

**NORWICH PLANNING COMMISSION  
AGENDA**

**Thursday, June 27<sup>th</sup>, 2019, Tracy Hall-Meeting Room NOTE START TIME 7 pm**

**Regular Meeting:**

1. Approve Agenda
2. Meeting Objectives:
  - a. Comment on TRORC Regional Plan Draft
  - b. Discuss calendar of Town Plan feedback events
  - c. Review AT & T Wireless Communication Equipment Project under 30 VSA §248a
  - d. Vice Chair election
3. Comments from the Public
4. Comment on TRORC Regional Plan Draft
5. Discuss calendar of Town Plan feedback events, including postcard mailing
6. Opportunity to comment on AT&T Utility Pole proposal
7. Vice Chair election
8. Review and approve Minutes 5-23-19
9. Review Quarterly Report to Selectboard
10. Discuss survey proposal from Ciccotelli
11. Announcements, Reports, Updates & Correspondence
  - a. Correspondence
  - b. Announcements
  - c. Updates
  - d. Reports
12. Other Business
13. Future Meeting Schedule & Agendas
14. Comments from the Public

**Future Meetings:**

Thursday, July 25, 7pm Regular Meeting  
Thursday, Aug 22, 7pm Regular Meeting  
Thursday, Sept 26, 7pm Regular Meeting

**NORWICH PLANNING COMMISSION**  
**DRAFT**  
**Meeting Minutes**

**Thursday, May 23, 2019, Tracy Hall**

**Members Present:** Jaci Allen (Chair), Jeff Goodrich (V-Chair), Melissa Horwitz (Clerk), Ernie Ciccotelli, Leah Romano, Brian Loeb (by phone), Steve Thoms, Jeff Lubell

**Members Not Present:** Susan Brink,

**Public:** Linda Gray

**Staff:** Rod Francis

Jaci Allen, Chair, called the meeting to order at 7:01 PM.

1. Approve Agenda
  - a. Goodrich moved and Thoms seconded that item 8 (election of office holders) be moved to item 5.  
Motion failed: 3 — 4 — 1
  - b. Lubell moved and Thoms seconded to approve the agenda as published. Motion carried: 7 — 1
2. Meeting Objectives:
  - a. Review report from Dartmouth students on accessory dwelling units
  - b. Work through Town Plan chapter links
  - c. Review calendar of June-August Town Plan feedback events  
Elect Officeholders: Chair, Vice Chair, Clerk
3. Comments from the Public – none
4. Report from Dartmouth students on accessory dwelling units (ADUs)  
Emily Schneider and Paulimo Rao presented on their research on ADUs in Norwich
5. Discuss composite of feedback gathered on Town Plan and work through chapter links (Francis)  
Francis explained the objective of this exercise was to compare and contrast feedback gained from small group meetings across working groups with two things:
  - i) Policies, objectives and actions from 2018 chapters (as edited for relevance)
  - ii) Feedback gathered from other subject area expertsThe objective is to highlight common issues (across chapters) and any contradictions that may arise

**Housing**

1. Possible interest in responses such as Tiny house communities to address a specific group or need as a solution the housing crisis (i.e. Veterans)? (i.e. Upper Valley Housing Coalition "Irene Cottage" etc.)
2. There is a housing crisis (lack of appropriate housing available to suit the financial capacity and needs of many different households)
3. Energy efficient housing (EEWG recommends a code enforcement approach)
4. Supply of (more) affordable and suitably located housing depends on resolving the question of connecting to neighboring towns waste-water treatment systems and/or changes to VT septic waste-water permitting procedures

**Economic Development**

5. Cell phone service

6. Lack of sewer capacity (see 3 above)
7. Labor market is directly impacted by-lack of affordable housing (see above)
8. Viable taxi/ride share service
9. Could the town facilitate the local and VT permitting process for businesses start-up or expansion?
10. Tax increment financing
11. Diversify economy away from dependence on Dartmouth College and DHMC

#### Utilities, Facilities and Services

12. Housing challenges (see above)
13. Sewer capacity (see above)
14. Merge the fire district (responsible for potable water supply and hydrants in the village area) with the town
15. Update the Capital Improvement Plan (CIP)

#### Transportation

16. Many (local) bridges are in poor condition
17. The cost of maintaining paved versus unpaved roads could be looked at
18. Advanced Transit — proposes to expand hours potentially including Saturday, to increase downtown Norwich to downtown Hanover every ½ hour. A bike rack is to be added near a bus stop

#### Land Use/Natural and Historic Resources

19. Habitats for wildlife
20. Wetlands maintenance
21. Ridgelines
22. Disaster mitigation
23. More forthcoming from Conservation Commission
24. Historic Preservation Commission gave explicit support for improving/extending sidewalks (while not impacting streetscape by increasing road width)

6. Review calendar of June-August Town Plan feedback events, including the postcard mailing (soliciting feedback for plan)
  - a. Leah compiled ideas
  - b. There is the offer of establishing a reading list at library
    - i. Possible movie night at library (kids over 8) for childcare to facilitate parent involvement in plan process
  - c. Affordable housing—public forum
  - d. Conference call or go to meeting during the lunch hour on town plan topics
  - e. Invite people to make a comment
  - f. Small group discussions initial meetings (documenting outreach to date)
  - g. Postcard—Must go out by July—Brian and Leah will work on it
    - i. Press release for June—3 events in June
  - h. Education "*the sooner the better*"—Second Thursday of June (Thoms to lead)
  - i. By next Friday (5/31) — Each work group please suggest the format of your small group and preferred date—can be broad —Rod and Leah
7. Review and approve Minutes of 4-25-19
  - a. Lubell moved and Thoms seconded to approve the minutes of April 25, 2019 as amended. Motion Carried 7 — 0 — 1

8. Elect Officeholders: Chair, Vice Chair and Clerk
  - a. Chair: Two nominations from the floor i) Allen, ii) Ciccotelli
    - i. Horwitz moved and Romano seconded motion to nominate Allen for position of Chair.  
Motion passes 5 — 3
  - b. Vice-Chair Two nominations from the floor i) Horwitz, ii) and Ciccotelli
    - i. Vote deferred to next meeting
  - c. Clerk  
By consensus it was agreed to return to the mode of having the Planning Director act as Clerk
10. Other Business - None
11. Future Meeting Schedule & Agendas
  - a. Officer Election (continued)
  - b. TRORC: Town Plan preparation, conformance with statute, discussion of services available, review of chapters
  - c. Outreach events calendar
  - d. Postcard survey
  - e. Final input from subject area experts

Meeting Adjourned at 10:11 PM.

Respectfully submitted,

Rod Francis

**Future Meetings:**

Thursday, 27, 7pm Regular Meeting

Thursday July 25, 7pm Regular Meeting

Thursday August 22, 7pm Regular Meeting

Planning Commission Agendas & Minutes available at: <http://norwich.vt.us/planning-commission/>

## Planning Commission Q1 2019 Report to the Selectboard

6-24-19

**Commissioners:** Jaci Allen, Chair, Jeff Goodrich, Susan Brink, Melissa Horwitz, Jeff Lubell, Steve Thoms, Leah Romano, Brian Loeb, Ernie Ciccotelli

**Affordable Housing Sub-committee (AHSC):** Creigh Moffatt, Paul Manganiello; Kathleen Shepherd, Ralph Hybels, Jeff Lubell (PC Member), Jeff Goodrich (PC Member), Brian Loeb (PC Member)

**Committee/Commission/Appointee Charge** (including subcommittees and workgroups): Preparing a town plan, and preparing zoning and subdivision regulations based on the town plan. The commission also studies other planning issues and makes recommendations to the Selectboard.

**Current Projects** (including work by subcommittees) with proposed deadlines:

### Town Plan Rewrite

- Beginning in April, Commission members have been meeting with a series of stakeholders and subject matter experts to gather input on key issues related to draft of Town Plan chapters and Action Items.
- A draft of the Energy Chapter was submitted to TRORC and initial feedback has been received. Another round of edits, graphs, and charts are in progress.
- Town Plan chapter work groups are scheduling a series of public forums and workshops on key topics. The first public forum was held on Childcare on June 13<sup>th</sup>. In addition to commission members, Tom Candon from MCS School Board, Sarah Kohbloski from the Couch Foundation, Beth Reynolds from the Norwich Public Library, and Brie Swenson from the Norwich Rec department were also present to hear parents' concerns and recommendations for improving childcare availability in Norwich.
- A current roster of past and future Town Plan input meetings is attached to this report. A postcard survey for additional input will be included in the mid-July tax bills.
- The PC has developed a reading list with background information on Town Plan chapters. Thanks to Roger Arnold, these titles will be available at the Norwich Public Library. The Norwich Bookstore has also identified relevant titles they have onsite. These lists will be available on the town website.
- A web page has been set up on the Town website with information on the Town Plan, including an overview of the Town Plan process, calendar of events, and background reading list.

### Affordable Housing

- Based on input provided during 2018 Affordable Housing Listening Sessions, the Affordable Housing Sub-committee has completed an affordable housing strategy draft. Additional public meetings for comment will be scheduled shortly.

### Regional Plan

- A draft of the TRORC regional plan has been received for comment. PC members attended the June 26<sup>th</sup> Selectboard meeting to discuss recommendations in preparation for a joint letter to the regional planning commission.
- The comment letter will be finalized at the July 10<sup>th</sup> Selectboard meeting and submitted by the July 11<sup>th</sup> deadline.

### **Community Rating System (CRS)**

- CRS recognizes communities that are doing more than the minimum National Flood Insurance Program (NFIP) requirements to help their citizens prevent or reduce flood losses.
- TRORC has been engaged to support implementation of the Community Rating System (CRS) to qualify for an additional 5% reimbursement from the State in the event of another flood disaster. (17.5% total)

### **Future Projects:**

- Provided comments to TRORC on revisions to the Regional Plan.
- Conduct public events and workshops to gather input on key questions related to the Town Plan. July-August-September
- Gather public input on draft of the Affordable Housing Strategy. July-August-September
- Work with TRORC on the CRS qualification process.

### **Support Needed from the Selectboard:**

- Ongoing communication and collaboration on key matters

## Norwich Town Plan Rewrite

### Input Sessions as of 6/24/19

Date	Name(s)	Organization(s)	Town plan chapter(s)	PC members	Location
4/11	Nancy LaRowe	Vital Communities	Economic Development	Allen	
4/12	Taylor, Jill and Joe Lavin,	Norwich Business Council	Economic Development	Allen	
4/17	Kobyjenski	Child Care Center in Norwich	Utilities, Facilities and Services	Loeb, Thoms	
4/18	Andrew Winter	Twin Pines Housing Trust	Housing	Loeb	
4/23	Herb Durfee	Town Manager	Utilities, Facilities and Services	Loeb, Thoms, Lubell	
4/23	Beth Hunstome	Consultant	Land Use	Brink, Ciccotelli	
4/25	Michael Goodrich	Fire District	Utilities, Facilities and Services	Loeb, Thoms	
4/25	Douglas Kennedy	Consultant	Land Use	Brink, Ciccotelli	
4/26	Troy McBride	Energy Business	Energy	Horowitz, Brink	
4/29	Rhim	Norwich School Board	Utilities, Facilities and Services	Loeb, Allen	
5/1	Hanford	VT Dept. of Econ. Dev.	Housing	Loeb	
5/7	Berna Røxford	Realty	Housing	Loeb, Romano	
5/8	Bria Swenson	Recreation Director	Utilities, Facilities and Services	Loeb, Thoms	
5/10	Bill Hammond	MCS	Utilities, Facilities and Services	Loeb, Thoms	
5/15	Tom Goins	DHMC	Housing	Loeb	
5/20	Brenda Torpy	Champlain Housing Trust	Housing	Loeb	
5/21	Craig and Commission	Commission	Land Use	Brink, Ciccotelli	
5/23	Commission	Commission	Land Use	Allen, Ciccotelli	
5/23	John Kish	Kish Consulting	Housing	Loeb	
5/30	Buff McLaughry	Realty	Housing	Loeb, Romano	
5/31	Nancy Bloomfield	The Family Place	Utilities, Facilities and Services	Loeb	
6/4	Roberts	Vital Communities	Housing	Loeb	
6/13	parents	Public	Utilities, Facilities and Services	(+Romano, Allen)	Tracy Hall meeting room
6/14	John Langhus	Norwich Solar Technologies	Energy	Brink, Allen	
6/18	Rob Adams	CEO Solaflect	Energy	Brink, Allen	
6/26	Lynne LaBombard	Group	Housing	Loeb, Romano	
7/10	Economic Dev Forum	Public	Economic Development	Allen, Lubell	The Norwich Square 12:30-1:30 The Square
7/11	Facilitated Workshop	Public	Land Use and Energy	Allen, Horwitz, +	Tracy Hall meeting room 6:15-7:45pm
7/15	Conference Call	Public	Land Use and Energy	Allen +	Conference Call 12-1pm
8/1	Facilitated Workshop	Public	Land Use and Energy	Allen +	Tracy Hall meeting room 6:15-7:45pm
8/5	Conference Call	Public	Land Use and Energy	Allen +	Conference Call 12-1pm
8/8/19	TBD	Public			Tracy Hall meeting room
9/12/19	TBD	Public			Tracy Hall meeting room

4. ~~New buildings should maximize allowable density be clustered to encourage open space in surrounding areas.~~ Where unusual natural features, soil limitations, or special resources (including high value agriculture land) are identified, use of cluster development concepts is encouraged to protect such resources from unnecessary development.
5. ~~Where adjacent subdivisions are planned, they must provide for common open space systems to link active recreation areas such as playgrounds, playfields, and natural areas.~~
6. ~~Design features which contribute to the aesthetic value of residential and non residential areas, including the provision of open spaces, trees and natural ground cover, and the conservation of stream valleys, historic landmarks and structures must be utilized in planning subdivisions.~~
7. Existing postal facilities, and similar governmental offices, ~~should~~ must be retained in Hamlet Areas and not be relocated into Rural Areas.

**INSERT RURAL AND FOREST BASED AREA LANGUAGE PLACEHOLDER**

## **Industrial Areas**

### **Background**

Industrial parks and districts are a way to encourage economic growth and high-wage businesses to locate in the Region without adversely affecting neighboring land uses. Industrial uses can produce off-site impacts, such as noise, that can be mitigated if these businesses are located in areas designated specifically for industrial development and job growth. Commonly, Industrial Areas are located where there is direct access to transportation via major roads and/or rail, three-phase power, and other municipal infrastructure. These areas may include other commercial uses, provided that those uses are not more appropriate within Regional Growth Areas. There are Industrial Areas identified in seven communities in the TRO Region.

### **Industrial Area Policies**

1. Industrial development and uses are the primary use within an Industrial Area, provided that the scale and intensity of the development does not have an undue adverse impact on the surrounding area.
2. In addition to industrial development, commercial development (excluding principal retail establishments), services, and offices may be appropriate, provided these are not the dominant uses.
3. Traffic and pedestrian safety must be a strong consideration in the design of development within Industrial Areas, particularly those areas with a large trucking component.

Shows Existing Plan Text

- 1           4. Principal retail establishments shall not be located in Industrial Areas, but secondary  
2           retail may be.  
3  
4

5           **Mixed-Use Areas**

6           **Background**  
7

8           Given the regional need for increased housing and local needs for commercial establishments  
9           that are not best suited to core areas due to their impacts, low value, or large use of land, a  
10          Mixed-Use Area can supply needed space for such along state highways without creating sprawl.  
11

12          **Mixed-Use Area Policies**  
13

- 14           1. Light industrial development may be appropriate, provided that the scale and intensity of  
15           the development does not have an undue adverse impact on the surrounding area.  
16           2. Multi-family housing at several units per acre is appropriate in this area.  
17           3. Commercial uses that include land intensive uses, lumberyards, repair services,  
18           warehouses, kennels, and indoor recreation are appropriate in this area.  
19           4. Principal retail shall not be permitted in this area.  
20

21          **Interchange Areas**

22          **Background**

23          Lands that are in close proximity to interstate interchanges are viewed as prime areas for  
24          development by some due principally to their ease of public access and favorable site conditions.  
25          In this Region, interstate interchanges are located in the towns of Bradford, Fairlee, Hartford,  
26          Hartland, Newbury, Norwich, Sharon, Randolph, Royalton, and Thetford. However, not all of  
27          these interchanges are designated as Interchange Areas as land use areas in this Plan.  
28

29          Despite the benefits of interstate travel and the fact that the interchanges are important transfer  
30          points for traffic entering and exiting the Region, there are potential pitfalls to developing these  
31          areas. Increased traffic congestion and safety issues resulting from interchange developments  
32          can unacceptably decrease the level of service of roadways. ~~to points below acceptable levels.~~  
33          One example, the Quechee interchange (I-89, Exit 1), contains acres of developable land located  
34          within a mile of the intersection of two interstate highways. This places this interchange at a high  
35          degree of vulnerability. Local development decisions made without adequate regard to  
36          preserving mobility will degrade the functionality of the public investments. An illustration of  
37          this consequence is on Interstate 89 at Exit 20, a strip of commercial development in nearby  
38          West Lebanon, NH, where access on and off the interstate for traveler services has been  
39          negatively impacted due to traffic and over development. ~~whose functionality has been degraded.~~

1 Other typical problems associated with improper traffic management and development at  
2 interchanges include:

- 3
- 4 1. The creation of numerous curb cuts (new driveways) surrounding the interchange to  
5 access new development that are permitted incrementally on a case-by-case basis without  
6 due regard to an overall plan for the area;
- 7 2. The eventual existence of high traffic generators in the immediate vicinity, which cause  
8 degradation of roadway intersections, the need for signalization, lower travel speeds, and  
9 extensive queuing of vehicles;
- 10 3. Inadequate planning for pedestrian accesses between developments and loss of significant  
11 farm land or access to such land;
- 12 4. Erosion of cultural, social, and economic values of the traditional town center or village  
13 settlement due to a dislocation or redistribution of key uses into the area; and
- 14 5. Fragmentation of land parcels in such a manner as to preclude future access or interior  
15 roads to properties more removed from the right-of-way; and
- 16 6. Unnecessary loss of scenic qualities resulting from insensitive land development.

17  
18 ~~The Regional Commission recognizes that areas in close proximity to its thirteen interchanges on~~  
19 ~~Interstates I-89 and I-91 are prime areas for development due principally to their ease of public~~  
20 ~~access and favorable site conditions. The Regional Commission acknowledges that these areas~~  
21 ~~are important transfer points for traffic entering and exiting the region. The benefits of Interstate~~  
22 ~~travel are well documented. However, in many areas in the Northeast, particularly in more~~  
23 ~~developed areas, the lack of planning for development at interchanges has prompted various~~  
24 ~~forms and types of undesirable development along roads immediate to the interchange.~~  
25 ~~Therefore, the level of detail given to planning for interstate interchanges represents a response~~  
26 ~~to the market's interest in these areas for development, not the Regional Commission desire to~~  
27 ~~see development directed there.~~

28  
29 ~~In this Region, interstate interchanges are located in the towns of Bradford, Fairlee, Hartford,~~  
30 ~~Hartland, Newbury, Norwich, Sharon, Randolph, Royalton, and Thetford; however, not all of~~  
31 ~~these interchanges are designated as Interchange Areas in this Plan.~~  
32 Interchanges Lands at interchanges in Bradford, Fairlee, Newbury, Norwich, Sharon, and  
33 Hartford (White River Junction) are considered part of an existing Regional Center, Mixed Use  
34 Area or Village Settlement and are therefore not identified as separate Interchange Areas land  
35 use areas in this Plan. Lands at interchanges in Bradford, Newbury and Royalton (in part) are  
36 located within Industrial Areas. Lands at interchanges in Thetford and Hartland are in Rural  
37 Areas. The interchanges in Bradford, Newbury, Norwich, Quechee, Randolph, and Royalton, and  
38 Thetford are physically separate from a Regional Center, Town Center or Village Settlement  
39 Regional Growth Area, being in some cases two or three miles away. Because land use policy  
40 this Plan and state planning policy affirm Regional Growth Areas as the principal areas for  
41 service, retail, civic, and institutional uses, it is in the interest of the Region for these areas to  
42 continue to serve these vital functions. Conversely, Interchange Area development, with its

1 different focus, should not be promoted to the detriment of Regional Growth Areas or the public  
2 investments made therein.

3  
4 TRORC respects the right of municipalities to plan for growth in these areas. At the same time,  
5 ~~the Regional Commission~~ TRORC believes that given the considerable public investment in the  
6 interstate highway system and Regional Growth Areas, and the significant public exposure to  
7 such areas, these interchanges also need to be evaluated from a regional perspective. Land  
8 around interchanges and along highways leading to them are powerful magnets for non-  
9 residential uses, this often competes with and erodes Regional Growth Areas; the proximity of  
10 large parking lots adjacent to high-volume highways is an attractive force to consumers and  
11 businesses.

## 12 **Interchange Area Policies – General**

13 The following policies apply to all designated Interchange Areas:

- 14 1. Land use activities and public or quasi-public investments planned for Interchange Areas  
15 that have the effect of eroding the socioeconomic vitality of downtowns are incompatible  
16 with this Plan. ~~High priority should be given to public investments benefiting~~  
17 ~~infrastructure, housing, and transportation facilities within Designated Downtowns,~~  
18 ~~Designated Village Centers, Designated Growth Centers, and other Regional Growth~~  
19 ~~Areas.~~
- 20 2. Land uses planned for Interchange Areas ~~should~~ must be of a type, scale, and design that  
21 complement rather than compete with uses that exist in ~~Designated Downtowns,~~  
22 ~~Designated Village Centers, Designated Growth Centers, and other Regional Growth~~  
23 ~~Areas~~ Regional Growth Areas. Unless otherwise noted in the following Interchange  
24 Specific Policies, appropriate uses include residential, highway-oriented lodging and  
25 service facilities, trucking terminals, light industrial, offices, truck-dependent  
26 manufacturing, and park-and-ride commuter lots. No use should impose a burden on the  
27 financial capacity of a town or the state to accommodate the growth caused by the  
28 project.
- 29 3. Development planned for Interchange Areas ~~development~~ must be constructed to:
  - 30 i. Complement the design principles and standards reflected in this Plan;
  - 31 ii. Promote the most appropriate land uses as determined through a locally sponsored  
32 planning process involving affected landowners, municipalities, and ~~the Regional~~  
33 ~~Commission~~ TRORC;
  - 34 iii. Minimize visual impacts from roadways through screening and landscaping and  
35 maintain a high standard of scenic amenities for visually sensitive areas with due  
36 regard to impacts on neighboring land uses and highway users; and
  - 37 iv. ~~Discourage creation or establishment of uses deemed more appropriate to~~  
38 ~~Regional Growth Areas; and~~
  - 39 v. Encourage planned unit developments.
- 40 4. Master plans for each Interchange Area should be completed. Support the development of  
41 ~~Master Plans for each of the Interchange Areas.~~ Such Plans should be conducted locally

1 as part of each local planning commission’s ongoing planning program in cooperation  
2 with landowners, ~~the Regional Commission~~ TRORC, and other affected parties. Work  
3 should focus on creating an integrated site plan and design plan that serves as a means of  
4 addressing the potential conflicts or problems noted above. Elements that the Plan should  
5 include are:

- 6 i. Access management controls;
- 7 ii. Pedestrian amenities;
- 8 iii. Transit access;
- 9 iv. Parking;
- 10 v. Energy efficiency;
- 11 vi. Utilities/public services;
- 12 vii. Outdoor lighting standards;
- 13 viii. Landscaping and screening;
- 14 ix. Signage; and
- 15 x. Open space conservation.

16 5. Master Plans ~~should~~ must serve as the foundation for the identification of the highest and  
17 best use of these areas and should provide a framework for future development.  
18 Incremental and uncoordinated development inconsistent with Master Plans for each of  
19 the Interchange Areas is discouraged.

20 6. Development concepts that ~~should~~ must be utilized for Interchange Areas include:

- 21 i. A circulation system that is conducive to pedestrian, bicycle, and other non-  
22 vehicular travel modes;
- 23 ii. A density or lot coverage area that is higher than surrounding rural settlement  
24 areas;
- 25 iii. Use of planned unit development concepts, such as compact development that is  
26 offset by open space;
- 27 iv. A design that incorporates public spaces and promotes social interactions;
- 28 v. A mixture of uses including non-residential and community facilities, and  
29 possibly residential;
- 30 vi. Central focal points or public spaces serving the entire area;
- 31 vii. A pattern and scale of development that complements traditional patterns and uses  
32 in Regional Growth Areas; and
- 33 viii. Provision for park-and-ride commuter parking lots, transit access, and travel  
34 information services.

35 7. ~~Any new development at or near Interchange Areas should promote a nodal development~~  
36 ~~pattern where buildings are clustered, off street parking screened in the rear of the parcel~~  
37 ~~and inter connected to adjoining parcels where practical.~~

- 1 8. Municipalities with Interchange Areas are encouraged to promote creation and adoption  
2 of an Official Map, per 24 VSA §4421, to provide a legal means of creating an  
3 interconnected network of streets, walkways, and other public facilities or amenities on  
4 land designated as interchange development areas. Concepts employed in Master Plans  
5 and the Official Map should employ traditional streetscape patterns and designs deemed  
6 compatible with existing Regional Growth Areas.
- 7 9. Principal retail establishments must be located in Regional Growth Areas to minimize the  
8 blighting effects of sprawl and strip development along major highways, to protect the  
9 vitality of our villages and downtowns, and to maintain rural character.

10

### 11 **Interchange Area Policies — Specific**

12 ~~The Regional Commission recognizes that the~~ The characteristics of each of the ~~thirteen~~ three  
13 Interchange Areas designated in this Plan are not identical. While all of the Interchange Areas  
14 serve as transfer points between the interstate (limited-access roads) and state highways  
15 (connectors to villages and outlying countryside), the physical and economic landscapes for  
16 these areas is different. Some areas are largely undeveloped open spaces without public  
17 infrastructure, especially sewer or water. Other areas are situated at or near prominent vistas or  
18 scenic areas and are visually sensitive to certain types of development. Yet other interchanges  
19 are experiencing new commercial or industrial development on what is or was farmland. Some  
20 interchanges are relatively flat and have greater potential to accommodate appropriate  
21 development ~~compared to~~ than others that are steep or have other physical development  
22 constraints such as aquifers and wetlands. Lastly, local community planning desires and attitudes  
23 suggest that not all land use goals and policies should be universally applied.

24

25 It is the finding of TRORC that in order for this Plan to address each Interchange Area  
26 specifically, supplemental ~~goals and~~ policies have been developed for each of these interstate  
27 interchanges ~~except for those in Bradford, Fairlee, Hartford (Wilder), Hartford (White River~~  
28 ~~Junction), and Sharon because they are part of existing Regional Growth Areas; and Hartland~~  
29 ~~and Thetford since they are most appropriate in Rural Areas. Village Settlements with few~~  
30 ~~opportunities for significant development. The policies in each Interchange Area section below~~  
31 ~~apply specifically to that interchange indicated.~~

### 32 **~~Bradford Interchange (I-91, Exit 16)~~**

33 ~~Exit 16 on Interstate 91 accesses Route 25. Route 25 runs in an east/west direction commencing~~  
34 ~~in Topsham at the junction of Route 302 and extending to Bradford and the Connecticut River.~~  
35 ~~Route 25 serves as a major connector road across east central Vermont to New Hampshire. This~~  
36 ~~two-lane road supports mainly local and regional traffic in Washington and Orange Counties.~~  
37 ~~Bradford serves as an economic hub for the area. The primary access points for services and~~  
38 ~~shopping are via Routes 5 and 25.~~

39

40 ~~The area adjacent to the interchange consists of a mixture of land uses. Topography, soil~~  
41 ~~conditions, and market forces have heavily influenced land uses. Low lying areas adjacent to the~~  
42 ~~Waits and Connecticut Rivers are subject to flooding. This has prevented structural development~~

1 from occurring there. Much of the Area The Appleton dairy farm continues to operate here, and  
2 the Carson farm was purchased by the Upper Valley Land Trust consists of primary agricultural  
3 soils and still is in agricultural use. A portion of land on the northwest quadrant adjacent to  
4 Route 25 near the interchange serves as a public water source for Bradford Village and  
5 immediate area. Hydro-geological studies commissioned by the Bradford Water Commission  
6 have identified source protection areas near the interchange. Three management zones have  
7 been mapped with recommended land uses suggested to secure protection of this water supply.  
8

9 Following the construction of the interchange in the early 1970s, land uses have changed. Some  
10 Agricultural and residential uses have been slowly transformed into commercial and industrial  
11 uses. This included development of the Pierson Industrial Park, the former Upper Valley Press  
12 building (now the Bradford Community Center), an auto parts retail store, a pharmacy, a  
13 supermarket, a gas station/restaurant, and rental storage buildings. Land on the Lower Plain, east  
14 of Route 5 and south of the Village, was donated to the town by the Carson family for the  
15 Bradford Fire Station.

16 Presently public sewer is not available to the Lower Plain. For several years, the Town,  
17 landowners, and Bradford Community Development Corporation have considered extending the  
18 sewer system to this area of town. Members of the community have argued that extending sewer  
19 services to the Lower Plain could provide an opportunity to intensely develop the area and to  
20 give Bradford needed space for community services and industry. Local discussions on  
21 extending sewer service continue.  
22

23 The land located in the immediate area of the interchange should be left in an undeveloped state.  
24 Development should be directed to the east, in and around the intersection of Routes 5 and 25,  
25 taking opportunities to make use of the available land that is located between and behind the  
26 existing development, creating a compact core that allows other lands to remain open.  
27

### 28 **Hartland Interchange (I-91, Exit 9)**

29 Exit 9 on Interstate 91 provides access to U.S. Route 5 and contains four quadrants of open land  
30 that is relatively free of natural constraints. There is no public sewer or water available at this  
31 interchange. Land conservation has taken place, or is planned, in three of the four quadrants. A  
32 Vermont Community Development Program grant was awarded to the Town of Hartland in  
33 November of 2000 to develop a master plan for the interchange following the denial of an Act  
34 250 permit for a convenience store and gas station in the northeast quadrant. In 2001, the Upper  
35 Valley Land Trust purchased 29 acres of land in the southeast quadrant and sold it back to the  
36 town for a dollar. There is an official VTrans commuter parking lot located along U.S. Route 5  
37 in this quadrant and a wetland that begins east of it, running south toward the town line and  
38 meeting a brook halfway there as they drain into the Connecticut River. A significant amount of  
39 land at and around the interchange has been permanently conserved, but portions of the  
40 interchange remain developable. There is developable land located south of the conserved  
41 property, along the northbound lanes, that could be accessed by Route 5; the land is located in  
42 the towns of Hartland and Windsor.  
43

44 The Upper Valley Land Trust has received funding to purchase the development and excavation  
45 rights of a seventy six acre parcel of land in the southwest quadrant that borders on Route 5 and

1 Rice Road. Further south in this quadrant, straddling the Hartland/Windsor town line, 285 acres  
2 of highly visible, forested hillside will be conserved with funding received from the National  
3 Scenic Byways Program. The grant was submitted to conserve this area along the Connecticut  
4 River National Scenic Byway. This parcel is significant because of its scenic attributes and the  
5 habitats that are present along the Bashan Brook and aided by the wildlife culvert that provides  
6 passage under the interstate.

7  
8 The northwest quadrant contains open, developable land along Route 5. The rest of the quadrant  
9 contains a few areas of slope of twenty percent or greater, and the Lulls Brook converges with  
10 another brook and flows under Interstate 91, toward the Connecticut River.

11  
12 The town of Hartland is not a regional economic center. Limitations include a lack of municipal  
13 utilities and the town's desire to maintain a rural character. In many ways, Hartland will continue  
14 to function as a bedroom community to the Upper Valley. This Interchange Area has not been  
15 identified for significant development, although small scale development that is consistent with  
16 the area may occur. large capital intensive businesses. Such land use activities would be  
17 inconsistent with this Plan and the Hartland Town Plan. There are other nearby areas that could  
18 provide space for small and moderately sized businesses, including Hartland Four Corners,  
19 Hartland Three Corners, and North Hartland.

20  
21 According to the Hartland Town Plan's Future Land Use map, the northeast quadrant has been  
22 designated for commercial development while the other three quadrants are classified as rural.  
23 As stated in the Town Plan, "Much of the land surrounding the interchange remains undeveloped  
24 pasture that serves as an important scenic resource, providing visual contrast to the highways.  
25 This variety is one important component of the rural business area character that sets it apart  
26 from, and makes it more visually interesting and pleasant than, the commercial strip  
27 development that exists at many other interchanges." TRORC concurs.

28  
29 The interchange is one mile from the existing Hartland Three Corners commercial district. In  
30 accordance with Vermont's so called "Downtown Initiative", town officials should encourage  
31 businesses to locate in existing business or village centers. To accomplish this, strip type  
32 development should be discouraged within and outside these areas." Efforts to conserve land in  
33 the three quadrants designated as rural by the Hartland Town Plan should be continued.  
34 Commercial development in the northeast quadrant should be compact, sited and designed to  
35 retain the scenic nature of the landscape. Retail Principal retail development, gas stations, fast  
36 food restaurants, motels, and other full scale highway oriented services are inconsistent with the  
37 goals and policies of the Regional Plan for this Interchange Area due to the close proximity of  
38 the Hartland Three Corners village settlement area and its traveler oriented services.  
39 Development should not contribute to strip type development that by its nature attracts similar  
40 businesses (this includes but is not limited to factory outlets, large grocery stores, shopping  
41 malls, convenience stores, large chain retail stores, and fast food establishments).

### 42 43 Hartland Interchange Policies

- 44  
45 1. The Conservation of land in the three quadrants designated as rural by the Hartland Town  
46 Plan should be continued.

- 1        2. ~~The types of land development appropriate for this interchange include offices, light~~  
2        ~~industrial, residential, and other similar uses that are not intended to draw on regional~~  
3        ~~populations.~~
- 4        3. ~~Principal retail establishments must be located in Regional Growth Areas to minimize the~~  
5        ~~blighting effects of sprawl and strip development along major highways, to protect the~~  
6        ~~vitality of our villages and downtowns, and to maintain rural character.~~

### 8        **Norwich Interchange (I-91, Exit 13)**

9        ~~Exit 13 off Interstate 91 provides access to Main Street and U.S. Route 5 in Norwich and Route~~  
10       ~~10 in Hanover, New Hampshire. There is no municipal sewer available at this interchange,~~  
11       ~~although the Hanover, New Hampshire sewer system is located across the river; municipal water~~  
12       ~~is available at the interchange. Three zoning districts are present at the interchange: Village~~  
13       ~~Residential, Rural Residential, and Commercial/Industrial.~~

14       ~~The Connecticut River (state border), Ledyard Bridge, and the area known as Lewiston are~~  
15       ~~located east of the interstate. The northeast quadrant contains residential development, slopes~~  
16       ~~twenty percent or greater, an active rail line, and the historically industrial area of Lewiston. The~~  
17       ~~southeast quadrant contains a wetland, surface water, an electrical substation, transmission lines,~~  
18       ~~slopes of twenty percent or greater, rail, and The Montshire Museum, Vermont's Museum of~~  
19       ~~Science.~~

20       ~~The northwest quadrant contains conserved land, slopes of twenty percent or greater, and~~  
21       ~~residential and public uses. Four smaller brooks drain into the Bragg Brook and head toward the~~  
22       ~~Connecticut River throughout the southwest quadrant. Land to the west of U.S. Route 5 has~~  
23       ~~been conserved, but there are still areas of unconstrained land located west of Route 5, stretching~~  
24       ~~east to the southbound lanes of the Interstate. A housing development of five units has been~~  
25       ~~permitted for construction in this quadrant but possible conservation of the land is presently~~  
26       ~~being considered.~~

### 27       **Quechee (Hartford) Interchange (I-89, Exit 1)**

28       Exit 1 of Interstate 89 accesses U.S. Route 4 and connects travelers and commerce west to  
29       Woodstock, Killington, Rutland, and beyond, and east to White River Junction and Interstate 91.  
30       Route 4 is one of the few east/west highways spanning the narrower width of the state and  
31       therefore carries steady volumes of traffic. This interchange is located ~~a mile and a half~~ 1.5  
32       miles from municipal sewer and water service; the residential wastewater system located to the  
33       west in Quechee is a shared leachfield system. The on- and off-ramps for the northbound and  
34       southbound lanes are located ~~a half mile~~ 0.5 miles apart. There are two different scenarios  
35       present at either end, with the northbound interchange leaving few opportunities for development  
36       due to the close proximity of 30-percent slopes and the interstate.

37  
38       The southbound interchange is a sprawling commercial area with access roads intersecting the  
39       on- and off-ramps. ~~There is a proposal to develop a portion of the 135 acre parcel behind the~~  
40       ~~commercial enterprises on the west side of Route 4. This land is zoned as Quechee Interstate~~

1 ~~Interchange (QII) and Rural Lands 5 (RL5) in the Town of Hartford’s zoning regulation.~~  
2 ~~Development around the southbound interchange must be planned based around access points~~  
3 ~~that do not degrade the functionality of U.S. Route 4 or the I-89 on- and off-ramps. Stagecoach~~  
4 ~~Road intersects the southbound ramps a tenth of a mile from the intersection with U.S. Route 4;~~  
5 ~~it provides access to the open and undeveloped land west of the interstate. Intensive~~  
6 ~~development that increases traffic volumes must not be permitted on the open lands accessed by~~  
7 ~~Stagecoach Road; it would degrade the operation and safety of the Interstate and U.S. Route 4.~~

8  
9 White River Junction—the Regional Center, a Vermont Designated Downtown, and a  
10 Designated Growth Center—is located 3.5 miles to the east. Development at this interchange  
11 should be of a type that does not displace the development and investment that has occurred in  
12 the Regional Center or in Quechee Village. In order to mitigate against the impacts of strip  
13 development and sprawl, and to ensure the vitality of Hartford’s Regional Center, Town Center,  
14 Village Center, and Hamlet Area, this interchange is not an appropriate location for a growth  
15 center-principal retail establishments.

### 16 17 **Quechee Interchange Policies**

- 18
- 19 1. Intensive development that increases traffic volumes must not be permitted on the open  
20 lands accessed by Stagecoach Road; it would degrade the operation and safety of the  
21 interstate 89 and U.S. Route 4.
  - 22 2. Development around the southbound interchange must be planned based around access  
23 points that do not degrade the functionality of U.S. Route 4 or the I-89 on- and off-ramps.
  - 24 3. The types of land development appropriate for this interchange include offices, light  
25 industrial, residential, appropriately scaled traveler-oriented uses, and other similar uses  
26 that are not intended to draw on regional populations.
  - 27 4. Principal retail establishments must be located in Regional Growth Areas to minimize the  
28 blighting effects of sprawl and strip development along major highways, to protect the  
29 vitality of our villages and downtowns, and to maintain rural character.

### 30 31 **Randolph Interchange (I-89, Exit 4)**

32 The Exit 4 interchange on Interstate 89 is located in Randolph, 3 miles from the revitalized  
33 historic downtown and commercial district and 1 mile from historic Randolph Center, home of  
34 Vermont Technical College (VTC). Exit 4 accesses Route 66, a two-lane connector road that  
35 runs in an east/west direction between the Village of Randolph, Randolph Center, East  
36 Randolph, and Route 14. This area is predominately open land, including farmland and  
37 woodland. The interchange area is particularly well-known for panoramic and distant scenic  
38 vistas, particularly the mountain views to the west. There are several structures at the  
39 interchange, including a gas station and convenience store, a fast-food restaurant, professional  
40 offices, an auto service ~~repair~~ garage, a state highway facility, an industrial/office complex, and  
41 several single-family residences.  
42

1 Presently there is no existing municipal water supply provided to the area, although there are  
2 water supply systems on the western edge of the area (Fish Hill) and eastern edge near VTC. An  
3 existing sewer line passes through the area and conveys wastewater from VTC down Route 66 to  
4 the municipal treatment facility. Annual average daily traffic (AADT) on Route 66 is estimated  
5 to increase with or without new development in the area.  
6

7 Since 1998 the Town of Randolph has explored opportunities for development at the Exit 4  
8 Interchange. The Randolph Town Plan reflects many of these efforts, dividing the Interchange  
9 Area into four quadrants and incorporating design and use standards for each quadrant into its  
10 land use regulations. In 1998, the Town of Randolph received a planning grant from the State of  
11 Vermont to explore opportunities for development at the Exit 4 Interchange. A final conceptual  
12 master plan entitled *Exit 4 Engineering and Development Analysis* was prepared by Dubois and  
13 King, Inc. and the Cavendish Partnership in January 1999. Future land use scenarios were  
14 developed for each quadrant of the interchange area. The details of this assessment are outlined  
15 in the report. Key components include the following:

- 16 1. Provide space for the development of business parks with design guidelines to protect  
17 scenic values;
- 18 2. Provide open space for the conservation of wetlands, streams, steep slopes, other natural  
19 resources, and visual quality;
- 20 3. Limit or deny new curb cuts to maintain the carrying capacity of Route 66;
- 21 4. Provide space and opportunities for transitional/senior housing;
- 22 5. Provide for an improved park-and-ride commuter lot/Welcome Center; and
- 23 6. Consider land for an agricultural/cultural museum perhaps to be affiliated with other  
24 uses.

25 ~~Four years later, the Exit 4 Advisory Committee again studied development scenarios at the~~  
26 ~~interchange, this time using 3-D visualization software, and the conclusions reinforced the 1999~~  
27 ~~findings concerning the important views at each of the four quadrants of the interchange.~~  
28

29 ~~Other key findings were included in the report. More comprehensive design review standards to~~  
30 ~~be included under the Randolph Zoning Regulations were recommended. Prior to proceeding~~  
31 ~~with any major development, the report recommended that design standards first be in place to~~  
32 ~~evaluate development proposals. Selected or preferred development areas were noted during the~~  
33 ~~planning process and mapped. Exclusion or avoidance areas were determined to be sensitive due~~  
34 ~~to distinct area of environmental limitations or high visual resource values. Further, the~~  
35 ~~extensive study conducted by the community over the past 18 years determined that retail~~  
36 ~~development at the interchange was concluded as unsuitable for a combination of reasons,~~  
37 ~~including traffic impacts on Route 66, visual sensitivity, and conflicts with downtown~~  
38 ~~businesses. Moreover, standalone retail development at any scale or size was found to be~~  
39 ~~incompatible with the community's values. However, there was one exception. Accessory uses~~  
40 ~~of a retail nature for the business park, the agricultural museum, or similar planned uses were~~  
41 ~~found acceptable.~~  
42

1 In 2000 the Vermont Agency of Transportation (VTTrans) commenced a planning study to  
2 develop long term solutions to a park and ride facility at the interchange area. The need for a  
3 new or upgraded park and ride lot has been documented. Local meetings have been held in  
4 Randolph to gauge support. As a result of the meetings, an expansion and redesign of the  
5 existing site, in the northeast quadrant of the interchange, was preferred. The Vermont Agency  
6 of Transportation has obtained all permits and anticipates construction in 2007.

7  
8 This Plan supports and endorses the efforts of the community to undertake further refinement of  
9 the planning concepts referenced in the Exit 4 planning reports. These include plans for a new  
10 park and ride facility, the possible creation of an adjunct agricultural museum, and  
11 office/industrial parks. Additionally, this Plan discourages large scale retail development of the  
12 interchange including shopping centers, malls, auto dealerships, and big box stores.  
13 Small scale retail uses subordinate to primary uses and non traditional to downtown Randolph or  
14 other designated areas may be acceptable uses subject to in depth review and evaluation. The  
15 reuse of the former DuBois & King offices by the Vermont Resources Center and Incubator  
16 illustrates the goals of this Plan.

17  
18 Any project planned for the interchange should employ high design and construction standards  
19 and not unduly impair the scenic resources of the area. New development should be sited in areas  
20 that are not highly scenic, visible, or environmentally sensitive. The Randolph Planning  
21 Commission is currently preparing amendments to the town's zoning regulations, including  
22 design review standards and a density overlay, to protect scenic and natural resources. Future  
23 development at the interchange that requires improvements to Route 66, including traffic signals  
24 and turning lanes, needs to be carefully evaluated. These should only be authorized where it is  
25 determined such a public investment will not unreasonably endanger or interfere with the  
26 function, efficiency, safety, or use of this route. New development should coordinate with  
27 existing development on shared access or retrofit access point locations to improve safety.

### 28 29 **Randolph Interchange Policies**

- 30
- 31 1. The development of large-scale retail development of the at the Randolph interchange—  
32 including shopping centers, malls, auto dealerships, and big-box stores—is inconsistent  
33 with this Plan.
  - 34 2. Small-scale retail uses secondary or subordinate to primary uses and non-traditional to  
35 downtown Randolph or its village areas may be acceptable uses subject to in-depth  
36 review and evaluation by the community.
  - 37 3. Any project planned for the interchange should must employ high design and  
38 construction standards that will ensure that development does and not unduly impair the  
39 scenic resources of the area.
  - 40 4. New development should be sited in areas that are not highly scenic, visible, or  
41 environmentally sensitive.
  - 42 5. Future development at the interchange that requires improvements to Route 66, including  
43 traffic signals, and turning lanes, or roundabouts, needs to must be carefully evaluated.  
44 These should only be authorized where it is determined such a public privately funded

1 investment will not unreasonably endanger or interfere with the function, efficiency,  
2 safety, or use of this route.

3 6. New development ~~should~~ must coordinate with existing development on shared access or  
4 retrofit access point locations to improve safety.

5 7. The types of land development appropriate for this interchange include offices, light  
6 industrial, residential, appropriately scaled traveler-oriented uses, and other similar uses  
7 that are not intended to draw on regional populations.

8 8. Principal retail establishments must be located in Regional Growth Areas to minimize the  
9 blighting effects of sprawl and strip development along major highways, to protect the  
10 vitality of our villages and downtowns, and to maintain rural character.

### 12 **Royalton Interchange (I-89, Exit 3)**

13 Exit 3 on Interstate 89 in Royalton accesses Route 107, which runs in an east/west direction,  
14 connecting to Bethel and Stockbridge and Routes 100 and 14. Route 107 is classified as a minor  
15 arterial road. It is a heavily traveled road and forms part of a major transportation corridor  
16 between I-89 and Rutland and points west. Forecasts reveal that traffic volume will continue to  
17 grow over the next 20 years.

18  
19 Following the completion of I-89 35 years ago, several parcels of land near the interchange area  
20 have been developed. Primarily these changes in land use have been from rural residential and  
21 agricultural uses to industrial or commercial uses, but still much of the area remains  
22 undeveloped, consisting of farm and forestland. Several areas contribute to highly scenic vistas,  
23 particularly from I-89 and Route 107. Due to its prominent location, ~~pressures for it is likely that~~  
24 new development at Exit 3 will continue. Solid transportation planning, coupled with sound land  
25 use planning principles, can minimize land use and traffic conflicts that have plagued many other  
26 Interchange Areas.

27  
28 In 1999, the Town of Royalton conducted an extensive planning project in which the was  
29 awarded a grant from the State of Vermont to develop a community vision and policy for the  
30 future growth of this area. The Royalton Planning Commission's goal was not to prohibit  
31 growth in the area, but to be more specific about how change should be directed. Informational  
32 meetings were held to update the public on the study and to get ideas on what the Regional  
33 Commission should focus on for future planning in this area. Following this, the Royalton  
34 Planning Commission found the following values to be important to the area:

- 35 1. Provide space for future business growth, but only when it doesn't detract from  
36 Royalton's two villages;
- 37 2. Promote new development when plans are carefully laid out for safe access onto Routes  
38 14 and 107;
- 39 3. Protect sensitive resource and scenic areas and encourage good design for new projects;  
40 and
- 41 4. Preserve the carrying capacity of Route 107 as a minor arterial road.

1 Given these values and an analysis of development suitability, nine future land use designations  
2 were recommended and depicted on a map. These included areas for industry, service and office  
3 type uses, residences, agriculture, and limited development. Goals and recommendations were  
4 listed to help guide the community on the highest and best uses for each sub-area. TRORC  
5 accepts the findings and conclusions contained in the *Exit 3 Planning and Development Study*  
6 (September 2000), which has since been incorporated into the Royalton Town Plan, as the  
7 planning policies developed by the Town of Royalton for this area and development proposals  
8 should be compatible with this report. Additionally, the potential for sprawling strip development  
9 along Route 107 to the west of the interchange concerns TRORC. Development to the west of  
10 the interchange should be designed to minimize the impacts of strip development or sprawl,  
11 create small nodes, focused around existing development, that are surrounded by open space or  
12 natural areas.

### 13 14 **Royalton Interchange Policies**

- 15
- 16 1. The types of land development appropriate for this interchange include offices, light  
17 industrial, residential, appropriately scaled traveler-oriented uses, and other similar uses  
18 that are not intended to draw on regional populations.
  - 19 2. Principal retail establishments must be located in Regional Growth Areas to minimize the  
20 blighting effects of sprawl and strip development along major highways, to protect the  
21 vitality of our villages and downtowns, and to maintain rural character.
- 22

### 23 **Thetford Interchange (I-91, Exit 14)**

24 Exit 14 on Interstate 91 accesses Route 113, which runs in an east/west direction connecting East  
25 Thetford (Route 5) to Thetford Hill, Thetford Center, and Post Mills, and beyond to West  
26 Fairlee, Vershire, and Chelsea. This Interchange Area is prominently open, with a few residential  
27 structures and no commercial or industrial uses. The nearest concentration of buildings is the  
28 hamlet Hamlet Area of Thetford Hill. This historic settlement has remained largely unchanged  
29 since the opening of I-91 in the late 1960s. Thetford Hill has been identified as a Village  
30 Residential Area in the Thetford Town Plan. The purpose of the area is to encourage the  
31 development of residential centers and to serve as a nucleus for future growth of the town. The  
32 Village Residential Area extends easterly from the village center to an undeveloped area near the  
33 interchange. A portion of Thetford Hill has been selected to be included in a Preservation  
34 Overlay District under the Town Zoning Regulations. All other land within the Interchange Area  
35 is classified as Rural Residential according to the Thetford Town Plan. The purpose of this Rural  
36 Residential area is “to maintain a low density rural character primarily ... of farms, residences  
37 and woodlands.” This designation includes certain non-residential uses, provided that the uses  
38 are relatively small and fit the nature of the terrain and character of the setting.

39  
40 The Town of Thetford is not a major regional economic center. Limitations include a lack of  
41 municipal services, limited land suitable for industrial and commercial locations, and the town’s  
42 rural character. Even with increased industrial development, Thetford will continue to function  
43 primarily as a bedroom community to the Upper Valley. Historically, the town’s residents have

1 ~~been against major development at the intersection of Interstate 91 and Vermont Route 113. This~~  
2 ~~Interchange Area has not been identified for large capital intensive businesses. Such land use~~  
3 ~~activities would be inconsistent with this Plan and the Thetford Town Plan. There are other areas~~  
4 ~~that could provide space for small and moderately sized businesses, including East Thetford,~~  
5 ~~Post Mills, and Thetford Center. Historically, the town's residents have been against major~~  
6 ~~development at the intersection of Interstate 91 and Vermont Route 113. Retail development,~~  
7 ~~gas stations, fast food restaurants, motels, and other full scale highway oriented services are~~  
8 ~~inconsistent with the goals and policies of the Regional Plan for this Area. Small office parks~~  
9 ~~and research facilities are permissible land use activities, subject to meeting appropriate design~~  
10 ~~guidelines set forth in this Plan.~~

11  
12 ~~This Plan strongly recommends that the Town of Thetford develop a Master Plan for this~~  
13 ~~interchange; land use decisions need to make efficient use of public infrastructure investments,~~  
14 ~~including roads, sewer, and water systems. This planning effort should be locally directed and~~  
15 ~~comprehensive enough to ensure that the goals and policies set forth in this section are~~  
16 ~~thoroughly addressed. By doing this This would make evaluating the benefits and costs~~  
17 ~~associated with major land developments would be more readily assured and predictable.~~

### 18 **Thetford Interchange Policies**

- 19
- 20
  - 21 1. ~~Large scale commercial businesses at the Thetford Interchange are inconsistent with this~~  
22 ~~Plan.~~
  - 23 2. ~~Small office parks and research facilities are permissible land use activities, subject to~~  
24 ~~meeting appropriate design guidelines set forth in this Plan.~~
  - 25 3. ~~Principal retail establishments must be located in Regional Growth Areas to minimize the~~  
26 ~~blighting effects of sprawl and strip development along major highways, to protect the~~  
27 ~~vitality of our villages and downtowns, and to maintain rural character.~~

### 28

### 29

### 30 **Wells River (Newbury) Interchange (I-91, Exit 17)**

31 ~~Exit 17 (Boltonville) on Interstate 91 accesses Route 302 which runs in a east/west direction~~  
32 ~~commencing in Barre and extending to Wells River and beyond into the White Mountain Region~~  
33 ~~of New Hampshire and the Lakes Region of Maine. Route 302 is a state designated truck route;~~  
34 ~~it is capable of handling larger trucks without state issued truck permits. The Exit 17 interchange~~  
35 ~~is a well recognized stop for truckers and tourists at the P & H Truck Stop which is open twenty-~~  
36 ~~four hours a day. Current traffic volumes on Route 302 are generally low and free of traffic~~  
37 ~~congestion. Projections undertaken by the Regional Commission in 1999 show that traffic levels~~  
38 ~~are projected to increase over the next twenty years. However, traffic congestion and the service~~  
39 ~~capacity of the road and intersections should still be within acceptable ranges. What is unknown~~  
40 ~~at this point is the potential impact that large scale commercial development in Woodsville, NH~~  
41 ~~will have on traffic patterns.~~

1 ~~The area around the interchange is predominantly undeveloped consisting of a mixture of open~~  
2 ~~and forestland. There are a few commercial uses along Route 302 mainly extending easterly~~  
3 ~~from the interchange toward Wells River, including a restaurant and other service uses.~~  
4 ~~Northeasterly of the interchange is a fully developed industrial park. Recent changes to the~~  
5 ~~Newbury Town Plan identify a portion of the interchange area as appropriate for mixed use~~  
6 ~~development, excluding principal retail. Uses at this site are at a relatively low density and are~~  
7 ~~not highly visible from either Route 302 or I 91. Blue Mountain High Union School is located~~  
8 ~~near the interchange with a direct access onto Route 302.~~

9  
10 ~~Along the three mile length of the Route 302 corridor extending from Wells River Village, land~~  
11 ~~suitable for intense development is very limited due to topography, proximity to water resources,~~  
12 ~~presence of protected natural areas, access limitations, and poor soils. Opportunities for more~~  
13 ~~concentrated development within the Route 302 corridor becomes more prevalent in the area of~~  
14 ~~Wallace Hill Road and Leighton Hill Road where the land is relatively level with open~~  
15 ~~topography and better soils.~~

16  
17 ~~There are several scenic vistas available to travelers on I 91 and Route 302 at or near the~~  
18 ~~interchange area. Scenic resources include fields, farmsteads, forestland, historic buildings, and~~  
19 ~~streams. It is the policy of this Plan that future land development at the interchange be carefully~~  
20 ~~planned and designed to protect and enhance these valuable resources. Development that~~  
21 ~~detracts from the valued landscape or creates unsafe road conditions conflicts with this Plan's~~  
22 ~~land use goals.~~

23  
24 ~~All uses at the interchange are dependent on onsite sewer and water supply. There are no plans~~  
25 ~~to provide public water or sewer services to the interchange area by the Village or Town; the~~  
26 ~~costs reported in a 1990 financial study were deemed infeasible by the Village Trustees. Future~~  
27 ~~development of the area will be limited by the capacity of the land to provide onsite wastewater~~  
28 ~~disposal and water systems. Uses that require large onsite disposal capacity will have difficulties~~  
29 ~~obtaining wastewater disposal permits, this development is unlikely to be concentrated or dense.~~

30  
31 ~~Future land development should be designed and planned to fit the context, the site and the~~  
32 ~~surrounding area. Projects that are incompatible with the surrounding area are discouraged and~~  
33 ~~need to be redesigned so that they are not significant visual intrusions to travelers along I 91,~~  
34 ~~Route 302, and town roads in the vicinity. To ensure that individual development proposals fit~~  
35 ~~with the planning policies of this section, use of an expanded local site plan review process,~~  
36 ~~including specific design criteria, is encouraged. State grant funds may be available to help the~~  
37 ~~Town evaluate these options.~~

### 38 39 **Newbury Interchange Policies**

- 40
- 41 1. The types of land development appropriate for the Newbury interchange include offices,  
42 light industrial, residential, appropriately scaled traveler oriented uses, and other similar  
43 uses that are not intended to draw on regional populations.
  - 44 2. Principal retail establishments must be located in Regional Growth Areas to minimize the  
45 blighting effects of sprawl and strip development along major highways, to protect the  
46 vitality of our villages and downtowns, and maintain rural character.

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**White River Junction (Hartford) Interchanges (I-91, Exits 10 and 11)**

Exit 10 is the intersection of two interstate highways, I 89 and I 91. Since Exit 10 is located immediately to the south of Exit 11, these two exits will be discussed in conjunction with one another. These interchanges are both served by public sewer and water, are located in the heart of the Regional Center, and possess the most intensive development around interstate exits in the region. There are proposals to develop two parcels of open land in the immediate interchange area. The land in southeast quadrant of Exit 10 is dominated by slopes that are twenty and thirty percent or steeper but there is open land along the northbound lane of I 91 that is bordered on the south by the Kilburn Brook. This land could be accessed from the Connecticut River Road but slope and residential development separate the land from the access. Much of the land south of the Kilburn Brook is constrained by its designation as a Deer Wintering Area by the Vermont Agency of Natural Resources.

The undeveloped land in the southwest quadrant of Exit 10 is largely wooded with some twenty percent slopes present. North Hartland Road and Milisi Road could provide access to these wooded areas that are located along the southbound lane of I 91. The open land along the southbound lane of I 89 in this quadrant is constrained by surface water and wetlands located along the North Hartland Road but east of those natural constraints there is a proposal to build an aquatic fitness center. This parcel is zoned Industrial/Commercial (IC). South of Milisi Road there are four brooks that merge into one and drain under the interstate and into the Connecticut River.

The northern two quadrants of Exit 10 are also the southern two quadrants of Exit 11. Both quadrants are nearly fully developed with the exception of some wooded land in the eastern quadrant along I 89 and some open land that is also along I 89 on the east side of North Hartland Road.

The northern two quadrants of Exit 11 are either fully developed with the Veteran’s Administration Hospital, residential development and commercial enterprises, or are constrained by slopes of twenty percent or more.

**[CNT AREA LANGUAGE IS MOVING TO CONSERVATION AREA SECTION]**

## LAND USE



*West Fairlee* | © John Knox

### A. Background Issues

For almost two decades the TRO Region has been in a post-growth period following a time of rapid economic growth and profound changes to its landscape, spanning 30 years (1970-2000). During that time planning focused on mitigating the impacts of growth. While managing the impacts of uncontrolled growth remains an important part of the TRORC Regional Plan, the key issues that must be considered when planning for the Region's future have changed.

As the Region looks to the future, it will need to adapt land use policy to the changing business environment by supporting existing businesses, encouraging entrepreneurial development, investing in our existing downtowns, improving infrastructure (particularly within our villages and downtowns), and strengthening those things that make Vermont unique (such as the arts, and our forest-related, agricultural, and other value-added products). The impact of broadband, and online sales is changing the way we access

entertainment, commute to work, buy goods, and even receive services. The generation of renewable energy and the coming electrification of our transportation and heat systems will engender new services and facilities.

With all of this change, we still hope to meet one of the fundamental guiding goals of state land use law, which is to further the traditional pattern of development so as to maintain the historic settlement pattern of compact village and urban centers separated by rural countryside. While this model is greatly responsible for sustaining Vermont's rural character, it has its challenges as this pattern was built when Vermont's countryside had an agrarian lifestyle where residents did not travel much and did not have cars and commute. For many, the luxury of having a home in a rural setting is why we choose to live here. But our choice to live in more rural areas means that we must use cars and trucks to get to work, access goods and services, and be part of our communities. When we plan for our future, we will need to consider where we

live and how it does, or does not, support our economy, reduce energy use, encourage a sense of community, and protect our natural resources.

As our Region's population ages, the appeal of owning a house in the country can change. For many, the cost and effort it takes to maintain a larger home or to travel to locations that offer goods and services can be a burden. We must recognize that, as we move forward, planning will need to provide a greater diversity of housing in areas that are affordable, walkable, and vibrant.

Our community cores and roads were built along, and sometimes in, streams, wetlands, and rivers because these are flat areas. This was practical in some ways, but ignored the fact that these are also areas prone to flooding, sometimes with disastrous results. As we have continued to build and create more impervious surfaces, and the climate has shifted to one with more extreme rains, the specter of flooding now must be taken into account as we look at our compact centers and where they can safely grow.

Our forests are an important component of our Region. They represent a significant store of natural resources, are a driver for economic activity, and provide us with a backdrop that is distinctly rural. However, the landscape shift of open lands reverting to forest over the last century has ended, and we are now starting to lose forest again as a state, with 1,500 acres a year being converted to development or open land. We continue to fragment the forest we do have with subdivisions, reducing the natural functions of large, contiguous sections of forested land that are vital to many plant and animal species. In planning for the future, we need to consider the places where we have already impacted forest integrity beyond repair and the places where good forests remain.

These background issues have been considered as part of the development of this Plan. We continue to strive to move planning forward, to adapt to changes in the Region, and to support our communities while remaining consistent with Vermont's land use goals.

## Goals and Policies: Overall Land Use

### Goals

*The land use goals within this section represent the foundation of the planning and development for the Region. These goals are intended to be applied throughout the Region.*

1. Development patterns and their related transportation systems promote public health and reduce energy use and greenhouse gas emissions.
2. Energy-efficient and affordable housing choices are expanded.
3. Land use planning and regulation maintains our quality of life, environment, and economy.
4. Intensive development occurs only where adequate public services and facilities are currently available or planned.
5. The health of residents is improved by investing in clean water, soil, and air, and safe and walkable neighborhoods.
6. The patterns of development in the TRO Region remain consistent and compatible with the goals of V.S.A. Title 24, Chapter 117, §4302.

*Goals and policies continued on next page*

## Goals and Policies: Overall Land Use

### Policies

*The land use policies apply throughout the Region. Subsequent sections on individual types of land use areas have policies specific to each of them.*

1. Any public investment in public and private housing for the elderly, disabled, and low- or moderate-income families shall be directed into Regional Centers, Town Centers, and Village Settlements, or areas within one mile of these along state highways and transit routes, and away from unsettled rural areas where no services exist.
2. Principal retail establishments must be located only in Regional Growth Areas to minimize the blighting effects of sprawl and strip development along major highways, to protect the vitality of our villages and downtowns, and to maintain rural character.
3. Development of federal or state governmental offices distant from and outside Regional Growth Areas contributes to increased traffic, scattered development, and costly public services. Such a pattern of development is incompatible with the goals and policies of this Plan.

## B. Future Land Use Areas

For the purposes of this Plan, six types and four subtypes of Future Land Use Areas have been established and identified. These Areas have characteristics that identify them within the Region. They are designed to accommodate future growth based on the capacity of infrastructure and suitable land without threatening critical resources or creating sprawl. These Areas are:

- Regional Growth Areas
  - Regional Center
  - Town Centers
  - Village Settlements
  - Hamlet Areas
- Industrial Areas
- Mixed-Use Areas
- Interchange Areas
- Rural Areas
- Forest-Based Resource Areas

The Region's Land Use Areas are depicted on Map 4, the Future Land Use Areas map that is included in this Plan. The Regional Center, Town Centers, Village Settlements, Forest-Based Resource Areas, Mixed-Use Areas, Industrial Areas, and Interchange Areas are identified by boundaries. Hamlet Areas are identified by center points; when making land use decisions using the policies in this Plan, Hamlet Areas must include the locally recognized extent of the hamlet as it

is designated in the appropriate town plan. Rural Areas are the remaining lands in the Region.

### Regional Growth Areas

Growth throughout the Region must be balanced with a respect for the traditional patterns of development that make our Region distinct (these patterns are supported by Vermont's planning goals) and the need to adapt to an ever-changing world. To sustain both rural and more developed core areas, major growth or investments must be channeled into existing settlement centers or development immediately adjacent to such centers.

Regional Growth Areas represent areas of concentrated mixed use at varying scales and with differing mixes of uses. These areas are either served by public facilities (such as sewer, water, and public transit) or are potential locations for future infrastructure investments that will encourage growth and vitality. Depending on their scale and location, these areas generally include a diverse mix of services, businesses, and housing opportunities for our citizens.

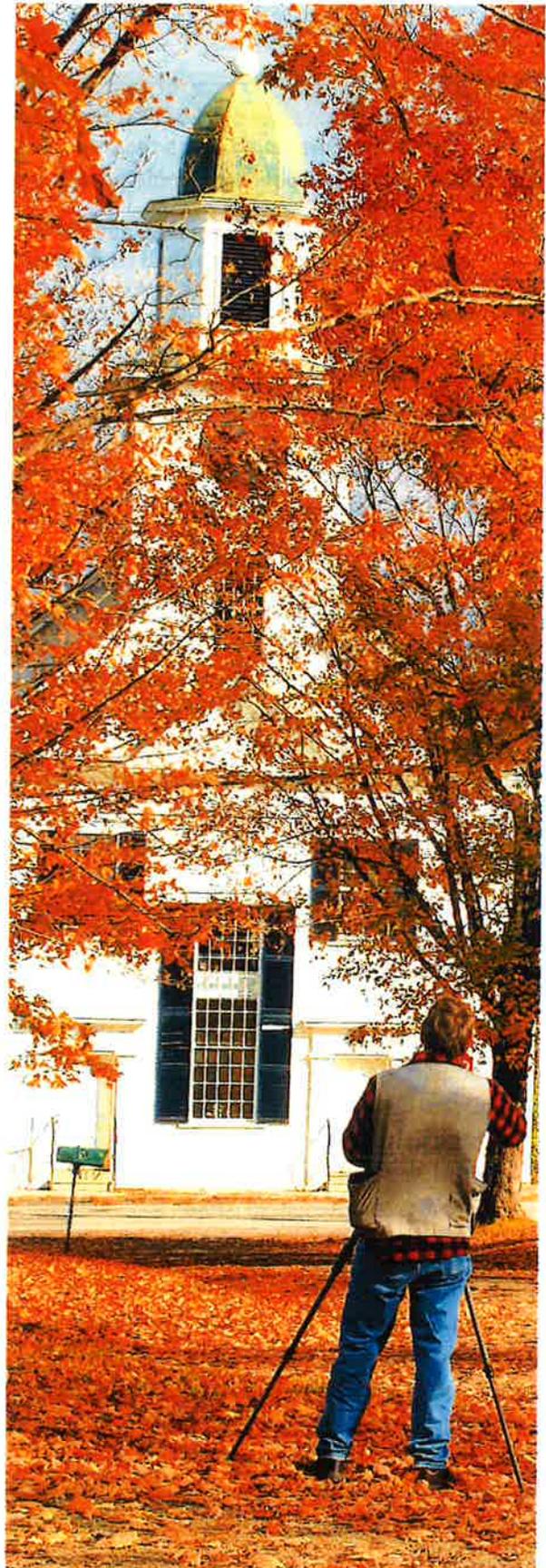
Acknowledging that Regional Growth Areas range from urban to rural, the Regional Plan differentiates these areas into the four subtypes mentioned above and detailed below.

## Growth Centers, Downtown Designation, and Village Center Designation

In 1997, Vermont enacted the Historic Downtown Development Act (24 VSA Chapter 76A) to recognize local efforts to revitalize traditional villages and downtowns.

Under the law, towns may apply to the Vermont Downtown Development Board for designation as a downtown, village center, or growth center. If designated, commercial property owners in downtowns and villages are eligible for state tax credits for rehabilitation of historic structures, facade improvements, and building code improvements; if the tax credits cannot be used by the property owner, they may be sold to banks. In addition to tax credits, designated villages and downtowns receive priority consideration in Vermont's Municipal Planning Grant Program and the federal funding programs guided by Vermont's HUD (U.S. Department of Housing and Urban Development) Consolidated Plan, including the Vermont Community Development Program.

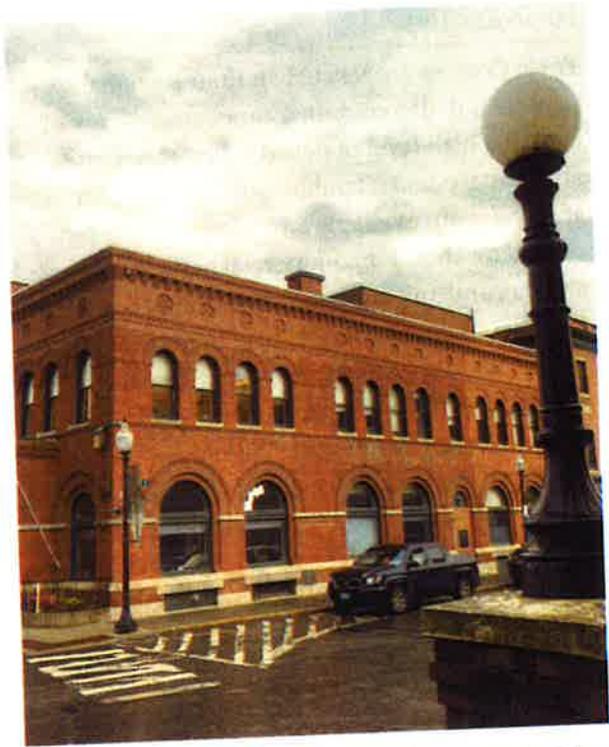
It is the intent of TRORC to preserve and encourage development of the Region's downtowns and village centers; to encourage investment in housing, historic preservation, and transportation (including parking facilities); and to reflect traditional settlement patterns. Furthermore, TRORC believes that dynamic planning programs focused on downtowns and villages will strengthen the vitality of our community centers and protect the rural landscape.



*Theiford* | © John Knox

## Regional Center

Regional Centers are a region's largest urban areas, where development is highly concentrated with a diverse mix of uses. They are areas where public sewer and water utilities exist, transportation infrastructure is capable of handling significant volumes of commuting and commercial traffic, a public transportation system provides options, and there are intermodal opportunities present. In order to achieve the level of density appropriate for a Regional Center, buildings are often multi-story, with mixed uses – particularly in the core of the area. People use Regional Centers for their variety of employment and business opportunities, governmental and judicial functions, hospitals, schools, and cultural and civic activities. White River Junction is the only Regional Center in our Region. Our only State Designated Growth Centers and a Designated Downtowns are included in this land use area.



White River Junction | © Kevin Geiger

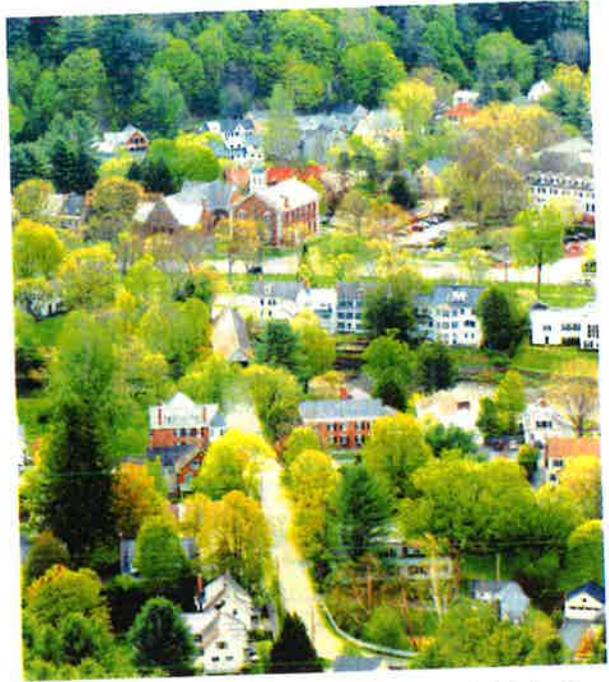
## Policies: Regional Centers

### Policies

1. Regional Centers should support a mixture of single family, two-family, and multi-family housing and should have the highest densities in the Region.
2. Commercial land uses, services, offices, wholesale business, industry, transport facilities, and community facilities and programs that serve regional needs and markets shall be located in Regional Centers.
3. Intense growth in Regional Centers is appropriate when a complete complement of public services such as water, sewer, and highways are available. To accommodate additional development, continued maintenance or expansion of such facilities must occur.
4. Local capital planning programs and public investment strategies must encourage renovation of existing buildings and in-filling within Regional Centers.
5. Retail establishments that provide goods and services to a regional clientele must be located within or immediately adjacent to Regional Centers and Town Centers to ensure that the vitality of these economic centers is maintained.
6. Conversion of larger older homes (particularly those with historic merit) to newer, more economical uses, such as offices and multi-unit housing, is consistent with this Plan. See the Historic Resources section for more information.
7. In areas containing structures and buildings of architectural or engineering significance, new development must be planned to be compatible with existing development and to not unduly impact the general and special character of the area.
8. Major developments like large governmental, medical, and commercial buildings must be located in Regional Centers where utilities, facilities, populations and are concentrated.
9. Highway investments within Regional Centers must include multi-modal transportation, pedestrian circulation, traffic calming, and streetscaping.

## Town Centers

Town Centers are less urban than Regional Centers but also contain a concentrated mix of uses at a high level of density. They are those areas where central public utilities for water and sewer are available and where there exists a central location for commercial activities, schools, and cultural and civic activities for the town and the surrounding communities. In our Region, Designated Downtowns, Designated Villages, and a Designated Growth Centers are included in this land use area. Town Centers are found in Bethel, Bradford, Chelsea, Fairlee, Norwich, Randolph, Rochester, South Royalton, Wells River, Wilder, and Woodstock.



Woodstock Village from Mt. Tom | © John Knox

## Policies: Town Centers

### Policies

1. Town Centers shall support a mixture of single-family, two-family, and multi-family structures at the highest densities possible given existing sewer and water capacity and community character.
2. Commercial uses (including principal retail establishments), services, offices, wholesale business, industry, transport facilities, and community facilities and services are appropriate to locate in these areas.
3. Intense growth is appropriate in Town Centers when a complete complement of public services such as water, sewer, and highways is available. To accommodate additional development, continued maintenance or expansion of such facilities must occur.
4. Local capital planning programs and public investment strategies must encourage renovation of existing buildings and in-filling within Town Centers.
5. Principal retail establishments must be located in Regional Growth Areas to minimize the blighting effects of sprawl and strip development along major highways, to protect the vitality of our villages and downtowns, and to maintain rural character.
6. Conversion of larger older homes (particularly those with historic merit) to newer, more economical uses, such as offices and multi-unit housing, is consistent with this Plan. See the Historic Resources section for more information.
7. New development shall be planned to be reasonably compatible with existing development, preserve buildings of historic, architectural, or engineering significance, and not unduly impact the character of the area.
8. Postal facilities and similar governmental offices should be located where other public services are available or planned.
9. Highway investments within Town Centers must give significant consideration to multi-modal transportation, and include pedestrian circulation, traffic calming, and streetscaping.

## Village Settlements

Village Settlements are the most Regional Growth Areas in the TRO Region. Village Settlements normally consist of a mix of uses at medium to high densities. Density in Village Settlements varies based on the availability of municipal water and sewer. Those Village Settlements that do not have water or sewer are prime candidates for future infrastructure investments. Unlike Regional Centers and Town Centers, Village Settlements are not regional markets or trade centers and typically serve a local clientele. The Region's Village Settlements are core areas in Barnard, Braintree, Bridgewater, East Corinth, East Randolph, East Thetford, East Topsham, Granville, Hancock, Hartford Village, Hartland Four Corners, Hartland Three Corners, Newbury, North Hartland, Pittsfield, Plymouth Union (Plymouth), Pond Village (Brookfield), Post Mills

(Thetford), Quechee, Randolph Center, Royalton Village, Sharon, South Pomfret, South Strafford, South Woodstock, Stockbridge, Strafford, Taftsville, Thetford Center, Thetford Hill, Tunbridge, Tyson (Plymouth), Vershire, West Fairlee, and West Woodstock.



*Bridgewater Center* | © John Knox

## Policies: Village Settlements

### *Policies*

1. Village Settlements should support a mixture of single-family, two-family, and multi-family structures at the highest densities possible given existing sewer and water capacity. Village Settlements that have neither public water nor sewer should plan for that the maximum densities that can be supported by the soils present, in order to avoid ground and surface water contamination while also keeping the area denser than surrounding rural areas.
2. Conversion of larger older homes (particularly those with historic merit) to newer, more economical uses, such as offices and multi-unit housing, is consistent with this Plan. See the Historic Resources section for more information.
3. Principal retail establishments, services, tourist businesses, lodging, public facilities, and business and industrial enterprises of a scale and design that fit the context of the area are appropriate for this area.
4. Local capital planning programs and public investment strategies must support renovation of existing buildings and in-filling within Village Settlement Areas.
5. New development must not place undue burdens on municipal or regional facilities, utilities, and services, including transportation systems.
6. New development shall be planned to be reasonably compatible with existing development, preserve buildings of historic, architectural, or engineering significance, and not unduly impact the character of the area.
7. Long-range planning for the provision of public services in these areas to accommodate future growth is encouraged.
8. Planned and existing services should be coordinated so that the future expansion of services can be more accurately evaluated.
9. Highway investments within Village Settlements must include pedestrian circulation, traffic calming, and streetscaping.

## Hamlet Areas

Hamlet Areas were significantly more prevalent throughout the communities in the TRO Region in the past. Presently those Hamlets that remain consist of groupings of buildings that are generally residential in nature. Hamlets are significantly smaller in scale than Village Settlements. They historically have served as the location for single-family homes, with a few stores and businesses supported primarily by local residents. Hamlets are not regional markets or trade centers. These areas generally do not contain a community water supply or sewer

system. Minor community facilities and services sometimes are located in these areas. Hamlet Areas in the Region are Bridgewater Center, Bridgewater Corners, Corinth, East Barnard, East Bethel, East Braintree, East Brookfield, East Granville, Gaysville (Stockbridge), Locust Creek, North Pomfret, North Thetford, North Tunbridge, Stockbridge Central School, Thetford Hill, Vershire, Vershire Center, Waits River (Topsham), West Braintree, West Bridgewater, West Brookfield, West Hartford, West Newbury, West Topsham, and areas immediately adjoining such areas.

### Policies: Hamlet Areas

#### *Policies*

1. The density of development in Hamlet Areas must reflect the existing settlement patterns, physical land capability, and availability of utilities for expansion. Hamlet Areas should support primarily single- and two-family homes and residential-scale small business enterprises (including principal retail establishments) that fit the context of the immediate area and are meant primarily to serve local markets
2. Major traffic thoroughfares through Hamlet Areas must be planned with traffic calming elements.
3. New buildings should maximize allowable density. Where unusual natural features, soil limitations, or special resources (including high value agriculture land) are identified, use of cluster development concepts is encouraged to protect such resources from unnecessary development.
4. Existing postal facilities, and similar governmental offices, must be retained in Hamlet Areas and not be relocated into Rural Areas.



West Brookfield | © John Knox

## Industrial Areas

Industrial parks and districts are a way to encourage economic growth and high-wage businesses to locate in the Region without adversely affecting neighboring land uses. Industrial uses can produce off-site impacts, such as noise, that can be mitigated if these businesses are located in areas designated specifically for industrial development and job growth. Commonly, Industrial Areas are located where there is direct access to transportation via major roads and/or rail, three-phase power, and other municipal infrastructure. These areas

may include other commercial uses, provided that those uses are not more appropriate within Regional Growth Areas. There are Industrial Areas identified in seven communities in the TRO Region.

### Policies: Industrial Areas

#### *Policies*

1. Industrial development and uses are the primary use within an Industrial Area, provided that the scale and intensity of the development does not have an undue adverse impact on the surrounding area.
2. In addition to industrial development, commercial development (excluding principal retail establishments), services, and offices may be appropriate, provided these are not the dominant uses.
3. Traffic and pedestrian safety must be a strong consideration in the design of development within Industrial Areas, particularly those areas with a large trucking component.
4. Principal retail establishments shall not be located in Industrial Areas, but secondary retail may be.

## Mixed-Use Areas

Given the regional need for increased housing and local needs for commercial establishments that are not best suited to core areas due to their impacts, low value, or large use of land, a Mixed-Use Area can supply needed space for such along state highways without creating sprawl.

### Policies: Mixed-Use Areas

#### *Policies*

1. Light industrial development may be appropriate, provided that the scale and intensity of the development does not have an undue adverse impact on the surrounding area.
2. Multi-family housing at several units per acre or greater is appropriate in this area.
3. Commercial uses that include land intensive uses, lumberyards, repair services, warehouses, kennels, and indoor recreation are appropriate in this area.
4. Principal retail shall not be permitted in this area.

## Interchange Areas

Lands that are in close proximity to interstate interchanges are viewed as prime areas for development by some due principally to their ease of public access and favorable site conditions. In this Region, interstate interchanges are located in the towns of Bradford, Fairlee, Hartford, Hartland, Newbury, Norwich, Sharon, Randolph, Royalton, and Thetford. However, not all of these interchanges are designated as Interchange Areas as land use areas in this Plan.

Despite the benefits of interstate travel and the fact that the interchanges are important transfer points for traffic entering and exiting the Region, there are potential pitfalls to developing these areas. Increased traffic congestion and safety issues resulting from interchange developments can unacceptably decrease the level of service of roadways. One example, the Quechee interchange (I-89, Exit 1), contains acres of developable land located within a mile of the intersection of two interstate highways. This places this interchange at a high degree of vulnerability. Local development decisions made without adequate regard to preserving mobility will degrade the functionality of the public investments. An illustration of this consequence is on Interstate 89 at Exit 20, a strip of commercial development in nearby West Lebanon, NH, where access on and off the interstate for traveler services has been negatively impacted due to traffic and over development. Other typical problems associated with improper traffic management and development at interchanges include:

1. The creation of numerous curb cuts (new driveways) surrounding the interchange to access new development that are permitted incrementally on a case-by-case basis without due regard to an overall plan for the area;
2. The eventual existence of high traffic generators in the immediate vicinity, which cause degradation of roadway intersections, the need for signalization, lower travel

- speeds, and extensive queuing of vehicles;
3. Inadequate planning for pedestrian accesses between developments and loss of significant farm land or access to such land;
4. Erosion of cultural, social, and economic values of the traditional town center or village settlement due to a dislocation or redistribution of key uses into the area; and
5. Fragmentation of land parcels in such a manner as to preclude future access or interior roads to properties more removed from the right-of-way; and
6. Unnecessary loss of scenic qualities resulting from insensitive land development.

Lands at interchanges in Bradford, Fairlee, Newbury, Norwich, Sharon, and Hartford (White River Junction) are considered part of an existing Regional Center, Mixed Use Area or Village Settlement and are therefore not identified as separate Interchange Areas in this Plan. Lands at interchanges in Bradford, Newbury and Royalton (in part) are located within Industrial Areas. Lands at interchanges in Thetford and Hartland are in Rural Areas. The interchanges in Quechee, Randolph, and Royalton, are physically separate from a Regional Growth Area, being in some cases two or three miles away. Because this Plan and state planning policy affirm Regional Growth Areas as the principal areas for service, retail, civic, and institutional uses, it is in the interest of the Region for these areas to continue to serve these vital functions. Conversely, Interchange Area development, with its different focus, should not be promoted to the detriment of Regional Growth Areas or the public investments made therein.

TRORC respects the right of municipalities to plan for growth in these areas. At the same time, TRORC believes that given the considerable public investment in the interstate highway system and Regional Growth Areas, and the significant public exposure to such areas, these interchanges also need to be evaluated from a regional perspective. Land around interchanges

and along highways leading to them are powerful magnets for non-residential uses, this often competes with and erodes Regional Growth Areas; the proximity of large parking lots adjacent to high-volume highways is an attractive force to consumers and businesses.

## **Policies: Interchange Areas - General**

### *Policies*

*The following policies apply to all designated Interchange Areas:*

1. Land use activities and public or quasi-public investments planned for Interchange Areas that have the effect of eroding the socioeconomic vitality of downtowns are incompatible with this Plan. Land uses planned for Interchange Areas must be of a type, scale, and design that complement rather than compete with uses that exist in Regional Growth Areas. Unless otherwise noted in the following Interchange Specific Policies, appropriate uses include residential, highway-oriented lodging and service facilities, trucking terminals, light industrial, offices, truck-dependent manufacturing, and park-and-ride commuter lots. No use should impose a burden on the financial capacity of a town or the state to accommodate the growth caused by the project.
2. Development planned for Interchange Areas must be constructed to:
  - a. Complement the design principles and standards reflected in this Plan;
  - b. Promote the most appropriate land uses as determined through a locally sponsored planning process involving affected landowners, municipalities, and TRORC;
  - c. Minimize visual impacts from roadways through screening and landscaping and maintain a high standard of scenic amenities for visually sensitive areas with due regard to impacts on neighboring land uses and highway users; and
  - d. Encourage planned unit developments.
3. Master plans for each Interchange Area should be completed. Such Plans should be conducted locally as part of each local planning commission's ongoing planning program in cooperation with landowners, TRORC, and other affected parties. Work should focus on creating an integrated site plan and design plan that serves as a means of addressing the potential conflicts or problems noted above. Elements that the Plan should include are:
  - a. Access management controls;
  - b. Pedestrian amenities;
  - c. Transit access;
  - d. Parking;
  - e. Energy efficiency;
  - f. Utilities/public services;
  - g. Outdoor lighting standards;
  - h. Landscaping and screening;
  - i. Signage; and
  - j. Open space conservation.
4. Master Plans must serve as the foundation for the identification of the highest and best use of these areas and should provide a framework for future development. Incremental and uncoordinated development inconsistent with Master Plans for each of the Interchange Areas is discouraged.

*Goals, policies, and recommendations continued on next page*

## Policies: Interchange Areas - General

### Policies

5. Development concepts that must be utilized for Interchange Areas include:
  - a. A circulation system that is conducive to pedestrian, bicycle, and other non-vehicular travel modes;
  - b. A density or lot coverage area that is higher than surrounding rural settlement areas;
  - c. Use of planned unit development concepts, such as compact development that is offset by open space;
  - d. A design that incorporates public spaces and promotes social interactions;
  - e. A mixture of uses including non-residential and community facilities, and possibly residential;
  - f. Central focal points or public spaces serving the entire area;
  - g. A pattern and scale of development that complements traditional patterns and uses in Regional Growth Areas; and
  - h. Provision for park-and-ride commuter parking lots, transit access, and travel information services.
6. Municipalities with Interchange Areas are encouraged to promote creation and adoption of an Official Map, per 24 VSA §4421, to provide a legal means of creating an interconnected network of streets, walkways, and other public facilities or amenities on land designated as interchange development areas. Concepts employed in Master Plans and the Official Map should employ traditional streetscape patterns and designs deemed compatible with existing Regional Growth Areas.
7. Principal retail establishments must be located in Regional Growth Areas to minimize the blighting effects of sprawl and strip development along major highways, to protect the vitality of our villages and downtowns, and to maintain rural character.

### Interchange Area Policies - Specific

The characteristics of each of the three Interchange Areas designated in this Plan are not identical. While all of the Interchange Areas serve as transfer points between the interstate (limited-access roads) and state highways (connectors to villages and outlying countryside), the physical and economic landscapes for these areas is different. Some areas are largely undeveloped open spaces without public infrastructure, especially sewer or water. Other areas are situated at or near prominent vistas or scenic areas and are visually sensitive to certain types of development. Yet other interchanges are experiencing new commercial or industrial development on what is or was farmland. Some interchanges are relatively flat and have greater potential to accommodate appropriate development than others that are steep or have other physical development constraints such as

aquifers and wetlands. Lastly, local community planning desires and attitudes suggest that not all land use goals and policies should be universally applied.

It is the finding of TRORC that in order for this Plan to address each Interchange Area specifically, supplemental policies have been developed for each of these interstate interchanges. The policies in each Interchange Area section apply specifically to that interchange indicated.

#### **Quechee (Hartford) Interchange (I-89, Exit 1)**

Exit 1 of Interstate 89 accesses U.S. Route 4 and connects travelers and commerce west to Woodstock, Killington, Rutland, and beyond, and east to White River Junction and Interstate 91. Route 4 is one of the few east/west highways spanning the narrower width of

the state and therefore carries steady volumes of traffic. This interchange is located 1.5 miles from municipal sewer and water service; the residential wastewater system located to the west in Quechee is a shared leachfield system. The on- and off-ramps for the northbound and southbound lanes are located 0.5 miles apart. There are two different scenarios present at either end, with the northbound interchange leaving few opportunities for development due to the close proximity of 30-percent slopes and the interstate.

The southbound interchange is a sprawling commercial area with access roads intersecting the on- and off-ramps.

White River Junction—the Regional Center, a Vermont Designated Downtown, and a Designated Growth Center is located 3.5 miles to the east. Development at this interchange should be of a type that does not displace the development and investment that has occurred in the Regional Center or in Quechee Village. In order to mitigate against the impacts of strip development and sprawl, and to ensure the vitality of Hartford’s Regional Center, Town Center, Village Center, and Hamlet Area, this interchange is not an appropriate location for principal retail establishments.

## Policies: Quechee Interchange

### *Policies*

1. Intensive development that increases traffic volumes must not be permitted on the open lands accessed by Stagecoach Road; it would degrade the operation and safety of the interstate 89 and U.S. Route 4.
2. Development around the southbound interchange must be planned based around access points that do not degrade the functionality of U.S. Route 4 or the I-89 on- and off-ramps.
3. The types of land development appropriate for this interchange include offices, light industrial, residential, appropriately scaled traveler-oriented uses, and other similar uses that are not intended to draw on regional populations.
4. Principal retail establishments must be located in Regional Growth Areas to minimize the blighting effects of sprawl and strip development along major highways, to protect the vitality of our villages and downtowns, and to maintain rural character.

### Randolph Interchange (I-89, Exit 4)

The Exit 4 interchange on Interstate 89 is located in Randolph, 3 miles from the revitalized historic downtown and commercial district and 1 mile from historic Randolph Center, home of Vermont Technical College (VTC). Exit 4 accesses Route 66, a two-lane connector road that runs in an east/west direction between the Village of Randolph, Randolph Center, East Randolph, and Route 14. This area is predominately open land, including farmland and woodland. The interchange area is particularly well-known for panoramic and distant scenic vistas, particularly the mountain views to the west. There are several structures at the interchange, including a gas station and convenience store, a fast-

food restaurant, professional offices, an auto service repair garage, a state highway facility, an industrial/office complex, and several single-family residences.

Presently there is no existing municipal water supply provided to the area, although there are water supply systems on the western edge of the area (Fish Hill) and eastern edge near VTC. An existing sewer line passes through the area and conveys wastewater from VTC down Route 66 to the municipal treatment facility. Annual average daily traffic (AADT) on Route 66 is estimated to increase with or without new development in the area.

Since 1998 the Town of Randolph has explored

opportunities for development at the Exit 4 Interchange. The Randolph Town Plan reflects many of these efforts, dividing the Interchange Area into four quadrants and incorporating design and use standards for each quadrant into its land use regulations. Key components include the following:

1. Provide space for the development of business parks with design guidelines to protect scenic values;
2. Provide open space for the conservation of wetlands, streams, steep slopes, other natural resources, and visual quality;
3. Limit or deny new curb cuts to maintain the carrying capacity of Route 66;
4. Provide space and opportunities for

transitional/senior housing;

5. Provide for an improved park-and-ride commuter lot/Welcome Center; and
6. Consider land for an agricultural/cultural museum perhaps to be affiliated with other uses.

Further, the extensive study conducted by the community over the past 18 years determined that retail development at the interchange was unsuitable for a combination of reasons, including traffic impacts on Route 66, visual sensitivity, and conflicts with downtown businesses. Moreover, standalone retail development at any scale or size was found to be incompatible with the community's values. However, there was one exception. Accessory uses of a retail nature were found acceptable.

## Policies: **Randolph Interchange**

### *Policies*

1. The development of large-scale retail at the Randolph interchange—including shopping centers, malls, auto dealerships, and big-box stores—is inconsistent with this Plan.
2. Small-scale retail uses secondary or subordinate to primary uses and non-traditional to downtown Randolph or its village areas may be acceptable uses subject to in-depth review and evaluation by the community.
3. Any project planned for the interchange must employ design and construction standards that will ensure that development does not unduly impair the scenic resources of the area.
4. New development should be sited in areas that are not highly scenic, visible, or environmentally sensitive.
5. Future development at the interchange that requires improvements to Route 66, including traffic signals, turning lanes, or roundabouts, must be carefully evaluated. These should only be authorized where it is determined such a privately funded investment will not unreasonably endanger or interfere with the function, efficiency, safety, or use of this route.
6. New development must coordinate with existing development on shared access or retrofit access point locations to improve safety.
7. The types of land development appropriate for this interchange include offices, light industrial, residential, appropriately scaled traveler-oriented uses, and other similar uses that are not intended to draw on regional populations.
8. Principal retail establishments must be located in Regional Growth Areas to minimize the blighting effects of sprawl and strip development along major highways, to protect the vitality of our villages and downtowns, and to maintain rural character.

### **Royalton Interchange (I-89, Exit 3)**

Exit 3 on Interstate 89 in Royalton accesses Route 107, which runs in an east/west direction, connecting to Bethel and Stockbridge and Routes 100 and 14. Route 107 is classified as a minor arterial road. It is a heavily traveled road and forms part of a major transportation corridor between I-89 and Rutland and points west. Forecasts reveal that traffic volume will continue to grow over the next 20 years.

Following the completion of I-89 35 years ago, several parcels of land near the interchange area have been developed. Primarily these changes in land use have been from rural residential and agricultural uses to industrial or commercial uses, but still much of the area remains undeveloped, consisting of farm and forestland. Several areas contribute to highly scenic vistas, particularly from I-89 and Route 107. Due to its prominent location, it is likely that new development at Exit 3 will continue. Solid transportation planning, coupled with sound land use planning principles, can minimize land use and traffic conflicts that have plagued many other Interchange Areas.

In 1999, the Town of Royalton conducted an extensive planning project in which the Royalton

Planning Commission found the following values to be important to the area:

1. Provide space for future business growth, but only when it doesn't detract from Royalton's two villages;
2. Promote new development when plans are carefully laid out for safe access onto Routes 14 and 107;
3. Protect sensitive resource and scenic areas and encourage good design for new projects; and
4. Preserve the carrying capacity of Route 107 as a minor arterial road.

Given these values and an analysis of development suitability, nine future land use designations were recommended and depicted on a map. These included areas for industry, service and office type uses, residences, agriculture, and limited development. Goals and recommendations were listed to help guide the community on the highest and best uses for each sub-area. TRORC accepts the findings and conclusions contained in the *Exit 3 Planning and Development Study* (September 2000), which has since been incorporated into the Royalton Town Plan, as the planning policies developed by the Town of Royalton for this area.

## **Policies: Royalton Interchange**

### *Policies*

1. The types of land development appropriate for this interchange include offices, light industrial, residential, appropriately scaled traveler-oriented uses, and other similar uses that are not intended to draw on regional populations.
2. Principal retail establishments must be located in Regional Growth Areas to minimize the blighting effects of sprawl and strip development along major highways, to protect the vitality of our villages and downtowns, and to maintain rural character.

## Rural Areas

The vast majority of land in the region lies outside any of the Regional Growth Areas identified in this Plan but is still not remote forest. These Rural Areas make up 51% of the region and are where many of us live, where most of our local food is grown, and form the principal visual backdrop along most roads. While we each may have a picture in our minds of what “rural” is, for this plan “rural”, and hence Rural Areas, means lands that consist of a low-density mixed pattern of land uses, primarily homes, interspersed with scattered small-scale businesses, resource-dependent or land-intensive commercial operations, outdoor recreation, and natural

resource uses. The land is predominantly covered by forest, active agricultural land, or fallow agricultural lands transitioning back to forest. Rural lands are largely remote and undeveloped, or developed enough to constitute an existing settlement<sup>1</sup>. Development within these Rural Areas has been largely constrained by on site limitations, including soil composition, slope, and elevation; ease of access to highways; lot size minimums, and distance to community services.

Historically, a significant amount of the Region’s growth over the past forty years has taken place in the Rural Areas, primarily in the form of scattered residential development that has crept up hillsides, out into fields, and deeper into forests. As residents locate their homes farther from Regional Growth Areas, commercial businesses

that serve those populations seek to locate closer to them, moving out of or away from traditional business centers. This pattern of growth in the Region is our version of sprawl and places land development pressures on Rural Areas, particularly in those communities that are nearest to major highways and serve larger populations.

This development has brought new life back into many towns, but these land use changes have also gnawed away at rural landscapes despite local planning efforts and public investment strategies that give priority to new projects within defined growth areas. This incremental change is largely due to no regulation through Act 250 of small-scale subdivisions, low regulation of residential development in those towns with zoning, and a general desire for “development” at the local level as this is seen as helping a town in terms of tax revenue or increased vitality. This in no way means that all residential development in Rural Areas is bad, but such development comes with costs, too. New homes increase a town’s tax base but the residents may require better road maintenance. Building on what were once farm fields offers farmers needed income but impairs the future of local farming. Higher property values increase a town’s grand list but may also drive up taxes on current residents.

It is in the interest of the region and in conformance with state our towns’ plans that scattered development not continue unabated so that the present land use features within Rural Areas can be maintained and remain dominant. State planning goals, to which the Regional Plan must be consistent, direct plans to “maintain the historic settlement pattern of compact village and urban centers separated by rural countryside . . . (and that) intensive residential development shall be encouraged primarily in areas related to community centers and that strip development along highways should be discouraged.” Rural Areas in the Region can provide substantial amounts of new opportunities to both reuse existing structures and to locate new homes, home occupations, and small businesses. These

*Resource-based commercial uses are such things as sawmills, quarries, and sandpits, outdoor recreation, nureseries, and agricultural product processing. These are dependent on resources at the site or coming from Rural Areas or Forest-based Resource Areas and may include retail of products produced on site.*

lands often may be the cheapest land to put an affordable home on. But, there are tradeoffs and the overall effect of unplanned growth in certain locations and at a certain scale in Rural Areas is in the process of transforming the landscape from something recognizable as “rural” in Vermont into something that is not. Rural Areas are not simply suburbs waiting to be created; they are a valued land use to Vermonters in their own right, and can remain that way for a long time if we are careful in how we develop them.

Not all land within Rural Areas is similar, nor should it be treated the same when planning for development. Some land is steep, wet, prime agricultural soil, of special habitat value, adjacent to waterways, or subject to flooding, and should largely remain undeveloped for these reasons. However, these aspects are very site specific and are dealt with on a policy basis elsewhere in this Plan. This section of the Plan addresses those uses desired for Rural Areas in general and that complement the more developed parts of the region.

One of the main land uses in the Rural Areas is agriculture, either in cropland or in pasture. These open lands are part of the aesthetic appeal of the region, underlie an agrarian culture, and form the basis for a significant part of our economy. Forestry is another important use, though most larger forests are in the Forest-based Resource Area. Agriculture and forestry and the land they depend on are addressed both in this chapter and in the Working Landscape chapter.

Regional land use policy elsewhere in this Plan focuses most business uses within or close to Regional Growth Areas. Rural Areas, however, can accommodate certain non-residential uses in ways that serve to maintain the vitality of more developed areas and that do not unduly compromise one of the principal objectives for these Areas—to retain rural character. For example, the Rural Areas are where many of the region’s homes are, so naturally many home occupations are found there as well. Home

occupations are allowed by right in local regulations in Vermont anywhere homes are allowed and are a way for people to earn a living with minimal land use impact. They must use less of the building than the home uses and can have a variety of small commercial operations.

Home enterprises are typically larger operations that are still on a residential lot, but are allowed in many town zoning bylaws with some limitations on the number of people that can work there and on impacts such as traffic. Contractor’s yards are a common home enterprise. With appropriate review, Rural Areas can provide these land uses a good location.

Rural Areas have many older structures such as large farmhouses or barns that lend themselves to adaptive reuses that can both preserve these visual assets and provide employment. Inns, small industrial operations, and multi-family dwellings are examples of uses that can keep these structures from becoming obsolete while not creating a major visual change to the rural landscape.

While commercial enterprises in the Rural Areas are smaller and scattered, there are two somewhat intensive commercial uses that make sense to locate in Rural Areas. These are either based on resources found there or are land-intensive commercial uses. Resource-based commercial uses provide economic benefits and jobs that support the rural landscape, and they are uses that would largely detract from developed Regional Growth Areas if located within them. Such uses have a traditional rural role in Rural Areas.

Commercial land-intensive uses that are not dependent on natural resources do not make

*Land-intensive commercial uses are commercial operations that rely on large amounts of indoor or outdoor storage as the dominant use of space, and include sales lots and warehouses.*

the best use of the limited amount of land in Regional Growth Areas that have sewer and/or public water supply. Locating these immediately adjacent (within a quarter mile) to Regional

Growth Areas along major roads can serve to protect the desired aspects of both rural and more urbanized areas.

## Goals, Policies and Recommendations: Rural Areas

### Goals

1. Agriculture continues to form an important visual, economic, and cultural part of the landscape.
2. Rural lands provide a place for people's homes and small businesses.
3. Development is at a scale and type that conforms to historical patterns and does not detract from Regional Growth Areas.

### Policies

1. Development shall be at a scale that is less dense than adjacent Regional Growth Areas.
2. Except along paved roads, development density greater than one principal structure per two acres is not appropriate to maintain rural character, but lot sizes are encouraged to be smaller than this in subdivisions so as to preserve a larger portion of the remaining lot as undeveloped and still meet overall density goals.
3. New individual multi-unit residential buildings containing five units or less are appropriate along Class 3 or better roads, but larger ones are not, excepting inns, outdoor recreation, and other lodging.
4. Adaptive reuses, such as small light industrial operations or multiple housing units, are encouraged in older existing large structures as towns desire, but care must be taken to not lead to development too intensive for the rural character.
5. Development of resource-based commercial uses is appropriate in these areas, with safeguards to protect neighbors from undue adverse impacts from noise, dust, and other nuisances (see also Section G in Chapter VI for more on extraction policies).
6. In Rural Areas that abut state highways and that are no greater than a quarter mile to Regional Growth Areas, land-intensive uses may be appropriate, provided that they do not have an adverse impact on the character of the adjacent Regional Growth Area, and mitigate the impacts of sprawl and strip development.
7. Projects subject to Act 250 must be planned and sited to satisfy the following:
  - a. Utilize compact development design and locate new development or lots near or adjacent to existing road infrastructure and away from productive fields or forests to conserve the maximum feasible amount of usable farm, pasture land, or managed woodland;
  - b. Locate non-agricultural buildings next to or within the forest edge (if any), instead of in open fields, to enable new construction to be screened by natural landscape features;
  - c. Minimize buildings, utilities, or structures blocking or interrupting scenic vistas as viewed from a public highway;
  - d. Take reasonable steps to protect historic features, wetlands, stream buffers, forest blocks, wildlife crossing areas, necessary wildlife habitat, and habitat connectors; and
  - e. Give consideration to burying power and phone lines, if cost effective, when new roads are being constructed.
8. Use of planned unit developments or conservation subdivision design schemes is strongly encouraged as a means of providing rural development that concentrates development on part of a parcel in order to preserve larger lots that are more useful for farming, forestry, or wildlife habitat. Towns should consider incentives such as density bonuses.

*Goals, policies, and recommendations continued on next page*

## Goals, Policies and Recommendations: Rural Areas

### *Policies (continued)*

9. Non-residential uses, including small service businesses, small professional offices, and inns are acceptable land uses for Rural Areas provided that such uses are located near existing transportation infrastructure; planned at a residential scale and form; are not primary or dominant uses in an area; would not unduly conflict with existing or planned residential, forestry, or agricultural uses; and do not unduly affect rural character.
10. TRORC supports the right of a resident to use a minor portion of a dwelling unit for a home occupation, which is customary in Rural Areas, provided it does not create a nuisance or have an undue adverse effect on the values noted in this Plan as being important to sustaining the character of Rural Areas.
11. Major retail enterprises or service centers that draw principally on regional market shares (including factory outlets, large grocery stores, fast food establishments, and shopping malls) shall not be permitted in Rural Areas.
12. Smaller non-formula retail stores aimed at local markets may be appropriate when located where commercial development already exists, but shall not create a new node of commerce.
13. Development shall be designed to take reasonable steps to minimize accesses onto public roads, and projects that would create traffic demands that require the paving of rural gravel roads are not appropriate in Rural Areas.

### *Recommendations*

1. The TRORC will work with towns and developers to site housing in Rural Areas to meet housing needs. (See also the Housing Chapter)
2. The TRORC will work to ensure that agriculture in these areas remains an important part of our economy. (see also the Working Lands Chapter)
3. The TRORC will work with towns, state and federal agencies and conservation organizations to conserve important forest and agricultural lands.
4. The TRORC will work with member towns on town plans and bylaws to address development in the Rural Areas so that it meets state planning goals and the desires of towns.

### Forest-Based Resource Areas

The lands within the Forest-based Resource Areas—primarily large blocks of unfragmented forest that are needed to sustain a forestry industry and areas that contain critical wildlife habitat and allow safe wildlife movement—provide the Region with important services that cannot be replaced on other lands. Land with these characteristics is shrinking in both the State and the Region. The health of many natural communities and wildlife depend on these large, uninterrupted areas of forestland, commonly referred to as “forest blocks”, and these must be connected to each other through wildlife corridors.

The main threats to such areas and their

functions are fragmentation and parcelization.

Forest fragmentation is the division or conversion of forest blocks through the clearing of land, building structures, and other activities associated with development (excluding recreational trails). Even the seemingly simple act of installing roads affects wildlife movement and increases invasive plants and pests. Development that causes forest fragmentation creates barriers which limit species movement over the landscape, interrupts ecological processes, and impacts genetic diversity. Parcelization, which is part of fragmentation, is the subdividing of forest parcels to smaller lots but does not necessarily involve further development. Parcelization makes continuing to manage forests for forestry or conservation more difficult or even impossible.

**Table 3-1: Wildlife Present in Forest Patches**

Undeveloped	500 - 2,500 acre blocks	100 - 500 acre blocks	20 - 100 acre blocks	1 - 20 acre blocks
<b>Raccoon</b>	<b>Raccoon</b>	<b>Raccoon</b>	<b>Raccoon</b>	<b>Raccoon</b>
Small rodent	Small rodent	Small rodent	Small rodent	Small rodent
<b>Squirrel</b>	<b>Squirrel</b>	<b>Squirrel</b>	<b>Squirrel</b>	<b>Squirrel</b>
Red fox	Red fox	Red fox	Red fox	Red fox
<b>Songbirds</b>	<b>Songbirds</b>	<b>Songbirds</b>	<b>Songbirds</b>	<b>Songbirds</b>
Skunk	Skunk	Skunk	Skunk	Skunk
<b>Amphibians</b>	<b>Amphibians</b>	<b>Most Amphibians</b>	<b>Most Amphibians</b>	<b>Most Amphibians</b>
Reptiles	Reptiles	Reptiles	Most Reptiles	Most Reptiles
<b>Hare</b>	<b>Hare</b>	<b>Hare</b>	<b>Hare</b>	
Porcupine	Porcupine	Porcupine	Porcupine	
<b>Beaver</b>	<b>Beaver</b>	<b>Beaver</b>	<b>Beaver</b>	
Weasel	Weasel	Weasel	Weasel	
<b>Mink</b>	<b>Mink</b>	<b>Mink</b>		
Turkey	Turkey	Turkey		
<b>Horned owl</b>	<b>Horned owl</b>	<b>Horned owl</b>		
Barred owl	Barred owl	Barred owl		
<b>Sharp-skinned hawk</b>	<b>Sharp-skinned hawk</b>	<b>Sharp-skinned hawk</b>		
Cooper's hawk	Cooper's hawk	Cooper's hawk		
<b>Broad-winged hawk</b>	<b>Broad-winged hawk</b>	<b>Broad-winged hawk</b>		
Osprey	Osprey	Osprey		
<b>Harrier</b>	<b>Harrier</b>	<b>Harrier</b>		
Deer	Deer	Deer		
<b>Wood frog</b>	<b>Wood frog</b>	<b>Wood frog</b>		
Ring-neck snake	Ring-neck snake	Ring-neck snake		
<b>Bald eagle</b>	<b>Bald eagle</b>			
Goshawk	Goshawk			
<b>Moose</b>	<b>Moose</b>			
Red-tailed hawk	Red-tailed hawk			
<b>Coyote</b>				
Bobcat				
<b>Black bear</b>				
Fisher				

Source: *Above and Beyond*. Campoll, J., Humstone, E., & MacLean, A. 2002.

Both fragmentation and parcelization, will impact the important functions we now enjoy from the large forest blocks in these Areas, but unless lands are bought outright for conservation or have easements on them, some development is likely. How this development, from simple subdivision into lots to subsequent construction of roads and buildings, takes place is a matter of public concern, as it can negatively affecting forestry and the many species that depend on such areas, as well as generate off-site impacts, such as increased flood flows. Further development in remote areas would also create increased costs for towns to maintain or upgrade minor Class 3 or 4 roads and would work against regional energy goals as such development is much more reliant on single occupant vehicle trips.

Such landscapes need to be addressed at the regional level. An individual landowner might be able to conserve a wooded wetland for salamanders or a small forest for deer habitat, but this would not be enough to meet all the needs of that species within the area. A large timber owner might conserve a sizable forest, but that does not support an industry. Even efforts at the town scale (though very important) do not contain enough land for many species' needs, which can be several hundred acres per individual among the larger animals.

The best available data on where the priority interior forest blocks, as well as priority wildlife corridors exist (see maps below) has been produced by the Vermont Conservation Design (VCD) joint project of the Vermont Department of Fish and Wildlife, Vermont Department of Forests, Parks and Recreation and the Vermont Land Trust. Wildlife corridors are critical to connect the large blocks so that populations do not become inbred, species can move as climate shifts, and isolated incidents such as blowdowns or timber harvesting do not threaten overall species' health. Several wildlife species need habitat areas exceeding one square mile for population health.<sup>2</sup> As noted in the report *Vermont Conservation Design: Maintaining*

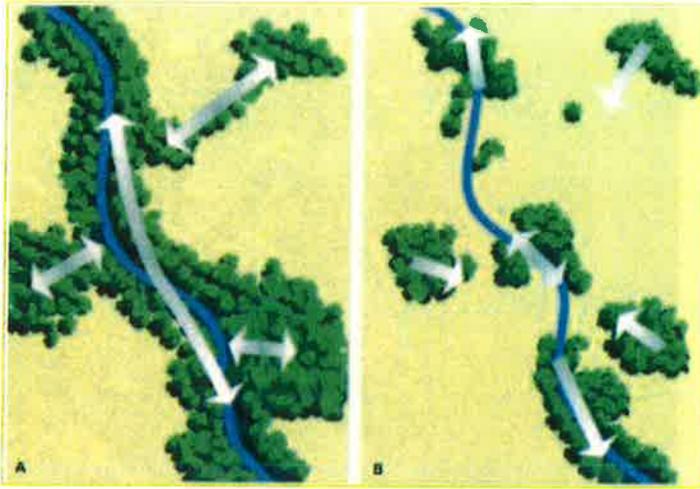


Vermont Foliage | © Judith A. Brown

*and Enhancing an Ecologically Functional Landscape*, if these landscapes are conserved on a large scale, then “most of the species they contain . . . will also be conserved.”<sup>3</sup> There are no doubt additional locally significant lands that are not large enough to show up in this data that are still important.

While the Region looks well forested from the air, there are places in the Region where forest blocks and wildlife corridors are tenuous, particularly in the area that stretches from Barnard to Sharon. However, as the maps below show, for nearly half of the Region's towns the entire town outside of small developed areas along roads is either a forest block or a wildlife corridor block.

It is not a regional goal, and certainly not a town goal, to have nearly entire towns developed at a very low density. Consequently, the VCD map of these areas was used as a *starting point* when developing the Forest-based Resource Areas regional future land use area, and then it was modified based on town future land use maps, infrastructure, the amount of land that performs interior forest or habitat connector functions



Landscapes with (A) high and (B) low degrees of connectivity. Corridors are particularly important for wide-ranging species whose habitat needs are not accommodated by a single patch of suitable habitat.

nearby, and adjacent conserved or public lands. This resulted in the final Forest-based Resource Areas shown on the future land use map.

Allowing the lands in these Areas to remain largely undeveloped will maintain their ability to provide timber production, outdoor recreation, flood storage and aquifer recharge, scenic beauty, and wildlife habitat, and contribute to our economic well-being and quality of life. Allowing some careful development in them will create income for landowners and address other regional goals, such as outdoor recreation and housing. It is not the intent of this Plan to create true wilderness areas, and the policies in the Plan reflect that. However, much of the Region's land that once provided large-scale wildlife habitat can no longer do so due to existing development, and therefore the remaining lands in some towns are more likely the *minimum* needed to fulfill these functions rather than the *optimal* amount.

Figure 3-5 shows VCD Forest Blocks, where the dark green areas are highest priority blocks and the light green are priority blocks. Figure 3-6

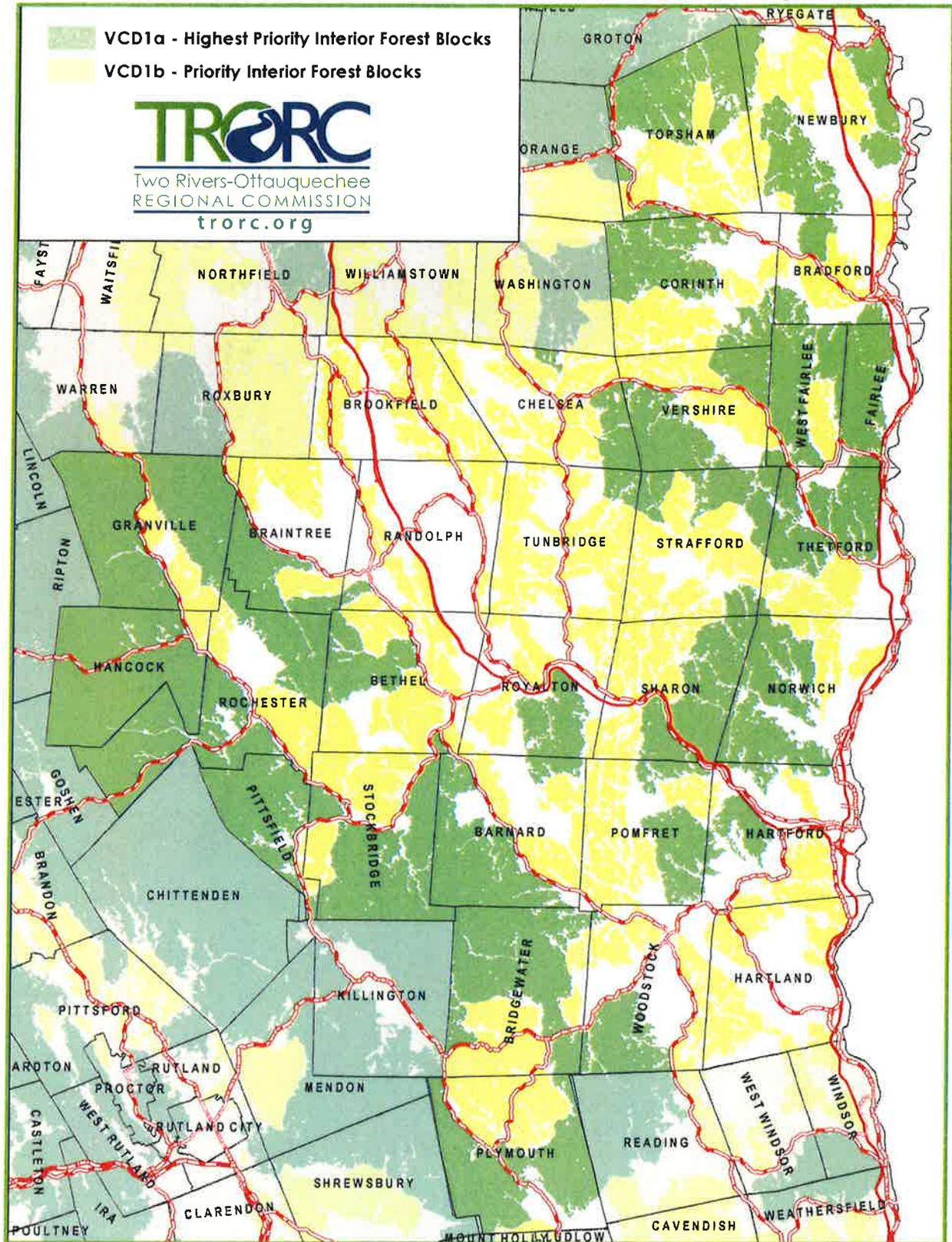
shows VCD Connectivity Blocks, where the dark blue are highest priority blocks and light blue are priority blocks.

### **Chateauguay No Town (CNT)**

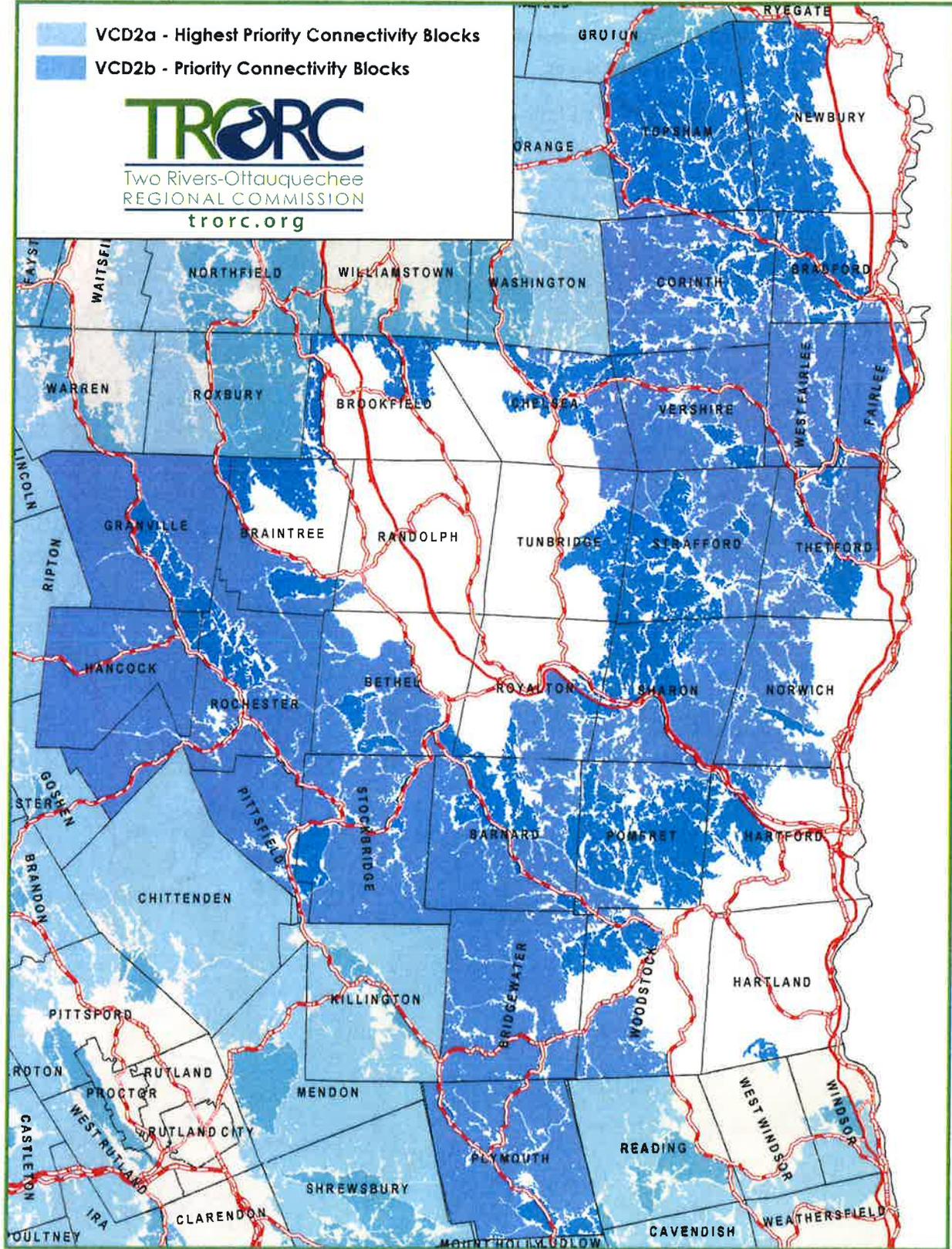
A particularly large and coherent part of the region that exemplifies the Forest-based Resource Areas is what is known as the Chateauguay No Town (CNT) area. This is a remote upland wilderness area consisting of approximately 55,000 acres covering parts of the Towns of Barnard, Bridgewater, Stockbridge, and Killington. With limited exception, land parcels are large, ranging up to several thousand acres in size. Human settlement is sparse, year-round public access is practically non-existent for most of the area, and public services (such as electric or telephone) are very limited. Roads are relatively narrow and steep and are not designed to sustain heavy vehicles or high volumes of traffic. The few inhabitants living here mostly provide their own power and lighting and maintain and plow their own roads. Much of the CNT is owned by timber companies or families interested in using the land for wood production and land is enrolled in Vermont's Land Use Value Appraisal Program.

In late 1997, the Chateauguay No Town Conservation Project was launched by the four towns the CNT is located in, "to foster, through locally sponsored conservation activities, the long-term commitment to stewardship of exceptional forest, wildlife, and recreational lands." Since then, a locally appointed committee, in cooperation with the Vermont Land Trust, The Conservation Fund, TRORC, Appalachian Trail Conference, and the Vermont Agency of Natural Resources, has been evaluating ways to voluntarily conserve this area, to protect critical habitats, to promote sustainable forestry, and to ensure recreational opportunities. To assist the CNT partners in the implementation of the project, both a local and a regional conservation fund have been established to provide financial resources to landowners interested in conservation of their property. Several landowners have agreed to work with the

**Figure 3-5: Highest Priority and Priority Interior Forest Blocks in the TRO Region**



**Figure 3-5: Highest Priority and Priority Connectivity Blocks in the TRO Region**



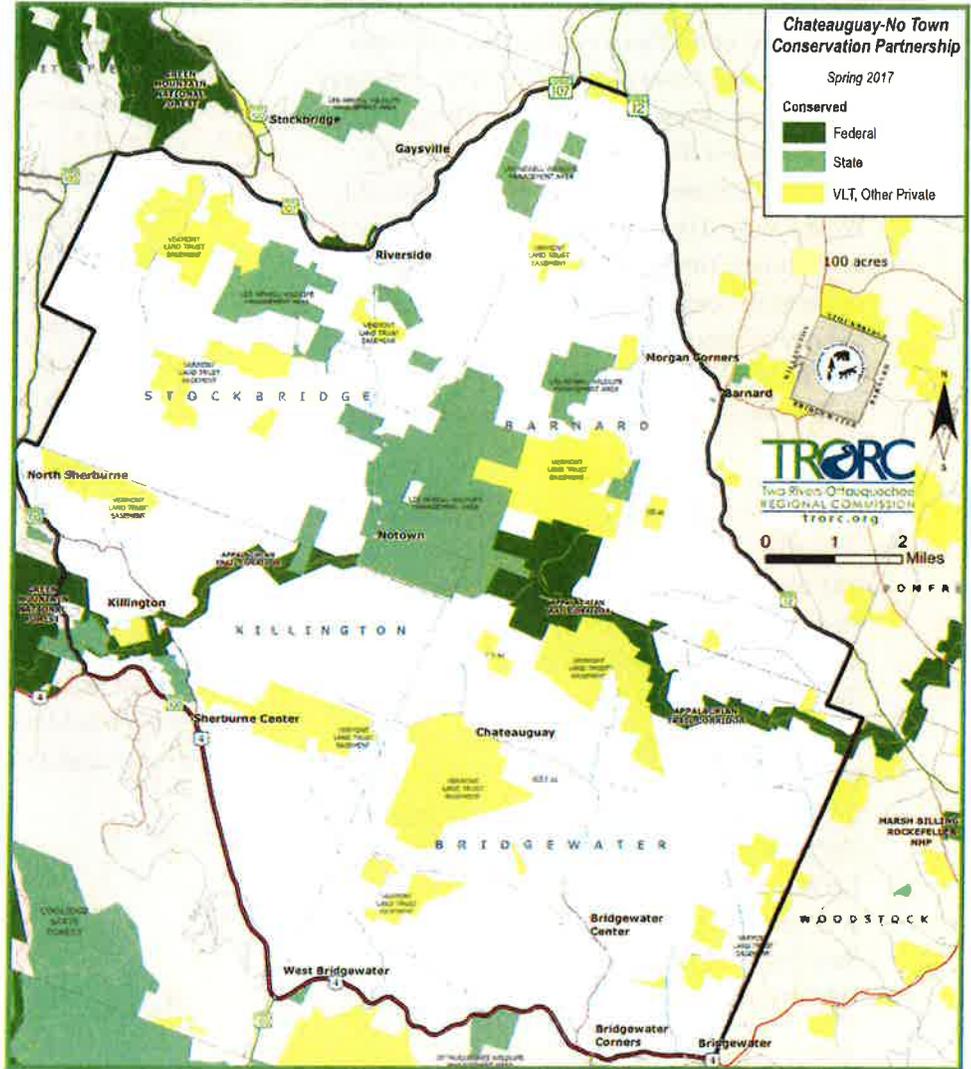
project on specific plans to voluntarily conserve their land.

Like much of the Forest-based Resource Areas, in the CNT multiple recreational activities are present, especially seasonal hunting camps, snowmobiling, and hiking. The Appalachian Trail passes through the central section of the CNT. The CNT also contains the 7,988 acre Les Newell Wildlife Management Area and provides valuable habitats for wildlife, including black bear, moose, bobcat, and deer. The entire CNT has been identified by the Vermont Department of Fish and Wildlife as bear production habitat. The CNT serves as a critical link between the bear production areas south and north of US Route 4. The long-term stability of black bear depends on the retention of this area in a predominately undeveloped state.

**Taylor Valley**

The Taylor Valley area straddles parts of the towns of Vershire, Chelsea, Tunbridge, and Strafford. This area has large stretches of undeveloped land, wildlife habitat, unique flora and fauna, productive timber land, productive agricultural land, and extensive areas for hunting and other outdoor recreational opportunities. The privately organized Taylor Valley Conservation Project has identified a core area of 19,000 acres centered around the Taylor Valley for special conservation attention. Approximately 4,000 acres in the core area have been conserved

**Figure 3-5: Chateaugay No Town (CNT) Conservation Area Map**



through conservation easements, and landowners have committed to the conservation of an additional 1,700 acres in the core area. The greater Taylor Valley Area also includes extensive forestlands stretching from the Strafford-Tunbridge Road in a southerly direction to the Joseph Smith birthplace including over 1,000 acres protected by conservation easements held by the Upper Valley Land Trust and the Vermont Land Trust.

**Brushwood Community Forest/Fairlee Town Forest/Fairlee Town Forest**

In 2009, Brushwood Community Forest was established on approximately 475 acres of relatively undeveloped forestland in the Towns

of Fairlee and West Fairlee. With the help of the Trust for Public Land, an additional 580 acres was added in northern Fairlee that had been owned by the Town of Bradford. The 1,055 acre area is now owned by the Town of West Fairlee and protected from development through a conservation easement. It abuts the separate West Fairlee Town Forest and the large 1,500 acre Fairlee Town Forest. The lands in public ownership comprise just a small section of the greater 28,000-acre Brushwood Forest area that boasts an extensive trail network, vast undeveloped forestlands, wetlands, and wildlife habitat.

#### ***Coolidge State Forest (CSF)/Arthur Davis Wildlife Management Area***

CSF encompasses 21,500 acres of land in Plymouth and Woodstock, and additional lands in Reading, Killington, Mendon and Shrewsbury. The State Forest includes Coolidge State Park where campsites, hiking trails, and beautiful scenic views are abundant. CSF is the state's third largest State Forest and is managed by the Vermont State Parks' Department of Forests, Parks, and Recreation (FPR). It abuts the 7,788 acre Arthur Davis WMA found in Plymouth and Reading, which is managed by the Vermont Department of Fish and Wildlife.

#### ***Green Mountain National Forest (GMNF)***

With over 400,000 acres, the GMNF is located within several Two Rivers towns, including: Woodstock, Rochester, Hancock, Pittsfield, Stockbridge, Granville, Bridgewater, Pomfret, Hartford, and Norwich. The lands contain portions of the Long Trail, Appalachian Trail, and the Robert Frost National Recreation Trail. These areas preserve the headwaters of the White River and provide significant outdoor recreation and forestry opportunities, as well as form part of the largest north-south wildlife corridor in the state.

#### ***Orange County Headwaters (OCH)***

The OCH Project was started by landowners in the Towns of Washington and Corinth who had an interest in conservation. Through the Vermont

Land Trust and the Upper Valley Land Trust, 31 OCH landowners have conserved 4,500 acres. Much of this land is forested.

#### ***Pine Mountain Wildlife Management Area (WMA)***

Pine Mountain is one of the larger WMAs in the Region. It spans the towns of Topsham and Newbury as well as Groton and Ryegate (outside of the Region). It is 2,274 acres in size, 95% of which is forested. Managed by the Vermont Fish and Wildlife Department, the Pine Mountain WMA is home to white-tailed deer, black bear, moose, and many other mammals, birds, fish, and amphibians. The area is open for hiking, fishing, trapping, and hunting.

#### ***Other Lands***

The Region has other smaller state and town owned lands, as well as privately-owned lands that are protected through conservation easements held by land trusts, such as the Vermont Land Trust or Upper Valley Land Trust.

## Goals, Policies and Recommendations: Forest-Based Resource Areas

### Goals

1. Healthy forests remain an important part of the Region's landscape and continue to provide their unique functions, including recreation, forest products, and wildlife habitat.
2. Upland forests serve to retain and cleanse water and have high quality waters.
3. Forest blocks are connected so that species can move between them.

### Policies

1. Land above 2,500 feet elevation shall be maintained predominantly in a natural wilderness state, except in cases of wind power and/or telecommunications projects endorsed by this Plan.
2. Acquisition of lands, or conservation easements on lands, by the Federal Government, the State of Vermont and non-profits is encouraged between willing parties. Management plans prepared for conserved or acquired areas must recognize the concept of preservation as well as forest utilization.
3. Outdoor recreation and forestry uses are encouraged provided these uses do not unduly impact other significant resources of the site.
4. Timber production is encouraged in this land use area provided it is done in accordance with best management practices and managed and harvested in ways that keep soil erosion and sedimentation of streams to a minimum.
5. Motorized recreation must be limited to designated existing trail/road networks and new connections between trails, and be compatible with any critical wildlife habitat and water quality protections. Retention of snowmobile trails, many of which go over private land and are part of the statewide VAST trail network, is a priority. Conservation plans developed for landowners in this land use area should reflect, where practicable, the desire to retain this network of trails and not close or cut off important trail routes.
6. New structures capable of being occupied year-round are not appropriate in interior (greater than 300 feet from the forest edge) parts of these areas, but noncommercial seasonal camps serving hunters, snowmobilers, and other outdoor recreational users are appropriate.
7. Any use deemed appropriate to elevations over 2,500 feet should be sensitive to slow vegetative recovery and severe soil limitations and must avoid erosion.
8. Subdivisions and other development subject to Act 250 on lots over 30 acres shall minimize impacts on forestry potential and habitat values of undeveloped areas by concentrating development at the forest edge near other development and roads; use small lot sizes and shapes so that at least 80 percent of the land remains in a large undeveloped tract; minimize clearing of forest, and avoid the creation of additional roads or power lines that would further future development into interior areas.
9. Large subdivisions of more than ten structures are inconsistent with this Plan.
10. Outdoor recreation is encouraged. Development of snowmobile, hiking, and cross-country ski trails and similar recreational facilities are appropriate uses subject to meeting acceptable management practices and applicable state law.
11. Formal designation of Class II groundwater areas and Class A1 and B1 surface waters by the State of Vermont is encouraged within the land use area.
12. No development in its built-out state shall create more than one acre of impervious surface.

*Goals, policies, and recommendations continued on next page*

## Goals, Policies and Recommendations: Forest-Based Resource Areas

### *Policies (continued)*

13. New developments must take reasonable steps to avoid disruption or loss of major identified wildlife corridor crossings. Transportation enhancement projects should be pursued to mitigate vehicle conflicts with wildlife, including signage and education and awareness programs along road corridors that host significant numbers of wildlife crossings. In addition, initiatives should provide for improvements to the transportation infrastructure to reduce vehicle collisions and wildlife fatalities.
14. Upgrading or paving gravel roads; upgrading electric distribution lines or extension of utilities is not appropriate in this area, except as needed to serve outside areas, unless the public is clearly benefited thereby and where it is determined not to compromise the land use goals and policies for this Area.

### *Recommendations*

1. As habitat data is updated, the TRORC will re-evaluate this land use area to ensure that its purposes are being met.
2. The TRORC will work to ensure that the functions of these areas are economically valued so that both the towns containing them and their owners have incentives to leave them in a largely undeveloped state.
3. The TRORC will work with state and federal agencies and conservation organizations to conserve these lands in ways that also support the local economy and bring value to landowners.
4. The TRORC will work with member towns on town plans and bylaws that will address smaller development not subject to Act 250 so that it is done in ways that preserve the functions of these areas while allowing compatible development.

## C. Flood Resilience

### Types of Flooding

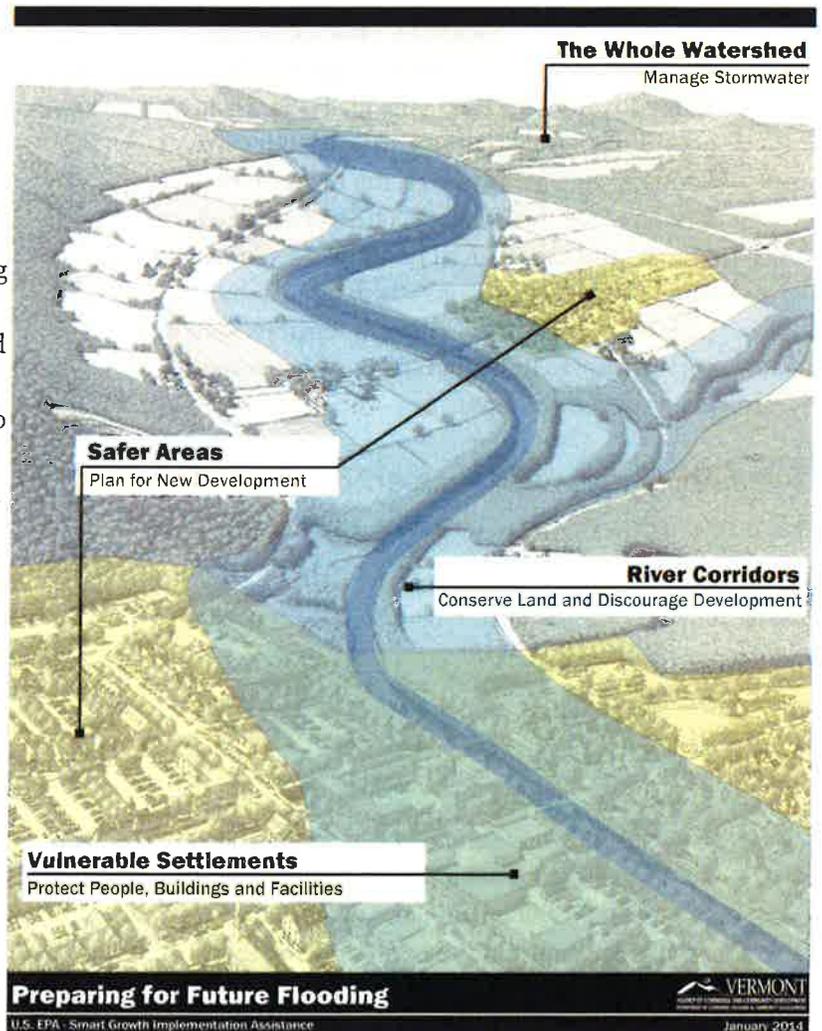
Generally speaking, there are two types of flooding that impact communities in the state of Vermont—flooding caused by inundation and flash flooding. Inundation flooding usually occurs slowly, but flood waters can cover a large area. It may take days or weeks for inundation floodwaters to subside from low areas, which may severely damage property. Inundation flooding takes place on flat and poorly drained land, typically along obvious floodplains. Ice or debris jams can also create inundation flooding as floodwaters back up behind such jams.

Flash flooding occurs when heavy precipitation falls on the land so quickly that the soil is unable to absorb it into the ground, leading to surface runoff. Runoff can be increased by saturated soil, extremely dry soil, frozen ground, and impervious surfaces. The quick-moving runoff collects in the lowest channel in an area, turning upland streams, small tributaries, and even dry ditches into roaring brooks. Flash flooding typically does not cover a large area, but the water moves at a very high velocity and the flooding manifests quickly, making flash floods particularly dangerous. Due to the velocity of the water, a flash flood can move boulders, trees, cars, or even houses.

Heavy storms can also cause fluvial channel erosion, in which the bank erodes and the channel migrates sideways and/or cuts deeper. Fast-moving water in a stream channel may undermine roads and structures and permanently change the channel itself, predisposing other roads and structures to future flooding damage. Flash floods can also mobilize large amounts of gravel and woody debris, depositing these in less steep areas as well as plugging culverts and leading to even greater damage. In Vermont and the Region, most flood-related damage

is caused by flash flooding and fluvial erosion (erosion of stream banks). Flooding is the worst current natural threat to residents and infrastructure in the TRO Region and the state.<sup>4</sup>

Significant flooding events have occurred in the TRO Region throughout recorded weather history. Due to the topography of the region, it is likely that large-scale or widespread localized flooding has been occurring for hundreds or thousands of years. Please see Appendix D for a table outlining the flooding events that have occurred in the TRO Region over the past 100 years, beginning with the worst flooding event to hit the TRORC and Vermont, the “Great Flood of 1927.”



Source: EPA

## Causes of Flooding

Flooding in our region is caused by a small number of distinctive types of weather, and can be worsened by the conditions on the land (such as saturated or frozen soils) at the time the flooding occurs. By far the most common type of weather event to cause flooding in our region is a severe thunderstorm. These storms are usually afternoon storms in the warmer months, but they can also be associated with hurricanes and tropical storms, which also occur during the summer and into the fall. By the time most hurricanes reach Vermont, they have been downgraded to tropical storms, but that is not to say they are less dangerous. The speed of the hurricane or tropical storm and pockets of varying severity within the storm system have an impact on the rainfall totals observed from town to town. For example, Tropical Storm Irene dropped over six inches in much of the White River Valley (and nine inches in Rochester, according to local reports), causing extensive flooding damage. However, the towns in the Region along the Connecticut River received only 3” to 5” and experienced minimal flood damage. Storm impacts can be greatly magnified by previous rains. Tropical Storm Floyd in 1999 was very similar to Irene, but it fell on dry ground and is hardly remembered.

“Resilience” means that an entity—a person, neighborhood, town, state, region or society— when faced with a particular situation or event, has the ability to effectively return to its previous state or adapt to change(s) resulting from the situation or event without undue strain.

Ice jams due to the combination of melting snow and rain leave our region vulnerable to the impacts of flooding in the winter and early spring. Ice jams typically occur during the spring when river ice begins to break up and move downstream, but they may also occur during a

thaw period in the winter months. These sheets of ice then “jam” as they become hung up on a narrow or shallow portion of the stream or river creating a dam, and additional ice and water rapidly back up behind them. Once the “dam” breaks free, flash flooding may occur downstream. Ice jams in our region typically cause minimal damage, but they can damage road infrastructure and flood homes and businesses. The mainstem and First and Third Branches of the White River, the Waits River, the Connecticut River, and several smaller brooks have all experienced ice jams.

Flooding is worsened by land uses that create hard surfaces, which lead to faster runoff, and by past stream modifications such as straightened or dredged channels, which can create channel instability.

## Implications of Climate Change and Flooding

According to a white paper produced by the Vermont Agency of Natural Resources (VT ANR)’s Climate Change Team, climate change will likely bring about conditions that exacerbate flooding in Vermont. The summer season is expected to lengthen overall, and the total precipitation is expected to increase in all seasons except the fall. The frequency of heavy precipitation events is likely to increase in all seasons, with the heaviest precipitation events occurring during the summer months. Perhaps more importantly, precipitation will likely occur in shorter, more intense bursts and, consequently, will produce precipitation that runs off the land more than it filters into it. An increase in extreme precipitation is

Climate change will likely bring about conditions that exacerbate flooding in Vermont.

~VT Agency of Natural Resources

already documented in the Northeastern U.S., especially after 1996. Precipitation models currently used in designing and building road infrastructure, informing policy decisions, and in regulating the location where structures and facilities are built rely on historical data that is no longer accurate for current conditions and will only become less accurate as climate change continues.

### Flood Damages

Floodwaters spilling over riverbanks have given us broad and fertile floodplains. Floods have carved our valleys and made our hills and mountains. Were it not for human infrastructure and settlement in the path of it, flooding would be a natural occurrence but not a hazard. However, we have built most of our towns and villages right next to the rivers that powered our mills, carried logs, provided water, and took away our waste. We built our roads along streams, as that was the easiest route, and often used gravel mined from the adjacent stream. When it seemed inconvenient to plow around meandering streams or to bridge rivers, we just moved the waterways aside. Erroneously thinking that rivers behaved like pipes, we straightened them thinking they would flood less, but that actually only increased their erosive force. Due to our actions, not nature's, flooding is the worst current natural threat to residents and infrastructure in the TRO Region.

Flooding in the Region causes immediate impacts such as eroded river banks, road closures, flooded structures, and crop damage. However, once the stress of the initial flooding impacts has subsided, the more long-term impacts begin to show, especially after major flooding events. One long-term impact is the effect of flooding on the region's economy. Economically speaking, Tropical Storm Irene struck at a very inopportune time at the end of August 2011, when the year's

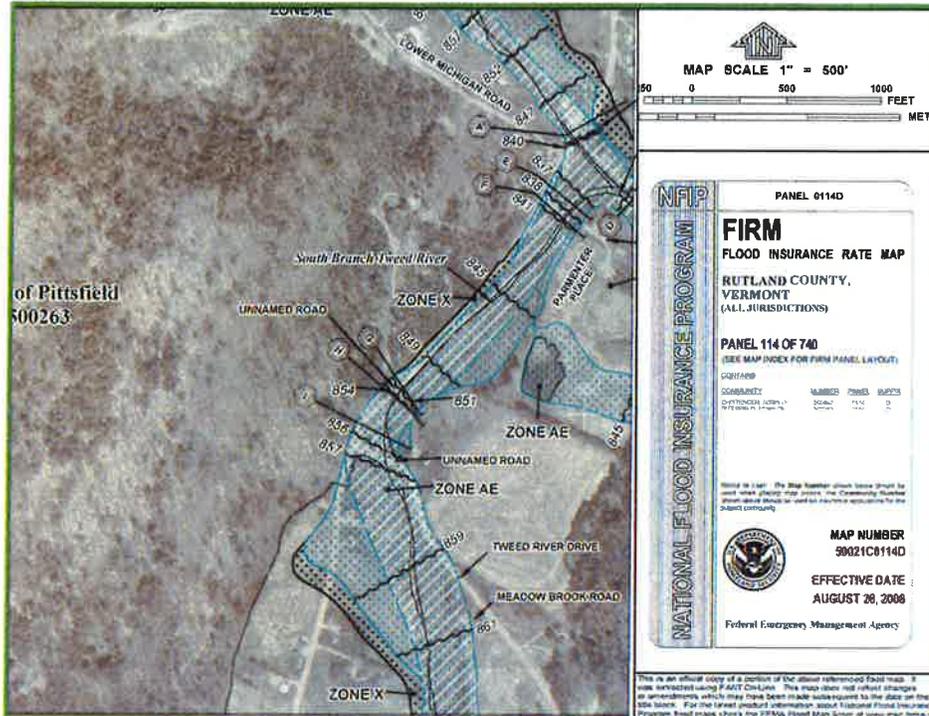


*Route 4 Before and After Tropical Storm Irene*  
| Source: USDA Farm Service ©Google

crops were ready for harvest or would have been ready in a few weeks. Because many of the region's farms and agricultural lands are located in the floodplain, crop damage was widespread. Approximately \$2 million in vegetable crops alone were destroyed or left to decompose statewide. The economic estimate for flood damage to farms statewide was estimated at \$20 million (this estimate includes buildings and land, hay, corn, pasture, soybeans, vegetables, and fruit).

Vermont is a destination for travelers, especially in the fall foliage season. Due to the damaged road infrastructure after Irene travel was difficult. Finding an east-west route was especially difficult, as many of the major roads in the region had been damaged at one section or another, including US 4, VT 100, VT 107, and VT125. With the fall season approaching, travel to areas not directly off the major highways was slow or impossible. Woodstock was among the most hard-hit areas in the state for room sales, reporting a drop of 68.4 percent in September

**Figure 3-5:** Example of a FIRM map in Pittsfield



Most of the FIRMs used by the towns in the Region are outdated. Most towns have maps based drawn up in the 1970s. Orange County’s maps are largely still in paper form and are not able to be used with modern mapping programs. Windsor County’s maps have been converted to digital format, but the underlying data, except along the Connecticut River, is also 30 to 40 years old. The outdated information on these FIRMs provides challenges for administering a town’s flood hazard regulations. Some towns or areas of towns have extremely basic FIRMs with approximate A Zones

2011 and 20.4 percent in October of 2011.

### Flood Hazard and Fluvial Erosion Hazard Areas in the TRO Region

#### Flood Hazard Areas

There are two sets of official maps that can govern development in the floodplain in Vermont. Though they have limitations, these maps are the best current means of showing areas with higher flood risk. The first of these is the Federal Emergency Management Agency’s (FEMA) Flood Insurance Rate Maps (FIRMs). Every town in our region has these areas of flood risk mapped by FEMA. The FIRMs show the floodplain (the Special Flood Hazard Area or SFHA) that FEMA has calculated would be covered by water in a 1% chance annual inundation event, also referred to as the “100-year flood” or base flood. It is important to understand that the 1 percent chance flood was calculated with limited historical rainfall data on a relatively rough topographic scale. Many parts of the region have had several “100-year” floods in the last 20 years and there is now evidence that extreme rainfall increased starting in the mid-1990s.

(labeled “Zone A”). In these areas, the base flood elevation has not even been determined and the map is drawn at a rough scale. As a result, a map like this does not provide the elevation to which a structure must be raised, leading to more expense by landowners who must find out that information. Such maps also do not show where the “floodway” is. The floodway is an extremely risky part of the floodplain where the current is strong. Since special restrictions apply to floodways, not having these mapped is cumbersome for owners and towns as these areas must first be determined on a case by case basis. Lastly, no special flood hazard areas or floodways are mapped at all for smaller streams, leaving out these risky areas and creating a false sense of safety.

A significant portion of flood damage in Vermont occurs outside of the FEMA mapped areas along these smaller upland streams, as well as along road drainage systems that fail to convey the amount of water they are receiving. Since FEMA maps in the region are concerned only with inundation and also assume that river channels

never move, they are poor at showing that these other areas along small streams or alongside channels are at risk from flash flooding and lateral erosion. This leads to these areas often not being recognized as flood-prone or to the risk being identified simply as high water. Property owners in such areas outside of SFHAs are not required to have flood insurance.

To remedy this lack of accurate risk information and to create a tool that would allow towns to regulate development in these additional areas with flood erosion risk (but that are not shown on FIRMs), VT ANR has developed the second kind of flood risk map we have: a “river corridor” map. Initial river corridor maps have been produced for the entire state, and the agency is refining these as additional data is available. Maps of river corridors depict where the lateral movement of the river and the associated erosion is more of a threat than inundation by floodwaters. Elevation or floodproofing alone is often not protective of structures in these areas as erosion can undermine them.

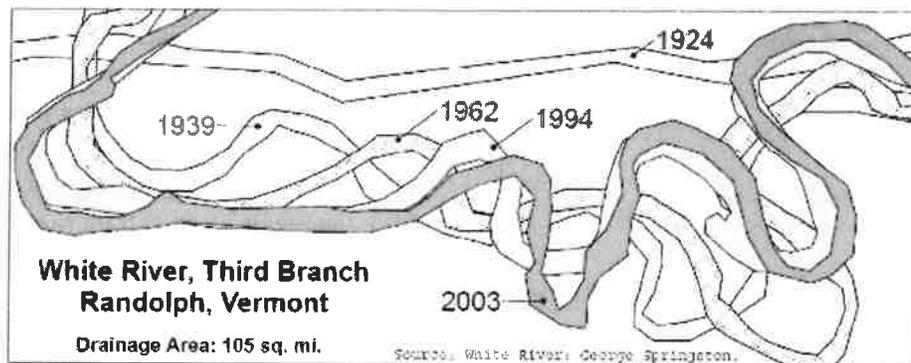
It should be noted that some lands within developed areas or next to existing structures, though mapped as river corridors and potentially subject to erosion risk, may be removed from this area during permitting, as the channel’s edge has already been reinforced so that erosion does not occur or will be repaired. In recognition of this, the river corridor maps already stop at state highways and railroads, as it is assumed that these will be protected from erosion or replaced post-disaster by the government. TRORC is working with VT ANR on having the maps in

developed areas adjusted to reflect this reality.

### ***Flood Hazard Regulations***

In order to enable property owners to be eligible for federal flood insurance through the National Flood Insurance Program (NFIP), municipalities must adopt and enforce flood hazard area regulations either through their regular zoning bylaws or through a separate bylaw. A community’s flood hazard regulations must apply to at least the Special Flood Hazard Areas (SFHA) identified by FEMA and contain certain minimum standards. The regulations deal with the permitting of new structures in the floodplain and place restrictions on other types of activities within the floodplain. They also specify land, area, and structural requirements to be adhered to within the SFHA. Paradoxically, using only the minimum required FEMA regulations can increase flood risk, as these allow the placement of fill in areas that could have stored flood waters, permit development to flood heights that are outdated and too low, and also fail to take erosion into account at all.

Municipalities can seek to reduce the threat of flood damage within their jurisdiction by not allowing new structures in the floodplain and through enacting stricter standards than the minimum required by the NFIP, such as elevating structures one to two feet above the base flood level and regulating development in river corridor areas as well. Lax enforcement of flood regulations can place people at risk of injury or death, place infrastructure and property at risk of damage or destruction, and can even create liability on the part of the community.



*White River's path through the years. | Source: George Springston*

### Home/Property Buyouts

Following the flood damage caused by the 2011 spring flooding and Tropical Storm Irene, a number of property owners in Vermont applied for property buyouts, which were funded by FEMA's Hazard Mitigation Grant Program (HMGP) and HUD's Community Development Block Grants for Disaster Recovery (CDBG-DR) administered through TRORC. Roughly 70 properties in the TRO Region, and 150 in the state, were involved in the buyout process. The towns in our region with buyout properties include Bethel, Braintree, Bridgewater, Granville, Hartford, Pittsfield, Plymouth, Rochester, Royalton, Sharon, and Stockbridge. Most of these towns are located on the White River and its tributaries. Buyouts are an effective way to reduce a community's vulnerability to flooding and therefore improve the community's overall resilience to flooding. Homes are no longer potential objects that will wash downriver and clog a bridge, and buyout sites (once cleared) provide floodwaters more room to release energy. As a result, a number of communities in our Region have been made safer.



*A home in Rochester that was bought out in the buyout program.*

### Lands That Help Prevent Flooding

#### Wetlands

Wetlands are a vital component for maintaining the ecological integrity of land and water,

and they provide an array of functions and values that support environmental health and provide benefits to humans, including flood and stormwater control. Draining, filling, and development have resulted in the loss of more than 35 percent of Vermont's original wetland acreage, primarily due to agricultural and large-scale development projects, and this loss has increased flood risk.

The Vermont Wetlands Rules "identify and protect significant wetlands and the values and functions which they serve in such a manner that the goal of no net loss of such wetlands and their functions is achieved." Although only wetlands designated as "significant" are protected under the Wetlands Rules, the Rules state, "Wetlands not designated as significant under these rules should be assumed to have public value, and therefore may merit protection under other statutory or regulatory authority."

In the Region, just over 1 percent of the land area has been identified by the State of Vermont as "significant" wetlands, eligible for state protection under the Vermont Wetlands Rules. However, there are a large number of smaller wetlands that may qualify for protection. Examples of larger wetlands that help to attenuate floodwaters and reduce flooding damage in the TRO Region include the Class 2 wetlands through the Killington Flats area and along Swamp Road in Newbury. However, there are a number of smaller wetlands in all of the towns that also provide flood mitigation, water quality benefits, and wildlife habitat.

The Regional Commission recognizes the critical value of wetlands in relation to the health of the water, wildlife, and plant resources in the region and to the ecosystem as a whole. The Regional Commission supports and encourages communities to identify and inventory wetlands within the region and to adopt mechanisms for their increased protection. This information can increase the effectiveness of the state and federal regulatory process. Towns and communities have

the ability to adopt mechanisms that provide stricter protections than are required by the state. For more on wetlands, please see the Natural Resources chapter.

### ***Riparian Buffers and Lands Adjacent to Streams***

Naturally vegetated riparian zones (vegetated buffer strips next to surface waters) are essential for healthy and resilient river corridors.

Vegetated riparian buffers provide a number of “ecosystem services” including attenuating floodwaters; providing river bank support and stabilization; reducing flood and ice damage to adjacent lands and structures; and slowing surface water runoff.

Moving outside of the riparian buffer, lands adjacent to streams also provide benefits, especially during flooding events. Once water overtops the river or stream channel, these areas help slow the velocity of the water by allowing the water to expand laterally over the land area instead of moving down the river or stream channel. Because of their tendency to flood and the consequent deposition of nutrients on the land, these areas tend to be very productive agricultural lands. They also serve to collect ice or debris during floods, helping river or stream channels to stay clear. The importance of these lands was demonstrated during the flooding caused by Tropical Storm Irene, as the White River was able to dissipate along fields between towns, helping to attenuate some of the floodwater.

### ***Upland Forests***

Upland forests are distinguished by having a nearly continuous canopy cover of 60 percent or more. They also contain many small unnamed streams that make up the headwaters of a watershed. These headwater streams are the smallest yet most abundant streams draining the state of Vermont and the TRO Region. Therefore, the activities occurring in the headwaters can impact an entire watershed.

Healthy and well-managed upland forests

reduce flooding by intercepting rainfall so that the force of rain is less erosive, increasing the infiltration and storage of rainwater into rich soils, and soaking up massive amounts of water during the growing season. The TRO Region is home to many different kinds of forested areas. For instance, the region contains some of the vast unbroken forested ridgelines of the Green Mountain National Forest, as well as several large blocks of conserved forested areas, like the Chateaugay No Town Conservation Project, which stretches across the towns of Barnard, Bridgewater, Stockbridge, and Killington. These and other forested lands not only provide ecological, scenic, and economic benefits but also help mitigate flood damage.

### ***Stormwater and Impervious Surfaces***

Impervious surfaces prevent the infiltration of water into the soil. Man-made impervious surfaces include parking lots, rooftops, roads (even gravel roads), and severely compacted soils, all of which exacerbate flooding events by increasing the amount and velocity of stormwater runoff, especially in heavy rain events. The percentage of impervious surfaces can be reduced by limiting the number of rooftops and amount of pavement, by using permeable surfacing materials, by employing disconnection practices, and by implementing Low Impact Development (LID) principles. Low Impact Development refers to the process of designing and implementing practices at the site level to minimize the creation of stormwater and to replicate conditions present before the development of an area by managing stormwater runoff the way a healthy and intact environment would—by slowing it, spreading it, and/or sinking the runoff into the ground.

While widespread impervious surfaces are detrimental to water quality, and even as little as 10 percent impervious cover in a watershed can destabilize rivers, impervious surfaces in village centers and downtowns are the desired result of dense development and are important in the fabric of the Vermont landscape. It is critical to maintain the dense development of village

centers and downtowns for their outright benefits to their community. However, it is also important to understand the stormwater runoff issues that exist and the various ways to mitigate their effects.

### The Site-Specific Nature of Flooding

The risk of flooding in Vermont varies site by site, to the point that even adjacent parcels may be impacted differently in a flooding event.

Generally speaking, floodways are extremely dangerous places and the Special Flood Hazard Area and river corridors are high risk, but each site presents specific issues and a unique set of circumstances. For example, on a site only in the Special Flood Hazard Area, the risk may be solely from inundation, so the specific elevation is a major factor in flood damage. On a site in the river corridor, the risk may be due to lateral erosion, so elevation is less important than whether you are sitting on bedrock. On other sites, the risk may be from both inundation flooding and erosion. The site-specific nature of flooding complicates assessing and planning

for flood risks. It is important to understand the specific risks that are present at each site before attempting to mitigate flood damage on that site.

The late Gilbert White, considered the father of floodplain management in the United States, wrote, “Floods are ‘acts of God,’ but flood losses are largely acts of man.” By this he meant that flooding is a hazard not simply because it rains hard, but that we have put things in the way that will suffer from that rain. Historically, Vermont town and village centers were established around water power, which created the densely developed village and town centers we value. Today, the desire to maintain and continue this settlement pattern still holds true—even if the downtown or village center is vulnerable to flood risks. As such, it is important to recognize that there are trade-offs between flood risk and having compact development. Keeping these areas of compact settlement as safe from flooding as possible, given their location, may require elevation and floodproofing efforts, but will largely depend upon natural flood storage and surface runoff retention in upstream areas.

Low Impact Development (LID) refers to the process of designing and implementing practices at the site-level to control stormwater. LID attempts to replicate the pre-development conditions at a site.



*Low Impact Development | Source: deeproot*

## Goals, Policies and Recommendations: Flood Resilience

### Goals

1. The citizens, property, and economy of the TRO Region and the quality of the region's rivers as natural and recreational resources are protected by using sound planning practices to address flood risks.
2. The Region is able to recover from flooding quickly and in a manner that improves flood resilience.
3. The creation of impervious surfaces and development in wetlands or upland forests is lessened, and where it does occur, is done in a manner that does not worsen flooding.

### Policies

1. All new fill and construction of buildings in FEMA-mapped Special Flood Hazard Areas increases flood risk and is discouraged, and at a minimum must comply with the Association of State Floodplain Managers' No Adverse Impact policy.
2. All new buildings, other than accessory structures, in FEMA-mapped flood areas must have the lowest floor elevated or floodproofed at least one foot above base flood elevation.
3. Natural areas, non-structural outdoor recreational, and agricultural uses are the preferred land uses within river corridor areas due to the dangerous erosive nature of these areas. Commercial, industrial, and residential uses within river corridors are strongly discouraged outside of village and town centers.
4. New buildings within FEMA-mapped floodways shall be prohibited.
5. In order to lessen the conflict between roads and streams, towns and the state should consider moving or abandoning roads when there are more cost-effective solutions or other routes.
6. The state and municipalities should only rebuild/install culverts and bridges that are designed at least to VTrans' Hydraulics Manual and ANR's Stream Alteration Standards, and are encouraged to adopt road and bridge standards to the 50 or 100-year storm level for identified critical transportation routes.
7. Critical facilities such as emergency services, wastewater treatment plants, power substations, and municipal buildings shall not be built in Special Flood Hazard Areas unless floodproofed or elevated to at least 2 feet above the base flood elevation, designed to withstand erosion risk, and must have dry access above the base flood.
8. To reduce flood flows and be more protective of existing development, the current one-acre threshold in Vermont's Stormwater Management Rule should be reduced to one-half acre.
9. Rock rip-rap and retaining walls should only be used to the extent necessary and when bioengineering techniques may not be adequate to prevent significant loss of land or property.
10. Upland forests and watersheds should be maintained predominately in forest use to ensure high-quality valley streams and to ensure that flood flows are absorbed.
11. Outside of areas of existing compact development, new development must preserve vegetated riparian buffer zones that are consistent with state riparian buffer guidelines.
12. All wetlands that provide flood storage functions shall remain undeveloped or have compensatory storage constructed so as to achieve no net loss of such wetland function.
13. In the long term, restoration and enhancement of additional wetlands should be pursued in order to improve the region's flood resilience.
14. Structural development or intensive land uses shall not occur in Class I and Class II wetlands unless there is an overriding public interest.
15. The purchase of flood easements is encouraged to both reduce flood risk to structures and to support owners who leave lands open.
16. Emergency planning for flood response and recovery is encouraged.

*Goals, policies, and recommendations continued on next page*

## Goals, Policies and Recommendations: **Flood Resilience**

### *Recommendations*

1. TRORC will work with towns to strengthen their Flood Hazard Bylaws in order to mitigate risks to public safety, critical infrastructure, historic structures, and municipal investments from inundation and erosion.
2. TRORC will work with VTrans on advocating for and improving the flood capabilities of state- or town-owned transportation infrastructure.
3. TRORC should continue working with the Emergency Coordinators, response agencies, and Selectboards from each town to develop mitigation plans and emergency preparedness and recovery procedures from flooding.
4. Existing homes and businesses at serious risk of flood damage should be identified and prioritized by towns in concert with the VT ANR River Management Section and TRORC for mitigation actions such as elevation/relocation or purchase and demolition.
5. To fully address flood risks, towns should add areas not designated in either FEMA's maps or in VT ANR's maps but that are flooded during a weather event to local flood regulations.
6. Watershed-level planning should be done by towns with assistance from TRORC to evaluate natural and constructed flood storage options upstream of existing areas of concentrated development that are at risk of flooding.
7. TRORC will work with VT ANR, towns, and landowners to lessen flood risk by restoring natural channel functions through berm or dam removal or intentional lowering of streambanks.
8. TRORC will work with towns to understand the impact stormwater runoff has on the region and on specific towns, and then work to address impacts from impervious surfaces through increased retention and infiltration.
9. The state should institute a permanent buyout program to continue to lessen flood risk.
10. TRORC will work with VT ANR to adjust the boundaries of river corridors in developed areas per the Vermont Flood Hazard Area and River Corridor Protection Procedure.

## Land Use Endnotes

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1. See Vermont Natural Resources Board for “existing settlement” test.
2. Vermont Department of Fish and Wildlife
3. Vermont Conservation Design: Maintaining and Enhancing and Ecologically Functional Landscape, Eric Sorenson, Robert Zaino, Jens Hilke - Vermont Fish and Wildlife Department and Elizabeth Thompson -Vermont Land Trust



*Willard Bridge, Pomfret | © John Knox*

## DEFINITIONS

**ACCEPTED MANAGEMENT PRACTICES (AMP).**—Methods of activity generally approved by regulatory authorities and practitioners as acceptable and common to that type of operation. AMPs may not be the best methods, but are acceptable. Agriculture has AMPs typically documented in agency regulations. Other industries may also have AMPs, documented in regulation or not. Professional associations often list AMPs or similarly named methods of conduct for their members.

**ACTIVE LIVING.**—Active living is a way of life that integrates physical activity in daily routines.

**ACTIVE TRANSPORTATION.**—Active transportation refers to any form of human-powered transportation: walking, cycling, using a wheelchair, in-line skating or skateboarding. There are many ways to engage in active transportation, whether it is walking to the bus stop, or cycling to school/work.

**ADAPTIVE REUSE.**—The development of a new use for an older building or for a building originally designed for a special or specific purpose.

**AFFORDABLE HOUSING.**—According to 24 VSA §4303, affordable housing means either of the following, based on tenure:

- a. Housing that is owned by its inhabitants whose gross annual household income does not exceed eighty percent of the county median income, or eighty percent of the standard metropolitan statistical area income if the municipality is located in such an area, as defined by the United States Department of Housing and Urban Development, and the total annual cost of the housing, including principal, interest, taxes, insurance, and condominium association fees is not more than thirty percent of the household's gross annual income.
- b. Housing that is rented by its inhabitants whose gross annual household income does not exceed eighty percent of the county median income, or eighty percent of the standard metropolitan statistical area income if the municipality is located in such an area, as defined by the United States Department of Housing and Urban Development, and the total annual cost of the housing, including rent, utilities, and condominium association fees, is not more than thirty percent of the household's gross annual income.

**AGING IN PLACE.**—Allows individuals to remain at home or within a supportive living community as they age, without requiring the need to move as their needs increase over time.

**AGRICULTURE.**—The production, keeping or maintenance, for sale, lease or personal use, of plants and animals useful to man, including but not limited to: forages and sod crops; grains and seed crops; dairy animals and dairy products, poultry and poultry products; livestock, including beef cattle, sheep, swine, horses, ponies, mules, or goats, or any mutations or hybrids thereof, including the breeding and grazing of any or all of such animals; bees and apiary products; fur animals; trees and forest products; fruits of all kinds, including grapes, nuts and berries; vegetables; nursery, floral, ornamental and greenhouse products; or lands devoted to a soil conservation or forestry management program.

**ARCHAEOLOGICAL SITE.**—Land or water areas which show evidence or artifacts of human, plant or animal activity, usually dating from periods of which only vestiges remain.

**AQUIFER PROTECTION AREA (APA).**—The surface and subsurface area contributing significantly to the surface

and/or subsurface recharge and maintenance of an aquifer. APAs can often include upland watersheds of surface waters contributing significantly to the maintenance and operation of aquifers below the surface or downstream.

**ASSIMILATIVE CAPACITY STUDY.**—Scientifically valid research documenting the physical, cultural, economic, ecological or other characteristics and of an area or site and that area's or site's ability to host different changes to its characteristics before significant alterations in its function or character are created.

**BASE FLOOD ELEVATION (BFE).**—The elevation of the water surface elevation resulting from a flood that has a 1 percent chance of equaling or exceeding that level in any given year. On the Flood Insurance Rate Map the elevation is usually in feet, in relation to the National Geodetic Vertical Datum of 1929, the North American Vertical Datum of 1988, or other datum referenced in the Flood Insurance Study report, or the average depth of the base flood, usually in feet, above the ground surface.

**BEST AVAILABLE TECHNOLOGY (BAT).**—Methods and products for design, operation, maintenance, retrofit and function of activities which will result in the best reduction of undesired byproducts or effects currently achievable. BAT achievability is based upon the owner/operator's ability to implement the methods or products within their economic means. This type of technology is usually considered to be the "state-of-the-art" and achieves the best performance available.

EXAMPLES: Woodstoves achieving best EPA particulate standard performance, highest efficiency factory stack scrubbers, water treatment systems producing water of same or higher quality as the receiving water body.

**BEST MANAGEMENT PRACTICES (BMP).**—Methods of activity generally established by regulatory authorities and practitioners as the best manner of operation. BMPs are generally more stringent than AMPs. BMPs may not be established for all industries or in agency regulations, but are often listed by professional associations and regulatory agencies as the best manner of operation for a particular industry practice.

**BEST PRACTICAL TECHNOLOGY (BPT).**—Methods and products for design, operation, maintenance, retrofit and function of activities which will result in the best reduction of undesired byproducts or effects within the practical means of the owners/operators while providing a practical cost/benefit ratio. For example, removing ninety-eight percent of a pollutant from a waste stream may be practical, but removing the last two percent may be impractical for the cost required and the relatively insignificant gain in cleanliness.

EXAMPLES: Woodstove operation schedule rotations, catalytic converter retrofits for woodstoves versus mandatory stove upgrades, artificial wetland pretreatment of agricultural runoff versus onsite treatment plant investment or storage/hauling.

**BUILT ENVIRONMENT.**—The built environment includes all of the physical parts of where we live and work (e.g., homes, buildings, streets, open spaces, and infrastructure).

**BUILD-OUT.**—An estimate of the projected population, employment, traffic, utilities, and types/sizes of land uses in a project area or other designated area in accordance with the current zoning and other applicable regulations.

**CAPITAL IMPROVEMENTS PROGRAM (CIP).**—A proposed timetable or schedule of all future capital improvements to be carried out during a specific period and listed in order of priority, together with cost estimates and the anticipated means of financing each project.

**CLASS A AND B WATERS.**—Class A waters are managed for enjoyment of water in its natural condition, as public drinking water supplies (with disinfection and filtration) or as high quality waters which have significant ecological

values. Class B waters are managed for aesthetic values, recreation on and in the water, public water supply with disinfection and filtration, high quality habitat for aquatic biota, fish and wildlife, irrigation and other agricultural uses. The Secretary of the Agency of Natural Resources may designate by permit portions of Class B waters as “Mixing Zones”, or “Waste Management Zones”, for any waste that has been properly treated to comply with federal and state effluent requirements.

**CLUSTER.**—A development design technique that concentrates building in specific areas on the site to allow the remaining land to be used for recreation, common open space, and preservation of environmentally sensitive features.

**CULTURAL FACILITIES.**—Establishments such as museums, art galleries, botanical and zoological gardens of a historic, educational or cultural interest which are not operated commercially.

**DESIGNATED GROWTH CENTERS.**—As defined by Act 183: *An Act Relating To Creation of Designated Growth Centers and Downtown Tax Credit Program.*

**DWELLING, COMMERCIAL.**—A commercial residential building, including but not limited to, a nursing home, group home, residential care facility, or dormitory, which traditionally has common space, staff on site and in which rooms may not have all of the components of a dwelling unit and are not meant for transient occupation. An apartment building is a multi-family dwelling.

**DWELLING, SINGLE FAMILY.**—A detached building used as a single dwelling unit.

**DWELLING, TWO-FAMILY.**—A building containing two dwelling units. “Duplex” is synonymous with this definition.

**DWELLING, MULTI-FAMILY.**—A building containing three or more dwelling units that is not a commercial dwelling.

**DWELLING UNIT.**—One or more rooms, connected together, constituting a separate independent housekeeping establishment that is physically separate from other dwelling units that may be in the same structure, and containing facilities for its own independent living, including a toilet, lavatory, food preparation/kitchen facilities and one or more bedrooms. The term shall not include rooms with such provisions intended for transient occupation in boarding houses, dormitories, hotels, or other similar buildings.

**DWELLING UNIT, ACCESSORY (ADU).**—Efficiency or one-bedroom apartments that are clearly subordinate to a single-family dwelling, with facilities and provisions for independent living (e.g., sleeping, food preparation, and sanitation). These units must comply with the following:

- a. Have sufficient wastewater capacity.
- b. Do not exceed 30 percent of the total habitable floor area of the single-family dwelling they are subordinate to.

**ENVIRONMENTALLY SIGNIFICANT WETLAND.**—Those wetlands designated by the Vermont Water Resources Panel as “Significant Wetlands”, and those other wetlands designated as “significant” according to the wetlands designation rules are included in this category. As of February 23, 1990 the Water Resources Panel classified wetlands into three (3) groups. Classes 1 and 2 are “Significant Wetlands.” Most of those wetlands designated on the National Wetlands Inventory (NWI) Maps are identified as Class 2 wetlands. Those wetlands contiguous to the mapped NWI wetlands are also included as Class 2 wetlands. Any wetland meeting the minimum criteria for significance established by the Water Resources Panel or a Town may be included in this category.

**ESTABLISHMENT.**—A commercial business that operates within a building or structure. A single building or

structure can contain more than one distinct establishment.

**EXPANSION AREAS.**—Land that extends the cohesive core of Regional Growth Areas or Designated Downtowns, Villages, or Growth Centers, with or without the presence of municipal sewer or water service. The land should be adjacent, as defined in 24 VSA §2791, to the cohesive core.

**FIXED ROUTE SERVICE.**—A transportation service that travels along a predetermined route, with known stops, according to an established time schedule.

**FLOOD INSURANCE RATE MAP (FIRM).**—Official map of a community, on which the Federal Insurance Administrator has delineated both the special flood hazard areas and the risk premium zones applicable to the community. In some communities the hazard boundaries are available in paper, pdf, or Geographic Information System formats as a Digital Flood Insurance Rate Map (DFIRM).

**FLOODPLAIN.**—Areas where excessive water flows over river banks, and beyond shorelines, temporarily dispersing water, sediment and energy.

**FLOODWAY.**—A portion of the Special Flood Hazard Area, as mapped for the National Flood Insurance Program, that has protections for the movement of flood waters. Floodway means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot at any point.

**FLUVIAL EROSION.**—Erosion caused by streams and rivers. Fluvial erosion can be catastrophic when a flood event causes a rapid adjustment of the stream channel size and/or location.

**FOREST BLOCK.**—A contiguous area of forest in any stage of succession and not currently developed for non-forest use. A forest block may include recreational trails, wetlands, or other natural features that do not themselves possess tree cover, and uses exempt from regulation under subsection 4413(d) of Title 24.

**FOREST FRAGMENTATION.**—The division or conversion of a forest block by land development other than by a recreational trail or use exempt from regulation under subsection 4413(d) of Title 24.

**FORMULA RETAIL.** — A type of retail store that is part of a chain of stores (more than 2) where the establishment maintains two or more of the following features: a standardized array of merchandise, a standardized facade, a standardized decor and color scheme, a uniform apparel, standardized signage, or a trademaker or a servicemark.

**IMPERVIOUS SURFACE.**—Any hard-surfaced, man-made area that does not readily absorb or retain water, including but not limited to building roofs, roadways, parking and driveway areas, graveled areas, sidewalks, and paved recreation areas.

**INCLUSIONARY ZONING.**—Inclusionary zoning bylaws require a specified percentage of housing units in new planned unit development or subdivision to meet certain affordability standards, and comply with the following:

- a. Conform with municipal plan housing policies.
- b. Be determined based on municipal affordable housing needs, both rental and for sale.
- c. Include development incentives that contribute toward the economic feasibility of providing affordable housing units (ex: density bonuses and waivers).
- d. Require that, once built, affordable housing availability will be maintained through income qualification for residents, the promotion of affirmative marketing, and rent and resale pricing that remains affordable for a specified period of time on designated affordable units, as written in municipal bylaws.

**INDUSTRIAL AREA.**— As used in this Plan, “Industrial Area” means a regional land use are designation of land that is appropriate due to plans, designs, and zoning as a location for one or more industrial buildings, that may include adequate access roads, utilities, water, sewer, and other services necessary for the uses of the industrial buildings, and include no principal retail use except that which is incidental to an industrial use, and no office use except that which is incidental or secondary to an industrial use.

**INDUSTRIAL.** — The manufacture, processing, assembly, distribution, or packaging of natural or man-made materials or products where such activity generally results in off-site impacts, such as noise, and where such activity and storage of materials or products are typically not fully enclosed inside a building or screened from the abutting properties.

**EXAMPLES:** junk yards; rail and truck terminals; concrete, asphalt or brick plants; bulk storage and distribution facilities; solid waste facilities; foundry; power plant, sawmill, slaughterhouse, and biofuels/ wood pellet production. Industrial also includes all light industrial uses.

**INTERCHANGE.**—A grade separated system of access to and from major highways.

**INTERMODAL.**—Transportation by more than one means of conveyance: as by foot, bike, car, truck, rail, air, etc.

**LAND-INTENSIVE COMMERCIAL USES.**—Commercial operations that rely on large amounts of indoor or outdoor storage as the dominant use of space, and include sales lots and warehouses.

**LEVEL OF SERVICE (LOS).**—Level of service is a qualitative measure defined as the ability of a maximum number of vehicles to pass over a given section of roadway or through an intersection during a specified time period, while maintaining a given operating condition.

1. **LOS A.**—Highest LOS which describes primarily free-flow traffic operations at average travel speeds. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at intersections is minimal.
2. **LOS B.**—Represents reasonably unimpeded traffic flow operations at average travel speeds. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tensions.
3. **LOS C.**—Represents stable traffic flow operations. However, ability to maneuver and change lanes may be more restricted than in LOS B, and longer queues and/or adverse signal coordination may contribute to lower average travel speeds. Motorists will experience an appreciable tension while driving.
4. **LOS D.**—Borders on a range in which small increases in traffic flow may cause substantial increases in approach delay and, hence, decreases in speed. This may be due to adverse signal progression, inappropriate signal timing, high volumes or some combinations of these.
5. **LOS E.**—This represents traffic flow characterized by significant delays and lower operating speeds. Such operations are caused by some combination of adverse progression, high signal density, extensive queuing at critical intersections, and inappropriate signal timing.
6. **LOS F.**—This represents traffic flow characterized by extremely low speeds. Intersection congestion is likely at critical signalized locations, with high approach delays resulting. Adverse signal progression is frequently a contributor to this condition.

**LIGHT INDUSTRIAL.**—The manufacture, fabrication, assembly, distribution or packaging of natural or man-made products where such activity takes place entirely inside of a building and results in off-site impacts, other than traffic, as those similar to offices.

**EXAMPLES:** cabinetry or woodworking shop, food processing, electronics high-tech manufacturing or assembly, machine shop, sewing, printing, research and testing laboratory, warehousing, and similar uses.

**MAJOR DEVELOPMENT.**—Development that meets any one of the eight specific criteria that qualify a development as resulting in substantial regional impact (see Chapter 15, section A) according to this Plan.

**MAXIMUM PEAK HOUR SERVICE VOLUME.**—The maximum number of vehicles which have a reasonable expectation of passing over a given roadway section or through a given intersection under prevailing road and traffic conditions during a specified hour of time.

**MIXED USE AREA.** — As used in this Plan, “Mixed Use Area” means a regional land use area designation of land that recognizes existing uses, is served by state highways, is adjacent to regional growth areas, and is appropriate for recreational facilities, higher intensity residential, light industrial/manufacturing and commercial uses that are land intensive and not appropriate for the core of downtowns and villages, such as lumberyards, nurseries, warehouses and kennels. Principal Retail establishments are not allowed in this Area.

**NEW TOWN CENTER.**—As defined in 24 VSA §2791(11): the area planned for, or developing as, a community’s central business district. Composed of compact, pedestrian-friendly, multistory, and mixed use development that is characteristic of a traditional downtown and supported by planned or existing urban infrastructure, including curbed streets with sidewalks and on-street parking, stormwater treatment, sanitary sewers and public water supply.

**NFIP.**—National Flood Insurance Program.

**NO ADVERSE IMPACT.**—No Adverse Impact floodplain management is where the action of one property owner does not adversely impact the rights of other property owners, as measured by increased flood peaks, flood stage, flood velocity, and erosion and sedimentation.

**OPEN SPACE.**—Any parcel or area of land or water essentially unimproved and set aside, dedicated, designated or reserved for public or private use or enjoyment, or for the use and enjoyment of owners and occupants of land adjoining or neighboring such open space.

**PEAK HOUR.**—As it is used in describing traffic volumes, it represents the hour of a twenty-four hour period in which the highest traffic volumes occur on a segment of roadway or at an intersection.

**PASSIVE OUTDOOR RECREATION.**—Leisure time activities which use an outdoor public or private space that are not dependent upon structural facilities such as swimming pools, ball courts, etc.

**PLANNED UNIT DEVELOPMENT (PUD).**—Planned unit development is a design approach that balances intensive settlement with open land. Also known as “clustered housing”, developments can be designed to conserve energy; depending on the nature of construction, savings can be accrued on construction costs. PUDs facilitate efficient provision of municipal services such as fire protection, school transportation, road construction or maintenance. The undeveloped open space reserved in PUDs is an asset for the landowners and municipalities. PUD design strategies should be employed in planning for development or subdivision of rural land in the region.

**PRINCIPAL.**—Means foremost or chief.

**PRINCIPAL (PRIMARY) RETAIL.**—A business whose primary use is the supply of merchandise or wares to the end consumer. Examples include (but are not limited to), supermarkets, hardware stores, dry-goods stores, pharmacies, big box stores, etc.

**PRISTINE WATERS.**—Those waters having Class A status and those waters predominantly in their natural state

relatively unaffected by human activity physically or aesthetically. Undeveloped lakes and ponds may be included in this category, as would streams and rivers unaffected by human activity. Pristine waters are generally accepted to be the finest unspoiled natural water bodies or other waters with Class A qualities.

**RECREATIONAL TRAIL.**—A corridor that is not paved and that is used for hiking, walking, bicycling, cross-country skiing, snowmobiling, all-terrain vehicle riding, horseback riding, and other similar recreational activity.

**REGIONAL GROWTH AREA.**—As used in this plan, regional growth areas include the Regional Center, Town Centers, Village Settlements, Hamlet Areas, Designated Growth Centers, Designated Downtowns, and Designated Village Centers.

**REGIONALLY SIGNIFICANT TRANSPORTATION FACILITIES.**—Any facility primarily designed to rapidly and efficiently transport goods and passengers between towns and/or regions.

**RESILIENCE.**—The ability of a system, community, region or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.

**RIPARIAN BUFFER.**—A vegetated area (a “buffer strip”) near a stream, usually forested, which helps shade and partially protect a stream from the impact of adjacent land uses. It plays a key role in increasing water quality in associated streams, rivers, and lakes, thus providing environmental benefits. With the decline of many aquatic ecosystems due to agricultural production, riparian buffers have become a very common conservation practice aimed at increasing water quality and reducing pollution.

**RIVER CORRIDOR.**—The land area adjacent to a river that is required to accommodate the dimensions, slope, planform, and buffer of the naturally stable channel, and necessary to maintain or restore fluvial equilibrium conditions and minimize fluvial erosion hazards, as delineated by the Agency of Natural Resources in accordance with river corridor protection procedure.

**SECONDARY OR ANCILLARY RETAIL.**—A business whose primary use is not retail sales, but contains a retail component that is clearly secondary to the primary use. Examples include (but are not limited to), eye doctor’s offices, veterinarian’s offices, small engine repair shop, manufacturer’s with a small showroom, etc.

**SERVICE BUSINESS.**—Any establishment whose primary activity is the provision of assistance, as opposed to products, to individuals, business, industry, government, and other enterprises.

**SMART GROWTH PRINCIPLES.**—Growth that:

- a. Maintains the historic development pattern of compact village and urban centers separated by rural countryside;
- b. Develops compact mixed-use centers at a scale appropriate for the community and the region;
- c. Enables choice in modes of transportation;
- d. Protects the state’s important environmental, natural and historic features, including natural areas, water quality, scenic resources, and historic sites and districts;
- e. Serves to strengthen agricultural and forest industries and minimizes conflicts of development with these industries;
- f. Balances growth with the availability of economic and efficient public utilities and services;
- g. Supports a diversity of viable businesses in downtowns and villages;
- h. Provides for housing that meets the needs of a diversity of social and income groups in each community;

- i. Reflects a settlement pattern that, at full build-out, is not characterized by:
  - Scattered development located outside of compact urban and village centers that is excessively land consumptive;
  - Development that limits transportation options, especially for pedestrians;
  - The fragmentation of farm and forest land;
  - Development that is not serviced by municipal infrastructure or that requires the extension of municipal infrastructure across undeveloped lands in a manner that would extend service to lands located outside compact village and urban centers;
  - Linear development along well-traveled roads and highways that lacks depth, as measured from the highway.

**SOILS, PRIMARY AGRICULTURAL.**—A farmland soils map unit that the Natural Resources Conservation Service of the U.S. Department of Agriculture (NRCS) has identified and determined to have a rating of prime or statewide significance. For the purpose of this Plan Prime Agricultural Land is synonymous with this definition.

**SOILS, PRODUCTIVE FOREST.**—Those soils which are not primary agricultural soils but which have a reasonable potential for commercial forestry and which have not been developed. In order to qualify as productive forest soils, the land containing such soils shall be of a size and location, relative to adjoining land uses, natural condition, and ownership patterns so that those soils will be capable of supporting or contributing to a commercial forestry operation. Land use on those soils may include commercial timber harvesting and specialized forest uses such as maple sugar or Christmas tree production.

**SOURCE PROTECTION AREA (SPA).**—The surface and subsurface area surrounding a public water source system, through which contaminants are likely to move toward and reach the water well or well-field during normal pumping activity. Synonymous with “Wellhead Protection Area” (WHPA). Most often delineated by the Vermont Department of Health.

**SPECIAL FLOOD HAZARD AREA.**—Synonymous with “area of special flood hazard”. The floodplain within a community subject to a 1 percent or greater chance of flooding in any given year. This area is usually labeled Zone A, AO, AH, AE, or A1-30 in the most current flood insurance studies and on the maps published by the Federal Emergency Management Agency. Please note, where floodways have been determined they may be shown on separate map panels from the Flood Insurance Rate Maps.

**SPRAWL.**—Dispersed auto-dependent development occurring outside of compact urban and village centers, along highways, and in rural countryside. Sprawl is typically characterized by:

- a. Excessive land consumption;
- b. Low densities in comparison with older centers;
- c. Lack of choice in ways to travel;
- d. Fragmented open space, wide gaps between development and a scattered appearance;
- e. Lack of choice in housing types and prices;
- f. Separation of uses into distinct areas;
- g. Repetitive one-story development;
- h. Commercial buildings surrounded by acres of parking;
- i. Lack of public spaces and community centers.

**STRIP DEVELOPMENT.**—Linear commercial development along an arterial highway leading from an urban or

village center or connecting two centers. Strip development has many characteristics, not all of which need to occur for strip development to be present. The characteristics of strip development include, but are not limited to, the following:

- a. Use of individual curb cuts for each project along the highway;
- b. Lack of connections between the projects, except for the highway connection;
- c. One-story buildings containing a single type of use;
- d. Little to no pedestrian circulation between projects on the strip;
- e. Accessibility of individual projects primarily to automobiles;
- f. Separation of projects by parking lots;
- g. Individual project design, signage, lighting, parking, and landscaping; lack of coordination between projects concerning these items, causing cluttered appearance;
- h. Narrow depth and broad street frontage of project parcels to take advantage of exposure on the arterial highway.

**SUBSTANTIAL REGIONAL IMPACT.**—A threshold for review under Act 250 and precedence of this Regional Plan as defined in Section XIV(A) of this Plan under the authority of V.S.A. Title 24, Chapter 117 §4345a(17).

**STRUCTURE.**—An assembly of materials for occupancy or use.

**TAX INCREMENT FINANCING (TIF).**—Provides authority for municipalities to bond for indebtedness due to infrastructure improvements within a TIF District.

**TRANSIT DEVELOPMENT PLAN (TDP).**—A regionally developed transit plan approved by the Agency of Transportation which outlines passenger transportation needs and quality of service in the region. The TDP's goals are to be incorporated into the Transportation Elements of Regional Plans prepared by regional planning commissions.

**TRANSPORTATION IMPROVEMENT PROGRAM (TIP).**—A staged, multi-year, intermodal program of transportation projects, funded by the Federal Highway Administration or Federal Transit Administration, which are consistent with the Statewide Long Range Transportation Plan and its planning processes.

**TRAVELER SERVICES.**—Establishments whose primary purpose is to assist road travelers. These establishments would provide easy access to fuel, prepared food, restroom facilities, commuter parking, lodging or travel information. Establishments that fall under this definition do not include primary or principal retail establishments such as supermarkets, hardware stores, dry-goods stores, pharmacies or big box stores.

**RESOURCE-BASED COMMERCIAL USES.**—Such things as sawmills, quarries, and sandpits, outdoor recreation, nurseries, and agricultural product processing. These are dependent on resources at the site or coming from Rural Areas of Forest-based Resource Areas and may include retail of products produced on site.

**UNIVERSAL DESIGN.**—Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design

**UNNATURAL CONVERSION.**—Man-made successional changes in physical or biologic communities such as logging, development, mining, reduction of habitat continuity or composition or other actions altering the natural process of ecological change normally occurring in an area.

**WETLAND.**—Those areas that are inundated or saturated by surface or ground water at a frequency and duration

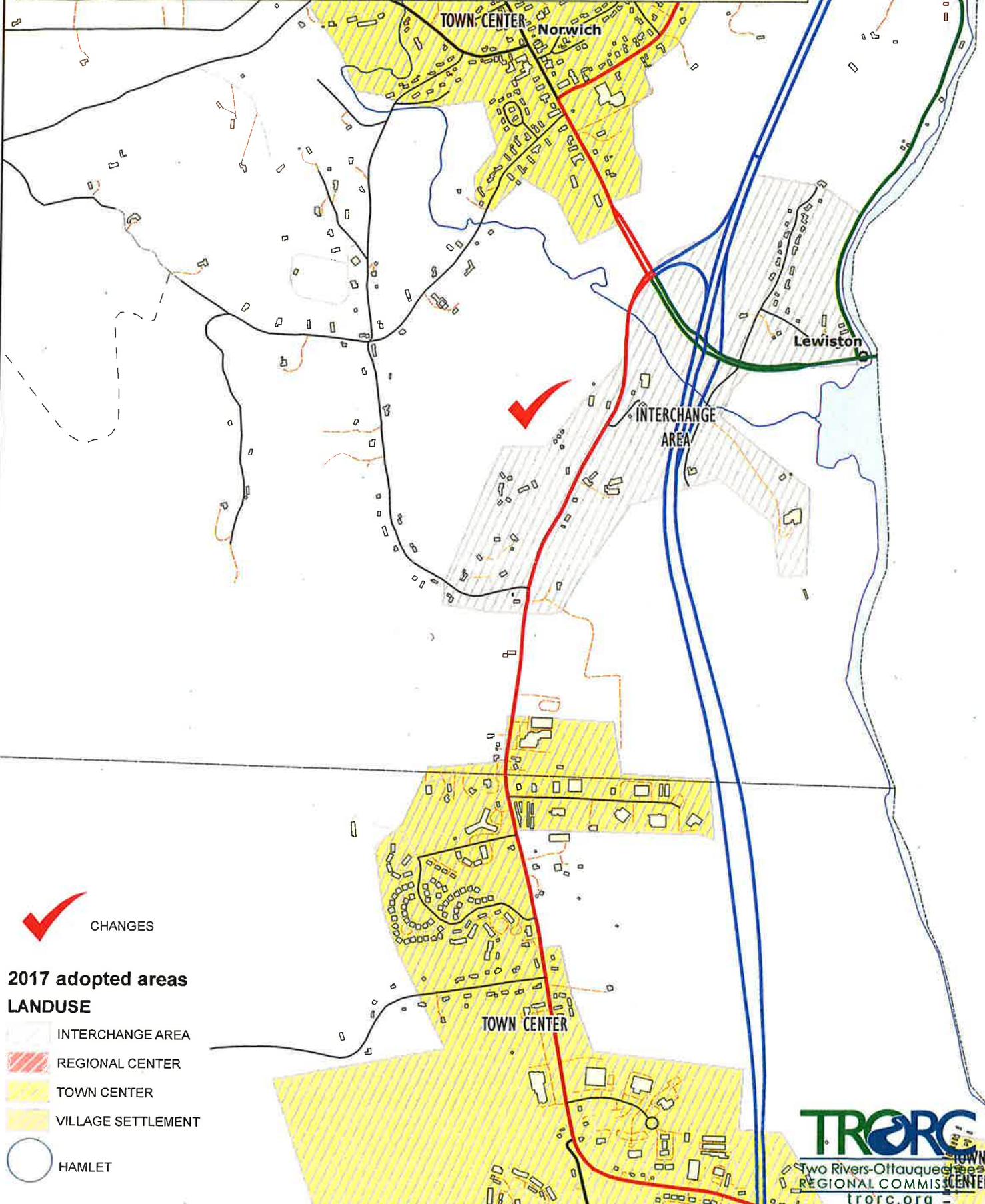
sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

**WORKFORCE HOUSING.**—Affordable housing that is in close proximity to employment centers, and is typically associated with members of the community who are gainfully employed in roles that may require advanced certification or degrees, including police officers, nurses and other medical staff, and school teachers.

**NORWICH** Changes to: US 5 South

Current Area (2017 ADOPTED): Interchange

New Area (2019 PROPOSED): Mixed Use



CHANGES

**2017 adopted areas**

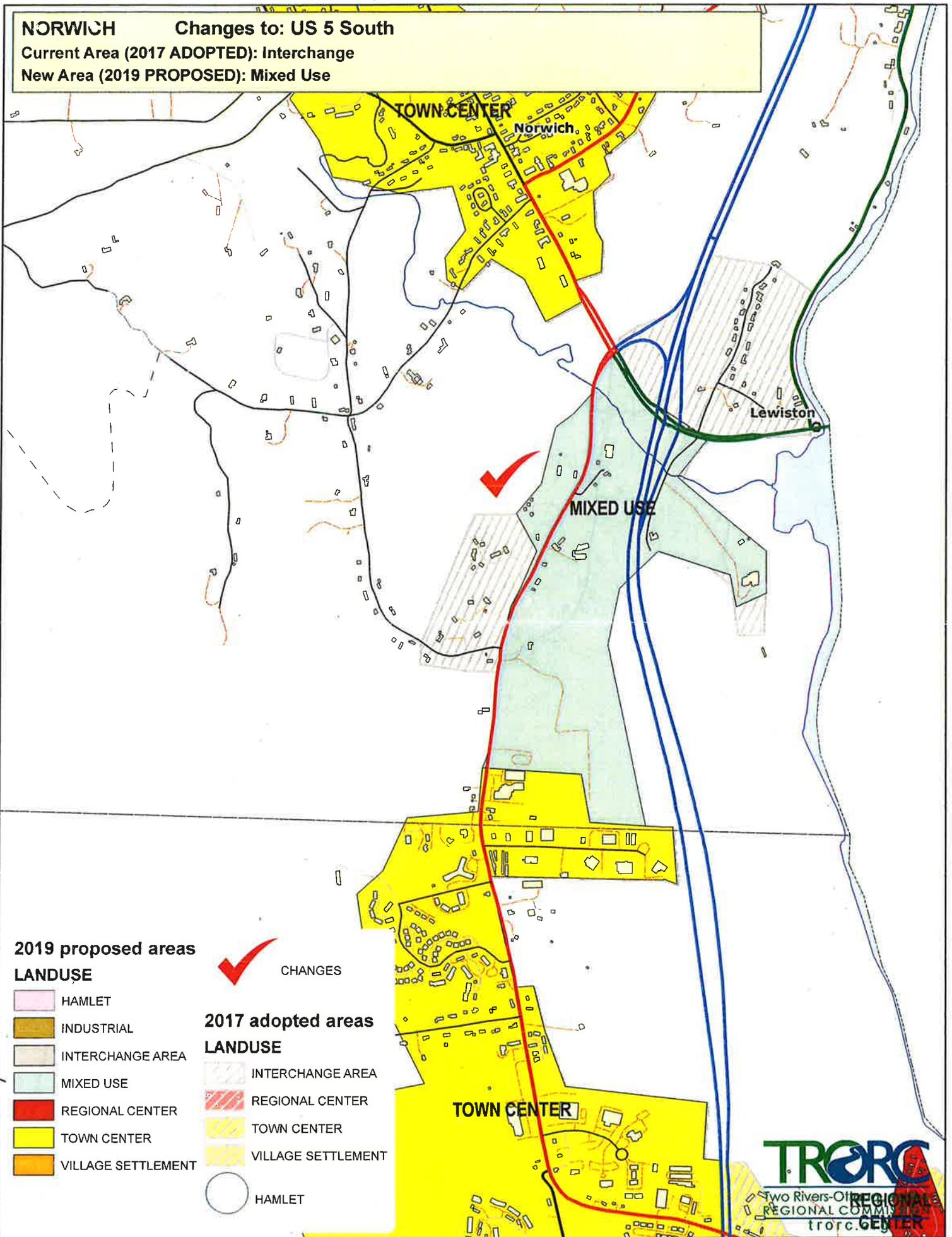
**LAND USE**

-  INTERCHANGE AREA
-  REGIONAL CENTER
-  TOWN CENTER
-  VILLAGE SETTLEMENT
-  HAMLET

**NORWICH Changes to: US 5 South**

Current Area (2017 ADOPTED): Interchange

New Area (2019 PROPOSED): Mixed Use



**2019 proposed areas**

**LANDUSE**

- HAMLET
- INDUSTRIAL
- INTERCHANGE AREA
- MIXED USE
- REGIONAL CENTER
- TOWN CENTER
- VILLAGE SETTLEMENT

**2017 adopted areas**

**LANDUSE**

- INTERCHANGE AREA
- REGIONAL CENTER
- TOWN CENTER
- VILLAGE SETTLEMENT
- HAMLET



CHANGES

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TO: Herb Durfee, Town Manager  
FROM: Rod Francis, Planning Director  
RE: Draft TRORC Town Plan  
DATE: 06/20/2019

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#### KEY POINTS

The 2019 Draft Regional Plan:

- Deletes the mapped interchange area (I-C Area) and specific text describing the Norwich interchange area
- Converts the Lewiston neighborhood from I-C Area to Rural
- Adds a Mixed Use Area along Rte. 5 S
- Relies on definitions and policies for Rural and Mixed Use Areas to provide development parameters. Neither of these regional land use categories correspond closely with existing Norwich zoning
- Increases potential for residential development

#### INTRODUCTION

In Vermont a Regional Planning Commission (RPC) has the statutory authority to make regional land use policy. They create this policy in a similar way to towns when they draft town plans. Statute requires both bodies to use essentially the same planning process which meets specified minimum standards of data collection and analysis, and public and stakeholder outreach, including the opportunity to comment on a draft of the plan in duly warned public hearings. The Town of Norwich has an interest in how the proposed changes to the TRORC Regional Plan effect potential development in the subject areas. As a stakeholder, the Town of Norwich can comment on the proposed 2019 TRORC Regional Plan (TRORC Plan) by July 11.

The focus of this memorandum is on the Land Use chapter of the proposed plan, specifically Mixed Use (see TRORC Plan p35) and Rural Areas (see TRORC Plan, p42). The key difference between the current plan and the proposed plan is that Norwich, along with some other towns previously covered by the interchange policy are no longer covered by the interchange policy (see TRORC Plan, p36). In Norwich these two regional land use designations replace the 'interchange policy' of the previous plan. The new plan contains policies and definitions of terms (such as 'rural area', 'mixed use' and 'principal retail'). Broadly speaking there is now more scope for housing development in the subject area than the existing plan provided for.

#### EXISTING POLICY

Norwich has a mapped Interchange area with a prescribed range of land uses. This policy is applied to some, but not all, interstate interchanges in the TRORC region. The policy describes land uses focused on transportation/travel services (although a town could be more restrictive in terms of specific uses). Key is the exclusion of 'principal retail' as a use. The purpose of this policy is to direct most retail to other land use districts such as designated village centers and growth centers (Hartford is a designated growth center).

#### PROPOSED POLICY

There is no longer specific language or a mapped "interchange area" for Norwich. Rather, the approach in the 2019 TRORC Plan is to identify a new "Mixed Use" district running south from Route 10 along Route 5 (see attached map). The Lewiston neighborhood is re-assigned to "Rural Area" as is the land on the western side of Route 5 South from approximately King Arthur Flour to just south of Hopson Rd. Of note is that Foggs lumberyard and hardware (the most southerly parcel in Norwich on the eastern side of Route 5) has been added to Hartford Growth Center Area (see map), although as a lumberyard it is a type of commercial establishment permitted in a mixed use area.

The TRORC Plan contains the following definitions:

MIXED USE AREA — the future land use area ... with a mixture of existing uses that is served by state highways, and is appropriate for recreational facilities, higher intensity residential, light industrial/manufacturing, land intensive commercial uses and use not appropriate for the core of downtowns and villages, such as lumberyards, nurseries, warehouses and kennels. Principal retail is not allowed in this area.

RURAL AREA — future land use area identified as such in the Regional Land Area map and is a regional land use designation.

PRINCIPAL (PRIMARY) RETAIL — the supply of merchandise or wares to the end consumer for use off site. Examples include (but are not limited to) supermarkets, hardware stores (without lumberyards), dry good stores, pharmacies, big box stores etc. Principal retail does not include online sales with no product on site, land intensive and resource based commercial uses, restaurants, retail as a home occupation, or secondary retail.

Existing Norwich Zoning Districts have not corresponded closely to these definitions, or the associated policies. The Lewiston neighborhood is zoned village Residential. Lands to the east of Rte. 5 S are zoned Commercial/Industrial. Lands to the west are zoned Rural Residential. Under statute towns *may* have more restrictive development controls (i.e. a narrower set of permitted and conditional uses) than regional future land use areas but *cannot* be more permissive.

In larger-scale projects where there is a statutorily defined regional impact RPCs have party status to Act 250 proceedings. Under Act 250 the future land use policies, map and definitions prevail over local plans and zoning regulations when there is a substantial regional impact. TRORC uses eight criteria that are reviewed to determine if a development will result in substantial regional impact (see TRORC Plan p273-275).

#### **NORWICH RESPONSE**

The Town could pursue one or more of the following possible options:

1. No comment
2. Limited comment in support of removing the interchange area in Norwich
3. Suggest more clarity about scale of residential development in rural areas
4. Suggest more flexibility around retail uses in the mixed use district when combined with residential development
5. Suggest more attention to neighborhood amenity (including retail) in mixed use development
6. Request a review of regional future land use area designations for Norwich to better reflect existing land use development patterns, and align with the Town's ongoing planning efforts

I will be available at the Selectboard meeting in June 26 to answer questions from the Board.

TOWN OF NORWICH  
PLANNING AND ZONING  
RECEIVED

5-28-19

**DRM** Downs  
Rachlin  
Martin PLLC  
Business Sense · Legal Ingenuity

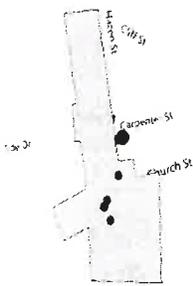
May 24, 2019

William J. Dodge  
Tel: (802) 864-8395  
wdodge@drm.com

To: Parties Entitled to Notice Pursuant to 30 V.S.A. § 248a(e) and Procedures Order  
Re: **AT&T Mobility: Attachment on Replacement Utility Pole**  
Lary Lane, Norwich, Vermont 05055  
AT&T Site Name: Small Cell RCTB\_00077: Lary Lane, Norwich, Vermont  
**60-DAY ADVANCE NOTICE**

Dear Recipients:

Our firm represents New Cingular Wireless PCS, LLC d/b/a AT&T Mobility (“AT&T”) in connection with a proposal to replace an existing utility pole owned by Green Mountain Power (“GMP”) located in the right-of-way along Lary Lane, Norwich, Vermont with a new taller utility pole (the “Pole”), and install wireless communications equipment on the Pole (the “Facility” or “Project”). The Pole has the following coordinates: latitude 43.714818°N and longitude 72.307754°W. AT&T refers to this project as RCTB\_00077 (the “Property” or “Site”). The Pole sits in a parking lot area off of Carpenter Street / Lary Lane, and is located just outside the limits of the Norwich Village Historic District where most of the municipal civic buildings and several shops are located (see map from the Agency of Commerce and Community Development atlas, below).



Pursuant to 30 V.S.A. § 248a, this letter is intended to provide 60 days advance notice to Town of Norwich Selectboard and Planning Commission (the “Town”), Two Rivers-Ottawaquechee Regional Commission (the “RPC”), and adjoining landowners, that AT&T intends to submit a petition to the Vermont Public Utility Commission (“PUC”) for approval to install the Facility at the Site. Attached as Exhibit A to this notice is a statement that itemizes the rights and opportunities available to the Town and RPC pursuant to §§ 248a(c)(2), (e)(2), (m), (n) and (o).

This letter is also being filed electronically with the PUC via its ePUC system, which will provide notice to the Vermont Agency of Natural Resources, the Vermont Department of Public Service, the Vermont Division for Historic Preservation, and the Vermont Agency of Transportation (collectively, the “Advance Notice Parties”).

This notice provides a description of the Facility and its anticipated impacts. This notice also describes the process for PUC review of petitions submitted under § 248a, in addition to the rights of the regional and local planning commissions, municipal legislative bodies, and adjoining landowners to comment on the Project.

AT&T’s petition will be filed pursuant to the PUC’s “Sixth Amended Order implementing standards and procedures for issuance of a certificate of public good for communications facilities pursuant to 30 V.S.A. § 248a,” dated September 21, 2018 (the “Procedures Order”). The Procedures Order, as well as more information concerning review of communications projects under 30 V.S.A. § 248a, is available at the PUC’s office in Montpelier and on its website: <http://puc.vermont.gov/>.

## II. Project Description

AT&T is licensed by the Federal Communications Commission to provide multiple technologies in Vermont, including long-term evolution wireless broadband internet service. AT&T is improving and enhancing its voice and data network in the state through deployment of technology generally known as "small cells," used to address capacity issues at specific locations. Small cell technology is especially helpful to remedy connectivity issues experienced in more heavily populated areas or during certain high network traffic periods. The Project will improve capacity in and around Williston Road in South Burlington and the surrounding areas.

The proposed Facility will consist of the following components:

- A. Replacement of the existing 32' 4" aboveground level ("AGL") utility pole with a new 38' 6" utility pole;
- B. Install one (1) canister antenna, measuring approximately 2' 1" in height and 10", to be mounted on top of the Pole, with the top of the antenna extending to 41' 7" AGL;
- C. Install a Pole-mounted equipment cabinet measuring approximately 3' 3" in height and 1' 11" in width at a height of 12' 9" AGL; and
- D. Appropriate grounding and utility connections under the Pole to be used in connection with operation of the wireless facility.

Each feature of the Facility is described and depicted in more detail on the Site Plan attached as Exhibit B. The Project will result in less than 10,000 square feet of permanent earth disturbance. The width of the Pole will not be more than 20' wider than the existing pole, and will have an overall height less than 200' AGL. Consequently, the Project qualifies as a "Project of Limited Size and Scope," as defined in 30 V.S.A. § 248a(b)(3).

In selecting to undertake the Project, AT&T has analyzed whether there are existing structures in the area to be served that could be used for the antennas and equipment without replacing the existing pole. For various reasons, none of the existing telecommunications facilities in the area will allow AT&T to meet its objectives of meeting its customers' needs and planning for future growth of the network in the area to be served by the Project.

## III. Process for Review of Communications Facilities under 30 V.S.A. § 248a

Pursuant to 30 V.S.A. § 248a, the PUC may grant a certificate of public good for construction or installation of one or more telecommunications facilities that are to be interconnected with other telecommunications facilities proposed or already in existence if, after review of the project, the PUC finds that the facilities will promote the general good of the state consistent with the policies relating to providing improved telecommunications technology to all Vermonters articulated by 30 V.S.A. § 202c(b).

Among the criteria considered by the PUC in evaluating each facility under 30 V.S.A. § 248a is whether the project is consistent with the recommendations of selectboards, municipal planning commissions and regional planning commissions. In turn, those recommendations can be based on town / regional plans, as well as telecommunications provisions in local zoning bylaws or a stand-alone ordinance. 30 V.S.A. § 248a(c)(2). Based on a review of the relevant municipal and regional planning documents, AT&T believes that the Project is consistent with the applicable substantive criteria.

*a. Norwich Town Plan*

The Norwich Town Plan, adopted July 11, 2018, recognizes that cell phone service and high-speed internet access have become a necessity in our lives, just as electricity and the telephone were in the early part of the last century. Town Plan at 8-7. “The availability of cell service (which often also delivers Internet access) and broadband internet access are services providing important benefits to residents including safety and security, education, economic, health monitoring, entertainment, etc.” Town Plan at 8-7. The Town Plan indicates that the Town should continue to support these services while minimizing the adverse visual impact of the towers, antennas and wires to the extent possible.

To that end, the Project furthers these goals and objectives insofar as the Facility will enhance the availability and quality of AT&T wireless coverage in the Town. The use of a slightly taller utility pole within the existing parking lot as the support structure achieves the Plan’s goal of locating additional telecommunications infrastructure while minimizing the aesthetic and environmental impact of such new development.

*b. Two Rivers-Ottawaquechee Regional Plan*

The Project is consistent with the Two Rivers-Ottawaquechee Regional Plan, adopted July 26, 2017 and effective August 31, 2017 (the “Regional Plan”). The Regional Plan recognizes that wired and wireless telecommunications have become increasingly important to the economic needs of the residents and businesses in the region. Regional Plan at 287. The Regional Planning Commission states that “[it] is highly supportive of efforts to expand broadband access provided that the infrastructure required does not have an undue adverse impact on the rural character of our communications.” Regional Plan at 290. The Regional Plan sets forth policies that focus on reducing the impacts of siting in the region, and identifies co-location on existing structures as an important tool. Regional Plan at 290-293.

The Project advances these goals by improving public access to reliable, high quality broadband internet service without adversely impacting the County’s scenic and environmental qualities. The small cell Facility will improve connectivity for AT&T users, and “densify” AT&T’s network service by bringing it “closer” to its users, in particular along the civic building area of the town (i.e., Main and Church streets). The Project also allows AT&T to prepare for implementation of newer technologies—including 5G capabilities, “smart cities” and new developments in the Internet of Things (“IoT”).

VI. Opportunity to Comment; Contact for More Information

As a recipient of this notice, you will be notified when the petition is filed with the PUC, which will be at least 60 days from the above date. Once AT&T’s petition has been accepted for filing by with the PUC, any interested person may submit comments and seek to intervene in the proceeding within 30 days of the receipt of the notification that the petition has been filed.

AT&T Small Cell  
Lary Lane, Norwich, Vermont (RCTB\_00077)  
May 24, 2019  
Page 4

Should you have any questions relating to the Project, please direct all inquiries and/or comments to Nicole Caplan-Mason at (978) 284-3906, or email to [ncaplan@empiretelecomm.com](mailto:ncaplan@empiretelecomm.com). I can be reached at the telephone number and/or email provided in the letterhead above.

We look forward to your review and recommendation, and thank you in advance for your attention to this important project.

Sincerely,



William J. Dodge, Esq.

Enclosures

cc: Service List  
Green Mountain Power Corporation, Attn: Kate McClallen (via electronic mail)  
Nicole Caplan-Mason and Rossana Ferrante, Empire Telecom (via electronic mail)

**MUNICIPAL AND REGIONAL REPRESENTATIVES / OFFICIALS**

<p><i>Via US Mail and email</i>          Norwich Selectboard          Attn: John Pepper, Chair          300 Main Street, PO Box 376          Norwich VT 05055  <a href="mailto:Selectboard@norwich.vt.us">Selectboard@norwich.vt.us</a></p>	<p><i>Via US Mail and email</i>          Norwich Planning Commission          Attn: Jaci Allen, Chair          300 Main Street, PO Box 376          Norwich VT 05055  <a href="mailto:manager-assistant@norwich.vt.us">manager-assistant@norwich.vt.us</a></p>
<p><i>Via US Mail and email</i>          Two Rivers-Ottawaquechee Regional Commission          Attn: Kevin W. Geiger, AICP, CFM, Senior          Planner          128 King Farm Road          Woodstock, VT 05091  <a href="mailto:kgeiger@trorc.org">kgeiger@trorc.org</a></p>	

**ADJOINING LANDOWNERS (VIA U.S. MAIL ONLY)**

<p>Parcel ID: 20-223-000           8 Carpenter LLC          PO Box 621          Norwich, VT 05055-0621</p>	<p>Parcel ID: 20-214-010 Condo           Katzenjammer Properties LLC          c/o Bruce D. MacLeod          PO Box 1623          Norwich, VT 05055-1623</p>
<p>Parcel ID: 20-214-020 Condo           Janet Flanders          317 Hopson Road          Norwich, VT 05055</p>	<p>Parcel ID: 20-214-030 Condo           1820 House-Norwich LLC          Po Box 1439          Norwich, VT 05055-1439</p>
<p>Parcel ID: 20-214-040 Condo           William H. Bender          1190 Turnpike Road          Norwich, VT 05055</p>	<p>Parcel ID: 20-228-000           Ledyard National Bank          38 South Main Street          Hanover, NH 03755</p>
<p>Parcel ID: 20-229-000           Sudlow LLC          PO Box 111          Hanover, NH 03755</p>	<p>Parcel ID: 20-224-000           Happy Hill Partners LLC          5 Happy Hill Road          Norwich, VT 05055</p>

**STATE OFFICIALS**

Vermont Public Utility Commission (via ePUC)	Vermont Agency of Transportation (via ePUC)
Vermont Agency of Natural Resources (via ePUC)	Vermont Division for Historic Preservation (via ePUC)
Vermont Department of Public Service (via ePUC)	

19289527.2

**30 V.S.A. § 248a(e) Statement of Rights and Opportunities**

Pursuant to §§ 248a(c)(2), (e)(2), (m), (n), (o), and (p), for the municipality and planning region in which the proposed facility is located, municipal legislative bodies and municipal / regional planning commissions have the rights and opportunities listed below.

- Substantial deference will be given to duly adopted municipal or regional plans, and any recommendations concerning those plans.
- With respect to municipal legislative bodies and municipal planning commissions, nothing shall prevent you from basing your recommendation(s) on an ordinance adopted pursuant to 24 V.S.A., § 2291(19) or a bylaw adopted under 24 V.S.A., chapter 117.
- A letter from your entity / organization will create a rebuttable presumption with the Vermont Public Utility Commission (“PUC”) respecting compliance with the applicable plans.
- Municipal officials may request that the Petitioner attend a public meeting within the 60-day notice period, before the Petitioner submits its Petition.
- Municipal officials may also request that an official from the Vermont Department of Public Service (“Department”) attend a public hearing during the 60-day notice period. The Department, if in attendance, shall consider any comments made and information obtained at the meeting in making its recommendation to the PUC on the petition, and on whether to retain additional personnel to evaluate the project.
- Municipal legislative bodies and municipal planning commissions may, at the commencement of the 60-day notice process, request that the Department, at Petitioner’s expense, retain experts and other personnel to provide information essential to full consideration of the petition.
- Municipal legislative bodies and municipal planning commissions have the right to appear and participate on any petition seeking a certificate of public good.
- The PUC is required to consider your comments or recommendation(s) when deciding to issue or deny a certificate of public good for the project and shall include a detailed written response to each of recommendation.
- You may learn more about the § 248a process from the *Guide to the 248a process for Siting and Construction of Telecommunications Facilities*, published pursuant to 248a(p), at the Vermont Department of Public Service, 112 State Street, Montpelier, VT, or by visiting <http://publicservice.vermont.gov/telecom/>. You may request a copy by mail by calling the Department at (802) 828-2811.
- Additional documents available on the PUC’s website to assist you with this process include the following:
  - *A Citizen’s Guide to the Public Utility Commission*, available at: <https://puc.vermont.gov/document/citizen-guide-public-utility-commission>.
  - *Public Participation and Intervention in Proceedings Before the Public Utility Commission*, available at: <https://puc.vermont.gov/document/public-participation-and-intervention-proceedings-public-utility-commission>.
  - <http://puc.vermont.gov/document/section-248a-procedures>

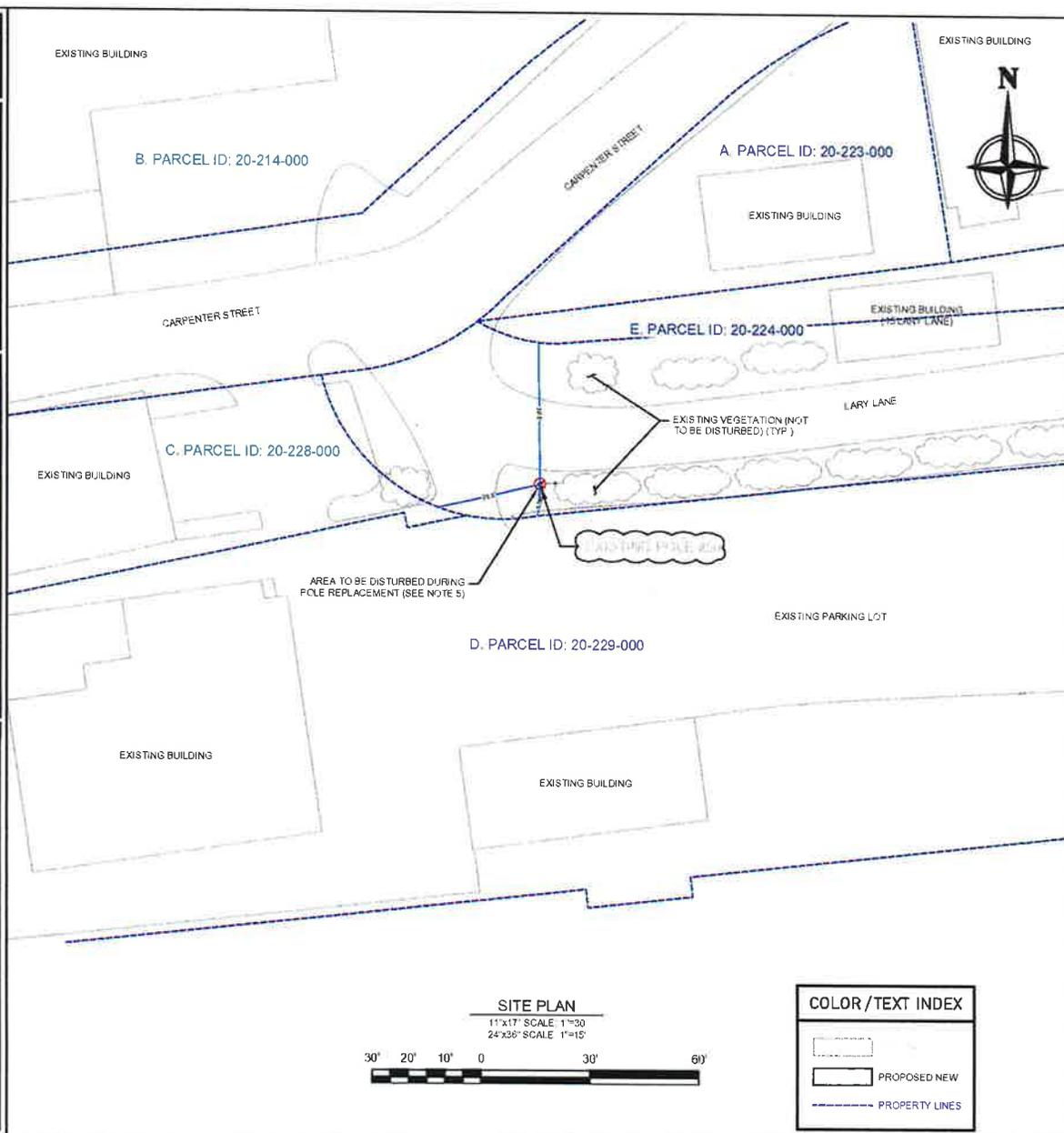
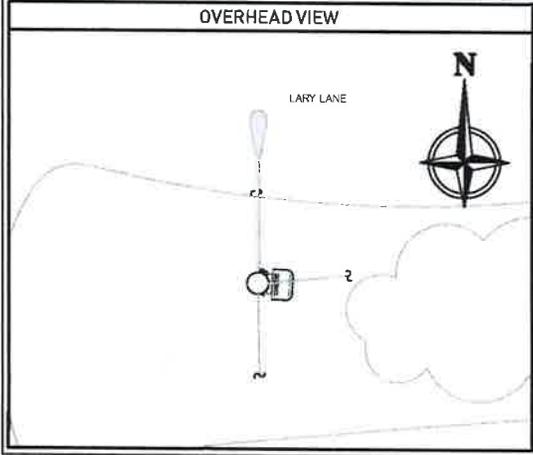




**NOTE**

SITE PLAN INFORMATION CONTAINED HEREIN IS TAKEN FROM THE DOCUMENTS PROVIDED BY THE CLIENT. NO WARRANTY OR GUARANTEE IS GIVEN BY CARLSON MCCAIN TO THE ACCURACY OR THE COMPLETENESS OF THE COPIED SURVEY/SITE PLAN INFORMATION.

- SITE NOTES**
- GC RESPONSIBLE FOR SUBMITTING A 48 HOUR NOTICE PRIOR TO MOBILIZATION TO THE SITE.
  - A PRE CONSTRUCTION MEETING IS REQUIRED PRIOR TO CONSTRUCTION START TO REVIEW SCOPE OF WORK AND EXPECTATIONS.
    - A RIGGING PLAN MAY BE REQUIRED AND SHALL BE SUBMITTED WITH THE 48 HOUR NOTICE.
    - GC RESPONSIBLE FOR ENSURING THE SAFETY CLIMB IS NOT TRAPPED OR OTHERWISE OBSTRUCTED WITH REASONABLE BUILDING PRACTICES.
  - GC RESPONSIBLE FOR COORDINATING DAILY LOG-IN AND LOG-OUT WITH THE POLE OWNER, WHERE APPLICABLE.
  - GC WILL BE RESPONSIBLE FOR THE POLE OWNER CLOSEOUT PACKAGE WITH REDLINES OF THE CD'S OF THE EQUIPMENT INSTALLED TO BE SUBMITTED WITHIN 7 DAYS OF CONSTRUCTION COMPLETE.
  - GC WILL TEMPORARILY DISTURB 7 SQUARE FEET OF EARTH TO REPLACE THE POLE. THE PROJECT WILL COMPLY WITH THE LOW RISK HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL BY THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
  - THERE ARE NO WETLANDS WITHIN THE AREA OF DISTURBANCE.



**SUBMITTALS**

DATE	DESCRIPTION	REV	ISSUED BY
06/02/23	PERMITTING	A	LWW
06/02/23	PERMITTING	B	LWW
07/20/23	PERMITTING	C	LWW

DRAWN BY: AAK  
 CHECKED BY: JEW  
 APPROVED BY: LWW

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USID  
222507

SITE ADDRESS  
15 LARY LANE  
NORWICH, VT 05055

NODE FA LOCATION  
14563618

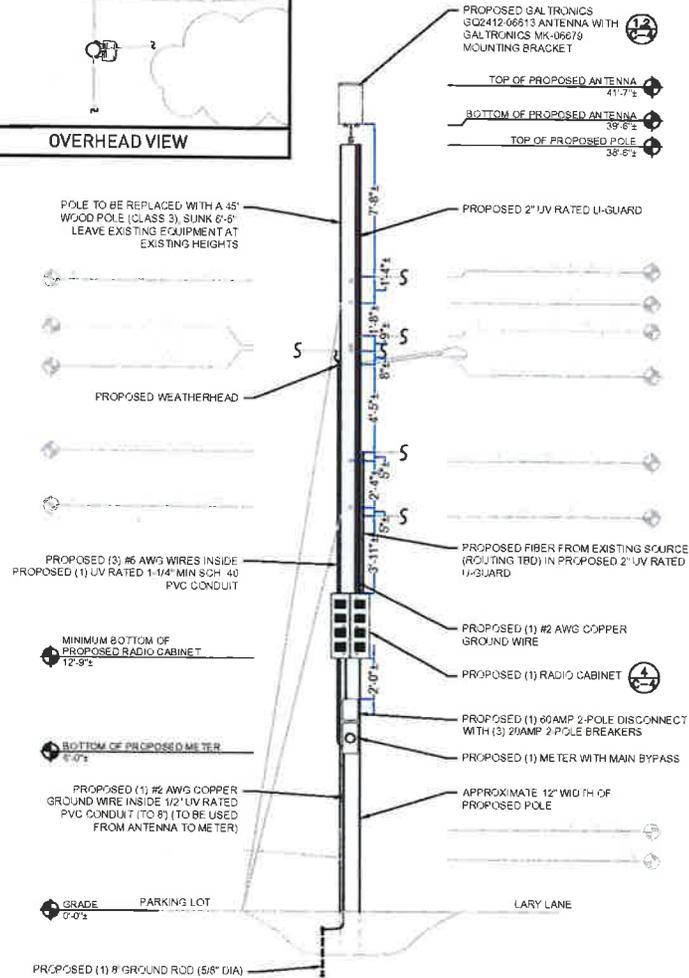
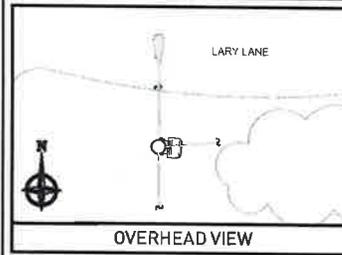
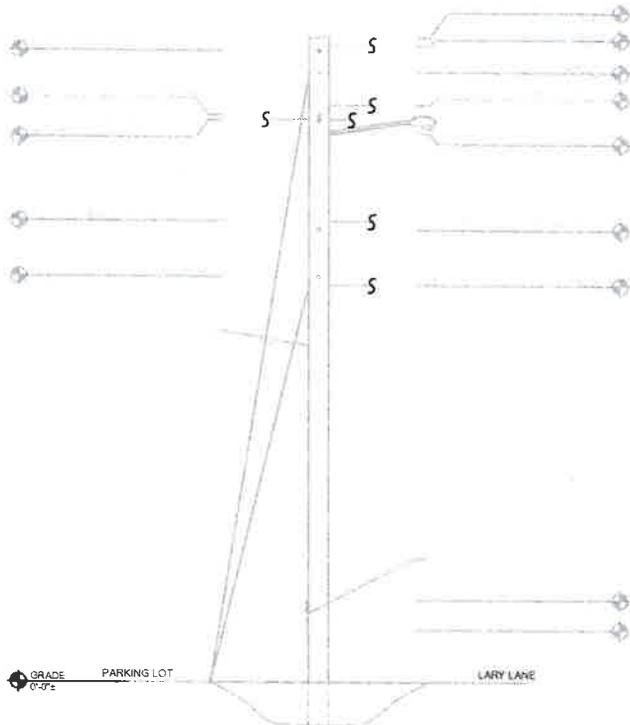
ATOLL NAME  
CRAN\_RCTB\_00077\_10

SHEET TITLE  
SITE PLAN

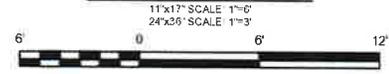
SHEET NUMBER  
C-1

**NOTES**

1. POLE STRUCTURAL CALCULATIONS ARE PREPARED BY CARLSON MCCAIN. CONTRACTOR TO VERIFY WITH PROJECT MANAGER TO OBTAIN COPY.
2. CONTRACTOR SHALL REFER TO POLE STRUCTURAL CALCULATIONS FOR ADDITIONAL LOADS. NO ERECTION OR MODIFICATION OF POLE SHALL BE MADE WITHOUT APPROVAL OF STRUCTURAL ENGINEER.
3. THERE ARE NO TREES IN THE IMMEDIATE VICINITY OF POLE.



PROPOSED POLE ELEVATION - EAST



**COLOR/TEXT INDEX**

PROPOSED NEW

SUBMITTALS			
DATE	DESCRIPTION	REV	ISSUED BY
04/03/23	PERMITTING	A	LWW
05/03/23	PERMITTING	B	LWW
05/03/23	PERMITTING	C	LWW

DRAWN BY: AAK  
 CHECKED BY: JOW  
 APPROVED BY: LWW

NOT FOR CONSTRUCTION

USID: 222507

SITE ADDRESS: 15 LARY LANE, NORWICH, VT 05055

NODE FA LOCATION: 14563618

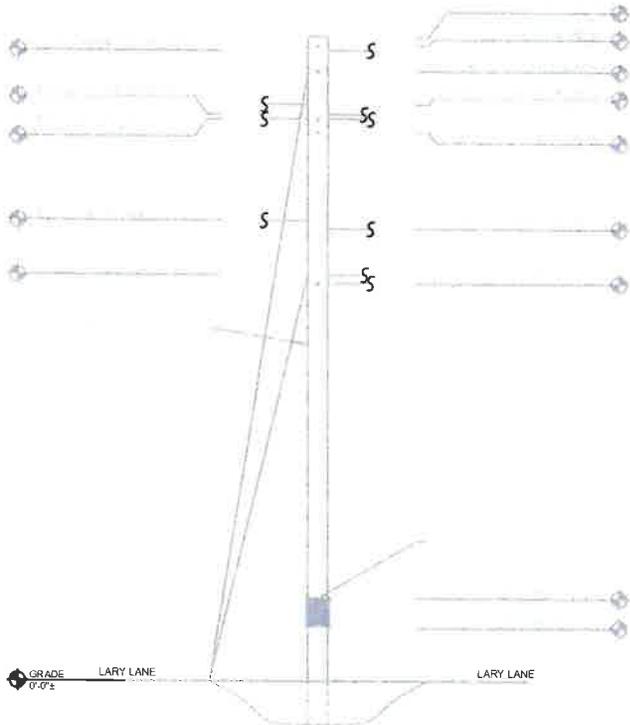
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SHEET TITLE: POLE ELEVATION PLAN - EAST

SHEET NUMBER: C-2

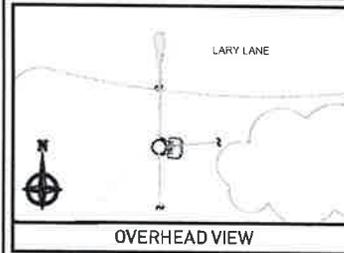
**NOTES**

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3. THERE ARE NO TREES IN THE IMMEDIATE VICINITY OF POLE

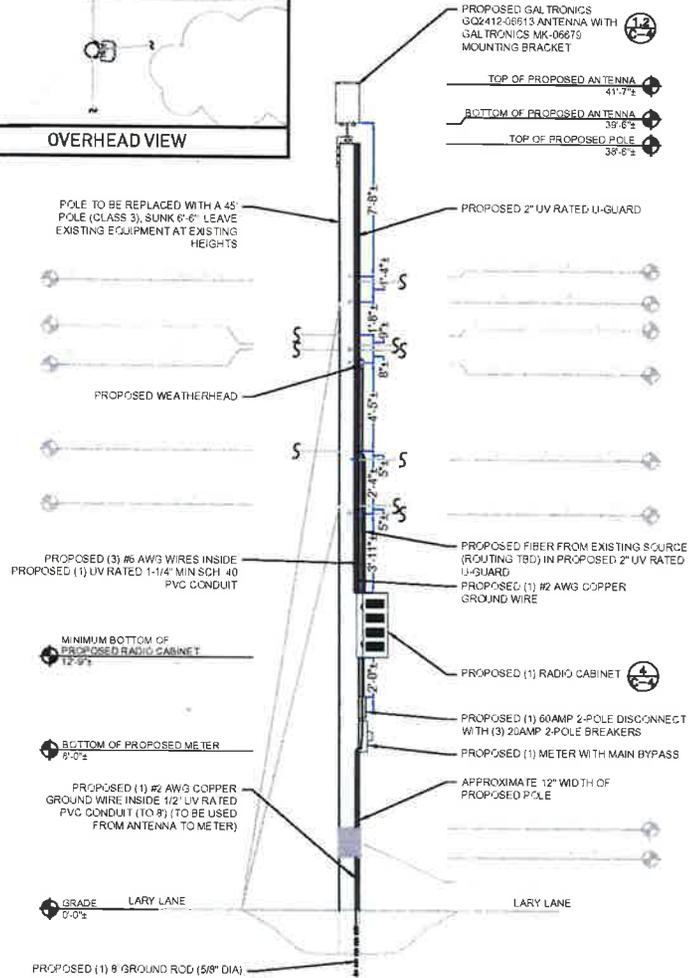


EXISTING POLE ELEVATION - SOUTH

11'x17" SCALE 1"=6'  
24'x36" SCALE 1"=3'



OVERHEAD VIEW



PROPOSED POLE ELEVATION - SOUTH

11'x17" SCALE 1"=6'  
24'x36" SCALE 1"=3'



**COLOR/TEXT INDEX**



**SUBMITTALS**

DATE	DESCRIPTION	REV	ISSUED BY
04/02/23	PERMITTING	A	LWW
05/02/23	PERMITTING	B	LWW
05/02/23	PERMITTING	C	LWW

DRAWN BY: AAK  
CHECKED BY: JDW  
APPROVED BY: LWW

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USD  
222507

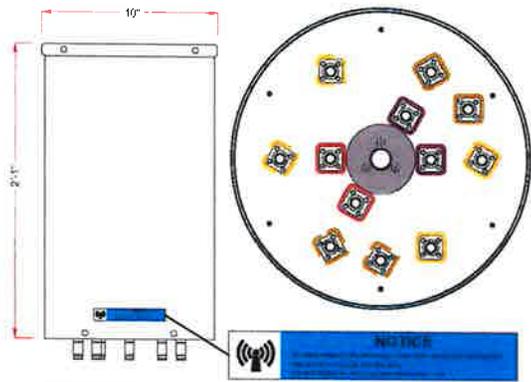
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15 LARY LANE  
NORWICH, VT 05055

NODE FA LOCATION  
14563618

ATOLL NAME  
CRAN\_RCTB\_00077\_10

SHEET TITLE  
POLE ELEVATION  
PLAN - SOUTH

SHEET NUMBER  
C-3

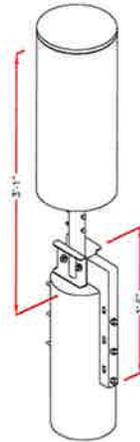


WEIGHT 30.9 LBS  
VOLUME 2.41 CF

1"x8" NOTICE DECAL  
PLACE THREE NOTICE STICKERS EQUALLY SPACED  
AROUND THE BOTTOM OF THE ANTENNA RADOME

**GALTRONICS CANISTER ANTENNA**  
GQ2412-06613

NTS



WEIGHT 5.14 LBS

**ANTENNA MOUNT DETAIL**

NTS

**NOTES**

1. INSTALL ANCHORS/FASTENERS A MAXIMUM OF 2' 0" ON CENTERS
  - WOOD STUDS - 1/4" Ø LAG BOLT W/ 1" EMBEDMENT IN WOOD
  - CONCRETE - 1/4" Ø H.L.T.I. KWIK BOLT III W/ 1-1/2" EMBEDMENT OR EQUIVALENT
  - THROUGH BOLT - 1/4" Ø A307 THREADED ROD W/ NUTS AND WASHERS ANCHORS AND UNISTRUT CHANNEL SHALL HAVE HOT-DIPPED GALVANIZED FINISH
2. MOUNT RRHS AND DC6 TO UNISTRUT WITH 3/8" Ø UNISTRUT BOLTING HARDWARE AND SPRING NUTS TYPICAL FOUR PER DEVICE SUBCONTRACTOR SHALL SUPPLY
3. SUBCONTRACTOR SHALL SUPPLY ALL OTHER MATERIALS AND INSTALL ALL MOUNTING HARDWARE



**SUBMITTALS**

DATE	DESCRIPTION	REV	ISSUED BY
02/02/18	PERMITTING	A	LWW
02/02/18	PERMITTING	B	LWW
02/02/18	PERMITTING	C	LWW

DRAWN BY: AAK  
CHECKED BY: JOW  
APPROVED BY: LWW

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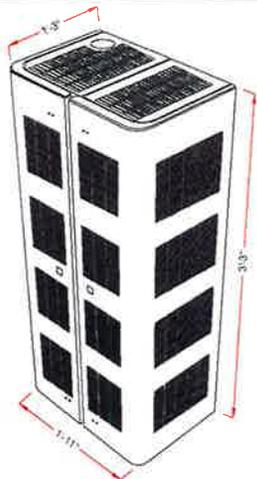
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15 LARY LANE  
NORWICH, VT 05055

NODE FA LOCATION  
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ATOLL NAME  
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SHEET TITLE  
EQUIPMENT  
DETAILS

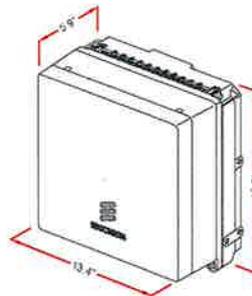
SHEET NUMBER  
C-4



WEIGHT 4135.0 LBS (ENCLOSURE ONLY)  
EXTERNAL VOLUME 7.9 CF

**ERICSSON 39" EQUIPMENT SHROUD**

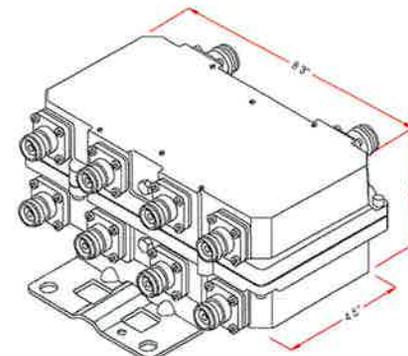
NTS



WEIGHT 46 LBS (EXCLUDING HARDWARE)

**ERICSSON  
RRUS 4415/26 RADIO**

NTS



WEIGHT 7.3 LBS  
(WITHOUT BRACKET)

**COMSCOPE QUAD-PACK DIPLEXER**  
CBC1923Q-43 / E14F55P12

NTS

### ANTENNA AND CABLING NOTES

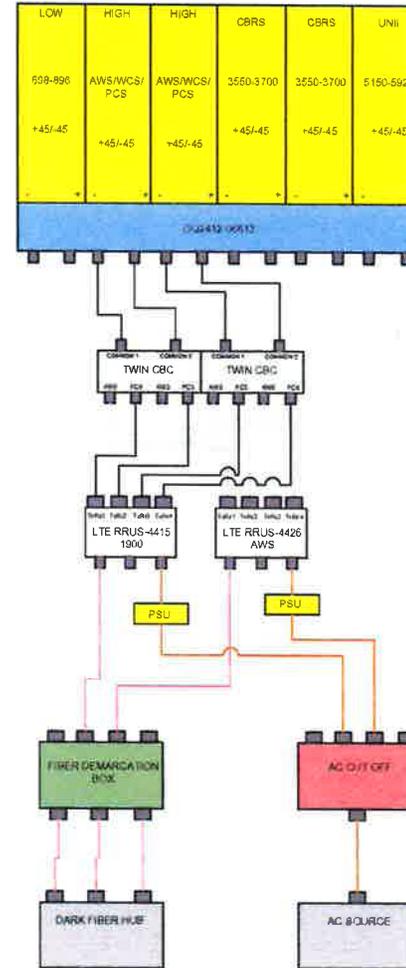
- CONTRACTOR IS TO REFER TO AT&T'S MOST CURRENT RADIO FREQUENCY DATA SHEET (RFDS) PRIOR TO CONSTRUCTION
- THE SIZE, HEIGHT, AND DIRECTION OF THE ANTENNAS SHALL BE ADJUSTED TO ACHIEVE THE AZIMUTHS SPECIFIED AND LIMIT SHADOWING AND TO MEET THE SYSTEM REQUIREMENTS
- CONTRACTOR SHALL VERIFY THE HEIGHT OF THE ANTENNA WITH THE AT&T WIRELESS PROJECT MANAGER
- VERIFY TYPE AND SIZE OF NODE POLE PRIOR TO ORDERING ANY ANTENNA MOUNT
- UNLESS NOTED OTHERWISE THE CONTRACTOR MUST PROVIDE ALL MATERIAL NECESSARY
- ANTENNA AZIMUTHS ARE DEGREES OFF OF TRUE NORTH, BEARING CLOCKWISE, IN WHICH ANTENNA FACE IS DIRECTED. ALL ANTENNAS (AND SUPPORTING STRUCTURES AS PRACTICAL) SHALL BE ACCURATELY ORIENTED IN THE SPECIFIED DIRECTION
- CONTRACTOR SHALL VERIFY ALL RF INFORMATION PRIOR TO CONSTRUCTION
- SWEEP TEST SHALL BE PERFORMED BY GENERAL CONTRACTOR AND SUBMITTED TO AT&T WIRELESS CONSTRUCTION SPECIALIST. TEST SHALL BE PERFORMED PER AT&T WIRELESS STANDARDS
- CABLE LENGTHS WERE DETERMINED BASED ON THE DESIGN DRAWING. CONTRACTOR TO VERIFY ACTUAL LENGTH DURING PRE-CONSTRUCTION WALK

### RF, DC, & COAX CABLE MARKING LOCATIONS TABLE

NO	LOCATIONS
1	EACH TOP JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS
2	EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS NEAR THE TOP JUMPER CONNECTION AND WITH (1) SET OF 3/4" WIDE COLOR BANDS JUST PRIOR TO ENTERING THE BTS OR TRANSMITTER BUILDING
3	CABLE ENTRY POINT ON THE INTERIOR OF THE SHELTER
4	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER
5	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER

### CABLE MARKING NOTES

- THE ANTENNA SYSTEM COAX SHALL BE LABELED WITH VINYL TAPE
- THE STANDARD IS BASED ON EIGHT COLORED TAPES: RED, BLUE, GREEN, YELLOW, ORANGE, BROWN, WHITE, AND VIOLET. THESE TAPES MUST BE 3/4" WIDE & UV RESISTANT SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE AND SHOULD BE READILY AVAILABLE TO THE ELECTRICIAN OR CONTRACTOR ON SITE
- USING COLOR BANDS ON THE CABLES, MARK ALL RF CABLE BY SECTOR AND CABLE NUMBER AS SHOWN ON "CABLE COLOR CHART"
- WHEN AN EXISTING COAXIAL LINE THAT IS INTENDED TO BE A SHARED LINE BETWEEN TECHNOLOGIES IS ENCOUNTERED, THE CONTRACTOR SHALL REMOVE THE EXISTING COLOR CODING SCHEME AND REPLACE IT WITH THE COLOR CODING STANDARD. IN THE ABSENCE OF AN EXISTING COLOR CODING AND TAGGING SCHEME, OR WHEN INSTALLING PROPOSED COAXIAL CABLES, THIS GUIDELINE SHALL BE IMPLEMENTED AT THAT SITE REGARDLESS OF TECHNOLOGY
- ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE INSTALLED USING A MINIMUM OF (3) THREE WRAPS OF TAPE AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING
- ALL COLOR BANDS INSTALLED AT THE TOP OF THE TOWER SHALL BE A MINIMUM OF 3" WIDE, AND SHALL HAVE A MINIMUM OF 3/4" OF SPACE BETWEEN EACH COLOR
- ALL COLOR CODES SHALL BE INSTALLED SO AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE-TO-SIDE
- IF EXISTING CABLES AT THE SITE ALREADY HAVE A COLOR CODING SCHEME AND THEY ARE NOT INTENDED TO BE REUSED OR SHARED WITH THE PROPOSED TECHNOLOGY, THE EXISTING COLOR CODING SCHEME SHALL REMAIN UNTOUCHED



PICO CABLE WIRING DIAGRAM

N T S



#### SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
04/20/18	PERMITTING	A	LWW
05/02/18	PERMITTING	B	LWW
05/03/18	PERMITTING	C	LWW

DRAWN BY: AAK  
 CHECKED BY: JDW  
 APPROVED BY: LWW

NOT FOR CONSTRUCTION

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USD  
222507

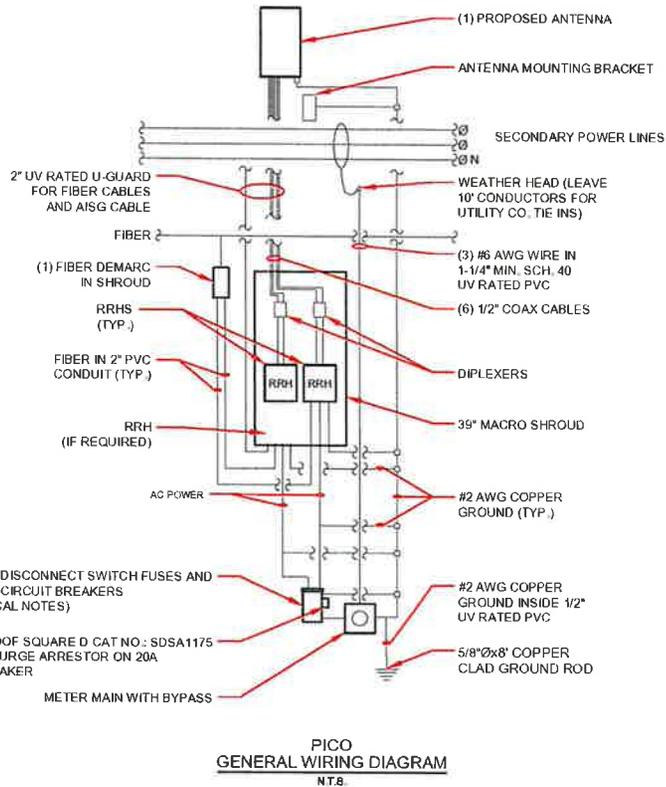
SITE ADDRESS  
15 LARY LANE  
NORWICH, VT 05055

NODE PA LOCATION  
14563618

ATOLL NAME  
CRAN\_RCTB\_00077\_10

SHEET TITLE  
CABLE NOTES AND  
COLOR CODING

SHEET NUMBER  
C-5

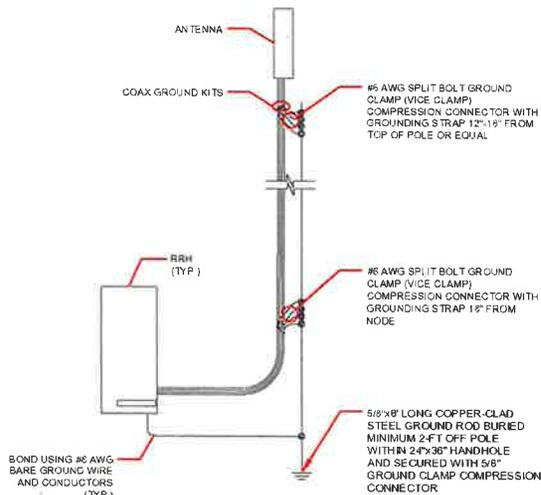
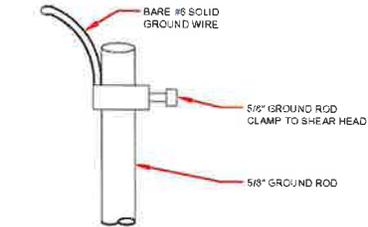
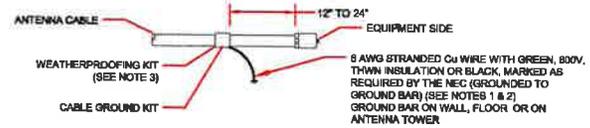


**NOTES**

BONDING AND GROUNDING TO MEET APPLICABLE NESC REQUIREMENTS

**NOTES**

- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR
- GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER
- WEATHERPROOFING SHALL BE (TYPE AND PART NUMBER) AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER AND APPROVED BY CONTRACTOR



**SUBMITTALS**

DATE	DESCRIPTION	REV	ISSUED BY
		A	LWW
		B	LWW
		C	LWW

DRAWN BY: AAK  
CHECKED BY: JDW  
APPROVED BY: LWW

**NOT FOR CONSTRUCTION**

USID  
222507

SITE ADDRESS  
15 LARY LANE  
NORWICH, VT 05055

NODE FA LOCATION  
14563618

ATOLL NAME  
CRAN\_RCTB\_00077\_10

SHEET TITLE  
ELECTRICAL AND GROUNDING  
DETAILS

SHEET NUMBER  
G-1

## Rod Francis

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**From:** Ernie Ciccotelli <ernieciccotelli@gmail.com>  
**Sent:** Wednesday, June 19, 2019 10:05 AM  
**To:** Jaci Allen; Jeff Goodrich; Melissa Horwitz; Susan Brink; Brian Loeb; Jeff Lubell; Steve Thoms (steve@steventhoms.com); Leah Romano; Rod Francis  
**Subject:** Agenda Request

Hi, All,

I would like to request an addition to the agenda for the upcoming meeting. My request is to add some time for consideration of a survey of why people moved to Norwich and to Vermont, and what they want for their future in Norwich and Vermont. This is different from what they expect to happen and will have expect as the Town and State change.

Thanks.

Ernie

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Date	Name(s)	Organization(s)	Town plan chapter(s)	Outreach type	PC members	Location (esp. for public meetings)	Next steps
4/11	Nancy LaRowe	Vital Communities	Economic Development	Subject matter expert interview	Allen		Send Economic Development draft chapter for comment
4/12	Cheryl Lindberg, Charles Taylor, Jill and Joe Lavin, plus 5 others	Norwich Business Council	Economic Development	Subject matter experts	Allen		Attend June 7th or July 12th meeting to discuss draft chapter
4/17	Allison Colburn and Sara Kobylenski	Child Care Center in Norwich	Utilities, Facilities and Services	Subject matter expert interview	Loeb, Thoms		Meet with town recreation director, school board, school admin., and explore options for parent outreach
4/18	Andrew Winter	Twin Pines Housing Trust	Housing	Subject matter expert interview	Loeb		Follow-up conversations as needed
4/23	Herb Durfee	Town Manager	Utilities, Facilities and Services	Subject matter expert interview	Loeb, Thoms, Lubell		Meet with fire district and public works
4/23	Beth Hunstome	Consultant	Land Use	Subject matter expert	Brink, Ciccotelli		
4/25	Michael Goodrich	Fire District	Utilities, Facilities and Services	Subject matter expert interview	Loeb, Thoms		Follow up during drafting
4/25	Douglas Kennedy	Consultant	Land Use	Subject matter expert	Brink, Ciccotelli		
4/26	Troy McBride	Energy Business	Energy	Subject matter expert	Horowitz, Brink		Share infor with commission, write an action item?
4/29	Tom Candon and Lauren Rhim	Norwich School Board	Utilities, Facilities and Services	Subject matter expert interview	Loeb, Allen		Follow-up conversations during the summer as the board's planning gets underway
5/1	Joan Goldstein and Josh Hanford	VT Dept. of Econ. Dev.	Housing	Subject matter expert interview	Loeb		Follow up with recommended contacts
5/7	Berna Rexford	Four Seasons Southeby's Realty	Housing	Subject matter expert interview	Loeb, Romano		Follow up with recommended contacts
5/8	Brie Swenson	Recreation Director	Utilities, Facilities and Services	Subject matter expert interview	Loeb, Thoms		Follow-up conversations as needed
5/10	Bill Hammond	MCS	Utilities, Facilities and Services	Subject matter expert interview	Loeb, Thoms		Review requested data regarding needs survey and incoming families
5/15	Tom Goins	DHMC	Housing	Subject matter expert interview	Loeb		Follow-up conversations during the summer as they analyze survey data
5/20	Brenda Torpy	Champlain Housing Trust	Housing	Subject matter expert interview	Loeb		
5/21	Craig and Commission	Norwich Conservation Commission	Land Use	Subject matter expert	Brink, Ciccotelli		
5/23	Peter Brink and Commission	Norwich Historic Preservation Commission	Land Use	Subject matter expert	Allen, Ciccotelli		
5/23	Jolin Kish	Kish Consulting	Housing	Subject matter expert interview	Loeb		Follow-up with recommended contacts
5/30	Buff McLaughry	Four Seasons Southeby's Realty	Housing	Subject matter expert interview	Loeb, Romano		Follow-up with recommended contacts
5/31	Nancy Bloomfield	The Family Place	Utilities, Facilities and Services	Subject matter expert interview	Loeb		Follow-up with recommended contacts
6/4	Mike Kiess and Tom Roberts	Vital Communities	Housing	Subject matter expert interview	Loeb		Follow-up with recommended contacts
6/13	Childcare forum for parents	<b>Public</b>	Utilities, Facilities and Services	Public outreach	Thoms, Loeb (+Romano, Allen)	Tracy Hall meeting room	
6/14	John Langhus	Norwich Solar Technologies	Energy	Subject matter expert	Brink, Allen		
6/18	Rob Adams	CEO Solaflect	Energy	Subject matter expert	Brink, Allen		
6/26	Lynne LaBombard	LaBombard Peterson Realty Group	Housing	Subject matter expert interview	Loeb, Romano		
7/10	Economic Dev Forum 12:30-1:30	<b>Public</b>	Economic Development	Public outreach	Allen, Lubell	The Norwich Square	Publicize event with Liza and NBC