Groundwater to Surface Water Case Study, Region 1

Abstract

The W&S Laundry oil site is located in Blackstone, MA about an hour southwest of Boston. The site is located on a 1/4 acre parcel of land containing a commercial laundry business and two - 2 story residential homes. The site is situated downtown Blackstone between Main Street and the Blackstone River, which is a designated National Heritage River. The laundry business operated for over 20 years until the early 90s when it went bankrupt.

The oil spill was discovered in 1990 by the US Coast Guard MSO-Providence which had tracked the spill up stream. The Coast Guard boomed the area and the Massachusetts Department of Environmental Protection (MADEP) responded and followed up on the cause of the spill for two years. In 1992 the MADEP requested assistance from the US EPA because of the lack of response from the owner and the continuing release of oil. The US EPA maintained boom there from 1992-1996 when the leak appeared to diminish.

On July 9, 1998 the MADEP reported a sheen located behind the facility again. The US EPA responded to the scene and deployed boom to contain the oil breaking out of the banking until a long term alternative could be initiated. A series of wells were drilled around and in the structures on the property to determine the extent of contamination. The drilling uncovered several large pockets of oil beneath the building on site, one area with 12 feet of heavily saturated soil. The EPA had investigated a pump and treat system but determined it to be unpractical, inefficient and costly.

The property had been inactive and not maintained for over eight years since it went bankrupt. The structures on the property were structurally unsound and determined to be unsafe by the building inspector. The EPA determined it was more effective to demolish and remove the buildings and excavate the oil from beneath the buildings. The EPA installed sheet piling along the river banking after the buildings were removed. The clean soil was excavated and stock piled at the local DPW for use as backfill later. A dewatering system was employed for several months 24 hours a day to dewater the excavation between the river and site. A total of 4,300 tons of oil-contaminated soil was removed and transported to a thermal desorption facility for disposal and treatment.

Currently, the site activities are on hold for the winter months. The site activities will resume April 2000, where any remaining oil-contaminated soil will be removed and the excavation will be backfilled. The US Army Corp of Engineers was brought in to aid in excavation, permitting, and designing a system to stabilize the site since it is located along a river in a 100-year flood basin. A retaining wall will be employed to stabilize the property against future erosion. The remaining activities will be completed over the summer months of 2000.

DRAFT PRESENTATION OUTLINE
W&S LAUNDRY, BLACKSTONE

I. History/Backround
- A. Initial Response
  - 1. Boom installation, sorbents etc.
  - 2. Players.
    - a. Coast Guard
    - b. Fire Dept
    - c. MADEP
    - d. EPA
    - e. START
    - f. IT/OHM
  - 3. Soil borings/Geoprobe cores
    - a. START
    - b. IT/OHM
  - 4. Contamination characterization
    - a. Laboratory results/ Coastguard Lab etc.
    - b. Extent of contamination
- B. Regional History Overview
  - 1. Historic Industrial usage of Blackstone River/ Industrial Revolution
    - a. Photos of old river locks, dams, mill sites.
    - b. Historic pollution level data.
    - c. Recent revitalization indications data
  - 2. River Basin Characterization
  - 3. National Heritage Corridor Initiative/Passage.
    - a. Clean-up criteria
    - b. Public scrutiny/support
      - 1. Local alliances/ resources
        - a. Fire Dept
        - b. Health Dept.
        - c. DPW- soils storage
        - d. Building inspector
        - e. CVS Pharmacy/ ? Family (property owners)
        - f. Woonsocket Flood Control Dam
    - c. EPA support?
    - d. Photos of recent revitalization initiatives?

II. Removal History
- A. Coast Guard OPA Funding
- B. MADEP involvement
  - 1. Asbestos
  - 2. Oil contaminated soils
  - 3. Lab-packing chemicals
- C. Logistic/ Problems
  - 1) Building demolition

a. Asbestos Removal
b. Flourescent lamps
c. Lab-packing chemicals

3. Building demolition
4. Soils removal
    a. “Clean” soils stockpiling at DPW
    b. Boulder recycling/disposal
    c. Contaminated soils disposal
        1. Characteristics/volume/ soil analyticals
        2. EMSI Facilities
        3. Alternatives/costs
        4. Transportation logistics
            a. Subcontractors/ volume of soils/time&distance to ESMI
        5. Sitework logistics/ Operational Constraints
    a. Residences
        1) Septic systems
        2) Hours of operation
        3) Destabilization potential of foundations
    b. Abutting properties
    c. Operations trailer off-site
    d. Water/Power sources
    e. High visibility/ Main Street
    f. Excavation/OSHA/ Geology
    g. Traffic control
    h. Two excavators
    i. Dewatering/ Water treatment system
        1. pump adventures
        2. sealing sheets/oakum/sand deposits
            a. Truck access/ Main Street
    j. Tracking disposal/ manifests
            1. Costs
            2. Volume

C. Permitting
    1) NPDES
    2) MASS Wetlands, 310 CMR 40
    3) USACE wetlands assistance/Permitting
D. Public Relations
    1. Newspaper articles
    2. EPA News releases

III. THE WALL

A. Defining the need
    1) History of area Flooding
    2) Woonsocket Dam
B. Geology review