ENGINEERING VENTURES PC

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August 29, 2024

To: The Town of Rockingham
c/o Gary Fox, *Development Director*
PO Box 370
Bellows Falls, VT 05101
development@rockbf.org

RE: Civil Engineering Preliminary Site Assessment
0 Bridge St.
Bellows Falls, Vermont
Parcel# 6060012

Dear Gary,

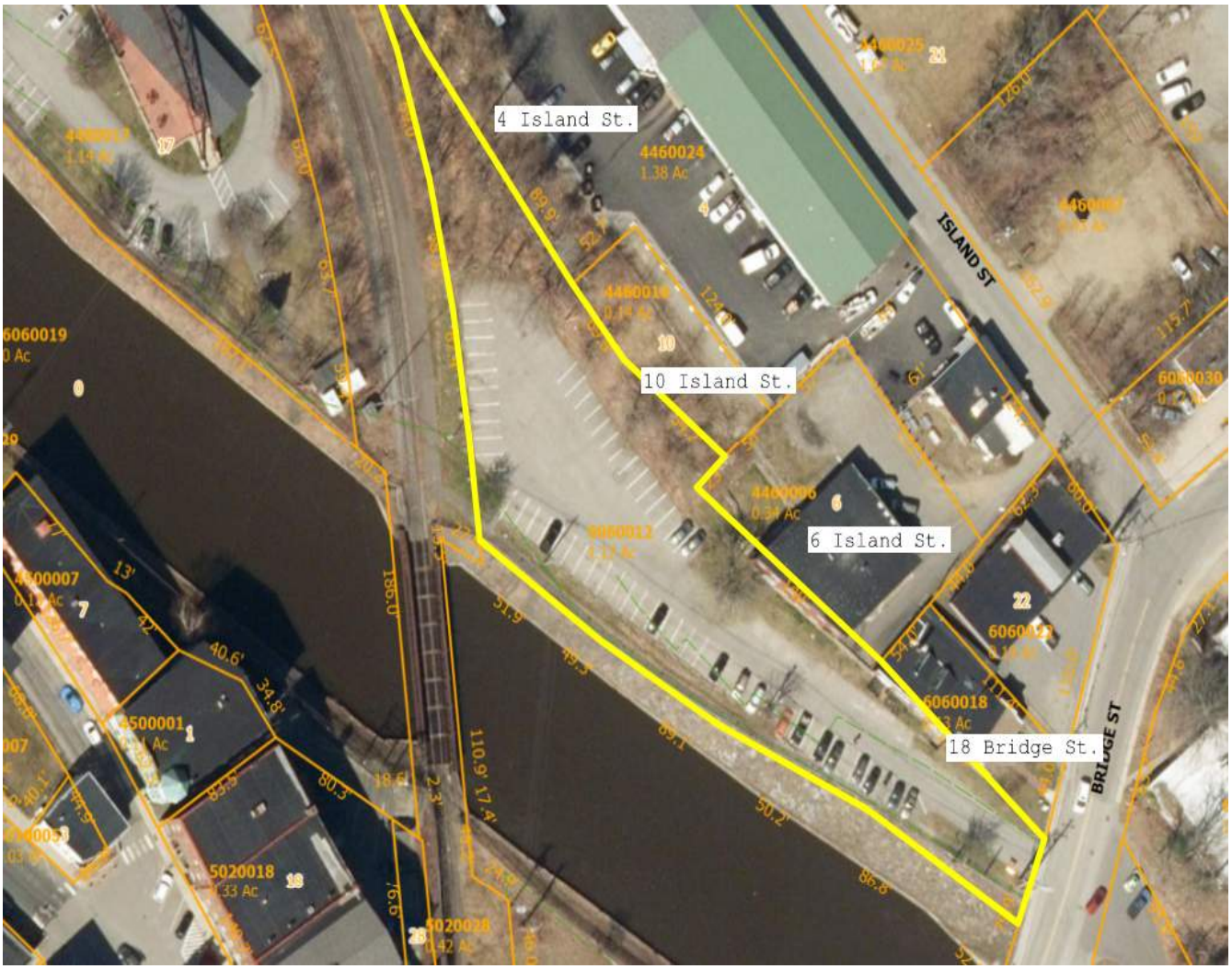
This letter has been prepared to provide a preliminary civil engineering site assessment of the 0 Bridge St. site located in Rockingham Vermont as outlined in the Request for Proposal issued by the Town of Rockingham and awarded to Engineering Ventures on May 17, 2024. The Town has commissioned this preliminary assessment as a starting point to seek out a development partner for the property. This work will provide a base of important information that the Town can use to further assess feasibility and begin discussions with potential development partners. The primary goal of this work is to better understand existing site conditions, identify potential development and regulatory issues, and prepare a conceptual site plan that balances residential units and commercial space with sufficient on-site parking.

The Town is interested in redeveloping the property into a mixed use commercial and residential project. The current vision is a 4-story building with a basement level parking garage, ground floor commercial space and three residential floors above. The unit goal for the project is approximately 30 residential units. The parking ratio should be a minimum of 1 space per unit although a higher ratio is desirable to allow for commercial use access.

Existing Conditions

The existing parcel is noted as 1.12 acres based on the Town GIS Tax Map, however the survey by William Fitzgerald, dated Oct 7, 2004, indicates the parcel area as 0.801 acres. The existing conditions plan included at the end of the report was developed based on the 2004 survey plat. Deed research was outside of the scope of this assessment and therefore we were unable to verify lot area. Future deed research and a land survey boundary survey should be done to confirm the lot area and ownership.

The land is currently being used as a surface parking facility for public parking. The site is situated between the Bellows Falls Canal to the southwest and the New England Central Railroad to the northwest and Bridge Street to the southeast. The property is located on an island that was created when the canal was constructed. The site has a gradual slope from the southeast to the northwest of around 3-4%. The property abutters consist of brick masonry buildings located at 18 Bridge St., 4 island St. and 6 Island St. 10 Island St. is a vacant lot that abuts the site on the northwest end and is owned by Island Holdings, LLC. The lot is currently located in the IND-14 zoning district.



Subject Parcel Tax Map

The existing parking lot totals approximately 23,000 sq. ft. of pavement with approximately 60 parking spaces. There is an approximately 4’ wide asphalt trail along the top of bank of the canal that parallels the parking lot before meeting up with the train platform within the Railroad Right of Way. There are some trees interspersed throughout the lot which provide some shade for the parking area. There is a small, wooded area which follows the bottom of an embankment on the north end of the lot. There are pedestrian connections between 6 Island Street and 18 Bridge Street onto the subject lot.

Representative Photos of the Parking lot and Path

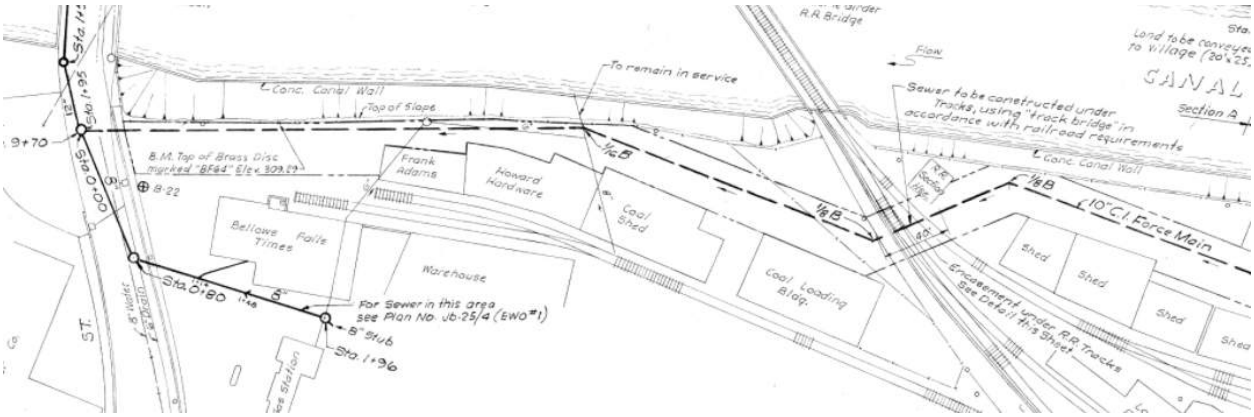
Drainage

Drainage on the lot generally surface flows from the southeast to the northwest. There is a small grass swale that runs along the south edge of the parking area between the parking lot and the sidewalk. Drainage is collected in the grass swale, crosses the sidewalk through a 12” corrugated metal culvert and then discharges into the canal at the west end of the parking lot through a paved outfall. The subject property does receive some drainage from the upgradient properties to the northeast.

Representative Photos of Drainage Features

Sanitary Sewer

The lot currently has a sewer line easement following the south boundary line along the edge of the canal. There is a 10” diameter cast iron sanitary sewer force main which originates at the Depot Street Pump Station located near the Bellows Falls Waypoint Center, the force main crosses under the railroad right of way and runs along the south side of the site before discharging into a manhole in Bridge St. From there sewerage flows by gravity in Bridge St. and crosses over the canal on a masonry arch bridge and from there down to the Town wastewater treatment facility.



Based on our review of site conditions and the existing record drawings there are three options for construction of a new sanitary sewer service to the subject site. They include the following:

- Gravity sewer connection from the new building east to Bridge St. This option requires installing fill on the site and setting the ground floor of the building at elev. = 314 approximately. This consists of about 300 LF of new sewer main and at least two new manholes with a tie in connection at the existing manhole in Bridge St.

- Gravity sewer connection flowing toward the west down to the existing Depot St. pump station. This option would require installing a new steel casing under the railroad and then running a gravity sewer line approximately 460 LF to the existing manhole adjacent to the pump station. We noted on the existing record drawings that during construction of the existing 10" CI force main ledge was encountered at approximately 250 LF from the Depot St. pump station. This option would therefore require an undetermined amount of ledge removal in addition to directional boring under the railroad right of way. Based on information reviewed on the Genesse and Wyoming website, the railroad does issue permits for utility occupancy licenses with a permit application fee.

- Small commercial lift station on the subject property which discharges to the existing manhole in Bridge St. This is likely to require a parallel 2" or larger force main configuration of approximately 300 LF. There would be a sewer manhole and pumping chamber installed outside the new building. A backup generator would likely be required. This option requires an annual operation and maintenance cost.

Water
There is an 8" water main running parallel to the right of way along the east side in Bridge St. and there appears to be a water line stub located on 6 Island St. just over the property line of the subject parcel. As shown on plans provided by the water department it may be an 8" cast iron line.

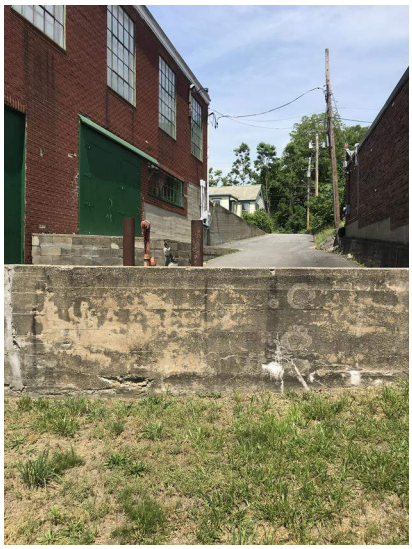
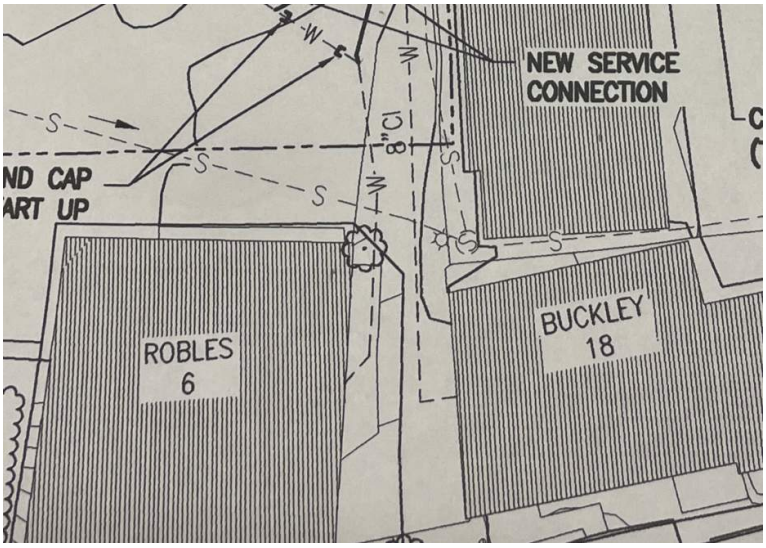
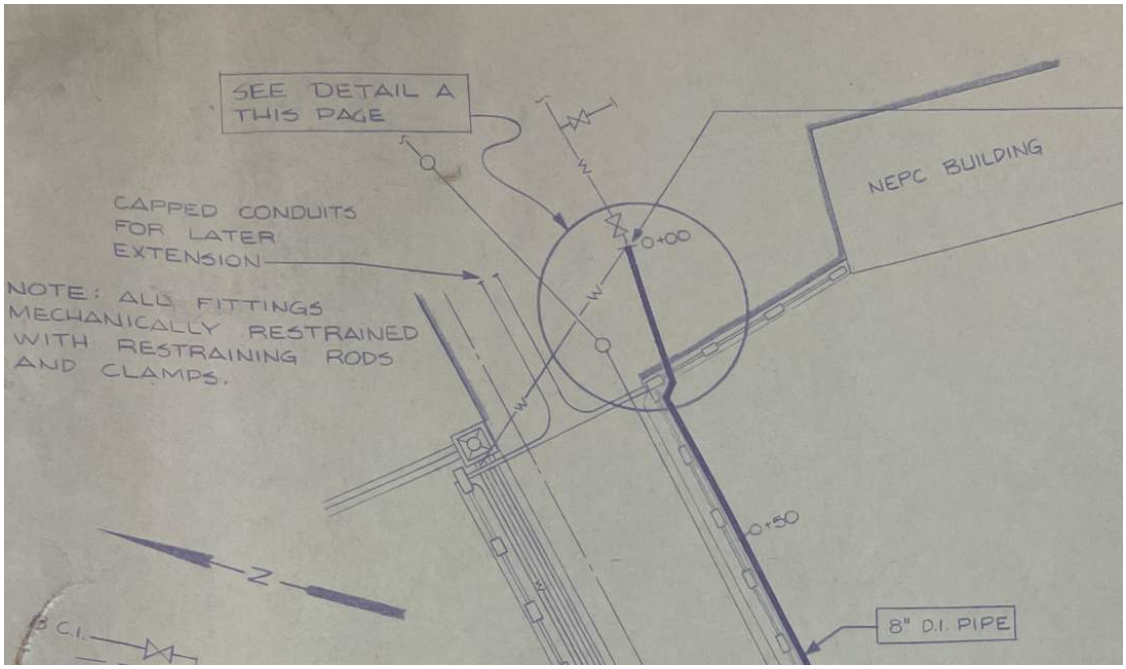


Photo of water line yard hydrant (alley)



Waterline Plan (alley)



Waterline Plan (Bridge St.)

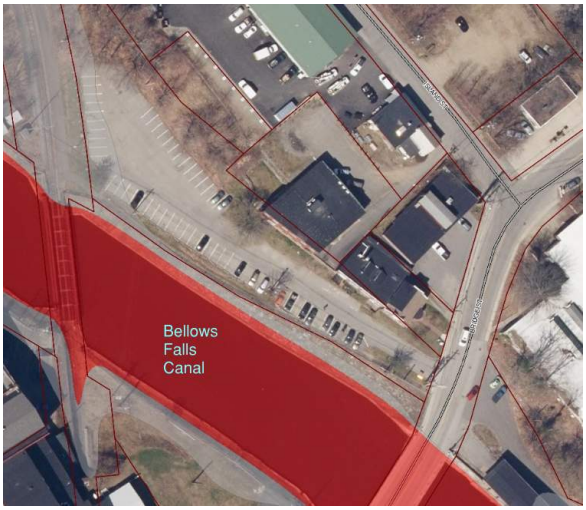
Electrical

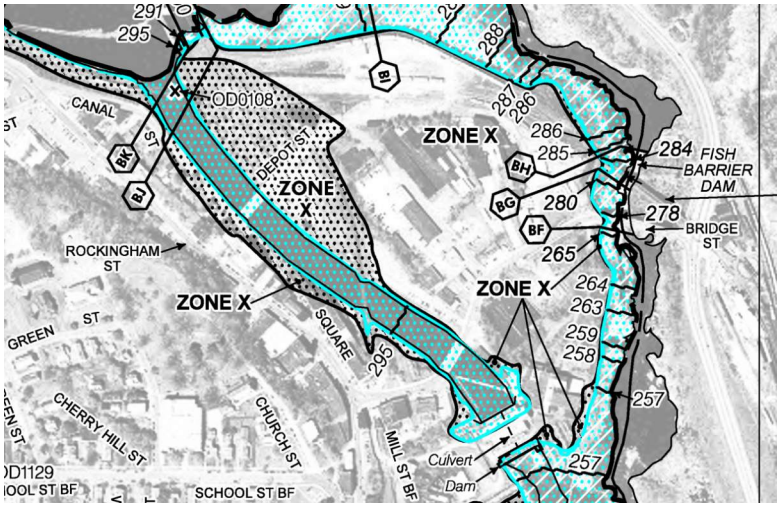
There are overhead utility lines running along the south edge of the site and two large glue laminated utility poles in Bridge St. at either side of the main drive access on the west side of Bridge St. We also noted that Xfinity offers cable internet service to the site based on their service area map.

Representative Photos of Electrical Features

Floodplain

The 100-year floodplain (indicated in dark red shading in the left image below) runs along the south edge of the property and follows the canal. The FEMA flood rate insurance maps show the base flood elevation (BFE) in the vicinity of the subject lot as being 295 ft NAVD88 (below image right). The lowest existing elevation of the lot in the vicinity of the proposed building site is approximately 302 ft.





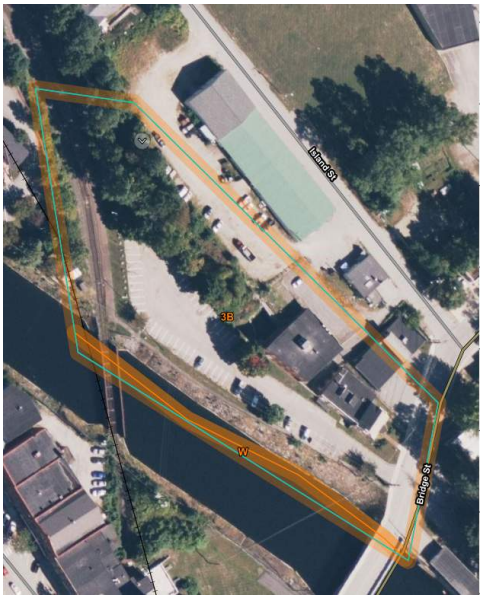
FEMA Flood Maps

River Corridor

We contacted Scott Jensen and Rob Evans from the Vermont Rivers Program to gain input on the project considering the proximity to the Bellows Falls Canal. We were informed that the canal does not currently have a river corridor. The Rivers Program was not concerned about work in the parking lot and did not think there would be a Stream Alteration Permit requirement. It was the opinion of the Rivers Program that the project as currently proposed conceptually is outside of the jurisdiction of floodplain management and the Rivers Program. We were informed that projects within Downtown Districts that have Flood Hazard Ordinances at least as stringent as the state rules do not fall under Act 250 Jurisdiction. However, the State does evaluate river corridor impacts under Act 250 and they are in the process of drafting a river corridor for the Connecticut River. We recommend checking with the Rivers Program and Act 250 Coordinator once the project is further along to check if any new rules have been established that change the permit requirements.

Soils

Site soils are reported to be Quonset and Warwick soils (3B) with a 2-8 percent slope based on the NRCS Web Soil Survey report. Depth to restrictive features is listed as more than 80 inches. Runoff classification is reported to be low and saturated soil conductivity, or potential for infiltration, is considered high, between 2 to 20 inches per hour. Typical soil profiles are a fine sandy loam to a depth of 7 inches, a very gravelly loamy sand at depths between 7 and 20 inches and very gravelly sand from 20 to 60 inches in depth. Parent material consists of sandy and gravely glaciofluvial deposits. NRCS lists the hydrologic soil group as Group A. Typically, soils with these characteristics are very good for infiltration stormwater practices, however, given the potential for environmental contamination at the subject parcel the use of such practices may not be feasible.



NRCS Soils Map **Location of Borings**

Weston and Sampson also completed site borings in the vicinity of the proposed building. These borings are included for reference at the end of the report. The borings consisted of poorly to well graded sand to a depth of 7 ft. approximately and below this was a well graded to poorly graded layer of sand with gravel. Borings were extended to a depth of up to 15 ft below ground surface. The findings of the geotechnical boring indicated a split spoon test result of 9 to 16 blows at between 2 and 6 ft below ground surface. We estimate based on the data the soil bearing pressure will be low in the 2,000 PSF range (IBC Table 1806.2) and therefore may require wide footings and or other ground improvement measures to support the proposed new building foundation.

Stormwater treatment options for this site are likely to consist of the following:

- If contaminated soil can be removed from the site, it may be feasible to use an infiltration practice (Tier 1). This is dependent on the degree of environmental contamination and if remediation on the site can be accomplished. If the practice can be placed at an elevation below the coal dust layer that has been encountered just below the surface as indicated in soil boring SB-3 and no other contamination is present this practice may be feasible.

- Surface biofiltration systems – proprietary and non-proprietary (Tier 2), proprietary examples include focal point High-Performance Modular Biofiltration System, Self-contained below grade proprietary filters, for example, a product called Jellyfish Filter by Contech that consists of a series of membrane filters in a precast manhole. Proprietary systems would likely be coupled with an underground chamber system to provide stormwater attenuation.

- Another potential Tier 2 option is a gravel wetland. Given the current proposed building configuration this type of stormwater practice may be feasible directly north of the proposed building. However, it would require a smaller building footprint and a means of access to the

pond for annual maintenance activities. It is also likely to require supplemental chamber storage to provide the necessary stormwater volume attenuation.

- An underground chamber system with a subsurface sand filter and underdrain (Tier 3). This system would be surrounded in an impermeable membrane to not interact with subsurface soils contamination. The practice would need to be drained by a series of underdrains which discharge to the canal.

State Permits
Based on the current concept plans the following state permits are likely to be required:

- Vermont Operational Stormwater Permit (3-9050)
- Vermont Construction General Permit (CGP) (3-9020)
- Vermont Wastewater and Potable Water Supply Permit
- Vermont Stream Alteration Permit

A Vermont Operational Stormwater permit (3-9050) is required if more than one half acre of existing impervious cover is being replaced by one half acre or more of impervious cover. We estimate the existing impervious cover to be more than one half acre. The 3-9020 permit may also be required and is based on the total disturbed area of the project. If project disturbance is over 1 acre the CGP will be needed. The wastewater and water supply permit will be required for the new water and sanitary sewer service connections. The Vermont stream Alteration Permit is required if more than 10 cubic yards of fill is excavated within the top of bank cross section of the channel. Due to the potential need to lower and replace the existing stormwater outlet pipe which discharges into the canal, this permit may be required.

US Army Corps of Engineering Permits
A USACE Section 408 or Vermont General permit may be required depending on the amount of disturbance within the canal if the existing stormwater outlet pipe is required to be lowered and replaced. This activity will also require permission and review by the current canal operator, Great River Hydro.

Local Bylaws
It is our understanding that the Town is reviewing its bylaws within the Island Industrial (IND-14) Zoning District and may adjust the dimensional requirements. However, we were informed that the changes would not be more restrictive and may be less restrictive with smaller setbacks. Additionally, the Town is considering adding use categories to the Island District which may include Multi-Family Dwellings, Mixed Use Residential, Restaurants, Light industrial and small commercial businesses.

The current IND-14 district allows commercial and multifamily dwelling units as an accessory use through the conditional use planned unit development (PUD) process. If the island district were to adopt bylaws similar to the CB-7 district it would allow for 0 side yard setbacks, provided that the wall of the building is of masonry construction without openings. We also note that the coverage allowance of the island district of 80% appears to be a better fit for the subject parcel considering its dimensional characteristics of being a narrow lot with limited developable area.

PERMITTED USES	CONDITIONAL USES
1. Business Office	Wireless telecommunication or facility – Type A, B and C
2. Professional Service	Family Childcare
3. Energy/Heating service	1. Public/Municipal Facility
4. Radio Station	2. Educational Facilities
	3. Community Center
	4. Wholesale / Retail Store
	5. Hotel
	6. Hotel and Conference Center
	7. Recreation Facilities
	8. Parking Facilities
	9. Restaurant
	10. PUD – Commercial / Industrial Uses that can include Multiple Family Dwelling units only as an accessory use
	11. Residential Accessory Use
	12. Auto Repair Services
	13. Other General Commercial Uses
	14. Other General Industrial Uses

DIMENSIONAL REGULATIONS	
Lot Area Minimum	14,000 sq. ft.
Lot Frontage Minimum	100 ft.
Front Yard Minimum	30 ft.
Rear Yard Minimum	40 ft.
Side Yard Minimum	20 ft.
Coverage Maximum	80%
Maximum Residential Density Dwelling units per square ft. of lot area:	N/A

IND-14

PERMITTED USES		CONDITIONAL USES
1. School	2. Community Center	1. Multiple Family Dwelling
3. Club	4. Retail Store	2. Religious Institutions
5. Motel/Hotel	6. Recreation Indoor	3. Public/Municipal Facility
7. Parking Facilities	8. Business Office	4. Restaurant/Bar
9. Financial Institution	10. Personal Service	5. [Deleted]
11. Residence Office		6. Wireless telecommunication tower or facility Type A, B and C

DIMENSIONAL REGULATIONS	
Lot Area Minimum	7,000 sq. ft.
Lot Frontage Minimum	70 ft.
Front Yard Minimum	N/A
Rear Yard Minimum	30 ft.
Side Yard Minimum	12 ft. (a)
Coverage Maximum	50%
Maximum Residential Density Dwelling units per square ft. of lot area:	N/A
Building Height Maximum, except for Agricultural Buildings	(b)

CB-7

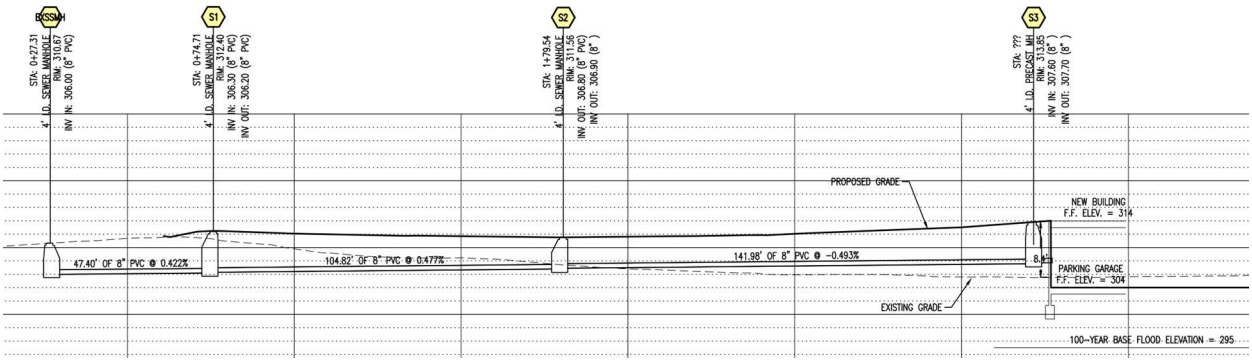
Proposed Improvements

The Town envisions a multi-story, mixed commercial and residential building with sufficient on-site parking to serve the users of the building. The following 3 concept plans attempt to maximize the size of the building footprint to allow for a double row of basement level parking and at least 10 residential units per floor. We understand that the Town would prefer to have the retail space with a storefront located with a walkout ground level access. As you will note in the existing conditions plan included at the end of the report the site is quite narrow and comes to a sharp point at the northwest end of the lot. The widest segment of the lot is located adjacent to the railroad right of way. The three concept plans that have been developed consider positioning the building rotated to be parallel with the sanitary sewer force main easement and 0 ft from the northerly lot line. You will note that in the concept plans at the end of the report the building's northwest corner comes within 4 ft of the rear lot line along the railroad right of way. Due to this encroachment a relaxation of the rear setback requirement would be needed.

Concept 1

With Concept 1 (Shown in Figure SK1) the elevation of the floor level of the parking garage was positioned approximately 2 ft below existing grade. This was done to provide a gravity sewer connection option for the commercial and residential floors which could connect directly to the existing sewer manhole in Bridge Street. Figure SK5 shows the approximate sewer profile.

Stormwater treatment under Concept 1 will be accomplished by constructing an underground stormwater chamber and filtration system beneath the parking lot, in addition, two small retention ponds are shown along the north and west sides of the site. The ponds could be utilized for either bioretention or gravel wetlands. The stormwater system discharge is conceptually shown in the same location as the existing culvert outfall into the canal. As mentioned in the permits section above, the existing stormwater outfall will likely need to be lowered to work with the stormwater treatment practices being considered. Site electrical utilities are shown tapping into the power lines in Bridge Street with underground conduit connecting to a new transformer to be located near the surface parking area.



Concept 1 Section

Concept 1 requires approximately 4 ft of fill in the south end of the site to elevate the surface parking lot enough to accommodate the sewer design. To achieve this earthen fill would need to be added along the existing concrete foundation wall at 6 Island St. and a small, segmented block wall constructed along the adjacent façade at 18 Bridge St. to maintain egress to the subject parcel and protect the existing brickwork. A 355 ft long 6 ft maximum height segmented block retaining wall is also shown along the south boundary line with a 5 ft wide sidewalk running along the bottom of wall parallel to the canal. This sidewalk connects the existing sidewalk network in Bridge Street to the railroad platform further to the north. A decorative pedestrian safety fence would be installed along the top of the bank of the canal. We have also indicated the existing overhead electrical to be converted to underground electrical conduit running parallel to the top of the bank of the canal.

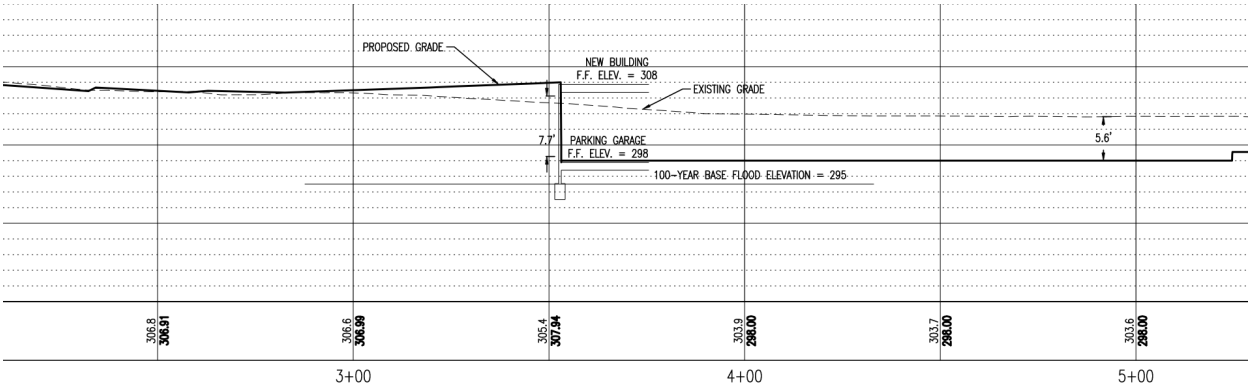
Concept 1 includes parking for 31 parking spaces within the parking garage and an additional 12 parking spaces along the north side of the drive access which are a combination of parallel and perpendicular spaces. Two ADA parking spaces are included within the garage and at the surface parking lot. Other features of this concept include a main entrance located at the east corner of the building with a raised walkway and patio that extends around the southwest side of the building. A segmented block wall will be required to construct the main entrance at the east corner of the building with the garage access ramp located at the bottom of the wall. Railings would be required along all retaining walls for pedestrian safety. An exterior stairwell is shown at the west corner of the building which would provide access from the raised commercial patio area down to grade level patio. The grade level patio will be shared access consisting of commercial uses, for example outside dining but also could be constructed to support H-20 vehicle loading providing occasional access for garbage trucks, plowing and emergency vehicles.

SK1

Concept 2

In Concept 2 (shown in figure SK2) the parking garage was positioned approximately 6 ft below existing grade. See figure SK4 for a section of the building showing existing and proposed grades. The garage

floor rests approximately 3 ft above the 100-year base flood elevation of 295 ft. In this configuration the commercial level is approximately 4 ft above existing grade along the southwest building façade. The site layout and circulation of Concept 2 is very similar to Concept 1 except that the grade level patio area is at the same elevation as the commercial space. To achieve this feature a retaining wall is required along the west boundary line. This segmented block retaining wall is conceptually shown as being 210 ft in length with an 8 ft maximum height. Pedestrian safety railings would be utilized along the top of the wall. A 5 ft wide sidewalk is also shown parallel to the canal at the bottom of wall with a decorative pedestrian safety fence running along the top of bank of the canal similarly to Concept 1.



Concept 2 Section

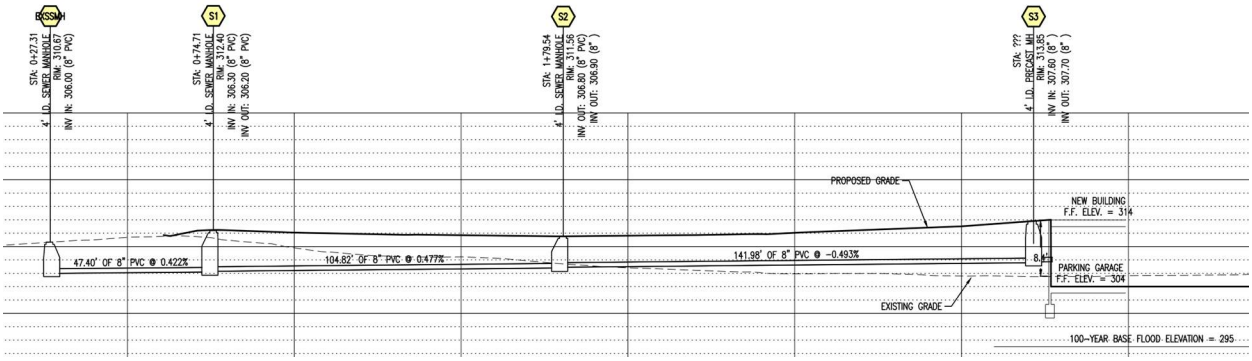
The commercial frontage would be accessed from a 5 ft wide sidewalk along the southwest building wall. Commercial entrances could be recessed into the building façade to retain access to the sidewalk. An awning over the sidewalk could mimic the facades of the historic buildings across the canal. A segmented block wall will also be required to construct the main entrance at the commercial floor level at the southeast building corner. The garage ramp would run along the bottom of wall. A raised walkway would connect the main entrance to the commercial store fronts along the southwest facade.

The utility connections in Concept 2 are identical to Concept 1, except for the sanitary sewer service. The sewer service connection under Concept 2 requires either running a 460 LF gravity line to the Depot St. pump station or installing a commercial pump station and 300 LF parallel 2” force main as outlined above in the sewer section of the report.

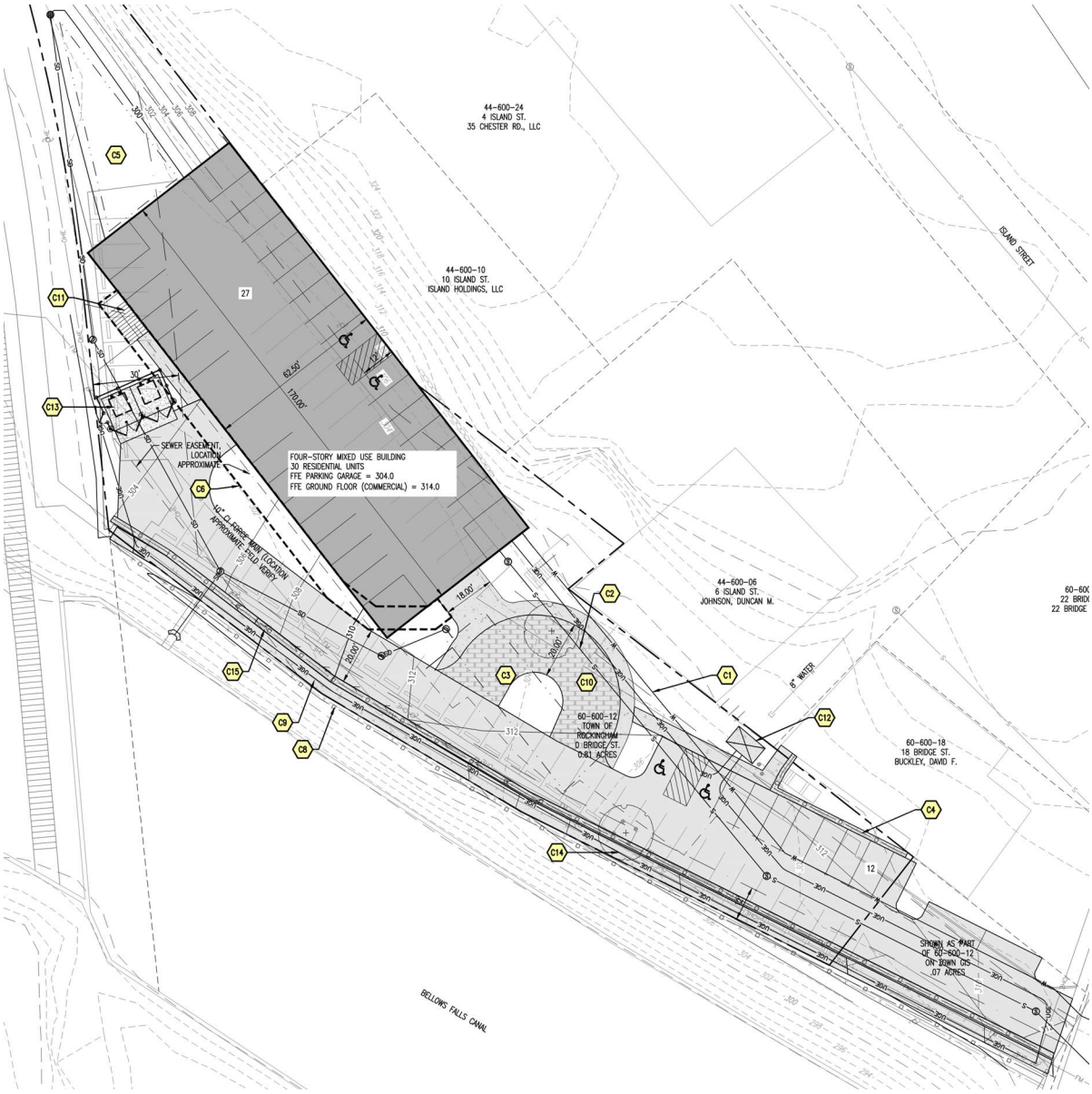
SK2

Concept 3

Concept 3 (Shown in Figure SK3) offers a different site circulation layout while retaining the floor elevations of Concept 1. In this concept garage access is achieved along the southwest building façade. The main entrance to the building is located on the south building wall situated at the commercial level. A patio area in this location would be shared between commercial uses and a turnaround area for emergency vehicles and occasional deliveries to the commercial units. A raised walkway and patio that extends around the southwest side of the building with exterior stairway access down to grade would retain access to the commercial units along the southwest facade. The surface parking spaces would be identical to Concepts 1 and 2 although parking garage spaces are reduced to 27 spaces due to the spaces lost to the garage access ramp. Dumpster access would be identical to Concepts 1 and 2 with a dumpster enclosure located at the far north end of the southwest façade.



Concept 3 Section



SK3

Based on the above assessment we suggest the following next steps to proceed with the project:

1. Complete boundary and topographical survey of the site and research existing deeds and easements.
2. Have a professional locating company mark out the location of the force main that crosses the property and incorporate the location into the revised survey drawings by the land surveyor (item 1)
3. Consult with an architect to further develop building concepts
4. Consult with Great River Hydro to gain input on work along the canal
5. Consult with Green Mountain Power about the feasibility of running power underground
6. Once a preferred concept plan is selected solicit further input form VT ANR Rivers Program and the USACE
7. Consult with the railroad to discuss the feasibility of a sanitary sewer gravity line crossing under the railroad
8. Meet with the zoning administrator to discuss how the project fits within the future proposed bylaws and discuss avenues for local permitting

Thank you for choosing Engineering Ventures to assist with this project. Please let us know if you have any questions pertaining to the above findings or would like additional information or clarification on anything.

Sincerely,

ENGINEERING VENTURES, PC

Adam Morse

Adam Morse, PE
Project Manager

Weston & Sampson

WSE Project: ENG24-0530

0 Bridge Street
0 Bridge Street, Rockingham, VT
WRC

BORING ID: SB-3

CONTRACTOR:	Sierra Drilling	DATE START:	July 24, 2024	GROUND EL:	Not Available
FOREMAN:	Sam Driver	DATE FINISH:	July 24, 2024	FINAL DEPTH:	15.0 ft.
LOGGED BY:	Daniel Shuckers	POINT LOCATION:	See Attached Figure	GRID COORDS:	N:231417 ± / E:1655450 ±
CHECKED BY:	DRAFT	ADVANCE METHOD:	Continuous Sampling (Direct Push)	GRID SYSTEM:	N/A
EQUIPMENT:	Geoprobe 7822DT, Track Mounted	SAMPLER LINER:	N/A	WELL TYPE:	
PID MODEL:	N/A	BACKFILL TYPE:		WELL NAME/ID:	N/A

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	ENVIRONMENTAL FIELD SCREENING (● PID, Headspace (ppm); 5 10 15 20 25 30 35)	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	REMARKS, OTHER TESTS, AND INSTALLATIONS (Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.)	ELEVATION SCALE SHOWN TO NEAREST FT.
		0-5			Asphalt **Well graded sand with gravel (SW)** - Medium dense; light olive to light gray; dry; mostly fine SAND, some fine gravel; no odor; no staining. **[FILL]** Black; dry; Coal rubble. **[FILL]** **Poorly graded sand (SP)** - Medium dense; light brown; dry; mostly fine SAND; Fining downward.		
5		5-10					-5
10		10-15			**Well graded sand with gravel (SW)** - Medium dense; light olive to light gray; moist to wet; mostly medium to coarse SAND, some fine gravel; no odor; no staining, Fine Sand lense from 11-12.	[11.7] Water level measured on 07/24/24 (end of drilling).	-10
15						target depth reached at 15.0 ft. (exploration ended).	-15
20							-20

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson

WSE Project: ENG24-0530

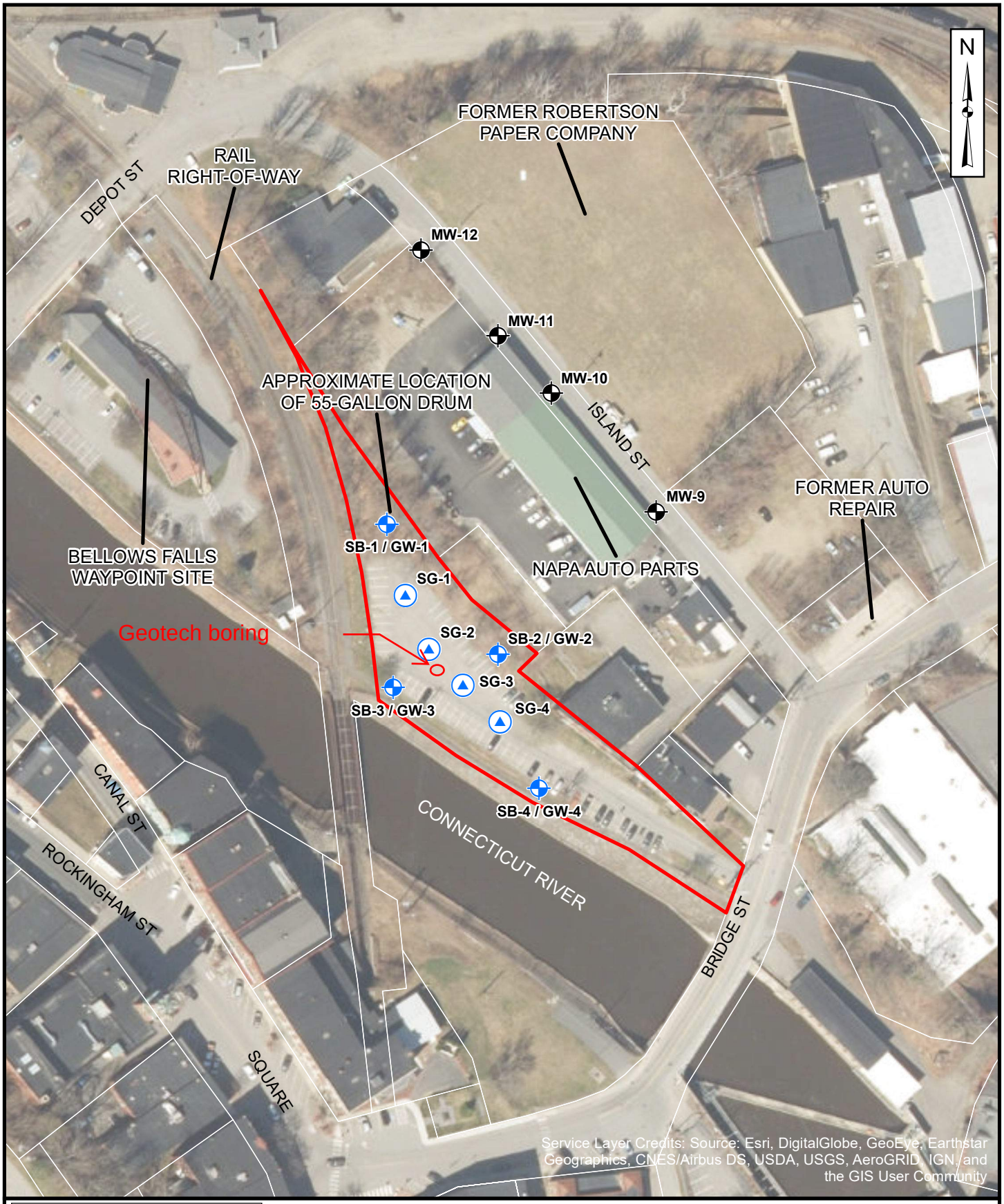
0 Bridge Street
0 Bridge Street, Rockingham, VT
WRC

BORING ID: SB-5

CONTRACTOR:	Sierra Drilling	DATE START:	July 24, 2024	GROUND EL:	Not Available
FOREMAN:	Sam Driver	DATE FINISH:	July 24, 2024	FINAL DEPTH:	12.0 ft.
LOGGED BY:	Daniel Shuckers	POINT LOCATION:	See Attached Figure	GRID COORDS:	N:231422 ± / E:1655450 ±
CHECKED BY:	DRAFT	ADVANCE METHOD:	Continuous Sampling (Driven)	GRID SYSTEM:	N/A
EQUIPMENT:	Geoprobe 7822DT, Track Mounted	SAMPLER LINER:	N/A	WELL TYPE:	
PID MODEL:	N/A	BACKFILL TYPE:		WELL NAME/ID:	N/A

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	ENVIRONMENTAL FIELD SCREENING (● PID, Headspace (ppm); 5 10 15 20 25 30 35)	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	REMARKS, OTHER TESTS, AND INSTALLATIONS (Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.)	ELEVATION SCALE SHOWN TO NEAREST FT.
					Asphalt		
					Poorly graded sand with gravel (SP) - Medium dense; light gray; dry; mostly fine to medium SAND, some fine gravel; no odor; no staining. **[FILL]**		
					Poorly graded sand with gravel (SP) - Medium dense; black; dry; mostly fine to medium SAND, mostly fine to medium gravel; no odor; no staining, Coal rubble present. **[FILL]**		
5					**Well graded sand (SW)** - Light brown; dry; mostly fine SAND; no odor; no staining, Coal rubble @. **[FILL]**		-5
					Well graded sand (SW) - Loose; light brown; dry; mostly fine SAND; no odor; no staining.		
					Poorly graded sand with gravel (SP) - Light gray; mostly medium to coarse SAND, little fine gravel; no odor; no staining.		
10							-10
						groundwater encountered at 12.0 ft. (exploration ended).	
15							-15
20							-20

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.



LEGEND

- Subject Property
- Proposed Soil Gas Point
- Proposed Soil Boring / Monitoring Well
- Existing / Historical Monitoring Wells

FIGURE 4
0 BRIDGE STREET
BELLOWS FALLS (ROCKINGHAM), VERMONT

PROPOSED LOCATIONS

0 50 100 200 300 400 Feet

Location Bellows Falls VT Date 7/24/24

Project / Client 0 Bridge St / WRC

13:45 Beginning SB-4
- EOB @ 20 ft
- Sample wet @ 13
- Setting well
  - Screen from 12.5-17.5
  - 0.010" slot PVC 1.5" diameter
  - Sand 11.5-17.5
  - Bentonite 10.5-11.5

14.10 Collected Soil Sample SB-4 (0-3) for VOC, SVOC, PCBs, Metals, DUP-1 taken here, fill soils

1420 Collected Soil Sample SB-4 (4-7) for VOC, SVOC, PCBs, Metals taken from native soils

1450 Purging MW-4

Total: 17.16 ft DTW: 14.14

- finished 1530, running clear

Location Bellows Falls VT Date 7/24/24

Project / Client 0 Bridge St / WRC

1500 Beginning Geotech Boring SB-5

0-6": 2
6-12": 8
12-18": 19
18-24": 18

Depth	Blows
24"-36"	12
36-48"	16
48-60"	9
60-72"	12

2in Asphault

Depth	Blows
5-5.5'	3
5.5-6'	3
6-6.5'	3
6.5-7'	3
10-10.5'	11
10.5-11'	8
11-11.5'	7
11.5-12'	7

1530 Clearing to 5ft and sampling
- rock jammed casing

Moving South 5ft to clear to 5ft and resume boring 5-7'

- water in split spoon @ 11
- no recovery beyond 10ft

Tubing 2ft above ground surface

6in ft sand then bentonite 2-1, 6in sand on top

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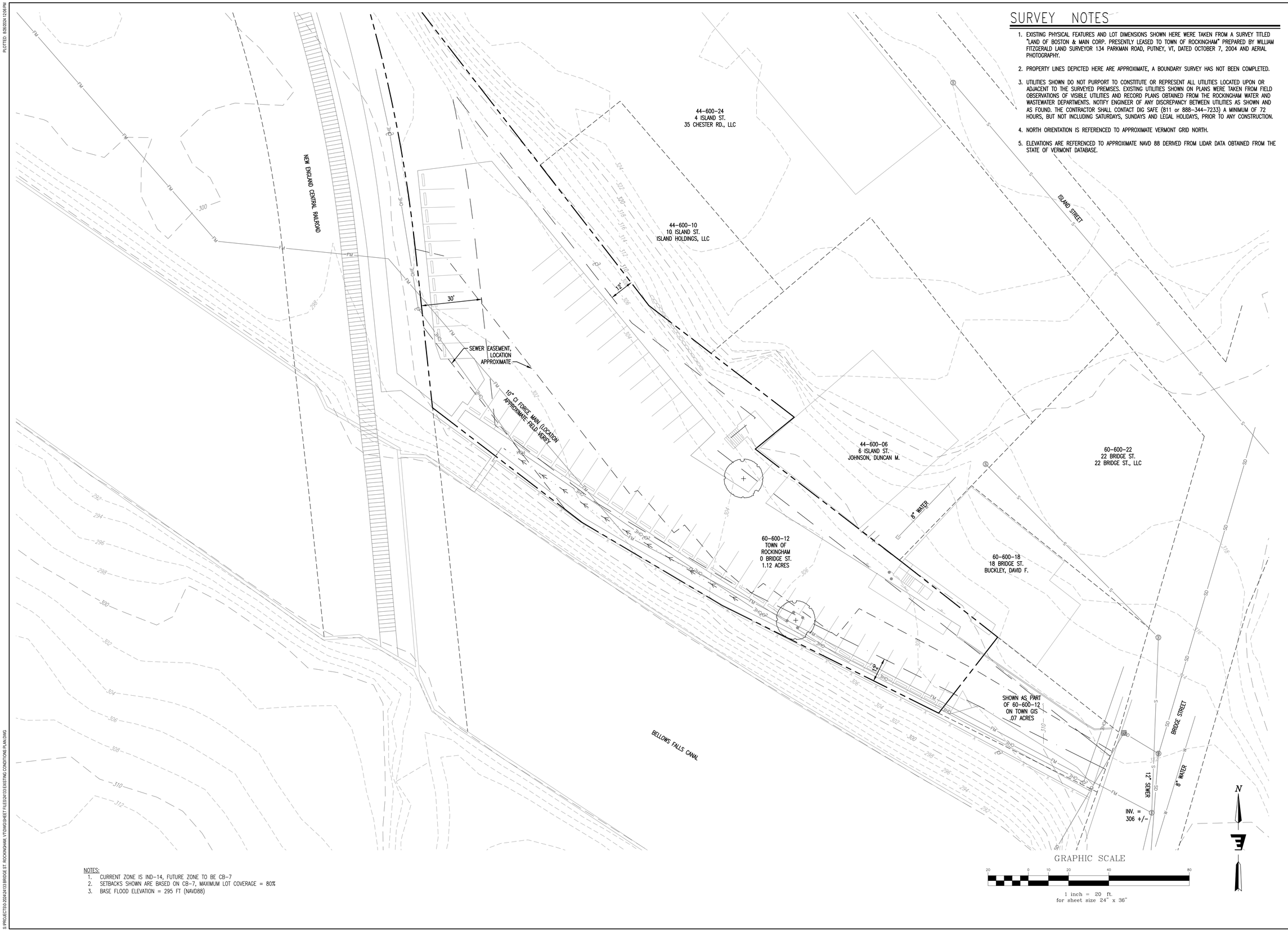

SURVEY NOTES

1. EXISTING PHYSICAL FEATURES AND LOT DIMENSIONS SHOWN HERE WERE TAKEN FROM A SURVEY TITLED "LAND OF BOSTON & MAIN CORP. PRESENTLY LEASED TO TOWN OF ROCKINGHAM" PREPARED BY WILLIAM FITZGERALD LAND SURVEYOR 134 PARKMAN ROAD, PUTNEY, VT, DATED OCTOBER 7, 2004 AND AERIAL PHOTOGRAPHY.
2. PROPERTY LINES DEPICTED HERE ARE APPROXIMATE, A BOUNDARY SURVEY HAS NOT BEEN COMPLETED.
3. UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES. EXISTING UTILITIES SHOWN ON PLANS WERE TAKEN FROM FIELD OBSERVATIONS OF VISIBLE UTILITIES AND RECORD PLANS OBTAINED FROM THE ROCKINGHAM WATER AND WASTEWATER DEPARTMENTS. NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN UTILITIES AS SHOWN AND AS FOUND. THE CONTRACTOR SHALL CONTACT DIG SAFE (811 or 888-344-7233) A MINIMUM OF 72 HOURS, BUT NOT INCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, PRIOR TO ANY CONSTRUCTION.
4. NORTH ORIENTATION IS REFERENCED TO APPROXIMATE VERMONT GRID NORTH.
5. ELEVATIONS ARE REFERENCED TO APPROXIMATE NAVD 88 DERIVED FROM LIDAR DATA OBTAINED FROM THE STATE OF VERMONT DATABASE.

NOTES:
1. CURRENT ZONE IS IND-14, FUTURE ZONE TO BE CB-7
2. SETBACKS SHOWN ARE BASED ON CB-7, MAXIMUM LOT COVERAGE = 80%
3. BASE FLOOD ELEVATION = 295 FT (NAVD88)

Stamp

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Town of Rockingham
#7 Bellows Falls Village Sq.
Rockingham, Vermont
PHONE NUMBER

Sheet Title: Existing Conditiions Plan

Project Title: 0 Bridge Street
Mixed Use Feasibility
Rockingham, Windham County, Vermont

EV Project #	24133
Drawn By:	AM
Checked By:	AM
Scale:	1" = 20'
Date:	8/29/2024

C1.0

S:\PROJECTS\0-2024\24133 BRIDGE ST - ROCKINGHAM VT\DWG\SHEET FILES\24133 EXISTING CONDITIONS PLAN.DWG

SITE NOTES

- C1 300 LF OF 8" WATER LINE
- C2 300 LF OF 8" SEWER LINE
- C3 UNDERGROUND STORMWATER CHAMBERS
- C4 355 LF OF 6 FT. (MAX) HEIGHT SEGMENTED BLOCK RETAINING WALL AND SAFETY RAILING
- C5 BIOFILTER
- C6 RAISED WALKWAY CONNECTOR
- C7 85 LF OF 12 FT. (MAX) HEIGHT SEGMENTED BLOCK RETAINING WALL AND SAFETY RAILING
- C8 DECORATIVE PEDESTRIAN SAFETY FENCE
- C9 5' WIDE SIDEWALK (TYP.)
- C10 CONCRETE PAVERS PATIO AND GARBAGE TRUCK ACCESS
- C11 STAIRS TO UPPER PATIO
- C12 ELECTRICAL TRANSFORMER
- C13 DUMPSTER PAD AND ENCLOSURE
- C14 OVERHEAD POWER TO BE RUN UNDERGROUND
- C15 65 LF OF 8 FT. (MAX) HEIGHT SEGMENTED BLOCK RETAINING WALL AND SAFETY RAILING

IMPERVIOUS COVERAGE: 27,160 SF / 38,608 SF (LOT AREA) = 70%

GRAPHIC SCALE

20 0 10 20 40 80

1 inch = 20 ft.
for sheet size 24" x 36"

N

No.	Description	Date

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Town of Rockingham
#7 Bellows Falls Village Sq.
Rockingham, Vermont
PHONE NUMBER

Sheet Title: Concept Site Plan 1

Project Title: 0 Bridge Street
Mixed Use Feasibility
Rockingham, Windham County, Vermont

EV Project #	24133
Drawn By:	AM
Checked By:	AM
Scale:	1" = 20'
Date:	8/29/2024

SK1

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X:\PROJECTS\0-2024\24133 BRIDGE ST ROCKINGHAM, VT\DWG\SHEET FILES\24133 SITE PLAN CONCEPT - 1.DWG

SITE NOTES

- C1 300 LF OF 8" WATER LINE
- C2 460 LF OF 8" SEWER LINE, DIRECTIONAL BORING UNDER RAILROAD, NOTE: REQUIRES LEDGE REMOVAL
- C3 UNDERGROUND STORMWATER CHAMBERS
- C4 RAISED WALKWAY CONNECTOR
- C5 BIOFILTER
- C7 90 LF OF 10 FT. (MAX) HEIGHT SEGMENTED BLOCK RETAINING WALL AND SAFETY RAILING
- C8 DECORATIVE PEDESTRIAN SAFETY FENCE
- C9 5' WIDE SIDEWALK
- C10 CONCRETE PAVERS PATIO AND GARBAGE TRUCK ACCESS
- C12 ELECTRICAL TRANSFORMER
- C13 DUMPSTER PAD AND ENCLOSURE
- C14 OVERHEAD POWER TO BE RUN UNDERGROUND
- C15 210 LF OF 10 FT. (MAX) HEIGHT SEGMENTED BLOCK RETAINING WALL AND SAFETY RAILING

IMPERVIOUS COVERAGE: 27,007 SF / 38,608 SF (LOT AREA) = 70%

GRAPHIC SCALE

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1 inch = 20 ft.
for sheet size 24" x 36"

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Town of Rockingham
#7 Bellows Falls Village Sq.
Rockingham, Vermont
PHONE NUMBER

Sheet Title: Concept Site Plan 1

Project Title: 0 Bridge Street
Mixed Use Feasibility
Rockingham, Windham County, Vermont

EV Project #	24133
Drawn By:	AM
Checked By:	AM
Scale:	1" = 20'
Date:	8/29/2024

SK2

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S:\PROJECTS\24133\24133 BRIDGE ST. ROCKINGHAM, VT\DWG\SHEET FILES\24133 SITE PLAN CONCEPT - 2.DWG

SITE NOTES

- C1 300 LF OF 8" WATER LINE
- C2 300 LF OF 8" SEWER LINE
- C3 UNDERGROUND STORMWATER CHAMBERS
- C4 65 LF OF 8 FT. (MAX) HEIGHT SEGMENTED BLOCK RETAINING WALL AND SAFETY RAILING
- C5 BIOFILTER
- C6 RAISED WALKWAY CONNECTOR
- C8 DECORATIVE PEDESTRIAN SAFETY FENCE
- C9 5' WIDE SIDEWALK (TYP.)
- C10 CONCRETE PAVERS PATIO AND DELIVERY TRUCK ACCESS
- C11 STAIRS TO UPPER PATIO
- C12 ELECTRICAL TRANSFORMER
- C13 DUMPSTER PAD AND ENCLOSURE
- C14 OVERHEAD POWER TO BE RUN UNDERGROUND
- C15 355 LF OF 10 FT. (MAX) HEIGHT SEGMENTED BLOCK RETAINING WALL AND SAFETY RAILING

IMPERVIOUS COVERAGE: 27,247 SF / 38,608 SF (LOT AREA) = 71%

GRAPHIC SCALE

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Town of Rockingham
#7 Bellows Falls Village Sq,
Rockingham, Vermont
PHONE NUMBER

Sheet Title: Concept Site Plan 3

Project Title: 0 Bridge Street
Mixed Use Feasibility
Rockingham, Windham County, Vermont

EV Project #	24133
Drawn By:	AM
Checked By:	AM
Scale:	1" = 20'
Date:	8/29/2024

SK3

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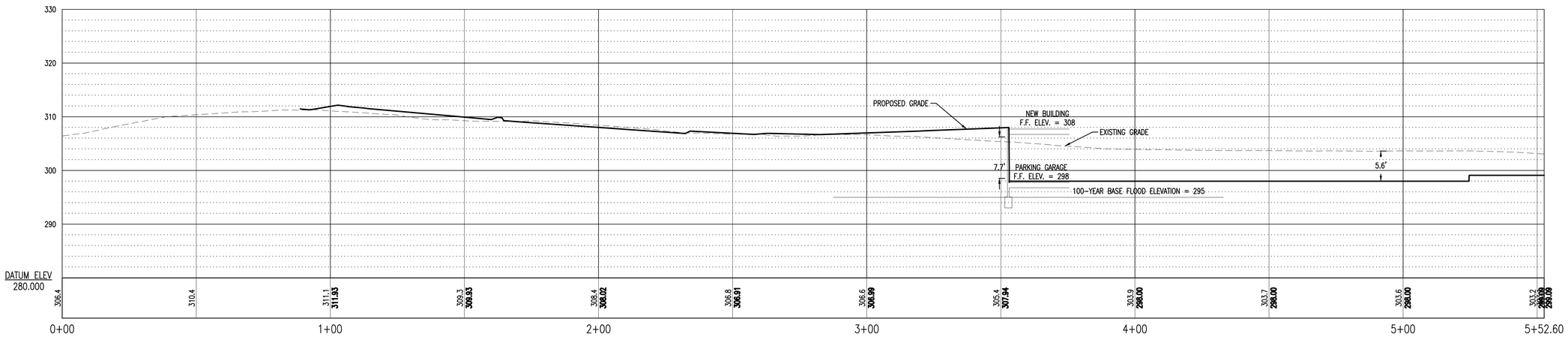

CONCEPT SEWER PROFILE, STA. 0+00 – 5+52

SCALE: HORIZ. 1" = 20'
VERT.: 1" = 10'

GRAPHIC SCALE

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Town of Rockingham
#7 Bellows Falls Village Sq.
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Sheet Title: Concept Section

Project Title: 0 Bridge Street
Mixed Use Feasibility
Rockingham, Windham County, Vermont

EV Project #	24133
Drawn By:	AM
Checked By:	AM
Scale:	1" = 20'
Date:	8/29/2024

SK4

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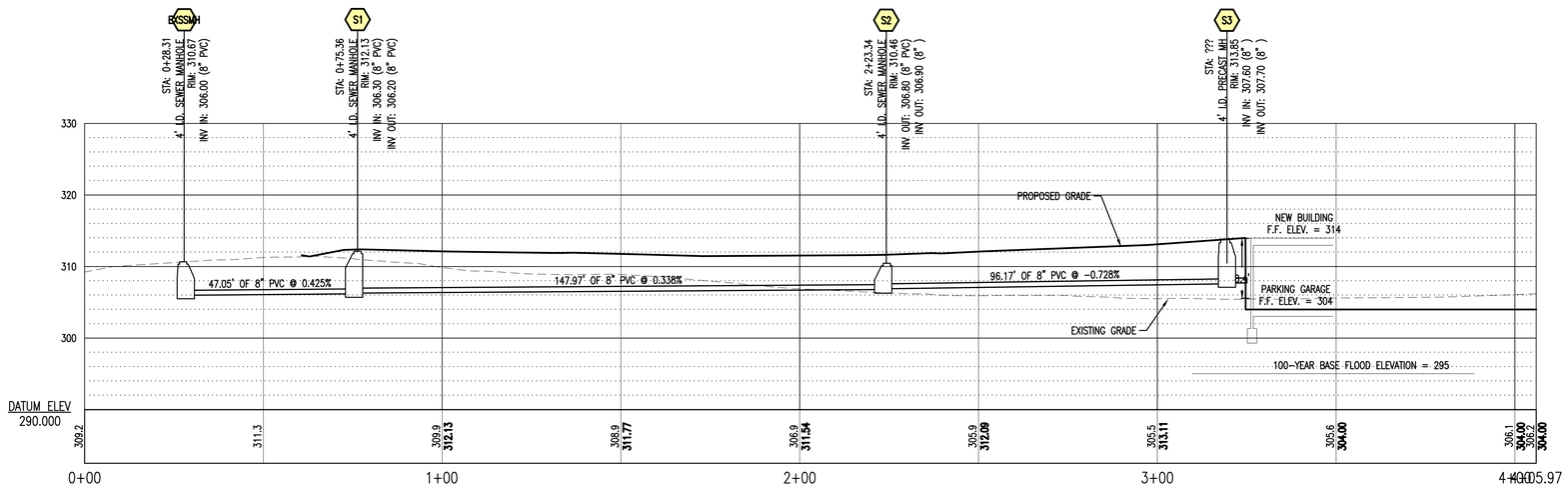

CONCEPT SEWER PROFILE, STA. 0+00 – 5+52

SCALE: HORIZ. 1" = 20'
VERT.: 1" = 10'

GRAPHIC SCALE

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Sheet Title: Concept Section

Project Title: 0 Bridge Street
Mixed Use Feasibility
Rockingham, Windham County, Vermont

EV Project #	24133
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SK5

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