Pollution, as defined in the dictionary, is to make foul, unclean or dirty. Pollution also is the contamination of substances so that they are unfit for an intended use. Recently the public has become more aware of the seriousness of the problem of pollution. Much of the public has a greater concern about our environment and they have been implementing methods to control and to prevent pollution. Today we are concerned with what we can do to limit or prevent pollution of the air and water during road construction. We recognize the fact that during the construction of a road a certain amount of pollution and siltation takes place, which leads many people to believe that highway builders are despilers of the land and contributors to water and air pollution.

Progress is being made in developing new programs and methods to keep air and water pollution to a minimum during highway construction. During the construction period all applicable laws pertaining to pollution should be complied with.

Dust generated by the constant use of construction equipment should be controlled, as should exhaust emission from equipment engines. Dust may be controlled by the use of water sprinkling equipment or by using other dust palliatives. The problem of dust is usually the greatest on haul roads to and throughout the project. Dust and grit from cement and bituminous batching plants should also be controlled with plants being equipped with dust collectors.

The burning of debris and other refuse should be limited and may not be permitted in some areas. All laws governing the burning of debris and refuse should be adhered to.

Any construction work taking place in waterways shall be done using all necessary precautions. No clearing of trees along stream banks is to be done except that which is entirely necessary for the construction of the project. The disturbing of any vegetation along these stream banks also should be kept to a minimum. Equipment should not operate in waterways, muddying the water, unless it is absolutely necessary for the construction of the structure or channel change. Soil removed from the channel or from the roadway should not be placed in any stream or other area where it may be carried into the flow of other streams. Temporary bridges should be constructed over streams for the use of equipment hauling materials. This is preferable to fording streams and also preferable to placing a culvert pipe in the stream and backfilling with earth. As soon as construction in a waterway area has progressed to a point where it is feasible, all disturbed areas or newly constructed areas of earth should be seeded and protected, sodded, slope paved or rip-rapped to control soil erosion and the siltation of streams. The controlling of water pollution is not only limited to streams within the project itself, but also concerned with the prevention of water pollution as it affects streams adjacent to the project and streams completely separate from the project that may be affected by run-off.

Areas that would be subject to soil erosion, clearing and grubbing, roadway excavation and embankment construction, should be kept to a minimum. Areas outside of construction limits and on the right of way are to be selectively cleared as directed.

As construction progresses, those previously exposed surfaces or erodible areas will be seeded and protected as soon as practicable to prevent soil erosion. It may also be feasible to construct temporary dams or dikes to provide settlement basins which would permit eroded materials to collect. This would prevent runoff water, that may be carrying dirt and silt from the construction areas, from reaching streams and creeks. Also, all roadway ditches, surface ditches and interceptor ditches should be completed as soon as possible in the early stages of construction. These ditches are to be seeded, sodded or paved immediately.

The prevention of erosion to the completed roadway is also important. If the roadway shoulder, shoulder slopes, fill slopes, roadway ditches, drainage ditches, areas around drainage structures and cut slopes are permitted to erode, the result would have a very damaging effect on the finished roadway. The erosion of shoulder slopes endangers the stability of the paved shoulder, of the roadway itself, and presents a hazard to any vehicle leaving the surfaced area. These areas should be protected by establishing a surface layer of good turf. Also, shoulder slopes and fill slopes may be protected by constructing curbs along the paved shoulder, thus preventing water from flowing over the roadway and eroding the fill.

All roadway and drainage ditches should be completely protected by turf. If they are permitted to erode, the grades could easily be changed and other ditches and drainage structures could be blocked by the eroded material.

Cut slopes are important because eroding material from these areas affect the drainage flow, also because they are in full view of the traveling public. It is very important that a quick establishment of grass or turf be obtained on these cut slopes, and as mentioned previously, interceptor ditches at the top of cuts should be constructed early to prevent erosion.

Again, we know from past experience that unless much care is taken, road construction can cause great environmental pollution to air and water. Precautions should be taken at all times to prevent pollution. The measures mentioned, if adhered to, should keep soil erosion to a minimum and control or prevent sedimentation of our roadway drainage ditches, streams and waterways.