

Protecting the Future through Long-Term Stewardship

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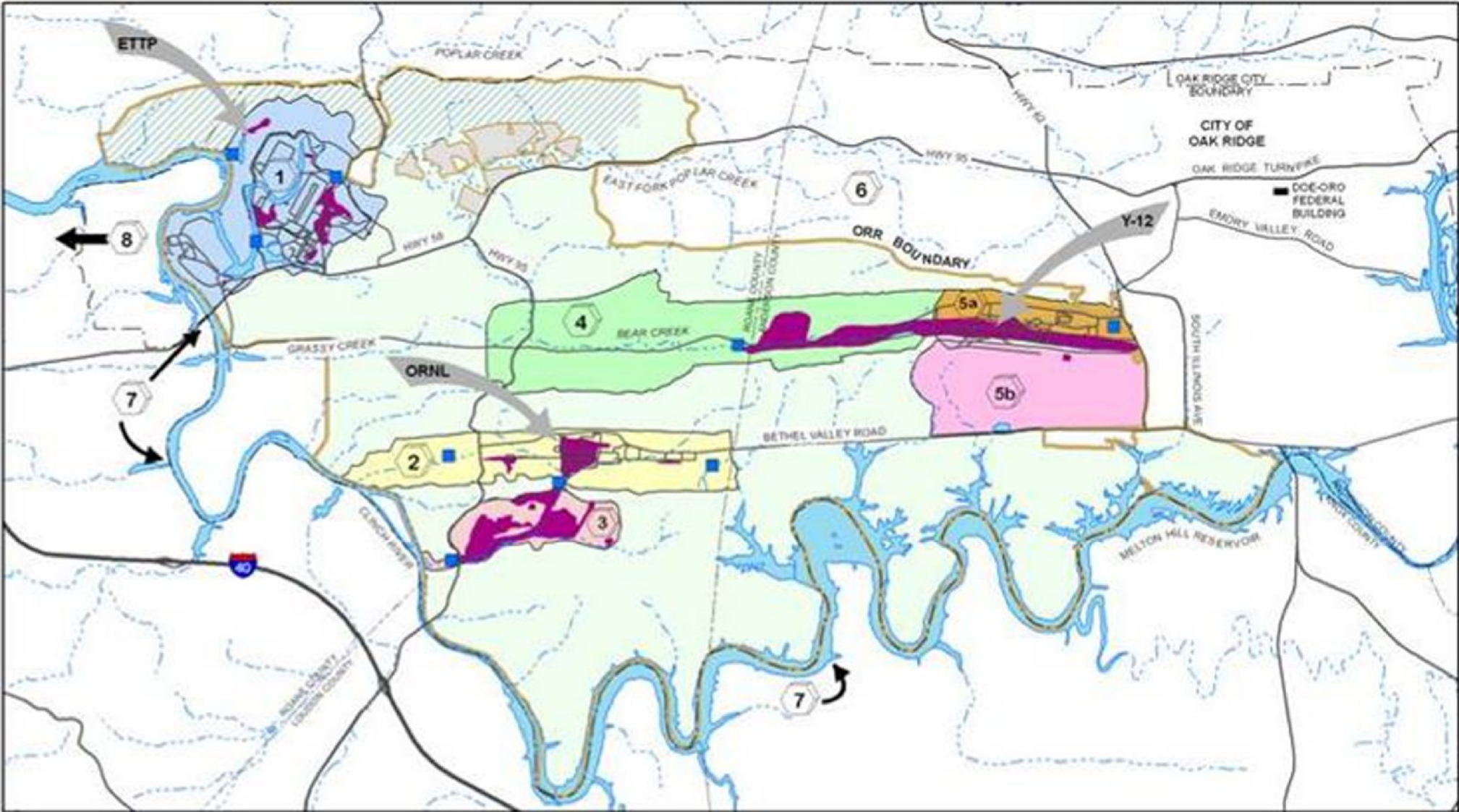


Long-Term Stewardship

- Protects human health and the environment from physical hazards, residual contamination, and wastes remaining following remediation
- Prevents receptors from encountering residual hazards (generally through land use controls)
- Prevents residual hazard from migrating to receptors (generally through engineering controls)
- Is longest phase of Environmental Management Program
- *Allows for appropriate use of land when residual contamination is left in place*



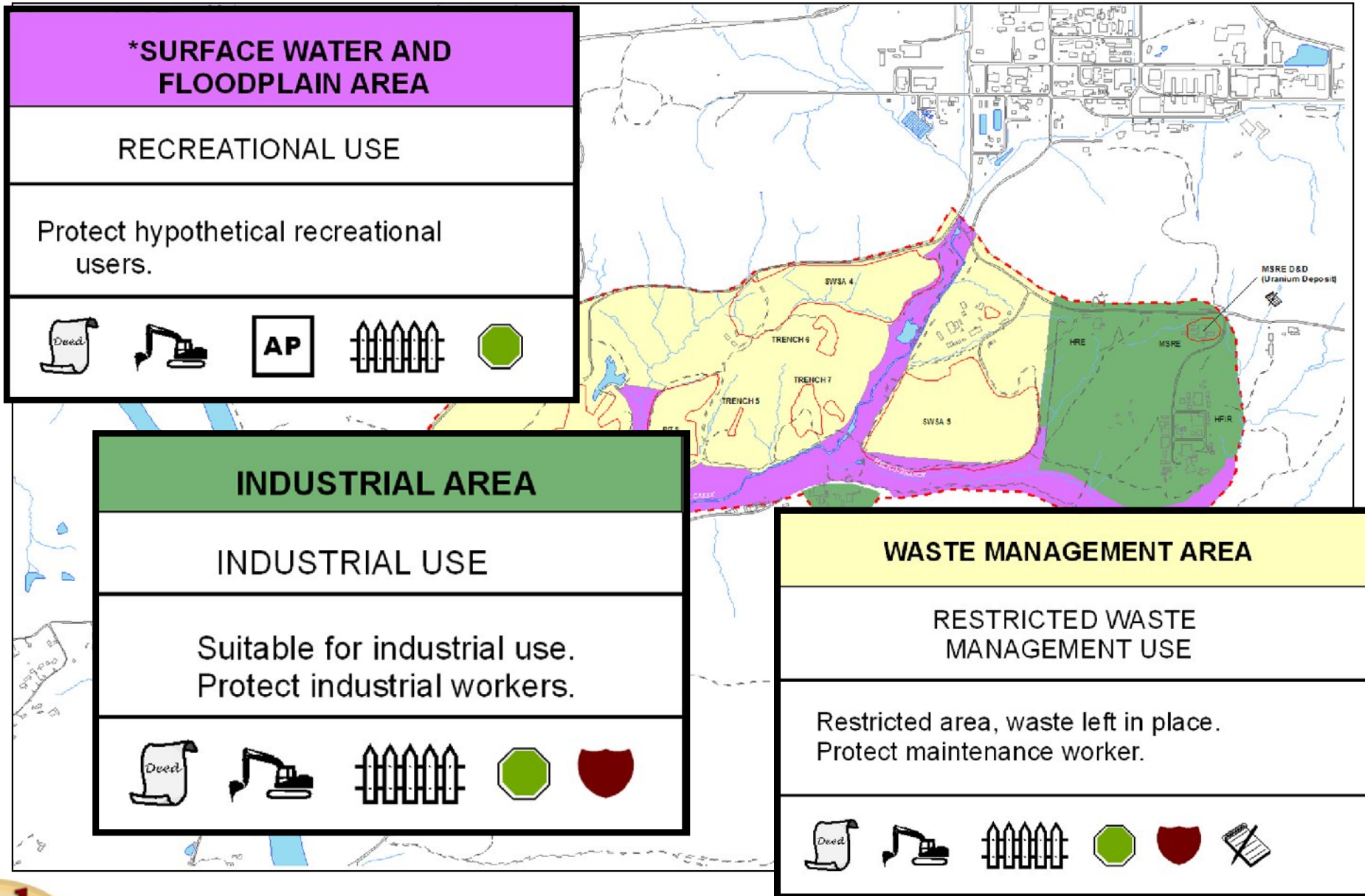
Oak Ridge Reservation Watersheds



MOVING TO THE FUTURE BY CLEANING UP THE PAST



End Uses



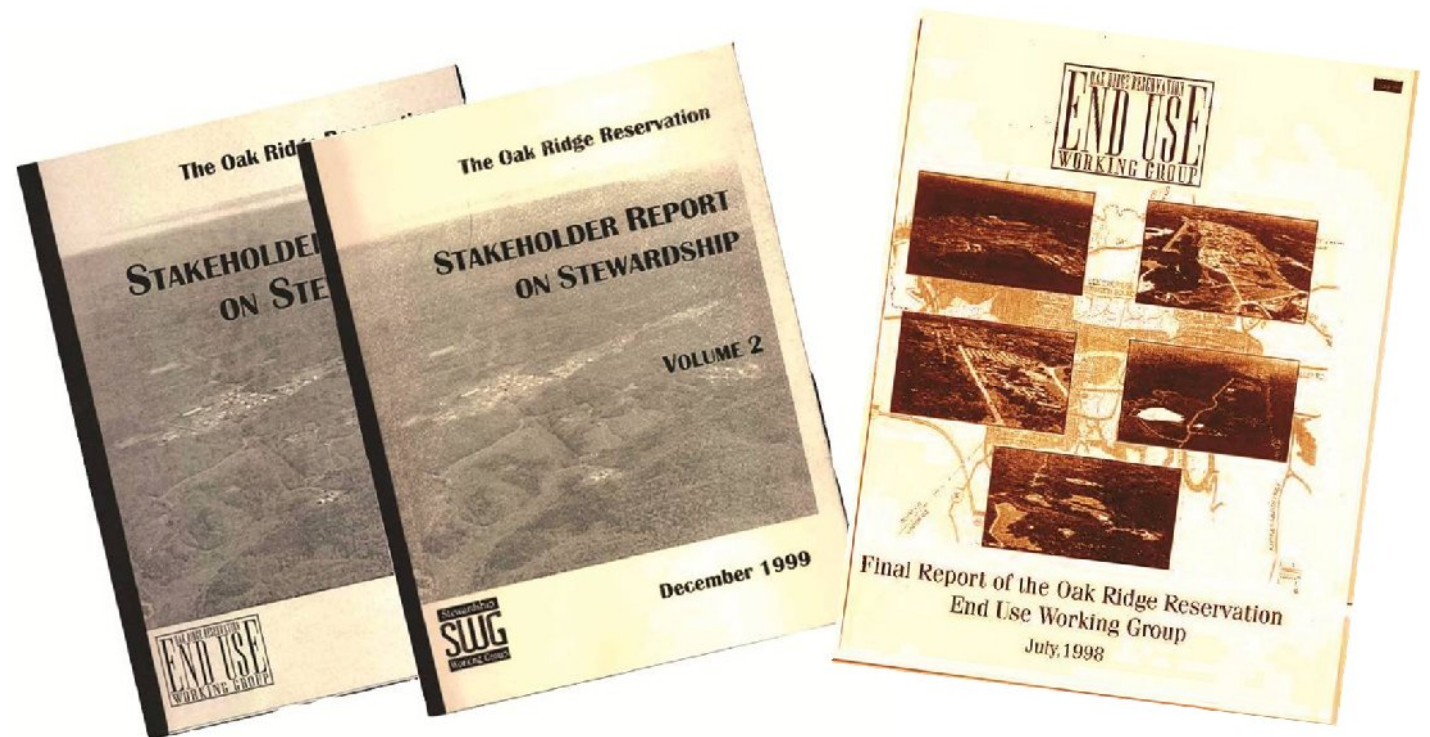
Residual Contamination

- Capped burial grounds
- Groundwater plumes
- Surface water
- Sediment
- Soil

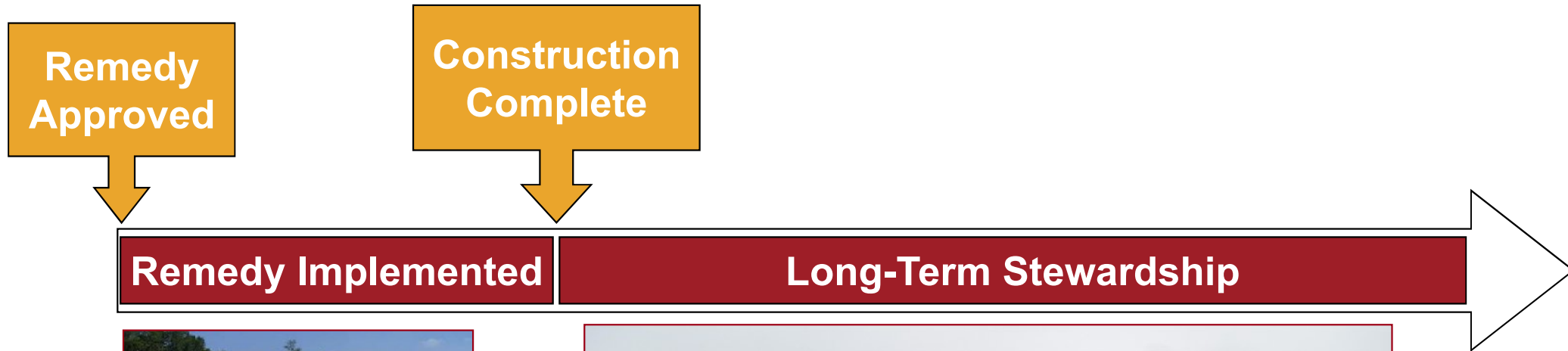


Citizens' End Use Working Group

- Recommended end uses to DOE for the Oak Ridge Reservation
- Acknowledged some areas would be available for unrestricted use while others would require land use restrictions
- Recommended elements of long-term stewardship



Environmental Management Life-Cycle



MOVING TO THE FUTURE BY CLEANING UP THE PAST

Elements of Long-Term Stewardship

- Stewards
- Information Management
- Research
- Public Participation
- Public Education
- Operations



Stewards

component	organization	function
Principal	<ul style="list-style-type: none"> • DOE • National Archives 	Legal, financial, S&M, admin record, maintain protectiveness, research, document repository
Regulatory	<ul style="list-style-type: none"> • EPA • State 	Remediation Effectiveness Report CERCLA 5 Year Review
Land Use	<ul style="list-style-type: none"> • Oak Ridge Regional Planning Commission • Anderson/Roane Register Deeds 	Zoning, Deed restrictions, mapping system
Environmental Resources	<ul style="list-style-type: none"> • DOE/ORO • TN Wildlife Agency 	Environmental resource and conservation easement management
Citizens	<ul style="list-style-type: none"> • Citizens Board 	Report Review & public education



Operations

- Activities required to ensure the integrity of the remedies
 - Engineering controls
 - Capping
 - Groundwater treatment
 - Land use controls
 - Administrative
 - Deed restrictions, zoning notices, excavation/penetration permits, GW use restrictions
 - Physical
 - Fences, gates, signs



Engineering Controls



Capped burial ground



Groundwater collection system

Land Use Controls



Advisory

Media Monitoring



MOVING TO THE FUTURE BY CLEANING UP THE PAST

Media Monitoring

- Assures engineering controls are functioning as intended and protectiveness is maintained
- Performed as a comprehensive monitoring program
- Summarizes data in the annual Remediation Effectiveness Report and CERCLA Five-Year Review



Tracking

- Controls are tracked at various frequencies
- Comprehensive maps are maintained and updated with new requirements
- Status reported in the annual Remediation Effectiveness Report and CERCLA Five-Year Review



Long-Term Stewardship Implementation

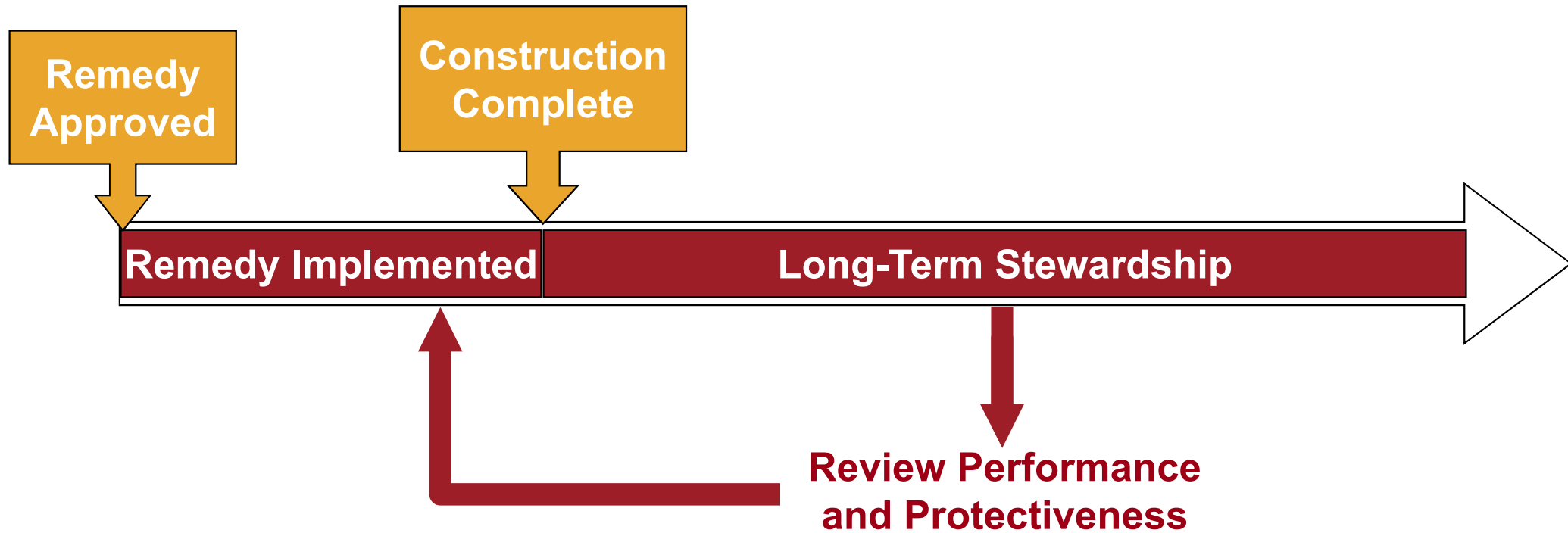
LTS Component	maintain	track	report
<p>LAND USE CONTROLS</p> <p><u>Administrative</u></p> <ul style="list-style-type: none"> • Deed Restrictions • Property/Zoning Notices • Excavation/Penetration Permits • GW Use Controls • Dredging Permits <p><u>Physical</u></p> <ul style="list-style-type: none"> • Access i.e., fences, gates • Signs • TDEC Postings <p>ENGINEERING CONTROLS</p> <ul style="list-style-type: none"> • Cap • Groundwater treatment 	<ul style="list-style-type: none"> • LOCAL GOVERNMENT • INTER-AGENCY WORKING GROUP • DOE <p>• SURVEILLANCE & MAINTENANCE</p> <p>• SURVEILLANCE & MAINTENANCE</p> <ul style="list-style-type: none"> • OPERATIONS & MAINTENANCE • MONITORING 	<p>ANNUAL VERIFICATION</p> <p>MONTHLY, QUARTERLY, SEMI, ANNUAL INSPECTIONS</p> <p>WEEKLY, MONTHLY, QUARTERLY, SEMI, ANNUAL INSPECTIONS</p>	<p>ANNUAL REMEDIATION EFFECTIVENESS REPORT</p> <p>FIVE-YEAR REVIEW</p>



MOVING TO THE FUTURE BY CLEANING UP THE PAST



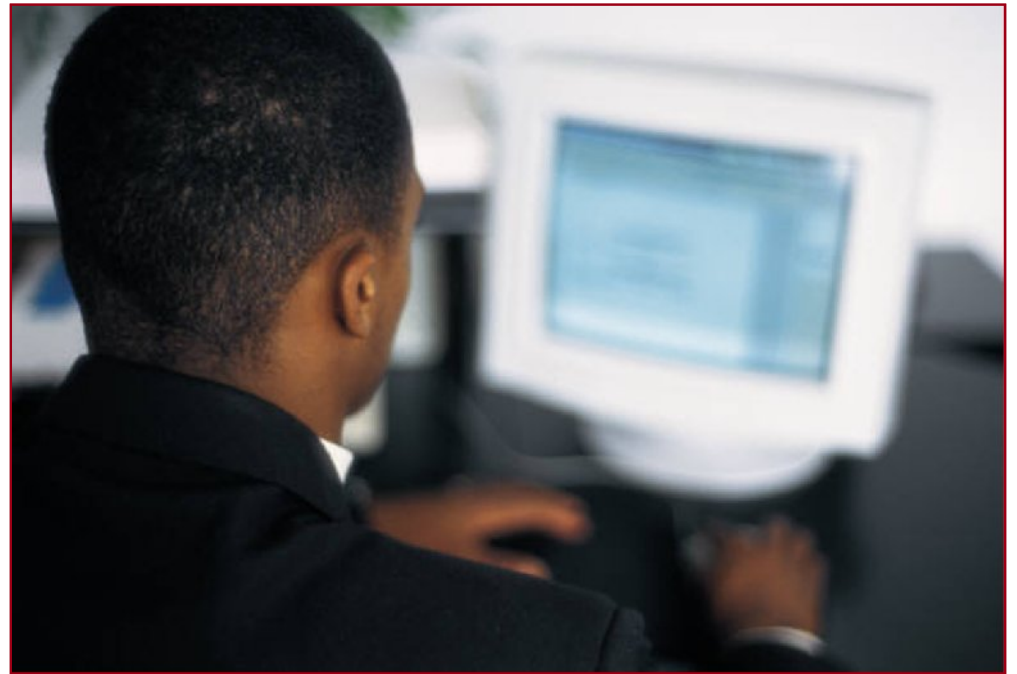
Environmental Management Life-Cycle



MOVING TO THE FUTURE BY CLEANING UP THE PAST

Improvements

- Greater involvement in decision documents
- Automated tracking of land use controls
- Changes to remedy based on reports



Conclusion

- As we move to the future by cleaning up the past:
 - Scientific and national security missions are becoming easier and more efficient to execute
 - Federal sites are transforming to areas worthy of private investment
 - Current national assets are being preserved for the next generation
 - Restoring and preserving natural resources for the future
- ***Long-Term Stewardship will enable the future of Oak Ridge***

