Multidisciplinary Approach to Projects

Core services
- Transportation planning & engineering
- Land development
- Planning & design
- Environmental
- Applied technologies

Markets
- Transportation agencies
- Real estate
- County and local governments
- Institutions
- Federal government
- Energy
Case Study Topics

- Preliminary Design
- Phase I Environmental Site Assessment
- Stormwater Design Revisions
- Phase II Environmental Site Assessment
- Summary/Conclusions
Williamstown-Northfield Park & Ride
Williamstown/Northfield, VT | Vermont Agency of Transportation (VTrans)

Conceptual Design
- Preferred site from Alternatives Analysis
- Located adjacent to existing VTrans District Maintenance Garage
- Conceptual stormwater design
Preliminary Stormwater Considerations

- Sub-Jurisdictional (State)
  - Proactively treating to 2017 VSMM
- Soils
  - Hydrologic Soil Group
- 2017 VSMM
  - Emphasis on infiltration
- Topography
- "Hotspot" (Environmental)?

Phase I
Environmental Site Assessment
Limited Phase I ESA

- Owner Interview(s)
- EDR Report / Historical Photos
- ANR Atlas
  - Review of Historical Reports
- Site Visit

Findings: EDR Report and Historical Photos

- No Nearby/Adjacent “High Risk” Properties
- Gas/Diesel Pumps
- Equipment Yard
- Soil Stockpile
Findings: ANR Atlas

- VTrans Maintenance Garage since the 1950’s
- Closed Hazardous Site – SMS# 880276
  - 1988 - 4000 gal Gasoline UST Removal
    - Contaminated Soil – thin spread on-site
  - 1000 gal Fuel Oil UST – pulled, no report
- Active Hazardous Site – SMS# 20124312
  - 2012 - 8000 gal Diesel UST
    - Contaminated soil discovered, apparently from gasoline UST pulled in 1988
- Currently sampling wells bi-annually

Stormwater Design Revisions
Revised Stormwater Design
- Eliminate treatment area in stock pile
- Change practices to dry swales
- Additional practice on south end

Treatment Detail Considerations

- Typical Dry Swale
- No infiltration
- Liner
  - Prevent infiltration that could influence groundwater plume
  - Prevent surface discharge of contaminated groundwater
Phase II Environmental Site Assessment

Limited Phase II ESA

- Soil Characterization
  - Discrete Sampling
  - Incremental Sampling Methodology

- Why?
  - **NO SURPRISES!**
    - Construction Delays
      - additional investigation(s), CAP/SMP design, regulatory review and approval, etc.
    - Cost of Soil Disposal
    - Contractor Worker S&H
    - VTrans Garage Worker S&H
    - Public Park and Ride User S&H
Conclusions/Summary

Preliminary Design Process
- Consider potential for contamination on developed sites
- Neighboring sites also should be considered
- Involve environmental team early (establish “hotspot”)

Other Considerations
- Urban soils, cost of disposal
- Coordination of soils exploration with environmental team
- Infiltration can be more cost effective if feasible