

Solebury Township, Bucks County, PA

Evaluation of Potential Impacts of the New Hope Crushed Stone (NHCS) Quarry on Primrose Creek and Watershed

Outline of Minimum Study

**Prepared for Solebury Township by:
Environmental Planning Consultants, Inc.**

I. Selection Reference Areas

- **Aquetong Creek and tributaries**
- **Lahaska Creek and tributaries (Buckingham Township)**

II. Groundwater Resources

- **Groundwater resource summary**
- **Summary of potable supply problems**
- **Data evaluation and data gap analysis**
- **Data supplement (to fill data gaps); additional monitoring wells**
- **Groundwater distribution and flow pattern**
- **Water table variability within watershed**

III. Integrated Hydrologic Evaluation

- **Summary of stream base flow as a function of recharge/drainage areas above and below the quarry**
- **Comparison of base flow summary with reference areas**
- **Surface water/groundwater exchange**
- **Seasonal variation along stream profile from headwaters to mid-reaches**

IV. Erosion, Sediment Transport, Deposition

- **Survey stream profiles**
- **Investigation of incision and aggradation (upstream of quarry)**
- **Investigation of sediment accumulation (downstream of quarry)**
- **Comparison of current and historic conditions (aerial photographs)**
- **Calculate volumes of soil loss (upstream) and sediment deposition (downstream)**
- **Determine mineralogical composition of stream substrate and sediments above and below the quarry, respectively**
- **Utilize radioisotope and blasting indicators to determine sediment accumulations attributable to NHCS discharges**

V. Water Quality Analysis

- **Dissolved load; Nitrogen; Phosphorus; Hardness; others**
- **Suspended load (particulates); Turbidity**
- **Temperature; pH; Conductivity; Dissolved Oxygen**
- **Inorganics**
- **Comparison with reference areas**

VI. Biota/ Biological Resources

- **Inventory of macrobenthos community along stream profile seasonally**
- **Inventory fish community along stream profile seasonally**
- **Riparian corridor inventory**
- **Comparison with reference areas**

VII. Report of Findings

- **Evaluate Primrose Creek conditions (past and current)**
- **Evaluate Primrose Creek (and Watershed) in relation to reference areas**
- **Summary of Primrose Creek condition above and below the quarry**
- **Comparison with reference areas**
- **Determination/quantification of impacts of quarry operations on Primrose Creek and Watershed**
- **Identification of permit limits suitable**
- **Identification of Impact Mitigation Alternatives**