



4825 Glenbrook Road
Update
October 2007

AGENDA

- Current phase of Army investigation
- AU's commitment to the campus community
- U.S. Army Corps of Engineers planning & safety procedures
- Shelter-in-place guidelines

UPCOMING GLENBROOK ROAD ACTIVITIES

- 4825 Glenbrook Rd (Pit 3) investigation to resume in late October
 - Residential property owned by AU next to President's house
 - Partially excavated in 2002/2003
- Site mobilization and setup underway
- Additional investigative work ongoing at 4825 and 4835 Glenbrook

UPCOMING 4825 Glenbrook ACTIVITY (continued)

- Excavation activities expected to start October 29th and last 14 weeks
 - Containment structure, excavation equipment, workers in protective gear, emergency response vehicles, generators and other support equipment
- Current phase of work so that the Army Corps can leave the area in a safe condition.

UNIVERSITY COMMITMENT

- Spring Valley Partners: Army Corps, U.S. EPA & D.C. Department of Environment overseeing activities throughout Spring Valley
- AU coordinating with Partners to ensure that work is conducted safely and appropriately and to minimize campus disruptions
- During the 4825 Glenbrook work, the top priority for the University is to ensure the health and safety of the entire campus community.

UNIVERSITY COMMITMENT (continued)

- The University reserves the right to revoke permission for the Corps to continue excavation if we believe the work is not being performed safely
- The University has retained a qualified and independent expert to review site data and make safety recommendations to Partners

BRIEF REVIEW

- AU's main campus is within the Spring Valley Formerly Used Defense Site
- 1917-1920: U.S. Government chemical warfare research facility
- Army used the southern end of the former experiment station as a disposal area
 - Munitions, glass and lab ware, other debris
- Pit 3 extends to adjoining property; may have been used for operations



BRIEF REVIEW (continued)

- Investigation and cleanup has been ongoing for several years
 - Area around CDC and Intramural fields has been cleaned up
 - Portions of Lot 18-behind Rockwood/Public Safety/Financial Aid-have been cleaned up
 - Remainder of campus has been investigated and plans made for cleanup

ARMY CORPS PLANNING & SAFETY PROCEDURES

- Prior 4825 Glenbrook investigations found munitions
 - One munition contained arsine gas
 - Two other munitions assumed to contain arsine
 - World War I-era chemical agent-also currently used as industrial chemical
 - Other agents including mustard and phosgene presumed to be present

ARMY CORPS PLANNING & SAFETY PROCEDURES (continued)

- As a precaution, 4825 Glenbrook work will be conducted as a “High Probability” excavation that is designed to meet strict safety standards
 - Comprehensive engineering controls
 - Chemical filtration and air monitoring
 - Multiple systems, check and balances

ARMY CORPS PLANNING & SAFETY PROCEDURES (continued)

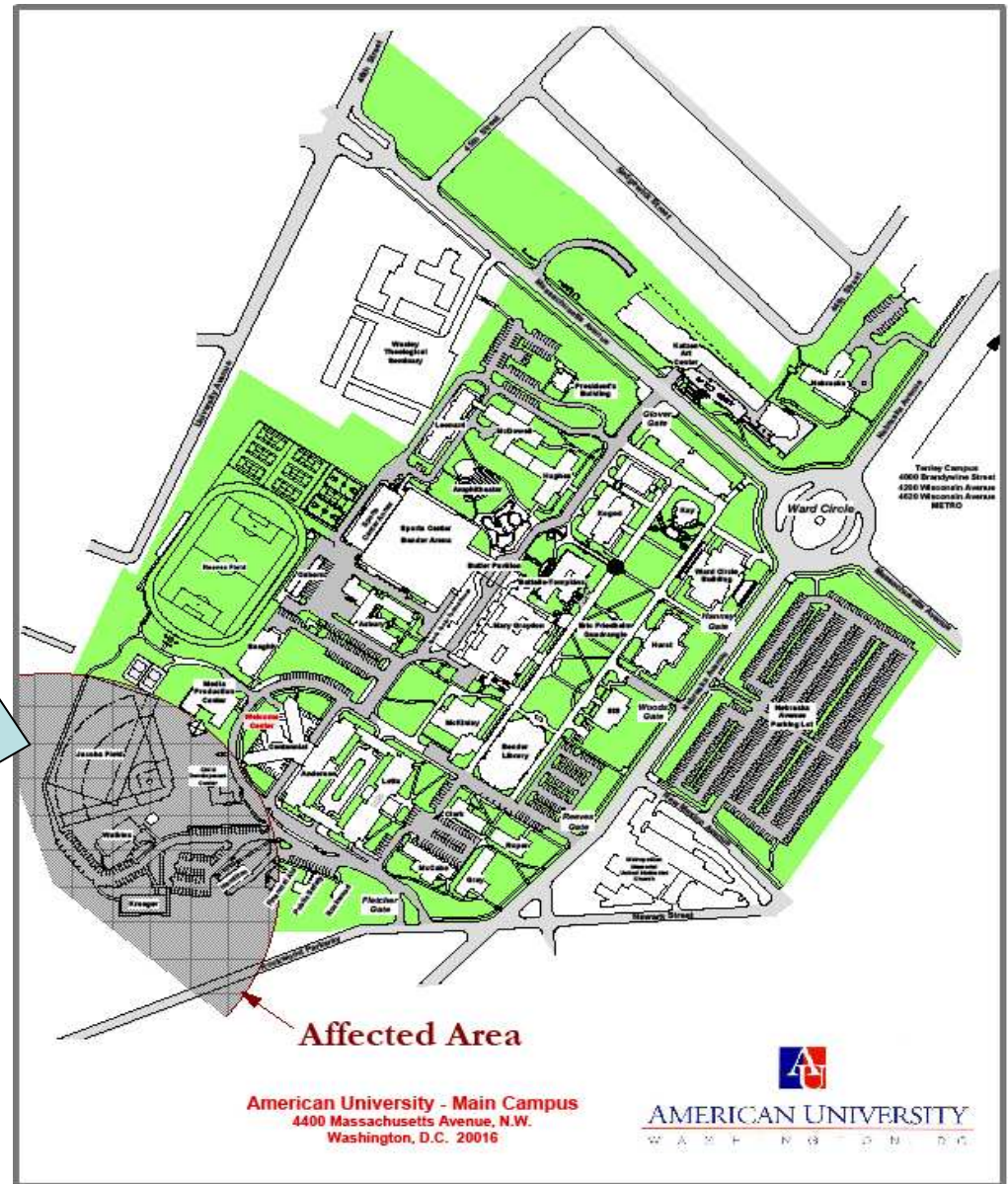
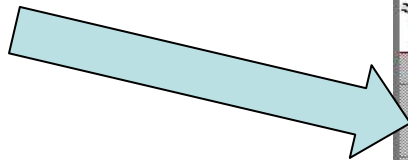
- MCE & AEGL-2: Army Corps regulatory planning tools
- Maximum Credible Event (MCE): worst single event that could realistically occur
 - Establishes an event scenario to allow appropriate planning and preparation
 - Reasonable probability of occurrence
 - MCE is hypothetical release of arsine from a shell

ARMY CORPS PLANNING & SAFETY PROCEDURES (continued)

- Acute Exposure Guideline Level (AEGL-2) zones: area beyond which no serious health effects are expected in case of a major accident
- In the absence of engineering controls, the AEGL-2 zone would extend for about 742 feet from excavation site
 - Assumes catastrophic system and operational failure
 - Under the scenario, five campus buildings and the Jacobs Athletic Field fall within the AEGL-2 zone

Areas on campus within
AEGL-2 zone include:

- Watkins
- Kreeger
- Child Development Center
- Hamilton
- Financial Aid Building
- Jacobs Field



ARMY CORPS PLANNING & SAFETY PROCEDURES (continued)

- The object of engineering controls is to confine the effects to inside the engineering control structure
- Rigid aluminum structure designed to contain munitions detonation and agent release
- Negative pressure, filters and air monitoring, alarm systems, comprehensive response protocols

The ECS has a 3-tier filtration system (CAFS) to ensure that all of the air exiting the structure is free of hazardous vapors/gas.





The ECS is covered with reinforced aluminum sheeting strong enough to withstand a munitions blast.

DISCUSSION OF RISK ISSUES

- Chemical warfare materials such as arsine and mustard gas along with industrial chemicals could be released
- The health effects of exposure to these chemicals depend on the amount that is released and how long the exposure lasts

DISCUSSION OF RISK ISSUES (continued)

- Short low-level exposures can result in effects to eyes, respiratory system and skin.
- National Academy of Sciences have developed safe levels for these chemicals which are being used with monitoring to help prevent exposure to toxic amounts

DISCUSSION OF RISK ISSUES (continued)

- Army Corps engineering plans have been reviewed by EPA and DC Environment as well as AU
- Engineering controls include enclosures, filters, monitors and work practices
- Recommendations by AU have resulted in thicker structure, better monitoring, better work practices.
- Odds of actual release occurring are low, but plans have been developed to ensure safety if this happens

SHELTER-IN-PLACE

- Shelter-in-Place is the safe and appropriate response during the 4825 Glenbrook work
- Accepted and effective public safety measure to keep people safe and protected should an event occur
- Involves closing doors and windows, shutting off external air intakes and staying inside until “all clear”
- Used for many communities near chemical plants or other industrial sites

SHELTER-IN-PLACE (continued)

- Shelter-in-place determination based on site-specific factors:
 - Nature of work being conducted
 - Minimal probability of an incident
 - Ability to control exposure and risk should an incident occur
- Additional precaution to keep the campus community safe

SHELTER-IN-PLACE (continued)

- Shelter-in-place efforts will be coordinated with campus public safety officers, building marshals and all building personnel
- Efforts will include: training and drills, supplies and equipment, building preparation, communications systems, other response procedures

SHELTER-IN-PLACE (continued)

- University facilities staff have inspected buildings to make sure shelter-in-place can be safely accomplished
- The University is committed to making sure that this phase of work on campus proceeds safely and appropriately

FURTHER INFORMATION

- **Project Websites**

- American University:

- <http://american.edu/usace>

- Army Corps of Engineers:

- <http://www.nab.usace.army.mil/projects/WashingtonDC/springvalley.htm>

- **Information Lines**

- American University: 202-885-2020

- The D.C. Department of Health: 202-535-1755

- Army Corps of Engineers: 1-800-434-0988