



Island View Road

Evaluation of Conditions for Cyclists & Pedestrians

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In Attendance

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Overview

On December 16, 2004 the above group reviewed the conditions of the Mohawk-Hudson Bike-Hike Trail along Island View Road. At this location, the trail diverts from its primary off-road right of way along a former railroad bed onto a shared road facility along Island View and Dunsbach Ferry Roads.

Though the primary focus of the group was on the conditions for bicyclists and pedestrians along the Island View Road portion of the shared road, it also considered issues of the larger corridor. The conditions evaluation was carried out due to the opportunity to make some improvements as part of a scheduled road surface rehabilitation by the Colonie Town Highway Department and safety concerns raised at Mohawk River Community Partners of Colonie, Inc. meetings.

An aerial view of the area and locations described in this report are depicted in Figure 1, on the following page. The off-road portion of the Mohawk-Hudson trail is indicated in Figure 1 by a solid green line. The on-road portion of the trail is indicated in Figure 1 by a dotted yellow line. Key locations and features described in the report are labeled A through F. Additional map figures and photo images referenced in this report can be found on pages 7 and 8.

Recommendations In Brief

Short Term

1. Repave Island View Road to a uniform minimum width of 24 feet
2. Stripe fog lines at 9 feet from centerline to define 3-foot shoulders*
3. Move guide rail away from concrete bridge retaining wall on north side of I-87 underpass and create 5-foot wide crushed stone pedestrian path
4. Create 5-foot wide crushed stone pedestrian path between bridge piers and bridge abutment on south side of I-87 underpass (maintaining function of drainage grate)
5. Add 3 'Shared Road' signs at suggested locations indicated in Figure 3

Medium Term

6. Explore acquiring easements to improve junction of off-road trail with Island View Road as well as take trail route off undesirable Dunsbach Ferry Road segment

Long Term

7. Explore building a bicycle/pedestrian bridge over I-87 to make trail route fully off-road

*A standard right-of-way would permit 10' lanes and 4' shoulders, but narrower 9' lanes should help calm & slow traffic. Though 4' is the standard shoulder width for a bike lane, 3' is suggested because of right-of-way and topography constraints. Since 3' shoulders are non-standard (but still a significant improvement) they should not receive special bicycle lane or trail-related pavement markings other than a simple white fog line to define the space.

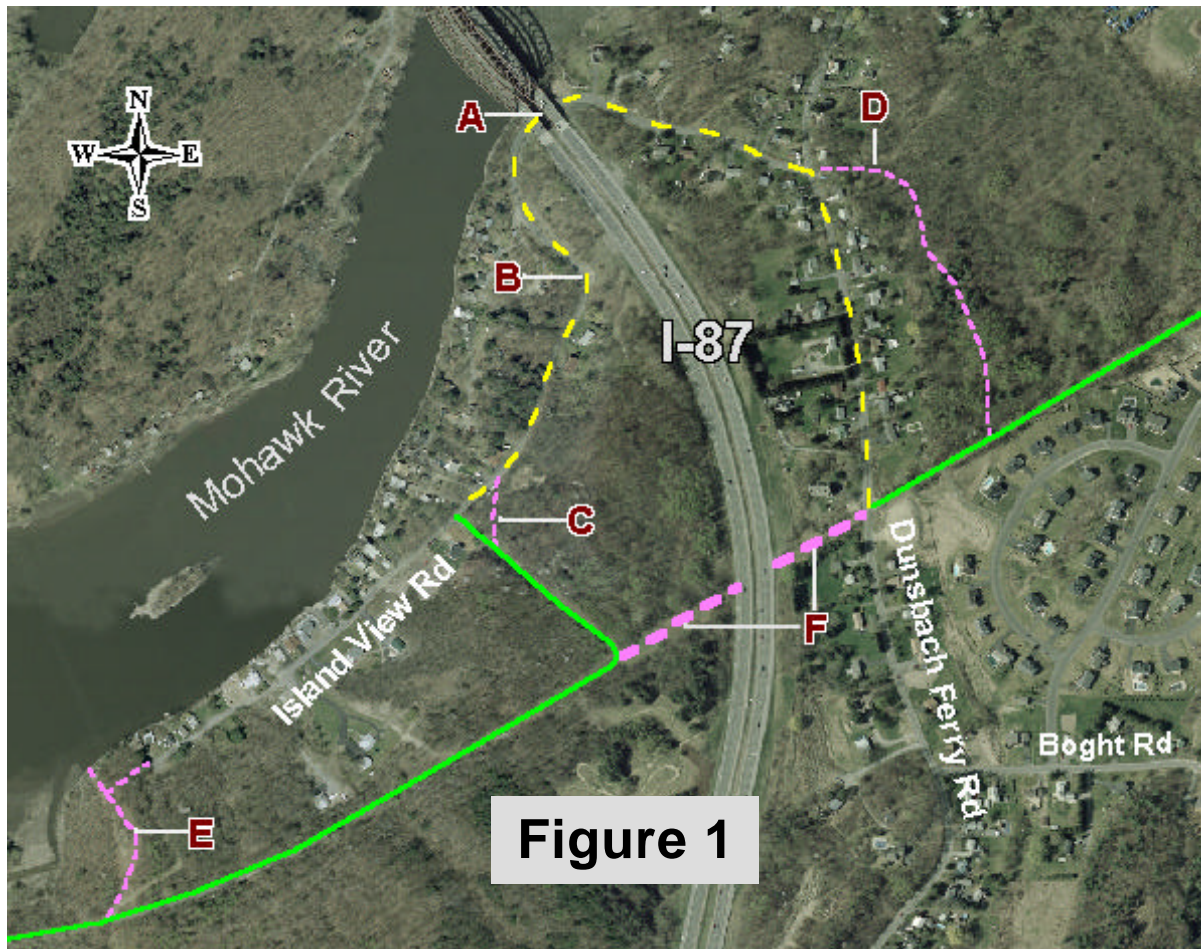


Figure 1

Site Description / Existing Conditions

Island View Road is a dead-end local road .76 miles in length that serves local traffic generated by approximately 41 residences and 35 driveways as well as from through-users of the town managed Mohawk-Hudson Trail. The trail route shares the easternmost .51 miles of Island View Road. The road passes under I-87 on the south side of the Twin Bridges adjacent to the Mohawk River (location A in Figure 1). The posted speed limit along the road is 30 mph, which is the minimum allowable under the Town's traffic ordinances.

The paved surface of the roadway ranges from 20 feet at its narrowest to 24 feet at its widest. The road has three tight turns, each of nearly ninety-degrees, along the portion of the road shared by the trail route. Two of these curves are located on the east and west approaches to the I-87 underpass. The third curve is the sharpest and is located approximately 600 feet south and west of the I-87 underpass (location B in Figure 1). Each of these curves pose visibility issues for the cyclist and pedestrian, though the east approach to the underpass appears the least problematic.

Observations & Site Data

The group observed that the existing roadway of Island View Road was generally adequate in serving through-users of the trail, though some improvements could be made for their further safety and comfort. The group believes that none of its recommendations would necessitate the purchase of additional right of way along Island View Road. The group agreed that the primary obstacle for through-users of the pathway was posed by the steep grade and less than ideal bicycle/pedestrian facilities along Dunsbach Ferry Road, which has higher traffic speeds and volumes.

Group members did observe that many vehicles appeared to be driving near or in excess of the posted speed limit along Island View Road as well as through the three curves. These vehicles typically moved to the center of the road in order to negotiate the turns without braking. This action was perceived to be a particular hazard to cyclists and pedestrians should two vehicles meet while performing the same maneuver and swerve suddenly back to their side of the road at one of these blind curve locations.

Sight distance along the westbound lane is restricted by a soil and vegetation-covered slope, which overlies a limestone and shale rock outcrop adjacent to the roadway edge at location B in Figure 1 and seen on the right in Image 1 and on the left in Image 2. This condition may not allow a motorist sufficient time to avoid a cyclist or pedestrian moving along the narrow shoulder area.

The group also observed that the drainage ditch adjacent to the westbound travel lane at location B and extending northward halfway toward location A was in need of repair. The drainage failure had resulted in standing water / ice next to edge of the pavement.

The group observed several trail related signs along the on-road portion of the route. These included 'Trail Route', 'Trail Crossing', and 'Shared Road' signs. The location of these signs along the route is indicated in Figure 3. The group further observed that Island View Road currently has no pavement markings.

Under classification criteria in Chapter 2 of the NYS Highway Design Manual, Island View Road primarily has characteristics that would identify it as a local rural road. It only differs from the local rural road classification with a driveway density of 28/km. This value exceeds the threshold for a local urban collector of 15 driveways/km. Otherwise, the road is a dead-end, serves primarily residential development, does not have curbs, has drainage swales and future additional development opportunities appear limited.

The minimum lane width allowable under NYS Highway Design Manual for local rural roads is 2.7 meters or 9 feet while that for local urban streets is 3.0 meters or 10 feet (with exceptions of 2.7 meters allowed where constraints exist). Given the roadway characteristics described in the paragraph above, it would seem appropriate to use the local rural road standard of 2.7 meter or 9 foot minimum travel lane width. It is suggested that the community seek concurrence on this evaluation by the appropriate Town committees and the Capital District Transportation Committee (CDTC).

While there was adequate space for cyclists to share the paved road surface through the underpass at location A, the group felt that pedestrians would likely experience a ‘hemmed in’ feeling due to the concrete bridge piers located at the edges of the road. The northern pavement edge is approximately 7 feet from the concrete retaining wall while the southern pavement edge is approximately 3 feet from the concrete bridge piers. The narrowest width between bridge piers is 31.5 feet.

According to NYS Highway Design Manual Criteria & Guidance for Bridge Projects on Low Volume Roads, the I-87 underpass on Island View Road would likely be classified as Residential Access – Operational Type B. This standard reinforces the minimum road dimensions of a 9-foot travel lane and 2-foot shoulder. This standard also encourages examining the use of 4-foot shoulders where high bicycle and pedestrian traffic is anticipated.

A guide rail is located on the north side of the underpass apparently to both prevent vehicles from flipping over a concrete retaining wall and to protect the supports for the twin bridges. The group agreed that neither CDTC nor NYS DOT would support a wholesale removal of this safety feature in any redesign. There is a small gap ranging from 1.3 feet to 2 feet between this guide rail and the concrete retaining wall through the underpass. There was an open corridor of 11 feet in width along the south side of the underpass between the bridge piers and the I-87 bridge abutment which serves as a drainage area for the underpass roadway and feeds into a large (approximately 3x3 feet) drainage grate at the I-87 centerline.

Potential Short-Term Trail Route Improvements

Basic:

- 1) Recondition the road surface and extend the paved width from the current centerline to a uniform minimum width of 24 feet
- 2) Paint fog lines on both sides of the road 9 feet from the centerline to create uniform 3-foot shoulders
- 3) Extend compacted sub base a further 2 feet between the paved roadway edge and any drainage swales (as practical using existing right of way)
- 4) Remove brush and cut away loose soil and rock from rock outcrop along westbound travel lane at location B in Figure 1 and left side of Image 1 and right side of Image 2 to improve visibility for all users
- 5) Recondition drainage swale at location B and extending to the first driveway to the north and repair the culvert if existing or add a new culvert under driveway apron
- 6) Remove trees and brush at inside apex of turn on west approach to I-87 underpass (right side of Image 4) to improve visibility around the turn
- 7) Place ‘Shared Roadway’ signs near the sharp curves along Island View Road as indicated by the bright purple triangles in Figure 3 to further alert drivers to the likely presence of cyclists and pedestrians in those locations

Enhanced:

- 8) Consider treating newly defined shoulders with a colored and texturized surface such as that along Route 787 in Cohoes if local budget and aesthetic considerations support it
- 9) Consider cutting into outcrop (on north side of road at location B in Figure 1 and on left in Image 1 and on right in Image 2) as practical with backhoe jackhammer tool to obtain a cut of approximately 3 to 5 foot depth from base of outcrop at the inside apex of the

curve and tapering out to either side for approximately 40 to 60 feet as depicted by shaded area in Figure 2

- 10) Consider using subsurface drainage structures adjacent to eastbound travel lane at west approach to underpass (on right in Image 3) to allow more room for wide shoulder if unable to move drainage swale further from existing centerline
- 11) Consider moving guide rail on north side of roadway in underpass (on left of Image 3) a uniform 5 feet from the concrete retaining wall and surface with crushed stone as pedestrian walkway and plan a 2 foot minimum pedestrian access opening 'gap' in same guide rail approximately 10 to 20 feet beyond both east and west edges of I-87 bridge...there is sufficient room for this treatment plus guide rail on either side of 3-foot shoulders and 9-foot travel lanes overlapping the paved edge of roadway (see Figure 4)
- 12) Consider using open drainage area on south side of underpass between bridge piers and abutment (on right of Image 3) as pedestrian access corridor with surface of crushed stone, using design and possibly subsurface drainage structures to maintain area and grate drainage function (see Figure 4)...It not likely necessary to add a guide rail on the opposite side of the roadway since under the NYS Highway Design Manual the underpass is equivalent to a tunnel/bridge grade-separation structure and the NYS Bridge Manual standards indicate that on this type of road with low ADT, the paved shoulder width constitutes sufficient horizontal clearance from fixed objects
- 13) Consider applying to CDTC for supplemental project funds (Spot Improvement funding e.g.) to cover added costs of safety improvements for this regionally important bicycle/pedestrian facility

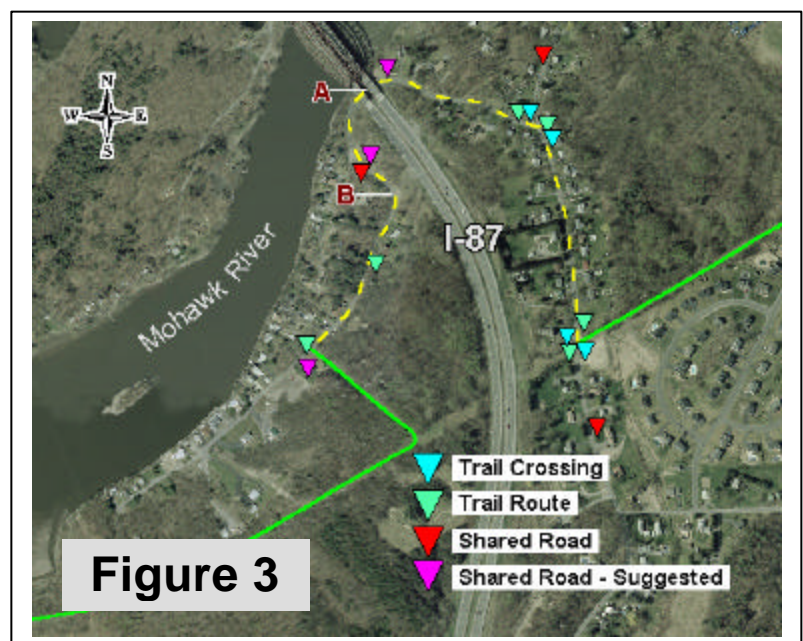
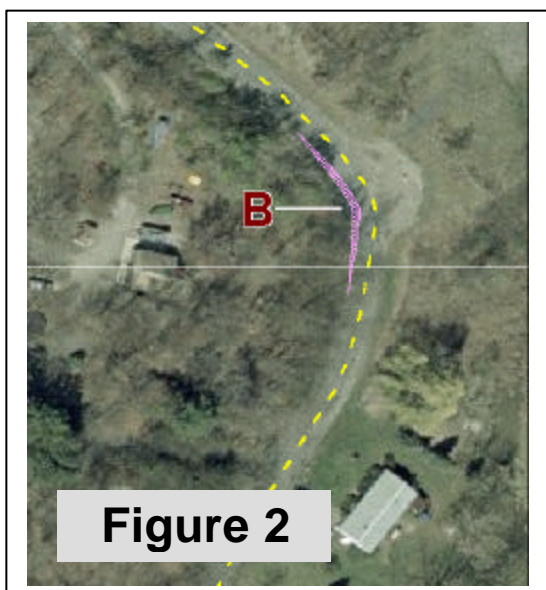
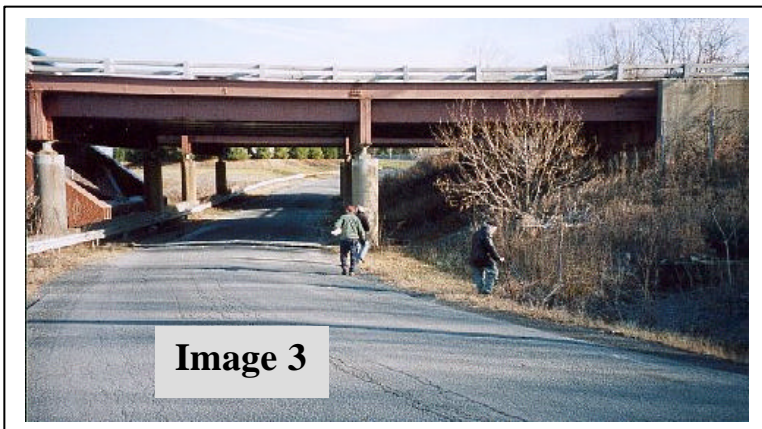
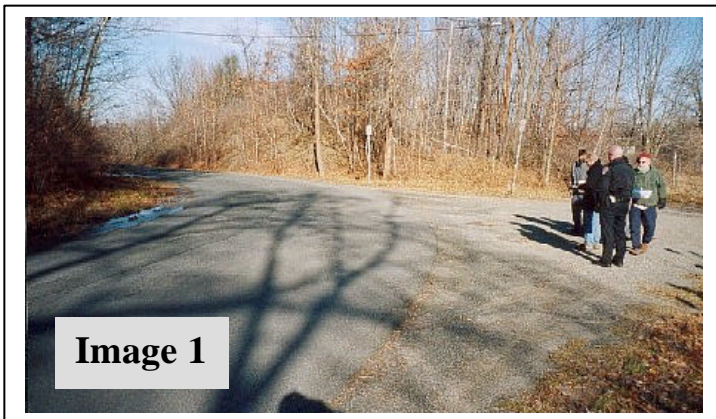
Potential Medium-Term Trail Route Improvements

- 1) Obtain easement on property adjacent to eastern edge of off-road pathway ramp descending to Island View Road indicated by the dotted line at location C in Figure 1 (location of re-route is approximate) in order to bypass unneeded elevation loss by contouring around slope to intersect roadway at a point further to the east where it is level with a point roughly 1/3 of the way up the existing slope (easement location would need to work around wetlands observed by group as close to road at this location)
- 2) Obtain easement for trail as part of proposed new development indicated by dotted line at location D in Figure 1 (location of easement is approximate) in order to bypass least desirable on-road trail segment along Dunsbach Ferry Road and connect new development to trail corridor
- 3) Obtain easement for trail to allow pedestrian access from trail and Island View Neighborhood to viewpoint of Mohawk River at utility line corridor as indicated by dotted line at location E in Figure 1
- 4) Consider identifying each of these easements on Town's Official Map in order to allow use of eminent domain powers for parkland acquisition to obtain these specific corridors rather than general promises of open space when subject properties are proposed for development or a change of use
- 5) Consider using volunteer effort to formalize a rough access trail to summit of rock outcrop along Island View Road seen on the right side of Image 4 for public enjoyment of viewpoint provided it is located within existing Town right-of-way

Long-Term Trail Improvement Recommendations

Explore construction of a grade-separated bicycle/pedestrian crossing of I-87 – preferably a bridge for ease of construction and trail aesthetics – to provide a direct, safe, inviting, clear, and continuous path along the regional Mohawk-Hudson Bike-Hike Trail:

- 1) Use the currently unused but town-owned portion of railroad right-of-way indicated by dashed lines and labeled F in Figure 1 for compacted earth approach ramps
- 2) The rail corridor segment west of I-87 is approximately 477 feet (145.4 m) long and the segment east of I-87 is approximately 355 feet (108.3 m) long; the rail corridor right of way is approximately 66 feet (one chain) wide; both segments of rail corridor are vertically level with or elevated with respect to the I-87 roadway
- 3) Current pedestrian bridge standards set the maximum sustained ramp grade at 5% (1:20 / 2.862 degrees) for ADA compliance; state highway bridge standards include a vertical clearance above I-87 of 4.9 m or 16 feet, and a horizontal setback from the outer travel lanes of I-87 of at least 4.6 m or 15 feet
- 4) To attain the required vertical clearance height of 16 feet using a 5% slope or less would require an approach ramp approximately 320 feet in length; the ramp would have sloped ‘wing’ sides and a level area along the top 20 feet in width (12’ trail surface + 2’ shy distance from each side railing + 2’ behind each side rail)
- 5) If the slope of the ramps’ sides is 50% (1:2) then the ramp would be about 83 feet wide at the abutment, which would be wider than the estimated corridor width of 66 feet (one chain); and the volume of each ramp would be roughly 104,789 ft³ / 3,881 yd³ / 2,967 m³
- 6) If the slope of the ramps’ sides is the steeper value of 75% (1:1.33) then the ramp would be about 63 feet wide at the abutment, fitting within the estimated corridor width of 66 feet; and the volume of each ramp would be roughly 87,433 ft³ / 3,238 yd³ / 2,476 m³
- 7) It is likely that drainage culverts or other structures would be required to pass through the base of each ramp to accommodate existing drainage swales along I-87, that were indicated by the presence of phragmites (common reed) clusters
- 8) At the required horizontal clearance from the I-87 travel lane, the clear span of the bridge would be approximately 151 feet (46.1 m)...though with DOT approval it may be possible to place a pier in the center median of I-87 and halve the clear span length if that would lower costs and decrease the amount of bridge flex / ‘bounce’ felt by users
- 9) It is likely that the bridge would need to be a fully enclosed (wire screening) design to avoid danger of thrown objects to vehicles on the highway below, and have sufficient load capacity for a snow removal vehicle (sidewalk snowblower e.g.), though loads for larger vehicles would not be required since road access at either end would be sufficient for any maintenance or emergency needs
- 10) Costs for a bridge structure of this type would range roughly from \$125,000 to \$300,000
- 11) Railings will be a likely design cost for at least the upper two-thirds of the approach ramps
- 12) Current bridge width standards are 14 feet (4.3 m) or 15 feet (4.6 m)
- 13) Because the Mohawk-Hudson Bike Hike Trail is an important regional bike/ped route, CDTC is likely to rank a bridge link project favorably inclusion in the TIP or as a Transportation Enhancements Project
- 14) NYS DOT may be able to offer financial assistance to bridge construction if it was found to be useful as a gantry for placement of overhead signs for I-87 traffic



Island View Road

Proposed Improvements

Section View - Location A, Figure 1

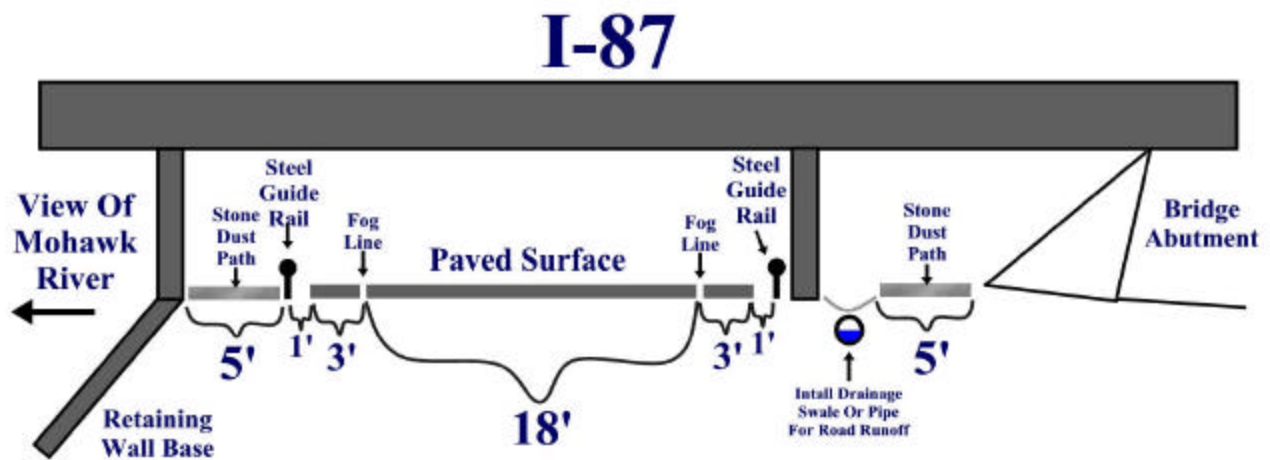


Figure 4

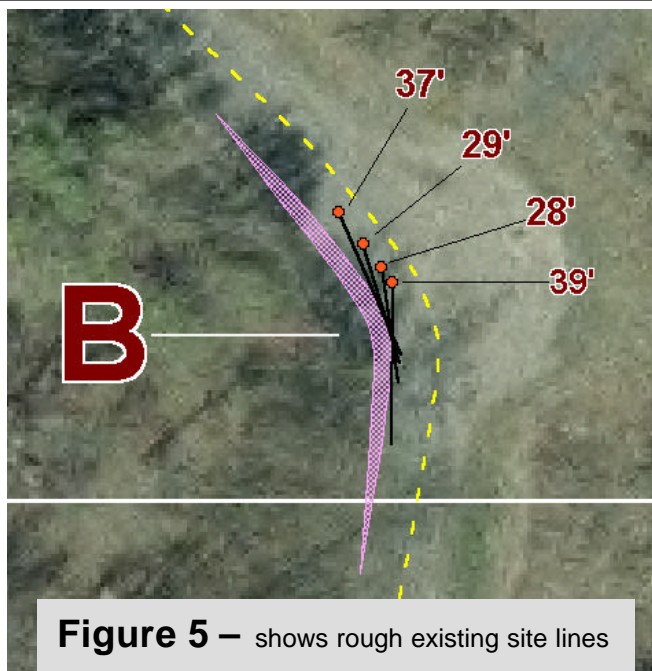


Figure 5 – shows rough existing site lines

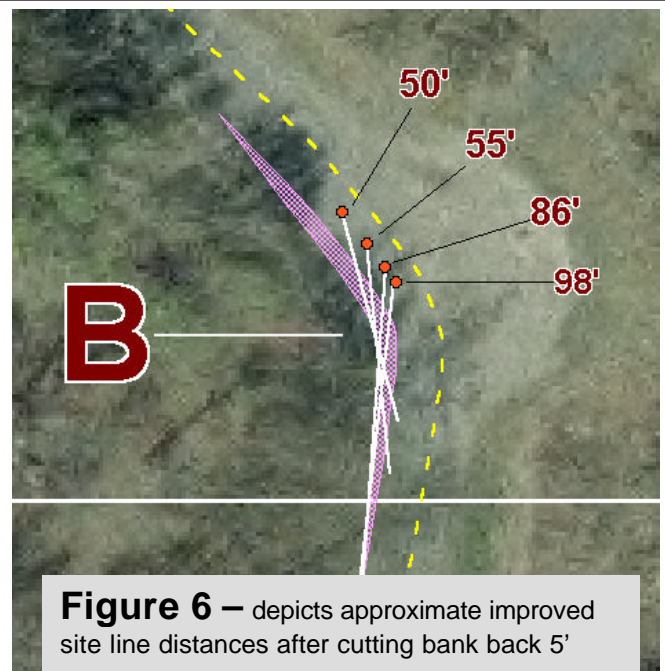


Figure 6 – depicts approximate improved site line distances after cutting bank back 5'