

**ON-SITE DISPOSAL FACILITY  
IMPACTED MATERIAL PLACEMENT PLAN  
FOR WINTER MONTHS**

**FERNALD CLOSURE PROJECT**

**January 2004**

**Revision 0, Final  
20105-PL-0002**

**000001**

**TABLE OF CONTENTS**

1.0 Purpose..... 1

2.0 Applicable Documents for Winter Placement..... 1

3.0 Health and Safety Requirements ..... 1

4.0 Goals and Assumptions ..... 1

5.0 Pre-Winter Months Support Activities..... 2

6.0 Pre-Winter Months Grid Preparation ..... 3

7.0 Acceptable Weather, Impacted Materials, and Placement Conditions for Winter Month Placement ..5

**ATTACHMENTS**

- A – Sketches
- B – Pre-Placement Daily Inspection Checklist
- C – Example Draft Traveler for Winter Month’s Work
- D – Weather Data (December thru March – 1998 thru 2003)
- E – DOE Letter dated August 13, 1998 to U.S. and Ohio EPA
- F – Winter Months Construction Schedule and Resources

## ON-SITE DISPOSAL FACILITY IMPACTED MATERIAL PLACEMENT PLAN FOR WINTER MONTHS

### 1.0 PURPOSE

This Impacted Material Placement (IMP) Plan is prepared to describe construction and CQC activities required for placement of approximately 30,000 to 50,000 Cubic Yards (CY) of Impacted Materials (IM) in the three active cells (Cells 4, 5, and 6) of the On-Site Disposal Facility (OSDF) during the winter months of January 2004 through March 2004.

The technical approach presented in this IMP Plan for winter months is also intended to be followed during the winter months (January thru March) of calendar year 2005 and 2006. The Plan will be updated and lessons learned will be incorporated prior to winter months of each calendar year.

### 2.0 APPLICABLE DOCUMENTS FOR WINTER PLACEMENT

- A. OSDF Impacted Material Placement Plan (IMPP)
- B. OSDF CQA Plan
- C. WAC Attainment Plan
- D. OSDF Technical Specification Section 13010 – Impacted Material Placement
- E. OSDF Construction Drawings
- F. Impacted Material Placement Plan for Winter Months (this document)

### 3.0 HEALTH AND SAFETY REQUIREMENTS

- A. IM in winter months will be placed in accordance with the specific Work Plan(s) [Traveler(s)] prepared for the winter month activities. This Work Plan for winter months will be prepared by the Safety and Construction Group, Soil and Disposal Facility Project (SDFP). An example of the Draft Traveler for the winter month's work is attached herewith for general information (see Attachment C).
- B. During the winter months, special attention will be given to the pedestrian access within the work areas. Necessary controls will be established to remove mud, ice, and snow from the pedestrian pathways and access areas.
- C. Impacted Material Haul Roads will be inspected and maintained to ensure that winter weather conditions will not adversely impact safe traffic flow.

### 4.0 GOALS AND ASSUMPTIONS

The following goals and assumptions are specific for the winter months of calendar year 2004 (January 2004 through March 2004):

- A. Place approximately 30,000 to 50,000 CY of IM in the OSDF during the winter months.
- B. During the winter months, equipment and manpower will be available to support IM placement up to 1,000 CY per day.

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- C. During the winter months, when weather and placement conditions permit, each workday will be a minimum of 8-hours per day. Also, if weather and IM placement conditions permit, Saturdays may be workdays.
- D. Placement of only Category 1 and Category 2 IM is planned during the winter months. Category 1 and Category 2 IM will be placed in accordance with the IMP Plan.
- E. Placement of Category 3 (transite panels) IM is not planned during the winter months. Category 3 and associated Category 1 soil may be placed during winter months, if grids in addition to the selected grids for winter placement are available in OSDF Cells 4, 5 and 6 and weather and placement conditions are acceptable. Category 3 IM will be placed in accordance with the IMP Plan.
- F. Approximately 8,000 to 20,000 CY of Category 1 (preferably crushed concrete) and approximately 22,000 to 30,000 CY of Category 2 IM will be placed in the OSDF during the winter months.
- G. Up to 6,000 CY of Category 1 crushed concrete will be stored in each OSDF active cell before the end of December 2003 for winter month placement.
- H. If Category 1 crushed concrete is not available, up to 6,000 CY of Category 1 soil will be stored in each OSDF active cell before the end of December 2003 for winter month placement.
- I. Up to 2,000 CY of Category 2 IM suitable for the haul road construction within the OSDF cells will be stored in each OSDF active cell before the end of December 2003 to support winter month placement.
- J. A minimum of 5-grids of 100-ft. by 100-ft each in OSDF Cells 4 and 5, one grid of 200-ft. by 200-ft. in Cell 4, and one 100-ft by 200-ft grid in cell 5 will be prepared before the end of December 2003 for winter placement as described herein. Additional grids and cells may be selected and approved by the Certifying Engineer and Construction Manager for the winter placement if acceptable winter placement conditions exist.
- K. Anticipated workdays from January 2004 through March 2004 for IM placement will be estimated based on the weather pattern for the last five years at the Fernald Closure Project (FCP), Fernald, Ohio.

Review of the last five years weather data show that more than 30-work days with daytime temperature 32 degrees F and above were available during winter months for potential IM placement (see Attachment D, Weather Data).

- L. Necessary pre-winter months support activities described herein to place IM in winter months will be completed before the end of December 2003.

**5.0 PRE-WINTER MONTHS SUPPORT ACTIVITIES**

In order to increase efficiency during the winter month placement, the following pre-winter month support activities will be planned and completed by December 2003 before the start of IM winter month placement:

- A. Plan and select sources for the IM winter month placement before the end of November 2003. Sources for the IMs include: excavation areas, IM stockpiles at the excavation areas, OSDF Material Transfer Areas (OMTAs) for Category 2, stockpiles of Category 1 crushed concrete in

the production area, and Category 1 crushed concrete and soil stockpiles in the OSDF active cells 4, 5, and 6. After the sources for the IM are selected, complete any site preparation required at these source locations before the end of December 2003. Site preparation at the IM source locations may include preparation of the loading area, access to the IM stockpiles from the IM haul road, survey of IM stockpiles for the quantity confirmation, etc.

- B. Store (stockpile) up to 6,000 CY of Category 1 crushed concrete in each OSDF active cell before the end of December 2003 outside the selected grids for the winter placement. An RCI/page change to IMP Plan has been issued to allow storage of up to 6,000 CY Category 1 crushed concrete in each OSDF cell for a duration of more than 30-calendar days.
- C. If Category 1 crushed concrete is not available, store (stockpile) up to 6,000 CY of Category 1 soil in each OSDF active cell outside the selected grids for the winter placement before the end of December 2003. An RCI/page change to IMP Plan has been issued to allow storage of up to 6,000 CY Category 1 soil in each OSDF cell for a duration of more than 30-calendar days.
- D. In accordance with the IMP Plan, store up to 2,000 CY of Category 2 IM suitable for the haul road construction within each OSDF active cell before the end of December 2003 to support winter month placement. An RCI/page change has been issued to include storage of Category 2 IM in months of January and February. Currently, IMP Plan allows storage of Category 2 IM during active construction season from March through December.
- E. Plan impacted material haul roads from the IM source locations to each selected grid for winter placement. These IM haul roads include haul roads outside and inside the OSDF. Prepare/improve/winterize IM Haul Road surfaces and drainage ditches along haul roads before the winter months IM placement. Haul Road improvement/winterization includes but is not limited to: regrading of the road surface to improve drainage, surfacing haul roads with crushed concrete and/or contaminated crushed rock removed from the excavation areas, repairing of road surface showing excessive pumping or soft surface, etc.
- F. Review and modify Construction Traveler to cover winter month work scope and associated hazards and controls.

## 6.0 PRE-WINTER MONTHS GRID PREPARATION

In order to increase efficiency during the winter month IM placement, the following pre-winter months grid preparation activities will be planned and completed before the end of December 2003:

### A. General:

1. Identify the selected grids and prepare these grids for IM winter month placement as described herein. Suitable grids for IM winter month placement will be selected in OSDF Cells 4 and 5. Grids may be selected in OSDF Cell 6 for IM winter placement if placement of 3-ft. thick select impacted material layer in Cell 6 is completed before December 31, 2003. Grid selection will be performed before the end of November 2003 so that the selected grids could be prepared for the winter month placement before the end of December 2003. For the proposed selected grids in OSDF Cells 4 and 5, see Attachment A, Sketch-4 and Sketch-5.
2. Construct Category 1 soil berms around the selected grids (see Attachment A, Sketch-1, Sketch-2, and Sketch-3). Where feasible, keep one side of the selected grid open for unloading IM haul trucks.

3. Grade the last layer of the Category 1 crushed concrete or soil in the selected grids and surrounding area to drain away from the placement grids. Seal the graded surface of the last layer in the selected grids using a smooth drum roller.
4. Install erosion and sediment controls in the active OSDF cells in accordance with the IMP Plan.

**B. Placement of Category 1 Crushed Concrete**  
(See Sketch-1)

[The use of Category 1 crushed concrete as an intervening layer has not been approved by the OEPA. References to Category 1 crushed concrete as an intervening layer remain in this document, but actual implementation will not be allowed until the specific OEPA approval is obtained.]

1. Place Category 1 crushed concrete layer as a:
  - a. 24-inch thick intervening layer over the existing Category 2 through 5 IM grids; and/or
  - b. Last lift of minimum 6-inch thick of the 24-inch thick Category 1 IM intervening layer; and/or
  - c. Minimum 6-inch thick layer over the first existing lift of Category 2 (if this is the last lift of Category 2 before the winter months) or over the existing Category 1 soil intervening layer.
2. Compact Category 1 crushed concrete in accordance with the IMP Plan.
3. Construct Category 1 soil berms at the selected grids as shown on Sketch-1.

**C. Placement of Category 1 Soil Sacrificial Layer**  
(See Sketch-2 and Sketch-3)

1. Place 6 to 8-inch thick Category 1 soil sacrificial layer:
  - a. Over the existing Category 1 soil intervening layer; and/or
  - b. Over the existing Category 1 soil layer top of completed Category 2 through 5 IM grids; and/or
  - c. Over the first Category 2 lift choked with Category 1 soil (if this is the last lift of Category 2 before the winter months)
2. Compact the Category 1 soil sacrificial layer placed before the winter months in accordance with the IMP Plan.
3. Construct Category 1 soil berms at the selected grid as shown on Sketch 2 and Sketch 3
4. Category 1 sacrificial soil layer in total or in part may be substituted with other alternative temporary cover (e.g., blankets).

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## 7.0 Acceptable Weather, Impacted Materials, and Placement Conditions For Winter Month Placement

### A. Acceptable Weather Conditions:

Acceptable weather conditions for the IM placement during winter months will be as follows:

#### 1. General Conditions

- a. Do not place the IM during or within 24 hours of an 1-inch or greater rainfall event or equivalent snowfall event.

The Construction Manager in consultation with the Certifying Engineer will determine if conditions within the cells are deemed acceptable for impacted material placement after the initial 24-hour waiting period.

#### 2. Specific Weather Conditions for each Category of IM

##### a. Category 1 Crushed Concrete:

Place Category 1 crushed concrete during non-significant periods and amounts of precipitation regardless of ambient or soil temperature. The impacted material must not be frozen or consist of free flowing material.

##### b. Category 1 Soil:

Place unfrozen Category 1 soil during non-significant periods and amounts of precipitation and when the IM soil temperature is 32 degrees F or above regardless of ambient temperature.

##### c. Category 2:

Place Category 2 debris material during non-significant periods and amounts of precipitation regardless of ambient or soil temperature.

##### d. IM (e.g., thorium debris and ACM) requiring significant water spray for dust suppression:

Upon notification to USEPA, and OEPA, IM requiring significant water spray for dust suppression may be placed in prepared grid when ambient air temperature is at 40 degrees F or above.

#### 3. Verification of Weather Conditions

- a. CQC Technician will measure and verify IM temperature in each placement grid as described below:

- (1). At the START of the IM placement
- (2). End of IM placement before Lunch/Break
- (3). At the START of IM placement after Lunch/Break
- (4). Every one hour during the IM placement from the start of placement to the end of the placement when air temperature is between 30 degrees F and 34 degrees F; and
- (5). End of IM placement – at the end of the day

Temperature of Category 1 soil will be measured approximately 2-inch below top of the lift. Temperature of Category 2 IM lift will be measured near top of the Category 2 lift (e.g., near concrete or structural steel surface at the top of the lift).

- b. CQC Technician will also measure and verify:
  - (1). The temperature of Category 1 soil and crushed concrete and Category 2 IM at the excavation areas, IM stockpiles at the excavation areas and stockpiles in the OSDF at the start of loading of IM beginning of the day and after lunch/break.
  - (2). Air temperature at start, before and after break/lunch, and end of the day's placement to monitor the trend and to assist the Construction Manager forecast and plan placement activities for the remaining day.
- c. CQC Technician will monitor:
  - (1). Freezing of moisture in the Category 1 crushed concrete and Category 2 IM and Category 1 soil during placement. If any freezing of moisture or soil is observed, CQC Technician will inform the Construction Manager immediately.
- d. Precipitation (including snow and rain) at FCP site will be measured by Fluor Fernald.

**B. Acceptable Impacted Materials**

In addition to the requirements specified in the IMP Plan, acceptable IMs to be placed during the winter months will meet the following requirements:

- 1. General:
  - a. IM from stockpiles and/or excavation areas containing visible frozen material, snow cover more than 1/8-inch deep, ice, excessive moisture, or free draining liquids will not be placed in OSDF.
- 2. Category 1 Soil IM:
  - a. Frozen Category 1 soil and soil like material below 32 degrees F will not be placed in the OSDF. Frozen Category 1 soil and soil like material may be placed after it is thawed, reworked, and reaches the material temperature above 32 degrees F. CQC Technician will verify the acceptable IM requirements before material is accepted for the placement.
  - b. IM with excessive moisture regardless of IM temperature will not be placed in the OSDF. IM with excessive moisture is defined as the material that could not be tracked or compacted with the standard compaction equipment. The Certifying Engineer or Construction Manager may direct CQC Technician to verify the excessive moisture content in the material. IM with excessive moisture content may be placed after the moisture content is lowered to an acceptable level and the material reworked, and verified by the CQC Technician as the acceptable impacted material.
- 3. Category 1 Crushed Concrete and Category 2 IM
  - a. Category 1 crushed concrete and Category 2 IM debris may be placed in the OSDF regardless of the IM temperature provided visible frozen material and ice, snow cover more than 1/8-inch deep, excessive moisture, or free draining liquids are not contained in the IM. These IM are less susceptible to freezing during extended cold weather conditions; therefore, it is not anticipated that these IM will freeze.
- 4. IM (e.g., thorium debris and ACM) requiring significant water spray as dust suppressant

- a. IM requiring significant water spray will not be placed in the cells during January and February unless ambient air temperature is at 40 degrees F or above and USEPA and OEPA are notified.
5. Verification of IM at the source and in the OSDF
  - a. IM in stockpiles at the sources, excavation areas, and stockpiles in OSDF will be visually observed for snow, frozen material, ice, excessive moisture or free draining liquid. The temperature of IM will be measured and verified as described in the Weather Acceptable Conditions.
  - b. The Certifying Engineer or Construction Manager may direct CQC Technician to verify the excessive moisture content in the IM.

### C. Acceptable Placement Conditions

Acceptable placement conditions for IM during winter month placement will be as follows:

#### 1. General

- a. IM will be placed in the grids selected and prepared for the winter placement unless otherwise approved by the Construction Manager and the Certifying Engineer. Construction Manager and the Certifying Engineer will approve the grids for the winter placement based on the pre winter grid preparation requirements described herein.
- b. IM will not be placed with visible ice and frozen material, snow cover more than 1/8-inch deep, material with excessive moisture, or free draining liquid. Visible ice or frozen material and snow cover over the layer will be removed prior to IM placement.
- c. No IM will be placed on softened layer. Softened layer is defined as a layer, which could not be tracked or compacted by the standard compaction equipment due to high moisture content.
- d. IM will not be placed over the frozen layer. If a Category 1 soil sacrificial layer is frozen to a depth of more than 2-inches, the entire layer will be pushed off the grid before the start of IM placement and allowed to thaw prior to re-working the previously frozen soil. If Category 1 soil sacrificial layer is frozen to a depth of 2-inches or less, the top 2-inches layer will be tracked with construction equipment and loosened before the IM placement. Removal of a frozen layer and tracking of a 2-inch frozen layer will be confirmed by the CQC Technician. If ice lenses are found in the layer after tracking, layer will be tilled or disked down to minimum 4-inches of non-frozen layer to distribute the excessive moisture through a larger depth and to break up ice lenses.
- e. Before the start of the IM placement, the CQC Technician and Construction Manager will inspect and verify weather and placement conditions and placement surface in the grid selected for the placement. IM will be placed in the grid after weather and placement conditions and placement surface are verified and confirmed by the CQC Technician and approved by the Construction Manager.

#### 2. Verification of Acceptable Placement Conditions

- a. CQC Technician and Construction Manager will inspect and verify the weather and placement conditions and placement surfaces in the placement grids for the winter placement before and periodically during the IM placement.

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- b. CQC Technician and Construction Manager will inspect and verify the placement surfaces and IM layers for excessive moisture, visible ice or snow, and for frozen IM before and periodically during IM placement
- c. CQC Technician will verify the frozen and unfrozen layer conditions by measuring the IM temperature in the layer.

**D. Equipment**

1. No special equipment will be needed for the IM placement (see Attachment F for Construction Resources). Additional equipment may be needed if mechanical system is selected to heat and/or cover the working layer as a contingency application.

**E. Placement**

1. Specific Health and Safety requirements for the IM placement during winter months will be as described in the specific Work Plan (Traveler).
2. Fugitive Dust control requirements will be as specified in the IMP Plan and the Work Plan (Traveler). Dust suppressants (e.g., water mist, crusting agents, etc.) may be used to effectively control fugitive dust emissions. Dust suppression methods will be selected to minimize excessive water use during freezing temperatures. Surface preparation to sufficiently grade to drain surface water away from the working area, using drum rollers to minimize rough surfaces where water can be trapped, and limiting the speed limit for haul trucks are example of working with water mist in freezing conditions.
3. Maintain the IM Haul Roads from the IM source locations to the selected grids in the OSDF. Also maintain the drainage ditches and drainage along the IM Haul Roads.
4. Maintain the erosion and sediment controls in the OSDF and IM placed in the OSDF including IM slopes, catchment areas, fences, and signs.
5. Place IM during winter months in the grids selected and prepared for the winter placement.
6. Confine daily IM placement to a maximum of four (4) selected grids.
7. Remove visible ice or frozen material and snow cover from the layer.
8. Before start of the IM placement, inspect and verify placement grids, weather conditions, IM conditions, and placement conditions. Enter inspection and verification information into Pre-Placement Daily Inspection Check List attachment herewith (Attachment B). Check list will be approved by the Construction Manager or his representative with concurrence from the Certifying Engineer. Do not start IM placement till Pre-Placement Daily Inspection Check List is complete and approved. A copy of the approved Check List will be submitted to the Demolition, Soil and Disposal Project (DS&DP) Project Director or Project Manager and will be transmitted (faxed) to U.S. EPA and Ohio EPA before the end of the work day.
9. Place IM in the selected grid after the grid is verified and inspected by the CQC Technician and approved by the Construction Manager.
10. After the selected grid is approved for the placement, track the placement surface. Remove IM softened by excessive moisture and replace with Category 1 soil or crushed concrete.

11. If a Category 1 soil sacrificial layer is frozen more than 2-inches in depth, entire layer will be removed before the start of IM placement and stockpiled outside the placement grid. Stockpiled frozen material may be reused after it is thawed, reworked, and meets the impacted material requirements described herein.
12. If a Category 1 soil sacrificial layer is frozen less than 2-inch in depth and the layer is to be left in place, the top 2-inch layer will be tracked with construction equipment, loosened, and compacted in accordance with the IMP Plan before beginning IM placement over the layer. It is not anticipated that a Category 1 soil sacrificial layer will freeze more than 6-inches in depth.
13. Obtain the IM from the Category 1 soils and crushed concrete stockpiles and/or excavation and Category 2 from OMTA or IM stockpiles. Verify that the IM is not frozen by checking temperatures of soil or visually inspecting crushed concrete or Category 2 debris for ice. Remove frozen IM, snow, and/or ice from the stockpiles or at excavation. The frozen soil material will be pushed aside and allowed to thaw. The Construction Manager and the CQC Technician will verify IM at the stockpiles and excavation. IM acceptable for the placement will be hauled to the OSDF for placement.
14. Place IM during acceptable weather conditions described herein. Stop IM placement when weather conditions change and do not meet the described acceptable weather conditions.
15. IM will be placed in accordance with the IMP Plan except the construction of the Category 1 berms. Currently IMP Plan shows 2-ft berms. An RCI/page change to IMP Plan will be issued to allow a berm height up to 4-ft for IM placement.
16. Protect surface of new lift of the Category 1 soil to prevent freezing between the lifts.
17. To protect the Category 1 soil lift from freezing between the active placement period (e.g., period from the beginning of the active placement to the end of each work day and period from the end of the work day to the beginning of active placement next work day), cover the compacted layer with 6 to 8-inch of the Category 1 soil sacrificial layer and seal with steel drum roller. Category 1 soil sacrificial layer placed to protect the Category 1 soil layer between the active placement periods will not be compacted.
18. When a 6"-8" inch thick lift of Category 1 crushed concrete is used to protect an underlying Category 1 soil intervening layer, and has been left idle for more than 3 days of continuous freezing temperatures before placement occurs, the soil conditions of the underlying Category 1 soil intervening layer shall be checked.
19. When freezing temperature is forecasted for more than 24-hours and when Category 1 soil is not available, a layer may be covered with temporary alternate cover (e.g., blankets or plastic covers). Secure the cover with sand bags.
20. Typical placement of IM during winter months will be as shown on the Sketches attached to this Plan.
21. Special IM (e.g., thorium debris and ACM) requiring significant water spray for dust suppression shall not be placed during the months of January and February. However, if ambient air temperatures rise to 40 degrees F or higher, the prohibited item may be placed with USEPA and OEPA notification.

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temperatures rise to 40 degrees F or higher, the prohibited item may be placed with USEPA and OEPA notification.

**F. CQC Testing**

1. CQC Testing and verification for the IM placement will be as specified in the IMP Plan, OSDF Technical Specification Section 13010, OSDF IMP CQA Plan, and this document.

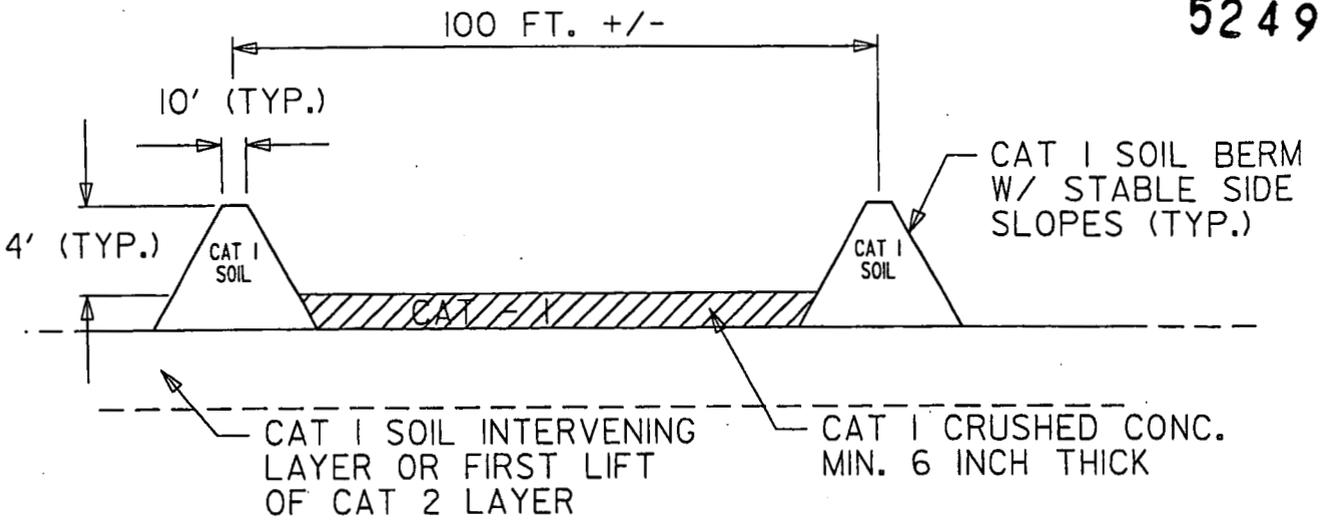
**G. Key Personnel**

Following personnel are designated as key personnel for IM placement during the winter months of January 2004 through march 2004:

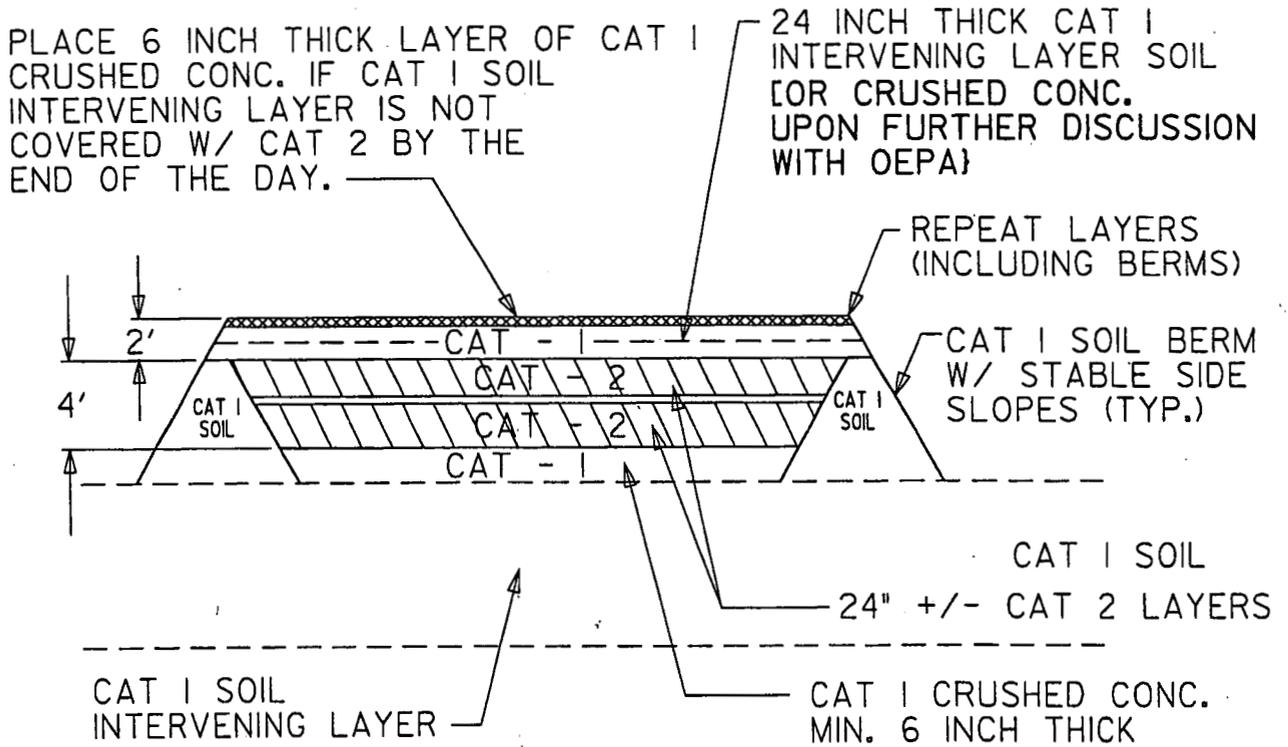
| <b>Key Personnel</b> | <b>Primary Contact</b>                | <b>Alternate Contact</b>      |
|----------------------|---------------------------------------|-------------------------------|
| Construction Manager | Kevin Harbin                          | Jeff Ellis, Mary Eleton       |
| Certifying Engineer  | Kwasi Badu-Tweneboah, GeoSyntec, Inc. | Collin Sukow, GeoSyntec, Inc. |
| Project Director     | Dan Powell                            | Jyh-Dong Chiou                |

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**ATTACHMENT A**  
**SKETCHES**



**TYPICAL SECTION**  
**PRE-WINTER GRID PREPARATION W/CATEGORY 1 CRUSHED CONCRETE**  
 (NOT TO SCALE)



**TYPICAL SECTION - WINTER PLACEMENT**  
 (NOT TO SCALE)

/2003 placement/WINTER PLACEMENT\_04\_Sketch 1.dgn

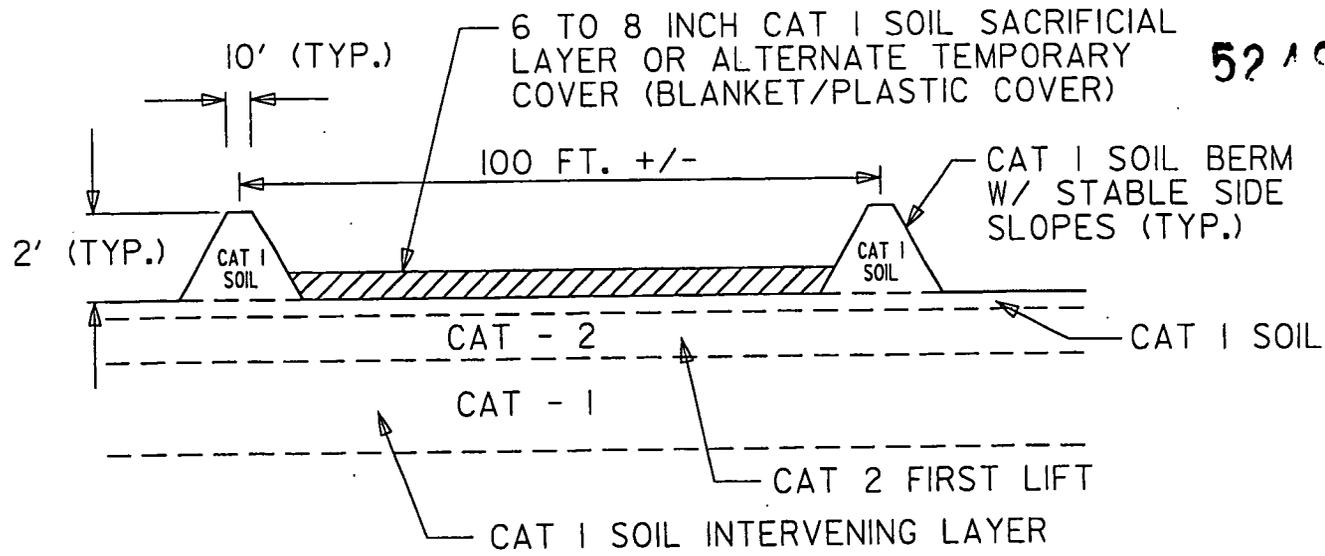
IMPACTED MATERIAL PLACEMENT FOR WINTER MONTHS

PLACEMENT OF CATEGORY 1 CRUSHED CONCRETE

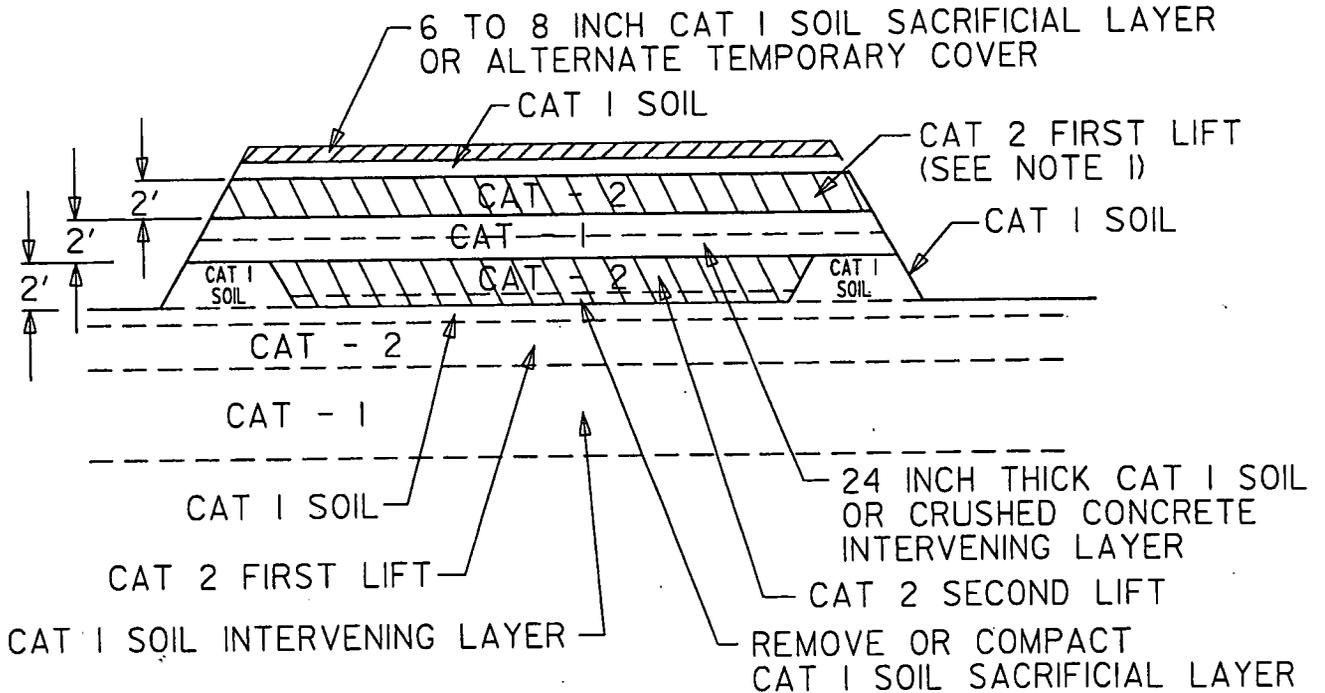
(NOT TO SCALE)

SKETCH 1

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**TYPICAL SECTION**  
**PRE-WINTER GRID PREPARATION W/ CAT 1 SOIL SACRIFICIAL LAYER CASE 1**  
 (NOT TO SCALE)



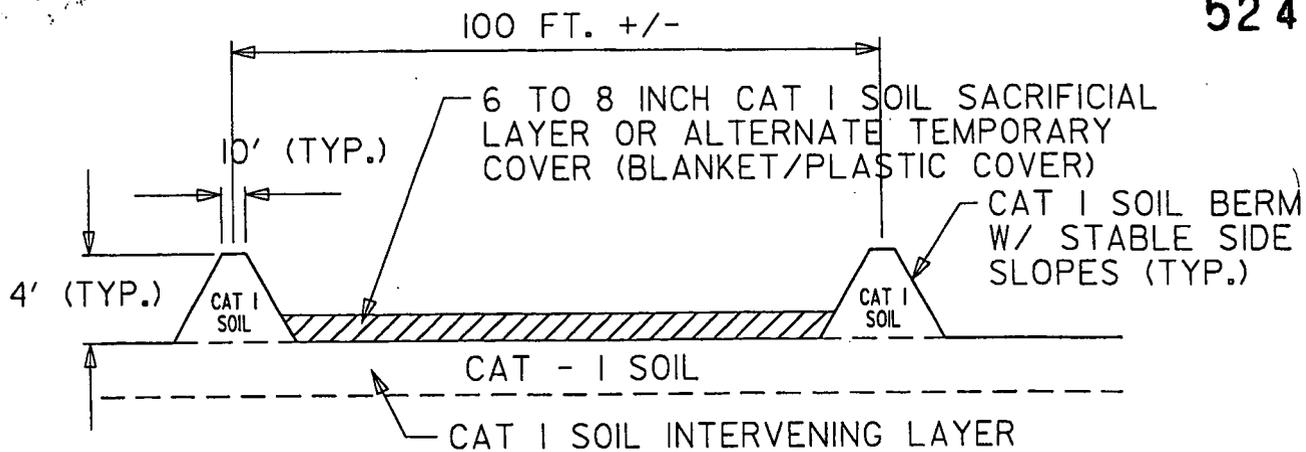
**NOTE:**  
 1. IF WEATHER CONDITIONS PERMIT, CONSTRUCT BERMS BEFORE CATEGORY 2 PLACEMENT. OTHERWISE, CONSTRUCT BERMS IMMEDIATELY AFTER WINTER MONTHS.

**TYPICAL SECTION - WINTER PLACEMENT**  
 (NOT TO SCALE)

/2003 placement/WINTER PLACEMENT\_04\_Sketch 1.dgn

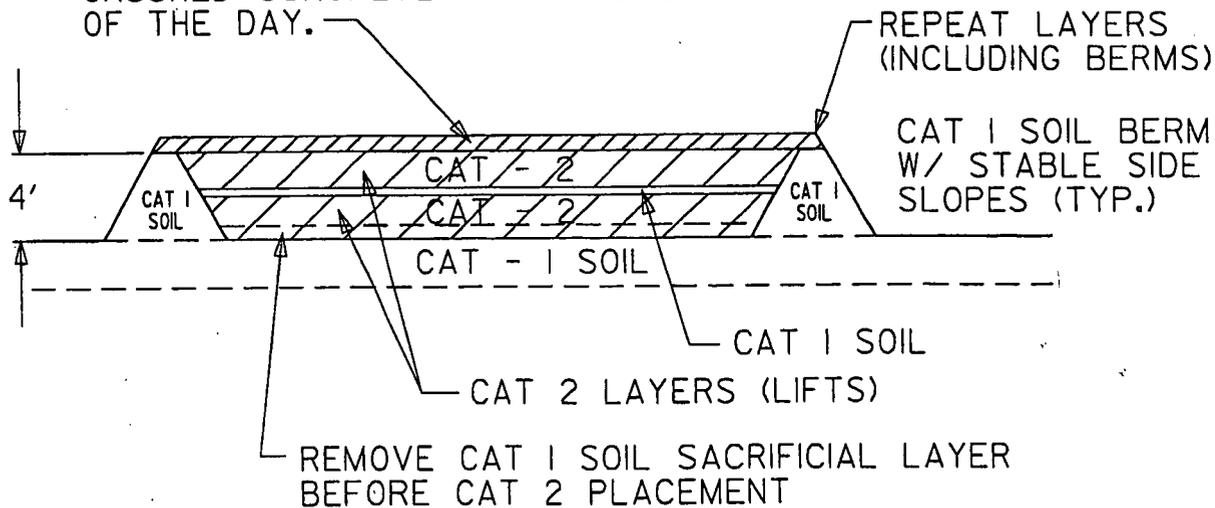
**IMPACTED MATERIAL PLACEMENT FOR WINTER MONTHS**  
**PLACEMENT CATEGORY 1 SOIL SACRIFICIAL LAYER**  
**CASE 1**  
 (NOT TO SCALE)

**SKETCH 2**  
**000015**



**TYPICAL SECTION**  
**PRE-WINTER GRID PREPARATION W/ CAT 1 SOIL SACRIFICAIL LAYER CASE 2**  
 (NOT TO SCALE)

PLACE 6 TO 8 INCH CAT 1 SOIL SACRIFICIAL LAYER IF CAT 2 IS NOT COVERED W/ CAT 1 CRUSHED CONCRETE BY THE END OF THE DAY.



**TYPICAL SECTION - WINTER PLACEMENT**  
 (NOT TO SCALE)

IMPACTED MATERIAL PLACEMENT FOR WINTER MONTHS  
 PLACEMENT OF CATEGORY 1 SOIL SACRIFICIAL LAYER  
 CASE 2

(NOT TO SCALE)

SKETCH 3

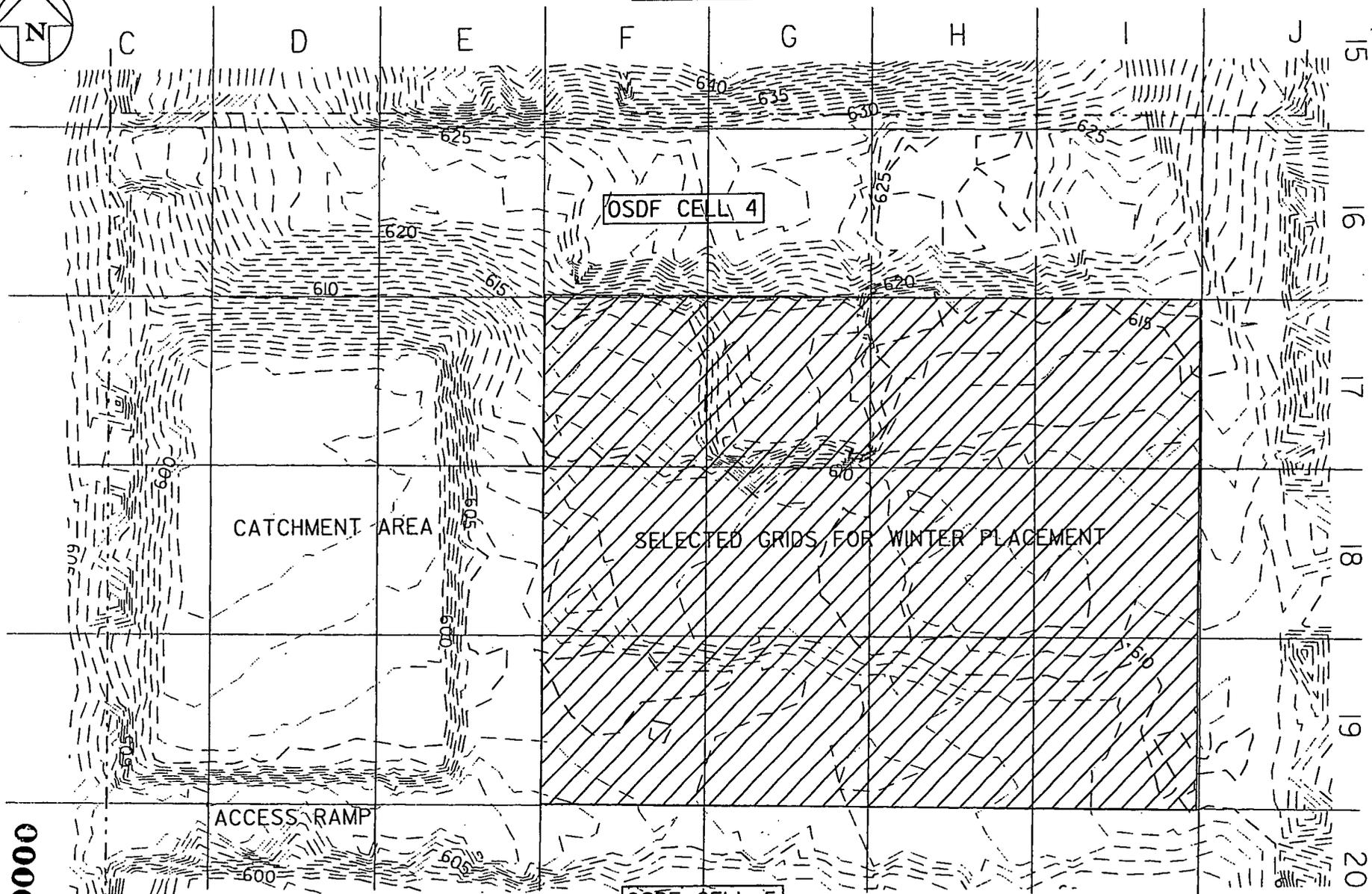
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OSDF CELL 3

OSDF CELL 4

OSDF CELL 5

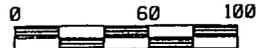


CATCHMENT AREA

SELECTED GRIDS FOR WINTER PLACEMENT

ACCESS RAMP

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15  
16  
17  
18  
19  
20

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PRE-FINAL

OSDF CELL 4  
 IMPACTED MATERIAL PLACEMENT  
 SKETCH 4.

SKETCH 4.



C

D

E

F

G

H

I

J

19

ACCESS RAMP

OSDF CELL 4

OSDF CELL 5

SELECTED GRIDS  
FOR WINTER PLACEMENT

20

21

22

23

24

5249

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OSDF CELL 6

PRE-FINAL



OSDF CELL 5  
IMPACTED MATERIAL PLACEMENT  
SELECTED GRIDS FOR WINTER PLACEMENT

SKETCH 5

**ATTACHMENT B**  
**PRE-PLACEMENT DAILY INSPECTION CHECKLIST**

DRAFT

Rev. A. 12/8/03

Prepared By: Uday Kumthekar

IMPACTED MATERIAL WINTER PLACEMENT
PRE-PLACEMENT DAILY INSPECTION CHECKLIST
WINTER MONTHS - JANUARY AND FEBRUARY
(Reference: IMP Plan For Winter Placement)

5249

Inspection and Placement Date:
Inspection Time:
Air Temperature: Degree F
Weather: Sunny/Partly Cloudy/Rain/Snow
Wind: Calm/Windy

Inspection/Verification By (Enter Names):
Fluor Fernald CM:
CQC Technician:
Cert. Engineer:

Table with columns: Previous Work Day IM Placed, IM Placed Previous Day ICY, Total IM Placed at the End of Previous Day - ICY, Weather (Last 24-hours) [Ngt Temp, Day Temp, Rain, Snow, Wind], Remark.

Main inspection checklist table with columns: ITEM, Ref. Article IMPP - WP, REQUIREMENT, Inspected/Verified BY, PLACEMENT GRID (A = Approved, U = Not Approved), REMARK. Includes sections A, B, C, D, and E.

A = Acceptable for Placement, U = Unacceptable for Placement, CM: Construction Manager or his Representative, Cert. Engineer: Certifying Engineer for CQA Report

REMARK:

APPROVED GRIDS FOR PLACEMENT:

Date:

Time:

APPROVED BY:
(Signature)

CM:
CQC Technician:
Cert. Engineer:

TIME AT THE END OF IM PLACEMENT IN EACH GRID:

TIME ENTERED BY:
(Name)
(Signature)
Date:

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**ATTACHMENT C**

**EXAMPLE DRAFT TRAVELER FOR WINTER MONTH'S WORK**

### 1.12 SAFE WORK PRACTICES FOR MOBILE EQUIPMENT & PROJECT VEHICLES

CMT will assure that all mobile equipment and project vehicles ("Equipment") at all times are maintained to a safe, controlled configuration. This includes:

- Safe parking procedures includes lowering all suspended tools to the ground, placing transmissions to neutral and setting the parking brake. This will apply anytime the operator/driver exits the Equipment, including times when the Equipment is being repaired or serviced.
- When an operator/driver leaves the accessible vicinity (i.e., within an unobstructed, 35-ft path) of the Equipment, the engine shall be shut down after a normal period of idling. An exception to this would be during cold weather with an air temperature below 32F, during which equipment may be permitted to idle through breaks and morning startups. This equipment must be placed in a zero energy condition (moveable parts lowered) and have it's parking brake set.
- Operators/drivers and passengers shall wear seat belts at all times while the Equipment is in operation or motion.
- All incoming Equipment is required to pass an initial, pre-use inspection conducted jointly by CMT and S&H representatives.
- Operators/drivers shall inspect Equipment prior to use on a daily basis and after repairs. Inspection shall include but not be limited to the following items: electronic backup alarm, brakes (if applicable), steering mechanisms, oil and fluid leaks, engine, hoses, filters, clean windshields, tires or tracks, brake lights, and head lights (if applicable). If deficiencies are found during the inspection or during use, which may affect the safe operation of the Equipment, the operator will notify his/her supervisor for an assessment of the concern.
- Equipment shall not be overfilled during refueling operations. All spills shall be reported immediately to the CMT, who will assess the spill scene. As a minimum, spill clean up supplies including absorbent pads and booms shall be kept in the tool trailers, service trucks, and at all locations where there is a potential for spills to occur. As possible, spill control materials should be kept in each piece of Equipment.
- Service and maintenance personnel will be equipped with appropriate spill containment and control equipment. Prior to initiating such activities whereby motor oil, hydraulic fluid, or other materials maybe released, preventative steps will be taken to assure any spills will be contained and managed with minimal impact to the surrounding environment.
- The speed limit for all Equipment is 20 mph on the paved road surfaces and 10 mph on unpaved areas or in excavations.
- The enclosed cab Equipment operators/drivers are required to park in the designated locations within the Contamination Area prior to exiting at the Radiological Control Point Facilities (in cases other than emergencies).
- Radiological Control Technicians (RCTs) will perform routine radiological surveys on Equipment cabs during times while they are parked. Operators/drivers will clean the cabs as directed by the RCTs based on the findings of their routine surveys.
- The supervisor with technical assistance from knowledgeable/experienced representatives such as a Master Mechanic shall determine if equipment is safe to operate. Unsafe Equipment shall be tagged with a "DANGER – DO NOT USE" until removed from site or repaired, reinspected and returned to service.

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- Operators/drivers shall not have portable radios (AM/FM), tape/CD players or use personal headphones in the cab while operating Equipment. Only site communication equipment shall be permitted in the cab.
- Cellular phone use while operating/driving Equipment is prohibited. Operators and drivers may use cellular phones only after:
  - Exiting the flow of operations or traffic, and
  - Stopping the Equipment, placing the equipment in a safe configuration, setting the parking brakes, and/or shutting down the Equipment
- Personnel who may be required to operate Equipment on slopes or inclines shall review the task with the CMT and confirm by the Operators Manual that the equipment is designed for and capable of safely operating at the planned angle of operation.
- Operators/drivers shall review new tasks with their supervisor prior to the operation. Road/terrain conditions, area hazards (overhead & below) and other operational hazards shall be reviewed.
- The use of Gators and other All-Terrain Utility Vehicles is limited to personnel that have been trained and authorized as per SPR 7-3. Prior to use, the driver must become familiar with the surface conditions and any hazards in the area.
- CMT will verify that S/VP will provide and operate equipment and tools in accordance with contract requirements.
- For personnel in close proximity to operating Equipment:

#### **1.12.1 Approaching Heavy Equipment**

Personnel shall not approach equipment (within 25 ft) without prior approval from the operator of the equipment. This can be by radio or hand signals. See 1.14 below.

#### **1.12.2 Contact with equipment**

Personnel who need to contact (touch) equipment, such as for manifest or radiological surveys shall wait for the operator to authorize the approach. The operator shall not approve personnel to approach or make contact with the equipment until shifted into neutral, raised beds and/or arms are down/grounded and the brakes set (for trucks). See 1.14 below

### **1.29 HEAT AND COLD STRESS**

Personnel who are unaccustomed to working in environmental temperatures above or below their normal comfort range are particularly susceptible to heat or cold related injuries and illnesses. However, even the most acclimatized workers can experience potentially life-threatening conditions when working in temperature extremes. We are committed to implementing our comprehensive programs for heat and cold stress management to prevent such injuries or illnesses, using the full range of programmatic controls, including, but not limited to the following.

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| Hazard      | Mitigator/Control  |
|-------------|--|
| Heat stress | <ul style="list-style-type: none"> <li>• Orient crew to Heat Stress Management Plan</li> <li>• Brief personnel on physiological monitoring requirements</li> <li>• Fluor Fernald Medical's training to physiological monitoring for supervisors and those performing physiological monitoring</li> <li>• Conduct physiological monitoring when WBGT readings reach temperatures in excess of PPE-based thresholds</li> <li>• Implement work/rest regimen if necessary, or other administrative controls to manage worker heat exposure</li> <li>• Buddy system/radio communications for any isolated work</li> <li>• Cool drinking water provided</li> <li>• Personnel encouraged to take breaks and drink water as needed</li> <li>• Shaded or air-conditioned rest areas</li> <li>• Refer to SPR 12-10 for additional information</li> </ul>   |
| Cold stress | <ul style="list-style-type: none"> <li>• Orient crew to Cold Stress Management Plan</li> <li>• <u>Advanced notification to Fluor Fernald Medical regarding planned outdoor work and potential for cold-related illnesses and injuries</u></li> <li>• <u>Coordinate with Fluor Fernald Medical to identify any personnel under medical restrictions related to the cold</u></li> <li>• <u>Keep aware of ambient temperatures and wind speeds in cold weather</u></li> <li>• <u>CMT will review needs for new or additional winter-weather PPE and accessories, and maintain an inventory in readiness for winter work based upon this review</u></li> <li>• <u>Wear Rubber Boots when near wet work</u></li> <li>• <u>Brief crew concerning the encumbrances of wearing cold-weather PPE and the resulting hazards related to the loss of dexterity, limited range of motion, impaired vision, and impeded balance associated with its use</u></li> <li>• <u>Manage and control cold stress when temperatures reach 40° F and below</u></li> <li>• <u>Implement work/warm-up regimen if necessary, or other administrative controls to control worker cold exposure</u></li> <li>• <u>Buddy system/radio communications for any isolated work</u></li> <li>• <u>Wear multiple layers of warm, loose cold-weather clothing</u></li> <li>• <u>Keep backup dry clothing</u></li> <li>• <u>Encourage warm up breaks as needed.</u></li> <li>• Refer to SPR 12-9 for additional information</li> </ul> |

### 1.38 WINTER OPERATIONS

Winter weather can limit construction operations by ~~the~~ through additional hazards presented by cold temperatures in conjunction with variable winds, precipitation, and snowy or icy accumulations.

~~Work scheduled during the winter requires that the following considerations be integrated into work plans and scheduling to maintain worker safety during these periods. When activities occur during the winter months, additional controls will be required to ensure worker safety. Icy conditions will be a major concern during cold weather fieldwork. CMT shall confirm that field conditions are safe prior to beginning work. This includes walking down active work areas prior to starting work. Winter weather is very unpredictable and the CMT must continuously evaluate field conditions for worker safety.~~

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Work scheduled during the winter requires that the following considerations be integrated into work plans and scheduling to maintain worker safety during these periods.

| Hazard   | Mitigator/Control   |
|--|---|
| Exposure to cold   | <ul style="list-style-type: none"> <li>• Refer to Section 1.29, Cold Stress</li> <li>• <u>Provide personnel transportation and maintained, passable walkways between work site and heated break locations</u></li> </ul>  |
| <u>Icy build-up resulting from precipitation and/or use of water sources in freezing conditions</u>      | <ul style="list-style-type: none"> <li>• <u>Snow, ice, and freezing mud must be kept clear of walking and working surfaces before the activity begins. The area will be maintained in a safe condition.</u></li> <li>• <u>Mechanical or approved chemical means will be used to remove and control ice</u></li> <li>• <u>Mechanical means include manual scraping with hand tools or surface manipulation using heavy equipment (i.e. back-dragging area with dozer blade)</u></li> <li>• <u>Granular calcium chloride or other acceptable deicing agent will be available at necessary locations</u></li> <li>• <u>Sand applications may be included to improve traction</u></li> <li>• <u>Periodically assess workplace conditions for slipping hazards, and when necessary barricade icy areas until the hazard is abated</u></li> <li>• <u>Maintain tools and supplies in storage away from freezing walkways and working surfaces</u></li> </ul> |
| <u>Slip/trip/fall on travel paths, and on working surfaces</u>   | <ul style="list-style-type: none"> <li>• <u>CMT will conduct workplace assessments at the start of each workday and following the advent of severe winter weather as needed to identify slippery conditions and slip potentials on walkways, roadways, and in the work area before starting or resuming field operations</u></li> </ul>   |
| Slippery access points on heavy and specialized equipment  | <ul style="list-style-type: none"> <li>• <u>S&amp;H will assess heavy equipment to be involved in winter work for ease of access and presence of sufficiently-sized and located no-skid surfaces, then recommend any improvements to CM</u></li> <li>• <u>Do not access or allow others to access snow- or ice-covered equipment until the points of access have been cleared</u></li> </ul>  |
| Hazardous atmospheres from use of portable generators or heaters, and idling heavy equipment or vehicles | <ul style="list-style-type: none"> <li>• <u>CMT shall request that IH assess potential accumulation of exhaust fumes or resultant hazardous atmospheres that are likely to occur</u></li> <li>• <u>When possible, keep fuel-fired equipment outdoors</u></li> </ul>   |

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| Hazard  | Mitigator/Control   |
|---|---|
| Use of temporary enclosures for decontamination and/or general protection from cold weather | <ul style="list-style-type: none"> <li>• <u>Enclosure supporting structure shall be constructed of noncombustible or approved fire retardant materials or the construction shall be approved by the site Fire Protection Department</u></li> <li>• <u>The coverings for walls, floors, and ceilings shall be noncombustible or approved fire retardant materials</u></li> <li>• <u>The enclosure and an area of ten feet around the enclosure shall be posted as "no smoking" areas</u></li> <li>• <u>Combustible materials shall not be stored in the area surrounding temporary enclosures; however 5-gallon safety cans for one day's supply is permitted.</u></li> <li>• <u>Combustible materials used within the operation of an enclosure shall be removed immediately after use or transported to and stored in approved metal containers with lids. All combustible waste shall be removed from the enclosure after each work shift.</u></li> <li>• <u>Exits shall be kept unobstructed at all times</u></li> <li>• <u>Portable fire extinguishers shall be positioned for easy visibility and access, when the need is determined by site Fire Protection</u></li> <li>• <u>Site Fire Protection shall approve all temporary enclosures that are to be occupied</u></li> </ul> |
| Temporary heating   | <ul style="list-style-type: none"> <li>• <u>Any heating device shall be reviewed for the need of a Fluor Fernald Open Flame &amp; Welding Permit by S/HR before use</u></li> <li>• <u>As appropriate, barricade immediate area of heater output</u></li> <li>• <u>Fuel storage shall meet/exceed NFPA requirements</u></li> <li>• <u>S/HR may request that IH assess potential accumulation of exhaust fumes or resultant hazardous atmosphere</u></li> </ul>   |
| Deployment of insulating blankets   | <ul style="list-style-type: none"> <li>• <u>Refer to Section 1.21 regarding Back Injury Prevention</u></li> <li>• <u>Refer to Section 1.19 regarding Rigging and Lifting</u></li> </ul>   |
| Severe winter weather event   | <ul style="list-style-type: none"> <li>• <u>Refer to "Inclement Weather" in Section 1.22, "General Physical Hazards"</u></li> <li>• <u>Preparatory actions for severe winter weather include:</u> <ul style="list-style-type: none"> <li>• <u>Verify all crews are suitably equipped for emergency communications</u></li> <li>• <u>Advanced notification to crews during daily safety meetings and/or by radio</u></li> <li>• <u>CM limits or suspends work scope based upon forecasted weather and its anticipated impact on operations</u></li> <li>• <u>Stage sufficient controls for ice or snow removal, or for improved traction during any work in those conditions</u></li> <li>• <u>Assure adequate cold stress controls are available based upon anticipated project activities during and immediately following a severe winter weather event including:</u> <ul style="list-style-type: none"> <li>○ <u>Adequate cold-weather clothing</u></li> <li>○ <u>Back-up changes of clothing</u></li> <li>○ <u>Emergency notification and personnel transportation capabilities</u></li> <li>○ <u>Heated break locations; sufficiently sized, equipped, and accessible</u></li> </ul> </li> </ul> </li> <li>• <u>Remedial</u></li> </ul>   |

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**ATTACHMENT D**

**WEATHER DATA**

**(December thru March - 1998 thru 2003)**

MapQuest: Maps: print

# MAPQUEST.

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### Notes:

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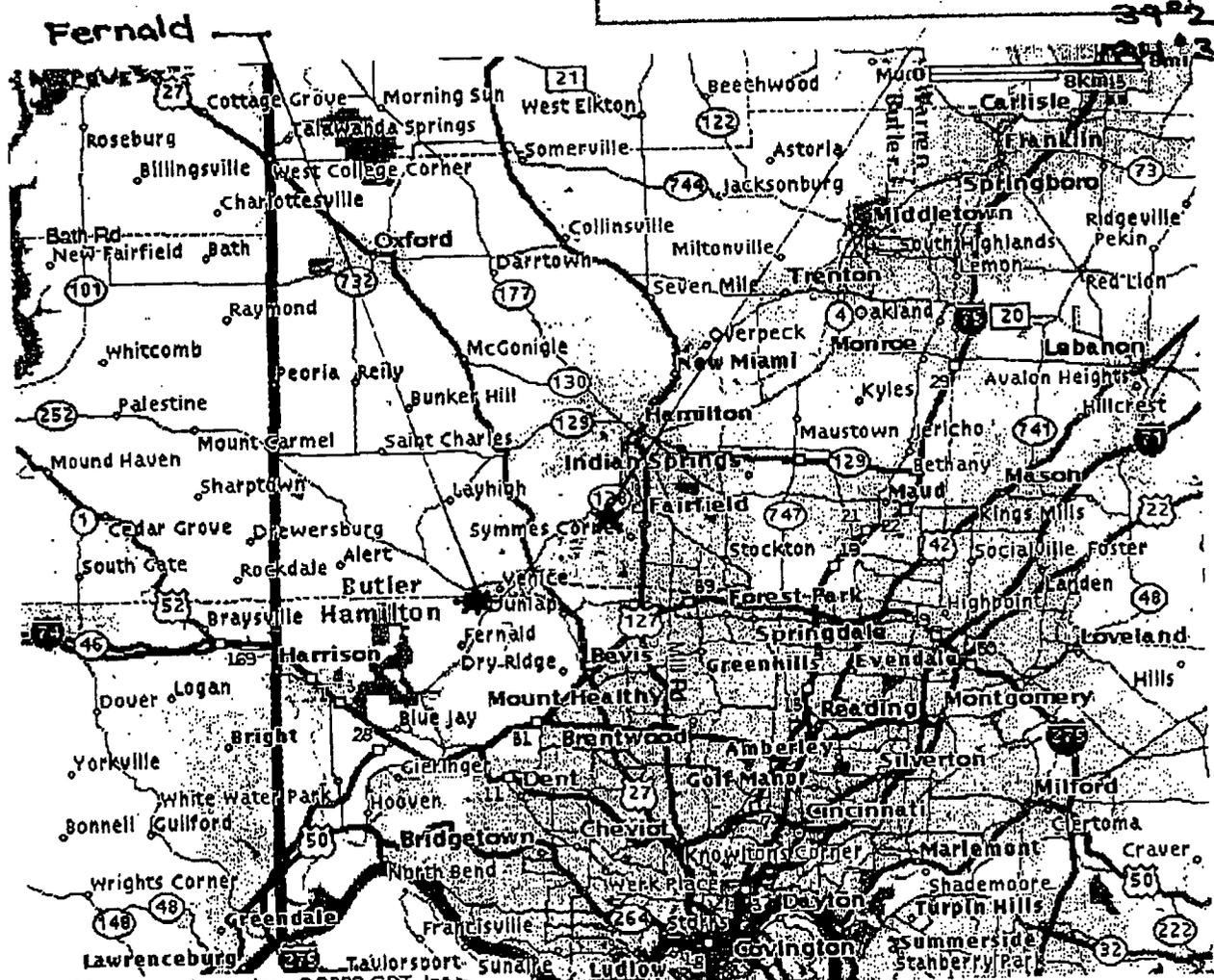
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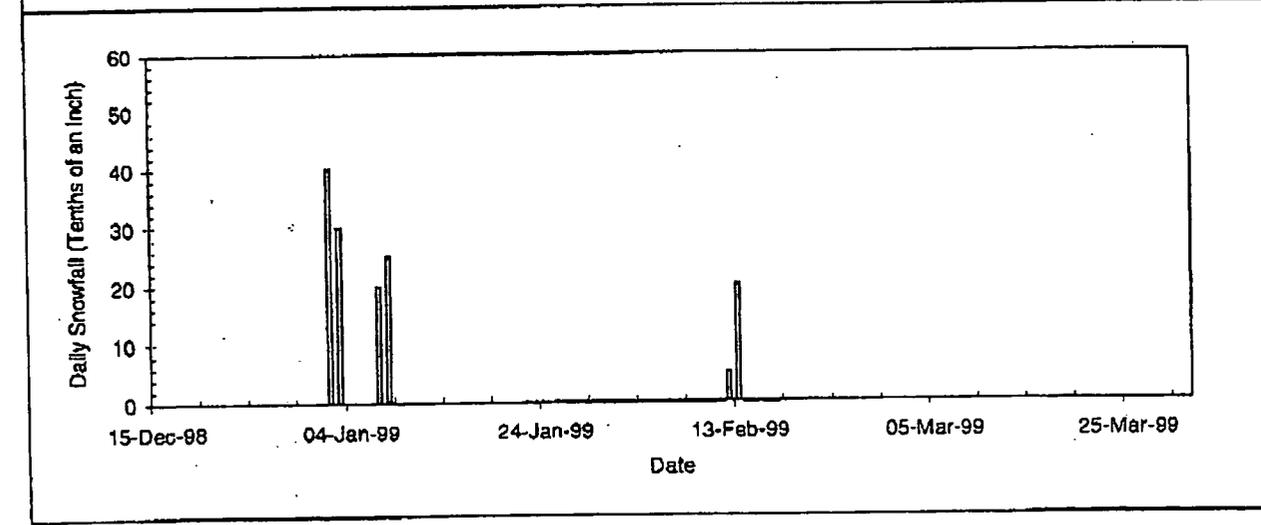
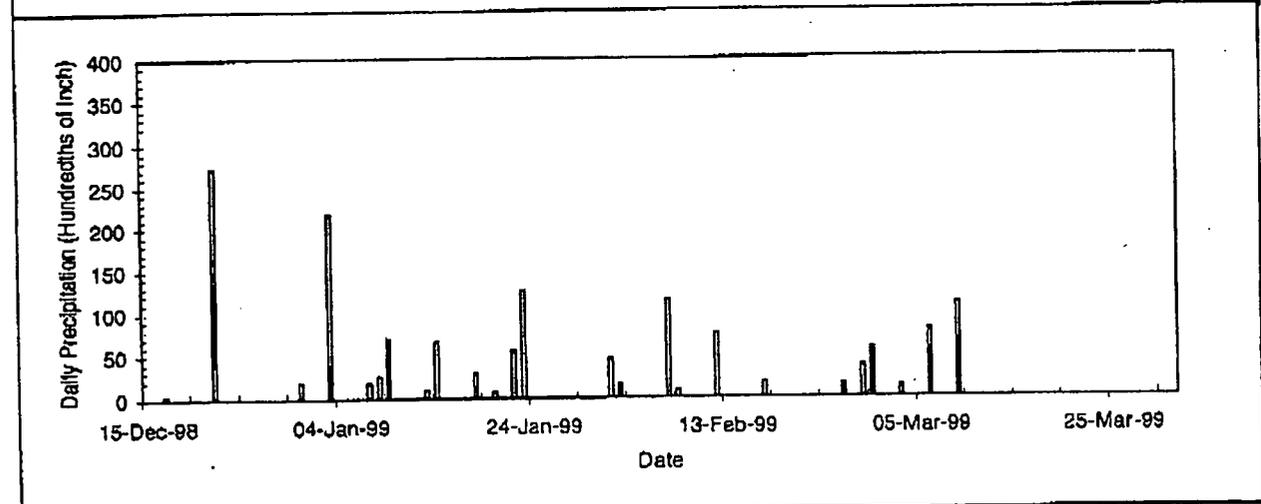
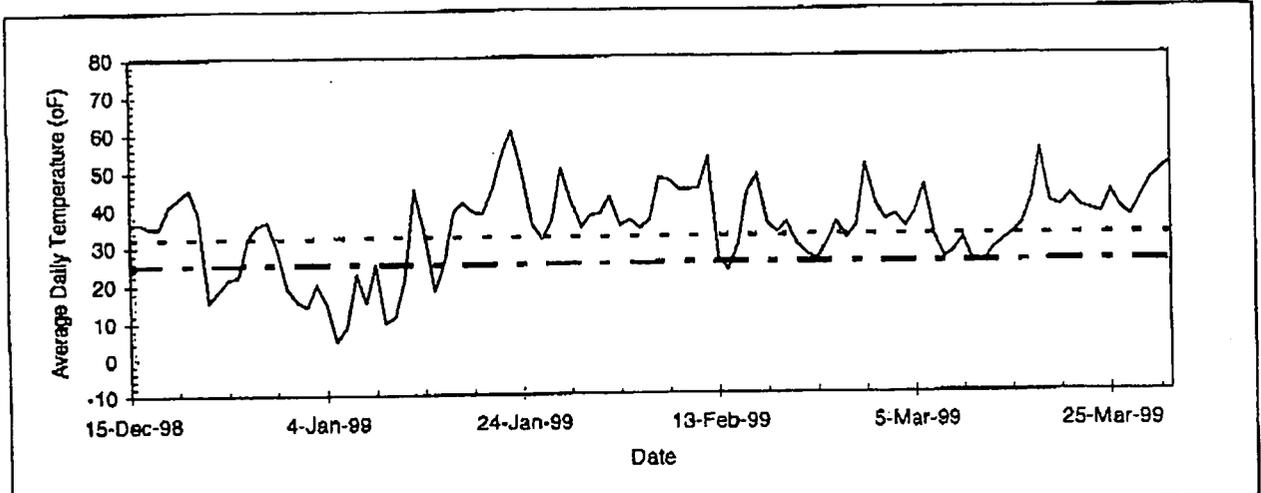
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Weather Data  
Winter 98-99

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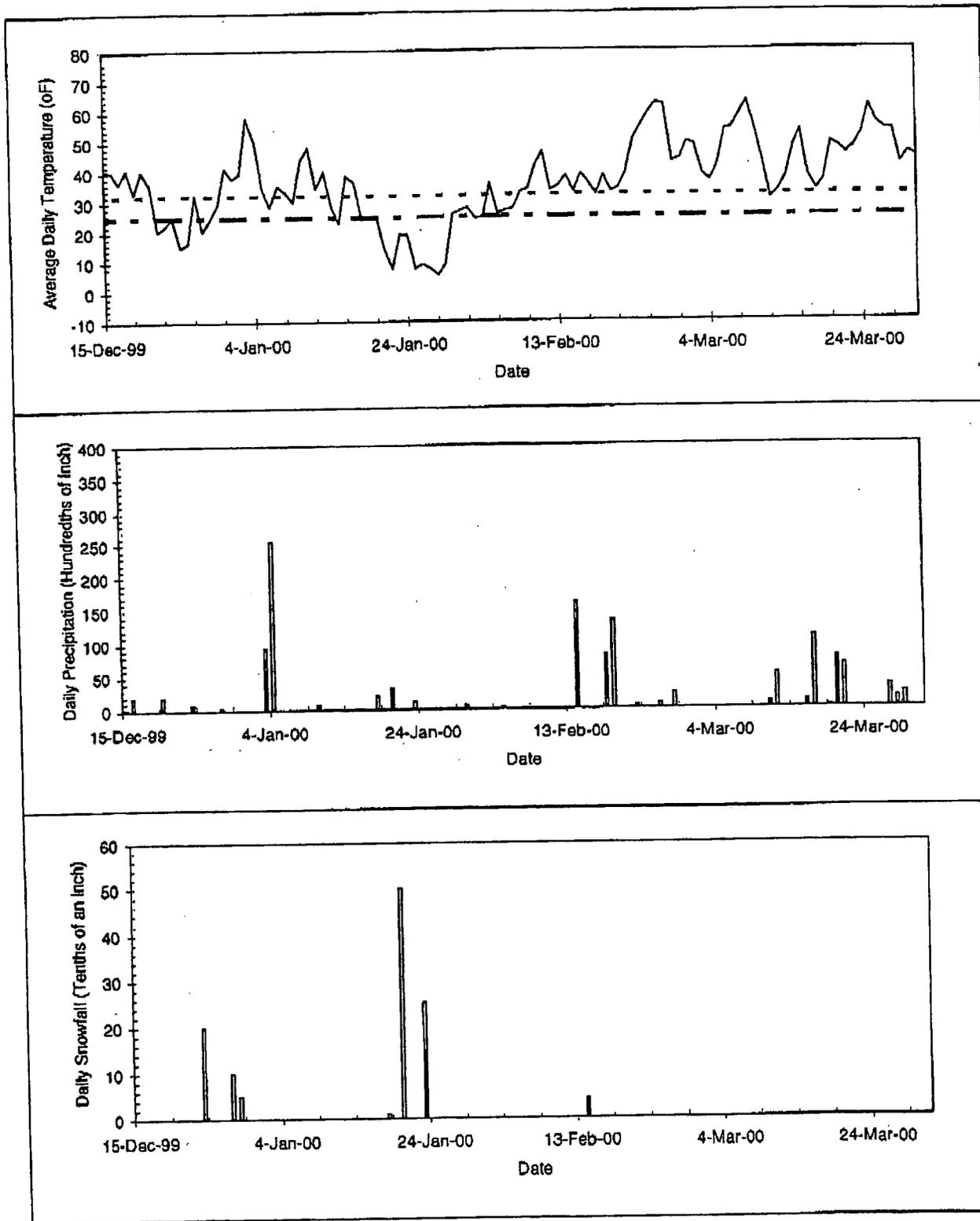
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Weather Data  
Winter 99-00

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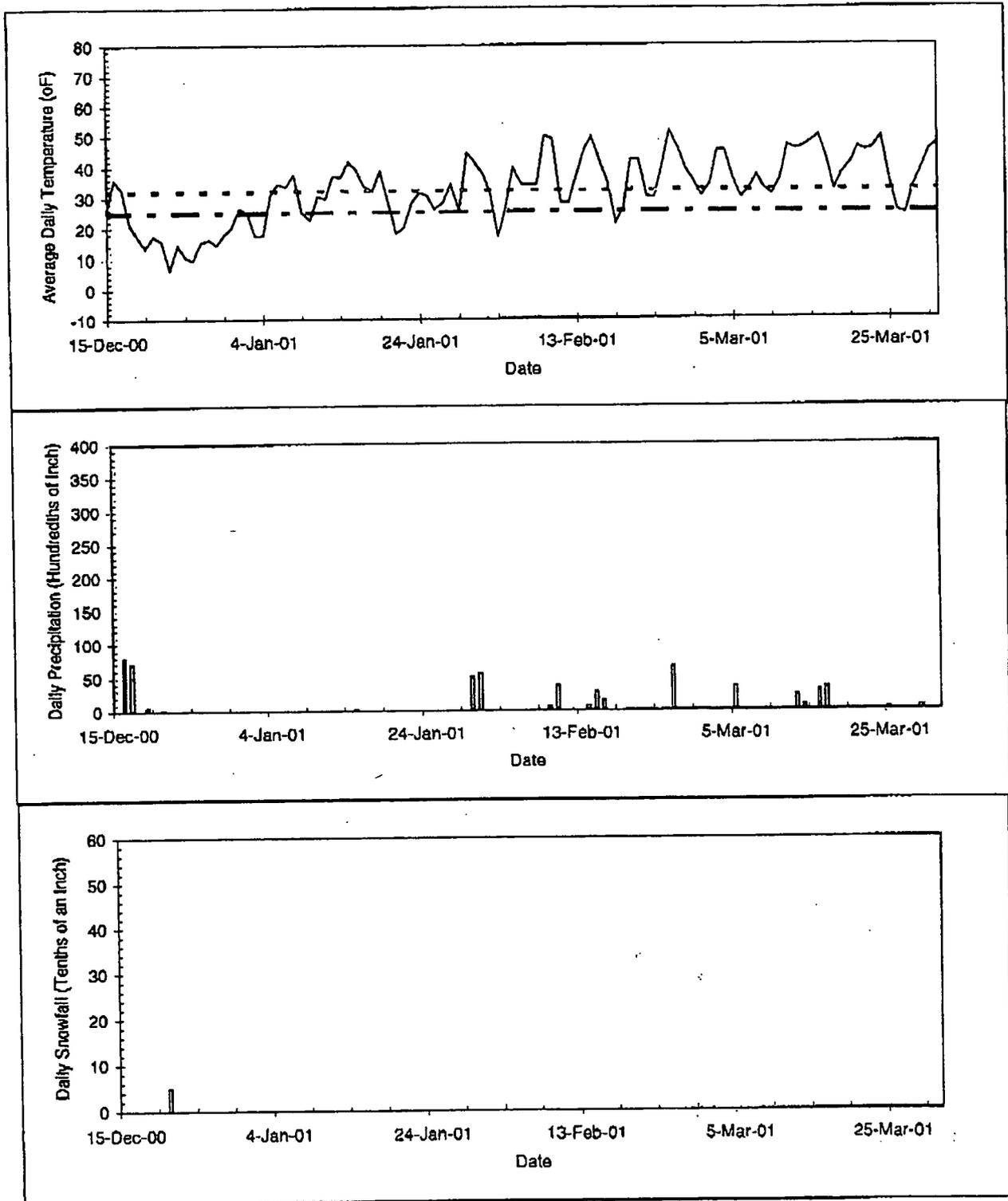
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Weather Data  
Winter 00-01

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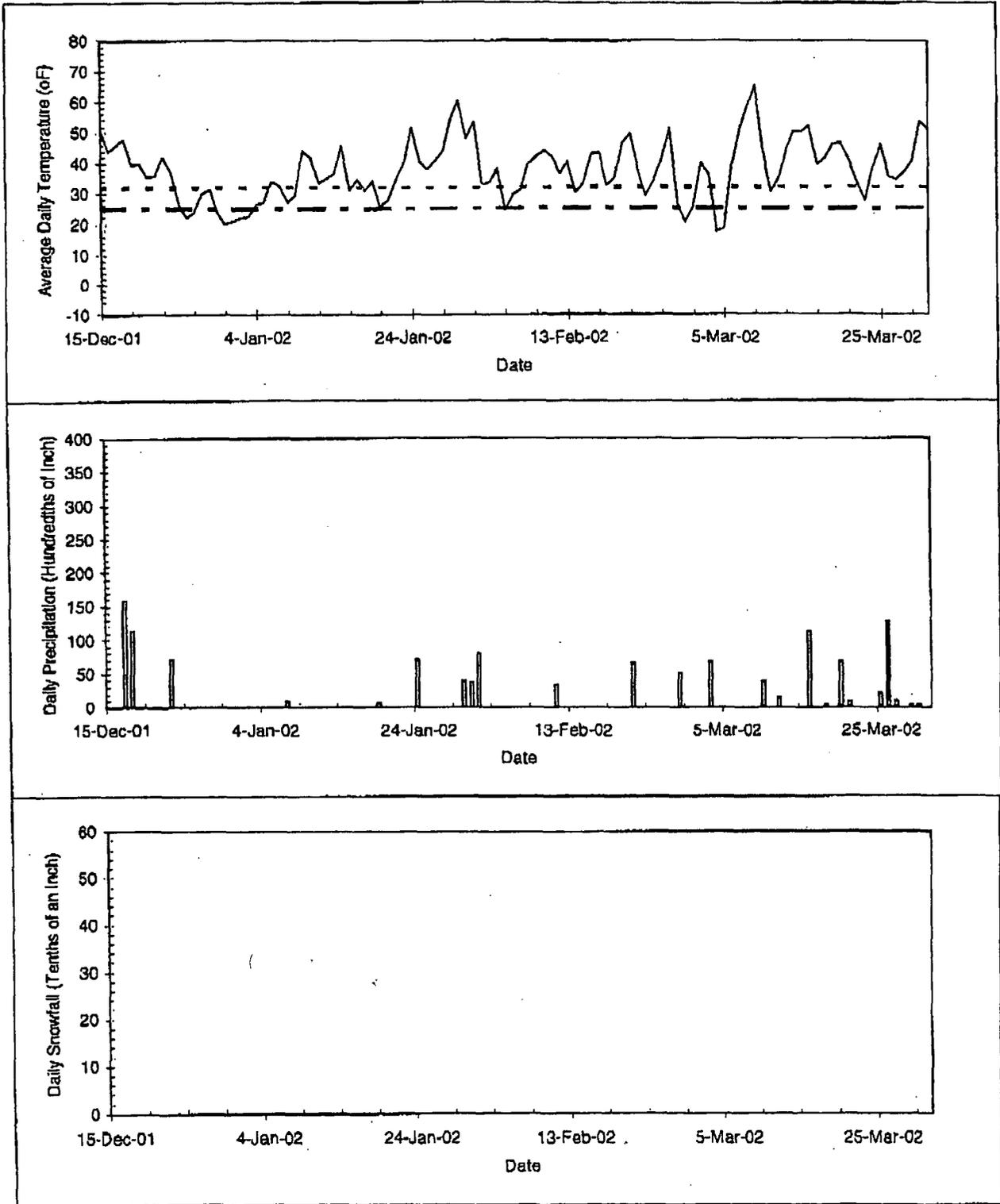
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# DRAFT

## Weather Data Winter 01-02

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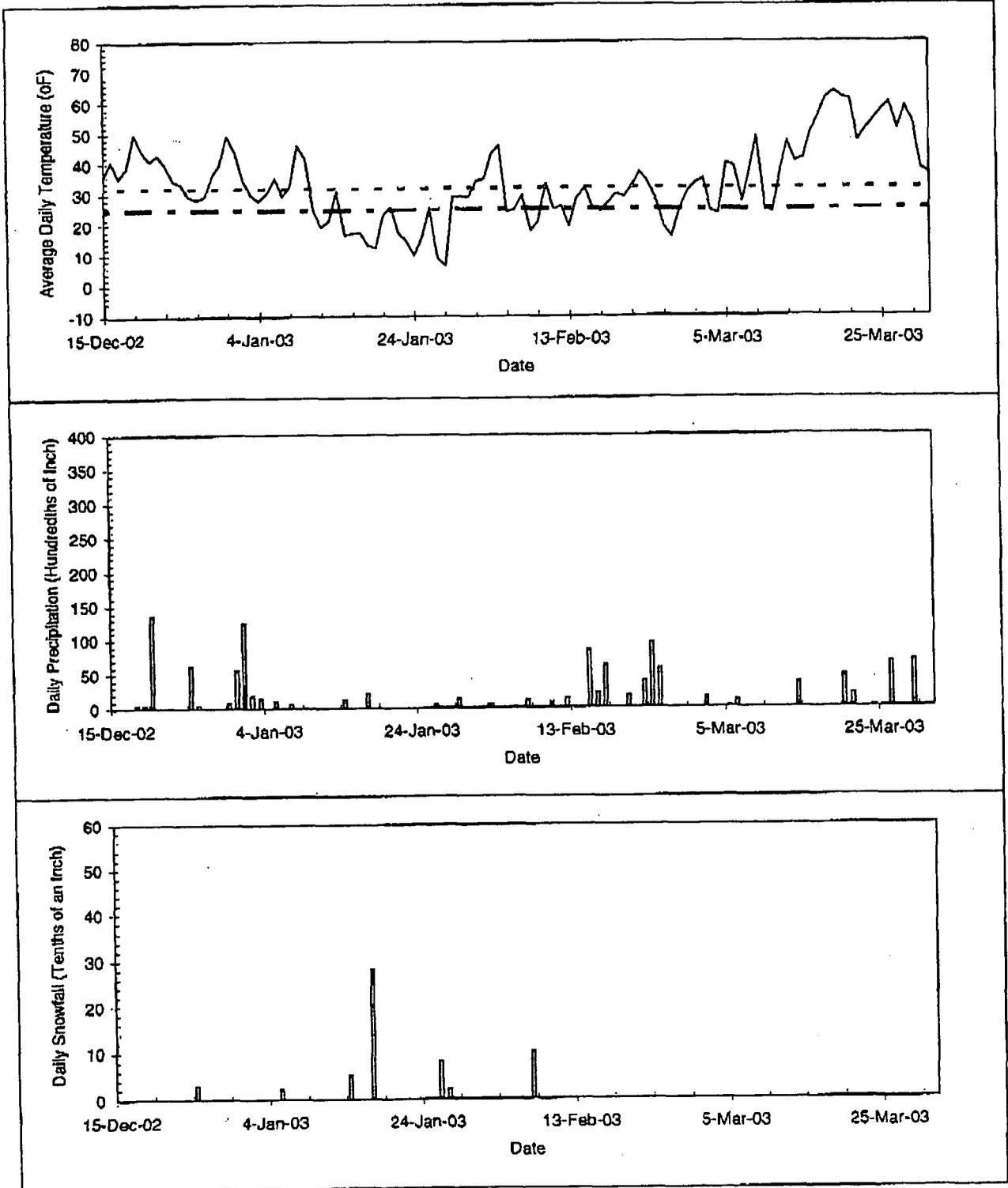
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## Weather Data Winter 02-03

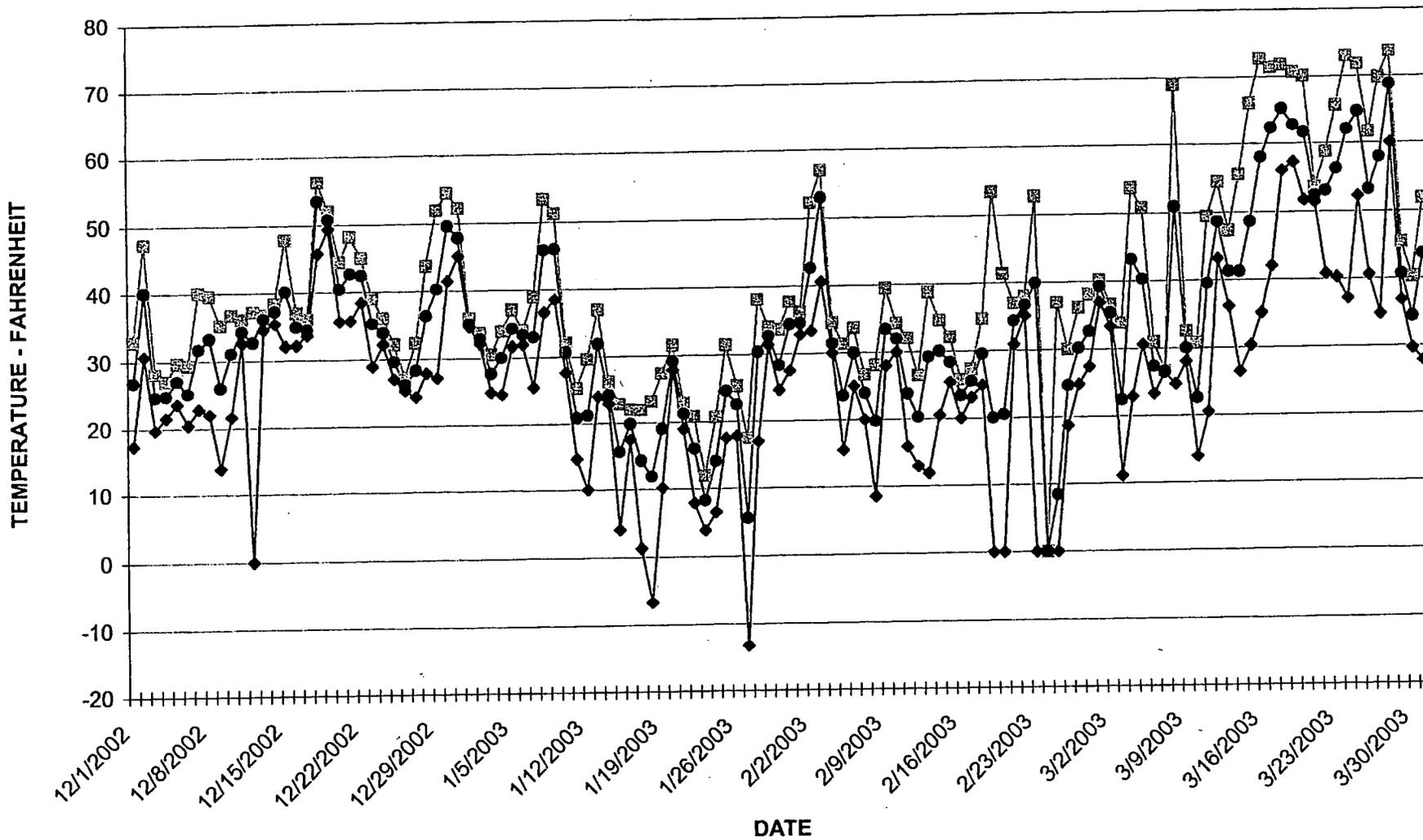
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# DRAFT

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# DAYTIME TEMPS - WINTER 2002-03

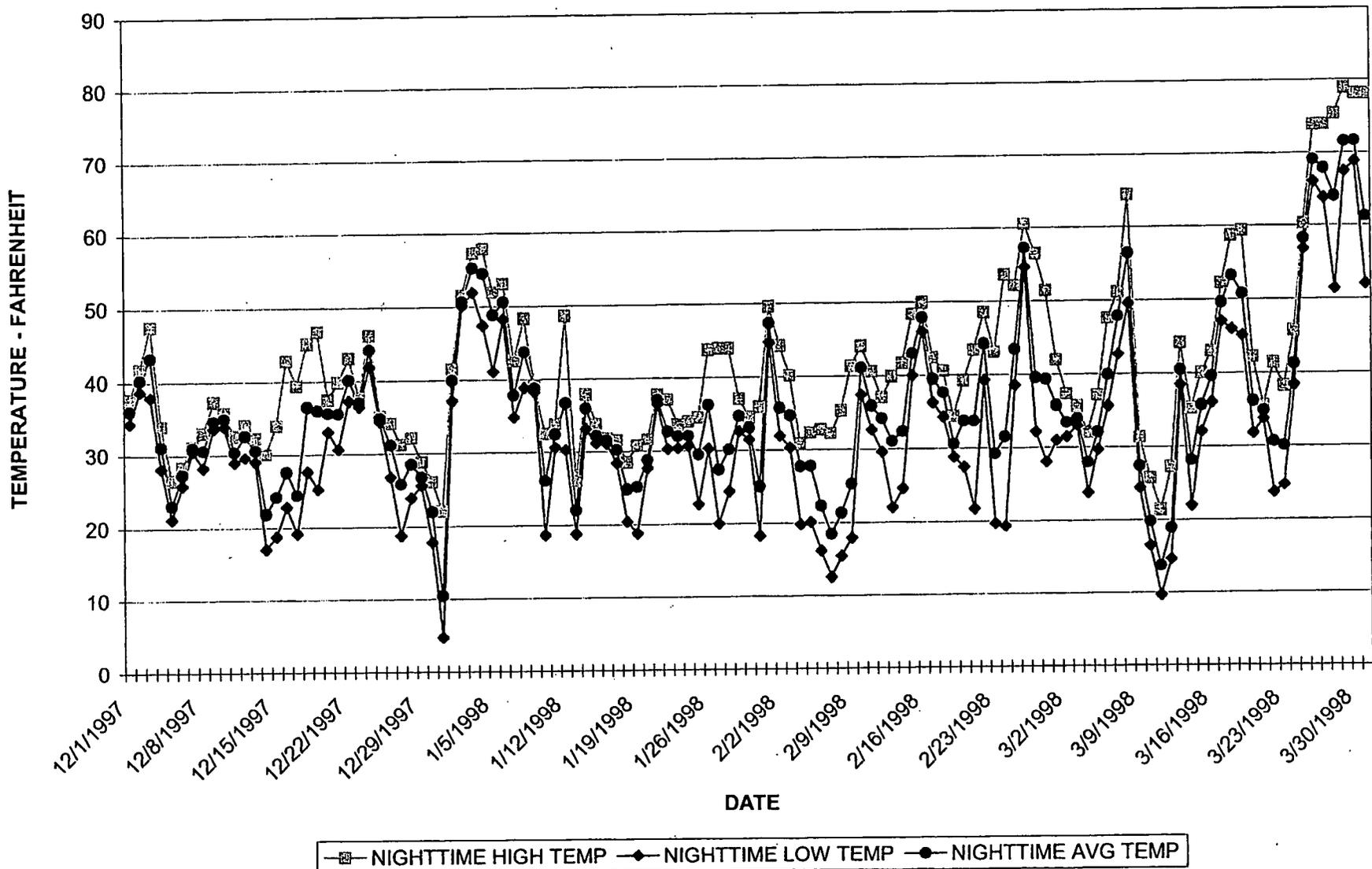


—□— DAYTIME HIGH TEMP —◆— DAYTIME LOW TEMP —●— DAYTIME AVG TEMP

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# NIGHTTIME TEMPS - WINTER 1997-98

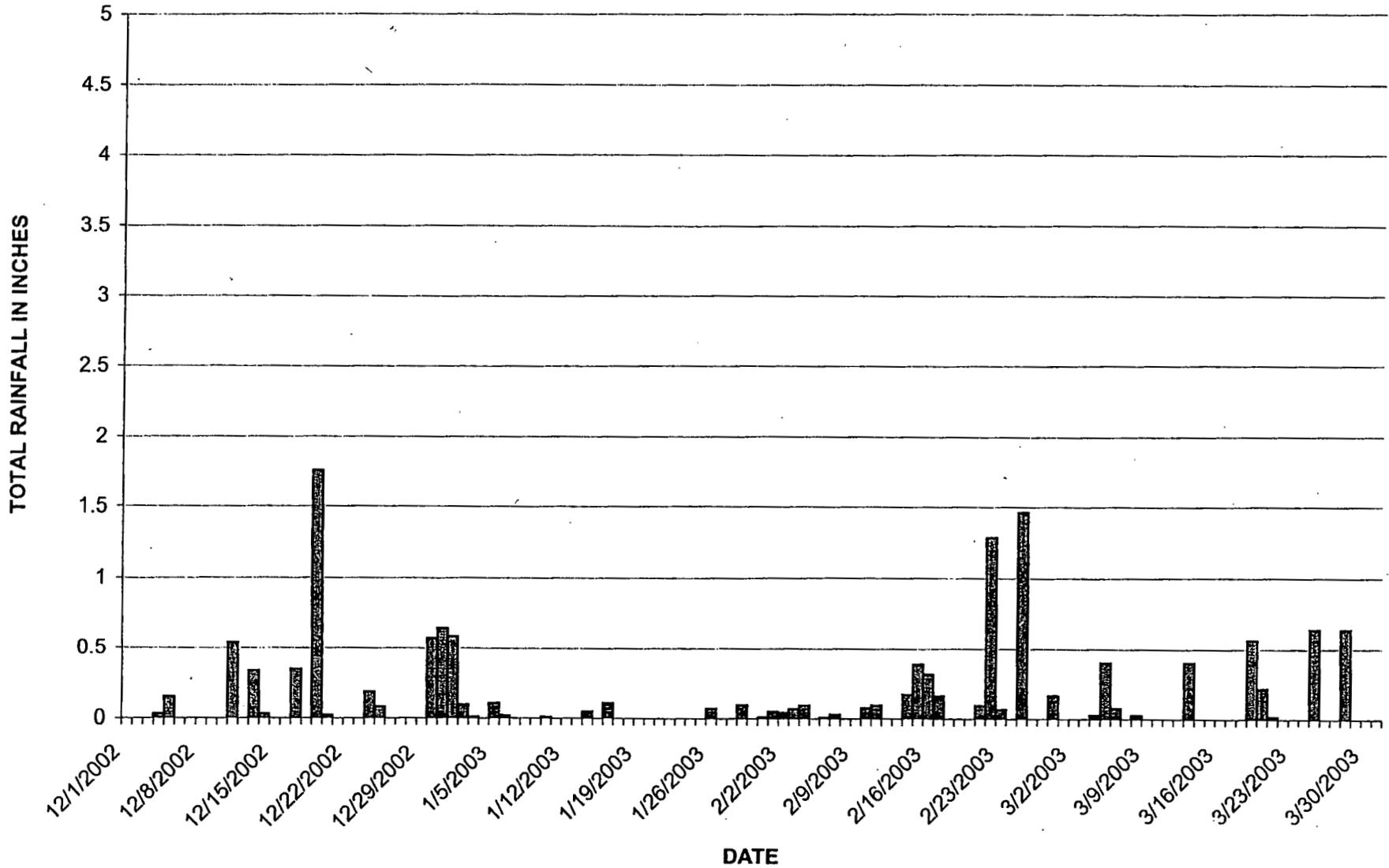


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RAINFALL2003

DAILY RAINFALL - WINTER 2002-03

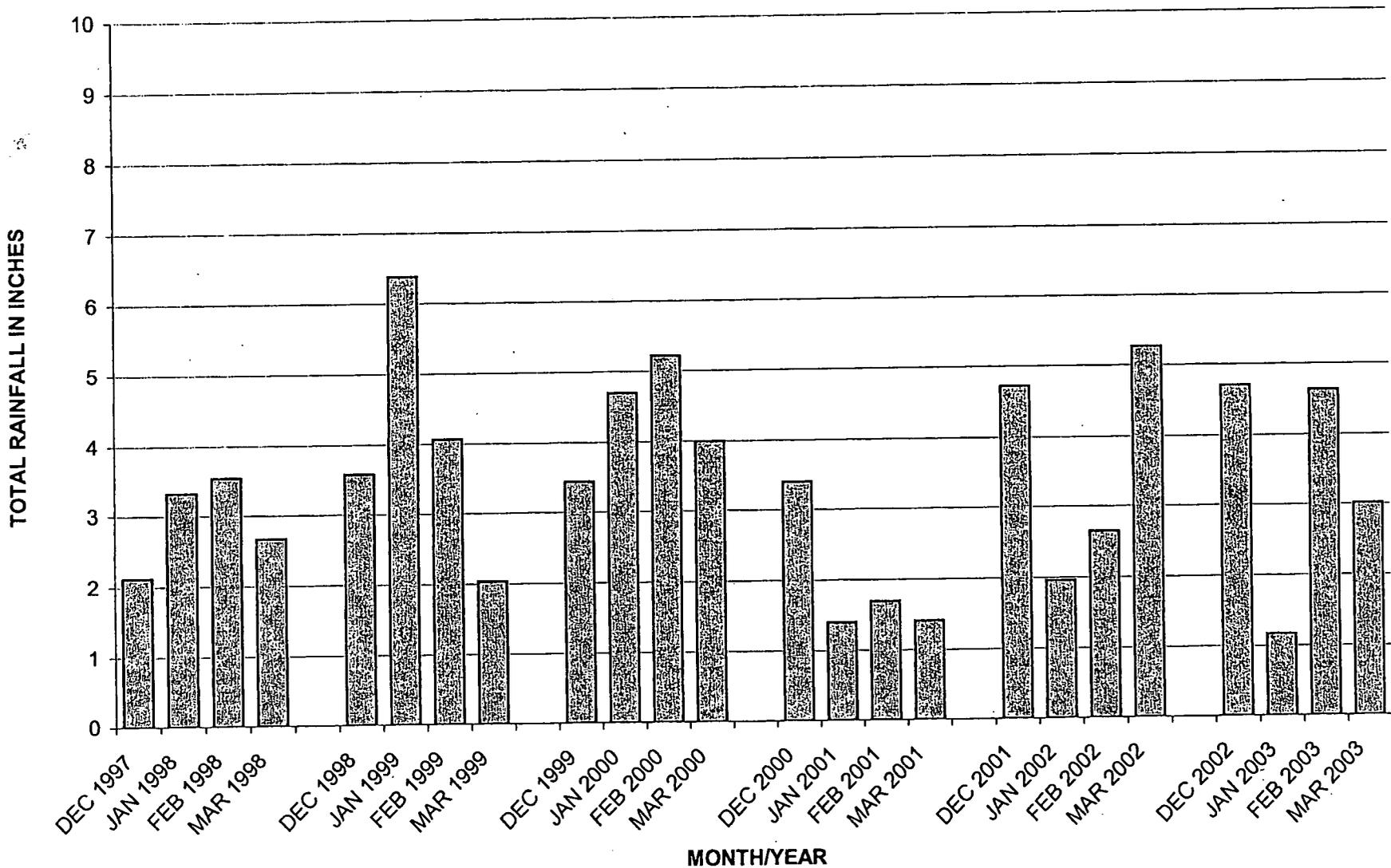


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### MONTHLY RAINFALL



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**ATTACHMENT E**  
**DOE LETTER DATED AUGUST 13, 1998**  
**TO**  
**U.S. AND OHIO EPA**



**Department of Energy**

**Ohio Field Office  
Fernald Area Office**

P. O. Box 538705  
Cincinnati, Ohio 45253-8705  
(513) 648-3155



AUG 13 1998

Mr. James A. Saric, Remedial Project Director  
U. S. Environmental Protection Agency  
Region 5 - SRF-5J  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

DOE-1097-98

Mr. Thomas Schneider, Project Manager  
Ohio Environmental Protection Agency  
401 East Fifth Street  
Dayton, Ohio 4502-2911

Dear Mr. Saric and Mr. Schneider:

**CONTRACT DE-AC24-92OR21972, PROPOSED MILESTONES FOR THE ON-SITE  
DISPOSAL FACILITY**

Reference: DOE-1310-97, J. Reising to J. Saric and T. Schneider, "DOE Responses to U.S. Environmental Protection Agency Comments on Remedial Action Work Plan for the On-Site Disposal Facility."

On August 13, 1997, the Department of Energy (DOE) responded to the U.S. Environmental Protection Agency (U.S. EPA) comments on the Remedial Action Work Plan (RAWP) for the On-Site Disposal Facility (OSDF). A key comment response in the referenced letter established that by August 15 of each year, the DOE would submit a list of proposed enforceable milestones for the OSDF for the upcoming Fiscal Year.

Over the past year, implementation of the Fernald Environmental Management Project (FEMP) remediation strategies for OSDF operations have evolved into generator projects versus the disposal project. The generator projects, Soil Characterization and Excavation Project (SCEP), and Facility Closure and Demolitions Project (FC&DP) provide the feed stock for the waste placement into the OSDF. The OSDF Project is responsible for properly placing the remediation waste. The rate of OSDF construction, operation, and closure is completely dependent upon generation rates for contaminated soil and debris. Enforceable milestones are separately established by the generator projects. As the OSDF is required to meet these generator project milestones, they are indirectly applicable to the

Mr. James Saric  
Mr. Tom Schneider

-2-

OSDF with the exception identified below. It should be noted that DOE will commit to immediately initiating and expeditiously completing cell capping operations when waste placement reaches the maximum level as identified in the approved design.

Based on continuing discussions of this issue with your agencies, DOE will agree to the establishment of enforceable milestones for initiation of individual OSDF cell construction as required to maintain consistency with the soil and debris generation rates referenced above. The criterion for establishing a single enforceable milestone for initiation of cell construction is required to continue uninterrupted placement of soil and debris according to the FEMP's baseline. For Fiscal Year 1999, DOE proposes a milestone of July 1, 1999, for initiating Cell 3 construction.

DOE also agrees to seasonal restrictions related to cell liner construction and waste placement activities (please see enclosed proposal). This proposal modifies our previous correspondence of June 19, 1998. DOE offers these restrictions as enforceable requirements at the OSDF. Therefore, DOE proposes to revise the RAWP to reflect these newly created milestones.

If you have any questions, please contact Jay Jalovec at (513) 648-3122.

Sincerely,



Johnny W. Reising  
Fernald Remedial Action  
Project Manager

FEMP:Jalovec

Enclosure:

000040

Mr. James Saric  
Mr. Tom Schneider

-3-

cc w/enclosure:

G. Jablonowski, USEPA-V, SRF-5J  
R. Beaumier, TPSS/DERR, OEPA-Columbus  
M. Rochotte, OEPA-Columbus  
T. Schneider, OEPA-Dayton (3 copies total of enc.)  
F. Bell, ATSDR  
M. Schupe, HSI GeoTrans  
R. Vandegrift, ODH  
F. Barker, Tetra-Tech  
AR Coordinator, FDF/78

cc w/o enc:

N. Hallein, EM-42/CLOV  
D. Pfister, DOE-FEMP  
J. Reising, DOE-FEMP  
A. Tanner, DOE-FEMP  
D. Carr, FDF/52-2  
T. Hagen, FDF/65-2  
J. Harmon, FDF/90  
R. Heck, FDF/2  
M. Hickey, FDF/64  
S. Hinnefeld, FDF/2  
U. Kumthekar, FDF/64  
T. Walsh, FDF/65-2  
EDC, FDF/52-7

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**Seasonal Restrictions for Cell Liner Construction and Waste Placement Activities  
Proposal**

Up to December 31 of a given year, operations at the On-Site Disposal Facility (OSDF), including cell construction and waste placement activities will continue, provided such activities are completed in accordance with all approved design requirements and specifications. In recognition of the enhanced potential for adverse impacts on OSDF liner construction operations due to weather, work related to liner construction will be suspended with appropriate liner protection requirements completed no later than December 31. Work on liner construction may be reinitiated when weather allows required specifications to be met or April 1, which ever is later. During the period from March 1 to March 31, work may be initiated on liner construction with the concurrence of the U. S. Environmental Protection Agency (EPA) and Ohio Environmental Protection Agency (OEPA) if weather allows required specifications to be met. During the period from January 1 through February 28, work could proceed on waste/debris placement operations with the concurrence of EPA and OEPA. The criteria for establishing consensus that OSDF operations can continue during this period will be based solely on the ability to achieve requirements and specifications that could otherwise be impacted by adverse weather.

It is DOE's intent to continue waste placement during this period as weather allows. Accordingly, it is DOE's expectation that a mutually acceptable process will be established that allows for "real time" consensus on the acceptability of continuing placement activities.

DOE also recognizes the potential for weather related impacts on OSDF operations prior to December 31 in a given year. Accordingly, during clay liner construction activities, if there are four consecutive days where the average temperature is below 32°F (as measured on a time-weighted basis), the continuation of activities will be evaluated. DOE may propose and implement, with the concurrence of EPA and OEPA, any corrective actions that may be required to allow continuation of construction activities without adversely impacting the integrity of the liner. In the absence of proposed corrective action, or concurrence of the regulators on proposed corrective actions, construction will be suspended, with appropriate liner protection requirements completed expeditiously.

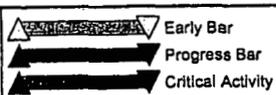
The above criterion is based on professional engineering/construction judgement and experience in the Ohio River Valley area. Consultation with the OSDF Construction Quality Control (CQC) contractor indicates the given criterion is very conservative in favor of liner protection.

**ATTACHMENT F**  
**WINTER MONTHS**  
**CONSTRUCTION SCHEDULE AND RESOURCES**

| Activity ID                              | Activity Description                            | Orig Dur | Early Start | Early Finish | % Comp | 2003 |     |     | 2004 |     |     |             |
|--|---|----------|-------------|--------------|--------|------|-----|-----|------|-----|-----|-------------|
|  |   |          |             |              |        | OCT  | NOV | DEC | JAN  | FEB | MAR |             |
| <b>OSDF PLACEMENT</b>                    |   |          |             |              |        |      |     |     |      |     |     | <b>5249</b> |
| CCCPL30010                               | CELL PLACEMENT - CY03                           | 185      | 27MAR03A    | 05DEC03      | 9      |      |     |     |      |     |     |             |
| CCCPL30020                               | CELL PLACEMENT - CY04                           | 250      | 08DEC03     | 06DEC04      | 0      |      |     |     |      |     |     |             |
| <b>OSDF MISC INFRASTRUCTURE PROJECTS</b> |   |          |             |              |        |      |     |     |      |     |     |             |
| CCCPL50100                               | CONSTRUCTION LAYDOWN AREA SOUTH OF CELL #8      | 50       | 06OCT03*    | 17DEC03      | 0      |      |     |     |      |     |     |             |
| CCCPL56150                               | NORTH ACCESS ROAD REMOVAL                       | 14       | 03NOV03*    | 21NOV03      | 0      |      |     |     |      |     |     |             |
| CCCPL50240                               | PHASE III LEACHATE - MOVE TEMP LINE (CELL 8)    | 17       | 08DEC03*    | 02JAN04      | 0      |      |     |     |      |     |     |             |
| CCCPL50040                               | INTERCEPTOR DITCH/DITCH MODIFICATIONS           | 15       | 05JAN04*    | 23JAN04      | 0      |      |     |     |      |     |     |             |
| CCCPL56250                               | WINTER SHEARING OPERATIONS                      | 62       | 05JAN04*    | 31MAR04      | 0      |      |     |     |      |     |     |             |
| <b>OMTA OPERATIONS</b>                   |   |          |             |              |        |      |     |     |      |     |     |             |
| CCCPL60230                               | OMTA OPERATIONS CY03                            | 170*     | 28APR03A    | 31DEC03      | 49     |      |     |     |      |     |     |             |
| CCCPL61020                               | OMTA OPERATIONS CY04                            | 250      | 02JAN04     | 30DEC04      | 0      |      |     |     |      |     |     |             |
| <b>D&amp;D DIRECT HAUL TO OSDF</b>       |   |          |             |              |        |      |     |     |      |     |     |             |
| CCCPL70100                               | DIRECT HAUL OF D&D TO OSDF CY03                 | 55       | 12AUG03A    | 14NOV03      | 31     |      |     |     |      |     |     |             |
| <b>OSDF CELL #2 CAP</b>                  |   |          |             |              |        |      |     |     |      |     |     |             |
| CCCPLA0050                               | CELL #2 CAP CONSTRUCTION                        | 132      | 12MAY03A    | 31OCT03      | 38     |      |     |     |      |     |     |             |
| <b>OSDF CELL #3 CAP</b>                  |   |          |             |              |        |      |     |     |      |     |     |             |
| CCCPLB5520                               | CELL #3 CAP - RECEIVE BIO. LAYER/CHK FILTER     | 61       | 15DEC03*    | 12MAR04      | 0      |      |     |     |      |     |     |             |
| CCCPLB5240                               | CELL #3 CAP - RECEIVE GEOTEXTILE, GCL, GML      | 30       | 15MAR04     | 26APR04      | 0      |      |     |     |      |     |     |             |
| <b>OSDF CELL #6 LINER</b>                |   |          |             |              |        |      |     |     |      |     |     |             |
| CCCPLG0050                               | CELL #6 LINER - CONSTRUCTION                    | 149      | 02MAY03A    | 17DEC03      | 30     |      |     |     |      |     |     |             |
| <b>OSDF CELL #7 LINER</b>                |   |          |             |              |        |      |     |     |      |     |     |             |
| CCCPLJ0090                               | CELL #7 LINER - SITE PREPARATION                | 45       | 17NOV03*    | 23JAN04      | 0      |      |     |     |      |     |     |             |
| CCCPLJ0020                               | #7 LINER - INSTALL HORIZONTAL MONITORING WELL   | 30       | 01DEC03*    | 14JAN04      | 0      |      |     |     |      |     |     |             |
| CCCPLJ5110                               | #7 LINER - RCV GEOTEXTILE, GCL, GML             | 25       | 23FEB04*    | 26MAR04      | 0      |      |     |     |      |     |     |             |
| CCCPLJ5120                               | #7 LINER - RVC DRAINAGE LAYER MAT'L             | 60       | 05MAR04     | 28MAY04      | 0      |      |     |     |      |     |     |             |
| <b>OSDF CELL #8 LINER</b>                |   |          |             |              |        |      |     |     |      |     |     |             |
| CCCPLM0100                               | D&D REMOVE FUEL TANKS - AREA 1 PHASE IV         | 17       | 19DEC03*    | 15JAN04      | 0      |      |     |     |      |     |     |             |
| CCCPLM0105                               | WASTE MGMT SHIPPING OPERATIONS DEMOB            | 0        |             | 15JAN04*     | 0      |      |     |     |      |     |     |             |
| GGCPLM0105                               | AREA 1 PHASE IV EXCAVATION (1 FOOT & UTILITIES) | 40       | 16JAN04     | 12MAR04      | 0      |      |     |     |      |     |     |             |

**000044**

Start Date 25FEB02  
 Finish Date 02OCT06  
 Data Date 28SEP03  
 Run Date 09DEC03 10:59  
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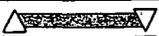
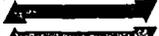
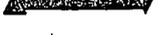
WINT FLUOR FERNALD, INC Sheet 1 of 3  
 CY2003 Winter Schedule  
 CY2003 Winter Schedule Summary

| Date | Revision | Checked | Approved |
|------|----------|---------|----------|
|      |          |         |          |
|      |          |         |          |

| Activity ID                                 | Activity Description                             | Orig Dur | Early Start | Early Finish | % Comp | 2003 |     |     | 2004 |     |     |
|---|--|----------|-------------|--------------|--------|------|-----|-----|------|-----|-----|
|   |  |          |             |              |        | OCT  | NOV | DEC | JAN  | FEB | MAR |
| CCCPLM0150                                  | CELL #8 LINER - SITE PREP/GRUB & REMOVE TOPSOIL  | 78       | 26JAN04*    | 14MAY04      | 0      |      |     |     |      |     |     |
| CCCPLM5120                                  | #8 LINER - RVC DRAINAGE LAYER MATL               | 60       | 05MAR04     | 28MAY04      | 0      |      |     |     |      |     |     |
| CCCPLM0020                                  | #8 LINER - INSTALL HORIZONTAL MONITORING WELL    | 30       | 08MAR04*    | 19APR04      | 0      |      |     |     |      |     |     |
| CCCPLM5110                                  | #8 LINER - RCV GEOTEXTILE, GCL, GML              | 44       | 23MAR04     | 24MAY04      | 0      |      |     |     |      |     |     |
| <b>AREA 3A / LSP SITE PREP / EXCAVATION</b> |  |          |             |              |        |      |     |     |      |     |     |
| GG3A140040                                  | AREA 3A - BELOW GRADE UTILITY REMOVAL            | 15       | 24NOV03     | 16DEC03      | 0      |      |     |     |      |     |     |
| GG3A140200                                  | AREA 3A - DRESS UP AREA                          | 5        | 17DEC03     | 23DEC03      | 0      |      |     |     |      |     |     |
| GG3A140210                                  | AREA 3A - ROPE OFF CERTIFICATION PERIMETER       | 2        | 26DEC03     | 29DEC03      | 0      |      |     |     |      |     |     |
| GG3A140220                                  | AREA 3A - MAGNETOMETER SCAN                      | 10       | 30DEC03     | 13JAN04      | 0      |      |     |     |      |     |     |
| GG3A140230                                  | AREA 3A - CONSTRUCT RUNOFF CONTROLS              | 10       | 14JAN04     | 27JAN04      | 0      |      |     |     |      |     |     |
| GG3A140240                                  | AREA 3A - PERFORM REALTIME PRECERTIFICATION      | 10       | 28JAN04     | 10FEB04      | 0      |      |     |     |      |     |     |
| GG3A140250                                  | AREA 3A - COLLECT CERTIFICATION SAMPLES          | 5        | 04FEB04     | 10FEB04      | 0      |      |     |     |      |     |     |
| GG3A144190                                  | AREA 3A - FINAL GRADING                          | 30       | 11FEB04*    | 24MAR04      | 0      |      |     |     |      |     |     |
| <b>AREA 3B CONCRETE DEMOLITION</b>          |  |          |             |              |        |      |     |     |      |     |     |
| GG3B1C1020                                  | AREA 3B - CONCRETE DEMOLITION                    | 105      | 21AUG03A    | 19DEC03      | 0      |      |     |     |      |     |     |
| <b>AREA 3B EXCAVATION/LOAD/HAUL</b>         |  |          |             |              |        |      |     |     |      |     |     |
| GG3B1E1010                                  | AREA 3B - EXCAV/LOAD/HAUL                        | 186      | 28AUG03A    | 24MAY04      | 7      |      |     |     |      |     |     |
| <b>AREA 4A EXCAVATION/LOAD &amp; HAUL</b>   |  |          |             |              |        |      |     |     |      |     |     |
| GG4A1E0030                                  | AREA 4A - BELOW DESIGN GRADE UTILITY REMOVAL     | 15       | 12NOV03     | 04DEC03      | 0      |      |     |     |      |     |     |
| GG4A1E0200                                  | AREA 4A - DRESS UP AREA                          | 5        | 05DEC03     | 11DEC03      | 0      |      |     |     |      |     |     |
| GG4A1E0210                                  | AREA 4A - ROPE OFF CERTIFICATION PERIMETER       | 2        | 12DEC03     | 15DEC03      | 0      |      |     |     |      |     |     |
| GG4A1E0220                                  | AREA 4A - MAGNETOMETER SCAN                      | 10       | 16DEC03     | 31DEC03      | 0      |      |     |     |      |     |     |
| GG4A1E0230                                  | AREA 4A - CONSTRUCT RUNOFF CONTROLS              | 10       | 02JAN04     | 15JAN04      | 0      |      |     |     |      |     |     |
| GG4A1E0240                                  | AREA 4A - PERFORM REALTIME PRECERTIFICATION      | 10       | 16JAN04     | 29JAN04      | 0      |      |     |     |      |     |     |
| GG4A1E0250                                  | AREA 4A - COLLECT CERTIFICATION SAMPLES          | 5        | 23JAN04     | 29JAN04      | 0      |      |     |     |      |     |     |
| <b>AREA 4A INTERIM RESTORATION</b>          |  |          |             |              |        |      |     |     |      |     |     |
| GG4A1R0010                                  | AREA 4A - FINAL GRADING                          | 44       | 30JAN04     | 01APR04      | 0      |      |     |     |      |     |     |
| <b>AREA 4B CONCRETE DEMOLITION</b>          |  |          |             |              |        |      |     |     |      |     |     |
| GG4B1C0070                                  | AREA 4B - CONCRETE DEMOLITION                    | 178      | 01OCT03A    | 21JUL04      | 10     |      |     |     |      |     |     |
| <b>AREA 4B EXCAVATION/LOAD AND HAUL</b>     |  |          |             |              |        |      |     |     |      |     |     |
| GG4B1E0060                                  | AREA 4B - EXCAVATE UTILITY TRENCH K65 (PHASE II) | 20       | 08OCT03*    | 04NOV03      | 0      |      |     |     |      |     |     |

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Start Date 25FEB02  
 Finish Date 02OCT06  
 Data Date 28SEP03  
 Run Date 09DEC03 10:59  
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 Early Bar  
 Progress Bar  
 Critical Activity

WINT FLUOR FERNALD, INC Sheet 2 of 3  
 CY2003 Winter Schedule  
 CY2003 Winter Schedule Summary

| Date | Revision | Checked | Appro |
|------|----------|---------|-------|
|      |          |         |       |
|      |          |         |       |

| Activity ID                                   | Activity Description                             | Orig Dur | Early Start | Early Finish | % Comp | 2003 |     |      | 2004 |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
|---|--|----------|-------------|--------------|--------|------|-----|------|------|-----|------|---|------|-----|----|------|---|---|------|---|---|------|----|--|--|
|   |  |          |             |              |        | OCT  | NOV | DEC  | JAN  | FEB | MAR  |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| GG4B1E0120                                    | AREA 4B - AWAC EXCAV SW LABORATORY BLDG          | 15       | 27OCT03*    | 17NOV03      | 0      | 296  | 13  | 2027 | 3    | 10  | 1724 | 8 | 1522 | 295 | 12 | 1926 | 2 | 9 | 1623 | 1 | 8 | 1522 | 29 |  |  |
| GG4B1E1070                                    | AREA 4B - AWAC EXCAV/LOAD/HAUL                   | 249      | 27OCT03     | 22OCT04      | 0      |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| GG4B1E1030                                    | AREA 4B - EXCAVATION                             | 299      | 27OCT03     | 10JAN05      | 0      |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| <b>AREA 4B SITE PREPARATION</b>               |  |          |             |              |        |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| GG4B1P0040                                    | AREA 4B - INSTALL 12" HDPE & 24" HDPE LINES MH70 | 20       | 20NOV03*    | 19DEC03      | 0      |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| <b>AREA 4B UTILITY ISOLATION</b>              |  |          |             |              |        |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| GG4B1U0020                                    | AREA 4B - UTILITY ISOLATION/TRENCH               | 20       | 06OCT03A    | 24OCT03      | 0      |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| <b>AREA 6 GENERAL AREA EXCAVATION SUPPORT</b> |  |          |             |              |        |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| GG6GAS0100                                    | AREA 6 - SOLID WASTE LAND FILL EXCAVATION        | 55       | 01OCT03*    | 19DEC03      | 0      |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| <b>CONCRETE CRUSHING</b>                      |  |          |             |              |        |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| GGCCC10010                                    | AREA 3A - CONCRETE CRUSHING OPERATIONS           | 65       | 30JUN03A    | 21NOV03      | 45     |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| GGCCC10030                                    | WINTER 2003 CONCRETE CRUSHING                    | 87       | 24NOV03     | 31MAR04      | 0      |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| <b>NORTHERN WOODLOTS RESTORATION</b>          |  |          |             |              |        |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| GGNRR50150                                    | NORTHERN PINES PLANTING                          | 359      | 21OCT02A    | 17DEC03      | 52     |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| GGNRR50170                                    | WETLAND LAND MITIGATION PHASE II-GRADING         | 34       | 03OCT03*    | 26NOV03      | 0      |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| <b>PADDYS RUN CORRIDOR RESTORATION</b>        |  |          |             |              |        |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| GGNRR60130                                    | PADDY'S RUN PLANTING WEST - PHASE I              | 278      | 10NOV03*    | 08FEB05      | 0      |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| <b>LOAD/HAUL TO OSDF</b>                      |  |          |             |              |        |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| GGSLH10070                                    | AREA 6 - OUI STOCKPILE EXCAV/LOAD/HAUL TO OSDF/S | 40       | 27OCT03*    | 26DEC03      | 0      |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| GGSLH10060                                    | AREA 6 - OUI STOCKPILE EXC/LOAD/HAUL AWAC/RCRA   | 22       | 17NOV03*    | 18DEC03      | 0      |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |
| GGSLH10150                                    | AREA 4B - LOAD/HAUL FROM SP TO CELL              | 140      | 15MAR04     | 30SEP04      | 0      |      |     |      |      |     |      |   |      |     |    |      |   |   |      |   |   |      |    |  |  |

00046

# Winter 2003/2004 SDFP Resource Requirements (Summary)

5249

|                              | Nov           | Dec           | Jan          | Feb          |
|------------------------------|---------------|---------------|--------------|--------------|
| <b>Project Support</b>       |               |               |              |              |
| Analytical Lab               | 12.00         | 12.00         | 12.00        | 12.00        |
| CADD Support                 | 1.50          | 1.25          | 1.50         | 1.50         |
| Characterization             | 2.00          | 2.00          | 2.00         | 2.00         |
| CQC - Subcontract            | 7.00          | 7.00          | 5.10         | 5.10         |
| Engineering                  | 4.35          | 3.80          | 4.00         | 4.10         |
| Industrial Hygiene           | 1.50          | 1.50          | 1.50         | 1.50         |
| Laborer                      | 4.00          | 4.00          | 4.00         | 4.00         |
| Operator                     | 3.00          | 3.00          | 3.00         | 3.00         |
| QA/QC                        | 4.00          | 4.00          | 4.00         | 4.00         |
| Radiological                 | 10.00         | 10.00         | 10.00        | 10.00        |
| Real Time                    | 5.00          | 5.00          | 5.00         | 5.00         |
| Restoration                  | 2.00          | 2.00          | 2.00         | 2.00         |
| Safety                       | 5.00          | 5.00          | 5.00         | 5.00         |
| Sampling                     | 5.00          | 5.00          | 5.00         | 5.00         |
| Survey - Field               | 2.00          | 2.00          | 2.00         | 2.00         |
| Survey - Subcontract         | 4.00          | 4.00          | 4.00         | 4.00         |
| Waste Acceptance             | 18.00         | 15.00         | 9.25         | 9.25         |
| <b>Total Project Support</b> | <b>90.35</b>  | <b>86.55</b>  | <b>79.35</b> | <b>79.45</b> |
| <b>Labor</b>                 |               |               |              |              |
| Laborer - Foreman            | 11.00         | 11.00         | 11.00        | 11.00        |
| Laborer - Journeyman         | 40.00         | 39.00         | 30.00        | 27.00        |
| Operator - Equipment         | 41.00         | 38.00         | 35.00        | 33.00        |
| Teamster - Journeyman        | 32.00         | 28.00         | 22.00        | 19.00        |
| <b>Total Labor</b>           | <b>124.00</b> | <b>116.00</b> | <b>98.00</b> | <b>90.00</b> |
| <b>Fernald</b>               |               |               |              |              |
| Hydroseeder (Fernald)        | 1.00          | 1.00          | 1.00         | 1.00         |
| Taylor Forklift (Fernald)    | 1.00          | 1.00          | 1.00         | 1.00         |
| <b>Total Fernald</b>         | <b>2.00</b>   | <b>2.00</b>   | <b>2.00</b>  | <b>2.00</b>  |

000047

# Winter 2003/2004 SDFP Resource Requirements (Summary)

52 4 9

|   | Nov          | Dec          | Jan          | Feb          |
|---|--------------|--------------|--------------|--------------|
| <b>Equipment</b>                                |              |              |              |              |
| 25 Ton Articulating Dump Truck                  | 1.00         | 1.00         | 1.00         | 1.00         |
| 30 Ton Articulating Dump Truck                  | 13.00        | 8.00         | 7.00         | 7.00         |
| 35 Ton Articulating Dump Truck                  | 1.00         | 1.00         | 1.00         | 1.00         |
| 40 Ton Articulating Dump Truck                  | 11.00        | 11.00        | 7.00         | 7.00         |
| A-35 Volvo Articulating Dump Truck              | 2.00         | 2.00         | 2.00         | 2.00         |
| Bobcat Loader                                   | 1.00         | 1.00         | 1.00         | 1.00         |
| Cat 14H Motor Grader                            | 2.00         | 2.00         | 2.00         | 2.00         |
| CAT 320 Track Excavator w/Grappler              | 1.00         | 1.00         | 1.00         | 1.00         |
| CAT 322 Track Excavator                         | 2.00         | 2.00         | 2.00         | 2.00         |
| CAT 330B Track Excavator w/Rotating Grappler    | 1.00         | 1.00         | 1.00         | 1.00         |
| CAT 330BL Track Excavator                       | 3.00         | 3.00         | 3.00         | 3.00         |
| CAT 330BL Track Excavator w/ Hoe-Ram            | 3.00         | 3.00         | 3.00         | 3.00         |
| T 330BL Track Excavator w/MP-30 Multi Processor | 1.00         | 1.00         | 1.00         | 1.00         |
| CAT 345BL Track Excavator                       | 3.00         | 3.00         | 3.00         | 3.00         |
| AT 345BL Track Excavator (High Cap Mfl Handler) | 1.00         | 1.00         | 1.00         | 1.00         |
| CAT 350 w/ Shear                                | 0.00         | 0.00         | 1.00         | 1.00         |
| CAT 375 Track Excavator w/ Protective Cage      | 1.00         | 1.00         | 1.00         | 1.00         |
| CAT 420D Rubber Tire Backhoe                    | 3.00         | 3.00         | 3.00         | 3.00         |
| CAT 613C Water Wagon                            | 3.00         | 3.00         | 0.00         | 0.00         |
| CAT 815F Soil Compactor (Sheepsfoot Roller)     | 1.00         | 1.00         | 1.00         | 1.00         |
| CAT 826G Landfill Compactor                     | 1.00         | 1.00         | 1.00         | 1.00         |
| CAT 963B Track Loader                           | 2.00         | 2.00         | 2.00         | 2.00         |
| CAT CS563D SD Roller                            | 3.00         | 3.00         | 2.00         | 2.00         |
| CAT D250 Articulating Water Truck               | 1.00         | 1.00         | 0.00         | 0.00         |
| CAT D3G Dozer                                   | 1.00         | 1.00         | 0.00         | 0.00         |
| CAT D6R Dozer                                   | 4.00         | 4.00         | 3.00         | 3.00         |
| CAT D6R LGP Dozer                               | 4.00         | 2.00         | 0.00         | 0.00         |
| CAT D6R LGP Dozer w/GPS                         | 2.00         | 2.00         | 2.00         | 2.00         |
| CAT D7 LGP Dozer                                | 1.00         | 1.00         | 1.00         | 1.00         |
| CAT D8R Dozer                                   | 4.00         | 4.00         | 3.00         | 3.00         |
| CAT IT28G Integrated Toolcarrier                | 2.00         | 2.00         | 2.00         | 2.00         |
| CAT TH83 Telehandler                            | 1.00         | 1.00         | 1.00         | 1.00         |
| Flat Bed Trailer                                | 2.00         | 2.00         | 2.00         | 2.00         |
| Kubota Farm Tractor                             | 1.00         | 1.00         | 1.00         | 1.00         |
| Mack Hydroseeder Truck                          | 2.00         | 2.00         | 2.00         | 2.00         |
| Roll Off Box Truck                              | 1.00         | 1.00         | 1.00         | 1.00         |
| Truck for Iso's                                 | 1.00         | 1.00         | 1.00         | 1.00         |
| Truck Tractor                                   | 1.00         | 1.00         | 1.00         | 1.00         |
| Volvo A25C Articulating Water Truck             | 1.00         | 1.00         | 1.00         | 1.00         |
| Water Fill Station                              | 3.00         | 3.00         | 0.00         | 0.00         |
| <b>Total Equipment</b>                          | <b>92.00</b> | <b>85.00</b> | <b>68.00</b> | <b>68.00</b> |

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