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MEMORANDUM

To: Development Review Board
From: Mary O'Neil, AICP, Senior Planner
Date: December 2, 2014
RE: 247-249 Pearl 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.

File: ZP14--0884CA/MA

Location: 247-249 Pearl Street

Zone: RH **Ward:** 2

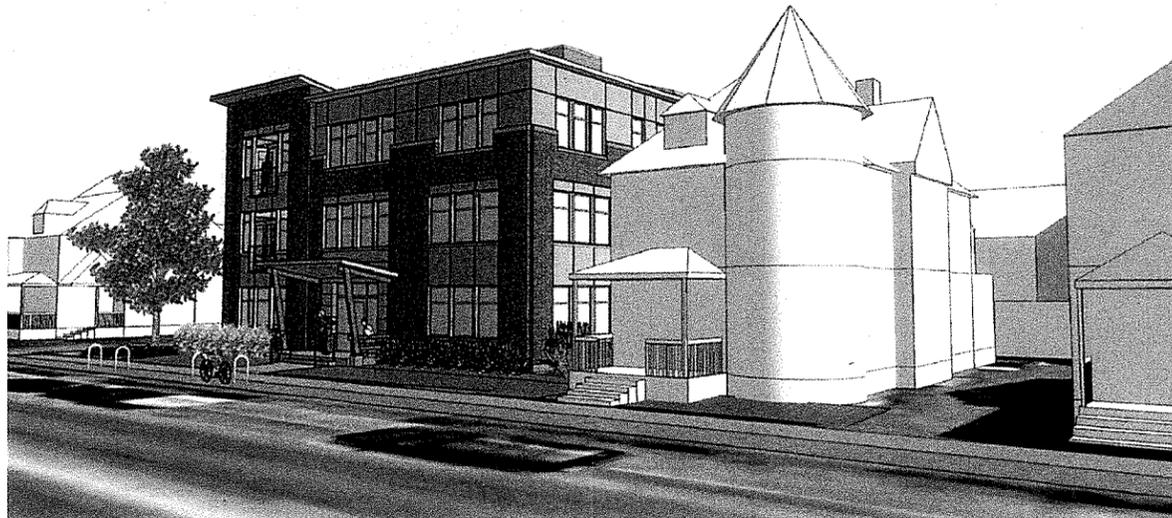
Date application accepted: November 5, 2014

Applicant/ Owner: Redstone Commercial Group / Dr. Brian Shuman

Permit as approved: Conditional Use/Major Impact review of proposed redevelopment to include three story residential building with 29 residential units and surface parking to the east and south.

Approval date: June 18, 2014

Request: Amendment to site and grading plans to allow for residential development and preparation of a Corrective Action Plan (CAP) that avoids removal and disposal of 7,660 tons (approximate grade cut of 7') of contaminated soil. Extend retaining wall around site.



Background:

- **Zoning Permit 15-0257CA**; Modification of parking plan requesting recalculation for 29 residential units under ZA 14-07, allowing provision to allocate 2 parking spaces for 253 Pearl Street. Approved September 2014.
- **Zoning Permit for 253-255 Pearl Street, 15-0096CA** (this was Condition #1 for ZP14-0884CA/MA); Minor grading, paving and curb adjustments, small section of concrete retaining wall. Net reduction of impervious surface. Improvements associated with ZP 14-0884CA/MA, 247 Pearl Street redevelopment. Recalculation of required parking under ZA 14-07. Approved September 2014.
- **Zoning Permit 14-0884CA/MA**; Construct new three storey, 29 unit residential building with associated site improvements. Approved June 18, 2014.
- **Zoning Permit 14-0784SP**; Sketch Plan review of proposed redevelopment to include three story residential building with 29 residential units and surface parking to the east and south. March-April, 2014.
- **Zoning Permit 12-0663CA**; Construct new dental office to replace building lost to fire. Approved March, 2012. Amendment approved August, 2012. **Permit expired**. Time extension request, withdrawn by property owners. September, 2013.
- **Zoning Permit 12-0557SP** (Sketch Plan Review), November-December, 2011.
- **Non-applicability of Zoning Permit Requirements**; Install new slate roof on front of building. September, 2009.
- **Zoning Permit 09-322CA**; construction of a handicap access ramp up to the front door. Approved October 2008 (never constructed.)
- **Zoning Permit 09-051CA**; Rebuild rear upstairs porch using solid beadboard panel, reside half of rear portion of building with cedar clapboard 4.5 inch reveal, rebuild stairs. Approved July 2008.
- **Zoning Permit 91-111**, (see COA 87-005); Remove front entry and replace with 12' x 8' entry porch. Approved September 1990.
- **Zoning Permit 87-042 / COA 87-005**; To construct a 15' x 33' second story addition on the east elevation; materials to be wood frame/siding. Remove existing entry porch and replace with a 12' x 6' wood entry porch.
 - **COA 87-005**; Conditional Use Review to expand the existing non-conforming commercial office use by up to 25% of existing floor area; side yard setback does not meet proposed change to setbacks (Amendment #86-11 Aldermanic Approval required if approved by Zoning Board of Adjustment.) **39** Parking spaces provided. Approved February 1987.
- **Zoning Permit 84-031 / COA 84-010**; to place fill and expand parking area in the rear of the property. No additional use. Approved February 1984.
- **Zoning Permit 82-21 / COA 82-097**; install solar collectors on the back roof of the building. Approved March, 1982.

- **Zoning Permit 82-001**; put a 10' x 11' entry way on rear of building as specified on permit 80-1032 and to remodel interior space. Approved January 1982.
- **Zoning Permit 80-1032**; put an addition (15' x 33') on existing building and add a rear (9' x 12') entrance. Approved June 1980.
- **Zoning Permit 80-708**; construct interior walls, sheet rocking and insulation, replace decayed supports. Approved January, 1980.
- **Zoning Permit 79-512**; take a window out and replace with a door to make an entrance to the basement. Stairs to be built for access to cellar door. Finishing exterior with brick for a lab and storage. Approved October, 1979.
- **Zoning Permit 73-1083**; convert the two apartments and two dental offices at 247 Pearl Street into six doctors' offices **and using the basement area**. Garage to be torn down, parking expanded (29 spaces), new entrance installed. Approved November 1972.
- **Zoning Permit 69-900**; convert the first floor at 247 Pearl Street into two apartments and to convert the second floor into a dental office and possibly one medical office. **Eight** parking spaces provided. Approved and issued January 1969.

Overview: 247-249 Pearl Street, known as the Benjamin Bailey House (c. 1820), was destroyed by fire September 5, 2011. The owners received approval to reconstruct an approximately 10,133 gross floor area replacement building to reclaim the non-conforming dental office use. The parking arrangement remained the same at 50 parking spaces. The project was amended in 2012, but **the permit expired** without exercise. A subsequent application for a connected residential building with 29 units, surface parking, regrading and retaining walls was approved in June of this year.

In pursuit of developing the site and meeting the directives of VT DEC regulations in preparation of a Corrective Action Plan (CAP), the applicants are requesting to modify the approved site and grading plans. Significantly more soil contamination was discovered in subsequent borings, in concentrations and vertical presence of PAH contamination that would require removal of approximately 7' of soil (7660 tons). An extension of the retaining wall and limited yet targeted soil removal will permit the proposed redevelopment of the site per the attached study. Cost estimates for soil removal and disposal would render site development financially unfeasible.

The approved building, use (29 residential units) and parking count remain constant.

Condition #20 of the permit stated:

If studies indicate compromised soils, appropriate site mitigation and consultation with ANR will be required.

See attached narrative for a description of Phse 2 Environmental soil borings, findings and conclusions.

Recommendation: Consent approval, per the following findings and conditions. The Findings are specifically directed at this requested amendment.

I. Findings

Article 3: Applications, Permits, and Project Reviews

Part 4: Site Plan and Design Review

Part 5: Conditional Use and Major Impact Review

Sec. 3.5.6 (a) Conditional Use Review Standards

1. *Capacity of existing or planned community facilities.*

No change from previous approval.

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.*

This is a residential high-density zoning district, 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 Municipal Development Plan cites:

- *Burlington has begun to investigate opportunities to remediate these [Brownfield] properties in order to bring them back into useful economic service. Once the degree of contamination is better understood, options for clean up and redevelopment can be investigated.*

(MDP, Economic Development Plan, Page VI-12.)

- *Continue the cleanup and redevelopment of Brownfields, a high priority to improve the environment, increase the tax base, create and retain jobs, and curb sprawl.*

(MDP, Land Use Plan, Page I-30.)

Affirmative finding.

3. *Traffic on roads and highways in the vicinity evaluated in terms of increased demand for parking, travel during peak commuter hours, safety, contributing to congestion, as opposed to complementing the flow of traffic and/or parking needs; if not in a commercial district, the impact of customer traffic and deliveries must be evaluated;*

No change from previous approval.

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

The attached analysis defines significant contamination that would require removal of more than 7000 tons of soil. The applicants offer a plan that minimizes removal, and would ring the site with a retaining wall. As proposed, this will physically and economically allow the redevelopment to occur as part of a plan to address the present contamination. **Affirmative finding as conditioned.**

5. *The utilization of renewable energy resources;*

No change from previous approval.

and,

In addition to the General Standards specified above, the DRB;

6. *shall consider the cumulative impact of the proposed use. For purposes of residential construction, if an area is zoned for housing and a lot can accommodate the density, the cumulative impact of housing shall be considered negligible;*

No change from previous approval.

7. *in considering a request relating to a greater number of unrelated individuals residing in a dwelling unit within the RL, RL-W, RM and RM-W districts than is allowed as a permitted use, in addition to the criteria set forth in Subsection (a) hereof, no conditional use permit*

may be granted unless all facilities within the dwelling unit, including bathroom and kitchen facilities are accessible to the occupants without passing through any bedroom. Additionally, each room proposed to be occupied as a bedroom must contain at least one hundred twenty (120) square feet. There must also be a parking area located on the premises at a location other than the front yard containing a minimum of one hundred eighty (180) square feet for each proposed adult of the dwelling unit in excess of the number of occupants allowed as a permitted use. All other green space standards must be observed.

No change from previous approval.

8. *may control the location and number of vehicular access points to the property, including the erection of parking barriers.*

No change from previous approval.

9. *may limit the number, location and size of signs.*

No change from previous approval.

10. *may require suitable mitigation measures, including landscaping, where necessary to reduce noise and glare and to maintain the property in a character in keeping with the surrounding area.*

A Planting plan was submitted (L1.0) that defines new landscaping along portions of the westerly property line, as well as 5 White Pine and an elm tree along the southerly portion of the lot. Two specimen trees are articulated along the walkway (Princeton American Elm.) The approved planting plan will remain in effect, especially in light of the extended retaining wall proposed as new plantings will help screen visual impact.

Affirmative finding as conditioned.

11. *may specify a time limit for construction, alteration or enlargement of a structure to house a conditional use.*

No additional construction time beyond the standard 2-year time frame has been suggested. Therefore, the project must be completed within 2 years of the date of permit approval.

Affirmative finding as conditioned.

12. *may specify hours of operation and/or construction to reduce the impact on surrounding properties.*

No change from previous approval.

13. *may require that any future enlargement or alteration of the use return for review to the DRB to permit the specifying of new conditions.*

This is a statutory requirement. **Affirmative finding as conditioned.**

14. *may consider performance standards, should the proposed use merit such review.*

This is at the discretion of the DRB. **Affirmative finding.**

15. *may attach such additional reasonable conditions and safeguards, as it may deem necessary to implement the purposes of this chapter and the zoning regulations.*

Also at the discretion of the DRB. **Affirmative finding.**

(b) Major Impact Review Standards:

Before a major impact development may receive approval, the DRB must be satisfied, based on documentation provided by appropriate city agencies, experts, interested parties and/or the applicant that the proposed development, in addition to meeting the review standards for conditional use review above, shall:

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

The City Stormwater Administrator will be asked to review and approve the revised site plan prior to release of the permit. **Affirmative finding as conditioned.**

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

The applicant will be required to submit a letter from the Department of Public Works confirming the availability of adequate water and sewer service for the proposed development. **Affirmative finding as conditioned.**

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

See above.

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, as well as a Stormwater Management Plan has been submitted for review. Approval by the City Stormwater Administrator will be a condition of approval. **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;*

No change from previous approval.

6. *Not cause an unreasonable burden on the city's ability to provide educational services;*

No change from previous approval.

7. *Not place an unreasonable burden on the city's ability to provide municipal services;*

No change from previous approval.

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;*

No change from previous approval.

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;*

No change from previous approval.

10. Be in substantial conformance with the city's municipal development plan and all incorporated plans;

See Conditional Use review criteria, above.

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; and/or

No change from previous approval.

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

No change from previous approval.

Article 4: Zoning Maps and Districts
Section 4.4.5 Residential Districts

Table 4.4.5-2 Base Residential Density

High Density (RH) – 40 units/acre

No change from previous approval.

Table 4.4.5-3 Residential District Dimensional Standards and Density

RH	Max. Lot Coverage 80%	Minimum Building Setbacks 1,3,4, 5,6			Height Maximum 35' ¹
		Front ²	Side ³	Rear	
Existing	58.4%				
Proposed	64.9%	7.4'	8.9' (14.9' at east boundary where property widens)	75'	Same as original approval.

No change from previous approval. Retaining walls may project into setbacks per Sec. 5.2.5 (b) 2.

¹ An additional ten per cent lot coverage may be permitted for accessory residential features per (d) 3A. (Only RL, RL-W, RM and RM-w districts.)

² Average front yard setback of the principal structures on the 2 adjacent lots on both sides within the same block having the same street frontage. See Sec. 5.2.4.

³ In no event shall the side yard setback be required to exceed 20 feet, or the rear yard setback be required to exceed 75 feet.

5. The Side Yard setback shall be calculated based on the four adjacent properties (2 on each side of the subject property.) The right side yard setback is the average of the right side yard setback of the principal structures on these four properties. The left yard setback is the average of the left side yard setback of the principal structures on these four properties. The adjacent properties shall be within the same block having the same street frontage as the subject property.

6. Where there are fewer than 2 adjacent lots on both sides within the same block having the same street frontage, the average side yard setback shall be calculated from the fewer number of lots. Where there are no adjacent lots, the setback shall be 10% of the lot width.

Article 5: Citywide General Regulations

Part 2: Dimensional Requirements

Section 5.2.3, Lot Coverage Requirements

See Table 4.4.5-3, above.

Sec. 5.2.4 Buildable Area Calculation

Not in the RCO, WRM, RM, WRL, or RL zone, and not greater than 2 acres. Not applicable.

Section 5.2.5 Setbacks

As noted, walls may project into required setbacks per Section 5.2.5. (b) 2. **Affirmative finding.**

Sec. 5.2.6, Building Height Limits

No change to previous approval.

Sec. 5.2.7, Density and Intensity of Development Calculations

No change to previous approval.

Part 3: Non-conformities

Sec. 5.3.4 Nonconforming Uses

No change to previous approval.

Section 5.4.8 Historic Buildings and Sites

The historic structure was lost to fire, and is no longer extant. Not applicable.

Section 5.4.9 Brownfield Remediation

There is now identified site contamination at 247-249 Pearl Street. Additional testing under extended Phase 2 studies have confirmed depth, breadth and identity of contaminants. One method to address the issue is to remove and dispose of approximately 7660 tons of soil, which would cost about \$400,000, making redevelopment economically unattainable. To limit the scope of soil removal and revise the site grading, with an extended retaining wall would allow the development to proceed. **Affirmative finding.**

Part 5: Performance Standards

Section 5.5.1 Nuisance Regulations

No change from previous approval.

Section 5.5.2 Outdoor Lighting

No change to previous approval.

Section 5.5.3 Stormwater and Erosion Control

Final approval of the revised site and drainage plans from the Stormwater Administrator is required. **Affirmative finding as conditioned.**

Article 6: Development Review Standards

PART 1: LAND DIVISION DESIGN STANDARDS

Not applicable.

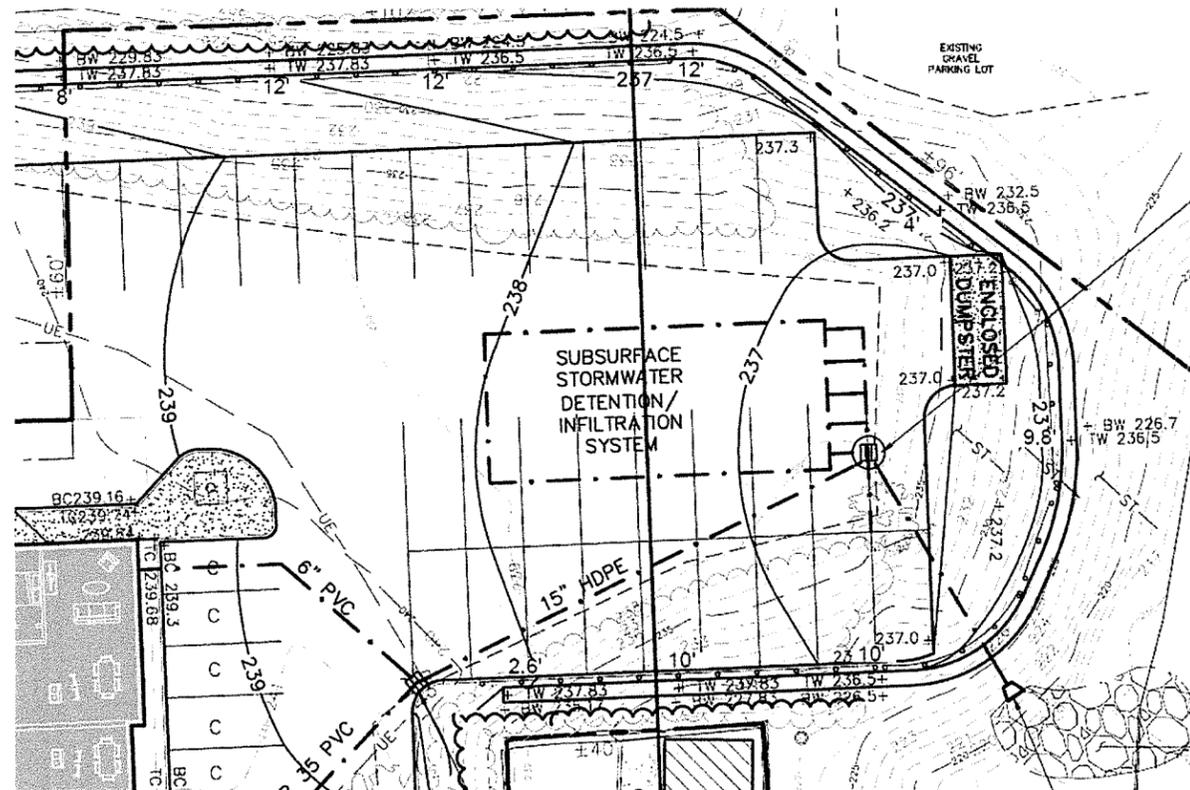
PART 2: SITE PLAN DESIGN STANDARDS

Sec. 6.2.2 Review Standards

(a) Protection of Important Natural Features:

This site is one of the more dramatic examples of extant Burlington ravine: Relatively at grade with the street on the north of the parcel, the land falls precipitously away to the south. The grade change is significant; more than 26' grade change from front to back. The proposal seeks to amend the original approval, altering the grade into more of a "bowl" with installation of retaining walls that would rim the east, south and west of the lot. The grade changes will be less gradual and made clearly distinct by the proposed retaining walls, but will allow site redevelopment without the costly expense of the removal of most of the contaminated soils. The wall, itself, will be required to meet Design Review standards and approval of the City Engineer.

Affirmative finding as conditioned.



(b) Topographical Alterations:

Alteration to the natural contour of the site shall minimize grading, cut, and fill, and shall take necessary measures to protect against erosion and future instability. Any grade changes shall be in keeping with the general appearance of neighboring developed areas. In areas where more intense levels of development are encouraged, development should seek to take advantage of topographical changes to hide and/or blend new construction into the landscape. Proposed

design and construction details for any cut and fill, or retaining walls over 3-feet in height, or any height along the lakeshore, shall be subject to review and approval by the city engineer before receiving approval of the site plan.

Grading changes will require installation of a continuous retaining wall from the east, to the south, to the west; creating somewhat of a basin. The wall will be required to meet the approval of the city engineer per this standard. The applicant had previously suggested a “redi-rock” product may be utilized, with railings around the taller sections. Confirmation will be required. The height of the wall at any given location has been annotated (see above image) and ranges in height from 2.6’ on the west to 12’ in height along the east where there has existed some heavy scrub growth; however the likelihood of site development may require the wall construction nonetheless.

Affirmative finding as conditioned.

(c) Protection of Important Public Views:

Distant terminal views of Lake Champlain and the mountains to the east and west, and important public and cultural landmarks, framed by public rights-of-way or viewed from public spaces shall be maintained through sensitive siting and design to the extent practicable. This shall not be construed to include views from exclusively private property.

No change to previous approval.

(d) Protection of Important Cultural Resources:

No change to previous approval.

(e) Supporting the Use of Renewable Energy Resources:

Where feasible, the site plan should be so designed as to take advantage of the site’s inherent potential to utilize sources of renewable energy including direct sunlight, wind, or running water. The site plan should also incorporate site planning and landscaping decisions intended to minimize energy demand such as siting buildings to maximize solar access or the use of deciduous and coniferous trees to create shade and windbreak.

Buildings should, where appropriate within the context of the neighborhood development pattern; maximize their solar exposure by being oriented to maximize natural light and heat gain during winter months, and to minimize casting shadows into ground floor living space of a building on an adjacent property.

No change to previous approval.

(f) Brownfield Sites:

Where a proposed development involves a known or suspected brownfield, the site plan shall indicate areas of known or suspected contamination, and the applicant shall identify completed or planned remediation necessary to support the intended use(s).

The site is not listed on Vermont’s Hazardous Waste sites; however contamination has now been verified. See Section 5.4.9 above.

(g) Provide for nature's events:

The site grading and drainage plan must be approved by the City Stormwater Administrator.

Affirmative finding as conditioned.

(h) Building Location and Orientation:

No change to previous approval.

(i) Vehicular Access:

No change to previous approval.

(j) Pedestrian Access:

No change to previous approval.

(k) Accessibility for the Handicapped:

No change to previous approval.

(l) Parking and Circulation:

The same number of parking spaces will be provided (43 on-site) with the same layout. While the site grading is proposed to change, the number of parking spaces is not. **Affirmative finding.**

(m) Landscaping and Fences:

Landscaping shall be used to beautify the development site and to provide specific functions and benefits to the uses and buildings on the site. These include but are not limited to stormwater retention and erosion control, winter windbreaks and summer shade, recreational and habitat corridors, buffers and screening of parking areas, and creating privacy for and from adjacent property.

An articulated landscaping plan was included within the original approval, and will be required to be implemented unless the applicant provides reasoning to the DRB why that is no longer feasible. All other conditions inherent with the original approval remain.

Fences may be placed within the required setback along a property line, but shall be setback sufficiently to provide for the maintenance of both sides of the fence without entering onto the adjacent property and shall present a finished side to the adjoining property and public street. Fences placed within a clear sight triangle along driveways and at street intersections, or between an existing building and the front property line, whichever is less, shall be limited to 3-feet in height above the curb in order to provide safe sight distances for pedestrians and vehicles. Styles, materials, and dimensions of the proposed fence shall be compatible with the context of the neighborhood and the use of the property.

A site section has been provided to understand the proposed terrain, retaining wall and parking barriers. Quite simply, redevelopment of the site with removal of contaminated fill will prove to be too costly. This amendment asks to revise the site grading and drainage plans to allow for redevelopment in a prudent yet economically practical manner. That plan includes more extensive retaining walls, which must be approved by the city engineer for acceptability.

Affirmative finding as conditioned.

(n) Public Plazas and Open Space:

No change from previous approval.

(o) Outdoor Lighting:

No change from previous approval.

(p) Integrate infrastructure into the design:

No change to previous approval.

PART 3: ARCHITECTURAL DESIGN STANDARDS

No change to previous approval.

Article 8: Parking

No change to previously approved permit(s) for this site or 253 Pearl Street.

II. Conditions of Approval

1. All conditions of approval of ZP14-0884CA/MA not herein altered remain in effect.
2. The Planting Plan approved under ZP14-0884CA/MA will be instituted as approved, unless the applicant defines an obstruction that would prevent its implementation with DRB concurrence.
3. Written approval of the revised plan shall be received from the Stormwater Engineer **prior to release of the zoning permit.**
4. The retaining wall must be reviewed and found acceptable by the city engineer.
5. The proposed height of the retaining wall shall be defined at the various locations around the site **prior to review** by the Development Review Board. [Plan received 11/25/2014.]
6. Standard Permit Conditions 1-15.

NOTE: These are staff comments only. The Development Review Board, who may approve, table, modify, or deny projects, makes decisions.

247 Pearl Street Site Plan Amendment Application 11/5/14

Subsequent to DRB approval of the 247 Pearl Street project, additional soil borings to characterize the extent of PAH (poly aromatic hydrocarbon) contamination were completed by Lincoln Applied Geology as part of their Phase 2 Environmental Site Assessment (see attached report). Because of the extent of grading to remove soils across the rear of the site, the originally approved site plan would have required approximately 7,660 tons of soil to be removed from the site.

Given the depth at which PAH impacted soils were discovered, disposing of this large a quantity of soil at an approved landfill per VT DEC regulations would present a significant impediment to the feasibility of redeveloping the site. The amended site plan now being proposed has reconfigured the concrete retaining walls to reduce the amount of soil that would have to leave the site to approximately 2,850 tons, while creating some additional level green space along the east and south edges of the parking area in the process.

Care was taken to minimize the increase in height of the retaining wall along the west property boundary line, where the wall extends north behind a neighbor's garage as it tapers back to grade along the existing dirt embankment. The retaining walls along the eastern and south-eastern edge of the parking lot are now proposed to be taller and placed farther down-slope on the existing embankment, but in this location a higher wall serves to discourage pedestrian cut-through traffic which was raised by those neighbors as problem inherent to those existing embankments.

The attached plan sheets illustrate the revised site plan, a detailed grading plan with spot elevations and wall heights, and an updated wall detail sheet which includes an updated section (profile view) of the retaining wall. This wall section is in the same location as the previous illustration reviewed by the DRB for the originally permitted plan and was selected to show the highest point where the wall extends beyond the north edge of the neighbor's garage (south of which the wall becomes hidden by the garage structure).

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Soil Delineation Summary Report

Undeveloped Lot
247 Pearl Street
Burlington, Vermont

LAG Project #14023

August 29, 2014

Prepared for:

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Figure 2 Geologic Cross-Section (A-A')
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Figure 6 Benzo(a)pyrene Concentration Map (5-7')

Appendixes

Appendix A Soil Boring Logs
Appendix B Laboratory Analytical Reports – July 24 & 31, 2014

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1.0 INTRODUCTION

A soil boring investigation was performed at an undeveloped lot located at 247 Pearl Street in Burlington, Vermont after polycyclic aromatic hydrocarbon (PAH) soil contamination was reported during a Phase II Environmental Site Assessment (ESA). The Phase II ESA was performed after several recognized environmental conditions (RECs) were identified associated with the subject property during a Phase I ESA performed in April 2014. A work plan and cost estimate outlining the soil boring investigation was submitted to Redstone and the Vermont Department of Environmental Conservation (VTDEC) on May 12, 2014. Mr. Justin Dextradeur of Redstone and Mr. Brian Woods of the VTDEC approved the work proposed scope in July 2014. This report documents the findings of this investigation.

2.0 SUBSURFACE INVESTIGATION ACTIVITIES

2.1 Soil Boring Installation

On July 24 and 31, 2014, LAG, in conjunction with T&K Drilling of Troy, New Hampshire installed twelve (12) soil borings at the Site (SB-1 through SB-12). The borings were installed in a grid pattern across the property to effectively evaluate PAH distribution at the Site. Soil boring locations are depicted on the Site Map presented as Figure 1.

The soil borings were advanced using a Geoprobe[®] drill rig to a desired depth of 7 feet below grade (bg). Soil samples were collected using a 3-foot stainless steel macro core sample tube and logged according to the Unified Soil Classification System (USCS). Soil samples were obtained and screened for volatile organic compounds (VOCs) with a properly calibrated photoionization detector (PID) throughout the drilling process. The soil headspace samples were transferred directly into new zip-lock bags to minimize contact with any external sources. VOCs were not reported (0.0 parts per million [ppm]) in any of the soil samples screened with a PID.

Soils encountered at the Site generally consisted of poorly graded fine sand with gravel from grade to 7 feet bg. Silt content increased in the soil borings surrounding the foundation of the former on-site building on the northern portion of the property. A geologic cross-section (A-A') between soil borings SB-1 and SB-12 is included as Figure 2. Groundwater was only identified in soil boring SB-12 at 5.5 feet bg likely associated with a perched water table occurring along a silty fine sand permeability boundary. Based on previous Site characterization groundwater is expected to be at much greater depths (+/-20 feet bg).

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2.2 PAH Soil Quality Results

Composited soil samples were collected from each soil boring at targeted depth horizons of 0 to 1, 1 to 3, 3 to 5, and 5 to 7 feet bg. PAHs were reported above VTDEC Residential Soil Screening Values (SSVs) at varying depths in all soil borings associated with this investigation. PAHs were not reported above residential SSVs in SB-6 below 5 feet bg, in SB-8 between 3 and 5 feet bg, and in SB-11 and SB-12 below 1 foot bg.

Benzo(a)pyrene was used to evaluate PAH contamination levels and distribution as this compound has the most stringent residential SSV of 10 parts per billion (ppb). The Geologic Cross-Section between SB-1 and SB-12 displays the vertical distribution of PAH contamination at the Site. Figures 3 through 6 display Benzo(a)pyrene concentrations from each boring at the targeted sampling intervals. Benzo(a)pyrene was reported above its industrial SSV of 210 ppb at varying depths in several soil borings. Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-cd)pyrene were also reported above their respective SSVs in many of the composite soil samples collected during this subsurface investigation.

Based on the soil quality compiled during the Phase II ESA and this most recent soil boring investigation, limited PAH concentrations exist in and around the filled foundation of the former on-site structure. Concentrations and vertical presence of PAH contamination increases south of the former building footprint and extends southerly toward the property boundary.

3.0 SOIL MANAGEMENT EVALUATION

Depending on final Site plans for the property a significant amount of soil will likely have to be removed and properly disposed of due to PAH concentrations above residential SSVs. If soils were removed to a depth of 7 feet bg for structural development at the Site approximately 5,105 cubic yards of contaminated soil will be removed. Assuming a conversion rate of 1.5 tons/cubic yard, approximately 7,660 tons of contaminated soils would be targeted for removal and disposal. Soil will be loaded into tri-axle dump trailers with a load capacity of 22 tons and transported to the Morrisonville, New York landfill to be used as daily cover. Casella Waste Services has quoted transportation and disposal of contaminated soil to be \$44.00 per ton and a Burlington solid waste district fee of \$6.75 per ton for a total of \$50.75 per ton. Based on initial projections, contaminated soil transportation and disposal would cost \$388,745.

4.0 CONCLUSIONS

Based on the results presented herein, LAG provides the following conclusions:

- Composite soil samples were collected from all twelve soil borings at targeted depth horizons of 0 to 1, 1 to 3, 3 to 5, and 5 to 7 feet bg.
- PAH contamination was reported above residential SSVs at varying depths in every soil boring. The only sampled depth intervals where Benzo(a)pyrene was not reported above its respective residential SSV was in SB-6 below 5 feet bg, in SB-8 between 3 and 5 feet bg, and in SB-11 and SB-12 below 1 foot bg.
- Minor PAH contamination appears to exist within and around the foundation of the former on-site structure. PAH concentrations and distribution increase south of the foundation.
- Approximately 7,660 tons of contaminated soil is expected to be generated and disposed assuming a grade down cut at 7 feet.
- Transportation, disposal, and district fee of contaminated soil was quoted at \$50.75 per ton. Based on the calculated tonnage, the total cost for disposal is estimated at \$388,745.

4.0 RECOMMENDATIONS

Based on the above conclusions, the following recommendations are offered:

- LAG recommends preparing a Corrective Action Plan (CAP) for future development on the property utilizing cumulative soil quality data and comments from the VTDEC to direct work at the Site moving forward.

F:\CLIENTS\2014\14023\PAH Soil Delineation\Report\PAH Soil Delineation Report.docx

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NOV 05 2014

DEPARTMENT OF
PLANNING & ZONING

LEGEND

- 336 --- EXISTING CONTOUR
- 336 --- PROPOSED CONTOUR
- --- APPROXIMATE PROPERTY LINE
- --- APPROXIMATE SETBACK LINE
- IRON PIN FOUND
- CONCRETE MONUMENT FOUND
- SS --- GRAVITY SEWER LINE
- FM --- FORCE MAIN
- W --- WATER LINE
- OE --- OVERHEAD ELECTRIC
- UE --- UNDERGROUND ELECTRIC
- G --- GAS LINE
- ST --- STORM DRAINAGE LINE
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- ⊙ CATCH BASIN
- ⊙ LIGHT POLE
- ⊙ SIGN
- ⊙ DECIDUOUS TREE
- ⊙ CONIFEROUS TREE
- --- EDGE OF BRUSH/WOODS
- --- CHAIN LINK FENCE
- --- BARBED WIRE FENCE
- --- STOCKADE FENCE

GENERAL NOTES

1. Utilities shown do not purport to constitute or represent all utilities located upon or adjacent to the surveyed premises. Existing utility locations are approximate only. The Contractor shall field verify all utility conflicts. All discrepancies shall be reported to the Engineer. The Contractor shall contact Dig Safe (888-344-7233) prior to any construction.
2. All existing utilities not incorporated into the final design shall be removed or abandoned as indicated on the plans or directed by the Engineer.
3. The Contractor shall maintain as-built plans (with ties) for all underground utilities. Those plans shall be submitted to the Owner at the completion of the project.
4. The Contractor shall repair/restore all disturbed areas (on or off the site) as a direct or indirect result of the construction.
5. All grassed areas shall be maintained until full vegetation is established.
6. Maintain all trees outside of construction limits.
7. The Contractor shall be responsible for all work necessary for complete and operable facilities and utilities.
8. If the building is to be sprinklered, backflow prevention shall be provided in accordance with AWWA M14. The Site Contractor shall construct the water line to two feet above the finished floor. See mechanical plans for riser detail.
9. The Contractor shall submit shop drawings for all items and materials incorporated into the site work. Work shall not begin on any item until shop drawing approval is granted.
10. In addition to the requirements set in these plans and specifications, the Contractor shall complete the work in accordance with all permit conditions and any local Public Works Standards.
11. The tolerance for finish grades for all pavement, walkways and lawn areas shall be 0.1 feet.
12. Any dewatering necessary for the completion of the sitework shall be considered as part of the contract and shall be the Contractor's responsibility.
13. The Contractor shall coordinate all work within Town Road R.O.W. with Town authorities.
14. The Contractor shall install the electrical, cable and telephone services in accordance with the utility companies requirements.
15. Existing pavement and tree stumps to be removed shall be disposed of at an approved off-site location. All pavement cuts shall be made with a pavement saw.
16. If there are any conflicts or inconsistencies with the plans or specifications, the Contractor shall contact the Engineer for verification before work continues on the item in question.
17. Property line information is based upon a plan entitled "Subdivision of Single Lot at 253-255 Pearl St., Burlington, VT", dated Aug. 31, 1984, prepared by Knight Consulting Engineers, Inc. and recorded in the City of Burlington Land Records. This plan is not a boundary survey and is not intended to be used as one.
18. The project benchmark, of 500.0', is a spike set in power pole GMP #22. Vertical datum based on a scaled elevation from a USGS Quad Topo map. Horizontal datum based on a magnetic reading taken at the time of survey.

ZONING REQUIREMENTS

Zoning District: Residential High Density (RH)
 Parking District: Neighborhood

Density: 40 du/Ac. (80 w/ bonus)
 Lot Coverage: 80% (92% w/ bonus)
 Building Height: 35' (45' w/ bonus)

REQUIRED:

Front Yard Setback: ±5' of average of 2 adjoining properties = 7.4±5'
 Side Yard Setback: 10% or 5' (Max. required no more than 25') = 8.9', 14.9'
 Rear Yard Setback: 25% or 20' (Max. required no more than 75') = 75'

PROVIDED:

Front Yard Setback: 7.5'
 Side Yard Setback: 9.0'
 Rear Yard Setback: 57.7'

COVERAGE CALCULATIONS

247 Pearl Street
 Existing Building Coverage = ±10.1%
 Proposed Building Coverage = ±23.7%
 Existing Lot Coverage = ±58.4%
 Proposed Lot Coverage = ±64.9%

253 Pearl Street
 Existing Building Coverage = ±19.8%
 Proposed Building Coverage = ±19.8%
 Existing Lot Coverage = ±50.3%
 Proposed Lot Coverage = ±49.8%

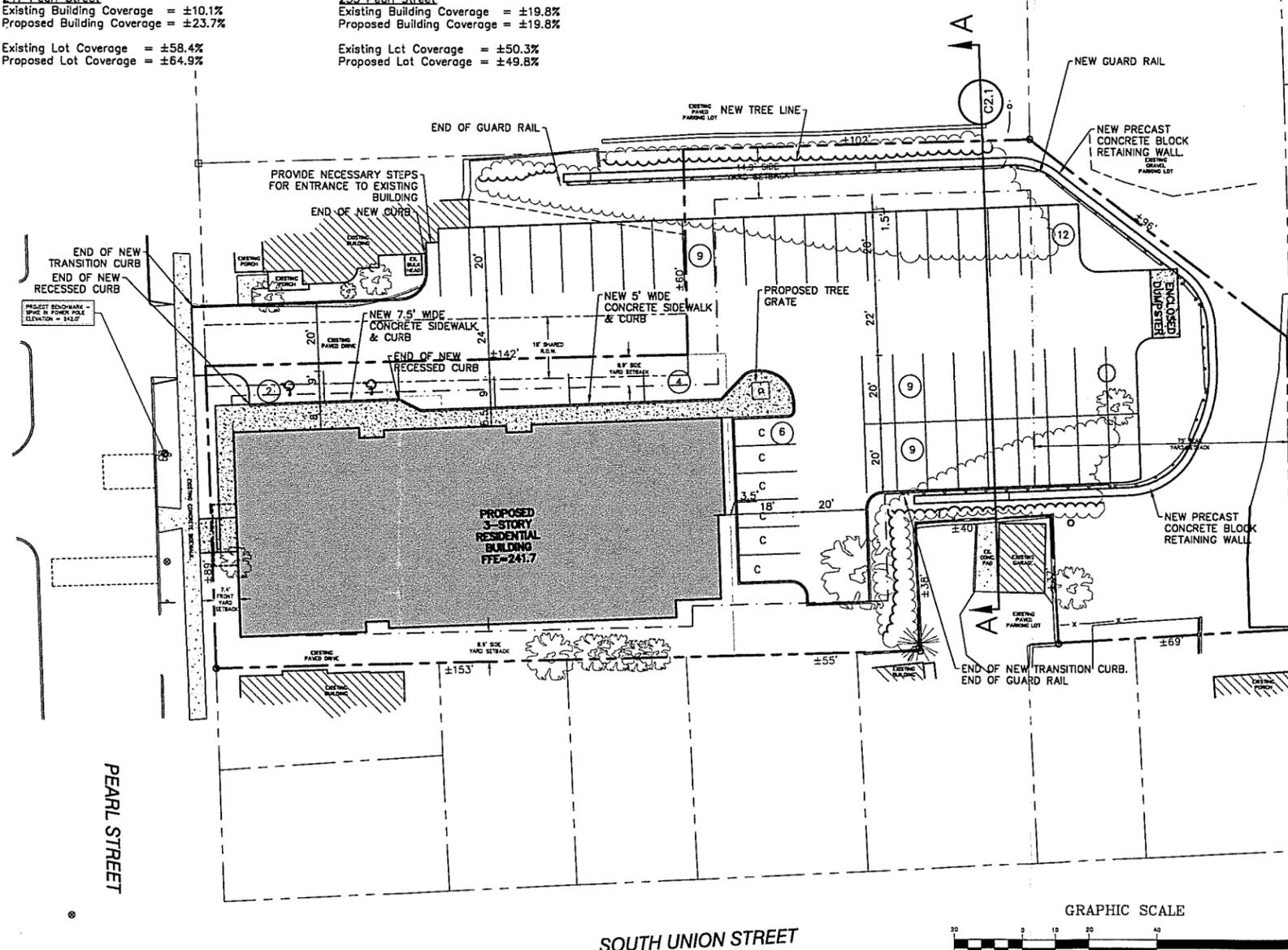
PARKING CALCULATIONS

247 Pearl St.
 Proposed Parking Spaces = 41 spaces
 Required Handicap Spaces = 2 spaces (1 van accessible)

All 90' Spaces Shown = 9'x20'
 All Parallel Spaces Shown = 9'x22'
 C= Proposed Compact Space
 (6) Compact Spaces at 8'x18'

7% compact spaces = 6/41 = 14.6%

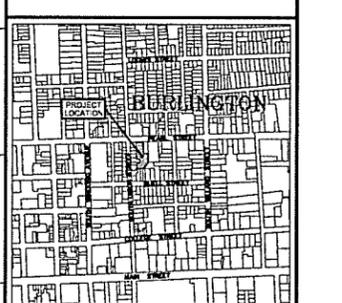
253 Pearl St.
 Proposed parking Spaces = 8 spaces



SITE ENGINEER:

 CIVIL ENGINEERING ASSOCIATES, INC.
 102-254-1111
 102-254-1112
 102-254-1113
 102-254-1114
 102-254-1115
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 102-254-1200

NOV 05 2014
 DEPARTMENT OF
 PLANNING & ZONING
 PEARL
 LAKE LLP
 247 PEARL
 STREET
 BURLINGTON
 VERMONT 05401



LOCATION MAP
 1" = 1000'

DATE	CHECKED	REVISION
4.8.14	PBS	LOCAL SUBMITTAL
4.16.14	PBS	CALLED OUT ENDS OF NEW CURB & GUARD RAILS
7.31.14	PBS	ADDED COMPACT PARKING SPACES
10.23.14	PBS/ACL	REVISED PARKING, GUARD RAIL & RETAINING WALL

**PROPOSED
 CONDITIONS
 SITE PLAN**

DATE FEB., 2014	DRAWING NUMBER C1.1
SCALE 1" = 20'	
PROJ. NO. 14103.01	

AutoCAD Project: 201414103.01\14103.01\14103.01\14103.01.dwg, 10/29/2014 1:47:26 PM, aloiselle

LEGEND

- 336 --- EXISTING CONTOUR
- 336 --- PROPOSED CONTOUR
- - - - - APPROXIMATE PROPERTY LINE
- - - - - APPROXIMATE SETBACK LINE
- IRON PIN FOUND
- CONCRETE MONUMENT FOUND
- SS --- GRAVITY SEWER LINE
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- ⊕ LIGHT POLE
- ⊕ SIGN
- ⊕ DECIDUOUS TREE
- ⊕ CONIFEROUS TREE
- EDGE OF BRUSH/WOODS
- CHAIN LINK FENCE
- BARBED WIRE FENCE
- STOCKADE FENCE

SITE ENGINEER:



CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
802-864-2223 FAX: 802-864-2271 web: www.cca-vt.com

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DRAWN

ACL

CHECKED

PBS

APPROVED

PBS

OWNER:

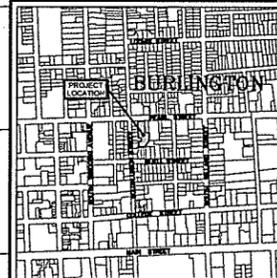
PEARL LAKE LLP

247 PEARL STREET
BURLINGTON VERMONT 05401

PROJECT:

PROPOSED RESIDENTIAL BUILDING

247 PEARL STREET
BURLINGTON VERMONT 05401



LOCATION MAP

1" = 1000'

DATE	CHECKED	REVISION
4.8.14	PBS	LOCAL SUBMITTAL
8.20.14	PBS	VW APPLICATION SUBMITTAL
10.23.14	PBS/ACL	REVISED PARKING, GUARD RAIL & RETAINING WALL

GRADING, DRAINAGE & UTILITY PLAN

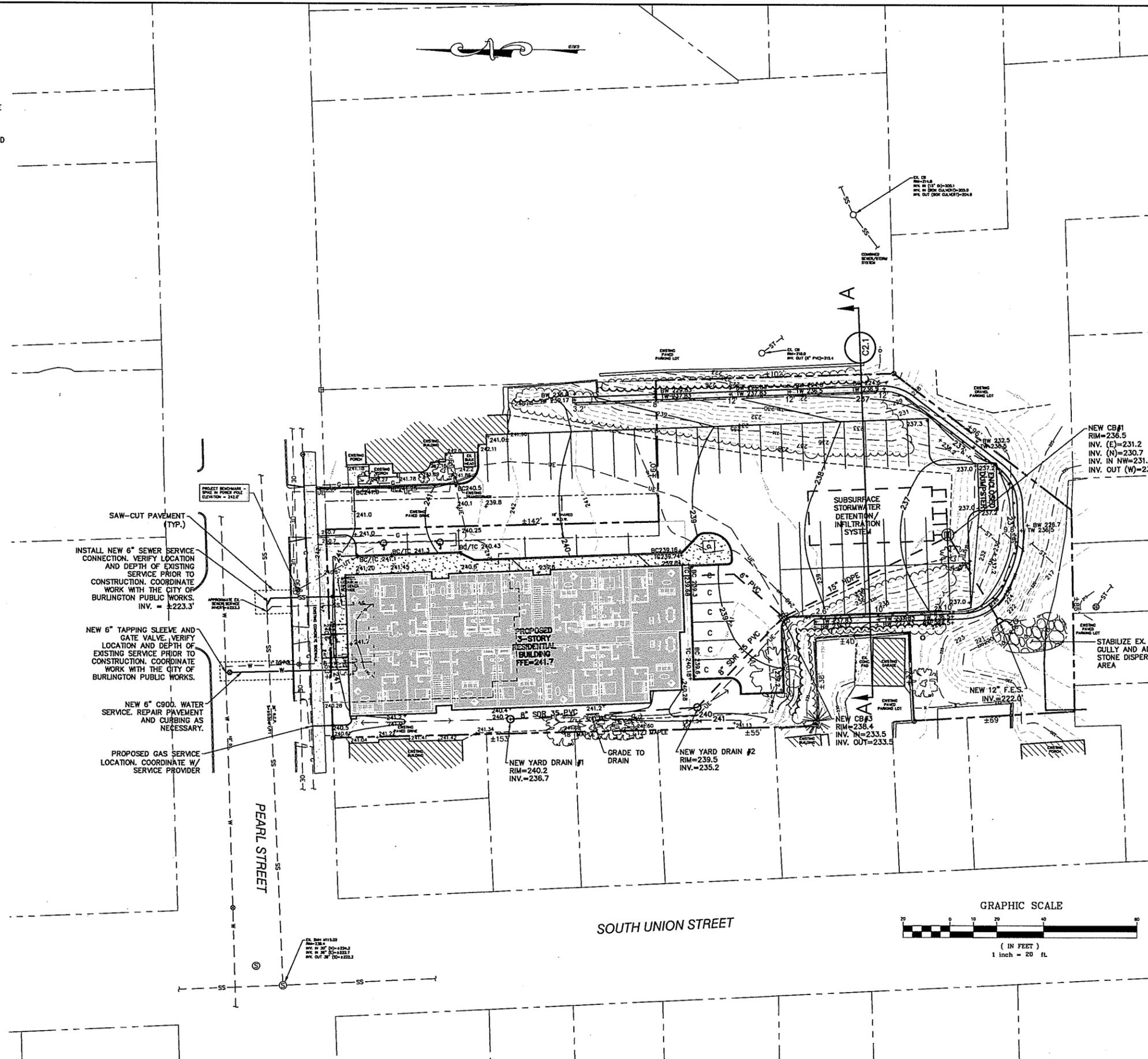
DATE
FEB., 2014

SCALE
1" = 20'

PROJ. NO.
14103.01

DRAWING NUMBER

C1.2



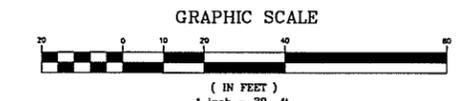
SAW-CUT PAVEMENT (TYP.)

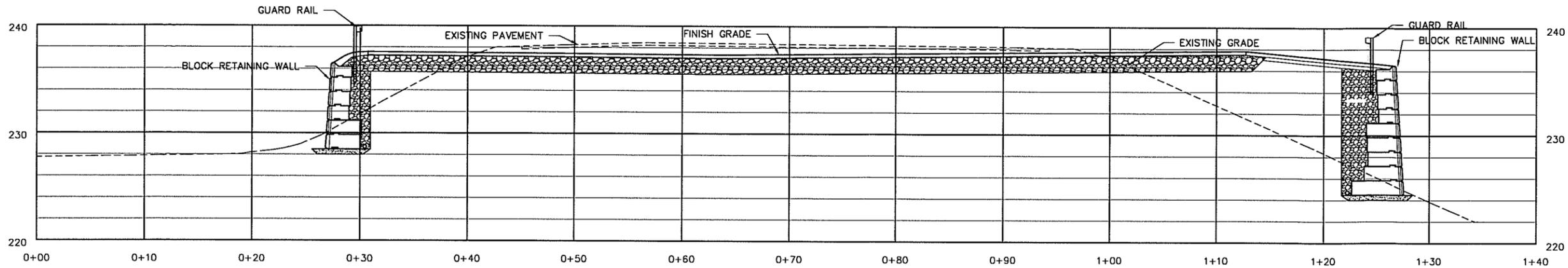
INSTALL NEW 6" SEWER SERVICE CONNECTION. VERIFY LOCATION AND DEPTH OF EXISTING SERVICE PRIOR TO CONSTRUCTION. COORDINATE WORK WITH THE CITY OF BURLINGTON PUBLIC WORKS. INV. = ±223.3'

NEW 6" TAPPING SLEEVE AND GATE VALVE. VERIFY LOCATION AND DEPTH OF EXISTING SERVICE PRIOR TO CONSTRUCTION. COORDINATE WORK WITH THE CITY OF BURLINGTON PUBLIC WORKS.

NEW 6" CS90. WATER SERVICE. REPAIR PAVEMENT AND CURBING AS NECESSARY.

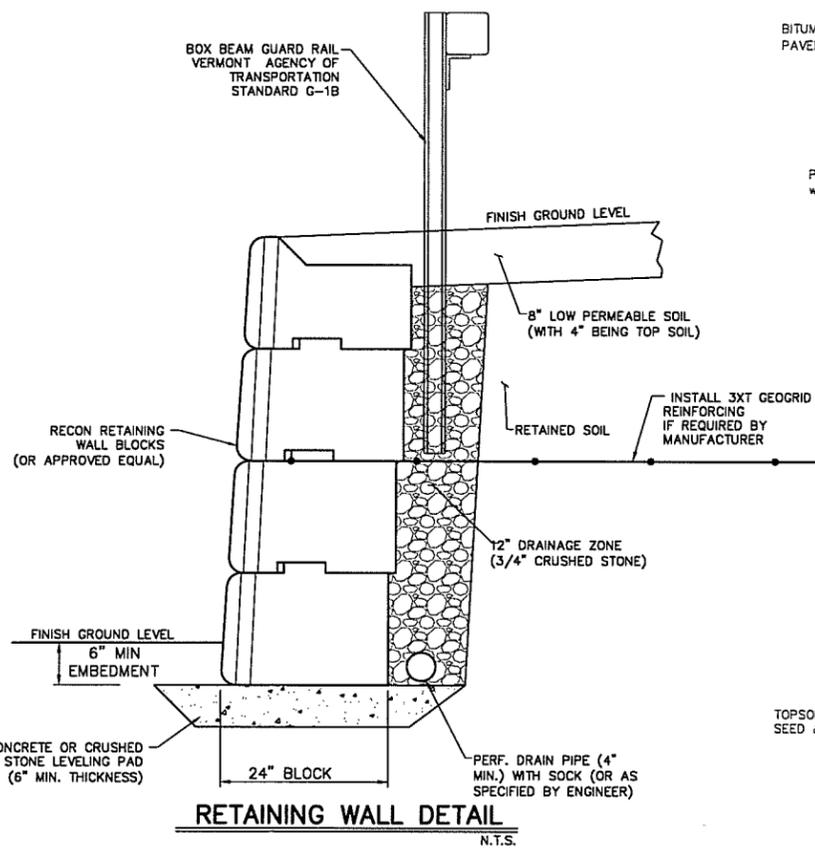
PROPOSED GAS SERVICE LOCATION. COORDINATE W/ SERVICE PROVIDER





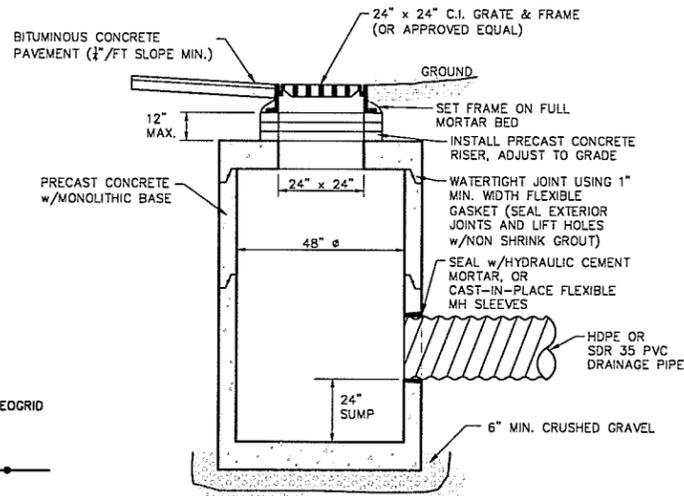
SECTION A-A

SCALE: 1"=5'



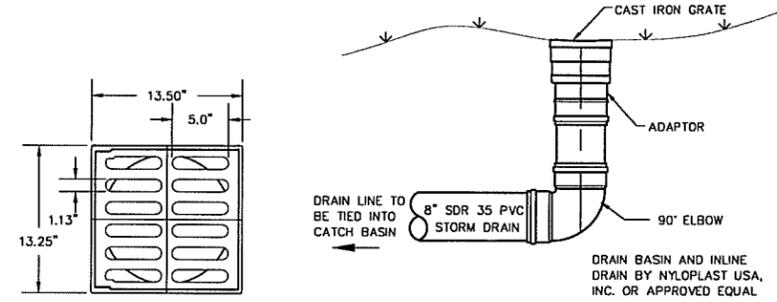
RETAINING WALL DETAIL

N.T.S.

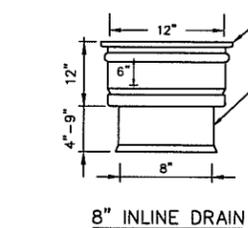


TYPICAL CATCH BASIN

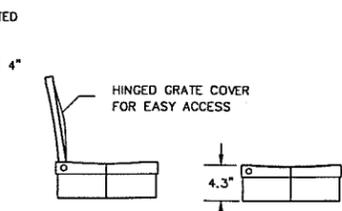
N.T.S.



INLINE DRAIN SECTION



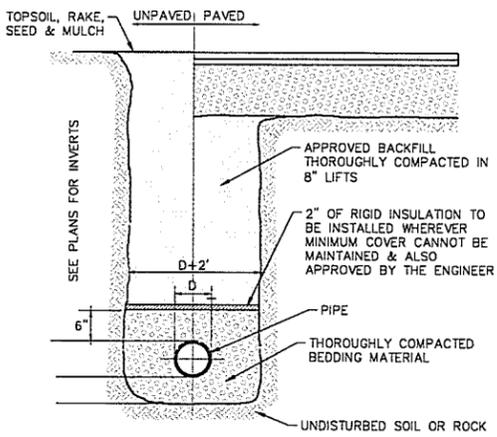
8" INLINE DRAIN



12" CAST IRON GRATE

YARD DRAIN DETAILS

N.T.S.



GRASS LINED SWALE

N.T.S.

NOTES:

1. Compaction of backfill and bedding shall be a minimum of 90% (95% under roadway surfaces) of maximum dry density determined in the standard proctor test (ASTM D698).
2. Bedding material shall not be placed on frozen subgrade.
3. Approved backfill shall not contain any stones more than 6" in largest dimension, 2" maximum diameter within 2' of the outside of the pipe, or any frozen, or organic material.
4. Trenches shall be completely dewatered prior to placing of pipe bedding material and kept dewatered during installation of pipe and backfill.
5. In trenches with unstable materials, trench bottom shall first be stabilized by placement of filter fabric then crushed stone (3/4" maximum).
6. The sides of trenches 4' or more in depth entered by personnel shall be sheeted or sloped to the angle of repose as defined by O.S.H.A. standards.
7. Bedding material shall consist of crushed stone or gravel with maximum size of 3/4". Submit a sample to the Engineer for approval.

SITE ENGINEER:

CIVIL ENGINEERING ASSOCIATES, INC.
 10 WINDMILL VIEW LANE, SOUTH BURLINGTON, VT 05403
 TEL: 802-249-1111 FAX: 802-249-1112 WWW.CEA-VE.COM

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 CHECKED PBS
 APPROVED PBS

NOV 05 2014

DEPARTMENT OF
 PLANNING & ZONING

PEARL
 LAKE LLP

247 PEARL
 STREET
 BURLINGTON
 VERMONT 05401

PROJECT:

**PROPOSED
 RESIDENTIAL
 BUILDING**

247 PEARL
 STREET
 BURLINGTON
 VERMONT 05401



LOCATION MAP

1" = 100'

DATE	CHECKED	REVISION
4.8.14	PBS	LOCAL SUBMITTAL
10.23.14	PBS/ACL	REVISED SECTION AND DETAIL

**SITE SECTIONS
 AND DETAILS
 PLAN**

DATE
FEB., 2014

SCALE
1" = 20'

PROJ. NO.
14103.01

DRAWING NUMBER
C2.1

AutoCADDD Projects\2014\14103.01\1-CADD Files\14103.01\DWG\14103D.dwg, 10/23/2014 3:20:36 PM, mibscille