



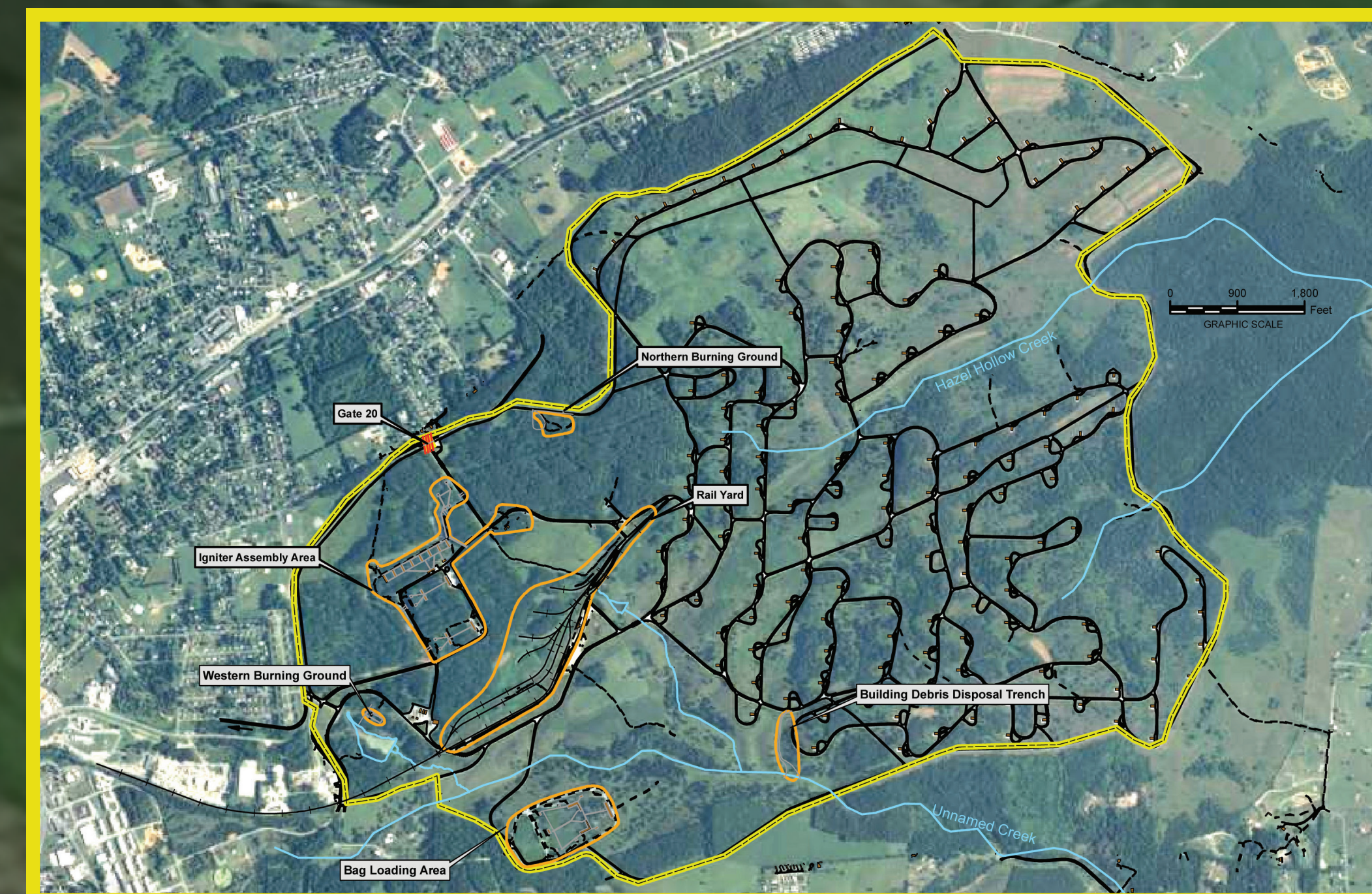
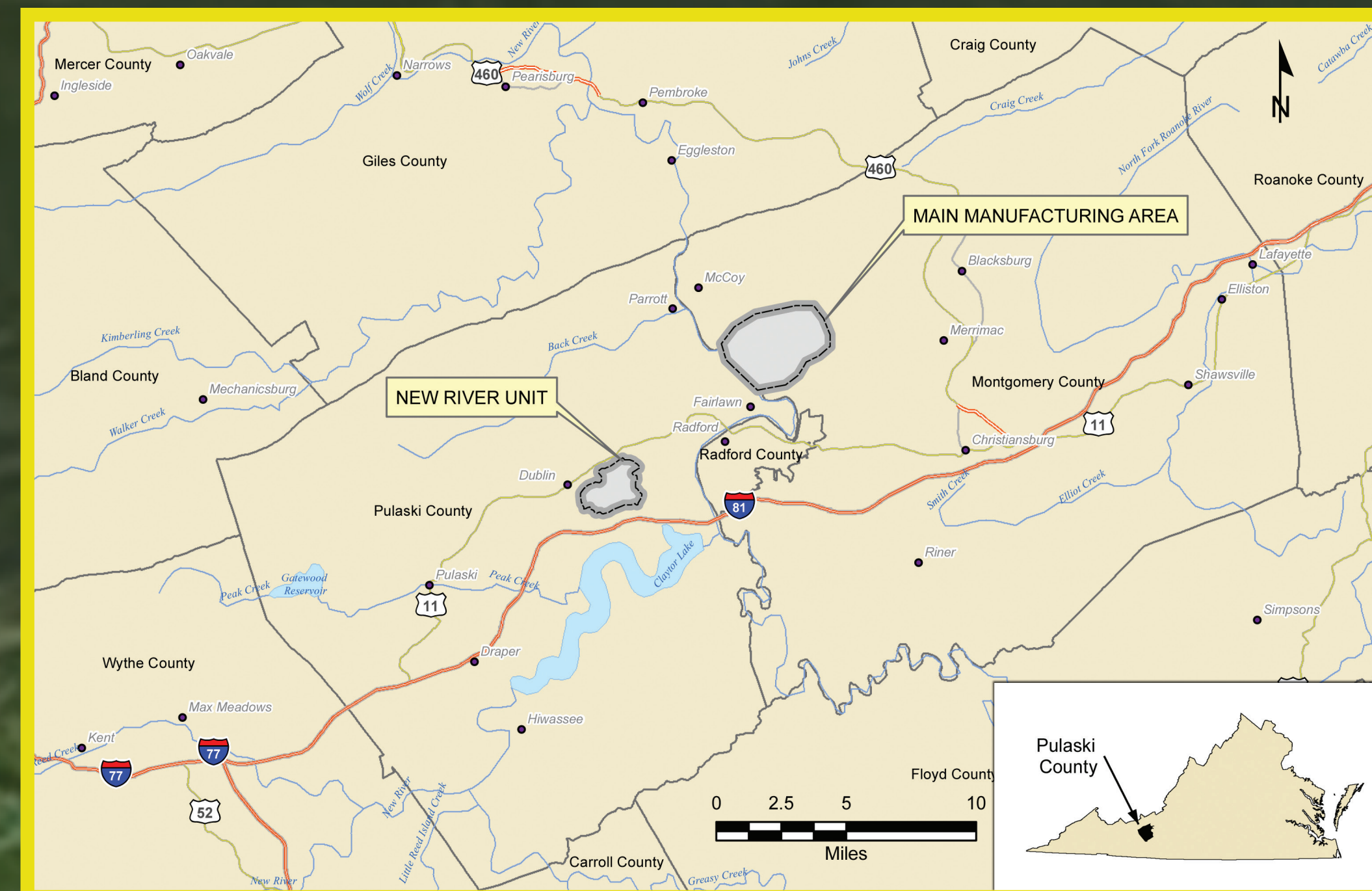
Radford Army Ammunition Plant



NEW RIVER UNIT (NRU) — NORTHERN BURNING GROUND (NBG) REMOVAL ACTION

NRU Facility Background

- NRU is located approximately six miles southwest of the Main Manufacturing Area (MMA), near the town of Dublin, VA
- Currently used as storage and the property is largely undeveloped
- Regulated under CERCLA and managed under the VA Department of Environmental Quality
- Remedial actions, if required, are planned for 2010
- The NBG is being handled as a non-time critical removal action under CERCLA



NBG History and Site Conditions

- Located in the northwest portion of the NRU, east of Gate 20, near facility boundary
- Formerly used as a burning ground to remove energetics from metal components used in the former manufacturing operations at the NRU
- Burning activities were conducted directly on ground surface, no buildings have existed at the NBG
- Area is heavily wooded, with the exception of the former burning area which is covered with grass and shrub groundcover

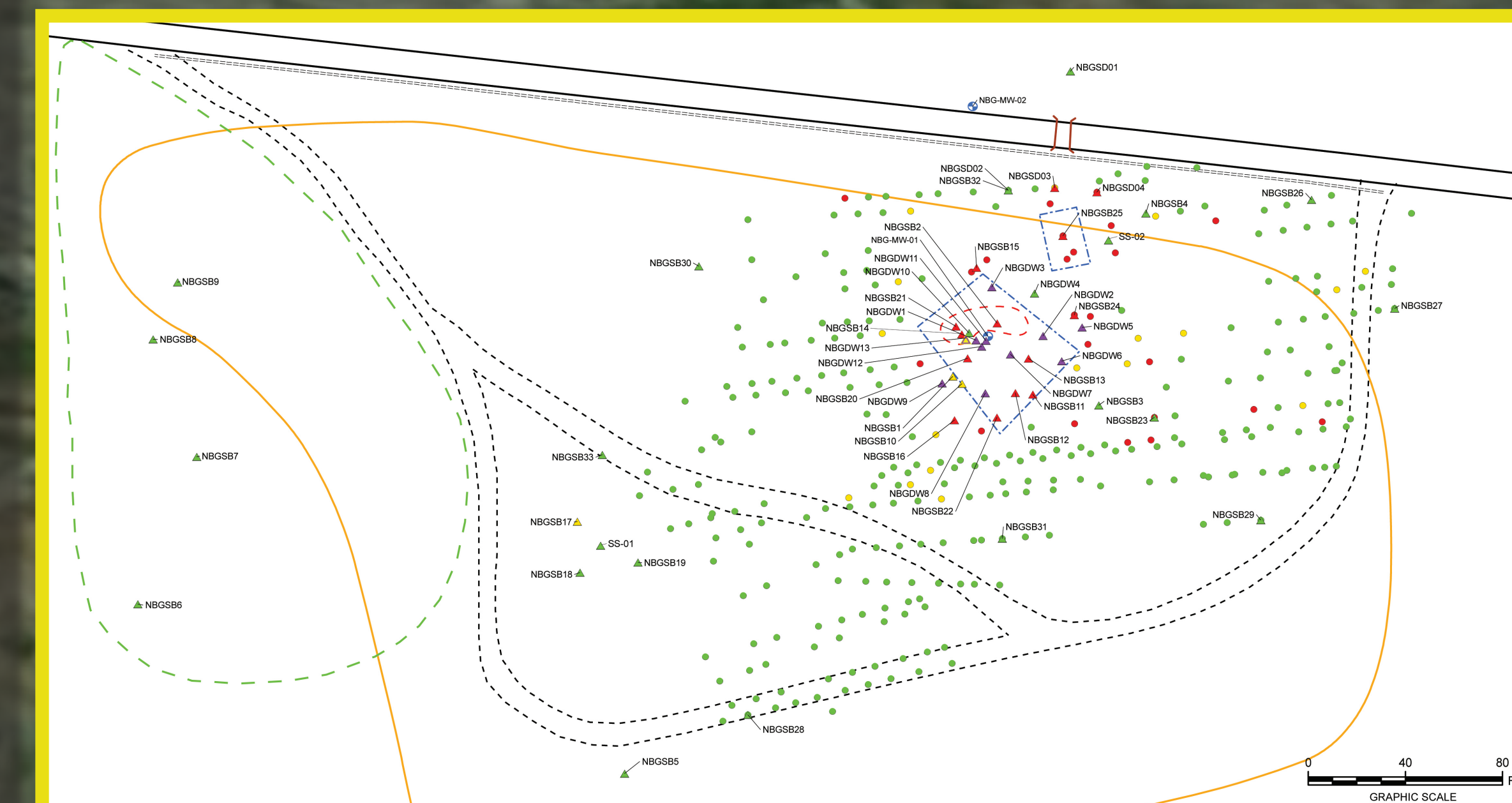
NBG Environmental Investigations

- Environmental investigations were completed between 1997 and 2008. Approximately 45 surface soil samples, 47 subsurface soil samples, 7 ditch sediment samples, and 4 groundwater samples were submitted for laboratory analysis. In addition, approximately 288 surface soil samples were field screened for lead using an X-Ray Fluorescence (XRF) meter.
- An Engineering Evaluation / Cost Analysis (EE/CA) was prepared to summarize the environmental investigations and risk assessment activities for the site. This report also presents an evaluation of the potential remedial alternatives for the site.
- The risk assessment concluded that lead in surface soil presents potential risk / hazards to current and future site workers and hypothetical future site residents above the USEPA benchmark. Chromium was also found to pose a non-cancer hazard greater than the USEPA benchmark to hypothetical future site residents.

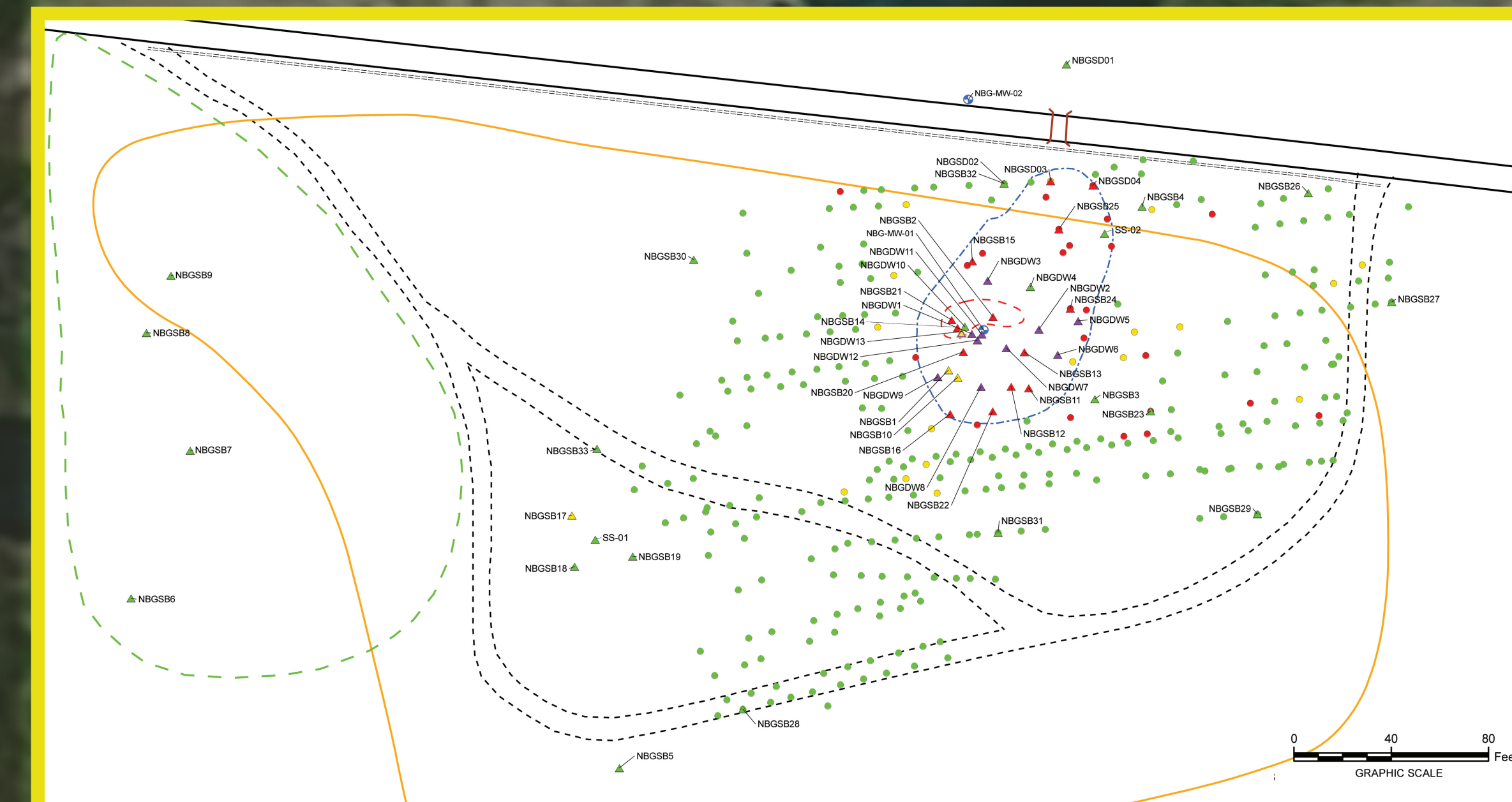
Remedial Action Alternatives Presented in EE / CA

- **Alternative #1 – No Additional Action**
 - All soils left in place; no change in risk levels.
 - This alternative is included in every EE/CA and provides a benchmark against which to compare the other alternatives.
- **Alternative #2 – Excavation, Off-Site Stabilization and Disposal of Impacted Soils to Achieve Industrial Level Closure**
 - Excavate soils with lead concentrations above 5,000 mg/kg. Average lead concentrations left at the site would be below action levels for industrial soil.
 - Approximately 120 cubic yards of soil removed; backfilled with clean soil from off-site.
 - Confirmation sampling used to ensure success.
 - Excavated material disposed of at an approved off-site disposal facility.
 - Land Use Controls (LUCs) established to ensure site is only used for military/industrial; no residential development.
 - Annual Inspections and Reporting performed to document that LUCs are properly maintained.
- **Alternative #3 – Excavation, Off-Site Stabilization, and Disposal of Impacted Soils to Achieve Residential Level Closure**
 - Excavate soils with lead concentrations above 3,000 mg/kg and chromium concentrations above 1,620 mg/kg (lead and chromium are located in same area). Average lead and chromium concentrations left at the site would be below action levels for residential soil.
 - Approximately 250 cubic yards of soil removed; backfilled with clean soil from off-site.
 - Confirmation sampling used to ensure success.
 - Excavated material disposed of at an approved off-site disposal facility.
 - No LUCs would be required upon completion; area suitable for unrestricted development.

Alternative #2 – Footprint of Proposed Excavation Area (denoted by dashed blue line)



Alternative #3 – Footprint of Proposed Excavation Area (denoted by dashed blue line)



Recommended Remedial Action Alternative

- Remedial Action Alternative #3 is recommended for implementation at the NBG
 - This alternative is most protective of human health and the environment.
 - Increased excavation area minimizes the potential for future erosion to transport constituents downgradient
 - Alternative #3 has lower life cycle costs than Alternative #2 because no LUCs or long term inspections/reporting required.