REMEDIATION SERVICES

Solving tough environmental challenges

For over 36 years EnSafe has provided regulatory compliance, site assessment, and restoration services for private industry and all levels of government. There is hardly an environmental problem that EnSafe has not tackled. Engineering News-Record consistently ranks EnSafe among the top environmental and design firms in the U.S. because we're able to solve our clients' toughest consulting challenges. EnSafe has adeptly and concurrently executed hundreds of cleanups at more than 75 military installations, over 60 NPL/Superfund sites, and numerous sites under a variety of federal and state-led programs.

creative thinking. custom solutions.

UNMATCHED PROGRAMMATIC SUPPORT FOR NAVY

EnSafe has served NAVFAC Southeast continuously since 1985 on issues ranging from environmental restoration to regulatory compliance. EnSafe's Comprehensive Long-term Environmental Action, Navy (CLEAN) contract is a premier example of our demonstrated ability to provide unmatched programmatic support, and successfully deliver comprehensive assessment and remediation services at highly complex sites across an expansive geographic footprint. EnSafe's CLEAN portfolio, which includes multiple contract awards and over 300 task orders, represents more than 35 years of work for the Navy with a combined value in excess of $250 million.

TURNKEY REMEDIATION

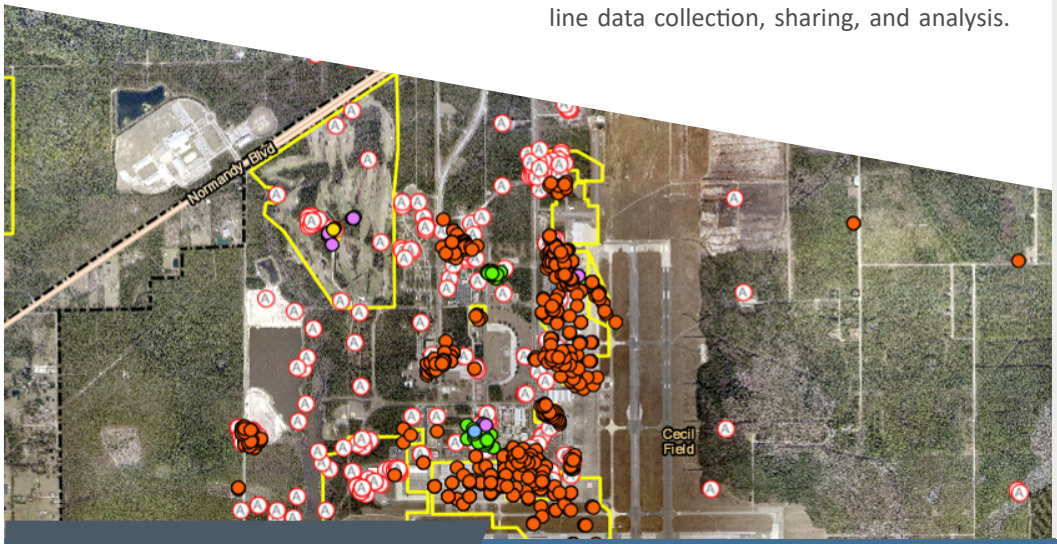
EnSafe has many shared success stories with GR2, our wholly-owned remedial construction, demolition, decommissioning and abatement services subsidiary. GR2 supplements our resource pool with turnkey construction services on projects such as the Site 8B Herbicide Orange Sediment Stabilization Pilot Test, NCBC, Gulfport, MS, the NASJRB Fort Worth Child Development Center Removal Action, and numerous state government and commercial clients.

SOUND SCIENCE REFINES SITE UNDERSTANDING: BETHPAGE

Since 2012 EnSafe has assisted the Navy's efforts to address historical contamination at one of its highest priority environmental projects, former Naval Weapons Industrial Reserve Plant in Bethpage, New York. We continue to explore how the area's geology affects contaminants in the groundwater, to assess contaminant levels, and to monitor how contaminants are migrating to affect the public drinking water supply in this densely populated residential area. We have installed more than 14 miles of vertical profile borings and monitoring wells up to 1,000 feet bgs.

With three drill rigs running simultaneously, data acquired from drilling and groundwater sampling are used to model the migration of the contaminant plume.

To manage the volume of data for the project team, EnSafe set up a SharePoint site that hosts announcements, field schedules, work summaries, waste management graphs, and site contacts and resources. Several GIS-enabled technologies, such as Collector for ArcGIS, streamline data collection, sharing, and analysis.



- Cradle-to-grave expertise to resolve complex remedial projects
- Innovative, accelerated technology development

Our Achievements

- 2016, Engineering Excellence Grand Award for Site 8B Herbicide Orange Sediment Stabilization Pilot Test, Naval Construction Battalion Center, Gulfport, MS
- 2016, Engineering Excellence Grand Award for Cecil Field Innovative Technologies, Former NAS Cecil Field, FL
- 2016, Engineering Excellence Honor Award for TDOT Henderson County Stream Restoration, Lexington, TN
- 2015, Engineering Excellence Grand Award for Sustainable Groundwater Treatment, UTC, San Jose, CA
- 2013, Department of Defense Award for Environmental Restoration at NAS Cecil Field Jacksonville, FL
- 2013, Secretary of the Navy Award for Environmental Restoration at NAS Cecil Field Jacksonville, FL
- 2013, Chief of Naval Operations Award for Environmental Restoration at NAS Jacksonville, FL and Former NAS Cecil Field Jacksonville, FL
- 2013, Engineering Excellence Grand Award Iris in the environmental category for Successful Low-Concentration TCE Remedy in Groundwater with client NSA MidSouth
- 2012, Engineering Excellence Grand Award in the environmental category for Century-Old Brownfield Site Remediation project in Chattanooga, TN, completed for Brightbridge Inc.
- 2011, Engineering Excellence Grand Award in the environmental category for Pilot Test: Extreme Degradation Conditions project in Tampa, Florida, completed for Helena Chemical Company

ENSAFE

REMEDIATION SERVICES

Leveraging Emerging Technologies: Cecil Field

For former NAS Cecil Field, EnSafe leveraged innovative technologies to optimize the long-term monitoring program and assist the Navy BRAC Program Management Office with property management and response to development requirements on this 17,225 acre property. Starting with an annual LTM budget of over $1M annually, a total savings of over $1M over the past 5 years has been realized through program optimization, streamlined decision-making and field-based efficiencies emerging from the increased use of technologies.

The Cecil Field web-based mapping tool was originally built using ESRI's Flex Viewer then migrated to ESRI's new WebApp Builder for ArcGIS. This tool allowed non-GIS technical team members (from the Navy, U.S. EPA, FDEP, and other contractors) to present mapping information in real-time during team meetings. This visualization technique combined with web-based tools such as Trimble's Sketchup to develop quick, inexpensive (labor reduced by 80%) 3-D conceptual site models, provided the team with enhanced information on which to make site decisions.

Through the use of the ArcGIS online Collector application, EnSafe was able to integrate the use of tablets and mobile apps for field data collection – groundwater sampling, well surveys, and land use control inspections. The simple apps developed by EnSafe technical staff are customizable, interactive providing tools for mapping, drawing and measuring in the field, including preloaded information such as monitoring well inventory, contour maps, plume maps, and survey data for use in the field. Inspection field data and photographs were immediately saved over wireless internet connections to EnSafe's ArcGIS Online system. The use of technology streamlined the field data management workflow, reduced the field effort by approximately 50%, and eliminated the need for back-office data compilation.

BEGIN WITH END IN MIND: RIALTO, CA

Rockets, Fireworks, and Flares (RFF) Superfund Site in Rialto, CA includes a 160-acre source area used by the Army in the 1940s as inspection, consolidation, and storage facility for rail cars. Since the 1940s, the site has been used by defense contractors, fireworks manufacturers, and other businesses that expended perchlorate salts and/or solvents in their manufacturing processes or products. The site includes a deep (400-800 feet bgs) perchlorate groundwater plume that extends several miles off site.

EnSafe created and analyzed a GIS database of over 20 years of soil data against established screening criteria to identify areas of concern and data gaps. EnSafe's Technical Memorandum provided the basis for Remedial Investigation of soil and soil vapor; our CSM and exposure pathway analysis determined the need for addition- al remedial investigation data in support of risk assessments and remedial evaluation. EnSafe's RI/FS Work Plan, which included a summary of previous investigations dating back to the 1980s, was submitted to the USEPA within 45 days of signing of the Settlement agreement.

During the RI of the groundwater OU, EnSafe installed three 800-foot, multiport monitoring wells (Westbay systems) and two additional 700-foot wells as perchlorate was detected above the MCL. The wells were installed in an urban setting within public right-of-ways and required three mud-rotary drilling rigs working simultaneously. Wells required geophysical logging and downhole cameras as part of installation.

Groundwater data is used to support ongoing groundwater modeling efforts which will ultimately be used in remedy selection and remedial design. Once the groundwater plume is delineated, groundwater data will be used to conduct human health and ecological risk assessments for this operable unit. Currently, EnSafe is conducting a forensic study at the assumed terminus of the groundwater plume in order to determine the nature of the perchlorate detected in groundwater. This is necessary as the region has residual perchlorate contamination from Chilean fertilizer used during its agricultural past as well as naturally-occurring perchlorate.

In order to fully delineate the synthetic perchlorate in groundwater as a result of site activities, EnSafe is conducting a forensic investigation using stable-isotope analyses at select locations believed to be the terminus of the synthetic perchlorate plume and the beginning of naturally occurring or Chilean fertilizer-sourced perchlorate. The results of this forensic investigation will be used to complete the RI for the groundwater operable unit.

What our clients say about us

"This company is innovative, which helps the overall program move forward. They make my job easier and given a choice, I would choose them again."

– Bryan Beck, Remedial Project Manager, NAVFAC Atlantic

"Thank you for the good working relationship we've experienced during this removal action. I strongly believe that having EnSafe onsite as the overall project manager made the project run smoother than expected considering its complexities."

– Glen Adams, OSC, Federal U.S. EPA Region 4

"EnSafe has done an excellent job in all services requested. They have provided high quality work plans and reports and have provided excellent work in the field. I've greatly appreciated their focus on customer satisfaction."

– Gary Stewart, PE, Manager, South Carolina Department of Health and Environmental Control

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