

# Keene 41590

## NH Route 101 Improvements



Public Working Group  
March 15, 2024



# Meeting Agenda

- Review Draft Purpose and Need
- Public Meeting Summary
- Review Swanzey Factory Road Alternatives
- Draft Matrix Review
- Select Two Swanzey Factory Road Alternatives
- Route 101 Cross Section
  - Complete Streets / Sidewalks
- Next Steps

# Draft Purpose and Need

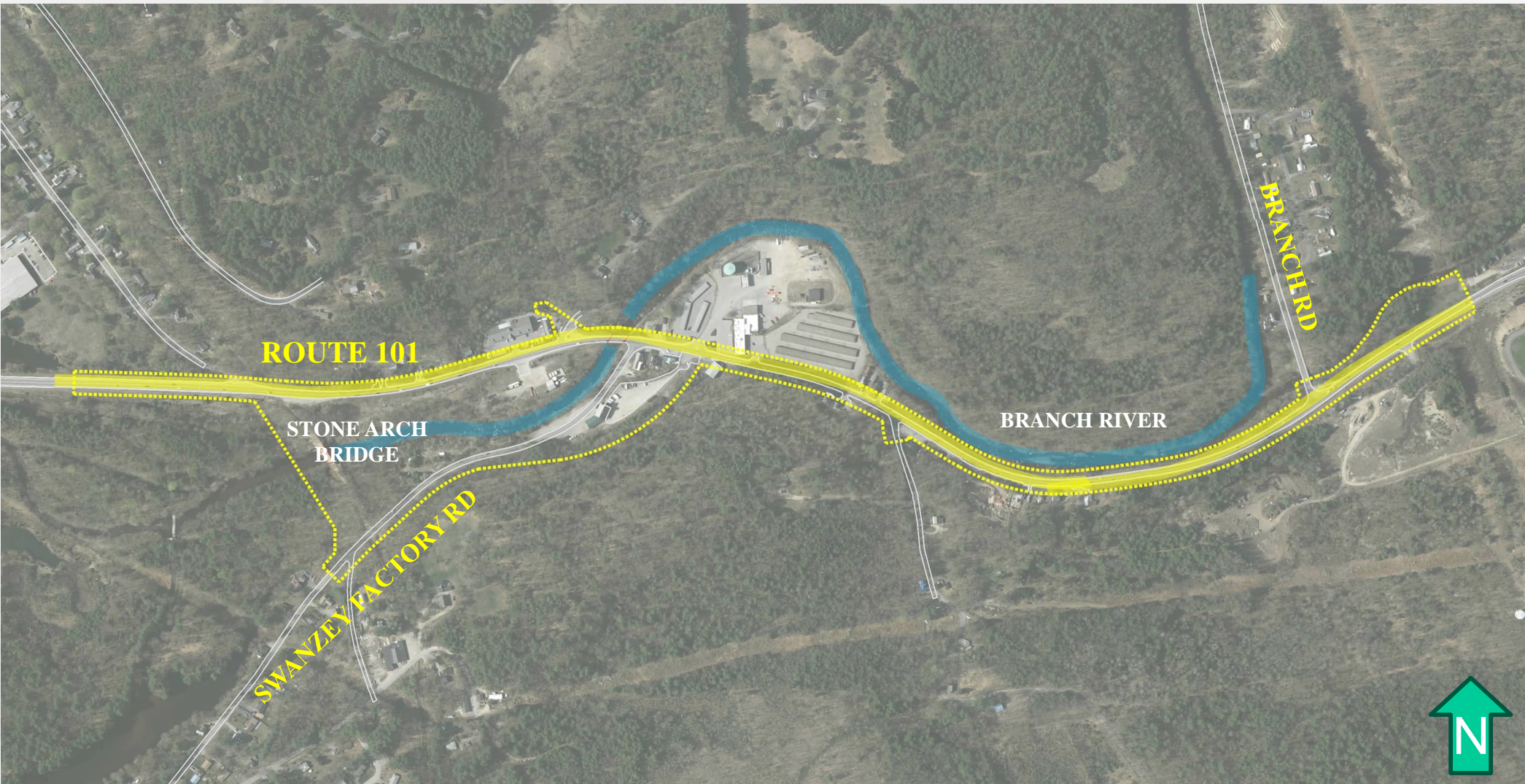
## Project Purpose:

The purpose of the project is to provide safety improvements, improve accessibility for bicyclists and pedestrians, and improve roadway and bridge conditions along NH Route 101 and Swanzey Factory Road while minimizing environmental and right-of-way impacts to the greatest extent practical. One of the primary design considerations is to improve the intersection sight distance deficiencies at the intersection of Swanzey Factory Road and NH Route 101 where the geometric deficiencies are attributed to multiple crashes over the years.

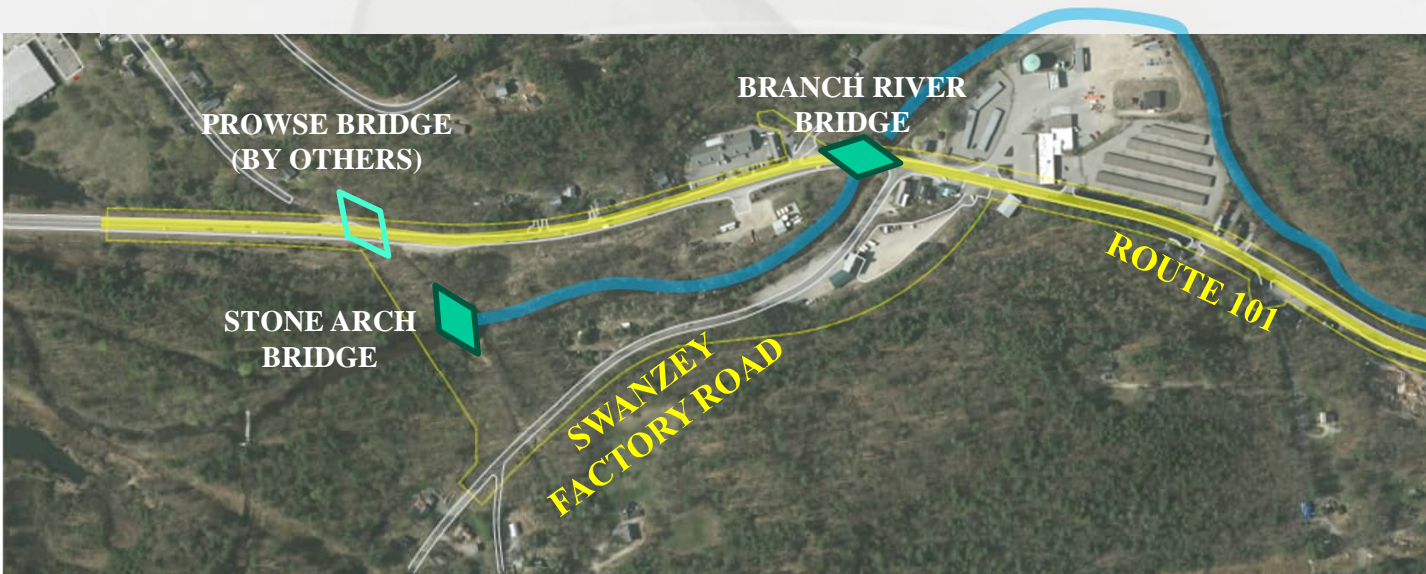
## Project Need:

NH Route 101 is one of two major east-west routes in southern New Hampshire and has an average daily traffic (ADT) of 11,000 vehicles based on 2023 traffic counts. The roadway's safety and state of good repair is critical for state commerce, commuting, and tourism. The project is needed to correct the following deficiencies throughout the project's corridor: the existing pavement requires regular maintenance and repairs due to the failing underlying concrete slab; the roadway's untreated drainage discharges to the Branch River which does not meet current water quality treatment standards; roadway geometric deficiencies which are attributed to multiple crashes at the intersection of Swanzey Factory Road; the NH Route 101 bridge over the Branch River is structurally deficient, placing it on the State's Red List; the bridge width is narrower than the approaching roadway, and; the width of NH Route 101 and Swanzey Factory Road limit safe pedestrian and bicycle usage.

# Project Location



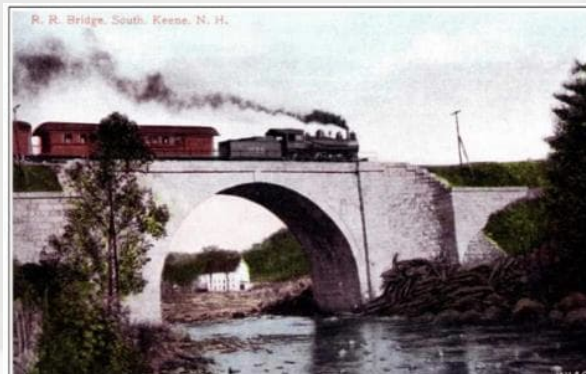
# Bridge Structures



Branch River Bridge  
National Register Eligible



Prowse Bridge (Future)  
By Others



Stone Arch Bridge  
National Register

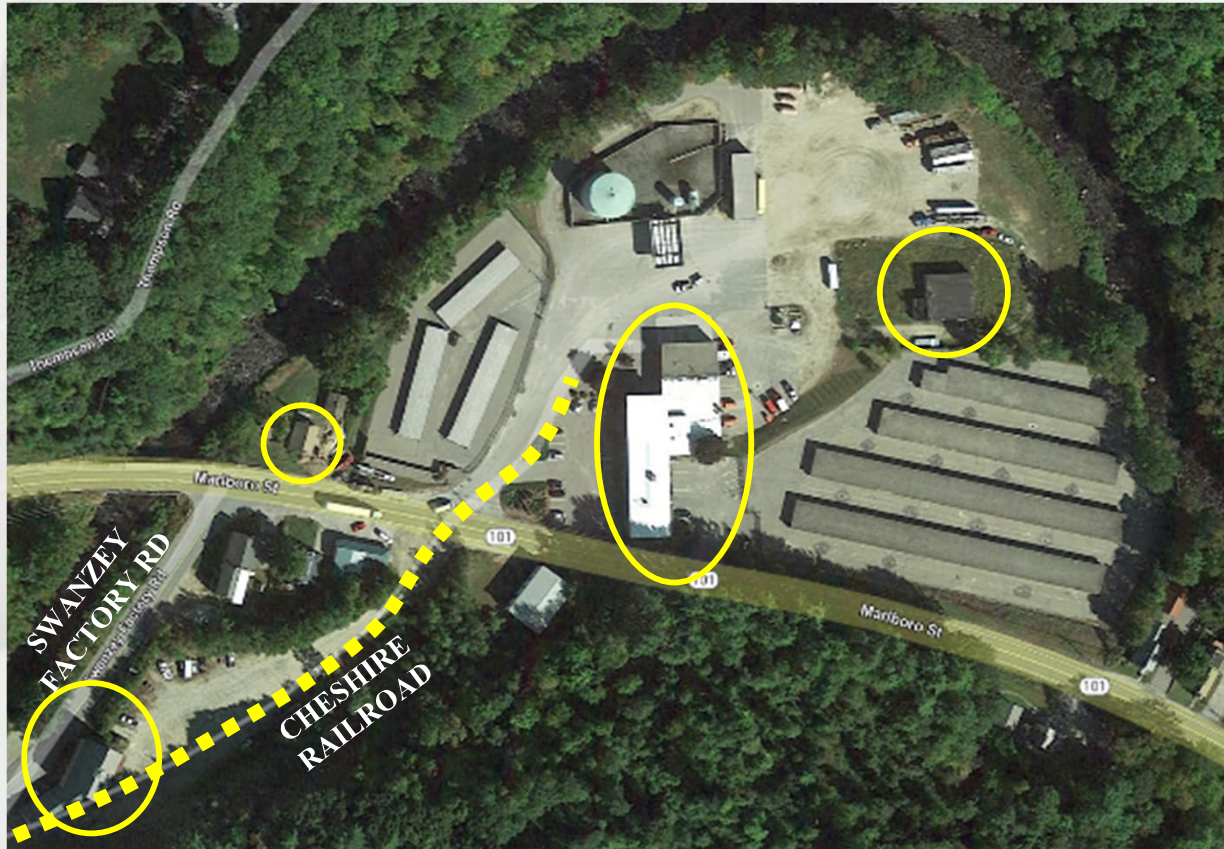
# Branch River Floodplain / Floodway

## Legend

- Road Centerline
- Existing Bridge
- Model Extent
- 100-year Floodplain
- Floodway
- 500-year Floodplain

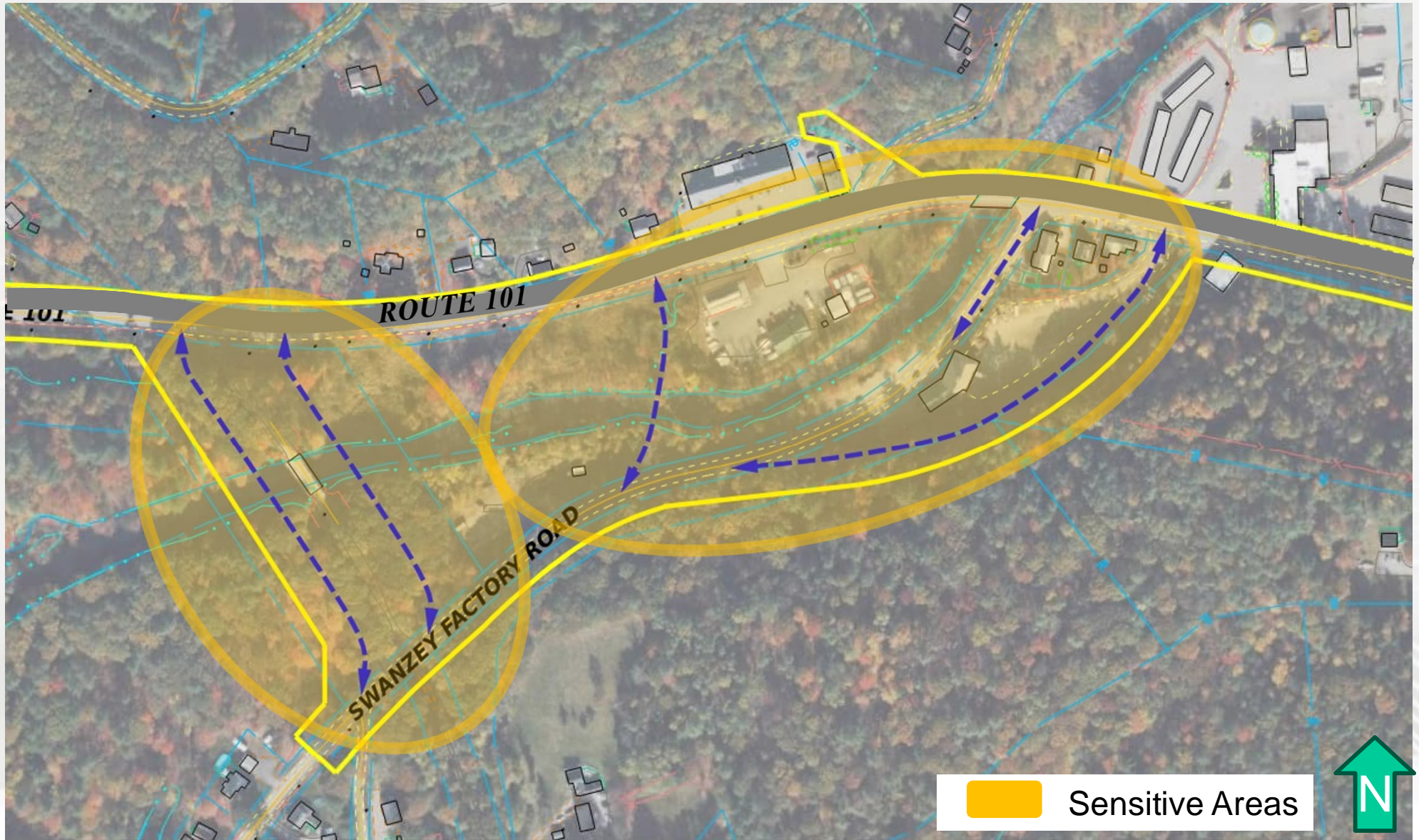


# Historic Resources



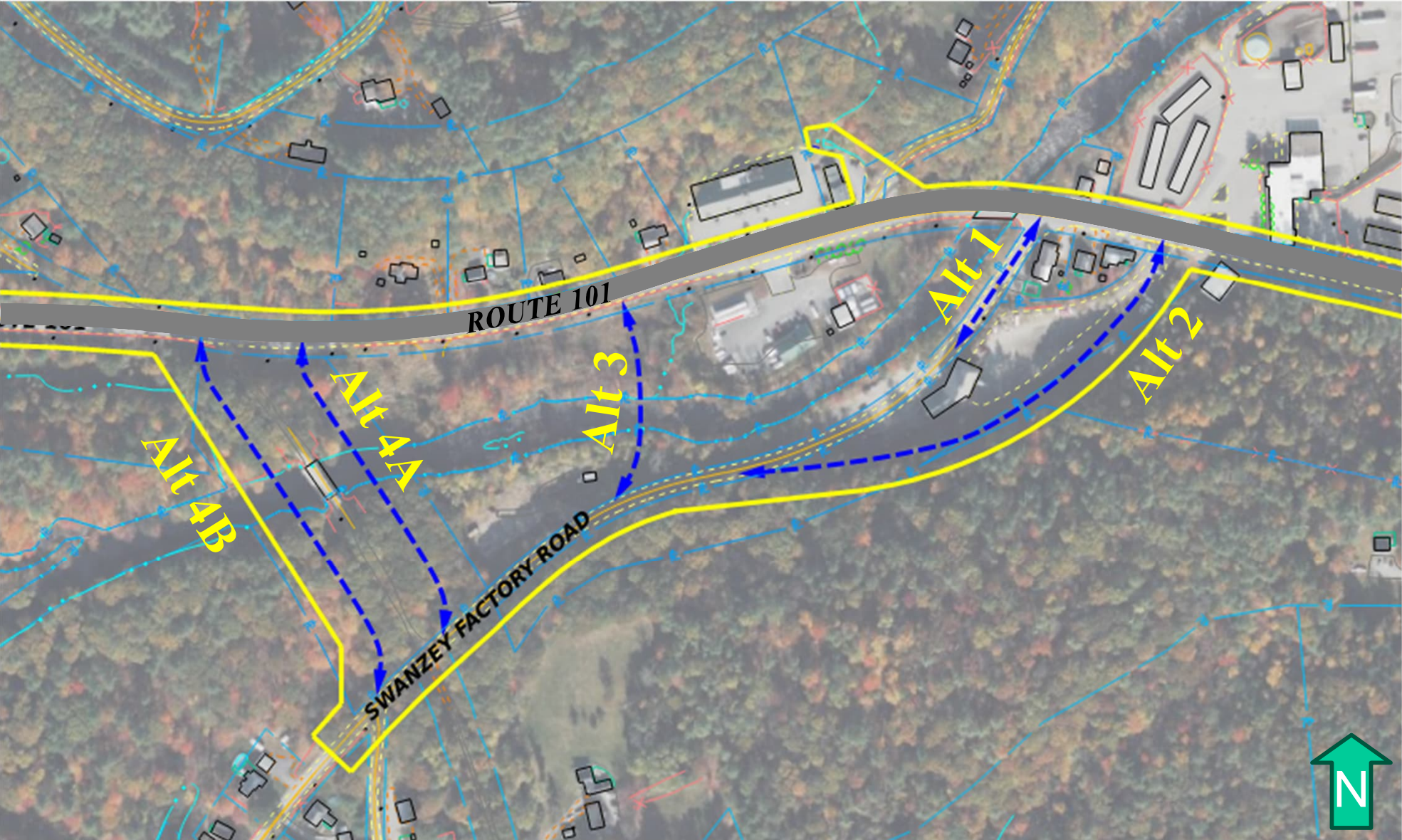
- Several significant buildings
- Cheshire Railroad – pending

# Archaeological Assessments

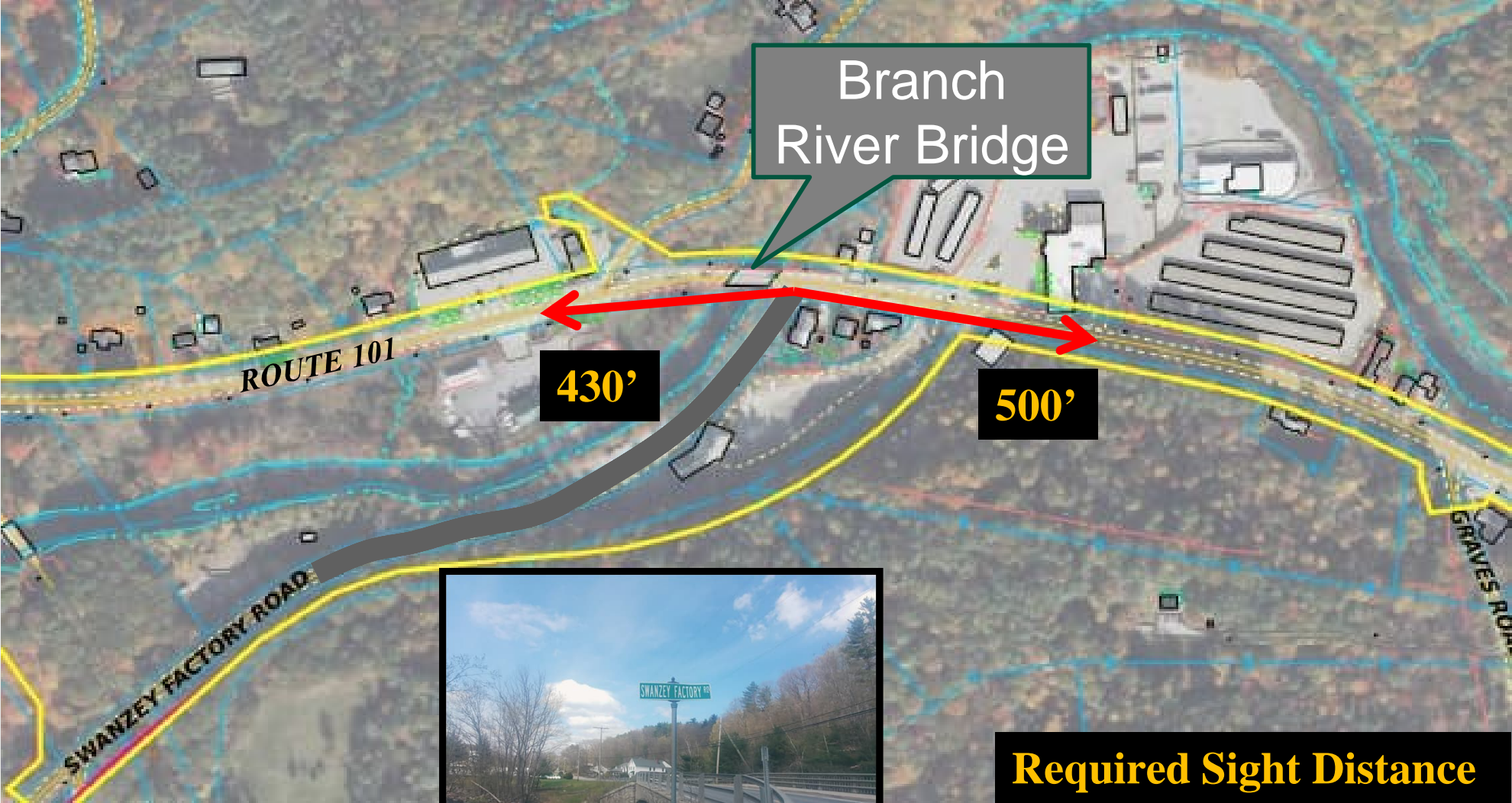




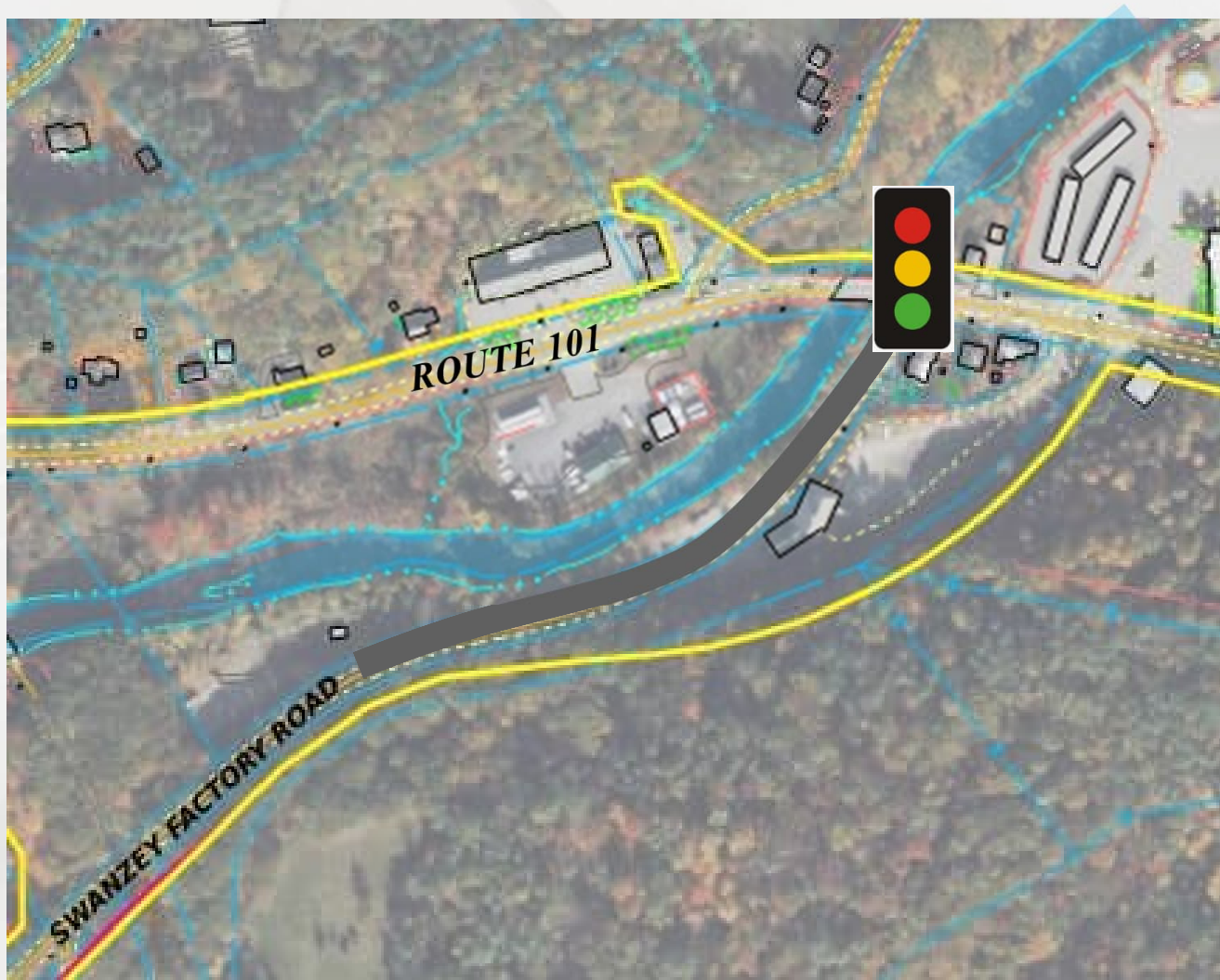
# Swanzey Factory Road Alternatives



# Sight Distance at Swanzey Factory Road



# Alternative 1 Existing Intersection



- Intersection meets signal warrants.
- Signal needed to mitigate sight distance.
- Widening on Route 101 for a left-turn lane needed.
- Roundabout does not fit at this location.

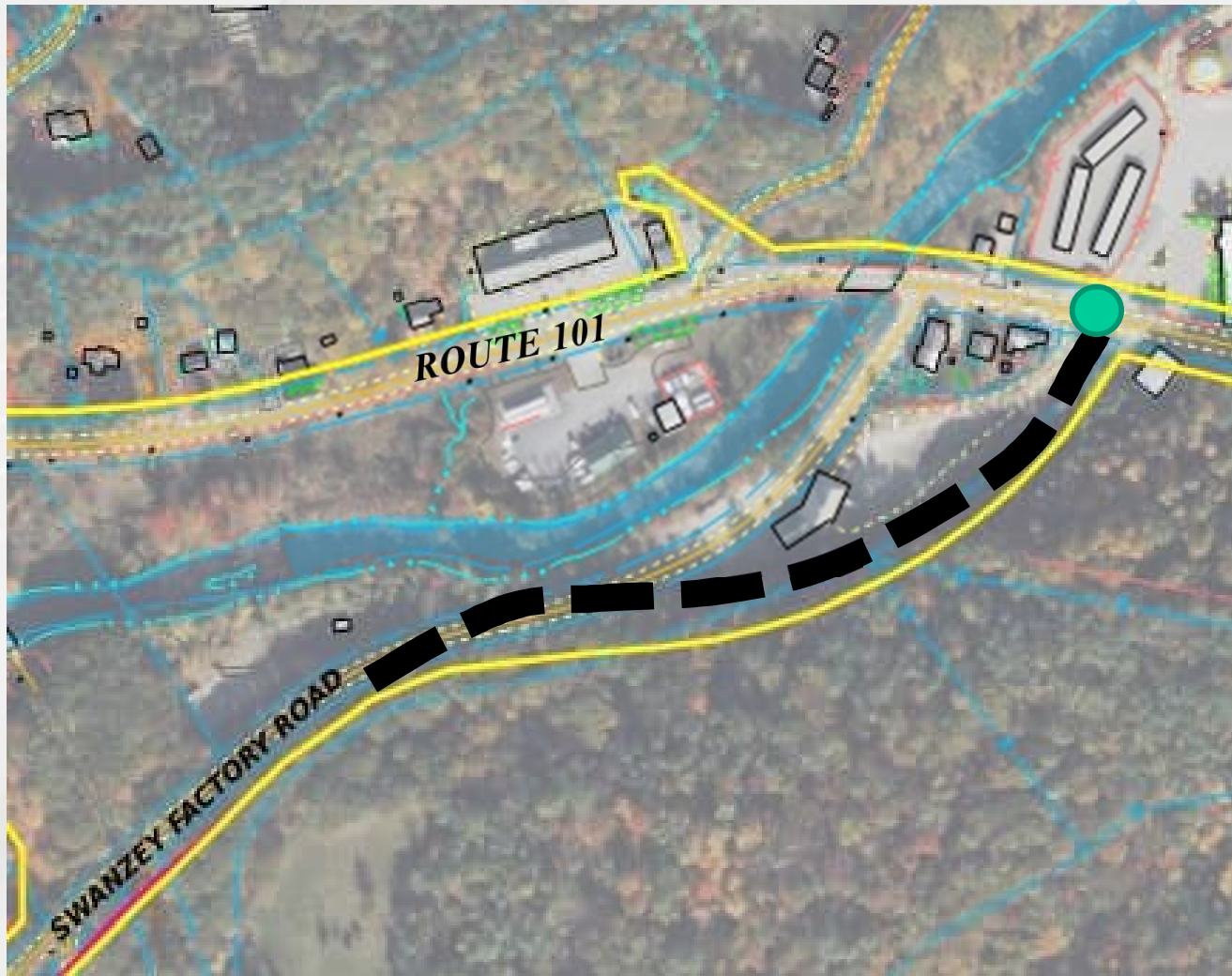
# Alternative 1 (Existing) Location



Image source: Google

Looking East on Route 101

## Alternative 2: Swanzy Factory Road Realignment



- Follows Cheshire Spur Line
- Intersection control:
  - Traffic signal
  - Roundabout
- Unsignalized intersection will not meet sight distance
- Retaining walls
- Right-of-Way impacts
- Least impactful to:
  - Wetlands/floodplain

## Alternative 2: Cheshire Rail Spur – Site Walk

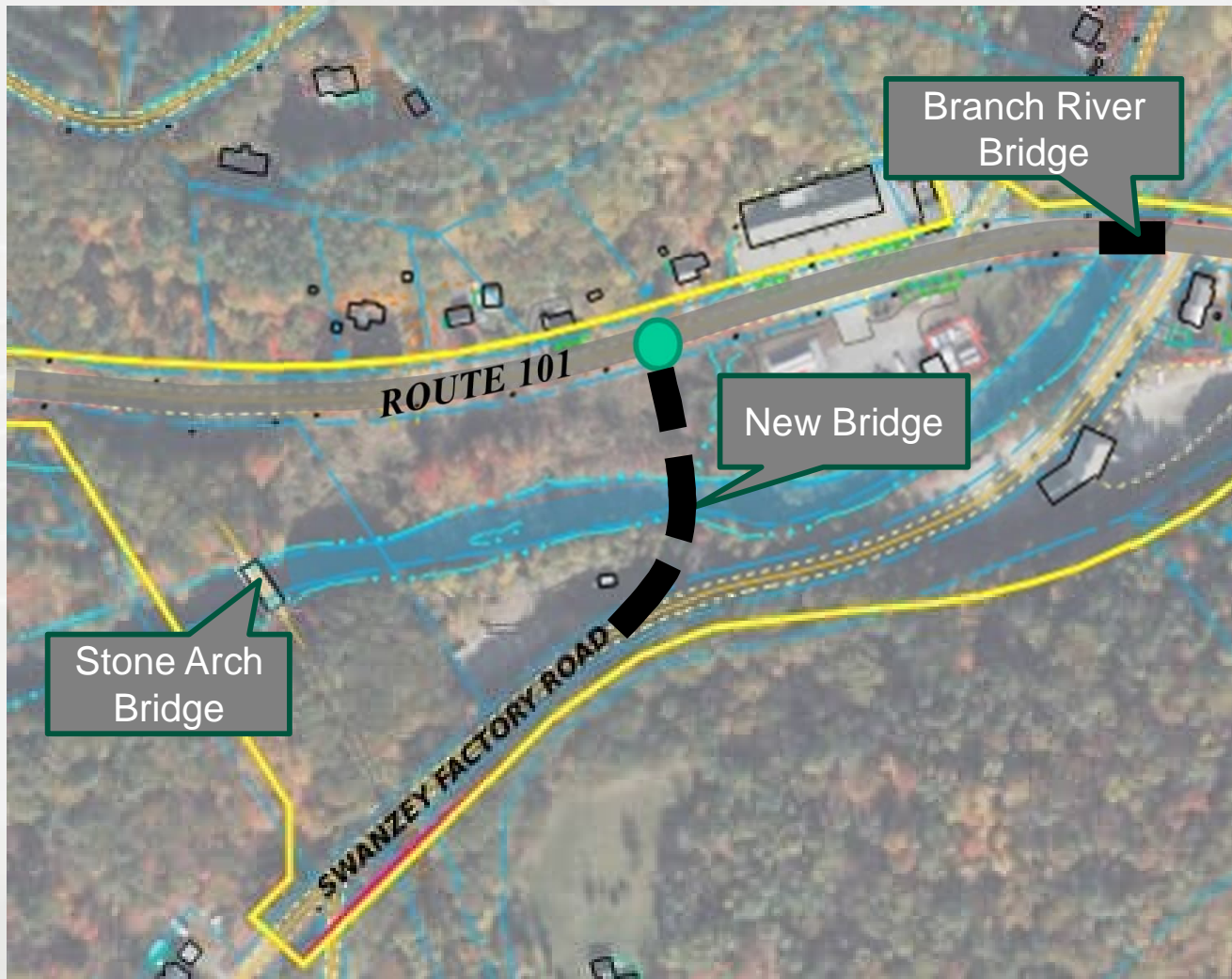


# Approximate Alternative 2 Location



Looking East on Route 101

# Alternative 3 New Bridge Crossing



- Right-of-Way required
- New bridge required
- View of Stone Arch Bridge
- Intersection could be:
  - Signalized
  - Unsignalized / Stop-controlled
- Roundabout does not fit well at this location.
- Floodplain impacts
- Early Archeological Sensitivity



# Approximate Alternative 3 Location

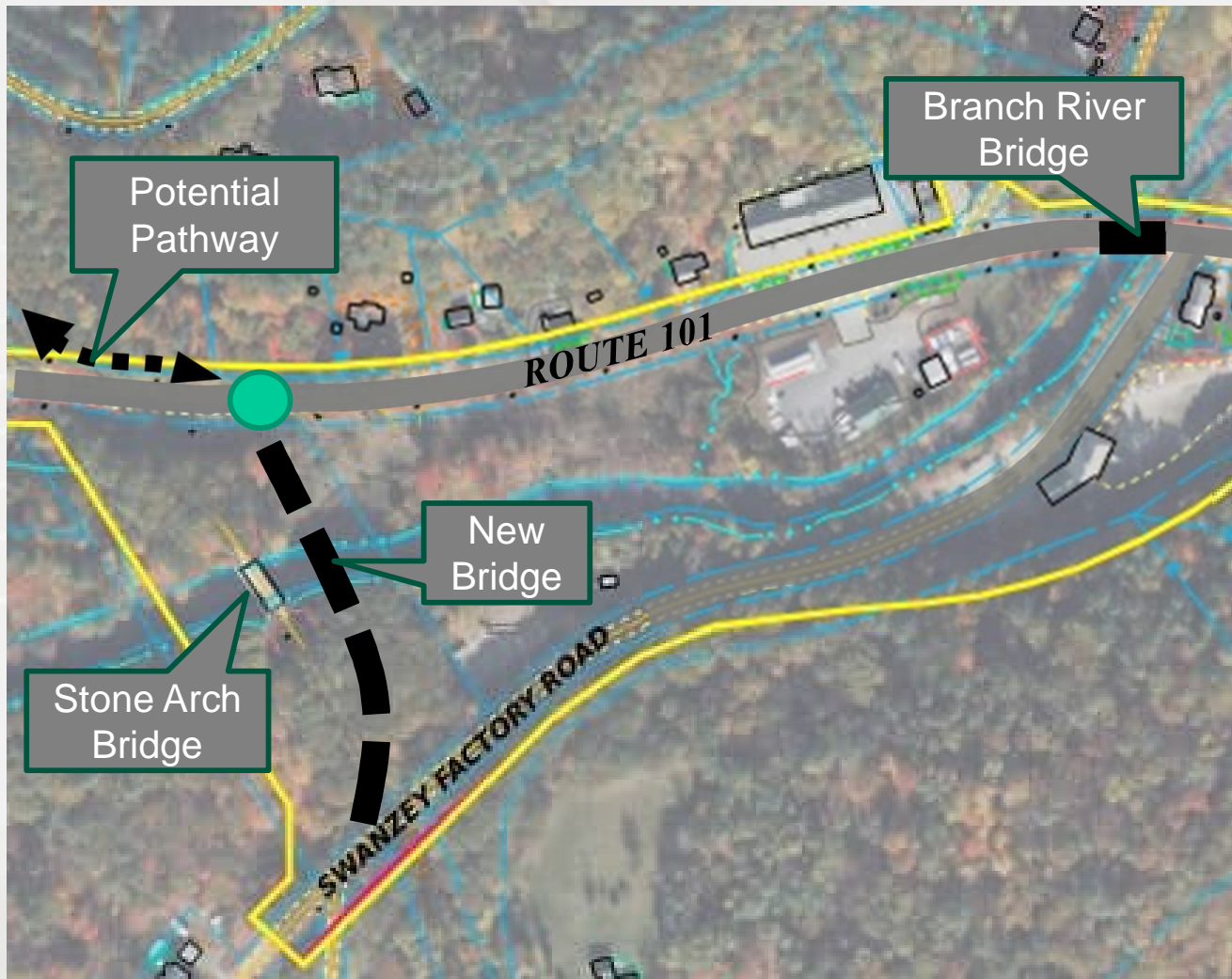


Looking East on Route 101

17

Image source: Google

# Alternative 4A New Bridge Crossing



- In State Right-of-Way
- Requires new bridge structure
- Potential to enhance view or obstruct Stone Arch Bridge
- Intersection control:
  - Signal
  - Unsignalized/Stop-control
  - Roundabout
- Early Archeological Sensitivity
- Visual Impacts to Stone Arch Bridge
- Floodplain Impacts

# Approximate Alternative 4A Location

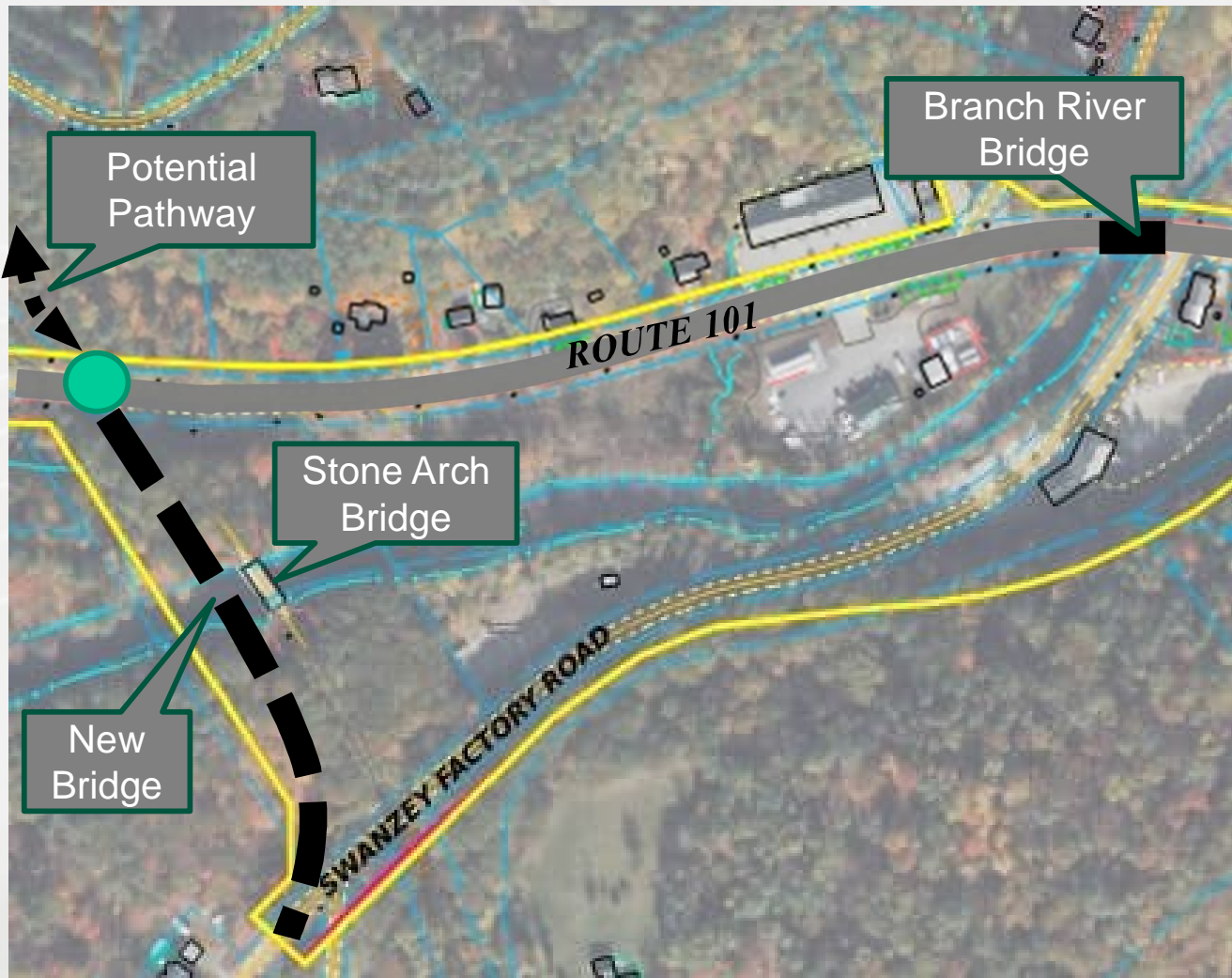


Potential pathway connection

Looking East on Route 101

Image source: Google

# Alternative 4B New Bridge Crossing



- In State Right-of-Way
- Requires new bridge structure
- Within the Stone Arch Bridge view shed
- Intersection could be:
  - Signalized
  - Unsignalized / Stop-controlled
  - Roundabout
- Provide an at-grade crossing for Cheshire Rail Trail.
- May preclude Prowse Bridge Overpass
- Early Archeological Sensitivity
- Floodplain Impacts

# Approximate Alternative 4B Location

Potential  
pathway  
connection

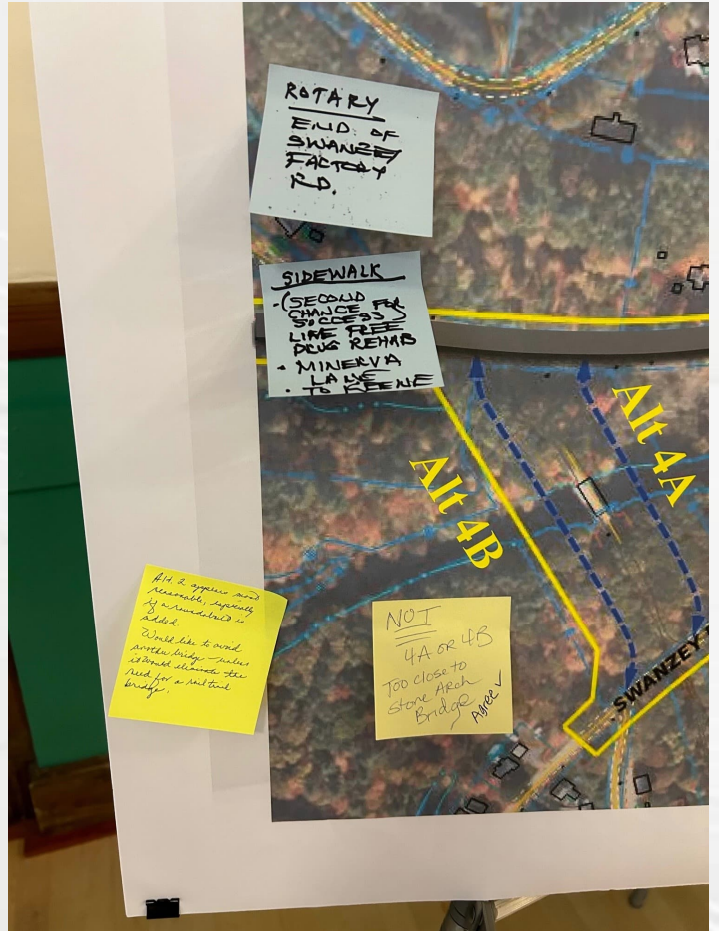
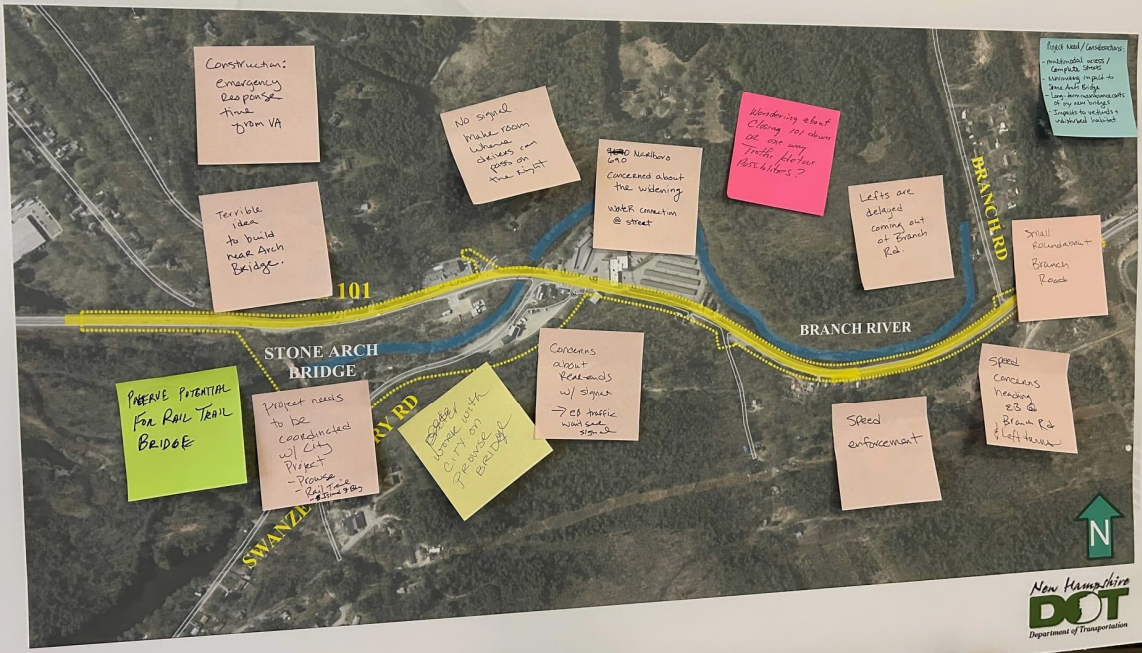


Looking East on Route 101

Image source: Google

# Public Comments

## Project Location Route 101: Starting east of Optical Avenue to Branch Road



# Route 101 Comments

- Rail Trail Bridge & Future Prowse Bridge
  - Project needs to be coordinated with City Project (Prowse Bridge), Rail Trail, Island Street Bridge
- Complete Streets
  - More information is needed on multimodal access/complete streets along Route 101
  - If the road is widened to accommodate walkers and people on bicycles, then traffic calming is very important to slow traffic speeds (e.g. Roundabout, street trees)
  - There are a few “generators” of bike/ped traffic (motel with low income residents, jail, etc.). Some do not have licenses to drive or vehicles.
  - Please consider more robust/safe bicycle facilities (buffered or protected bicycle lane)
  - Requests for sidewalks
- Branch Road Traffic Operations
  - Speed enforcement is needed
  - Left turns from Branch Road are difficult
  - Small roundabout would help calm traffic
- Existing Swanzey Factory
  - Concerns about rearends with signal – Eastbound traffic on Route 101 won’t be able to see a traffic signal.
  - Do not install a signal at Swanzey Factory Road. Make room for drivers to pass turning vehicles on the right.
- Construction Impacts
  - Will Route 101 be closed to one lane of traffic or detoured during construction?
  - Concerns about emergency response time from VA during construction during construction
- Long-term maintenance cost of any new bridges as well as impacts to wetlands and undisturbed habitat should be considered

# Swanzey Factory Road Comments

Note: Attendees were told we were not voting on options.

- Alternative 2 - Clearly favored. Some noted that roundabout would make this option more attractive.
- Alternative 1 – This was liked but generally only as a second to Alternative 2. No one expressed that this was unfavorable; however, there are public concerns about a signal at this location.
- Alternatives 3, 4A and 4B – These options were generally lumped together as bridge options by the commenters and deemed unfavorable. Commenters referred to cost, proximity to rail trail bridge, and environmental impacts as the reason for not liking the bridge alternatives.



# What do you want to hear at our next meeting?

- How can we coordinate with the trail project (Prowse Bridge, Stone Arch Bridge, etc.)?
- Results of historical/archaeological/natural resource investigations
- How can you widen the road with the confines of the existing bridge? Would like to see restoration rather than rebuild the current 101 bridge.
- What plantings will be done to restore disturbed ground (pollinator forage)?
- Overall project time to completions? 101 Detours? EMS Access to private homes?
- A discussion/better understating of any and all impacts to private property (especially historic building/structures) for each alternative.
- More about complete streets.
- Is there a plan to cut the tall pines on the south side of 101 to allow more sun light onto the road?
- What happened to the plan to have Optical Ave go through to Rte. 32 in Swanzey; Swanzey Factory Road would be a dead end.

# Other Comments

- Attendee noted their opinion it was 10 minutes shorter to take a left out of Swanzey Factory Road to go to Optical Ave as opposed to staying on Route 12/Main Street.
- Three abutters asked about property impacts and when those would be determined. Only thing to note is Radiator Business at Rte. 101 and Graves Road mentioned to just buy his whole property.
- Two abutters were not in favor of bicycle facilities if warranted additional property impacts.
- Suggestion of making Swanzey Factory Road a no left-turn onto Route 101.
- One attendee noted that several years ago, there was a debris jam between the stone arch bridge and the Route 101 bridge that caused the Branch River to back up and the river “jumped its banks” and diverted flow towards the north, adjacent to the Route 101 embankment.
- 690 Marlboro owner concerned about the widening impacting property/building. Also concerned about water connection at street for sprinkler system during construction.

# Draft Matrix

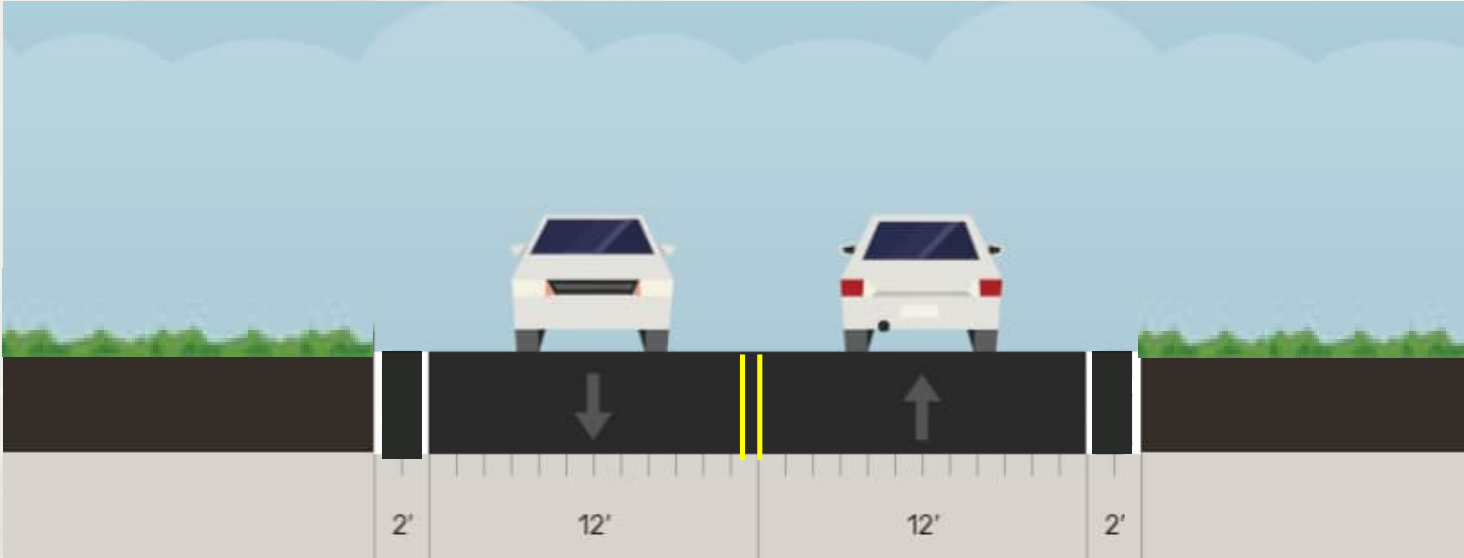
14-Mar-24

## SWANZEY FACTORY ROAD ALIGNMENT: ALTERNATIVES MATRIX

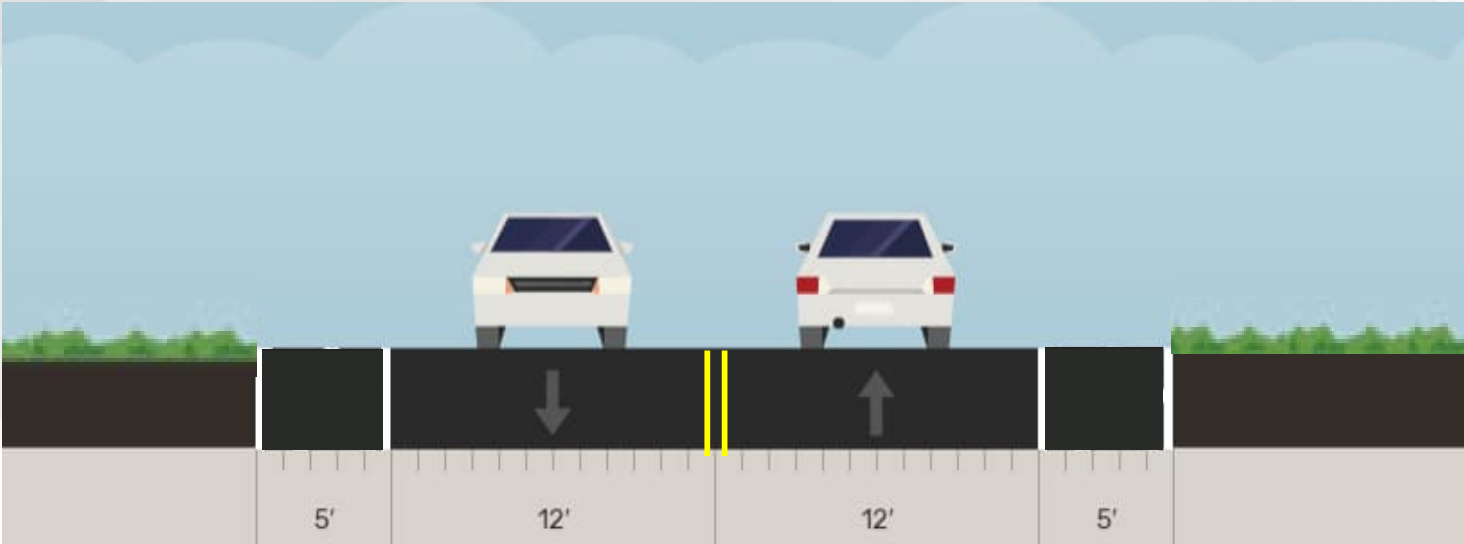
CONSIDERATIONS	No Build	Alternative 1 Existing Alignment with Signal	Alternative 2 East of Existing Intersection (Fastener Mill)	Alternative 3 West of Existing Intersection	Alternative 4A East of Stone Arch Bridge	Alternative 4B West of Stone Arch Bridge
	<b>SAFETY</b>	POOR (-) No improvements at intersection or roadway	MODERATE (-) Geometric improvements needed on Rte. 101 / bridge to improve ISD (-) Signalized Intersection control could improve ISD	GOOD (+) Increased ISD	GOOD (+) Increased ISD	GOOD (+) Increased ISD
<b>PEDESTRIANS &amp; BICYCLE ACCOMMODATIONS</b>	POOR (-) No pedestrian or bicycle considerations	MODERATE (-) Minimal improvements to roadway	GOOD (+) Proposed Typical Section will provide better accommodations	GOOD (+) Proposed Typical Section will provide better accommodations	GOOD (+) Proposed Typical Section will provide better accommodations (+) New intersection could enhance rail trail connectivity	GOOD (+) Proposed Typical Section will provide better accommodations (+) New intersection could enhance rail trail connectivity
<b>RESOURCE IMPACTS &amp; ACCOMMODATIONS</b>	MODERATE (+) No direct impacts (-) Bridge span does not meet stream crossing standards. (-) No water quality improvements	MODERATE (-) May impact the need for a longer bridge span on Rte. 101 to meet stream crossing standards (-) Geometric changes to Rte. 101 / existing bridge needed to meet ISD	MODERATE (+) Improved water quality (-) Additional archeological trenching may be required (-) Slope impacts	MODERATE (+) Improved water quality (-) Potential floodplain impacts (-) Slope impacts	HIGH (-) Improved water quality (-) Visual impacts to Stone Arch Bridge (-) Impacts to pre-contact area for Native American site (-) Potential floodplain impacts (-) Slope impacts	HIGH (+) Improved water quality (-) Visual impacts to Stone Arch Bridge (-) Impacts to pre-contact area for Native American site (-) Potential floodplain impacts (-) Slope impacts
<b>RIGHT OF WAY IMPACTS</b>	LOW None	LOW May require silver takes and easements	HIGH (-) Multiple parcels impacted (-) New driveway / parcel access / reconfiguration of lots	HIGH (-) Multiple parcels impacted	MODERATE (+) Wide existing ROW available (-) May require some impact outside of State ROW	MODERATE (+) Wide existing ROW available (-) May require some impact outside of State ROW
<b>UTILITY IMPACTS</b>	LOW None	LOW Would require minimal relocations	MODERATE (-) If existing Swanzey Factory Rd is abandoned, utility relocation may be needed.	MODERATE (-) If existing Swanzey Factory Rd is abandoned, utility relocation may be needed.	MODERATE (-) If existing Swanzey Factory Rd is abandoned, utility relocation may be needed.	MODERATE (-) If existing Swanzey Factory Rd is abandoned, utility relocation may be needed.
<b>COSTS</b>	LOW None	MODERATE (-) ISD Improvements will require geometric improvements to Rte. 101 & bridge	MODERATE (-) New roadway construction cost (-) New retaining wall cost (-) ROW costs	HIGH (-) New roadway construction cost (-) New bridge cost (-) ROW costs	MODERATE (-) New roadway construction cost (-) New bridge cost (-) Stone Arch Bridge considerations (-) ROW costs	HIGH (-) New roadway construction cost (-) New bridge cost (-) Stone Arch Bridge considerations (-) ROW costs
<b>CONSTRUCTABILITY</b>	N/A	MODERATE (-) Needed geometric improvements on Rte. 101 / bridge will require phased construction (-) New signalized intersection would mitigate ISD requirements	MODERATE (+) Roadway can be built off-line (-) Retaining walls may be challenging with limited ROW.	LOW (+) Roadway and bridge can be built off-line	HIGH (+) Roadway and bridge can be built off-line (-) Proximity to existing Stone Arch Bridge	HIGH (+) Roadway and bridge can be built off-line (-) Proximity to existing Stone Arch Bridge
<b>BRIDGE CONSIDERATIONS</b>	HIGH (-) Structural deficiencies remain.	HIGH (-) Widening or replacement of existing bridge required to meet ISD without traffic signal. (-) May preclude meeting stream crossing standards	LOW (+) Does not require new crossing over Branch River Relocation independent of existing Route 101 bridge considerations	MODERATE (-) Additional crossing over Branch River Relocation independent of existing Rte. 101 bridge considerations	MODERATE (-) Additional crossing over Branch River Relocation independent of existing Rte. 101 bridge considerations	MODERATE (-) Additional crossing over Branch River Relocation independent of existing Rte. 101 bridge considerations
<b>MAINTENANCE</b>	LOW (+) Continued regular maintenance	MODERATE (-) Signal will require regular maintenance	MODERATE (+) New Roadway and drainage system / minimal maintenance (-) Retaining Walls will require periodic maintenance	HIGH (+) New Roadway and drainage system / minimal maintenance (-) Bridge will require regular maintenance through SAB / State Inspections	HIGH (+) New Roadway and drainage system / minimal maintenance. (-) Bridge will require regular maintenance through SAB / State Inspections	HIGH (+) New Roadway and drainage system / minimal maintenance (-) Bridge will require regular maintenance through SAB / State Inspections
<b>MEETS PURPOSE &amp; NEED</b>	NO	YES	YES	YES	YES	YES
<b>PUBLIC &amp; STAKEHOLDER SUPPORT</b>		Concerns that signal will increase rear-ends.	High support.	Bridge not favored due to cost and environmental impacts	Bridge not favored due to cost, environmental impacts and proximity to Stone Arch Bridge.	Bridge not favored due to cost, environmental impacts and proximity to Stone Arch Bridge.
<b>NOTES</b>		• Signalized Intersection control would address ISD concerns	• ROW impacts may be mitigated through land swap • Utility impacts may be greater if relocations required due to land swap	• ROW impacts may be mitigated through land swap • Utility impacts may be greater if relocations required due to land swap	• ROW impacts may be mitigated through land swap • Utility impacts may be greater if relocations required due to land swap • New intersection location would need to consider future Prowse Bridge	• ROW impacts may be mitigated through land swap • Utility impacts may be greater if relocations required due to land swap • New intersection location would need to consider future Prowse Bridge

NOTE: FUTURE STAGE 2 MATRIX NEEDED TO EVALUATE INTERSECTION CONTROL.

# Draft Route 101 Cross Section

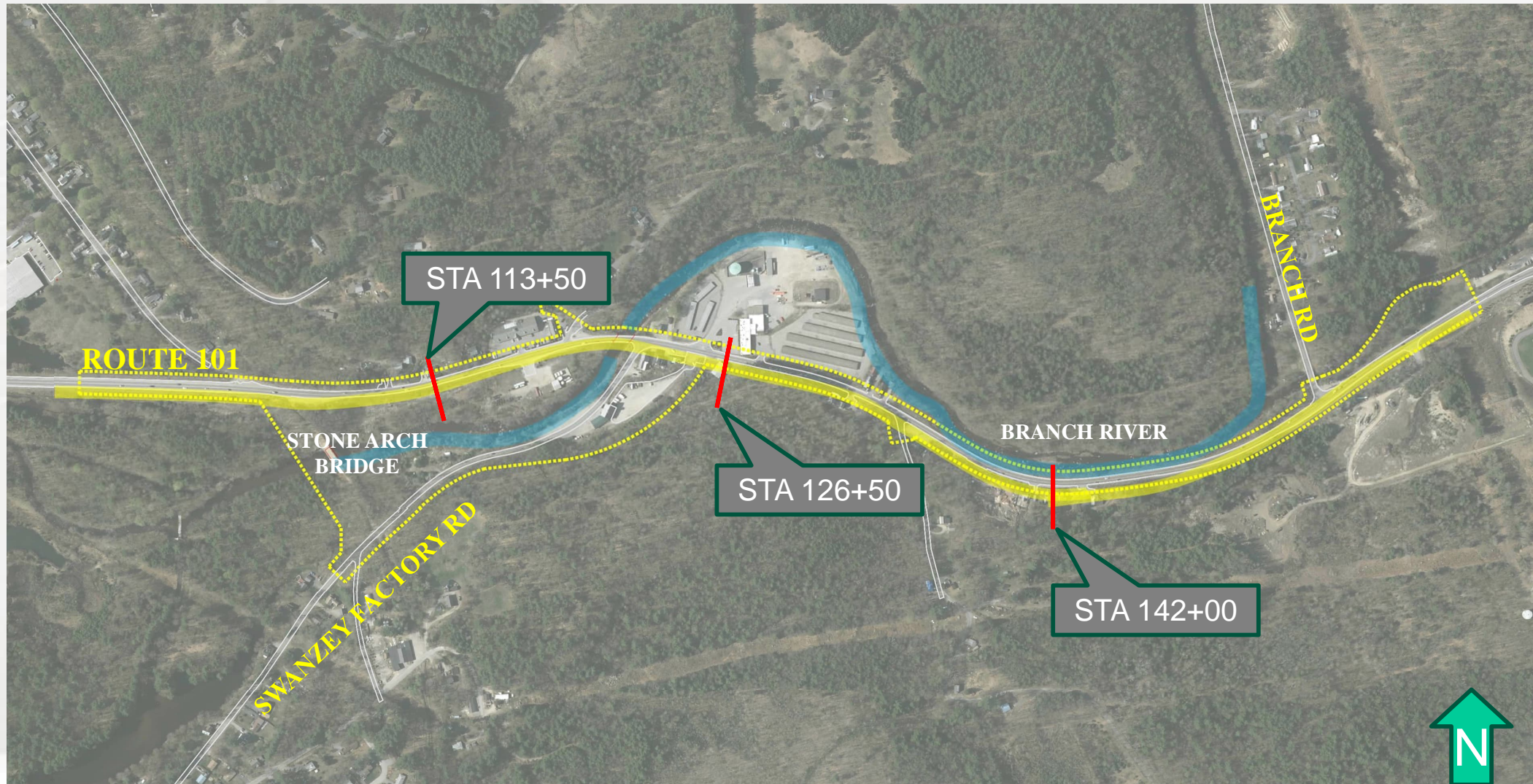


Existing: ~28-feet (shoulders vary)

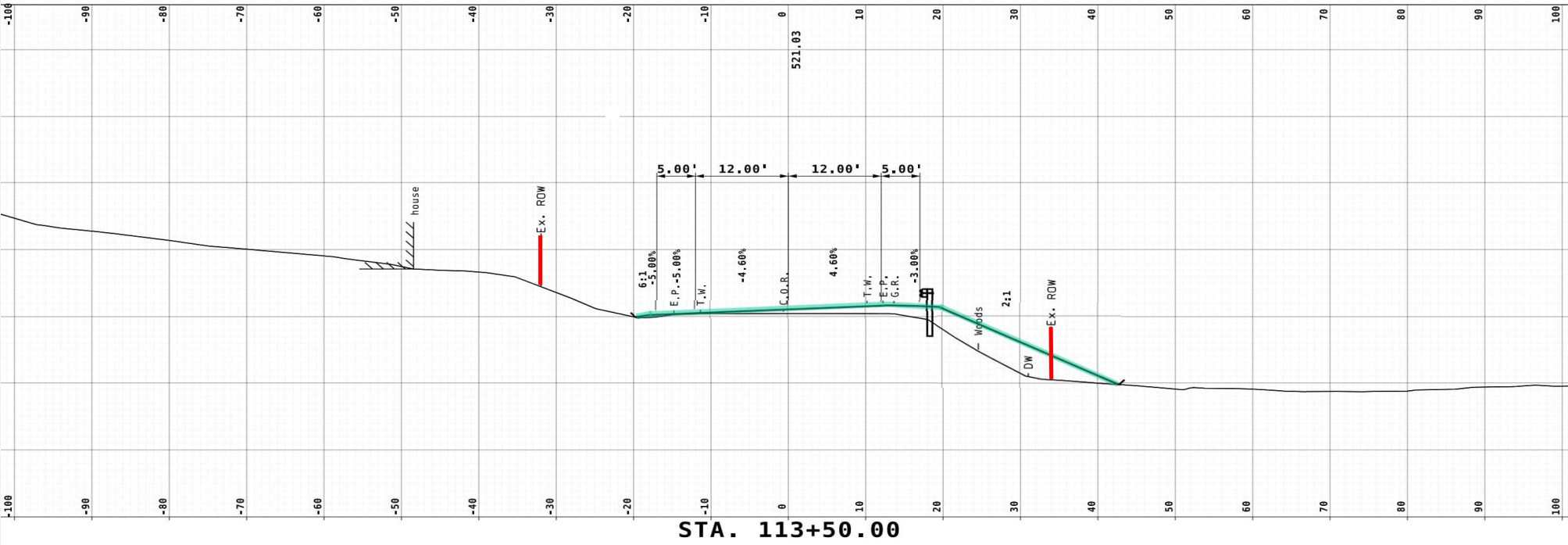


Proposed: 34-feet

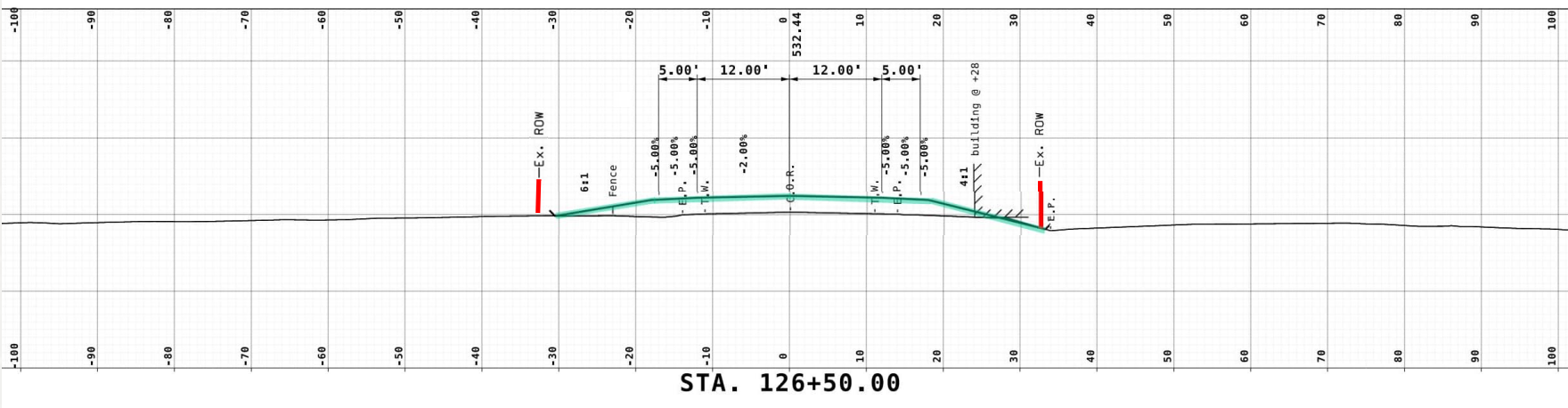
# Route 101 Cross Sections



# Draft Route 101 Cross Section



# Draft Route 101 Cross Section



# Draft Route 101 Cross Section

