

















Appendix A

Maps

Current Land Use Map

Town Plan 2018 Town of Andover, VT Adopted DRAFT

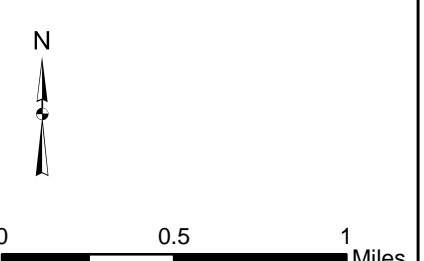
-  Government and Community
-  Commercial and Industrial
-  Residential
-  Cemetery
-  Other
-  State Park/ Forest/ Recreation Area
-  Town Park/ Forest/ Recreation Area
-  Golf Course
-  Other notable recreation site
-  Public Conserved Land
-  Privately Conserved Land
-  Parcel
-  VT State Highway
-  Class 2 Town Hwy
-  River or Stream
-  Lake or Pond

Data Sources:
Conserved Lands (RPC 2018 collating from UVM 2009 (Private), UVM 2010 (Public), and VLT 2016), Recreation sites (ANR 1999 and RPC 2014), Buildings (VT E911 Feb 2018), Roads (VTrans 2017), Waterbodies (ANR 2008), Parcels (Terra Map 2016), Town Boundary (VCGI 2016), Aerials (NAIP 2016)

VT State Plane, Meters, NAD 83

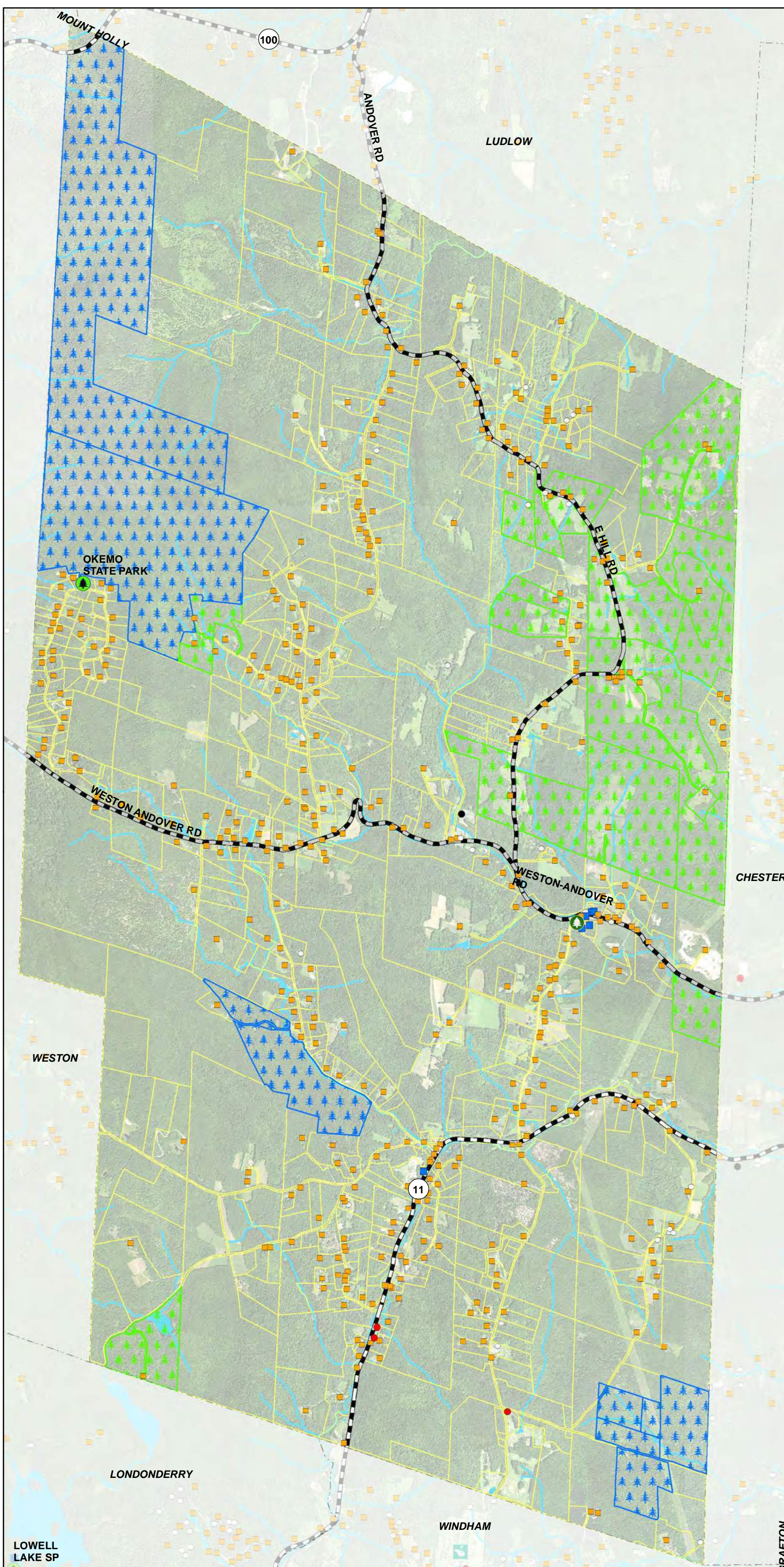
For planning purposes only.
Not for regulatory interpretation.

Formatted for 11x17 paper.



P.O. Box 320, Ascutney, VT 05030
802-674-9201 www.swcrpc.org









Drawn April 13, 2018
Adopted DRAFT



**Future Land Use Map
with Forest overlays
FOR DRAFTING ONLY**

**Town Plan 2018
Town of Andover, VT
Adopted DRAFT**

**Future Land Use
Categories**

-  Rural/ Residential
-  Commercial
-  Agriculture
-  Conservation
-  Highest Priority Connectivity Blocks
-  VT State Highway
-  Class 2 Town Hwy
-  Parcel

For drafting purposes from Vermont Conservation Design (ANR 2016):

- Highest priority connectivity blocks

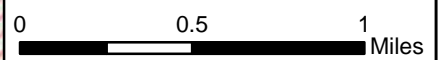
There are no highest priority interior forest blocks.

Data Sources:
Roads (VTrans 2017), Parcels (Terra Map 2016), Future Land Use (RPC/ Town 2013), Town Boundary (VCGI 2016), Aerials (NAIP 2016)

VT State Plane, Meters, NAD 83

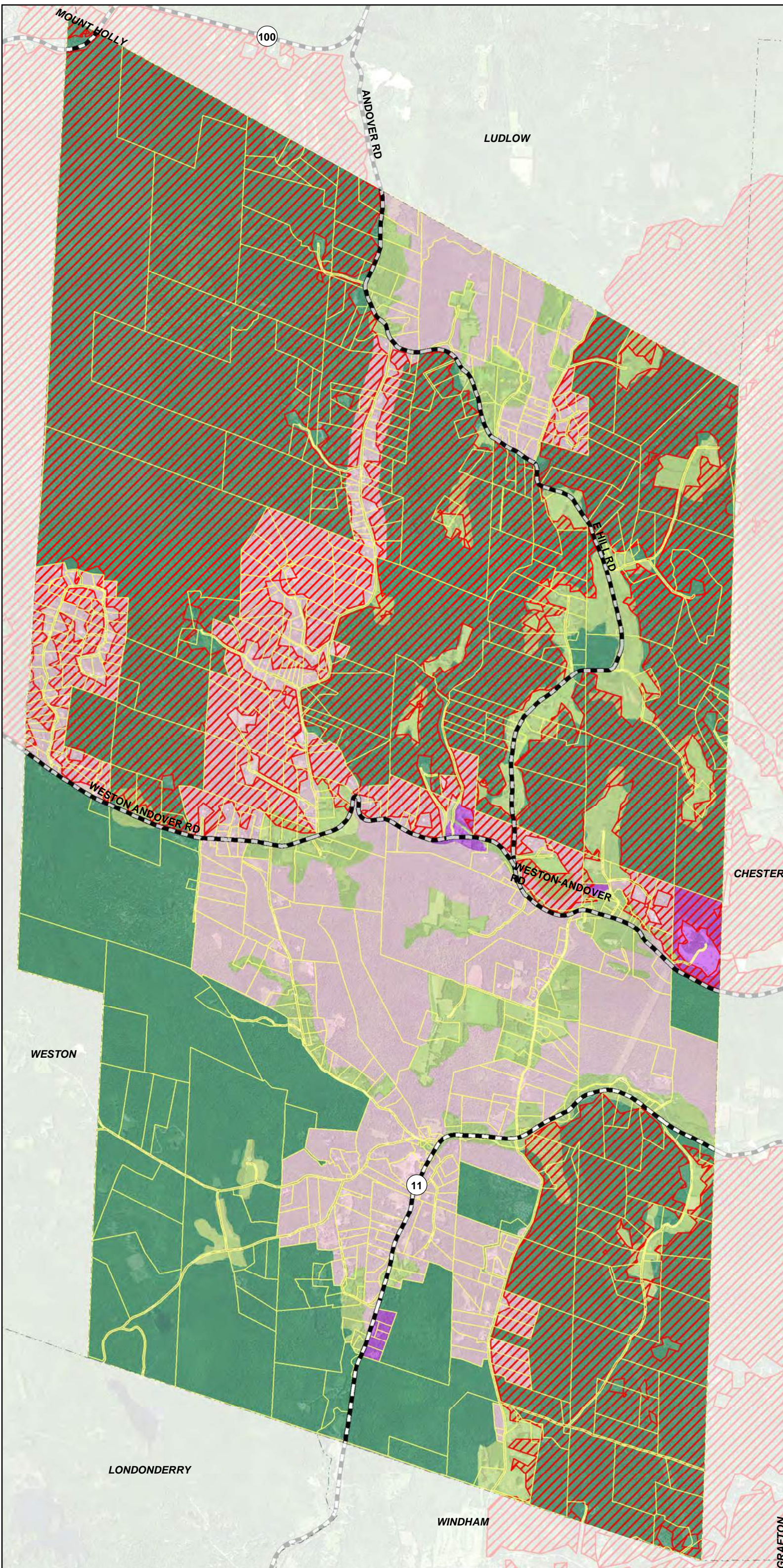
For planning purposes only.
Not for regulatory interpretation.

Formatted for 11x17 paper.














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802-674-9201 www.swcrpc.org

Drawn April 13, 2018
Adopted DRAFT



Natural Resources Map

Town Plan 2018 Town of Andover, VT Adopted DRAFT

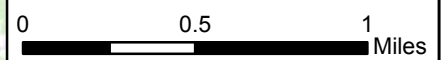
- ▲ HillAndMountainSu...
- ~ 100ft contour
-  Prime Agricultural Soils
-  Agricultural Soils of Statewide Importance
-  Steep slope - 20 - 23%
-  Steep slope - 24% and over
-  River or Stream
-  Lake or Pond
-  VT State Highway
-  Class 2 Town Highway
-  Class 3 Town Highway
-  Class 4 Town Highway
-  Forest Road, Legal Trail or Private Road

Data Sources:
 Agricultural soils (NRCS 2015),
 Slope (10m USGS/ VCGI 2012),
 Contours (using 20ft VCGI 2012),
 Hill and Mountains (Unknown source)
 Waterbodies (VHD 2008),
 Roads (VTrans 2017),
 Town Boundary (VCGI 2016).

VT State Plane, Meters,
 NAD 83

For planning purposes only.
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Formatted for 11x17 paper.















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Drawn March 20, 2018
 Adopted DRAFT



Water Resources Map

Town Plan 2018 Town of Andover, VT Adopted DRAFT

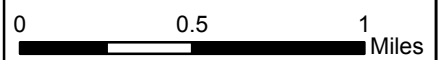
-  Floodway (Zone AE)
-  Floodway Fringe/
Floodplain (Zone A
and AE)
-  River Corridor
-  Wetland
-  Groundwater
Protection Area
-  River or Stream
-  Lake or Pond
-  VT State Highway
-  Class 2 Town Highway
-  Class 3 Town Highway
-  Class 4 Town Highway
-  Forest Road, Legal
Trail or Private Road

Data Sources:
Floodway and Floodplain
(FEMA 2008), River Corridor
(ANR Jan 2015), Wetlands
(VSWI ANR 2017),
Waterbodies (VHD 2008),
Groundwater Protection Area
(ANR 2017), Roads (VTrans
2017), Town Boundary (VCGI
2016).

VT State Plane, Meters,
NAD 83

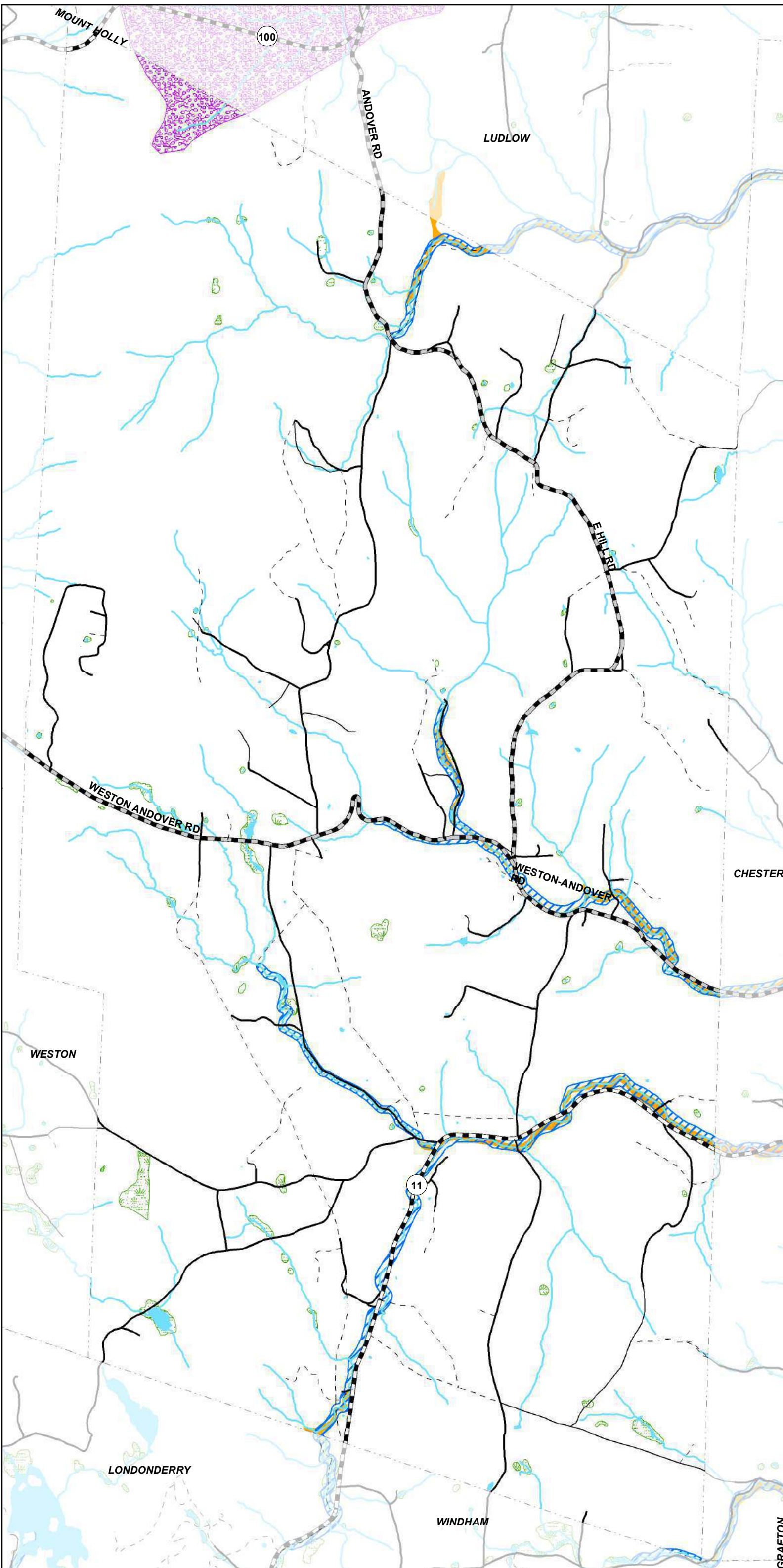
For planning purposes only.
Not for regulatory
interpretation.

Formatted for 11x17 paper.

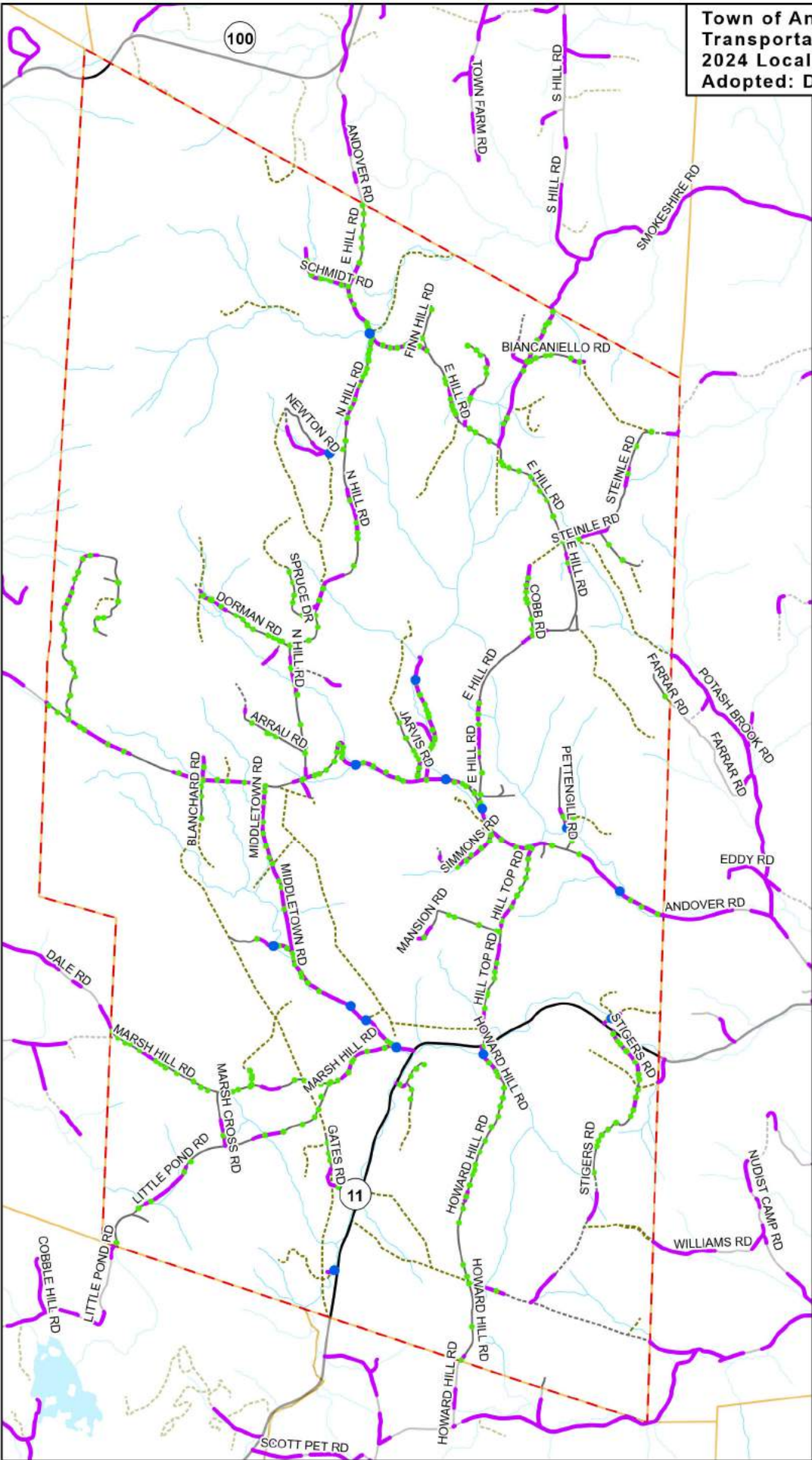


P.O. Box 320, Ascutney, VT 05030
802-674-9201 www.swcrpc.org

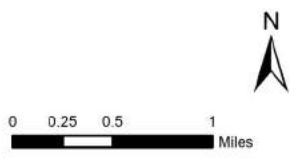
Drawn April 13, 2018
Adopted DRAFT



Town of Andover Transportation Map 2024 Local Hazard Mitigation Plan Adopted: DRAFT



- Bridges
- Culverts
- Airports
- Hydrologically Connected Road Segments
- Town Boundary
- Surrounding Towns
- Interstate
- US or State Highway
- Class 1 Town Highway
- Class 2 and 3 Town Highway
- Class 4 Town Highway
- Forest Road, Legal Trail, or Private Road
- Lakes and Ponds
- Rivers and Streams



There are no airports in Town.

Data Sources: Airports (VTTrans 2016), Bridges and Culverts (VT Culverts 2023), Roads (VTTrans 2023), Railroad (VTTrans 2020), Waterbodies (VDH 2019), Municipal Roads General Permit Road Segments (ANR 2023), Town Boundary (VCGI 2016).

*VT State Plane, Meters, NAD 83
Data depicted on this map are for
planning purposes only and are
based on best available information.
Some of the data do not line up.*
















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802-674-9201 www.marvvt.org

For planning purposes only
Not for regulatory interpretation

DRAFT Drawn: Mar 26, 2024

Transportation and Utilities Map

Town Plan 2018 Town of Andover, VT Adopted DRAFT

-  Town Office
-  Bridge
-  Notable culverts that need work
-  VT State Highway
-  Class 2 Town Highway
-  Class 3 Town Highway
-  Class 4 Town Highway
-  Forest Road, Legal Trail or Private Road
-  Hydrologically Connected Road Segment
-  Scenic Route 100 Byway
-  Electric Transmission Line Corridors
-  River or Stream
-  Lake or Pond

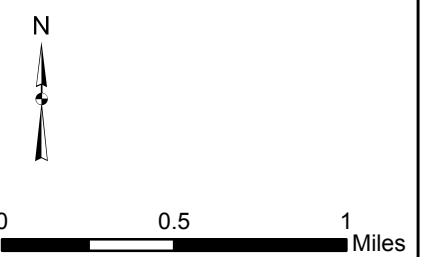
Within the town there are no airports, fixed route transit routes or railroads. There are also no schools, hospitals, libraries, emergency services, public water or sewer lines within the town.

Data Sources: Bridges and Culverts (RPC/ Town 2018, vtculverts.org), Electric Transmission Line Corridors (VCGI 2003 and RPC 2016), Buildings (VT E911 Feb 2018), Waterbodies (VHD 2008), Roads and Byways (VTrans 2017), Hydrologically Connected Road Segment (Municipal Road General Permit, ANR January 2018), Hillshade (derived from 10m Digital Elevation Model, USGS/ VCGI 2012), Town Boundary (VCGI 2016).

VT State Plane, Meters, NAD 83

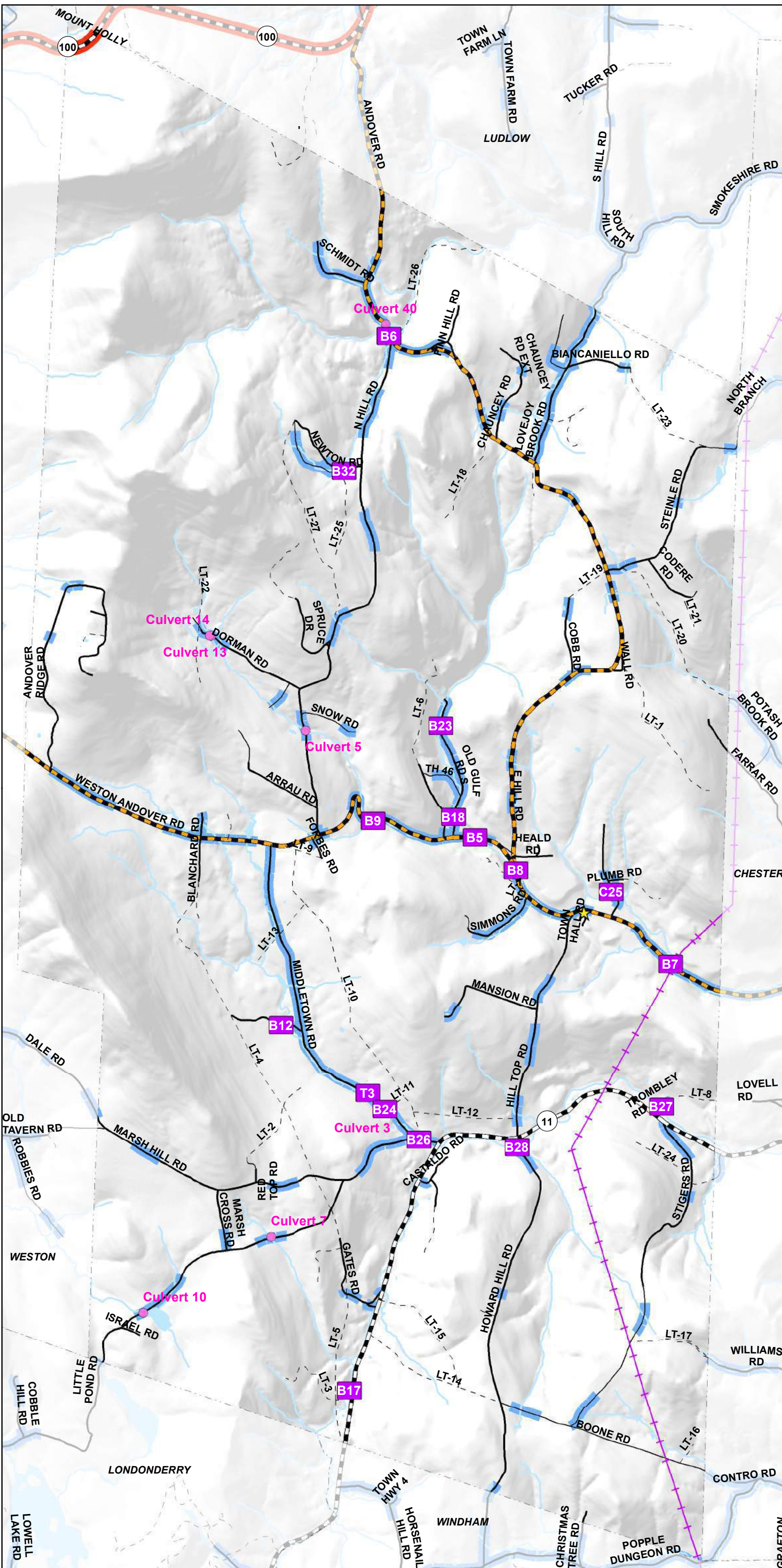
For planning purposes only. Not for regulatory interpretation.

Formatted for 11x17 paper.



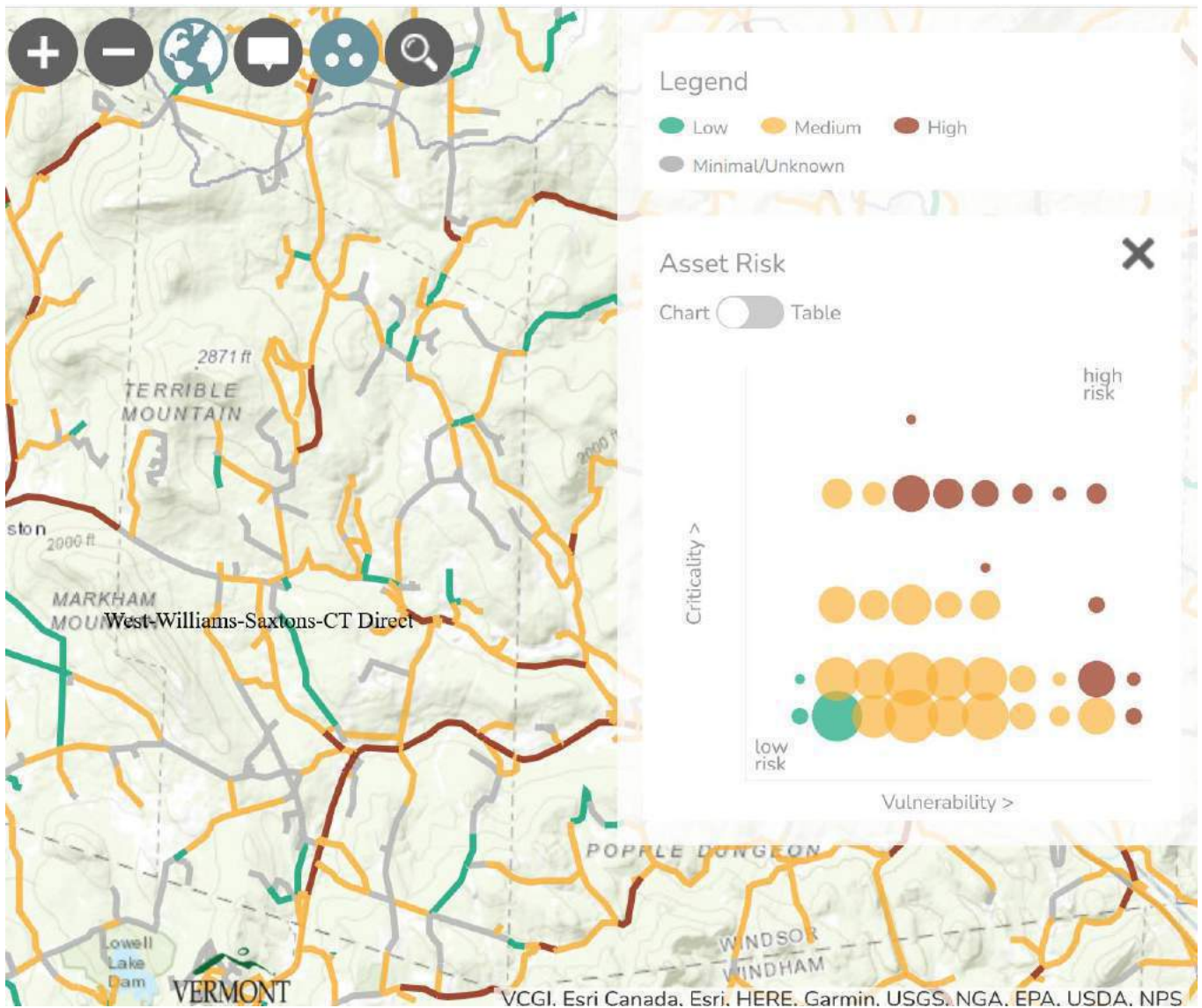
P.O. Box 320, Ascutney, VT 05030
802-674-9201 www.swcrpc.org

Drawn April 13, 2018
Adopted DRAFT



TRANSPORTATION RESILIENCY PLANNING TOOL MAP

ANDOVER





LEGEND

Hazard Class

- ◆ High Hazard Potential
- ◆ Significant Hazard Potential
- ◆ Low Hazard Potential
- ◆ Minimal Hazard Potential
- ◆ Undetermined Hazard Potential

◆ Historical Dam Location

Flood Hazard Areas (Only FEM)

- AE (1-percent annual chance flood)
- A (1-percent annual chance floodpl.)
- AO (1-percent annual chance zone feet)
- 0.2-percent annual chance flood ha

River Corridors (Aug 27, 2019)

- .5 - 2 sqmi.
- .25-.5 sqmi.

Parcels (standardized)

- Waterbody
- River Area

Stream

- Stream
- Intermittent Stream

VTRANS State and Town Long

- VTRANS State Short Structure

Town Bridge

- Town Bridge

Roads

- Interstate
- US Highway; 1

1: 3,258
April 3, 2024



165.0 0 82.00 165.0 Meters
 WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 272 Ft. 1cm = 33 Meters
 © Vermont Agency of Natural Resources THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

NOTES

Camping Area for Mobil Homes



LEGEND

Hazard Class

- ◆ High Hazard Potential
- ◆ Significant Hazard Potential
- ◆ Low Hazard Potential
- ◆ Minimal Hazard Potential
- ◆ Undetermined Hazard Potential

◆ Historical Dam Location

Flood Hazard Areas (Only FEM)

- AE (1-percent annual chance flood)
- A (1-percent annual chance floodpl.)
- AO (1-percent annual chance zone feet)
- 0.2-percent annual chance flood ha

■ River Corridors (Aug 27, 2019)

- ▬ .5 - 2 sqmi.
- ▬ .25-.5 sqmi.

□ Parcels (standardized)

■ Waterbody

■ River Area

Stream

- ▬ Stream
- ▬ Intermittent Stream

⦿ VTRANS State and Town Long

⦿ VTRANS State Short Structure

⦿ Town Bridge

Roads

- ▬ Interstate
- ▬ US Highway; 1

1: 1,629
April 3, 2024



83.0 0 42.00 83.0 Meters
 WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 136 Ft. 1cm = 16 Meters
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NOTES



LEGEND

- Hazard Class**
- ◆ High Hazard Potential
 - ◆ Significant Hazard Potential
 - ◆ Low Hazard Potential
 - ◆ Minimal Hazard Potential
 - ◆ Undetermined Hazard Potential
- ◆ Historical Dam Location
- Flood Hazard Areas (Only FEM)**
- AE (1-percent annual chance flood)
 - A (1-percent annual chance floodpl.)
 - AO (1-percent annual chance zone feet)
 - 0.2-percent annual chance flood ha
- River Corridors (Aug 27, 2019)
- .5 - 2 sqmi.
 - .25-.5 sqmi.
- Parcels (standardized)
- Waterbody
- River Area
- Stream**
- Stream
 - Intermittent Stream
- VTRANS State and Town Long
- VTRANS State Short Structure
- Town Bridge
- Roads**
- Interstate
 - US Highway; 1

1: 3,258
April 3, 2024

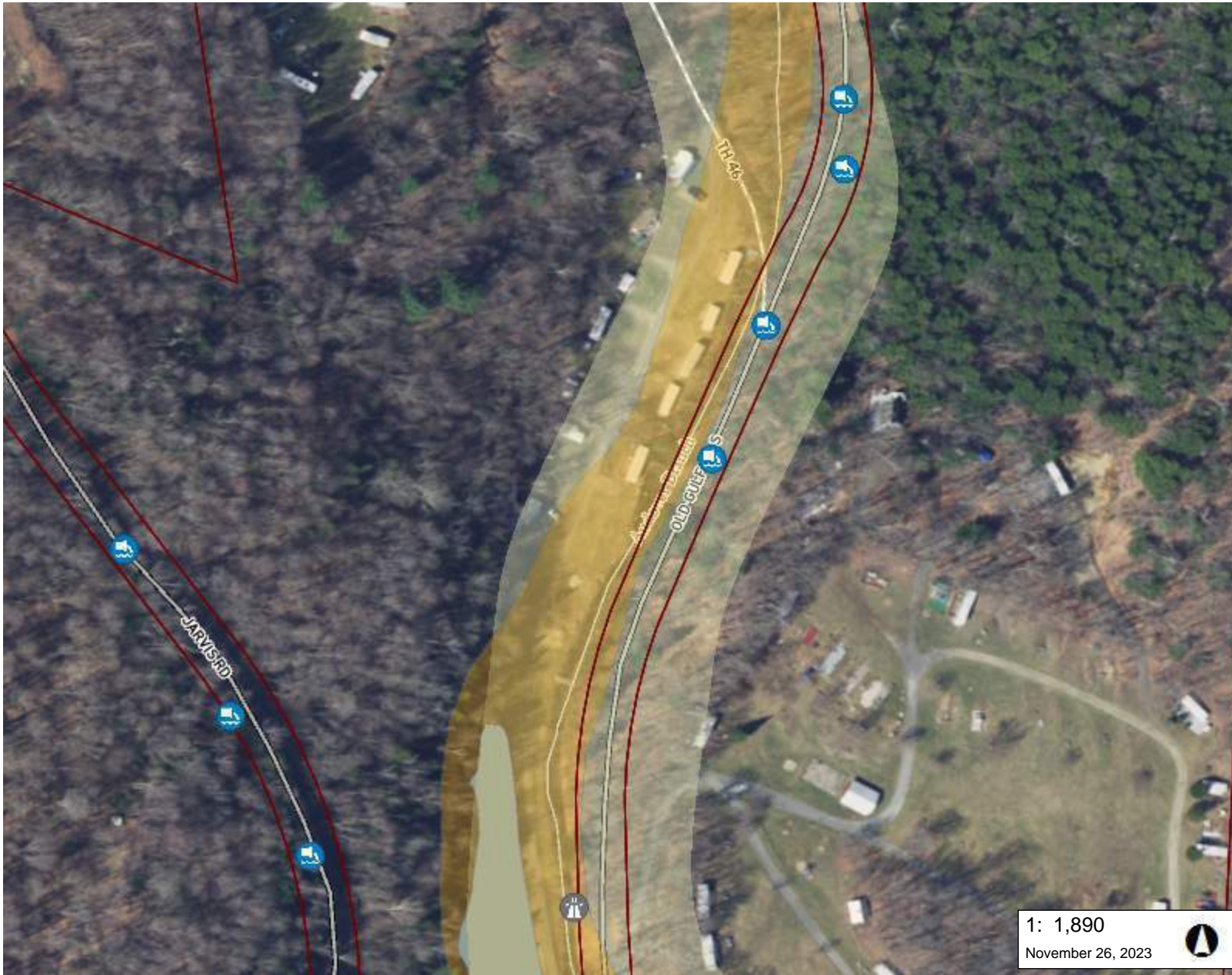
NOTES

165.0 0 82.00 165.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 272 Ft. 1cm = 33 Meters

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LEGEND

- Bridges
- Culvert
- Flood Hazard Areas (Only FEM)**
 - AE (1-percent annual chance flood)
 - A (1-percent annual chance floodpl)
 - AO (1-percent annual chance zone feet)
 - 0.2-percent annual chance flood ha
- River Corridors (Aug 27, 2019)**
 - .5 - 2 sqmi.
 - .25-.5 sqmi.
- Parcels (standardized)
- Waterbody
- River Area
- Stream**
 - Stream
 - Intermittent Stream
- Roads**
 - Interstate
 - US Highway; 1
 - State Highway
 - Town Highway (Class 1)
 - Town Highway (Class 2,3)
 - Town Highway (Class 4)
 - State Forest Trail
 - National Forest Trail
 - Legal Trail
 - Private Road/Driveway

1: 1,890
November 26, 2023

NOTES

Map created using ANR's Natural Resources Atlas

96.0 0 48.00 96.0 Meters
 WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 158 Ft. 1cm = 19 Meters
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Appendix B

Public Involvement Documents

**Town of Andover
Notice of Public Information Meeting**

**LOCAL HAZARD MITIGATION PLAN UPDATE
Andover Town Office
953 Weston-Andover Rd., Andover, VT 05143
Tuesday, September 19th, 2023
4:00pm to 5:00pm**

**Concerned about the impact of Climate Change and Natural Disasters in Andover?
Voice your concerns during the Local Hazard Mitigation Plan update.**

The Town of Andover is updating its Local Hazard Mitigation Plan. The purpose of this planning effort is to protect life, property, economy, quality of life, and environment of the Andover Community from naturally occurring hazards and disasters. We are requesting input from the local community regarding experiences and concerns about weather related events and the potential risks and vulnerabilities to hazards, such as flooding, erosion, extreme temperatures, winter storms and drought.

The Town's Hazard Mitigation Planning Team will be holding a series of public meetings over the next few months during this planning process. This first meeting will be held on September 19th and conducted by the Mount Ascutney Regional Commission (MARC). The public is encouraged to attend this or future meetings and share their thoughts. This first meeting will be an in-person meeting only.

If you are interested but unable to attend, there are other options below to provide input:

- You can find meeting agendas, planning materials and fillable templates on a webpage entitled [Andover Local Hazard Mitigation Planning Update Process](#) on MARC's website.
- You can complete this brief [Climate Change in Andover survey](#) which can also be found on the [Town website](#).
- You can always provide your concerns, comments, and questions regarding this planning effort via email directly to Cindy Ingersoll at cingersoll@marcvf.org.

Town of Andover
LOCAL HAZARD MITIGATION PLAN UPDATE
Public Information Meeting #1

Andover Town Office
953 Weston-Andover Rd., Andover, VT 05143
Tuesday, September 19th, 2023
4:00pm to 5:00pm

AGENDA

1. Introduction to Local Hazard Mitigation Planning
2. Overview of Planning Process, FEMA Requirements and Timeline
3. Public Outreach and Survey
4. Overview of Current Hazard Data and Trends
5. Local Hazard Impact Assessment Exercise
6. Past Hazard Occurrences and Vulnerable Infrastructure, Structures, Areas or Populations
7. Tracking Time for Grant Match
8. Schedule Next Planning Meeting
9. Adjournment

VOLUNTEER/STAFF FORM TO DOCUMENT HMP MEETINGS - MATCH INFORMATION

PROGRAM: Andover Local Hazard Mitigation Plan Update
DATE OF MEETING: September 19, 2023
MEETING LOCATION: In-Person
TOPIC: Hazard Mitigation Planning Stage- Meeting #1
MEETING TIME: 4:00PM-6:00PM

VOLUNTEER/STAFF* ATTENDEES - CLAIMED						
No.	NAME	AFFILIATION	MILEAGE ROUND TRIP	MEETING HOURS	TOTAL MILEAGE	TOTAL TIME
					0.67	\$31.50
1	Barry Williams	Contractor	5	2	3.35	157.50
2	Chris Plumb	Select Board	2	2	1.34	63.00
3	Richard Griswold	Select Board	6	2	4.02	189.00
4	Charlie Golden	Road Foreman	4	2	2.68	126.00
5					-	-
6					-	-
7					-	-
8					-	-
9					-	-
10					-	-
11					-	-
12					-	-
13					-	-
14					-	-
15					-	-
16					-	-
17					-	-
18					-	-
34					-	-
35					-	-
Sub Total			17.00	8.00	\$11.39	\$535.50

FEDERALLY SUPPORTED PERSONNEL - CAN NOT CLAIM						
No.	NAME	AFFILIATION	MILEAGE ROUND TRIP	MEETING HOURS	TOTAL MILEAGE	TOTAL TIME
1						
2	Cindy Ingersoll	MARC			-	-
3					-	-
4					-	-
5					-	-
6					-	-
7					-	-
8					-	-
9					-	-
10					-	-
Sub Total			17.00	8.00	\$0.00	\$0.00

TOTAL MATCH \$546.89
TOTAL Non-Volunteer Match -

TOTAL VOLUNTEER MATCH	\$546.89
------------------------------	-----------------

VOLUNTEER FORM TO DOCUMENT IN-KIND SERVICES - MATCH INFORMATION

Workbook: Volunteer & Non Volunteer Tracking Form (One Meeting Log)

Purpose: Provide Locals with electronic in kind tracking form.

Directions: **FORM:**

TOP:

Meeting Info

Fill in Meeting Date, Location, Topic & Time

MIDDLE:

Volunteer

CLAIM

List each participant, title, mileage and hours of attendance to the quarter hour.

Section total automatically calculates

NOTE: Yellow Cells for Mileage and Dollars Amounts Can Be Changed

BOTTOM:

Non-Volunteer

CAN NOT CLAIM

List each participant, title, mileage and hours of attendance to the quarter hour.

Section total automatically calculates

NOTE: Yellow Cells for Mileage and Dollars Amounts Can Be Changed

BOTTOM

MATCHES:

Sub Totals

Total Match

Total Non-Volunteer

Total Volunteer

Totals automatically calculate

Total of each column - mileage, hours, mileage dollars, and time dollars.

Total of both Volunteer and Non-Volunteer sections

Total of Non-Volunteer section

Total eligible match (total volunteer minus non-volunteer)

PRINTING:

On plain paper

SUBMIT:

Submit as meeting documentation with invoice request to:

Karen Mae Smith, Grants Management Specialist

QUESTIONS:

Contact Karen Mae at 802-241-5458 or email karenmae.smith@state.vt.us

**Town of Andover
Notice of Public Information Meeting**

**LOCAL HAZARD MITIGATION PLAN UPDATE
Andover Town Office
953 Weston-Andover Rd., Andover, VT 05143
Tuesday, October 3rd, 2023
5:00pm to 6:30pm**

**Concerned about the impact of Climate Change and Natural Disasters in Andover?
Voice your concerns during the Local Hazard Mitigation Plan update.**

The Town of Andover is updating its Local Hazard Mitigation Plan. The purpose of this planning effort is to protect life, property, economy, quality of life, and environment of the Andover Community from naturally occurring hazards and disasters. We are requesting input from the local community regarding experiences and concerns about weather related events and the potential risks and vulnerabilities to hazards, such as flooding, erosion, extreme temperatures, winter storms and drought.

This is the second public meeting of Andover's Hazard Mitigation Planning Team to be held on October 3rd and conducted by the Mount Ascutney Regional Commission (MARC). The public is encouraged to attend this or future meetings and share their thoughts.

If you are interested but unable to attend, there are other options below to provide input:

- You can find meeting agendas, planning materials and fillable templates on a webpage entitled [Andover Local Hazard Mitigation Planning Update Process](#) on MARC's website.
- You can complete this brief [Climate Change in Andover survey](#) which can also be found on the [Town website](#).
- You can always provide your concerns, comments, and questions regarding this planning effort via email directly to Cindy Ingersoll at cingersoll@marcvt.org.

Town of Andover
LOCAL HAZARD MITIGATION PLAN UPDATE
Public Information Meeting #2

Andover Town Office
953 Weston-Andover Rd., Andover, VT 05143
Tuesday, October 3rd, 2023
5:00pm to 6:30pm

AGENDA

1. Determine Priority Hazards from Impact Assessment Exercise
2. Map Vulnerable Areas, Infrastructure, Populations
3. Status of Past HMP Strategies and Actions
4. Review Existing Capabilities
5. Review of Town Plan & Other Relevant Plans and Studies
6. Identify Potential HM Strategies & Actions
7. Schedule Next Planning Meeting
8. Adjournment

VOLUNTEER/STAFF FORM TO DOCUMENT HMP MEETINGS - MATCH INFORMATION

PROGRAM: Andover Local Hazard Mitigation Plan Update
DATE OF MEETING: October 3, 2023
MEETING LOCATION: In-Person
TOPIC: Hazard Mitigation Planning Stage- Meeting #2
MEETING TIME: 5:00PM-6:30PM (until 7:00PM)

VOLUNTEER/STAFF* ATTENDEES - CLAIMED						
No.	NAME	AFFILIATION	MILEAGE ROUND TRIP	MEETING HOURS	TOTAL MILEAGE	TOTAL TIME
					0.67	\$31.50
1	Barry Williams	Contractor	5	2	3.35	157.50
2	Chris Plumb	Select Board	2	2	1.34	63.00
3	Richard Griswold	Select Board	6	2	4.02	189.00
4	Charlie Golden	Road Foreman	4	2	2.68	126.00
5					-	-
6					-	-
7					-	-
8					-	-
9					-	-
10					-	-
11					-	-
12					-	-
13					-	-
14					-	-
15					-	-
16					-	-
17					-	-
18					-	-
34					-	-
35					-	-
Sub Total			17.00	8.00	\$11.39	\$535.50

FEDERALLY SUPPORTED PERSONNEL - CAN NOT CLAIM						
No.	NAME	AFFILIATION	MILEAGE ROUND TRIP	MEETING HOURS	TOTAL MILEAGE	TOTAL TIME
1						
2	Cindy Ingersoll	MARC			-	-
3					-	-
4					-	-
5					-	-
6					-	-
7					-	-
8					-	-
9					-	-
10					-	-
Sub Total			17.00	8.00	\$0.00	\$0.00

TOTAL MATCH \$546.89
TOTAL Non-Volunteer Match -

TOTAL VOLUNTEER MATCH	\$546.89
------------------------------	-----------------

VOLUNTEER FORM TO DOCUMENT IN-KIND SERVICES - MATCH INFORMATION

Workbook: Volunteer & Non Volunteer Tracking Form (One Meeting Log)

Purpose: Provide Locals with electronic in kind tracking form.

Directions: **FORM:**

TOP:

Meeting Info

Fill in Meeting Date, Location, Topic & Time

MIDDLE:

Volunteer

CLAIM

List each participant, title, mileage and hours of attendance to the quarter hour.

Section total automatically calculates

NOTE: Yellow Cells for Mileage and Dollars Amounts Can Be Changed

BOTTOM:

Non-Volunteer

CAN NOT CLAIM

List each participant, title, mileage and hours of attendance to the quarter hour.

Section total automatically calculates

NOTE: Yellow Cells for Mileage and Dollars Amounts Can Be Changed

BOTTOM

MATCHES:

Sub Totals

Total Match

Total Non-Volunteer

Total Volunteer

Totals automatically calculate

Total of each column - mileage, hours, mileage dollars, and time dollars.

Total of both Volunteer and Non-Volunteer sections

Total of Non-Volunteer section

Total eligible match (total volunteer minus non-volunteer)

PRINTING:

On plain paper

SUBMIT:

Submit as meeting documentation with invoice request to:

Karen Mae Smith, Grants Management Specialist

QUESTIONS:

Contact Karen Mae at 802-241-5458 or email karenmae.smith@state.vt.us

**Town of Andover
Notice of Public Information Meeting**

**LOCAL HAZARD MITIGATION PLAN UPDATE
Andover Town Office
953 Weston-Andover Rd., Andover, VT 05143
Tuesday, October 24th, 2023
5:00pm to 6:30pm**

The Town of Andover is updating its Local Hazard Mitigation Plan. The purpose of this planning effort is to protect life, property, economy, quality of life, and environment of the Andover Community from naturally occurring hazards and disasters. We are requesting input from the local community regarding experiences and concerns about weather related events and the potential risks and vulnerabilities to hazards, such as flooding, erosion, extreme temperatures, winter storms and drought.

This is the third public meeting of Andover's Hazard Mitigation Planning Team to be held on October 24th and conducted by the Mount Ascutney Regional Commission (MARC).

For this third meeting, we have invited John Broker-Campbell, the State Regional Floodplain Manager for our southern region, to provide some insight for the group as we contemplate potential options for mitigating the impact of future local flood events to flood resiliency in Andover.

The public is encouraged to attend this informative meeting and share their thoughts.

If you are interested but unable to attend, there are other options below to provide input:

- You can find meeting agendas on the [Town website](#) with planning materials and fillable templates on a webpage entitled [Andover Local Hazard Mitigation Planning Update Process](#) on MARC's website.
- You can complete this brief [Climate Change in Andover survey](#) which can also be found on the [Town website](#).
- You can always provide your concerns, comments, and questions regarding this planning effort via email directly to Cindy Ingersoll at cingersoll@marcvf.org.

**Town of Andover
LOCAL HAZARD MITIGATION PLAN UPDATE
Public Information Meeting #1**

**Andover Town Office
953 Weston-Andover Rd., Andover, VT 05143
Tuesday, October 24th, 2023
5:00pm to 6:30pm**

AGENDA

1. Group Discussion with John Broker-Campbell, Regional Floodplain Manager

If time permits:
2. Present Hazards Impact Assessment Results and Identify Priority Hazards
3. Review/Expand Initial List of New Potential Hazard Mitigation Strategies & Actions
4. Review Map of Vulnerable Areas, Infrastructure, Populations
5. Review of Town Plan & Other Relevant Plans and Studies
6. Schedule Next Planning Meeting
7. Adjournment

VOLUNTEER/STAFF FORM TO DOCUMENT HMP MEETINGS - MATCH INFORMATION

PROGRAM: Andover Local Hazard Mitigation Plan Update
DATE OF MEETING: October 24, 2023
MEETING LOCATION: In-Person
TOPIC: Hazard Mitigation Planning Stage- Meeting #3
MEETING TIME: 5:00PM-6:30PM (until 7:00PM)

VOLUNTEER/STAFF* ATTENDEES - CLAIMED						
No.	NAME	AFFILIATION	MILEAGE ROUND TRIP	MEETING HOURS	TOTAL MILEAGE	TOTAL TIME
					0.67	\$31.50
1	Barry Williams	Contractor	5	2	3.35	157.50
2	Chris Plumb	Select Board	2	2	1.34	63.00
3	Richard Griswold	Select Board	6	2	4.02	189.00
4	Charlie Golden	Road Foreman	4	2	2.68	126.00
5					-	-
6					-	-
7					-	-
8					-	-
9					-	-
10					-	-
11					-	-
12					-	-
13					-	-
14					-	-
15					-	-
16					-	-
17					-	-
18					-	-
34					-	-
35					-	-
Sub Total			17.00	8.00	\$11.39	\$535.50

FEDERALLY SUPPORTED PERSONNEL - CAN NOT CLAIM						
No.	NAME	AFFILIATION	MILEAGE ROUND TRIP	MEETING HOURS	TOTAL MILEAGE	TOTAL TIME
1						
2	Cindy Ingersoll	MARC			-	-
3					-	-
4					-	-
5					-	-
6					-	-
7					-	-
8					-	-
9					-	-
10					-	-
Sub Total			17.00	8.00	\$0.00	\$0.00

TOTAL MATCH \$546.89
TOTAL Non-Volunteer Match -

TOTAL VOLUNTEER MATCH	\$546.89
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VOLUNTEER FORM TO DOCUMENT IN-KIND SERVICES - MATCH INFORMATION

Workbook: Volunteer & Non Volunteer Tracking Form (One Meeting Log)

Purpose: Provide Locals with electronic in kind tracking form.

Directions: **FORM:**

TOP:

Meeting Info

Fill in Meeting Date, Location, Topic & Time

MIDDLE:

Volunteer

CLAIM

List each participant, title, mileage and hours of attendance to the quarter hour.

Section total automatically calculates

NOTE: Yellow Cells for Mileage and Dollars Amounts Can Be Changed

BOTTOM:

Non-Volunteer

CAN NOT CLAIM

List each participant, title, mileage and hours of attendance to the quarter hour.

Section total automatically calculates

NOTE: Yellow Cells for Mileage and Dollars Amounts Can Be Changed

BOTTOM

MATCHES:

Sub Totals

Total Match

Total Non-Volunteer

Total Volunteer

Totals automatically calculate

Total of each column - mileage, hours, mileage dollars, and time dollars.

Total of both Volunteer and Non-Volunteer sections

Total of Non-Volunteer section

Total eligible match (total volunteer minus non-volunteer)

PRINTING:

On plain paper

SUBMIT:

Submit as meeting documentation with invoice request to:

Karen Mae Smith, Grants Management Specialist

QUESTIONS:

Contact Karen Mae at 802-241-5458 or email karenmae.smith@state.vt.us

**Town of Andover
Notice of Public Information Meeting #5**

**LOCAL HAZARD MITIGATION PLAN UPDATE
Andover Town Office
953 Weston-Andover Rd., Andover, VT 05143
Tuesday, November 28th, 2023
5:30pm to 7:00pm**

The Town of Andover is updating its Local Hazard Mitigation Plan. The purpose of this planning effort is to reduce the impact from naturally occurring hazards and disasters on the Andover community. Throughout this process we encourage input from the local community regarding experiences and concerns about weather related events and the potential risks and vulnerabilities to hazards, such as flooding, erosion, extreme temperatures, winter storms and drought.

This is the fifth meeting of Andover's Hazard Mitigation Planning Team for this plan update process to be conducted by the Mount Ascutney Regional Commission (MARC).

The public is encouraged to attend this informative meeting and share their thoughts.

If you are interested but unable to attend, there are other options below to follow the process or provide input:

- You can find meeting agendas with planning materials and fillable templates on a webpage entitled [Andover Local Hazard Mitigation Planning Update Process](#) on MARC's website.
- You can complete this brief [Climate Change in Andover survey](#) which can also be found on the [Town website](#).
- You can always provide your concerns, comments, and questions regarding this planning effort via email directly to Cindy Ingersoll at cingersoll@marcvt.org.

**Town of Andover
LOCAL HAZARD MITIGATION PLAN UPDATE
Meeting #4**

**Andover Town Office
953 Weston-Andover Rd., Andover, VT 05143
Tuesday, November 28th, 2023
5:30 pm to 7:30 pm**

AGENDA

1. Review/Expand Initial List of New Potential Hazard Mitigation Strategies & Actions
2. Review Maps of Vulnerable Areas, Populations, and Infrastructure
 - For flooding, flash flooding and erosion
 - For heavy snow and ice
 - For extreme cold
3. Review Initial List of New Potential Hazard Mitigation Strategies & Actions
 - Include at least one mitigation action for each identified hazard
 - Consider related Goals & Recommendations from Town Plan
 - Consider River Corridor Plan, MRGP inventory, Watershed Project Database, Climate Survey Responses and Floodplain Manager discussion
4. Schedule Next Meeting and Set Agenda
5. Adjournment

VOLUNTEER/STAFF FORM TO DOCUMENT HMP MEETINGS - MATCH INFORMATION

PROGRAM: Andover Local Hazard Mitigation Plan Update
DATE OF MEETING: November 28, 2023
MEETING LOCATION: In-Person
TOPIC: Hazard Mitigation Planning Stage- Meeting #4
MEETING TIME: 5:30-7:30 PM

VOLUNTEER/STAFF* ATTENDEES - CLAIMED						
No.	NAME	AFFILIATION	MILEAGE ROUND TRIP	MEETING HOURS	TOTAL MILEAGE	TOTAL TIME
					0.67	\$31.50
1	Barry Williams	Contractor	5	2	3.35	157.50
2	Chris Plumb	Select Board	2	2	1.34	63.00
3	Richard Griswold	Select Board	6	2	4.02	189.00
4	Charlie Golden	Road Foreman	4	2	2.68	126.00
5					-	-
6					-	-
7					-	-
8					-	-
9					-	-
10					-	-
11					-	-
12					-	-
13					-	-
14					-	-
15					-	-
16					-	-
17					-	-
18					-	-
34					-	-
35					-	-
Sub Total			17.00	8.00	\$11.39	\$535.50

FEDERALLY SUPPORTED PERSONNEL - CAN NOT CLAIM						
No.	NAME	AFFILIATION	MILEAGE ROUND TRIP	MEETING HOURS	TOTAL MILEAGE	TOTAL TIME
1						
2	Cindy Ingersoll	MARC			-	-
3					-	-
4					-	-
5					-	-
6					-	-
7					-	-
8					-	-
9					-	-
10					-	-
Sub Total			17.00	8.00	\$0.00	\$0.00

TOTAL MATCH \$546.89
TOTAL Non-Volunteer Match -
TOTAL VOLUNTEER MATCH **\$546.89**

VOLUNTEER FORM TO DOCUMENT IN-KIND SERVICES - MATCH INFORMATION

Workbook: Volunteer & Non Volunteer Tracking Form (One Meeting Log)

Purpose: Provide Locals with electronic in kind tracking form.

Directions: **FORM:**

TOP:

Meeting Info

Fill in Meeting Date, Location, Topic & Time

MIDDLE:

Volunteer

CLAIM

List each participant, title, mileage and hours of attendance to the quarter hour.

Section total automatically calculates

NOTE: Yellow Cells for Mileage and Dollars Amounts Can Be Changed

BOTTOM:

Non-Volunteer

CAN NOT CLAIM

List each participant, title, mileage and hours of attendance to the quarter hour.

Section total automatically calculates

NOTE: Yellow Cells for Mileage and Dollars Amounts Can Be Changed

BOTTOM

MATCHES:

Sub Totals

Total Match

Total Non-Volunteer

Total Volunteer

Totals automatically calculate

Total of each column - mileage, hours, mileage dollars, and time dollars.

Total of both Volunteer and Non-Volunteer sections

Total of Non-Volunteer section

Total eligible match (total volunteer minus non-volunteer)

PRINTING:

On plain paper

SUBMIT:

Submit as meeting documentation with invoice request to:

Karen Mae Smith, Grants Management Specialist

QUESTIONS:

Contact Karen Mae at 802-241-5458 or email karenmae.smith@state.vt.us

**Town of Andover
Notice of Public Information Meeting #5**

**LOCAL HAZARD MITIGATION PLAN UPDATE
Andover Town Office
953 Weston-Andover Rd., Andover, VT 05143
Tuesday, February 20th, 2024
(with potential reschedule to 2/27 weather dependent)
5:30pm to 7:00pm**

The Town of Andover is updating its Local Hazard Mitigation Plan. The purpose of this planning effort is to reduce the impact from naturally occurring hazards and disasters on the Andover community. Throughout this process we encourage input from the local community regarding experiences and concerns about weather related events and the potential risks and vulnerabilities to hazards, such as flooding, erosion, extreme temperatures, winter storms and drought.

This meeting is weather dependent. Please check the town website prior to the meeting to confirm. The reschedule date, if needed, is currently set for February 27th at 5:30PM.

The public is encouraged to attend and share their thoughts. If you are interested but unable to attend, there are other options below to follow the process or provide input:

- You can find meeting agendas with planning materials and fillable templates on a webpage entitled [Andover Local Hazard Mitigation Planning Update Process](#) on MARC's website.
- You can complete this brief [Climate Change in Andover survey](#) which can also be found on the [Town website](#).
- You can always provide your concerns, comments, and questions regarding this planning effort via email directly to Cindy Ingersoll at cingersoll@marcvf.org.

Town of Andover
LOCAL HAZARD MITIGATION PLAN UPDATE
Meeting #5

Andover Town Office
953 Weston-Andover Rd., Andover, VT 05143
Tuesday, February 20th, 2024
5:30 pm to 7:00 pm

AGENDA

1. Finalize and Prioritize of Hazard Mitigation Strategies & Actions
2. Identify Town Resources and Capabilities Improvements
3. Determine Plan Monitoring Process
4. Presentation of Preliminary Draft
5. Schedule Next Meeting and Set Agenda
6. Adjournment

VOLUNTEER/STAFF FORM TO DOCUMENT HMP MEETINGS - MATCH INFORMATION

PROGRAM: Andover Local Hazard Mitigation Plan Update
DATE OF MEETING: February 20, 2024
MEETING LOCATION: In-Person
TOPIC: Hazard Mitigation Planning/Draft Stage- Meeting #5
MEETING TIME: 5:30-7:30 PM

VOLUNTEER/STAFF* ATTENDEES - CLAIMED						
No.	NAME	AFFILIATION	MILEAGE ROUND TRIP	MEETING HOURS	TOTAL MILEAGE	TOTAL TIME
					0.67	\$31.50
1	Barry Williams	Contractor	5	2	3.35	157.50
2	Chris Plumb	Select Board	2	2	1.34	63.00
3	Richard Griswold	Select Board	6	2	4.02	189.00
4	Charlie Golden	Road Foreman	4	2	2.68	126.00
5					-	-
6					-	-
7					-	-
8					-	-
9					-	-
10					-	-
11					-	-
12					-	-
13					-	-
14					-	-
15					-	-
16					-	-
17					-	-
18					-	-
34					-	-
35					-	-
Sub Total			17.00	8.00	\$11.39	\$535.50

FEDERALLY SUPPORTED PERSONNEL - CAN NOT CLAIM						
No.	NAME	AFFILIATION	MILEAGE ROUND TRIP	MEETING HOURS	TOTAL MILEAGE	TOTAL TIME
1						
2	Cindy Ingersoll	MARC			-	-
3					-	-
4					-	-
5					-	-
6					-	-
7					-	-
8					-	-
9					-	-
10					-	-
Sub Total			17.00	8.00	\$0.00	\$0.00

TOTAL MATCH \$546.89
TOTAL Non-Volunteer Match -
TOTAL VOLUNTEER MATCH **\$546.89**

VOLUNTEER FORM TO DOCUMENT IN-KIND SERVICES - MATCH INFORMATION

Workbook: Volunteer & Non Volunteer Tracking Form (One Meeting Log)

Purpose: Provide Locals with electronic in kind tracking form.

Directions: **FORM:**

TOP:

Meeting Info

Fill in Meeting Date, Location, Topic & Time

MIDDLE:

Volunteer

CLAIM

List each participant, title, mileage and hours of attendance to the quarter hour.

Section total automatically calculates

NOTE: Yellow Cells for Mileage and Dollars Amounts Can Be Changed

BOTTOM:

Non-Volunteer

CAN NOT CLAIM

List each participant, title, mileage and hours of attendance to the quarter hour.

Section total automatically calculates

NOTE: Yellow Cells for Mileage and Dollars Amounts Can Be Changed

BOTTOM

MATCHES:

Sub Totals

Total Match

Total Non-Volunteer

Total Volunteer

Totals automatically calculate

Total of each column - mileage, hours, mileage dollars, and time dollars.

Total of both Volunteer and Non-Volunteer sections

Total of Non-Volunteer section

Total eligible match (total volunteer minus non-volunteer)

PRINTING:

On plain paper

SUBMIT:

Submit as meeting documentation with invoice request to:

Karen Mae Smith, Grants Management Specialist

QUESTIONS:

Contact Karen Mae at 802-241-5458 or email karenmae.smith@state.vt.us

VOLUNTEER/STAFF FORM TO DOCUMENT HMP MEETINGS - MATCH INFORMATION

PROGRAM: Andover Local Hazard Mitigation Plan Update
 DATE OF MEETING: May 7, 2024
 MEETING LOCATION: In-Person
 TOPIC: Hazard Mitigation Draft Stage- Meeting #6
 MEETING TIME: 5:30-7:30 PM

VOLUNTEER/STAFF* ATTENDEES - CLAIMED						
No.	NAME	AFFILIATION	MILEAGE ROUND TRIP	MEETING HOURS	TOTAL MILEAGE	TOTAL TIME
					0.67	\$31.50
1					-	-
2	Chris Plumb	Select Board	2	2	1.34	63.00
3					-	-
4	Charlie Golden	Road Foreman	4	2	2.68	126.00
5					-	-
6					-	-
7					-	-
8					-	-
9					-	-
10					-	-
11					-	-
12					-	-
13					-	-
14					-	-
15					-	-
16					-	-
17					-	-
18					-	-
34					-	-
35					-	-
Sub Total			6.00	4.00	\$4.02	\$189.00

FEDERALLY SUPPORTED PERSONNEL - CAN NOT CLAIM						
No.	NAME	AFFILIATION	MILEAGE ROUND TRIP	MEETING HOURS	TOTAL MILEAGE	TOTAL TIME
1						
2	Cindy Ingersoll	MARC			-	-
3					-	-
4					-	-
5					-	-
6					-	-
7					-	-
8					-	-
9					-	-
10					-	-
Sub Total			6.00	4.00	\$0.00	\$0.00

TOTAL MATCH \$193.02
 TOTAL Non-Volunteer Match -

TOTAL VOLUNTEER MATCH	\$193.02
------------------------------	-----------------

VOLUNTEER FORM TO DOCUMENT IN-KIND SERVICES - MATCH INFORMATION

Workbook: Volunteer & Non Volunteer Tracking Form (One Meeting Log)

Purpose: Provide Locals with electronic in kind tracking form.

Directions: **FORM:**

TOP:

Meeting Info

Fill in Meeting Date, Location, Topic & Time

MIDDLE:

Volunteer

CLAIM

List each participant, title, mileage and hours of attendance to the quarter hour.

Section total automatically calculates

NOTE: Yellow Cells for Mileage and Dollars Amounts Can Be Changed

BOTTOM:

Non-Volunteer

CAN NOT CLAIM

List each participant, title, mileage and hours of attendance to the quarter hour.

Section total automatically calculates

NOTE: Yellow Cells for Mileage and Dollars Amounts Can Be Changed

BOTTOM

MATCHES:

Sub Totals

Total Match

Total Non-Volunteer

Total Volunteer

Totals automatically calculate

Total of each column - mileage, hours, mileage dollars, and time dollars.

Total of both Volunteer and Non-Volunteer sections

Total of Non-Volunteer section

Total eligible match (total volunteer minus non-volunteer)

PRINTING:

On plain paper

SUBMIT:

Submit as meeting documentation with invoice request to:

Karen Mae Smith, Grants Management Specialist

QUESTIONS:

Contact Karen Mae at 802-241-5458 or email karenmae.smith@state.vt.us

**TOWN OF ANDOVER
LOCAL HAZARD MITIGATION PLANNING PROCESS
STAKEHOLDER ENGAGEMENT**

List of Stakeholders*:

Andover Municipal representatives

Emergency Management, Director
Health Officer
Highway Department, Foreman
Selectboard
Town Clerk
Zoning Board of Adjustment/Planning Commission
Zoning Administrator

Other local Stakeholders engaged in the process:

Fire and Rescue Services: Chester Fire Chief and Ambulance Chief
Esmeralda (Restaurant Owner)
Horseshoe Acres Campground
Mount Ascutney Regional Commission, Director of Planning
Springfield Regional Development Corporation

Distribution of Plan Draft and Invitation to Participate In Draft Plan Review:

- HMPT
- Municipal Representatives and individual Board and Commission members
- LEMP Vulnerable Populations listing of organizations and facilities that serve vulnerable populations to identify residents who are at risk based on the emergency
 - CARE (Citizen Assistance Registration for Emergencies)
 - Senior Solutions
 - Neighborhood Connections
 - Horseshoe Acres Campground
- Neighboring Towns:
 - Town of Chester
 - Town Clerk for posting
 - Town Manager
 - Selectboard, Chair
 - Planning Commission, Chair
 - Development Review Board, Chair
 - Emergency Management, Director
 - Zoning Administrator

Town of Ludlow

Town Clerk for posting
Town Manager
Selectboard, Chair
Planning Commission, Chair
Director of Planning and Development
Development Review Board, Chair
Emergency Management, Director
Zoning Administrator

Town of Londonderry

Town Clerk for posting
Town Administrator
Selectboard, Chair
Planning Commission, Chair
Emergency Management, Director
Development Review Board, Chair
Zoning Administrator

Town of Weston

Town Clerk for posting
Selectboard, Chair
Planning Commission
Development Review Board
Flood Resiliency Committee
Zoning Administrator

Town of Windam

Town Clerk for posting
Selectboard, Chair
Zoning Administrator
Planning Commission, Chair

*Andover does not have a Town Manager or Administrator, Building Inspector, Conservation Commission, Floodplain Administrator or Development Review Board.

Residents, second homeowners and other property owners can be reached through regular channels of notification: town website and community listserv.

Distribution of Draft Plan

- An electronic copy posted on the Town and MARC websites, and Andover Words Listserv.
- A copy was circulated to individual members of the municipal Boards, Commission and departments listed above under Andover Municipal representatives.
- An electronic distribution with a link to the plan draft was made to adjacent towns (Chester, Londonderry, Ludlow, Weston, Windham) via email to respective Board and Commission Chairs as listed in Appendix B: Stakeholder Engagement above with a request to the Town Clerk to post the draft on their websites.
- All distributions included the following:

"The Town of Andover is seeking comment on its 2024-2029 Local Hazard Mitigation Plan draft. The purpose of this planning effort is to improve Andover's resiliency to natural hazards through hazard assessment, recognition of vulnerable assets, and identification of mitigating actions and strategies to reduce the impact of these hazards on the community.

An electronic copy of the Draft Plan can be found on the [Andover Town website](#) home page or on the dedicated [Town webpage](#) under the Mount Ascutney Regional Commission website

You are also invited to attend the Andover Selectboard meeting of June 10th at 6:30PM for a review of the draft plan. Please feel free to forward any questions or comments by June 10th to Jeanette Haight, Town Clerk at clerk@vermontel.net or Cindy Ingersoll, Community Development Specialist, Mount Ascutney Regional Commission at cingersoll@marcvt.org.

We welcome all input."

Survey Posting Narrative (attached)

There were two requests posted on 9/15/2023 and 12/1/2024

Town of Andover LOCAL HAZARD MITIGATION PLAN UPDATE

Andover Residents

The Town requests your input to the Local Hazard Mitigation Plan Update process by taking a brief survey which can be accessed through the scan code below.

This is a brief survey to gather community concerns and suggestions on the impact of climate change and related natural hazards to the Town of Andover.

This Local Hazard Mitigation Plan is intended to assist the Town of Andover in identifying and understanding the risks of natural hazard events to the community and developing strategies and actions that can be taken to improve the resiliency of the local community.

To assist in this effort, your participation is requested through the survey below. This survey input will be used to identify the most impactful hazards to the Town and develop strategies, actions and policies that will reduce future risk and losses to our community.

ANDOVER CLIMATE IMPACT SURVEY



You can track meeting dates and materials or just follow the process [HERE](#).

Town of Andover LOCAL HAZARD MITIGATION PLAN UPDATE

If You Live in Andover We Need Your Thoughts

Andover is updating its Local Hazard Mitigation Plan to improve our resiliency to climate change. This Plan is intended to assist the Town in reducing the impact of natural hazard events to our public infrastructure, private properties, and quality of life.

The Town recognizes that our community feels the impact of climate change differently and would like to know how it has affected you. This survey will be used to help identify the most impactful hazards to our residents and develop an action plan to reduce future risk and losses to our community.

There have been 7 FEMA disaster declarations for Windsor County over the past 10 years, more than in any prior 10-year period, and have been costly to recover from. This planning effort will enable the Town to pursue funding for hazard mitigation projects and increase the level of FEMA assistance provided for recovery from future declared events.

This survey will take 5-10 minutes to complete. Please scan the code below.

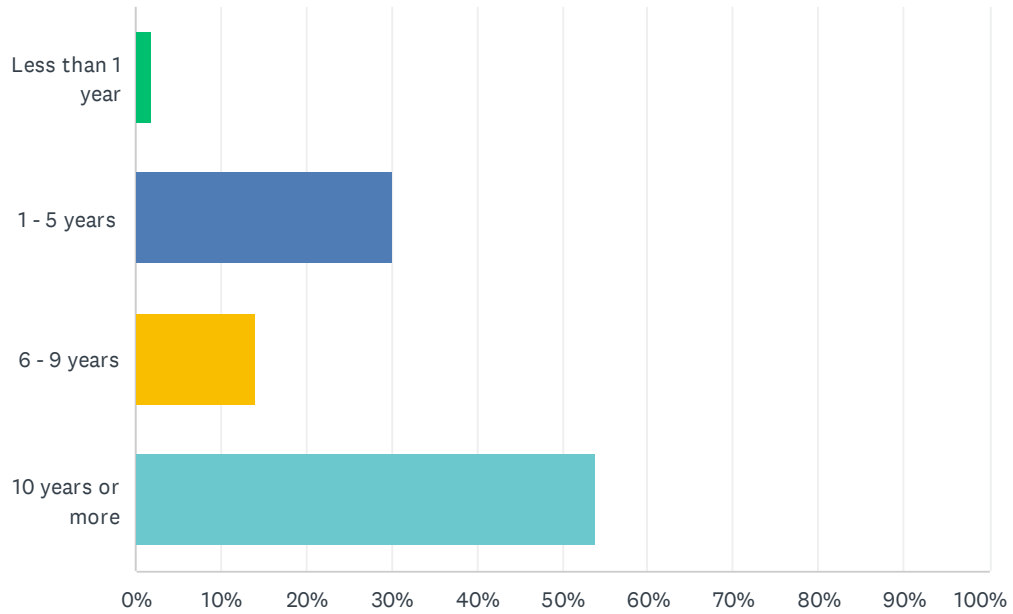
ANDOVER CLIMATE IMPACT SURVEY



You can track meeting dates and materials or just follow the process at [marctvt.org/Towns/Andover/Local Hazard Mitigation Plan Update](http://marctvt.org/Towns/Andover/Local%20Hazard%20Mitigation%20Plan%20Update).

Q1 How long have you lived in the Town of Andover?

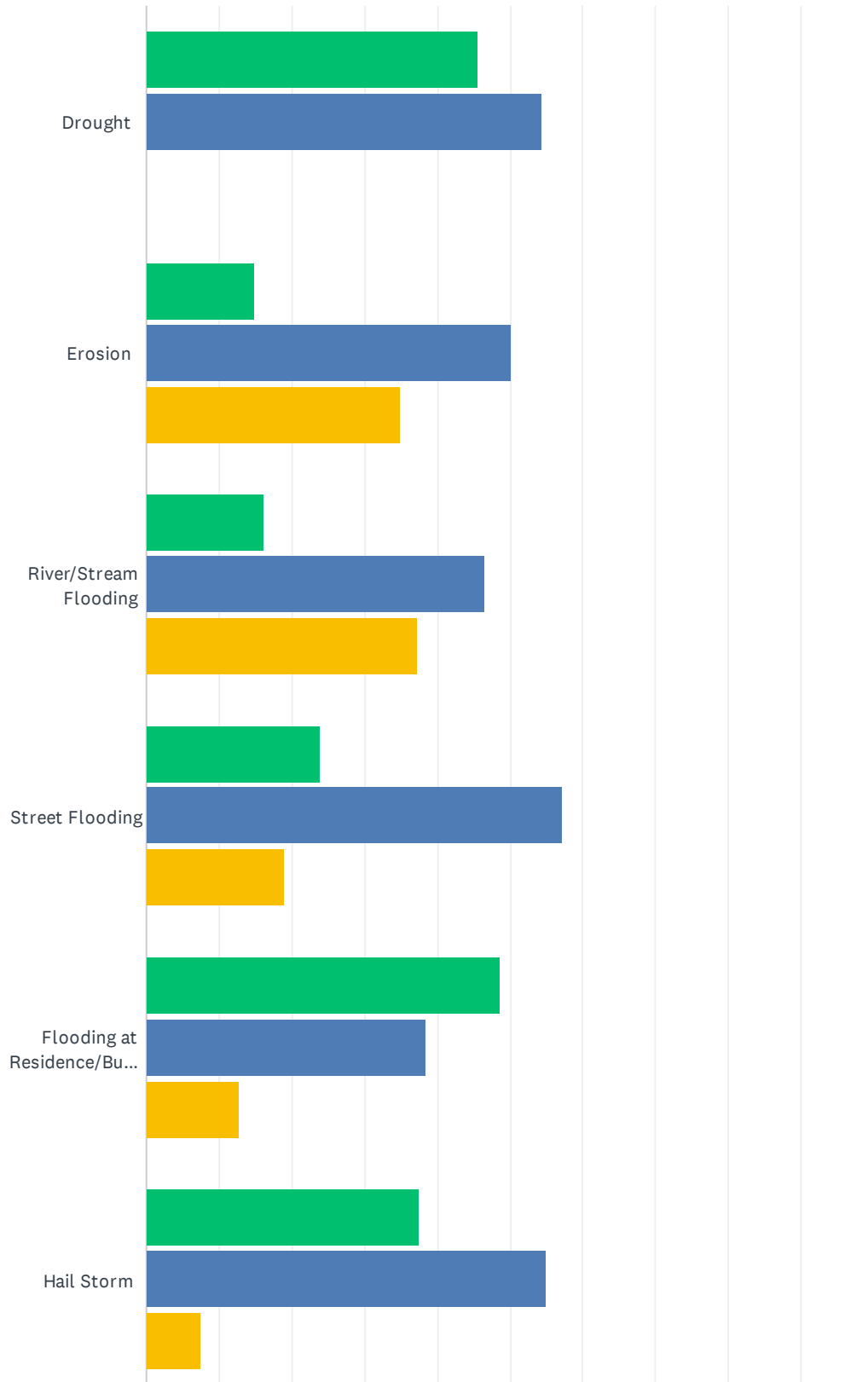
Answered: 50 Skipped: 0



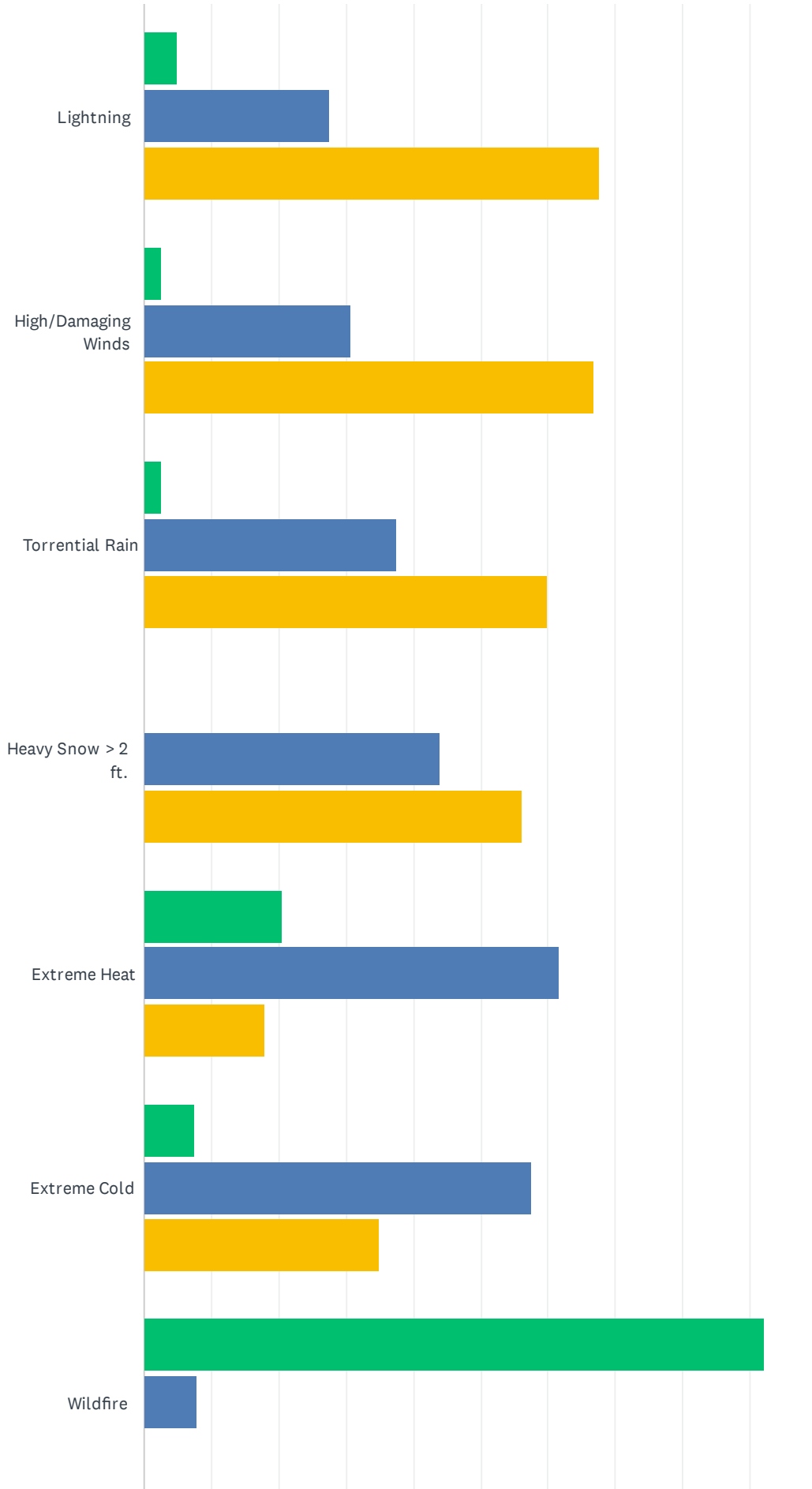
ANSWER CHOICES	RESPONSES	
Less than 1 year	2.00%	1
1 - 5 years	30.00%	15
6 - 9 years	14.00%	7
10 years or more	54.00%	27
TOTAL		50

Q3 Within the past 5 years, have you experienced or observed any of these natural hazards in Andover? (Check all that apply)

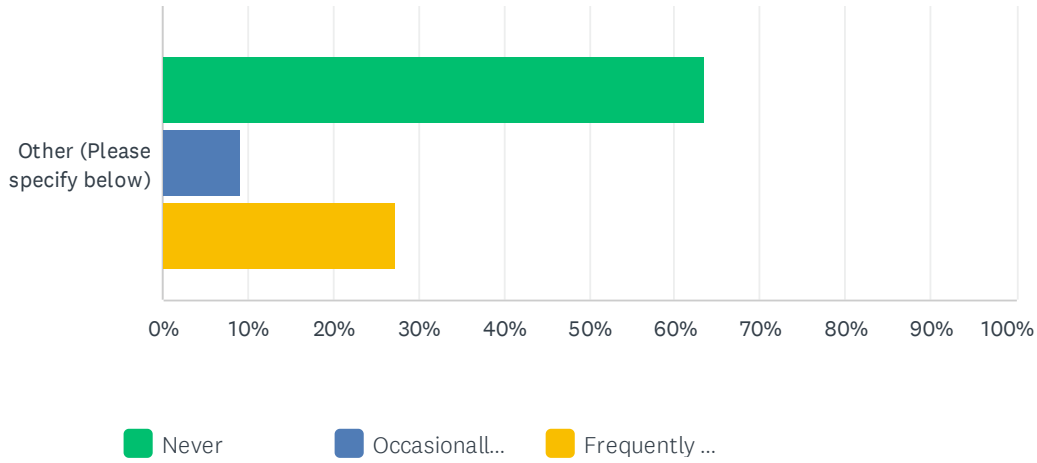
Answered: 43 Skipped: 7



Andover Climate Impact Survey



Andover Climate Impact Survey



	NEVER	OCCASIONALLY (LESS THAN ONCE PER YEAR)	FREQUENTLY (MULTIPLE TIMES PER YEAR)	TOTAL
Drought	45.71% 16	54.29% 19	0.00% 0	35
Erosion	15.00% 6	50.00% 20	35.00% 14	40
River/Stream Flooding	16.28% 7	46.51% 20	37.21% 16	43
Street Flooding	23.81% 10	57.14% 24	19.05% 8	42
Flooding at Residence/Business	48.72% 19	38.46% 15	12.82% 5	39
Hail Storm	37.50% 15	55.00% 22	7.50% 3	40
Lightning	5.00% 2	27.50% 11	67.50% 27	40
High/Damaging Winds	2.56% 1	30.77% 12	66.67% 26	39
Torrential Rain	2.50% 1	37.50% 15	60.00% 24	40
Heavy Snow > 2 ft.	0.00% 0	43.90% 18	56.10% 23	41
Extreme Heat	20.51% 8	61.54% 24	17.95% 7	39
Extreme Cold	7.50% 3	57.50% 23	35.00% 14	40
Wildfire	92.11% 35	7.89% 3	0.00% 0	38
Other (Please specify below)	63.64% 7	9.09% 1	27.27% 3	11

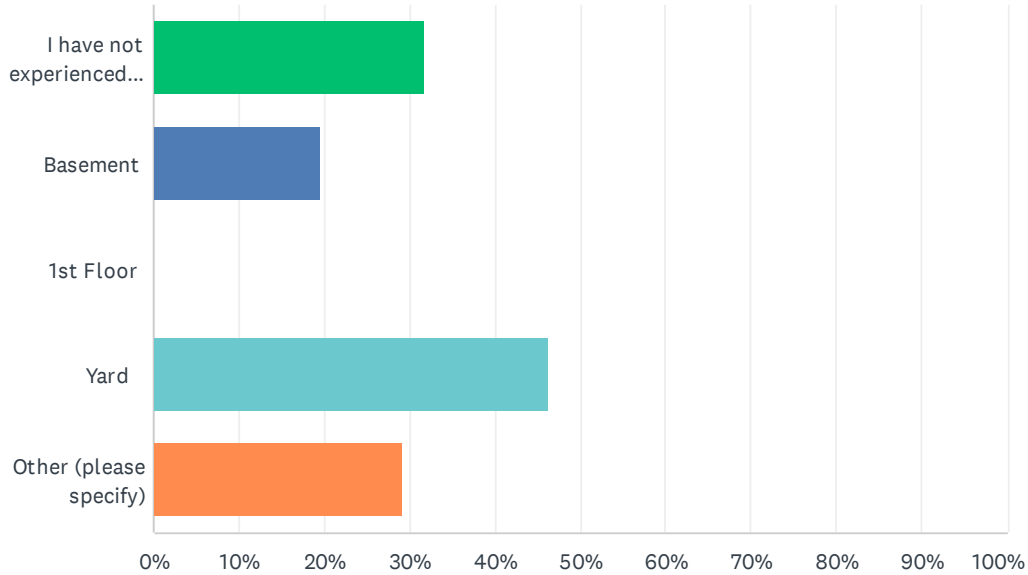
#	OTHER (PLEASE SPECIFY)	DATE
1	Road erosion	12/6/2023 10:36 AM
2	Trees falling on the road or on electric wires, and our generator is running multiple times a year.	12/5/2023 5:02 PM

Andover Climate Impact Survey

3	Lyman brook washed out Middletown rd, forced to buy culverts at owners expense	12/5/2023 4:35 PM
4	Ice dams in trout brook	12/5/2023 3:58 PM
5	The street flooding and erosion has occurred much less frequently than "less than once per year." In fact, 2023 was the first year in 15 years that I experienced it.	10/3/2023 5:36 PM

Q4 If you have experienced flooding, what areas did you experience flooding?(Check any that apply)

Answered: 41 Skipped: 9



ANSWER CHOICES	RESPONSES	
I have not experienced flooding.	31.71%	13
Basement	19.51%	8
1st Floor	0.00%	0
Yard	46.34%	19
Other (please specify)	29.27%	12
Total Respondents: 41		

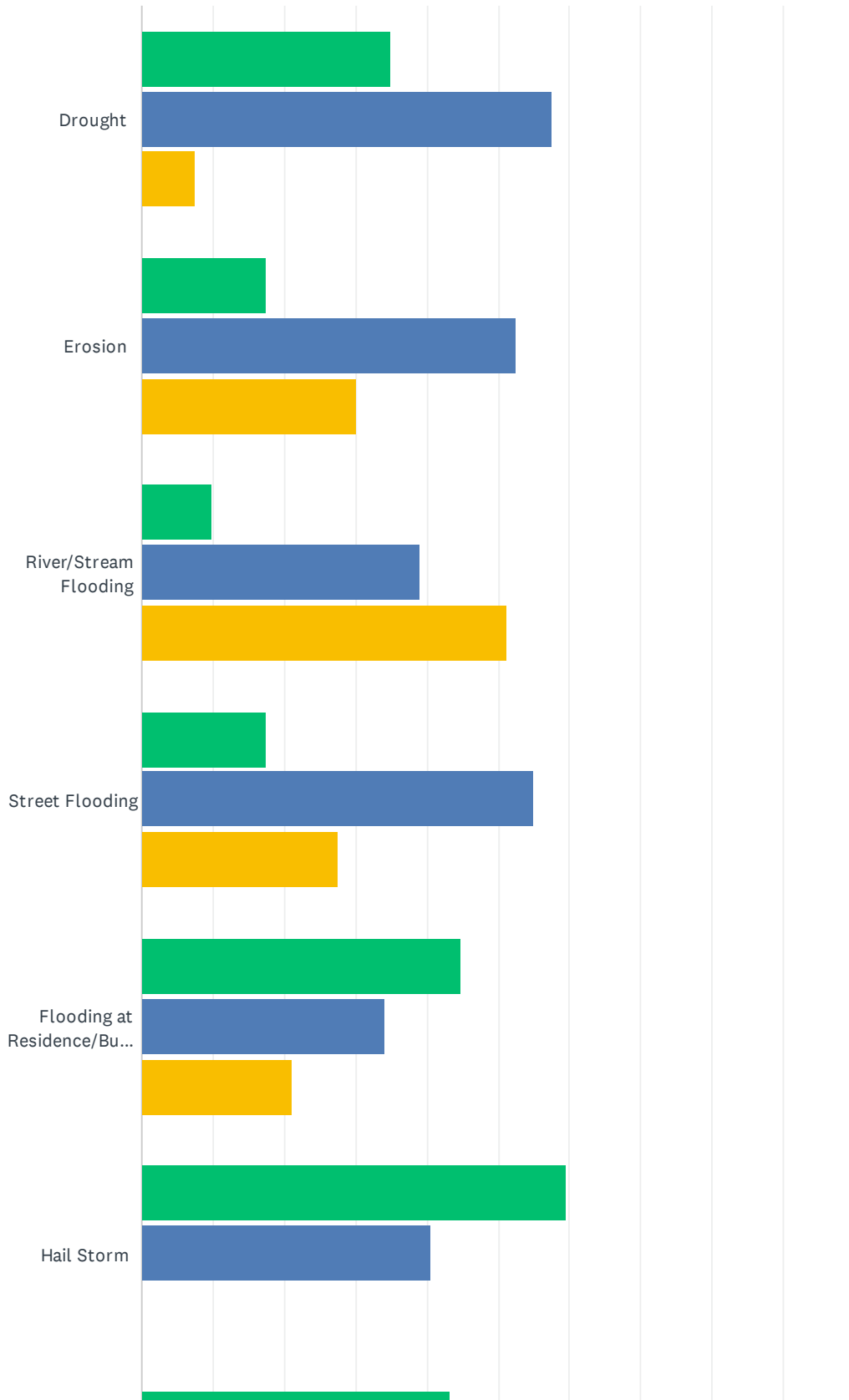
#	OTHER (PLEASE SPECIFY)	DATE
1	Roads	3/4/2024 6:27 PM
2	our road washed out this summer	12/7/2023 11:29 AM
3	Driveway washout	12/5/2023 5:03 PM
4	Pond, stream and road.	12/5/2023 5:02 PM
5	End of driveway washed away	12/5/2023 4:35 PM
6	driveway	12/5/2023 3:59 PM
7	Washed out driveways	12/5/2023 3:38 PM
8	Road washed away in part	12/5/2023 3:14 PM
9	Driveway	12/5/2023 3:08 PM
10	Driveway from road flooding/overflowing	10/4/2023 4:40 PM

Andover Climate Impact Survey

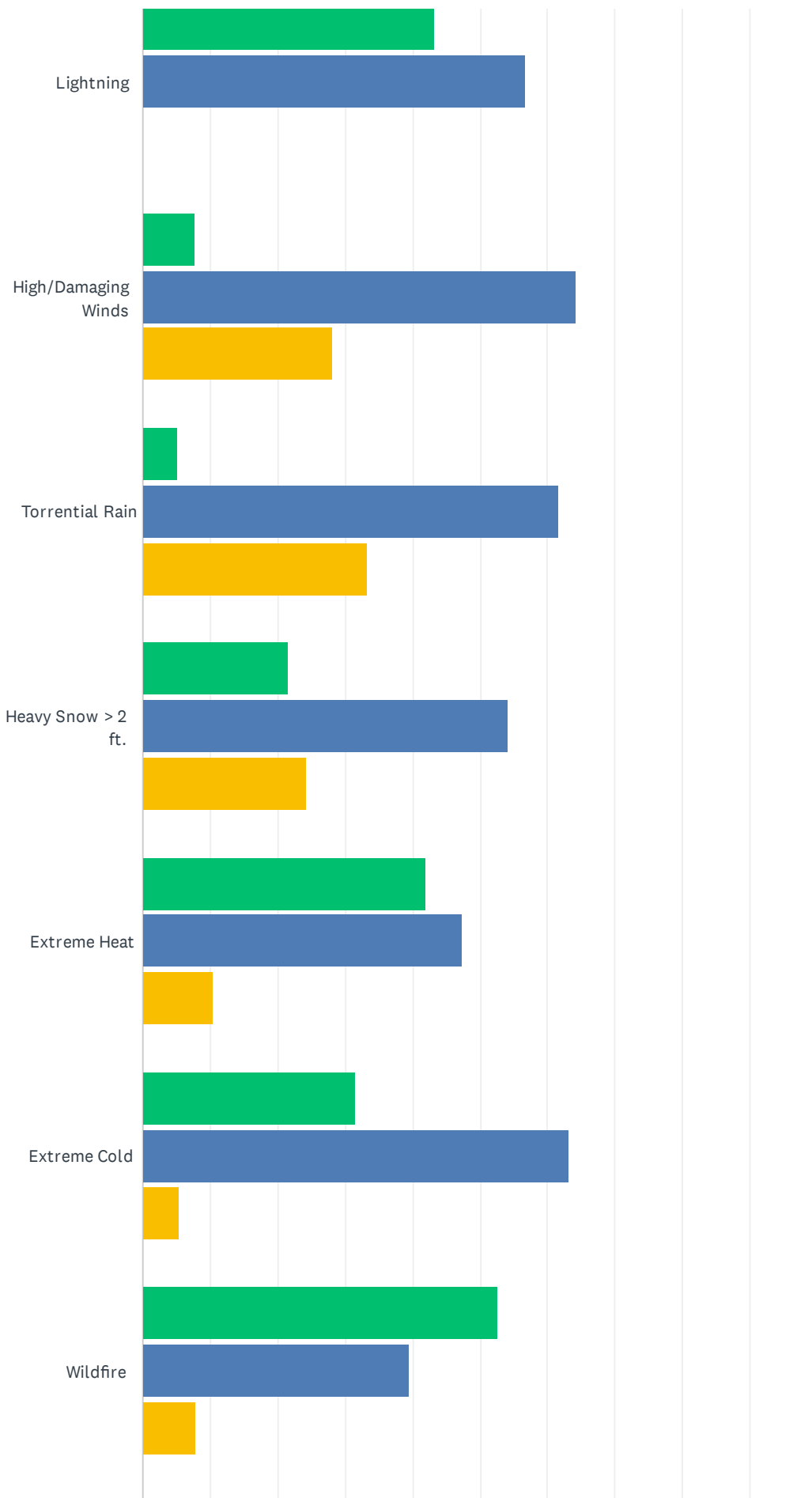
11	Road	9/19/2023 7:01 AM
12	Land erosion at creek bank	9/18/2023 5:54 PM

Q5 How concerned are you about the following natural hazards?

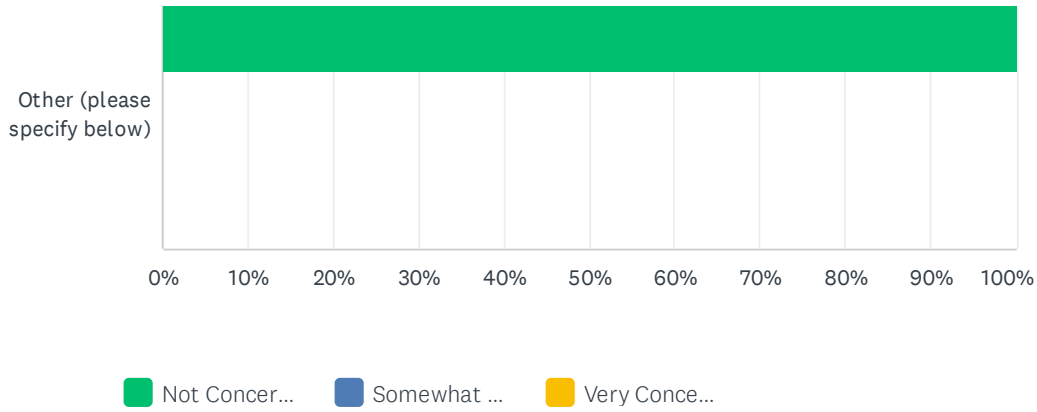
Answered: 42 Skipped: 8



Andover Climate Impact Survey



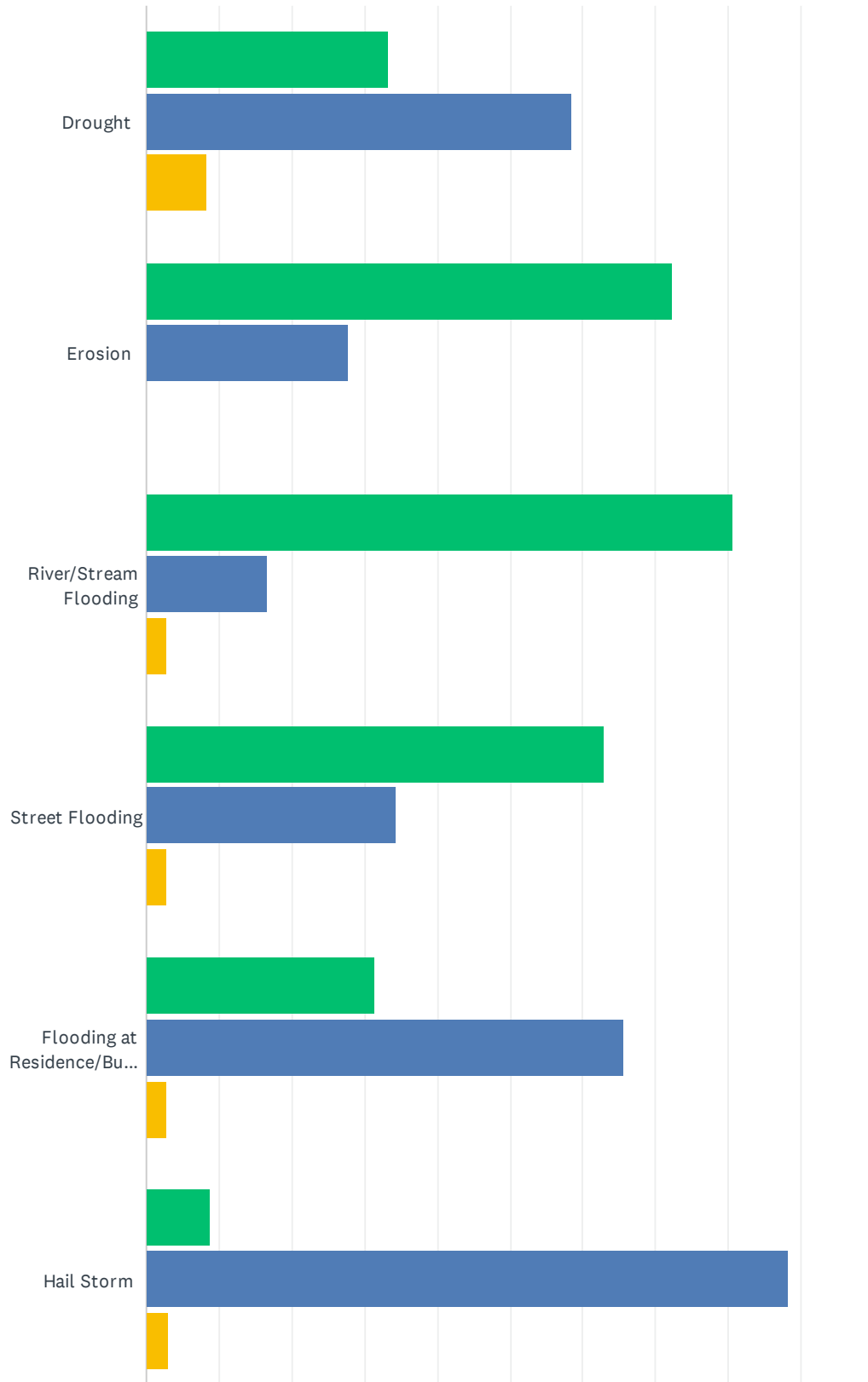
Andover Climate Impact Survey



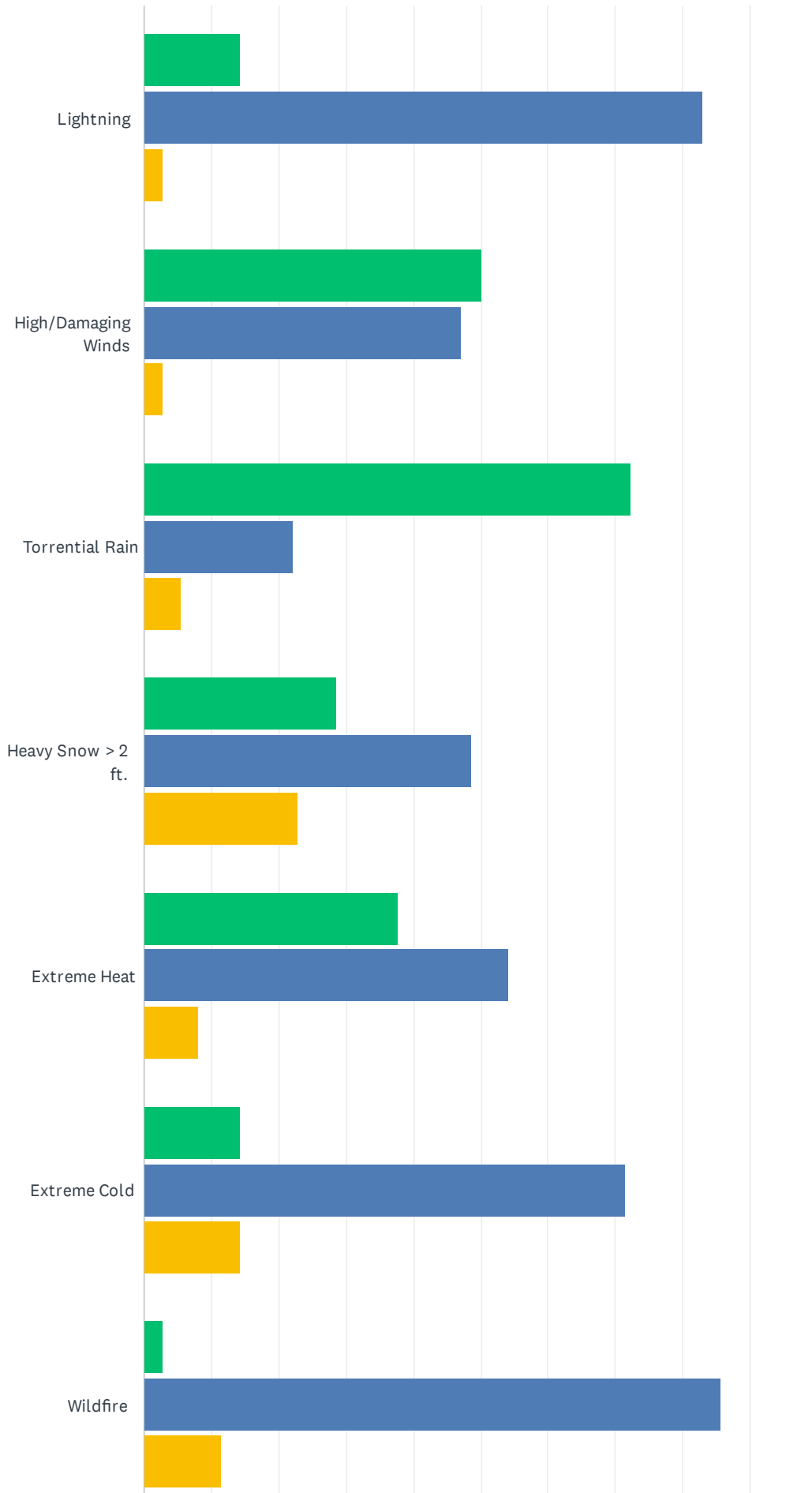
	NOT CONCERNED	SOMEWHAT CONCERNED	VERY CONCERNED	TOTAL
Drought	35.00% 14	57.50% 23	7.50% 3	40
Erosion	17.50% 7	52.50% 21	30.00% 12	40
River/Stream Flooding	9.76% 4	39.02% 16	51.22% 21	41
Street Flooding	17.50% 7	55.00% 22	27.50% 11	40
Flooding at Residence/Business	44.74% 17	34.21% 13	21.05% 8	38
Hail Storm	59.46% 22	40.54% 15	0.00% 0	37
Lightning	43.24% 16	56.76% 21	0.00% 0	37
High/Damaging Winds	7.69% 3	64.10% 25	28.21% 11	39
Torrential Rain	5.13% 2	61.54% 24	33.33% 13	39
Heavy Snow > 2 ft.	21.62% 8	54.05% 20	24.32% 9	37
Extreme Heat	42.11% 16	47.37% 18	10.53% 4	38
Extreme Cold	31.58% 12	63.16% 24	5.26% 2	38
Wildfire	52.63% 20	39.47% 15	7.89% 3	38
Other (please specify below)	100.00% 6	0.00% 0	0.00% 0	6

Q6 Over the last 10 years, have you noticed an increase or decrease in the occurrences or intensity of any of the following hazards?

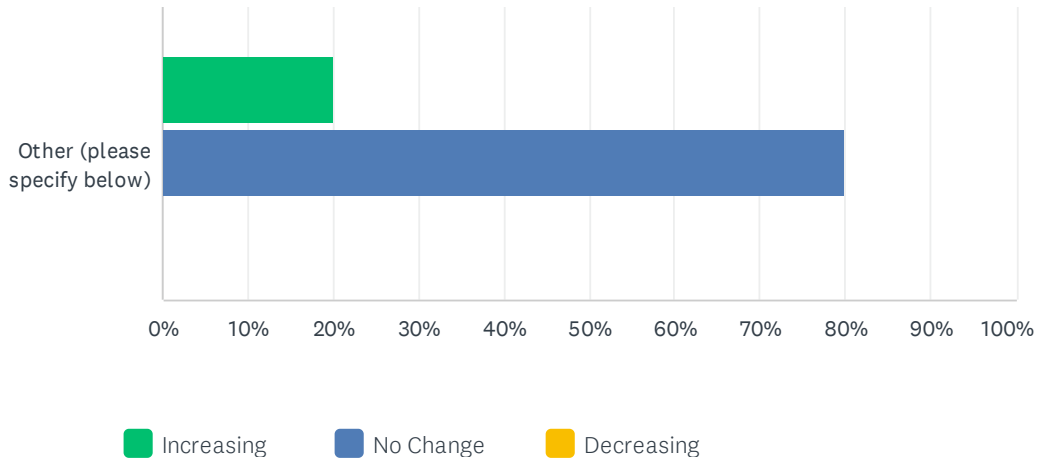
Answered: 39 Skipped: 11



Andover Climate Impact Survey



Andover Climate Impact Survey



	INCREASING	NO CHANGE	DECREASING	TOTAL
Drought	33.33% 12	58.33% 21	8.33% 3	36
Erosion	72.22% 26	27.78% 10	0.00% 0	36
River/Stream Flooding	80.56% 29	16.67% 6	2.78% 1	36
Street Flooding	62.86% 22	34.29% 12	2.86% 1	35
Flooding at Residence/Business	31.43% 11	65.71% 23	2.86% 1	35
Hail Storm	8.82% 3	88.24% 30	2.94% 1	34
Lightning	14.29% 5	82.86% 29	2.86% 1	35
High/Damaging Winds	50.00% 18	47.22% 17	2.78% 1	36
Torrential Rain	72.22% 26	22.22% 8	5.56% 2	36
Heavy Snow > 2 ft.	28.57% 10	48.57% 17	22.86% 8	35
Extreme Heat	37.84% 14	54.05% 20	8.11% 3	37
Extreme Cold	14.29% 5	71.43% 25	14.29% 5	35
Wildfire	2.86% 1	85.71% 30	11.43% 4	35
Other (please specify below)	20.00% 1	80.00% 4	0.00% 0	5

#	OTHER (PLEASE SPECIFY)	DATE
1	Only here for 2 years	12/6/2023 6:21 AM
2	Haven't lived there long enough to provide input	12/5/2023 4:35 PM

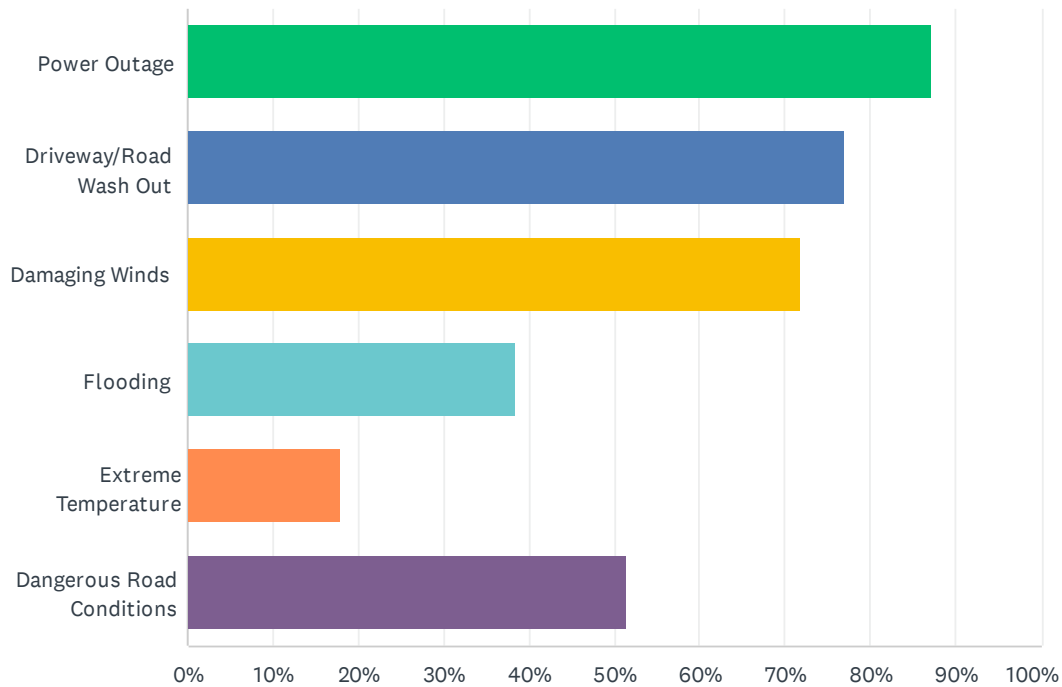
Q7 To what do you think the change(s) (if applicable) can be attributed?

Answered: 26 Skipped: 24

#	RESPONSES	DATE
1	Climate change and shifting climate needs.	3/4/2024 6:27 PM
2	Climate change	12/7/2023 11:29 AM
3	Global warming	12/6/2023 3:43 PM
4	Warming temps	12/6/2023 10:36 AM
5	Climate change	12/6/2023 7:48 AM
6	Global warming, people don't care	12/6/2023 7:26 AM
7	Climate change. Could be cyclical more likely human caused	12/6/2023 6:59 AM
8	Climate change, impact of using fossil fuels	12/6/2023 6:41 AM
9	There is no doubt that climate change has played a significant role	12/6/2023 6:21 AM
10	Weather modification, cloud seeding.	12/5/2023 9:19 PM
11	Global Climate change, need for new and more resilient infrastructure as a result	12/5/2023 5:03 PM
12	Fossil fuels leading to climate change due to the increase in carbon in the atmosphere.	12/5/2023 5:02 PM
13	Cyclical changing climate.	12/5/2023 4:39 PM
14	Fossil fuels	12/5/2023 4:35 PM
15	The weather always changes. None of these events is something new.	12/5/2023 4:26 PM
16	new drainage on Hilltop road	12/5/2023 4:12 PM
17	Possibly global warming?? Or how just how nature changes?	12/5/2023 4:12 PM
18	Too many people building in rural VT.	12/5/2023 4:05 PM
19	Climate change	12/5/2023 3:58 PM
20	Faster moving, more intense weather systems	12/5/2023 3:38 PM
21	climate change	12/5/2023 3:14 PM
22	Media makes us more aware of what's going on. I believe a lot of this has been happening but we would just weren't aware of it.	12/5/2023 3:08 PM
23	Weather patterns constantly change.	12/1/2023 11:17 AM
24	Global climate change	10/3/2023 5:36 PM
25	Global Warming Climate Change	10/2/2023 9:38 PM
26	Climate change due to human use of fossil fuels	9/18/2023 5:54 PM

Q8 Have any of the following events impacted you?

Answered: 39 Skipped: 11



ANSWER CHOICES	RESPONSES
Power Outage	87.18% 34
Driveway/Road Wash Out	76.92% 30
Damaging Winds	71.79% 28
Flooding	38.46% 15
Extreme Temperature	17.95% 7
Dangerous Road Conditions	51.28% 20
Total Respondents: 39	

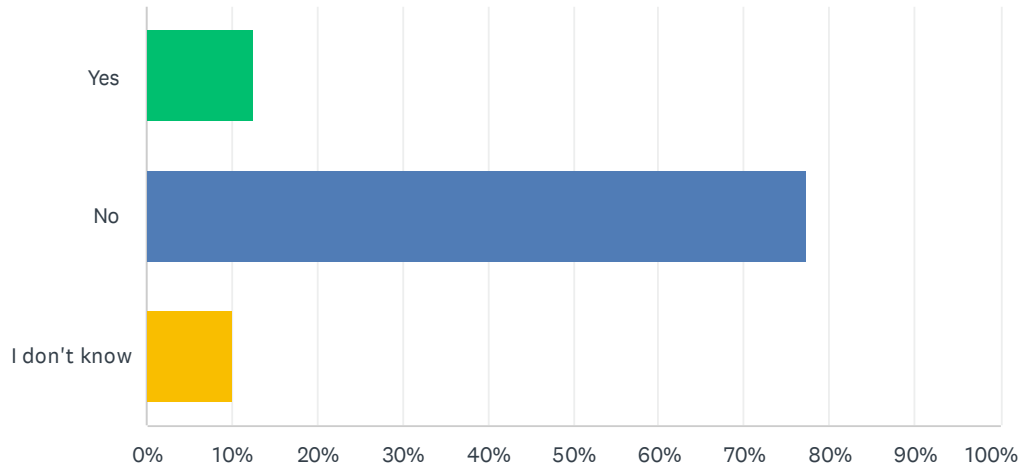
#	PLEASE PROVIDE A BRIEF EXPLANATION OF HOW THE EVENT(S) IMPACTED YOU:	DATE
1	Caution to drive with flood or Ice warning. East hill can get very slippery with fast temp changes.	12/6/2023 3:45 PM
2	-This year, flooded roads almost prevented my husband from getting home from work. He drove for three hours to find a road that was not washed out. We've had similar experiences in the past, including having teenagers navigating washed out roads to get home from work. - Power outages are a huge problem here. In the past, we've gone without power for two weeks. With water from a backyard well, no power means no water. Our generator helps, but it's noisy and pollutes. For long outages, we need to drive to refill the gas cans. Also, relying on a generator means we always have many full gas cans in our garage, a hazard I'd prefer not to have.	12/6/2023 7:57 AM
3	Have a generator so power outages not such a problem. Also they have decreased in	12/6/2023 7:01 AM

Andover Climate Impact Survey

	frequencies. High winds have caused tree downage	
4	Installed a generator; impeded travel, damaged out buildings, loss of garden plants	12/6/2023 6:43 AM
5	Increased incidence of intense storms have caused all of the above	12/6/2023 6:22 AM
6	I live at 1,500 feet on the side of a hill. There have been times I was unable to either get out or get home. At age 71, should I need to get to an emergency room during these times, I wouldn't be here today.	12/5/2023 5:07 PM
7	We were trapped in our house for 4 days in the 2023 summer floods because our driveway washed out and Middletown was washed out at our driveway when the culvert was overwhelmed. Middletown Rd was impassable for weeks at one end.	12/5/2023 5:05 PM
8	Landowner sought reimbursement for repairs and was denied. Need to establish an emergency fund to help landowners and have the fund professionally managed to grow the principal over the years. The recent event will happen again.	12/5/2023 4:38 PM
9	Power outages create a need for my generator to run on propane. The road washing out this summer prevented me from being able to leave my home for 2 days. Winds concern me and I have had many trees around my home removed. Dangerous road conditions are a part of living in VT. The road crew does a great job, but there are times when it is unsafe to be on the road.	12/5/2023 4:15 PM
10	During Irene our driveway was impacted. We lose power frequently in Andover.	12/5/2023 4:06 PM
11	We live on trout brook in a low area. All the water flows and is directed by surrounding development downhill towards our property	12/5/2023 3:59 PM
12	Not major impacts, but requiring some repairs. Mostly temporary road travel restrictions.	12/5/2023 3:40 PM
13	Our road washed out after a torrential rain; we lost some roof tiles and some trees due to high winds.	12/5/2023 3:38 PM
14	Loss of food due to spoilage. Need to detour or even being unable to get anywhere.	12/5/2023 3:28 PM
15	road washed away caused isolation at home	12/5/2023 3:14 PM
16	Couldn't get out of my driveway	12/5/2023 3:08 PM
17	Impacted ability to go to work or children having school	12/1/2023 11:18 AM
18	The longest power outage was a few years ago when we were without power for 6 days. The road washed out this year but the town fixed it with alacrity and competency.	10/3/2023 5:39 PM
19	Not able to drive on flooded roads	10/3/2023 5:09 PM
20	They contributed to isolation and property damage	10/2/2023 9:39 PM
21	Power goes out about 6 times a year. The bridge above is washed out in the flood of July 2023	9/18/2023 5:55 PM

Q9 Do you know if your property is located in a "Special Flood Hazard Area" (Zone A, AE, VE)

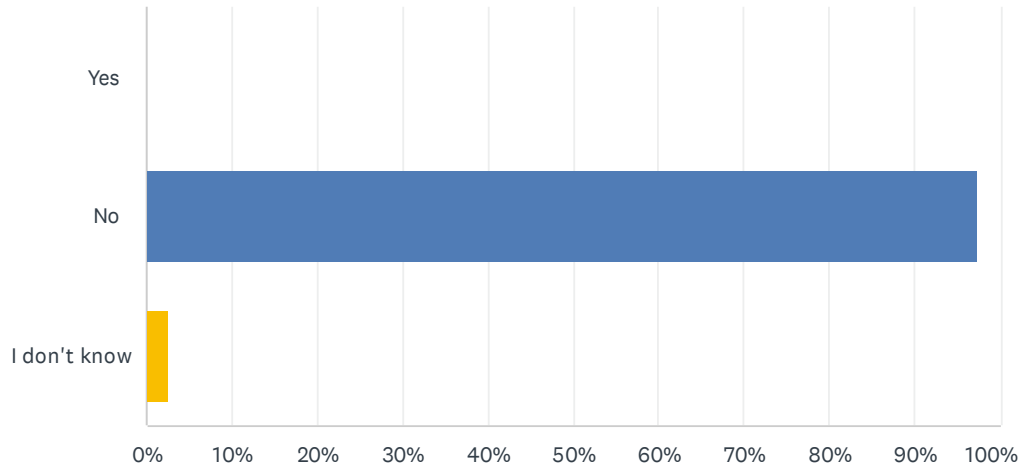
Answered: 40 Skipped: 10



ANSWER CHOICES	RESPONSES	
Yes	12.50%	5
No	77.50%	31
I don't know	10.00%	4
TOTAL		40

Q10 Do you have flood insurance through the National Flood Insurance Program?

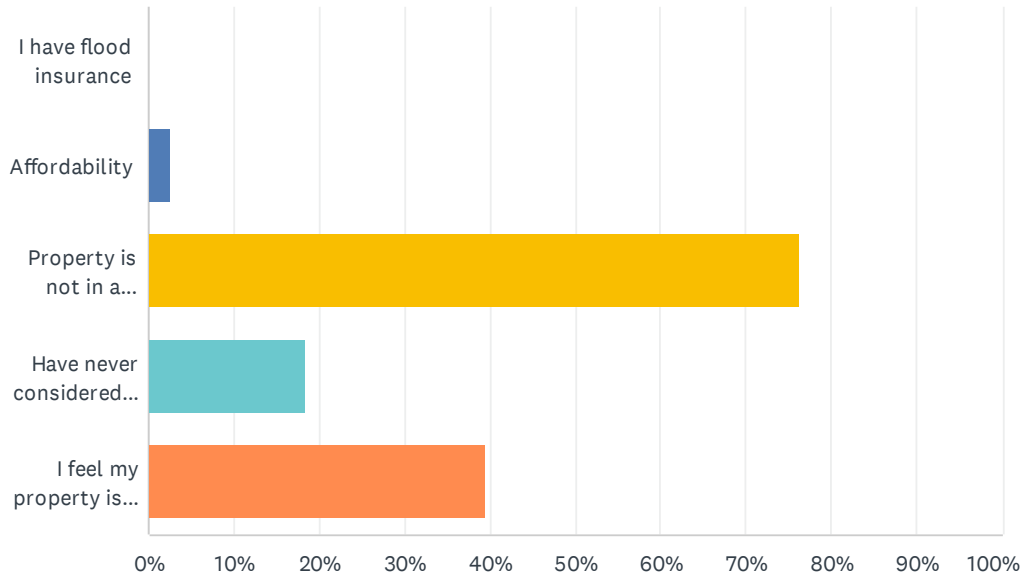
Answered: 40 Skipped: 10



ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	97.50%	39
I don't know	2.50%	1
TOTAL		40

Q11 If you do not have flood insurance, please select the reasons that may apply:

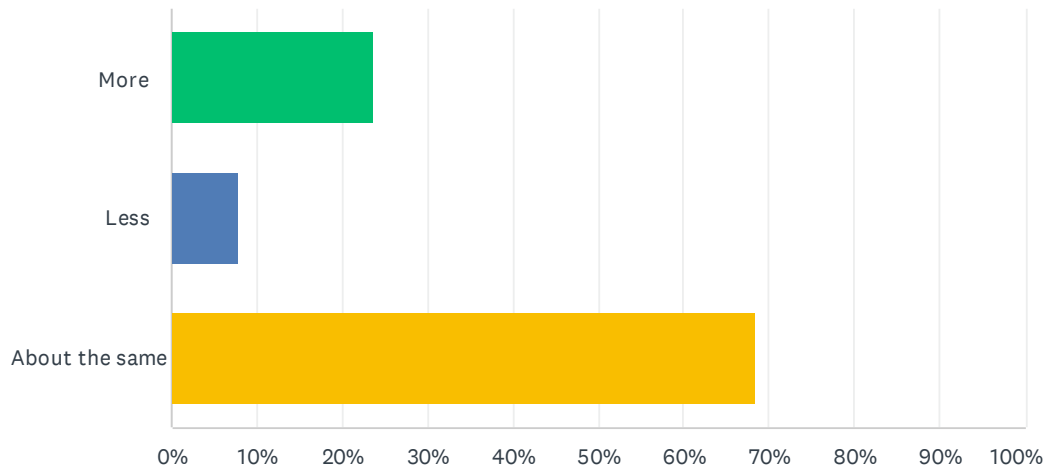
Answered: 38 Skipped: 12



ANSWER CHOICES	RESPONSES	
I have flood insurance	0.00%	0
Affordability	2.63%	1
Property is not in a special flood hazard area	76.32%	29
Have never considered carrying flood insurance	18.42%	7
I feel my property is "High and Dry"	39.47%	15
Total Respondents: 38		

Q12 Is your property about the same, less, or more prone to flooding now than it was 5 years ago?

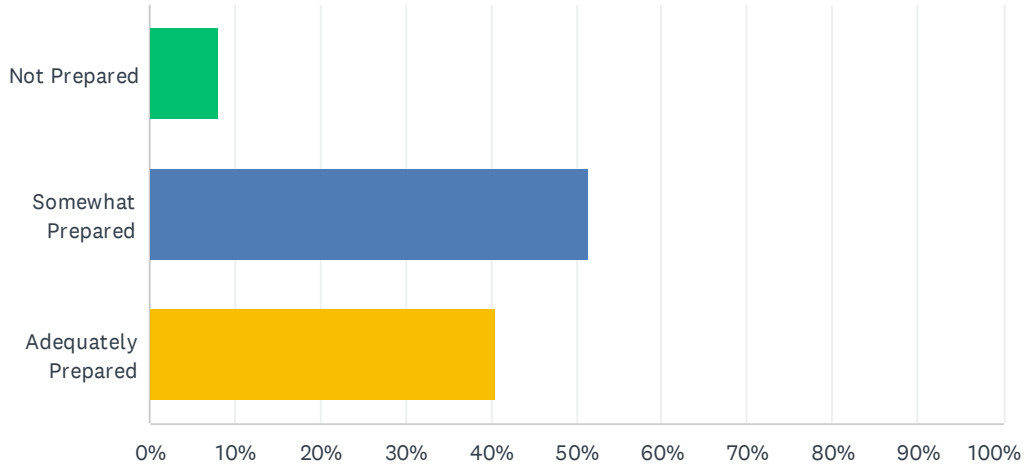
Answered: 38 Skipped: 12



ANSWER CHOICES	RESPONSES	
More	23.68%	9
Less	7.89%	3
About the same	68.42%	26
TOTAL		38

Q13 How prepared do you feel the Town of Andover is for impacts of natural hazard events?

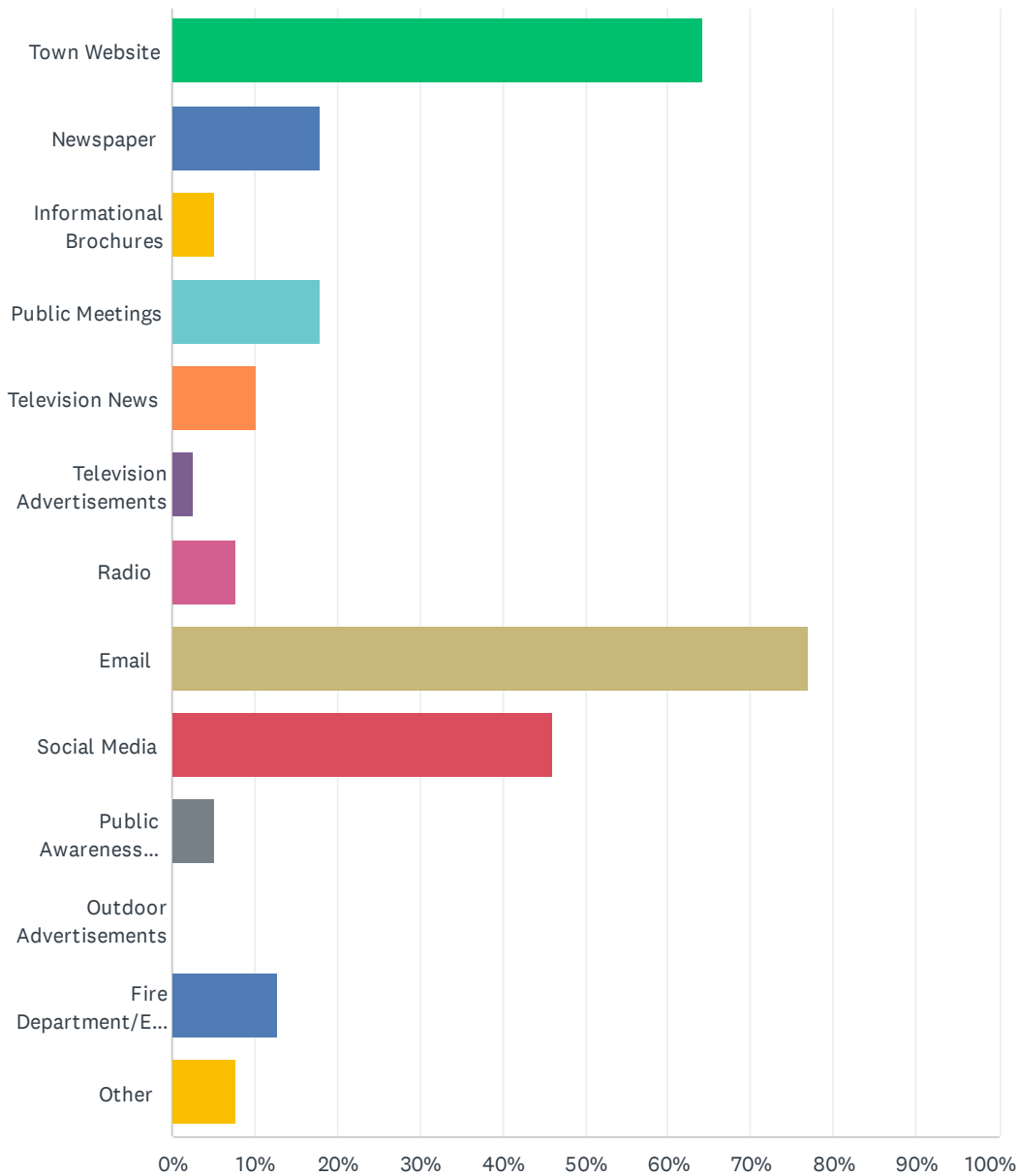
Answered: 37 Skipped: 13



ANSWER CHOICES	RESPONSES
Not Prepared	8.11% 3
Somewhat Prepared	51.35% 19
Adequately Prepared	40.54% 15
TOTAL	37

Q14 Information about natural disaster impacts and natural disaster preparedness can be communicated to the public in various ways. Of the communication methods listed below, identify the top three (3) methods that would be most effective in helping you prepare your home to withstand natural hazards.

Answered: 39 Skipped: 11



Andover Climate Impact Survey

ANSWER CHOICES	RESPONSES	
Town Website	64.10%	25
Newspaper	17.95%	7
Informational Brochures	5.13%	2
Public Meetings	17.95%	7
Television News	10.26%	4
Television Advertisements	2.56%	1
Radio	7.69%	3
Email	76.92%	30
Social Media	46.15%	18
Public Awareness Timeframe (i.e. Flood Awareness Week)	5.13%	2
Outdoor Advertisements	0.00%	0
Fire Department/EMS Agency	12.82%	5
Other	7.69%	3
Total Respondents: 39		

#	IF OTHER, PLEASE SPECIFY:	DATE
1	Add the EMS agency for accuracy	12/7/2023 6:11 AM
2	Andover Words/VPR	12/6/2023 10:39 AM
3	Text	12/5/2023 6:58 PM
4	A police department in our town. People who could rescue the elderly during times of crisis.	12/5/2023 5:21 PM
5	Text message with links to town website	12/5/2023 4:43 PM
6	We don't watch/listen to/engage with the other listed options.	12/5/2023 4:30 PM
7	Neighbors helping neighbors. Talking with each other.	12/5/2023 4:09 PM

Q15 In your opinion, what are some steps your local government could take to reduce or eliminate the risk of future hazard damages in your neighborhood?

Answered: 22 Skipped: 28

#	RESPONSES	DATE
1	Make recommendations for various areas within Andover.	3/4/2024 6:29 PM
2	I don't feel we have been here long enough to understand the nuances of the town's involvement in hazard mitigation, but I am impressed with how well the select board and Jeanette work with the highway crew to manage the challenges they have been faced with all year, but particularly this past summer. I guess just continuing to work closely with the state to manage your resources and talent	12/7/2023 6:11 AM
3	-Get the town set up to use VT Alert for town emergency notices -Get everyone to post their E911 address clearly -Have a formal communications plan between emergency services and the town. -Have the select board take the emergency manager position seriously. In the past, as now, they hand it out randomly, as if it's a ceremonial position. -Have the town's emergency manager do something to plan for the town's emergencies besides fill out a sheet with available equipment.	12/6/2023 8:13 AM
4	Recognize and believe that global warming is real and needs to be addressed right now, we cannot afford to wait another minute.	12/6/2023 7:29 AM
5	Increase and strengthen roadside drainage, encourage landscape planning that reduces erosion potential	12/6/2023 6:49 AM
6	Clean the debris out of the rivers after a flood. Allow the water to flow within its banks. It keeps down erosion property loss. Debris destroys bridges.	12/5/2023 5:42 PM
7	Local government? We need to "outlaw" non- electric cars in the near future, and the government could install charging stations throughout the state. They need to do more NOW, and not depend on us getting a rebate to install these things. They need to "take the bull by the horns."	12/5/2023 5:21 PM
8	Assessments of culverts and road elevation from streams, distribution of materials and equipment for quick action, local task force to inventory and be able to quickly mobilize citizen materials and support for future natural disasters.	12/5/2023 5:08 PM
9	Not shore.	12/5/2023 4:45 PM
10	Allocate budget resources to disaster recovery of town roads; contract with local contractors like Palmer Goodrich and company's that operate gravel pits.	12/5/2023 4:43 PM
11	If town infrastructure is maintained properly as a matter of course, it will be more resistant to exceptional damage during an unusual weather event.	12/5/2023 4:30 PM
12	GMP's idea of burying power lines is a good start.	12/5/2023 4:18 PM
13	deal with road water runoff better	12/5/2023 4:16 PM
14	They are doing a great job.	12/5/2023 4:09 PM
15	I really don't know!	12/5/2023 4:07 PM
16	None	12/5/2023 4:04 PM
17	Better communications during hazardous events.	12/5/2023 3:47 PM
18	Place more stringent standards on new driveway locations.	12/5/2023 3:42 PM
19	Proactive road maintenance and upgrades. Encourage utilities to bury lines in area with frequent damage from trees.	12/5/2023 3:31 PM

Andover Climate Impact Survey

20	Current road crew under Charlie doing a fantastic job. Keep him happy.	12/5/2023 3:17 PM
21	Clean out the streams in rivers of debris. Remove trees and rocks. Return the rivers to the original channels.	12/5/2023 3:13 PM
22	Continue to upgrade culverts and bridges	9/18/2023 5:58 PM

Q16 Are there any other issues regarding the reduction of risk and loss associated with hazards or disasters in the community that you think are important?

Answered: 8 Skipped: 42

#	RESPONSES	DATE
1	Ice and wildland fires. I've been preaching the dangers of flooding for 20 years. I'm glad to see some attention paid here. Going forward, Vermont is going to see more wildland fires in the spring and fall shoulder seasons. We are not prepared for this. Similarly, we are going to have more ice storms and icing. Ice is more dangerous and damaging than snow, and climate changes means we'll see more of it, yet road crews and utilities seem to treat each ice storm as a fluke.	12/6/2023 8:13 AM
2	We need "CV"(I think that's what they're called) charging stations for electric vehicles, of which the town could pursue. Solar panels could be installed to power the Town Hall and Town Office, and the lights around both and the buildings housing the Town trucks.	12/5/2023 5:21 PM
3	None	12/5/2023 4:45 PM
4	Hard to say...reliable predicting of harmful storms would help.	12/5/2023 4:18 PM
5	No	12/5/2023 4:09 PM
6	I could use help clearing the multiple trees down across Trout brook that I fear could create a big ice dam which could be a worsening effect of flooding below and above ...i understand it will be at our expense but could continue to be a hardship .	12/5/2023 4:07 PM
7	I think Andover faces a challenge regarding communication during power outages. Limited cell service in town, and a fiber optic phone system that relies on battery or generator back up could result in those with life threatening issues, finding themselves unable to reach out for help.	12/5/2023 3:47 PM
8	Same as above. Clean out the streams and rivers. Remove trees and rocks and return the rivers to the original channels.	12/5/2023 3:13 PM

Q17 Other Comments:

Answered: 5 Skipped: 45

#	RESPONSES	DATE
1	More hazard waste areas for taking hazard waste	12/9/2023 11:26 AM
2	I'm one voice with "old guy" ideas. Hopefully younger folks will have more and better ideas. Thanks for asking.	12/5/2023 5:21 PM
3	Thank you for doing this. Where can I contribute to help the town funds.	12/5/2023 4:43 PM
4	I think the town has done an excellent job with fairly limited resources, especially in light of the fact that no professional services are located/based here in Andover.	12/5/2023 3:47 PM
5	I think Andover does a really good job keeping on top of our maintenance and, when necessary, fixing any problems as they arise. The texts we receive from the state that warn of serious weather situations are very helpful. I do worry about trees falling on power lines, but I think that is a GMP responsibility.	10/3/2023 5:44 PM

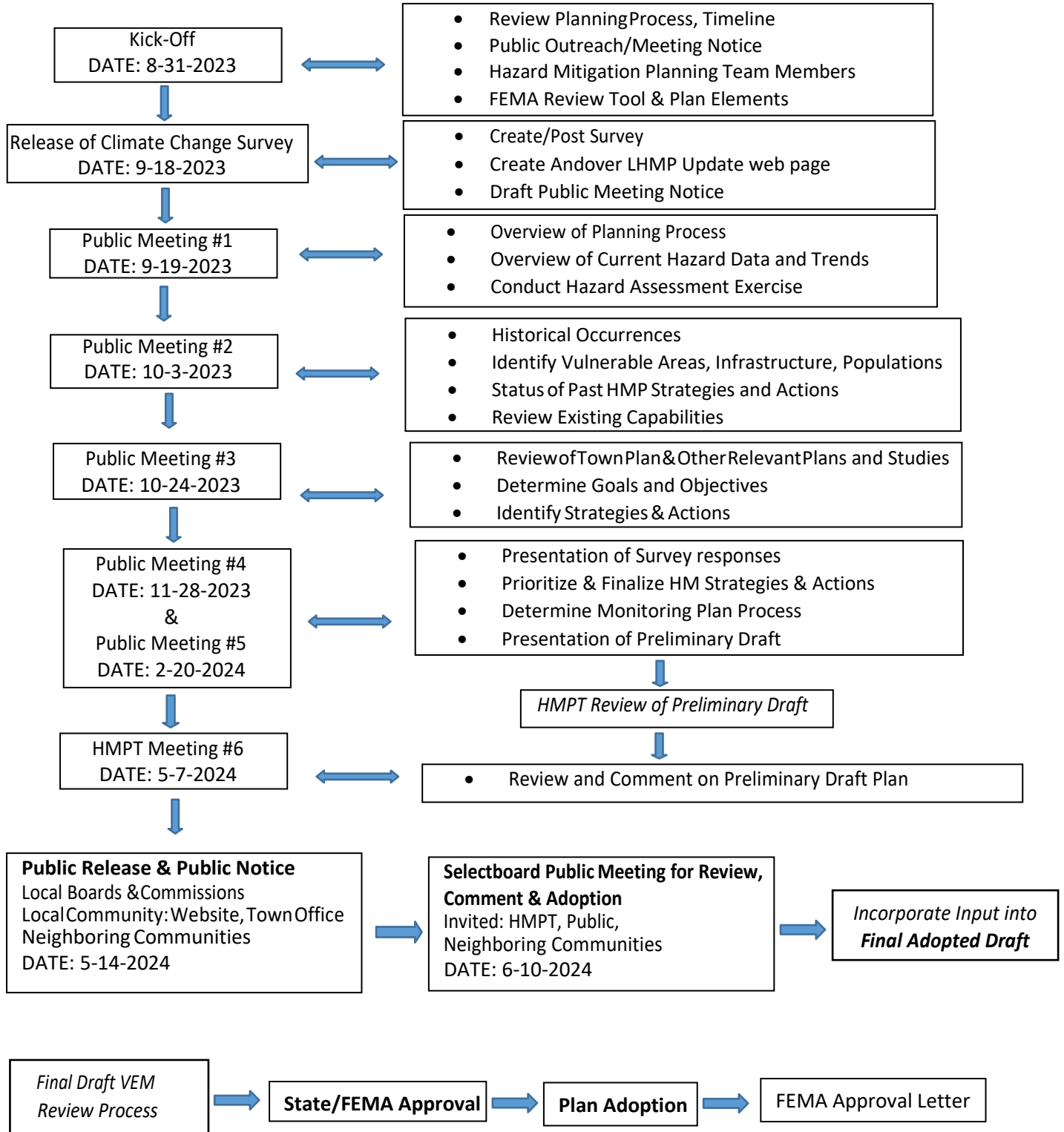
Appendix C

Process Flow Chart

APPENDIX C

Town of Andover

2024-2029 Local Hazard Mitigation Plan



HMPT – Andover Hazard Mitigation Planning Team

Public – local Andover Community

Neighboring Communities – Chester, Londonderry, Ludlow, Weston, Windham

VEM- Vermont Emergency Management

Appendix D

Town Plan Review

Andover 2018 Town Plan Review
Identified Goals and Recommendations Related to Hazard Mitigation
and
Flood Resilience Section

- Bring at least 15% of Andover's non-compliant hydrologically connected road segments into full Municipal Roads General Permit (MRGP) compliance every five (5) years until full compliance is achieved.
- New development adjacent to streams or rivers must be designed to cause minimal damage to the stream environment. Any such development shall be planned so as to avoid undue sedimentation, nutrient loading, or other forms of pollution.
- Any alteration to rivers, lakes, streams, ponds and/or wetlands shall be carried out in compliance with all Federal, State and local regulations.
- Contingent upon the availability of sufficient external funding, surface water resources shall be protected and improved in accordance with the policies and actions outlined in the most recent version of the Vermont Department of Environmental Conservation (VT DEC) Williams River Watershed Tactical Basin Plan (TBP).
- Review and amend zoning regulations to protect rivers and streams, ponds and wetlands not already protected under state law.
- Include high elevation streams and buffer areas in a plan for open space conservation.
- Encourage the conservation of contiguous properties and discourage practices that fragment mapped forest blocks and habitat connectors.
- Residential, commercial and industrial development along ridgelines and/or on slopes greater than 15% shall be prohibited.
- The siting of public utilities shall be sensitive to Andover's aesthetic and natural resources. Specifically, the location of a utility scale wind or power generation facility is prohibited from the ridge lines of Terrible Mountain, East Hill, and Markham Mountain.
- Update the zoning and subdivisions regulations on an as needed basis to address growth issues.
- Consider acquisitions of at risk properties, with assistance from applicable grant funding sources.
- Retrofit/replace existing drainage systems to allow for greater water passage.
- Evaluate existing regulations and standards to ensure that the goal and policies of this Subchapter are adequately addressed.
- Maintain enrollment in the National Flood Insurance Program.
- Update the bridge and culvert inventory and condition assessment and maintain an annual culvert upgrade and maintenance program to address the priority needs identified in the inventory.
- Encourage flood resiliency by prioritizing land conservation efforts for those lands that serve important flood retention or attenuation functions.
- Andover should consider updating zoning bylaws to protect river corridors and establish stream setbacks.

FULL Flood Resilience Section of the Andover Town Plan adopted September 10, 2018:

Statutory Basis:

The intent of this Subchapter is to address statutory requirements of the flood resiliency element approved as Act 16 by the Legislature in 2013. This Subchapter will meet that requirement by:

1. Identifying areas in the Town of Andover that are at significant risk for flooding and/or fluvial erosion;
2. Designate those areas to be protected from such hazards; and,
3. Articulate policies and strategies that promote community flood resilience.

Background:

In 2013, the Vermont House and Senate passed H.401, which the Governor then signed into law (Act 16). Act 16 requires town plans to include a flood resilience component that identifies flood and fluvial erosion hazard areas and recommends strategies to protect these areas and “to mitigate risks to public safety, critical infrastructure, historic structures, and municipal investments.” To prevent future damage to private property and municipal infrastructure, the town shall adopt policies or ordinances in order to strengthen flood resilience in Andover.

Hazard Areas:

Areas in Andover that are particularly at risk of flooding and fluvial erosion are discussed below, and within the Andover Local Hazard Mitigation Plan, and are shown on the Water Resources Map. These hazard areas are based on mapping data from FEMA, local input, and the Vermont Agency of Natural

Resources (ANR). Mapping data for the below can be found on the ANR Natural Resource Atlas and Flood Ready Vermont websites.

1. Flood Hazard

The areas in Andover that are at higher risk of flooding (i.e. Special Flood Hazard Areas) are shown on FEMA’s Flood Insurance Rate Map (FIRM), as most recently amended. These maps are also available through FEMA’s online Flood Map Service Center. The Flood Hazard Map depicts the Special Flood Hazard Areas (SFHA).

2. River Corridors

Rivers are dynamic and, as a result, development that is located too close to river/stream banks are at risk of potential bank erosion and/or channel migration. The River Corridor (RC), which is shown on the River Corridor Map, depicts the portions of Andover that are at risk of this type of fluvial erosion damage. The RC term is defined under State statute as “the land area adjacent to a river that is required to accommodate the dimensions, slope, planform, and buffer of the naturally stable channel and that is necessary for the natural maintenance or natural restoration of a dynamic equilibrium condition and for minimization of fluvial erosion hazards, as delineated by the Agency of Natural Resources in accordance with the river corridor protection procedures” (24 V.S.A. §4303).

3. Williams River Stream Geomorphic Assessment and River Corridor Plan

A Phase II Stream Geomorphic Assessment (SGA) and River Corridor Plan (RCP) for the Williams River and associated tributaries, examining erosion hazards, floodplain access, bridge and culvert conditions, and other related concerns, was finalized in September, 2016. Findings from these studies, as they relate to flood resiliency in Andover, include:

- Man-made earthen berms and undersized stream crossing structures in the vicinity of Horseshoe Acres Campground is exacerbating flooding in Andover.
- The encroachment percentage along much of the Middle Branch in Andover is extreme (>75%).

- The percentage of bank erosion along much of the Middle Branch in Andover is high (>20%).

Designated Areas to be Protected:

In accordance with the Act, the following areas of Andover are designated for their role in reducing the risk of flood damage to infrastructure and improved property.

1. Special Flood Hazard Areas

Floodway and floodway fringe areas (i.e. Special Flood Hazard Areas) as shown on the most current FIRM developed by FEMA represent areas that are subject to Andover's flood hazard review procedures in order to protect properties from future flood damages. This generally requires raising living spaces to be one (1) foot above the Base Flood Elevation (BFE) or dry-flood proofing non-residential buildings, along with other requirements.

2. River Corridor

Lands subject to fluvial erosion hazards are as shown on the most recent ANR map of River Corridors. Development that is subject to State rules and procedures – including state facilities, required agricultural and forestry activities per 24 V.S.A. §4413, and projects subject to Act 250 or Section 248 review – will be required to meet standards that promote resilience from future fluvial erosion in these areas.

3. Lands Adjacent to Streams

FEMA special flood hazard areas (SFHA) are designated along only the larger rivers and streams in Andover. However, flooding is possible along all other watercourses. Therefore, Andover's Zoning Bylaws should consider an undisturbed, vegetated buffer strip of fifty (50) feet from all wetlands, streams and rivers, and public ponds.

As noted above, the water quality and flood resilience benefits of buffers along water courses play an important role. However, equally important is to allow for some exemptions to the buffer standards in order to allow for recreational uses (e.g. water access, multi-use paths), stream crossings (e.g. roads, driveways and utilities), and management activities (e.g. removal of hazardous trees, eradicating exotic invasive species or contaminated soil remediation).

4. Wetlands

Wetlands serve a number of important functions, including flood retention. Maintaining this functionality of wetlands can contribute toward mitigating flooding impacts in Andover, therefore, zoning bylaws should be considered to protect wetland functions.

5. Upland Forests

Maintaining an adequate forest cover in rural upland areas and steep slope areas helps to maximize infiltration of water into the soil and minimize or slow down stormwater runoff in ways that mitigate flooding hazards to downstream locations. Efforts to minimize heavy cutting in forestry activities, limiting the extent and densities of developments, and properly managing stormwater in these uplands areas will help contribute toward community flood resilience. Andover subdivision bylaws should consider stormwater and steep slope provisions that help to achieve this upland forest functionality.

Goals, Policies & Recommendations:

In order to protect the areas identified and designated above in this subchapter and to mitigate risks to public safety, critical infrastructure, historic structures, and municipal investments, the following goals, policies and recommendations are established.

Goal

- Encourage a flood resilient community.

Policies

- New development in identified floodways and River Corridors shall be avoided. If new development is to be built in such areas, it shall not exacerbate flooding and/or fluvial erosion.
- Infill development in River Corridors shall be allowed in accordance with the VT Department of Environmental Conservation's Flood Hazard Area and River Corridor Protection Procedure.
- The protection and restoration of floodplains and upland forested areas that attenuate and moderate flooding and fluvial erosion shall be encouraged.
- Where buffers are required for Act 250 projects, provide reasonable flexibility with these buffer standards in order to allow for recreational uses (e.g. water access, multi-use paths), water crossings (e.g. roads, driveways and utilities), and management activities (e.g. removal of hazardous trees, eradicating exotic invasive species or contaminated soil remediation).
- Maximize onsite stormwater infiltration to help promote flood resiliency.
- Preserve the flood retention functionality of wetlands that serve as important components of local flood resilience efforts.
- Andover's Local Hazard Mitigation Plan, as most currently amended, is hereby adopted by reference as a component of this Municipal Plan.

Recommendations

- Consider acquisitions of at risk properties, with assistance from applicable grant funding sources.
- Retrofit/replace existing drainage systems to allow for greater water passage.
- The Town should consider developing adequate emergency preparedness and response planning including, but not limited to:
 - a) Maintenance of an up-to-date Local Emergency Operations Plan;
 - b) Updating the Local Hazard Mitigation Plan on a five-year timeframe, or as needed;
- Evaluate existing regulations and standards to ensure that the goal and policies of this Subchapter are adequately addressed.
- Maintain enrollment in the National Flood Insurance Program.
- Update the bridge and culvert inventory and condition assessment and maintain an annual culvert upgrade and maintenance program to address the priority needs identified in the inventory.
- Encourage flood resiliency by prioritizing land conservation efforts for those lands that serve important flood retention or attenuation functions.
- Andover should consider updating zoning bylaws to protect river corridors and establish stream setbacks.

Appendix E

Vermont Historic Floods

Vermont Historical Flood Events

Event	Date	Description	Impact or Extent of Damage
Great Flood of 1927	November 3, 1927	After a wet October, rivers were swollen and the ground was saturated. Nine inches of rain fell in a 36-hour period triggering disastrous flooding. The month of October saw 150% greater rainfall than normal and lack of vegetation due to de-forestation may have reduced the ground's ability to absorb water. Though all of New England was affected, Vermont was devastated. The state flooded from Newport to Bennington, with the Winooski River Valley the hardest hit. Deadliest disaster in Vermont history.	<ul style="list-style-type: none"> ➤ 84 people perished ➤ 9,000 left homeless ➤ Many roads, countless homes and over 1,200 bridges washed away ➤ Over \$28 MM in damages (\$404 million in current \$s)
The Great New England Hurricane of 1938	September 21, 1938	One of the most powerful and destructive hurricanes to hit southern New England and the region of Southeast Vermont with winds over 100 mph. Authorities were unaware of the magnitude so no evacuation procedures were instituted and very few precautions were taken. The only tropical cyclone to make a direct hit on Vermont in recorded history. Hurricane-force winds caused extensive damage to trees, buildings, and power lines.	<ul style="list-style-type: none"> ➤ 600 people perished in southern New England, only 5 in Vermont ➤ Over 2,000 miles of roads were blocked taking months to reopen ➤ Vermont maple and sugar groves were damaged ➤ Over \$300 MM in damages (\$5 Billion in current \$'s)
Tropical Storm Irene	September 1, 2011	Tropical Storm Irene tracked north northeast across eastern New York and western New England producing widespread flooding, and damaging winds across the region. The greatest impact across central and southern Vermont was due to catastrophic flash flooding as a result of 4 to 7+ inches of rainfall which occurred across all of Windham and Windsor County, especially in the foothills of the Green Mountains. Several dozen roads (state and local), including Routes 4, 12, 12A, 100, 103, 107 and 131, as well as several bridges were washed out or suffered severe damage. Several communities within Windsor County were isolated due to loss infrastructure. Dozens of homes and businesses experienced severe flooding as well as major losses to farms and livestock.	<ul style="list-style-type: none"> ➤ Frequent wind gusts of 55-60 mph, peak gusts at 85 mph. ➤ 18,000 customers in Windham County lost power. ➤ Greatest single-day rainfall in Vermont's recorded history. ➤ Rainfall averaged 4 to 8 inches, and up to 11 inches in some areas over a 12-hour period. ➤ There were nearly 2400 roads, 800 homes/businesses, 300 bridges and a half dozen railroad tracks destroyed or damaged from the flooding caused by Irene. ➤ \$18.7M estimated in Public and Individual FEMA Assistance.

Appendix F

Documented Flood Damage

Road	Damage
East Hill Road	Road washed out beside culvert. Culvert removed and replaced.
Gates Road	50 foot washout (two on Gates road altogether). One 18" by 40 foot culvert replaced on Gates Road as well.
Howard Hill Road	200 and 300 foot shoulder washout. 4 culverts damaged on entire road and bridge was closed before Irene but may have been damaged
Little Pond Road	150 foot washout
Lovejoy Brook Road	900 feet of road completely gone and roadside washouts for remainder. Culverts affected.
Marsh Hill Road	1180 foot washed out in one section, additional small washes. Culverts impacted
Middletown Road	1100 feet of roadbed washed away. Another 830 foot section of roadside also damaged as well as multiple culverts including a 13 foot culvert
Newton Road	250 foot washout
North Hill Road	420 feet of shoulder and road washed out. Approach to 6 foot culvert washed out
Old Gulf Road South	200 foot road bed washed out. 50 foot road bed, culvert, bridge approaches gone. Guardrails damaged.
Pettingill Road	50 foot washout on north side of culvert. Concrete blocks used to divert water and realign streambed.
Schmidt Road	1050 feet of road washed away. 500 foot section needs 3 feet of topping to repair. 5 culverts affected. 2 replaced.
Simmons Road	Washouts on both side of road. Washout of entire road for 480 foot lower section. Culvert plugged and replaced
Stigers Road	1038 foot washout. 3 culverts damaged on entire road
Trombley Road	81 foot approach to north side of bridge washed away. Guardrail washed away as well. Bridge scoured on south abutment and needed rip rap.
Weston-Andover Road	Shoulder washed away into paved area of road. Culvert repaired on one spot along the Weston-Andover road

EAST HILL -

ROAD FLOODED OVER CULVERT TO BOONTON HOLLOW
(#140). DEEP EDGE WASH OUT OF SCHMIDT RD
100' LONG BY 3' DEEP. EDGE WASH FROM POND.
AT LOVEJOY BROOK FARM. 60' LONG BY 1 1/2' DEEP

GATES -

20' LONG ACROSS ENTIRE ROAD BY BRUCE MYERS
(YARD DRAINS PLUGGED)

HOWARD HILL -

4' DEEP EDGE WASH (JUMPED STONE LINED PITCH)
2000' LONG

LITTLE POND -

SCOUR ON INLET SIDE OF 4' SQUASH CULVERT (H10)
DEEP EDGE WASH ON STREAM SIDE AT POND

LOVEJOY BROOK -

FROM BRANCANELLO ROAD TO LYOLOW LINE
WASHED OUT. (2500+ FT.) ONE 6' SQUASH
CULVERT REPLACED

MARSH HILL -

NO MAJOR DAMAGE. SMALL SURFACE WASHES

MIDDLETOWN -

1100' OF ROADBED WASHED AWAY. 3' CULVERT
NEEDED TO BE RETRIEVED FROM DOWNSTREAM
AND RESET. (T3)

NEWTON -

400' LONG, 1' TO 2' DEEP EDGE WASHES

NORTH HILL -

ENTIRE SOUTH END WASHED OUT (2500'), 3' TO 5' DEEP AND MANY CULVERTS PLUGGED. DEEP EDGE WASHES AND ANOTHER 30" CULVERT (#17) PLUGGED WASHING ROAD OUT.

OLD GULF ROAD SOUTH -

925' OF ROAD WASHED OUT (700' ABOVE BRIDGE, 225' BELOW) BRIDGE PLUGGED (B23) AND CULVERT FAILED (#11). REPLACE CULVERT

POTTINGILL -

WASHED OUT 50' BESIDE CULVERT (C25). USED 4' TO 5' LEDGE TO REWIDEN STREAM

SCHMIDT -

2500' OF ROAD WASHED OUT. OVER 9' DEEP IN MANY PLACES. 4 CULVERTS REPLACED, 3 UPSIZED.

SIMMONS -

500' OF ROAD WASHED OUT, 4' TO 5' DEEP GRAVEL AND DEBRIS PLUGGED 6' x 8' BOX CULVERT AT WESTON - ANDOVER ROAD INTERSECTION

STIGGERS -

MINOR SURFACE WASHES

TROMBLEY -

SOME SCOURING AT BRIDGE APPROACHES (B37)

LOTS OF WOOD DEBRIS UNDER GUARDRAILS

WESTON - AMOOR -

RIVERBANK WASHED AWAY AFFECTING ONE LANE
OF TRAFFIC IN SEVERAL PLACES FROM THE
CHESTER LINE TO JUST WEST OF CAMPGROUND.
EDGE WASHES FROM NEAR MIDDLETOWN TO
CEMETARY FROM MOOSEWALK POND FAILURE

Appendix G
Town Emerald Ash Borer Inventory

final oct 25

Road	Number of trees	final oct 25			
		Good	Fair	Poor	
Andover Ridge	44		15	5	
	6 to 12 in.		14	2	
	12 to 18 in.		7	1	
	Over 18 in.				
Arrau	64		30	2	
	6 to 12 in.		16	11	
	12 to 18 in.		46	18	
	Over 18 in.				
Blanchard	37		7	8	1
	6 to 12 in.		9	3	1
	12 to 18 in.		4	4	
	Over 18 in.				
Boon	26		17	2	
	6 to 12 in.		6		1
	12 to 18 in.				
	Over 18 in.				
Costaldo	16		9		
	6 to 12 in.		7		
	12 to 18 in.				
	Over 18 in.				
Cobb	144		90		
	6 to 12 in.		31	2	
	12 to 18 in.		10	1	
	Over 18 in.				
Codere	22		11	2	
	6 to 12 in.		2	2	
	12 to 18 in.		3	1	1
	Over 18 in.				
Davis	46		16	12	2
	6 to 12 in.		7	8	
	12 to 18 in.		1		
	Over 18 in.				

Dorman	26	4	2	
	6 to 12 in.		5	1
	12 to 18 in.	3	8	3
	Over 18 in.			
East Hill	119	45		1
	6 to 12 in.	54	7	
	12 to 18 in.	12		
	Over 18 in.			
Farrar	6	4	1	
	6 to 12 in.			
	12 to 18 in.	1		
	Over 18 in.			
Forbes	34	30		
	6 to 12 in.	5	1	1
	12 to 18 in.			
	Over 18 in.			
Gates	76	44	4	2
	6 to 12 in.	14	2	
	12 to 18 in.	8	2	
	Over 18 in.			
Heald & Cemetery	53	23	1	1
	6 to 12 in.	11	1	
	12 to 18 in.	15		1
	Over 18 in.			
Hillcrest	21	9		1
	6 to 12 in.	10		
	12 to 18 in.	1		
	Over 18 in.			
Hilltop	115	82	3	1
	6 to 12 in.	39	3	1
	12 to 18 in.			

final oct 25

		2		
	Over 18 in.			
Howard Hill	61	47	5	
	6 to 12 in.	6		
	12 to 18 in.	1		2
	Over 18 in.			
Jarvis	21	12	4	2
	6 to 12 in.	2	1	
	12 to 18 in.			
	Over 18 in.			
Little Pond	54	6	13	2
	6 to 12 in.	1	9	5
	12 to 18 in.	1	12	6
	Over 18 in.			
Lovejoy Brook	52	4	13	3
	6 to 12 in.	8	12	
	12 to 18 in.	7	5	
	Over 18 in.			
Mansion	90	55		
	6 to 12 in.	21	3	1
	12 to 18 in.	16	2	2
	Over 18 in.			
Markham Mtn.	37	25		
	6 to 12 in.	6	1	
	12 to 18 in.	5		
	Over 18 in.			
Middletown	228	131	7	3
	6 to 12 in.	43	10	9
	12 to 18 in.	15	8	2
	Over 18 in.			

Newton	1			1	
	12 to 18 in.				
North Hill	231	12	15	6	
	6 to 12 in.	8	42	13	
	12 to 18 in.	15	82	39	
	Over 18 in.				
Old Gulf South	94	21	32	9	
	6 to 12 in.	10	16	3	
	12 to 18 in.	2	2	1	
	Over 18 in.				
Pettingill	76	52			
	6 to 12 in.	20			
	12 to 18 in.	4			
	Over 18 in.				
Schmidt	32	1	9	4	
	6 to 12 in.	1	8	1	
	12 to 18 in.		6	2	
	Over 18 in.				
Simmons	24	14	2		
	6 to 12 in.	3	3		
	12 to 18 in.	2			
	Over 18 in.				
Spruce	11				
	6 to 12 in.	1	2	3	
	12 to 18 in.	1	1	3	
	Over 18 in.				
Steinle	77	25	1		
	6 to 12 in.	1	2		
	12 to 18 in.				
	Over 18 in.				

Stigers		73						
		6 to 12 in.		48		2		
		12 to 18 in.		14		3		1
		Over 18 in.		5				
Trombley		17						
		6 to 12 in.		10				
		12 to 18 in.		6				
		Over 18 in.		1				
Wall		81						
		6 to 12 in.		10		3		
		12 to 18 in.		26		6		9
		Over 18 in.		24		2		1
Marsh Hill	(Jock	243						
Cross	(Jocl	47	19	12	17	21	19	7

total 2398

Appendix H
Slope Failure Photos

Pettengill Rd.
Slope failure: 150" x 20'



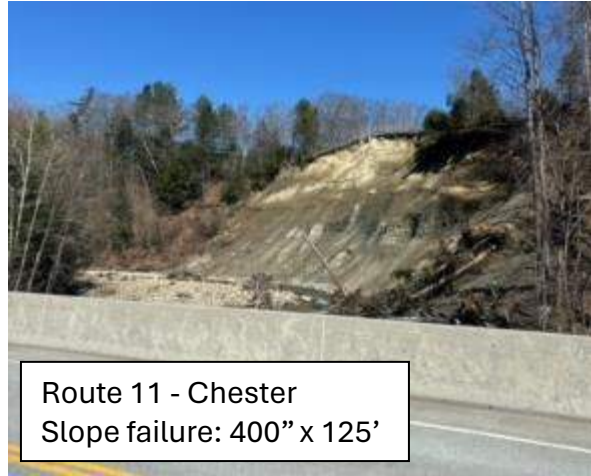
Route 11 (Buyout)
Slope failure: 200" x 12'



Simmons Rd.



Route 11 - Chester
Slope failure: 400" x 125'



Route 11 - Chester



Simmons Rd.



Appendix I
Plan Monitoring Forms

**Andover 2024-2029 Local Hazard Mitigation Plan
Annual Monitoring Form
Progress on Mitigation Strategies & Actions
(WORD Doc Available)**

Period Covered: _____

Date: _____

High Priority
Moderate Priority
Low Priority

*Edit Cell Color to Reflect changes in Priority of Mitigation Actions

MITIGATION ACTION	PROGRESS MADE*	FUNDING SOUGHT	NEXT STEPS	RESPONSIBLE PARTY	TIME FRAME
On Going:					
Prioritize Culvert replacement based on VTculvert data, Road and Bridge standards, geomorphic assessments, damaged or known undersized.					
Maintain updated culvert/bridge inventory.					
Develop schedule to Replace and Upgrade known undersized culverts based on above and recent flood damage.					
Update Local Emergency Management Plan					
Maintain current ERAF status at a minimum.					
From Town Input, Survey, Town Planning Documents, MARC Recommendations and Technical Document Review					
Develop and implement a process to a) record and document town infrastructure at risk for flood damage prior to next flood event to facilitate the FEMA public assistance process and b) have a written procedure for assessing damage immediately following an event before any reparations are made and a process for documenting reparations and recovery efforts.					

Complete a Road Erosion Inventory Reassessment by October 31, 2027, for MRGP compliance.					
Work with MARC to bring MRGP Implementation Table Portal up to date with completed road work.					
Review Progress Report on MRPG compliance and develop a plan to achieve compliance threshold by December 31, 2036.					
Replace Culvert (#40) on East Hill Rd. in phases: Phase I – Preliminary Engineering/hydraulic study Phase II – Engineering Design Phase III – Implementation					
Replace Culvert (#B24) on Middletown Road: Phase I – Preliminary Engineering/hydraulic study Phase II – Engineering Design Phase III – Implementation					
Replace damaged Culvert (#C25) on Pettengill Rd. and increase to bankful width: Phase I – Preliminary Engineering/hydraulic study Phase II – Engineering Design Phase III – Implementation					
Horseshoe Acres area bridge (#B5) deck repair work needed.					
Replace deteriorated and damaged Culvert (#3) on Love Joy Brook Rd.					
Boynton Hill area bridge (#B6) deck repair work					
Develop an inventory of residential ponds and beaver ponds and determine level of flood risk and potential strategies to mitigate.					
Review location needs and map ponds as emergency water source for potential dry hydrants and develop program to incentivize pond owners.					
Determine practicality of implementing a pond permitting process and/or provide pond construction guidance to minimize flood risk of a pond breach.					

Put in place a process for residents of higher elevations to report to the Highway Department on road conditions during high wind and winter events.					
Commission a review and update of site-specific projects as identified in the Williams River Corridor Plan of 2016.					
Fitzgerald Associates to identify current floodplain areas identified in the RCP and work with VRC or VLT and landowners to develop a plan for conservation easement. (WPD ID#4736)					
Commission study to evaluate active bank erosion on Middle Branch, a main tributary of the Williams River, which is threatening homes around Castaldo Road on Route 11 and develop mitigation options, Phase I: Commission study Phase II: Develop mitigation plan					
Commission a Preliminary Assessment of active bank erosion and failing armor threatening a house and quarry access Road on Route 11 and design options to prevent future erosion including new placed rock armor and slope modification to establish stable grade (T5.S3.01, T5.S3.03) (WPD ID#4708) (RCP AB-1a-c)					
Work with residents of 995 Simonsville Rd. on a FEMA buyout. Exposed garage foundation due to erosion of toe slope continues to worsen. (WPD ID#11562)					
Work with GMP to determine relocation of utility pole on Pettengill Rd. which is threatened by an active mass failure. (WPD ID#4709)					
Put in place a schedule to Identify and remove high hazard trees to reduce power outages*					
Proactively reach out to GMP with identified trees that are susceptible to causing downed power lines.					
Update Flood Damage Prevention Regulations from 2007.					
Consider River Corridor Bylaws during update to flood regulations to restrict further development in river corridors and increase ERAF reimbursement rate. In					

conjunction with update of Flood Regulations.					
Review and amend zoning regulations to better protect rivers and streams and areas at high risk for erosion or slope failure from flooding or heavy rain events.					
Review and amend zoning regulations to better protect rivers and streams and areas at high risk for erosion or slope failure from flooding or heavy rain events.					
Consider flood and erosion hazard mitigation in permitting subdivisions and driveway access permitting to improve flood resiliency and reduce erosion.					
Develop a list of properties (911 addresses) within the Special Flood Hazard Areas, River Corridor, and Fluvial Erosion Hazard Areas for public reference and outreach.					
Design and have printed a wall size map for display at Town Hall with flood hazard and river corridor overlays for public viewing so residents can identify their properties in relation to these high-risk areas.					
Develop and conduct a public outreach process to provide information to current residents and potential new buyers on flood hazard and fluvial erosion risk and NFIP to raise awareness.					
Implement the formal process for monitoring the implementation of Mitigation Actions described in Section 6.3.					
Access and evaluate the Municipal Vulnerability Index Tool , to assess Town preparedness for and resilience to the impacts of climate change for helpful guidance on local hazard mitigation planning.					
Annually seek funding and plan for implementation for MRGP compliance on high slope, High Priority hydrologically connected road segments as identified in					

the MRGP road assessment inventory and experience during July 2023 flood event					
Correlate Road Erosion Inventory Assessments with Transportation Resiliency Planning Tool to identify and help prioritize culvert and bridge replacement and stormwater management planning projects					
Work with the State for permission to remove fallen trees and river debris at high risk for blocking underpass during flood events.					
Review inventory of ash trees, identify active Emerald Ash Borer (EAB) or other infestation areas and seek funding for removal.					
Develop and implement an outreach project based on ‘Slow the Spread’ on the EAB infestation to bring awareness to residents with ash trees on their properties and how to assess and mitigate.					
Register with Vermont Alert used by the state and local responders to notify the public of emergency situations.					
Develop process to incorporate, if applicable, Hazard Mitigation Actions into each section of the Town Plan goals, policies, and recommendations during the next town plan update.					

Note changes or improvements in effectiveness of Community Capabilities and Resources in Table 3:

Note changes in Goals or Objectives: