

B. Earth Products Usage

In 1989, the state revised RSA 674:2, Master Plan Purpose and Description, to require that each municipal master plan identify known sources of sand and gravel to meet future needs. Some of Raymond’s most probable sources are shown on Map 16. Currently, there are a total of 6 locations where excavation permits have been issued for sand and gravel operations in the Town of Raymond. Table 71 lists those sites where the permits exist. The locations of these sites are shown as “mining” sites on the Existing Land Use Map and the Primary Sand and Gravel Deposits Map 16.

**Table 71
Excavation Permits
Town of Raymond, NH**

Map	Lot	Grantee	Land Area in Acres	Status
10	3	Aggregate Industries	271.5	Active
10	4	Aggregate Industries	40	Active
22	15	Waldoborough, LLC	2.5	Active
22	47	Hard Rock Development, LLC	12.84	Active
37	10	Raymond Sand and Gravel, LLC	6.88	Active
38	34	Candia South Branch Brook, LLC	18.38	Active
Total			352.1 Acres	

Source: Town of Raymond

Sand and gravel suitable for commercial use with minimal processing are assessed on the following properties: gradation of grain sizes, thickness of the deposit, and content of rock fragments. A soil rated by the Natural Resources Conservation District (NRCS) as a “probable” source of sand and/or gravel has a layer of clean sand or gravel or a layer of sand or gravel that is no more than 12 percent silty fines. The layer must be at least three feet deep and contain no more than 50 percent by weight of large stones. Each soil is evaluated to a depth of five or six feet. Soils not meeting these standards are rated as improbable sources. Coarse fragments of soft bedrock, such as shale or siltstone, are not considered useful.



Town Salt Shed

The NRCS has identified approximately 847 acres in the Town of Raymond as probable sources of sand and approximately 2,531 acres as probable sand and gravel sources. Because many of these sites are located close to river courses and near or above stratified drift aquifers, digging to the water table and careless disposal of oil, fuel, filters and containers should be forbidden, and careful, thoughtful site restoration practices should be implemented.

Suggested below are recommendations for improving the Town of Raymond's excavation approvals:

- 1 Determine the status of existing excavations with respect to statutory requirements of RSA 155-E.
- 2 Employ the erosion and sedimentation control provisions of the Town's subdivision regulations during sand and gravel excavation permit applications.
- 3 Continue to require reclamation plans of all new gravel permit applications and existing permits as applicable.
- 4 Evaluate the adequacy of current earth removal regulations and update and amend said regulations as needed.
- 5 Project where future excavations should or should not occur.
- 6 Produce an accurate estimate of the material remaining and the likely date of exhaustion of the non-renewable resources given the current rate of excavation.
- 7 Calculate the Town's future need for sand and gravel to maintain the infrastructure of the Town and determine how best to supply this need.
- 8 Limit excavation or require extra safeguards when in close proximity to water resources and environmentally sensitive areas.
- 9 Any excavation that takes place within Raymond's Groundwater Protection District, excavation equipment should use biodegradable fuels and fluids.

C. Topography

For planning and development purposes, topography is concerned mainly with the slope or steepness of the land and is expressed as a percentage representing the relationship of horizontal and vertical distance between two points, or the rise over the run. Steep slopes within the SNHPC region are considered to be areas having a slope of 15 percent or greater. In areas of steep slopes, the soil layer is thinner than normal, and absorption levels are reduced, allowing for a higher concentration of surface water runoff. As the slope of the land increases, the greater the damage from land degrading processes, such as erosion and flooding due to snow melt.

Another common danger relates to the inadequate development of these areas. If proper care is not taken when building in relation to the slope of the land, then costly environmental and also human consequences can result.

Much of Raymond is gently rolling land forming gradual ridges and lower wetland valleys. Elevations in the Town of Raymond range from a low of 151 ft. to a high of 625 ft at Dumpling Hill.⁷² Many areas with steep slopes, greater than 15 percent, are generally associated with hilly topography. Land areas with 25 percent or greater slope should generally be left as open space and not developed within the community.

These areas are suitable for such uses as conservation lands or watershed protection. Slopes of 15 to 25 percent are less threatening to development, however these areas are still steep enough where development should be carefully planned, and if possible, should not be developed. The most ideal development option is on slopes of less than 15 percent.

Generally, high density commercial and industrial activities should be limited to slopes of less than 10 percent. Truly ideal locations for any development are slopes of zero to three percent, however these areas are usually found near bodies of water, which present additional problems.



Lamprey River

Map 17 shows the geographic extent and location of steep slopes (greater than 15 percent) within the Town of Raymond. This map was originally created as part of the SNHPC's Regional Comprehensive Plan, adopted in November 2006.

⁷² Elevation data is based upon a USGS DEM GIS Layer for the Town of Raymond

