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**ERA REMOVALS & REMEDIAL ACTIONS WASTE
PIT AREA RUNNOFF REMOVAL WORK PLAN**

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Rev. 2 (3/21/90)

E R A
Removals & Remedial Actions
Waste Pit Area Runoff
REMOVAL WORK PLAN

I. Introduction

Some areas indentified during the site investigation for the RI/FS process for the Waste Pit Areas contain materials such that they may require immediate removal actions. These areas represent sites which contain items from past useage for dumping, and/or other disposal activities. These past activities have caused contaminated storm water to enter Paddy's Run and hence the DOE is planning a removal action for this area consistent with the implementation of a final remedial action.

The site-wide RI/FS is being performed at the FMPC for the purpose of selecting remedial action alternatives to address identified environmental concerns at the facility. A critical element of the RI/FS process is the completion of a comprehensive baseline risk assessment to evaluate the potential impacts associated with existing facility conditions and to define cleanup criteria for future remedial actions. Pending the final development and approval of definitive cleanup criteria through the RI/FS process, interim criteria must be developed to support removal actions. Removal action cleanup criteria must be protective of human health and the environment and support final remedial activities.

II. Background

1.0 SUMMARY OF POTENTIAL THREAT

The waste pit area is defined by the area bounded on the north by the plant railroad access, on the west by Paddy's Run, on the south by a man-made ridge containing the K-65 piping trench and on the east by the western stormwater drainage divide of the area presently draining into the Storm Water Retention Basin (SWRB). Figure 1 shows the stormwater runoff drainage patterns that presently exist in the waste pit area. Some of the stormwater runoff in the waste pit area contacts contaminated soil and/or material and therefore, needs to be controlled. The control of this contaminated surface water runoff will be accomplished in two stages. The two stages are; (I) control of stormwater runoff from the K-65 silo area and the waste pit perimeter areas, and (II) stormwater runoff control from the waste pits surface area.

2.0 RELATED ACTIONS

Drainage Areas H and I have been rerouted are being collected and discharged to the existing process area SWRB. The completion of this work will result in a reduced uranium discharge level from drainage Area A. Two work items were completed to accomplish the rerouting of these flows. These items are as follows:

- a. Provided integral curbs along the west perimeter of the Plant 1 storage pad. The runoff water collected, along with the existing localized storm sewer flow, is routed easterly, via a new storm sewer, to discharge into the existing process area stormwater collection system.
- b. Plugged the existing drainage outlet culvert from Area H. The culvert is located under the west plant perimeter gravel roadway at the northwest corner of the Plant 1 storage pad. The slope of the drainage ditch upstream of the culvert was reversed to flow east toward an existing plant storm sewer inlet. A new storm inlet was constructed to collect this rerouted runoff and convey it to the existing SWRB.

3.0 ROLES OF PARTICIPANTS

Executive Order 12580 delegates Section 104 response authority to DOE for DOE sites. The state and local roles have been one of participation in the negotiations of the CERCLA Consent Agreement and technical information exchanges, and identification of state and local ARARs. The agreement between DOE and USEPA is currently being reviewed.

WMCO and ASI/IT, as subcontractors to DOE, will provide technical support and implementation for this removal action.

4.0 PROPOSED REMOVAL ACTIONS

The outflow channel from Area A will be rerouted to prevent its being contaminated by downstream runoff from the waste pits. Rerouting of the "clean" runoff will be accomplished by intercepting the existing drainage Area A outflow ditch at the southwest corner of the Bionitrification Surge Lagoon (BSL) and rerouting this flow south, along the east boundary of the K-65 silos, to discharge into an existing tributary of Paddy's Run. A culvert will be installed under the existing K-65 piping trench. The construction of this culvert will be accomplished in a manner so that the K-65 trench is not disturbed.

Present data indicates that stormwater runoff from the K-65 silos and the waste pit perimeter areas are areas of suspected contamination. All of this stormwater runoff will be rerouted and collected in a new pump sump that will be constructed south of the Clearwell. The existing drainage ditch located along the north edge of Pit 5 will be redirected to the pump sump by constructing a new drainage channel cut through the area just beyond the northwest corner of the pit.

A new pumping station will be constructed to pump the collected runoff from the sump south of the Clearwell to the BSL. Drainage flow control structures will be installed at the entrances to culverts to equalize the flow to the new pumping station and also to minimize peak inflow rates. These control structures will cause a ponding (detention area) upstream of each culvert. The ponding will exist for several hours during large storm events.

Stormwater runoff from the majority of the surface of Pits 1, 2, and 3 is presently collected in the Clearwell. It is planned to continue collecting this runoff in the Clearwell in the future. The existing Clearwell pumping station will be redirected to discharge to the 8.1 million gallon (MG) Bionitrification Surge Lagoon (BSL).

A new Neutralized Raffinate Holding Tank (NRHT) with proportioning feed control has been provided as part of the BDN upgrade project for controlling the nitrate loading to the Bionitrification Facility. Because of this modification, a drop in the nitrate concentration in the BSL resulting from large rainfall runoff, can be controlled by injecting a stream of high nitrate wastewater from the NRHT. Because of this improved reactor control, the normal water level in the BSL can be kept much lower (anticipated 2 MG level) to provide adequate storage of the stormwater runoff from the collected areas.

5.0 RESULTS IF NO ACTION IS TAKEN

If left unattended, the flow of elevated uranium concentrations in surface water west of the FMPC would be expected to continue along the existing flow path into Paddy's Run. This would obviously extend the area of contamination to new potential users. The no-action alternative is not effective in preventing potential risk to public health via the drinking water pathway.

Under the no-action alternative, the amount of uranium crossing the FMPC boundary would continue at the currently projected level until an on-site removal or remedial action was implemented as part of another operable unit. No lessening of environmental concentrations would occur except for the continued dispersion of the plume as it migrates, uncontrolled, toward the south-southeast.

The recommended alternative would have no impact on sensitive habitats or the historical resources in the area. There would be no noise or air quality impacts related to this alternative and no change in existing land use practices or waste management requirements.

V. FIELD REMOVAL ACTIONS

The field activities will be those removal actions necessary to control or otherwise stabilize the affected area. This will specifically include the actions necessary to accomplish the work for compliance with CERCLA.

The activity will begin only after an approved plan and and personnel training is completed. The layout of the site and the method of accomplishment are key factors in keeping on schedule and within budget. Site specific actions are listed in Attachment II.

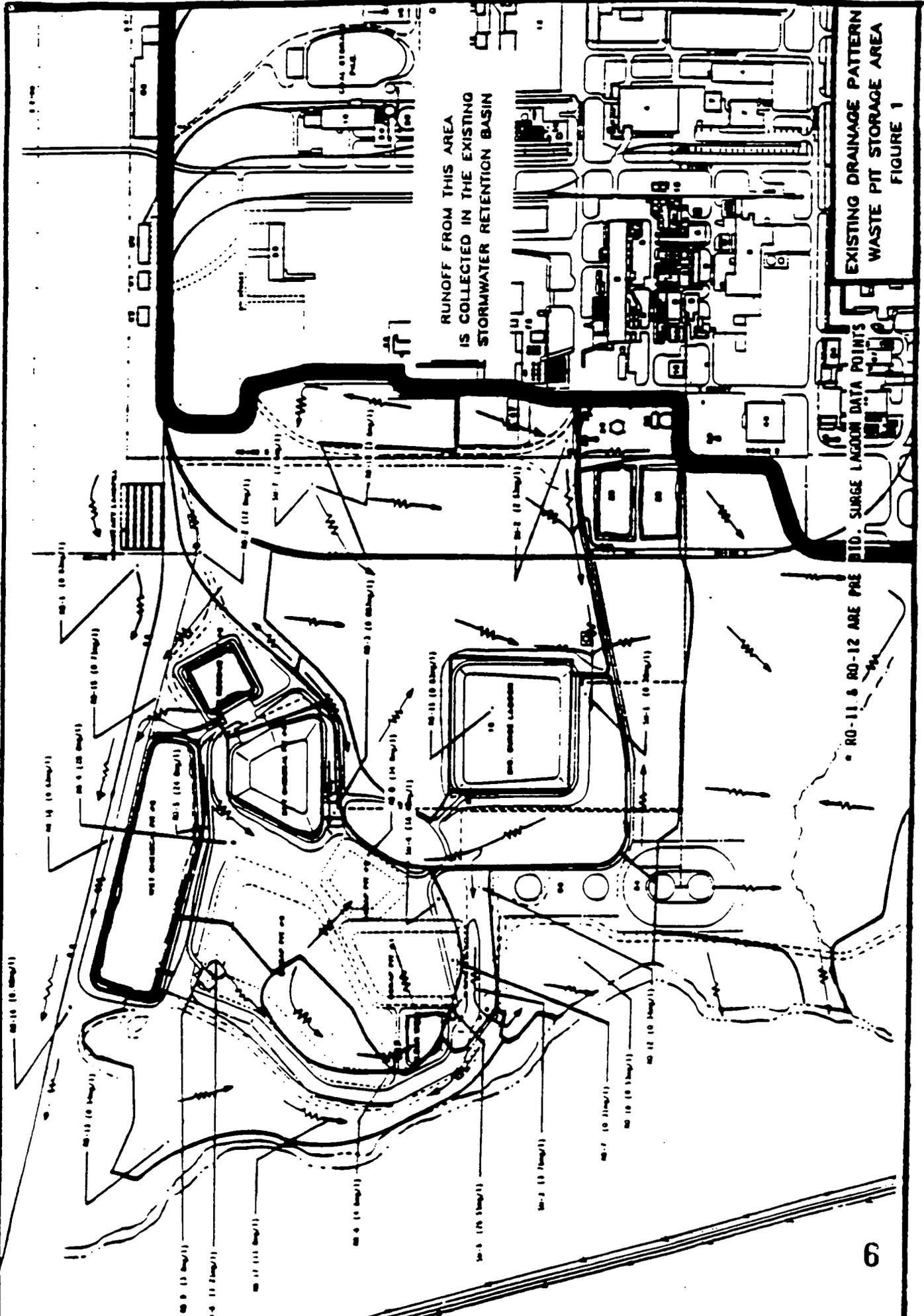
All excavated material that falls in the clean area from the equipment during the drilling process shall be cleaned up immediately and the area monitored by the R.S. technician to insure that no contaminated material was inadvertently left behind. All equipment used during the installation of equipment to be used in the removal action shall be monitored by an R.S. technician prior to being released from the excavation area. The excavated area is required to be functionally restored with clean soil for the backfill process. The area will be appropriately graded and provided with erosion control measures.

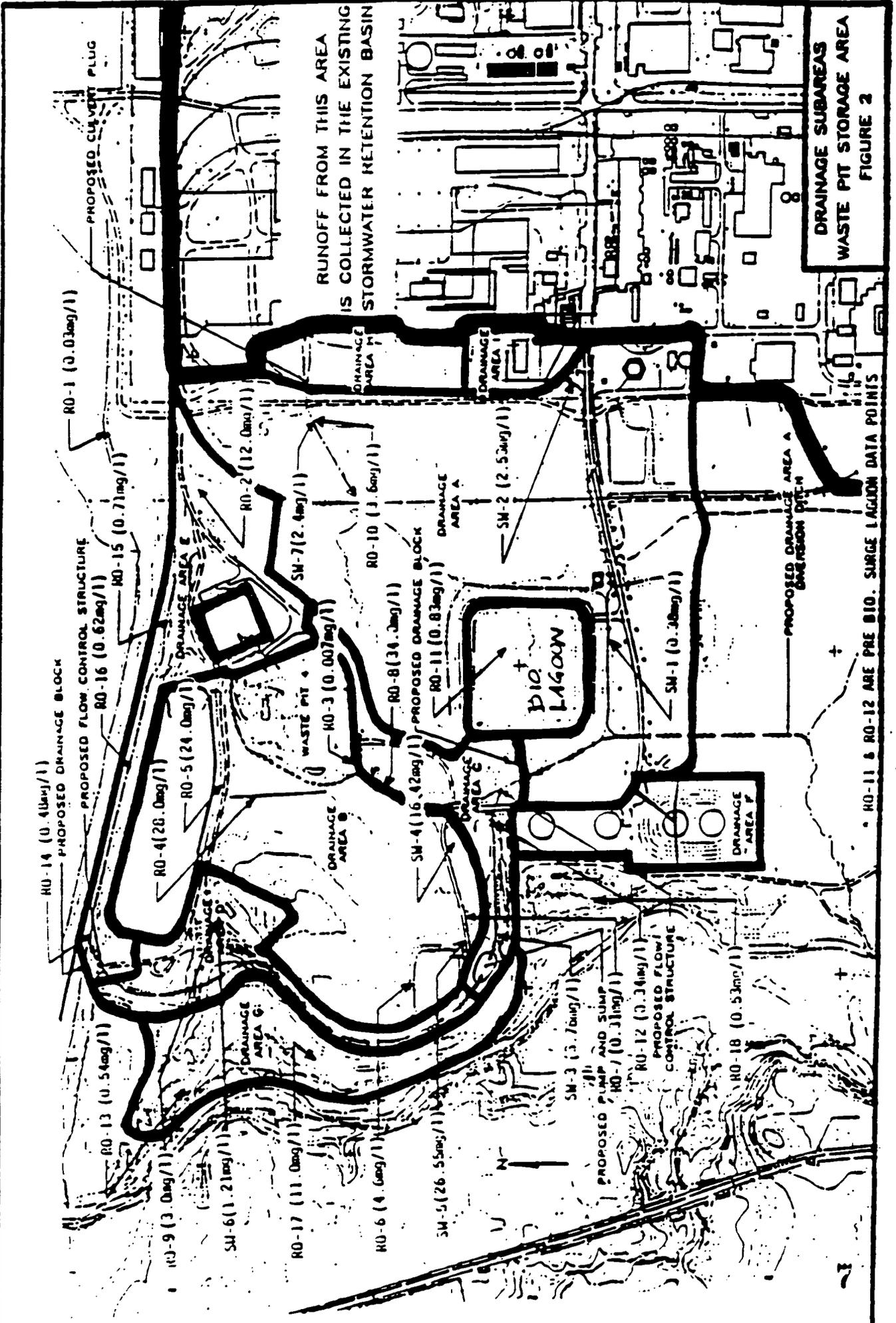
VI. HEALTH AND SAFETY PLAN

A safety analysis is to be prepared for the planned activity. A site specific Health and Safety Plan shall be developed for the planned activity and shall be designed to identify, evaluate, and control safety and health hazards, and provide for emergency response for hazardous operations. The site specific requirements are listed in Attachment III.

VII. QUALITY ASSURANCE

The overall quality assurance program at the FMPC is described in the site Quality Assurance Plan, FMPC 2139. The Quality Assurance Plan is based on the criteria specified in ASME NQA-1, Federal EPA Guideline QAMS-005/80 and DOE Orders 5700.6 and 5400.1. Specific quality assurance requirements will be incorporated into written and approved procedures and during personnel training. The Quality Assurance Department will conduct periodic surveillances to verify compliance.





RUNOFF FROM THIS AREA IS COLLECTED IN THE EXISTING STORMWATER RETENTION BASIN

DRAINAGE SUBAREAS WASTE PIT STORAGE AREA

RO-11 & RO-12 ARE PRE BIO SURGE LAGOON DATA POINTS

FIGURE 2

ATTACHMENT I

Schedule Plan

MILESTONESCOMPLETION DATE

Draft plan for comment
Final plan to DOE
Preliminary assessment
Action memorandum
Grid sampling
Training and SOP's
Design completion
Completion of removal activities
Certification samples
Complete records and reports
Closeout

- NEED TO DEVELOP SPECIFIC ACTIONS FOR EACH AREA -

ATTACHMENT II**Specific Activities**General

All areas will require similar documentation and control procedures. As recommended by the EE/CA, the action will provide control of waste pit area storm water runoff, and on-going monitoring program will be in effect during the planned __ year operation until the waste pit area remediation is completed.

Based on the historical useage of area and the sample results to date, the following activities will be performed:

- Contract Negotiations
- Title I/II Design
- Complete Grading
- Complete Piping
- Perform Acceptance Test
- Turn over system to operations

Monitoring ProgramSampling

Sampling grid layout from permanent benchmark
Input of sample results into site database

Documentation

Data evaluation
Periodic reporting on status

SAMPLE

TABLE 2
 RADIO-ANALYTICAL DATA
 from the
 SITE VICINITY

NOTE: See accompanying map for sample locations

(Values given are millirem)

LOCATION	DESCRIPTION	ANALYZER HEIGHT	
		CONTACT	3 FEET
1	Roadside	.002	.002
2	Roadside (down incline)	.003	.003
3	Roadside	.002	.002
4	Manhole	.003	.003
5	Above manhole	.003	.003
6	Boundary	.002	.003
7	Within Boundary	.003	.003
8	Within Boundary	.004	.004
9	Within Boundary	.005	.004
10	Within Boundary	.004	.004
11	Within Boundary	.004	.004
12	Within Boundary	.004	.004
13	Within Boundary	.004	.004

SAMPLE

TABLE 4

(Values shown are ppm)

Certification Sample No.	TOTAL URANIUM	TOTAL THORIUM
	-----	-----
1	18	<23
2	27	<23
3	27	<23
4	<11	<23

The information in the table indicates that the levels of uranium in soil in the excavation/study area were successfully reduced to levels below the established removal criteria.

A radiation dose rate test (with a Ludlum Model 19) was run over the area after the site was restored to its original configuration. The results of that test are presented in Attachment X.

On the basis of the results of the certification sampling and the radiation levels, no further excavation is required to meet the criteria employed.

ATTACHMENT III

Health and Safety Plan

General

All areas will require similar documentation and control procedures. This will include some or all of the following:

Background

- Historical useage of area
- Site survey
- Hazard or health risk analysis
- Personal protective equipment
- Medical Surveillance
- Air monitoring, frequency and types
- Decontamination
- Training
- Site control
- Emergency response
- Confined space entry
- Spill containment

- NEED TO DEVELOP SPECIFIC ACTIONS FOR THE AREA -