

# Safety Issues

- Creating New Dangerous Intersection
  - Hazardous slopes in access roads
  - High & Steep retaining walls
  - Poor Fire Equipment access
- 
- Looks good on flat paper, not so much in reality

# Steep Hill to Entrance

30ft drop in 500 ft = 6% grade, within 180' of entrance location  
(7% is max highway standard)





# Creating Dangerous Intersection

New road, bottom of hill, on 3 tight curves. Visibility about 120 ft  
 $30\text{mph} = 2.7$  seconds to see and react





Person on westbound side of road pointing at new intersection location  
~180' away looking east, cannot see entrance





# View from new intersection into west side curves



# Entrance Road Hazards

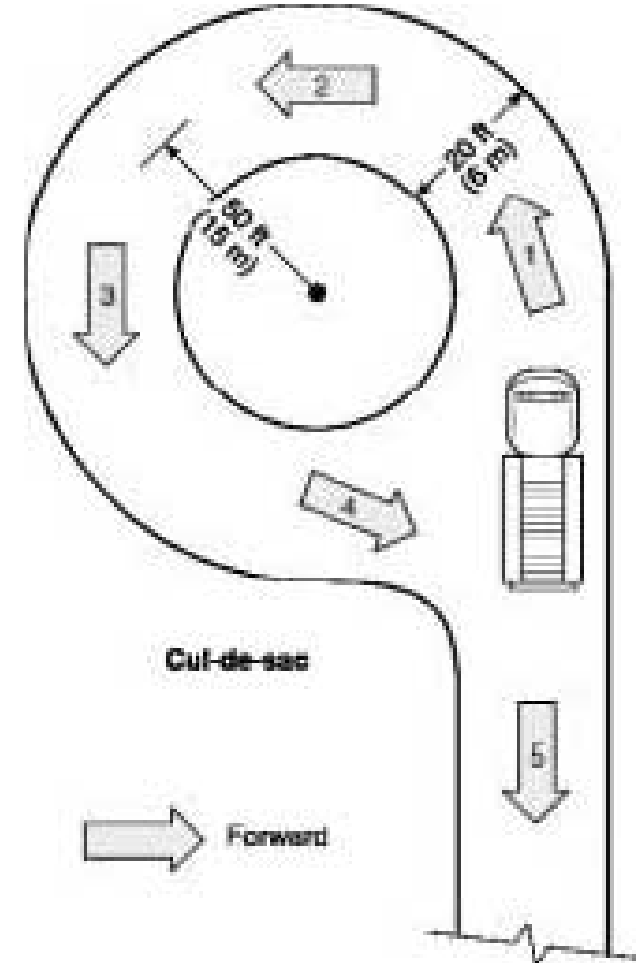
- Drop from buildings to Silvermine road is 182'  
→ 164' ~200' = 9% grade
- Steepest grade near intersection
- Really easy to overshoot
  - into --
- Blind curves on left
- Steep hill on right

# Additional Safety Issues

- Slope of primary driveway is 9%
- Tight radius turns to get into block buildings
- Issues with getting fire equipment out.

# Required Fire Turnarounds

- Both NFPA 1 and the IFC require turnaround space for dead-ends that are more than 150 feet long. [...] NFPA 1141 requires a 120-foot turnaround at the end of dead-ends more than 300 feet long.
- For Cul-De-Sac, 50 ft radius  
20 ft wide road, = 120 ft Wide





# Entrance Road Hazards

- Total rise from 164' - 206' = 42' in 800' 5.5% overall
- No space for fire truck to turn around
- Salt
- Runoff Into Wetland & Priority Habitat
- Runoff into wells



# Emergency Access Road

- No secondary access would be Reckless
  - NFPA 1141 requires two access routes for buildings over two stories or 30 feet in height.
  - Multiple fire lanes should be as far removed from one another as practicable.
- Plans' access path depends on “easement”

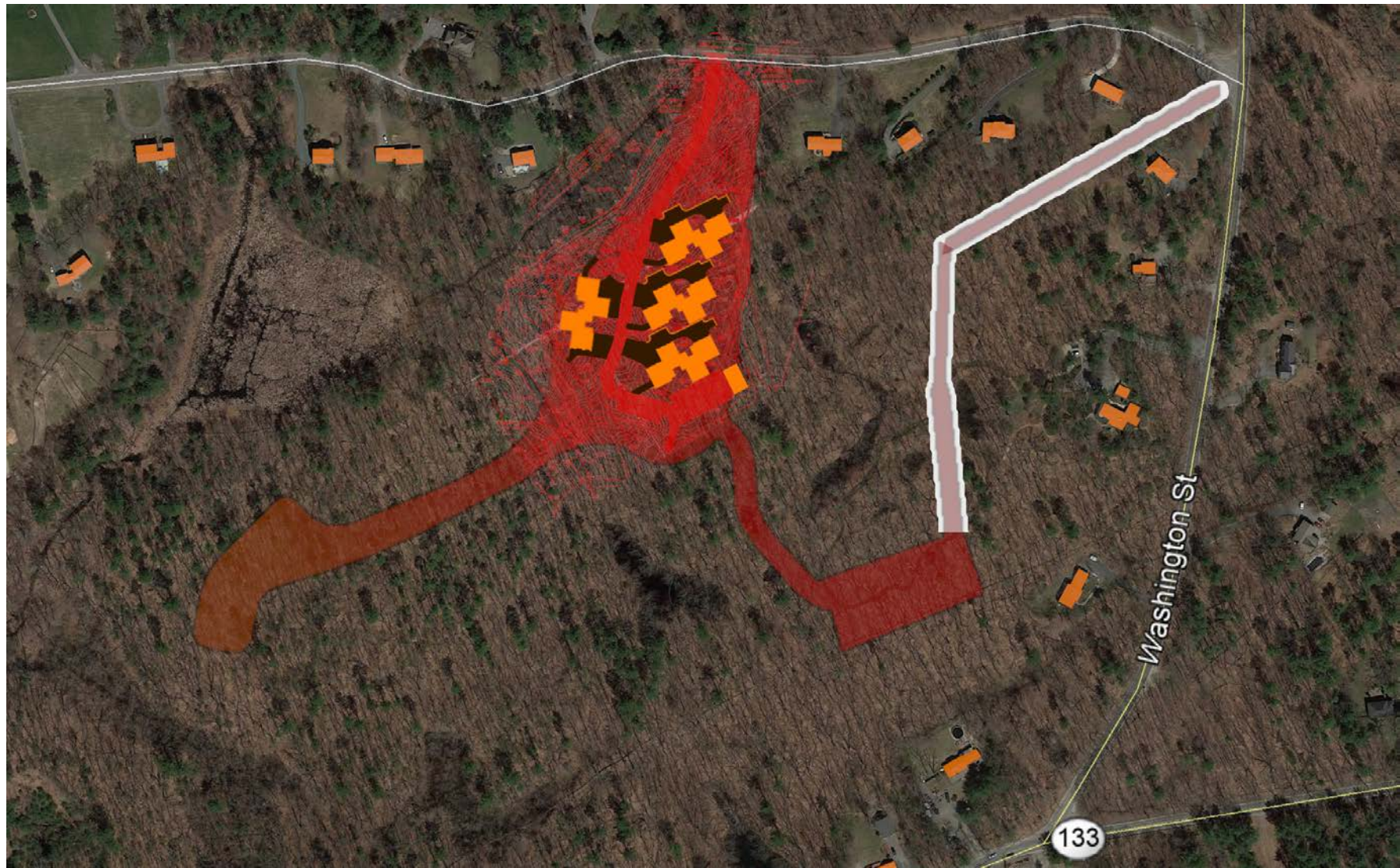


# No Viable Emergency Access Road

## Major Issues:

- Overlaps Driveway & 3-way intersection
- Insufficient width and radius for Fire Equipment
- Slope far too steep for Fire Equipment
- MA Wildlife & Vernal Pools

## Planned Access Road Location – NE Corner Area





# Emergency “easement” intersects existing driveway & 3-way intersection (rather a mess)





# Insufficient Width & Radius of “Easement”

- Turn Radius: NFPA 1141 requires:
- **minimum inside turn radius of 25 feet** and a minimum outside radius for turns of 50 feet.
- The “easement” has a **turn radius of ZERO** – it is a sharp corner.
- Ladder Truck cannot navigate this turn.

# Insufficient Width & Radius of “Easement”

- Easement gives no rights to
  - drive over edges,
  - cut adjacent trees
  - pile snow beyond easement line
- 20' width with snowbanks inside -fuggetaboutit
- Plain (& plane) geometry failure

# Slope & Terrain

- NFPA 1 sets a maximum grade (slope) of 5 percent for fire lanes.
- NFPA 1141 specifies a 10 percent maximum
- Some manufacturers have lower limits for specific apparatus.
- The road must be suitable and ready for the equipment.



“Easement” STEEP slope w/ large gully -- How Steep?





How Steep?

**18.9%** grade

(186' – 221' elev in 185')

Mt Washington Auto Road = **12%** grade

Fire Lane Specs = **5% to 10%** grade, less for some trucks.

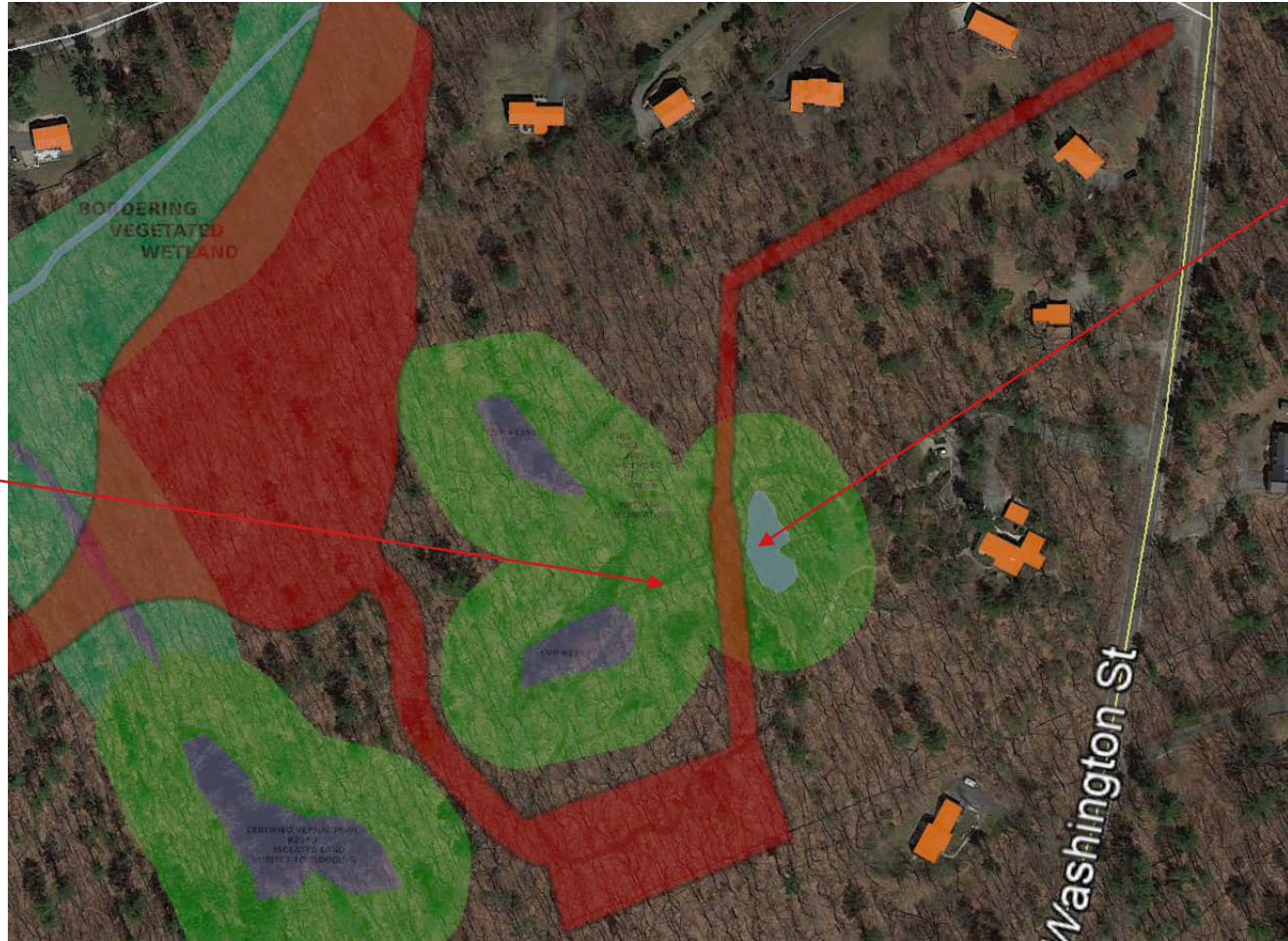


# Access Route

- Regulations, truck weights (75,000 Lbs) require solid access road
- MA Wildlife has NOT considered any access road plan
- MW so far - no emergency access included in plan
- **NO WETLAND DELINEATION** done for 5 acre parcel related to the emergency access road



Yet, here is the planned route  
~90' from CVP# 1397 and ~30' from CVP1396





# Emergency Access Summary

- Insufficient width & radius for Fire Equipment
- Overlaps Driveway impairing maint & access
- Slope far too steep for Fire Equipment
- Incompatible w/ MA Wildlife & Vernal Pools
- **The map is not the territory**
- **Plan is Incompatible w/ the reality of the terrain.**