# GILL CREEK REMEDIATION PROJECT POST REMEDIATION MONITORING SEDIMENT TRAP PLACEMENT

Prepared for:
E.I. du Pont de Nemours & Company, Inc.
28th Street and Buffalo Avenue
Niagara Falls, New York 14302

and

Olin Corporation
Lower River Road
Charleston, Tennessee 37310
December 1993

Woodward-Clyde

Woodward-Clyde Consultants
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Project Number 93C2288

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December 22, 1993
93C2288

Dr. Ann Masse
E.I. du Pont de Nemours and Company, Inc.
26th Street and Buffalo Avenue
Niagara Falls, New York 14302

Mr. James Brown
Olin Corporation
1186 Lower River Road
Charleston, Tennessee 37310

Subject: Gill Creek Remediation Project
Post Remediation Monitoring
Sediment Trap Placement

Dear Dr. Masse and Mr. Brown:

Woodward-Clyde Consultants (WCC) is pleased to present this Sediment Trap Placement Report for the Gill Creek Post Remediation Monitoring Program.

Our schedule for follow-up inspections of the traps calls for inspections during the months of January, May, and September of 1994. Each inspection will be followed up with a brief letter report, describing the status of the traps, which will be sent to you within two weeks of the inspection.

Sampling of the traps will occur in October of 1994. The interim report on sediment analysis results will be prepared and submitted to you within five weeks of receipt of analytical reports from the laboratory. Interim and final reports are due to the NYSDEC within 60 days of receipt of the laboratory reports.

We appreciate this opportunity to be of services to DuPont and Olin.

Very truly yours,

Martin S. Leonard, P.E.
Senior Project Engineer

James F. Roetzer, Ph.D.
Senior Associate

Gcsedtra.rep

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# 1.0
# INTRODUCTION

E.I. du Pont de Nemours and Company (DuPont) and Olin Corporation (Olin) have jointly undertaken a remediation program involving removal of contaminated sediment along a portion of Gill Creek near its confluence with the Niagara River. One aspect of the post remediation monitoring program, as outlined in the Post Remediation Monitoring Plan, prepared for DuPont and Olin by Woodward-Clyde Consultants (WCC), is collection of samples of reaccumulating sediment in the reach of Gill Creek from Adams Avenue to its confluence with the Niagara River (see Figure 1-1). Background sampling will also be conducted immediately south of Buffalo Avenue. The purpose of this report is to document the design and placement of the sediment traps.

# 2.0 SEDIMENT TRAP PLACEMENT AND DESIGN

## 2.1 SAMPLING LOCATIONS

Accumulated sediment will be sampled at five locations in Gill Creek. Sampling locations have been numbered 1 through 5, starting just south of Buffalo Avenue and ending at the Robert Moses Parkway (see Figure 2-1). Sediment traps were placed at the following location on October 28, 1993.

| Location | Description | No. of Traps Placed |
|---|---|---|
| 1 | Gill Creek - near the west bank, just south of Buffalo Avenue - background location, upstream from the 1992 remediation area | 2 |
| 2 | Gill Creek - near the west bank, approximately 50 feet south of Adams Avenue | 4 |
| 3 | Gill Creek - near the west bank, south of the Railroad Bridge | 2 |
| 4 | Gill Creek - near the west bank, south of Staub Road | 2 |
| 5 | Gill Creek - near the west bank, just south of the Robert Moses Parkway eastbound lanes | 2 |

Traps at locations 1, 2 and 3 will be retrieved and replaced by wading into the creek. At locations 4 and 5, the traps will be retrieved and replaced using a weighted hook.

Additional information regarding the five sampling locations is given in Table 2-1.

## 2.2 SEDIMENT TRAP DESIGN

The purpose of the sediment traps is to collect settling suspended matter, and to maintain a clear separation between the newly deposited sediments and the current creekbed materials.

Sediment traps were constructed of 8-inch diameter stainless-steel cylinders with open tops and closed bottoms. The traps are 8 inches in height, and were placed so that the open tops are approximately 8 inches above the creekbed (see Figure 2-2). This placement will allow the traps to collect settling suspended matter, while minimizing the collection of bed load, debris and the current materials making up the creekbed (compacted clay and crushed stone). In the event that excessive quantities of debris collect in the traps, coarse screens will be placed over the open tops.

The sediment traps were designed and installed to resist movement due to hydraulic forces. Initially, two traps were placed at each sampling location except for the location downstream from Adams Avenue, where four traps were placed, for the purpose of collecting sufficient sediment for a field duplicate.

## 2.3 FOLLOW-UP INSPECTIONS/SAMPLING

Traps will be checked quarterly to verify that they have not been lost. The traps will not be disturbed when being checked; however, the observer will attempt to make some assessment on the amount of sediment accumulation in the trap, if possible. If it is clear that inadequate sediment volume is accumulating, additional traps may be installed to increase the volume of sediment collected.

In October of 1994, the traps will be removed from the creek to extract collected sediment. Water from the upper portion of the cylinders will be decanted, and sediments will be transferred to pre-cleaned laboratory containers for subsequent analyses. Depending on the amount of sediment collected, and the results of the analyses, this process will be repeated annually, or every other year, for a period of 5 years after initial placement of the sediment traps.

Table

**TABLE 2-1**

**SEDIMENT TRAP LOCATION SPECIFICATIONS**

| LOCATION | DISTANCE FROM BRIDGE (FEET) | DISTANCE FROM SHORELINE (FEET) | WATER DEPTH (FEET) | NUMBER OF TRAPS |
|---|---|---|---|---|
| Downstream From Buffalo Avenue | 90 - 94 | 8 - 9 | 1 - 1.5 | 2 |
| Downstream From Adams Avenue | 48 - 52 | 9 - 12 | 2 - 2.5 | 4 |
| Downstream From Railroad Bridge | 8 - 10 | 8 - 10 | 3.5 - 4 | 2 |
| Downstream From Staub Road | 7 - 9 | 1 - 2 | 5 | 2 |
| Downstream From Robert Moses Parkway | 1 - 2 | 8 - 12 | 7 | 2 |

# Figures

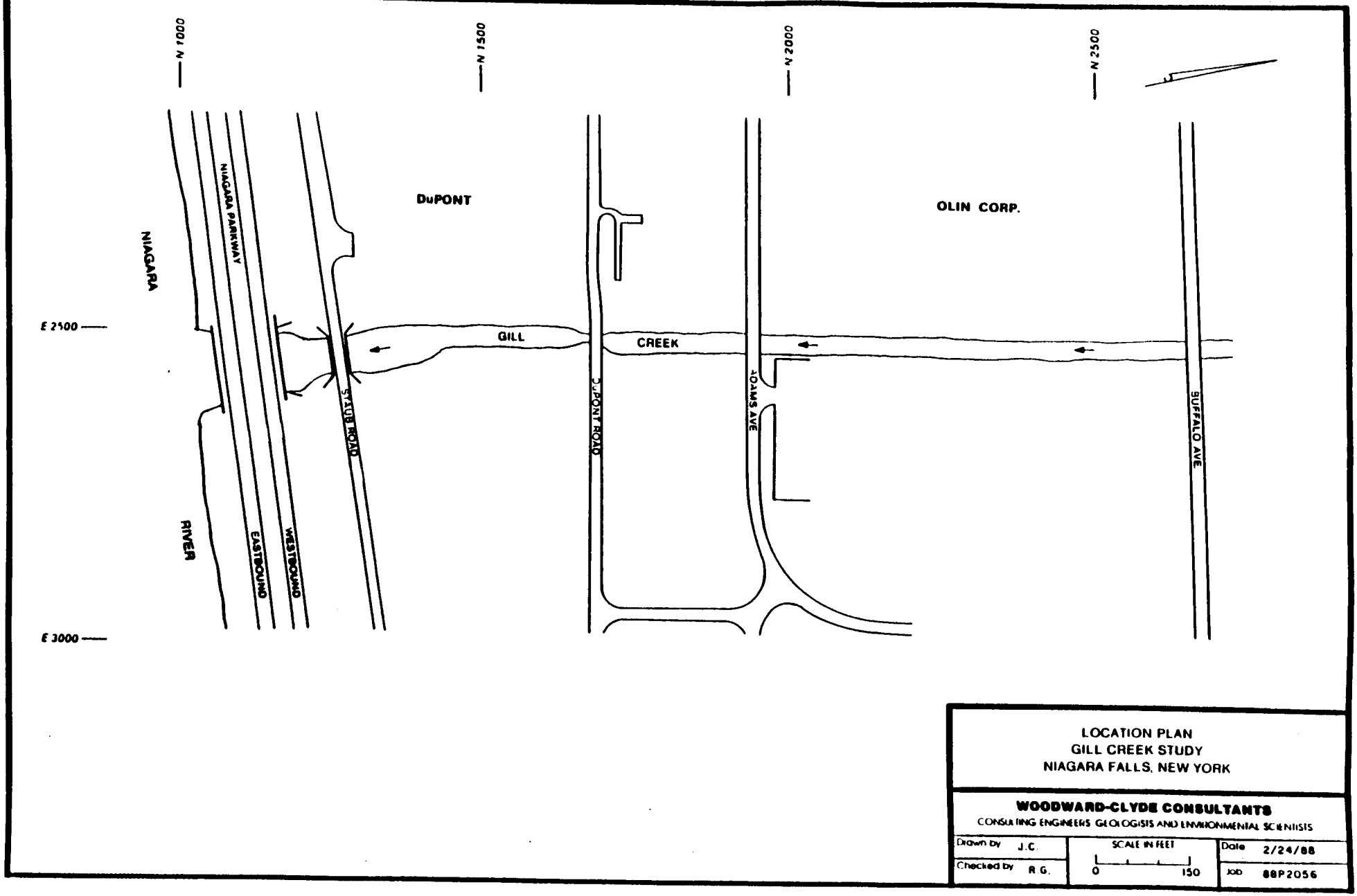
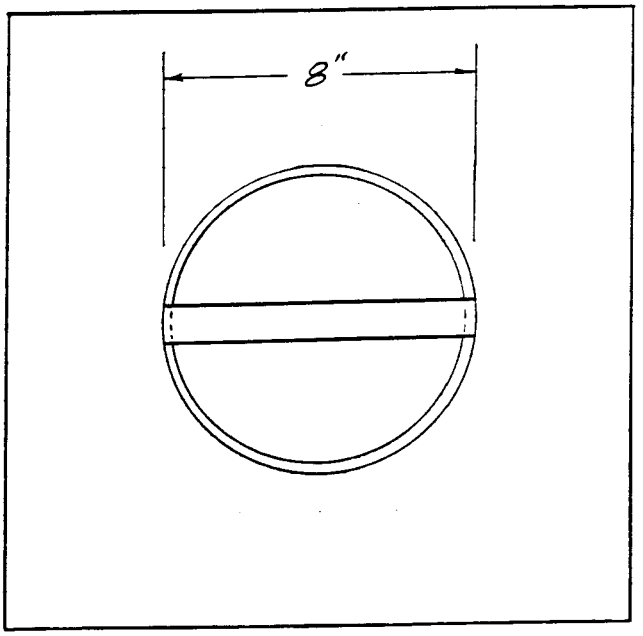
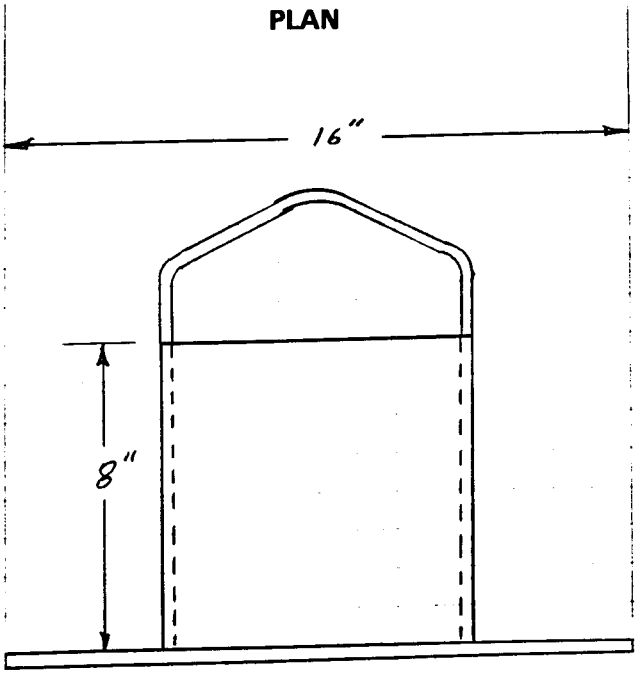

N 1000
N 1500
N 2000
N 2500
NIAGARA
RIVER
NIAGARA PARKWAY
EASTBOUND
WESTBOUND
STAUB ROAD
DuPONT
GILL
CREEK
DUPONT ROAD
ADAMS AVE
OLIN CORP.
BUFFALO AVE
E 2500
E 3000
LOCATION PLAN
GILL CREEK STUDY
NIAGARA FALLS, NEW YORK
WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
Drawn by J.C.
Checked by R.G.
SCALE IN FEET
0
150
Date 2/24/88
Job 88P2056

FIGURE 1-1




**PLAN**



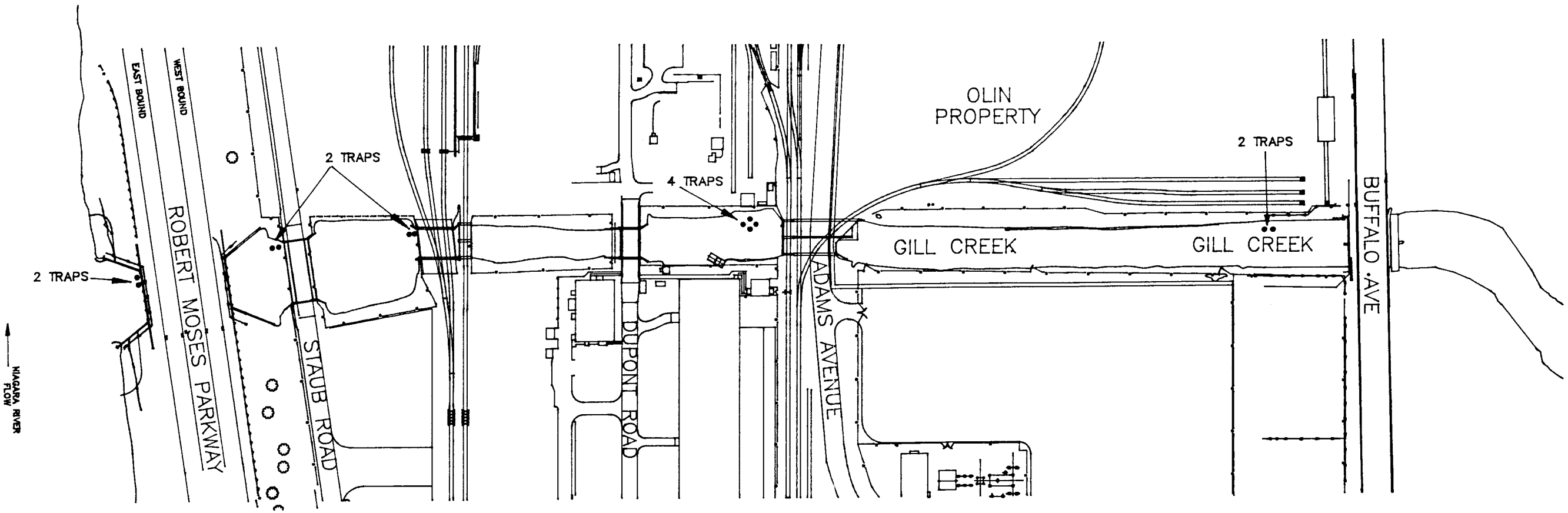

**ELEVATION**

E.I. du Pont de Nemours and Company, Inc.
Olin Corporation

**WOODWARD-CLYDE CONSULTANTS**
Consulting Engineers, Geologists and Environmental Scientists

GILL CREEK REMEDIATION PROJECT
**SEDIMENT TRAP DESIGN**

| | | |
|---|---|---|
| Job No.: 92C2255 | Drawn by: WSM | Date: 6DEC93 |
| Checked by: | Rev. No.: | |
| Scale: AS NOTED | | **FIGURE 2-2** |

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GILL CREEK REMEDIATION PROJECT
SEDIMENT TRAP LOCATION MAP

| | | |
|---|---|---|
| Job No.: 92C2255 | Drawn by: WSM | Date: 6DEC93 |
| Checked by: | Rev. No.: | |
| Scale: AS NOTED | | Figure 2–1 |