those entering the side doorway into the proposed accessory apartment. **(Affirmative finding)**

(h) Building location and orientation

(Not applicable)

(i) Vehicular access

The existing driveway will be shortened as part of this project. At 40' long, it will remain sufficient for two parking spaces in tandem arrangement. These two spaces are adequate for the single family home. No parking spaces are required for the ADU. **(Affirmative finding)**

(j) Pedestrian access

A public sidewalk runs across the property's street frontage. The driveway will butt up against double doors on the north of the proposed ADU. No walkway is proposed to the ADU's side door and is recommended. A walkway would increase lot coverage but would be permissible under the additional 10% lot coverage afforded to open air amenities like walkways, decks, and patios.

(Affirmative finding as conditioned)

(k) Accessibility for the handicapped

Not applicable.

(l) Parking and circulation

See criterion (i) above.

(m) Landscaping and fences

No new landscaping or fencing are proposed. There is some mature landscaping onsite consisting of trees and shrubs. A couple of raised garden beds sit alongside the driveway. Most of this landscaping will remain. As noted above, one or two trees will likely be removed to enable construction of the ADU and need to be noted on the site plan. **(Affirmative finding as conditioned)**

(n) Public plazas and open space

Not applicable.

(o) Outdoor lighting

See Sec. 5.5.2.

(p) Integrate infrastructure into the design

No exterior mechanical equipment is included in this proposal. An above-ground utility line is depicted serving the proposed ADU. Any new utility lines must be buried. **(Affirmative finding as conditioned)**

Part 3, Architectural Design Standards

Sec. 6.3.2, Review Standards

(a) Relate development to its environment

1. Massing, Height, and Scale

The proposed ADU is a simple single story, gable-roofed structure located in the rear corner of the property. Outbuildings set in the rear yard are fairly common in this neighborhood. While the ADU has a larger footprint than the garage it will replace, it is clearly subordinate in scale to the primary residence at the front of the property. The ADU has a basic unified mass broken up with fenestration. Height remains below 15.' **(Affirmative finding)**

2. Roofs and Rooflines

As noted above, the ADU will have a gable roof. Gable roofs, with or without dormers, are common in this, and other, residential neighborhoods. **(Affirmative finding)**

3. Building Openings

The primary entrance faces the street and is uniquely emphasized with a set of double doors. A sheltered side entrance will be provided as well. Fenestration is appropriately scaled and stylistically appropriate for the basic building design. **(Affirmative finding)**

(b) Protection of important architectural resources

The existing garage is not listed on the state or national historic register, nor has it been deemed eligible for listing. Its removal will have no adverse impact on Burlington's wealth of important architectural resources. **(Affirmative finding)**

(c) Protection of important public views

See 6.2.2 (c) above.

(d) Provide an active and inviting street edge

The street edge of the property is defined by the primary residence out front. Like the existing garage, the proposed ADU will be set to the rear of the lot. Its location at the end of the driveway mirrors that of the existing garage and will have little perceptible impact on the property's street presence. **(Affirmative finding)**

(e) Quality of materials

The proposed ADU will be clad in wooden board and batten siding and standing seam metal roofing. Note that no corner boards are depicted in the elevation drawings. If any are proposed, they must be depicted in the elevation plans. The proposed windows appear to be vinyl, but clarification is needed. The materials proposed are of acceptable quality and durability for this new construction. **(Affirmative finding as conditioned)**

(f) Reduce energy utilization

The proposed building must comply with the current energy efficiency standards of Burlington and the State of Vermont. **(Affirmative finding as conditioned)**

(g) Make advertising features complimentary to the site

No advertising is included in this proposal. **(Affirmative finding)**

(h) Integrate infrastructure into the building design

No exterior mechanical equipment or utility meters are depicted on the exterior of the proposed ADU. If any is proposed, it must be depicted and screened. **(Affirmative finding as conditioned)**

(i) Make spaces safe and secure

The proposed building must comply with the city's current egress requirements. Building entries will be illuminated. **(Affirmative finding)**

II. Conditions of Approval

1. Prior to release of the zoning permit, the following items shall be provided, subject to staff review and approval:

- a. Clarification of bedroom and kitchen in the ADU floor plan;
 - b. Wastewater capacity letter from the Dept. of Public Works;
 - c. Compliant outdoor light fixture for the north building entry;
 - d. Depiction on the site plan of trees to be removed and a walkway to the west entry;
 - e. Removal of site plan reference to an above-ground utility line (all new utility lines shall be buried);
 - f. Window material details; and,
 - g. Depiction and screening of any exterior mechanical equipment or utility meters and related screening.
2. Prior to release of the zoning permit, final review and approval of the stormwater plan and EPSC shall be received from Burlington stormwater program staff.
3. A deed or instrument for the property shall be entered into the land records by the owner containing a reference to the permit granting the accessory unit prior to the issuance of the certificate of occupancy for the unit. Such reference shall identify the permit number and note that the property is subject to the permit and its terms and conditions including owner occupancy. No certificate of occupancy shall be issued for the unit unless the owner has recorded such a notice.
4. The Applicant/Property Owner is responsible for obtaining all necessary Zoning Permits and Building Permits through the Department of Public Works as well as other permit(s) as may be required, and shall meet all energy efficiency codes of the city and state as required.
5. Standard permit conditions 1-15.

Department of Permitting & Inspections

Zoning Division
645 Pine Street
Burlington, VT 05401
Telephone: (802) 865-7188

William Ward, Director
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Ryan Morrison, Associate Planner
Layne Darfler, Planning Technician
Ted Miles, Zoning Specialist
Charlene Orton, Permitting & Inspections Administrator



TO: Development Review Board
FROM: Scott Gustin
DATE: June 15, 2021
RE: 21-0409CA/MA; 362- 374 Riverside Avenue

=====

Note: These are staff comments only; decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

Zone: NAC-R Ward: 1E

Owner/Applicant: Douglas Boyden / Blackrock Construction

Request: Construct a 64-unit senior housing building and related site improvements

Applicable Regulations:

Article 3 (Applications, Permits, and Project Reviews), Article 4 (Maps & Districts), Article 5 (Citywide General Regulations), Article 6 (Development Review Standards), Article 8 (Parking), Article 9 (Inclusionary & Replacement Housing), Article 10 (Subdivision)

Background Information:

The applicant is seeking approval to construct a 64-unit senior housing complex with related site improvements. The associated dining area will be open to the public and will serve as a café. The site presently consists of 4 detached single dwelling units on individual lots under common ownership. The applicant proposes to demolish these homes and to merge the parcels into one parcel as part of the proposed development. The project is large enough to require "major impact" review and is subject to review by the Conservation Board and Design Advisory Board in addition to the Development Review Board.

The applicants did sketch plan review of this proposal with the Development Review Board on December 17, 2019. The Design Advisory Board reviewed this application October 27, 2020 and unanimously recommended approval as proposed. The Conservation Board reviewed this application November 2, 2020 and unanimously recommended approval of the project with the condition that the applicant prioritize geotechnical analysis of the property due to concern about the soil quality and stability.

The Development Review Board reviewed this application December 1, 2020 and closed the public hearing. Upon deliberation, the Board voted unanimously to re-open the public hearing to address the following items:

- Provide a geotechnical report and related expert testimony as to the proposed building construction and any impacts it may have on slope stability along Riverside Avenue.
- Address the rear and sides of the building to enhance the elevations.

The applicant submitted revised project plans to address the foregoing items on May 21, 2021. Updates to the following findings are in red. Otherwise, they unchanged from December, 2020.

Previous zoning actions for this property are noted below.

362 Riverside Ave:

- 6/30/92; Approval of renovations to existing single family home.
- 8/6/98; Approval of lot line adjustment.

366 Riverside Ave:

- 8/6/89; Approval of lot line adjustment.

370 Riverside Ave:

- 5/7/96; Approval to remove and replaced detached garage.

374 Riverside Ave:

- No prior zoning actions.

Recommendation: Major Impact & Certificate of Appropriateness approval as per, and subject to, the following findings and conditions:

I. Findings

Article 3: Applications and Reviews

Part 5, Conditional Use & Major Impact Review:

Section 3.5.6 (a) Conditional Use Review Standards

Approval shall be granted only if the DRB, after public notice and public hearing, determines that the proposed conditional use and associated development shall not result in an undue adverse effect on each of the following general standards:

1. *Existing or planned public utilities, facilities or services are capable of supporting the proposed use in addition to the existing uses in the area;*

The proposed residential building will be served by the municipal water and wastewater systems. Adequate reserve capacity is likely available; however, written confirmation from the Department of Public Works is required before a state wastewater permit can be issued. **(Affirmative as conditioned finding)**

2. *The character of the area affected as defined by the purpose or purposes of the zoning district(s) within which the project is located, and specifically stated policies and standards of the municipal development plan;*

The subject property is part of the Neighborhood Activity Center – Riverside zone that extends along much of that street’s length. This zone is intended primarily to allow a mix of commercial and residential development. A variety of retail and service businesses are allowed along with some light industrial uses. Development is intended to be compatible with nearby residences and is to be aesthetically pleasing for motorists, transit users, pedestrians, and businesses. The proposed development is almost entirely residential, but the dining area along Riverside will be open to the public and serve as a café. The building sits within close proximity to commercial uses within this mixed use zone. Residents of the building will live within easy walking distance of a variety commercial establishments. The proposed senior housing facility fits within the mixed use context of the NAC-R zone. **(Affirmative finding)**

3. *The proposed use will not have nuisance impacts from noise, odor, dust, heat, and vibrations greater than typically generated by other permitted uses in the same zoning district;*

The proposed senior housing facility is not expected to generate exceptional noise, odor, dust, heat, or vibrations. **(Affirmative finding)**

4. *The transportation system is capable of supporting the proposed use in addition to the existing uses in the area. Evaluation factors include street designations and capacity; level of service and other performance measures; access to arterial roadways; connectivity; transit availability; parking and access; impacts on pedestrian, bicycle and transit circulation; safety for all modes; and adequate transportation demand management strategies;*

A traffic analysis has been provided with this application. The analysis presents data as to background traffic information and crash history, anticipated peak hour traffic generation, and level of service (LOS) impacts on nearby intersections.

Use of the project for senior housing cuts anticipated traffic generation by approximately half as compared to age-unrestricted housing. AM peak hour trip generation is 12, and PM peak hour trip generation is 17. These figures are relatively small and will impact nearby intersection LOS minimally or not at all as reflected in the LOS analysis of build and no-build scenarios now and in 2025. The Department of Public Works has reviewed the traffic analysis and concurs with its findings. No specific transportation improvements are warranted. **(Affirmative finding)**

and,

5. *The utilization of renewable energy resources;*

No utilization of renewable energy resources is included in the project plans. Construction of the project; however, will not preclude use of renewable energy resources on this property or neighboring properties. **(Affirmative finding)**

and,

6. *Any standards or factors set forth in existing City bylaws and city and state ordinances;*

No identified conflicts. Required building and/or life safety codes will be under the review of the building inspector.

(b) Major Impact Review Standards

1. *Not result in undue water, air, or noise pollution;*

The proposed construction is not expected to result in undue water, air, or noise pollution. It will connect to the city sewer and water systems. Stormwater is addressed under Sec. 5.5.3.

(Affirmative finding)

2. *Have sufficient water available for its needs;*

See Sec. 3.5.6 (a) 1.

3. *Not unreasonably burden the city's present or future water supply or distribution system;*

See Sec. 3.5.6 (a) 1.

4. Not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result;

An erosion prevention and sediment control plan has been provided. It is under review by the city's Stormwater Program staff. Final approval is pending. **(Affirmative finding as conditioned)**

5. Not cause unreasonable congestion or unsafe conditions on highways, streets, waterways, railways, bikeways, pedestrian pathways or other means of transportation, existing or proposed;
See Sec. 3.5.6 (a) 3.

6. Not cause an unreasonable burden on the city's ability to provide educational services;
As a senior housing facility, the project will not cause an unreasonable burden on the city's ability to provide educational services. The project may qualify for a waiver of the school impact fee.
(Affirmative finding)

7. Not place an unreasonable burden on the city's ability to provide municipal services;
Project review by the Technical Review Committee took place December 12, 2019. Impact fees will be paid to help offset what impacts there are on municipal services. **(Affirmative finding)**

8. Not have an undue adverse effect on rare, irreplaceable or significant natural areas, historic or archaeological sites, nor on the scenic or natural beauty of the area or any part of the city;
See Sec. 6.2.2 (a) & 6.3.2 (b).

9. Not have an undue adverse effect on the city's present or future growth patterns nor on the city's fiscal ability to accommodate such growth, nor on the city's investment in public services and facilities;

The proposed development will significantly intensify the degree of residential development onsite. Rather than several detached homes, there will be a 64-unit senior housing building. The project is proposed within a zoning district that enables development at a higher density than the nearby residential and institutional zones. It will have no adverse impact on the city's present or future growth patterns. **(Affirmative finding)**

10. Be in substantial conformance with the city's municipal development plan;

The proposed development conforms to the express goals of the city's municipal development plan in a number of ways.

- The project constitutes infill development of an intensity more appropriate to this neighborhood activity zone than the existing detached single family homes (Distinctive – Policies).
- The new development will comply with current energy efficiency standards and will tie into existing infrastructure (Dynamic – Policies).
- As required, a transportation demand management plan is included in the project proposal and will limit use of single occupancy vehicles and support use of alternative means of transportation (Dynamic – Policies & Connected – Policies).
- The development will bring about substantial opportunity for new housing in a presently under-developed site. The proposed units will be available to individuals with a range of incomes (Inclusive – Policies).
- The project brings about greater intensity and activity to this site within an identified neighborhood activity center (Connected – Policies). **(Affirmative finding)**

11. Not have an undue adverse impact on the present or projected housing needs of the city in terms of amount, type, affordability and location;

This project will add to the city's housing stock, specifically its senior housing stock. No details have been provided as to pricing, but affordability requirements as articulated in the CDO must be met. It will have no adverse impact on the present or projected housing needs of the city.

(Affirmative finding)

12. Not have an undue adverse impact on the present or projected park and recreation needs of the city.

Residents of the project may utilize the city's parks and recreation resources; however, impacts are expected to be moderate and typical of new residential development. Impact fees will be paid to help offset what impacts there are on park resources. **(Affirmative finding)**

(c) Conditions of Approval:

In addition to imposing conditions of approval necessary to satisfy the General Standards specified in (a) or (b) above, the DRB may also impose additional conditions of approval relative to any of the following:

1. Mitigation measures, including but not limited to screening, landscaping, where necessary to reduce noise and glare and to maintain the property in a character in keeping with the surrounding area.

The proposed development is not expected to generate offsite noise or glare substantial enough to require mitigation. **(Affirmative finding)**

2. Time limits for construction.

No construction schedule is included in the application. The standard time frame is 3 years (1 year to start and 2 more to finish) with one phase. **(Affirmative finding)**

3. Hours of operation and/or construction to reduce the impacts on surrounding properties.

Hours of operation do not pertain to the proposed residential development.

No days or hours of construction are noted in the application. Typical days and hours of construction within residential neighborhoods are Monday – Friday from 7:00 AM – 5:00 PM. Saturday construction may be allowed upon request. No work on Sunday. Unless the applicants request different construction days and hours, these typical standards will apply. **(Affirmative finding as conditioned)**

4. That any future enlargement or alteration of the use return for review to the DRB to permit the specifying of new conditions; and,

Any future enlargement or alteration will be reviewed under the zoning regulations in effect at that time.

5. Such additional reasonable performance standards, conditions and safeguards, as it may deem necessary to implement the purposes of this chapter and the zoning regulations.

To be addressed in conditions of approval.

Article 4: Maps & Districts

Sec. 4.4.2, Neighborhood Mixed Use Districts:

(a) Purpose

(3) Neighborhood Activity Center – Riverside (NAC-R)

The Neighborhood Activity Center – Riverside zone is intended primarily to allow a mix of commercial and residential development. A variety of retail and service businesses are allowed along with some light industrial uses. Development is intended to be compatible with nearby residences and is to be aesthetically pleasing for motorists, transit users, pedestrians, and businesses. The proposed development is mostly residential but sits within close proximity to commercial uses within this mixed use zone. Residents of the building will live within easy walking distance of a variety commercial uses. The proposed senior housing facility fits within the mixed use context of the NAC-R zone. **(Affirmative finding)**

(b) Dimensional Standards & Density

With a total floor area of 76,960 sf and a property area of 38,882 sf, proposed FAR comes to 1.98. This FAR is below the 2.0 FAR limit allowed even without the senior housing bonus.

Several lots will be combined into one lot, and the new building and parking will be constructed. Resultant lot coverage will be 79.8%. This percentage is a touch below the maximum permissible 80%.

The lot is irregular with similarly irregular street frontages. No minimum setbacks apply, except that the building must be at least 12' from the curb along its public street frontages. It is. No other setbacks apply to this property.

Building height must be at least 2 stories and 22' tall and no more than 45' tall (with the senior housing bonus). As proposed, building height varies by section and grade. Overall, the structure is at, or below, the 45' height limit as measured from the average surrounding grades.

(Affirmative finding)

(c) Permitted & Conditional Uses

Multifamily residential development and cafes are permitted uses in the NAC-R zone.

(Affirmative finding)

(d) District Specific Regulations

3 B: Senior Housing

The applicants are proposing a senior housing development and are employing the associated senior housing bonus that affords an additional 10' of building height and corresponding FAR. As such, at least 25% of units must be reserved for low-moderate income senior households, including at least 10% reserved for low-income households. Of the 64 units in total, 25% is 16 units with 10% being 6. **(Affirmative finding as conditioned)**

Article 5: Citywide General Regulations

Sec. 5.2.3, Lot Coverage Requirements

See Sec. 4.4.2 (b).

Sec. 5.2.4, Buildable Area Calculation

See Sec. 4.4.2 (b).

Sec. 5.2.5, Setbacks

See Sec. 4.4.2 (b).

Sec. 5.2.6, Building Height Limits

See Sec. 4.4.2 (b).

Sec. 5.2.7, Density and Intensity of Development Calculations

See Sec. 4.4.2 (b).

Sec. 5.5.1, Nuisance Regulations

Nothing in the proposal appears to constitute a nuisance under this criterion. **(Affirmative finding)**

Sec. 5.5.2, Outdoor Lighting

An exterior lighting plan has been provided and includes fixture types, locations, and illumination levels. The fixture types are acceptable – all are cut-off except for one. The one exception is acceptable as a low-output lighting fixture. Entryway and walkway illumination levels are acceptable. The parking lot lighting; however, is too bright. Maximum permissible illumination is 4 footcandles with a 20:1 uniformity ratio. Lighting levels go up to 7.4 footcandles and need to be adjusted downward to conform to this standard. **(Affirmative finding as conditioned)**

Sec. 5.5.3, Stormwater and Erosion Control

No stormwater infrastructure exists onsite today. As proposed, runoff will be collected from rooftop and paved surfaces, attenuated, and discharged at a controlled rate. Peak stormwater flows are reduced from existing conditions in all scenarios post-construction. The proposed stormwater management plan is under review by the city's stormwater program staff, and final approval is required prior to construction. **(Affirmative finding)**

Article 6: Development Review Standards

Part 1, Land Division Design Standards

No land division is proposed. Several lots will be merged into one.

(Not applicable)

Part 2, Site Plan Design Standards

Sec. 6.2.2, Review Standards

(a) Protection of important natural features

The property is not affected by any significant natural features as identified by the Natural Resource Protection Overlay map. The properties contain some trees and open lawn areas. Trees will be removed in order to clear the site for redevelopment with the senior housing facility.

(Affirmative finding)

(b) Topographical alterations

The project plans contain information as to existing and proposed grades. The site is sloped uphill away from Riverside Avenue and will remain so. Fairly limited topographic alteration is proposed. In large part, the building will be built with grades largely as they are now with some cut into the slope for the rear part of the building and related parking.

Given the history of unstable slopes along the northern side (along the river) of Riverside Avenue, the Conservation Board recommended a geotechnical analysis of the property prior to construction.

At their December 1, 2020 meeting, the Development Review Board concurred with this recommendation but required that the analysis be done prior to application approval.

A slope stability evaluation performed by Sanborn Head has been submitted by the applicant. The analysis is based on actual onsite soil conditions following borings and evaluation and proposed development conditions. The “factor of safety” conditions under existing and proposed conditions were found to be acceptable. The study notes that the 1.4 factor of safety (1.5 is the minimum required) found for proposed static conditions was influenced by the less stable slope across Riverside Avenue. The study noted that the smaller area of the construction site is at least a factor of safety 1.5 and also noted that, upon repair of the less stable slope across the street, expected factor of safety would improve to 1.5 under static loading conditions. While the anticipated slope repairs across the street are not within the scope of this application, it is significant that the construction site itself meets an acceptable factor of safety for slope stability. **(Affirmative finding)**

(c) Protection of important public views

The site contains no identified public view corridors. **(Affirmative finding)**

(d) Protection of important cultural resources

The project site has no known archaeological significance. It contains no archaeological site points, nor is it located within an archaeologically sensitive area. The buildings to be demolished are not included in an historic register. **(Affirmative finding)**

(e) Supporting the use of alternative energy

See Sec. 6.3.2 (f).

(f) Brownfield sites

The subject property is not included on the Vermont DEC Hazardous Site List. It is, however, close to a former city dump (now developed with Riverwatch condos) that is included on the hazardous site list.

Since the December 2020 DRB review, the applicants have had a phase 1 ESA done. It found the presence of two above-ground oil storage tanks. The tanks will be removed as part of project construction. The ESA recommended that earthwork retain existing soils onsite given the likely presence of PAH's. A phase 2 ESA was not recommended. **(Affirmative finding)**

(g) Provide for nature's events

The applicants have provided an erosion control plan and a post-construction stormwater management plan for review by the City's stormwater engineering staff.

Building entries are sheltered. Much of the parking is underneath the building. The driveway accessing the parking adjoins green space sufficient for wintertime snow storage. Similarly, there is adjacent green space for snow storage related to the open parking area. **(Affirmative finding)**

(h) Building location and orientation

The subject property is bordered on three sides by city streets. Appropriately, the proposed building is oriented towards Riverside Avenue and is set close to that front property line. The development pattern along this stretch of Riverside Avenue is irregular, and there is little “street

wall” to reinforce. The building as proposed will strengthen the streetscape along this section of road. **(Affirmative finding)**

(i) Vehicular access

A single primary curb cut and driveway will serve the proposed development. As recommended by this criterion, the driveway access will be along a secondary street, rather than Riverside Avenue. Sight lines at the driveway/street intersection appear to be adequate. A second curb cut and driveway will provide service vehicle access. The second curb cut should be limited to 16’ wide, as recommended by Public Works. **(Affirmative finding as conditioned)**

(j) Pedestrian access

The building’s primary entrance facing Riverside Avenue connects to the public sidewalk with a front walkway. The building’s secondary frontage along Hillside Terrace is also served by a pedestrian walkway connecting an interior side entrance with the public sidewalk. The walkways are to be concrete and differentiated from the asphalt driveways. **(Affirmative finding)**

(k) Accessibility for the handicapped

Handicap parking and access points are provided within the sheltered rear parking area. The primary entrance along Riverside Avenue is accessed by steps as well as by a level walkway. Additional accessibility provisions are under the purview of the building inspector. **(Affirmative finding)**

(l) Parking and circulation

Given that the proposed building faces city streets on three sides, there is no back side to the building. That said, all of the parking is set behind the building as viewed from Riverside Avenue. Much of the parking is underneath the proposed building. A portion of the parking will be uncovered to the east. Screening of the parking as viewed from Hillside Terrace (west and east) will be provided with proposed landscaping and also by grade. As the parking extends south away from the building it drops below surrounding grades. Parking and circulation are dimensionally accurate per the standards of Article 8. **(Affirmative finding)**

(m) Landscaping and fences

A landscaping plan has been provided and depicts planting locations and species. Plantings are concentrated along the building’s primary frontage facing Riverside Avenue. It continues around the corner along the secondary western frontage. Entryways are accented, and screening is provided. Additional plantings will serve to screen the rear parking area as viewed from Hillside Terrace.

Limited fencing is proposed for screening of parking and the dumpster enclosure. No fence detail is evident and is needed.

Several stretches of retaining wall are proposed where required by grade. Pre-formed “redi-rock” style blocks will be used. Visibility is limited but appears consistent with sections of exposed building foundation. **(Affirmative finding as conditioned)**

(n) Public plazas and open space

No public plazas are proposed. Given the limited amount of available ground space around the building, outdoor community space for residents will be provided on 4th story roof decks. Such

location will likely afford residents expansive views of the Intervale and beyond. **(Affirmative finding)**

(o) Outdoor lighting

See Sec. 5.5.2.

(p) Integrate infrastructure into the design

A dumpster enclosure sits between the building and Hillside Terrace. While the location is not ideal, the enclosure is screened and is tucked into the corner of the building. Mailboxes are located within the residential lobby.

Interior mechanical space is depicted on the floor plans. See Plan A102. Electrical service connection is not evident on the utility plan. Power lines serving the building must be buried and utility boxes must be screened. **(Affirmative finding as conditioned)**

Part 3, Architectural Design Standards

Sec. 6.3.2, Review Standards

(a) Relate development to its environment:

1. Massing, Height and Scale:

The proposed building is large. In an effort to mitigate perceived mass, the structure is broken into several distinct sections defined by recesses, projections, and differing building materials. Storefront fenestration at ground level along Riverside Avenue helps to further define and distinguish the building's primary interface with the public street. Building height differs by section and along the adjacent grades. Height is compliant at 45' as demonstrated by two building height sections. Although much larger than the single family homes it will replace, scale of the building is not dissimilar to that of the nearby Riverwatch Condos. **(Affirmative finding)**

2. Roofs and Rooflines.

A flat roof is proposed albeit in several different sections. Such roof form is common among similar structures and within this mixed use zone. **(Affirmative finding)**

3. Building Openings

Fenestration is patterned consistently throughout the building and is appropriate for this residential application. As noted above, street level storefront glazing is proposed along Riverside Avenue. **Revised elevation plans depict a change to some double hung windows to larger paired casements that appear similar to French doors. Colored panels are located beneath. (Affirmative finding)**

(b) Protection of Important Architectural Resources:

Burlington's architectural and cultural heritage shall be protected through sensitive and respectful redevelopment, rehabilitation, and infill. Where the proposed development involves buildings listed or eligible for listing on a state or national register of historic places, the applicant shall meet the applicable development and design standards pursuant to Sec. 5.4.8. The introduction of new buildings to a historic district listed on a state or national register of historic places shall make every effort to be compatible with nearby historic buildings.

As noted above, none of the single family homes to be removed are not historic. Much of the adjacent development is relatively new. The proposed structure will not adversely impact Burlington's wealth of historic resources. **(Affirmative finding)**

(c) Protection of Important Public Views:

(Not applicable)

(d) Provide an active and inviting street edge:

The proposed building will be set close to Riverside Avenue with a prominent front entry facing the street. Landscaping will soften the hard edge of exposed building foundation, and the embellished front entrance will invite pedestrians from the sidewalk into the building. Storefront glazing will afford visual access into the building from the public sidewalk.

*In addition to the fenestration changes noted above, the previously monochromatic gray east and south elevations have been improved with the instruction of a varied color palate. Cementitious lap siding remains the predominant cladding material, but includes green, blue, and tan ("wood effect") colors. Some sections of unpainted corrugated metal siding remain. **(Affirmative finding)***

(e) Quality of materials:

All development shall maximize the use of highly durable building materials that extend the life cycle of the building, and reduce maintenance, waste, and environmental impacts. Such materials are particularly important in certain highly trafficked locations such as along major streets, sidewalks, loading areas, and driveways. Efforts to incorporate the use of recycled content materials and building materials and products that are extracted and/or manufactured within the region are highly encouraged.

As is common with other recent residential buildings of similar scale, the building will be clad in cementitious siding (panel and lap) along with sections of corrugated metal siding and metal coping. Painted metal railing and fencing will provide accent and screening. Except for the aluminum storefront windows, most windows will be vinyl. **(Affirmative finding)**

(f) Reduce energy utilization:

All new construction is required to meet the Guidelines for Energy Efficient Construction pursuant to the requirements of Article VI. Energy Conservation, Section 8 of the City of Burlington Code of Ordinances.

New structures should take advantage of solar access where available, and shall undertake efforts to reduce the impacts of shadows cast on adjacent buildings where practicable, in order to provide opportunities for the use of active and passive solar utilization.

No utilization of renewable energy is evident in the project plans. The building is set far enough from adjacent structures to avoid adverse shadow impacts. **(Affirmative finding)**

(g) Make advertising features complementary to the site:

Some placeholder signage is depicted in the project plans and should be removed. All exterior signs are subject to separate zoning permit and are not included in this application review.

(Affirmative finding as conditioned)

(h) Integrate infrastructure into the building design:

See Section 6.2.2. (p), above.

(i) Make spaces secure and safe:

Construction shall comply with all required building and life safety codes as determined by the building inspector and fire marshal.

Building entrances/entry points shall be visible and adequately lit, and intercom systems for multi-family housing should be incorporated where possible, to maximize personal safety.

Exterior entries will be illuminated as depicted in the outdoor lighting plan. Intercom systems are recommended to maximize personal safety. **(Affirmative finding as conditioned)**

Article 8: Parking

Sec. 8.1.8, Minimum Off-Street Parking Requirements

The subject property is located in the multimodal mixed-use parking district. As such, there is no onsite minimum parking requirement. As proposed, 57 onsite parking spaces will be provided.

(Affirmative finding)

Sec. 8.1.10, Off-Street Loading Requirements

The 57 parking spaces proposed are fewer than the 64 that would be required in the shared use parking district. Therefore, the proposed parking remains below the maximum permissible limit.

(Affirmative finding)

Sec. 8.1.11, Parking Dimensional Requirements

The proposed parking spaces and circulation aisles are compliant with the standards of Table 8.1.11-1. **(Affirmative finding)**

Sec. 8.1.12, Limitations, Location, Use of Facilities

(a) Off-Site Parking Facilities

None proposed. **(Not applicable)**

(b) Front Yard Parking Restricted

(Not applicable)

(c) Shared Parking

(Not applicable)

(d) Single Story Structures in Shared Use Districts

(Not applicable)

(e) Joint Use of Facilities

As there is no minimum onsite parking requirement, this subsection may be moot. In any event, parking will be provided for residents and guests alike. **(Affirmative finding)**

(f) Availability of Facilities

As noted above, the parking to be constructed as part of this development will serve residents and visitors. It may not be used for the storage or display of vehicles or materials. **(Affirmative finding)**

Sec. 8.1.13, Parking for Disabled Persons

Two ADA parking spaces are depicted next to the building. These spaces shall be marked and signed as required for handicap spaces. **(Affirmative finding)**

Sec. 8.1.14, Stacked and Tandem Parking Restrictions
(Not applicable)

Sec. 8.1.15, Waivers from Parking Requirements/Parking Management Plans
(Not applicable)

Sec. 8.1.16, Transportation Demand Management

(b) Applicability

As the project is located within the multimodal mixed-use parking district and includes more than 10 new dwelling units, it is subject to the standards of this section. **(Affirmative finding)**

(c) Transportation Demand Management Program

The applicant has provided a transportation demand management program prepared by VHB that addresses each of the following items.

a. Outreach and Education:

The senior housing facility will have a Director of Residential Life. This individual will also serve as the Transportation Coordinator. In that role, the individual will prepare and disseminate materials as to TDM strategies and resources available to residents. The Transportation Coordinator will also be responsible for record keeping and annual reporting to the city as required by this criterion. **(Affirmative finding)**

b. TDM Strategies:

This criterion requires subsidy for GMT passes and car share memberships for all residents and employees or membership in a transportation management association (such as CATMA). In this case, residents of the senior housing facility will be served by Special Services Transportation Agency (SSTA). As such, demand for GMT passes is likely to be limited. The applicant's TDM plan proposes CATMA's pay-as-you-go transit pass program instead. Given the ongoing availability of SSTA services for this senior housing facility, this alternative is acceptable. The TDM also proposes car share availability starting after the first year of operation. Following that, and based on demand over the course of a full year, the car share service will remain as is, expand, or be removed. As with bus passes, provision of SSTA services is likely to curtail demand for car share. The applicant's TDM proposal is a reasonable way to provide the service and assess the demand prior to making a long-term commitment. **(Affirmative finding)**

c. Parking Management:

As parking spaces will be provided onsite, annual parking utilization studies will be required with related reporting to the city. As noted above the Transportation

Coordinator will be responsible for conducting these studies (or having them done by a qualified 3rd party) and reporting to the city. As required, priority parking spaces will be provided. **(Affirmative finding)**

d. TDM Agreement:

A written agreement committing to ongoing implementation of the TDM plan is required and will be executed upon permit approval. **(Affirmative finding as conditioned)**

Sec. 8.2.5, Bicycle Parking Requirements

The 64 senior housing units require at least 6 long term bike parking spaces and 6 short term bike parking spaces. The site plans depict an area for bike parking within the sheltered garage area; however, details are lacking as to type of bicycle parking. **During the December 2020 DRB review, the applicant testified as to where both short and long term bike parking will be provided and how it will be provided. Details need to be depicted on the project plans and are not yet shown. (Affirmative finding as conditioned)**

Article 9: Inclusionary and Replacement Housing

Sec. 9.1.5, Applicability

As the proposed development is exclusively senior housing and is utilizing the senior housing bonus, it is exempt from the inclusionary housing standards of Article 9. As noted in Article 4 above, the affordability requirements of the senior housing bonus of Sec. 4.4.4.2 (d) 3 B apply. Details as to affordability of the required affordable senior housing units must be reviewed and approved by the city's Housing Trust Fund manager. **(Affirmative finding as conditioned)**

Article 10: Subdivision

Sec. 10.1.5, Lot Line Adjustments

As required, a boundary survey depicting the merged parcels and including the required signature block for the administrative officer has been provided. Following approval and signature, the mylar must be filed in the city's land records within 180 days. **(Affirmative finding as conditioned)**

II. Conditions of Approval

1. **Prior to release of the zoning permit**, revised project plans and additional materials shall be submitted, subject to staff review and approval. The revised plans and additional materials shall include the following:
 - a. Wastewater capacity letter issued by the Dept. of Public Works;
 - b. Revised parking lot lighting levels compliant with the standards of Sec. 5.5.2;
 - c. Curb cut width of 16' or less for the dumpster access;
 - d. Fence and dumpster enclosure detail; and,
 - e. Signed transportation demand management (TDM) agreement committing to TDM measures included in Article 8 of these findings and as required by Sec. 8.1.16 of the Comprehensive Development Ordinance.
2. **Prior to release of the zoning permit**, approval of the erosion prevention and sediment control plan and of the stormwater management plan shall be granted by the Burlington stormwater program.

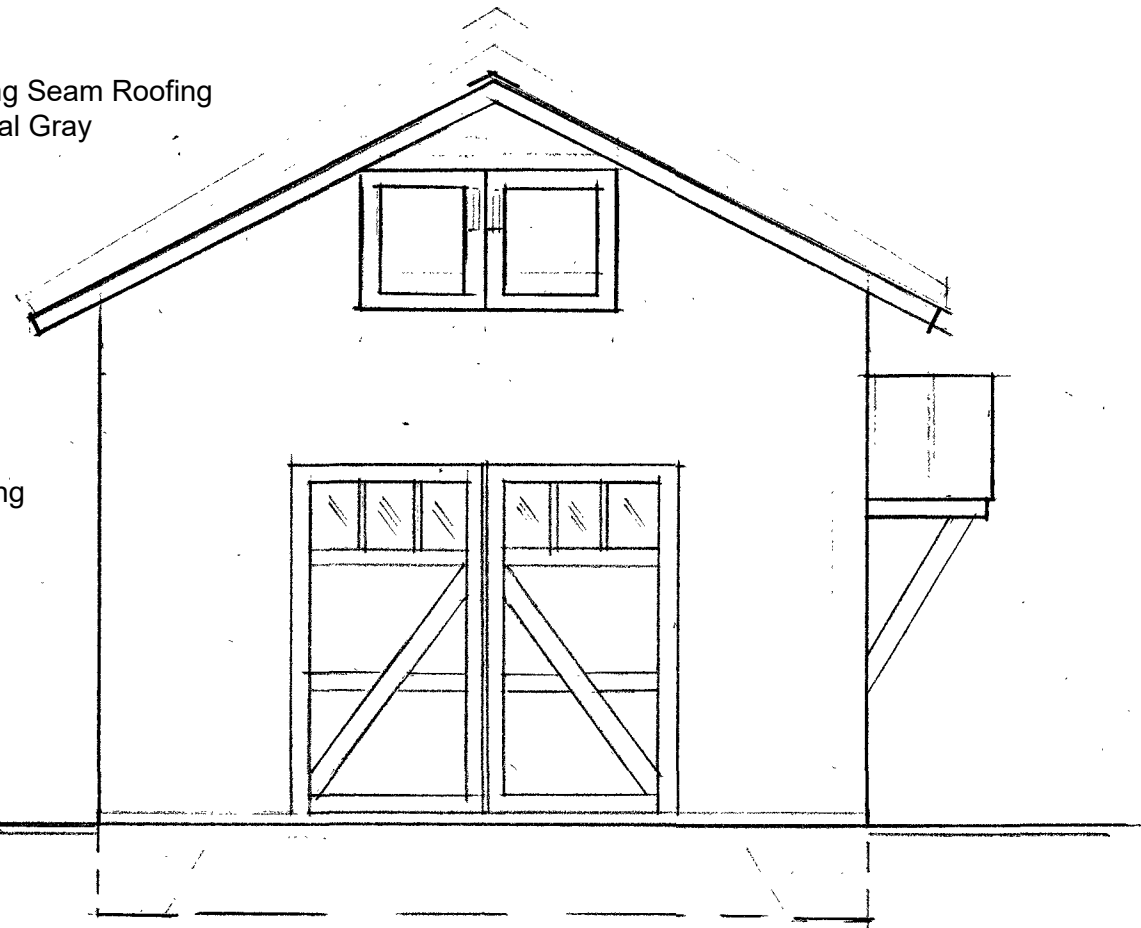
3. **Within 180 days of approval**, the signed mylar of the lot merger shall be recorded within the city's land records.
4. **Prior to issuance of a certificate of occupancy**, a Certificate of Inclusionary Housing Compliance reflecting compliance with the affordability requirements of the senior housing bonus shall be obtained from the Housing Trust Fund Manager. At least 25% of the 64 units must be reserved for low-moderate income senior households, including at least 10% reserved for low-income households.
5. At least **7 Days prior to issuance of a certificate of occupancy**, the applicant shall pay to the Zoning Division the impact fee as calculated by staff based on the net new square footage of the proposed development.
6. Days and hours of construction shall be Monday – Friday from 7:00 AM – 5:00 PM. Saturday construction may be allowed upon request. No work on Sunday.
7. All power lines serving the building shall be buried, and the electrical meters shall be screened.
8. No outdoor signs are included in this permit approval. All outdoor signs are subject to separate zoning permit review and approval.
9. The Applicant/Property Owner is responsible for obtaining all necessary Zoning Permits and Building Permits through the Department of Public Works as well as other permit(s) as may be required, and shall meet all energy efficiency codes of the city and state as required.
10. Standard conditions 1-15.



NORTH ELEVATION
SCALE 1/4" = 1'

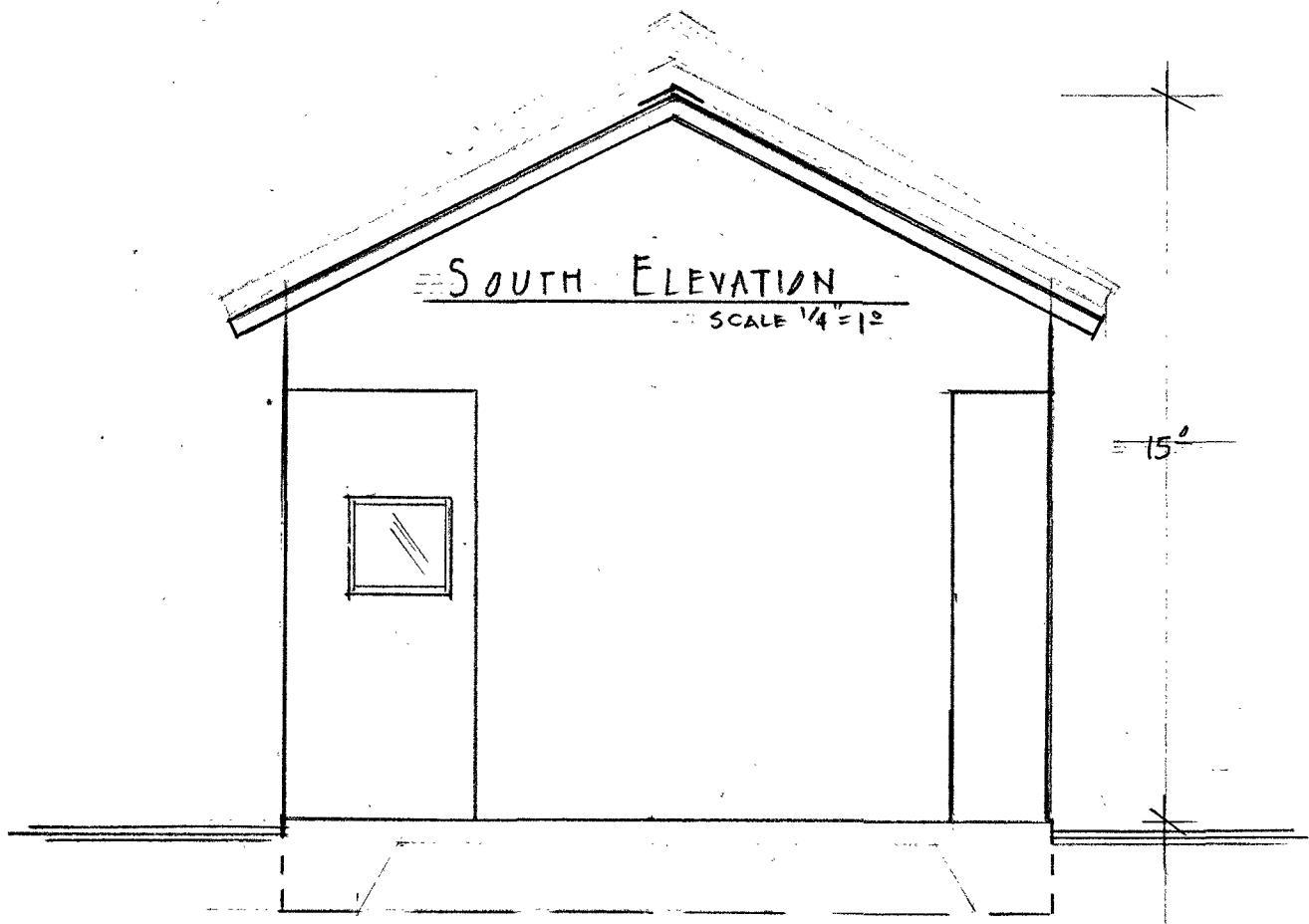
Standing Seam Roofing
Charcoal Gray

Board & Batten Siding
0.75"x 7.5" Board
0.75"x 1" Batten
Painted White

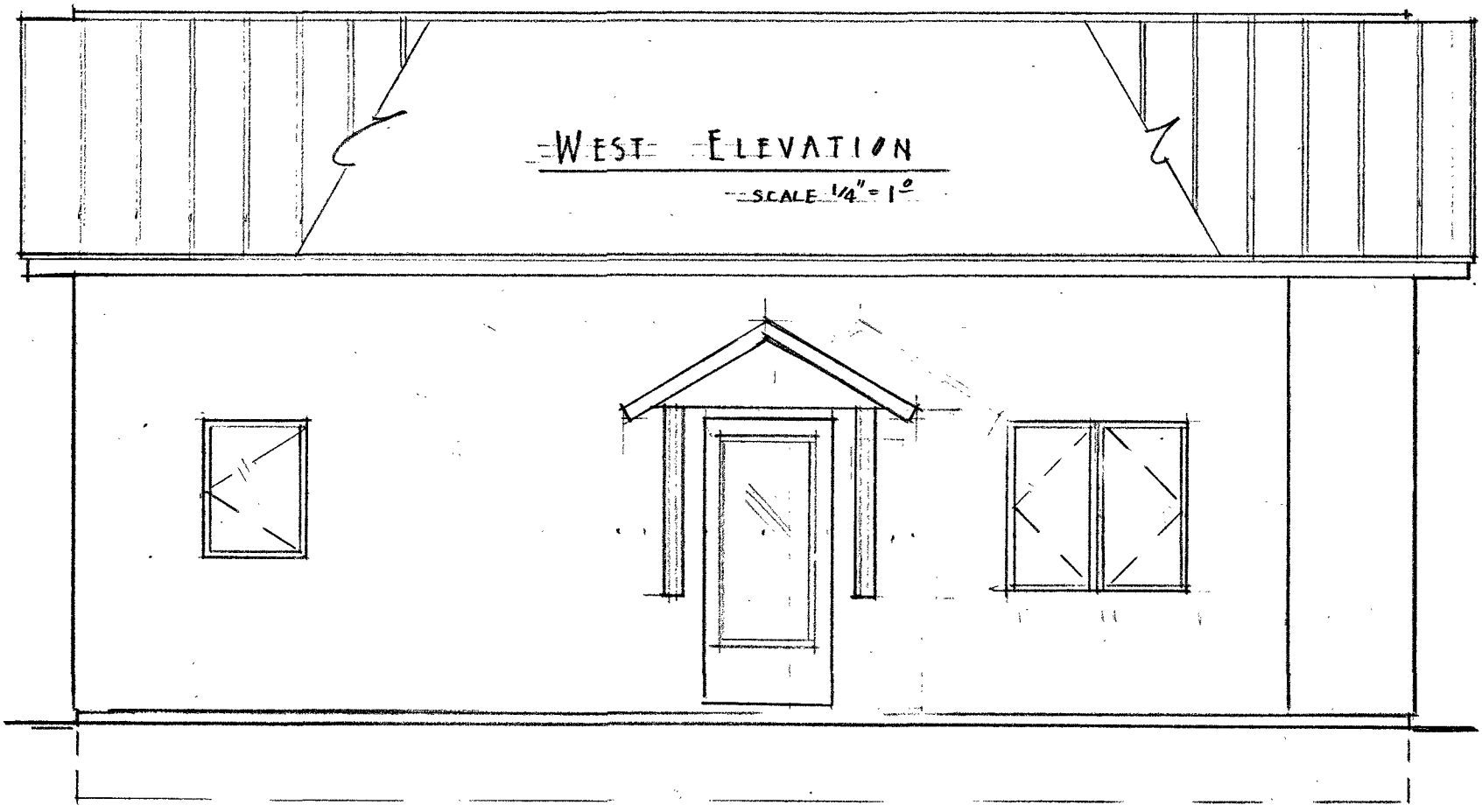


SOUTH ELEVATION
SCALE 1/4" = 1'

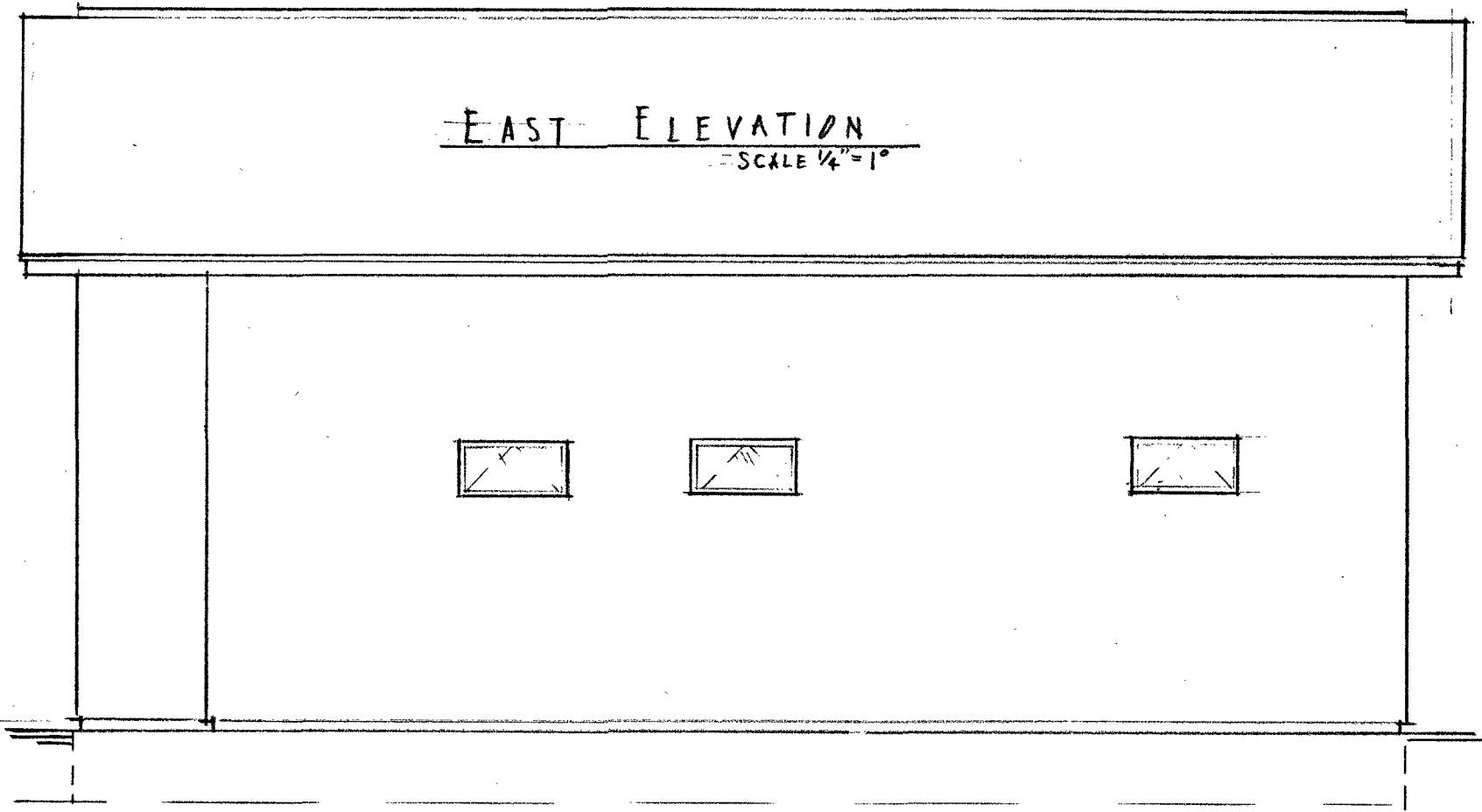
15'



WEST ELEVATION
SCALE 1/4" = 1'

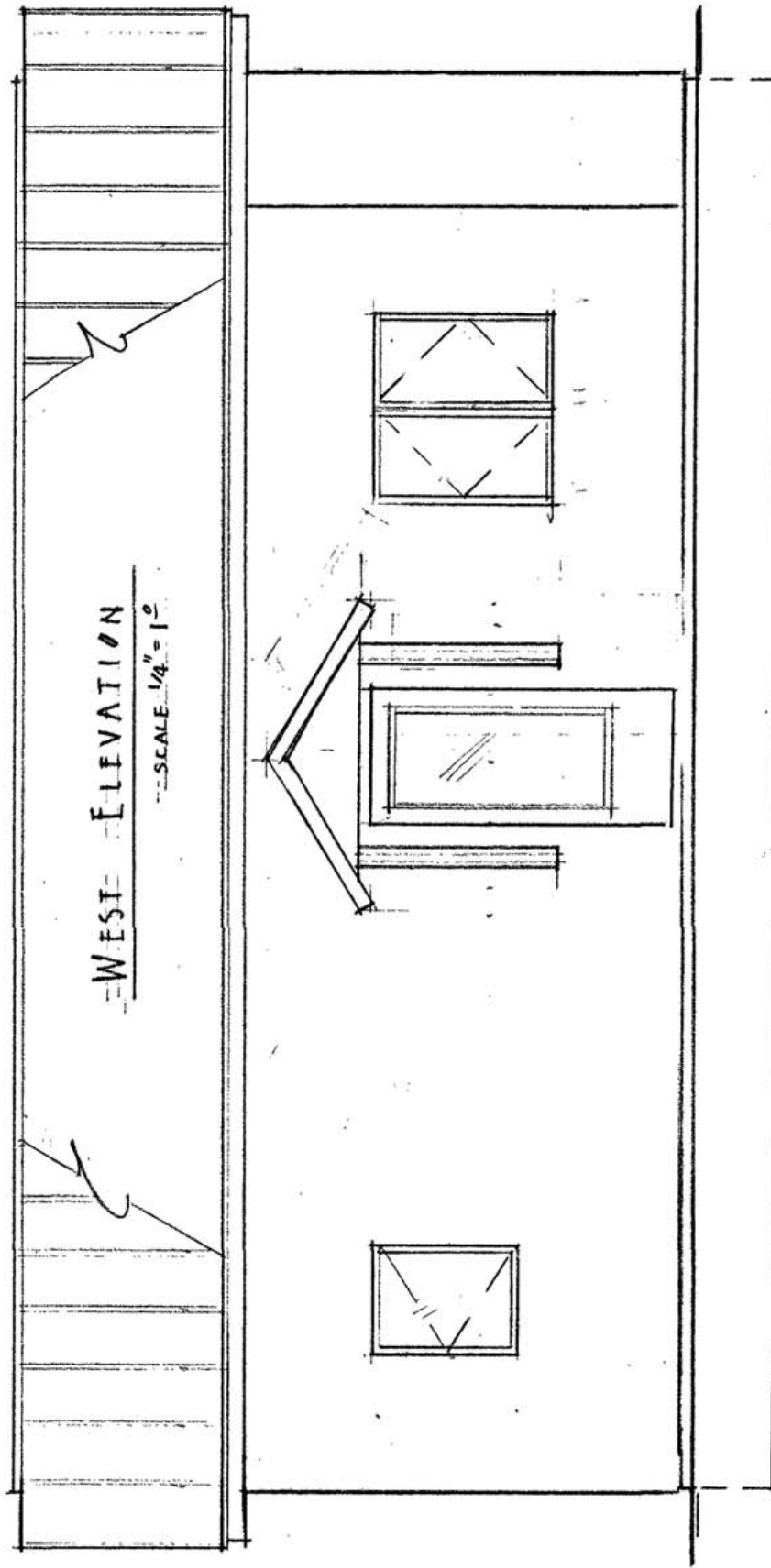


EAST ELEVATION
SCALE 1/4" = 1'



EAST ELEVATION
SCALE $\frac{1}{4}" = 1'$



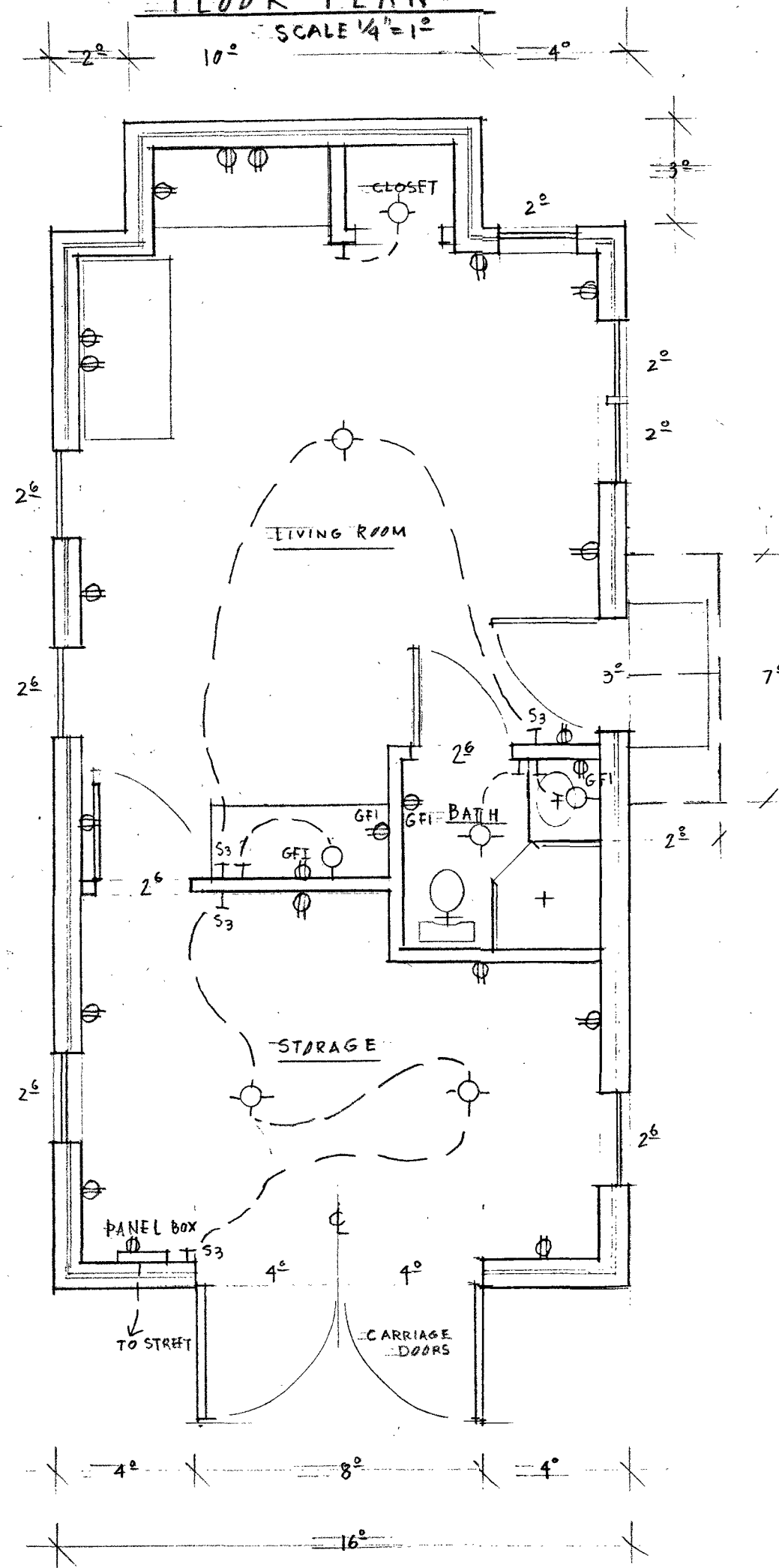


WEST ELEVATION

SCALE 1/4" = 1'

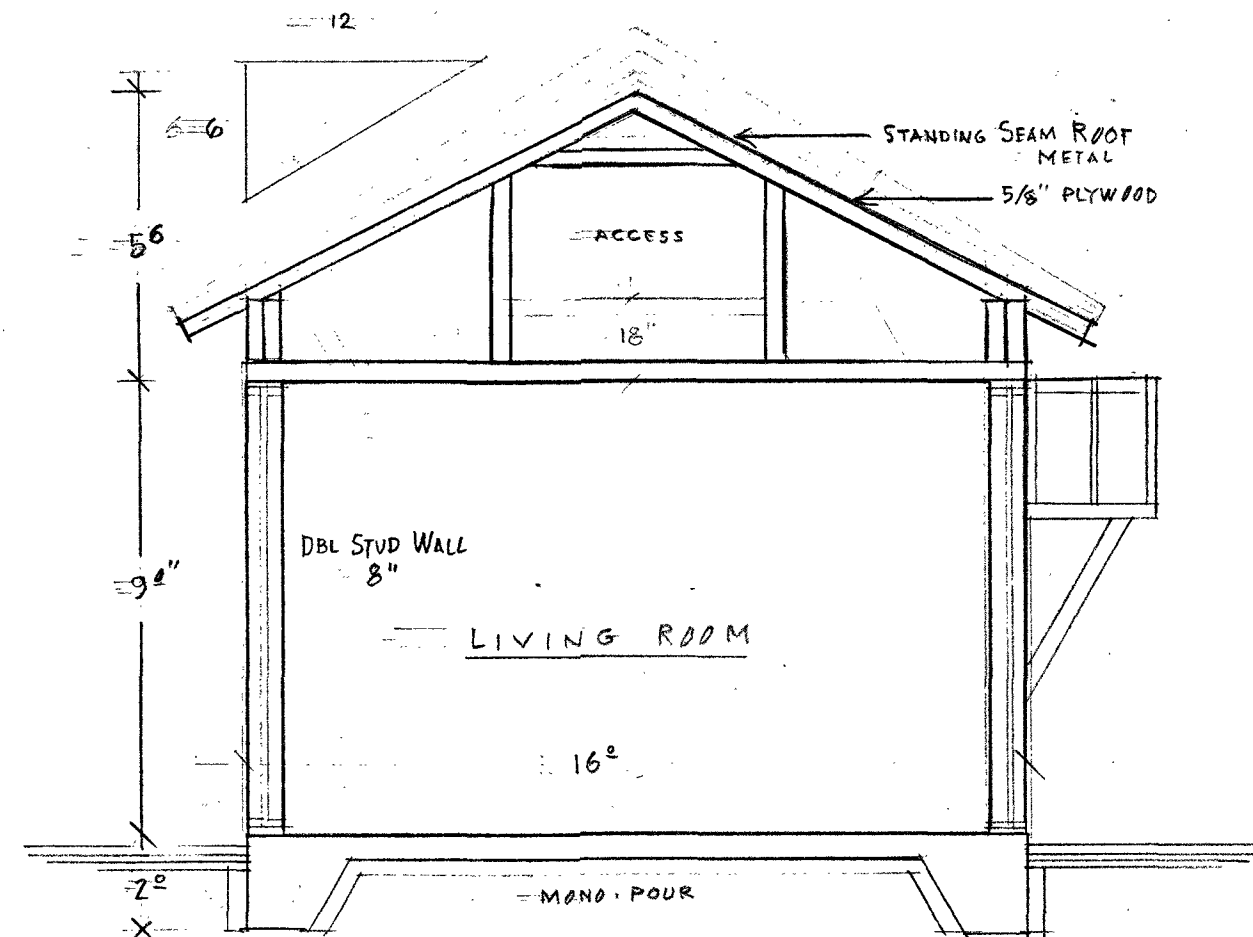
FLOOR PLAN

SCALE 1/4" = 1'



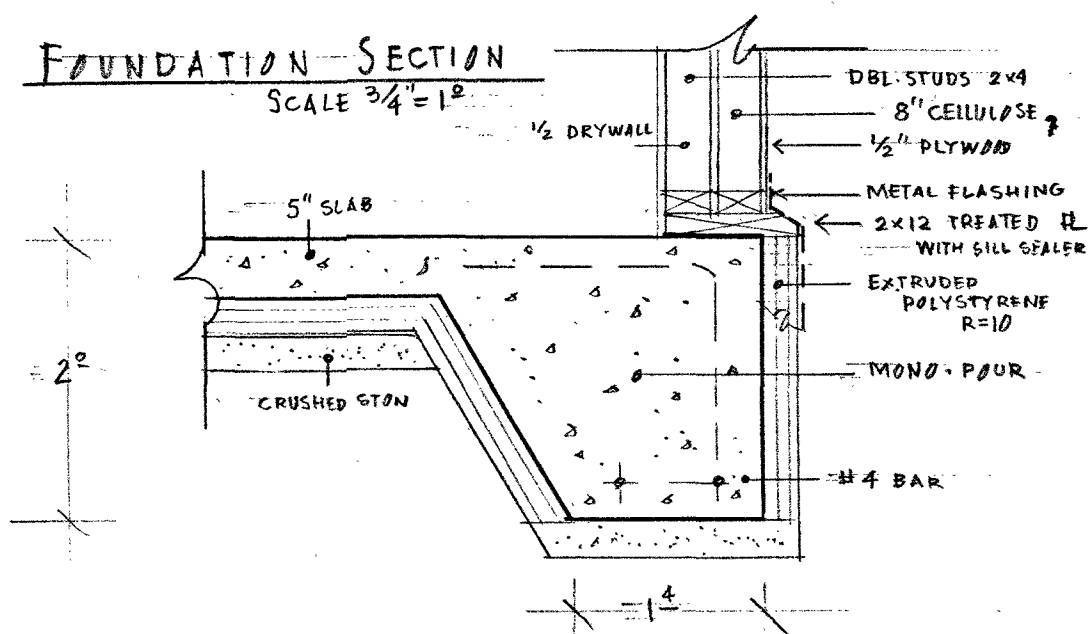
BUILDING SECTION

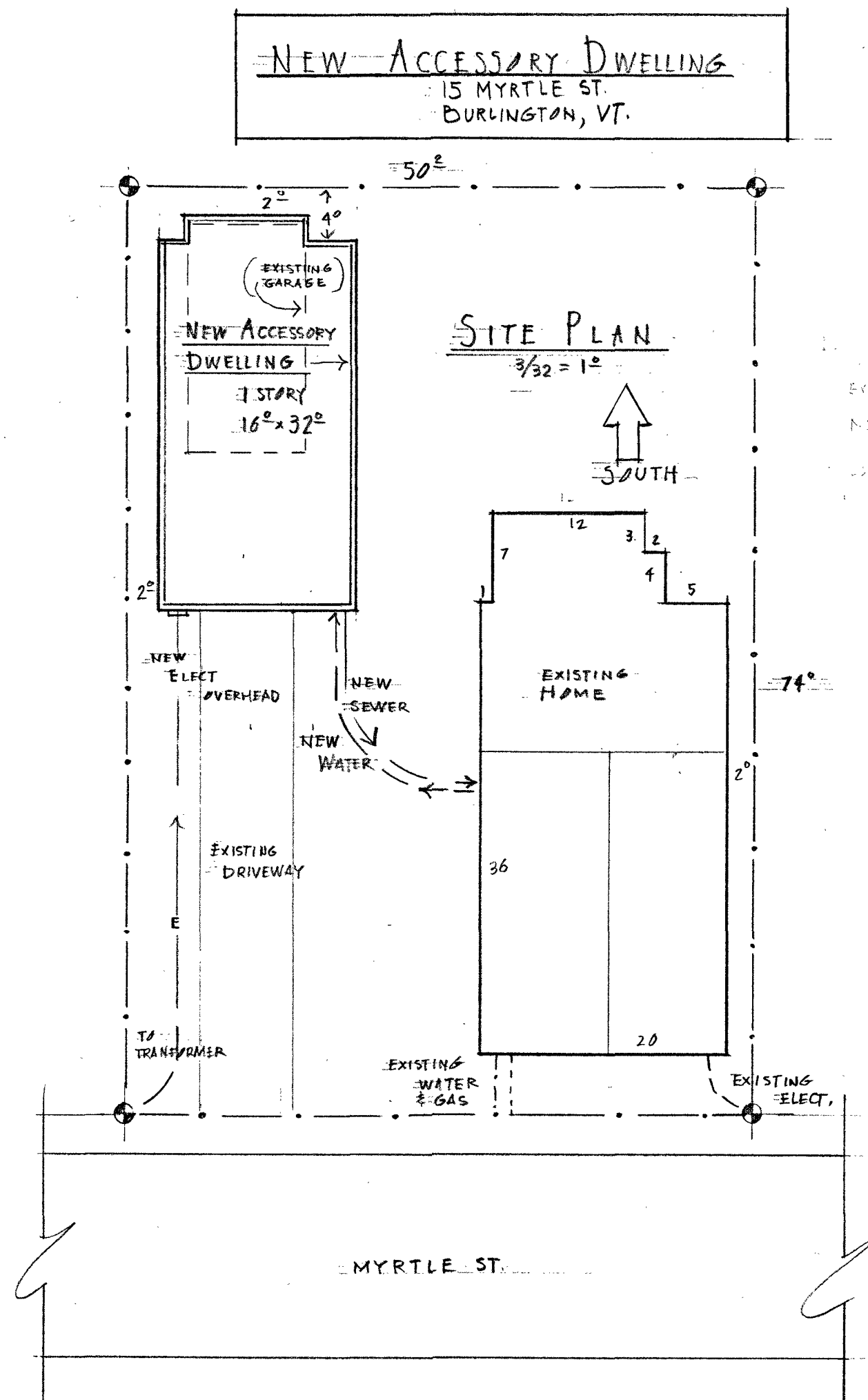
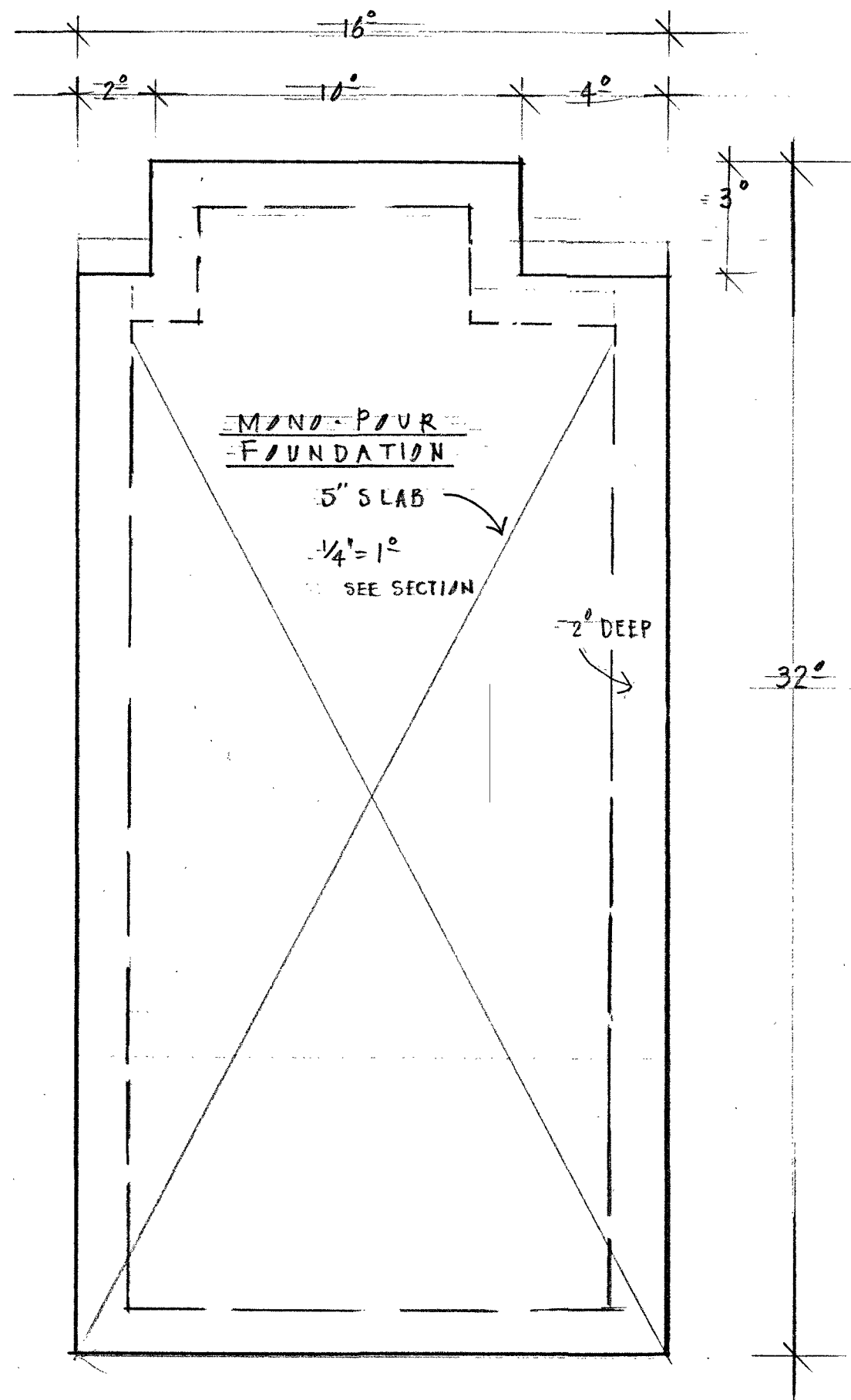
SCALE 1/4" = 1'



FOUNDATION SECTION

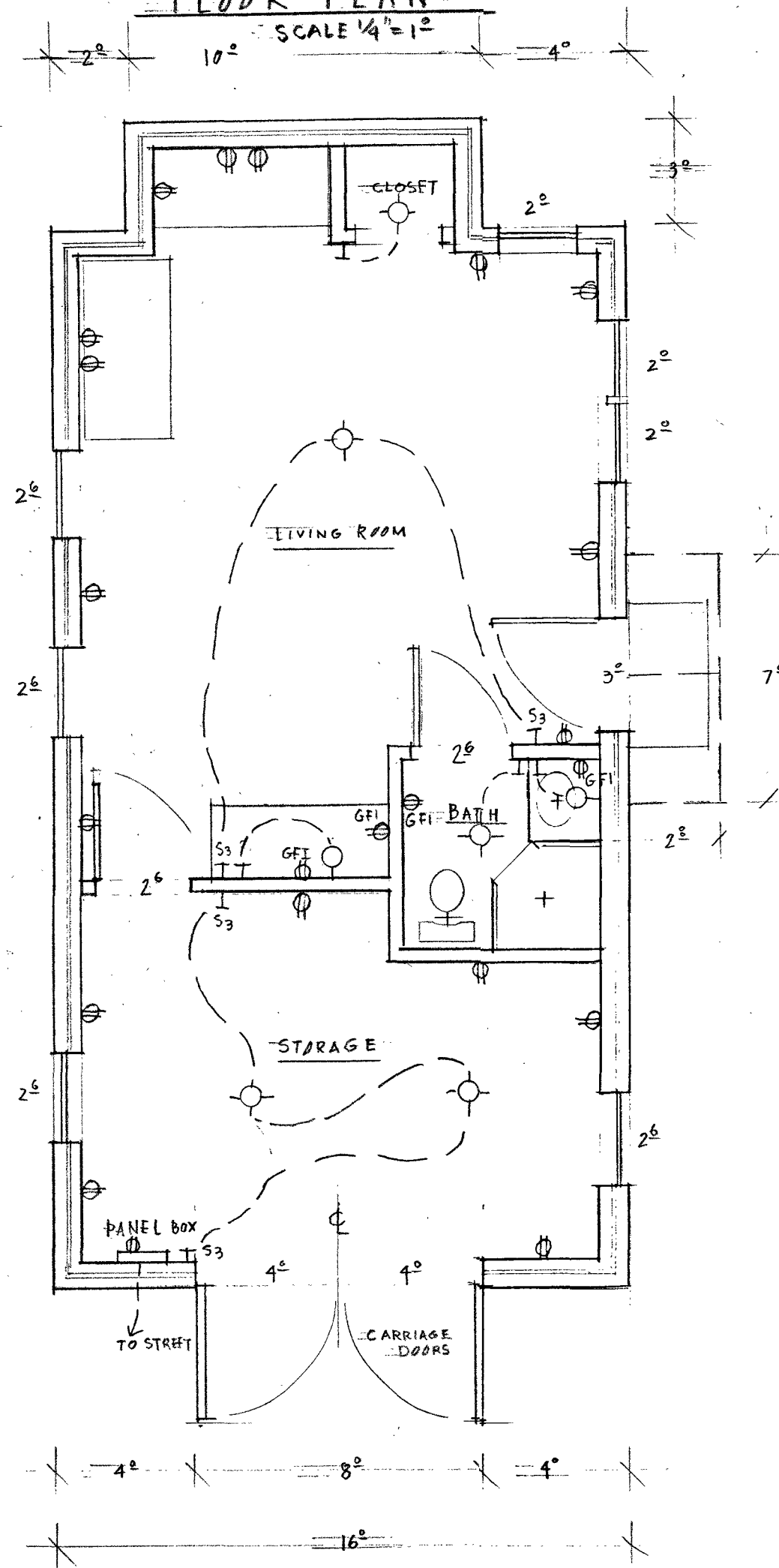
SCALE 3/4" = 1'





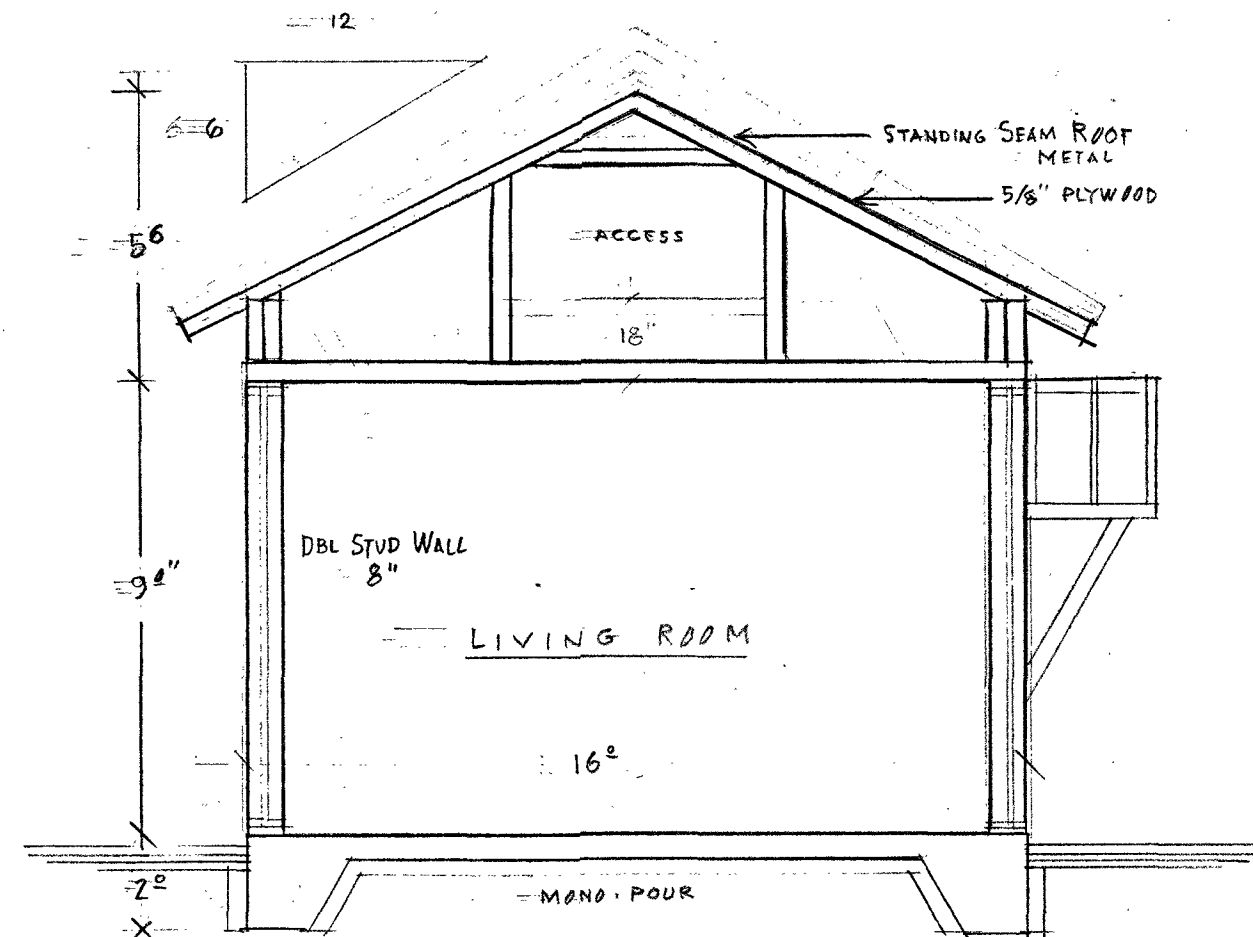
FLOOR PLAN

SCALE 1/4" = 1'



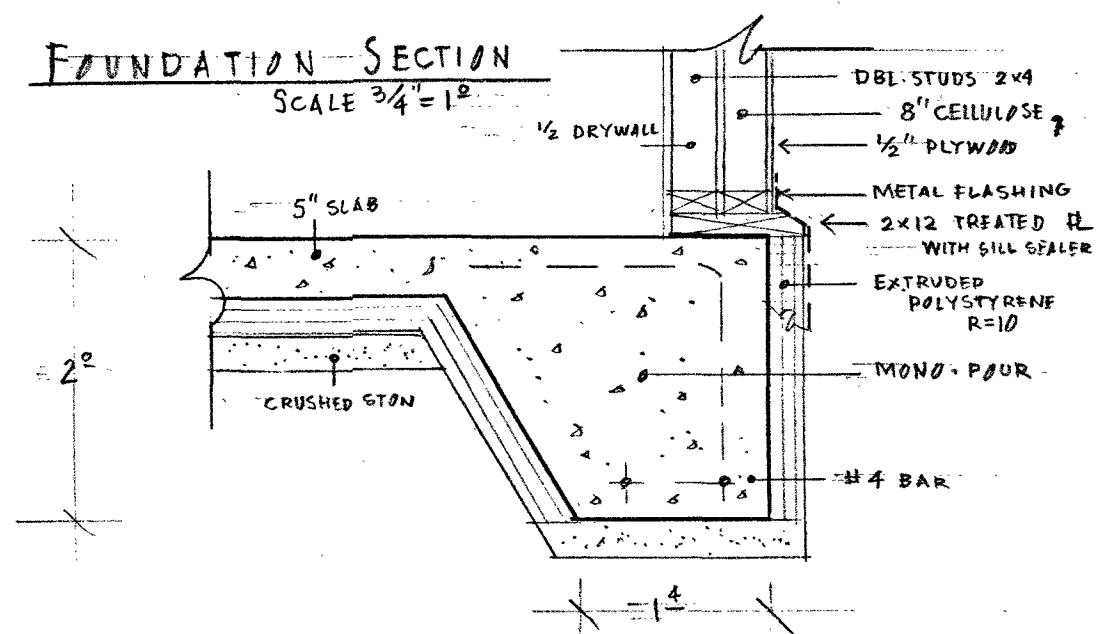
BUILDING SECTION

SCALE 1/4" = 1'



FOUNDATION SECTION

SCALE 3/4" = 1'



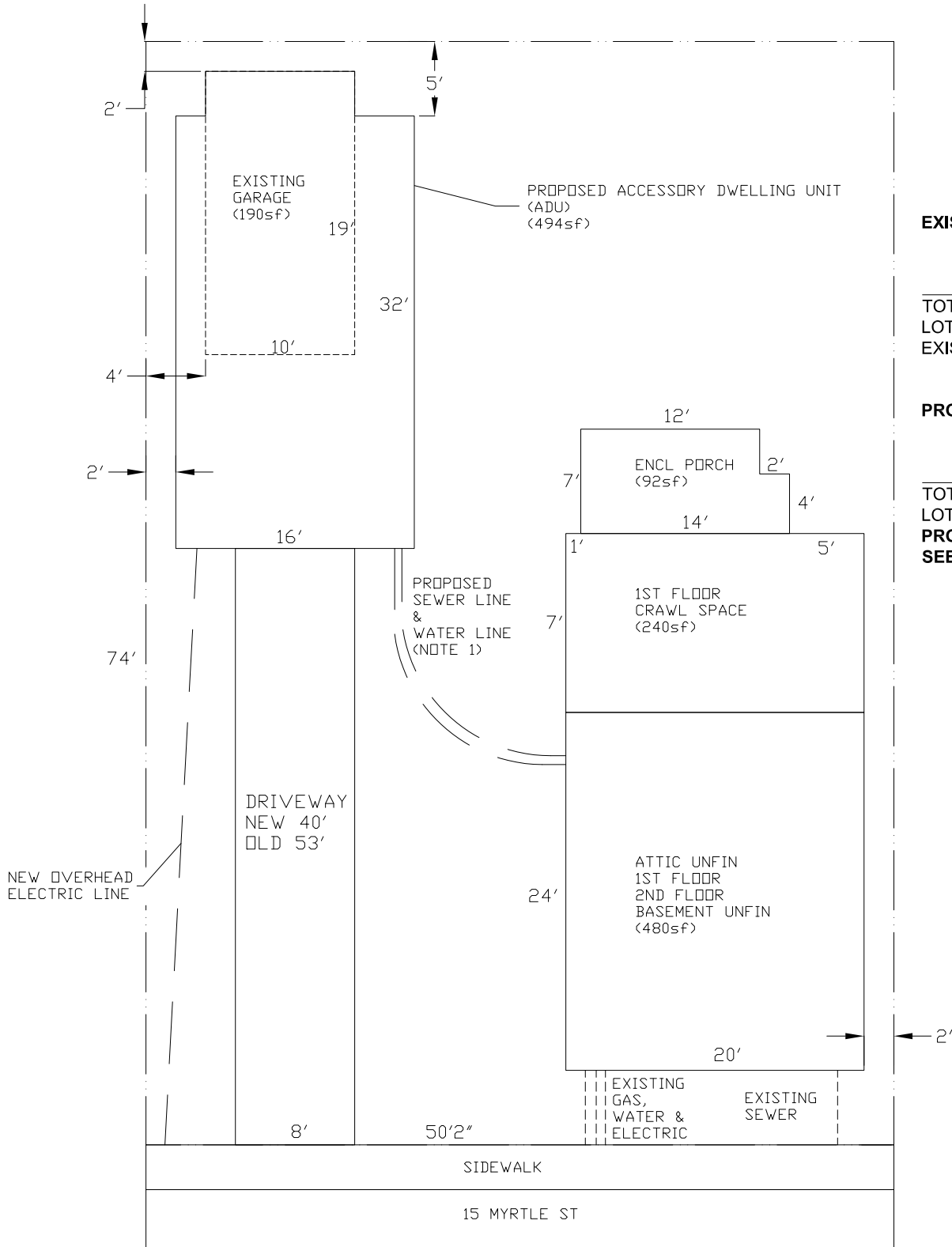
OWNER: ANDREW FELTUS

DATE: 4/27/2021

REV: 2

SCALE: 1"=10'

15 MYRTLE ST SITE PLAN PROPOSED GARAGE/ACCESSORY DWELLING UNIT



EXISTING COVERAGE

HOUSE	812 SQFT
GARAGE	190 SQFT
DRIVEWAY	424 SQFT
TOTAL	1426 SQFT
LOT SIZE	3713 SQFT
EXISTING COVERAGE = 38.4%	

PROPOSED COVERAGE

HOUSE	812 SQFT
ADU	494 SQFT
DRIVEWAY	320 SQFT
TOTAL	1626 SQFT
LOT SIZE	3713 SQFT
PROPOSED COVERAGE = 43.8%	
SEE NOTE 3	

NOTES:

- SEWER AND WATER LINES WILL TAP INTO EXISTING SEPTIC AND WATER HOOKUPS IN BASEMENT OF EXISTING HOUSE.
- ZONING DISTRICT RESIDENTIAL MEDIUM DENSITY (RM)
- SEEKING EXCEPTION UNDER ARTICLE 5.2.3 (b)(10) FOR ACCESSORY DWELLING UNIT. A 50 GALLON RAIN WATER COLLECTION SYSTEM WILL BE INSTALLED TO REDUCE STORMWATER RUNOFF.



10'



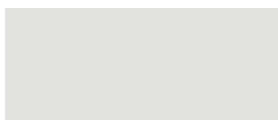
(/)
RESIDENTIAL (/RESIDENTIAL/) / PANEL SYSTEMS (/RESIDENTIAL/PANEL-SYSTEMS/) /
1 1/2" SSR SERIES



1 1/2" SSR SERIES

Homeowners are confident in this classic style metal roof because it protects against all weather conditions while delivering value, beauty, and performance. Fireproof and durable, metal roofs are an investment for a lifetime.

PANEL SPECS

 White 899 IR = .54	 Caribbean Blue 881 IR = .27
 Brick Red 898 IR = .31	 Classic Burgundy 853 IR = .19
 Hickory Moss 870 IR = .36	 Evergreen 875 IR = .25
 Charcoal Gray 851 IR = .18	 Antique Bronze 854 IR = .20
 Acrylic Coated Galvalume	 True Black 882 IR=.30
 Bright Copper Penny	

ACCESSORIES



Applied Products:

Glass			Clear		
Windows			Carriage House Collection	6 Window Square 7'	
Paint			White Paint	White Paint	
Garage Door			Carriage House Collection	Model 303 8' x 7'	



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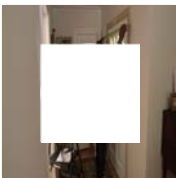
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Internet #202783176 Model #THDQC235900022 Store SKU #981570



Exterior View

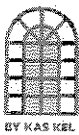
Hover Image to Zoom

Live Chat

Feedback

36 in. x 80 in. 6-Panel Primed Fiberglass Prehung Right-Hand Inswing
Front Door w/ Brickmould
by **JELD-WEN**

445



**MASTERVIEW
WINDOWS**

Customer Quote

Kasson & Keller Inc.
60 School Lane
Fonda, NY 12068
Phone: 1-800-452-7535
Fax: 518-853-3299

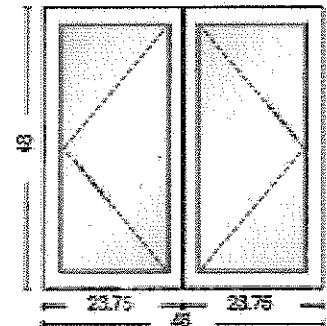
BILL TO:

SHIP TO:

QUOTE #	ORDER DATE	BID BY	ORDER PLACED BY	ORDER TAKEN BY
443828	Quote Not Ordered			Davidp
JOB NAME		CUSTOMER PO#	TERMS	CARRIER

LINE #	DESCRIPTION	QUANTITY	UNIT PRICE	LIST PRICE	PRICE
--------	-------------	----------	------------	------------	-------

100-1	* Product * 700 Series, Casement, Left / Right * Overall Manufactured Size * 48 X 48 * Overall Rough Opening * 48 1/2 X 48 1/2 * Interior / Exterior * Frame Color: White * Glass Options * Energy Star U4 * Screen * Fiberglass Mesh * Hardware * Sash Limiter = No * Ratings * Energy Star, U-Factor: 0.23, SHGC: 0.23, Full DO: 17 13/16 X 41 1/2, Vent Opening Size: 12 X 42 15/16 (3.578 sq ft) * Wrapping - Frame Options * Standard J-Channel * Mulls * Vertical, Common Frame, 0.5" thick, 48" length	1	\$694.03	\$1,057.96	\$694.03
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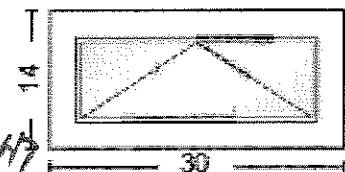
Tag: None Assigned

VIEWED FROM EXTERIOR

LINE #	DESCRIPTION	QUANTITY	UNIT PRICE	LIST PRICE	PRICE
--------	-------------	----------	------------	------------	-------

200-1	* Product * 700 Series, Awning, Operating * Overall Manufactured Size * 30 X 14 * Overall Rough Opening * 30 1/2 X 14 1/2 * Interior / Exterior * Frame Color: White * Glass Options * Energy Star U4, Thickness: Double Strength 1/8" * Screen * Fiberglass Mesh * Hardware * Sash Limiter = No * Ratings * Energy Star, U-Factor: 0.23, SHGC: 0.23, Full DO: 23 5/8 X 7 5/8 * Wrapping - Frame Options * Standard J-Channel	3	\$203.76	\$310.60	\$611.28
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30x14
COULD NOT
DO 12" HEIGHT
14" WAS THE SHORTEST



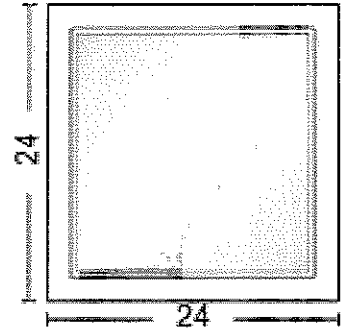
Tag: None Assigned

VIEWED FROM EXTERIOR

QUOTE #	ORDER DATE	BID BY	ORDER PLACED BY	ORDER TAKEN BY
443828	Quote Not Ordered			Davidp
JOB NAME		CUSTOMER PO#	TERMS	CARRIER

LINE #	DESCRIPTION	QUANTITY	UNIT PRICE	LIST PRICE	PRICE
--------	-------------	----------	------------	------------	-------

300-1 * Product * 220 Series, Direct Set, Fixed
 * Overall Manufactured Size * 24 X 24
 * Overall Rough Opening * 24 1/2 X 24 1/2
 * Interior / Exterior * Frame Color: White
 * Glass Options * Energy Star U4
 * Ratings * Energy Star, U-Factor: 0.21, SHGC: 0.28, Full
 DO: 19 3/16 X 19 3/16
 * Wrapping - Frame Options * Standard J-Channel

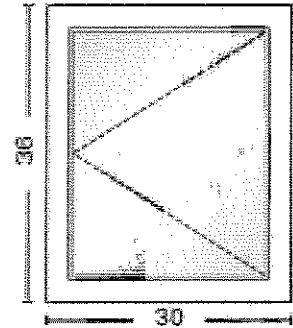


Tag: None Assigned

VIEWED FROM EXTERIOR

LINE #	DESCRIPTION	QUANTITY	UNIT PRICE	LIST PRICE	PRICE
--------	-------------	----------	------------	------------	-------

400-1 * Product * 700 Series, Casement, Left
 * Overall Manufactured Size * 30 X 36
 * Overall Rough Opening * 30 1/2 X 36 1/2
 * Interior / Exterior * Frame Color: White
 * Glass Options * Energy Star U4
 * Screen * Fiberglass Mesh
 * Hardware * Sash Limiter = No
 * Ratings * Energy Star, U-Factor: 0.23, SHGC: 0.23, Full
 DO: 23 1/2 X 29 1/2, Vent Opening Size: 18 1/4 X 30 15/16
 (3.921 sq ft)
 * Wrapping - Frame Options * Standard J-Channel



Tag: None Assigned

VIEWED FROM EXTERIOR

PROJECT		QUOTE			
ANDY FELTUS REVISED 04/21/21		ANDY FELTUS REVISED 04/21/21			
Comments:					
Disclaimer:	QUOTES	VALID	FOR	20	DAYS

SUB-TOTAL:	\$1,752.74
LABOR:	\$0.00
FREIGHT:	\$0.00
SALES TAX:	\$0.00
TOTAL:	\$1,752.74

CUSTOMER QUOTE TERMS

- Price is Verified For 60 Days From Date Quoted
- Price is Subject to Review and Final Acceptance by Dealer
- Any Changes or Additions MUST Be Agreed Upon by Dealer
- The Quoted Price is Contingent Upon the Information Provided by Customer
- The Purchaser is Responsible for Purchased Product Meeting Local Laws and Building Codes
- The Purchaser is Responsible to Verify the Accuracy of Items Quoted Herein.

CUSTOMER SIGNATURE _____ DATE _____

#1 Home Improvement Retailer



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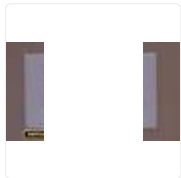


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Internet #301160445 Model #DFI-5999-WH Store SKU #1002366598



LED LIGHTING PERFORMANCE	
LUMENS (lm)	1450
WATT (W)	19.75
LUMENS PER WATT (lm/W)	73.42
OPERATING HOURS (hrs)	60
LIGHT APPEARANCE (K)	
5000K	



Live Chat

Feedback

Hover Image to Zoom

180° White Motion Activated Outdoor Integrated LED Flood Light Twin Head

519

Description

The Halo RL56 SeleCCTable™ is a complete LED Baffle-Trim Module for 5 inch and 6 inch aperture recessed downlights; suitable for new construction, remodel and retrofit installation. Using the CCT selectable switch users can chose between five different color temperatures. The lens provides uniform illumination and wet location listing. Precision construction makes any housing AIR-TITE for added savings and code compliance.

Catalog #	Type
Project	
Comments	Date
Prepared by	

Specification Features

CCT Select System

- Use the switch to choose between 2700K, 3000K, 3500K, 4000K, and 5000K CCT.

Module - Trim

- Module construction includes LED array, heat sink, reflector, lens, baffle and trim ring.
- Regressed baffle
- Heat sink designed to conduct heat away from the LED array, keeping the junction temperatures below specified maximums, even when installed in insulated ceiling environments.

LED Array

- Mid power LED array provides a uniform source with high efficiency and no pixilation.
- 90 CRI minimum, R9 greater than 50
- Color accuracy at 4 SDCM in between endpoints, provide color accuracy and uniformity.
- Color Temperature (CCT) has a selectable range from 2700K to 5000K (factory default 3000K)

Optical Assembly

- Regressed lens
- Impact-resistant polycarbonate
- Convex form and lamp-like appearance
- Diffuse for even illumination

Driver

- Integral 120V 60 Hz constant current driver provides noise free operation
- Continuous, flicker-free dimming from 100% to 5%.
- Inline electrical quick connect and E26 adapter (provided) provides mains connections
- See Dimming Guide for compatible dimmers

Retention

- Integral torsion springs and Push-N-Twist clips offer two mounting options
- Torsion springs are pre-installed and adjust to fit 5" or 6" compatible housings
- Push-N-Twist universal installation clips are pre-installed and designed to fit 5" or 6" compatible housings

Designer Skins (sold separately)

- RL56 skins are accessory rings that attach to the RL56 for a permanent finish. Refer to the RL56 accessories specification sheet for details.
- White (Paintable)
- Satin Nickel
- Tuscan Bronze

Gaskets

- Closed cell gaskets achieve restrictive airflow requirements without additional caulking

Compliance

- UL Certified
- Wet and Damp location listed.
- Airtight certified per ASTM-E283
- Suitable for use in clothes closets when installed in accordance with the NEC 410.16 spacing requirements
- EMI/RFI emissions per FCC 47CFR Part 15 consumer limits
- Contains no mercury or lead and RoHS compliant
- Photometric testing in accordance with IES LM-79-08
- Lumen maintenance projections in accordance with IES LM-80-08 and TM-21-11
- Can be used for State of California Title 24 high efficacy luminaire compliance. Complies with Title 24 JA8-2016-E.
- Can be used International Energy Conservation Code (IECC) high efficiency luminaire compliance.
- ENERGY STAR® listed, reference database for current listings

Warranty

Five year limited warranty, consult website for details.
www.eaton.com/lighting/legal



Refer to ENERGY STAR® Certified Products List. Can be used to comply with California Title 24 High Efficacy requirements. Certified to California Appliance Efficiency Database under JA8.



Energy Data

RL56069S1EWH		RL56099S1EWH		RL56129S1EWH	
Max. Lumens	712 @ 4000K	Max. Lumens	1006 @ 4000K	Max. Lumens	1272 @ 5000K
Input Voltage	120V	Input Voltage	120V	Input Voltage	120V
Input Frequency	50/60 Hz	Input Frequency	50/60 Hz	Input Frequency	50/60 Hz
Input Power	7.6W	Input Power	12.1W	Input Power	14W
Input Current	0.15 A	Input Current	0.15 A	Input Current	0.15 A
Power Factor	>0.90	Power Factor	>0.90	Power Factor	>0.90
THD	<20%	THD	<20%	THD	<20%
EMI/RFI	FCC Title 47 CFR, Part 15, Class B (Consumer)	EMI/RFI	FCC Title 47 CFR, Part 15, Class B (Consumer)	EMI/RFI	FCC Title 47 CFR, Part 15, Class B (Consumer)
Sound Rating	Class A	Sound Rating	Class A	Sound Rating	Class A
Minimum Starting Temp	-30°C (-22°F)	Minimum Starting Temp	-30°C (-22°F)	Minimum Starting Temp	-30°C (-22°F)



RL56069S1EWH
RL56099S1EWH



RL56129S1EWH

RL56

**5/6-Inch All-Purpose LED
Retrofit Module with
SeleCCTable switch**

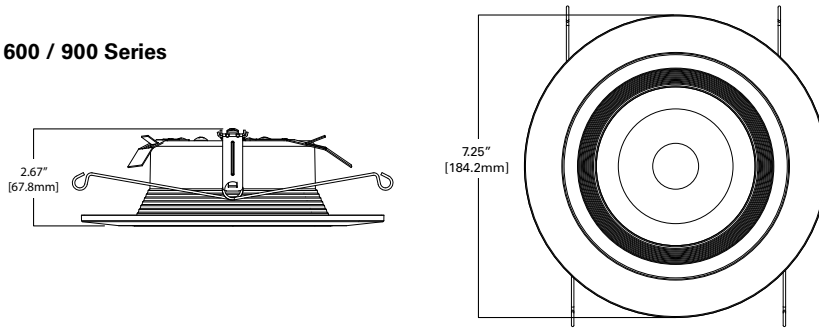
up to 1272 lumens

**FOR USE IN
INSULATED CEILING
AND NON- INSULATED
CEILING RATED HOUSINGS**

**HIGH-EFFICACY LED
WITH INTEGRAL
DRIVER - DIMMABLE**

Dimensions

600 / 900 Series



Ordering Information

SAMPLE NUMBER: RL56069S1EWH

A complete luminaire consists of a housing, and LED module, order separately.

Models	Lumens	CRI/CCT	Driver	Finish	Accessories
RL56 = 5"/6" all- purpose retrofit LED module	06 =600 lumens (nominal) 09 =900 lumens (nominal) 12 =1200 lumens (nominal)	9S =90 CRI minimum, white tuning, selectable CCT 2700K-5000K	1E =120V 60Hz leading or trailing edge phase cut 1% dimming	WH =Matte white baffle	RL56TRMWHB =5"/6" White Paintable Trim Ring, Baffle RL56TRMSNB =5"/6" Satin Nickel Trim Ring, Baffle RL56TRMTBZB =5"/6" Tuscan Bronze Trim Ring, Baffle RL56TRMWH =5"/6" White Paintable Trim Ring RL56TRMSN =5"/6" Satin Nickel Trim Ring RL56TRMTBZ =5"/6" Tuscan Bronze Trim Ring

Housings

Halo LED 5-inch

H550ICAT= 5" LED, Insulated Ceiling, Air-Tite, New Construction Housing
H550RICAT= 5" LED, Insulated Ceiling, Air-Tite, Remodel Housing
E550ICAT= 5" LED, Insulated Ceiling, Air-Tite, New Construction Housing
E550RICAT= 5" LED, Insulated Ceiling, Air-Tite, Remodel Housing

Halo LED 6-inch

H750ICAT= 6" LED, Insulated Ceiling, Air-Tite, New Construction Housing
H750RICAT= 6" LED, Insulated Ceiling, Air-Tite, Remodel Housing
H750T= 6" LED, Non-IC, Air-Tite, New Construction Housing
H750TCP= 6" LED, Non-IC, New Construction/Remodel Chicago Plenum Housing
H2750ICAT= 6" LED, Shallow, Insulated Ceiling, Air-Tite, New Construction (use with 691X, 694X, 696X trims only)
H2750RICAT= 6" LED, Shallow, Insulated Ceiling, Air-Tite, Remodel (use with 691X, 694X, 696X trims only)
E750ICAT= 6" LED, Insulated Ceiling, Air-Tite, New Construction Housing
E750RICAT= 6" LED, Insulated Ceiling, Air-Tite, Remodel Housing

Halo LED retrofit

ML7E26RFBK= 6" Retrofit Enclosure, Non-IC, E26 Screw base Interface
ML7BXRFBK= 6" Retrofit Enclosure, Non-IC, BX Whip

Halo Shallow Housings 5-inch

H25ICAT= 5" Shallow, Insulated Ceiling, Air-Tite New Construction
H25RICAT= 5" Shallow, Insulated Ceiling, Air-Tite Remodel
H25ICATNB= 5" Shallow, Insulated Ceiling, Air-Tite New Construction, No Socket Bracket

Halo Shallow Housings 6-inch

H27ICAT= 6" Shallow, Insulated Ceiling, Air-Tite New Construction
H27RICAT= 6" Shallow, Insulated Ceiling, Air-Tite Remodel Housing
H27T= 6" Shallow, Non-IC, New Construction Housing
H27RT= 6" Shallow, Non-IC, Remodel Housing
E27ICAT= 6" Shallow, Insulated Ceiling, Air-Tite New Construction
E27RICAT= 6" Shallow, Insulated Ceiling, Air-Tite Remodel Housing
E27TAT= 6" Shallow, Non-IC, New Construction Housing
E27RTAT= 6" Shallow, Non-IC, Remodel Housing

Halo Standard Housings 5-inch

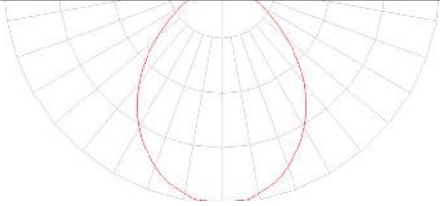
H5ICAT= 5" Insulated Ceiling, Air-Tite New Construction Housing
H5RICAT= 5" Insulated Ceiling, Air-Tite Remodel Housing
H5ICATNB= 5" Insulated Ceiling, Air-Tite New Construction Housing, No Socket Bracket
H5T= 5" Non-IC, New Construction Housing
H5RT= 5" Non-IC, Remodel Housing
H5TNB= 5" Non-IC, New Construction Housing, No Socket Bracket
E5ICAT= 5" Insulated Ceiling, Air-Tite New Construction Housing
E5RICAT= 5" Insulated Ceiling, Air-Tite Remodel Housing
E5ICATNB= 5" Insulated Ceiling, Air-Tite New Construction Housing, No Socket Bracket
E5TAT= 5" Non-IC, New Construction Housing
E5RTAT= 5" Non-IC, Remodel Housing
E5TATNB= 5" Non-IC, New Construction Housing, No Socket Bracket

Halo Standard Housings 6-inch

H7ICAT= 6" Insulated Ceiling, Air-Tite New Construction Housing
H7RICAT= 6" Insulated Ceiling, Air-Tite Remodel Housing
H7ICT= 6" Insulated Ceiling, New Construction Housing
H7RICT= 6" Insulated Ceiling, Remodel Housing
H7ICATNB= 6" Insulated Ceiling, Air-Tite New Construction Housing, No Socket Bracket
H7ICTNB= 6" Insulated Ceiling, New Construction Housing, No Socket Bracket
H7T= 6" Non-IC, New Construction Housing
H7RT= 6" Non-IC, Remodel Housing
H7TNB= 6" Non-IC, New Construction Housing, No Socket Bracket
H7TCP= 6" Non-IC, Chicago Plenum, New Construction/Remodel Housing
H7UICAT= 6" Insulated Ceiling, Universal, Air-Tite, New Construction Housing
E7ICAT= 6" Insulated Ceiling, Air-Tite New Construction Housing
E7RICAT= 6" Insulated Ceiling, Air-Tite Remodel Housing
E7ICATNB= 6" Insulated Ceiling, Air-Tite New Construction Housing, No Socket Bracket
E7TAT= 6" Non-IC, New Construction Housing
E7RTAT= 6" Non-IC, Remodel Housing
E7TATNB= 6" Non-IC, New Construction Housing, No Socket Bracket

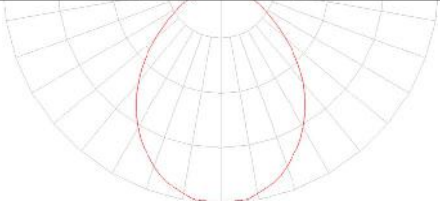
Photometric Data

RL56069S1EWH-3000K		
Luminaire lumens		665
Input watts		7.6
LER (LPW)		87.5
Spacing Criteria	0-180	1.14
	90-270	1.14
	Diagonal	1.22
Beam angle (degrees)		87.8
Field angle (degrees)		139
Zonal lumen	Lumens	% Lumens
0-30	247	37.2
0-40	387	58.2
0-60	595	89.4
0-90	665	100



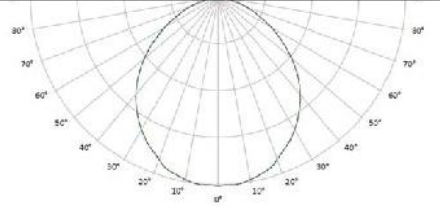
* Tested in accordance with IES LM63. Field results may vary.

RL56099S1EWH-3000K		
Luminaire lumens		940
Input watts		12.1
LER (LPW)		77.7
Spacing Criteria	0-180	1.16
	90-270	1.16
	Diagonal	1.22
Beam angle (degrees)		88.9
Field angle (degrees)		140
Zonal lumen	Lumens	% Lumens
0-30	345	36.7
0-40	541	57.5
0-60	838	89.1
0-90	940	100



* Tested in accordance with IES LM63. Field results may vary.

RL56129S1EWH-3000K		
Luminaire lumens		1221
Input watts		14
LER (LPW)		87.2
Spacing Criteria	0-180	1.21
	90-270	1.21
	Diagonal	1.31
Beam angle (degrees)		93
Field angle (degrees)		140
Zonal lumen	Lumens	% Lumens
0-30	345	31.7
0-40	541	51.5
0-60	838	85.5
0-90	940	100



* Tested in accordance with IES LM63. Field results may vary.

Color Metric Summary

TM-30-15	R _f = 89.8
	R _g = 98
CRI/CIE	R _a = 93.7
	R ₉ = 69.1



CCT - Range of 2700K- 5000K
warm ← → cool

Color Metric Summary

TM-30-15	R _f = 89.9
	R _g = 97.7
CRI/CIE	R _a = 93.1
	R ₉ = 64.6



CCT - Range of 2700K- 5000K
warm ← → cool

Color Metric Summary

TM-30-15	R _f = 89.9
	R _g = 97.7
CRI/CIE	R _a = 93.1
	R ₉ = 64.6



CCT - Range of 2700K- 5000K
warm ← → cool

Product Specifications

PRODUCT SPECIFICATIONS	
Lumens	665
Watts	7.6
Lumens Per Watt (Efficacy)	87.5
Color Accuracy (CRI)	92
Light Color (CCT)	3000K
Correlated Color Temperature (CCT)	
warm white soft white bright white	
2700K 3000K 4500K 6500K	

PRODUCT SPECIFICATIONS	
Lumens	940
Watts	12.1
Lumens Per Watt (Efficacy)	77.69
Color Accuracy (CRI)	90
Light Color (CCT)	3000K
Correlated Color Temperature (CCT)	
warm white soft white bright white	
2700K 3000K 4500K 6500K	

PRODUCT SPECIFICATIONS	
Lumens	1221
Watts	14
Lumens Per Watt (Efficacy)	87
Color Accuracy (CRI)	92
Light Color (CCT)	3000K
Correlated Color Temperature (CCT)	
warm white soft white bright white	
2700K 3000K 4500K 6500K	



City of
Burlington, Vermont
645 Pine Street

Zoning Permit - COA Level III – Reasons for Denial

ZP #: 21-0923LL

Tax ID: 057-1-027-000

Issue Date: April 28, 2021

Decision: Denied

Property Address: 78-80 HARRISON AVENUE

Description: Lot line adjustment with 68-70 Conger Ave

Reasons for denial:

1. This property is presently nonconforming as to lot size (5,760 sf whereas 6,000 is the minimum lot size in the W-RL zone, wherein the property is located). The proposed lot line adjustment would make the lot even smaller (4,959 sf). The lot line adjustment would increase the degree of nonconformity.
2. Lot coverage data is not specified in the survey plat; however, current LIDAR data indicates ~3,173 sf lot coverage (55.1%). Up to 35% lot coverage is allowed in the W-RL zone. An additional 10% lot coverage is allowed for open air amenities such as walkways and open porches. This property is nonconforming as to lot coverage. The lot line adjustment would increase the degree of nonconformity with a resultant lot coverage of 64%.
3. Sec. 5.3.6, *Nonconforming Lots*, prohibits alterations to a nonconforming lot if the dimensional requirements and standards of the underlying zoning district are not met. As noted above, dimensional requirements and standards as to minimum lot size and lot coverage will not be met. As a result, the zoning application cannot be approved.



City of
Burlington, Vermont
645 Pine Street

Zoning Permit - COA Level III – Reasons for Denial

ZP #: 21-0922LL

Tax ID: 057-1-024-000

Issue Date: April 28, 2021

Decision: Denied

Property Address: 68-70 CONGER AVENUE

Description: Lot line adjustment with 78-80 Harrison Ave

Reasons for denial:

1. This property is presently nonconforming as to lot size (5,150 sf whereas 6,000 is the minimum lot size in the W-RL zone, wherein the property is located). The proposed lot line adjustment would make the lot larger (5,950 sf) and less nonconforming. However, the lot line adjustment would make the other property involved in this lot line adjustment (78-80 Harrison Ave) smaller and more nonconforming than it already is (see zoning denial 21-0923LL).
2. Lot coverage data is not specified in the survey plat; however, current LIDAR data indicates ~2,757 sf lot coverage (53.5%). Up to 35% lot coverage is allowed in the W-RL zone. An additional 10% lot coverage is allowed for open air amenities such as walkways and open porches. The lot line adjustment would decrease the percentage of lot coverage (46.3%) and lessen the degree of nonconformity. However, the lot line adjustment would make the other property involved in this lot line adjustment (78-80 Harrison Ave) smaller and increase the degree of its nonconforming lot coverage (see zoning denial 21-0923LL).
3. Sec. 5.3.6, *Nonconforming Lots*, prohibits alterations to a nonconforming lot if the dimensional requirements and standards of the underlying zoning district are not met. As noted above, this lot line adjustment will necessitate increases in the degree of nonconformity as to dimensional requirements and standards for the other property (78-80 Harrison Ave). As a result, the zoning application cannot be approved.

The Burlington Developmental Review Board,

Description of the decision under appeal: We are appealing the administrative decision denial for ZP # 21-0922L and ZP # 21-0923LL.

Description of the property subject to the appeal: Requested a boundary line adjustment for two properties that my brother and I own, 78-80 Harrison Ave and 68-70 Conger Ave. Both are pre-existing small lots. These properties have been in our family since the queen city cotton company mapped out the land in the 1930's. We are trying to move the property line between the 2 properties to accommodate for a garage that was permitted and approved by the city of Burlington 41 years ago (1980); which means it falls under a "grandfather clause" or variance and it does not have to come down. The land records show a 480 sf garage as part of 68-70 Conger NOT 78-80 Harrison and the garage was never used, intended for use, nor accessed by 78-80 Harrison Avenue.

Reference the regulatory provisions applicable to the appeal: According to Article 5 section 3.6 of the Comprehensive Development Ordinance, the lots are considered non-conforming and therefore we are being told the boundary line adjustment cannot happen. However, according to 5.2.1 these lots were non-conforming pre-dating 1973. According to this section the lots cannot be any less than 4,000 sf. Therefore as you can see in our site survey, 68-70 Conger will go from 5,180 sf to 5,950 sf and 78-80 Harrison will go from 5,760 sf to 4,959 sf. Both still in accordance to section 5.2.1 for pre-existing small lots. Neither of them will be less than 4,000 sf. According to article 4 and article 5, the lot sizes were never going to be the "appropriate" size to conform to today's standards.

Relief requested by the appellant: Move the property lines as annotated in the survey attached with the permit application. This will enable 68-70 Conger to continue to own and use the garage without the need for an easement and will enable us to put 78-80 Harrison back on the market without the need for legal battles or title problems due to a temporary easement. Failure to approve this adjustment would mean that both pieces of property would have to be sold together to the same buyer and will only push this problem on to the next property owners.

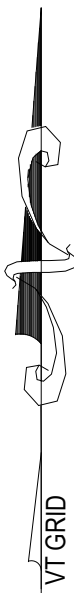
Alleged grounds why such requested relief is believed proper under the circumstances: Section 5.2.1 annotates these lots were already small pre-1973 and therefore cannot be less than 4,000 sf. The garage is staying according the variance of being permitted and built 41 years ago. We are trying to make the boundary line adjustment as minimal as possible under the constraints of Burlington and to accommodate an approved structure for 68-70 Conger Ave. As mentioned above the properties have been in our family since the beginning when the land was owned by Queen City Cotton Company. Burlington used to do land use maps according to land usage at the time. We have a copy of the map from 1937 when the queen city cotton company drew a map showing properties. In that map it shows 78-80 Harrison with the bigger lot. The only reason that map was drawn up that way was because of land usage at the time. Our grandfather owned 68-70 Conger. The family that lived in 78-80 Harrison had a bigger family and needed a bigger garden so they used part of my grandfather's lawn. However, back when the lots were originally mapped out in 1937 the requirement of minimum lot size did not exist. (Example: you can see by the existing lot in between; 74-76 Conger Ave— it has almost zero land) Now we are being forced to uphold a standard of lot size or not diminish an already non-conforming lot due to regulations that were never in place when the original lines were drawn.

We don't feel that moving the lines between these two properties is going to put further strain on the land, land use, nor create any further environmental impacts. If you look at the survey we are really not asking for very much.

We respectfully request to be physically present for the DRB decision so we can plead our case in person. We feel we have tried to do the right thing throughout this entire process and we really are not asking for much in the grand scheme of things. We are just trying to do the right thing for our land that our family has owned for generations.

V/R,

Michele Bushey and Andrew Gelinas



CITY OF BURLINGTON
(LAKESIDE PARK)

CONGER AVE.

SIDEWALK

62-64 CONGER AVE..

NINA C. DAHLSTEDT
& MELVIN H. BUSS
N/F
VOL.507, PG.722

LANDS OF
ANDREW P. GELINAS
N/F
VOL. 1136, PG. 47
REF. VOL. 103, PG.491
5,150 FT²
PROPOSED 5,950 FT²

GARAGE

68-70 CONGER AVE.

PORCH

LANDS OF
ANDREW P. GELINAS & MICHELE T. BUSHEY
N/F
VOL.1136, PG.43
REF. VOL. 103, PG.494
EXISTING 5,760 FT²
PROPOSED 4,959 FT²

74-76 CONGER AVE.

78-80 HARRISON AVE.

84 HARRISON AVE.

HARRISON AVE.

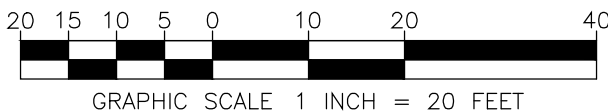
RENE C. KIRBY
N/F

ALAIN H. THERRIEN
ROCHELLE B. THERRIEN
N/F

JULIA R. KIRBY
& JOHN T. KIRBY
N/F

LEGEND

- PROJECT BOUNDARY LINES
- PROPOSED ADJUSTED BOUNDARY
- ABUTTING BOUNDARY LINES
- RBF REBAR FOUND
- IPF IRON PIPE FOUND
- CMF CONCRETE MONUMENT FOUND
- RBS REBAR SET
- △ CALCULATED CORNER
- A.G. ABOVE GRADE
- B.G. BELOW GRADE
- N/F NOW OR FORMERLY
- CHAIN LINK FENCE
- WOODEN FENCE



SURVEY REFERENCES:
1. "PLAN OF SUBDIVISION OF DWELLING PROPERTIES OF THE
QUEEN CITY COTTON COMPANY AT LAKESIDE, BURLINGTON,
VERMONT" DATED MAY 1937 PREPARED BY H.M. MCINTOSH, C.E.
AND RECORDED IN VOL.110, PG. 223 OF THE CITY OF
BURLINGTON LAND RECORDS.

PARCEL INFORMATION
68-70 CONGER AVE 78-80 HARRISON AVE
SPAN: 114-035-19523 SPAN: 114-035-19526
PARCEL ID: 057-1-024.000 PARCEL ID: 057-1-027.000

I CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THIS PLAN IS BASED ON
INFORMATION ABSTRACTED FROM PERTINENT DEEDS AND/OR OTHER OFFICIAL
RECORDS AND CONFORMS TO THE REQUIREMENTS OF 27 VSA § 1403.

DATED THIS _____ DAY OF _____, 2021.

L.S. 735



- SURVEY NOTES:
1. BEARINGS SHOWN HEREON WERE GENERATED FROM SURVEY GRADE GPS READINGS COLLECTED WITH A TOPCON HIPER SR GPS RECEIVER ON RANDOM CONTROL POINTS AND ADJUSTED TO VT GRID NAD83(2011) USING REAL TIME KINEMATIC CORRECTIONS FROM A VIRTUAL REFERENCE STATION GENERATED BY THE VERMONT CORS NETWORK.
 2. NO ATTEMPT HAS BEEN MADE TO LOCATE OR IDENTIFY ANY EASEMENTS OR RIGHTS OF WAYS UNLESS OTHERWISE SHOWN ON THIS PLAN.
 3. A CLOSED TRAVERSE SURVEY WAS COMPLETED IN OCTOBER, 2020 USING A LEICA TOTAL STATION. THE RESULTING ERROR MEETS OR EXCEEDS THE MINIMUM REQUIRED STANDARDS FOR A SUBURBAN SURVEY AS ESTABLISHED BY THE VERMONT BOARD OF LAND SURVEYORS.
 4. ALL EVIDENCE OF MONUMENTATION FOUND ON THE SURVEYED PREMISES IS SHOWN HEREON. MONUMENTATION FOUND IS CONSIDERED TO BE IN GOOD AND STABLE CONDITION UNLESS OTHERWISE NOTED. ALL IRON PIPE DIMENSIONS PERTAIN TO INSIDE DIAMETER UNLESS OTHERWISE NOTED.
 5. THE RIGHT OF WAY WIDTH FOR CONGER AVE AND HARRISON AVE OF 50 FEET IS BASED ON PREVIOUS SURVEYS OF RECORD, SURVEY REF. #1 AND MONUMENTATION FOUND.
 6. ALL AREA CALCULATIONS ARE BASED ON THE EDGE OF THE RIGHTS OF WAY OF SAID ROAD AND NOT THE CENTERLINE THEREOF.
 7. ALL REBARS SET ARE 5/8" WITH A CAP STAMPED M.GERVAIS VTLS 735 AND ALL MONUMENTATION FOUND IS AS NOTED.
 8. UNAUTHORIZED ALTERATIONS AND/OR MODIFICATIONS TO THIS PLAN SHALL INVALIDATE ANY AND ALL CERTIFICATIONS MADE BY BARNARD & GERVAIS, LLC AND FURTHER ANY PARTIES INVOLVED IN SAID ALTERATIONS AND/OR MODIFICATIONS SHALL BE HELD LIABLE AND MAY BE PROSECUTED IN A COURT OF LAW.
 9. BARNARD AND GERVAIS, LLC MAKES NO WARRANTIES THAT ALL ENCUMBRANCES THAT EXIST FOR THE SUBJECT PARCEL ARE SHOWN HEREON. ADDITIONAL ENCUMBRANCES THAT MAY EXIST INCLUDE, BUT ARE NOT LIMITED TO, WETLANDS, WELL AND SEPTIC ISOLATION ZONES, HAZARDOUS WASTE SITES AND/OR BROWNFIELDS WITH ASSOCIATED ISOLATION ZONES.

RECEIVED FOR RECORD IN THE CITY OF BURLINGTON
THIS _____ DAY OF _____, 2021
MAP BOOK # _____ PAGE # _____
AT _____ O'CLOCK _____ MINUTES _____ M
AND RECORDED IN BURLINGTON VERMONT
ATTEST _____
CITY CLERK

DATE	DESCRIPTION	BY
REVISIONS		
BARNARD & GERVAIS, LLC		
Land Surveying Water & Wastewater Environmental Consulting		
167 Main Street, P.O. Box 820 Eroburg Falls, VT 05450 Telephone: (802) 933-5168		PROJECT NO. 20130
10523 VT Route 116, P.O. Box 133 Hinesburg, VT 05461 Telephone: (802) 482-2591		DATE: 3-30-2021
LANDS OF ANDREW P. GELINAS & MICHELE T. BUSHEY		SCALE: 1" = 20'
CONGER AVE & HARRISON AVE CITY OF BURLINGTON, VERMONT		SURVEY: TW, DW
BOUNDARY LINE ADJUSTMENT SURVEY PLAT		DRAWN: RG
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		CHECKED: MG
SKETCH/CONCEPT PRELIMINARY FINAL LOCAL REVIEW		DRAWING NO. PL-1
		SHEET 1 OF 1



May 21, 2021

Scott Gustin
Burlington Planning and Zoning
645 Pine Street
Burlington, VT 05401

Scott,

Thank you for your patience for the process, as we have been working through questions from the Board and the public received in our initial Final Plat hearing. The lions share of this workload has surrounded the geotechnical review of the slope and soil makeup of the sight and related environmental analysis. This included several soil borings and the related geotechnical analysis. Additionally, we revised the elevation on the rear of the building per Board input to give a more functional and aesthetically pleasing feel. Attached, you will find the Slope Stability Memo, Phase 1 Site Assessment Summary, and revised building elevations.

Regarding slope stability, you will note in the memo that the proposed construction does not impact the existing slope along Riverside Avenue.

As you know, the condition of the existing slope along Riverside Ave is currently in disrepair and modeling of this slope creates a Factor of Safety below what is ideal for new construction (i.e., 1.5). Although this condition exists, the FoS is 1.4 which is greater than 1.3 (static value for slopes that do not support a structure at the crest of slope) and the proposed project is well beyond the required distance as required by the IBC 2015 (Vermont's current building code).

Once a repair is made across the street, the FoS will only get better and just as important we have shown that the proposed construction does not impact the existing conditions.

In response to DRB comments regarding the rear of the building, the design has been updated in the following ways:

1. Grey siding has been replaced with various colors
2. Windows in 1-bedroom living areas have been changed to large, paired casements, creating a similar effect to French doors. These windows have been in vertical bays with accent-colored panels in spandrel areas.

Overall, this additional information is intended to satisfy questions raised at the previous meeting and has been invaluable in assisting us with project planning. We remain steadfast in our commitment to this project and feel more confident than ever that the site is well suited for the proposed building.

We look forward to presenting this additional information to the Board. Please do not hesitate to reach out with questions or concerns at any time.

Best Regards,



Benjamin Avery
BlackRock Construction
(802) 316-0004
ben@blackrockus.com



589 Avenue D, Suite 10
PO Box 787
Williston, VT 05495

www.kas-consulting.com

802.383.0486 p
802.383.0490 f

May 18, 2021

Mr. Benjamin Avery
Vice President of Marketing & Development
Black Rock Construction
68 Randall St
South Burlington, VT 05403

RE: Phase I Environmental Site Assessment Report – Boyden Property, 362 – 374
Riverside Avenue, Burlington, VT 05401

Dear Mr. Avery:

KAS, Inc. (KAS) is pleased to present the attached report for the above-referenced property. The Phase I Environmental Site Assessment (ESA) was conducted in compliance with ASTM E 1527-13. This assessment has revealed no evidence of a recognized environmental condition (REC) in connection with the property except for the following:

1. The presence of two heating oil aboveground storage tanks (ASTs) on the property; one out of compliance exterior tank and one interior tank in close proximity to a basement sump.

The presence of polycyclic aromatic hydrocarbons (PAHs) above residential standards in shallow soils beneath the property is considered to be a de minimis condition. Any shallow soil disturbed as part of future excavations at the property should remain on the property or within Burlington as these soils are above residential standards and should not be moved to a non-urban area.

A Phase II ESA is not recommended to ascertain the presence or absence of contamination at the property; however, the two ASTs on the property should be removed if they are no longer used to avoid any potential future releases. Should these tanks continue to be utilized in the future, the exterior tank should be upgraded to be in compliance with the VT DEC AST Rule and the interior tank should be placed over secondary containment.

Thank you for this opportunity to be of service. Please contact me should you have questions.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Roberts", written over a light blue horizontal line.

Jeremy Roberts, P.G.
Principal / Environmental Program Manager

Enc/ cc: KAS #503210617

MEMORANDUM

To: Benjamin Avery, BlackRock Construction
From: Shawn P. Kelley, Ph.D., P.E.
File: 4965.00
Date: May 21, 2021
Re: Slope Stability Evaluation Results
Proposed Riverside Ave. Senior Apartments
Burlington, Vermont

Introduction

Sanborn, Head & Associates, Inc. (Sanborn Head) has prepared this memorandum for BlackRock Construction, LLC (BlackRock) in support of the proposed Riverside Ave. Senior Apartments (Project) located at 362 Riverside Ave. in Burlington, Vermont (Site). This memorandum presents a summary of our subsurface exploration program performed at the Site during April 2021 and the results of our slope stability evaluations as related to the Project. These services have been provided in accordance with our proposal dated March 24, 2021 and are subject to the limitations included in Attachment A.

Elevations in this memorandum are in feet (ft) and are referenced to a plan prepared by VHB, Inc. (VHB) titled "Existing Conditions Plan" dated September 8, 2020.

Site and Project Description

The Project Site is located on the south side of Riverside Ave. in Burlington, Vermont. The Site is currently occupied by four (4) one- to two-story residential structures accessed by a shared gravel drive from the western end of Hillside Terrace. Elevations at the Site range from approximately elevation (El.) 195 at the northeast corner of the Site, to El. 218 at the southwest corner of the Site.

We understand that the Project consists of the construction of a generally L-shaped structure set into the existing hillside. The lowest level of the proposed structure will be at street grade along Riverside Avenue at El. 199 feet and will be four stories with a walk-out basement. The back extension will be three elevated stories over at-grade parking, supported by columns.

Based on information provided by the City of Burlington Development Review Board (DRB), we understand that there is concern regarding the potential impact of the Project on the stability of the slope on the north side of Riverside Avenue that extends down towards

to the Winooski River. Based on our experience on this and other projects in the vicinity of the Site, we understand several historical slope failures have been observed in this area (particularly the 1955 slope failure to the east near the existing Bluebird Barbeque restaurant at 317 Riverside Ave, approximately 450 feet northeast and the 1930 slope failure further to the east near the old M&H Auto Sales business at 114 Riverside Ave, approximately 2,250 feet to the east) as well as backfilling of these sites (and others) adjacent sites that has had an adverse effect on the stability of the slope at those locations.

Purpose and Scope

The purpose of this memorandum is to summarize the subsurface exploration program conducted by Sanborn Head at the Site, briefly describe the subsurface conditions at the Site, and present our opinion regarding the stability of the slope in its current condition and following construction of the Project. Specifically, our scope of services for this phase of the Project includes the following:

- Conduct a subsurface exploration program at the Site consisting of three (3) test borings to evaluate the subsurface conditions at the Site and obtain soil samples for geotechnical laboratory testing;
- Perform 2-dimensional slope stability modeling to evaluate the global stability of the Site in its existing and proposed conditions;
- Prepare this memorandum that summarizes the subsurface exploration program and subsurface conditions encountered, and the presents the results of our slope stability modeling.

Subsurface Exploration Program

Sanborn Head performed a subsurface exploration program on April 1, 2021 consisting of three (3) test borings (SH-1 through SH-3) as shown on Figure 1. The test borings were drilled by Cascade Technical Services, Inc. of Montpelier, VT using a Geoprobe 7822DT track-mounted drill rig with 4 1/4-inch inside diameter (I.D.) hollow stem augers to depths between 12 and 55.7 ft below ground surface (bgs). Split-spoon samples were obtained in general accordance with ASTM D1586.

A Sanborn Head representative observed the test borings and classified the collected soil samples based on a modified Burmister system. Groundwater level measurements were collected at the conclusion of drilling, when possible.

Subsurface Conditions

In general, the subsurface conditions encountered at the Site consist of topsoil and fill, silty clay, and glacial till.

Topsoil and fill was encountered at each of the test boring locations. Where encountered, the topsoil and fill layer is up to 10.8 ft thick, and typically consists of moist, very loose to medium dense, brown, SAND and Silt, with varying amounts of Gravel. Fragments of roots and grass were occasionally observed in the topsoil.

Silty clay was observed underlying the fill at each of the test boring locations. The silty clay was observed to be 44.6 ft thick at test boring SH-2, where it was fully penetrated. The silty clay typically consists wet, soft to stiff, gray, Silty CLAY.

Glacial till was encountered at test boring location SH-2. Where encountered, the glacial till is at least 5.7 ft thick and typically consists of wet, dense to very dense, red/brown, fine to coarse SAND and Gravel, some silt.

Test boring logs, prepared by Sanborn Head, are included in Attachment B.

Slope Stability Evaluation

Modeling Approach

Sanborn Head used Slide2 by Rocscience, Inc. of Ontario, Canada, to evaluate the global stability of one section of the existing slope at the Site and extending across Riverside Ave. to the Winooski River. Slide is a comprehensive 2-dimensional limit-equilibrium program that analyzes potential failure surfaces to calculate the minimum factor of safety based on the input geometry, soil properties, and loading conditions, and is widely accepted in engineering practice.

The geometry of the existing slope was based on a plan and section provided by VHB as well as slope conditions across Riverside Avenue toward Winooski River. Generalized subsurface conditions were developed based on subsurface conditions observed in the test borings. Groundwater levels were conservatively assumed based on observations made at the completion of drilling the test borings and from samples collected from the test borings and adjusted as necessary during calibration of the models.

A surcharge load of 280 pounds per square foot (psf) was added across the full width of Riverside Ave. and the existing parking area to the north of Riverside Ave as indicated by the Vermont Agency of Transportation (VTrans) Soil Slope Stability Investigation and Evaluation Manual (VTrans GEI 14-01). An assumed bearing pressure of 2,500 psf was added where the proposed structure will be supported by shallow foundations. The model can be updated once footings are designed and building loads are calculated.

Soil properties used in the models were estimated based on observations made during the subsurface exploration program, correlations with similar soils at adjacent sites, and our engineering judgement. Soil properties used in the model are included in Attachment C.

An existing conditions model was developed to evaluate the stability of the slope in its existing geometry and under existing loading conditions. The proposed conditions model was then generated by altering the existing conditions model as necessary based on the proposed construction at the Site.

As part of the detailed evaluation of the proposed conditions, Sanborn Head analyzed the slope section under both static and seismic loading conditions. Seismic analysis was conducted using pseudo-static methods with vertical and horizontal site-specific load

coefficients of 0.213g and 0.107g, respectively, as indicated by the Structural Engineers Association of California online database and corresponding to Site Class E.

We have assumed a minimum factor of safety (FS) against sliding of 1.3. For slopes supporting structures (i.e., bridges and retaining walls for transportation networks), we have assumed a required FS of 1.5 (although exceptions in VTrans GEI 14-01 are noted). For transient conditions (such as seismic loading), a typical required minimum FS is 1.1.

Modeling Results

The calculated minimum factors of safety for existing and proposed conditions are shown in the following table:

Case	Required FS	Modeled FS
Existing Conditions - Static	1.3	1.4
Proposed Conditions - Static	1.5	1.4*
Proposed Conditions - Seismic	1.1	1.1

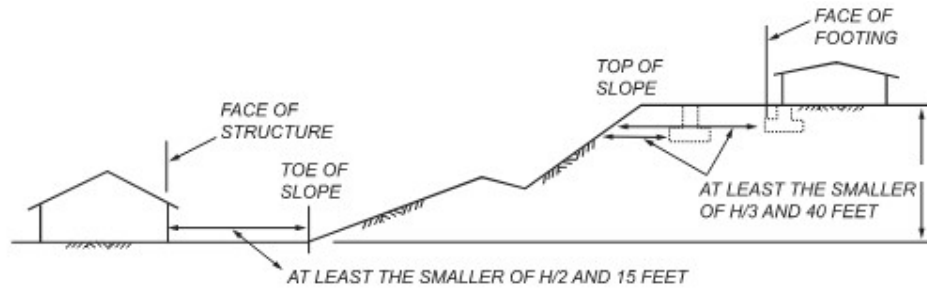
The FS against sliding for the slope under existing condition exceeds the required minimum FS but given the setback to the crest of slope, we believe having a FS of 1.4 is sufficient for design but more importantly, the proposed construction does not impact the existing slope stability. We believe the FS is slightly lower than ideal because there is an unprotected slope across the street from a failure that occurred during a heavy storm event in October 2019. The slope conditions in this area are steeper than outside of this area and we believe with a shallower slope angle, the FS against slide is at least 1.5.

*Sanborn Head has previously provided geotechnical engineering services for the stabilization of the portion of the slope between Riverside Ave. and the Winooski River at 365 Riverside Ave. In order to evaluate the effect of that repair on this Project, we have generated an additional model that includes the proposed repair, which generally consists of a stone fill blanket and toe berm. With the proposed repair in place, the minimum calculated factor of safety against sliding for failure surfaces that intersect the proposed structure at 362 Riverside Ave. is 1.5 under static loading conditions and 1.2 under seismic loading conditions.

Results of the slope stability models are included in Attachment C.

International Building Code (2015) commentary:

Per Section 1808.7.2 Foundation setback from descending slope surface, it states that the foundation shall be founded in firm material with a setback from the slope sufficient to provide vertical and lateral support for the foundation without detrimental settlement. It also requires setbacks as depicted in Figure 1808.7.1 (presented below). The proposed structure meets these requirements as it is at least 125 feet from the crest of slope.



For SI: 1 foot = 304.8 mm.

FIGURE 1808.7.1
FOUNDATION CLEARANCES FROM SLOPES

Closing

We trust that this memorandum meets the needs of the Project at this time. Our final geotechnical engineering report will be issued as required to meet the schedule of the Project as the design of the Project continues and following final completion of our subsurface exploration program. Please do not hesitate to contact us should you require additional information.

IPD/SPK/KPS: spk

Encl. Figure 1 –Exploration Location Plan
Attachment A – Limitations
Attachment B –Test Boring Logs
Attachment C – Slope Stability Modeling Results

P:\4900s\4965.00\Source Files\Slope Stability Memorandum-r1\20210521 362 Riverside Slope Stability - r1.docx

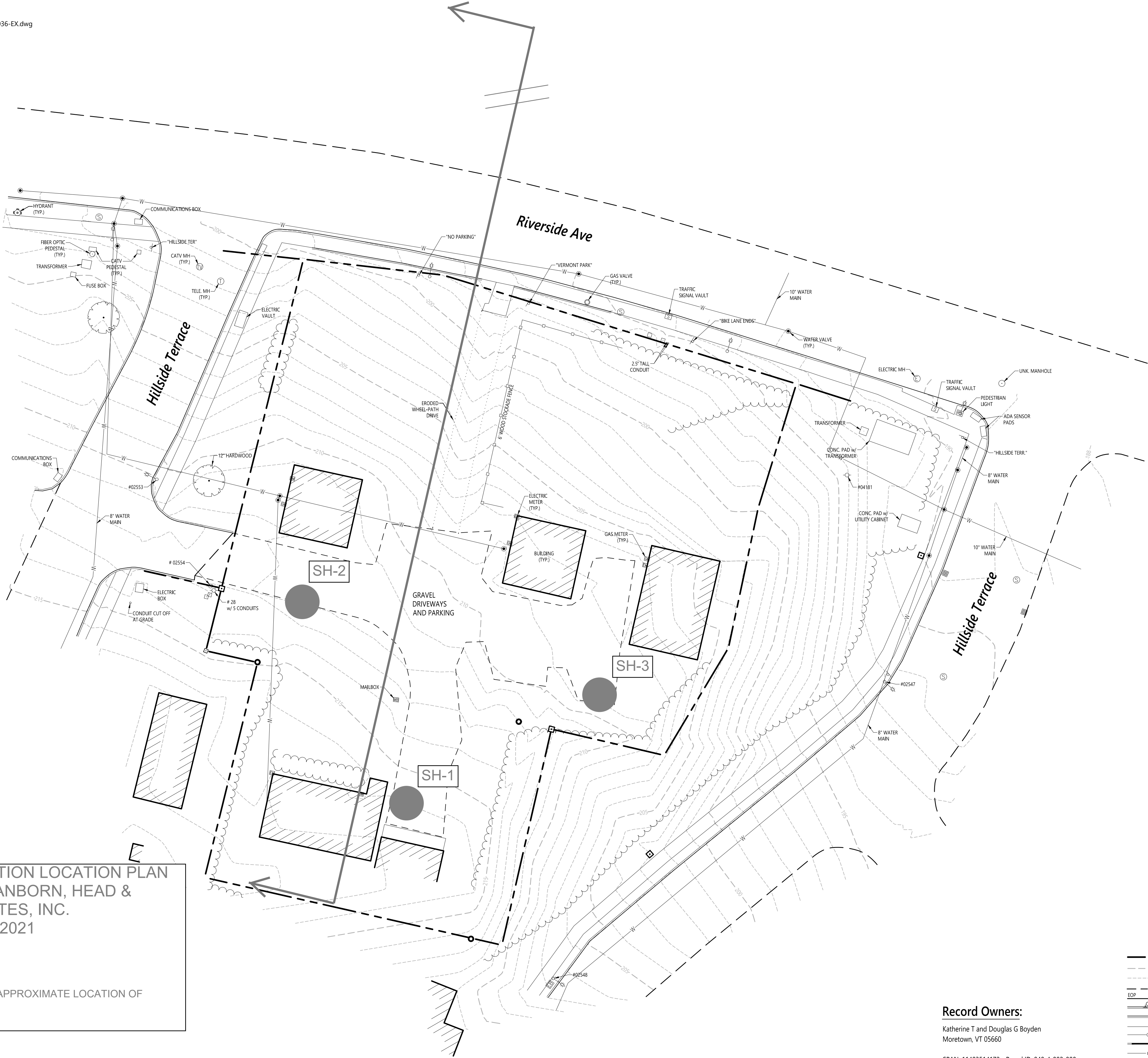
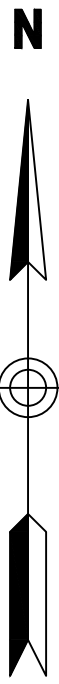


FIGURE 1 - EXPLORATION LOCATION PLAN
PREPARED BY SANBORN, HEAD &
ASSOCIATES, INC.
MAY 2021

SH-1

DESIGNATION AND APPROXIMATE LOCATION OF
TEST BORING



NOTE:
THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS.

Legend:

- ① DRAIN MANHOLE
- ⌘ CATCH BASIN
- Ⓢ SEWER MANHOLE
- ⓔ ELECTRIC MANHOLE
- Ⓣ TELEPHONE MANHOLE
- MANHOLE
- HH □ HAND HOLE
- WATER GATE
- ⦿ FIRE HYDRANT
- GAS GATE
- ⌘ STREET SIGN
- ☆ LIGHT POLE
- ⌘ UTILITY POLE
- GUY POLE
- GUY WIRE

- PROPERTY LINE
- - - INDEX CONTOUR
- - - INTERVAL CONTOUR
- GRAVEL
- EOP — EDGE OF PAVEMENT
- CONCRETE CURB
- VGC — VERTICAL GRANITE CURB
- GUARD RAIL
- CHAIN LINK FENCE
- DRAINAGE LINE
- OHW — OVERHEAD WIRE
- W — WATER LINE
- TREE LINE

Record Owners:

Katherine T and Douglas G Boyden
Moretown, VT 05660

SPAN: 11403514172 Parcel ID: 040-4-002-000
SPAN: 11403514173 Parcel ID: 040-4-003-000
SPAN: 11403514176 Parcel ID: 040-4-006-000
SPAN: 11403514178 Parcel ID: 040-4-008-000

Blackrock
Riverside Avenue
Senior Apartments

356 Riverside Ave
Burlington, Vermont

No.	Revision	Date	Appr'd.

Designed by	Checked by

Issued for	Date
Zoning Permit	September 8, 2020

Not Approved for Construction

Existing Conditions
Plan

Drawing Number

C-1.10

Sheet 2 of 16

Project Number
58036.00

APPENDIX A

LIMITATIONS

LIMITATIONS

Explorations

1. The analyses, recommendations, and designs submitted in this report are based in part on the data obtained from subsurface explorations. The nature and extent of variations between these explorations may not become evident until construction. If variations then appear evident, it will be necessary to re-evaluate the findings of this report.
2. The generalized subsurface profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and have been developed by interpretation of widely spaced explorations and samples; actual soil transitions may be more or less gradual than indicated. For specific information, refer to the soil boring logs.
3. Water level readings have been made in the soil borings at the times and under the conditions stated on the soil boring logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, and other factors differing from those occurring at the time measurements were made.

Review

4. In the event that any changes in the nature, design, or location of the proposed project are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of the report modified or verified in writing by Sanborn Head.

Construction

5. It is recommended that Sanborn Head be retained to provide soil engineering services during the earthwork and specialty geotechnical construction phases of the work. This is to observe compliance with the design concepts, specifications, or recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

Use of Report

6. This memorandum has been prepared for the exclusive use of BlackRock Construction, LLC for the proposed Riverside Ave. Senior Apartments project in Burlington, Vermont in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

7. This report has been prepared for this project by Sanborn Head and Associates, Inc. for design purposes only. Contractors using this report to prepare a bid for site work acknowledge that its scope is limited to design considerations only.

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APPENDIX B

DRAFT TEST BORING LOGS

Boring / Monitoring Well Log Legend

			Project: Industrial Site Redevelopment Location: Anytown, State Project No.: 1234.56			Log of Monitoring Well SH-1																																		
Sanborn, Head & Associates, Inc.						Ground Elevation: 112.2 feet TOC Elevation: 115.2 feet PVC Elevation: 115.10 feet Datum: MSL																																		
Drilling Method: Mobile B-53 Truck, 5" PW Drive & Wash																																								
Sampling Method: 2" O.D. Split Spoon w/140 lb Safety Hammer						Groundwater Readings																																		
Drilling Company: Ground Down Drilling Co. Foreman: J. Driller Date Started: 06/25/08 Logged By: A. Engineer						Date Finished: 06/26/08 Checked By: A. Principal																																		
			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Depth to Water</th> <th>Ref. Pt.</th> <th>Depth of Casing</th> <th>Depth of Hole</th> <th>Stab. Time</th> </tr> </thead> <tbody> <tr> <td>06/24/08</td> <td>09:45</td> <td>10.0'</td> <td>Ground</td> <td>27'</td> <td>27'</td> <td><5 min</td> </tr> <tr> <td>06/25/08</td> <td>14:50</td> <td>12.0'</td> <td>Top of PVC</td> <td>Well Installed</td> <td>50'</td> <td>15 min</td> </tr> <tr> <td>07/03/08</td> <td>13:00</td> <td>12.2'</td> <td>Top of PVC</td> <td>Well Installed</td> <td>50'</td> <td>8 days</td> </tr> </tbody> </table>			Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time	06/24/08	09:45	10.0'	Ground	27'	27'	<5 min	06/25/08	14:50	12.0'	Top of PVC	Well Installed	50'	15 min	07/03/08	13:00	12.2'	Top of PVC	Well Installed	50'	8 days							
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Depth (ft)	Casing Blows (per ft)	Drill Rate (min/ft)	Sample Information				Stratum					Geologic Description	Well Diagram	Well Description																										
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1	2	3	4	5	6	7	8	9	9	10	11	11																												

1. The numbers in this column report the depth in feet below ground surface.
2. The numbers in this column report the number of blows required to drive the drill casing one foot using a 300 pound hammer, unless otherwise specified.
3. The numbers in this column report the rate of advance when coring rock.
4. The values in this column report the sample designation. In the example S-1, "S" indicates the sample type and "1" indicates the sample number.

"S" indicates split spoon sample
"U" indicates Shelby tube sample

"C" indicates rock core sample
"G" indicates grab sample
5. The numbers in this column report the depth, in feet, from the ground surface of the sample identified in column 4.
6. The numbers in this column report the number of blows required to drive a split spoon sampler 6 inches using a 140 pound hammer free falling 30 inches. The standard split spoon sampler is 1-3/8 inch inside diameter and 2 inches outside diameter. The Standard Penetration Resistance, or N-value in blows per foot, is the sum of the blows recorded over the second and third 6-inch interval.

A number followed by "/3" indicates the distance that the sampler advanced. For example "100/4" indicates that 100 blows of a 140 pound hammer falling 30 inches advanced the sampler 4 inches. "WOR/24" indicates the weight of the drilling rods without the hammer caused the sampler to advance 24 inches.

"WOH" indicates the static weight of the 140 pound hammer and the drilling rods attached to the split spoon sampler were sufficient to cause the sampler to advance.

"WOR" indicates the static weight of the drilling rods attached to the split spoon sampler was sufficient to cause the sampler to advance.
7. The values shown are the length of the soil or rock core sampler penetration and the number of inches of sample recovered from the sampler.
8. The values shown are the results of field tests performed on soil or rock samples. The test method, result and units are indicated. Unless otherwise noted "ND" denotes not detected.
9. These columns provide a graphic illustration and verbal description of the subsurface soil and rock strata. The depths of strata changes should be considered approximate and general in nature, actual strata changes in the field may be more gradual.
10. Descriptions of soil samples include:
 - the density or consistency;
 - color;
 - a listing of MAJOR and minor soil components based on particle size and plasticity;
 - structure,
 - moisture; and
 - other pertinent characteristics.

For example: Medium dense, brown, fine to medium SAND, trace Silt. Stratified. Moist. Faint petroleum odor.

Description of rock core samples include:

 - hardness, weathering, rock continuity, color, texture, rock type, structure; and RQD (%)

For example: Hard to very hard, slightly weathered, grey-green, fine grained, RHYOLITE, with joints spaced 4 to 12 inches apart and dipping from near horizontal to approximately 60°. Open crack in core at 14.4', moderately fractured. RQD=58%

NOTE: "RQD" is defined as the summation of all pieces of rock core greater than 4 inches in length divided by the length of the core run and expressed as a percentage.
11. Monitoring well materials or other equipment installed within the borehole are graphically presented in these columns. If no equipment was installed, these columns are used for notes, remarks or other pertinent observations.

Description and Classification of Soil

1. **Density or Consistency:** The density or consistency of a soil sample is based on the Standard Penetration Test N-value according to the following table:

Density of Granular Soil	SPT N-Value		Consistency of Cohesive Soil
Very Loose	0-4	<2	Very Soft
Loose	5-10	2-4	Soft
Medium Dense	11-30	5-8	Medium Stiff
Dense	31-50	9-15	Stiff
Very Dense	>50	16-30	Very Stiff
		>30	Hard

The Standard Penetration Resistance, or N-value in blows per foot, is the sum of the blows recorded over the second and third 6-inch interval.

A number followed by "/3" indicates the distance that the sampler advanced. For example "100/4" indicates that 100 blows of a 140 pound hammer falling 30 inches advanced the sampler 4 inches. "WOR/24" indicates the weight of the drilling rods without the hammer caused the sampler to advance 24 inches.

"WOH" indicates the static weight of the 140 pound hammer and the drilling rods attached to the split spoon sampler were sufficient to cause the sampler to advance.

"WOR" indicates the static weight of the drilling rods attached to the split spoon sampler was sufficient to cause the sampler to advance.

2. **Color:** The color of a soil sample is based on visual observation.

3. Soil Components

- A. **Description:** The components of a soil sample are described by visually estimating the percentage of each component by weight of the total sample using a Modified Burmister System.

- i. **Major Component:** The major soil component is written with upper case letters for granular soil (e.g., SAND, GRAVEL) and a combination of upper and lower case letters for fine grained soil (e.g., Silty CLAY, Clayey SILT).

- ii. **Minor Component:** The minor soil components are written with the first letter of each soil type in upper case, and the remaining letters in lower case (e.g., Gravel, Silt). The minor components are identified and prefaced in the description based on the following percentages:

Preface	Percentage
and	35-50
some	20-35
little	10-20
trace	0-10

- iii. **Note:** The actual percentages of gravel soil may differ from that measured when sampling with a standard split spoon sampler because of the relatively small sampler diameter. Also, it is not possible to identify the presence of boulders and cobbles using a standard split spoon sampler.

B. Definitions

- i. **Granular Soil:** A granular soil sample is defined by the following particle sizes as referenced to a standard sieve:

Material	Description	Standard Sieve Limit	
		Upper	Lower
Boulders	C-sized	--	36 inch
	B-sized	36 inch	24 inch
	A-sized	24 inch	12 inch
Cobbles	--	12 inch	3 inch
Gravel	coarse	3 inch	3/4 inch
	fine	3/4 inch	No. 4
Sand	coarse	No. 4	No. 10
	medium	No. 10	No. 40
	fine	No. 40	No. 200

- ii. **Fine Grained Soil:** The degree of plasticity of fine-grained soils is defined as follows:

Material	Degree of Plasticity	Plasticity Index (PI)	Smallest Thread Diameter (in.)
SILT	Non-Plastic	0	None
Clayey SILT	Slight	1 to 5	1/4
SILT & CLAY	Low	5 to 10	1/8
CLAY & SILT	Medium	10 to 20	1/16
Silty CLAY	High	20 to 40	1/32
CLAY	Very High	40+	1/64

- iii. **Organic Soil:** An organic soil sample is classified by observation of the sample structure as follows:

Material	Description
TOPSOIL	Surficial soils that support plant life and which contain organic matter.
SUBSOIL	Soil underlying the topsoil which may contain roots or plant fibers.
PEAT	Deposits of plant remains in which the original plant fibers or root structure are visible.
ORGANIC SILT	Deposit of plant remains in which the original plant fibers or root structure have decomposed.

- iv. **Non-Soil Constituents:** Non-soil constituents (artificial or anthropogenic material, organic materials, cobbles and boulders) are described as follows:

The following terminology is used to denote size ranges of non-soil constituents such as man-made objects or fill material:

Descriptive Term	Size Range	Comparative Term
Specks	< No. 200 Sieve	Silt and Clay fines
Particles	No. 200 Sieve to No. 4 Sieve	Sand
Fragments	No. 4 Sieve to 3 in.	Gravel
Pieces	3 in. to 12 in.	Cobbles
Blocks	> 12 in.	Boulders

The following terminology is used to describe the frequency that a non-soil constituent is observed by estimating the percentage of the constituent by weight of the total sample:

Descriptor	Percentage
very few	0-5
few	5-10
common	10-20
frequent	20-35
numerous	35-50

4. **Moisture Content:** The moisture content of a soil sample is based on the observable presence of water according to the following table:

Dry	Moisture is not apparent, dusty.
Moist	No visible water.
Wet	Visible free water.

5. **Other Pertinent Characteristics:** Pertinent characteristics observed in a soil sample should be noted according to the following table:

Soil Structure Produced by Deposition of Sediments	
Stratified	Random soil deposits of varying components of color.
Varved	Alternating soil deposits of varying thickness (i.e., clays or silts).
Stratum	Soil deposit > 12 inches thick.
Layer	Soil deposit 3 inches to 12 inches thick.
Seam	Soil deposit 1/8 inch to 3 inches thick.
Parting/Lens	Soil deposit <1/8 inch thick.



Project: Riverside Ave. Senior
Apartments
Location: Burlington, VT
Project No.: 4965.00

Log of Boring SH-1

Ground Elevation: 216 ± feet
Datum: Vermont State Plane, NAVD 1988

Sanborn, Head & Associates, Inc.

Drilling Method: Geoprobe 7822DT with 4 1/4" I.D. HSA

Sampling Method: 2" O.D. Split Spoon, Automatic Hammer

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time
04/01/21	---	Hole callapsed prior to measurement				

Drilling Company: Cascade Technical Services

Foreman: C. Aldrich

Date Started: 04/01/21

Date Finished: 04/01/21

Logged By: A. Lulias

Checked By:

Depth (ft)	Sample Information					Stratum		Geologic Description	Remarks
	Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/ Rec (in)	Field Testing Data	Log	Description		
0	S-1	0 - 2	1 1 2 2	24/15			TOPSOIL 0.2'	(0 to 0.2'): TOPSOIL. S-1 (0.2 to 2'): Very loose, brown, SAND and Silt, little Gravel, few Grass Roots. Moist.	
2	S-2	2 - 4	2 2 3 4	24/17				S-2 (2 to 4'): Loose, brown, SAND and Silt. Moist.	
4									
6	S-3	5 - 7	2 2 3 2	24/19			FILL	S-3 (5 to 7'): Loose, brown, SAND and Silt. Moist.	
8	S-4	7 - 9	2 3 3 3	24/21				S-4A (7 to 7.4'): Loose, brown, SAND and Silt. Moist. S-4B (7.4 to 9'): Loose, brown/gray, SILT, some Sand. Wet.	
10	S-5	10 - 12	1 2 1 1	24/20				S-5A (10 to 10.9'): Loose, brown/gray, SILT, some Sand. Wet.	
12								S-5B (11.1 to 12'): Soft, gray, Silty CLAY. Wet.	
14									
16	S-6	15 - 17	1 3 3 3	24/18				S-6 (15 to 17'): Medium stiff, gray, Silty CLAY. Wet.	
18							SILTY CLAY		
20	S-7	20 - 22	2 2 4 5	24/13				S-7 (20 to 22'): Medium stiff, gray, Silty CLAY. Wet.	
22									
24									

BORING LOG C:\USERS\IDONOVAN\DESKTOP\VPN LOCAL FOLDER\4965.00\4965.00.GPJ 2017 SANBORN HEAD V1.GLB 2017 SANBORN HEAD V1.GDT 4/28/21

Sanborn, Head & Associates, Inc.

Drilling Method: Geoprobe 7822DT with 4 1/4" I.D. HSA

Sampling Method: 2" O.D. Split Spoon, Automatic Hammer

Drilling Company: Cascade Technical Services

Foreman: C. Aldrich

Date Started: 04/01/21

Logged By: A. Lulias

Date Finished: 04/01/21

Checked By:

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time
04/01/21	---	Hole callapsed prior to measurement				

Depth (ft)	Sample Information					Stratum		Geologic Description	Remarks
	Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/ Rec (in)	Field Testing Data	Log	Description		
26	S-8	25 - 27	4 11 3 3	24/17				S-8 (25 to 27'): Medium stiff, gray, Silty CLAY. Wet.	
28							SILTY CLAY		
30	S-9	30 - 32	1 4 3 1	24/24				S-9 (30 to 32'): Medium stiff, gray, CLAY. Wet.	
32							-----32'-----	Boring terminated at 32 feet bgs. No refusal encountered.	
34									
36									
38									
40									
42									
44									
46									
48									
50									

BORING LOG C:\USERS\IDONOV\ANDESKTOP\VPN LOCAL FOLDER\4965.00\4965.00.GPJ 2017 SANBORN HEAD V1.GLB 2017 SANBORN HEAD V1.GDT 4/28/21



Project: Riverside Ave. Senior
Apartments
Location: Burlington, VT
Project No.: 4965.00

Log of Boring SH-2

Ground Elevation: 212 ± feet
Datum: Vermont State Plane, NAVD 1988

Sanborn, Head & Associates, Inc.

Drilling Method: Geoprobe 7822DT with 4 1/4" I.D. HSA

Sampling Method: 2" O.D. Split Spoon, Automatic Hammer

Drilling Company: Cascade Technical Services

Foreman: C. Aldrich

Date Started: 04/01/21

Date Finished: 04/01/21

Logged By: A. Lulias

Checked By:

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time
04/01/21	16:30	10.1'	Ground Surface		55.7'	3 Hours

Depth (ft)	Sample Information					Stratum		Geologic Description	Remarks
	Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/ Rec (in)	Field Testing Data	Log	Description		
0	S-1	0 - 2	1 2 1 2	24/17			TOP SOIL 0.2'	S-1 (0 to 2'): Very loose, brown, SAND and Silt, little Gravel, few Glass fragments. Moist.	
2	S-2	2 - 4	2 4 3 3	24/10			FILL	S-2 (2 to 4'): Loose, brown, SAND and Silt. Moist.	
4									
6	S-3	5 - 7	1 1 1 1	24/20			5.4'	S-3A (5 to 5.4'): Loose, brown, SAND and Silt. Wet. S-3B (5.4 to 7'): Medium stiff, brown/gray, Clayey SILT. Wet.	
8	S-4	7 - 9	3 2 3 3	24/19				S-4 (7 to 9'): Medium stiff, brown/gray, Clayey SILT. Wet.	
10	S-5	10 - 12	1 1 1 1	24/22				S-5 (10 to 12'): Soft, gray, Clayey SILT. Wet.	
12	S-6	12 - 14	3 2 2 1	24/24				S-6 (12 to 14'): Soft, gray, Clayey SILT. Wet.	
14									
16	S-7	15 - 17	WOH/6" 1 2 2	24/21			SILTY CLAY	S-7 (15 to 17'): Soft, gray, Silty CLAY. Wet.	
18									
20	S-8	20 - 22	1 2 3 4	24/20				S-8 (20 to 22'): Medium stiff, gray, Silty CLAY. Wet.	
22									
24									

BORING LOG C:\USERS\IDONOVAN\DESKTOP\VPN LOCAL FOLDER\4965.00\4965.00.GPJ 2017 SANBORN HEAD V1.GLB 2017 SANBORN HEAD V1.GDT 4/28/21



Project: Riverside Ave. Senior
Apartments
Location: Burlington, VT
Project No.: 4965.00

Log of Boring SH-2

Ground Elevation: 212 ± feet
Datum: Vermont State Plane, NAVD 1988

Sanborn, Head & Associates, Inc.

Drilling Method: Geoprobe 7822DT with 4 1/4" I.D. HSA

Sampling Method: 2" O.D. Split Spoon, Automatic Hammer

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time
04/01/21	16:30	10.1'	Ground Surface		55.7'	3 Hours

Drilling Company: Cascade Technical Services

Foreman: C. Aldrich

Date Started: 04/01/21

Date Finished: 04/01/21

Logged By: A. Lulias

Checked By:

Depth (ft)	Sample Information					Stratum		Geologic Description	Remarks
	Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/ Rec (in)	Field Testing Data	Log	Description		
26	S-9	25 - 27	4 4 4 3	24/18				S-9 (25 to 27'): Medium stiff, gray, Silty CLAY. Wet.	
28									
30	S-10	30 - 32	4 4 5 6	24/24				S-10 (30 to 32'): Stiff, gray, CLAY. Wet.	
32									
34									
36	S-11	35 - 37	1 1 1 3	24/24				S-11 (35 to 37'): Soft, gray, CLAY. Wet.	
38							SILTY CLAY		
40	S-12	40 - 42	WOH/12" 1 2	24/24				S-12 (40 to 42'): Soft, gray, CLAY. Wet.	
42									
44									
46	S-13	45 - 47	WOH/6" 1 1 2	24/24				S-13 (45 to 47'): Soft, gray, CLAY. Wet.	
48									
50									

BORING LOG C:\USERS\IDONOVAN\DESKTOP\VPN LOCAL FOLDER\4965.00\4965.00.GPJ 2017 SANBORN HEAD V1.GLB 2017 SANBORN HEAD V1.GDT 4/28/21

Sanborn, Head & Associates, Inc.

Drilling Method: Geoprobe 7822DT with 4 1/4" I.D. HSA

Sampling Method: 2" O.D. Split Spoon, Automatic Hammer

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time
04/01/21	16:30	10.1'	Ground Surface		55.7'	3 Hours

Drilling Company: Cascade Technical Services

Foreman: C. Aldrich

Date Started: 04/01/21

Date Finished: 04/01/21

Logged By: A. Lulias

Checked By:

Depth (ft)	Sample Information					Stratum		Geologic Description	Remarks
	Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/ Rec (in)	Field Testing Data	Log	Description		
50	S-14	50 - 52	8 22 25 50/3"	21/14			-----50'----- GLACIAL TILL	S-14 (50 to 52'): Dense, red/brown, SAND and Gravel, some Silt. Wet.	Drill rig chatter while drilling from 50 to 54.5 feet bgs.
52									
54	S-15	54.5 - 56.5	27 39 50/2"	14/13			-----55.7'-----	S-15 (54.5 to 56.5'): Very dense, red/brown, SAND and Gravel, some Silt. Wet.	
56								Boring terminated at 55.7 feet bgs due to split spoon and auger refusal.	
58									
60									
62									
64									
66									
68									
70									
72									
74									

BORING LOG C:\USERS\IDONOVAN\DESKTOP\VPN\LOCAL FOLDER\4965.00\4965.00.GPJ 2017 SANBORN HEAD V1.GLB 2017 SANBORN HEAD V1.GDT 4/28/21



Project: Riverside Ave. Senior
Apartments
Location: Burlington, VT
Project No.: 4965.00

Log of Boring SH-3

Ground Elevation: 209 ± feet
Datum: Vermont State Plane, NAVD 1988

Sanborn, Head & Associates, Inc.

Drilling Method: Geoprobe 7822DT with 4 1/4" I.D. HSA

Sampling Method: 2" O.D. Split Spoon, Automatic Hammer

Groundwater Readings

Date	Time	Depth to Water	Ref. Pt.	Depth of Casing	Depth of Hole	Stab. Time
04/01/21	---	Hole collapsed prior to measurement				

Drilling Company: Cascade Technical Services

Foreman: C. Aldrich

Date Started: 04/01/21

Date Finished: 04/01/21

Logged By: A. Lulias

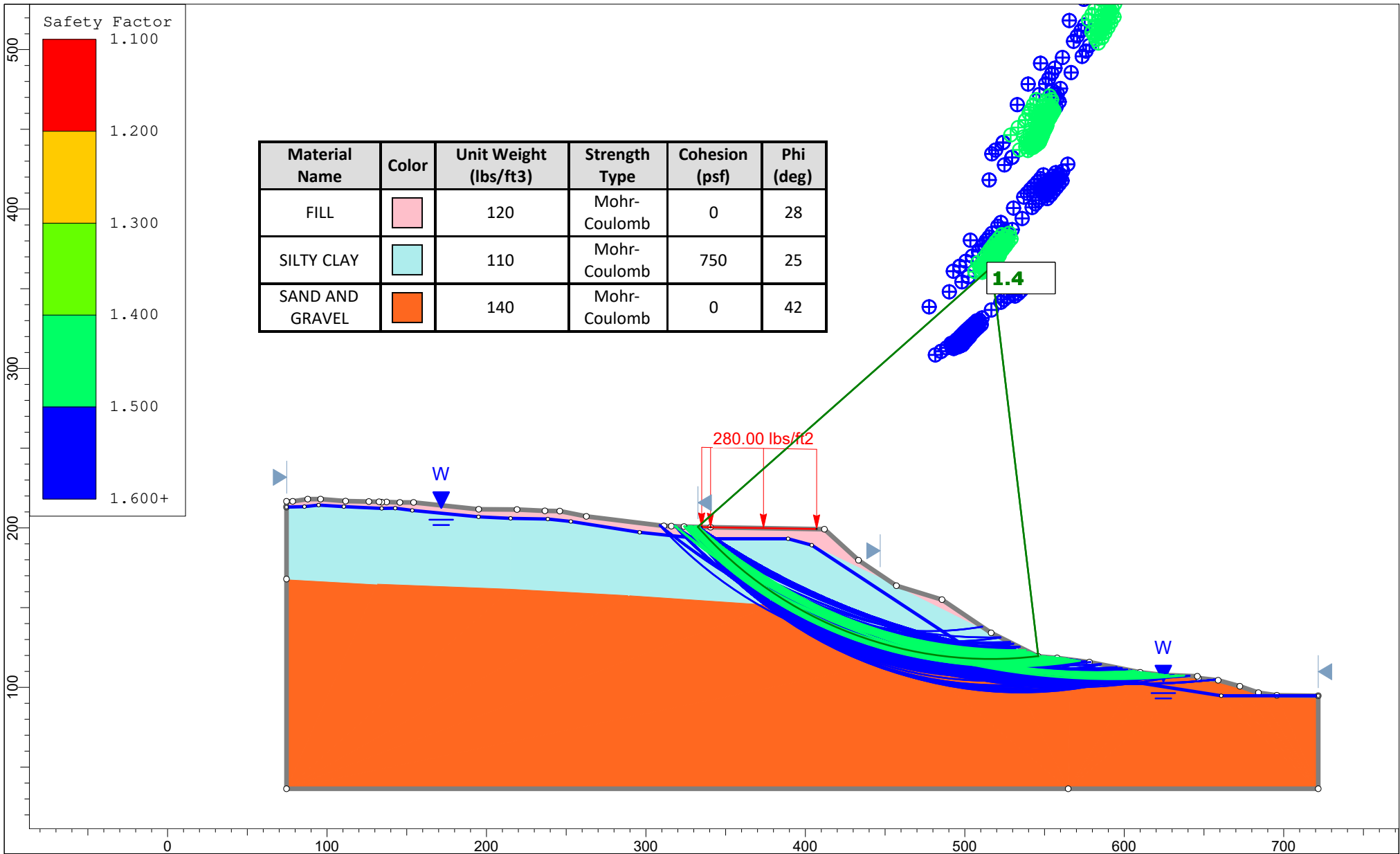
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Depth (ft)	Sample Information					Stratum		Geologic Description	Remarks
	Sample No.	Depth (ft)	Spoon Blows per 6 in	Pen/ Rec (in)	Field Testing Data	Log	Description		
0	S-1	0 - 2	2 3 3 4	24/15			TOP SOIL 0.3'	S-1 (0 to 2'): Loose, brown, SAND, some Silt, common Grass Root fragments. Moist.	
2	S-2	2 - 4	5 6 7 4	24/22				S-2 (2 to 4'): Medium dense, brown, SAND and Silt, trace Gravel. Moist.	
4									
6	S-3	5 - 7	2 3 4 2	24/19			FILL	S-3 (5 to 7'): Loose, brown, SAND and Silt. Moist.	
8	S-4	7 - 9	1 2 4 3	24/12				S-4 (7 to 9'): Loose, brown, SILT, some Sand. Wet.	
10	S-5	10 - 12	1 1 2 2	24/20			10' SILTY CLAY 12'	S-5A (10 to 10.5'): Very loose, brown, SILT, some Sand. Wet. S-5B (10.8 to 12'): Soft, gray, Silty CLAY. Wet.	
12								Boring terminated at 12 feet bgs. No refusal encountered.	
14									
16									
18									
20									
22									
24									

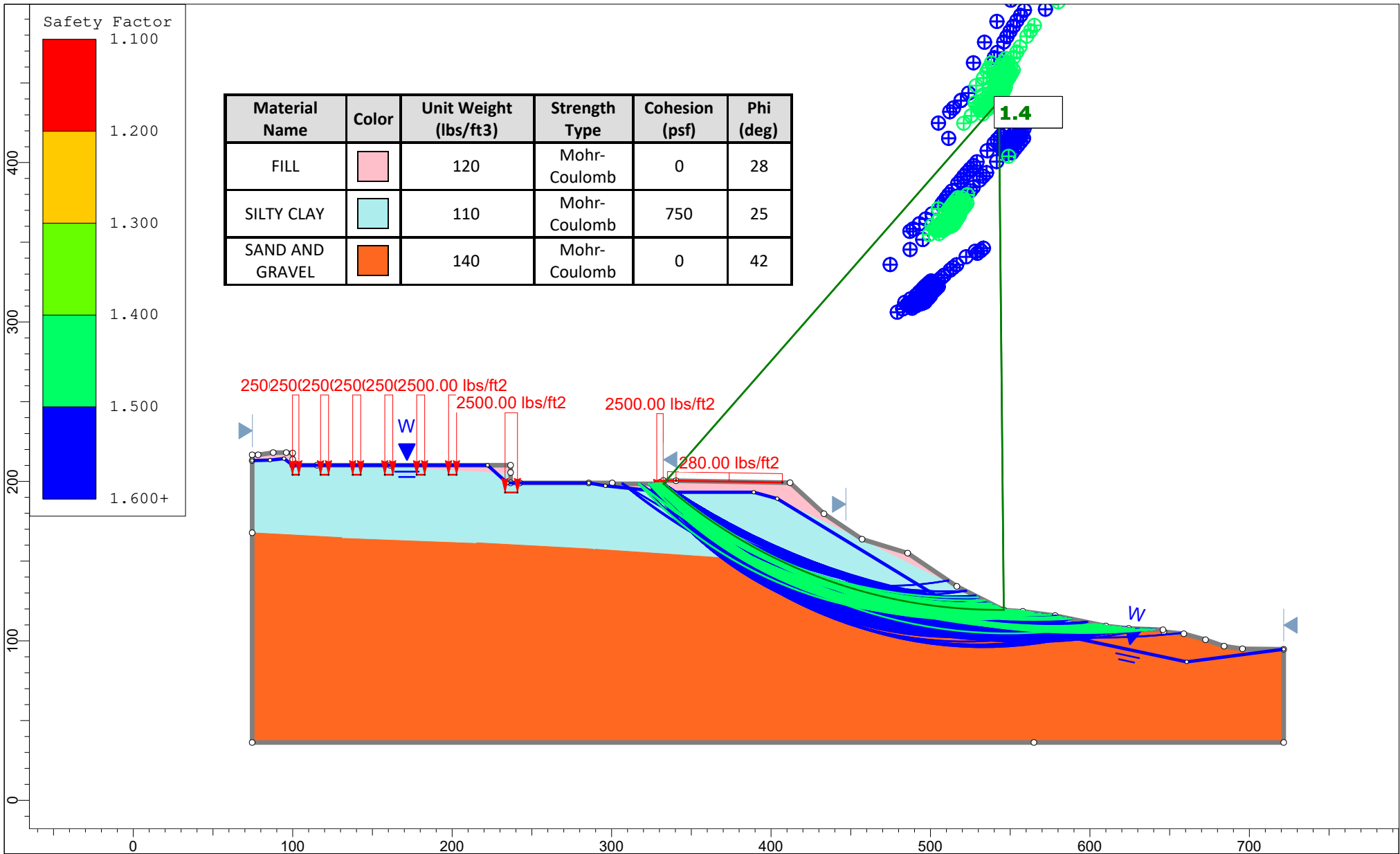
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APPENDIX C

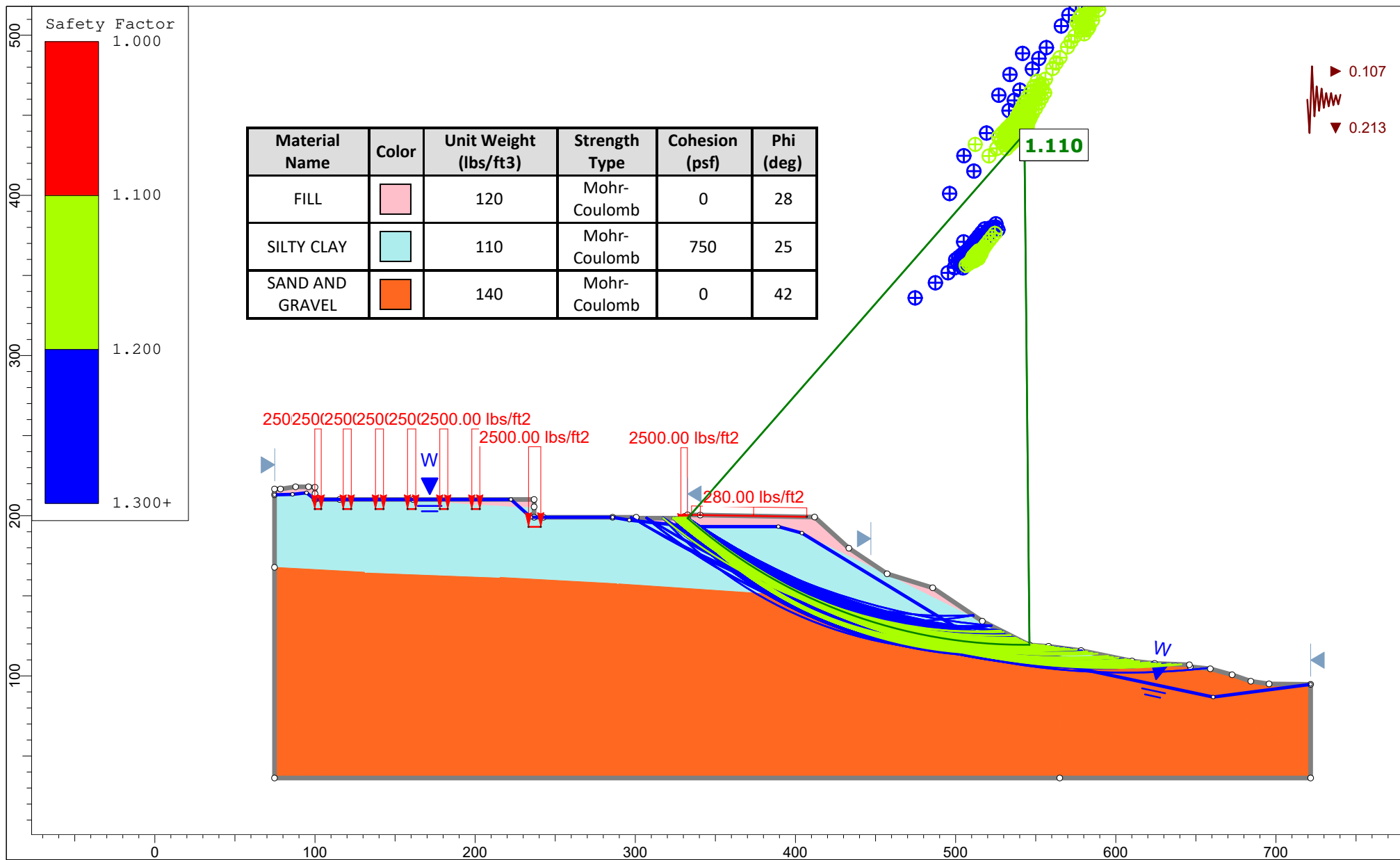
SLOPE STABILITY MODELING RESULTS



	Project		362 Riverside Ave.	
	Group		Existing Conditions	Scenario
	Drawn By		I. Donovan	Company
	Date		5/5/2021	Sanborn, Head & Associates
				File Name



	Project		362 Riverside Ave.	
	Group		Proposed Conditions	Scenario
	Drawn By		I. Donovan	Company
	Date		5/5/2021	Sanborn, Head & Associates
	SLIDEINTERPRET 9.013		File Name	20210505 362 Riverside.slmd



Project		362 Riverside Ave.	
Group	Proposed Conditions	Scenario	Proposed Conditions - Seismic
Drawn By	I. Donovan	Company	Sanborn, Head & Associates
Date	5/5/2021	File Name	20210505 362 Riverside.slmd





















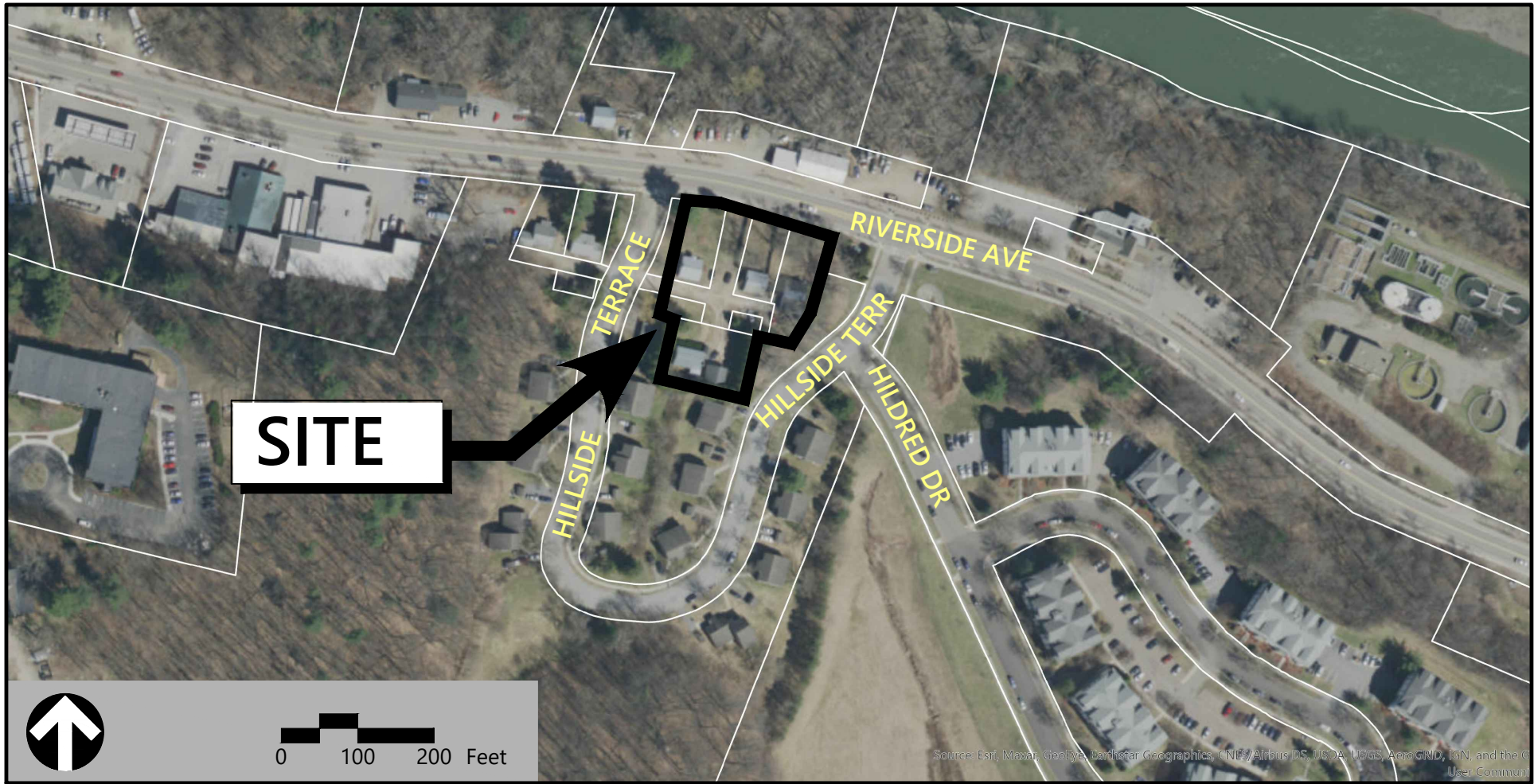


Site Plans

Issued for	Zoning Permit Application
Date Issued	Sept. 8, 2020
Latest Issue	

Blackrock Riverside Avenue Senior Apartments

356 Riverside Avenue
Burlington, Vermont



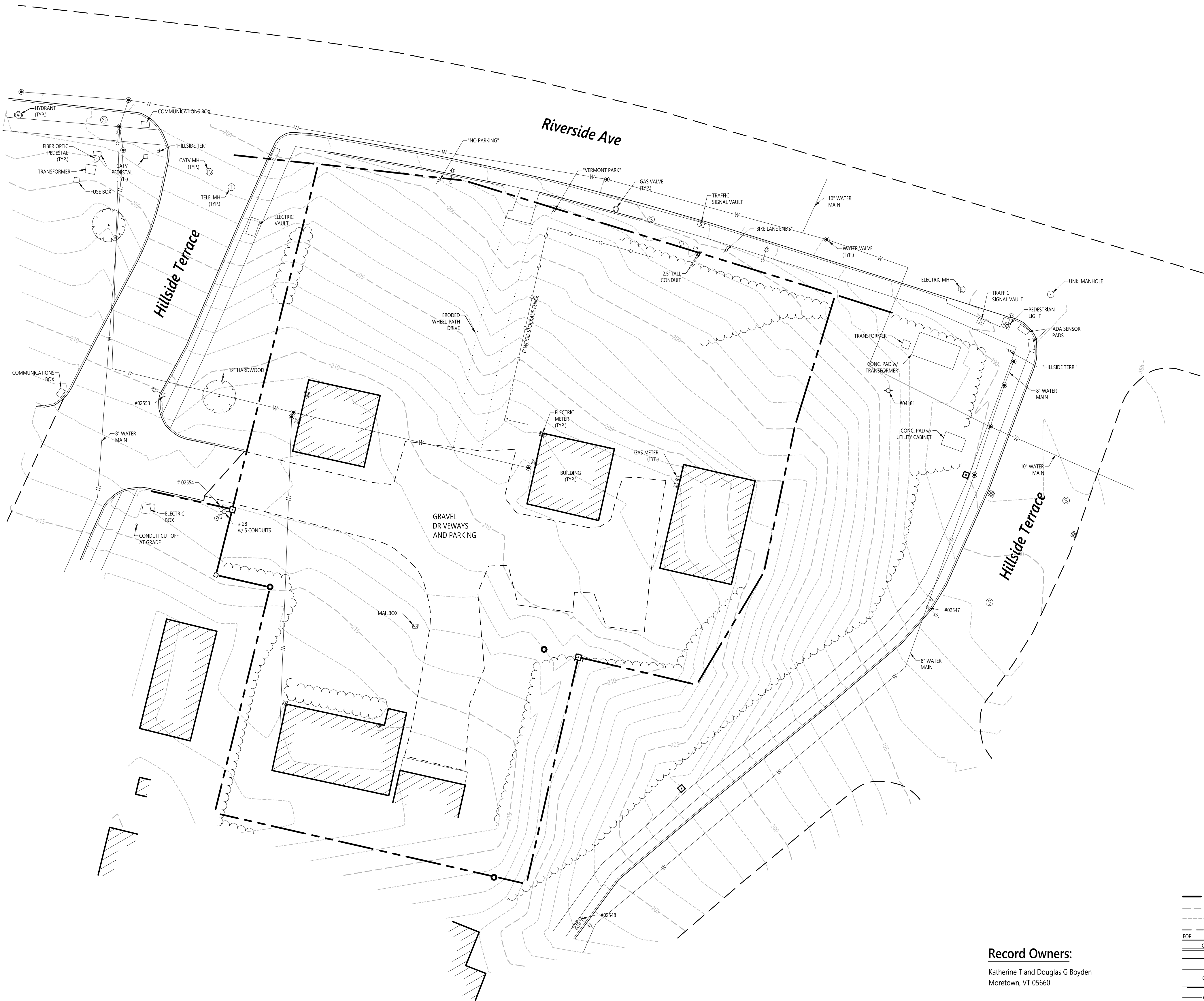
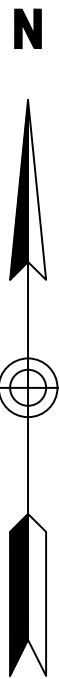


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South Burlington, VT 05403
802.497.6100

Sheet Index		
No.	Drawing Title	Latest Issue
C-1.10	Existing Conditions Plan	September 8, 2020
C-2.10	Site Plan	September 8, 2020
C-3.10	Grading and Drainage Plan	September 8, 2020
C-4.10	Utility Plan	September 8, 2020
C-4.20	Utility Profiles	September 8, 2020
C-5.10	Erosion Prevention & Sediment Control Plan	September 8, 2020
C-6.10	Site Details	September 8, 2020
C-6.20	Stormwater Details	September 8, 2020
C-6.30	Erosion Prevention and Sediment Control Details	September 8, 2020
C-6.40	Water and Wastewater Details	September 8, 2020
LA-1.00	Overall Planting Plan	September 8, 2020
LA-1.10	Planting Plan	September 8, 2020
LA-1.20	Planting Plan	September 8, 2020
LA-2.00	Lighting Plan	September 8, 2020
SW-1.10	Stormwater Management & Maintenance Plan	September 8, 2020

Reference Index		
No.	Drawing Title	Latest Issue
D-1	City of Burlington Water System Details	March 20, 2017



NOTE:
THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS.

Record Owners:

Katherine T and Douglas G Boyden
Moretown, VT 05660

SPAN: 11403514172 Parcel ID: 040-4-002-000
SPAN: 11403514173 Parcel ID: 040-4-003-000
SPAN: 11403514176 Parcel ID: 040-4-006-000
SPAN: 11403514178 Parcel ID: 040-4-008-000

Legend:

- ① DRAIN MANHOLE
- ⌘ CATCH BASIN
- Ⓢ SEWER MANHOLE
- ⓔ ELECTRIC MANHOLE
- Ⓣ TELEPHONE MANHOLE
- MANHOLE
- HH □ HAND HOLE
- WATER GATE
- ⚡ FIRE HYDRANT
- GAS GATE
- STREET SIGN
- ☆ LIGHT POLE
- UTILITY POLE
- GUY POLE
- GUY WIRE
- PROPERTY LINE
- - - INDEX CONTOUR
- - - INTERVAL CONTOUR
- GRVEL
- EOP — EDGE OF PAVEMENT
- CC — CONCRETE CURB
- VGC — VERTICAL GRANITE CURB
- GUARD RAIL
- CHAIN LINK FENCE
- DRAINAGE LINE
- OVERHEAD WIRE
- WATER LINE
- TREE LINE

**Blackrock
Riverside Avenue
Senior Apartments**

356 Riverside Ave
Burlington, Vermont

No.	Revision	Date	Apprd.

Designed by	Checked by

Issued for	Date
Zoning Permit	September 8, 2020

Not Approved for Construction

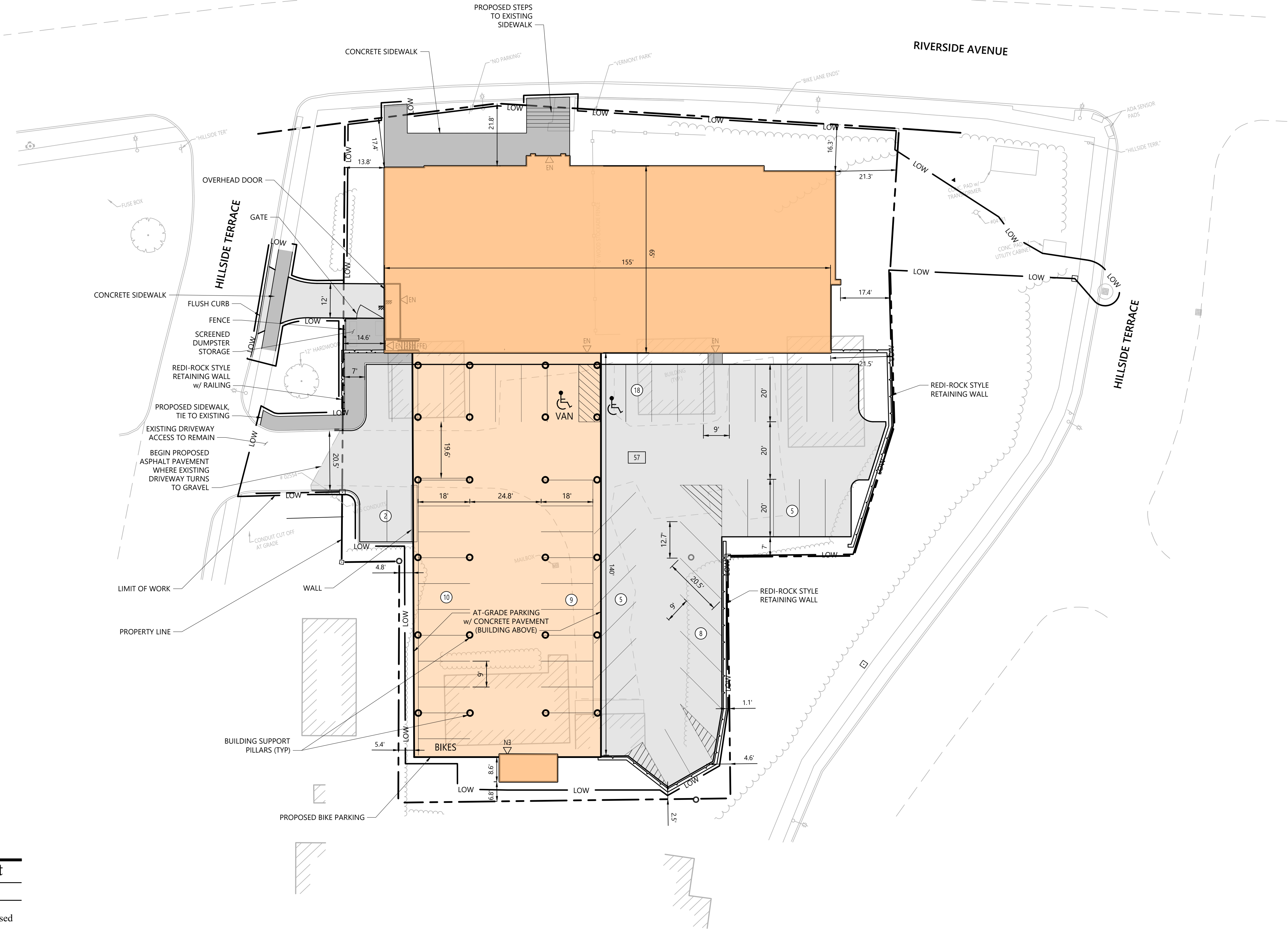
Existing Conditions
Plan

Drawing Number

C-1.10

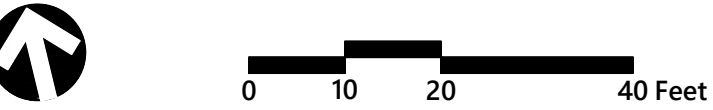
Sheet 2 of 16

Project Number
58036.00



Parking Summary Chart		
Description	Spaces	
	Existing	Proposed
PARKING SPACES	N/A	55
STANDARD ACCESSIBLE SPACES	N/A	1
STANDARD ACCESSIBLE VAN SPACES	N/A	1
TOTAL SPACES	N/A	57

Zoning Summary Chart			
Zoning District(S):	Neighborhood Activity Center - Riverside		
Overlay District(S):	Design Review		
Zoning Regulation Requirements	Existing	Required	Proposed
LOT AREA	38,882 SF	N/A	38,882 SF
LOT COVERAGE	29.6%		79.8%



Blackrock
Riverside Avenue
Senior Apartments

356 Riverside Ave
Burlington, Vermont

No.	Revision	Date	Apprv.

Designed by	Checked by
Issued for	Date
Zoning Permit	September 8, 2020

Not Approved for Construction

Drawing Title

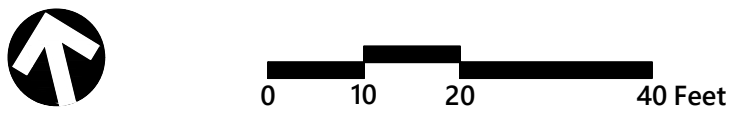
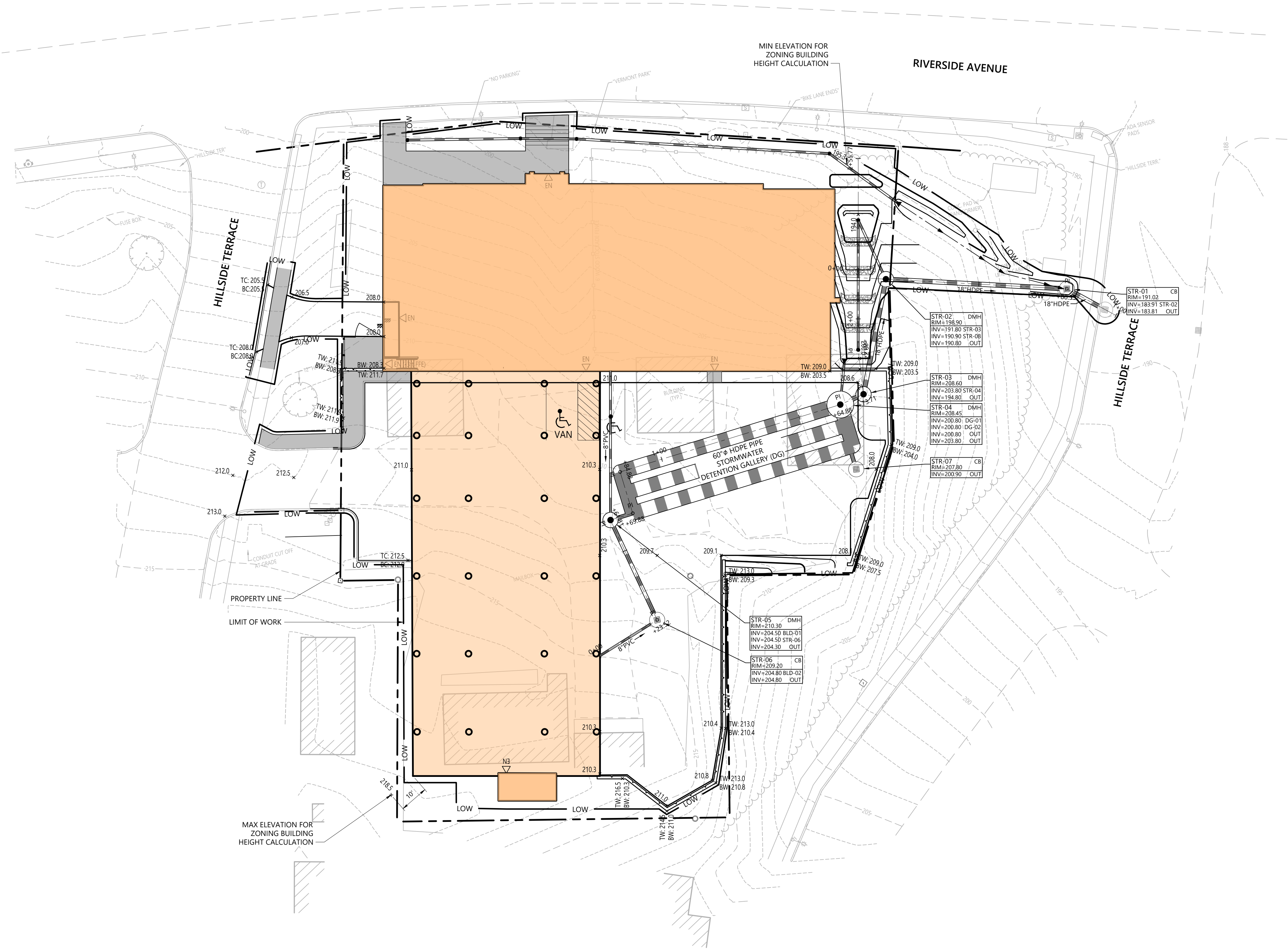
Site Plan

Drawing Number

C-2.10

Sheet 3 of 16

Project Number
58036.00



Blackrock
Riverside Avenue
Senior Apartments

356 Riverside Ave
Burlington, Vermont

No.	Revision	Date	Apprd.

Designed by	Checked by
Issued for	Date
Zoning Permit	September 8, 2020

Not Approved for Construction

Drawing Title

Grading and
Drainage Plan

Drawing Number

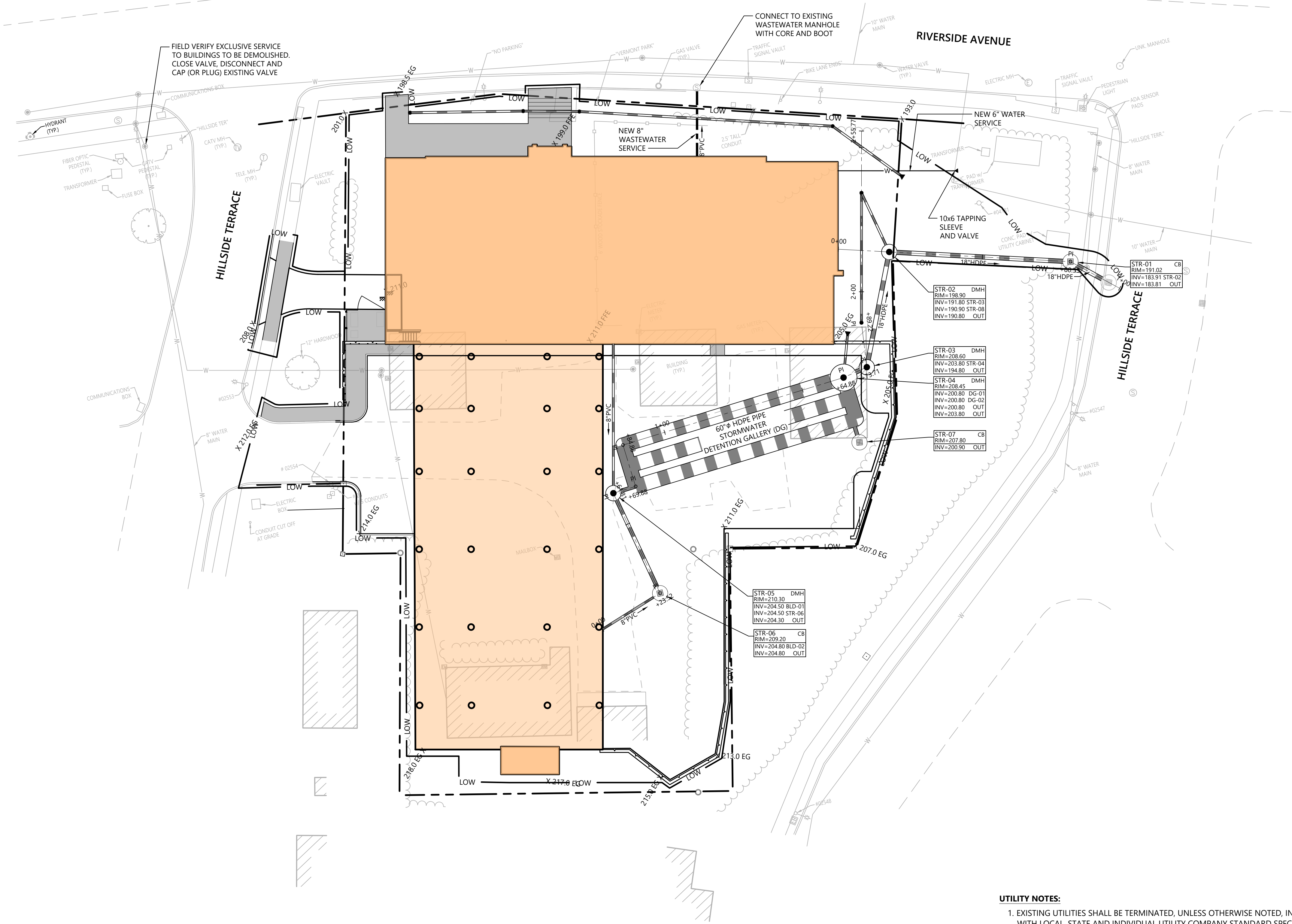
C-3.10

Sheet 4 of 16

Project Number
58036.00



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- UTILITY NOTES:**
1. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
 2. ALL WATER AND WASTEWATER WORK SHALL CONFORM WITH THE PROJECT SPECIFIC WATER AND WASTEWATER PERMIT ISSUED BY THE VERMONT DEPARTMENT OF CONSERVATION (VTDEC), VTDEC WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES (EPR CHAPT. 1, "WATER/WASTEWATER RULES"), VTDEC WATER SUPPLY RULE (EPR CHAPT 21), AND FOR WORK WITHIN 10 FEET OF THE BUILDING (OR AS APPLICABLE) THE VERMONT PLUMBING CODE, LATEST EDITIONS.



0 10 20 40 Feet

Blackrock Riverside Avenue Senior Apartments

356 Riverside Ave
Burlington, Vermont

No.	Revision	Date	Apprd.

Designed by	Checked by
Issued for	Date
Zoning Permit	September 8, 2020

Not Approved for Construction

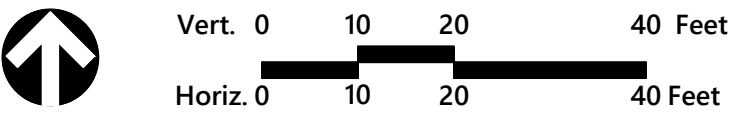
Drawing Title
Utility Plan

Drawing Number

C4.10

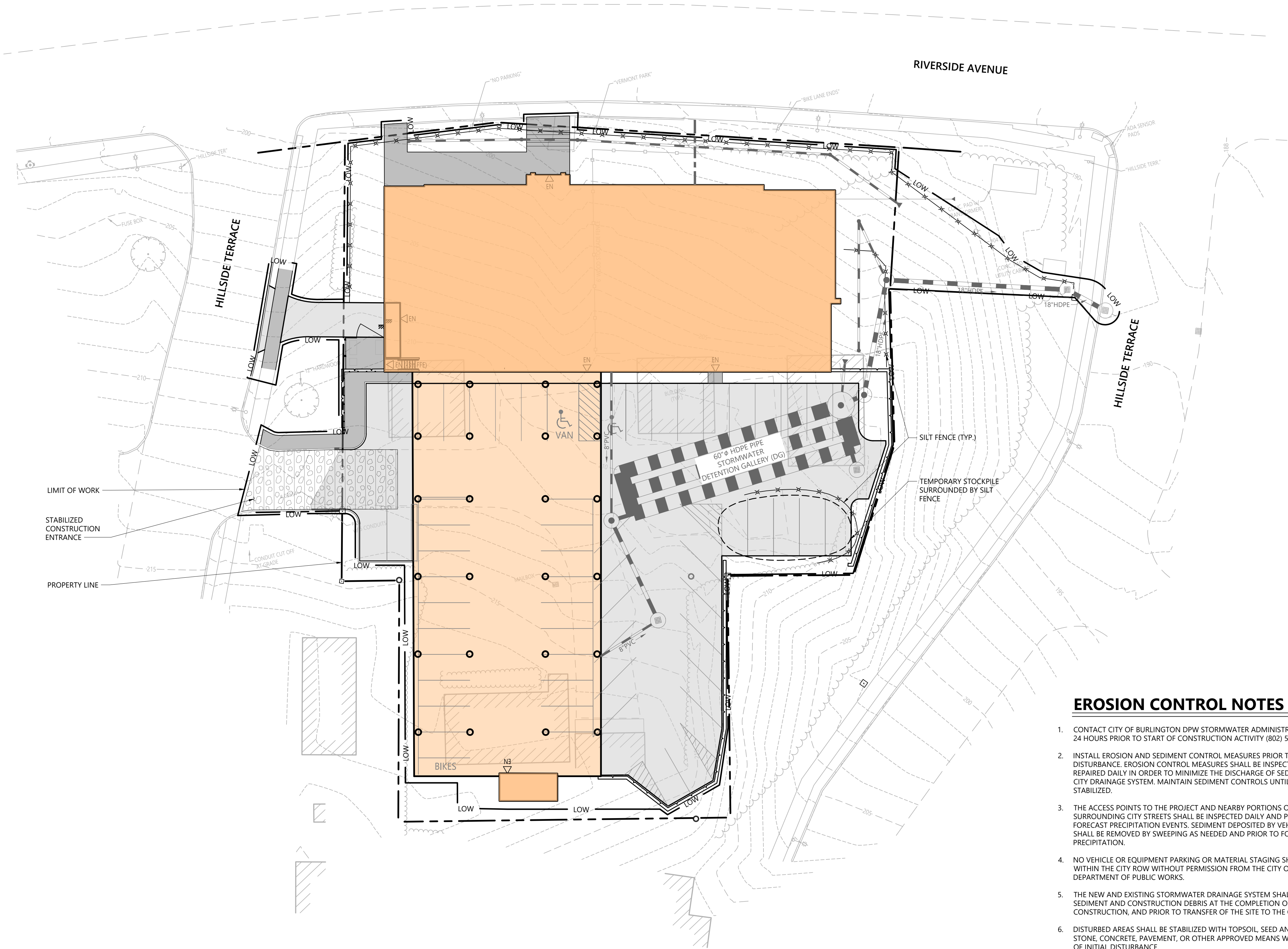
Sheet 5 of 16

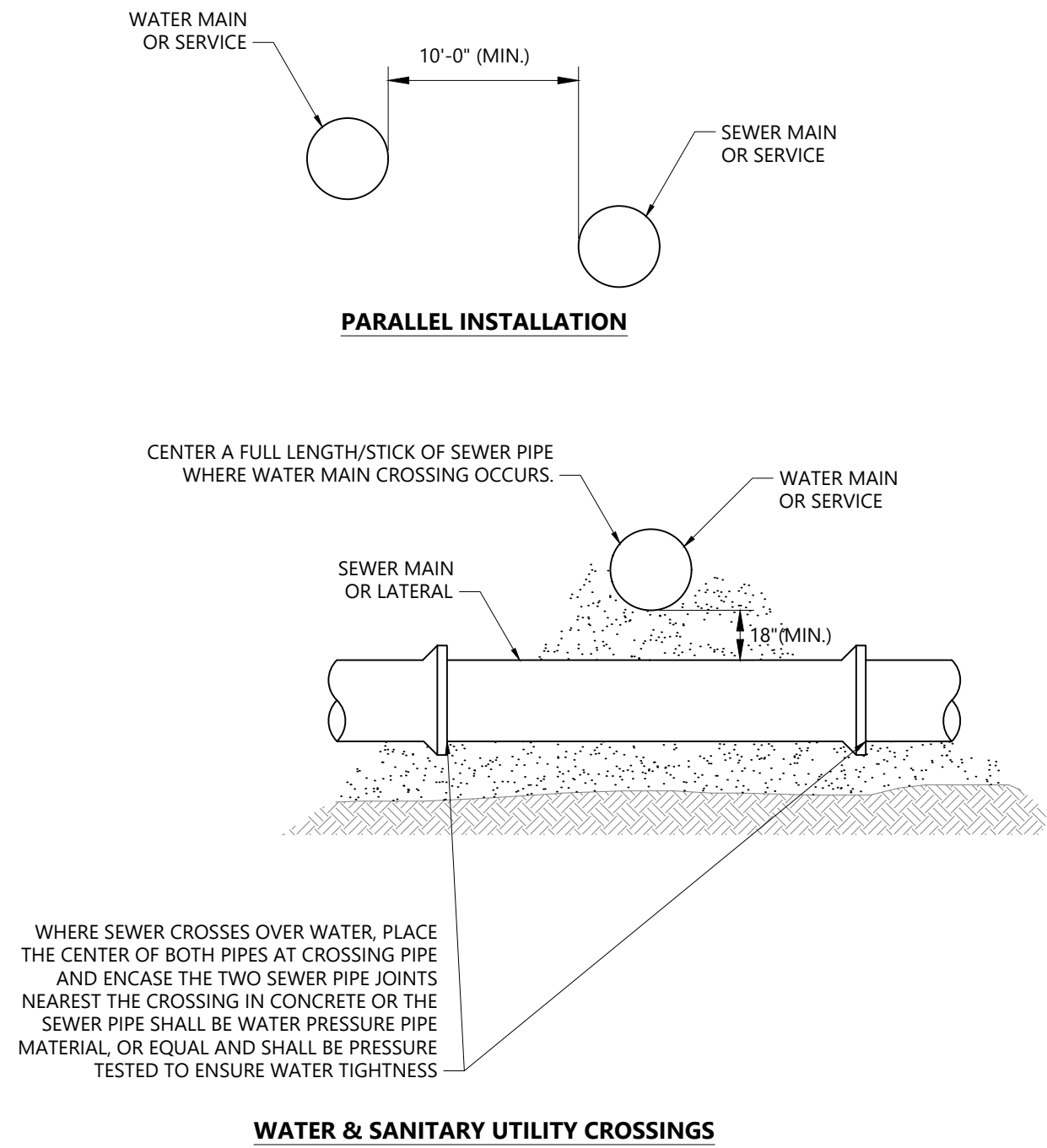
Project Number
58036.00



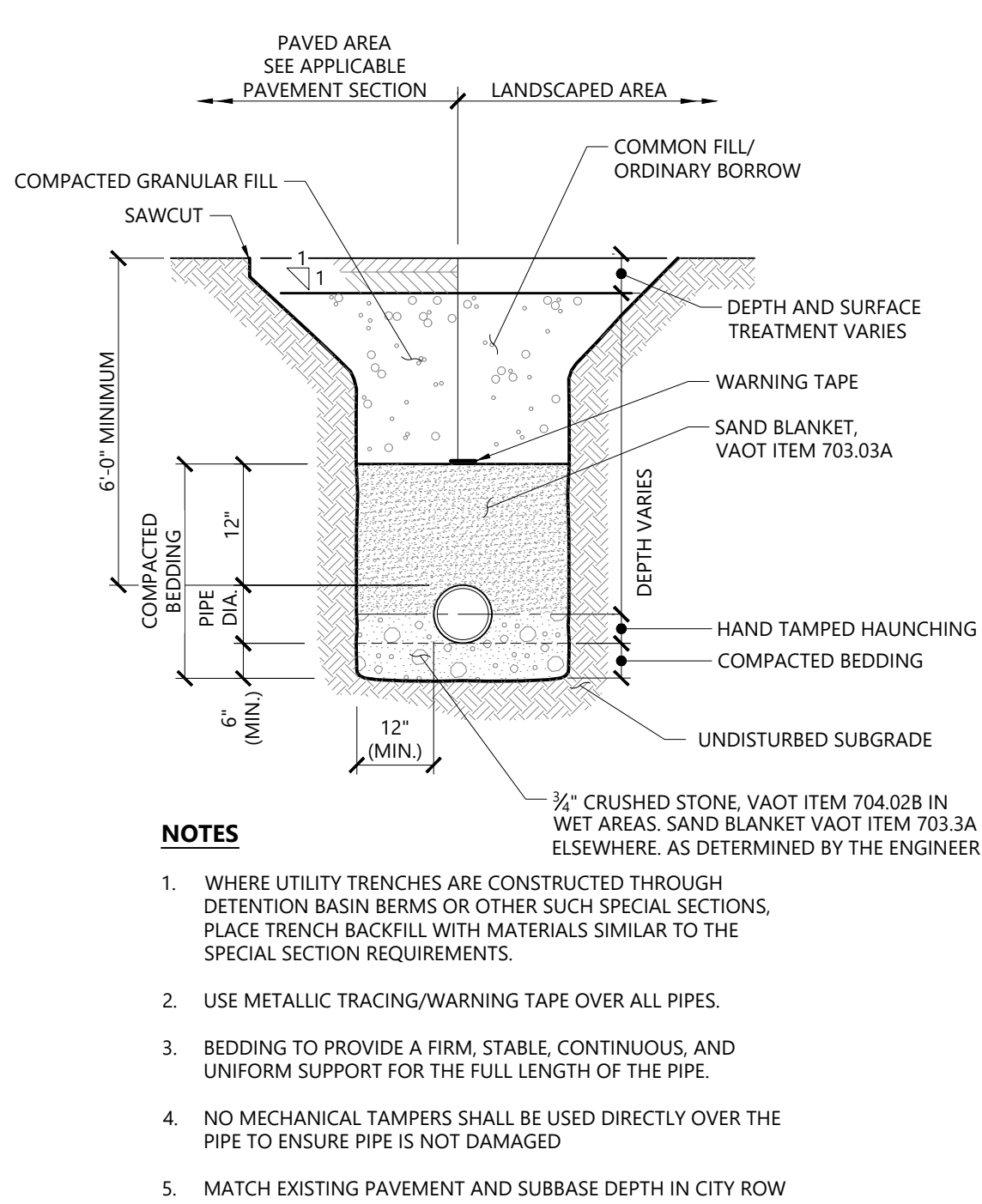
UTILITY NOTES:

1. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
2. ALL WATER AND WASTEWATER WORK SHALL CONFORM WITH THE PROJECT SPECIFIC WATER AND WASTEWATER PERMIT ISSUED BY THE VERMONT DEPARTMENT OF CONSERVATION (VTDEC). VTDEC WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES (EPR CHAPT. 1, "WATER/WASTEWATER RULES"), VTDEC WATER SUPPLY RULE (EPR CHAPT 21), AND FOR WORK WITHIN 10 FEET OF THE BUILDING (OR AS APPLICABLE) THE VERMONT PLUMBING CODE, LATEST EDITIONS.

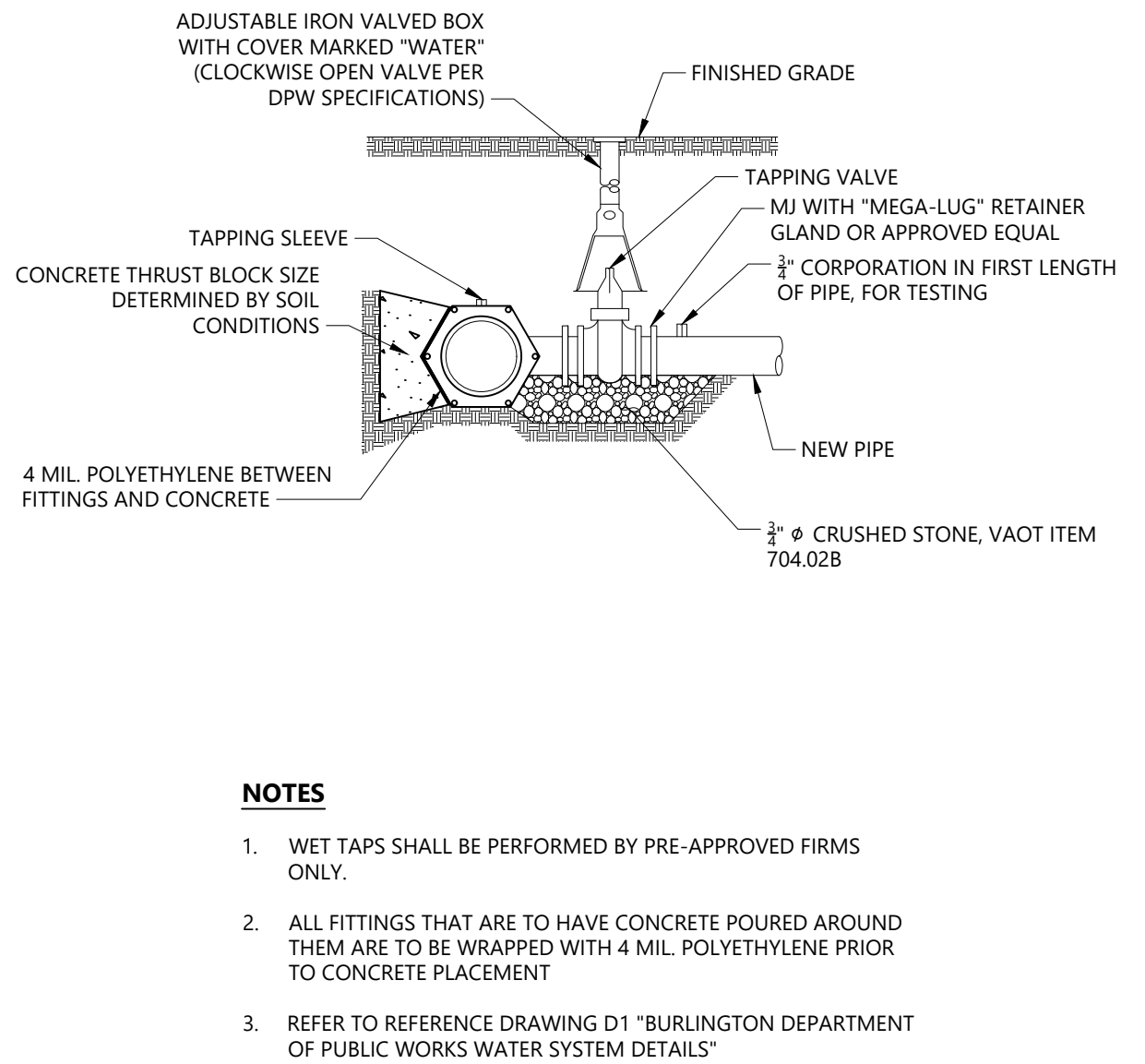




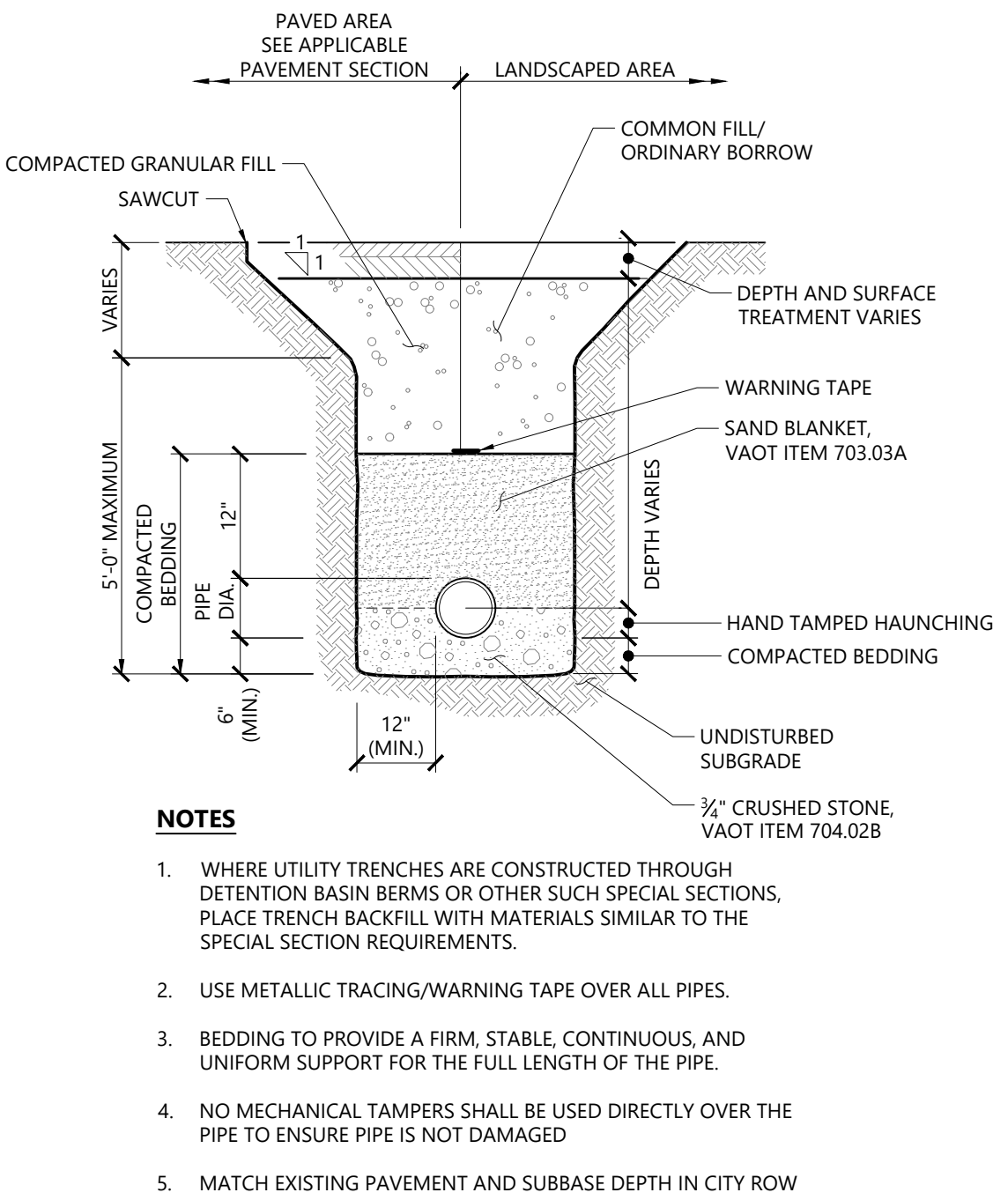
Water/Sewer Separation 1/16
N.T.S. Source: VHB LD



Waterline Trench 1/16
N.T.S. Source: VHB LD



Typical Tapping Sleeve and Valve Detail 2/18
N.T.S. Source: VHB REV LD



Sewerline Trench 1/16
N.T.S. Source: VHB LD



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Blackrock Riverside Avenue Senior Apartments

356 Riverside Ave
Burlington, Vermont

No.	Revision	Date	Apprd.

Designed by	TAZ/CHS	Checked by	JRZ
Issued for	Zoning Permit		
	September 8, 2020		

Not Approved for Construction

Drawing Title

Water and Wastewater Details

Drawing Number

C-6.40

Sheet	of
11	16

Project Number
58036.00

Tree Protection

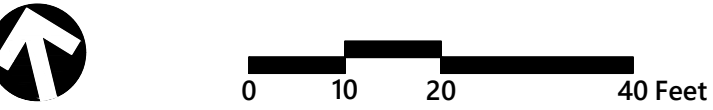
- EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY CONSTRUCTION FENCE. ERECT FENCE AT EDGE OF THE TREE DRIPLINE PRIOR TO START OF CONSTRUCTION.
- CONTRACTOR SHALL NOT OPERATE VEHICLES WITHIN THE TREE PROTECTION AREA. CONTRACTOR SHALL NOT STORE VEHICLES OR MATERIALS, OR DISPOSE OF ANY WASTE MATERIALS, WITHIN THE TREE PROTECTION AREA.
- DAMAGE TO EXISTING TREES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY A CERTIFIED ARBORIST AT THE CONTRACTOR'S EXPENSE.

Planting Notes

- ALL PROPOSED PLANTING LOCATIONS SHALL BE STAKED AS SHOWN ON THE PLANS FOR FIELD REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- CONTRACTOR SHALL VERIFY LOCATIONS OF ALL BELOW GRADE AND ABOVE GROUND UTILITIES AND NOTIFY OWNERS REPRESENTATIVE OF CONFLICTS.
- NO PLANT MATERIALS SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE OF ANY CONFLICT.
- A 3-INCH DEEP MULCH PER SPECIFICATION SHALL BE INSTALLED UNDER ALL TREES AND SHRUBS, AND IN ALL PLANTING BEDS, UNLESS OTHERWISE INDICATED ON THE PLANS, OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
- ALL TREES SHALL BE BALLED AND BURLAPPED, UNLESS OTHERWISE NOTED IN THE DRAWINGS OR SPECIFICATION, OR APPROVED BY THE OWNER'S REPRESENTATIVE.
- FINAL QUANTITY FOR EACH PLANT TYPE SHALL BE AS GRAPHICALLY SHOWN ON THE PLAN. THIS NUMBER SHALL TAKE PRECEDENCE IN CASE OF ANY DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE PLANT LIST AND ON THE PLAN. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES BETWEEN THE NUMBER OF PLANTS SHOWN ON THE PLANT LIST AND PLANT LABELS PRIOR TO BIDDING.
- ANY PROPOSED PLANT SUBSTITUTIONS MUST BE REVIEWED BY LANDSCAPE ARCHITECT AND APPROVED IN WRITING BY THE OWNER'S REPRESENTATIVE.
- ALL PLANT MATERIALS INSTALLED SHALL MEET THE SPECIFICATIONS OF THE "AMERICAN STANDARDS FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND CONTRACT DOCUMENTS.
- ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF FINAL ACCEPTANCE.
- AREAS DESIGNATED "LOAM & SEED" SHALL RECEIVE MINIMUM 6" OF LOAM AND SPECIFIED SEED MIX. LAWNS OVER 2:1 SLOPE SHALL BE PROTECTED WITH EROSION CONTROL FABRIC.
- ALL DISTURBED AREAS NOT OTHERWISE NOTED ON CONTRACT DOCUMENTS SHALL BE LOAM AND SEEDED OR MULCHED AS DIRECTED BY OWNER'S REPRESENTATIVE.
- THIS PLAN IS INTENDED FOR PLANTING PURPOSES. REFER TO SITE / CIVIL DRAWINGS FOR ALL OTHER SITE CONSTRUCTION INFORMATION.

Plant Maintenance Notes

- CONTRACTOR SHALL PROVIDE COMPLETE MAINTENANCE OF THE LAWNS AND PLANTINGS. NO IRRIGATION IS PROPOSED FOR THIS SITE. THE CONTRACTOR SHALL SUPPLY SUPPLEMENTAL WATERING FOR NEW LAWNS AND PLANTINGS DURING THE ONE YEAR PLANT GUARANTEE PERIOD.
- CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, AND EQUIPMENT FOR THE COMPLETE LANDSCAPE MAINTENANCE WORK. WATER SHALL BE PROVIDED BY THE CONTRACTOR.
- WATERING SHALL BE REQUIRED DURING THE GROWING SEASON, WHEN NATURAL RAINFALL IS BELOW ONE INCH PER WEEK.
- WATER SHALL BE APPLIED IN SUFFICIENT QUANTITY TO THOROUGHLY SATURATE THE SOIL IN THE ROOT ZONE OF EACH PLANT.
- CONTRACTOR SHALL REPLACE DEAD OR DYING PLANTS AT THE END OF THE ONE YEAR GUARANTEE PERIOD. CONTRACTOR SHALL TURN OVER MAINTENANCE TO THE FACILITY MAINTENANCE STAFF AT THAT TIME.



Blackrock
Riverside Avenue
Senior Apartments

356 Riverside Ave
Burlington, Vermont

No.	Revision	Date	Appvd.

Designed by	MW	Checked by	MW
Issued for	Zoning Permit	Date	September 8, 2020

Not Approved for Construction

Drawing Title

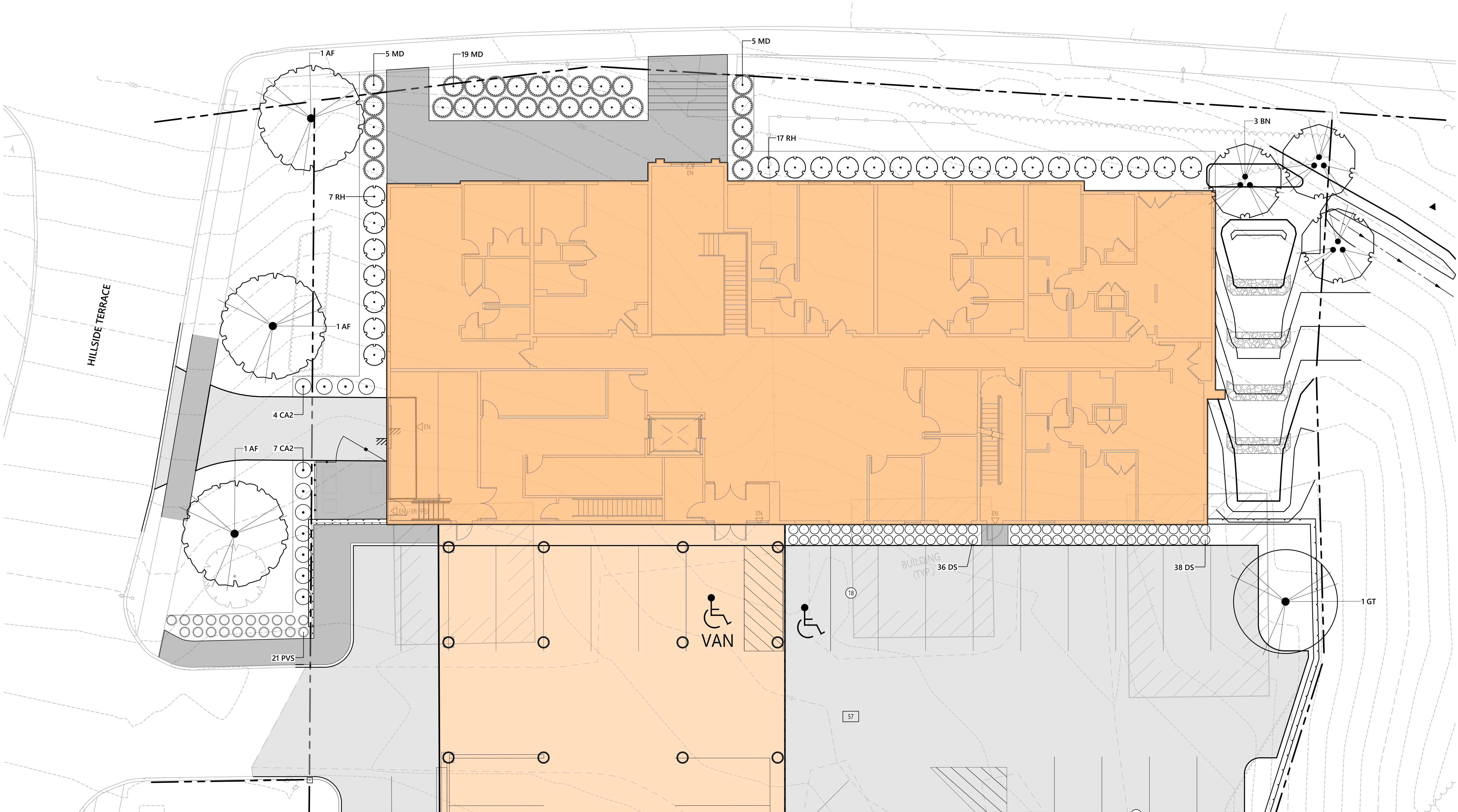
Overall Planting Plan

Drawing Number

LA-1.00

Sheet 12 of 16

Project Number
58036.00



Blackrock
Riverside Avenue
Senior Apartments

356 Riverside Ave
Burlington, Vermont

No.	Revision	Date	Appvd.

Designed by	MW	Checked by	MW
Issued for	Zoning Permit	Date	September 8, 2020

Not Approved for Construction

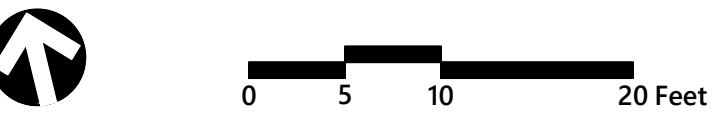
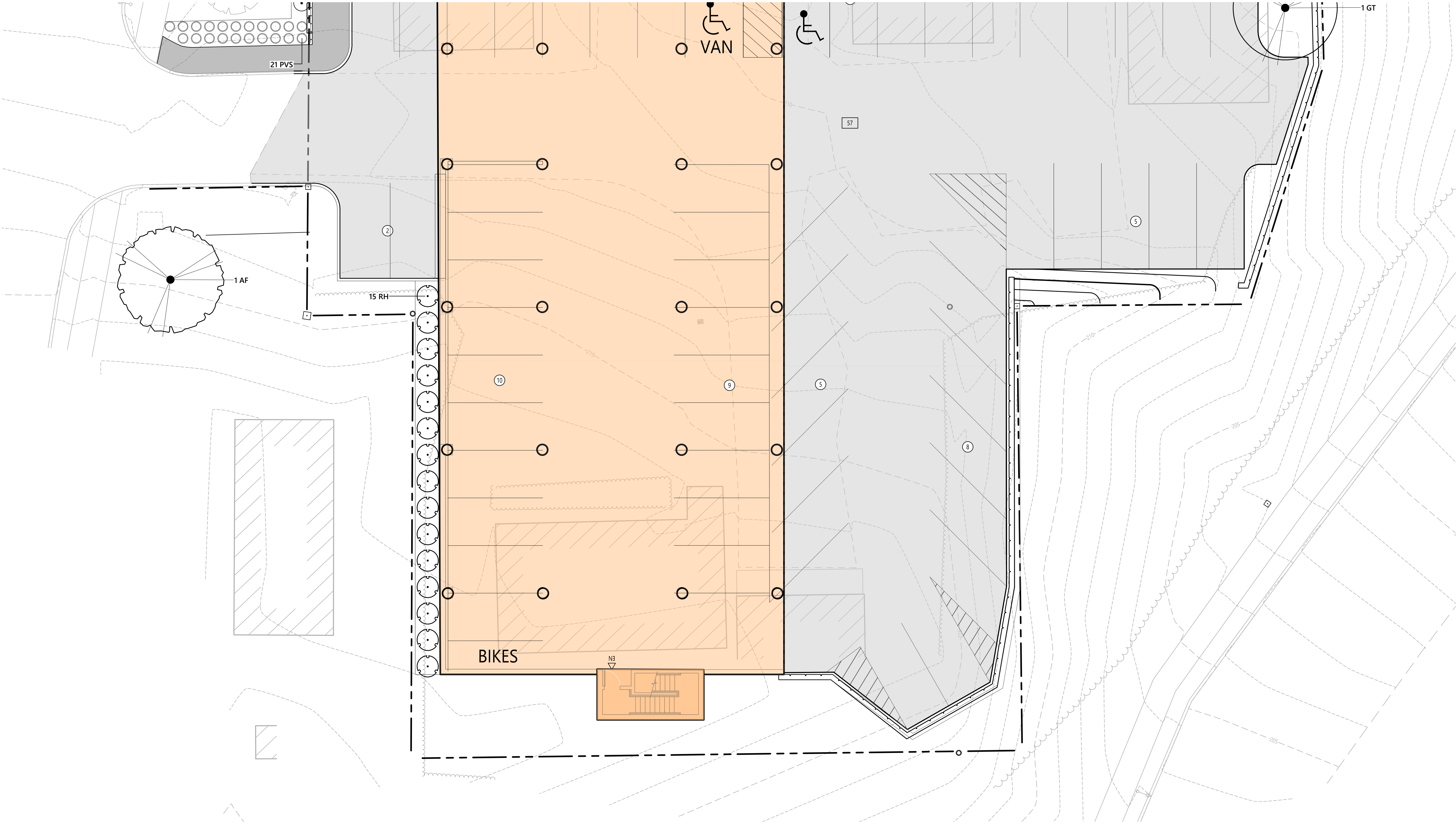
Planting Plan

Drawing Number

LA-1.10

Sheet 13 of 16

Project Number 58036.00



**Blackrock
Riverside Avenue
Senior Apartments**

356 Riverside Ave
Burlington, Vermont

No.	Revision	Date	Appvd.

Designed by	MW	Checked by	MW
Issued for	Zoning Permit	Date	September 8, 2020

Not Approved for Construction
Drawing Title
Planting Plan

Drawing Number

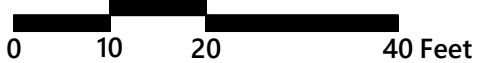
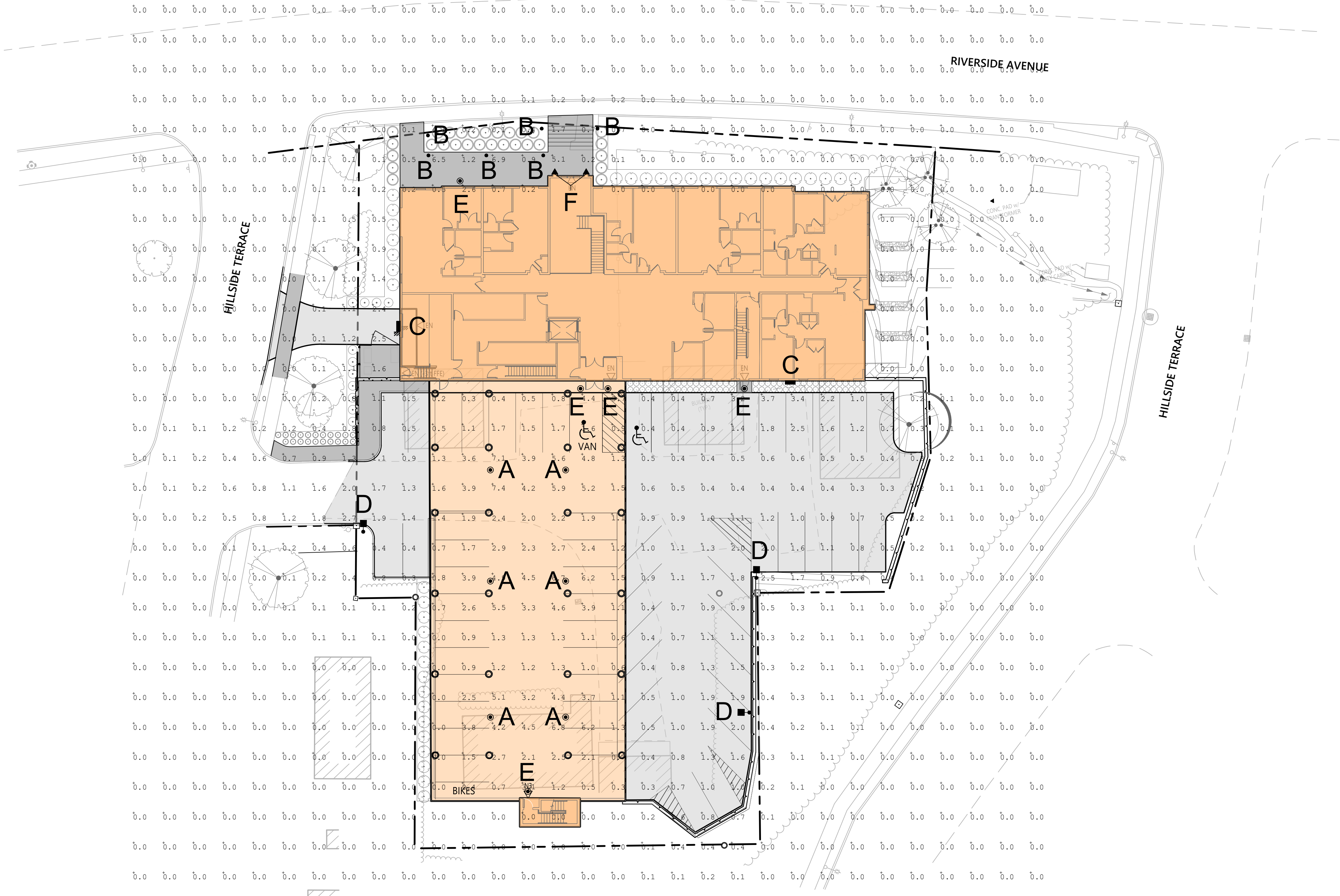
LA-1.20

Sheet 14 of 16

Project Number
58036.00



40 IDX Dr
Building 100 Suite 200
South Burlington, VT 05403
802.497.6100



Blackrock
Riverside Avenue
Senior Apartments

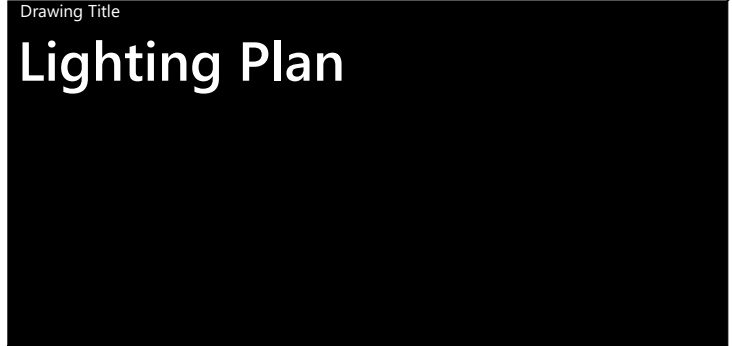
356 Riverside Ave
Burlington, Vermont

No.	Revision	Date	Appr'd.

Designed by	MW	Checked by	MW
Issued for		Date	

Zoning Permit September 8, 2020

Not Approved for Construction



Drawing Number

LA-2.00

Sheet 15 of 16

Project Number
58036.00

LIGHT FIXTURE SPECIFICATIONS

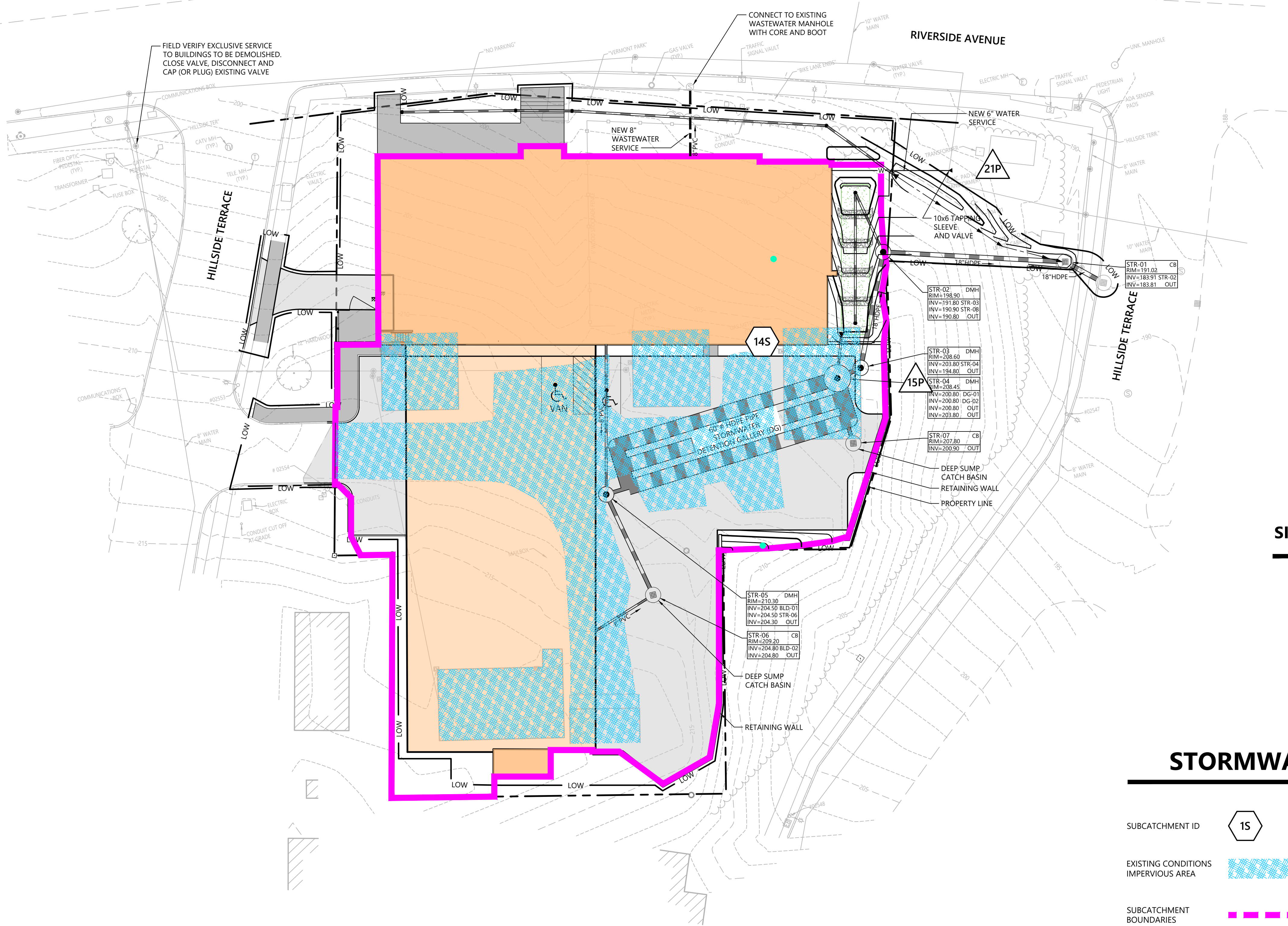
Fixture A Manufacturer: Beacon Lighting Fixture: SRT1 EDGE-LIT Color: Black LED: 35watt - 5QW LED Color: 3,000k Voltage: 120v (verify with electrical engineer)	Fixture B Manufacturer: KIM Lighting Fixture: Compact Bollard - CB32 LED Color: Black LED: 10w LED Color: 3,000k Voltage: 120v (verify with electrical engineer)	Fixture C Manufacturer: Beacon Lighting Products Fixture: Traverse Wall Light TRV-D Color: Black LED: 27watt - Type 3 LED Color: 3,000k Voltage: 120v (verify with electrical engineer) Mounting: 12 Feet	Fixture D Manufacturer: Beacon Lighting Products Fixture: Viper S Color: Black LED: 39watt - Type 3 LED Color: 3,000k Voltage: 120v (verify with electrical engineer) Pole: 16 Feet												
Fixture E Manufacturer: Philips Lightolier Fixture: SlimSurface LED - S5R (5inch) Color: Black LED: 650Lumen - 3,000k Voltage: 120v (verify with electrical engineer)	Fixture F Manufacturer: Kichler Lighting Fixture: Manhattan 22" Wall Light Color: Black LED Color: 3000k Voltage: 120v (verify with electrical engineer)	STATISTICAL AREA SUMMARY Grid Type: Horizontal Illuminance at finish grade. Grid Units: Footcandles <table><thead><tr><th>Statistical Area</th><th>Avg</th><th>Max</th><th>Min</th><th>Avg/Min</th><th>Max/Min</th></tr></thead><tbody><tr><td>1. Parking Lot and Entry Drive</td><td>1.73</td><td>7.40</td><td>0.20</td><td>8.65</td><td>37.00</td></tr></tbody></table>		Statistical Area	Avg	Max	Min	Avg/Min	Max/Min	1. Parking Lot and Entry Drive	1.73	7.40	0.20	8.65	37.00
Statistical Area	Avg	Max	Min	Avg/Min	Max/Min										
1. Parking Lot and Entry Drive	1.73	7.40	0.20	8.65	37.00										

Disclaimer:
This analysis was calculated in accordance with published IES calculation methods and procedures with the data as entered by the user. This analysis is based on tested IES photometric data, light loss factors as defined in the LLF value. This analysis is a mathematical model of real life situations, and it can be only as accurate as the model itself. Calculated values may vary from actual measurements in certain situations. VHB is not responsible for light output deviations due to light fixture or ballast combinations or other variables.



40 IDX Dr
Building 100 Suite 200
South Burlington, VT 05403
802.497.6100

STORMWATER MAINTENANCE PLAN			
STORMWATER SYSTEM	SYMBOL	INSPECTION FREQUENCY	MAINTENANCE ACTIVITY TRIGGERS AND ACTIONS
CATCH BASIN (DEEP SUMP)		ANNUAL	SEDIMENT SHALL BE CLEANED OUT OF CATCH BASIN SUMPS WHEN IT ACCUMULATES TO >50% OF SUMP DEPTH.
ROOF DRAIN			ROOF DRAIN INLETS AND OUTLETS SHALL BE KEPT CLEAN OF DEBRIS.
SUBSURFACE STORAGE			INSPECT AND REMOVE DEBRIS FROM OUTLET CONTROL. REMOVE ACCUMULATION OF DEBRIS FROM PIPE CHAMBERS AS NEEDED.
DRY SWALE			WHEN WATER PONDS IN THE BOTTOM OF THE DRY SWALE FOR MORE THAN 48 HOURS THE TOP FEW INCHES OF MATERIAL SHALL BE REMOVED AND REPLACED WITH CLEAN SAND.



SITE PLAN INFORMATION

- TOTAL LOT SIZE = 0.893 ACRES
- PERCENT LOT DISTURBED = 97%
- AREA IMPERVIOUS PRE-DEVELOPMENT
 - TOTAL AREA = 11,519 SF (0.264 AC)
 - PERCENT OF SITE = 29.6%
- IMPERVIOUS POST-DEVELOPMENT
 - TOTAL AREA = 31,037 SF (0.713 AC)
 - PERCENT OF SITE = 79.8%

STORMWATER LEGEND

SUBCATCHMENT ID

1S

EXISTING CONDITIONS IMPERVIOUS AREA

SUBCATCHMENT BOUNDARIES

TREATMENT PRACTICE ID

1P

PROPOSED CONDITIONS IMPERVIOUS AREA



Blackrock Riverside Avenue Senior Apartments

356 Riverside Ave
Burlington, Vermont

No.	Revision	Date	Appvd.

Designed by	TAS/CHS	Checked by	JRZ
Issued for	Zoning Permit	Date	September 8, 2020

Not Approved for Construction

Drawing Title

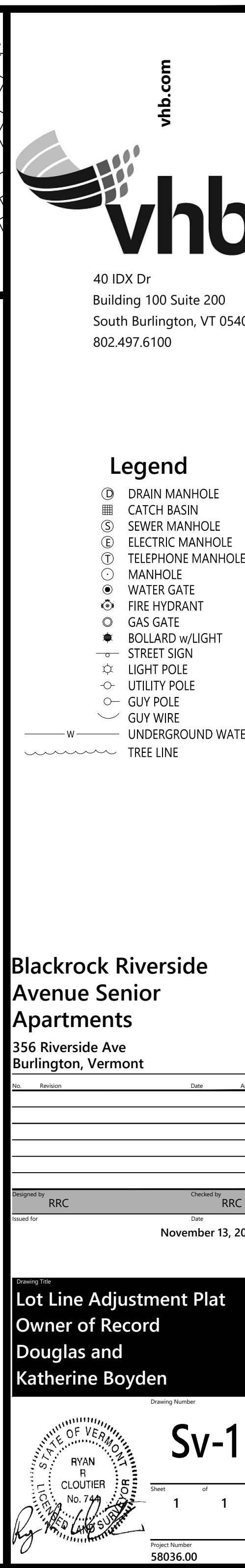
Stormwater Management & Maintenance Plan

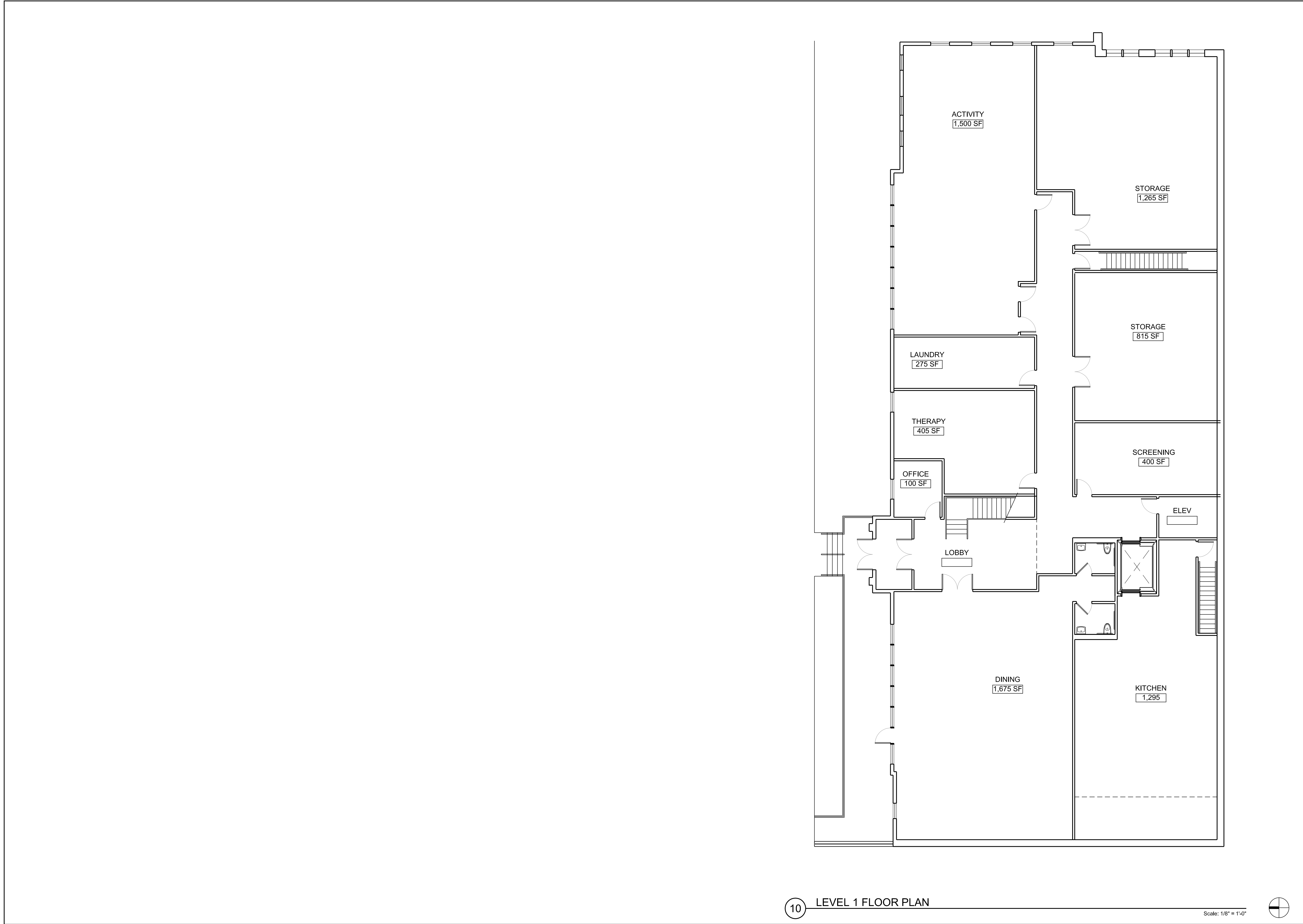
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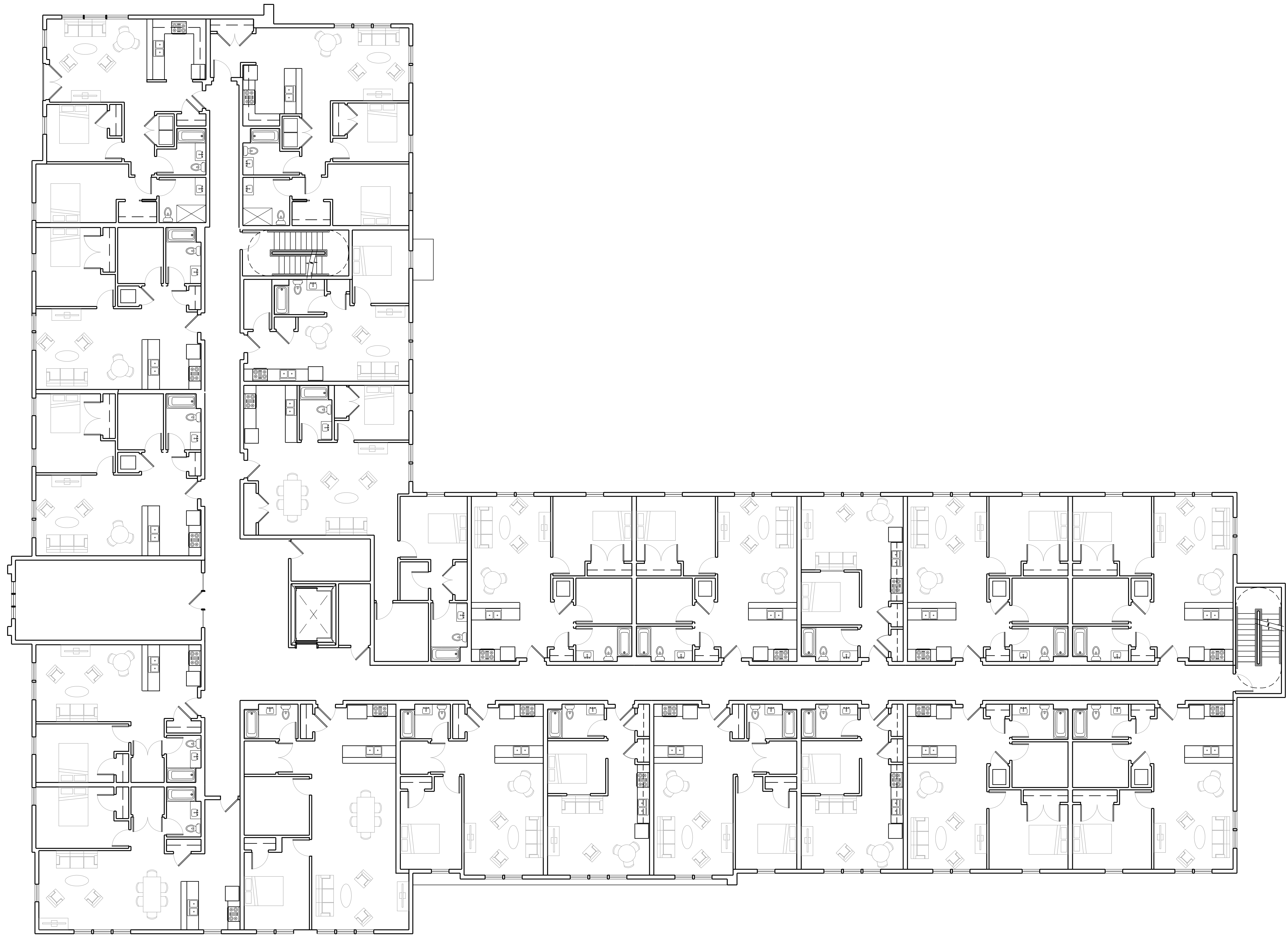
SW-1.10

Sheet 16 of 16

Project Number
58036.00

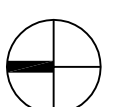






10 LEVEL 3 FLOOR PLAN

Scale: 1/8" = 1'-0"



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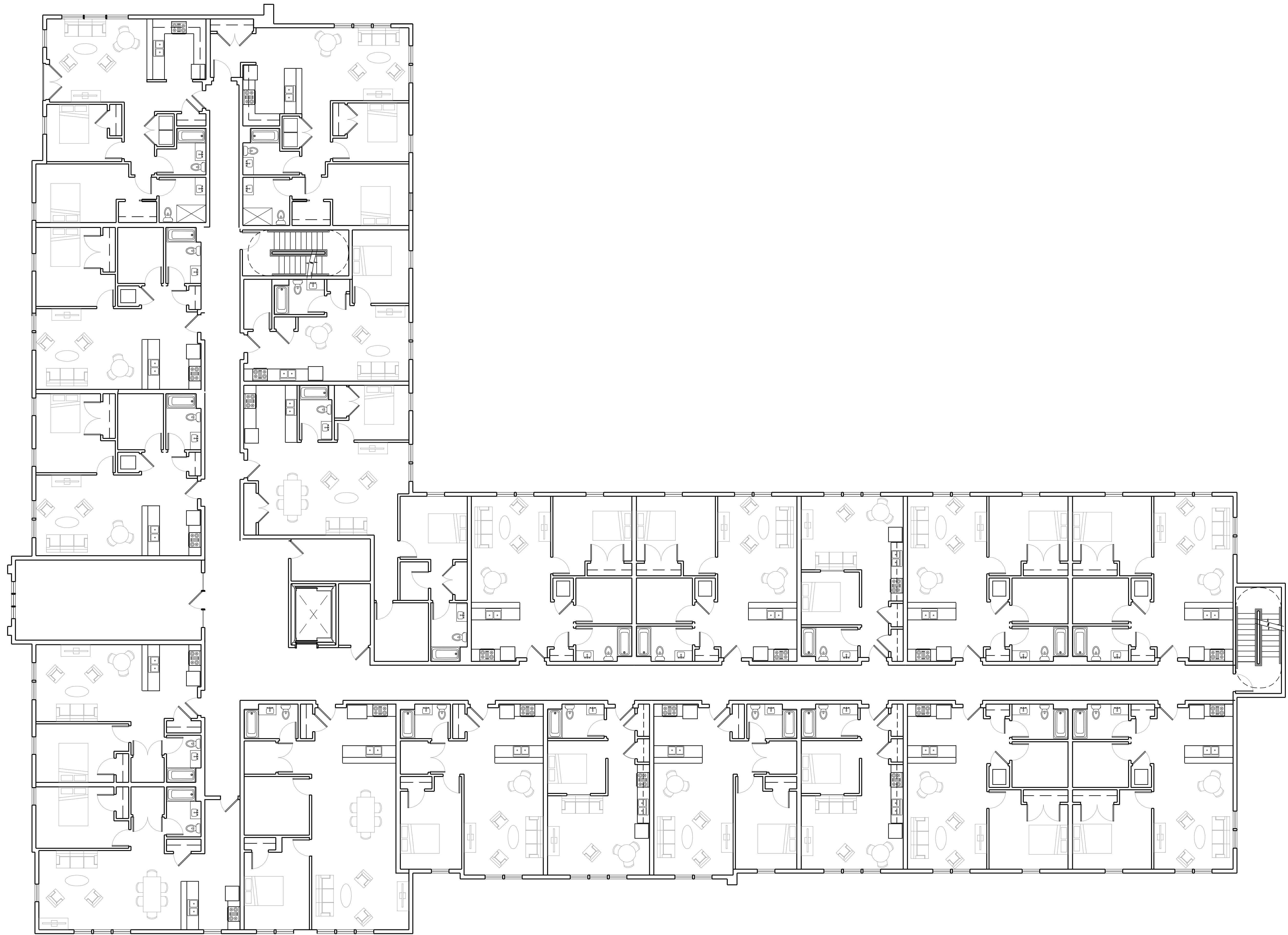
STRUCTURAL ENGINEER:
Engineering Ventures
208 Flynn Avenue
Burlington, VT 05401
802-863-6225
CIVIL ENGINEER:
Vanasse Hangen Brustlin, Inc.
40 IDX Drive
Building 100, Suite 200
South Burlington, VT 05403
802-497-6100

BLACKROCK
RIVERSIDE AVE. SENIOR
APARTMENTS
356 RIVERSIDE AVENUE, BURLINGTON, VT 05401

REV NUMBER	REV DATE	DESCRIPTION
ZONING PERMIT DRAWINGS NOT FOR CONSTRUCTION		

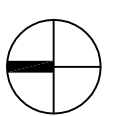
LEVEL 3
FLOOR PLAN
SCALE: AS NOTED
DATE: September 8, 2022

A103



10 LEVEL 4 FLOOR PLAN

Scale: 1/8" = 1'-0"



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BLACKROCK
RIVERSIDE AVE. SENIOR
APARTMENTS

356 RIVERSIDE AVENUE, BURLINGTON, VT 05401

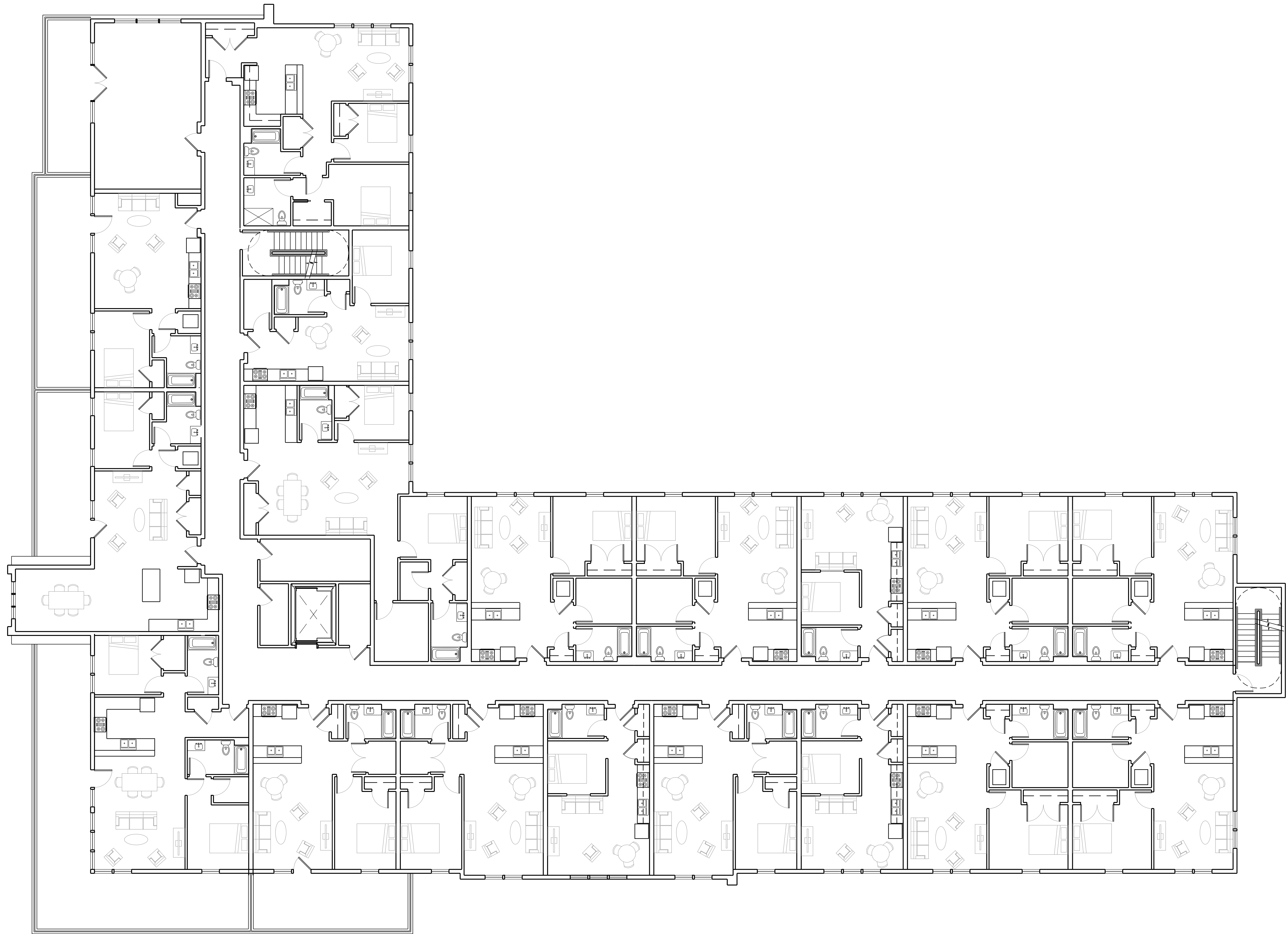
REV NUMBER	REV DATE	DESCRIPTION
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ZONING PERMIT
DRAWINGS
NOT FOR
CONSTRUCTION

LEVEL 4
FLOOR PLAN

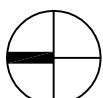
SCALE: AS NOTED
DATE: September 8, 2022

A104



10 LEVEL 5 FLOOR PLAN

Scale: 1/8" = 1'-0"



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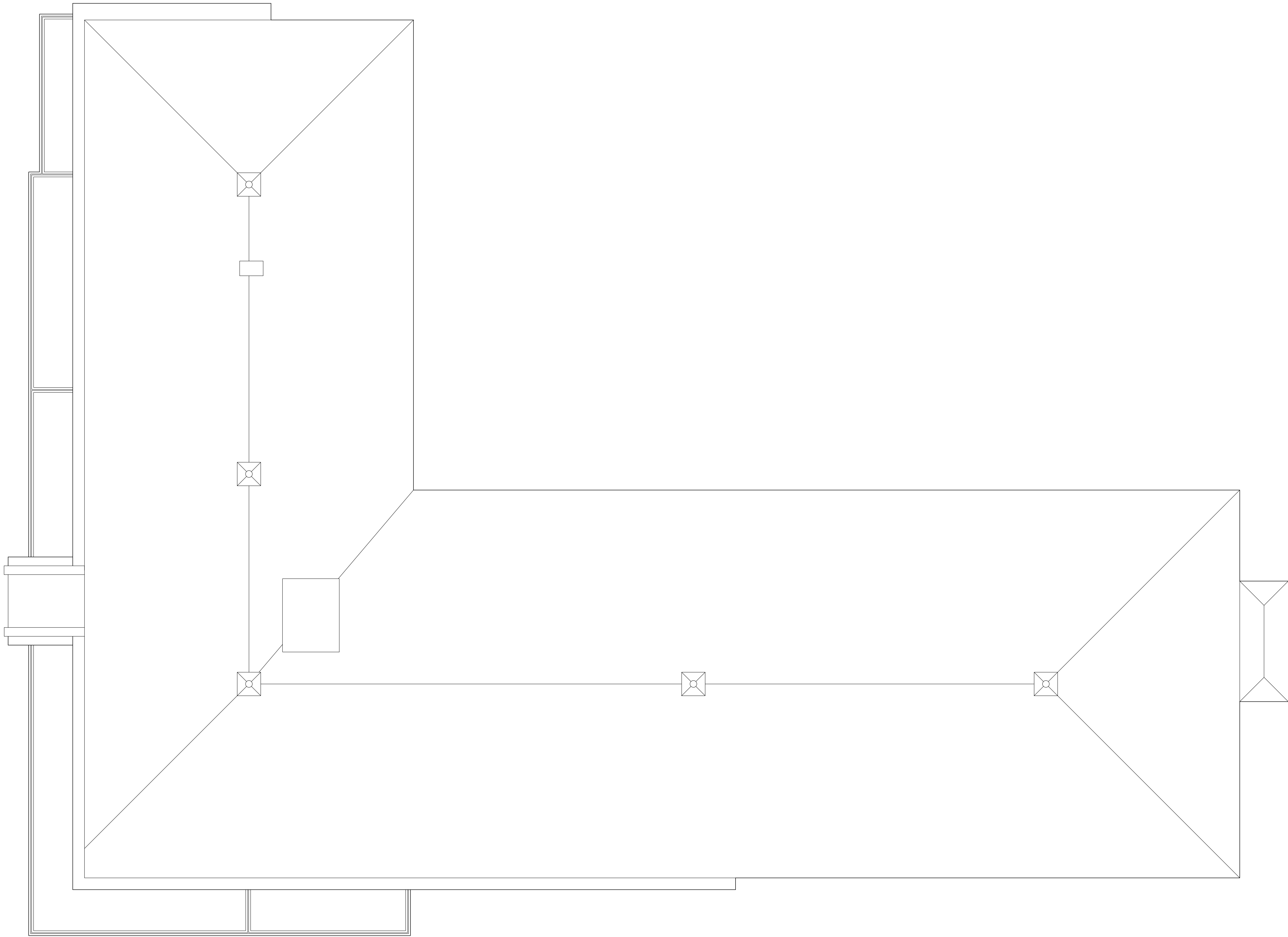
BLACKROCK
RIVERSIDE AVE. SENIOR
APARTMENTS
356 RIVERSIDE AVENUE, BURLINGTON, VT 05401

REV NUMBER	REV DATE	DESCRIPTION
ZONING PERMIT DRAWINGS NOT FOR CONSTRUCTION		

LEVEL 5
FLOOR PLAN

SCALE: AS NOTED
DATE: September 8, 2022

A105



10 ROOF PLAN

Scale: 1/8" = 1'-0"



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40 IDX Drive
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802-497-6100

BLACKROCK

RIVERSIDE AVE. SENIOR
APARTMENTS

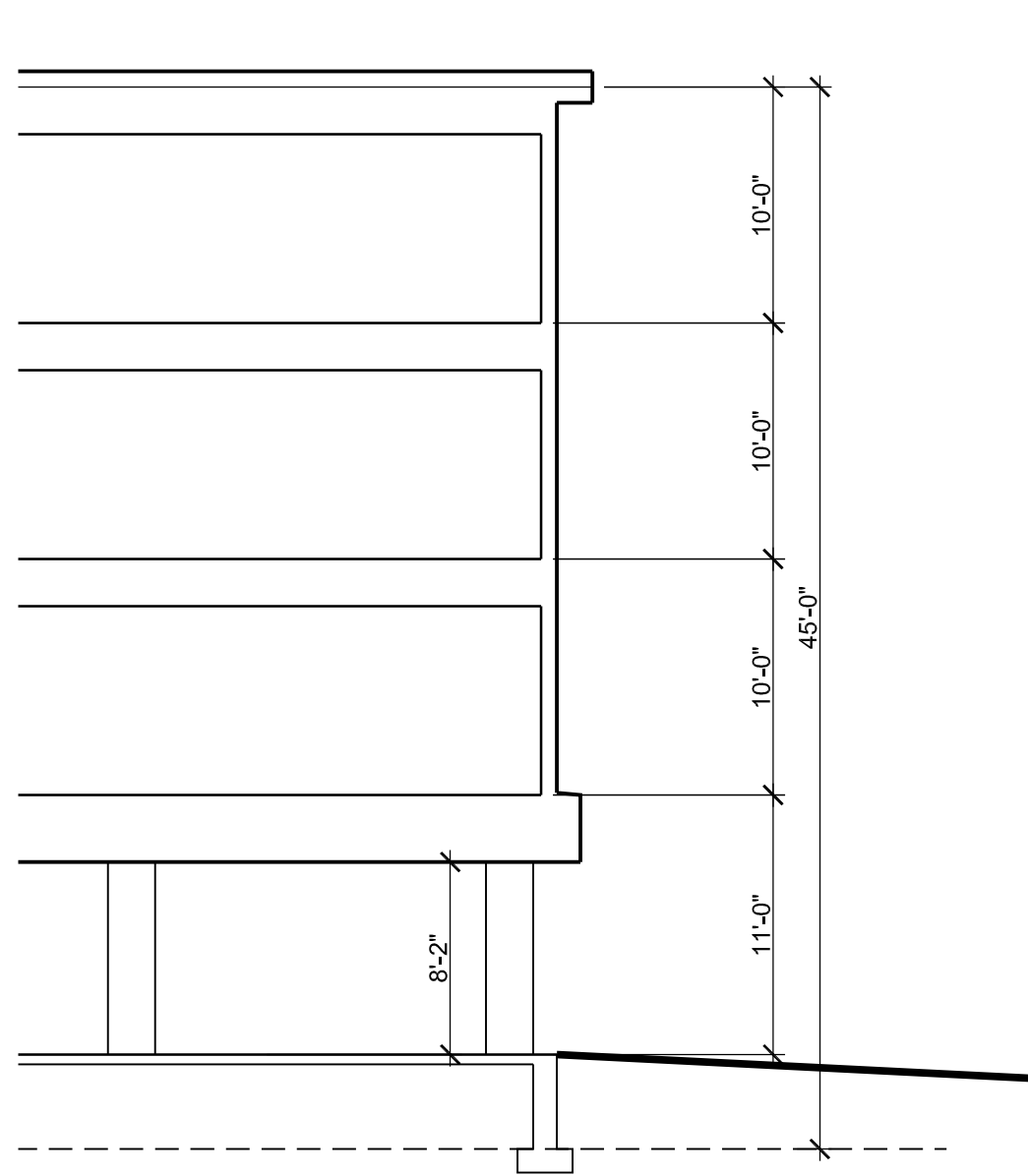
356 RIVERSIDE AVENUE, BURLINGTON, VT 05401

REV NUMBER	REV DATE	DESCRIPTION
ZONING PERMIT DRAWINGS NOT FOR CONSTRUCTION		

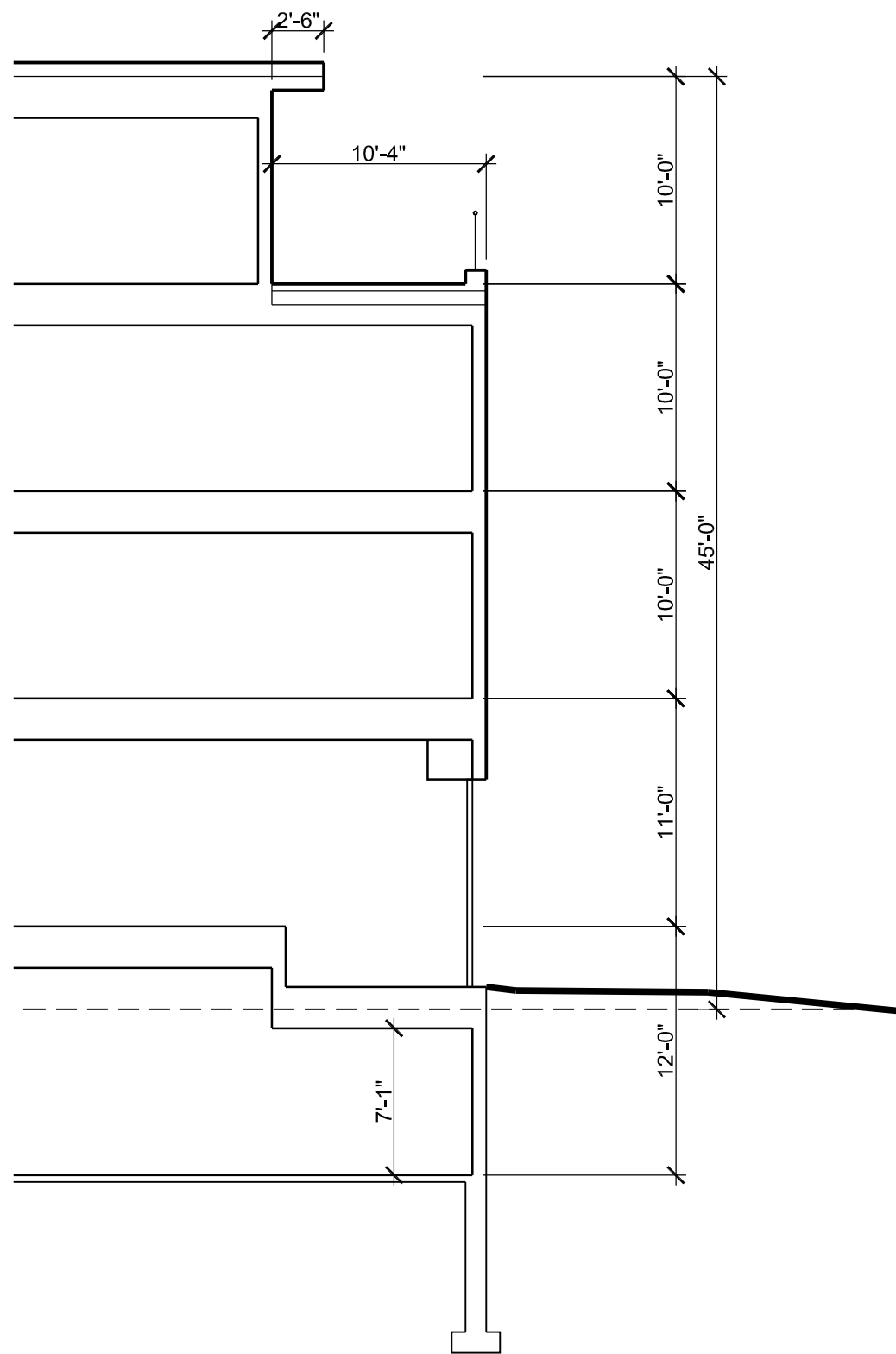
ROOF PLAN

SCALE: AS NOTED
DATE: September 8, 2022

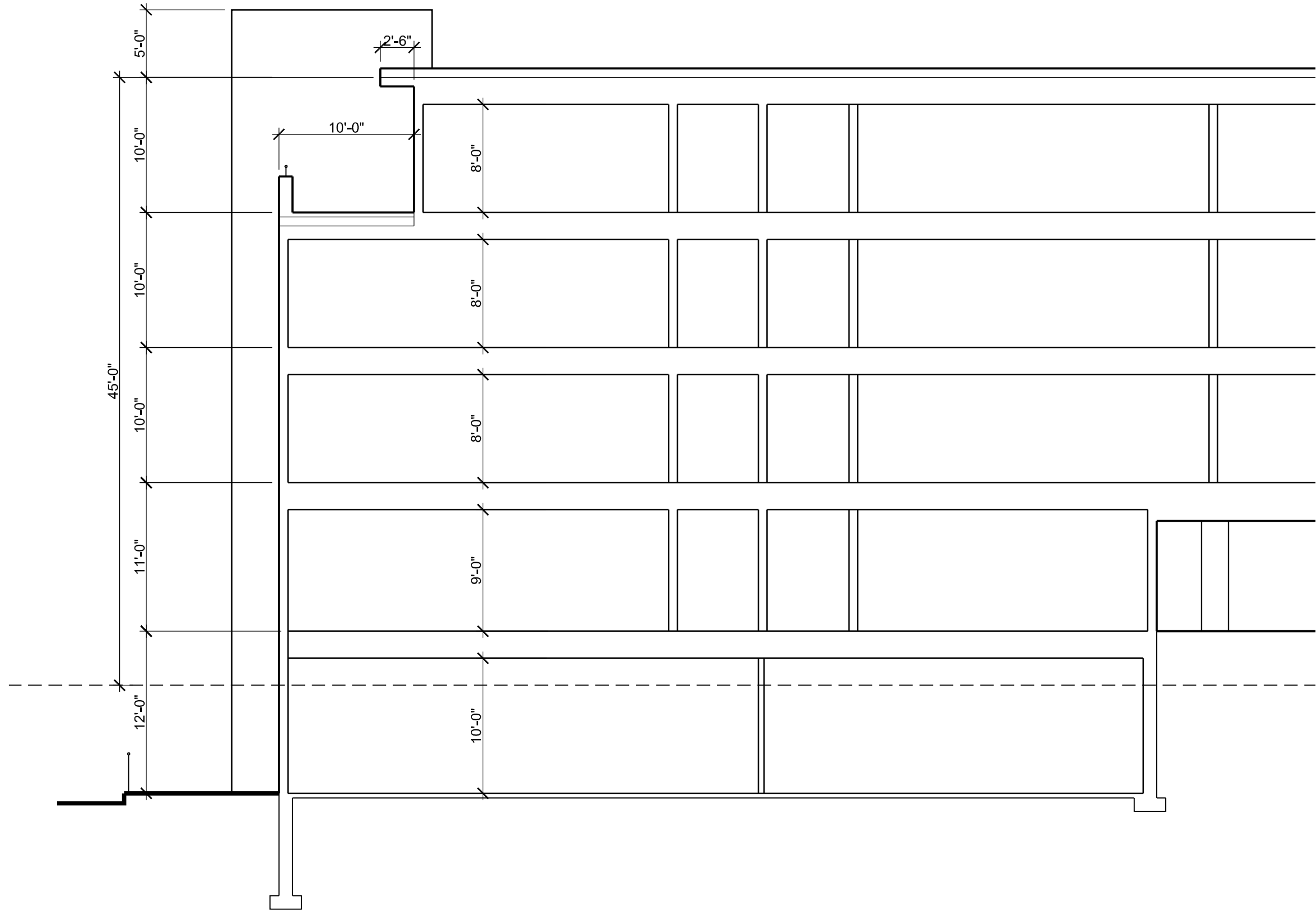
A106



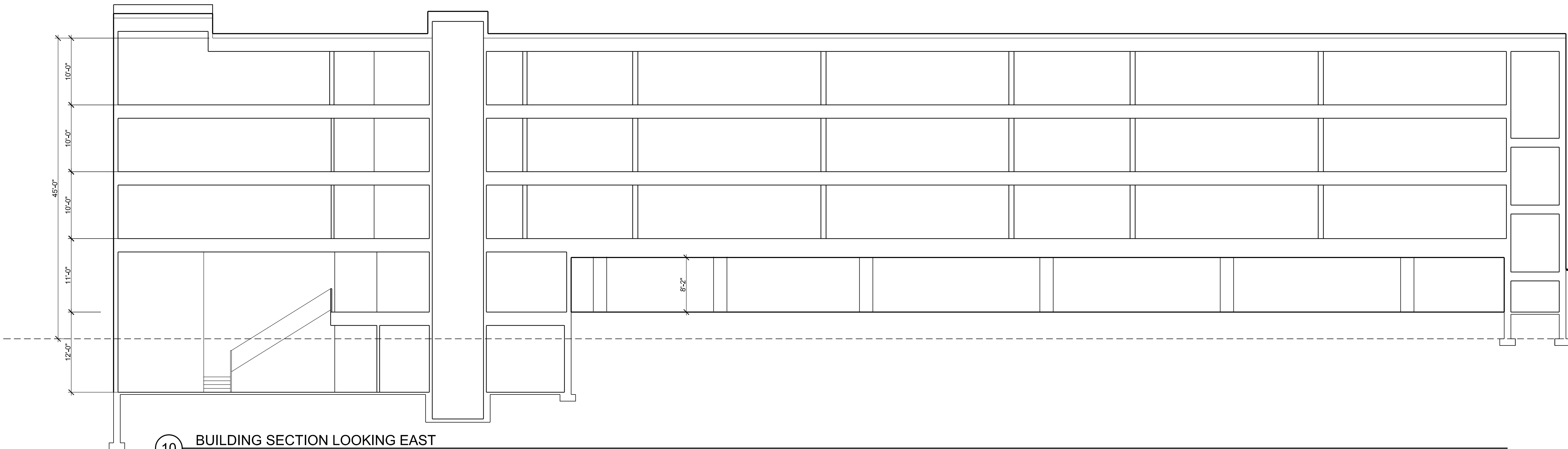
22 PARTIAL BUILDING SECTION LOOKING SOUTH
Scale: 1/8" = 1'-0"



21 PARTIAL BUILDING SECTION LOOKING SOUTH
Scale: 1/8" = 1'-0"



20 PARTIAL BUILDING SECTION LOOKING EAST
Scale: 1/8" = 1'-0"



10 BUILDING SECTION LOOKING EAST
Scale: 1/8" = 1'-0"



To: Benjamin Avery
Riverside Partners, LLC

Date: January 31, 2020

Project #: 58036.00

From: Jenn Conley, PE
Erica Quallen

Re: Riverside Independent Living
Traffic Impact Study
Burlington, VT

VHB has conducted a Traffic Impact Study (TIS) for the proposed Riverside Independent Living facility to be located at 362-374 Riverside Avenue, with access from Hillside Terrace in Burlington, Vermont.

The proposed facility will have approximately 60 units and is located on the southern side of Riverside Avenue between the loop ends of Hillside Terrace, with the access and egress point being adjacent to the westernmost intersection of Hillside Terrace and Riverside Avenue.

This Traffic Impact Study includes the following elements:

- A description of the existing roadway network in the vicinity of the site;
- A summary of the crash data within the study area;
- A description of the proposed development program;
- A trip generation estimate for the proposed development program;
- An evaluation of anticipated traffic changes for the adjacent roadway and intersections in the vicinity;
- An evaluation of traffic operations within the study area; and
- Conclusions and recommendations to support the project.

As part of this study, three different intersections were evaluated and summarized in regard to level of service (LOS) and average delay in order to estimate how the proposed project impacts the local street network. The traffic study intersections are shown in **Figure 1**.

EXISTING CONDITIONS

The project is located on Hillside Terrace, specifically on the northwest segment of the loop. Hillside Terrace is a loop road with both ends connecting to Riverside Avenue. The driveway for the proposed redevelopment is located approximately 125-feet from the west intersection of Riverside Avenue and Hillside Terrace. The location of the site in relation to the local roadway network is shown in **Figure 1**.

Figure 1: Sie Location Map



Roadway Characteristics

Hillside Terrace is a residential loop road providing access to the homes on Hillside Terrace as well as one adjacent housing development. Hillside Terrace connects on both sides to Riverside Avenue forming intersections approximately 300-feet apart along Riverside Avenue. The western intersection is an unsignalized intersection with Hillside Terrace operating under stop-control. The eastern intersection is signalized with Hillside Terrace being an actuated approach. Hillside Terrace provides sidewalks on the inner side of the loop which connect to sidewalks on Riverside Avenue.

Riverside Avenue serves as a segment of US Routes 2 and 7 and is an east-west principal arterial that parallels the Winooski River, connecting Burlington's Old North End neighborhood to downtown Winooski. In the vicinity of the project site, it is a 25 mile per hour roadway carrying between 15,000 and 16,000 vehicles per day¹.

SAFETY ASSESSMENT

A review of VTrans' most recent High Crash Location (HCL) Report (2012-2016) revealed no roadway segments or intersections within the project study area classified as an HCL by VTrans². In addition, the VTrans Public Crash Data Query Tool was reviewed to investigate project area crashes for the most recent 5-year period available: January 1, 2014 through December 31, 2018. **Table 1** below summarizes the reported crashes for the primary study area over the recent five-year period. Additional detail of the crashes is included in the Appendix.

Table 1: Summary of 2014-2018 Reported Crashes

Location	Number of Crashes	Injury Crashes	Fatal Crashes	Property Damage Only	Rear End Crashes	Turning Vehicle Crashes	Wet/Snowy Road Conditions
Riverside Avenue and Hillside Terrace	25	7 (28%)	0	18 (72%)	10 (40%)	5 (20%)	5 (20%)

TRAFFIC NETWORKS

Seasonal Variation

Since it is impractical to design for the highest volume encountered during the year, VTrans guidelines recommend a compromise between capacity and cost. Design Hourly Volume (DHV) criteria allow roads to be designed for the 30th highest hourly volume of the year. VTrans Riverside Avenue Average Annual Daily Traffic (AADT) traffic volume data was obtained. The appropriate VTrans DHV adjustment factors for volumes and roadway type were researched and applied to the AADT.³ Detailed calculations for the DHV adjustments are provided in the Appendix.

Background Growth

Background traffic growth is a function of expected land development in the region. To predict a rate at which traffic can be expected to grow during the forecast period, historical traffic growth was examined. The regression analysis chart in the 2017 VTrans Redbook⁴ suggests a background growth rate of 1.03 for projecting traffic volumes from 2020 to 2025. VTrans regression analysis is provided in the Appendix.

¹ Vermont Agency of Transportation Highway Division Traffic Research Unit, 2018 (Route Log) AADTs: State Highways. May 2019.

² High Crash Location Report: Intersections and Segments (2012-2016), Vermont Agency of Transportation Office of Highway Safety Division.

³ ATR Station D156

⁴ Continuous Traffic Counter Report (The Redbook), Vermont Agency of Transportation, 2017.

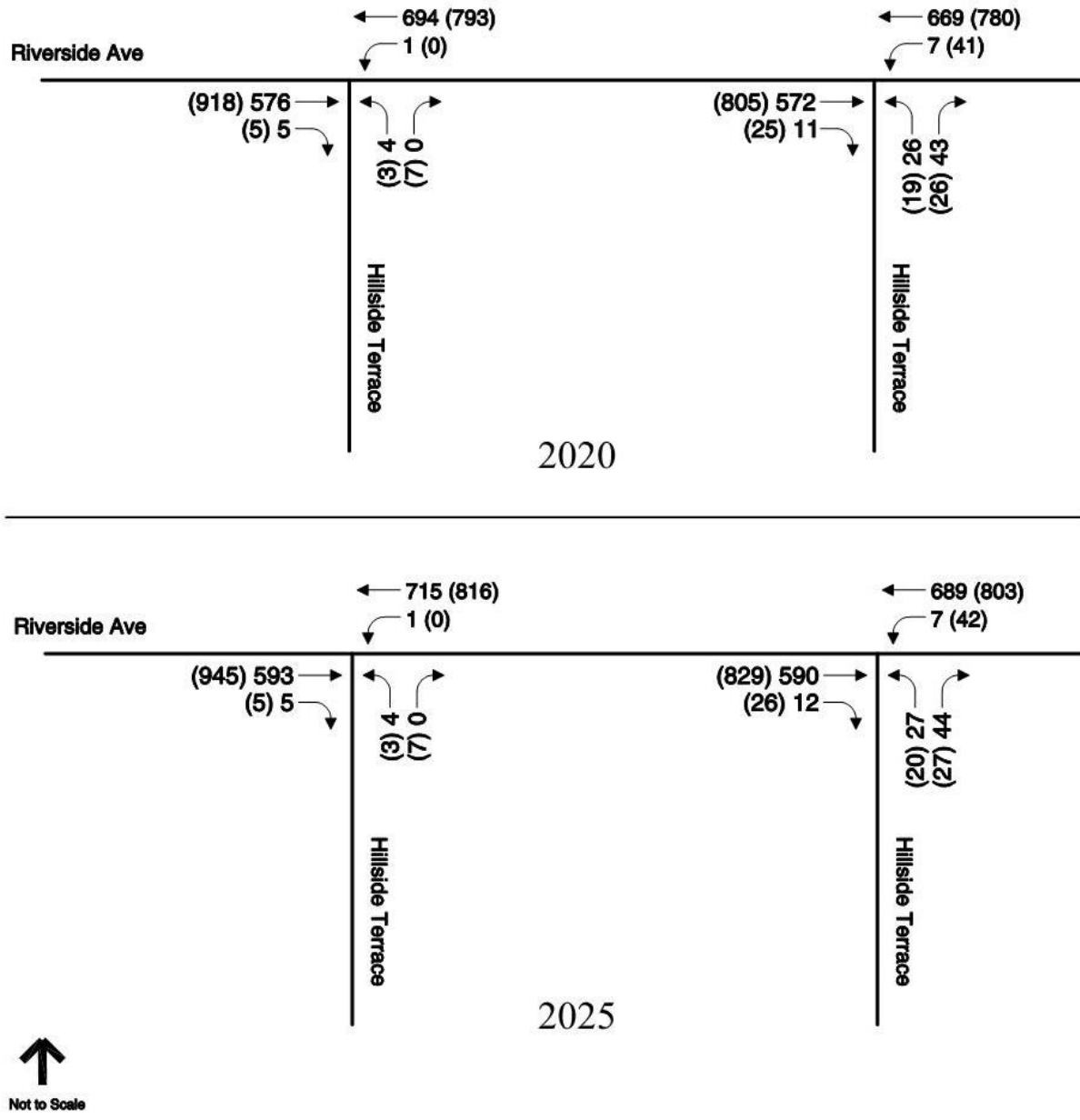
Other Development

Based on review of proposed developments in the vicinity of the project site, one project undergoing the Burlington Design Review Board process was found that was included in the background traffic volumes for this project. A housing development at 110 Riverside Avenue is being proposed and is anticipated to generate 21 weekday AM peak hour trips and 26 weekday PM peak hour trips. The trip distribution shown in the Trudell Consulting Engineers November 2019 traffic analysis was used to add these trips to the network being analyzed in this traffic analysis. A copy of the relevant data from the Trudell study can be found in the Appendix.

No Build Traffic Networks

The 2020 and 2025 No Build traffic volumes were developed by applying the growth factors from the VTrans regression analysis chart to DHV-adjusted peak hour traffic volumes and adding the other identified project traffic. The 2020 and 2025 No Build weekday AM and PM volumes are shown in **Figure 2**.

Figure 2: 2020 and 2025 No Build Traffic Volumes



Not to Scale

Legend

AM Peak Hour
(PM Peak Hour)



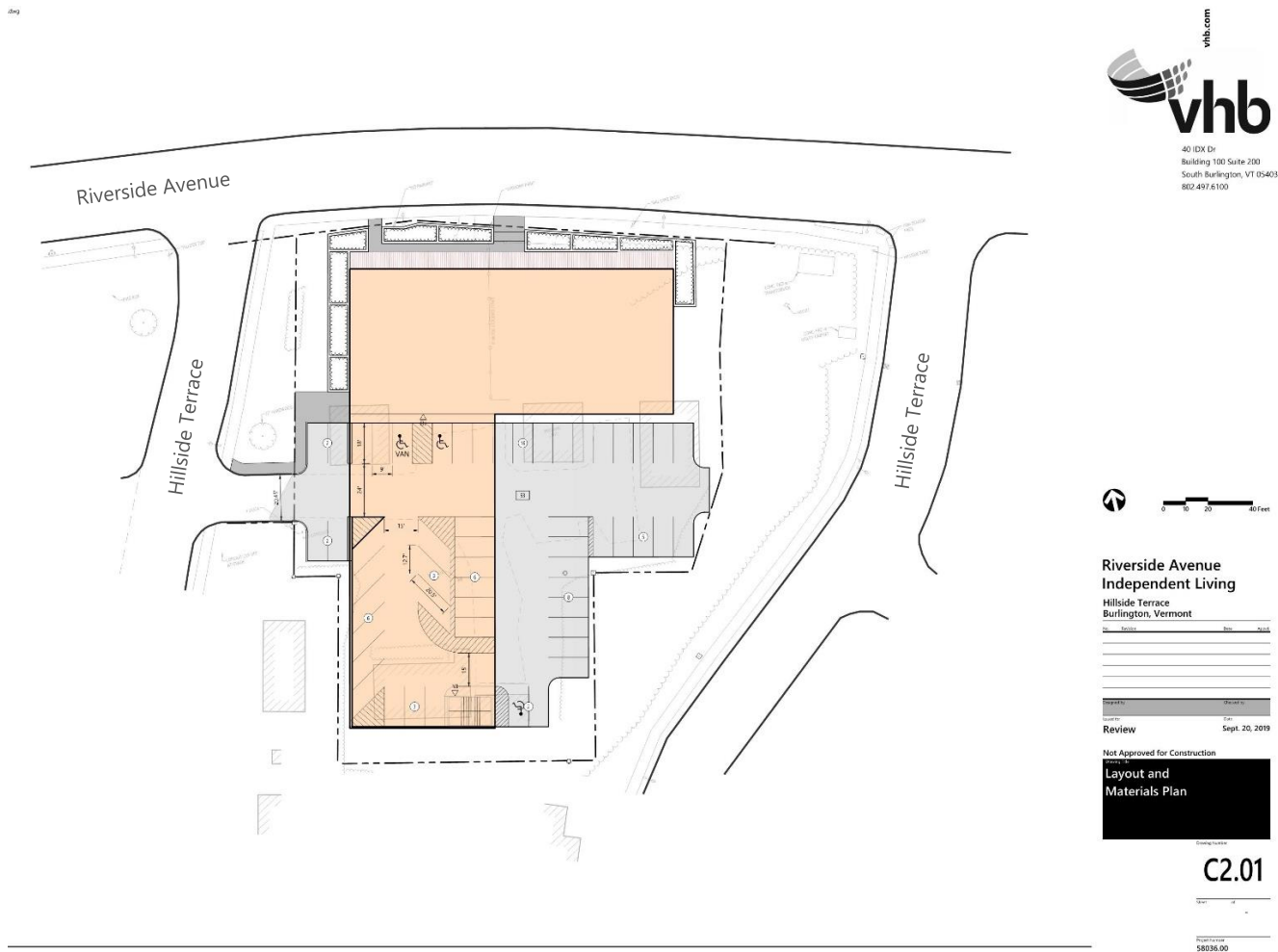
Figure 2

No Build Weekday
Peak Hour Traffic Volumes

PROPOSED DEVELOPMENT

The proposed facility will have approximately 60 independent living residential units and is located on the southern side of Riverside Avenue between the loop ends of Hillside Terrace, with the access and egress point being adjacent to the western intersection of Hillside Terrace and Riverside Avenue. The proposed layout of the project site is shown below in **Figure 3**.

Figure 3: Proposed Site Plan



TRIP GENERATION

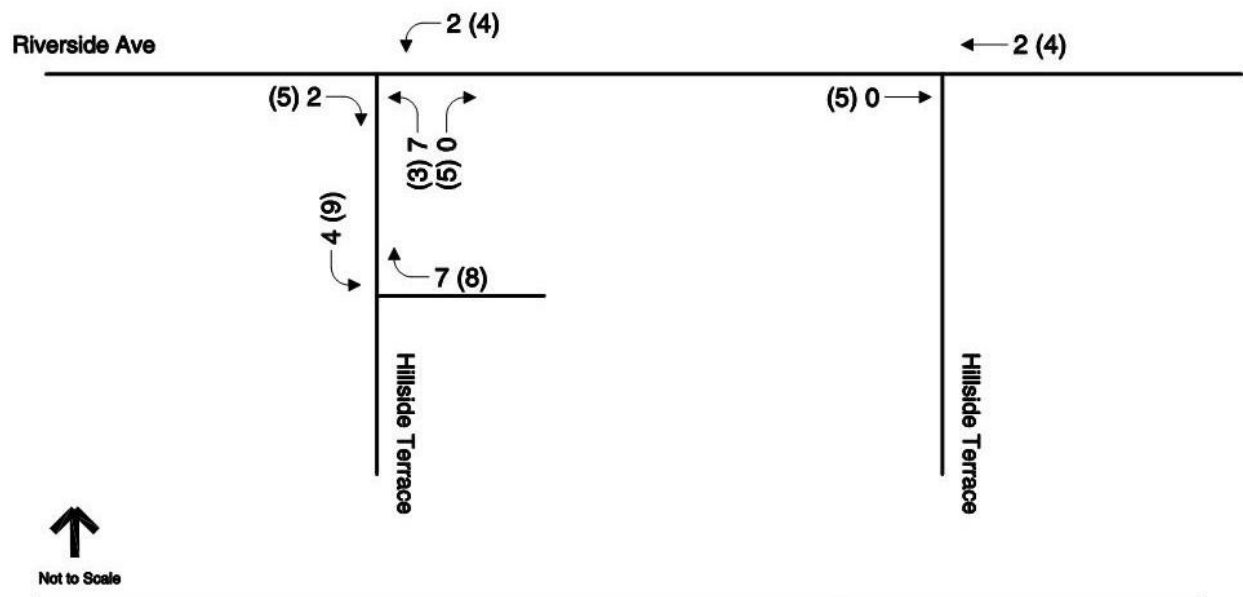
Trip estimates for the proposed development were calculated based on rates published by the Institute of Transportation Engineers (ITE) in the 10th edition of the Trip Generation Manual for the weekday AM and PM peak hours. These time periods are typically the highest volume times on the adjacent roadway network and are used for this analysis. ITE land use code (LUC) 252 – Senior Adult Housing, Attached was used to estimate peak hour

trips of the proposed development. Based on ITE estimates, the independent living facility would be expected to generate 12 trips during the weekday AM peak hour and 17 vehicle trips during the PM peak hour. **Table 2** summarizes the trip generation estimate for the proposed development. The distribution of these trips onto the roadway network was based on current travel patterns and is shown in **Figure 4**.

Table 2: Trip Generation Summary

Peak Period	Total Peak Hour Site Generated Trips
<i>Weekday AM</i>	
Enter	4
Exit	8
Total	12
<i>Weekday PM</i>	
Enter	9
Exit	8
Total	17

Figure 4: Site Generated Trip Distribution



Legend
 AM Peak Hour
 (PM Peak Hour)

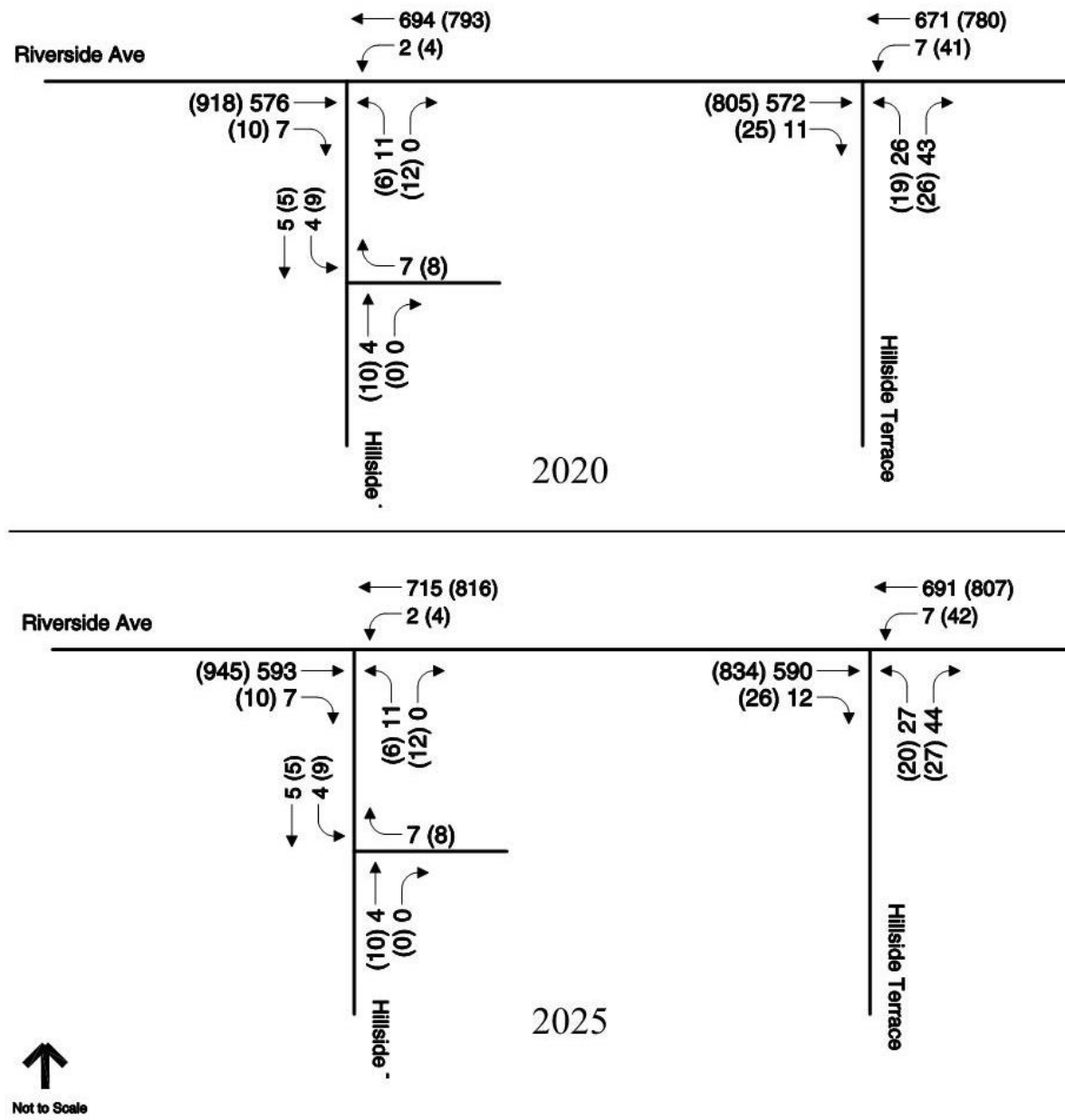


Figure 4
 Site Generated Trips
 Peak Hour Traffic Volumes

Build Traffic Networks

The 2020 and 2025 Build traffic volumes were developed by combining the No Build volumes and site generated trips. The 2020 and 2025 Build weekday AM and PM volumes are shown in **Figure 2**.

Figure 5: 2020 and 2025 Build Traffic Volumes



TRAFFIC ANALYSES

Intersection capacity analyses were performed for the study area intersections. Levels of service (LOS) were calculated based on the criteria published in the *2000 Highway Capacity Manual*.⁵ Level of service is the term that defines the conditions that may occur on a given roadway or at an intersection when accommodating various traffic volume loads. Levels of service range from A to F with LOS A representing generally free flowing operating conditions and LOS F representing generally congested conditions. Copies of the LOS calculations are provided in the Appendix.

Table 3 summarizes the operational analysis at the *unsignalized* study area intersection during the 2020 and 2025 weekday AM and PM peak hours under No Build and Build conditions. As shown in the table, Hillside Terrace West at Riverside Avenue experiences only two to five second increases in delay from the No Build to Build scenarios in both peak hours. LOS E is typically regarded as a deficient level of service, but it should be noted that the volume to capacity ratio is only 0.14 in the Build scenario is just over the threshold of 35 seconds of delay to be defined as LOS E. The major approach will operate at LOS A as it continues to experience free-flow conditions. The unsignalized intersection of Hillside Terrace and the site driveway will operate at LOS A from all approaches, in all conditions.

Table 4 summarizes the operational analysis at the *signalized* study area intersections during the 2020 and 2025 weekday AM and PM peak hours under No Build and Build conditions. As shown in the table, the signalized intersection of Hillside Terrace East and Riverside Avenue is expected to operate overall at LOS C or better in 2020 and 2025 both without and with the project. Project related delays are expected to be less than one second per vehicle. Overall the results indicate that the infrastructure has been built to accommodate the growth anticipated in this area.

Table 3: Unsignalized Intersection Capacity Analysis

Intersection / Movement		2020 No Build			2020 Build			2025 No Build			2025 Build		
		v/c*	Delay*	LOS**	v/c	Delay	LOS	v/c	Delay	LOS	v/c	Delay*	LOS**
AM Peak Hour	Hillside Terrace West at Riverside Ave												
	EB from Riverside Ave	0.34	0.0	A	0.34	0.0	A	0.35	0.0	A	0.35	0	A
	WB from Riverside Ave	0.00	0.0	A	0.00	0.1	A	0.00	0.0	A	0.00	0.1	A
	NB from Hillside Terrace	0.03	28.5	D	0.07	30.0	D	0.03	30.5	D	0.08	32.2	D
	Hillside Terrace West at Site Driveway												
	WB from Site Driveway	DOES NOT EXIST IN NO BUILD CONDITION			0.01	8.4	A	DOES NOT EXIST IN NO BUILD CONDITION			0.01	8.4	A
	NB from Hillside Terrace				0.00	0.0	A				0.00	0.0	A
	SB from Hillside Terrace				0.00	3.2	A				0.00	3.2	A
PM Peak Hour	Hillside Terrace West at Riverside Ave												
	EB from Riverside Ave	0.54	0.0	A	0.55	0.0	A	0.56	0.0	A	0.56	0.0	A
	WB from Riverside Ave	0.00	0.0	A	0.01	0.1	A	0.00	0.0	A	0.01	0.2	A
	NB from Hillside Terrace	0.07	32.0	D	0.14	36.7	E	0.08	35.4	E	0.15	40.4	E
	Hillside Terrace West at Site Driveway												
	WB from Site Driveway	DOES NOT EXIST IN NO BUILD CONDITION			0.01	8.4	A	DOES NOT EXIST IN NO BUILD CONDITION			0.01	8.4	A
	NB from Hillside Terrace				0.01	0.0	A				0.01	0.0	A
	SB from Hillside Terrace				0.01	4.7	A				0.01	4.7	A

* Volume to capacity ratio

* Delay expressed in seconds per vehicle

** Level of Service

⁵ Highway Capacity Manual, Federal Highway Administration, Transportation Research Board, 2000.

Table 4: Signalized Intersection Capacity Analysis

Intersection / Movement		2020 No Build			2020 Build			2025 No Build			2025 Build		
		v/c*	Delay*	LOS **	v/c	Delay	LOS	v/c	Delay	LOS	v/c*	Delay*	LOS **
AM Peak Hour	Hillside Terrace East at Riverside Ave												
	EB from Riverside Ave	0.50	10.3	B	0.50	10.3	B	0.51	10.5	B	0.51	10.5	B
	WB Left Turn from Riverside Ave	0.02	6.1	A	0.02	6.1	A	0.02	6.1	A	0.02	6.1	A
	WB Through from Riverside Ave	0.57	10.1	B	0.57	10.1	B	0.59	10.3	B	0.59	10.4	B
	NB from Hillside Terrace	0.11	30.7	C	0.11	30.7	C	0.11	30.8	C	0.11	30.8	C
	Overall	0.45	11.2	B	0.45	11.3	B	0.46	11.5	B	0.47	11.5	B
PM Peak Hour	Hillside Terrace East at Riverside Ave												
	EB from Riverside Ave	0.71	14.6	B	0.71	14.7	B	0.73	15.3	B	0.74	15.4	B
	WB Left Turn from Riverside Ave	0.17	7.1	A	0.17	7.1	A	0.19	7.2	A	0.19	7.3	A
	WB Through from Riverside Ave	0.67	11.8	B	0.67	11.9	B	0.69	12.3	B	0.69	12.4	B
	NB from Hillside Terrace	0.08	30.3	C	0.08	30.3	C	0.08	30.3	C	0.08	30.3	C
	Overall	0.55	13.6	B	0.55	13.7	B	0.57	14.1	B	0.57	14.2	B

* Volume to capacity ratio

* Delay expressed in seconds per vehicle

** Level of Service

CONCLUSIONS

The proposed project consists of constructing a new 60-unit Independent Living at 362-374 Riverside Avenue, with access from Hillside Terrace in Burlington, Vermont. The trip generation estimates conducted for this study indicate that the proposed development program will generate approximately 12 new vehicle trips during the weekday AM peak hour and 17 new vehicle trips during the weekday PM peak hour.

Primary access and egress will be provided via the existing residential access off Hillside Terrace which has experienced no reported crash history and is not expected to decrease in safety with the addition of this driveway. A LOS E is expected from the Hillside Terrace West approach at Riverside Avenue, but the proposed development is not likely to increase delay by more than five seconds compared to the No Build scenario. The project related delay increases are less than two seconds per vehicle at each of the study area intersections.

In conclusion, based on the results of this Traffic Impact Study, the proposed Independent Living facility project is not anticipated to generate unreasonable congestion or unsafe conditions on the adjacent roadway network.

Appendices

- A. Traffic Volume Data
- B. Crash Data
- C. Trip Generation Summary
- D. 110 Riverside Avenue Traffic Impact Analysis
- E. Intersection Capacity Analysis



Appendix A

Traffic Volume Data

TURNING MOVEMENT COUNT DATA - Totals by Movement

PEAK HOUR CALCULATIONS

	Start Time	SB N/A				WB Riverside Ave				NB Hillside Terrace				EB Riverside Ave				1 HR TOTALS					
		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Begin Time	SB	WB	NB	EB	TOTAL
1	06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	06:00 AM	0	0	0	102	102
2	06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	06:15 AM	0	97	0	217	314
3	06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	06:30 AM	0	245	0	366	611
4	06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	102	0	0	06:45 AM	0	400	1	519	920
5	07:00 AM	0	0	0	0	0	97	0	0	0	0	0	1	0	115	0	0	07:00 AM	0	586	3	563	1152
6	07:15 AM	0	0	0	0	0	148	0	0	0	0	0	1	1	148	0	0	07:15 AM	0	662	3	584	1249
7	07:30 AM	0	0	0	0	1	154	0	0	0	0	1	1	2	151	0	0	07:30 AM	0	677	4	570	1251
8	07:45 AM	0	0	0	0	0	186	0	0	0	0	2	0	1	145	0	0	07:45 AM	0	669	4	576	1249
9	08:00 AM	0	0	0	0	0	173	0	0	0	0	0	1	1	135	0	0	08:00 AM	0	662	3	436	1101
10	08:15 AM	0	0	0	0	0	163	0	0	0	0	1	1	1	134	0	0	08:15 AM	0	489	3	300	792
11	08:30 AM	0	0	0	0	0	147	0	0	0	0	1	2	1	158	0	0	08:30 AM	0	326	2	165	493
12	08:45 AM	0	0	0	0	0	179	0	0	0	0	1	2	1	5	0	0	08:45 AM	0	179	1	6	186
13	09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	09:00 AM	0	0	0	0	0
14	09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	09:15 AM	0	0	0	0	0
15	09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	09:30 AM	0	0	0	0	0
16	09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	09:45 AM	0	0	0	0	0
17	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10:00 AM	0	0	0	0	0
18	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10:15 AM	0	0	0	0	0
19	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10:30 AM	0	0	0	0	0
20	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10:45 AM	0	0	0	0	0
21	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11:00 AM	0	0	0	0	0
22	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11:15 AM	0	0	0	0	0
23	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11:30 AM	0	0	0	0	0
24	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11:45 AM	0	0	0	0	0
25	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12:00 PM	0	0	0	0	0
26	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12:15 PM	0	0	0	0	0
27	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12:30 PM	0	0	0	0	0
28	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12:45 PM	0	0	0	0	0
29	01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	01:00 PM	0	0	0	0	0
30	01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	01:15 PM	0	0	0	0	0
31	01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	01:30 PM	0	0	0	0	0
32	01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	01:45 PM	0	0	0	0	0
33	02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	02:00 PM	0	0	0	0	0
34	02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	02:15 PM	0	0	0	0	0
35	02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	02:30 PM	0	0	0	0	0
36	02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	02:45 PM	0	0	0	0	0
37	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	03:00 PM	0	0	0	0	0
38	03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	03:15 PM	0	166	0	169	335
39	03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	03:30 PM	0	327	4	343	674
40	03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	03:45 PM	0	512	10	551	1073
41	04:00 PM	0	0	0	0	0	165	1	0	0	0	0	0	0	169	0	0	04:00 PM	0	704	11	788	1503
42	04:15 PM	0	0	0	0	0	159	2	0	2	0	2	1	5	169	0	0	04:15 PM	0	731	14	830	1575
43	04:30 PM	0	0	0	0	0	185	0	0	4	0	2	3	1	207	0	0	04:30 PM	0	776	10	901	1687
44	04:45 PM	0	0	0	0	0	192	0	0	1	0	0	4	2	235	0	0	04:45 PM	0	776	6	854	1636
45	05:00 PM	0	0	0	0	0	193	0	0	2	0	1	3	1	210	0	0	05:00 PM	0	759	6	767	1532
46	05:15 PM	0	0	0	0	0	206	0	0	0	0	0	1	1	244	0	0						
47	05:30 PM	0	0	0	0	0	183	2	0	2	0	0	0	1	160	0	0						
48	05:45 PM	0	0	0	0	0	175	0	0	1	0	0	4	1	149	0	0						

Cell ref.: 7
AM Peak Hr
07:30 AM - 8:30 AM
Vol. = 1251

Cell ref.: 43
PM Peak Hr
04:30 PM - 5:30 PM
Vol. = 1687

TURNING MOVEMENT COUNT DATA - Totals by Movement

PEAK HOUR CALCULATIONS

	Start Time	SB N/A				WB Riverside Ave				NB Hillside Terrace				EB Riverside Ave				1 HR TOTALS					
		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Begin Time	SB	WB	NB	EB	TOTAL
1	06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	06:00 AM	0	0	0	107	107
2	06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	06:15 AM	0	95	10	218	323
3	06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	06:30 AM	0	236	24	370	630
4	06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	107	0	0	06:45 AM	0	382	45	524	951
5	07:00 AM	0	0	0	0	0	95	0	0	6	0	4	1	0	111	0	0	07:00 AM	0	565	58	566	1189
6	07:15 AM	0	0	0	0	0	141	0	0	6	0	8	0	0	152	0	0	07:15 AM	0	634	66	589	1289
7	07:30 AM	0	0	0	0	0	146	0	0	14	0	7	1	1	153	0	0	07:30 AM	0	658	68	573	1299
8	07:45 AM	0	0	0	0	0	181	2	2	9	0	4	0	3	146	0	2	07:45 AM	0	656	57	581	1294
9	08:00 AM	0	0	0	0	0	162	2	2	9	0	9	1	4	130	0	0	08:00 AM	0	648	63	437	1148
10	08:15 AM	0	0	0	0	0	162	3	3	10	0	6	1	3	133	0	0	08:15 AM	0	484	45	303	832
11	08:30 AM	0	0	0	0	0	142	2	2	5	0	5	3	5	157	0	0	08:30 AM	0	319	29	167	515
12	08:45 AM	0	0	0	0	0	172	3	3	12	0	7	0	1	4	0	0	08:45 AM	0	175	19	5	199
13	09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	09:00 AM	0	0	0	0	0
14	09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	09:15 AM	0	0	0	0	0
15	09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	09:30 AM	0	0	0	0	0
16	09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	09:45 AM	0	0	0	0	0
17	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10:00 AM	0	0	0	0	0
18	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10:15 AM	0	0	0	0	0
19	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10:30 AM	0	0	0	0	0
20	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10:45 AM	0	0	0	0	0
21	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11:00 AM	0	0	0	0	0
22	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11:15 AM	0	0	0	0	0
23	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11:30 AM	0	0	0	0	0
24	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11:45 AM	0	0	0	0	0
25	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12:00 PM	0	0	0	0	0
26	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12:15 PM	0	0	0	0	0
27	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12:30 PM	0	0	0	0	0
28	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12:45 PM	0	0	0	0	0
29	01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	01:00 PM	0	0	0	0	0
30	01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	01:15 PM	0	0	0	0	0
31	01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	01:30 PM	0	0	0	0	0
32	01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	01:45 PM	0	0	0	0	0
33	02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	02:00 PM	0	0	0	0	0
34	02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	02:15 PM	0	0	0	0	0
35	02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	02:30 PM	0	0	0	0	0
36	02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	02:45 PM	0	0	0	0	0
37	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	03:00 PM	0	0	0	0	0
38	03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	03:15 PM	0	175	12	176	363
39	03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	03:30 PM	0	339	20	350	709
40	03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	03:45 PM	0	537	34	562	1133
41	04:00 PM	0	0	0	0	0	165	10	0	7	0	5	0	7	169	0	1	04:00 PM	0	734	44	802	1580
42	04:15 PM	0	0	0	0	0	158	6	0	4	0	4	1	4	170	0	0	04:15 PM	0	761	41	834	1636
43	04:30 PM	0	0	0	0	0	185	13	0	10	0	4	2	5	207	0	0	04:30 PM	0	803	45	810	1658
44	04:45 PM	0	0	0	0	0	190	7	1	7	0	3	2	3	237	0	2	04:45 PM	0	798	40	765	1603
45	05:00 PM	0	0	0	0	0	191	11	0	6	0	3	2	8	200	0	0	05:00 PM	0	784	42	674	1500
46	05:15 PM	0	0	0	0	0	197	9	0	3	0	9	1	9	141	0	0						
47	05:30 PM	0	0	0	0	0	185	8	2	6	0	3	0	6	161	0	0						
48	05:45 PM	0	0	0	0	0	171	12	0	3	0	9	3	10	139	0	2						

Cell ref.: 7
AM Peak Hr
07:30 AM - 8:30 AM
Vol. = 1299

Cell ref.: 43
PM Peak Hr
04:30 PM - 5:30 PM
Vol. = 1658



Computations - AM Peak Hour Vols

Project: 58036.00
Calculated by: ELQ
Checked by: JC

Location: Burlington, VT
Date: 12/11/2019
Date: 1/6/2020

design year 1: 2020
design year 2: 2025

Build Year Growth Factor: 1.03

Enter: 4
Exit: 7

	Unadjusted Data			110 Riverside Ave Trip Generation			2020 AM No Build			Trip Generation			
* underlined roadway is N/S	1: Hillside Terrace West / Site Driveway			1: Hillside Terrace West / Site Driveway			1: Hillside Terrace West / Site Driveway			1: Hillside Terrace West / Site Driveway			
1 Hillside Terrace West / Site Driveway	L	EB WB NB SB	same as PM	L	EB WB NB SB	0	L	EB WB NB SB	9	L	EB WB NB SB		
	T	4 5		T			T	0 0 0 0		T			
	R			R			R	0 0 0 0		R			
	Enter	0 0 4 5 9		Enter	0 0 0 0 0		Enter	0 0 4 5 9		Enter	0 7 0 4 11		
	Exit	0 0 4 5 9		Exit	0 0 0 0 0		Exit	0 0 4 5 9		Exit	4 0 7 0 11		
	% Trucks			% Trucks			% Trucks	0%		% Trucks			
	Peds			Peds	0 0 0 0		Peds	0 0 0 0		Peds	0 0 0 0		
	Peak Hour	PHF		Peak Hour	PHF		Peak Hour	PHF		Peak Hour	PHF		
2: Hillside Terrace West / Riverside Ave			2: Hillside Terrace West / Riverside Ave			2: Hillside Terrace West / Riverside Ave			2: Hillside Terrace West / Riverside Ave				
2 Hillside Terrace West / Riverside Ave Tuesday, July 16, 2019	L	EB WB NB SB	same as PM	L	EB WB NB SB	10	L	EB WB NB SB	1280	L	EB WB NB SB		
	T	0 0 4 0		T	2 8		T	0 0 4 0		T	2 8	T	2 7 0 0
	R	565 676 0 0		R	5 1 0 0		R	576 694 0 0		R	5 1 0 0	R	581 695 4 0
	Enter	5 1 0 0		Enter	2 8 0 0 10		Enter	5 1 0 0		Enter	2 8 0 0 10	Enter	2 8 0 0 10
	Exit	570 677 4 0		Exit	2 8 0 0 10		Exit	576 698 1 5		Exit	581 695 4 0	Exit	2 2 7 0 11
	% Trucks	565 680 1 5		% Trucks	2 8 0 0 10		% Trucks	0%		% Trucks	576 698 1 5	% Trucks	0 7 0 4 11
	Peds	3% 4% 0% 0%		Peds			Peds	0 0 3 0		Peds	0 0 3 0	Peds	
	Peak Hour	0 0 3 0		Peak Hour	PHF		Peak Hour	PHF		Peak Hour	PHF	Peak Hour	PHF
3: Hillside Terrace East / Riverside Ave			3: Hillside Terrace East / Riverside Ave			3: Hillside Terrace East / Riverside Ave			3: Hillside Terrace East / Riverside Ave				
3 Hillside Terrace East / Riverside Ave Tuesday, July 16, 2019 7:30 - 8:30 AM	L	EB WB NB SB	same as PM	L	EB WB NB SB	10	L	EB WB NB SB	1329	L	EB WB NB SB		
	T	0 7 26 0		T	2 8		T	0 7 26 0		T	0 2 0 0		
	R	562 651 0 0		R	572 669 0 0		R	11 0 43 0		R	584 676 69 0		
	Enter	11 0 42 0		Enter	2 8 0 0 10		Enter	11 0 43 0		Enter	615 695 0 18	Enter	0 2 0 0 2
	Exit	573 658 68 0		Exit	2 8 0 0 10		Exit	584 676 69 0		Exit	615 695 0 18	Exit	0 2 0 0 2
	% Trucks	604 677 0 18		% Trucks	2 8 0 0 10		% Trucks	615 695 0 18		% Trucks	2 7 3 0	% Trucks	
	Peds	2% 2% 1% 0%		Peds			Peds	2 7 3 0		Peds	2 7 3 0	Peds	
	Peak Hour	2 7 3 0		Peak Hour	PHF		Peak Hour	PHF		Peak Hour	PHF	Peak Hour	PHF



Computations - AM Peak Hour Vols

Project: 58036.00
Calculated by: ELQ
Checked by: JC

Location: Burlington, VT
Date: 43810
Date: 43836

	2020 AM Build	2025 AM No Build	2025 AM Build																																																																																																																																																																		
* underlined roadway is N/S																																																																																																																																																																					
	1: Hillside Terrace West / Site Driveway	1: Hillside Terrace West / Site Driveway	1: Hillside Terrace West / Site Driveway																																																																																																																																																																		
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Computations - PM Peak Hour Vols

Project: 58036.00
Calculated by: ELQ
Checked by: JC

Location: Burlington, VT
Date: 12/11/19
Date: 1/6/20

Design Year 1: 2020
Design Year 2: 2025

Build Year Growth Factor: 1.03

Enter: 9
Exit: 8

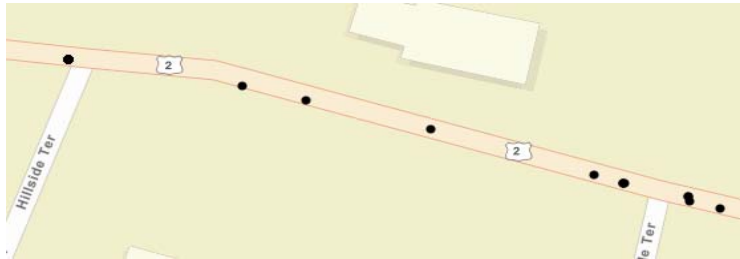
Unadjusted Data		110 Riverside Ave Trip Generation		2020 PM No Build		Trip Generation	
* underlined roadway is N/S							
1: Hillside Terrace West / Site Driveway		1: Hillside Terrace West / Site Driveway		1: Hillside Terrace West / Site Driveway		1: Hillside Terrace West / Site Driveway	
L T R		L T R		L T R		L T R	
EB WB NB SB		EB WB NB SB		EB WB NB SB		EB WB NB SB	
10 5				0 0 0 0		9 8	
Enter 0 0 10 5 15		Enter 0 0 0 0 0		Enter 0 0 10 5 15		Enter 0 8 0 9 17	
Exit 0 0 10 5 15		Exit 0 0 0 0 0		Exit 0 0 10 5 15		Exit 9 0 8 0 17	
% Trucks		% Trucks		% Trucks 0%		% Trucks	
Peds		Peds 0 0 0 0 PHF		Peds 0 0 0 0 PHF		Peds 0 0 0 0 PHF	
Peak Hour		Peak Hour		Peak Hour		Peak Hour	
Total Adjst: 1.015		Total Adjst: 1.015		Total Adjst: 1.015		Total Adjst: 1.015	
2: Hillside Terrace West / Riverside Ave		2: Hillside Terrace West / Riverside Ave		2: Hillside Terrace West / Riverside Ave		2: Hillside Terrace West / Riverside Ave	
L T R		L T R		L T R		L T R	
EB WB NB SB		EB WB NB SB		EB WB NB SB		EB WB NB SB	
0 0 3 0		8 5		0 0 3 0		5 4 3 0	
896 776 0 0		Enter 8 5 0 0 13		918 793 0 0		Enter 5 4 8 0 17	
5 0 7 0 1687		Exit 8 5 0 0 13		5 0 7 0 1725		Exit 5 3 0 9 17	
Enter 901 776 10 0 1687		% Trucks		Enter 923 793 10 0 1725		% Trucks	
Exit 903 779 0 5 1687		Peds		Exit 925 796 0 5 1725		Peds	
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Peak Hour		Peak Hour		Peak Hour		Peak Hour	
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3: Hillside Terrace East / Riverside Ave		3: Hillside Terrace East / Riverside Ave		3: Hillside Terrace East / Riverside Ave		3: Hillside Terrace East / Riverside Ave	
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0 40 19 0		8 5		0 41 19 0		5 4 0 0	
785 763 0 0		Enter 8 5 0 0 13		805 780 0 0		Enter 5 4 0 0 9	
25 0 26 0 1658		Exit 8 5 0 0 13		25 0 26 0 1696		Exit 5 4 0 0 9	
Enter 810 803 45 0 1658		% Trucks		Enter 830 820 46 0 1696		% Trucks	
Exit 811 782 0 65 1658		Peds		Exit 831 799 0 66 1696		Peds	
% Trucks 1% 1% 0% 0%		Peak Hour		% Trucks 1% 1% 0% 0%		Peak Hour	
Peds 2 1 7 0 PHF		Peak Hour		Peds 2 1 7 0 PHF		Peak Hour	
Peak Hour		Peak Hour		Peak Hour		Peak Hour	
Total Adjst: 1.015		Total Adjst: 1.015		Total Adjst: 1.015		Total Adjst: 1.015	
3: Hillside Terrace East / Riverside Ave		3: Hillside Terrace East / Riverside Ave		3: Hillside Terrace East / Riverside Ave		3: Hillside Terrace East / Riverside Ave	
L T R		L T R		L T R		L T R	
EB WB NB SB		EB WB NB SB		EB WB NB SB		EB WB NB SB	
0 40 19 0		8 5		0 41 19 0		5 4 0 0	
785 763 0 0		Enter 8 5 0 0 13		805 780 0 0		Enter 5 4 0 0 9	
25 0 26 0 1658		Exit 8 5 0 0 13		25 0 26 0 1696		Exit 5 4 0 0 9	
Enter 810 803 45 0 1658		% Trucks		Enter 830 820 46 0 1696		% Trucks	
Exit 811 782 0 65 1658		Peds		Exit 831 799 0 66 1696		Peds	
% Trucks 1% 1% 0% 0%		Peak Hour		% Trucks 1% 1% 0% 0%		Peak Hour	
Peds 2 1 7 0 PHF		Peak Hour		Peds 2 1 7 0 PHF		Peak Hour	
Peak Hour		Peak Hour		Peak Hour		Peak Hour	
Total Adjst: 1.015		Total Adjst: 1.015		Total Adjst: 1.015		Total Adjst: 1.015	



Appendix B

Crash Data

Riverside Avenue Crash Data



ObjectID	Crash Date	Address	Crash Type	Collision Direction	Weather	Intersection With	Road Characteristics	Surface Condition
121245	April 4, 2014, 8:28 AM	US-7 Riverside Ave	Property Damage Only	Other - Explain in Narrative	Clear	Hildred Dr	Four-way Intersection	Dry
114907	June 6, 2014, 4:57 PM	Riverside Ave	Property Damage Only	Rear End	Clear	Hillside Ter	T - Intersection	Dry
115699	June 16, 2014, 4:36 PM	Riverside Ave	Property Damage Only	Rear End	Clear	Hillside Terr	Not at a Junction	Dry
112252	July 14, 2014, 5:31 PM	US-7 Riverside Ave	Property Damage Only	Rear End	Rain	Hildred Dr	T - Intersection	Wet
115238	August 22, 2014, 5:51 PM	Riverside Ave	Injury	Rear End	Clear	Hillside Terr	T - Intersection	Dry
114077	November 2, 2014, 3:29 PM	Hillside Ter	Property Damage Only	No Turns, Thru moves only, Broadside ^<	Clear	Riverside Ave	T - Intersection	Dry
128919	March 11, 2015, 3:51 PM	US-7 Riverside Ave	Property Damage Only	No Turns, Thru moves only, Broadside ^<	Clear	Hillside Ter	T - Intersection	Dry
135032	July 8, 2015, 1:10 PM	Riverside Ave	Property Damage Only	Rear End	Clear	Hillside Drive	Not at a Junction	Dry
135866	July 27, 2015, 5:51 PM	US-7 Riverside Ave	Injury	Rear End	Clear	Hillside Ter	Not at a Junction	Dry
135855	July 28, 2015, 5:31 PM	Riverside Ave	Property Damage Only	Rear End	Clear	Hillside Terr	Not at a Junction	Dry
136731	August 18, 2015, 8:48 AM	Riverside Ave	Injury	No Turns, Thru moves only, Broadside ^<	Clear	Hillside Ter	Driveway	Dry
137378	September 1, 2015, 4:46 PM	Riverside Ave	Injury	No Turns, Thru moves only, Broadside ^<	Clear	Hillside Terr	Driveway	Dry
738237	December 29, 2015, 12:52 PM	Hillside Ter	Property Damage Only	Right Turn and Thru, Head On v^--	Freezing Precipitation	Riverside Ave	T - Intersection	Snow
738909	April 1, 2016, 7:09 PM	Riverside Ave	Injury	Left Turn and Thru, Angle Broadside -->v--	Clear	Hillside Ter	T - Intersection	Dry
731856	April 8, 2016, 12:15 PM	Riverside Ave	Property Damage Only	Left Turn and Thru, Angle Broadside -->v--	Cloudy	Hillside Terr	T - Intersection	Wet
721369	May 13, 2016, 11:02 AM	Hillside Terr	Injury	No Turns, Thru moves only, Broadside ^<	Rain	Riverside Ave	T - Intersection	Wet
809492	August 7, 2017, 4:25 PM	Riverside Ave	Property Damage Only	Opp Direction Sideswipe	Rain	Hillside Ter	Not at a Junction	Wet
1861094	August 31, 2017, 4:53 PM	Riverside Ave	Property Damage Only	Left Turn and Thru, Head On ^v--	Clear	Hillside Ave	T - Intersection	Dry
1859927	September 14, 2017, 1:55 PM	Riverside Ave	Property Damage Only	Rear End	Cloudy	Hillside Ter	Parking Lot	Dry
810819	November 9, 2017, 12:35 AM	Riverside Ave	Injury		Clear	Hillside Ter	Not at a Junction	Dry
1861549	December 6, 2017, 4:28 PM	Riverside Ave	Property Damage Only	Rear End	Clear	Hillside Terr	T - Intersection	Dry
1856443	May 12, 2018, 5:17 PM	Riverside Ave	Injury	Right Turn and Thru, Broadside ^<--	Clear	Hillside Dr	Driveway	Dry
1856858	July 31, 2018, 4:46 PM	Riverside Ave	Property Damage Only			Hillside Terr		
1856991	August 8, 2018, 7:45 AM	Riverside Ave	Property Damage Only			Hillside Ter		
1856659	September 2, 2018, 4:28 PM	Riverside Ave	Property Damage Only	Rear End	Clear	Hillside Ter	Not at a Junction	Dry



Appendix C

Trip Generation Summary

Trip Generation - Riverside Independent Living Facility

Total Site generated trips (not accounting for internal, pass-by, or diverted trips)

Site Land Uses and Descriptions			
Code	Land Use	Size	Unit
1	2	3	4
252	Senior Adult Housing - Attached	60	Dwelling Units

AM PK HR OF ADJACENT STREET TRAFFIC													
directional dist.		average				regression	# trips						
% enter	% exit	# studies	Avg Rate	Std Dev.	Total by Avg	r ²	total by Eq'n	Method Chosen	Total Trips	Entering	Exiting		
5	6	7	8	9	10	11	12	13	14				
35%	65%	11	0.20	0.05	12	0.98	12	Regression	12	4	8		

total		entering	exiting
AM Peak Hour Total Site Trips:		12	8

PM PK HR OF ADJACENT STREET TRAFFIC													
directional dist.		average				regression	# trips						
% enter	% exit	# studies	Avg Rate	Std Dev.	Total by Avg	r ²	total by Eq'n	Method Chosen	Total Trips	Entering	Exiting		
15	16	17	18	19	20	21	22	23	24				
55%	45%	11	0.26	0.08	16	0.96	17	Regression	17	9	8		

total		entering	exiting
PM Peak Hour Total Site Trips:		17	8



Appendix D

110 Riverside Avenue Traffic Impact Analysis

Traffic Impact Analysis 11-1-2019
Sisters and Brothers Investment Group
110 Riverside Avenue, Burlington, Vermont

Introduction

The purpose of this Traffic Impact Analysis is to update previously identified potential traffic impacts relating to the proposed construction of a 57 unit apartment building on Riverside Avenue in Burlington, Vermont. A Traffic Impact Report was conducted in 2013 for the project, which has not yet been constructed. The project is located on the south side of Riverside Avenue on the site of the former M&H Auto building. Figure 1: *Location Map* illustrates the property location in relation to the street network in the immediate area. Updates included a comparison of 2013 versus current traffic volume, an updated design hour capacity analysis, and updated crash analysis.



Figure 1: Location Map

Existing Conditions

Riverside Avenue is classified by VTrans as an Urban Principal Arterial, and is also known as US Route 2/7 in this location. For the purpose of this report, Riverside Ave will be referred to as running east-west. There is a single lane of travel, plus a bike lane, in each direction. The speed limit is posted at 25 miles per hour (mph) and there is an advisory speed curve warning 25 mph posted in advance of the curve in both directions. A shared-use path is located on the north side of the road, and a concrete sidewalk runs along the project's frontage on the south side of the road from the west, terminating at the eastern property boundary. An annual average daily traffic (AADT) volume of 15,900 vehicles per day was recorded in 2018 at automatic traffic recorder (ATR) station S6D156, located 0.5 miles south (or west) of Colchester Avenue. The base AADT used in the 2013 traffic study was 15,000 vpd.

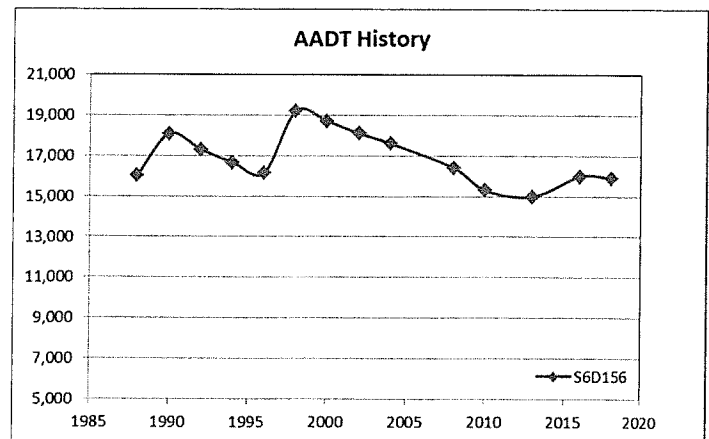
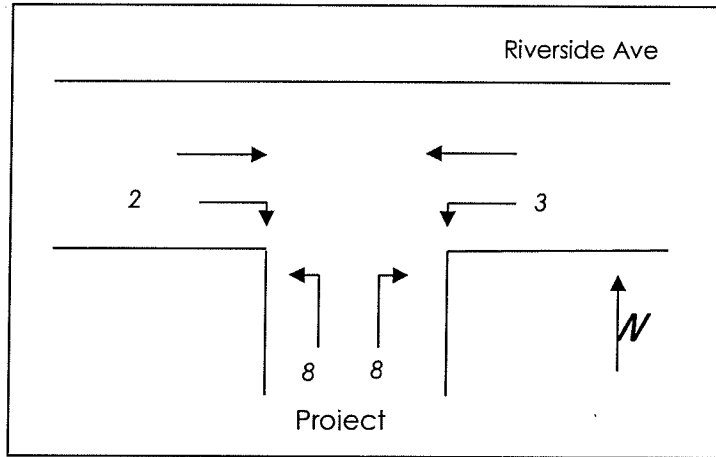


Figure 2: Riverside Ave Traffic History



Proposed trip distribution is based primarily on analogy to this short count. Projected traffic volumes in front of the site during morning and evening peak traffic hours are illustrated in the diagrams below.

Figure 3: AM Peak Traffic Distribution

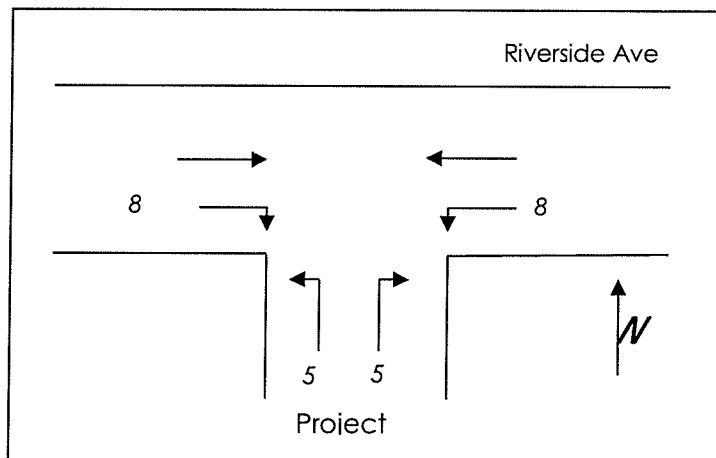


Figure 4: PM Peak Traffic Distribution

Level of Service Analysis – Project Driveway

A capacity analysis was performed on the intersection of the project driveway with Riverside Avenue. Because the PM Peak has a significantly higher hourly traffic volume than the AM peak (approx. 1900 vph PM Peak vs during 1150 vph AM Peak), only the PM Peak was analyzed. For analysis purposes, the eastern driveway was modeled with all of the traffic utilizing that entrance. It is anticipated that some of the right turning movements (ingress only) will take place at the western driveway. Level of Service (LOS) was calculated for the HCM2010 methodology. The HCM levels of service used in the analysis are based on control delay of critical movements and are summarized in the table below.

The table below identifies the northbound Riverside Avenue approach to the Barrett Street intersection for current traffic conditions, as identified in the Scoping Study. The distance between the intersection and the easternmost project driveway is approximately 750 feet. There are no conflicting crossings or driveways that are affected by this existing traffic queue, aside from the trailhead parking on the north side of Riverside Ave.

Table 4: Existing Conditions - Peak Hour Analysis

	Northbound Riverside Ave (through movement)
Traffic Volume	914 veh
Delay	65.6 s
LOS	E
Queue – 95th Percentile	572 ft
Queue – 50th Percentile	422 ft
Distance to new Drive	750 ft

The increase in traffic of 13 total trips at this intersection during the PM Peak represents less than 1% of total traffic, which is smaller than the limits of daily fluctuation in volume experienced by the intersection system.

Crash History – Project Driveway

The crash history for within a 0.2 mile (approximately 1000 ft) section of Riverside Avenue, centered on the proposed project was reviewed using the VTrans Crash Query. According to this listing, 13 crashes occurred during the five-year period between 2014 and 2018. A crash rate of 2.280 crashes per million vehicle miles (Cr/MVM) was calculated for the corridor. The critical rate calculated for Urban Principal Arterials in Vermont was noted as 7.551 Cr/MVM in the most recent Summary of Statewide Average Crash Rates, resulting in the section not being considered a high crash location.

While this section of the Riverside Ave Corridor would not be considered a High Crash Location, the adjacent intersection system includes the Colchester Ave/Barrett Street intersection, which is identified by VTrans as a High Crash Location.

Sight Distance

Sight distance measurements were taken on Riverside Avenue at the two driveway locations. The table below outlines the measured sight distance and the AASHTO recommended intersection and stopping sight distances.

Table 5: Sight Distance

		Measured 3/6/2013	Intersection Sight Distance ¹		Stopping Sight Distance
			Left from Stop	Right From Stop	
East Driveway	To East	342 ft	280 ft	-	155 ft
	To West	312* ft	-	240 ft	155 ft
West Driveway	To East	317 ft	280 ft	-	155 ft
	To West	676 ft	-	240 ft	155 ft

¹ Table 9-6, 9-8; A Policy on the Geometric Design of Highways and Streets, 2011, AASHTO.

intersection), and added striping for the inclusion of bicycle lanes. Several other non-pedestrian intersection improvements are recommended, including new pavement markings, protected left phase for southbound Colchester Avenue, right-turn arrow for southbound right turns, and advance lane designation signs.

The proposed project has a current Act 250 Permit (4C1282, 4C0282-1) in which they have a condition to pay a proportional fair-share monetary contribution toward the Colchester Ave/Riverside Ave/Barrett Street intersection improvements. Their contribution was calculated based on the projects proportion of overall traffic at the intersection and is in the amount of \$15,260, which is to be paid prior to commencement of construction. The Burlington City Council endorsed the Short Term and 4-Way intersection improvement alternatives outlined in the report in the spring of 2019 and the City is currently pursuing implementation of these measures.

Summary of Findings

Based on review and analysis of the existing and proposed traffic conditions, the following conclusions are presented.

1. Sisters and Brothers Investment Group is proposing the construction of a 57 unit apartment building to be located at 110 Riverside Avenue in Burlington. The property is located on the south side of the road, approximately 0.15 miles west of Colchester Avenue.
2. The project will have direct access to Riverside Avenue. The eastern driveway will allow both ingress and egress, while the west driveway movements will be limited to right-in only, for direct access to the parking garage. The new driveways will replace two existing curb cuts.
3. According to ITE Trip Generation, 10th Edition, the project is expected to generate approximately 21 new trips during the AM peak, with 5 entering and 16 exiting. During the afternoon peak, the project is estimated to generate 25 trips, 15 entering and 10 exiting. The project is located on a bus line.
4. The additional 25 trips on the road resulting from the proposed project represents 1.5% of total PM design hour traffic on Riverside Avenue. The proposed trip distribution will add 13 trips to the adjacent Riverside/Barrett St intersection, an increase of just over 0.5%.
5. Level of service on Riverside Ave at the new driveway intersection is calculated as a B during the PM peak hours. Level of service at the project access will be an E (40 seconds delay) during the PM peak hour. Excessive queuing is not anticipated at the project driveway due to the low number of exiting vehicles.
6. It is estimated that the proposed project will add approximately 5 vehicles to northbound Riverside Ave at the Barrett Street/Colchester Ave intersection, and 6 vehicle trips to southbound Riverside Ave during the PM Peak. This increase is just over



Appendix E

Intersection Capacity Analysis

HCM Unsignalized Intersection Capacity Analysis

6: Hillside Terrace West & Riverside Ave

01/06/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (veh/h)	576	5	0	694	4	0
Future Volume (Veh/h)	576	5	0	694	4	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	576	5	0	694	4	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1288			325		
pX, platoon unblocked					0.78	
vC, conflicting volume			581		1272	578
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			581		1207	578
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			993		157	515
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	581	694	4			
Volume Left	0	0	4			
Volume Right	5	0	0			
cSH	1700	993	157			
Volume to Capacity	0.34	0.00	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	28.5			
Lane LOS			D			
Approach Delay (s)	0.0	0.0	28.5			
Approach LOS			D			
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			46.5%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

9: Hillside Terrace East & Riverside Ave

01/06/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↰	↰	↰	
Traffic Volume (vph)	572	11	7	669	26	43
Future Volume (vph)	572	11	7	669	26	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	1858		1770	1863	1674	
Flt Permitted	1.00		0.36	1.00	0.98	
Satd. Flow (perm)	1858		670	1863	1674	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	572	11	7	669	26	43
RTOR Reduction (vph)	1	0	0	0	35	0
Lane Group Flow (vph)	582	0	7	669	34	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	55.4		55.4	55.4	16.1	
Effective Green, g (s)	55.4		55.4	55.4	16.1	
Actuated g/C Ratio	0.63		0.63	0.63	0.18	
Clearance Time (s)	5.0		5.0	5.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1169		421	1172	306	
v/s Ratio Prot	0.31			c0.36	c0.02	
v/s Ratio Perm			0.01			
v/c Ratio	0.50		0.02	0.57	0.11	
Uniform Delay, d1	8.8		6.1	9.4	30.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	1.5		0.0	0.7	0.7	
Delay (s)	10.3		6.1	10.1	30.7	
Level of Service	B		A	B	C	
Approach Delay (s)	10.3			10.1	30.7	
Approach LOS	B			B	C	
Intersection Summary						
HCM 2000 Control Delay			11.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.45			
Actuated Cycle Length (s)			88.0		Sum of lost time (s)	14.0
Intersection Capacity Utilization			46.8%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

6: Hillside Terrace West & Riverside Ave

01/06/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	918	5	0	793	3	7
Future Volume (Veh/h)	918	5	0	793	3	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	918	5	0	793	3	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1288			325		
pX, platoon unblocked					0.71	
vC, conflicting volume			923		1714	920
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			923		1802	920
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	98
cM capacity (veh/h)			740		62	328
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	923	793	10			
Volume Left	0	0	3			
Volume Right	5	0	7			
cSH	1700	740	143			
Volume to Capacity	0.54	0.00	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.0	0.0	32.0			
Lane LOS						
Approach Delay (s)	0.0	0.0	32.0			
Approach LOS						
Intersection Summary						
Average Delay						
			0.2			
Intersection Capacity Utilization			58.6%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

9: Hillside Terrace East & Riverside Ave

01/06/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	805	25	41	780	19	26
Future Volume (vph)	805	25	41	780	19	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	1855		1770	1863	1682	
Flt Permitted	1.00		0.21	1.00	0.98	
Satd. Flow (perm)	1855		386	1863	1682	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	805	25	41	780	19	26
RTOR Reduction (vph)	1	0	0	0	21	0
Lane Group Flow (vph)	829	0	41	780	24	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	55.4		55.4	55.4	16.1	
Effective Green, g (s)	55.4		55.4	55.4	16.1	
Actuated g/C Ratio	0.63		0.63	0.63	0.18	
Clearance Time (s)	5.0		5.0	5.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1167		243	1172	307	
v/s Ratio Prot	c0.45			0.42	c0.01	
v/s Ratio Perm			0.11			
v/c Ratio	0.71		0.17	0.67	0.08	
Uniform Delay, d1	10.9		6.8	10.4	29.8	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	3.7		0.3	1.4	0.5	
Delay (s)	14.6		7.1	11.8	30.3	
Level of Service	B		A	B	C	
Approach Delay (s)	14.6			11.6	30.3	
Approach LOS	B			B	C	
Intersection Summary						
HCM 2000 Control Delay			13.6		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.55			
Actuated Cycle Length (s)			88.0		Sum of lost time (s)	14.0
Intersection Capacity Utilization			54.7%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

6: Hillside Terrace West & Riverside Ave

01/06/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↱	↘↙	
Traffic Volume (veh/h)	576	7	2	694	11	0
Future Volume (Veh/h)	576	7	2	694	11	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	576	7	2	694	11	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	1288			325		
pX, platoon unblocked					0.77	
vC, conflicting volume			583		1278	580
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			583		1213	580
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		93	100
cM capacity (veh/h)			991		155	515
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	583	696	11			
Volume Left	0	2	11			
Volume Right	7	0	0			
cSH	1700	991	155			
Volume to Capacity	0.34	0.00	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.0	0.1	30.0			
Lane LOS		A	D			
Approach Delay (s)	0.0	0.1	30.0			
Approach LOS			D			
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			48.1%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

9: Hillside Terrace East & Riverside Ave

01/06/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	
Traffic Volume (vph)	572	11	7	671	26	43
Future Volume (vph)	572	11	7	671	26	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	1858		1770	1863	1674	
Flt Permitted	1.00		0.36	1.00	0.98	
Satd. Flow (perm)	1858		670	1863	1674	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	572	11	7	671	26	43
RTOR Reduction (vph)	1	0	0	0	35	0
Lane Group Flow (vph)	582	0	7	671	34	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	55.4		55.4	55.4	16.1	
Effective Green, g (s)	55.4		55.4	55.4	16.1	
Actuated g/C Ratio	0.63		0.63	0.63	0.18	
Clearance Time (s)	5.0		5.0	5.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1169		421	1172	306	
v/s Ratio Prot	0.31			c0.36	c0.02	
v/s Ratio Perm			0.01			
v/c Ratio	0.50		0.02	0.57	0.11	
Uniform Delay, d1	8.8		6.1	9.4	30.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	1.5		0.0	0.7	0.7	
Delay (s)	10.3		6.1	10.1	30.7	
Level of Service	B		A	B	C	
Approach Delay (s)	10.3			10.1	30.7	
Approach LOS	B			B	C	
Intersection Summary						
HCM 2000 Control Delay			11.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.45			
Actuated Cycle Length (s)			88.0		Sum of lost time (s)	14.0
Intersection Capacity Utilization			46.9%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

22: Hillside Terrace West & Site Driveway

01/06/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	7	4	0	4	5
Future Volume (Veh/h)	0	7	4	0	4	5
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	7	4	0	4	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	17	4			4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	17	4			4	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	999	1080			1618	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	7	4	9			
Volume Left	0	0	4			
Volume Right	7	0	0			
cSH	1080	1700	1618			
Volume to Capacity	0.01	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	8.4	0.0	3.2			
Lane LOS	A		A			
Approach Delay (s)	8.4	0.0	3.2			
Approach LOS	A					
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utilization		13.8%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

6: Hillside Terrace West & Riverside Ave

01/31/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	918	10	4	793	6	12
Future Volume (Veh/h)	918	10	4	793	6	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	918	10	4	793	6	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1288			325		
pX, platoon unblocked					0.70	
vC, conflicting volume				928	1724	923
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol				928	1818	923
tC, single (s)				4.1	6.4	6.2
tC, 2 stage (s)						
tF (s)				2.2	3.5	3.3
p0 queue free %				99	90	96
cM capacity (veh/h)				737	60	327
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	928	797	18			
Volume Left	0	4	6			
Volume Right	10	0	12			
cSH	1700	737	131			
Volume to Capacity	0.55	0.01	0.14			
Queue Length 95th (ft)	0	0	12			
Control Delay (s)	0.0	0.2	36.7			
Lane LOS		A	E			
Approach Delay (s)	0.0	0.2	36.7			
Approach LOS			E			
Intersection Summary						
Average Delay				0.4		
Intersection Capacity Utilization				58.9%	ICU Level of Service	B
Analysis Period (min)				15		

HCM Signalized Intersection Capacity Analysis

9: Hillside Terrace East & Riverside Ave

01/31/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	
Traffic Volume (vph)	810	25	41	784	19	26
Future Volume (vph)	810	25	41	784	19	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	1855		1770	1863	1682	
Flt Permitted	1.00		0.20	1.00	0.98	
Satd. Flow (perm)	1855		381	1863	1682	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	810	25	41	784	19	26
RTOR Reduction (vph)	1	0	0	0	21	0
Lane Group Flow (vph)	834	0	41	784	24	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	55.4		55.4	55.4	16.1	
Effective Green, g (s)	55.4		55.4	55.4	16.1	
Actuated g/C Ratio	0.63		0.63	0.63	0.18	
Clearance Time (s)	5.0		5.0	5.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1167		239	1172	307	
v/s Ratio Prot	c0.45			0.42	c0.01	
v/s Ratio Perm			0.11			
v/c Ratio	0.71		0.17	0.67	0.08	
Uniform Delay, d1	11.0		6.8	10.4	29.8	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	3.8		0.3	1.5	0.5	
Delay (s)	14.7		7.1	11.9	30.3	
Level of Service	B		A	B	C	
Approach Delay (s)	14.7			11.7	30.3	
Approach LOS	B			B	C	
Intersection Summary						
HCM 2000 Control Delay			13.7		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.55			
Actuated Cycle Length (s)			88.0		Sum of lost time (s)	14.0
Intersection Capacity Utilization			55.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

22: Hillside Terrace West & Site Driveway

01/31/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	8	10	0	9	5
Future Volume (Veh/h)	0	8	10	0	9	5
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	8	10	0	9	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	33	10			10	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	33	10			10	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			99	
cM capacity (veh/h)	975	1071			1610	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	8	10	14			
Volume Left	0	0	9			
Volume Right	8	0	0			
cSH	1071	1700	1610			
Volume to Capacity	0.01	0.01	0.01			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.4	0.0	4.7			
Lane LOS	A		A			
Approach Delay (s)	8.4	0.0	4.7			
Approach LOS	A					
Intersection Summary						
Average Delay		4.1				
Intersection Capacity Utilization		17.4%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

6: Hillside Terrace West & Riverside Ave

01/06/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	593	5	0	715	4	0
Future Volume (Veh/h)	593	5	0	715	4	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	593	5	0	715	4	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (ft)	1288		325			
pX, platoon unblocked			0.76			
vC, conflicting volume			598	1310	596	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			598	1252	596	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			100	97	100	
cM capacity (veh/h)			979	145	504	
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	598	715	4			
Volume Left	0	0	4			
Volume Right	5	0	0			
cSH	1700	979	145			
Volume to Capacity	0.35	0.00	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	30.5			
Lane LOS						
Approach Delay (s)	0.0	0.0	30.5			
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			47.6%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

9: Hillside Terrace East & Riverside Ave

01/06/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	
Traffic Volume (vph)	590	12	7	689	27	44
Future Volume (vph)	590	12	7	689	27	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	1858		1770	1863	1675	
Flt Permitted	1.00		0.35	1.00	0.98	
Satd. Flow (perm)	1858		647	1863	1675	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	590	12	7	689	27	44
RTOR Reduction (vph)	1	0	0	0	36	0
Lane Group Flow (vph)	601	0	7	689	35	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	55.4		55.4	55.4	16.1	
Effective Green, g (s)	55.4		55.4	55.4	16.1	
Actuated g/C Ratio	0.63		0.63	0.63	0.18	
Clearance Time (s)	5.0		5.0	5.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1169		407	1172	306	
v/s Ratio Prot	0.32			c0.37	c0.02	
v/s Ratio Perm			0.01			
v/c Ratio	0.51		0.02	0.59	0.11	
Uniform Delay, d1	8.9		6.1	9.6	30.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	1.6		0.0	0.8	0.8	
Delay (s)	10.5		6.1	10.3	30.8	
Level of Service	B		A	B	C	
Approach Delay (s)	10.5			10.3	30.8	
Approach LOS	B			B	C	
Intersection Summary						
HCM 2000 Control Delay			11.5		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.46			
Actuated Cycle Length (s)			88.0		Sum of lost time (s)	14.0
Intersection Capacity Utilization			48.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

6: Hillside Terrace West & Riverside Ave

01/06/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	945	5	0	816	3	7
Future Volume (Veh/h)	945	5	0	816	3	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	945	5	0	816	3	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	1288			325		
pX, platoon unblocked					0.69	
vC, conflicting volume			950		1764	948
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			950		1882	948
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		94	98
cM capacity (veh/h)			723		54	316
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	950	816	10			
Volume Left	0	0	3			
Volume Right	5	0	7			
cSH	1700	723	128			
Volume to Capacity	0.56	0.00	0.08			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.0	0.0	35.4			
Lane LOS						
Approach Delay (s)	0.0	0.0	35.4			
Approach LOS						
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			60.0%		ICU Level of Service	
Analysis Period (min)			15		B	

HCM Signalized Intersection Capacity Analysis

9: Hillside Terrace East & Riverside Ave

01/06/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	829	26	42	803	20	27
Future Volume (vph)	829	26	42	803	20	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	1855		1770	1863	1682	
Flt Permitted	1.00		0.19	1.00	0.98	
Satd. Flow (perm)	1855		359	1863	1682	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	829	26	42	803	20	27
RTOR Reduction (vph)	1	0	0	0	22	0
Lane Group Flow (vph)	854	0	42	803	25	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	55.4		55.4	55.4	16.1	
Effective Green, g (s)	55.4		55.4	55.4	16.1	
Actuated g/C Ratio	0.63		0.63	0.63	0.18	
Clearance Time (s)	5.0		5.0	5.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1167		226	1172	307	
v/s Ratio Prot	c0.46			0.43	c0.01	
v/s Ratio Perm			0.12			
v/c Ratio	0.73		0.19	0.69	0.08	
Uniform Delay, d1	11.2		6.8	10.6	29.8	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	4.1		0.4	1.7	0.5	
Delay (s)	15.3		7.2	12.3	30.3	
Level of Service	B		A	B	C	
Approach Delay (s)	15.3			12.0	30.3	
Approach LOS	B			B	C	
Intersection Summary						
HCM 2000 Control Delay			14.1		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.57			
Actuated Cycle Length (s)			88.0		Sum of lost time (s)	14.0
Intersection Capacity Utilization			56.0%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

6: Hillside Terrace West & Riverside Ave

01/06/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	593	7	2	715	11	0
Future Volume (Veh/h)	593	7	2	715	11	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	593	7	2	715	11	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1288			325		
pX, platoon unblocked				0.76		
vC, conflicting volume	600			1316 596		
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	600			1258 596		
tC, single (s)	4.1			6.4 6.2		
tC, 2 stage (s)						
tF (s)	2.2			3.5 3.3		
p0 queue free %	100			92 100		
cM capacity (veh/h)	977			144 503		
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	600	717	11			
Volume Left	0	2	11			
Volume Right	7	0	0			
cSH	1700	977	144			
Volume to Capacity	0.35	0.00	0.08			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.0	0.1	32.2			
Lane LOS		A	D			
Approach Delay (s)	0.0	0.1	32.2			
Approach LOS			D			
Intersection Summary						
Average Delay	0.3					
Intersection Capacity Utilization	49.2%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis

9: Hillside Terrace East & Riverside Ave

01/06/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	
Traffic Volume (vph)	590	12	7	691	27	44
Future Volume (vph)	590	12	7	691	27	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	1858		1770	1863	1675	
Flt Permitted	1.00		0.35	1.00	0.98	
Satd. Flow (perm)	1858		647	1863	1675	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	590	12	7	691	27	44
RTOR Reduction (vph)	1	0	0	0	36	0
Lane Group Flow (vph)	601	0	7	691	35	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	55.4		55.4	55.4	16.1	
Effective Green, g (s)	55.4		55.4	55.4	16.1	
Actuated g/C Ratio	0.63		0.63	0.63	0.18	
Clearance Time (s)	5.0		5.0	5.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1169		407	1172	306	
v/s Ratio Prot	0.32			c0.37	c0.02	
v/s Ratio Perm			0.01			
v/c Ratio	0.51		0.02	0.59	0.11	
Uniform Delay, d1	8.9		6.1	9.6	30.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	1.6		0.0	0.8	0.8	
Delay (s)	10.5		6.1	10.4	30.8	
Level of Service	B		A	B	C	
Approach Delay (s)	10.5			10.3	30.8	
Approach LOS	B			B	C	
Intersection Summary						
HCM 2000 Control Delay			11.5		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.47			
Actuated Cycle Length (s)			88.0		Sum of lost time (s)	14.0
Intersection Capacity Utilization			48.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

22: Hillside Terrace West & Site Driveway

01/06/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	7	4	0	4	5
Future Volume (Veh/h)	0	7	4	0	4	5
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	7	4	0	4	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	17	4			4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	17	4			4	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	999	1080			1618	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	7	4	9			
Volume Left	0	0	4			
Volume Right	7	0	0			
cSH	1080	1700	1618			
Volume to Capacity	0.01	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	8.4	0.0	3.2			
Lane LOS	A		A			
Approach Delay (s)	8.4	0.0	3.2			
Approach LOS	A					
Intersection Summary						
Average Delay		4.4				
Intersection Capacity Utilization		13.8%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

6: Hillside Terrace West & Riverside Ave

01/31/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	935	10	4	816	6	12
Future Volume (Veh/h)	935	10	4	816	6	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	935	10	4	816	6	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	1288			325		
pX, platoon unblocked				0.69		
vC, conflicting volume			945	1764		940
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			945	1884		940
tC, single (s)			4.1	6.4		6.2
tC, 2 stage (s)						
tF (s)			2.2	3.5		3.3
p0 queue free %			99	89		96
cM capacity (veh/h)			726	53		320
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	945	820	18			
Volume Left	0	4	6			
Volume Right	10	0	12			
cSH	1700	726	120			
Volume to Capacity	0.56	0.01	0.15			
Queue Length 95th (ft)	0	0	13			
Control Delay (s)	0.0	0.2	40.4			
Lane LOS		A	E			
Approach Delay (s)	0.0	0.2	40.4			
Approach LOS			E			
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			59.8%	ICU Level of Service	B	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

9: Hillside Terrace East & Riverside Ave

01/31/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩		↩	↩	↩	
Traffic Volume (vph)	834	26	42	807	20	27
Future Volume (vph)	834	26	42	807	20	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	4.0	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	1855		1770	1863	1682	
Flt Permitted	1.00		0.19	1.00	0.98	
Satd. Flow (perm)	1855		353	1863	1682	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	834	26	42	807	20	27
RTOR Reduction (vph)	1	0	0	0	22	0
Lane Group Flow (vph)	859	0	42	807	25	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	55.4		55.4	55.4	16.1	
Effective Green, g (s)	55.4		55.4	55.4	16.1	
Actuated g/C Ratio	0.63		0.63	0.63	0.18	
Clearance Time (s)	5.0		5.0	5.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1167		222	1172	307	
v/s Ratio Prot	c0.46			0.43	c0.01	
v/s Ratio Perm			0.12			
v/c Ratio	0.74		0.19	0.69	0.08	
Uniform Delay, d1	11.3		6.9	10.7	29.8	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	4.2		0.4	1.7	0.5	
Delay (s)	15.4		7.3	12.4	30.3	
Level of Service	B		A	B	C	
Approach Delay (s)	15.4			12.1	30.3	
Approach LOS	B			B	C	

Intersection Summary

HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	88.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

22: Hillside Terrace West & Site Driveway

01/31/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	8	10	0	9	5
Future Volume (Veh/h)	0	8	10	0	9	5
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	8	10	0	9	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	33	10			10	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	33	10			10	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			99	
cM capacity (veh/h)	975	1071			1610	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	8	10	14			
Volume Left	0	0	9			
Volume Right	8	0	0			
cSH	1071	1700	1610			
Volume to Capacity	0.01	0.01	0.01			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.4	0.0	4.7			
Lane LOS	A		A			
Approach Delay (s)	8.4	0.0	4.7			
Approach LOS	A					
Intersection Summary						
Average Delay			4.1			
Intersection Capacity Utilization		17.4%		ICU Level of Service		A
Analysis Period (min)		15				



To: Ben Avery, BlackRock

Date: November 18, 2020

Memorandum

Project 58036

#:

From: Jenn Conley, PE, PTOE

Re: Riverside Residential
Transportation Demand Management (TDM)

VHB has reviewed the City ordinance regarding creation of a Transportation Demand Management (TDM) program in light of the proposed approximately 60 unit senior living residential facility proposed on Riverside Avenue. Based on the ordinance, any project that creates more than 10 dwelling units is required to create a TDM program.

According to the City of Burlington's Comprehensive Development Ordinance, the purpose of a TDM program is to reduce parking demand, car ownership, and vehicle miles traveled while increasing transit use and non-motorized travel. The proposed project is a residential land use that generates fewer trips than typical residential developments based on the demographic. Based on ITE Trip Generation data, over the course of the day, senior housing generates approximately half the number of trips that similar non-age restricted housing generates. During the commuter peak periods, that reduction is even more significant. Therefore, by definition this development is meeting the goals of a TDM program when compared to a similar residential development. In addition to a lower trip generation rate for this land use, other facilities operated by this owner include trip reducing amenities such as a twice a week grocery pickup via Hannaford to-go to reduce individual resident trips to the grocery store as well as other trip reduction strategies outlined below.

VHB offers the following comments and recommendations in regard to a TDM program at the proposed site based on City requirements.

- (a) The ordinance requires creation of a Transportation Coordinator who will be responsible for providing residents and employees with information on TDM strategies during an annual meeting as well as on request. In addition, the Transportation Coordinator is required to prepare and disseminate an annual travel survey of residents and employees and provide record keeping to the City. A transportation related role is currently being performed by the Director of Residential Life at other facilities. This position is typically responsible for arranging rides for residents with Special Services Transportation Agency (SSTA) whom seniors use to travel to and from doctor appointments and other services (grocery store, haircuts, visiting family, etc). Although not a fixed route service, SSTA does provide a transit option that is demand based and does reduce trips by combining similar routes. **For the Riverside site, it is recommended that the Director of Residential Life perform the services of the Transportation Coordinator.**

(b) TDM strategies.

The ordinance requires GMT transit passes be provided to all tenants for free for the first year of occupancy and at a minimum discount of 50% for each year afterward. Because many residents will be using the services of SSTA over GMT, this strategy may not be a perfect match for this site. Based on some research with Chittenden Area Transportation Management Association (CATMA), membership in that organization would provide an option to provide transit access to residents via a pass program that gets billed as the pass is used instead of at a monthly pass fee. **Because these residents are not as likely to use a GMT fixed service as often as another residential project, the CATMA pay as you go transit pass program would be recommended.**

The ordinance requires offering a car share membership to all tenants and employees for free for the first two years of occupancy, and at a minimum discount of 50% for every year afterward. Later in the list there is a requirement to provide car share spaces on site at a rate of 1 space for every 20 residential units. As you know with this type of senior housing development, residents fall into two categories: residents that are very connected to their cars and resistant to giving them up and residents that are car free. This demographic may not be as comfortable with a car share; however, it is recommended that car share services and placement of a vehicle be considered for this site. Based on discussion with Car Share Vermont, this location would likely be similar to other locations where there is not anticipated to be enough demand to support placement of a vehicle.

Although this site is not expected to have suitable demand to maintain a car share service, to encourage resident's adoption and use, **it is recommended that building owner provide financial guarantees to Car Share Vermont for the placement of a vehicle on site for one year starting in year two of operation.** This will allow the Transportation Coordinator to promote this amenity in advance to the residents so that they can understand the program and potentially lend more success to the program once implemented. **If at the end of one year of operation, the car is still not used enough to justify unsubsidized placement, Car Share Vermont may remove the vehicle. Alternatively, it is also recommended that if Car Share Vermont requests additional spaces to meet demand, those be provided.**

The third TDM Strategy is, in lieu of the two items above, to join a TMA that offers equivalent or better strategies to the transit passes and car share membership outlined above. A discussion with CATMA reveals that their services do not cover car share placement or minimum lease agreements, however, CATMA can assist with the transit subsidy requirements and reporting requirements.

(c) Parking Management

Parking Utilization studies need to be conducted annually. **It is recommended that the Transportation Coordinator collect the parking utilization information.**

The cost of parking shall be unbundled from residential leases and made available at a market rate. **Based on discussions with the developer, parking can be unbundled, but would not be sold at market rates due to the unique mobility and financial needs of seniors.**

Priority parking spaces closest to the primary building entrance need to be provided for handicapped parking, bicycle, scooter and motorcycle spaces, and car share (as indicated above) for residential projects. **As outlined above, car share spaces will be assigned to priority spaces as demand dictates (with a minimum of one space for a minimum of two years). Handicapped spaces as well as bicycle, scooters and motorcycles spaces will also be provided.**

(d) TDM Agreement

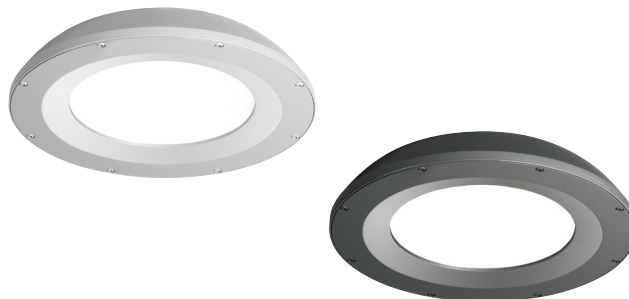
It is recommended that the project provide the necessary TDM commitment as provided by the Administrative Officer.

SRT1 EDGE-LIT

CEILING/SURFACE/GARAGE

FEATURES

- For ceiling mount and parking garage applications from an 8–15 foot mounting height
- Edge-lit flat lens for optimal visual comfort and uniformity across the lens
- Two optical distributions specifically design for parking garage and canopy applications are available making the Beacon Edge-Lit luminaire both versatile and functional
- UL/cUL listed for wet locations, IP65 and 3G vibration rated
- Occupancy sensor available for complete on/off and dimming operation



RELATED PRODUCTS

[Drive Edge-Lit SRT2](#)
[Orbeon](#)
[Viper Small](#)

SPECIFICATIONS

HOUSING

- Die-cast aluminum housing ensures long electrical component life and luminaire performance
- Corrosion resistant powder coat finish both protects and provides architectural appearance
- One piece molded silicone gasket ensures weather proof seal
- Thermally isolated driver mounted to dedicated bracket reduces operating temperatures and increases driver life and reliability

OPTICS

- Edge-lit acrylic light guide provides blended non-pixelated light for unprecedented visual comfort
- Choice of multiple light outputs with lumen range of 2000–6000
- Two distribution types: Type 5 Square Wide, Type 5 Concentrated
- Wide variety of CCT's and CRI's offered: 3000K (70CRI), 3000K (80CRI), 3500K (80CRI), 4000K (70CRI), 4000K (80CRI) or 5000K (70 CRI) CCT

ELECTRICAL

- 120V–277V 50/60Hz available
- 0–10V dimming drivers are RoHS compliant

INSTALLATION

- Standard quick mount plate over standard 4" junction box or octagonal junction box and allows for simplified fixture installation
- Standard luminaire accepts a rigid or 3/4" NPT stem for pendant mounting via wet location j-box (by others)
- Optional bird deterrent shroud available for field installation

OPTIONS/CONTROLS

- Standalone occupancy sensor available for on/off or dimming operation
- Uplight option provides approximately 800 lumens and consumes only 8 additional watts
- Vandal resistant wire guard available as an option for factory installation or as an accessory for field installation.

CERTIFICATIONS

- Listed to UL1598 for use in wet location, listed for -40°C to 40°C applications
- IDA approved with zero uplight for 3000K and warmer CCTs
- DLC® (DesignLights Consortium) Qualified. Please refer to the DLC website for specific product qualifications at www.designlights.org
- IP65

WARRANTY

- 5 year warranty
- See [HLI Standard Warranty](#) for additional information

KEY DATA	
Lumen Range	2000–6800
Wattage Range	15–55W
Efficacy Range (LPW)	99–118
Reported Life (Hours)	50K
Weight lbs. (kg)	8 (3.6)

SRT1 EDGE-LIT

CEILING/SURFACE/GARAGE

ORDERING GUIDE

Example: SRT1-35-3K7-5QW-UNV-BLT-WG

CATALOG #

Series	Engine	CCT	Distribution	Voltage	Color/Finish	Options
SRT1 Edge-Lit Parking Garage Size 1	15 15W Nominal 2000 lm	3K7 3000K, 70 CRI	5QW Type 5 Square Wide	UNV 120V- 277V	BLT Black Matte Textured	CD Continuous Dimming ⁴
	20 20W Nominal 2500 lm	3K8 3000K, 80 CRI	5C Type 5 Concentrated	120 120V	BLS Black Gloss Smooth	WG Wire Guard
	35 35W Nominal 4000 lm	35K8 3500K, 80 CRI		208 208V	DBT Dark Bronze Matte	UD Uplight Module ³
	55 55W Nominal 6000 lm	4K7 4000K, 70 CRI		240 240V	DBS Dark Bronze Gloss Smooth	F Single Fuse (120, 277) ¹
		4K8 4000K, 80 CRI		277 277V	GTT Graphite Matte Textured	LD3 36" Lead Length ²
		5K7 5000K, 70 CRI			LGS Light Grey Gloss Smooth	LD6 72" Lead Length ²
					PSS Platinum Silver Smooth	LD9 108" Lead Length ²
					WHT White Matte Textured	SP10K 10kA Surge Protection ³
					WHS White Gloss Smooth	LMB Less Mounting Bracket
					VGT Verde Green Textured	
					Color Option	
					CC Custom Colors	

Control Options	
NX Standalone	
NXOS12F	NX Distributed Intelligence™, PIR Occ. Sensor, Dimming Daylight Harvesting, up to 12' MH
Sensor Controls	
SCP-8F	Remote control programmable line voltage sensor (8-12' recommended mounting height) ⁵
SCP-20F	Remote control programmable line voltage sensor (12-20' recommended mounting height) ⁵

Accessories (Order Separately)

- ☐ **SRT1-WG** Wire Guard
- ☐ **SRT-MB** Mounting bracket for pre-installation
- ☐ **SRT1-BS-XXX** Bird deterrent shroud for SRT1 version, not available with uplight
- ☐ **SCP-REMOTE** Remote control for SCP option; order at least on per project to program and control

Notes:

- 1 Must specify voltage
- 2 Standard wire lead length 24"
- 3 SP10K LED indicator not available with uplight
- 4 Specify when using external 0-10V dimming system
- 5 120V or 277V only

PERFORMANCE DATA

Nominal Watts	Nominal Lumens	Distribution	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
15	2000	5C	2470	146.61	1	0	1	2459	145.91	1	0	1	2364	140.30	1	0	1
		5QW	2378	141.15	1	0	1	2367	140.48	1	0	1	2276	135.07	1	0	1
20	3000	5C	3093	136.86	1	0	1	3078	136.21	1	0	1	2960	130.97	1	0	1
		5QW	2974	131.60	1	0	1	2960	130.97	1	0	1	2846	125.93	1	0	1
35	4500	5C	4757	131.05	2	0	1	4734	130.42	2	0	1	4552	125.41	2	0	1
		5QW	4574	126.01	2	0	1	4552	125.41	2	0	1	4377	120.58	2	0	1
55	6500	5C	6814	127.13	2	0	1	6782	126.52	2	0	1	6521	121.66	2	0	1
		5QW	6552	122.24	3	0	1	6521	121.66	3	0	1	6270	116.98	3	0	1

ELECTRICAL DATA

Nominal Watts	System Watts	Line Voltage		AMPS AC				Dimming Range	Absolute Voltage Range on 0-10V (+)	
		VAC	HZ	120	208	240	277		VAC	HZ
15	16.9	120-277	50/60	0.14	0.08	0.07	0.06	10% to 100%	0V	10V
20	21.6	120-277	50/60	0.18	0.10	0.09	0.08	10% to 100%	0V	10V
35	34.6	120-277	50/61	0.29	0.17	0.14	0.12	10% to 100%	0V	10V
55	54.9	120-277	50/62	0.46	0.26	0.23	0.20	10% to 100%	0V	10V

SRT1 EDGE-LIT

CEILING/SURFACE/GARAGE

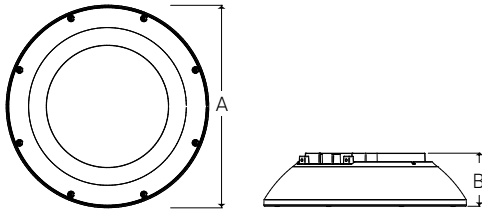
PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L ₇₀ (Hours)
25°C / 77°F	1.00	0.98	0.96	0.95	0.89	278,000
40°C / 104°F	0.99	0.98	0.96	0.94	0.88	264,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98
50°C	122°F	0.97

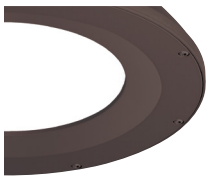
DIMENSIONS



A	B	Weight
12" (304mm)	3.1" (78mm)	8lbs (3.6kg)

ADDITIONAL INFORMATION

FINISH OPTIONS



DB Dark Bronze Textured



BL Black Textured



PS Platinum Silver Smooth



GYS Gray Smooth



WH White Textured



GT Graphite Textured



Wire Guard

An optional wire guard can be specified at the factory or as an accessory for field installation.



Bird Deterrent

An optional bird shroud deterrent can be specified at the factory or as an accessory for field installation.

SRT1 EDGE-LIT

CEILING/SURFACE/GARAGE

ADDITIONAL INFORMATION (CONT'D)

MOUNTING



Surface Mount

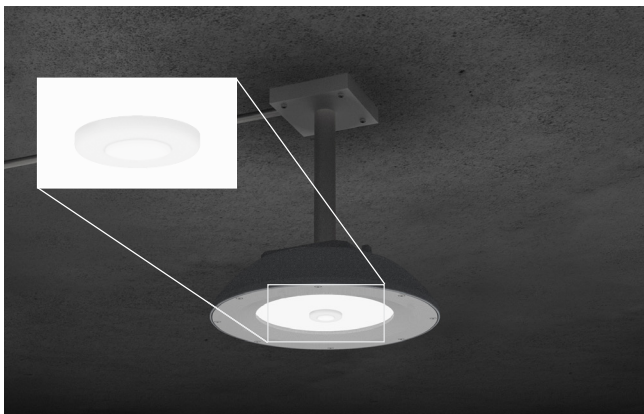
Mounting plate with "quick mount" hanger for one person simple installation.



Pendant Mount

Standard 3/4" threaded entry for pendant applications.

CONTROLS



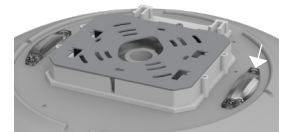
Standalone Controls

Optional passive infrared sensors are available for basic occupancy and daylight sensing. Programmable via remote or Bluetooth® phone app.

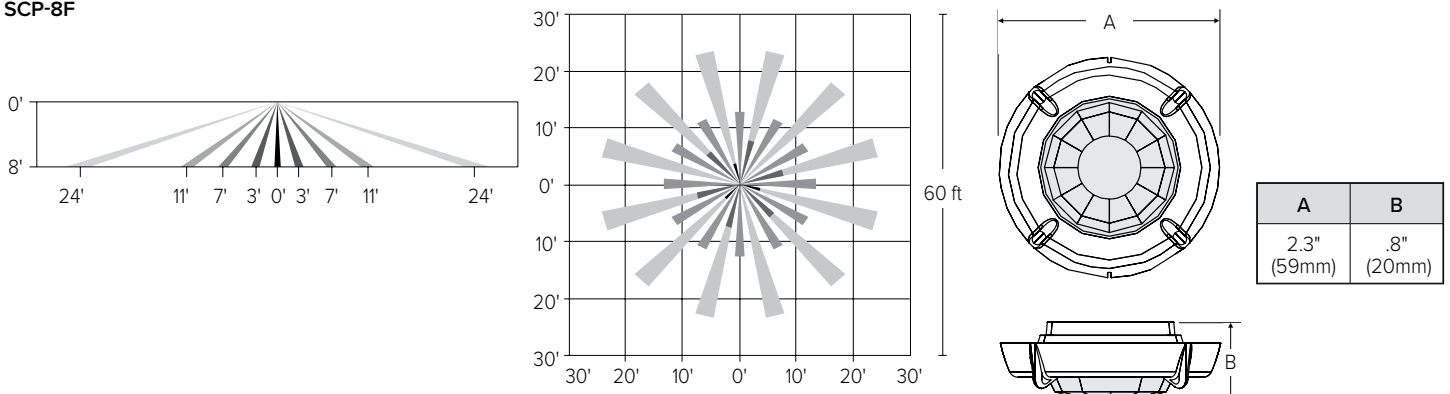


Uplight

Optional uplight module provides 800 lumens of indirect illumination for improved visual quality while eliminating cave effect.



SCP-8F



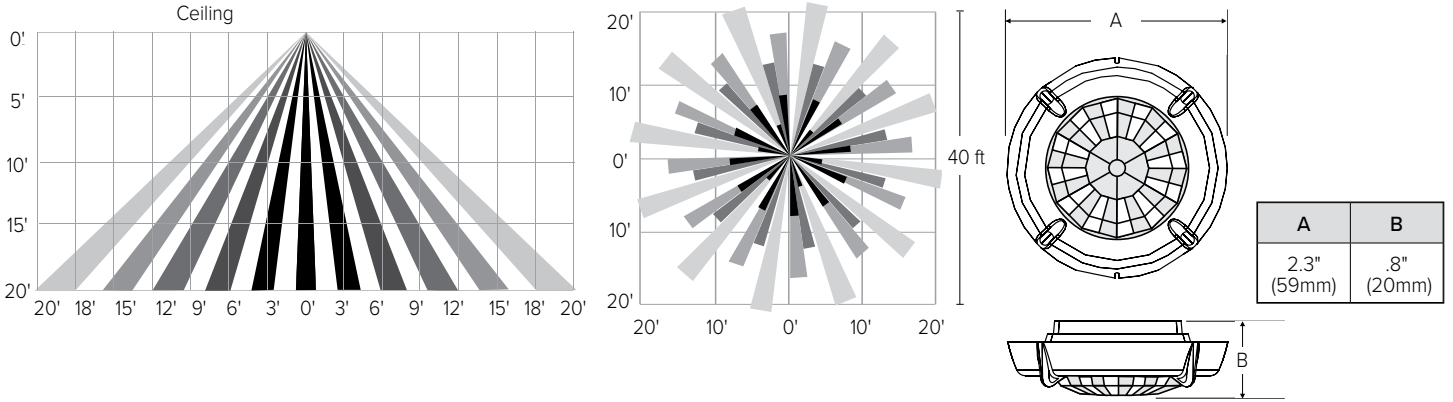
SRT1 EDGE-LIT

CEILING/SURFACE/GARAGE

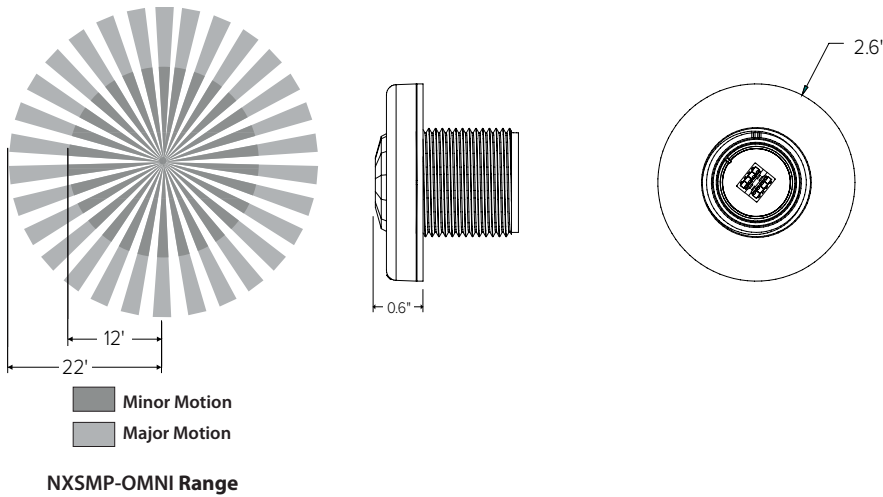
ADDITIONAL INFORMATION (CONT'D)

CONTROLS (CONT'D)

SCP-20F



NXOS12F



USE OF TRADEMARKS AND TRADE NAMES

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Type:

Job:

Catalog number:

/	/	/
Fixture	Electrical Module	Luminaire Finish
		Option
See page 2		

Approvals:

Date:

Page: 1 of 3

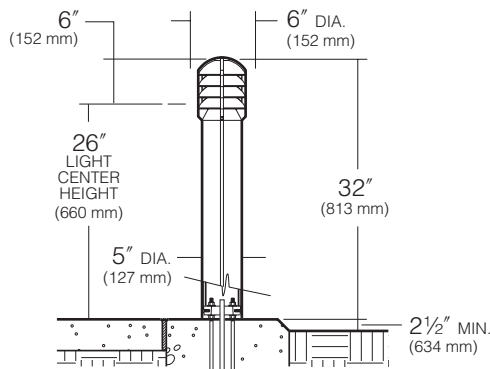
Specifications

CB Models

10 to 20 Diodes

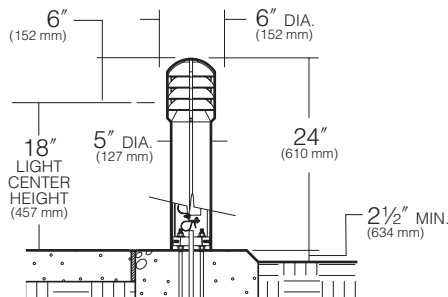
CB32

Maximum weight: 20 lb

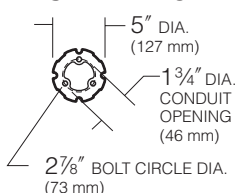


CB24

Maximum weight: 17 lb



BASE PLAN CB



HUBBELL LIGHTING, INC.

Top, Louvers: Interlocking die-cast, low-copper (<0.6% Cu) aluminum sections fasten together with concealed stainless steel screws. Louver base assembly fastens internally to riser with 4 concealed screws.

Riser: Extruded aluminum, 5" diameter, .125" typical wall thickness, external vertical grooves align with vertical members on louver assembly. Attaches to anchor base with 4 countersunk stainless steel flat socket head screws finished to match fixture.

Anchor Base: Heavy cast aluminum, fully concealed within riser shaft. Three 3/8" x 10" + 2" zinc plated anchor bolts, each with two nuts and washers, and a rigid pressboard template.

Globe: Internally fluted, clear tempered glass, fully gasketed.

Optical Module: Each LED equipped with a directional optic for maximum beam angle projecting through louver stack spacings. LED boards to be mounted to an anodized inter-locking heat sink extrusion. (Type I) two 5-LED boards for a total of 10-LED. (Type III) three 5-LED boards for a total of 15-LED. (Type V) four 5-LED boards for a total of 20-LED. Available in 580nm Amber, 3000K, 4200K and 5100K color temperatures.

Electronic Module: All electrical components are either UL or ETL recognized, mounted on a single plate and factory prewired with quick disconnect plugs. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

Finish: Each luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidic isocyanurate (TGIC) polyester powdercoat finish. Standard colors include (BL) Black, (DB) Dark Bronze, (WH) White, (PS) Platinum Silver, (SG) Stealth Gray, (LG) Light Gray, and (CC) Custom Color (Include RAL#).

Listed to: UL 1598 Standard for Luminaires - UL 8750 Standard for Safety for Light Emitting Diode (LED) Equipment for use in Lighting Products and CSA C22.2#250.0 Luminaires. RoHS compliant. Meets Buy American provisions within ARRA.

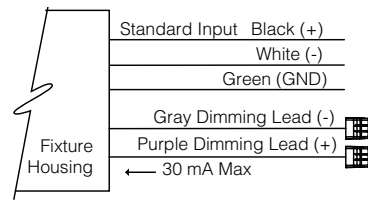
Warranty: Kim Lighting warrants Bollard LED products sold by Kim Lighting to be free from defects in material and workmanship for (i) a period of five (5) years for metal parts, (ii) a period of five (5) years for exterior housing paint finish(s), (iii) a period of five (5) years for LED Light Engines and, (iv) a period of five (5) years for LED power components (driver, surge protector and LifeShield® device), from the date of sale of such goods to the buyer as specified in Kim Lighting shipment documents for each product.

CAUTION: Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

KIM LIGHTING RESERVES THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE



Standard and Optional Features

Fixture Cat. No. designates fixture.	Cat. No. ☐ CB24 Compact Bollard 24" overall height ☐ CB32 Compact Bollard 32" overall height
Electrical Module LED = Light Emitting Diode	Cat. Nos. for LED Electrical Modules available: xL Source: ☐ 10L= 10 LED (IES Type I) ☐ 15L= 15 LED (IES Type III) ☐ 20L= 20 LED (IES Type V) xK Color Temperature: ☐ 2K = 580nm - Amber ☐ 3K = 3000K ☐ 4K = 4200K ☐ 5K = 5100K UV Voltage: ☐ UV Universal Voltage shall range from 120V-277V
Finish TGIC thermoset polyester powder coat paint on fixture and shaft	Color: Black Dark Bronze Light Gray Graphite Platinum Silver Titanium White Custom Color¹ Cat. No.: ☐ BL ☐ DB ☐ LG ☐ GT ☐ PS ☐ TT ☐ WH ☐ CC ¹Custom color subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: _____
Battery Back-up Cat. No. ☐ EM ☐ No Option	Internal battery pack provides 90 minutes of supplemental light at 50% of initial lamp lumens. NOTE: For CB32 only.  Battery Back-up
Optional Duplex Receptacle Cat. No. ☐ DR ☐ DR-GFI ☐ No Option	(CB32 only) Mounted 18" from bottom of shaft, in a cast aluminum box that is internally welded and sealed with a gasketed While-In-Use cover with locking tab. Painted to match bollard. DR weather proof duplex receptacle rated 20A, 125V. DR-GFI weather proof duplex receptacle with ground fault circuit interrupter rated 20A, 125V.
0-10V Dimming Interface	Driver has a 0-10V dimming interface with a dimming range of 10-100%. Is compatible with most control systems including Hubbell Building Automation wiHUBB™. Approved dimmers include Lutron Diva AVTV, Lutron Nova NFTV and NTFTV. Note: Not compatible with current sourcing dimmers. Controls compatible via Gray and Purple dimming lead. 



Lumen Data

Spectroradiometric			
	3000K Average	4200K Average	5100K Average
Correlated Color Temp. CCT (K)	2800K - 3175K	3800K - 4600K	4600K - 5600K
Color Rendering Index (CRI)	≥75	≥70	≥65
Power Factor	>.90	>.90	>.90

Projected Lumen Maintenance		
mA	50,000 hrs	100,000 hrs
350mA	N/A	N/A

Based on 20LED version.

Electrical Drive Current - @350mA						
Volts - AC	Type 1		Type 3		Type 5	
	Amps - AC	System Watts	Amps - AC	System Watts	Amps - AC	System Watts
120	0.11	13	0.16	19	0.21	25
208	0.06	13	0.09	19	0.12	25
240	0.05	13	0.08	19	0.10	25
277	0.05	13	0.07	19	0.09	25

B.U.G. Rating (TM15) in Lumens where B = Backlight, U = Uplight, G = Glare			
Temperature	TYPE 1	TYPE 3	TYPE 5
3000K	B0 U2 G1	B0 U2 G1	B1 U2 G1
4200K	B0 U2 G1	B0 U2 G1	B1 U2 G1
5100K	B0 U2 G1	B0 U2 G1	B1 U2 G1

Absolute Lumens			
Temperature	TYPE 1	TYPE 3	TYPE 5
3000K	403	533	795
4200K	499	705	985
5100K	525	740	1036

LED performance and lumen output continues to improve at a rapid pace. Log onto www.kimlighting.com to download the most current photometric files from Kim Lighting's IES File Library. For custom optics and color temperature configurations, contact factory.

TRAVERSE SERIES

SURFACE/CEILING/GARAGE

Cat.#

Job

Type



Approvals

SPECIFICATIONS

Intended Use:

The Traverse luminaire is a wall surface mounted luminaire with a field replaceable LED light engine & optical bezel system. Internal components are totally enclosed in rain-tight and corrosion-resistant die cast aluminum housing. The TRV Luminaire is suitable for wet locations.

Construction:

- Traverse luminaire consists of a die cast aluminum two-piece housing.
- Die cast main (thermal) housing provides direct heat exchange between the LED light engine and the cool outdoor air by drawing heat through integral heat channels and out to the sculptured and functional luminaire surface.
- LED drivers are thermally isolated from the main housing, mechanically attached and heat sunk to the rear housing.
- Main housing is designed with heat dissipating fins for LED thermal management without the use of metallic screens, cages, or fans.
- Shape of the main housing is designed to prevent debris accumulation and as a bird nesting deterrent. The back and main housings are designed to hinge open for easy mounting and easy access.

LED/Optics:

- Optical one piece cartridge system consisting of an LED engine, LED lamps, optics, gasket and stainless steel bezel.
- Cartridge is held together with internal brass standoffs soldered to the board so that it can be field replaced as a one piece optical system.
- A two-piece die cut silicone and polycarbonate foam gasket ensures a weather-proof seal around each individual LED and allows the Traverse luminaire to be rated for high-pressure hose down applications.
- Optical cartridge is secured to the extruded housing with fasteners and a heat pad to ensure thermal conductivity.
- Optics are held in place without the use of adhesives and the complete assembly is gasketed for high pressure hose down cleaning.
- Cartridge assembly is available in various lighting distributions using TIR designed acrylic optical lenses over each LED.

Electrical:

- 100V through 277V, 50 Hz to 60 Hz (UNV).
- Power factor is min 0.92 at full load.
- All electrical components are rated at 50,000 hours at full load and 40°C ambient conditions per MIL-217F Notice 2.
- Optional 0 to 10 volt dimming drivers are available upon request.
- Component-to-component wiring within the luminaire may carry no more than 80% of rated load and is listed by UL for use at 600VAC at 50°C or higher.
- Plug disconnects are listed by UL for use at 600 VAC, 15A or higher. 15A rating applies to primary (AC) side only.
- Surge protection - 20KA

Controls/Options:

- Traverse is available with an optional passive infrared (PIR) motion sensor capable of detecting motion 360° around the luminaire. When no motion is detected for the specified time, the Motion Response system reduces the wattage down to a factory preset level, reducing light level accordingly. When motion is detected, the luminaire returns to full wattage and full light output. Please contact Beacon Products if project requirements vary from the standard configurations
- Available with Energeni for optional set dimming with simple delay, or timed dimming based on time of night (see Energeni product page for more details www.beaconproducts.com/products/energeni)
- In addition, Traverse can be specified with **SiteSync™** wireless control system for reduction in energy and maintenance cost while optimizing light quality 24/7. See ordering information or visit: www.hubbelllighting.com/sitesync/ for more details

Installation:

- Rear housing (back plate) is designed with various bolt patterns for direct wall mounting or mounting to a recessed 4" junction box.
- Rear housing has three integral 3/4" NPT power feed locations (bottom and each side) for surface mounted conduit applications.
- After mounting the rear housing to the wall or junction box, the main housing is designed to hang and hinge closed after connecting the male and female quick connectors.
- Mounting design permits a simple retrofit to existing wall luminaires that utilize surface mount or recessed junction boxes.

Finish:

- IFS polyester powder-coat electrostatically applied and thermocured.
- IFS finish consists of a five stage iron phosphate chemical pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish.
- The finish meets the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance and resists cracking or loss of adhesion per ASTM D522 and resists surface impacts of up to 160 inch-pounds.

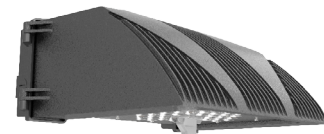
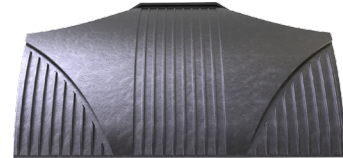
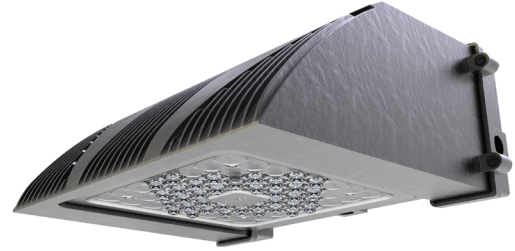
Listings:

- The luminaire shall bear a CSA label and be marked suitable for wet locations (standard).
- This product is approved by the Florida Fish and Wildlife Conservation Commission. Separate spec available at: <http://www.beaconproducts.com/products/traverse>

Warranty:

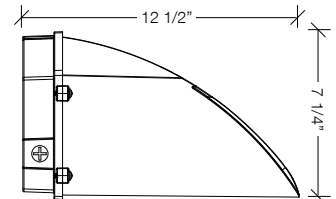
Five year limited warranty for more information visit: www.hubbelllighting.com/resources/warranty

PRODUCT IMAGE(S)

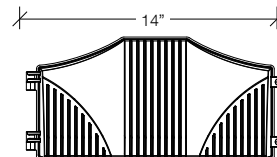


Shown with SiteSync™

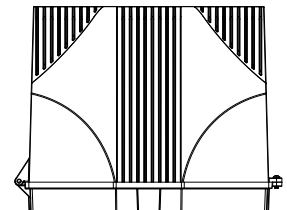
DIMENSIONS



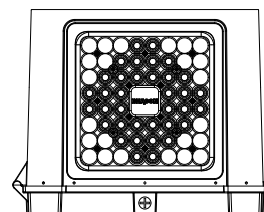
Side View



Front View



Top View



Bottom View

CERTIFICATIONS/LISTINGS



*3000K and warmer CCTs only



Beacon Products • 2041 58th Avenue Circle East Bradenton, FL 34203 • Phone: 800-345-4928

Due to our continued efforts to improve our products, product specifications are subject to change without notice.

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HUBBELL
Lighting

ORDERING INFORMATION ORDERING EXAMPLE: TRV-D/60NB-136/5K/T5R/UNV/GENIXX/PEC/BBT

SERIES	ENGINE-WATTS	LED COLOR ¹¹	OPTICS	CONTROL OPTIONS	FINISH
TRV-D Traverse Down Light	24NB-27 27 Watts - LED array	3K 3000K	T2 Type II	GENI-XX ⁶ Energeni	BBT basic black textured
TRV-U ¹ Traverse Up Light (lens req.)	24NB-55 55 Watts - LED array	4K 4000K	T3 Type III	SWP ^{7,8} SiteSync Wire-less Pre-Commission	BMT black matte textured
	36NB-80 80 Watts - LED array	5K 5000K	T4 Type IV	SWPM ^{7,8,9} SiteSync Wire-less Pre-Commission w/ Occupancy Sensor	WHT white textured
	48NB-110 110 Watts - LED array		T5R Type V, rectangular		MBT metallic bronze textured
	60NB-136 136 Watts - LED array		2X2 Narrow spot flood		BZT bronze textured
			5X5 Medium flood		DBT dark bronze textured
					GYG gray smooth
					DPS dark platinum smooth
					GNT green textured
					MST metallic silver textured
					MTT metallic titanium textured
					OWI old world iron
					RAL _____

VOLTAGE

UNV 120-277V
347 347V
480 480V

SENSOR OPTIONS

MOB^{3,5,7,9} Occupancy Sensor (33% or 50% dimming)

ELECTRICAL OPTIONS

PEC Photocell, button
2PF^{2,3,10} Dual power feed
BPC⁴ Cold weather battery pack

¹ Indoor use only

² Not available on 24NB-27

³ Not available @ 347V or 480V input

⁴ 36NB-80 only, not available with SWP or SWPM control options

⁵ Not available on 48NB-110 or 60NB-136

⁶ When ordering Energeni, specify the routine setting code (example GENI-04). See Energeni brochure and instructions for setting table and options. Not available with sensor options.

⁷ Not available with other control or sensor options. PEC is available with MOB and OCS.
⁸ Specify group and zone. See SiteSync product page www.hubbellighting.com/controls/sitesync for more details.

⁹ Specify time delay; dimming level and mounting height.

¹⁰ Not available with SWP or SWPM control options.

¹¹ This product is approved by the Florida Fish and Wildlife Conservation Commission. Separate spec available at http://cdn.beaconproducts.com/content/products/specs/specs_files/Traverse_LED_turtle_spec_sheet.pdf

PRECOMMISSIONED SITESYNC ORDERING INFORMATION: When ordering a fixture with the SiteSync lighting control option, additional information will be required to complete the order. The SiteSync Commissioning Form or alternate schedule information must be completed. This form includes Project location, Group information, and Operating schedules. For more detailed information please visit www.hubbellighting.com/products/sitesync/ or contact Hubbell Lighting tech support at (800) 345-4928.

SiteSync fixtures with occupancy sensor (SWPM) require the mounting height of the fixture for selection of the lens.

Examples: TRV/24NB-55/5K/T3/UNV/SWP/DBT SiteSync only
TRV/24NB-55/5K/T3/UNV/SWPM-20F/DBT SiteSync with Occupancy Sensor

MOB ORDERING INFORMATION: When ordering a fixture with a dimming occupancy sensor option (MOB), please specify the appropriate information. These settings are specified in the ordering as shown in the example below.

TRV/24NB-55/5K/T3/UNV/MOB - 1 to 30 min. - 33% or 50% - ?? / DBT

High to Dim Delay Low Level Mounting Height (ft.)

Accessories and Services (Ordered Separately)

Catalog Number	Description
SWUSB*	SiteSync loaded on USB flash drive (Windows based only)
SWTAB*	SiteSync Windows Tablet
SWBRG*	SiteSync Wireless Bridge Node

*When ordering with SiteSync, one of the following interface options must be chosen and ordered separately. Each option contains the SiteSync License, GUI and Bridge Node.

+ If needed, an additional Bridge Node can be ordered.



SiteSync Lighting Control is available from our most popular brands in a broad range of award-winning product families.

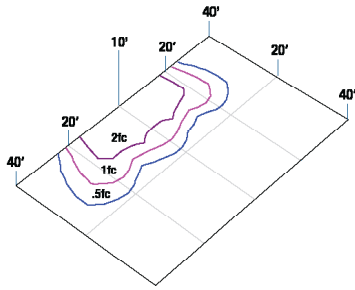


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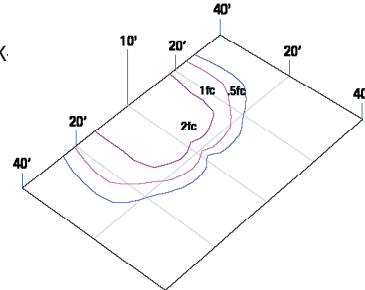


PHOTOMETRICS

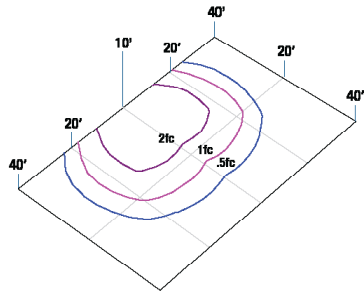
Type II
TRV-60NB-136-5K-T2



Type III
TRV-60NB-136-5K



Type IV
TRV-60NB-136-5K-T4



PERFORMANCE DATA

# LED'S	DRIVE CURRENT (MILLIAMPS)	SYSTEM WATTS	DISTRIBUTION TYPE	5K (5000K nominal, 70 CRI)					4K (4000K nominal, 70 CRI)					3K (3000K nominal, 80 CRI)				
				LUMENS	LPW ¹	B	U	G	LUMENS	LPW ¹	B	U	G	LUMENS	LPW ¹	B	U	G
24	350mA	27w	T2	2833	105	1	0	1	2805	104	1	0	1	2408	89	1	0	1
			T3	2805	104	1	0	1	2777	103	1	0	1	2392	89	1	0	1
			T4	3086	114	1	0	1	3055	113	1	0	1	2623	97	1	0	1
			T5R	3142	116	2	0	2	3111	115	2	0	2	2670	99	2	0	2
			5X5	3031	112	2	0	1	3001	111	2	0	1	2577	95	2	0	1
			2X2	3287	122	3	0	1	3254	121	3	0	1	2794	103	3	0	1
24	700mA	55w	T2	5666	102	2	0	2	5610	101	2	0	2	4816	86	1	0	2
			T3	5610	101	1	0	2	5554	100	1	0	2	4784	86	1	0	2
			T4	6171	111	1	0	2	6110	109	1	0	2	5245	94	1	0	2
			T5R	6283	113	3	0	3	6221	111	3	0	3	5341	96	3	0	3
			5X5	6063	110	3	0	1	6002	109	3	0	1	5153	94	3	0	1
			2X2	6573	118	4	0	1	6508	117	4	0	1	5587	100	4	0	1
36	700mA	80w	T2	8505	101	2	0	3	8415	100	2	0	3	7224	87	2	0	2
			T3	8415	100	2	0	2	8331	99	2	0	2	7175	86	2	0	2
			T4	9256	110	1	0	3	9164	109	1	0	3	7868	94	1	0	3
			T5R	9425	112	3	0	3	9331	111	3	0	3	8011	96	3	0	3
			5X5	9094	109	4	0	1	9003	108	4	0	1	7730	93	3	0	1
			2X2	9860	118	4	0	1	9762	116	4	0	1	8381	100	4	0	1
48	700mA	110w	T2	11332	102	3	0	3	11220	101	3	0	3	9633	87	2	0	3
			T3	11220	101	2	0	3	11108	100	2	0	3	9567	86	2	0	3
			T4	12342	111	2	0	3	12219	110	2	0	3	10491	95	2	0	3
			T5R	12567	113	4	0	4	12441	112	4	0	4	10682	96	3	0	3
			5X5	12126	109	4	0	1	12004	108	4	0	1	10307	93	4	0	1
			2X2	13147	118	5	0	1	13016	117	5	0	1	11175	101	5	0	1
60	700mA	136w	T2	14165	103	3	0	3	14025	102	3	0	3	12041	88	3	0	3
			T3	14025	102	3	0	3	13885	101	3	0	3	11959	87	3	0	3
			T4	15427	113	2	0	3	15274	111	2	0	3	13114	96	2	0	3
			T5R	15708	115	4	0	4	15259	111	4	0	4	13352	97	4	0	4
			5X5	15157	111	4	0	1	15006	110	4	0	1	12884	94	4	0	1
			2X2	16434	120	5	0	2	16269	119	5	0	2	13968	102	5	0	1

¹Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment and application.

PROJECTED LUMEN MAINTENANCE

AMBIENT TEMP.	0	25,000	50,000	TM-21-11 60,000	100,000	Calculated L70 (HOURS)
25°C / 77°F	1.00	0.97	0.96	0.95	0.93	>560,000

¹ Projected per IESNA TM-21-11

Data references the extrapolated performance projections for the base model in a 40°C ambient, based on 10,000 hours of LED testing per IESNA LM-80-08.

ELECTRICAL DATA

# OF LEDS	NUMBER OF DRIVERS	DRIVE CURRENT (mA)	INPUT VOLTAGE (V)	OPER. CURRENT (Amps)	SYSTEM POWER (Watts)
24	1	(350mA)	120	0.23	27.0
			277	0.10	
24	2	(700mA)	120	0.46	55.0
			277	0.20	
36	1	(700mA)	120	0.68	80.0
			277	0.30	
48	1	(700mA)	120	0.92	110.0
			277	0.40	
60	1	(700mA)	120	1.13	136.0
			277	0.49	

AMBIENT TEMPERATURE		LUMEN MULTIPLIER
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	1.00
40°C	104°F	0.99
50°C	122°F	0.98

Use these factors to determine relative lumen output for average ambient temperatures from 0-50°C (32-122°F).

VIPER S

SMALL VIPER LUMINAIRE

FEATURES

- Small size companion to Viper Large
- Wide choice of different LED wattage configurations
- Nine optical distributions
- Designed to replace HID lighting up to 400W MH or HPS
- Suitable for wet locations



*3000K and warmer CCTs only



See Certification Specifications

CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- Manufactured with die cast aluminum
- Coated with a polyester finish that meets ASTM B117 corrosion test requirements and ASTM D522 cracking and loss of adhesion test requirements
- IFS polyester powder-coat electrostatically applied and thermocured. IFS finish consists of a five stage pretreatment regimen with a polymer primer sealer and top coated with a thermoset super TGIC polyester powder coat finish
- The finish meets the AAMA 2604 performance specification which includes passing a 3,000-hour salt spray test for corrosion resistance and resists cracking or loss of adhesion per ASTM D522 and resists surface impacts of up to 160 inch-pounds
- External hardware is corrosion resistant

OPTICS

- Cartridge is held together with internal brass standoffs soldered to the board so that it can be field replaced as a one-piece optical system
- One-piece silicone gasket ensures a weatherproof seal around each individual optic
- One-piece optical cartridge system consisting of an LED engine, optics, gasket and stainless steel bezel

INSTALLATION

- Mounting options for horizontal arm, vertical tenon or traditional arm mounting available. Mounting hardware included

ELECTRICAL

- Luminaire accepts 100V through 277V, 347V or 480V input 50 Hz to 60 Hz (UNV)

ELECTRICAL (CONTINUED)

- Power factor is $\geq .90$ at full load
- Dimming drivers are standard, but CD must be selected in options to obtain external wiring leads for dimming controls
- Component-to-component wiring within the luminaire may carry no more than 80% of rated load and is certified by UL for use at 600VAC at 90°C or higher
- Plug disconnects are certified by UL for use at 600 VAC, 13A or higher. 13A rating applies to primary (AC) side only
- Fixture electrical compartment contains all LED driver components
- Optional 7-pin ANSI C136.41-2013 Twist-Lock® photo control receptacle available. Compatible with ANSI C136.41 external wireless control devices
- Ambient operating temperature -40°C to 25°C
- Surge protection: 20kA
- Lifeshield™ Circuit ([see Electrical Data](#))

CONTROLS

- Available with an optional passive infrared (PIR) motion sensor capable of detecting motion 360° around the luminaire. When no motion is detected for the specified time, the motion response system reduces the wattage to factory preset level, reducing the light level accordingly. When motion is detected by the PIR sensor, the luminaire returns to full wattage and full light output. Please contact Beacon Products if project requirements vary from standard configuration
- Available with [Energen](#) for optional set dimming, timed dimming with simple delay, or timed dimming based on time of night

OPTICS STRIKE



RELATED PRODUCTS

[Viper Large](#)

CONTROLS (CONTINUED)

- In addition, Viper can be specified with [SiteSync™ wireless control system](#) for reduction in energy and maintenance costs while optimizing light quality 24/7

CERTIFICATIONS

- DLC® (DesignLights Consortium) Qualified. Please refer to the DLC website for specific product qualifications at www.designlights.org
- Certified to UL 1598 and UL 8750
- 3G rated for ANSI C136.31 high vibration applications with MAF mounting
- IDA approved
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020. See [Buy American Solutions](#).

WARRANTY

- 5 year warranty
- See [HLI Commercial and Industrial Outdoor Lighting Warranty](#) for additional information

KEY DATA	
Lumen Range	4,045–16,216
Wattage Range	39–136
Efficacy Range (LPW)	100–124
Reported Life (Hours)	L70>60,000
Input Current Range (Amps)	0.1–1.1

VIPER S

SMALL VIPER LUMINAIRE

ORDERING GUIDE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

Example: VPS-24L-55-4K7-4W-UNV-A-DBT-TL-GENI-04-BC

CATALOG #

VPS	LED Engine	CCT/CRI ⁷	Distribution	Rotation	Voltage
Series					
VPS Viper Small	24L-39 39W, LED array 24L-55 55W, LED array 36L-65 65W, LED array 36L-80 80W, LED array 48L-110 110W, LED array 60L-136 136W, LED array	3K7 3000K, 70 CRI 4K7 4000K, 70 CRI 5K7 5000K, 70 CRI	FR Type 1/Front Row 2 Type 2 3 Type 3 4F (formerly 4) Type 4 4W Type 4 Wide 5QM Type 5QM 5R Type 5R (rectangular) 5W Type 5W (round wide) TC Tennis Court CR Corner Right CL Corner Left	Blank No rotation L Optic rotation left ⁵ R Optic rotation right ⁵	UNV 120-277V 347 347V 480 480V

Mounting	Color	Control Options	Options
A Rectangular Arm (formerly RA) for square or round pole MAF Mast Arm Fitter (formerly SF2) for 2 3/8" OD horizontal arm K Knuckle (formerly PK2) limit to 30° tilt or 2 3/8" OD horizontal arm or vertical tenon WB Wall Bracket AD Universal Arm for square pole AD3 Adapter for 2.4"-4.1" round pole AD4 Adapter for 4.2"-5.3" round pole AD5 Adapter for 5.5"-5.9" round pole AD6 Adapter for 6.0"-6.5" round pole	BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS Dark Bronze Gloss Smooth GTT Graphite Matte Textured LGS Light Grey Gloss Smooth PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VG Verde Green Textured Color Option CC Custom Color	NXWE NX Wireless Enabled (module + radio) NXSPW_E Nx Wireless, PIR Occ. Sensor, Daylight Harvesting ² NXSP_F NX, PIR Occ. Sensor, Daylight Harvesting ² WIR Wireless Controls, wiSCAPE Control Options 7PR 7-Pin Receptacle only (shorting cap, photo control, or wireless control provided by others) 7PR-SC 7-Pin Receptacle w/Shorting Cap 7PR-TL 7-Pin Receptacle w/Twist-Lock® photo control SCP/_F Programmable Occupancy Sensor w/ daylight control ^{1,2,6} GENI-XX ENERGENI ³ SWP SiteSync Pre-Commission ^{1,4} SWPM_F SiteSync Pre-Commission w/ Sensor ^{1,2,4}	BC Backshield (available for FR, 2, 3, 4, 4W Optics) CD Continuous Dimming F Fusing TB Terminal Block

House Side Shield Accessories

- ☐ **HSS/VP-S/90-FB/XXX** 90° shield front or back
- ☐ **HSS/VP-S/90-LR/XXX** 90° shield left or right
- ☐ **HSS/VP-S/270-FB/XXX** 270° shield front or back
- ☐ **HSS/VP-S/270-LR/XXX** 270° shield left or right
- ☐ **HSS/VP-S/360/XXX** Full shield

Replace XXX with notation for desired finish color. Refer to page 8 for shield images.

Mounting Accessories

- ☐ **VPL-AD-RPA3** 2.4"-4.1" Round Pole Adapter for AD arm
- ☐ **VPL-AD-RPA4** 4.2"-5.3" Round Pole Adapter for AD arm
- ☐ **VPL-AD-RPA5** 5.5"-5.9" Round Pole Adapter for AD arm
- ☐ **VPL-AD-RPA6** 6.0"-6.5" Round Pole Adapter for AD arm

Notes:

- Not available with other wireless control or sensor options
- Specify mounting height; 8 = 8' or less, 40 = 9' to 40'
- Specify routine setting code (example GENI-04). See [ENERGENI brochure](#) and [instructions](#) for setting table and options. Not available with sensor or SiteSync options
- Specify group and zone at time of order. See [www.hubbelllighting.com/sitesync](#) for further details. Order at least one SiteSync interface accessory SWUSB or SWTAB. Each option contains SiteSync License, GUI, and Bridge Node
- Only available with FR, 2, 3, 4, 4W and 5R distributions
- Order at least one SCP-REMOTE per project location to program and control the occupancy sensor

Accessories and Services (Ordered Separately)

- ☐ **SCP-REMOTE** Remote Control for SCP/_F option. Order at least one per project to program and control the occupancy sensor
- ☐ **SWUSB*** SiteSync interface software loaded on USB flash drive for use with owner supplied PC (Windows based only). Includes SiteSync license, software and USB radio bridge node
- ☐ **SWTAB*** Windows tablet and SiteSync interface software. Includes tablet with preloaded software, SiteSync license and USB radio bridge node
- ☐ **SWBRG** SiteSync USB radio bridge node only. Order if a replacement is required or if an extra bridge node is requested
- ☐ **SW7PR+** SiteSync 7-Pin on fixture module On/Off/Dim, Daylight Sensor 120-480VAC
- ☐ **BIRD-SPIKE-3** Bird Spikes

* When ordering SiteSync at least one of these two interface options must be ordered per project.
+ Available as a SiteSync retrofit solution for fixtures with an existing 7-pin receptacle.

Hubbell Control Solutions — Accessories (Sold Separately)

NX Distributed Intelligence™

- ☐ **NXOFM-1R1D-UNV** On-fixture Module (7-pin), On / Off / Dim, Daylight Sensor with HubbNET Radio and Bluetooth® Radio, 120-480VAC

wiSCAPE® Lighting Control

- ☐ **WIR-RME-L** On-fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with wiSCAPE Radio, 110-480VAC

For additional information related to these accessories please visit [www.hubbellcontrolsolutions.com](#). Options provided for use with integrated sensor, please view specification sheet ordering information table for details.

VIPER S

SMALL VIPER LUMINAIRE

CONTROLS

SiteSync — Precommissioned Ordering Information:

When ordering a fixture with the SiteSync lighting control option, additional information will be required to complete the order. The SiteSync Commissioning Form or alternate schedule information must be completed. This form includes Project location, Group information, and Operating schedules. For more detailed information please visit [the SiteSync family page on our website](#) or contact Hubbell Lighting tech support at 864-678-1000.



SiteSync fixtures with Motion control (SWPM) require the mounting height of the fixture for selection of the lens.

Examples: VP-L/80L-235/4K7/3/UNV/A/DB/SWP/
VP-L/80L-235/4K7/3/UNV/A/DB/SWPM-40F/

SiteSync only
SiteSync with Motion Control

SiteSync 7-Pin Module:

- SiteSync features in a new form
- Available as an accessory for new construction or retrofit applications (with existing 7-Pin receptacle)
- Does not interface with occupancy sensors



SW7PR

NX Distributed Intelligence™ Lighting Controls:

Supports both indoor and outdoor applications in a variety of deployment options: wired, wireless and hybrid. Integrates with and enables a wide array of luminaires including those with SpectraSync Color Tuning Technology.



NX Integrated Controls Reference								
NX Option	Sensor	Networkable	Scheduling	Occupancy	Daylight Harvesting	0-10V Dimming	On/off Control	Bluetooth® App Programming
NX Networked – Wireless								
NXOFM-1R1D-UNV	SCLNX	Yes	Yes	Yes	Yes	Yes	Yes	Yes, Bluetooth App

wiSCAPE™:

Supports remote management, monitoring and metering of outdoor wireless lighting applications such as smart campuses, smart cities, parking lots, parking lots and roadways.



wiSCAPE Reference								
wiSCAPE Option	Sensor	Networkable	Scheduling	Occupancy	Daylight Harvesting	0-10V Dimming	On/off Control	Bluetooth® App Programming
Networked – Wireless								
WIR-RME-L	WIR-RME-L	Yes	Yes	No	Yes	Yes	Yes	wiSCAPE Gateway

VIPER S

SMALL VIPER LUMINAIRE

DELIVERED LUMENS

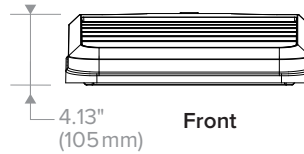
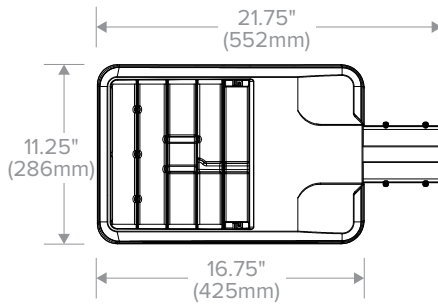
# of LEDs	DRIVE CURRENT (mA)	SYSTEM WATTS	DISTRIBUTION TYPE	5K (5000K nominal, 70 CRI)					4K (4000K nominal, 70 CRI)					3K (3000K nominal, 70 CRI)				
				LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G
24	500mA	39W	FR	4689	120	1	0	0	4665	120	1	0	0	4432	114	1	0	0
			2	4523	116	1	0	1	4500	115	1	0	1	4275	110	1	0	1
			3	4436	114	1	0	1	4414	113	1	0	1	4194	108	1	0	1
			4F	4362	112	1	0	2	4340	111	1	0	2	4123	106	0	0	2
			4W	4280	110	1	0	2	4258	109	1	0	2	4045	104	1	0	2
			5QM	4442	114	2	0	1	4420	113	2	0	1	4199	108	2	0	0
			5R	4472	115	2	0	2	4450	114	2	0	2	4227	108	2	0	2
			5W	4335	112	3	0	1	4336	111	3	0	1	4114	105	3	0	1
			TC	4561	117	1	0	1	4538	116	1	0	1	4311	111	1	0	1
			CL	4758	122	1	0	2	4758	122	1	0	2	4329	111	1	0	1
24	700 mA	55W	CR	4773	122	1	0	2	4773	122	1	0	2	4361	112	1	0	1
			FR	6357	118	1	0	1	6486	120	1	0	1	5804	107	1	0	1
			2	6132	114	1	0	1	6257	116	1	0	2	5599	104	1	0	1
			3	6015	111	1	0	2	6137	114	1	0	2	5492	102	1	0	2
			4F	5921	110	1	0	2	6034	112	1	0	2	5400	100	1	0	2
			4W	5793	108	1	0	2	5909	110	1	0	2	5272	98	1	0	2
			5QM	6022	112	2	0	1	6145	114	2	0	1	5499	102	2	0	1
			5R	6063	112	3	0	3	6187	115	3	0	3	5536	103	3	0	3
			5W	5908	109	3	0	1	6028	112	3	0	1	5908	102	3	0	1
			TC	6183	113	1	0	1	6309	118	1	0	1	5645	105	1	0	1
36	560 mA	65W	CL	6707	122	1	0	2	6707	122	1	0	2	6117	111	1	0	2
			CR	6729	122	1	0	2	6729	122	1	0	2	6143	112	1	0	2
			FR	7864	121	1	0	1	8041	124	1	0	1	7189	111	1	0	1
			2	7586	117	1	0	2	7757	119	1	0	2	6934	107	1	0	2
			3	7441	114	1	0	2	7609	117	1	0	2	6802	105	1	0	2
			4F	7317	110	1	0	2	7482	112	1	0	2	6688	100	1	0	2
			4W	8690	108	1	0	2	8864	110	1	0	2	7908	98	1	0	2
			5QM	7450	115	3	0	1	7618	117	3	0	1	6810	105	3	0	1
			5R	7501	115	3	0	3	7670	118	3	0	3	6857	105	3	0	3
			5W	7309	112	3	0	2	7473	115	3	0	2	6681	103	3	0	1
36	700 mA	80W	TC	7540	116	1	0	1	7694	118	1	0	1	7694	122	1	0	2
			CL	8179	126	2	0	2	8179	126	2	0	2	7467	115	1	0	2
			CR	8205	126	2	0	2	8205	126	2	0	2	7492	115	1	0	2
			FR	9535	118	1	0	1	9730	120	1	0	1	8706	107	1	0	1
			2	9197	114	1	0	2	9385	116	1	0	2	8398	104	1	0	2
			3	9022	111	1	0	2	9206	114	1	0	2	8238	102	1	0	2
			4F	8871	110	1	0	2	9052	112	1	0	2	8100	100	1	0	2
			4W	11587	108	1	0	3	11819	110	1	0	3	10544	98	1	0	3
			5QM	9033	112	3	0	1	9217	114	3	0	1	8248	102	3	0	1
			5R	9095	112	3	0	3	9280	115	3	0	3	8304	103	3	0	3
48	700 mA	110W	5W	8861	109	3	0	2	9043	112	3	0	2	8092	100	3	0	2
			TC	9275	115	1	0	1	9464	118	1	0	1	8468	105	1	0	1
			CL	10060	126	2	0	2	10060	126	2	0	2	9184	115	2	0	2
			CR	10093	126	2	0	2	10093	126	2	0	2	9215	115	2	0	2
			FR	12713	118	1	0	1	12973	120	2	0	1	11608	107	1	0	1
			2	12263	114	2	0	2	12513	116	2	0	2	11197	104	2	0	2
			3	12029	111	2	0	2	12275	114	2	0	2	10984	102	1	0	2
			4F	11828	110	1	0	3	12069	112	1	0	3	10800	100	1	0	2
			4W	11609	108	1	0	3	11841	110	1	0	3	10564	98	1	0	3
			5QM	12044	112	3	0	2	12290	114	3	0	2	10997	102	3	0	1
60	700 mA	136W	5R	12126	112	3	0	3	12374	115	3	0	3	11072	103	3	0	3
			5W	12126	109	4	0	2	12057	112	4	0	2	10789	100	4	0	2
			RC	12366	115	1	0	2	12619	118	1	0	1	11290	105	1	0	2
			CL	13414	122	2	0	3	13414	122	2	0	3	12246	111	2	0	2
			CR	13458	122	2	0	3	13458	122	2	0	3	12287	112	2	0	2
			FR	15891	117	2	0	2	16216	120	2	0	2	14511	107	2	0	1
			2	15329	113	2	0	2	15642	116	2	0	2	13997	103	2	0	2
			3	15037	111	2	0	3	15344	113	2	0	3	13730	101	2	0	3
			4F	14784	109	1	0	3	15086	111	1	0	3	13500	100	1	0	3
			4W	14802	109	2	0	3	15104	112	2	0	3	13515	100	2	0	3
60	700 mA	136W	5QM	15055	111	3	0	2	15362	114	3	0	2	13747	102	3	0	2
			5R	15158	112	4	0	4	15469	114	4	0	4	13841	102	4	0	4
			5W	14781	109	4	0	2	15083	111	4	0	2	13495	100	4	0	2
			TC	15458	115	1	0	2	15834	118	1	0	2	14113	105	1	0	2
			CL	16768	123	3	0	3	16768	123	3	0	3	15309	113	2	0	3
			CR	16823	124	3	0	3	16823	124	3	0	3	15359	113	2	0	3

VIPER S

SMALL VIPER LUMINAIRE

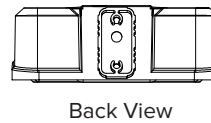
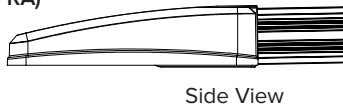
DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

DIMENSIONS

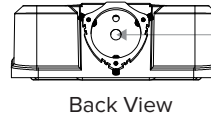
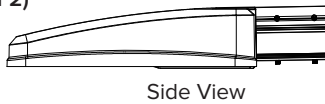


Weight	15.0 lbs (6.8 kg)
EPA	.67 ft ²

A Arm (formerly RA)

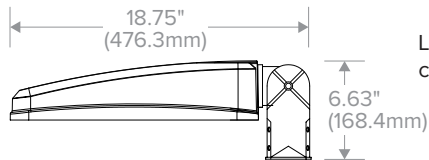


MAF (formerly SF2)



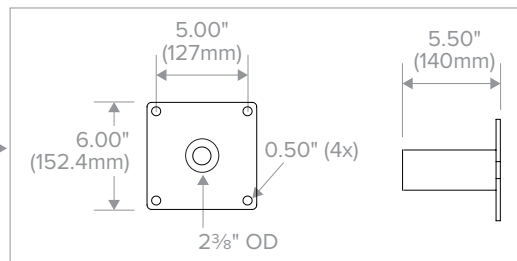
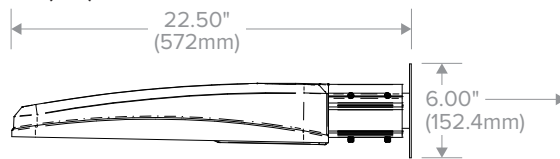
Accepts 2 3/8" OD tenon, min 5" long.

2 3/8" Adjustable Knuckle (K) (formerly PK2)

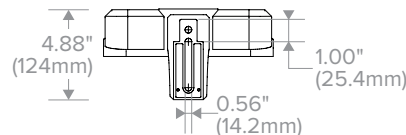
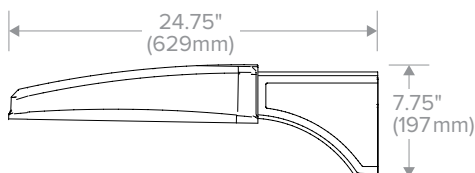


Limit to 30° tilt. Sensor, photocell and wireless controls should not be tilted above horizontal.

Wall Bracket (WB)



AD Decorative Arm



See [page 9](#) for mounting details.



SlimSurface is a 5/8" thick LED surface mounted luminaire with the appearance of a recessed downlight. Easy to install into most standard j-boxes, the SlimSurface round apertures are available as a 5" 650lm, 7" 1000lm and 10" 2200lm fixture.

Project: _____

Location: _____

Cat.No: _____

Type: _____

Lamps: _____ Qty: _____

Notes: _____

Ordering guide

example: S5R830K7AL

Series	CRI	CCT	Lumens	Finish	Dimming
S5R SlimSurface 5" Round	8 80 9 90 ¹	27K 2700K	7 650lm	— White	blank ELV / Triac (120V)
		30K 3000K		AL Aluminum	
		35K 3500K		BK Black	
		40K 4000K		W White	
S7R SlimSurface 7" Round	8 80 9 90 ¹	27K 2700K	10 1000lm	AL Aluminum	Z10U 0-10V (120V-277V)
		30K 3000K		BK Black	
		35K 3500K		W White	
		40K 4000K		AL Aluminum	
S10R SlimSurface 10" Round ²	8 80 9 90 ¹	27K 2700K	22 2200lm	BK Black	blank ELV / Triac (120V) Z10U 0-10V (120V-277V)
		30K 3000K		W White	
		35K 3500K		AL Aluminum	
		40K 4000K		BK Black	
				MT Metallic	

1. Configurations using 90 CRI are only available with 2700K & 3000K CCT.

2. SlimSurface LED 10" round installs into 4-11/16" J-box (not wet location listed).



Features

- Flange:** One piece plastic flange. Injection molded white, applied aluminum or black.
- Lens:** High transmittance lens allowing for smooth, comfortable light pattern.
- Power supply:** Integral class 2 driver. Factory wired electronic LED driver (see Electrical section for specifications)
- LED Strip:** Utilizes LEDs.
- Lifetime:** Expected lifetime 50,000 hours and backed by a 5-year warranty*
- Compliance:** Non-conductive fixture for shower light application (not applicable to metal trim model).

Dimming

Intended for ELV/Triac (120V) or 0-10V dimming (120V-277V) based on the configuration. Min 90°C supply conductors.

Electrical

Electronic power supply: RoHS compliant. Class 2 power unit. Unit tolerates sustained open and short circuit output conditions without damage.

Electrical specifications	Dimming	Input volts	Input frequency	Input current	Input Power	THD Factor	Power Factor	Minimum Operating Temp.
Slim 5" 650lm	Triac	120V	50/60Hz	0.08A	9.5W	<15%	>0.9	-20°C
	0-10V	120V	50/60Hz	0.09A	10.1W	<20%	>0.9	-20°C
		277V	50/60Hz	0.04A	10.2W	<20%	>0.9	-20°C
Slim 7" 1000lm	Triac	120V	50/60Hz	0.13A	14.2W	<15%	>0.9	-20°C
	0-10V	120V	50/60Hz	0.12A	14.4W	<20%	>0.9	-20°C
		277V	50/60Hz	0.06A	14.7W	<20%	>0.9	-20°C
Slim 10" 2200lm	Triac	120V	50/60Hz	0.20A	23.2W	<20%	>0.9	-20°C
	0-10V	120V	50/60Hz	0.20A	23.2W	<10%	>0.95	-20°C
		277V	50/60Hz	0.09A	24.6W	<15%	>0.95	-20°C

For more details, please see LED-DIM-DL spec sheet.

* See Philips.com/warranties for warranty details.

Labels

cULus listed. ENERGY STAR® certified. All models are damp location rated for walls or ceilings. The 5" & 7" are suitable for ceiling mount wet locations when installed per instructions.

Manhattan 22" LED Wall Light Textured Black

49298BKTLED (Textured Black)

Project Name: _____
Location: _____
Type: _____
Qty: _____
Comments: _____



Certifications/Qualifications

Location Rating	Wet
Title 24 Compliant	Yes
www.kichler.com/warranty	

Dimensions

Base Backplate	21.75 X 6.75
Extension	3.75"
Weight	8.40 LBS
Height from center of Wall opening (Spec Sheet)	11.00"
Height	22.00"
Width	7.00"

Electrical

Input Voltage	Single(120)V
---------------	--------------

Mounting/Installation

Interior/Exterior	Exterior
Mounting Weight	4.80 LBS

Photometrics

Color Rendering Index	90
Delivered Lumens	550
Kelvin Temperature	3000K

Primary Lamping

Dimmable	Yes
Expected Life Span	40000
Lamp Included	Integrated
Light Source	LED
Max or Nominal Watt	20.5W
# of Bulbs/LED Modules	2

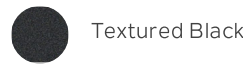
Product/Ordering Information

SKU	49298BKTLED
Finish	Black
Style	Contemporary
UPC	783927541206

Specifications

Diffuser Description	White Glass
Material	ALUMINUM

Additional Finishes



Textured Black

Kichler

7711 East Pleasant Valley Road Cleveland, Ohio 44131-8010
Toll free: 866.558.5706 or kichler.com

Notes:

1) Information provided is subject to change without notice.
All values are design or typical values when measured under laboratory conditions.
2) Incandescent Equivalent: The incandescent equivalent as presented is an approximate number and is for reference only.

KICHLER®

Department of Permitting & Inspections

Zoning Division
645 Pine Street
Burlington, VT 05401
Telephone: (802) 865-7188

William Ward, Director
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Ryan Morrison, Associate Planner
Layne Darfler, Planning Technician
Ted Miles, Zoning Specialist
Charlene Orton, Permitting & Inspections Administrator



TO: Development Review Board
FROM: Ryan Morrison, Associate Planner
DATE: June 15, 2021
RE: ZP-21-415; 6 Alexis Drive

=====

Note: These are staff comments only; decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

Zone: RL-W Ward: 4N

Owner/Applicant: Alan P. Tetreault Revocable Living Trust & David E. Cohen Revocable Living Trust / David Cohen

Request: Clearing of pines and hardwoods from the lot in anticipation of the construction of a new single family residence on site in Fall, 2021.

Applicable Regulations:

Article 5 (Citywide General Regulations)

Background Information:

The applicant is seeking approval to remove pines and hardwood trees in anticipation of construction of a new single family residence on the vacant lot. This project will result in 100% removal of trees from the lot. No other development is proposed at this time, and this application is reviewed under the Tree Removal standards of Article 5 of the Comprehensive Development Ordinance.

No previous zoning actions for this property:

Recommendation: Consent approval as per, and subject to, the following findings and conditions.

I. Findings

Article 5: Citywide General Regulations

Sec. 5.5.4, Tree Removal

(a) Review criteria for zoning permit requests for tree removal

(1) Grounds for approval

Tree removal involving six (6) or more trees, each of ten (10) inches or greater in caliper or the removal of ten (10) or more trees, each of which is three (3) inches or greater in caliper during any consecutive twelve (12) month period may be permitted for any of the following reasons:

A. Removal of dead, diseased, or infested trees;

The city arborist visited the property and noted that if a few trees were to remain around the future home site, those trees would become more susceptible to winds and root damage, and ultimately become more of a hazard. The clearing plan submitted indicates that there are tall, top-heavy pines and a few weak hardwood trees that will be removed. Further conversation with the applicant confirms that the aim is to clear the entire lot, and import fill to raise the lot to a similar or equal elevation to that of the neighboring lot. Once complete, new hardwood trees and other species will be planted. **(Affirmative finding)**

B. Thinning of trees for the health of remaining trees according to recognized accepted forestry practices;
(Not applicable)

C. Removal of trees that are a danger to life or property; or,

As noted above, the city arborist feels that the trees on the property represent a hazard to the future home site. Clearly, any tall tree, healthy or not, can be a hazard to a home site given certain circumstances. However, (D) below allows for tree removal as part of an approved development plan. **(Affirmative finding)**

D. As part of a development with an approved zoning permit.

Preliminary development plans have been provided to staff for initial review, but a formal zoning permit application has not yet been submitted. The applicant is requesting approval to remove the trees at this time to start development of the home site ahead of schedule. **(Affirmative finding)**

(2) Grounds for denial

Tree removal involving six (6) or more trees, each of ten (10) inches or greater in caliper or the removal of ten (10) or more trees, each of which is three (3) inches or greater in caliper during any consecutive twelve (12) month period may be denied if existing healthy trees are known to be:

A. Providing a significant privacy or aesthetic buffer or barrier between properties;
(Not applicable)

B. Providing stabilization on slopes vulnerable to erosion;
(Not applicable)

C. Located within a riparian or littoral buffer;
(Not applicable)

D. Provide unique wildlife habitat;
(Not applicable)

E. A rare northern Vermont tree species as listed by the Vermont Natural Heritage Program; or,
(Not applicable)

F. A significant element or, or significantly enhances, an historic site.
(Not applicable)

II. Conditions of Approval

1. Standard permit conditions 1-15.

Department of Permitting & Inspections

Zoning Division
645 Pine Street
Burlington, VT 05401
Telephone: (802) 865-7188

William Ward, Director
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Ryan Morrison, Associate Planner
Layne Darfler, Planning Technician
Alison Davis, Planning & Zoning Clerk
Ted Miles, Zoning Specialist
Charlene Orton, Permitting & Inspections Administrator



MEMORANDUM

TO: Development Review Board
FROM: Ryan Morrison, Associate Planner
DATE: June 15, 2021
RE: 21-0785CA/CU; 57 South Williams Street

=====

Note: These are staff comments only; decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

Zone: RH Ward: 1E

Owner/Applicant: Vermont Organization for Jewish Education Lubavitch / Eliyahu Junik

Request: Convert existing dormitory space and one apartment within the second floor of the Chabad of Vermont religious facility to a primary school use.

Applicable Regulations:

Article 2 (Administrative Mechanisms), Article 3 (Applications, Permits, and Project Reviews), Article 4 (Zoning Maps & Districts), Article 5 (Citywide General Regulations), Article 8 (Parking)

Background Information:

The applicant is requesting approval to convert portions of the second floor of the main front building of the Chabad of Vermont religious facility to a primary school use. As of ZP10-1016, existing uses within the second floor proposed for conversion include one apartment and four 1-bed dorm rooms.

While no exterior changes are proposed, the main front building (constructed in 1884) is listed in both the State and National Register of Historic Places. It is listed as a contributing resource in the Main Street – College Street Historic District (National Register).

In December, 2016, zoning permit approval was issued to construct a two-level building addition to the rear of the Chabad Jewish Community Center, with additional off-street parking, landscaping, and erosion prevention. The building addition consisted strictly of religious facility uses (sanctuary and supporting ancillary uses). This project is still under construction today.

Previous zoning actions for this property are noted below.

- **Zoning Permit 91-407;** Installation of sorority letters as signage on front façade of structure. Letters to measure 3'x6' overall. To be placed no higher than 12' above grade or the ceiling of the first floor, whichever is less. Approved June 5, 1991.

- **Zoning Permit 94-219;** Change of use from a 44 bed sorority to a membership club/church house. No exterior changes or signage included in this proposal. Approved November 9, 1993.
- **Zoning Permit 96-019;** Installation of a non-illuminated parallel sign, measuring 2.5H x 5.5L, for the existing fraternity. Approved July 18, 1995.
- **Zoning Permit 97-598;** Construction of a rear addition behind the rehabilitated former fraternity for a total of 26 residential units. Approved July 10, 1997.
- **Zoning Permit 97-071MA;** Review under Major Impact Development and Inclusionary Housing for a residential project consisting of 26 units. Approved June 16, 1997.
- **Zoning Permit 99-008CU;** Conditional use to convert an existing non-conforming use into a dormitory. Approved November 16, 1998.
- **Zoning Permit 99-046;** Conversion of the existing fraternity into a dormitory with a religious component. Proposal includes renovations to the existing structure. Any additions to the structure are under a separate permit. Approved July 23, 1998.
- **Zoning Permit 99-008A-CU;** Amend conditions of approval of November 2, 1998 to allow for an expanded parking area for the approved uses. Approved September 11, 2000.
- **Zoning Permit 00-656;** Amend previously approved phase 1 site plan to include construction of a handicapped access ramp on the south side of the existing dormitory with a religious component. Approved June 27, 2000.
- **Zoning Permit 09-573CA;** Rebuild entry railing, steps and porch floor, to amend previous permit. Approved June 4, 2009.
- **Non-Applicability of Zoning Permit 10-0298NA;** Interior work, no change of use. Approved September 23, 2009.
- **Zoning Permit 10-0306CA;** Replace existing sidewalk and railings, add lighting. Approved October 21, 2009.
- **Zoning Permit 10-1016CA;** Convert some dorm space to an apartment. Also install dryer and hood vents on outside wall. No site changes proposed. Approved June 11, 2010.
- **Non-Applicability of Zoning Permit 13-0931NA;** Addition of three bathrooms, interior work only. Approved April 11, 2013.
- **Zoning Permit 17-0455CA;** Two level addition, new off-street parking, landscaping and erosion prevention. Approved December 15, 2016 (subject of this re-application)
- **Zoning Permit 20-0136CA;** Addition of deck, new door, revisions to previously approved window fenestration. Approved August 26, 2019.
- **Zoning Permit 21-0255CA;** Ramp and deck alteration. Approved September 11, 2020.
- **Zoning Permit 21-0424CA;** Temporary tent. Approved November 6, 2020.
- **Zoning Permit 21-0462CA;** Re-apply for previously approved 17-0455CA; two-level rear building addition. Approved December 15, 2020.

Recommendation: **Certificate of Appropriateness and Conditional Use Approval** as per, and subject to, the following findings and conditions.

I. Findings

Article 2: Administrative Mechanisms

Section 2.7.8 Withhold Permit

Per this standard, the applicant is required to remedy all violations and close out all zoning permits issued after July 13, 1989 prior to issuance of a Certificate of Occupancy for this permit. See attached list for guidance on open permits/violations. **Affirmative finding as conditioned.**

Article 3: Applications, Permits, and Project Reviews

Part 3, Impact Fees

Section 3.3.2 Applicability

Any new development or additions to existing buildings which result in new dwelling units or in new nonresidential buildings square footage are subject to impact fees as is any change of use which results in an added impact according to Section 3.3.4.

Impact fees apply to this permit. Fees are based on the square footage of each residential/dormitory room being converted to the primary school use. The applicant will have to provide these calculations to staff for impact fee assessment. **Affirmative finding as conditioned.**

Section 3.3.8 Time and Place of Payment

(b) Existing Buildings: Impact fees must be paid... if a building permit is required, within thirty (30) days of issuance of the building permit. Affirmative finding as conditioned.

Part 5: Conditional Use and Major Impact Review

Section 3.5.6 Review Criteria

(a) Conditional Use Review Standards

Approval shall be granted only if the DRB, after public notice and public hearing, determines that the proposed conditional use and associated development shall not result in an undue adverse effect on each of the following general standards:

- 1. Existing or planned public utilities, facilities, or services are capable of supporting the proposed use in addition to the existing uses in the area;*

The proposal will have minimal impact on public utilities, facilities and services. The applicant will have to secure a letter from the Department of Public Works verifying that there is adequate water and sewer capacity for the change of use. A state wastewater permit may also be needed.

Affirmative finding as conditioned.

- 2. The character of the area affected as defined by the purpose or purposes of the zoning district(s) within which the project is located, and specifically stated policies and standards of the Municipal Development Plan;*

The property is within an established high-density residential zoning district. The Residential High Density (RH) zoning district is intended primarily for high density attached multi-family residential development. Development is intended to be intense with high lot coverage, large buildings, and buildings placed close together. Parking is intended to be hidden either behind or underneath structures. The use table of Appendix A, CDO, specifically includes 'School – Primary' as a conditional use within the RH zoning district. **Affirmative finding.**

- 3. The proposed use will not have nuisance impacts from noise, odor, dust, heat, and vibrations greater than typically generated by other permitted uses in the same zoning district;*

No greater impacts are anticipated than other high density developments and other allowed uses in the area. **Affirmative finding.**

- 4. The transportation system is capable of supporting the proposed use in addition to the existing uses in the area. Evaluation factors include street designations and capacity; level of service and other performance measures; access to arterial roadways; connectivity; transit availability; parking and access; impacts on pedestrian, bicycle and transit*

circulation, safety for all modes; and adequate transportation demand management strategies;

This property is located along South Williams Street, a street with high density residential and institutional development. The property will maintain its driveway and parking area to serve the religious facility and the proposed primary school. Sidewalks line both sides of the street, and there are transit stops well within walking distance on College Street and Pearl Street. The proposal is not expected to create adverse impacts on the existing transportation system.

Affirmative finding.

5. *The utilization of renewable energy resources;*

Nothing within the application prevents the use of wind, solar, water, geothermal or other renewable energy resource. **Affirmative finding.**
and;

6. *Any standards or factors set forth in existing City bylaws and city and state ordinances.*

The primary school use will be subject to applicable life safety and building standards.

Affirmative finding as conditioned.

(c) Conditions of Approval

In addition to imposing conditions of approval necessary to satisfy the General Standards specified in (a) or (b) above, the DRB may also impose additional conditions of approval relative to any of the following:

1. *Mitigation measures, including but not limited to screening, landscaping, where necessary to reduce noise and glare and to maintain the property in a character in keeping with the surrounding area;*

No exterior alterations are proposed, and the new primary school use within the existing facility should not result in any new nuisances. **Affirmative finding.**

2. *Time limits for construction.*

Standard time limits for construction are as follows: construction must commence within one year from the date of zoning permit issuance, and after that, an additional two years is available to finish the project. **Affirmative finding.**

3. *Hours of operation and/or construction to reduce the impact on surrounding properties.*

Standard construction hours are 7:30 AM to 5:30 PM, Monday – Friday. Saturday construction hours may be allowed upon request to the Development Review Board. No work on Sunday. As noted above, there are no structural alterations proposed to the building's exterior, and interior renovations will be minor in nature. A building permit will be required for the change of use and any other interior structural alterations that may occur. The school use is expected to operate during normal daytime school day hours, with occasional evening activities. **Affirmative finding as conditioned.**

4. *That any future enlargement or alteration of the use return for review to the DRB to permit the specifying of new conditions,*

Should the applicant wish to alter the use or structure(s), such alteration will require review and permitting under regulations in effect at that time. **Affirmative finding as conditioned.**
and

5. *Such additional reasonable performance standards, conditions and safeguards as it may deem necessary to implement the purposes of this chapter and the zoning regulations.*
None identified.

Article 4: Zoning Maps & Districts

Sec. 4.4.5, Residential Districts:

(a) Purpose

(5) Residential High Density (RH)

The Residential High Density (RH) district is intended primarily for high density attached multi-family residential development. Development is intended to be intense with high lot coverage, large buildings, and buildings located close together. Parking is intended to be hidden either behind or underneath structures.

The subject property is located in the RH zone. A ‘School - Primary’ use in the RH zone is listed as a conditional use in Appendix A – Use Table – All Zoning Districts. Seeing as the amount of floor area devoted to the proposed primary school use, combined with other ancillary uses within the religious facility (day-care), exceeds the 25% allowance for accessory uses, the proposal must be reviewed as a separate use of the property, which in this case is a conditional use. **Affirmative finding.**

(b) Dimensional Standards and Density

The density and intensity of development, dimensions of building lots, the height of buildings and their setbacks from property boundary lines, and the limits on lot coverage shall be governed by the following standards:

Table 4.4.5-1 Minimum Lot Size and Frontage: RL, RL-W, RM and RM-W

Footnote 2: *There are no minimum lot size or frontage requirements in the RH District.*

Not applicable.

Table 4.4.5-2 Base Residential Density

High Density: RH 40 units/acre

Based on ZP10-1016CA, there is one existing dwelling unit on the property – the second floor apartment proposed for conversion to the primary school use. The zoning ordinance does not assign a density application to dormitories – regardless of the number of rooms. Technically there is just one dwelling recognized on the property. Sec. 5.2.7 below addresses non-residential density equivalents that will apply to the property. See below. **Affirmative finding.**

Table 4.4.5-3 Residential District Dimensional Standards

No changes to the site or building are proposed. **Not applicable.**

(c) Permitted & Conditional Uses

‘School - Primary’ is listed as a conditional use in the RH zoning district. **Affirmative finding.**

(d) District Specific Regulations

Not applicable.

Article 5: Citywide General Regulations

Sec. 5.2.3, Lot Coverage Requirements

No change. **Not applicable.**

Sec. 5.2.4, Buildable Area Calculation
Not applicable.

Sec. 5.2.5, Setbacks
No change. **Not applicable.**

Sec. 5.2.6, Building Height Limits
No change. **Not applicable.**

Sec. 5.2.7, Density and Intensity of Development Calculations

(a) Dwelling Units per Acre

In accordance with the district-specific provisions of Article 4, the calculation of density shall be measured as follows in such cases where the density is measured on a dwelling unit per acre basis:

- 1. Density Calculation: The total number of dwelling units provided on a lot or lots, or portion of the lot(s) where split by a zoning district boundary, shall be divided by the net area expressed in acres calculated to the nearest fractional tenth (i.e. to a single decimal point). The net area of the lot(s) shall account for buildable area where applicable (see Sec. 5.2.4). In calculating the number of dwelling units permitted, fractional units of less than five-tenths (0.5) shall be rounded down to the nearest whole number and fractional units of five-tenths (0.5) or greater shall be rounded up to the nearest whole number. Any rounding of fractional units shall be limited to a single final calculation.*

With the loss of the only dwelling unit (second floor apartment), there will no longer be dwelling units on the property to base a density calculation on. Therefore, the nonresidential density equivalent, outlined in (2) below, applies to the gross floor area of the existing building.

Affirmative finding.

- 2. Density Equivalent, Nonresidential Uses: For purposes of density calculations, each one thousand, five hundred (1,500) square feet of nonresidential gross floor area shall be counted as one dwelling unit.*

Given a nonresidential gross floor area of 22,233 sf, the property yields 15 dwelling units.

$59,626 / 43,560 \text{ (acre)} = 1.368 \text{ acres.}$

$15 \text{ units} / 1.368 = 10.96 \text{ units per acre; well below the 40 unit/acre requirement.}$ **Affirmative finding.**

Sec. 5.5.1, Nuisance Regulations

Nothing in the proposal appears to constitute a nuisance under this criterion. **Affirmative finding.**

Sec. 5.5.2, Outdoor Lighting

There are no new exterior lights proposed, nor are there any alterations to existing light fixtures proposed. **Not applicable.**

Sec. 5.5.3, Stormwater and Erosion Control
Not applicable.

Article 8: Parking

Sec. 8.1.8, Minimum Off-Street Parking Requirements

The property is located in the Neighborhood Parking District. Parking requirements for dormitories are 1 space for every 2 beds, and dwelling units (apartment) require 2 spaces per unit. With there being 1 bed in each of the 4 dorm rooms, plus one apartment, a total of 4 parking spaces can be credited toward the four new classrooms. Primary schools require 1.5 spaces per classroom, which in this case requires 6 parking spaces. The applicant is requesting a 2-space parking waiver to comply with these parking requirements. **Affirmative finding if the parking waiver request is approved.**

Sec. 8.1.15, Waivers from Parking Requirements/Parking Management Plans

Parking waivers cannot exceed 90% of the required number of spaces. A 15-space parking waiver was approved as part of ZP17-0455CA for the rear building addition. That permit identified 51 parking spaces required, but as a result of the parking waiver approval, a 36-space parking lot is being developed as part of the ongoing construction. The current proposal raises the overall minimum parking requirement to 53 spaces, to which the applicant requests an additional 2-space waiver. Pending approval of this request, a total of 17 spaces will be waived for the overall property. This represents a 32% waiver, far below the 90% maximum allowance for such waivers.

The applicant has provided a parking management plan to support the parking waiver request. Many of the children in the classrooms have younger siblings that attend the onsite pre-school, thus resulting in little increase to existing traffic to and from the property. The sanctuary services, which draw the greater parking requirements, operates on the weekends, thus there would be no conflicts with parking demand on the weekdays that the school will operate.

The applicant further notes that drop off and pick up times for the school use have a wide window – between 7:30 and 9:00 am, and then between 4:00 and 5:30 pm. There will not be a time when the entire school body is picked up and dropped off at one time.

Given the shared parking availability of the school uses (pre-school and primary) and the religious facility, weekdays versus weekends, there should be no overlap in parking demand. Additionally, public transportation is also available too, located within walking distance to Pearl and College Streets. **Affirmative finding if the parking waiver request is approved.**

Sec. 8.2.5, Bicycle Parking Requirements

As part of the ongoing development (additional sanctuary space in the rear building addition – ZP17-0455CA), a 12 space bike rack is being installed onsite. This will be able to handle the weekday school use requirement of 2 short term spaces per classroom (totaling 8 spaces). Long term spaces are required at 1 space per 20,000 sf of classroom floor area, plus 1 space per 10 students. The four classrooms are significantly less than 20,000 sf in area, and the student count will not exceed 25. Based on this, the number of long term spaces needed totals 4. Long term bicycle parking space will be located in the storage areas of the basement – which also handles the long term parking requirements for the religious facility. **Affirmative finding.**

II. Conditions of Approval

1. **Prior to the release of the zoning permit**, the applicant shall submit gross floor area calculations of the residential/dormitory room areas being converted to the primary school use for impact fee assessment.

2. **Prior to the release of the zoning permit**, the applicant shall secure a letter of confirmation from the Department of Public Works verifying that there is adequate water and sewer capacity for the change of use.
3. **Within 30 days of issuance of the associate building permit**, impact fees based on the net square footage of converted floor area shall be paid to the Department of Permitting and Inspections or to the Clerk / Treasurer's Office.
4. A State of Vermont wastewater permit may be required and it is the responsibility of the applicant to procure.
5. Standard construction hours are 7:30 AM to 5:30 PM, Monday – Friday. Saturday construction hours may be allowed upon request to the Development Review Board. No work on Sunday.
6. It is the applicant's responsibility to comply with all applicable ADA requirements.
7. It is the applicant's responsibility to obtain all necessary trades permits for the change of use and any other interior structural alterations.
8. All new construction is required to meet the Guidelines for Energy Efficient Construction pursuant to the requirements of Article VI. Energy Conservation, Section 8 of the City of Burlington Code of Ordinances.
9. Any signage will require a separate sign permit.
10. Standard Conditions 1-15.



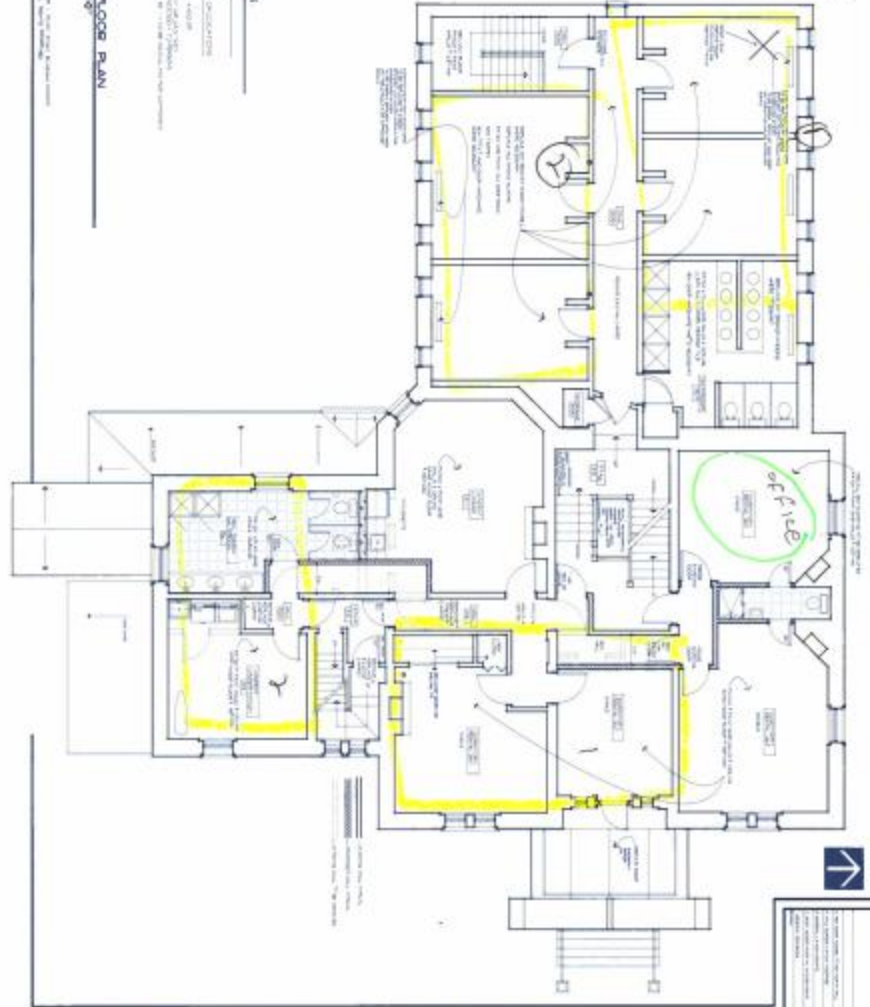
They already
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Chabad House
we use
to use
for
the
dry
Street

CODE INFORMATION

REQUIREMENTS FOR ACCESSIBILITY
REQUIREMENTS FOR OCCUPANCY CLASSIFICATION
REQUIREMENTS FOR FIRE PROTECTION
REQUIREMENTS FOR SAFETY
REQUIREMENTS FOR HEALTH
REQUIREMENTS FOR ENVIRONMENTAL QUALITY
REQUIREMENTS FOR ENERGY EFFICIENCY
REQUIREMENTS FOR TRANSPORTATION
REQUIREMENTS FOR UTILITIES
REQUIREMENTS FOR COMMUNICATIONS
REQUIREMENTS FOR SECURITY
REQUIREMENTS FOR SPECIAL USES
REQUIREMENTS FOR HISTORIC PRESERVATION
REQUIREMENTS FOR LANDSCAPE ARCHITECTURE
REQUIREMENTS FOR ARCHITECTURAL QUALITY
REQUIREMENTS FOR ARTS AND CULTURE
REQUIREMENTS FOR RECREATION
REQUIREMENTS FOR EDUCATION
REQUIREMENTS FOR HEALTH CARE
REQUIREMENTS FOR HOUSING
REQUIREMENTS FOR INFRASTRUCTURE
REQUIREMENTS FOR LAND USE
REQUIREMENTS FOR LEGISLATION
REQUIREMENTS FOR MANAGEMENT
REQUIREMENTS FOR MARKETING
REQUIREMENTS FOR OPERATIONS
REQUIREMENTS FOR PLANNING
REQUIREMENTS FOR POLICY
REQUIREMENTS FOR PROGRAMS
REQUIREMENTS FOR PROJECTS
REQUIREMENTS FOR RESEARCH
REQUIREMENTS FOR SERVICES
REQUIREMENTS FOR STANDARDS
REQUIREMENTS FOR TECHNOLOGY
REQUIREMENTS FOR TRAINING
REQUIREMENTS FOR EVALUATION
REQUIREMENTS FOR IMPROVEMENT
REQUIREMENTS FOR INNOVATION
REQUIREMENTS FOR LEADERSHIP
REQUIREMENTS FOR NETWORKING
REQUIREMENTS FOR PARTNERSHIPS
REQUIREMENTS FOR RESOURCES
REQUIREMENTS FOR RESULTS
REQUIREMENTS FOR SUSTAINABILITY
REQUIREMENTS FOR VISION

SECOND FLOOR PLAN

SCALE: 1/8" = 1'-0"



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Department of Permitting & Inspections

Zoning Division
645 Pine Street
Burlington, VT 05401
Telephone: (802) 865-7188
(802) 865-7195 (FAX)

William Ward, Director
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Ryan Morrison, Associate Planner
Layne Darfler, Planning Technician
Ted Miles, Zoning Specialist
Charlene Orton, Permitting & Inspections Administrator



TO: Development Review Board
FROM: Scott Gustin
DATE: June 15, 2021
RE: 21-0922LL; 68-70 Conger Avenue
21-0923LL; 78-80 Harrison Avenue

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Note: These are staff comments only; decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

Zone: RL-W Ward: 5S

Owner/Appellant: Michele Bushey

Request: Appeals of administrative zoning denials of lot line adjustment between two properties (68-70 Conger Ave and 78-80 Harrison Ave).

Overview:

The applicants are seeking approval of a boundary line adjustment between two properties under the same ownership. As two properties are involved in the boundary line adjustment two applications are entailed. Both were denied and both have been appealed. Given the necessary relationship between the two properties for the requested boundary line adjustment, this appeal handles them concurrently.

Recommendation: **Uphold administrative zoning denial** based on the following findings:

I. Findings:

The two properties are located in the Lakeside neighborhood and share a mutual boundary along their side and rear. Both properties are developed with homes. Interestingly, a detached garage was approved for 68-70 Conger Ave in 1981 but was constructed on the 78-80 Harrison Ave property. The applications note that both properties were under shared ownership even then. The zoning permit for the garage pre-dated the requirement for follow up inspection and a certificate of occupancy. The owners are looking to sell the properties and want to adjust the shared boundary so that the garage is included in the Conger Ave property and not the Harrison Ave property. Adjusting boundary lines in established neighborhoods such as this one is often complicated. The requested boundary line adjustment in this case is no exception.

The zoning applications for the requested boundary line adjustment were filed April 21, 2021 following several consultations between zoning staff and the applicants. Both properties are nonconforming as to lot size at less than 6,000 sf. The minimum lot size for single family homes in this RL-W district is 6,000 sf, and the minimum lot size for duplexes is 10,000 sf. Both homes appear to be duplexes. Both properties are also nonconforming as to lot coverage, as both exceed

the 35% standard lot coverage limit. Any lot line adjustment would need to avoid increasing any nonconformity. Anything other than an even swap could not be permitted. As proposed, nonconformities as to lot size and lot coverage would increase on the Harrison Avenue property. As a result, the zoning applications were denied April 28, 2021 for the following reasons:

78-80 Harrison Avenue (21-0923LL):

1. This property is presently nonconforming as to lot size (5,760 sf whereas 6,000 is the minimum lot size in the W-RL zone, wherein the property is located). The proposed lot line adjustment would make the lot even smaller (4,959 sf). The lot line adjustment would increase the degree of nonconformity.
2. Lot coverage data is not specified in the survey plat; however, current LIDAR data indicates ~3,173 sf lot coverage (55.1%). Up to 35% lot coverage is allowed in the W-RL zone. An additional 10% lot coverage is allowed for open air amenities such as walkways and open porches. This property is nonconforming as to lot coverage. The lot line adjustment would increase the degree of nonconformity with a resultant lot coverage of 64%.
3. Sec. 5.3.6, *Nonconforming Lots*, prohibits alterations to a nonconforming lot if the dimensional requirements and standards of the underlying zoning district are not met. As noted above, dimensional requirements and standards as to minimum lot size and lot coverage will not be met. As a result, the zoning application cannot be approved.

68-70 Conger Avenue (21-0922LL):

1. This property is presently nonconforming as to lot size (5,150 sf whereas 6,000 is the minimum lot size in the W-RL zone, wherein the property is located). The proposed lot line adjustment would make the lot larger (5,950 sf) and less nonconforming. However, the lot line adjustment would make the other property involved in this lot line adjustment (78-80 Harrison Ave) smaller and more nonconforming than it already is (see zoning denial 21-0923LL).
2. Lot coverage data is not specified in the survey plat; however, current LIDAR data indicates ~2,757 sf lot coverage (53.5%). Up to 35% lot coverage is allowed in the W-RL zone. An additional 10% lot coverage is allowed for open air amenities such as walkways and open porches. The lot line adjustment would decrease the percentage of lot coverage (46.3%) and lessen the degree of nonconformity. However, the lot line adjustment would make the other property involved in this lot line adjustment (78-80 Harrison Ave) smaller and increase the degree of its nonconforming lot coverage (see zoning denial 21-0923LL).
3. Sec. 5.3.6, *Nonconforming Lots*, prohibits alterations to a nonconforming lot if the dimensional requirements and standards of the underlying zoning district are not met. As noted above, this lot line adjustment will necessitate increases in the degree of nonconformity as to dimensional requirements and standards for the other property (78-80 Harrison Ave). As a result, the zoning application cannot be approved.

Essentially, the proposed lot line adjustment increases the degree of nonconforming lot size and lot coverage on the Harrison Avenue property. As the adjustment on one lot necessarily affects the other lot, the two lot line adjustment applications were denied.

Appeals of these two zoning denials were filed May 5, 2021, within the 15-day appeal period. The appeals request that the boundary line adjustment be approved and refer to Sec. 5.2.1, *Existing Small Lots* as the basis for approving a substandard lot size.

Sec. 5.2.1, *Existing Small Lots*, is a provision based in state statute that enables development of existing lots (as of April 26, 1973) that are smaller than the required minimum size, provided they are at least 4,000 sf and have a minimum width and depth dimension of 40.’ The two lots at issue here are both “existing small lots” – that is, they are both less than the required minimum lot size (but more than 4,000 sf with sufficient width and depth) and pre-date April 26, 1973. As existing small lots, they may be developed for the purposes permitted in the RL-W zone. In other words, they may be developed / redeveloped for residential use subject to standards applicable in the RL-W zone. Only the standard minimum lot size does not apply. Sec. 5.2.1 does not enable further reduction in lot size for existing small lots. Such would be the case for the Harrison Ave property if the proposed boundary line adjustment were to be approved.

The proposed lot line adjustment results in increased degree of nonconformity as to lot size and lot coverage. Sec. 5.2.1, *Existing Small Lots*, enables development of substandard lots but does not enable further reduction in size for such lots. The proposed lot line adjustments cannot be approved.

II. Recommended Motion:

Uphold the zoning application denials of 21-0922LL & 21-0923LL.

Thomas G. Walsh
97 Dunder Road
Burlington, VT 05401

June 10, 2021

To: City of Burlington DRB

**RE: 81 Dunder Road - Airbnb (B&B) Rental Amendment Application (21-0909CA
Amending 18-0682CU):**

I am Tom Walsh and I own 97 Dunder Road; my property abuts immediately south of 81 Dunder Road.

In April 2021, I provided the DRB with a summary of my opinion of why the B&B activity does not comply with the City's regulations; this included an outline of the rental activities adverse impacts to my peaceful enjoyment of my property. I attach that filing here for your consideration.

A critical aspect of your review and consideration of this amendment application is pursuant to Section 3.5.6 Review Criteria (a) Conditional Use Review Standards requiring that you find that:

3. The proposed use will not have nuisance impacts from noise, odor, dust, heat, and vibrations greater than typically generated by other permitted uses in the same zoning district;

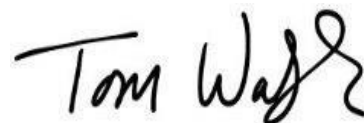
The rental use has been occurring for more than two years and the use has daily nuisance impacts from noise much greater than single family home use. The subject property is a single family home and has the ongoing residential activities. Adding the B&B rental brings daily renter arrival. Renters park immediately next to my property boundary. They exit their vehicle, open and close doors and walk along my property boundary to enter the unit. They come and go. When they exit the unit to use the outside hot tub and pool they walk closer along my property boundary. Then leave in the morning and the house cleaner comes and goes. Then new renters arrive. Its non-stop. While the actual activity is the same as a single family home, the intensity is much greater and thus results in daily nuisance impact.

The application does not have a scaled drawing. I estimate that the parking area and walkway/entrance to the rental unit to be approximately 7 feet from my property.

Last spring I allowed applicant to remove one of my hardwood trees adjacent to the shared property boundary in the area of the entrance door to the unit to be rented. I allowed this on his agreement to put up a privacy fence. That has not happened. The removal of the tree decreases the buffer between the two properties and increases the daily nuisance impacts of the rental activities. It appears that the applicant has planted a few new plantings near this area. The planting are so small and spindly that they do nothing to buffer impacts and will take years to add any benefit.

If the DRB approves the B&B Amendment Application, I request a condition requiring a privacy fence constructed along the common boundary. A prompt deadline for construction should be included.

Respectfully,

A handwritten signature in black ink that reads "Tom Walsh" with a stylized flourish at the end.

Thomas G. Walsh

Thomas G. Walsh
97 Dunder Road
Burlington, VT 05401

April 1, 2021

To: City of Burlington DRB

RE: Neighborhood Impacts / Lack of Compliance- Airbnb (B&B) Rental at 81 Dunder Road (18-0682CU):

I am Tom Walsh and I own 97 Dunder Road; my property abuts immediately south of 81 Dunder Road. I had recently moved into my freshly constructed home when the 2018 B&B application was filed. I reviewed the Application which sought approval to “rent 1 BR in single family home.” I was not happy about short-term rental, but I was hoping that renters within a home would have limited impacts.

I have tried to ignore the rental activity for 2 years. I do not want to be involved, but the impacts are significant, and growing, so I am left with defending my quiet enjoyment of my Burlington home.

The B&B Application significantly misrepresented the rental activity. Renters do not enter/exit the front door as the owner does. There is a separate side entrance, on my common boundary a few feet from my property. This doorway leads to a separate unit. There is no sharing of the house. The rental is a completely separate apartment. The Airbnb rental listing reads: **“Private HotTub Oasis Retreat Ski, Brews, Beach, Bike.” “Entire home- You’ll have the house to yourself.” “Hot tub, swimming pool, Bikes and sleds included! It feels like a tiny house in the trees.” “Private entrance -Separate street or building entrance.”** Although the listing currently says no kitchen, the comment section from November 2020 states: “My deepest apologies for not making the lack of freezer and the size of the convection microwave oven more clear.” This is a whole unit, not merely “1 BR in a single family home” and is therefore significantly inconsistent with the approved B&B permit/ permit application.

The City is currently addressing short-term rentals. The reform, specifically Amendment No. ZA-20-05, limits the number of housing units that can be converted into short-term rental uses. This reform creates “[c]lear standards for short-term rentals that differentiate between a ‘bedroom(s) within a unit’ and a ‘whole unit’ short-term rental” The reform provides greater restrictions on “whole unit” rentals by stating that these are considered a non-residential use that requires, among other things, that the use be approved as a conditional use. The City’s amendment is indicative of the City’s clear intent to limit “separate apartment” short-term rentals due to their heightened impacts on the community.

The two rental situations (sharing a bedroom in a home versus renting a completely separate unit) have much different neighborhood impacts. These differing impacts arise in large

part because there is no built-in management or control of separate units. As the renters are not sharing space with the owner, renters come and go as they please without concern of disrupting the single family home and without the owner being aware.

The direct impacts to me are that I have to ask renters to stop parking and blocking the sidewalk, I have to go out at midnight and ask renters using the hot tub (new activity) to quiet down, I have to ask renters to not smoke in my driveway, and I have to be disturbed by renters in front of my house talking loudly on their speaker phone. Neighbors that actually live here do not cause any of these impacts. Before the AirBnb, I experienced a neighborhood that was extremely quiet, especially after the evening commute hours.

The situation is getting worse. Rental activities and impacts are increasing. A few examples are:

- a. Sometimes renters have more than one car (permit condition limits renters to one car); when this happens they block the sidewalk.
- b. There is new hot tub use (From AirBnb reviews it appears that the hot tub was installed around November 2020); there wasn't a hot tub before this. Now renters are waking me up at midnight whooping it up in the hot tub.
- c. There is a pool in back yard that hasn't been used since I have lived here. Mr. Heller is getting it ready for use and recently has taken down several large trees around the perimeter of the pool. The AirBnb ad says the pool is going to be part of the rental package. The hot tub and pool use by renters is commercial use and should NOT be allowed.
- d. The rental use commonly is one or two renters. But, there has also been a family of four, sometimes there are three renters, and recently on March 15 there were 5 people renting the unit. More people results in more noise and activity and more disruption to my quiet enjoyment of my property.

The adverse impacts from the short-term rental activities are not hard to understand: Neighbors living next to each other impact each other, but the disturbances become predictable over time and often neighbors work with each other in reasonable ways to reduce impacts.

On the other hand, when you have transient people changing out daily, disturbances are not predictable and they don't get worked out. To be clear, I'm not using transient as a derogatory term; however, people who are only staying one or two nights have different interests than people who live here. They are on a trip or on vacation, letting off steam, they don't have to work the next day, they stay up late, maybe they have a few drinks and get noisy. Whatever happens, they are leaving the next day and they are not too worried about their impacts.

When approving the B&B use, City regulations require you to consider:

1. First and foremost; whether the use actually qualifies as a B&B, which was proposed as "1 BR in a single family home", or whether it is actually an accessory unit which may

only be approved pursuant to special use regulations. See BCDO Appx. A (listing B&B's as conditional uses in the RL-W District); BCDO § 3.5 (describing conditional uses and review criteria) BCDO § 5.4.5 (setting forth the special use regulations for accessory dwelling units).

BCDO Art. 13 defines a B&B as “an owner-occupied residence, or portion thereof, in which short-term lodging rooms are rented and where only a morning meal is provided on-premises to guests.” This requires that a B&B is a shared-living structure where only “lodging rooms,” which do not include separate sanitary or food preparation areas, are available for rental. In addition, the BCDO also requires that any B&B in the RL-W district “must be owner-occupied.” See BCDO Appendix A. This definition does not contemplate a separate apartment complete with the associated facilities necessary for independent living and separate from the owner's residence, as is the case here.

81 Dunder Road is operating a separate accessory unit, which the BCDO defines as “an efficiency or one bedroom apartment that is clearly subordinate to the principal dwelling, and has facilities and provisions for independent living, including sleeping, food preparation, and sanitation.” See BCDO § 5.4.5. Here, the short-term rental activity is located in a separate unit with no connection to the single-family use. The listing itself advertises as a separate unit: “Entire home- You'll have the house to yourself.” Moreover, the short-term rental provides separate food preparation facilities and sanitation facilities, irrespective of the hosts, unlike a B&B. The way this B&B is being managed is more like a hotel or resort (separate unit and hot tub and pool) which is commercial use not a residential home use.

Thus, the rental use as a separate accessory unit is not consistent with the B&B Permit. The rental of a separate accessory unit has not been reviewed or approved.

2. Whether the the B&B changes the character of the area. See BCDO § 3.5.6(a)(2).

What is the character of the area? There are just over 90 properties in the South Cove Association. I am aware of only 1 accessory apartment and that has a long-term renter. The remainder of the properties are single-family homes that are predominately owner occupied. It is a very quiet neighborhood; once people are home from work there is little traffic as the streets are not through streets.

So YES, the short-term rental changes the character of the area– new transient renters come and go daily. A cleaner comes and goes in between. Traffic and PARKING is irregular. These renters have little concern for their disruptions. Because of the short-term rental, it is no longer a trusted neighborhood. Renters are mostly out of state from NY, CT, MA, OR, UT to name a few. I do not feel comfortable leaving my house unlocked, even for a few minutes for a dog walk.

3. Whether the use will have nuisances. See BCDO § 3.5.6(a)(3).

Yes – I am being woken up at midnight by loud renters. Think about it, these renters are on a get-away or vacation when people tend to live it up even late into the night.

This is what I ask:

1. The AirBnb changes the character of the neighborhood and creates several nuisances. The approval limiting the rental to 1 BR WITHIN home has not been complied with and the conditions set by the permit have not been honored. The approval should be revoked.
2. If any rental is allowed then I request the following conditions:
 - a. Expressly prohibit short-term rental of the accessory unit. Such rental has not been applied for or reviewed;
 - b. Require a tall privacy fence along my common boundary. Limit renters to going in and out of the front door to minimize disturbances. The driveway is right on the common boundary so privacy is still a concern.
 - c. Limit the number of renters to TWO at a time.
 - d. Set a condition for no outside noise between 10 PM and 7 AM.
 - e. Do not allow renters to use the outside hot tub or pool. The expanding activities are akin to a hotel or resort; these are commercial uses not appropriate for residential zones. These outside activities have the most disrupting impacts.

Respectfully,

A handwritten signature in black ink that reads "Tom Walsh" with a stylized flourish at the end.

Thomas G. Walsh

FULL DESIGN DEVELOPMENT, CONSTRUCTION DOCUMENTS, TECHNICAL DRAWINGS AND SPECIFICATIONS ARE TO BE DEVELOPED PRIOR TO CONSTRUCTION PERMIT APPLICATION.

2917-0455 CR

Version P Rev. 4 - Design Development

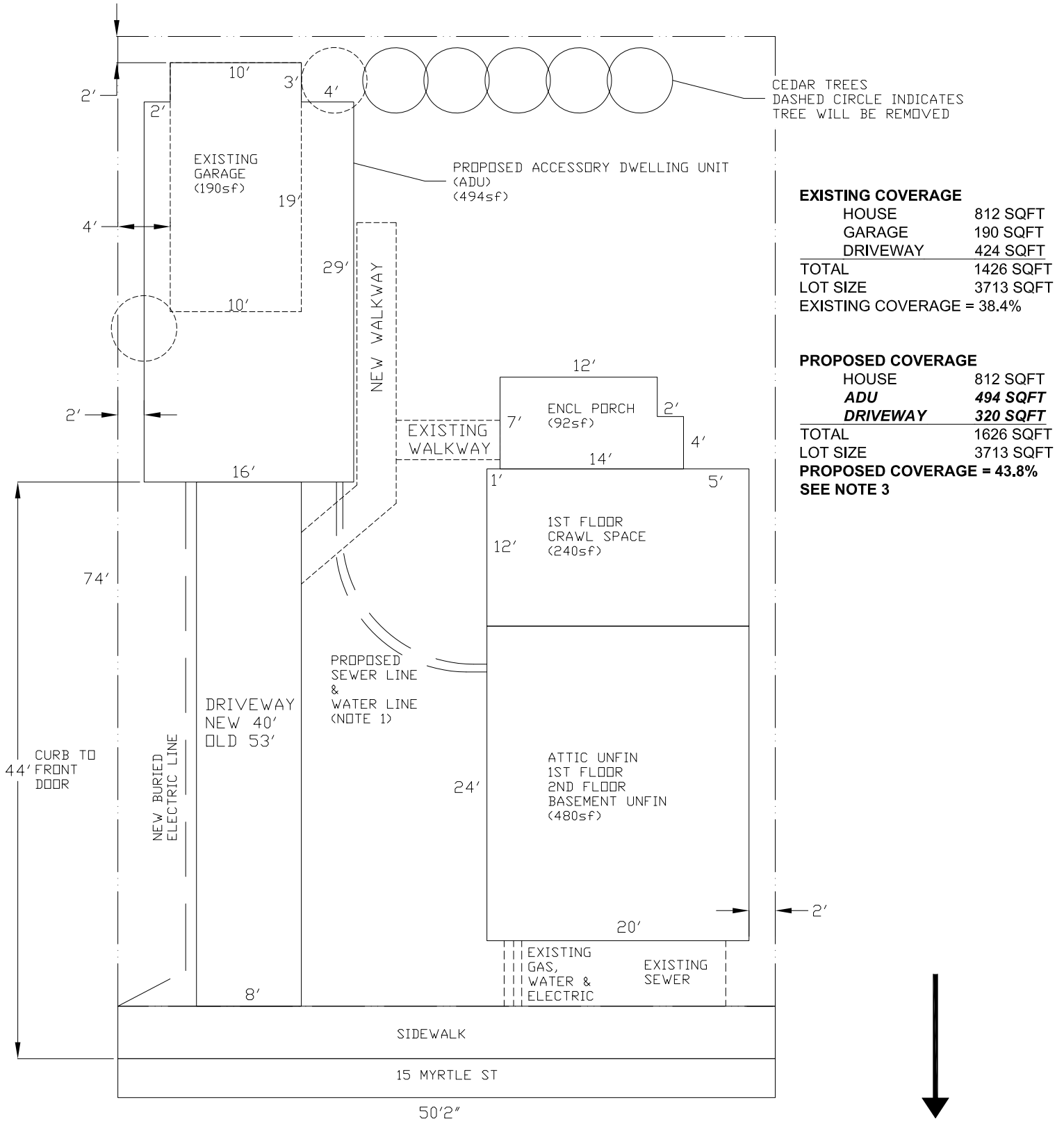
OWNER: ANDREW FELTUS

DATE: 6/11/2021

REV: 4

SCALE: 1"=10'

15 MYRTLE ST SITE PLAN PROPOSED ACCESSORY DWELLING UNIT



NOTES:

- SEWER AND WATER LINES WILL TAP INTO EXISTING SEPTIC AND WATER HOOKUPS IN BASEMENT OF EXISTING HOUSE.
- ZONING DISTRICT RESIDENTIAL MEDIUM DENSITY (RM)
- SEEKING EXCEPTION UNDER ARTICLE 5.2.3 (b)(10) FOR ACCESSORY DWELLING UNIT. A 50 GALLON RAIN WATER COLLECTION SYSTEM WILL BE INSTALLED TO REDUCE STORMWATER RUNOFF.

NORTH

10'

OWNER: ANDREW FELTUS
DATE: 6/10/2021
REV: 3
SCALE: 1/4" = 1'

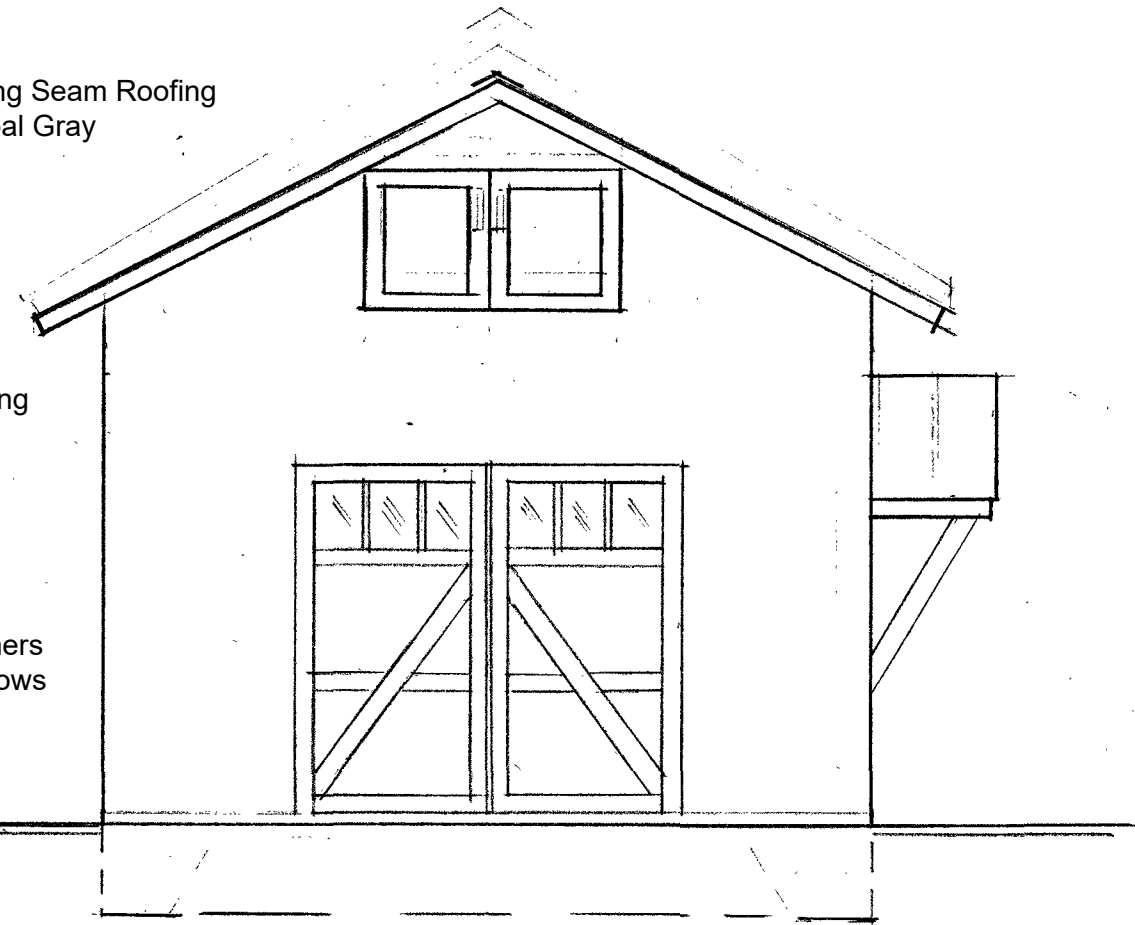
NORTH ELEVATION

SCALE 1/4" = 1'

Standing Seam Roofing
Charcoal Gray

Board & Batten Siding
8"x 0.75" Board
1"x 0.75" Batten
Painted White

Corner Trim
4"x 0.75" Board
(Installed on all corners
and around all windows
and doors)

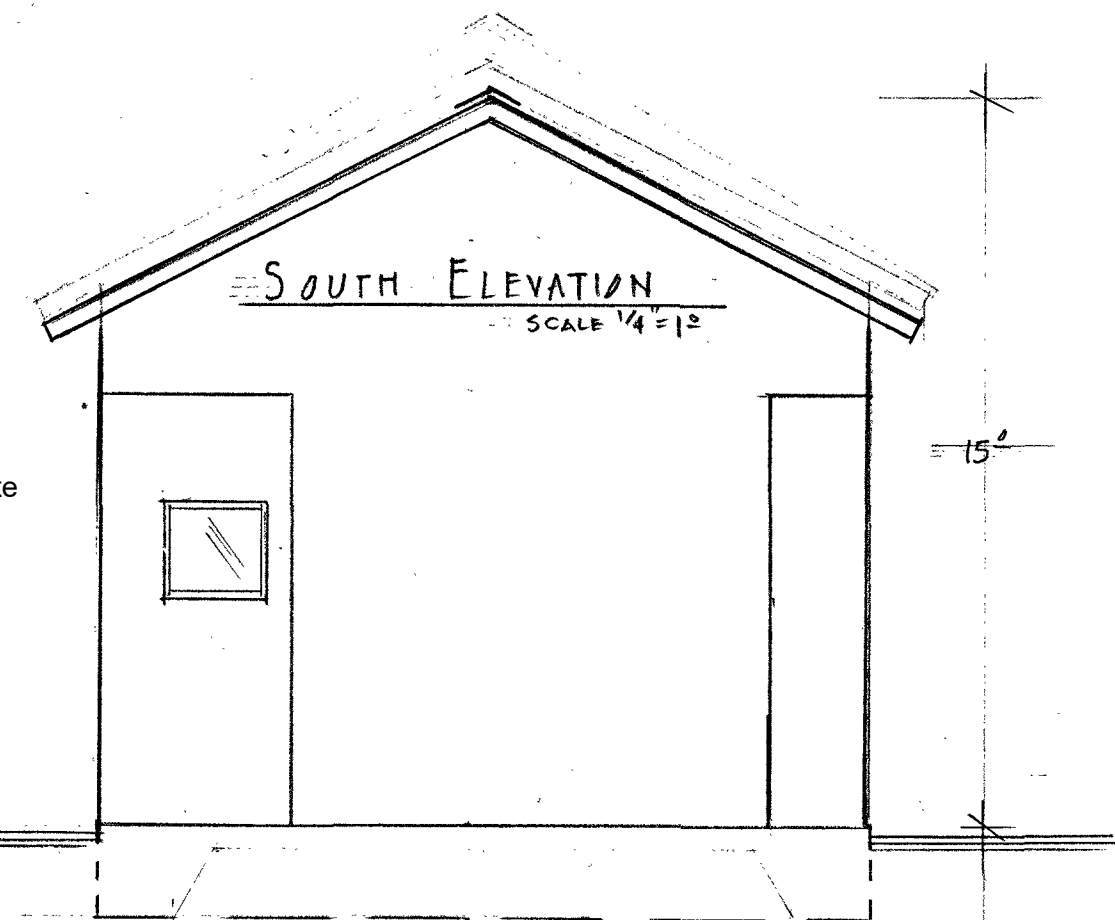


SOUTH ELEVATION

SCALE 1/4" = 1'

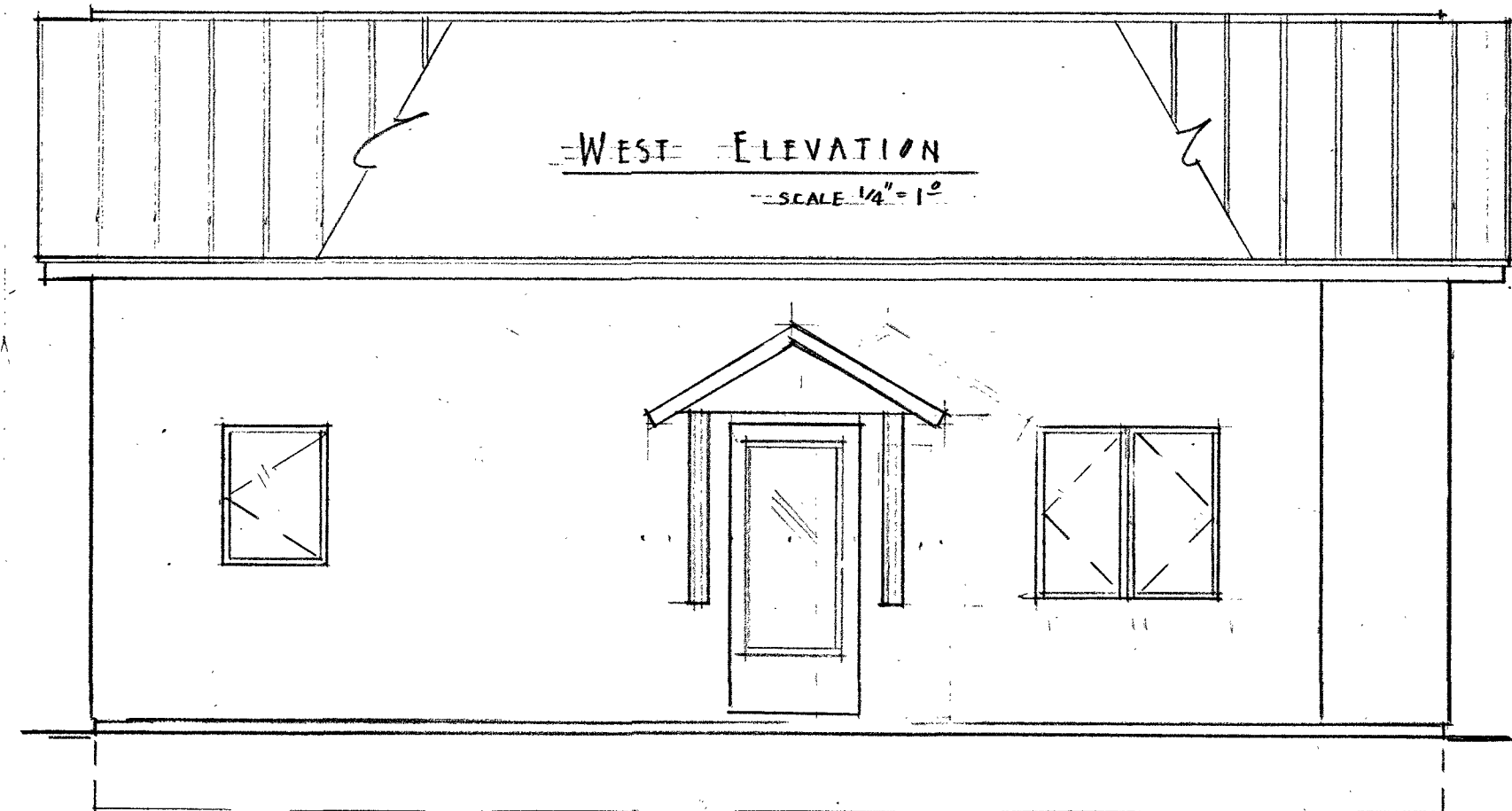
All windows are white
vinyl Masterview
windows

Heat Pump



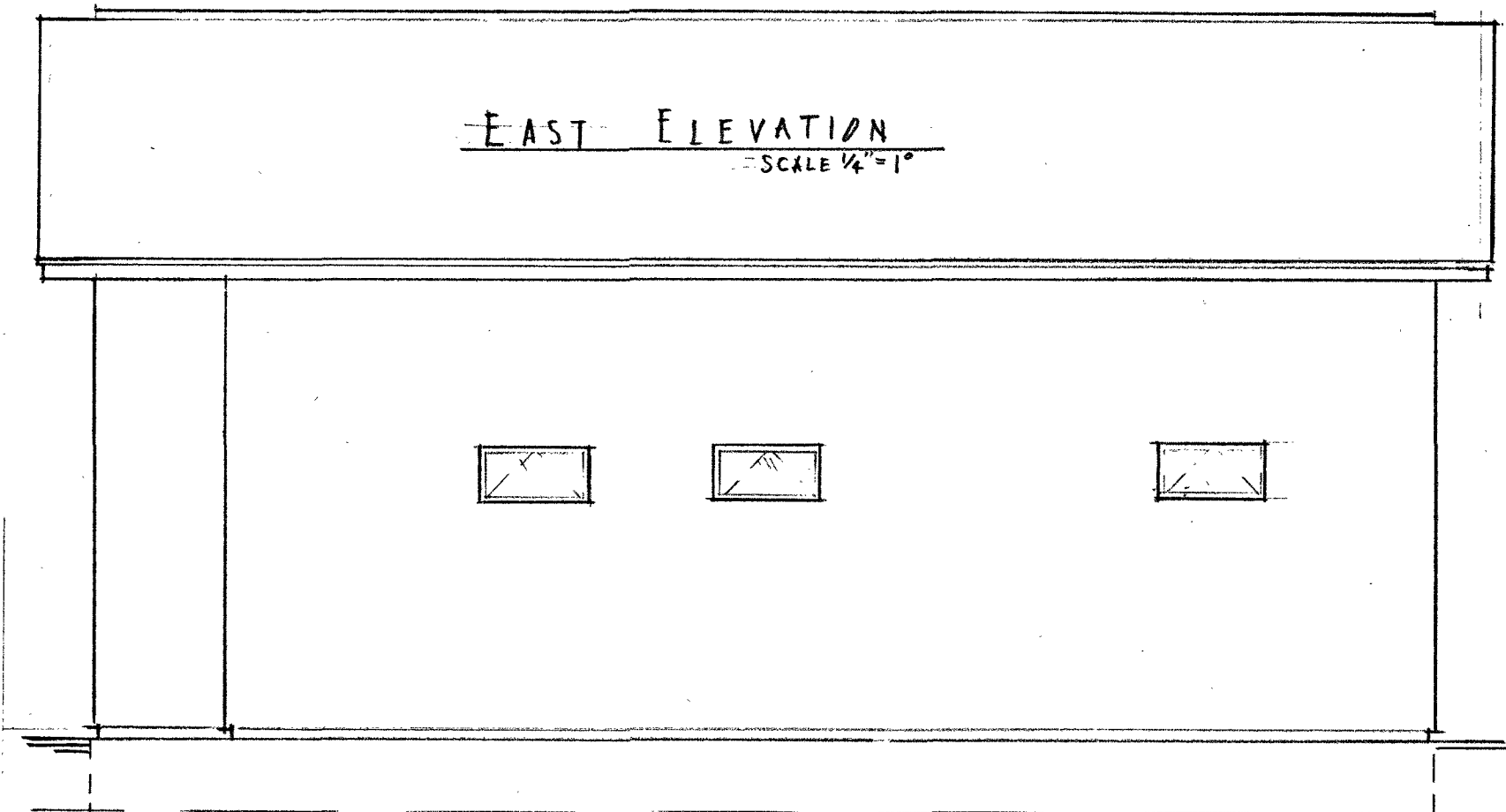
WEST ELEVATION

SCALE 1/4" = 1'

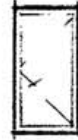


EAST ELEVATION

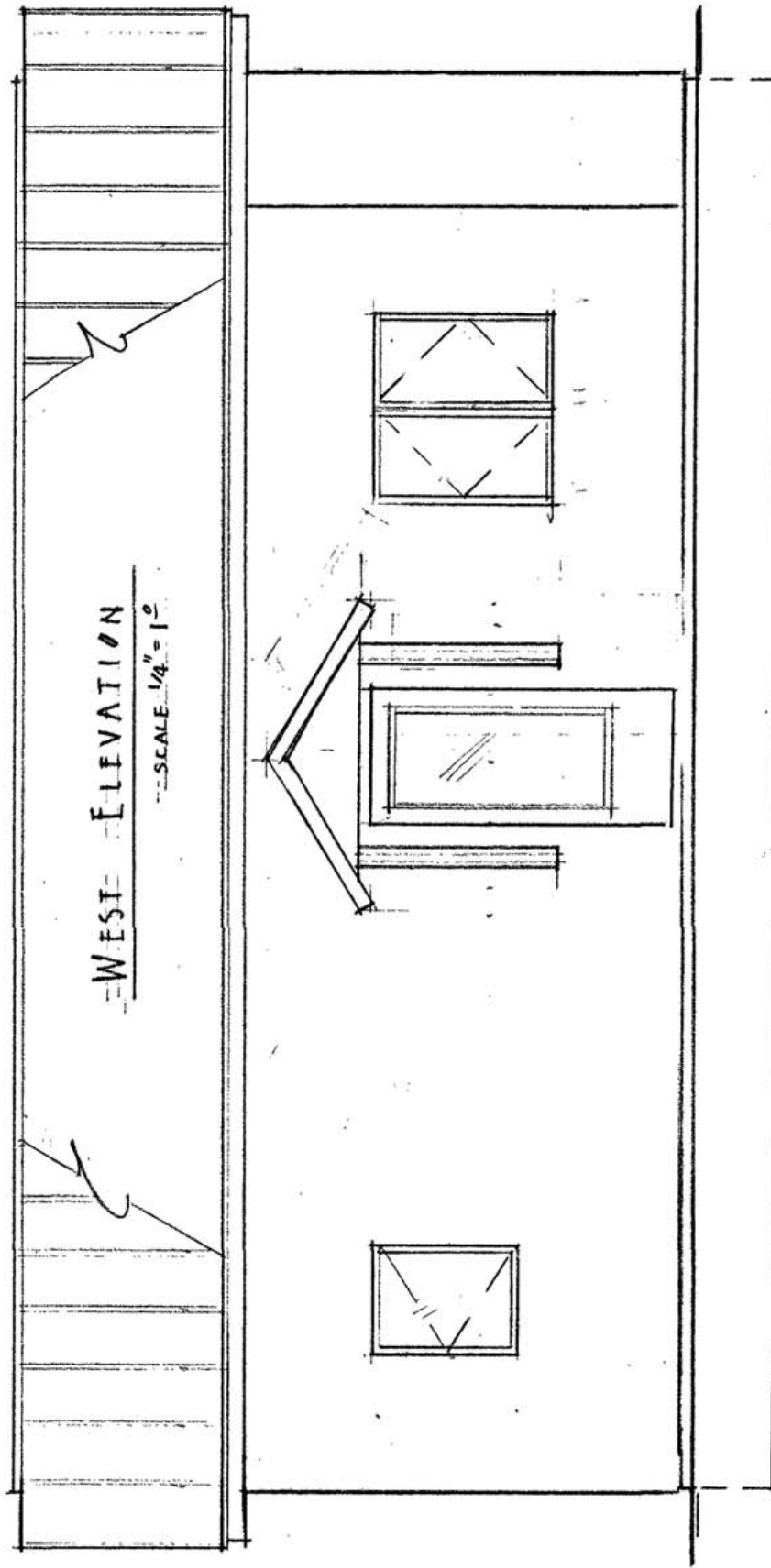
SCALE 1/4" = 1'



EAST ELEVATION
SCALE 1/4" = 1'



Electric Utility
Meter

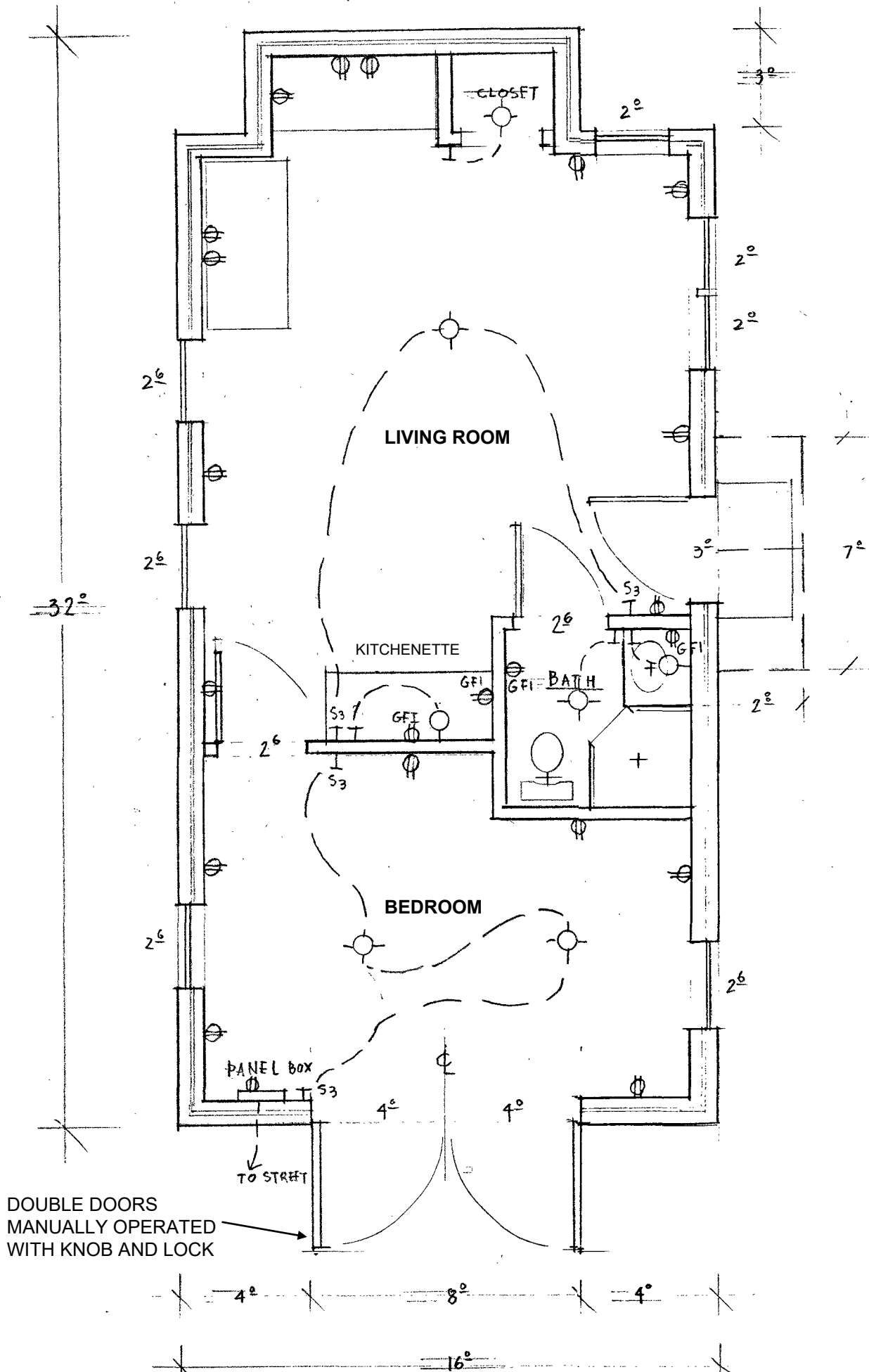


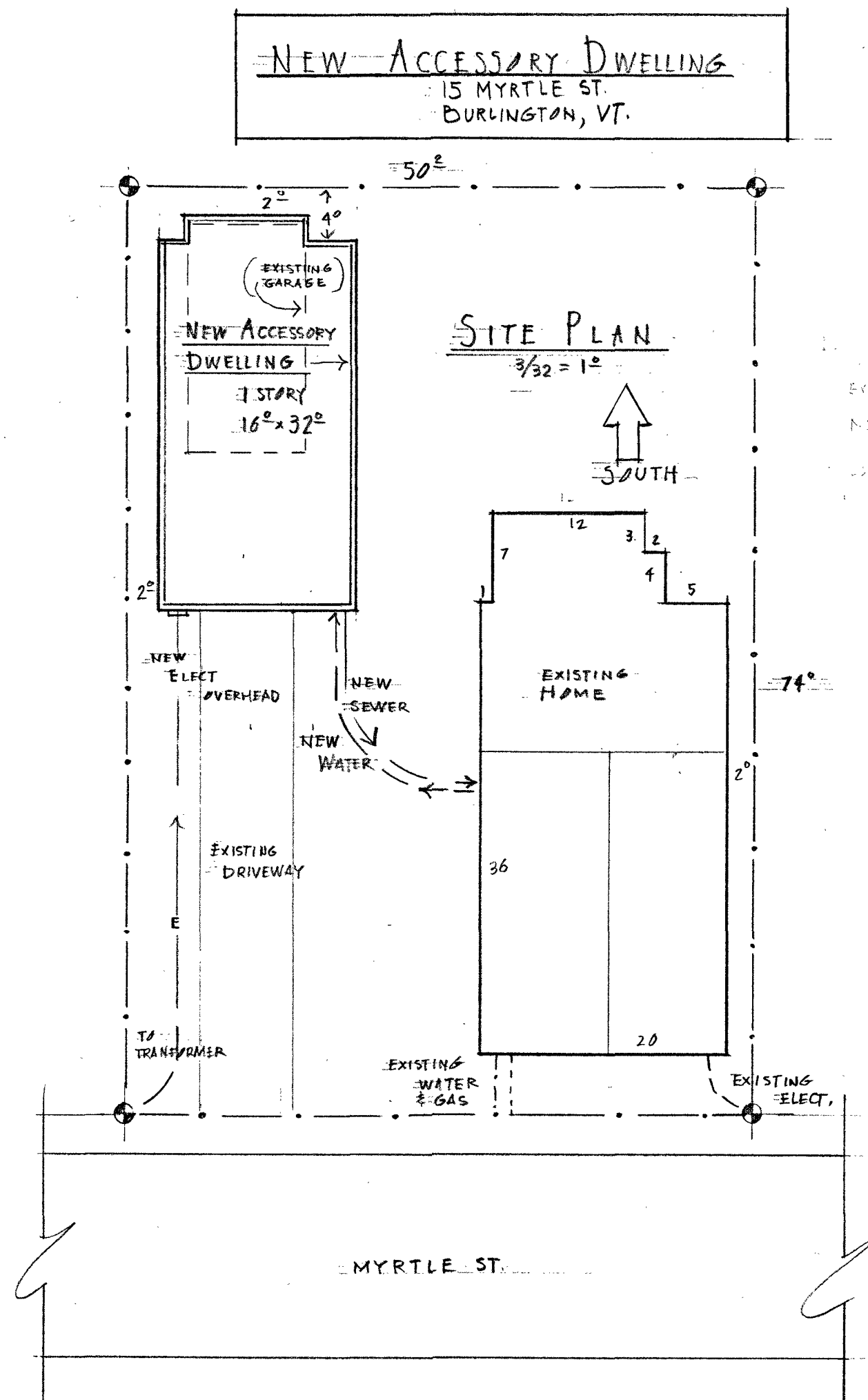
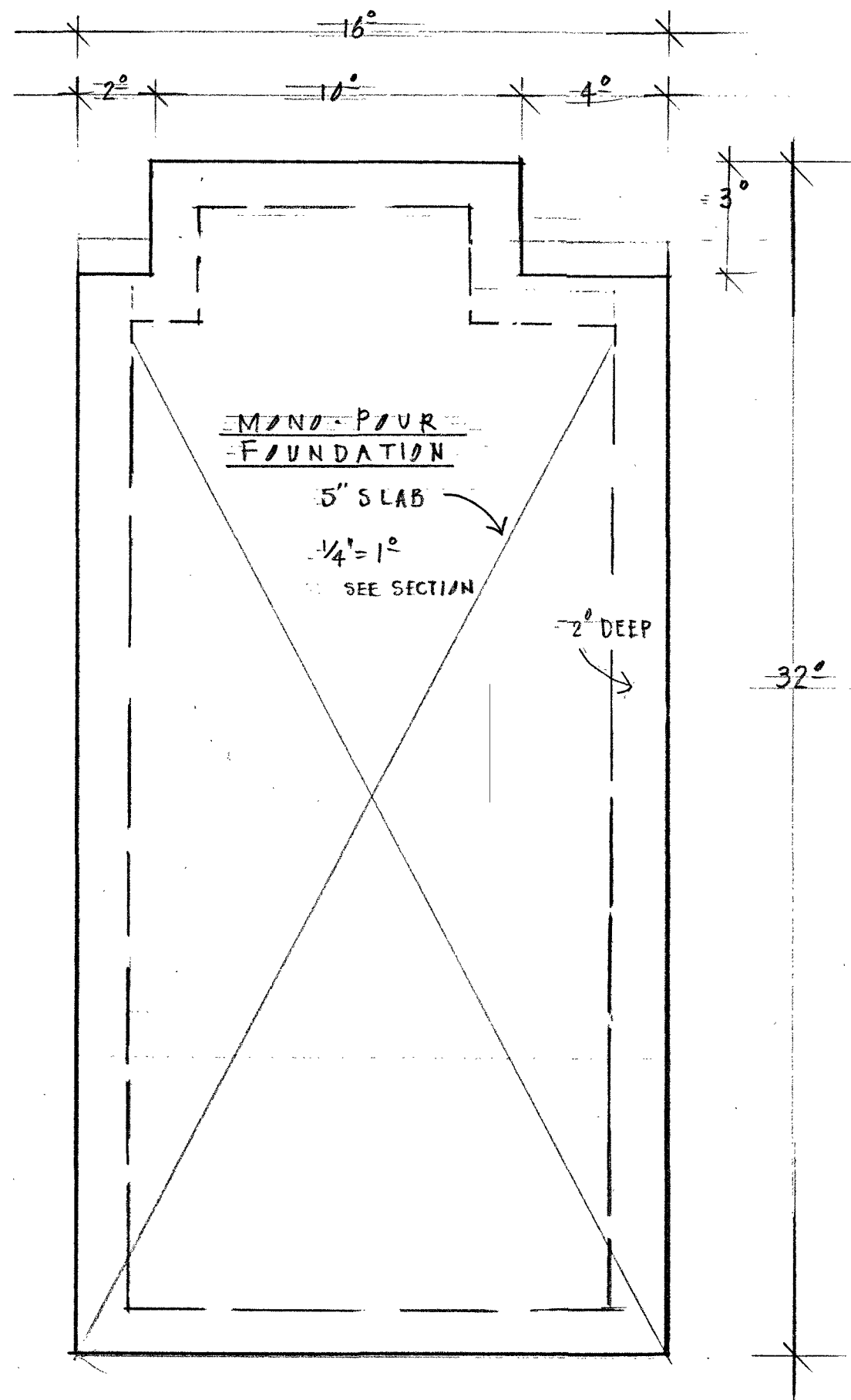
WEST ELEVATION

SCALE 1/4" = 1'

FLOOR PLAN

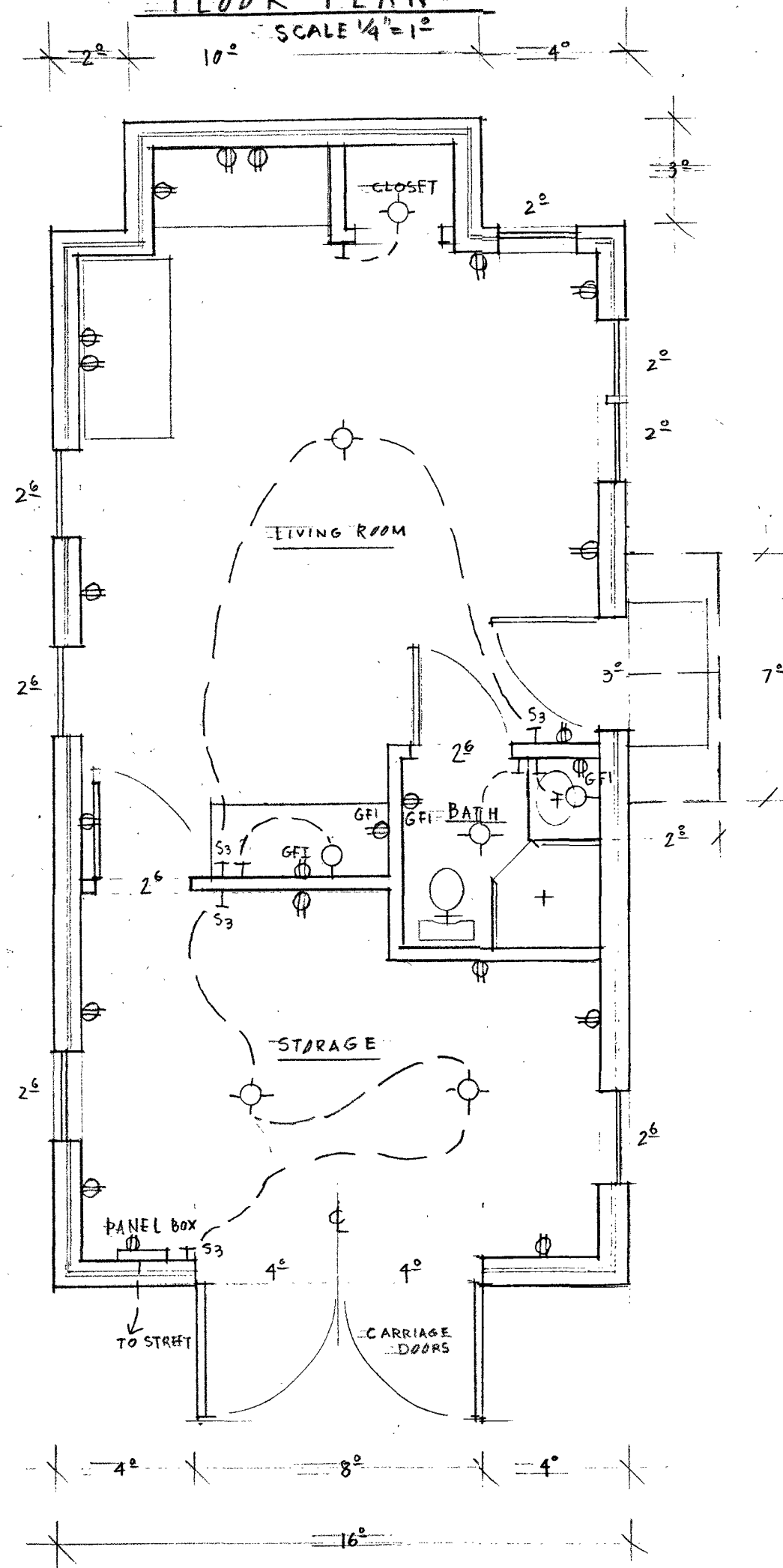
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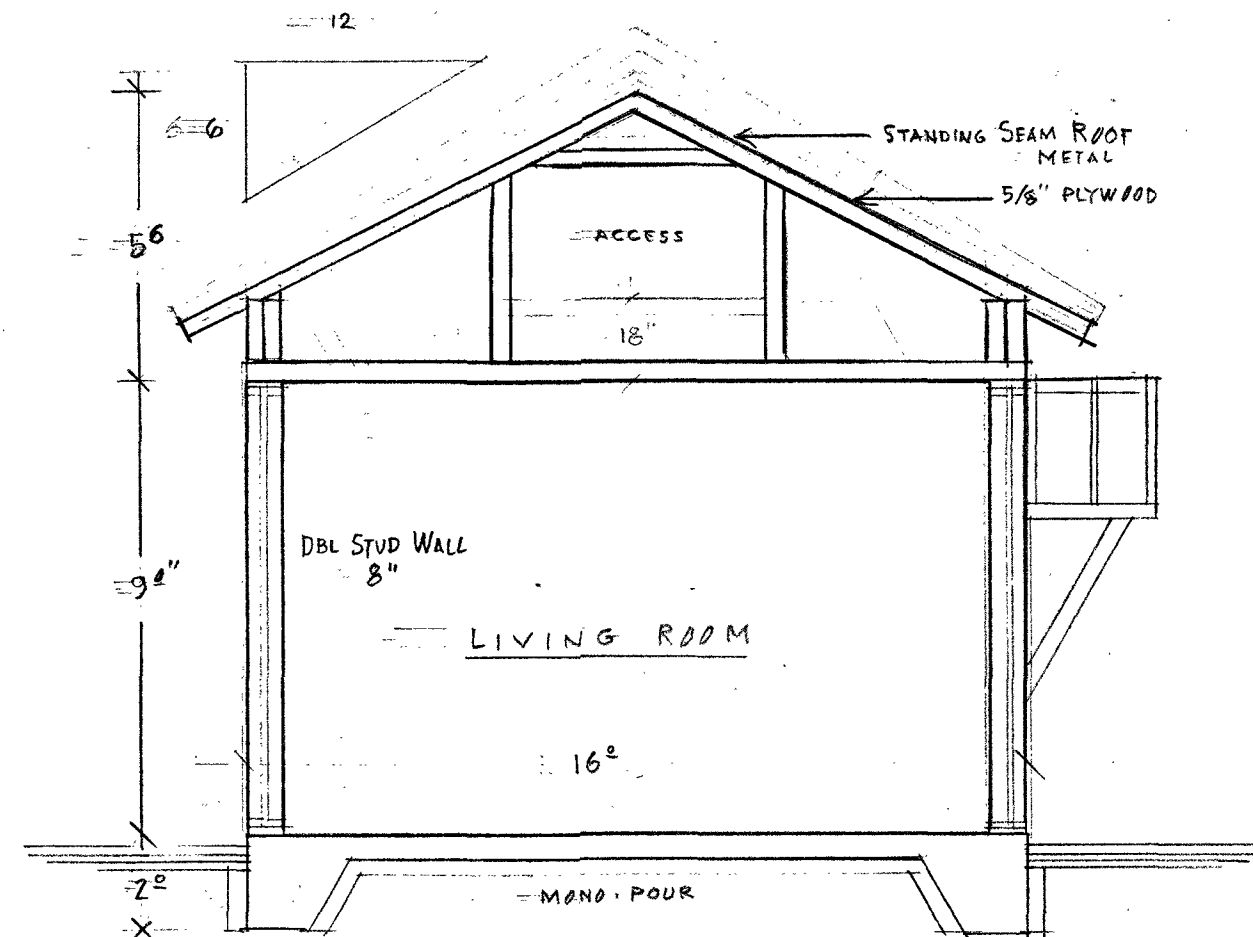
FLOOR PLAN

SCALE 1/4" = 1'



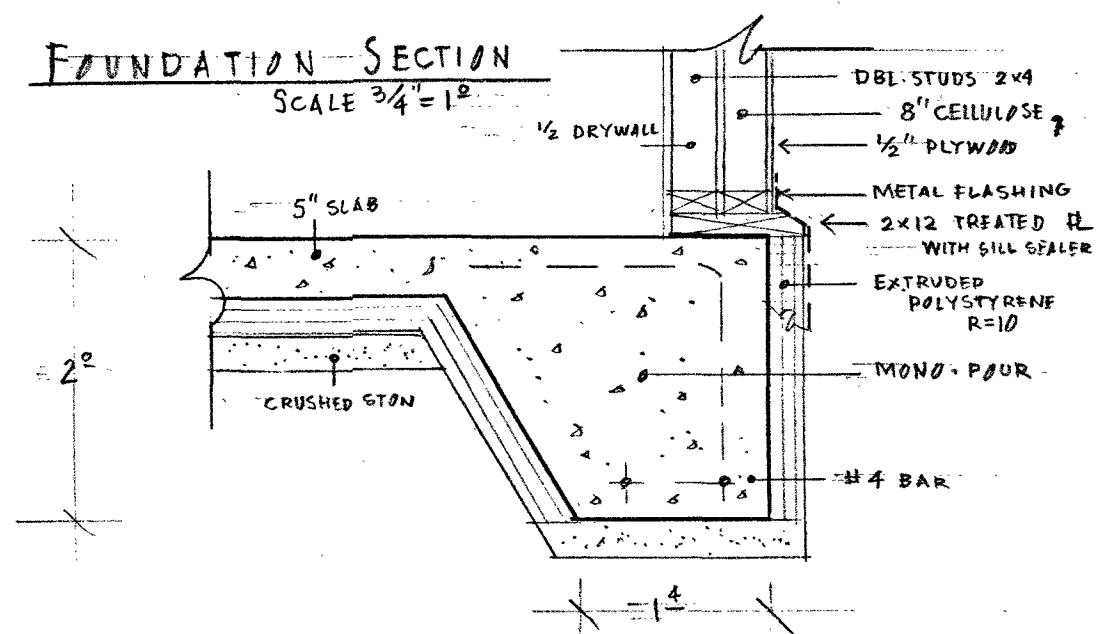
BUILDING SECTION

SCALE 1/4" = 1'



FOUNDATION SECTION

SCALE 3/4" = 1'



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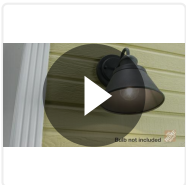
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Telephone: (802) 865-7188
Fax: (802) 863-0466

Brad Rabinowitz
AJ LaRosa
Springer Harris
Geoff Hand
Brooks McArthur
Kienan Christianson
Caitlin Halpert
Sean McKenzie, (Alternate)



htrhetreh

BURLINGTON DEVELOPMENT REVIEW BOARD

Tuesday, June 15, 2021, 5:00 PM

REMOTE MEETING

Zoom: <https://us02web.zoom.us/j/85976499785?pwd=WVpxRlZLclpWMWQwTVZLM01DU3gxUT09>

Password: 494251

Webinar ID: 859 7649 9785

Telephone: +1 312 626 6799 or +1 929 205 6099 or +1 301 715 8592 or +1 346 248 7799 or +1 669 900 6833 or +1 253 215 8782

Video recording link: <https://www.cctv.org/watch-tv/programs/burlington-development-review-board-359>

Agenda

Board Members Present: Brad Rabinowitz, AJ LaRosa, Caitlin Halpert, Geoff Hand

Board Members Not Present: Springer Harris, Kienan Christianson, Brooks McArthur, Sean McKenzie (Alt)

Staff Present: Scott Gustin, Alison Davis

I. Agenda

B. Rabinowitz: No changes to the agenda.

II. Communications

B. Rabinowitz: All communications posted online under this meetings packet.

III. Minutes

B. Rabinowitz: Previous meeting minutes posted online under last meeting's packet.

IV. Consent

1. 21-394; 15 Myrtle Street (RM, Ward 3C) Andrew Feltus

Replace existing garage with new detached accessory dwelling unit. (Project Manager: Scott Gustin)

Item reviewed after public hearing items due to delay of attendance

Andrew Feltus appeared on behalf of item

No provided public comment

B. Rabinowitz: Explains that this item is recommended for approval from the staff. Asks if applicant has seen the staff recommendations and conditions for approval.

A. Feltus: Yes, did see those. All conditions are good. I think I have resolved all of them in drawing updates, and the other open item is the wastewater letter from the City.

B. Rabinowitz: Asks if there are any questions for applicant and if there is any public to speak on item.

None

A. LaRosa: Motion to approve application and adopt staff findings.

G. Hand: Seconds motion

4-0-0

2. 21-415; 6 Alexis Drive (RL-W, Ward 4N) David Cohen

Tree clearing work on vacant lot. (Project Manager: Ryan Morrison)

Item reviewed after public hearing items due to delay of attendance

David Cohen appeared on behalf of item

No public provided comment

B. Rabinowitz: Explains that this item is recommended for approval from the staff. Asks if applicant has seen the staff recommendations and conditions for approval.

D. Cohen: No, have not seen them.

B. Rabinowitz: They are pretty much expecting you to cut everything on that lot. Just the standard conditions apply, so you are pretty much approved for what you have applied for.

D. Cohen: Yes, agrees with conditions.

G. Hand: Motion to approve application and adopt staff findings.

A. LaRosa: Seconds motion

4-0-0

V. Public Hearing

1. 21-0909CA; 81 Dunder Road (RL-W, Ward 5S) Jonathan Heller

Creation of accessory dwelling unit to be used as a bed and breakfast use - amending ZP18-0682CU. (Project Manager: Ryan Morrison)

Jonathan Heller appeared on behalf of item

Tom Walsh provided public comment

B. Rabinowitz: It is recommended for approval but there are some neighbor comments and questions. Mentions the neighbor's comment about a fence where some trees were taken down. Asks if he had discussed it with his neighbor.

J. Heller: Yes, we discussed the fence. And two trees.

B. Rabinowitz: Since this has been acting as a bed and breakfast for a while, asks opinion on how it has been going.

J. Heller: It is working well.

B. Rabinowitz: Asks if people are parking on the street or in the driveway.

J. Heller: In the driveway.

A LaRosa: Asks to clarify that the application is for an accessory unit because it is adding kitchen facilities to the existing, what was then proposed, as just a bed and breakfast use in an existing room.

S. Gustin: Correct. The prior approval was for a single room bed and breakfast and then it seems like after the fact it was more of an accessory dwelling unit. So we are looking to an amendment to that previous permit to be a full ADU to be used as a short term rental.

J. Heller: Says that it is as it was when the City inspected it. The kitchen facility was there.

B. Rabinowitz: Explains that that is not what was permitted on the last application.

J. Heller: Was under the impression that what they inspected was permitted.

A. LaRosa: Asks who inspected.

J. Heller: Not sure. Someone from the City.

A. LaRosa: Asks what they were inspecting for.

J. Heller: They were inspecting the bed and breakfast. Unsure.

B. Rabinowitz: We have a copy of what was approved in 2018, which was just a guest room. What you are asking for now is an accessory dwelling unit with a kitchen and a bathroom. And you have been renting this out for a while now anyways.

J. Heller: Correct.

C. Halpert: Asks about the proposed plan document and the detail that is on there. Looks like the goal is to make sure we are delineating where the kitchen and bathroom are located. Where I was confused is that there is an entrance room listed, but not what the actual bedroom is. The issue we had from the last time this item was heard was that there was not enough detail in the plan.

J. Heller: Explains that he did not put in a second permit for the air bnb. What I thought I did was applied for a zoning permit, but I did not change my air bnb permit.

B. Rabinowitz: Explains that is what they are reviewing. Explains that the question was that for the plan, there is a sketch that shows a stove and a bathroom, but doesn't really show a bedroom.

J. Heller: Explains that the entire room is the bedroom. It is one room. Would like to make it into two rooms, but I have not put the application in for that yet.

B. Rabinowitz: Asks if there are steps within the ADU.

J. Heller: The steps go from the door you enter, to five steps up. Within the unit. The original permit was for just the room over the garage, and in the new permit, I would like to add the entry room that was a shared space. Would like to make that part of the Airbnb completely.

B. Rabinowitz: What we are seeing is a space that is 34'x16' that you are applying for.

J. Heller: For the accessory dwelling unit, yes. For the Airbnb I would like to increase the Airbnb from one room to two rooms.

B. Rabinowitz: What we have in front of us is the Airbnb, but it is not for increasing the bedroom count. There is only one bnb here. The accessory dwelling unit as the bnb.

J. Heller: Correct. How it is set up is that there is a shared entry room, which is the downstairs space and then from there is a door to their space which is upstairs which is not shared space.

Screenshares floorplan

B. Rabinowitz: Asks where there is room for a bed.

J. Heller: Between the stairs and the bathroom.

B. Rabinowitz: Above the stairs, is really where the sleeping area/room would be. Asks if the entry room is up the five steps.

J. Heller: No the entry room is connected to my living room.

B. Rabinowitz: Asks to clarify that the entry room is shared and would continue to share it.

J. Heller: Yes, it is currently shared but I would like to make that part of the Airbnb.

C. Halpert: Explains then it would be included in the ADU which looks like it is indicated here.

B. Rabinowitz: Asks to clarify that for their view that an Airbnb is the same as a BnB.

S. Gustin: Correct.

B. Rabinowitz: Basically a one-bedroom accessory dwelling unit that we are looking at.

J. Heller: Correct.

G. Hand: Asks what the distance is from the entry door to the property line on that side of the house, or if there is an estimation.

J. Heller: Asks to go measure. Does not want to say an estimate that may be wrong while under oath.

G. Hand: Asks if that is the side of the property that trees were removed.

J. Heller: Yes.

G. Hand: It looks like there is a request that if we approve that permit to require a privacy fence along that property line and if that is an acceptable condition.

J. Heller: No. Wiling to do it as a courtesy for the neighbor, but not willing to put it as a prerequisite for the Airbnb.

G. Hand: Sounds like you are agreeing to put up the privacy fence.

J. Heller: No, not under oath, I am not agreeing to put up a privacy fence. I will do my best to put up a privacy fence, but I am not going to go under oath in front of a judge and do something that he can then sue me for.

G. Hand: It is for us looking at your application to see if meets the standards and one of the standards is that the use does not result in any nuisance impact from noise, odor, etc., what I am trying to understand is whether that is a reasonable condition for you to install a fence along that property line.

J. Heller: It is reasonable and I want to do it, but right now lumber prices are through the roof, labor is hard to come by, finances are uncertain, and I am not sure about when it would be done. If it takes longer than Tom is happy with, I am not having it be a prerequisite for my Airbnb. I am willing and wanting to put up a fence.

A. LaRosa: When you were here last time, we had some discussion about what the Airbnb guests can use and what they can't use. Asks if it is proposed that the guests are allowed to use the pool.

J. Heller: Yes, they have been using my pool and my hot tub.

A. LaRosa: Asks if there are limits to those available hours.

J. Heller: Yes, I can change them, but currently the limit is 10pm.

A. LaRosa: Asks how that is enforced.

J. Heller: That has never needed to be enforced since I have put it into the house rules. If I do need to enforce it, I would walk outside and tell people that it has reached the time limit.

A. LaRosa: Asks if he is there all the time that guests are there.

J. Heller: Yes.

A. LaRosa: Last time, we talked about exterior lighting. And none is proposed as part of this. Asks if there is exterior lighting on the south side of the project.

J. Heller: Changed the blue lights because someone complained about them. Yes, there are lights, they are necessary for safety.

A. LaRosa: Asks what kind of lights

J. Heller: Standard LED probably 60-watt power watt located about 6 feet facing down to the ground. There are also two other lights that I have not been using located at the roofline. Standard floodlights colored blue that people complained about.

A. LaRosa: Asks if those are turned off or they need to be turned back on.

J. Heller: Would like to because they look cool, but would be happy to change to white if the blue was the problem. They will be on white as soon as I get a chance to change the lightbulbs.

B. Rabinowitz: Invites Tom Walsh, Jonathan Heller's neighbor, to speak.

T. Walsh: Did provide comments during a neighbor impact review. Summarized the impacts that are ongoing. This use has existed for more than two years. When renters come daily, they park in the driveway, which is less than 10 feet from my common boundary. They walk along the common boundary and then go into the entry door that is shown on the floorplan. When they leave that entry door to go to the hot tub, they walk even closer to my property. Right where the entry door is, is where one of the large trees that Jonathan Heller asks my approval to remove, and with that tree gone, there is much less buffer of this intense activity. I am asking that if you approve this use, is that you require a privacy fence so that I can privately and quietly enjoy the use of my property. I have changed my activities at my house to go out the other side of my house and around because I cannot go to that side of my house without being imposed by people coming and going, if not the tenants, then the housecleaners and it is constant. As I stated in my opinion letter, I offer that this use offers a nuisance and is a significant interference with my daily enjoyment of my property. The options in my mind are to not approve the application, or to approve it with reasonable condition of installing a privacy fence along the common boundary.

B. Rabinowitz: Asks if there are any other questions from the board or the applicant. Asks if there is any public to comment on project.

None

B. Rabinowitz: Closes public hearing

2. 21-0785CA/CU; 57 South Williams Street (RH, Ward 1E) Chabad of Vermont

Change of use from dormitory rooms to an elementary school. (Project Manager: Ryan Morrison)

Eliyahu Junik, and Ed Wolfstein appeared on behalf of item
Sharon Bushor provided public comment

B. Rabinowitz: Invites applicant to present application.

E. Junik: We have a community center at 57 South Williams Street. We have a preschool and we are wanting to start a school, so we want to change the third floor for that purpose. The fourth floor will be gradually changed into classrooms.

B. Rabinowitz: Asks if there are any exterior changes planned.

E. Junik: No, loves the building the way it looks. Only changing some interior walls eventually to make some rooms bigger.

B. Rabinowitz: How many students do you seen attending this school.

E. Junik: We are starting gradually so we do not know, but we are asking for four classrooms and having maybe 10 kids in each classroom.

B. Rabinowitz: Asks if the students arrive through their own transportation.

E. Junik: Right now, we are talking about first and second grade, so they will probably be dropped off by their parents.

A. LaRosa: Asks about the request of a parking waiver. When I read the staff comments, I saw that you had gotten a parking waiver for the addition in the back. Asks how that has been going or if there have been any issues with that reduced parking.

E. Junik: Correct. We are still under construction, so we still do not fully know the answer. Even with a lot less parking because it is under construction, there has not been an issue.

As I explained in the waiver, the school is from Mon-Fri and the times for the services do not conflict timing wise.

A. LaRosa: Asks to clarify that they would be approving a two additional space waiver over what was already approved.

S. Gustin: Correct.

B. Rabinowitz: Asks Ed Wolfstein to speak on behalf of project.

E. Wolfstein: I do not have too much to add to this testimony, there are no exterior changes. It is only shuffling around some interior partitions.

B. Rabinowitz: Invites Sharon Bushor to provide public comment.

S. Bushor: Has no objection to the expanded use as a school. My issue is one that I need to verbalize, and it is something that the Board can review, but I wanted the applicant to hear. This building is historic, and everyone focuses on the exterior, but my understanding is that at the State level and the City level, there have never been regulations about the interior of historic structures, which is sad. As this evolves into a school, if there are changes to the inside, it would be nice to have partitions so that the internal integrity of the structure could potentially be preserved if indeed it would be utilized as a school.

E. Junik: Agrees with comment. We have fixed the bottom floor and we have kept everything the way it is. We are not removing or reconstruction essential walls. The building has a lot of character and we are planning and hoping to keep it that way.

B. Rabinowitz: Asks if there are any more comments or questions from applicant, Board, and public.

None

B. Rabinowitz: Closes public hearing

3. 21-0922LL; 68-70 Conger Ave (RL-W, Ward 5S) Michele Bushey

Appeal of lot line adjustment denial with 78-80 Harrison Ave. (Project Manager: Scott Gustin)

Item associated with 21-0923LL, 78-70 Harrison Ave

4. 21-0923LL; 78-80 Harrison Ave (RL-W, Ward 5S) Michele Bushey

Appeal of lot line adjustment denial with 68-70 Conger Ave. (Project Manager: Scott Gustin)

Michele Bushey, Andrew Galinas appeared on behalf of item

Celeste Crowley provided public comment

B. Rabinowitz: Asks Scott to present.

S. Gustin: Explains that what we have is a boundary line adjustment in the lakeside neighborhood, in the waterfront residential low-density zone, which has a few dimensional standards to keep in mind. The standard minimum lot size is 6,000 sq ft, but considering that both properties are duplexes, the CDO says that the minimum lot size is 10,000 sq ft. Both lots are smaller than that. Both lots are also bigger than 4,000 sq ft, which puts them into the existing small lot category. That means that they can be developed as intended for the zoning district subject to design review. Both lots are substandard in terms of lot size and are both over the permissible lot coverage limit. The appellant and I talked a few times before they applied, and we tried to find a way to find an even swap to change the boundary line. The intent is to put the garage on the Conger Ave property, which it currently sits on the Harrison Ave property. Conceptually, it would be possible to do a boundary line adjustment; it would have to be an even trade meaning that sq footage would remain the same for both lots. With that, you would not affect the degree of nonconformity for the lot size or the lot coverage. What was applied for was not an even trade. The Harrison Ave property became even smaller, which increases the degree of

nonconformity for lot size. Since it became smaller, the amount of lot coverage also increased, meaning the degree of nonconformity increases even more. Even though Conger Ave becomes less non-conforming as a result, it drives up the degree of non-conformity on the Harrison Ave property. One cannot happen without the other, so it was denied. The basis of the denial was basic. The degree of non-conformity increases and the CDO says you cannot do that. They were denied, and the appellants and I talked and they decided to appeal the lot line adjustments to the Board.

B. Rabinowitz: Asks to clarify that the driveway is used by the Conger Ave house.

M. Bushey: Yes.

B. Rabinowitz: Conceptually it seems like it would not work because you are taking a garage, which is a lot of lot coverage on one property, and adding it to the other. So the lot coverage needs to increase on one and decrease on the other so that even if you end up with the same sq footages on both, the lot coverage cannot stay consistent.

S. Gustin: Yes and you make a good point about accounting for the coverage from switching from one property to the other. Mathematically it could work, but practicality it does not.

B. Rabinowitz: Theoretically, you have two properties there, one of the garages is a preexisting non-conforming structure. If one is at 37% and the other is at 41%, if they swap and go the other way around, from your logic, it increases the nonconformity on one of the lots.

S. Gustin: That might be so and I think the punchline remains the same that it would not be possible to do a boundary line adjustment without affecting the non-conformity.

A. LaRosa: You would have to add some empty land from somewhere else to add to this. If you do not want to get involved with easements, which we have no jurisdiction over, you would have to bring in some empty land to fix the lot coverage issues.

B. Rabinowitz: Invites applicant to talk.

M. Bushey: Explains that the garage was built 41 years ago by our father who owned both properties. Burlington approved the garage 41 years ago. It was built and never moved. If you look at Burlington land records, it has always been part of Conger Ave, never been annotated to be a part of Harrison Ave's land or use. For the City of Burlington, that garage has always been on Conger Ave.

B. Rabinowitz: Asks where the property lines are coming from.

M. Bushey: The property lines were drawn back in 1937 when Queen City Cotton Company divided the land. These were already nonconforming lots from 1937 and now we have to hold up those standards to today's standards.

A. Larosa: Asks for background of why this was applied for.

S. Gustin: No was not a violation. My understanding is that they are looking to sell the properties separately and the garage is practically associated with Conger Ave, but it sits on the Harrison Ave property. Which gets them into doing easements between the two and what I understand from the applicant that complicates things for selling the properties.

M. Bushey: Explains that they have lost multiple offers on the Harrison Ave property because of a temporary easement. If we do not accommodate for the boundary line adjustment, we would be forced to sell both properties together and whoever buys them from us will need to continue to sell both properties together. Or you would be forced to take down a substantial sized garage, which would decrease the property value.

B. Rabinowitz: Asks if there is an intent that is not met by adjusting these so that the lot coverage on the Conger Ave goes up and the coverage on Harrison goes down.

A. LaRosa: Asks if they were to remove some lot coverage from the Conger Ave property like the equivalent of what they're adding, like the gravel driveway, if that would correct the issue.

S. Gustin: That is conceivable. We are looking at the even trade and if that is possible. As brad has pointed out, it is more complicated when we consider the lot coverage effects of the garage switching from one property to the other, sure, but it comes down to if the percentage stays the same.

B. Rabinowitz: It is puzzling. Asks if there is a driveway that goes up to the garage.

M. Bushey: No.

B. Rabinowitz: Invites Celeste Crowley to speak.

C. Crowley: I am Michele and Andrew's cousin. Conger Ave was our grandparents home, so down the road I might be interested in buying it. I do not understand why the City would approve a permit for Conger Avenue knowing that the structure sits on Harrison Ave, and it may be because my uncle owned both properties so they allowed it. Asks why there cannot be a variance or allowance because the City approved it and now recently changed the lot coverage guidelines. These two properties are now tied together because of the approval of the garage on both properties.

C. Halpert: Asks if there is a site plan from the original permit for the garage.

S. Gustin: There is not a site plan. There is a single piece of paper for a garage associated with Conger Ave.

C. Halpert: Asks if all the doors and access is on the Conger Ave and there is not a way to use it from the Harrison Ave property.

M. Bushey: Correct. Was never intended for us for Harrison Ave.

G. Hand: Asks if the garage is on a concrete slab.

M. Bushey: Yes, it is on a concrete slab.

C. Halpert: Explains that the site plan shows the two properties but it does not show where the garage is.

M. Bushey: Explains that at the time when the City approved it, they did not go out to double check anything to close the permit, but now we are being held to today's standards from way back when. Explains that we have had the Harrison Ave property up for sale, and we have had offers walk away because we had a temporary easement drawn up from our lawyer, stating that Conger Ave would use the garage until Conger Ave is sold.

A. LaRosa: Has many thoughts. Thinks this problem could be solved in a much more expeditious than what we are trying to do here. Asks if they have thought about the idea of taking some lot coverage away so that you can add the garage as lot coverage to the Harrison Ave property, like taking out one of those gravel driveways.

A. Gilinas: I am sure it can be done to turn that into a greenspace.

A. LaRosa: It might be a way to solve the lot coverage problem.

S. Gustin: Reminds that there is a minimum parking requirement.

A. LaRosa: We do have the ability to waive some of it. But cannot waive lot coverage.

S. Gustin: Correct.

M. Bushey: Expresses frustrations. When you look at the sketch, the backyard is still usable to either family that would buy them and then you are not taking away driveway space.

G. Hand: The issue is that we do not have a lot of flexibility. It is increasing a non-conformity otherwise. This is a challenging conundrum.

A. LaRosa: Asks if the garage is really valuable to the Conger Ave property.

A. Gilinas: Yes, it is to me because it is my workshop. And could be useful to someone else to who buys it down the road. If not, these lots should be sold as a pair.

C. Halpert: Clarifies that the plan is to only sell the Harrison Ave property right now.

M. Bushey: Correct.

B. Rabinowitz: This is difficult. It is frustrating hearing the history and then needing to hold this to today's standards.

A. LaRosa: The overall we are looking at them as a pair as dual applications, so the overall degree of non-conformity does not really change.

B. Rabinowitz: Seems like in this case, I have a hard time not doing something to be flexible.

M. Bushey: Wanted to reiterate the fact that we have owned this land since it was divided, and has been passed down, and this is not effecting people around us, we are just trying to make things right to move on with our goal of selling the properties separately.

B. Rabinowitz: Asks if there are any other questions or comments from Board, applicant and public.

None

B. Rabinowitz: Closes public hearing

5. 21-0409CA/MA; 362 Riverside Ave (NAC-RC, Ward 1E) Douglas G. Boyden

64-unit Senior Housing development and related site work. Lot line merger included. *Re-opened public hearing.* (Project Manager: Scott Gustin)

Ben Avery, Shawn Kelly, Jeff Zweber, Cleary Buckley appeared on behalf of item
Sharon Bushor provided public comment

B. Rabinowitz: Explains that this is a re-opened public hearing. Looking at site related issues.

B. Avery: We took the route of doing the drilling geotechnical review. Took the time for the whole team to review and make sure that the initial concepts for the building were still solid. And to have a memo prepared to address the slope analysis concerns. Fenestration on the back of the building has plans to be improved and more functional for the people living there.

C. Buckley: Presents architectural changes. Last time we received feedback that the back of the building was too monochromatic and not broken up enough.

A. LaRosa: Asks if plans for pedestrian access for the front of the building has improved.

C. Buckley: The tower that has the numbers on it is the primary pedestrian access from Riverside Ave for the residential component to this. To the right of that, there will be a dining function that will service residents and can be opened up to outside chefs or caterers and have it accessible to the public. To the left of the vertical tower are common functions for the residents/ there is a small physical therapy office. There is some group activity space. Day to day residents and visitors will use the entrance that is underneath the building at the level up. Continues talking about the back façade of the building. We considered adding balconies and French balconies, but both have some issues in terms of running the facility and weather issues. What we landed on was installing a paired large casement windows. Added a lot of color. Intent is to brighten up the façade and give more rhythm to the property.

B. Rabinowitz: Asks what the material is for the siding.

C. Buckley: It is fiber cement siding.

B. Rabinowitz: Asks what the material is for the red section on the front of the building.

C. Buckley: Panel product. Cement board, but a panel.

B. Rabinowitz: Does think that it is an improvement. Asks if the grey wall in the renderings is a concrete retaining wall.

C. Buckley: Correct. And the grey tower on the left would be corrugated metal siding for the stair tower.

C. Halpert: Asks about screening for the loading dock.

C. Buckley: I remember talking about the loading dock and there has been a lot of discussion about putting the loading dock where it is, but no, the screening has not changed. There are plantings and is elevated significantly from Riverside and not visible for the public.

B. Avery: We do have trees planned for either side of the entry and shrubbery surrounding both sides. My concern would be if we forgo those trees in favor of screening, it is likely to stick out almost more than the loading dock itself. In the end, the loading dock is not a place of high activity.

C. Buckley: Mentions that there is fencing around the trash and recycling area.

B. Rabinowitz: Asks if there the retaining wall is right up on the property line.

C. Buckley: Correct.

B. Rabinowitz: Asks if there are any issues with protection on top of the retaining wall.

C. Buckley: There will be protection on the one corner. They will be low walls and trying to match the grade.

S. Kelly: Speaks on behalf of the soil testing and issues. Did three soil borings so far and what we were looking for at this stage at the project is will this project negatively impact on the northern side of Riverside Ave towards the Winooski River. Performed a slope stability analysis using the grades that we have planned for this project as well as the grading from across the street. At the end of the analysis, we did see that the property location where we are putting the building, does not negatively impact the existing conditions along Riverside Avenue. Explains technical information about their analysis process.

G. Hand: Asks about factor of safety. In this report, it says it is slightly lower than ideal.

S. Kelly: When we look at slope stability, we look at factor of safety to make sure that our resisting force is greater than the driving force. The resisting force is the stability of the soil itself. The driving force is gravity. We want to make sure that the slope can resist the driving force of gravity. Explains that there are multiple things/other forces that can move a slope. Explains technical information about analysis process for factor of safety.

B. Rabinowitz: Asks about the graphs for the slip surfaces for the slopes that Shawn Kelly explained.

S. Kelly: Yes, those are in the report. Explains the graphs and what went into making them. Explains what parameters were used.

B. Rabinowitz: Asks if there is anything unique for the footings of the building to address the slope issues.

S. Kelly: No, the soils are pretty good here. In Vermont we love to build on glacial till, but that is not in our site profile. Explains what the soil profile is for this property. Straightforward for how the foundation is planned.

G. Hand: Asks about assumed pressure measurement and if it is a conservative figure.

S. Kelly: Correct. Explains bearings, footings, and loads.

B. Rabinowitz: Invites Sharon Bushor to speak.

S. Bushor: Explains that she has been following this project application. One of my concerns has been addressed by the applicant regarding the stability study. Weight of the structure and the fact that it is four separate structures being taken down to create one larger structure and how that was evaluated. Was glad to hear that it does not have impact on the stability of the slope across the street and the Winooski River. Wanted to ask about information about report from the City as far as major impact soil erosion reduction and land to hold water. Want to see a letter that this is adequate for this new project. Mentions that because the lot is going to be about 80% covered, I understand that there will be clear cutting of trees. I want to challenge the City and ourselves that with the environmental crisis, we have to be more cautious and to see if any trees can be retained. Asks applicant about number of units and concern with low number of parking spaces. Asks if there is parking on the street if they run out of room on the property.

B. Avery: We are taking some data from looking at other projects around the City. Explains that they have a recent project that was built in Essex, we see that the parking counts tend to skew when there are older ages. And Essex is an area without great transportation infrastructure. Given the access to transportation here in Burlington, we are comfortable with the assumption that the parking facility would run at the worst case at around 50%. There is parking on Hillside Terrace, which provides overflow parking. We will not have assigned parking. Flexible parking to accommodate residents and visitors.

S. Bushor: Yes, that helps.

S. Kelly: Has a stormwater letter that states approval of the EPSC (stormwater) letter from the City.

B. Rabinowitz: Asks if there are any other questions from the Board, the applicant, and the public.

None

B. Rabinowitz: Closes public hearing

VI. Adjournment

Meeting adjourned at 6:50 PM



Bradford L. Rabinowitz, Chair of Development Review Board

September 7, 2021

Date



Alison Davis, Zoning Clerk

Date

Plans may be viewed upon request by contacting the Department of Permitting & Inspections between the hours of 8:00 a.m. and 4:30 p.m. Participation in the DRB proceeding is a prerequisite to the right to take any subsequent appeal. Please note that ANYTHING submitted to the Zoning office is considered public and cannot be kept confidential. This may not be the final order in which items will be heard. Please view final Agenda, at www.burlingtonvt.gov/dpi/drb/agendas or the office notice board, one week before the hearing for the order in which items will be heard.

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