



Applegarth Road Drainage Improvement

Monroe, NJ

PROJECT NAME

Elimination of Drainage Ditches Along Applegarth Road from Prospect Plains to Rt. 33

KS Engineers, P.C.
Engineers . Surveyors
Construction Managers

PROJECT OWNER

County of Middlesex

New Jersey
New York
Pennsylvania

SERVICES PROVIDED

- Field Surveying - Topographic, Utilities, Boundary and R.O.W.
- Roadway Design
- Drainage System Design
- Geotechnical Engineering
- Traffic Engineering

CORPORATE
HEADQUARTERS:

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PROJECT DESCRIPTION

This project required the elimination of drainage ditches bordering the existing 3.8 mile roadway and design of roadway improvements. Field surveying was performed by **KS Engineers, P.C. (KSE)** survey crew to establish control base line with recoverable ties. The survey crew established benchmarks and elevations in the NJ Geodetic Control Survey Datum and obtained profiles and cross sections along the main roadway centerline/baseline. **KSE** was also responsible for location survey; development of tie sheets; stream cross sections; and soil-boring location stakeout. The ROW survey comprised research for file maps, tax maps, and deeds to establish existing ROW; preparation of GPMs and IPMs; metes and bounds descriptions; ROW computations; and locations of existing and proposed monuments.

Roadway redesign was performed beginning with a physical inspection of the ROW, development of preliminary concept plans, performance of study, and preparation of study report including two alternatives to minimize ROW/easement acquisition. The work scope included: profiles and cross sections, cost estimates for each alternative, and remedial work - milling, resurfacing, repair of potholes, repair/replacement of sidewalks, berms, shoulders, existing and proposed drainage system reports, final intersection concept plans, and final concept study report.

Drainage system redesign scope included determination of stormwater runoff, size, length, slope, invert elevation, route of storm drain system, and MPT plans. The effects of the proposed roadway/drainage changes were determined. Accommodations for future utilities were investigated. A utility relocation report and utility relocation plans were developed. Subsurface investigations included soils engineering studies, analyses and reports for the proper design of pavements including borings and pavement cores and testing thereof at an approved laboratory. **KSE** performed all necessary hydraulic studies and calculations including HEC II run and flood routing.

