

Hardwick Development Review Board
Conditional Use and Floodplain Review Request
The Town of Hardwick – Applicant
The Town of Hardwick/The Civic Standard - Landowners
Between 42 and 74 South Main Street, Hardwick
The Pedestrian Bridge
Application #2024-010
April 3, 2024

To consider a Conditional Use and Floodplain Review request by the Town of Hardwick to construct a new pedestrian bridge in the Compact Residential zoning district. The development would a pedestrian bridge and an associated deck in the Floodway in the Flood Hazard Area Overlay.

The application requires a review under the following sections of the Hardwick Unified Development Bylaws: Table 2.1 Central Business District; 2.8 Flood Hazard Area Overlay; 3.11 Performance Standards; 3.12 Protection of Water Resources; Section 5.2 Conditional Use Review; and 5.3 Flood Hazard Review.

Warnings were posted on Monday, March 11, 2024 in the Hardwick Memorial Building, at the Hardwick Post Office and the East Hardwick Post Office. The warning was sent to the following neighboring property owners: Norma Spaulding; Joshua and Thomas Nudell; Elizabeth Dow; Duane Wells, LLC; Rachel and Bert Hooper; Lynn Delaricheliere; Mike’s Gulf Service Center Inc; Cornerstone Restoration CP, LLC; Jeudevine Housing Limited Partnership; 35 South Main LLC; Quickfox Hamilton RE Holdings; Bemis Block Housing Lmted Partnership; Wei Gao; Hardwick 87 LLC on Monday, March 11, 2024. It was also published in The News and Citizen on Thursday, March 7, 2024.

Development Review Board members present: Kate Brooke (Zoom); John Mandeville, Chair; Kole; Helm Nottermann (Zoom); and Ruth Gaillard (Zoom).

Development Review Board members absent: N/A

Others present: Kristen Leahy, Zoning Administrator (acting clerk); Tracy Martin, Community Development Coordinator; Bill Nourse, Structural Engineer; Hannah Loope, SE Group; Elena Juodisius, SE Group; Hannah Wingate, Engineer; Tara Reese, The Civic Standard; Rose Friedman, The Civic Standard; Norma Spaulding, Neighbor; J.W. (not legible on sign-in sheet); Shari Cornish, Select Board Member; Paul Fixx, Editor of the Hardwick Gazette.

During the course of the hearing and prior to the hearing the following exhibits were submitted:

1. Email letter from Sacha Pealer, State of Vermont Flood Plain Manager, dated March 28, 2024.
2. Stream Alteration Authorization from Ben Matthews, State of Vermont Engineer, dated March 19, 2024.

Summary of Discussion

Chair John Mandeville began the hearing at 7:03 pm. He noted that the hearing was quasi-judicial, explained the hearing procedure, asked board members for any disclosures of conflict of interest, and swore in all those who wished to speak at the hearing.

Mr. Mandeville invited the SE Group to present the proposal. Elena Juodisius began the testimony. The original pedestrian bridge was deemed unsafe for use and the overall proposal looks to replace the bridge and to improve the overlook spaces on both sides of the Lamoille River. The new bridge will be 1-3 feet longer than the previous 105 feet as the abutments have been moved back to allow a more open water course. The pedestrian bridge will be generally replaced in the same alignment but with a few minor alterations to improve

the water flow. The DRB application included a planting plan, a lighting plan, a Floodplain report, existing conditions, proposed elements, demolition plan (permit previously received from the Town of Hardwick), erosion preservation and sediment control plan, and a site plan.

The overlook areas on both sides will have pavers as the base to allow for water dispersal.

Hannah Wingate continued the testimony from the engineering perspective. There is a tiered retaining wall approach in the river. The lower retaining walls were swept away by the July 2023 flooding. New walls will be installed and will be reoriented to provide a larger water flow area. The construction plan is designed for limited sediment transfer during the in-stream construction (See Exhibit #2 – Stream Alteration Authorization). The upper retaining wall was severely damaged in the July 2023 flooding. This wall will be replaced as well. Rip-rap will be installed on the side walls to protect from erosion during higher water events. The replaced abutments will be moved closer to the banks to provide the larger space for the water course.

The Base Flood Elevation at this location is 819 feet. The Bridge deck is at 828 and the underside will be at 826.

Four feet flood benches will be used to further reduce the impact of high water events.

Hannah W. explicitly testified that the installation will not further restrict the opening of the Lamoille River. Following a question from the audience, Hannah W. indicated that the pedestrian bridge will be 1-3 feet longer than the currently existing bridge.

Bill Nourse testified about the structural engineering of the abutment system. After watching the Flooding in July of 2023, the structural design was improved. The current plan is designed to prevent scour on the lower retaining walls and abutments. Both aspects will be supported by micro-piles of rock which will be embedded into the base and into the bedrock. This is a direct attachment which should improve resiliency during a flooding event. There will also be drains installed to help lower the water pressure near the elements.

The actual bridge is being designed by Bridge Brothers and will be able to accommodate a 10,000 lb weight limit. Steel truss structures, picket railings and a wood decking.

Tracy Martin reiterated that the lower retaining wall was removed by the flooding in July 2023 and the upper wall was undermined and needs to be replaced – temporary shoring will allow that work to proceed with minimal impact to the riverbank.

After receiving a question from the audience regarding safety in a flooding event while work is proceeding, the demolition and stream alteration authorization were referenced. All efforts will be made to keep the surrounding area safe while work is progressing in the river.

The hearing ended at 7:40 pm. Kole made the motion to enter into deliberative session after the following hearing and Ruth Gaillard seconded. All members were in favor.

Findings of Fact:

Based on the application and testimony, the Development Review Board makes the following findings:

2.1 Central Business – the existing bridge structure will be removed and replaced with a new pedestrian bridge. An associated deck will be installed on the South Main Street side of the bridge. The location is within 75 feet of the Lamoille River. However, as this is a replacement of an existing bridge and it is, by function, designed to be over the water course, the setback is not applicable in this particular situation.

2.8 Flood Hazard Area Overlay District – The Flood Hazard Area Overlay District lists “Bridges and culverts” as a Conditional Use for Floodplain and Floodway properties. **The Floodplain Manager and the Stream Alteration Engineer reviewed the request and submitted letters (See Exhibit #1 and #2).**

3.11 Performance Standards – review was made of the performance standards by the DRB. **No adverse aspects were identified.**

3.12 Protection of Water Resources – the property is located in the Floodway in the Flood Hazard Area Overlay. The replacement bridge is within the setback required from the Lamoille River. The bridge and the associated deck will be in a similar location as the existing bridge.

5.2 Conditional Use Review

E) General Review Standards

The proposed conditional use will/ will not result in an undue adverse effect on any of the following:

- 1. The capacity of existing or planned community facilities and services.** The proposed use will not affect either capacity.
- 2. Character of the area affected.** Location within the Central Business district matches the purpose of this district and the character of the surrounding area.
- 3. Traffic on roads and highways in the vicinity.** The Central Business district circulation and traffic pattern on Main Street is directed by the existing uses in the area. Replacement of the Pedestrian Bridge will assist with the parking and bike traffic in the downtown area of Hardwick.
- 4. Bylaws in effect.** Not applicable.
- 5. The utilization of renewable energy resources.** Not applicable.

F) Specific Review Standards shall include:

- 1. Siting & Dimensional Standards.** All conditional uses shall meet minimum applicable dimensional and density standards as specified for the district in which the use is located (Article 2), the particular use (Article 4), and for the protection of surface waters (Section 3.12). **All standards are met by the proposal.**
- 2. Performance Standards.** All conditional uses shall meet performance standards as specified in Section 3.11. **The performance standards were reviewed. See Condition #2.**
- 3. Access & Circulation Standards.** All conditional uses shall meet applicable access management standards as specified in Section 6.6. **Standards will be met by the proposed changes.**
- 4. Landscaping & Screening Standards.** The Board may require landscaping, fencing, screening or site grading as necessary to maintain the character of the area, or to screen unsightly or incompatible uses from town highways, other public rights-of-way, or adjoining properties. **Landscaping was not indicated as necessary.**
- 5. Stormwater Management & Erosion Control Standards.** All conditional uses shall incorporate accepted stormwater management and erosion control practices as appropriate for the setting, scale and intensity of the existing and planned development. **No additional plans were indicated as necessary.**

5.2G1 Central Business District Standards

- a. The use of front yards shall be limited to landscaping, pedestrian paths and associated pedestrian amenities (e.g. street furniture, pedestrian scale lighting and signs) and driveways. Outdoor storage, parking and loading areas shall not be located within front yards unless the Board finds that the property is a pre-existing building or that no other practical alternative exists. **Not Applicable.**
- b. Buildings should be oriented toward and relate to, both functionally and visually, public streets and/or common greens, parks or plazas, and not be oriented toward parking lots. The front façade should include a main entry-way and pedestrian access to the street. Buildings located on corner lots shall either be oriented toward the major street or include a corner entrance. The Board may impose a maximum setback, relative to adjacent buildings, to achieve a consistent streetscape. **Not Applicable.**
- c. New buildings and additions to existing buildings shall be designed to be compatible with, and not stand in contrast to, historic structures located within the district with regard to building scale, massing, materials, orientation and rhythm of openings. **Not Applicable.**

5.3 Flood Hazard Review

A Project Review Sheet is required by this section – a copy was received by the Zoning office and is available in the flood file.

(G) Development Standards – Special Flood Hazard Area.

- (1) All development shall be:
 - a. reasonably safe from flooding; Designed to meet this standard.
 - b. designed, operated, maintained, modified, and adequately anchored to prevent flotation, collapse, or lateral movement of the structure; Designed to meet this standard.
 - c. constructed with materials resistant to flood damage; **Designed to meet this standard**
 - d. constructed by methods and practices that minimize flood damage; **Designed to meet this standard.**
 - e. constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding; **Not applicable.**
 - f. adequately drained to reduce exposure to flood hazards; **Designed to meet this standard.**
 - g. located so as to minimize conflict with changes in channel location over time and the need to intervene with such changes; and **Designed to exceed this standard and allow a larger flow of water.**
 - h. required to locate any fuel storage tanks (as needed to serve a building in the Special Flood Hazard Zone) a minimum of one foot above the base flood elevation and be securely anchored to prevent flotation, or storage tanks may be placed underground, if securely anchored as certified by a qualified professional. **Not applicable.**
- (3) All new or substantially improved structures in Zones A, A1-30, AE, and AH shall be located such that the lowest floor is at or above the base flood elevation, and this must be documented, in as-

built condition, with a FEMA Elevation Certificate. **The proposed bridge will be 7 feet above the BFE (819), at elevation 826. The proposed decking will be 9 feet above the BFE, at elevation 828**

(H) Development Standards – Floodway Areas

- (1) Encroachments or development above grade and less than one foot above the base flood elevation, are prohibited unless hydrologic and hydraulic analyses are performed in accordance with standard engineering practice, by a registered professional engineer, certifying that the proposed development will:
 - a. Not result in any increase in flood levels (0.00 feet) during the occurrence of the base flood;
 - b. Not increase any risk to surrounding properties, facilities, or structures from erosion or flooding. **Sacha Pealer has recommended that the town require construction activities below the base flood elevation be completed within one construction season. Also, she has recommended that the town require as-built plans, stamped by a professional engineer, be submitted to the zoning office upon project completion. See Exhibit #2.**
 - c. **Hannah Wingate, Registered professional engineer confirmed and certified that the above statements were true of this proposed design.**

Decision and Conditions

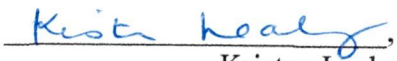
Based upon these findings, the Development Review Board voted 5-0 to approve The Town of Hardwick (Pedestrian Bridge) conditional use application as received, presented and amended with the following conditions:

Conditions:

1. Any and all necessary state and federal permits must be in place before development can commence.
2. The Applicant will adhere to the Performance Standards as detailed in the Hardwick Unified Development Bylaws, Section 3.11 (Attached).
3. Construction activities below the base flood elevation must be completed within one construction season.
4. As-built plans, stamped by a professional engineer, must be submitted to the zoning office upon project completion.

Signed:


_____, Chair
John Mandeville, DRB Chair
Administrator


_____, acting clerk
Kristen Leahy, Zoning

Date 4/8/24

Date 4/8/24

NOTICE:

This decision may be appealed to the Vermont Environmental Court by an interested person who participated in the proceeding (in person or in writing) before the Development Review Board. Such appeal must be made within 30 days of the date of this decision, pursuant to 24 V.S.A. #4471 and Rule 5(b) of the Vermont Rules for Environmental Court Proceedings.

Hardwick Unified Development Standards

Section 3.11 Performance Standards

(A) The following performance standards must be met and maintained for all Conditional Uses and Home Occupation uses in all districts, except for agriculture and forestry, as measured at the property line. In determining ongoing compliance, the burden of proof shall fall on the applicant, property owner, and/or all successors and assigns; in the case of appeals to the Zoning Administrator alleging a violation of one or more of the following standards, the burden of proof shall rest with the appellant. No Conditional Uses or Home Occupation uses, under normal conditions, shall cause, create or result in:

(1) **regularly occurring noise**, which:

represents a significant increase in noise levels in the vicinity of the use so as to be incompatible with the surrounding area; or

in excess of 65 decibels, or 70 decibels within the Industrial District.

(2) **releases of heat, cold, moisture, mist, fog** or condensation which are detrimental to neighboring properties and uses, or the public health, safety, and welfare;

(3) **any electromagnetic disturbances or electronic transmissions or signals** which will repeatedly and substantially interfere with the reception of radio, television, or other electronic signals, or which are otherwise detrimental to public health, safety and welfare (except from telecommunications facilities which are specifically licensed and regulated through the Federal Communications Commission);

(4) **glare, lumen, light or reflection** which constitutes a nuisance to other property owners or tenants, which impairs the vision of motor vehicle operators, or which is otherwise detrimental to public health safety and welfare;

(5) **liquid or solid waste or refuse** in excess of available capacities for proper disposal which cannot be disposed of by available existing methods without undue burden to municipal or public disposal facilities; which pollute surface or ground waters; or which is otherwise detrimental to public health, safety and welfare;

(6) **undue fire, safety, explosive, radioactive emission or other hazard** which endangers the public, public facilities, or neighboring properties; or which results in a significantly increased burden on municipal facilities and services.

(7) **clearly apparent vibration** which, when transmitted through the ground, is discernable at property lines without the aid of instruments; or

(8) **smoke, dust, noxious gases, or other forms of air pollution** which constitute a nuisance or threat to neighboring landowners, businesses or residents; which endanger or adversely affect public health, safety or welfare; which cause damage to property or vegetation; or which are offensive and uncharacteristic of the affected area;

Hi Kristen,

Thank you for sending the application for the footbridge replacement on South Main Street. I've reviewed the revised plans and the floodplain report from Hannah Wingate, P.E., of Engineering Ventures (dated 3/15/24) and offer the following comments.

Based on the effective FEMA flood maps for Hardwick (7/17/2002), the project area is in the Special Flood Hazard Area (Zone AE) and Floodway of the Lamoille River.

I agree the project needs review and permitting as development under Hardwick's Flood Hazard Area Regulations (Section 5.3 of Hardwick's Unified Development Bylaws).

Floodway Standard - 5.3 H(1)

I see the proposal includes pulling back both bridge abutments and the immediately downstream retaining wall from the river channel. If built as proposed, this change would increase the opening under the bridge, compared to the pre-2023 flood condition (presumed to be the existing condition in the effective FEMA Flood Insurance Study dated 7/17/2002). Increasing the opening under the bridge will allow base flood to pass more freely with less constriction.

The floodway standard calls for an engineer to certify, using hydrologic and hydraulic analyses, that a project will create no rise during base flood and no increase in erosion or flood risk (paraphrasing 5.3 H (1)). In this case, the project engineers did not run a full hydrologic and hydraulic model; rather, Engineering Ventures provided a simplified analysis and P.E. certification in the plans and floodplain report. This analysis is reasonable for an existing bridge and uses hydraulic principles to show no permanent encroachment in the floodway.

I do see that, during construction, the project would likely include temporary encroachments to perform the work (equipment access, coffer dams) within the floodway. To minimize the risk of flood impacts during construction, I suggest the town require construction activities below base flood elevation be completed within one construction season. Also, I recommend the town require as-built plans, stamped by a professional engineer, be submitted to your office upon project completion.

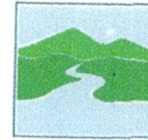
All Development Standard - 5.3 G(1), especially a-d

Under this standard, the primary concern is that all items below base flood elevation (e.g. concrete walls) are anchored to prevent collapse and that the proposed deck supports including lower walls are designed to withstand flood forces that may undermine the deck. I see the structural plans do include anchoring details as described in our meetings earlier this month with the project team. Given the strong flood flows at this location, the town may wish to ask project engineers to describe how these designs help prevent collapse during flooding.

**AUTHORIZATION TO CONDUCT
STREAM ALTERATION ACTIVITIES**

Pursuant to Section C.2.2, and C.2.3

of the VT Stream Alteration General Permit



VERMONT DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
**WATERSHED
MANAGEMENT DIVISION**
RIVERS PROGRAM

(Reporting activities requiring Application or Registration)

A. Permitted Project Information:

Project Number: SA-3653

Phone: 802-472-6120

Applicant Name: Town Of Hardwick

Email: david.upson@hardwickvt.gov

Mailing Address: P.O Box 523, Hardwick VT 05843

Project Location: Pedestrian Bridge Crossing of the Lamoille River in downtown Hardwick @ Lat: 44.50443 Lon: -72.36722

B. Findings:

The Secretary of the Vermont Agency of Natural Resources (VT ANR) has determined that:

This project consists of replacement of a pedestrian bridge crossing the Lamoille River, installation of scour protection around bridge abutments and structural repairs to portions of the downstream retaining wall.

1. The proposed activity is eligible for coverage under the VT ANR Stream Alteration General Permit.
2. The proposed activity will meet the terms and conditions of the General Permit provided:
 - a) The project is complete as shown on the Permit Application and revised plans received by the Agency of Natural Resources on 01/22/2024 & 03/18/2024 respectively.

C. Standard Conditions:

1. The project will not adversely affect the public safety by increasing flood hazards.
2. The project will not significantly damage fish life or wildlife.
3. The project will not significantly damage the rights of riparian owners.
4. The project will not obstruct the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction.
5. The project is conducted in a manner which minimizes or avoids any discharge of sediment or other pollutants to surface waters in violation of the VT Water Quality Standards.
6. The ANR River Management Engineer is notified by phone or email when construction begins and when the project is complete.
7. **In-stream working dates for all GP activities are from July 1st through October 1st; any in-stream work outside these dates will require consultation with and prior authorization from the River Management Engineer (RME).**
8. **This permit will expire: 12/21/2024**
9. **Additional Conditions:** Water Control Plan and Construction timeline to be filed with River Management Engineer at least 2 weeks prior to commencement of construction.

If there are any changes in the project plan or deviation in construction from the plan, the Permittee must notify the River Management Engineer immediately. If the project is constructed as you have described, as shown on the above referenced approved plans and per the above conditions, there is no reason to expect any violation of Vermont Water Quality Standards. Please be aware that the proposed project is in a municipality that participates in the National Flood Insurance Program (NFIP). Construction or storage within the Special Flood Hazard Area (SFHA) as delineated on the FEMA Flood Insurance Rate Map). 24 VSA, Section 4424 requires communities to submit SFHA permit applications to the ANR Regional Floodplain Manager for review and comment to ensure the project is compliant with local and NFIP minimum floodplain management standards. Please be aware that this authorization does not constitute ANR's review and comment under 24 VSA Section 4424.

D. Authorization:

Signed this 19th day of March 2024

Julia S. Moore, Secretary, Vermont Agency of Natural Resources

Ben Matthews

by: Ben Matthews, River Management Engineer

Rivers Program, Watershed Management Division

E. Engineer Contact Information

Engineer: Ben Matthews

Contact Phone: 802-498-4570

Email Address: Ben.Matthews@vermont.gov

State of Vermont - Vermont Department of Environmental Conservation

Watershed Management Division - Stream Alteration Permitting, 1 National Life Drive, Main 2 Montpelier, VT 05620-3522

Please let me know if you have any questions. You may consider this email as state flood hazard review to assist with the local permit process per 24 V.S.A. §4424.

Best wishes,

Sacha Pealer (she, her), CFM | Northeastern River Scientist & Floodplain Manager
Vermont Agency of Natural Resources | Department of Environmental
Conservation
Watershed Management Division, Rivers Program
1 National Life Drive, Davis 3 | Montpelier, VT 05620-3522
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Sacha.Pealer@vermont.gov
<https://dec.vermont.gov/watershed/rivers>