Main Hill Road Repair Options

(from top of hill to Y at bottom of hill)

Introduction

The main hill road is considered to be the section of road leading in from the highway beginning where the road starts downhill and extending to the Y at the base of the hill where the blacktop ends and it splits into north and south lanes. This section is approximately 400 feet long and is steep with an approximate slope of 18%. It also slopes off to the south approaching 1 ½ to 1 slopes at the middle of the section. This section of road has deteriorated significantly in recent years.

Towards the top of the hill, there is a long section of road that has subsided 4 to 6" on the south half of the roadway. Large longitudinal cracks continue on downhill indicating additional subsidence is underway. In the middle of the section, as much as a 2 foot width on the south edge has separated from the main road and dropped about 4" leaving an 8 foot width. At the bottom, there is a large pothole that is difficult to traverse without 4 wheel drive.

A drainage ditch along the north side of the road needs to be cleaned out. Much water runs down the road and likely is getting under the asphalt through the cracks which make matters worse.

Several road repair/renovation options have been studied. They fall into three broad categories: immediate repair, major repair, and replacement. None of the options were taken to permit or bid level documents. Cost estimates were obtained from two contractors for Alternate 1A and Alternate 2. Other costs were estimated with help from property owners.

Major repair and replacement options will likely require county permits. County standards for subdivisions require a wide easement and a wide road that cannot be accommodated in our development. These are negotiable with the county.

Repair Options

1. Immediate Repair

Alternate 1A

Spend the minimum amount to repair the big pothole at the bottom, repair the top portion of the road where it is subsiding (about 84 feet). Some repair at middle where the road has sloughed off. Clean drainage along north. Replace culvert under Ceryance driveway.

Pros –

- Quick least cost solution
- Buys time to plan a permanent fix and collect money.
- About $7,500 is already collected
- Will not require permitting

Cons –

- Short term solution
- Does not widen road
- No underground utilities

Approximate Cost - $8,000 to $15,000

Alternate 1B

Remove all asphalt, recompact road, add ballast at middle where road is sloughing away, replace culvert crossing road at upper north lane, then lay down gravel surfacing. Clean drainage along north. Replace culvert under Ceryance driveway. Possibly replace culvert at upper lane

Pros –

- Quick lower cost solution
- Buys time to plan a permanent fix and collect money
- Gravel surfacing will lower cost of future permanent fix
- Allows time for underground utilities to be added prior to asphalt
- About $7,500 is already collected
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Cons –

- Short term solution
- Does not widen road
- No underground utilities
- Road is very steep and gravel surfacing will be difficult to traverse, especially on wet days
- Regular maintenance will be required
- May require permitting

Approximate Cost - $15,000 to $20,000 excluding engineering and permitting if required

2. Major Repair

Reconstruct and then re-asphalt the road bed per geotechnical recommendations made by Glen Mann (see letter report). Clean drainage along north. Replace culvert under Ceryance driveway. Possibly replace culvert at upper lane

Pros –

- Longer term solution
- Utilities could be placed during the project
- No retaining walls required

Cons –

- Does not widen road
- Not a permanent fix to sloughing of slope
- May not satisfy county requirements for road width for future developments
- Will require permitting

Approximate Cost - $80,000 to $100,000 excluding engineering and permitting.

3. Replacement

Alternate A

Build a retaining wall down slope (to the south) of the existing road and move the road to the south. Put in a good drainage swale along the north side of the road, replace the culvert at the upper road and replace culvert under Ceryance driveway. Add a turn out at the upper road. Provide 4 foot shoulders on each side and a 12' wide asphalt road bed (or as required by county). Preliminary Drawings were prepared. Clean drainage along north. Replace culvert under Ceryance driveway. Replace culvert at upper lane

Pros –

- Long term solution
- Utilities could be placed during the project
- Widens the road to meet county requirements
- Puts in drainage improvements

Cons –

Highest Cost Alternative
Will require geotechnical study, engineering, and permitting

Approximate Cost - $150,000 to $175,000 excluding engineering and permitting.

Alternate 3B

Move the road north away from the slope. Cut embankment and add retaining wall below the upper lane on the north side. Re-grade the area above the upper lane. Put in a good drainage swale along the north side of the road and replace the culvert at the upper road. Provide 2 foot shoulders on each side and a 12' wide asphalt road bed.

Pros –

- Long term solution
- Utilities could be placed during the project
- Possibly widens the road to meet county requirements
- Puts in drainage improvements

Cons –

- 2nd Highest Cost Alternative
- Will require geotechnical study, engineering, and permitting
- Below the upper road, several large evergreens will be lost
- The house at the corner of the Y is quite close to the easement line, and all the trees will be lost that shield the house from the road

- Where the road is narrowest and the slope steepest (where the major sloughing has occurred), the road is already pretty far north. It is 9 feet to the easement line and at most we can gain probably 7 feet. This could work if the county is satisfied with a 12 foot wide road. Some remediation of the south side of the road may still be required

Approximate Cost - $100,000 to $150,000 excluding engineering and permitting.