

Williston's Watershed Protection Buffer Program

This is the “plan” required by Section 4.2.5.1.2.2 of General Permit 3-9014, as amended by the Memorandum of Decision issued by the Vermont Water Resources Board on July 21, 2005. It begins with a brief history of watershed protection buffers in Williston. It then addresses the three specific requirements of the amended general permit: 1) providing a map of impervious cover in the Allen Brook corridor; 2) identifying opportunities for enhanced protection of undeveloped stream corridors; and 3) identifying opportunities for the restoration of stream buffers that have been impacted by development. The text of these requirements is attached for the convenience of the reader. See Appendix A.

Watershed Protection Buffers in Williston

The Town of Williston began protecting stream corridors from inappropriate development following the adoption of its first *Open Space Plan* in 1989. That plan called for the adoption of the Conservation, Open Space, and Water Course Protection Overlay that first took effect in August 1990. This overlay was amended and made more stringent in 1998. Copies of the 1989 *Open Space Plan* and the Conservation, Open Space, and Water Course Protection Overlay as it existed when it was replaced (see below) are available upon request.



The Conservation, Open Space, and Water Course Protection Overlay was superseded by more stringent watershed protection standards on March 21, 2005. Those standards were included in a set of interim regulations the town adopted to comply with Minimum Control Measures 4 and 5 required by General Permit 3-9014. A copy of the interim regulations is available upon request.

Williston adopted a new town plan that features a chapter on “Watershed Health” on February 6, 2006. Excerpts from that plan are provided in Appendix B. Policy 10.1.3 identified a need for some further improvements in the watershed protection performance standards, and improved standards were adopted as part of an interim regulation on November 19, 2007. Those standards appear in Appendix C. It is anticipated that they will be permanently adopted – along with the rest of the new *Williston Development Bylaw* – in late spring or early summer 2008.

Stream Corridor Development in Williston

Williston's growth as a suburban center began only about 40 years ago. Most development has proceeded within the framework of local subdivision and zoning bylaws, the National Flood Insurance Program, Act 250, and other environmental regulations. Direct impacts on stream corridors have been limited.

Attached Map 1 shows the current extent of impervious cover within the watershed protection buffers along the Allen Brook. Those buffers encompass approximately 857 acres, of which less than 19 acres is occupied by impervious surfaces. That is just 2.2%, and a testament to the effectiveness of the town and state regulations that have governed Williston's growth.

The insets on Map 1 highlight the areas with the most impervious cover in watershed protection buffers. Looking at those insets makes it clear that most of the hard surfaces in Williston's watershed protection buffers are roads that cross or parallel the brook or its tributaries. A few (roughly three dozen) structures are entirely or partially within the current watershed protection buffers, along with stretches of the town recreation path, some outdoor storage space, and some parking. All of this development predates the current watershed protection buffer standards. Note also that agricultural structures are exempt from local regulation in Vermont.

Additional Opportunities for Stream Corridor Protection

Williston's current watershed protection standards, including the buffer requirements, are as stringent as any in Vermont, and when combined with other local, state, and federal regulations they have been quite effective. Williston has experienced extensive land development and population growth while limiting impervious cover to a tiny fraction of its stream corridors. There is no reason to believe that additional regulation will yield additional water quality benefits and the town has turned its attention to land conservation and stream corridor restoration efforts.



Land Conservation. The Town of Williston has acquired considerable land and three conservation easements in the upper Allen Brook watershed. These conserved lands are shown on Map 2. Town ownership of the Mud Pond Conservation Area (158 acres, shown in the photo above) and the nearby Mud Pond Country Park (79 acres), and the easements the town has helped acquire on the Johnson (196 acres) and Siple (244 acres) farms combine with Williston's stringent regulation of rural residential development to ensure that the upper watershed will remain rural. There is also protected open space along the middle reaches of the Allen Brook, including Community Park, the private open spaces in the Church View, South Ridge, Tafts Farm, Indian Ridge, Brennan Woods, Finney Crossing, and Meadow Run developments, and the town-owned parcel on the west side of the Meadow Brook Subdivision. Almost 30% of the main stem of the Allen Brook runs through protected open space, and the Town expects to protect at least one more reach of the brook through development review in the near future.

Additional Opportunities for Stream Corridor Restoration

Williston's watershed health efforts currently focus on the restoration of streams and adjoining riparian lands. The town recently completed a major restoration project in the Sucker Brook watershed and has been designing its first restoration project in the Allen Brook watershed. The town is also participating in

or seeking funding for several other projects that address erosion control and re-vegetation needs in stream corridors. These town efforts follow an award-winning private effort that restored the lower reach of the Allen Brook on the Onion River Farm.



Village Center Restoration Project. The town is in the process of acquiring an approximately 14-acre parcel of riparian and wetland habitat that is in a conservation area designated in the 2006 *Open Space Plan*. This parcel, which is shown as one of the water quality improvement project sites on Map 2, straddles important Allen Brook tributaries, including the 50-foot watershed protection buffer and more. The town will reforest the portions of the parcel that are currently mowed and, at the same, expand and reforest portions of the riparian buffer in the adjoining town park. If all goes as currently scheduled, the initial planting will be in the fall of 2008.

In addition to securing grant funds through state and federal programs, the town has:

... built its own sediment yield model to evaluate the benefits of this type of project,

... worked with the landowner to create a multi-parcel, noncontiguous planned unit development that transfers most of the development rights from the project site to a suitable site in the town's designated growth center;

... commissioned appraisals, initiated a land survey, and prepared a contract to support acquisition of the site; and

... prepared a reforestation plan for use once the site is acquired. Plant materials will be ordered this winter to be ready for next fall.

Other Projects. Three other current projects will contribute to the health of stream corridors.

- The town is actively seeking funding for a stormwater treatment pond to serve the Meadow Brook Subdivision. This 1960's development currently has no stormwater treatment, resulting in rapid runoff that is bringing sediment into the Allen Brook from eroding tributary channels. This pond has been engineered and permitted.
- The town has worked with the Winooski Natural Resource Conservation District on two projects that address Allen Brook tributaries. Work has been completed on a small tributary restoration project along Oak Hill Road in Williston Village. Work has begun on the stabilization of eroding tributaries in the Williston Hills area.
- The town intends to reconstruct the intersection of East Hill and South roads. This project will make it possible to divert runoff from East Hill Road and the Meadow Ridge Subdivision around the manure bunkers of the Siple Farm. This will eliminate a periodic water quality problem, while also improving both farm operations and traffic safety.

Future Projects. Once the Village Center Restoration project is complete, the town will develop another restoration project along the Allen Brook. Discussion will focus on the reach from South Ridge Road through Tafts Farm where there is visible bank erosion.

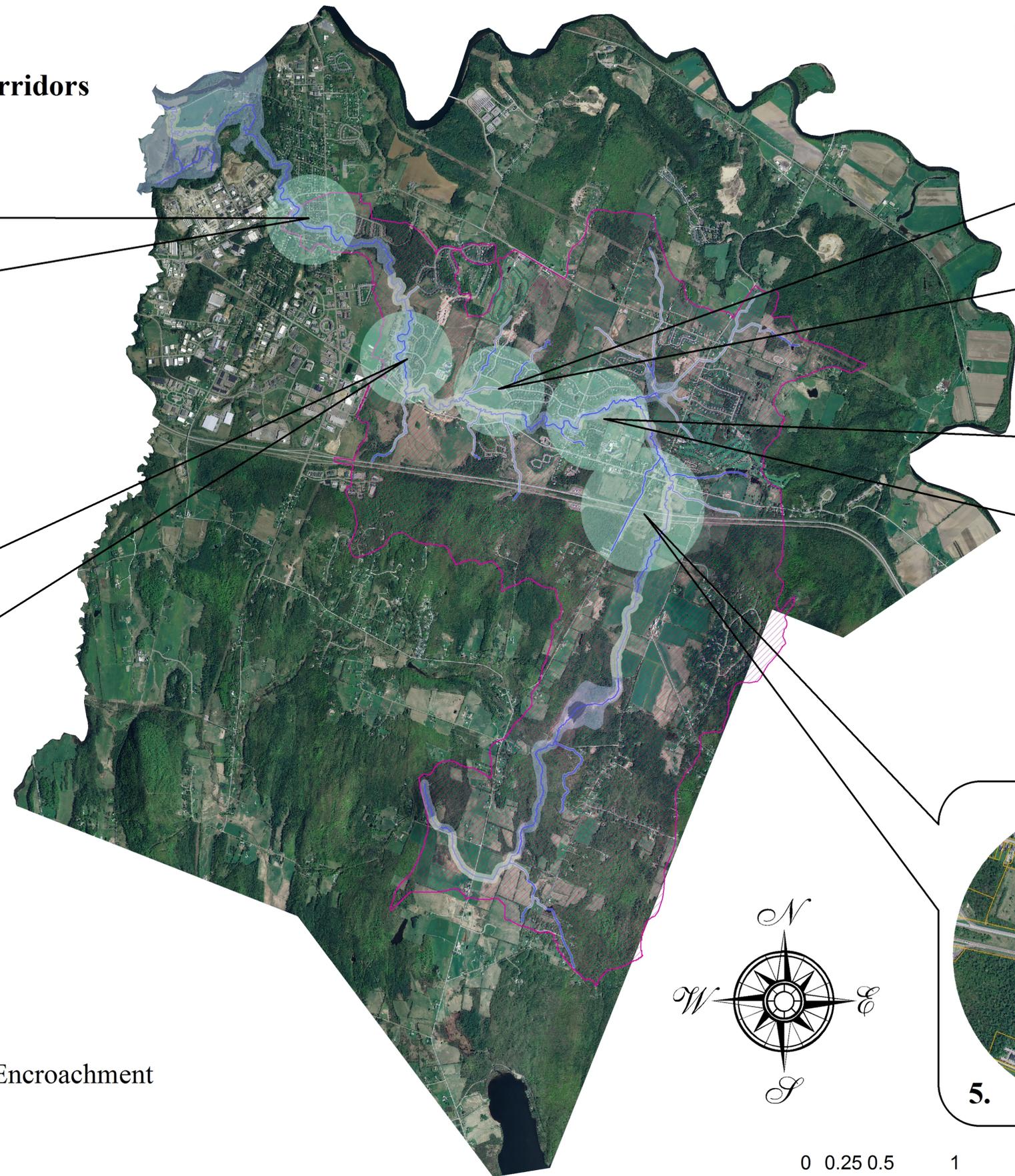
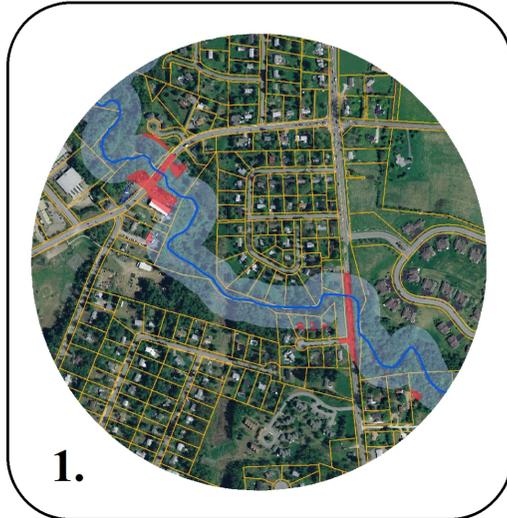
Summary of Williston's Efforts

Williston has an ambitious watershed health program for a small local government. Its watershed protection buffer standards combined with other regulations, an active land conservation program, and private conservation efforts point toward a healthier watershed in the future and toward the removal of the Allen Brook from Vermont's list of stormwater-impaired streams.

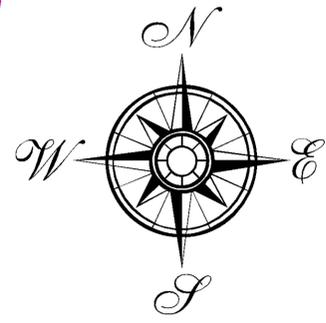
Town of Williston

Options for Enhanced Protection of Stream Corridors

Allen Brook - MS4 Reporting



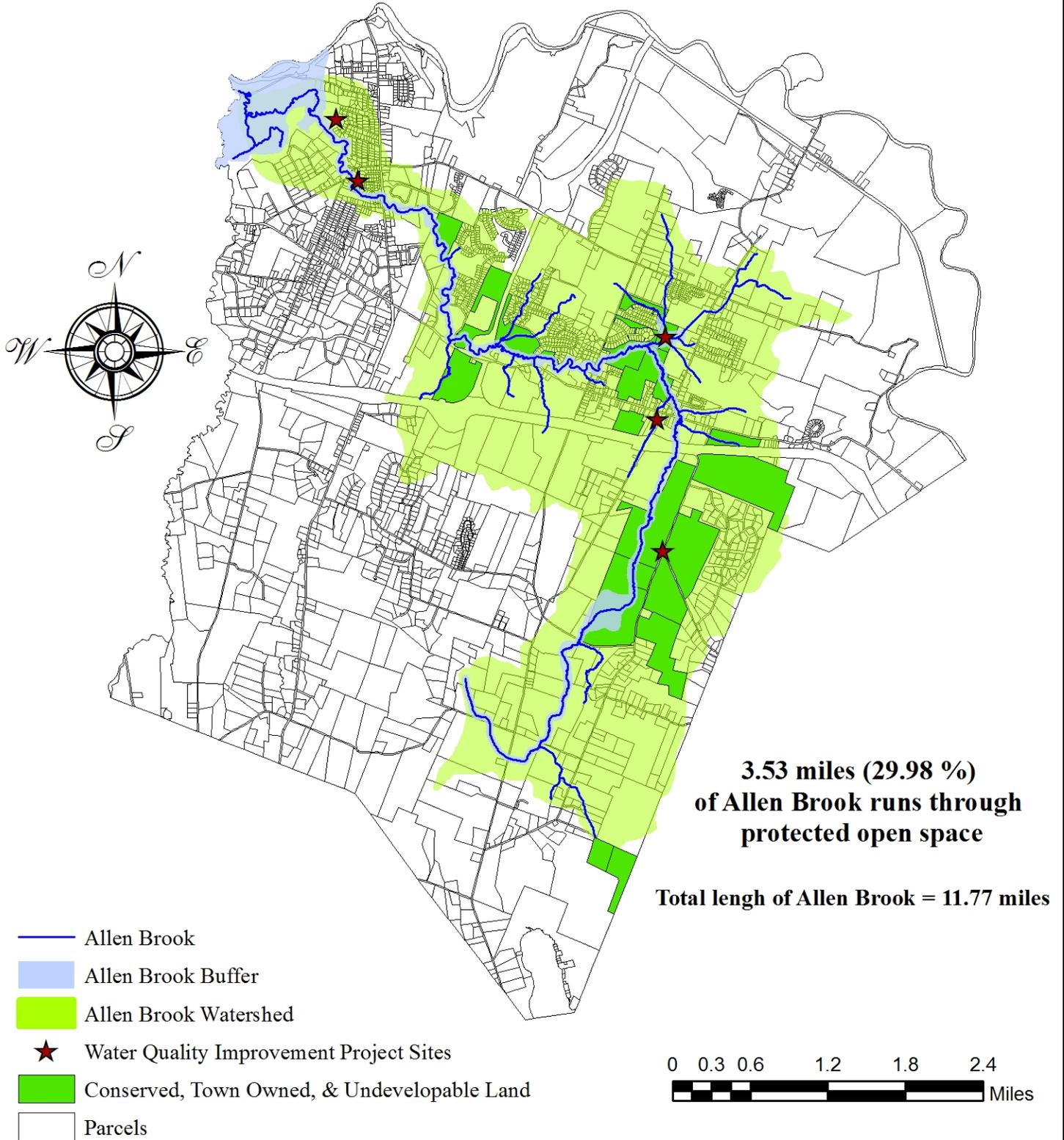
-  Allen Brook
-  Allen Brook Buffer
-  Impaired Reach of Allen Brook
-  Buffer Areas of Concern - Impervious Encroachment
-  Impervious Surfaces within the Buffer
-  Buffer Areas with Lack of Shading
-  Parcels



Town of Williston

Protected Open Space Surrounding Allen Brook

Allen Brook - MS4 Reporting



Appendix A – Permit Requirements to Which this Report Responds. This material is excerpted from General Permit 3-9104, as amended. For more information and the full text of the general permit see: http://www.vtwaterquality.org/stormwater/htm/sw_ms4.htm.

B. Section 4.2.5.1.2.2 is added to read:

No later than January 1, 2008, you must prepare and submit a plan outlining options for enhanced protection of stream corridors of stormwater-impaired waters. The plan should include a map of stream corridors depicting areas that have been converted to impervious surface and areas that are undeveloped or have not been converted to impervious surface. In preparing this plan you should review riparian buffer and stream fluvial geomorphological information provided to you by the Agency as a result of the Agency's preparation of TMDLs or Water Quality Remediation Plans as set forth in 10 V.S.A. §1264(f)(3).

C. Section 4.2.5.1.2.2.1 is added to read:

For those areas of stream corridors that have not been developed or otherwise converted to impervious surface, your plan should identify options for ensuring enhanced protection, which may include: (1) minimum widths of stream channel buffers requiring protections, and (2) minimum setback requirements, and (3) proposed planning and zoning regulations, municipal ordinances or codes, policies, or other requirements to enhance protection of undeveloped stream corridors.

D. Section 4.2.5.1.2.2.2 is added to read:

For those areas of stream corridors that have been developed or otherwise converted to impervious surfaces, your plan should identify options for stream corridor restoration, which may include: (1) restoring stream buffers, and (2) relocation of development outside stream corridor for redevelopment projects.

Appendix B – Watershed Protection Buffers in Williston’s Current Town Plan, This material is excerpted from Chapter 10 of the *Town of Williston Comprehensive Plan* adopted on February 6, 2006. For a copy of the entire town plan, please contact Williston Planning at (802) 878-6704.

10.1 Stormwater Management - The Town of Williston will continue to operate as an MS4 (municipal small separate stormwater system) within the framework established by the Clean Water Act, the General Permit for MS4’s issued by the State of Vermont, and the state’s stormwater legislation.

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10.1.3 Enforce Regulations that Limit the Impact of Land Development on Water Quality. Williston adopted interim stormwater and watershed protection regulations in the spring of 2005. These regulations strengthened requirements for vegetated buffers between development activity and streams, lakes, and wetlands. They also set performance standards for runoff and erosion control during the construction and occupancy of developments. Some additions to these regulations will be made following adoption of this plan, including a requirement that private footing or foundation drains not be connected to stormwater management systems or, at least, that the town be fully indemnified from any damages resulting from such a connection. The planning commission may also consider changing the town’s existing lot coverage regulations to impervious cover limits.

10.2 – Stream Restoration - The Town of Williston will continue efforts to restore the health of the Sucker Brook watershed. It will also begin efforts to remove the Allen Brook from Vermont’s list of impaired waters.

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10.2.2 Begin Efforts to Restore the Allen Brook with Corridor Protection. Uncertainty about the permitting of in-stream restoration techniques and stormwater management structures has led Williston to explore an initial strategy of acquiring and reforesting portions of the riparian corridor along the Allen Brook and its tributaries. Wide, forested buffers will intercept, detain, and treat sheet flow to the brook and its tributaries. Tributaries can also overflow into the buffers, attenuating peak flows into the Allen Brook without causing property damage. The town is currently working with consultants to quantify the water quality benefits of this corridor protection strategy. Other strategies, including stream channel restoration, could be included in the watershed health plan that will be prepared to implement 10.1.5.

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10.2.3 Use the Allen Brook Restoration Project as a Stormwater Offset. Explore Other Offset Possibilities. Vermont’s stormwater law requires developers to contribute to “offset” projects in order to obtain a permit. The logic of this requirement is that on-site stormwater management is only about 80% effective in protecting water quality. To achieve the state goal of no net increase in pollution, another 20% must be achieved by contributing to a stormwater management project on an unpermitted site in the same watershed. Williston will solicit developer contributions to the

corridor protection project described in 10.2.2. It will also facilitate other offsets that improve water quality and are consistent with all other objectives of this plan.

10.2.4 Address Stormwater Issues in Older Developments. Most development in Williston includes a state-permitted stormwater management system. A few older projects, including Williston Hills and Meadow Brook do not. Untreated stormwater from these subdivisions reaches the Allen Brook and accelerated runoff is causing erosion where it crosses steep slopes. The town will work with affected landowners, the Winooski Valley Conservation District, the Agency of Natural Resources, and other partners to address these issues through offset (where possible) and other restoration projects.

Appendix C – Williston’s Current Watershed Protection Buffer Bylaw. This material is excerpted from Chapter 29 of the *Williston Development Bylaw*, as adopted on an interim basis on November 19, 2007. For a copy of the entire bylaw, please contact Williston Planning at (802) 878-6704.

29.9 Watershed Protection Buffers. This section establishes watershed protection buffers for all streams, ponds, and lakes, and for certain wetlands.

29.9.1 Are buffers required around lakes and ponds? Yes. There shall be a buffer of at least 150 feet above the ordinary high water mark of all ponds or lakes that have more than a half-acre (21,780 SF) of water surface;

29.9.2 Are buffers required along streams? Yes.

29.9.2.1 Named Streams. There shall be a buffer of at least 150 feet above the ordinary high water mark of the Allen Brook, the Muddy Brook, the Sucker Brook, and the Winooski River;

29.9.2.2 Other Streams. There shall be a buffer of at least 50 feet above the ordinary high water mark of all unnamed streams – perennial or intermittent - identified on the 7.5’ U.S. Geological Survey quadrangles covering the town, or on the Williston Field Stream Survey maps of the Allen and Muddy Brook watersheds prepared by the Vermont Department of Environmental Conservation.

29.9.3 Are buffers required around wetlands? Yes.

29.9.3.1 Class II Wetlands. There shall be a buffer of at least 50 feet above the delineated boundary of any Class II wetland.

29.9.3.2 Class III Wetlands. The DRB may, upon the recommendation of the Conservation Commission, require a buffer above Class III wetlands that have important functional values.

29.9.4 What is the relationship of watershed protection buffers and special flood hazard areas? The watershed protection buffers required by WDB 29.6.1, 2, and 3 shall be expanded, where necessary, to include special flood hazard areas.

Special Flood Hazard Areas. These areas are mapped for the National Flood Insurance Program and may sometimes include more area than the watershed protection buffers required by WDB 29.8. The official maps are on file with Williston Planning. See Chapter 25 of this bylaw for additional regulations applicable to Special Flood Hazard Areas.

29.9.5 Can any use be made of the land in watershed protection buffers? Watershed protection buffers shall remain undeveloped, except as provided here.

29.9.5.1 Vegetation. Watershed protection buffers shall remain in native or cultivated vegetation that serves as an effective filter for surface runoff. Where effective filtering vegetation is not present, the buffer shall be restored to a combination of wetland, riparian, forest, and/or meadow vegetation appropriate to the site. Removal of live vegetation from a watershed protection buffer is prohibited except where the buffer is used for accepted agricultural or forestry practices or where it is necessary to control invasive species.

29.9.5.2 Lawns. Conventional turf grass lawns do not provide an effective filter for surface runoff and may not be included in the watershed protection buffers required by this section.

29.9.5.3 Impervious Surfaces. Development within watershed protection buffers shall be limited to utility and road crossings; trails and trail crossings, with minor related facilities like signs and benches; and runoff and erosion control measures.

- All work within a watershed protection buffer shall proceed in accordance with the runoff and erosion control standards of this chapter.
- Utility and road crossings of watershed protection buffers shall be consolidated wherever possible, and both the width and length of such crossings minimized. Minimum disturbance trenching may be required for utility lines.
- The runoff and erosion control measures permitted in watershed protection buffers shall be limited to outfall structures or other measures whose function requires such a location. Permanent stormwater works, including above or below ground detention and treatment, shall be permitted only where no alternative upland location is feasible.

29.9.5.4 Outdoor Storage. Outdoor storage is not permitted in watershed protection buffers.

29.9.6 Is it possible to obtain a variance to permit more development within a watershed protection buffer? Additional development within watershed protection buffers may be made possible by variance, as provided by Chapter 8 of this bylaw. To approve such a variance, the DRB must make all of the findings required by WDB 29.6.7.1 and 29.6.7.2 as well as all findings required by WDB 8.1.

29.9.6.1 Impervious Cover. The development permitted by variance will result in a total impervious cover of no more than 10 percent within the buffer.

29.9.6.2 Buffer Width. The development permitted by variance will leave the largest buffer possible consistent with the need to allow a permitted use. In no case shall a 150-foot buffer be reduced below 75 feet or a 50-foot buffer be reduced below 25 feet.

29.9.6.3 Special Flood Hazard Areas. There are additional limitations on variances in special flood hazard areas. See WDB 25.7.1.

29.9.7 What about nonconforming uses and structures in watershed protection buffers? Nonconforming uses and structures located within watershed protection buffers may be changed, maintained, repaired, enlarged, and replaced as provided by Chapter 2 of this bylaw, but only if all work complies with the standards established in this chapter. EXCEPTION: No change in use that permits the processing, manufacture, storage, or handling of regulated hazardous materials, other potential pollutants, or materials that could be dispersed downstream during a flood will be permitted.