

ENGINEERS
AND
CONSTRUCTORS

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MORRISON KNUDSEN CORPORATION

MK- FERGUSON GROUP

WELDON SPRING SITE REMEDIAL ACTION PROJECT
7295 HIGHWAY 94 SOUTH
ST. CHARLES, MISSOURI 63304
PHONE: (314) 441-8086

FEBRUARY 12. 1997

U. S. Department of Energy
Weldon Spring Site
Remedial Action Project
ATTN: Mr. Stephen H. McCracken
Project Manager
7295 Highway 94 South
St. Charles, MO 63304

SUBJECT: Contract No. DE-AC05-86OR21548
**CULTURAL RESOURCES EVALUATIONS OF SOUTHEAST
DRAINAGE**

Dear Mr. McCracken:

Section 106 of the National Historic Preservation Act requires Federal agencies to evaluate the impact of their undertakings on potential historic sites and to coordinate with the State Historic Preservation Officer (SHPO).

The attached draft letter to the SHPO fulfills the Section 106 requirements for the Southeast Drainage as codified in 36 CFR 800.

If you have any questions, please contact Walter Anderson, Cultural Resources Coordinator, at extension 3108.

Sincerely,

James R. Powers
Project Director

JRP/wfa/lac

Attachment as stated

cc: Pamela Thompson

DRAFT

Ms. Judy Deel
State Historic Preservation Office
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102

Dear Ms. Deel:

CULTURAL RESOURCES EVALUATIONS OF THE WELDON SPRING SITE REMEDIAL ACTION PROJECT SOUTHEAST DRAINAGE

The Department of Energy at the Weldon Spring Site Remedial Action Project (WSSRAP) is planning to remediate radioactively contaminated locations within and adjacent to the area known as the Southeast Drainage. See the highlighted areas of attached Engineering Drawings 3840D-VP-6084 and 3840D-VP-6085 for the area of potential effect (APE).

In July of 1990, a Phase I survey and evaluation of the channel part of the Southeast Drainage was conducted by Dr. Gary Rex Walters. His July 20, 1990, letter was provided to your office. In Mr. Michael Weichman's (Missouri Historic Preservation Office) August 20, 1990, letter to WSSRAP, he stated "The State has no objection to the initiation of project activities with the APE as defined." In the ensuing years we have clearly defined the APE and are thus providing you copies of the Engineering Drawings showing areas where radioactively contaminated materials will be excavated.

During recent sampling efforts to determine the quantities to be excavated, some additional areas of contamination adjacent to the channel were discovered. As expressed by Dr. Michael Weichman in a 1986 letter to the WSSRAP, Phase I archaeological surveys are "not warranted based on the potential health risks associated with conducting archaeological investigations in radioactively contaminated areas."

Based on the above information, the Department of Energy submits a "No Effect" determination in accordance with the procedures in 36 CFR 800.5. If we do not receive written objection to our determination of no effect within 15 calendar days of receipt of this letter, we will presume concurrence and will proceed with the proposed undertaking, subject to the provisions of 36 CFR 800.11, for treating historic properties discovered during implementation of an undertaking.

Page 2 CULTURAL RESOURCES EVALUATIONS OF THE WELDON SPRING
SITE REMEDIAL ACTION PROJECT SOUTHEAST DRAINAGE

If you have any questions or comments, please contact
_____ at (314) 926-_____.

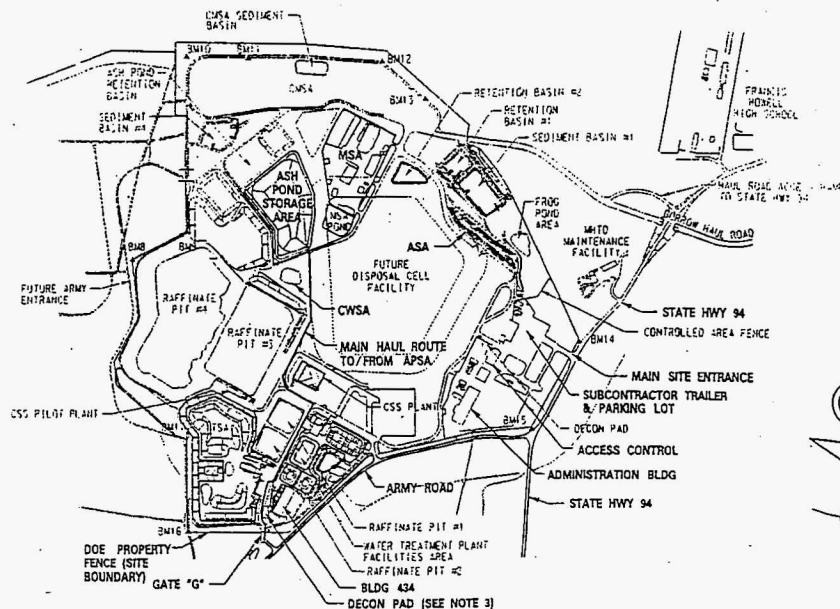
Sincerely,

Stephen H. McCracken
Project Manager
Weldon Spring Site
Remedial Action Project

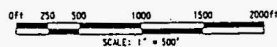
Enclosure as stated

C

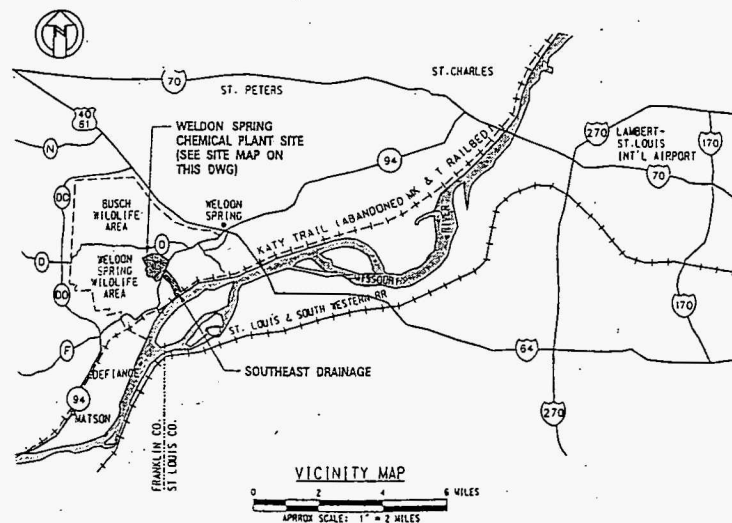
c: Walter Anderson, PMC
 Martha Windsor, MDNR
 Larry Erickson, MDNR



CHEMICAL PLANT SITE MAP



LIST OF DRAWINGS	
DRAWING NO.	DRAWING DESCRIPTION
3840D-VP-6082	TITLE SHEET
3840D-VP-6083	CHEMICAL PLANT SITE MAP, VICINITY MAP, LIST OF DRAWINGS AND GENERAL NOTES
3840D-VP-6084	SOUTHEAST DRAINAGE SITE PLAN, ABBREVIATIONS AND GENERAL LEGEND
3840D-VP-6085	HAUL ROUTES, HAMBURG QUARRY ROAD IMPROVEMENTS AND MDC NO. 5 REMEDIATION
3840D-VP-6086	SOUTHEAST DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 1 OF 3)
3840D-VP-6087	SOUTHEAST DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 2 OF 3)
3840D-VP-6088	SOUTHEAST DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 3 OF 3)
3840D-VP-6089	OPERATIONAL DETAILS
3840D-VP-6090	CONTAMINATED SOIL EXCAVATION AND RESTORATION DETAILS (SHEET 1 OF 2)
3840D-VP-6091	CONTAMINATED SOIL EXCAVATION AND RESTORATION DETAILS (SHEET 2 OF 2)
3840D-VP-6092	HIGHWAY 94/HAMBURG QUARRY ROAD INTERSECTION
3840D-VP-6093	MISCELLANEOUS SECTIONS AND DETAILS (SHEET 1 OF 2)
3840D-VP-6094	MISCELLANEOUS SECTIONS AND DETAILS (SHEET 2 OF 2)



GENERAL NOTES

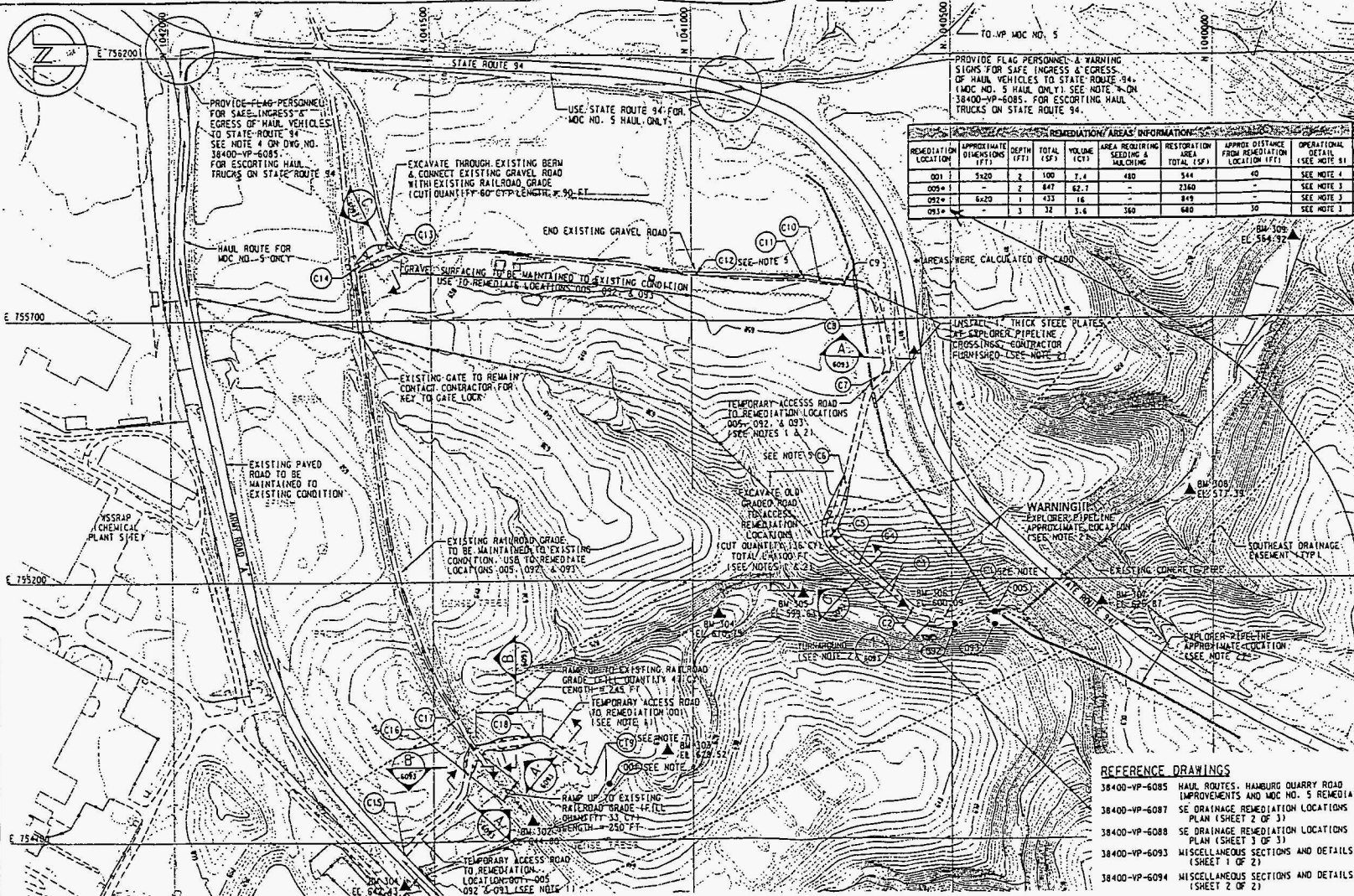
1. PRIMARY COORDINATE GRID SYSTEM IS THE MISSOURI STATE PLANE (MSP) SYSTEM, NORTH AMERICAN DATUM (NAD) 83. (REVISED 10-04-93).
2. ELEVATIONS RELATIVE TO THE NORTH AMERICAN DATUM (NAD) 1983. ALL ELEVATIONS AND COORDINATES ARE IN FEET.
3. TAPPING AND UNTAPPING OF TRUCKS AT CHEMICAL PLANT SITE MAP SHALL OCCUR AT EXISTING DECON PAD.

PRELIMINARY
(NOT FOR CONSTRUCTION)
60% SUBMITTAL
DETAIL REVIEW

SET I.O. _____

QUALITY LEVEL 2 MDCS DOCUMENT NO. 3840-V-EN-0-0454-A	
U.S. DEPARTMENT OF ENERGY OAK RIDGE, TENNESSEE	
WELDON SPRING SITE REMEDIAL ACTION PROJECT WELDON SPRING, MISSOURI SOUTHEAST DRAINAGE & VICINITY PROPERTY MDC NO. 5 REMEDIATION CHEMICAL PLANT SITE MAP, VICINITY MAP. LIST OF DRAWINGS AND GENERAL NOTES	
DESIGNED	DRW
CHECKED	
INSPECTED	
RECOMMENDED	
APPROVED	DATE ENC'D MGR./QA MGR. DATE PNC ENC'D MGR. DATE PNC QA MGR. DATE
MORRISON KNUDSEN CORPORATION ENVIRONMENTAL GROUP ONE WARENET, STEWART TOWER SAN FRANCISCO, CA 94103	
PROJECT NO. DE-AC05-86OR21548 DRAWING NO. 38400-VP-6083 REV. A	

NO.	DATE	REVISION	BY	CHK	DES	CHK	QA	ENC'D	QA	PNC
1	1/24/91	ISSUED FOR REVIEW 100% SUBMITTAL								



- NOTES**
- TEMPORARY ACCESS ROAD ALIGNMENT SHALL BE FIELD DETERMINED WITH CONTRACTOR APPROVAL TO MINIMIZE CLEARING OF TREES AND BRUSH.
 - WARNING!!!** EXPLORER PETROLEUM'S 24 INCH HIGH PRESSURE PETROLEUM PRODUCTS PIPELINE. CONTACT LAYTON WILSON AT 618-254-0003. 48 HOURS PRIOR TO ANY CONSTRUCTION WITHIN 50 FEET OF PIPELINE.
 - REMEDIAL LOCATIONS 092, 093 AND 005 AS ONE AREA. SUBCONTRACTOR SHALL FOLLOW STEP BELOW UNLESS OTHERWISE APPROVED BY CONTRACTOR.
 - REMEDIAL PORTIONS OF AREAS OUTSIDE EXISTING DRAINAGE CHANNEL. DIVERT WATER AWAY FROM THESE OUTSIDE AREAS AND INTO THE DRAINAGE CHANNEL.
 - DIVERT DRAINAGE USING EARTHBERM OPTION. RUN DISCHARGE PIPE INTO EXISTING CONCRETE PIPE.
 - REMEDIAL INSIDE DRAINAGE CHANNEL BY STARTING AT UPSTREAM AND TRANSPORTING MATERIAL TO HAUL TRUCK AT THE END OF THE ACCESS ROAD. KEEP HAUL TRUCKS OUTSIDE OF CONTAMINATED AREAS.
 - SEED, MULCH AND PROVIDE EROSION CONTROL BLANKET ON ALL DISTURBED AREAS.
 - HAUL TRUCKS SHALL STANDBY ON ACCESS HAUL ROAD WHILE BACKHOE TRANSPORTS LOADS FROM REMEDIATION LOCATION.
 - END SECTION (C) AND BEGIN SECTION (A) AT (C6).
 - END SECTION (A) AT (C12). MATCH TO EXISTING GRAVEL ROAD.
 - TARP HAUL TRUCKS AT THE END OF THE TEMPORARY HAUL ROAD. SEE DETAIL 2 ON 38400-VP-6094.
 - SEE OPERATIONAL DETAILS ON DRAWING 38400-VP-6089 FOR APPROXIMATE SCENARIOS DEPICTING REMEDIATION.

REMEDIAL AREAS INFORMATION

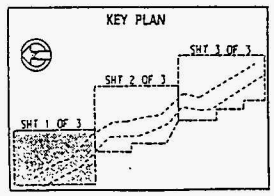
REMEDIAL LOCATION	APPROXIMATE DIMENSIONS (FT)	DEPTH (FT)	TOTAL VOLUME (CY)	AREA REQUIRING SEEDING & MULCHING	RESTORATION MATERIAL TOTAL (CY)	APPROX. DISTANCE FROM REGULATION LOCATION (FT)	OPERATIONAL DETAIL (SEE NOTE #)
001	5x20	2	100	1.4	480	544	40 SEE NOTE 4
009	10x10	2	847	62.7	2360	-	SEE NOTE 3
092	6x20	1	433	1.6	849	-	SEE NOTE 3
093	3x3	3	32	3.6	360	640	30 SEE NOTE 4

ROAD ALIGNMENT COORDINATE TABLE

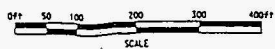
ID #	NORTH	EAST	TOP OF ROAD SURFACE EL
C1	N 1040514	E 755128	594
C2	N 1040576	E 755141	598
C3	N 1040616	E 755178	604
C4	N 1040677	E 755229	616
C5	N 1040731	E 755286	626
C6	N 1040701	E 755387	641
C7	N 1040622	E 755597	644
C8	N 1040633	E 755697	644
C9	N 1040702	E 755769	651
C10	N 1040752	E 755775	653
C11	N 1040782	E 755777	654
C12	N 1040990	E 755789	654
C13	N 1041561	E 755837	655
C14	N 1041638	E 755805	650
C15	N 1041559	E 754678	642
C16	N 1041435	E 754630	648
C17	N 1041421	E 754679	645
C18	N 1041312	E 754894	634
C19	N 1041191	E 754832	631.5

SEE NOTE 5

- REFERENCE DRAWINGS**
- 38400-VP-6085 HAUL ROUTES, HAMBURG QUARRY ROAD IMPROVEMENTS AND MOC NO. 5 REMEDIATION SE DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 2 OF 3)
 - 38400-VP-6087 SE DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 3 OF 3)
 - 38400-VP-6088 SE DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 3 OF 3)
 - 38400-VP-6093 MISCELLANEOUS SECTIONS AND DETAILS (SHEET 1 OF 2)
 - 38400-VP-6094 MISCELLANEOUS SECTIONS AND DETAILS (SHEET 2 OF 2)



PRELIMINARY
(NOT FOR CONSTRUCTION)
60% SUBMITTAL
DETAIL REVIEW



NO.	DATE	REVISION
1	1/22/97	ISSUED FOR REVIEW (60% SUBMITTAL)

U.S. DEPARTMENT OF ENERGY
OAK RIDGE, TENNESSEE

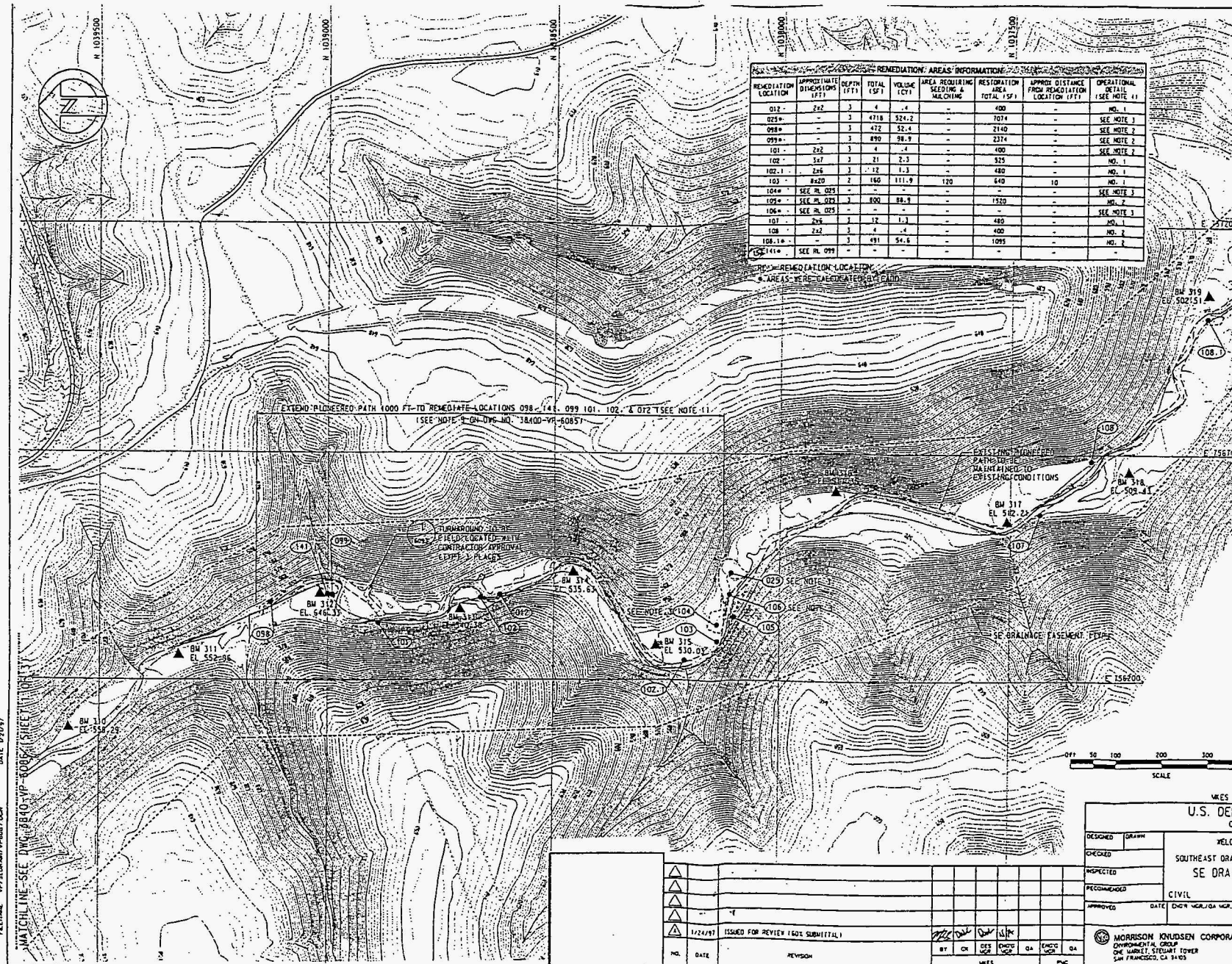
WELDON SPRING SITE REMEDIAL ACTION PROJECT
SOUTHEAST DRAINAGE & VICINITY PROPERTY MOC NO. 5 REMEDIATION
SE DRAINAGE REMEDIATION LOCATIONS PLAN
SHEET 1 OF 3

DESIGNED: [] DRAWN: []
CHECKED: []
INSPECTED: []
RECOMMENDED: []
APPROVED: []

DATE: [] ENCL: [] DATE: [] DATE: [] DATE: []

MORRISON KNUDSEN CORPORATION
CORPORATE GROUP
ONE MARKET STREET TOWER
SAN FRANCISCO, CA 94105

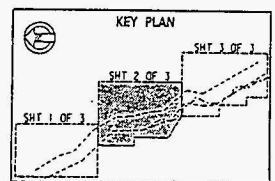
PROJECT NO. DE-AC05-86OR21548
DRAWING NO. 38400-VP-6086
REV. A



REMEDIAL LOCATION	APPROXIMATE DIMENSIONS (FT)	DEPTH (FT)	TOTAL (CU YD)	VOLUME (CU YD)	AREA REQUIRING SEEDING & MULCHING	RESTORATION AREA TOTAL (SQ FT)	APPROX. DISTANCE FROM REMEDIAL LOCATION (FT)	OPERATIONAL DETAIL (SEE NOTE #)
012	2x2	3	4	-	-	400	-	NO. 1
023	-	3	4718	324.2	-	1074	-	SEE NOTE 2
048	-	3	472	32.4	-	2740	-	SEE NOTE 2
099	-	3	890	98.9	-	2374	-	SEE NOTE 2
101	2x2	3	4	-	-	400	-	SEE NOTE 2
102	3x7	3	21	2.3	-	325	-	NO. 1
102.1	2x6	3	12	1.3	-	480	-	NO. 1
103	8x20	2	160	111.9	120	640	10	NO. 1
104	SEE RL 025	-	-	-	-	-	-	SEE NOTE 3
105	SEE RL 022	-	-	-	-	1520	-	NO. 2
106	SEE RL 025	-	-	-	-	-	-	SEE NOTE 3
107	2x6	3	12	1.3	-	480	-	NO. 1
108	2x2	3	4	-	-	400	-	NO. 2
108.1A	-	3	491	54.6	-	1095	-	NO. 2
108.1B	SEE RL 099	-	-	-	-	-	-	-

- NOTES**
- EXTENDED PIONEERED PATH SHALL BE FIELD DETERMINED WITH CONTRACTOR APPROVAL TO MINIMIZE CLEARING OF TREES AND BRUSH. EXISTING FLOORLINE OF DRAINAGE CHANNEL SHOULD BE FOLLOWED TO MINIMIZE DISTURBANCE OF AREA.
 - HAUL TRUCK SHALL STANDBY ON PIONEERED PATH WHILE BACKHAUL TRANSPORTS LOADS FROM REMEDIAL LOCATION.
 - REMEDIAL LOCATIONS 104, 106 AND 025 AS ONE AREA. SUBCONTRACTOR SHALL FOLLOW STEPS BELOW UNLESS OTHERWISE APPROVED BY CONTRACTOR.
 - REMEDIAL PORTIONS OF AREAS OUTSIDE EXISTING DRAINAGE CHANNEL.
 - ONCE OUTSIDE AREAS ARE REMEDIATED, CONSTRUCT DIVERSION DITCH AROUND AREA AS SHOWN (ACTUAL LOCATION TO BE APPROVED BY CONTRACTOR).
 - REMEDIAL INSIDE DRAINAGE CHANNEL BY STARTING AT UPSTREAM END AND TRANSPORTING MATERIAL TO HAUL TRUCKS AT THE DOWNSTREAM END. KEEP HAUL TRUCKS OUTSIDE OF CONTAMINATED AREAS.
 - SEED, MULCH & PROVIDE EROSION CONTROL BLANKET ON ALL DISTURBED AREAS INCLUDING AREAS USED AS STOCKPILE AREAS.
 - SEE OPERATIONAL DETAILS ON DRAWING 38400-VP-6089 FOR APPROXIMATE SCENARIOS DEPICTING REMEDIATION.

- REFERENCE DRAWINGS**
- 38400-VP-6085 HAUL ROUTES, HAUBURG QUARRY ROAD IMPROVEMENTS AND MOC NO. 5 REMEDIATION
 - 38400-VP-6086 SE DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 1 OF 3)
 - 38400-VP-6088 SE DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 3 OF 3)
 - 38400-VP-6093 MISCELLANEOUS SECTIONS AND DETAILS (SHEET 1 OF 2)



PRELIMINARY
(NOT FOR CONSTRUCTION)
60% SUBMITTAL
DETAIL REVIEW

SET I.D. _____

QUALITY LEVEL 2
WORKS DOCUMENT NO. 38400-VP-6089-01-0458-A
U.S. DEPARTMENT OF ENERGY
OAK RIDGE, TENNESSEE

DESIGNED: [] DRAWN: []
CHECKED: []
INSPECTED: []
RECOMMENDED: []
APPROVED: [] DATE: []

WELDON SPRING SITE REMEDIAL ACTION PROJECT
SOUTHEAST DRAINAGE & VICINITY PROPERTY MOC NO. 5 REMEDIATION
SE DRAINAGE REMEDIATION LOCATIONS PLAN
SHEET 2 OF 3

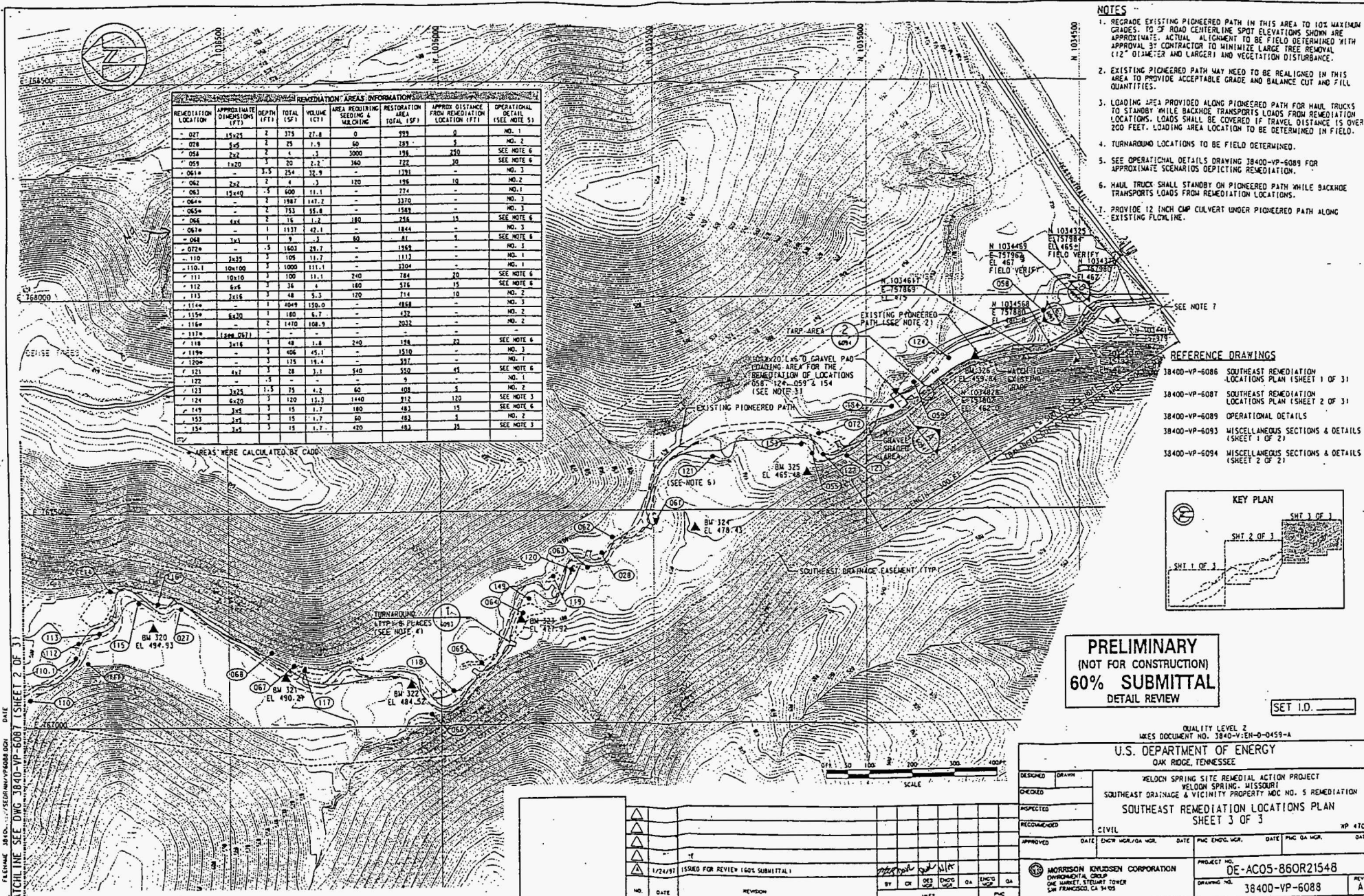
CIVIL

DATE: [] ENGR. MGR. [] DATE: [] PRC. ENGR. MGR. [] DATE: [] PRC. QA MGR. [] DATE: []

MORRISON KNUDSEN CORPORATION
ENVIRONMENTAL GROUP
ONE MARKET SQUARE TOWER
SAN FRANCISCO, CA 94103

PROJECT NO. DE-ACOS-860R21548
DRAWING NO. 38400-VP-6087
REV. A

FILENAME: VP-6089-01-0458-A
DATE: 12/24/97

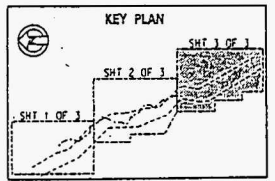


REMEDIAL LOCATION	APPROXIMATE DIMENSIONS (FT)	DEPTH (FT)	TOTAL VOLUME (CY)	AREA REQUIRING SEEDING & MULCHING (SQ FT)	RESTORATION AREA TOTAL (SQ FT)	APPROX DISTANCE FROM REMEDIATION LOCATION (FT)	OPERATIONAL DETAIL (SEE NOTE 5)
027	15x25	2	375	27.8	0	392	NO. 1
028	15x5	2	25	1.9	0	383	NO. 2
029	2x2	2	4	0.3	0	3000	SEE NOTE 6
029	15x20	3	20	2.2	360	722	SEE NOTE 6
061*	-	3.5	254	32.9	-	1791	NO. 3
062	2x2	2	4	0.3	120	156	NO. 2
063	15x10	3	600	11.1	-	774	NO. 1
064*	-	2	1987	147.2	-	3370	NO. 3
065*	-	2	753	55.8	-	256	NO. 3
066*	5x4	2	16	1.2	185	256	SEE NOTE 6
067*	-	1	1137	42.4	-	1844	NO. 3
068	3x3	1	9	0.3	80	81	SEE NOTE 6
072*	-	3	1403	25.7	-	1959	NO. 3
110	3x25	3	105	11.7	-	1113	NO. 1
110-1	10x100	3	1000	111.1	-	3304	NO. 1
111	10x10	3	100	11.1	240	784	SEE NOTE 6
112	6x6	3	36	6	180	516	SEE NOTE 6
113	2x16	3	48	5.3	120	714	NO. 2
114*	-	1	4049	159.0	-	4858	NO. 3
115*	6x20	1	180	6.7	-	432	NO. 2
116*	-	2	1470	108.9	-	2032	NO. 2
117*	(800x067)	-	-	-	-	-	SEE NOTE 6
118	3x16	1	48	1.8	240	124	NO. 3
119*	-	3	408	45.1	-	1519	NO. 1
120*	-	3	175	15.4	-	387	NO. 1
121	4x7	3	28	3.1	540	550	SEE NOTE 6
122	-	3	-	-	-	9	NO. 1
123	3x25	1.5	75	6.2	60	408	NO. 2
124	6x20	3	120	13.3	1440	912	SEE NOTE 3
149	3x5	3	15	1.7	180	483	SEE NOTE 6
153	3x2	3	15	1.7	80	482	NO. 2
154	3x2	3	15	1.7	420	483	SEE NOTE 3

*AREAS WERE CALCULATED BY CAD

- NOTES**
1. REGRADE EXISTING PIONEERED PATH IN THIS AREA TO 10% MAXIMUM GRADES. TO 2% ROAD CENTERLINE SPOT ELEVATIONS SHOWN ARE APPROXIMATE. ACTUAL ALIGNMENT TO BE FIELD DETERMINED WITH APPROVAL BY CONTRACTOR TO MINIMIZE LARGE TREE REMOVAL (12" DIAMETER AND LARGER) AND VEGETATION DISTURBANCE.
 2. EXISTING PIONEERED PATH MAY NEED TO BE REALIGNED IN THIS AREA TO PROVIDE ACCEPTABLE GRADE AND BALANCE CUT AND FILL QUANTITIES.
 3. LOADING AREA PROVIDED ALONG PIONEERED PATH FOR HAUL TRUCKS TO STANDBY WHILE BACKHAUL TRANSPORTS LOADS FROM REMEDIATION LOCATIONS. LOADS SHALL BE COVERED IF TRAVEL DISTANCE IS OVER 200 FEET. LOADING AREA LOCATION TO BE DETERMINED IN FIELD.
 4. TURNAROUND LOCATIONS TO BE FIELD DETERMINED.
 5. SEE OPERATIONAL DETAILS DRAWING 38400-VP-6089 FOR APPROXIMATE SCENARIOS DEPICTING REMEDIATION.
 6. HAUL TRUCK SHALL STANDBY ON PIONEERED PATH WHILE BACKHAUL TRANSPORTS LOADS FROM REMEDIATION LOCATIONS.
 7. PROVIDE 12 INCH CMP CULVERT UNDER PIONEERED PATH ALONG EXISTING FLOWLINE.

- REFERENCE DRAWINGS**
- 38400-VP-6086 SOUTHEAST REMEDIATION LOCATIONS PLAN (SHEET 1 OF 3)
 - 38400-VP-6087 SOUTHEAST REMEDIATION LOCATIONS PLAN (SHEET 2 OF 3)
 - 38400-VP-6089 OPERATIONAL DETAILS
 - 38400-VP-6093 MISCELLANEOUS SECTIONS & DETAILS (SHEET 1 OF 2)
 - 38400-VP-6094 MISCELLANEOUS SECTIONS & DETAILS (SHEET 2 OF 2)



PRELIMINARY
(NOT FOR CONSTRUCTION)
60% SUBMITTAL
DETAIL REVIEW

SET I.O.

QUALITY LEVEL 2
WES DOCUMENT NO. 38400-VP-0-0459-A

U.S. DEPARTMENT OF ENERGY
OAK RIDGE, TENNESSEE

WELDON SPRING SITE REMEDIAL ACTION PROJECT
WELDON SPRING, MISSOURI
SOUTHEAST DRAINAGE & VICINITY PROPERTY MDC NO. 5 REMEDIATION
SOUTHEAST REMEDIATION LOCATIONS PLAN
SHEET 3 OF 3

DESIGNED: [] DRAWN: []
CHECKED: []
INSPECTED: []
RECOMMENDED: []
APPROVED: [] DATE: []

CIVIL

MORRISON KJUSSEN CORPORATION
ENVIRONMENTAL GROUP
ONE MARKET STREET TOWER
SAN FRANCISCO, CA 94105

PROJECT NO. DE-AC05-860R21548
DRAWING NO. 38400-VP-6088

WES DOCUMENT NO. 38400-VP-0-0459-A

FILENAME: 38400-VP-6088.DWG
DATE: 1/24/97
ATCHLINE SEE DWG 38400-VP-6087 (SHEET 2 OF 3)

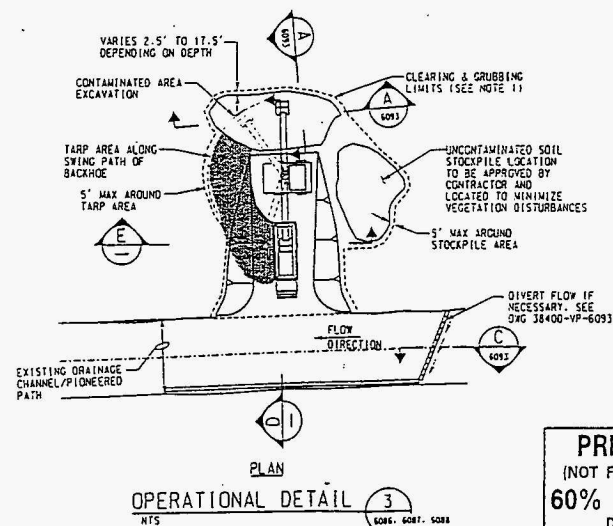
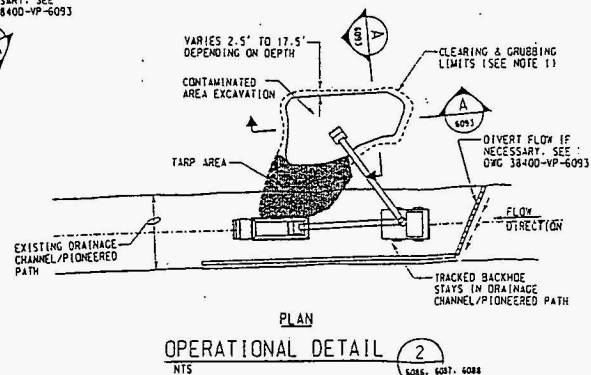
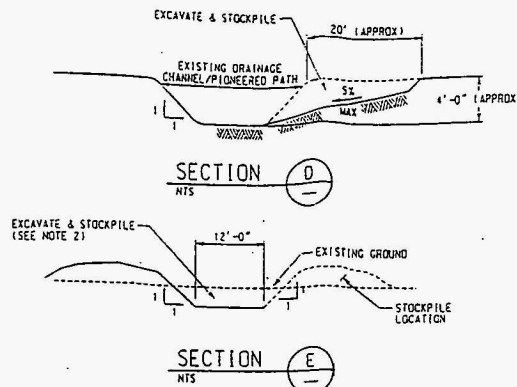
1. VERTICAL EXCAVATION FOR 3.5 FEET OR LESS SEE
"REMEDIATION AREAS INFORMATION TABLE" ON DRAWINGS
18-GC-VP-5086, -5087 AND -5088.

38400-VP-5086 SOUTHEAST DRAINAGE REMEDIATION LOCATIONS
PLAN (SHEET 1 OF 2)

38400-VP-5087 SOUTHEAST DRAINAGE REMEDIATION LOCATIONS
PLAN (SHEET 2 OF 2)

38400-VP-6088 SOUTHEAST DRAINAGE REMEDIATION LOCATIONS
PLAN (SHEET 3 OF 3)

38400-VP-5093 MISCELLANEOUS SECTIONS & DETAILS
(SHEET 1 OF 2)



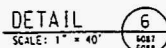
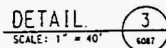
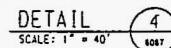
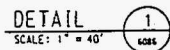
PRELIMINARY
(NOT FOR CONSTRUCTION)
60% SUBMITTAL
DETAIL REVIEW

QUALITY LEVEL 2
NEXES DOCUMENT NO. 3840-Y:EN-D-01-0460-A

DOON SPRING SITE REMEDIAL ACTION PROJECT
KELOON SPRING, MISSOURI
SOUTHEAST DRAINAGE REMEDIATION

DESIGNED	DRAWN	KELOON SPRING SITE REMEDIAL ACTION PROJECT			
CHECKED		VELOON SPRING, MISSOURI			
		SOUTHEAST DRAINAGE REMEDIATION			
OPERATIONAL DETAILS					
INSPECTED					
RECOMMENDED	CIVIL				HP-10
APPROVED	DATE	ENR'S HEALTH WGR.	DATE	PWC ENR'S WGR.	DATE
 MORRISON KNUDSEN CORPORATION ENVIRONMENTAL GROUP ONE MARKET SQUARE TOWER SAN FRANCISCO, CA 94111			PROJECT NO. DE-AC05-860R21548 DRAWING NO. 3840D-VP-6089		
			REV. A		

[illegible]

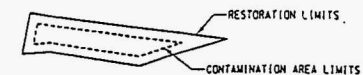


NOTES

REFERENCE DRAWINGS

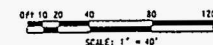
- 38400-VP-6086 SOUTHEAST DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 1 OF 3)
38400-VP-6087 SOUTHEAST DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 2 OF 3)
38400-VP-6088 SOUTHEAST DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 3 OF 3)

LEGEND



NOTE TO REVIEWERS:

1. EXCAVATION COORDINATES TO BE
ADDED WITH NEXT SUBMITTAL.



PRELIMINARY
(NOT FOR CONSTRUCTION)
60% SUBMITTAL
DETAIL REVIEW

SET I.D. _____

QUALITY LEVEL 2
WKS DOCUMENT NO. 3840-Y:EN-D-0461-A

U.S. DEPARTMENT OF ENERGY
OAK RIDGE, TENNESSEE

WELDON SPRING SITE REMEDIAL ACTION PROJECT
WELDON SPRING, MISSOURI
SOUTHEAST DRAINAGE REMEDIATION
CONTAMINATED SOIL EXCAVATION
AND RESTORATION DETAILS
SHEET 1 OF 2

SHEET 1 OF 2

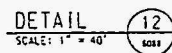
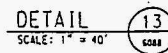
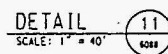
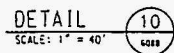
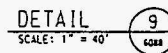
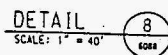
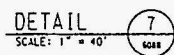
DESIGNED	DRAWN
CHECKED	
INSPECTED	
RECOMMENDED	

 MORRISON KNUDSEN CORPORATION
ENVIRONMENTAL GROUP
ONE MARKET, STEUARY TOWER
SAN FRANCISCO, CA 94105

PROJECT NO.	DE-AC05-860R21548
DRAWING NO.	38400-VP-6090

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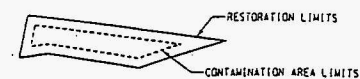


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REFERENCE DRAWINGS

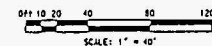
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|---------------|--|
| 38400-VP-6086 | SOUTHEAST DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 1 OF 3) |
| 38400-VP-6087 | SOUTHEAST DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 2 OF 3) |
| 38400-VP-6088 | SOUTHEAST DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 3 OF 3) |

LEGEND



NOTE TO REVIEWERS:

1. EXCAVATION COORDINATES TO BE
ADDED WITH NEXT SUBMITTAL.



PRELIMINARY
(NOT FOR CONSTRUCTION)
60% SUBMITTAL
DETAIL REVIEW

SET I.D. _____

QUALITY LEVEL 2
WRES DOCUMENT NO. 3840-Y:EN-D-0462-A

U.S. DEPARTMENT OF ENERGY
OAK RIDGE, TENNESSEE

WELDON SPRING SITE REMEDIAL ACTION PROJECT
WELDON SPRING, MISSOURI
SOUTHEAST DRAINAGE REMEDIATION
CONTAMINATED SOIL EXCAVATION
AND RESTORATION DETAILS
SHEET 2 OF 2

SHEET 2 OF 2

AP 47

DESIGNED	DRAWN
CHECKED	
INSPECTED	
RECOMMENDED	
APPROVED	

APPROVED	DATE	ENGR MGR./QA MGR.	DATE	PWC ENGR. MGR.	DATE	PWC QA MGR.	DATE
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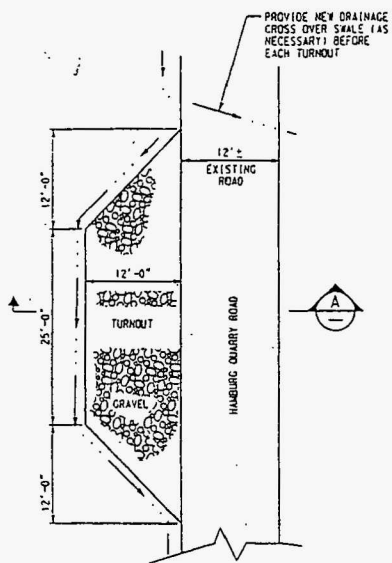
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 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	PROJECT NO. 35-1225-260021E48
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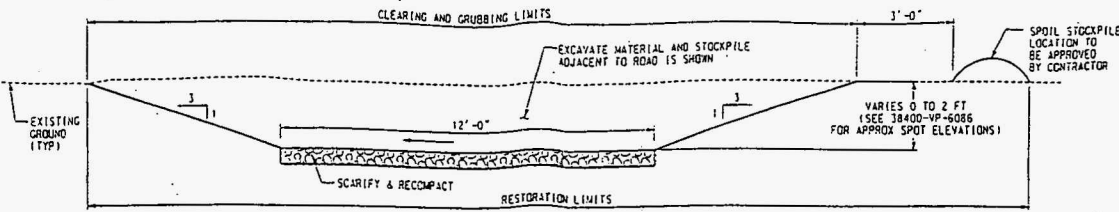
MORRISON KNUDSEN CORPORATION
CORPORATE GROUP

DA	THE MARKET, STEUART TOWER	DRAWING NO.	38400-VP-6091	REV
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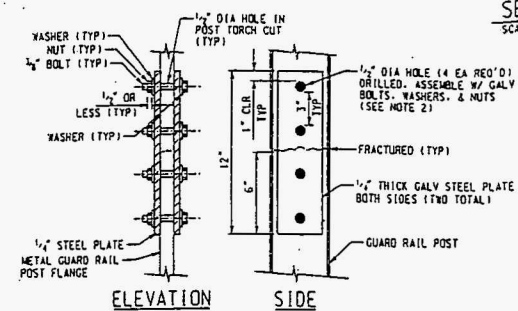
San Francisco, CA 94103 | 38400-41-6031 | A-



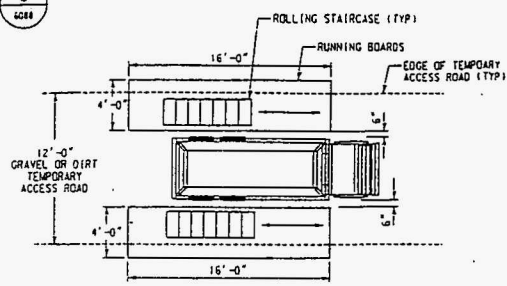
TYPICAL TURNOUT PLAN DETAIL 1
NOT TO SCALE



SECTION C
SCALE: 1" = 2'



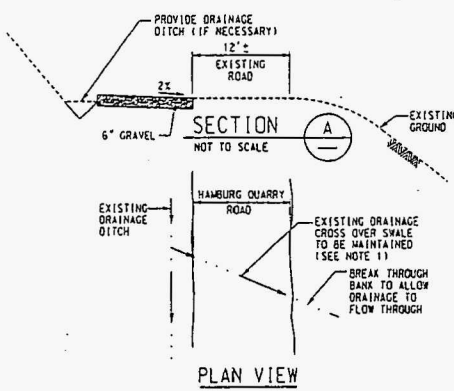
ELEVATION SIDE
DETAIL 4
NOT TO SCALE



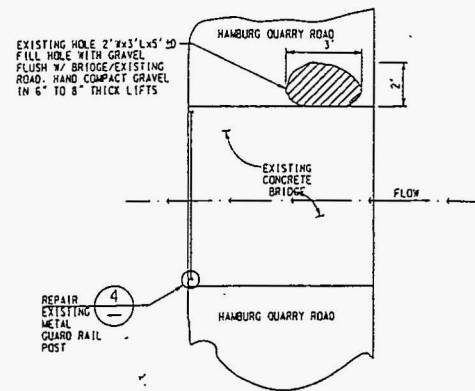
TARP AREA DETAIL 2
SCALE: 1" = 5'

- NOTES**
- EXISTING ROAD HAS 13 DRAINAGE CROSS OVER SKELES THAT MUST REMAIN & BE MAINTAINED.
 - ALL BRIDGE POST REPAIR STEEL COMPONENTS SHALL BE SHOP FABRICATED AND HOT-DIP GALVANIZED.

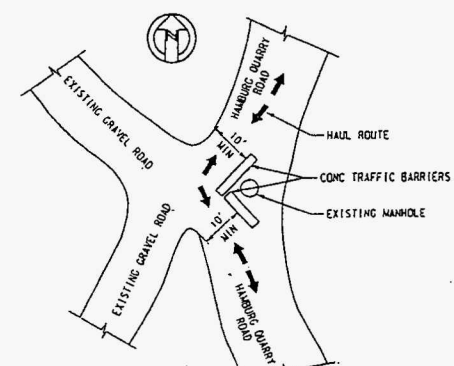
- REFERENCE DRAWINGS**
- 38400-VP-6083 HAUL ROUTE AND HAMBURG QUARRY ROAD IMPROVEMENT PLANS
 - 38400-VP-6086 SOUTHEAST DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 1 OF 3)
 - 38400-VP-6088 SOUTHEAST DRAINAGE REMEDIATION LOCATIONS PLAN (SHEET 3 OF 3)



PLAN VIEW



RAILING REPAIR PLAN
DETAIL 3
NOT TO SCALE



PROTECT MANHOLE DETAIL 2
NOT TO SCALE

PRELIMINARY
(NOT FOR CONSTRUCTION)
60% SUBMITTAL
DETAIL REVIEW

SET I.D. _____

QUALITY LEVEL 2
AKES DOCUMENT NO. 3840-VEN-0-01-0465-A

U.S. DEPARTMENT OF ENERGY
OAK RIDGE, TENNESSEE

YELDON SPRING SITE REMEDIAL ACTION PROJECT
YELDON SPRING, MISSOURI
SOUTHEAST DRAINAGE REMEDIATION
MISCELLANEOUS SECTIONS AND DETAILS
SHEET 2 OF 2

DESIGNED	GRAPH	DATE	ENR	WGR	DA	WGR	DATE	ENR	WGR	DA	WGR	DATE	ENR	WGR	DA	WGR
CHECKED																
INSPECTED																
RECOMMENDED																
APPROVED																

PROJECT NO. DE-AC05-860R21548
DRAWING NO. 38400-VP-6094

MORRISON KNUDSEN CORPORATION
ENVIRONMENTAL GROUP
ONE MARKET STREET, TOWER
SAN FRANCISCO, CA 94103

38400-VP-6094.dgn DATE 07/23/98