

## GROUP PROJECT II: DESIGN OF SITE REMEDIATION

For the sites you investigated for the risk assessment, conduct a feasibility study and preliminary remedial design. You should be able to locate remedial investigation information in literature (which you likely have already used in your risk assessments).

Report content for Feasibility Study and Preliminary Remedial Design:

- i. Title Page
  - ii. Table of Contents
  - iii. Executive Summary
- Introduction
- Site Characterization - summary of background, nature and extent of contamination  
(this can be largely taken from your Risk Assessment)
- Objectives of remedial actions – what are your goals for “clean” soil, groundwater, etc.  
discuss why these were selected; base on ARARs or Acceptable Risk or Background
- Screening of Remedial Action Technologies  
consider Technical Criteria (feasibility), Environmental and Public Health Criteria, and  
Cost Criteria  
List Remedial Action Alternatives immediately eliminated from further consideration (3-10)  
based on above and briefly why
- Remedial Action Alternatives  
about 3 to 5 described, where used, etc.
- Analysis of Remedial Action Alternatives  
Non-cost criteria analysis (technical, environmental, institutional, public health)  
Cost Analysis  
show decision matrix => recommended remedial action
- Preliminary Design of Recommended Remedial Action  
design assumptions and parameters (inc. ARARs)  
process design and performance criteria  
preliminary plans, drawings, and specifications (in as much detail as possible)
- Long-term monitoring and operation requirements  
cleanup verification methods
- Cost estimate
- Timetable - major tasks, duration, milestone dates, issues that may affect schedule
- Conclusion
- References – in text citations, reference list, depth of research
- Appendices – calculations, supporting information

Please see website links &/or notes on feasibility studies and remedial designs under CERCLA. Also note that you may be able to find information on an actual remediation and clean-up strategy used at your site. However, you need to do your own analysis, and may determine that a different alternative would be better. Especially for older sites, the knowledge we now have on the effectiveness of various clean-up approaches is better than what they had then. Don't feel constrained to follow the TRUE path that remediation is taking (based on Record of Decision) or was followed at your site. Keep in mind the results from your risk assessment, because this should help prioritize clean-up necessities and timing. [if your risk assessment showed minimal risk, you may want to select a different area of focus for the remediation]

For this project, you must submit a written confidential evaluation of the level of effort and participation of each group member, to ensure that all team members are awarded a grade appropriate for the level of work invested. These forms will be distributed prior to the due date.

All written design reports are due April 27. Oral presentations will follow similar guidelines as before, with the order and dates of presentations reversed. (1<sup>st</sup> day – Apr 27- Wyckoff, Smelertown, Hanford; 2<sup>nd</sup> day – May 2- Rocky Flats, Milltown, Air Force PJKS).