

US EPA ARCHIVE DOCUMENT

Green Sustainable Remediation and Redevelopment



Minnesota Pollution
Control Agency

Petroleum Remediation Program

2.9.10

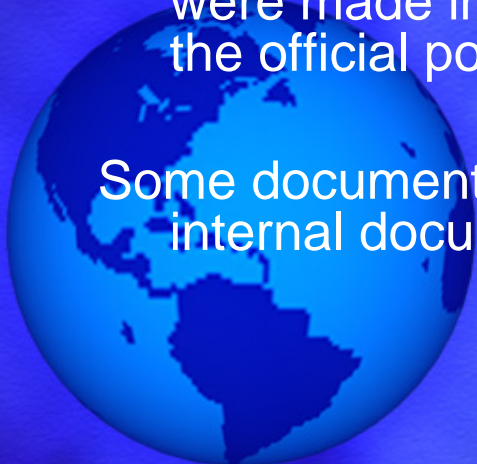
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EPA R5 Greener Cleanups Workshop

MPCA - GSR² Initiative

**Green
Sustainable
Remediation and
Redevelopment**





GSR² Chronology

GRIT

1st Gen Products

Results

Next Gen Products

MPCA

GSR² Chronology

A Decade of Development

01.02
Toolkit for
Greener
Practices

05.08
Revised
MPCA
Strategic Plan

03.09
GRIT Forms

07.09
Requirements
for ARRA LUST
Sites

07.10
PRP
Fund-Financed
Requirements

07.11
Estimated
PRP
Guidance

?
Division
Guidance

GRIT Foundation

- » Recovery Act Needs
- » EPA Guidance/Educational Resources
- » Storming with Core Elements
- » Impact vs. Difficulty
- » “Right Now” Items



EPA Recovery Act Recommendations




“By giving early consideration to sustaining and improving our environment, we can improve the environmental footprint, reduce energy consumption and costs, and reduce greenhouse gas emissions from construction projects funded by the stimulus legislation.”

Planning



 Use Core Elements

 Reduce Impacts

 Get Creative

Impact vs. Difficulty



I m p a c t	<ul style="list-style-type: none"> • Electronic Submission • Use 35% recycled content paper • ULSD fuel purchase • Anti-idling practice • Request Diesel retrofits • Require use of products with RMANS • Native plantings site restoration • Reduce VMTs – minimize travel • Join Waste Wise and Energy Smart • Recommend reusable sampling equipment • Green Chemistry • Pervious products • Giving high score to potential RA-funded sites with a PB component • Purchase renewable energy from supplier • Use Triad approach for decision making • Use Motor Master software to evaluate motors • Pulse remediation systems during off-peak hours • Use telemetry systems for CADs • Unrestricted soil reuse policy (in draft) 	<ul style="list-style-type: none"> • Alternative energy for remedial systems • Net zero-construction vs. operation • Onsite soil treatment • Use of PV systems • Well variance to keep wells after closure • Reuse soil at nearby redevelopment sites • Reuse source water for CHP or greywater options • Return all treated water to surface water • Use closed-loop grey water/rumble strip systems during redevelopment • Use FRTR Remediation Technologies Screening Matrix and Reference Guide (Ver. 4.0 Sec. 2.7 – Fuels) • Transfer well ownership to other users • Integrate current and planned land-use • Delay cleanup for redevelopment plans • Leverage BF Fed, State & local funding • Greenspace development – encourage funding sources • Area-wide Assessments
	<ul style="list-style-type: none"> • 2-sided printing, margins and one report • Reuse system equipment through Asset Recovery • Product Identification with Recycled content • Environmentally preferred purchasing for PCA and ask contractors to do the same • Green Electronics – registered with EPEAT for contractors • Local products purchasing • Hierarchal waste management • Using existing file management to reduce paper • Scrape off overburden and reuse onsite • Recover and reuse separated NAPL • Risk based decision making reduces waste generation, resource consumption and air emissions • Reuse landscaping materials • Use biodegradable or reusable packing materials • Light and noise pollution reductions • Use biodegradable silt fencing and reuse stakes 	<ul style="list-style-type: none"> • Kaizen of process for decreasing paper • 100% onsite stormwater management • Building materials resource recovery • Stabilize slopes/basins during redevelopment • On-line Brownfields applications • Aeration/tiling & wetting of traffic corridors onsite to reduce air emissions (improves onsite filtration rates post-construction) • Waive Brownfields fees for integrating greener practices

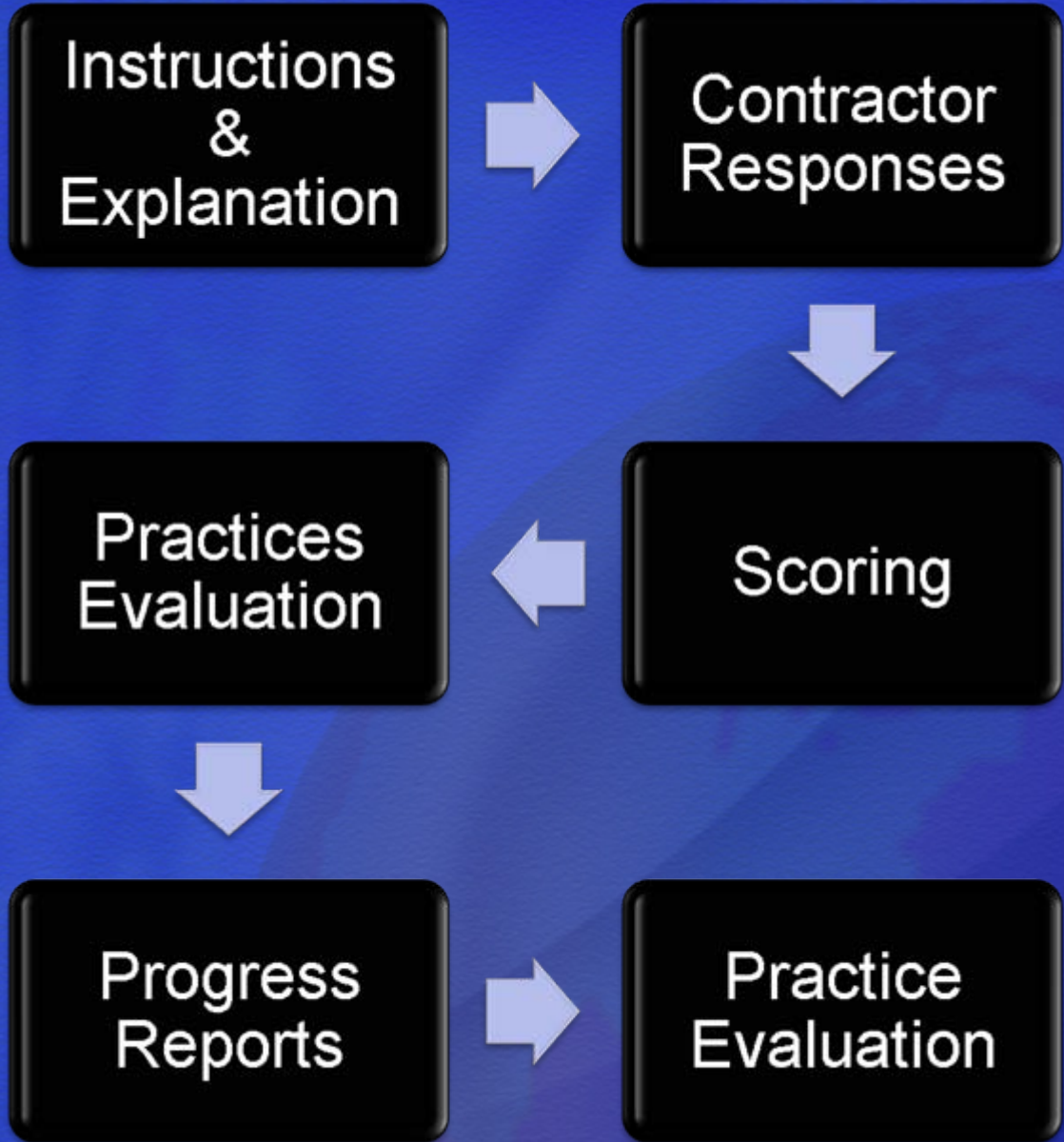
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PRP Recovery Act Green Practices 5 Categories

1. Purchasing
2. Transportation
3. Field Work
4. Project Management
5. Waste Reduction



1st Gen Products



Results



Next Gen Products



Recovery Act

- Increased Focus on Site-Specific Practices
- Annual Corporate Practices Reporting
- Focus on Corrective Action – Greatest Potential Impact

Division Efforts

- Collaborate with Others Programs
- Incorporate into All Master Services Contractor Sites
- Educate and Promote Throughout Industry



GSR²

Path Forward



Contact Information and Links

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Recovery Act Documents:

<http://www.pca.state.mn.us/publications/c-prp-arr-01.doc>
<http://www.pca.state.mn.us/publications/c-prp-arr-02.doc>
<http://www.pca.state.mn.us/publications/c-prp-arr-03.doc>
<http://www.pca.state.mn.us/publications/c-prp-arr-04.doc>
<http://www.pca.state.mn.us/publications/c-prp-arr-05.doc>
<http://www.pca.state.mn.us/publications/c-prp-arr-06.doc>
<http://www.pca.state.mn.us/publications/c-prp-arr-07.doc>

Other References:

http://www.epa.gov/oswer/greencleanups/pdfs/oswer_greencleanup_principles.pdf
<http://clu-in.org/greenremediation/>
<http://www.epa.gov/reg5rcra/wptdiv/cars/remediation/>
http://www.itrcweb.org/teampublic_GSR.asp
<http://www.sustainableremediation.org/>
<http://www.astm.org/DATABASE.CART/WORKITEMS/WK23495.htm>
<http://www.epa.state.il.us/land/greener-cleanups/index.html>
http://www.dtsc.ca.gov/OMF/Grn_Remediation.cfm
<http://dnr.wi.gov/org/aw/rr/cleanup/wisc.htm>
<http://www.afcee.af.mil/resources/technologytransfer/programsandinitiatives/sustainableremediation/index.asp>

