261

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OPERABLE UNIT 1 REVISED SITE PREPARATION DRAWINGS

04/22/96

DOE-0811-96
DOE-FN EPAS
16
REV

Department of Energy

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

APR 22 1996

DOE-0811-96

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

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

OPERABLE UNIT 1 REVISED SITE PREPARATION DRAWINGS

Reference: Letter, DOE-0772-96, J. W. Reising to J. A. Saric and T. Schneider, "Operable Unit 1 Site Preparation Activities and Materials Management," dated April 11, 1996.

Enclosed are copies of Revision 1 of the Certified for Construction (CFC) drawings for the Operable Unit 1 (OU1) Site Preparation activity. These CFC drawings were undergoing final review at the time of the Pre-Final Design Package submittal. A listing of drawings and a summary of the changes made between the Pre-Final Design Package and Revision 1 are also enclosed. They are being forwarded to the individuals to whom the Draft Pre-final Engineering Design Packages were previously issued.

These drawings are transmitted for your information and comment. As you are aware, OU1 has initiated site preparation and is utilizing this CFC package. The Department of Energy, Fernald Area Office (DOE-FN) would appreciate receiving your comments on these drawings as soon as possible.

Recycled and Recyclable

If you have any questions, please contact John Hall at (513) 648-3118.

Sincerely,

Johnny Reising

Johnny W. Reising
Fernald Remedial Action
Project Manager

FN:Hall

Enclosures: As Stated

cc w/enc:

R. L. Nace, EM-423/GTN
G. Jablonowski, USEPA-V, 5HRE-8J
Manager, TPSS/DERR, OEPA-Columbus
F. Bell, ATSDR
D. S. Ward, GeoTrans
R. Vandegrift, ODOH
S. McLellan, PRC
J. Harmon, FERMCO/90
T. Hagen, FERMCO/65-2
AR Coordinator, FERMCO/78

cc w/o enc:

C. Little, FERMCO/2
M. Yates, FERMCO/9

SUBMITTAL OF REVISION 1 OF THE OPERABLE UNIT 1 SITE PREPARATION PACKAGE

Attached is Revision 1 of the below-listed Operable Unit 1 Site Preparation Package drawings.

These drawings have been punched for insertion in Volume 1 of Package 1 of the Pre-final Design Package transmitted by DOE-FN with DOE-0064-96, dated March 19, 1996.

Drawing Title	Drawing No.	Sheet No.
Drawing Index	91X-5900-X-00216	X0002
Civil-Site Plan/		
Demolition Plan	91X-5900-G-00135	G0001
Civil-Utilities Plan	91X-5900-G-00141	G0002
Sheet 1 of 2	91X-5900-G-00136	G0003
Civil-Grading Plan		
Sheet 2 of 2	91X-5900-G-00137	G0004
Civil Grading Sections	91X-5900-G-00175	G0005
Civil-Utility Profiles		
Fire Protection Line	91X-5900-G-00176	G0006
Civil Utility Profile		
Force Main	91X-5900-G-00177	G0007
Civil Utility Profile		
Culvert	91X-5900-G-00178	G0008
Civil Utility Profiles		
Storm Sewer	91X-5900-G-00212	G0009
Civil Details		
Sheet 2 of 6	91X-5900-G-00144	G0011
Civil Details		
Sheet 4 of 6	91X-5900-G-00146	G0013

The following changes have been made in the attached drawings:

1) The future remedial facilities (shown by dashed lines on the drawings) were revised to the downsized facility footprint. Area was reserved on the north side of the waste preparation area for potential future expansion.

2) Elevations were adjusted throughout the drawing set to be consistent with the latest update of the site topographical survey data.

3) The northward relocation of the waste preparation area, accomplished during the value engineering activity, allowed the proposed road along the toe of the berm of the Biodenitrification Surge Lagoon to also be moved northward. That allowed grading changes in that area that eliminated 450 feet of retaining wall along the toe of the berm.

4) Grades in the immediate area of the remedial facility were adjusted as necessary to be consistent with the reconfigured general arrangement of the facility. The blending and loadout area floor is one (1) foot above the top of rail; the waste preparation area floor will slope from north to south approximately following the existing grade.

5) Relocation or removal of existing features (roads, monitoring wells, etc.) was reduced to be consistent with the downsized and reconfigured facility.

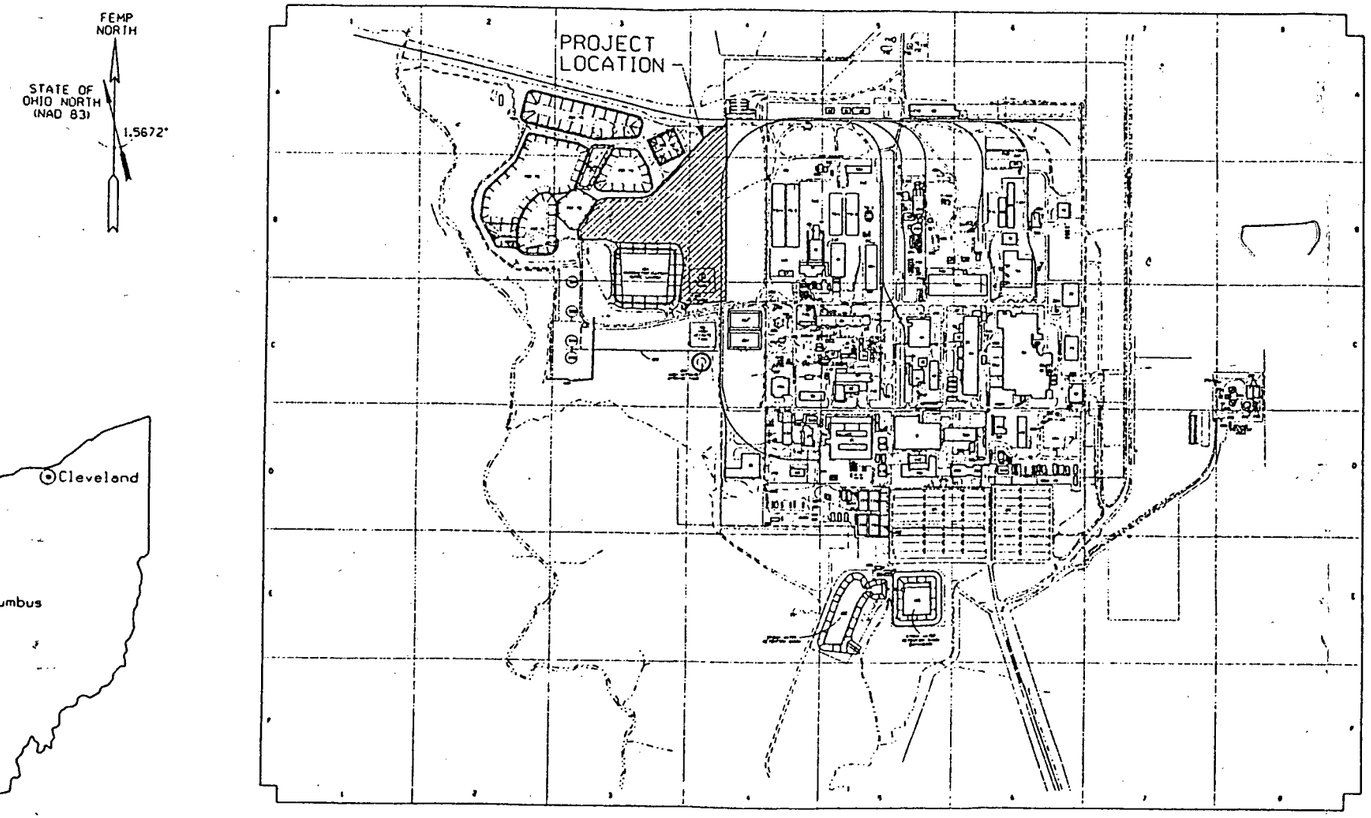
6) The depth of the storm water management (SWM) basin was reduced. Also, the piping for discharge of the greater than 25 year storm flow was rerouted through both retention areas to the north of the SWM.

7) A top/subgrade centerline profile was included for the railroad embankment for the west leg of the "wye".

8) The underground piping at the low nitrate tank was called out for removal on the site demolition plan.

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT
PROJECT ORDER 145



PARSONS

The Ralph M. Parsons Company • Parsons Main, Inc. • Engineering-Science, Inc.

ARCHITECTS - ENGINEERS
CINCINNATI, OHIO

NOTES

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FOR INFORMATION ONLY

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS

5

REV NO	ISSUE OR REVISION PURPOSE - DESCRIPTION	A E	FEMCO	DATE
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
PROJECT TITLE SHEET

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
K.L. RABBITT	01/05/96	E. KUBRIN	02/12/96	T. AFSHAR	01/15/96

PLANT/BLDG NO | FLOOR | SCALE: NONE | CLASS

SUBMITTED FOR APPROVAL: S. MALLETTE 02/13/96 | FEMCO CNI APPROVAL: N/A

A-E DATE | FEMCO DATE

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	A-E PROJECT NO	FEMP PROJECT NO	DRAWING INDEX CODE NO	SHEET NO	REV NO
WPRAP/P0145		WBS 1.1.1.1.1.3.1 00-90701	91X-5900-X-00215	X0001	0

INDEX OF DRAWINGS

INDEX CODE NO.	DRAWING NO.	SHEET NO.	REVISION NO.	DRAWING TITLE	REMARKS
	91X-5900-X-00215	X0001	0	PROJECT TITLE SHEET	
	91X-5900-X-00216	X0002	1	DRAWING INDEX	
	91X-5900-X-00217	X0003	1	LEGEND AND SYMBOLS	
	91X-5900-G-00135	G0001	1	CIVIL - SITE PLAN/DEMOLITION PLAN	
	91X-5900-G-00141	G0002	1	CIVIL - UTILITY PLAN	
	91X-5900-G-00136	G0003	1	CIVIL - GRADING PLAN - SHEET 1 OF 2	
	91X-5900-G-00137	G0004	1	CIVIL - GRADING PLAN - SHEET 2 OF 2	
	91X-5900-G-00175	G0005	1	CIVIL - GRADING SECTIONS	
	91X-5900-G-00176	G0006	1	CIVIL - UTILITY PROFILE - FIRE PROTECTION LINE	
	91X-5900-G-00177	G0007	1	CIVIL - UTILITY PROFILE - FORCE MAIN	
	91X-5900-G-00178	G0008	1	CIVIL - UTILITY PROFILE - CULVERT	
	91X-5900-G-00212	G0009	1	CIVIL - UTILITY PROFILES - STORM SEWER	
	91X-5900-G-00143	G0010	0	CIVIL - DETAILS - SHEET 1 OF 6	
	91X-5900-G-00144	G0011	1	CIVIL - DETAILS - SHEET 2 OF 6	
	91X-5900-G-00145	G0012	1	CIVIL - DETAILS - SHEET 3 OF 6	
	91X-5900-G-00146	G0013	1	CIVIL - DETAILS - SHEET 4 OF 6	
	91X-5900-G-00206	G0014	1	CIVIL - DETAILS - SHEET 5 OF 6	
	91X-5900-G-00207	G0015	1	CIVIL - DETAILS - SHEET 6 OF 6	
	91X-5900-G-00214	G0016	0	CIVIL - BORROW AREA LOCATION	

NOTES

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FOR INFORMATION ONLY

REF DWG NO.	DRAWING TITLE
91X-5900-X-00217	LEGEND AND SYMBOLS

6

REV NO	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERNCO	DATE
1	REVISED PER DCN/001 REV 0	NHG	NA	9/17/96
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
DRAWING INDEX

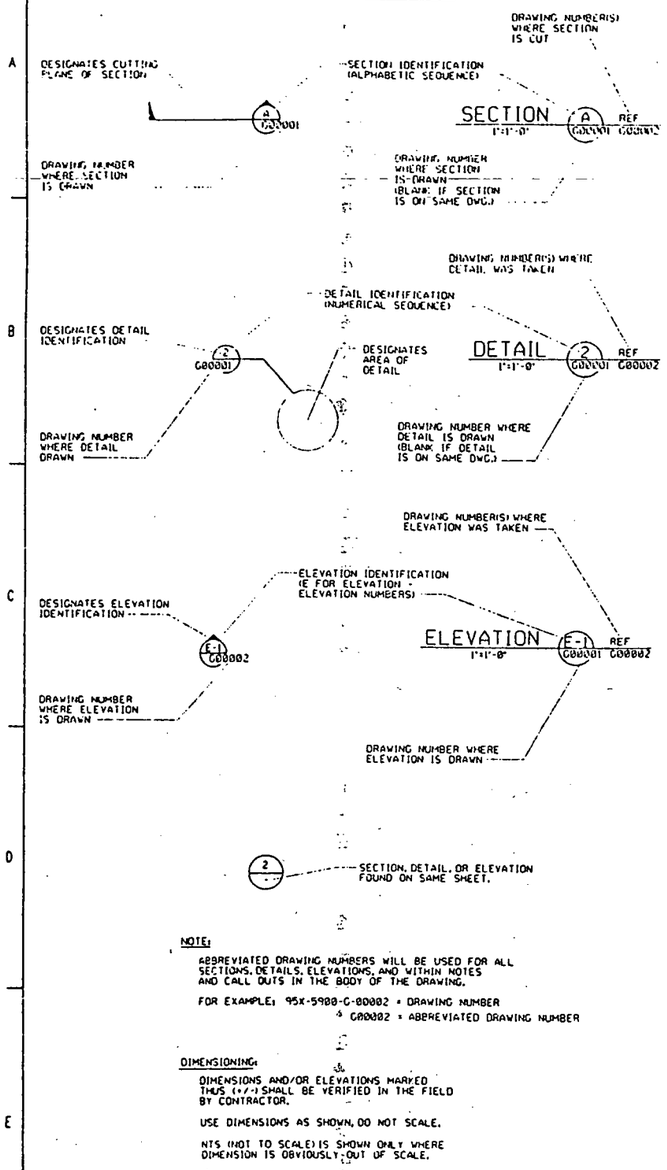
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
K.L. RABBITT	01/05/96	E. KUBRIN	02/12/96	Y. AFSHAR	01/15/96

PLANT/BLDG NO | FLOOR | SCALE NONE | CLASS

SUBMITTED FOR APPROVAL: S. MALLETTE 02/13/96 (A-E, DATE)
FERNCO CRU APPROVAL: NA (DATE)

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO	TEMP PROJECT NO	DRAWING INDEX CODE NO	SHEET NO	REV NO
WPRAP/P0145		WBS 1.1.1.1.1.3.1 00-90701	91X-5900-X-00216	X0002	1

GENERAL LEGEND



NOTE:

ABBREVIATED DRAWING NUMBERS WILL BE USED FOR ALL SECTIONS, DETAILS, ELEVATIONS, AND WITHIN NOTES AND CALL OUTS IN THE BODY OF THE DRAWING.

FOR EXAMPLE: 95X-5900-C-00002 = DRAWING NUMBER
C00002 = ABBREVIATED DRAWING NUMBER

DIMENSIONING:

DIMENSIONS AND/OR ELEVATIONS MARKED THUS (+/-) SHALL BE VERIFIED IN THE FIELD BY CONTRACTOR.

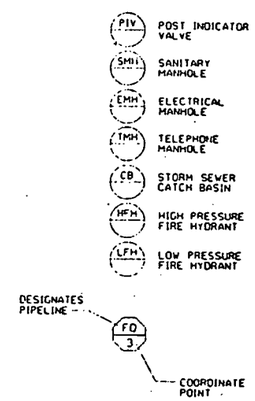
USE DIMENSIONS AS SHOWN, DO NOT SCALE.

NTS (NOT TO SCALE) IS SHOWN ONLY WHERE DIMENSION IS OBVIOUSLY OUT OF SCALE.

UTILITY SYMBOLS

EXISTING		PROPOSED
ST	STORM SEWER	ST
SN	SANITARY SEWER	SN
FG	FUEL GAS	FG
DW	DRINKING WATER	DW
FPI	FIRE PROTECTION	FPI
LS	LIVE STEAM	LS
WS	WATER SUPPLY	WS
WR	COOLING WATER RETURN	WR
TW	PROCESS WATER	TW
CE	CONTAMINATE WATER	CE
FT	FILTRATE OR EFFLUENT	FT
DF	DEIONIZED FEED	DF
PW	DEIONIZED WATER	PW
BR	BRINE	BR
RW	RAW WATER	RW
A	ALARM	A
CN	STEAM CONDENSATE	CN
VE	VENT LINES	VE
SD	SUB-SURFACE DRAINAGE	SD
SL	SUMP LIQUOR	SL
E	ELECTRICAL	E
OE	OVERHEAD ELECTRICAL	OE
T	TELEPHONE	T
G	ELECTRIC GROUND	G
PA	PLANT AIR	PA
SA	INSTRUMENT AIR SUPPLY	SA
	FORCE MAIN	FM

BALLOON LEGEND



GRADING SYMBOLS

EXISTING		PROPOSED
x 504.4	SPOT ELEVATION	x 504.4
504	CONTOUR - MINOR	504
505	CONTOUR - MAJOR	505
(TC2)	SLOPE INDICATOR	(TC2)

SYMBOLS LEGEND

EXISTING		PROPOSED
	POST INDICATOR VALVE (PIV)	
	FIRE HYDRANT (FH)	
	MANHOLE (MH)	S OR U
	CATCH BASIN (CB)	
	POWER POLE/LIGHT POLE	
	PIPE SUPPORT	
	ELECTRICAL MANHOLE	
	TELEPHONE MANHOLE	
	STREET WASHERS	
	VALVE BOX	
	MONITORING WELL	
	SURFACE DRAINAGE FLOW	
	POWER POLE	
	GRAVEL ROADWAY/DRIVEWAY	
	ASPHALT ROADWAY/DRIVEWAY	
	CONCRETE PAD/ ROADWAY/DRIVEWAY	
	BUILDING/TRAILER	
	RAILROAD TRACK	
	OU BOUNDARY	
	FENCE	
	TREE LINE	
	DECIDUOUS TREE	
	CONIFEROUS TREE	
	CENTERLINE DRAINAGE DITCH	
	RIVER/CREEK	
	TO BE REMOVED	
	SILT FENCE	
	ELECTRICAL TRANSFORMER	
	TRANSMISSION TOWER	
	HEADWALL	OR
	BENCH MARK	
	CONSTRUCTION/WIND BARRIER FENCE	
	SIGN	
	BOLLARD/GUARD POST	
	ELECTRICAL PULL BOX	
	SURVEY CONTROL POINT	
	ROAD CENTERLINE OR BASELINE	
	BEND	OR
	TEE	
	THRUST BLOCK	
	REDUCER	
W OR U	UNKNOWN	
	STRAW BALE SILT BARRIER	
	FENCE GATE	

NOTES

ABBREVIATIONS

CMP	CORREGATED METAL PIPE
GML	GEO MEMBRANE LINER
HDPE	HIGH DENSITY POLYETHYLENE
PC	POINT OF CURVATURE
PS	POINT OF SWITCH
PT	POINT OF TANGENCY
SWM	STORM WATER MANAGEMENT
WWF	WELDED WIRE FABRIC
GML	GEOMEMBRANE LINER
BOP	BOTTOM OF PIPE

EDC

FOR INFORMATION ONLY

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX

7

REV NO	ISSUE OR REVISION PURPOSE - DESCRIPTION	A E	PLANNER	DATE
1	REVISED PER OCN/001 REV 0		NA	
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
LEGEND AND SYMBOLS

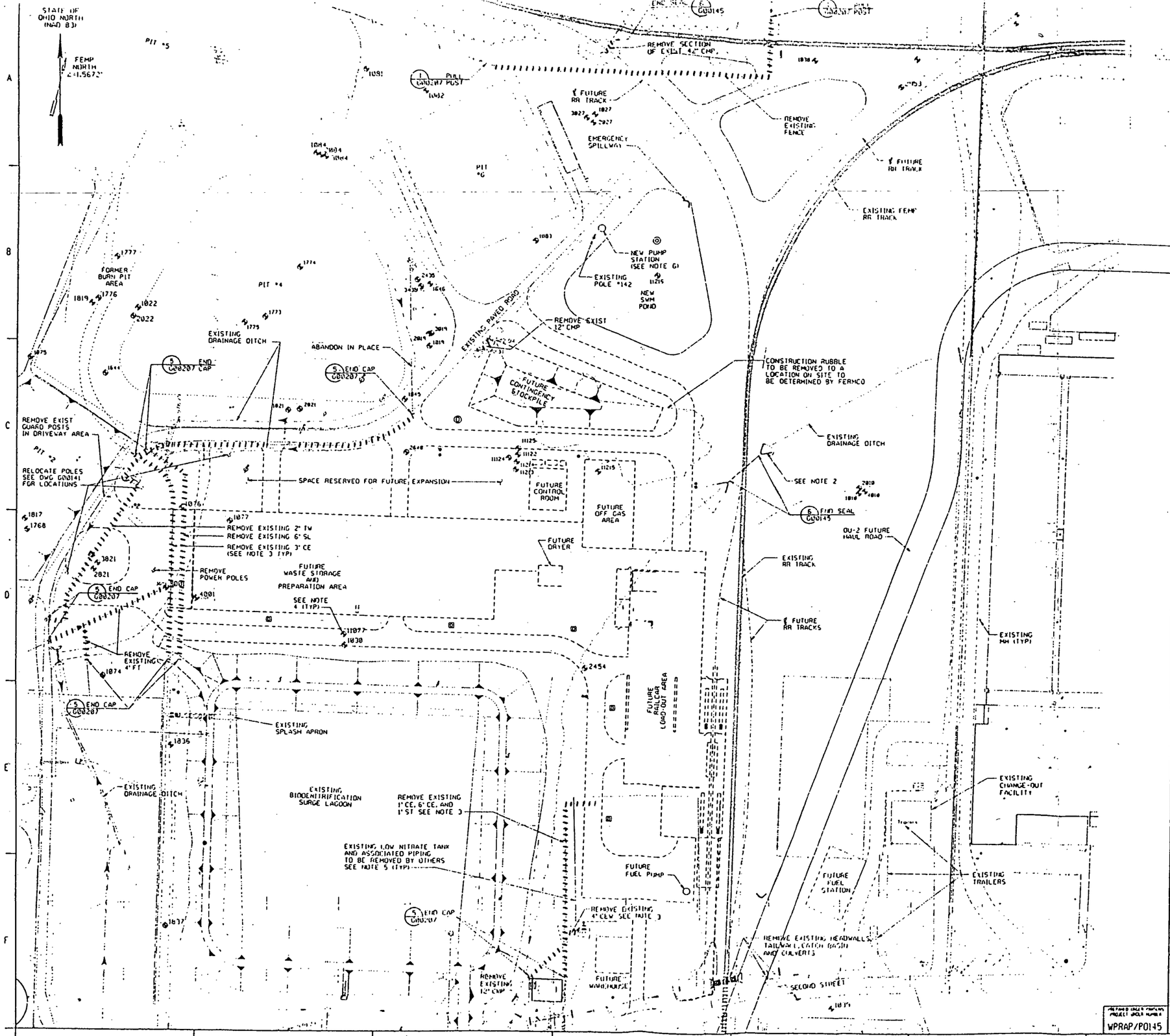
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
K.L. RABBITT	01/05/96	E. KUBRIN	02/12/96	Y. AFSHAR	01/15/96

PLANNING DOC NO	FLOOR	SCALE	Q-QA
		NONE	

SUBMITTED FOR APPROVAL	FENCO CRU APPROVAL
S. MALLETTE 02/13/96	NA

A E	DATE	DOE PROJECT NO	TEMP PROJECT NO	DRAWING INDEX CODE NO	SHEET NO	REV. NO
			WBS 1.1.1.1.1.3.1 00-90701	91X-5900-X-00217	X0003	1

PREPARE UNDER PARSONS PROJECT ORDER NUMBER
WPRAP/P0145



NOTES

1. EXISTING CONDITIONS SHOWN ON THIS DRAWING WERE PREPARED FROM THE DOCUMENTS LISTED BELOW.

   EXISTING SITE DATA SOURCE (IN PLANT FILES)
   FEMP CONTRACTOR PROJECT DESIGN DOCUMENTS
   ALL PATHE AND ASSOCIATES TOPOGRAPHICAL SURVEY, 1995

2. REMOVE EXISTING CONCRETE HEADWALLS. REMOVE EXISTING 30" RCP TO THE NEAREST JOINT AND SEAL BOTH ENDS WITH CONCRETE. GRADING AND DRAINAGE WORK SOUTH TO SECOND STREET IS TO BE COMPLETED AND IN SERVICE PRIOR TO 30" RCP ABANDONMENT.

3. FERMCO WILL PROPERLY ISOLATE AND DRAIN LINES PRIOR TO REMOVAL. CONTRACTOR IS TO VERIFY THAT THIS WORK HAS BEEN COMPLETED PRIOR TO DEMOLITION.

4. THE FOLLOWING MONITORING WELLS TO BE REMOVED/MODIFIED BY FERMCO. WELLS MARKED ABANDONED SHALL BE REMOVED.

MW	EXISTING GRADE	PROPOSED GRADE	REMARKS
2454	575.5	582.5	MODIFY
2648	581.6	583.0	MODIFY
2921	580.0	579.0	MODIFY
3001	—	—	ABANDONED
3821	580.0	579.0	MODIFY
4001	—	—	ABANDONED
1076	—	—	ABANDONED
1077	—	—	ABANDONED
11077	—	—	ABANDONED
11122	—	—	ABANDONED
11213	—	—	ABANDONED
11214	—	—	ABANDONED
11216	—	—	ABANDONED
1030	—	—	ABANDONED
11124	—	—	ABANDONED
11125	—	—	ABANDONED
11215	—	—	ABANDONED

5. ALL UNDERGROUND UTILITIES ARE NOT SHOWN ON THIS PLAN FOR CLARITY. SEE DRAWING 91X-5900-G-00141 FOR LOCATION OF UNDERGROUND UTILITIES.

6. SERVE NEW PUMP STATION FROM TAP ON 4/C #2 CIRCUIT ON POLE 142. MOUNT 100 A NON-FUSED DISCONNECT SWITCH, NEMA 3R OR 4 ON POLE 142, 54 INCHES ABOVE GRADE. TAP AERIAL CIRCUIT WITH 4-1/C #2 THWN / THWN WIRE IN 1-1/2" RGS CONDUIT WITH WEATHERHEAD. FROM DISCONNECT SWITCH ROUTE CONDUCTORS BELOW GRADE TO PUMP STATION MAIN POWER TERMINALS. DIRECT BURY WIRE MINIMUM OF 36 INCHES BELOW GRADE WITH YELLOW WARNING TAPE ABOVE MINIMUM 30 INCHES BELOW GRADE. USE 1-½" CONDUIT ON PORTIONS ABOVE GROUND TO BURIAL DEPTH IN GROUND. INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS AND NFPA 70-96.

EDC

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS
91X-5900-G-00141	UTILITY PLAN
91X-5900-G-00145	DETAILS - SHEET 3 OF 6
91X-5900-G-00207	DETAILS - SHEET 6 OF 6

FOR INFORMATION ONLY

REV NO	BASIS OF REVISION PURPOSE - DESCRIPTION	A.E. INITIALS	PROJ. ENGR. INITIALS	DATE
1	ENTIRE DRAWING REVISED PER DCN/001 REV 0	[illegible]	NA	[illegible]
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
CIVIL
SITE PLAN/DEMOLITION PLAN

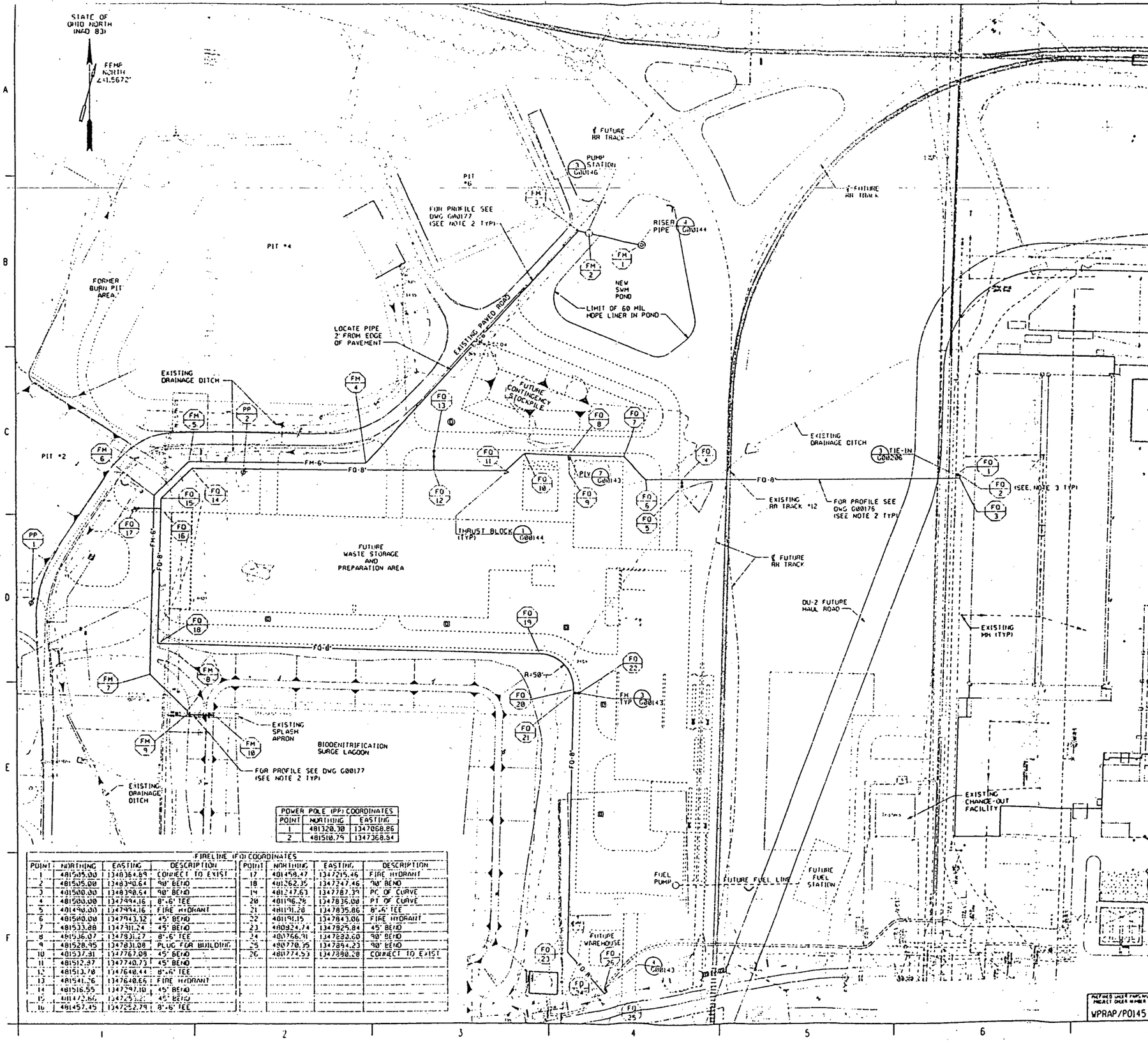
DRAWN BY	DATE	LEAD DRAFTER	DATE	CHECKED BY	DATE
M. ESPARZA	00-00-90	E. NUGRIN	02/12/96	E. NUGRIN	02/12/96

PLANTFILE NO	FLOOR	SCALE	CLASS
		1" = 50'	

SUBMITTED FOR APPROVAL	FERMCO CAM APPROVAL
S. MALLETTE 02/13/96	NA

A.E. CAD PROJECT NO	DATE	FILE PROJECT NO	DATE	LAYOUT FILE CODE NO	SHEET NO	REV NO
		WBS 1.1.1.1.1.1 00-90701		91X-5900-G-00135	G0001	1

FERMCO CAD PROJECT WORK NUMBER: WPRAP/P0145



POWER POLE (PP) COORDINATES		
POINT	NORTHING	EASTING
1	481320.30	1347058.86
2	481510.79	1347368.94

FIRELINE (FO) COORDINATES							
POINT	NORTHING	EASTING	DESCRIPTION	POINT	NORTHING	EASTING	DESCRIPTION
1	481535.00	1348364.89	CONNECT TO EXIST	17	481458.47	1347215.46	FIRE HYDRANT
2	481505.00	1348340.64	90° BEND	18	481262.35	1347247.46	90° BEND
3	481500.00	1348390.54	90° BEND	19	481247.63	1347787.39	PC OF CURVE
4	481500.00	1347944.16	8"x6" TEE	20	481196.26	1347835.00	PT OF CURVE
5	481490.00	1347944.16	FIRE HYDRANT	21	481191.28	1347835.86	8"x6" TEE
6	481500.00	1347943.32	45° BEND	22	481191.15	1347843.06	FIRE HYDRANT
7	481533.88	1347311.24	45° BEND	23	480924.74	1347825.84	45° BEND
8	481536.07	1347831.27	8"x6" TEE	24	480766.91	1347833.60	90° BEND
9	481528.95	1347831.08	PLUG FOR BUILDING	25	480770.95	1347864.23	90° BEND
10	481537.91	1347767.08	45° BEND	26	480774.53	1347880.28	CONNECT TO EXIST
11	481512.97	1347740.73	45° BEND				
12	481513.70	1347640.44	8"x6" TEE				
13	481541.26	1347640.66	FIRE HYDRANT				
14	481516.55	1347297.10	45° BEND				
15	481472.66	1347253.22	45° BEND				
16	481457.45	1347252.79	8"x6" TEE				

NOTES

1. EXISTING CONDITIONS SHOWN ON THIS DRAWING WERE PREPARED FROM THE DOCUMENTS LISTED BELOW.

   EXISTING SITE DATA SOURCE (IN PLANT FILES)
   FEMP CONTRACTOR PROJECT DESIGN DOCUMENTS
   B.L. PAYNE AND ASSOCIATES TOPOGRAPHICAL SURVEY, 1995

2. PIPING MATERIALS AND MINIMUM DEPTH OF COVER TO BE USED.
   FO - HDPE SDR9, 42" DEPTH
   FM - HDPE SDR11, 36" DEPTH

3. LOCATION AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY PRIOR TO CONSTRUCTION.

4. SEE DRAWING 91X-5900-G-00135 SITE PLAN/DEMOLITION PLAN FOR LOCATION OF ITEMS TO BE REMOVED.

5. SEE DRAWING 91X-5900-G-00136 AND 91X-5900-G-00137 FOR STORM PIPES AND GRADING.

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FOR INFORMATION ONLY

FORCE MAIN (FM) COORDINATES			
POINT	NORTHING	EASTING	DESCRIPTION
1	481835.36	1347938.84	℄ RISER PIPE
2	481852.83	1347860.96	℄ PUMP STATION
3	481856.20	1347845.91	60° BEND
4	481524.52	1347543.03	45° BEND
5	481526.58	1347292.99	45° BEND
6	481476.91	1347243.32	45° BEND
7	481210.10	1347236.24	45° BEND
8	481165.70	1347288.62	45° BEND
9	481160.70	1347288.49	2-90° BENDS
10	481159.72	1347326.07	OUTLET PIPE

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS
91X-5900-G-00135	SITE PLAN/DEMOLITION PLAN
91X-5900-G-00136	GRADING PLAN - SHEET 1 OF 2
91X-5900-G-00137	GRADING PLAN - SHEET 2 OF 2
91X-5900-G-00176	UTILITY PROFILE - FIREWATER LINE
91X-5900-G-00177	UTILITY PROFILE - FORCE MAIN
91X-5900-G-00143	DETAILS - SHEET 1 OF 6
91X-5900-G-00144	DETAILS - SHEET 2 OF 6
91X-5900-G-00146	DETAILS - SHEET 4 OF 6
91X-5900-G-00206	DETAILS - SHEET 5 OF 6

EDC 9

REV NO	DESC OF REVISION PURPOSE - DESCRIPTION	DR	CHECKED	DATE
1	ENTIRE DRAWING REVISED PER DCN/001 REV 0	[illegible]	NA	[illegible]
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/13/96

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
CIVIL
UTILITY PLAN

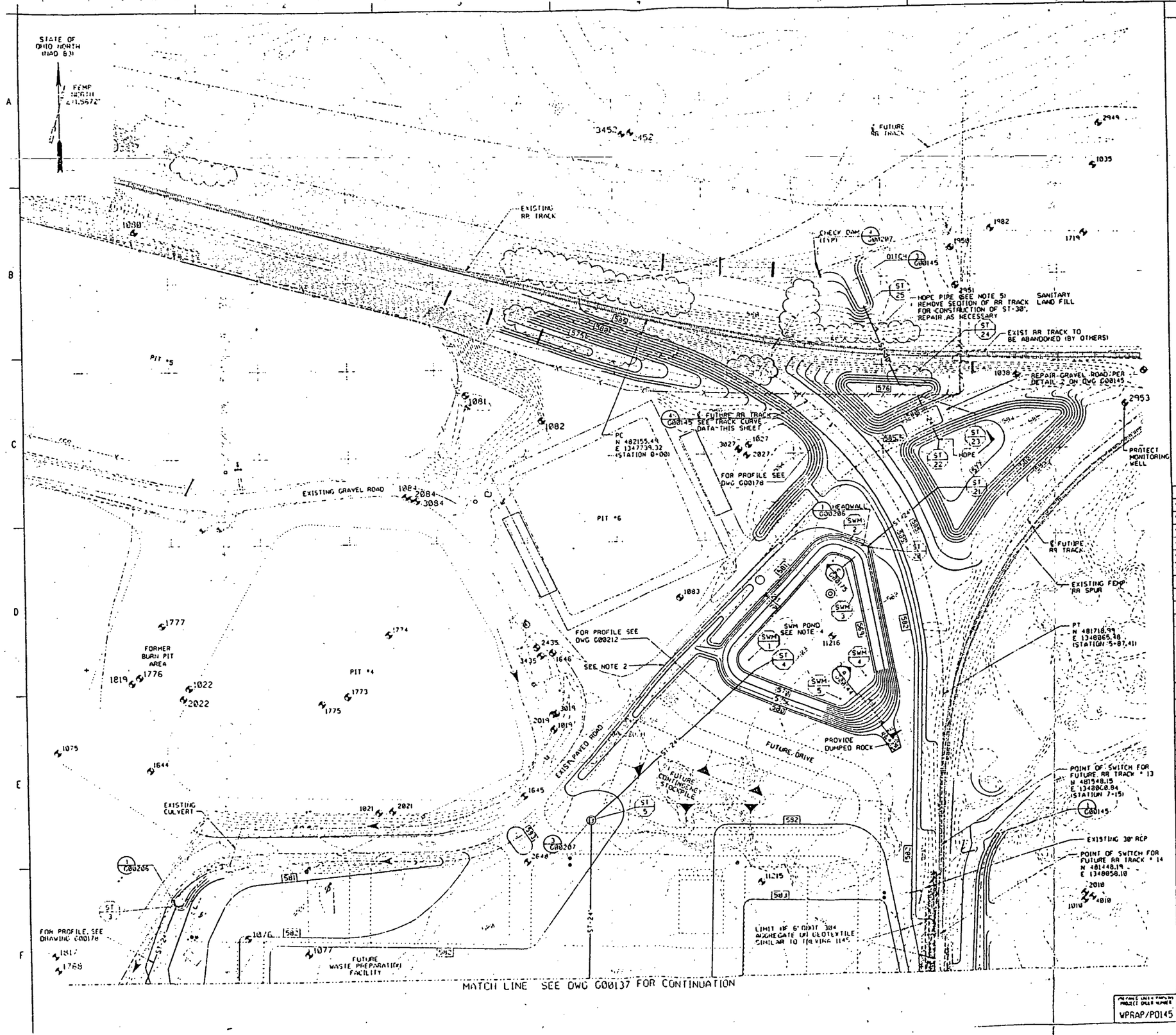
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
K. TANG	05/08/95	E. KUBRIN	02/12/96	E. KUBRIN	1/4/96

PLANT/BLDG NO	FLOOR	SCALE	CLASS
		1" = 50'	

SUBMITTED FOR APPROVAL	FEMPCO CRI APPROVAL
S. MALLETTE 02/13/96	NA

DOE PROJECT NO	FEMP PROJECT NO	SPECIFICATION CODE NO	SHEET NO	REV NO
	WBS 1.1.1.1.1.11 00-90701	91X-5900-G-00141	G0002	1

PREPARED UNDER FEMPCO PROJECT ORDER NUMBER
WPRAP/P0145



NOTES

1. EXISTING CONDITIONS SHOWN ON THIS DRAWING WERE PREPARED FROM THE DOCUMENTS LISTED BELOW.

   EXISTING SITE DATA SOURCE (IN PLANT FILES)
   FEMP CONTRACTOR PROJECT DESIGN DOCUMENTS
   B.L. PAYNE AND ASSOCIATES TOPOGRAPHICAL SURVEY, 1995

2. NEW GRADE TO MATCH EXISTING EDGE OF PAVEMENT.

3. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS SHOWN. ANY CONFLICTS WHICH COULD CAUSE A CHANGE IN THE PLANS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE FERMCO CONSTRUCTION MANAGER.

4. SWM POND IS TO BE USED AS A SEDIMENT BASIN DURING CONSTRUCTION. CONTRACTOR IS TO REMOVE ALL SEDIMENT TO PROPOSED CONTOURS PRIOR TO LINER PLACEMENT NEAR END OF CONSTRUCTION AFTER AREA IS GRADED AND SEEDED. SEDIMENT IS TO BE REMOVED TO AN ON-SITE LOCATION DESIGNATED BY FERMCO.

5. PIPE DENOTED AS (HDPE) SHALL BE CORRUGATED EXTERIOR, SMOOTH INTERIOR HDPE SIMILAR TO HANCOR, INC. HI-O SURE-LOCK 10.8 HEAVY DUTY AASHTO PIPE. PIPE DENOTED (RCP) SHALL BE ASTM C-76 CLASS V REINFORCED CONCRETE PIPE.

6. EROSION CONTROL MEASURES SHALL FOLLOW OHIO DEPARTMENT OF NATURAL RESOURCES "RAINWATER AND LAND DEVELOPMENT" OHIO'S STANDARDS FOR STORMWATER MANAGEMENT LAND DEVELOPMENT AND URBAN STREAM PROTECTION.

SWM POND COORDINATES			
POINT	NORTHING	EASTING	DESCRIPTION
1	481760.65	1347847.43	CENTERLINE 15' RADIUS
2	481873.57	1347941.94	CENTERLINE 10' RADIUS
3	481869.23	1347955.16	CENTERLINE 10' RADIUS
4	481739.84	1347976.87	CENTERLINE 10' RADIUS
5	481714.82	1347948.21	CENTERLINE 10' RADIUS

CENTER LINE FUTURE RR TRACK CURVE DATA	
DELTA	76.21'
RADIUS	441.68'
LENGTH	587.41'

EDC

STORM SEWER (ST) COORDINATES				
POINT	NORTHING	EASTING	DESCRIPTION	INVERT
3	481493.47	1347199.24	HEADWALL	——
4	481748.71	1347853.77	END PIPE	——
5	481584.09	1347665.24	MANHOLE	——
20	481888.72	1347980.26	HEADWALL	578.80
21	491955.95	1348062.54	END 24" PIPE	577.00
22	482009.75	1348064.87	BEGIN 24" PIPE	576.40
23	482062.76	1348048.88	END 24" PIPE	575.60
24	482074.35	1348020.62	BEGIN 30" PIPE	575.40
25	482167.34	1347980.01	END 30" PIPE	575.20

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS
91X-5900-G-00137	GRADING PLAN - SHEET 2 OF 2
91X-5900-G-00144	DETAILS - SHEET 2 OF 6
91X-5900-G-00145	DETAILS - SHEET 3 OF 6
91X-5900-G-00206	DETAILS - SHEET 5 OF 6
91X-5900-G-00207	DETAILS - SHEET 6 OF 6
91X05900-G-00175	GRADING SECTIONS
91X-5900-G-00212	UTILITY PROFILES - STORM SEWER
91X-5900-G-00178	UTILITY PROFILES - CULVERTS/RR SUBGRADE

INFORMATION ONLY

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REV NO	REVISION PURPOSE - DESCRIPTION	DRAWN	CHECKED	DATE
1	ENTIRE DRAWING REVISED PER DCN/001 REV 0	[illegible]	NA	2/12/96
0	APPROVED FOR CONSTRUCTION	SM	NA	12/12/95

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
CIVIL
GRADING PLAN
SHEET 1 OF 2

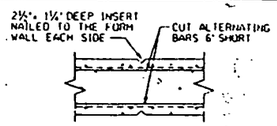
DRAWN BY	DATE	DESIGNED BY	DATE	CHECKED BY	DATE
T. AFSHAR	7-28-95	E. YUBRIN	12/12/95	R. GERARD	12/12/95

REVISED BY	FLOOR	SCALE	CLASS
		1"=40'	

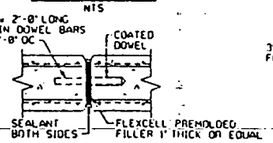
SUBMITTED FOR APPROVAL	FERNALD CRU APPROVAL
S. MALLETTE 02/13/96	NA

U.S. DOE PROJECT NO.	DATE	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV NO.
		VBS LLLLLLLL 00-90701	91X-5900-G-00136	G0003	1

PREPARE UNDER PARSONS PROJECT ORDER NUMBER
WPRAP/P0145

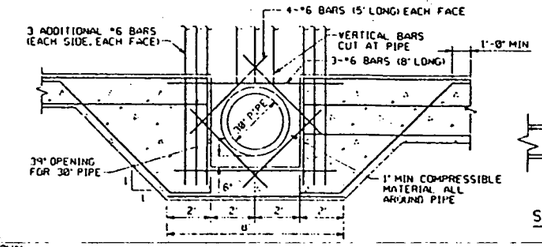


CONTROL JOINT
NTS

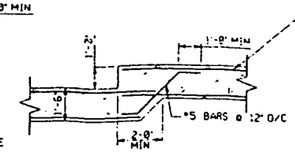


EXPANSION JOINT
NTS

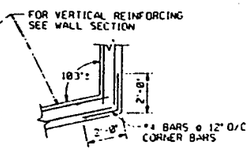
NOTE:
PROVIDE CONTROL JOINTS IN CONCRETE RETAINING WALL ABOUT EVERY 10' AND EXPANSION JOINTS AT 100' MAXIMUM SPACING.



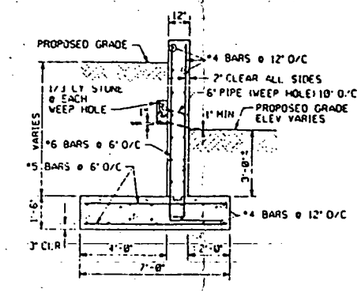
SECTION AT 30" PIPE



STEPPED FOOTING DETAIL

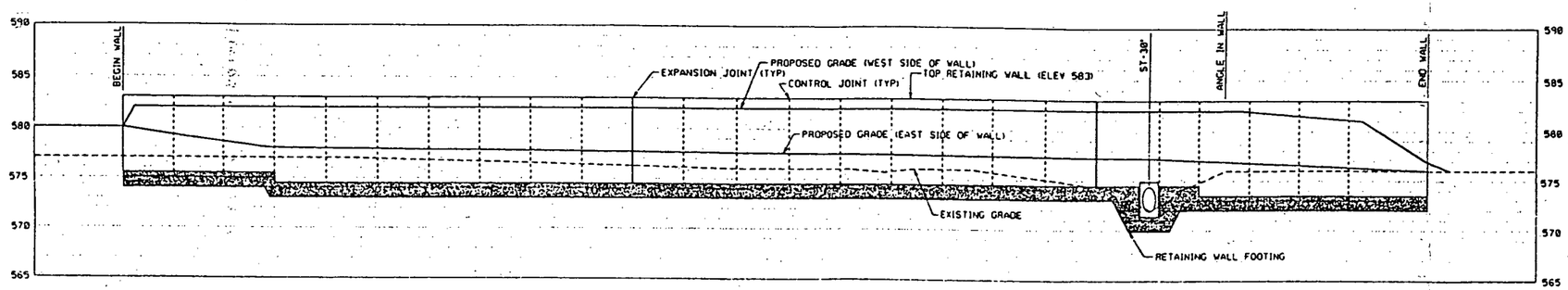


CORNER BAR DETAIL

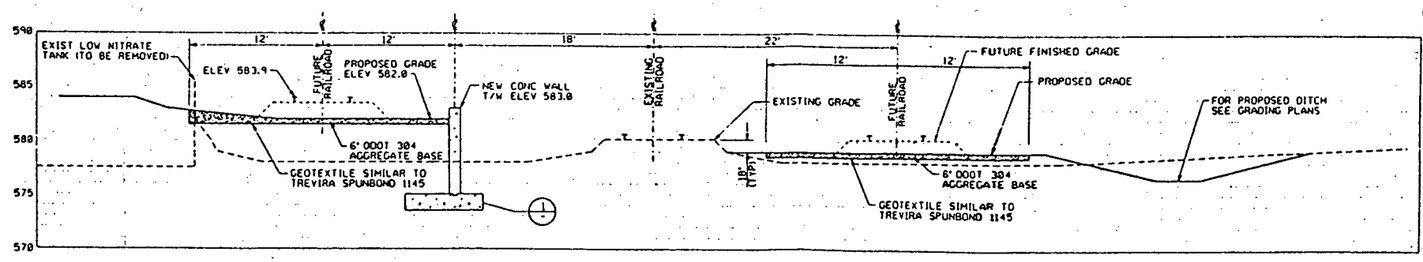


RETAINING WALL SECTION

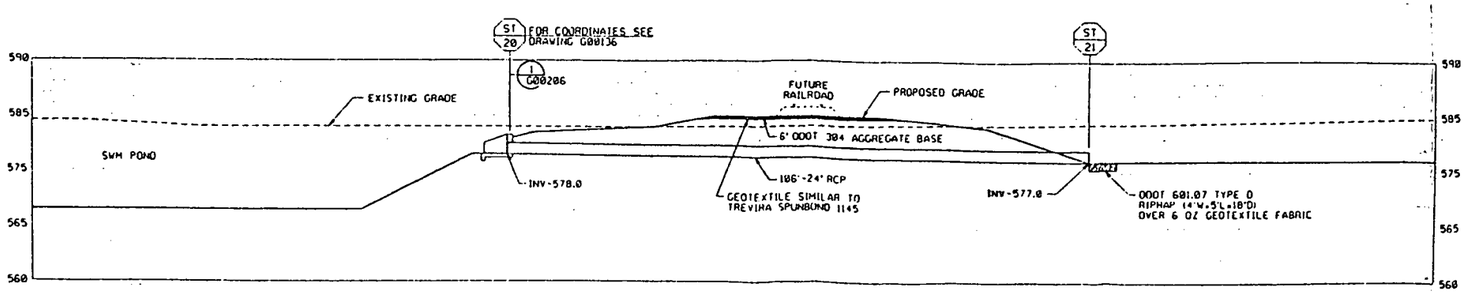
DETAIL 1
NTS



RETAINING WALL PROFILE 1 REF G00175 G00137
SCALE: HOR 1"=10' VER 1"=5'



SECTION D REF G00175 G00137
SCALE: HOR 1"=5' VER 1"=5'



SECTION E REF G00175 G00136
SCALE: HOR 1"=10' VER 1"=5'

NOTES

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EDC

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS
91X-5900-G-00136	GRADING PLAN - SHEET 1 OF 2
91X-5900-G-00137	GRADING PLAN - SHEET 2 OF 2
91X-5900-G-00206	DETAILS - SHEET 5 OF 6

FOR INFORMATION ONLY

REV NO.	REVISION PURPOSE - DESCRIPTION	A-E	FERNCO	DATE
1	ENTIRE DRAWING REVISED PER DCN/001 REV 0	[illegible]	NA	2/21/96
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OUI REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
CIVIL
GRADING SECTIONS

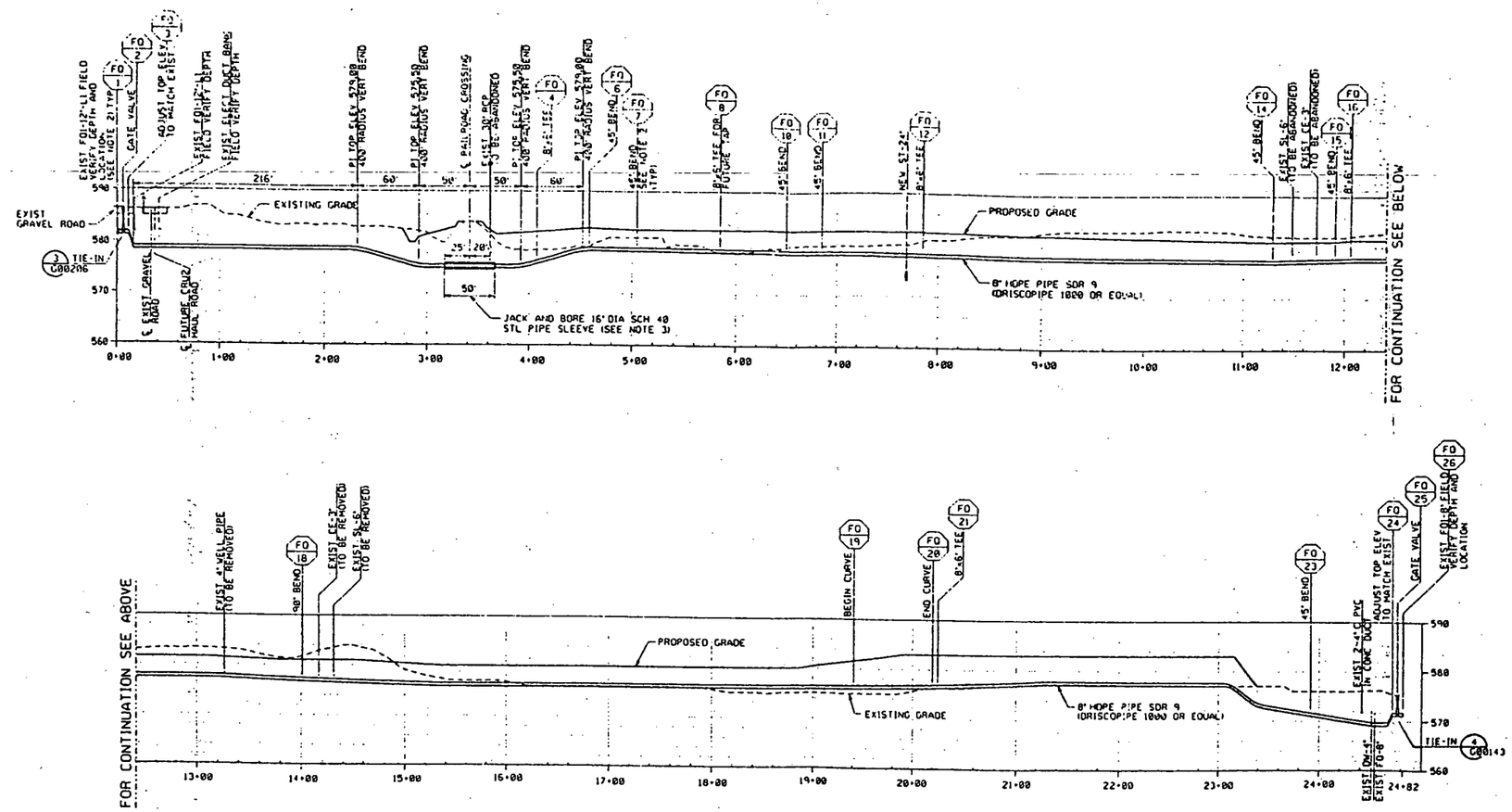
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. LINDGREN	12/22/95	E. KUBRIN	02/12/96	K. GERARD	01/25/96

PLANT/BLDG. NO. | FLOOR | SCALE: AS SHOWN | CLASS

SUBMITTED FOR APPROVAL: S. MALLETTE 02/13/96 (A-E DATE)
FERNCO CDR APPROVAL: NA (DATE)

PREPARED UNDER PARSONS PROJECT ORDER NUMBER: WPRAP/P0145

DOE PROJECT NO	TITLE PROJECT NO	DRAWING INDEX CODE NO	SHEET NO	REV NO
	VBS 1.1.1.1.1.1 00-90701	91X-5900-G-00175	G0005	1



8" FIRE PROTECTION (FO) PROFILE (1) REF G00176 G00141

SCALE: HOR 1"=50' VER 1"=10'

NOTES

1. LOCATION AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY PRIOR TO CONSTRUCTION.
2. ALL BENDS AND FITTING ON HDPE PIPE ARE TO BE MOLDED UNLESS NOTED OTHERWISE.
3. CONTRACTOR HAS THE OPTION TO JACK AND BORE UNDER THE RAILROAD TRACK OR PULL SECTION OF THE TRACK AND DIG A TRENCH. ENCASE 50' OF PIPE PER DETAIL 2 ON DRAWING 91X-5900-G-00146, BACKFILL TRENCH PER DETAIL 2 ON DRAWING 91X-5900-G-00144 AND REINSTALL THE RAILROAD TRACK SECTION.

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EDC

FOR INFORMATION ONLY

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS
91X-5900-G-00141	UTILITY PLAN
91X-5900-G-00143	DETAILS - SHEET 1 OF 6
91X-5900-G-00144	DETAILS - SHEET 2 OF 6
91X-5900-G-00146	DETAILS - SHEET 4 OF 6
91X-5900-G-00206	DETAILS - SHEET 5 OF 6

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REV NO	ISSUE OR REVISION PURPOSE - DESCRIPTION	A.E.	FERNALD	DATE
1	ENTIRE DRAWING REVISED PER DCN/001 REV 0	[illegible]	NA	[illegible]
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

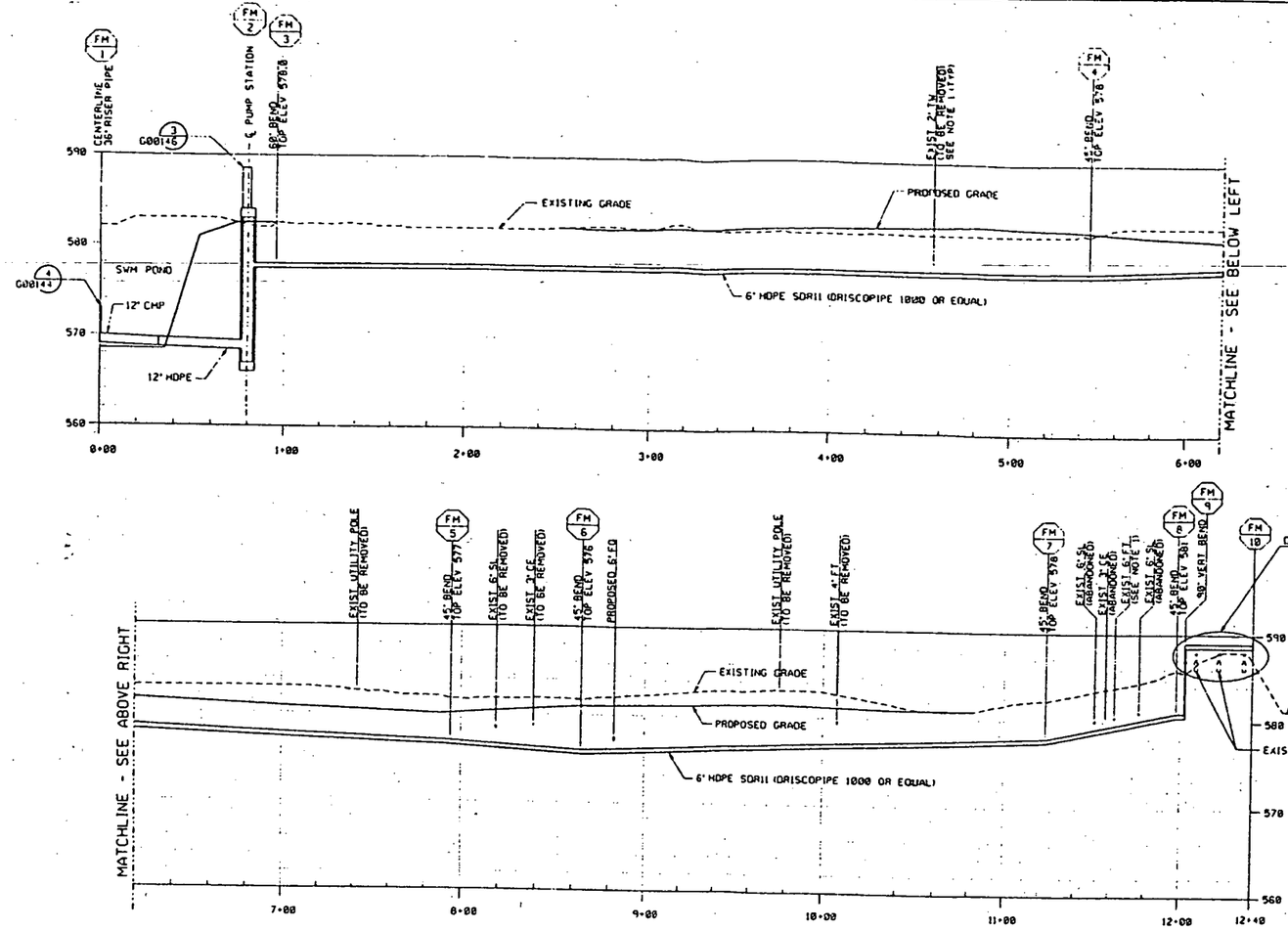
DRAWING TITLE
CIVIL
UTILITY PROFILE
FIRE PROTECTION LINE

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
C. TOMONGIN	11-28-95	E. KUBRIN	02/12/96	E. KUBRIN	01/18/96

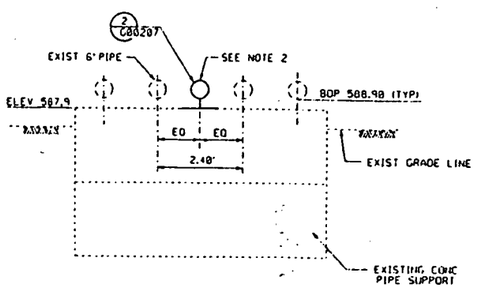
PLANT/BLDG NO | FLOOR | SCALE 1" = 50' | CLASS

SUBMITTED FOR APPROVAL: S. MALLETTE 02/13/96 (A.E. / DATE)
FERNCO CRU APPROVAL: NA (DATE)

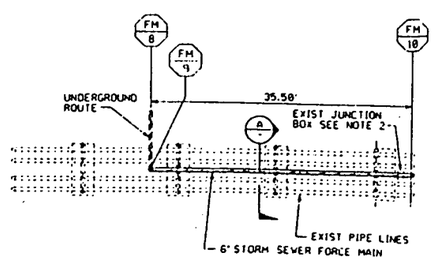
PREPARED UNDER PARSONS PROJECT ORDER NUMBER: WPRAP/P0145
CODE PROJECT NO | TEMP PROJECT NO: WBS 1.1.1.1.1.3.1 00-90701 | DRAWING INDEX CODE NO: 91X-5900-G-00176 | SHEET NO: G0006 | REV NO: 1



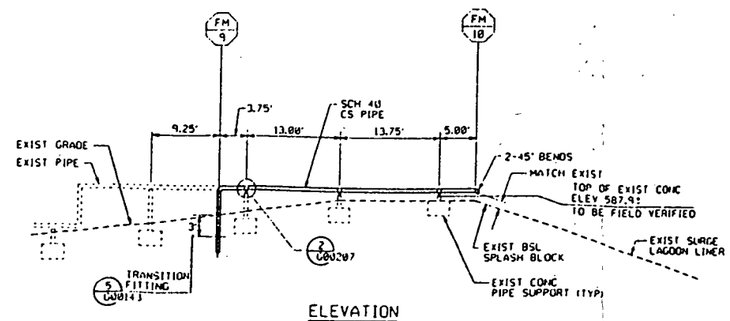
FORCE MAIN (FM) PROFILE (A / C00177) REF C00141
SCALE: 1"=30'



SECTION (A) NTS



PLAN



ELEVATION

DETAIL (1) NTS

NOTES

1. THE DEPTH AND LOCATION OF THE EXISTING UTILITY LINE CROSSING THE NEW FORCE MAIN IS APPROXIMATE. FIELD VERIFY ITS LOCATION AND DEPTH AND ADJUST THE DEPTH OF THE NEW FORCE MAIN TO CLEAR THE EXISTING LINE.
2. HEAT TRACE FORCE MAIN ABOVE GROUND AND DOWN TO 3 FEET BELOW GRADE. USE 3-1/C #12 AWG WIRE, 600 V, THWN THWN IN ½" WATERTIGHT FLEX STEEL CONDUIT WITH FITTINGS. SPLICE TO EXISTING SERVICE IN JUNCTION BOX NEAR FM 11, MARKED "240 V". RELOCATE EXISTING JUNCTION BOX TO NOT INTERFERE WITH NEW PIPE. USE 9 WATTS/ FT. SELF REGULATING HEAT TRACE CABLE WITH NEMA 4X, SINGLE POLE DOUBLE THROW THERMOSTAT, RATED FOR 240 V, 18 AMPS MINIMUM. USE PILOT LIGHT CONNECTION KIT. INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS AND NFPA 70-96.

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EDC

FOR INFORMATION ONLY

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS
91X-5900-G-00141	UTILITY PLAN
91X-5900-G-00143	DETAILS - SHEET 1 OF 6
91X-5900-G-00144	DETAILS - SHEET 2 OF 6
91X-5900-G-00146	DETAILS - SHEET 4 OF 6
91X-5900-G-00207	DETAILS - SHEET 6 OF 6

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REV NO	ISSUE OR REVISION PURPOSE - DESCRIPTION	DRAWN	CHECKED	DATE
1	ENTIRE DRAWING REVISED PER DCN/001 REV 0	[illegible]	NA	3/15/96
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

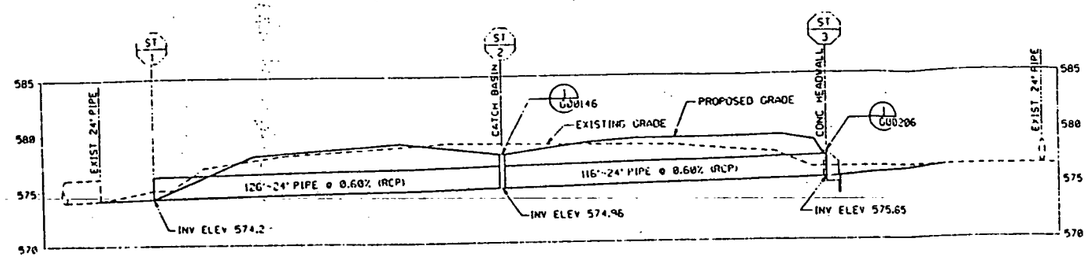
THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

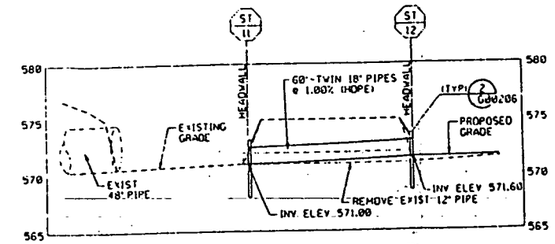
DRAWING TITLE
CIVIL
UTILITY PROFILE
FORCE MAIN

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
C. TOMONDON	11-20-95	E. KUBRIN	02/12/96	E. KUBRIN	02/01/96
PLANT/BLDG NO		FLOOR		SCALE: AS SHOWN	
SUBMITTED FOR APPROVAL: S. HALLETTE 02/13/96		FERNCO CRU APPROVAL: NA			

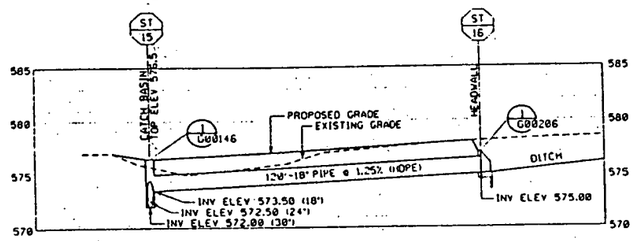
PREPARED UNDER PARSONS PROJECT UNDER NUMBER	SDE PROJECT NO	FMP PROJECT NO	OPERATING AREA CODE NO	SHEET NO	REV NO
WPRAP/P0145		WDS 1.1.1.1.1.1.1 00-90701	91X-5900-G-00177	G0007	1



24" STORM SEWER (ST) PROFILE (1 / G00178) REF G00136 G00137
SCALE: HOR 1"=20' VER 1"=5'



STORM SEWER (ST) PROFILE (2 / G00178) REF G00137
SCALE: HOR 1"=20' VER 1"=5'



STORM SEWER (ST) PROFILE (3 / G00178) REF G00137
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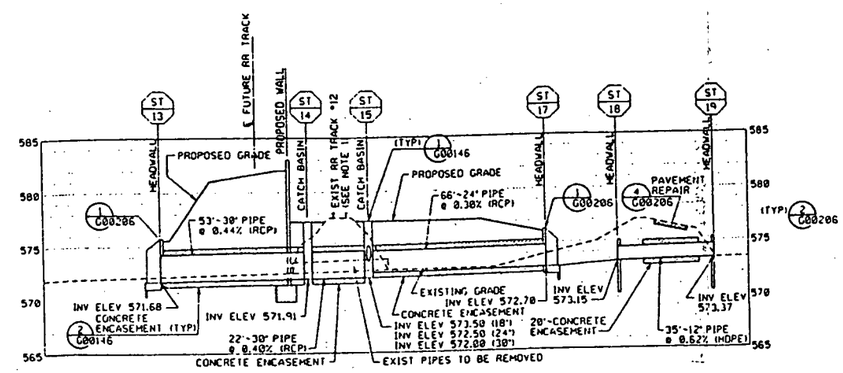
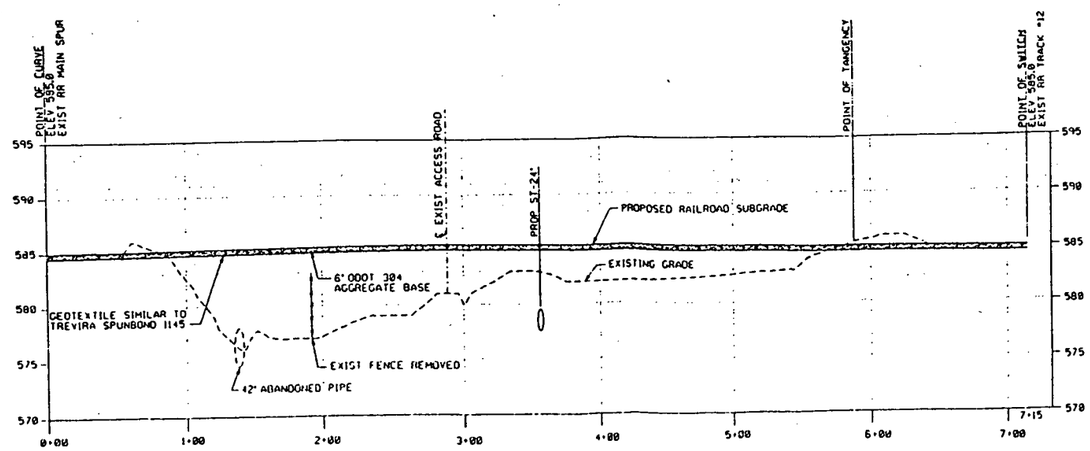


STORM SEWER (ST) PROFILE (4 / G00178) REF G00137
SCALE: HOR 1"=20' VER 1"=5'



RAILROAD SUBGRADE PROFILE (5 / G00178) REF G00136
SCALE: HOR 1"=40' VER 1"=5'

1. CONTRACTOR HAS THE OPTION TO JACK AND BORE UNDER THE EXISTING RAILROAD TRACK OR PULL SECTION OF THE TRACK AND DIG A TRENCH. BACKFILL TRENCH PER DETAIL 2 ON DRAWING 91X-5900-G-00144 AND REINSTALL THE RAILROAD TRACK SECTION.

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EDC

FOR INFORMATION ONLY

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS
91X-5900-G-00136	GRADING PLAN - SHEET 1 OF 2
91X-5900-G-00137	GRADING PLAN - SHEET 2 OF 2
91X-5900-G-00144	DETAILS - SHEET 2 OF 6
91X-5900-G-00146	DETAILS - SHEET 4 OF 6
91X-5900-G-00206	DETAILS - SHEET 5 OF 6

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REV NO	REVISION PURPOSE - DESCRIPTION	A-E	FERNCO	DATE
1	ENTIRE DRAWING REVISED PER DCN/001 REV 0	AHS	NA	11/14/96
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
CIVIL
UTILITY PROFILE
CULVERTS

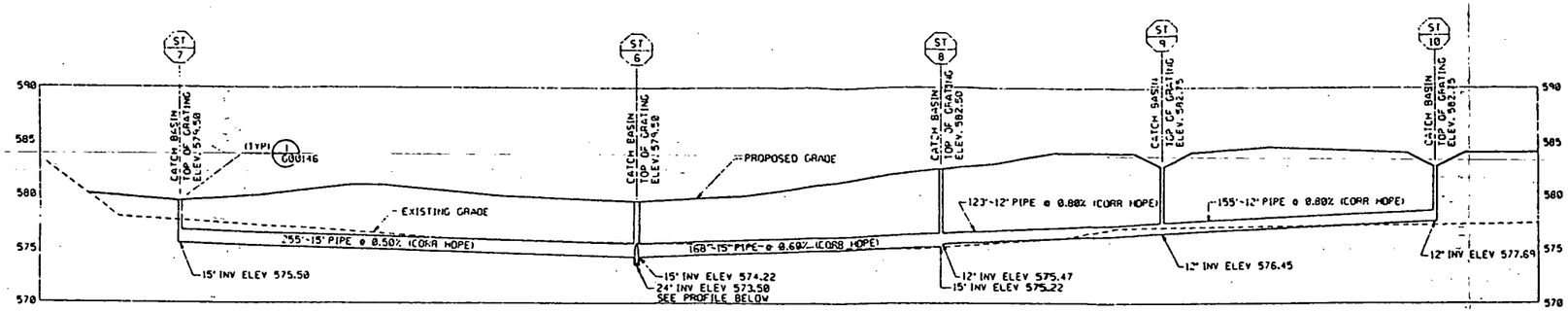
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
D. FOX	11-28-95	E. KLUBRIN	02/12/96	E. GERARD	1-5-96

PLANT/BLDG NO | FLOOR | SCALE: AS SHOWN | CLASS

SUBMITTED FOR APPROVAL: S. MALLETTE 02/13/96
FERNCO CRU APPROVAL: NA

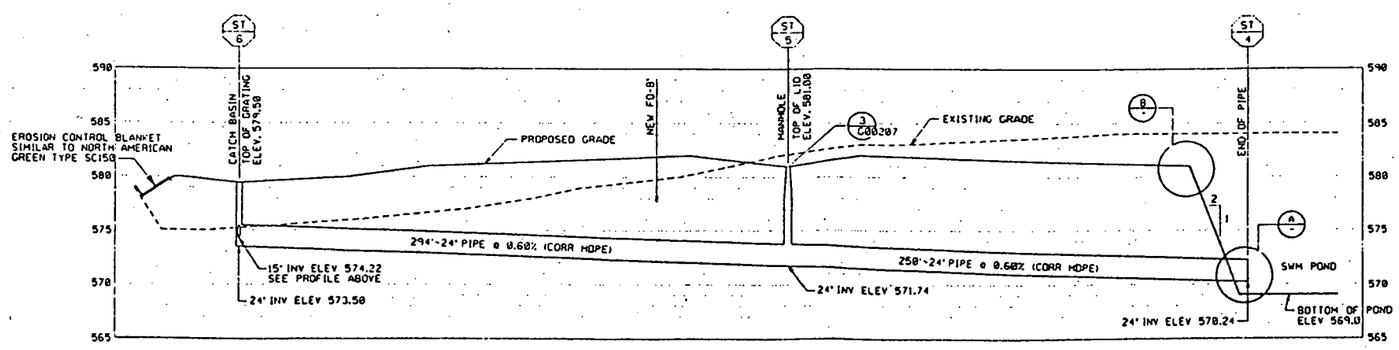
PREPARED UNDER PARSONS PROJECT ORDER NUMBER: WPRAP/P0145

A-E DOE PROJECT NO	TITLE PROJECT NO	DRAWING INDEX CODE NO	SHEET NO	REV NO
	WBS 1.1.1.1.1.3.1 00-90701	91X-5900-G-00178	G0008	1



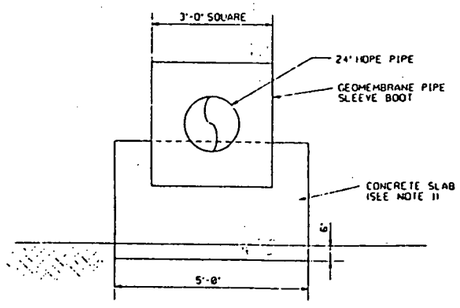
STORM SEWER (ST) PROFILE 1 C00212 REF C00136 C00137

SCALE: HOR 1"=30'
VER 1"=5'

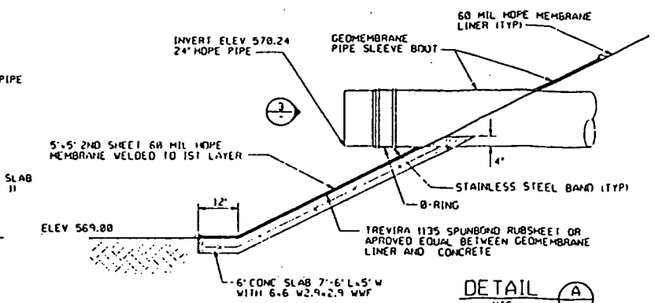


STORM SEWER (ST) PROFILE 2 C00212 REF C00136 C00137

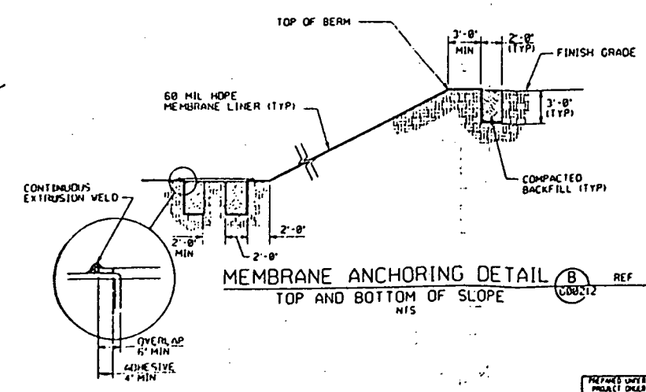
SCALE: HOR 1"=30'
VER 1"=5'



ELEVATION 3 NTS



DETAIL A NTS



MEMBRANE ANCHORING DETAIL B C00212 REF

TOP AND BOTTOM OF SLOPE

NTS

NOTES

1. CONCRETE SHALL BE ODOT CLASS F (3000 PSI) UNLESS OTHERWISE NOTED.

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EDC

FOR INFORMATION ONLY

REF DWG NO.	DRAWING TITLE
91X-5900-G-00216	DRAWING INDEX
91X-5900-G-00217	LEGEND AND SYMBOLS
91X-5900-G-00136	GRADING PLAN - SHEET 1 OF 2
91X-5900-G-00137	GRADING PLAN - SHEET 2 OF 2
91X-5900-G-00144	DETAILS - SHEET 2 OF 6
91X-5900-G-00146	DETAILS - SHEET 4 OF 8
91X-5900-G-00207	DETAILS - SHEET 6 OF 6

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REV NO	ISSUE OR REVISION PURPOSE - DESCRIPTION	A E	PERFORD	DATE
1	ENTIRE DRAWING REVISED PER DCN/B01 REV 0	[illegible]	NA	[illegible]
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
CIVIL
UTILITY PROFILE
STORM SEWER

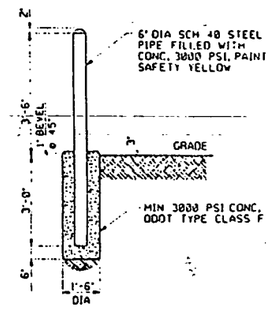
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
C. TOMLINSON	11-28-95	E. KUBRIN	02/12/96	E. KUBRIN	12/08/96

PLANNING NO	FLOOR	SCALE	CLASS
		AS SHOWN	

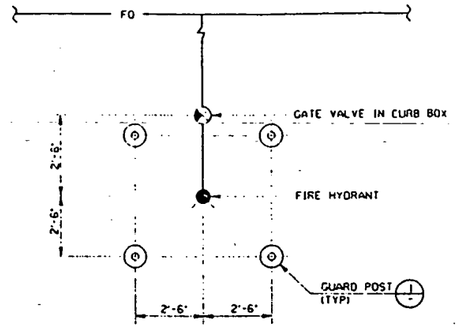
SUBMITTED FOR APPROVAL	FERNALD CAU APPROVAL
S. MALLETTE 02/13/96	NA

DOE PROJECT NO	TFN PROJECT NO	DRAWING SET CODE NO	SHEET NO	REV NO
	VBS 1.1.1.1.1.3.1 00-90701	91X-5900-G-00212	G0009	1

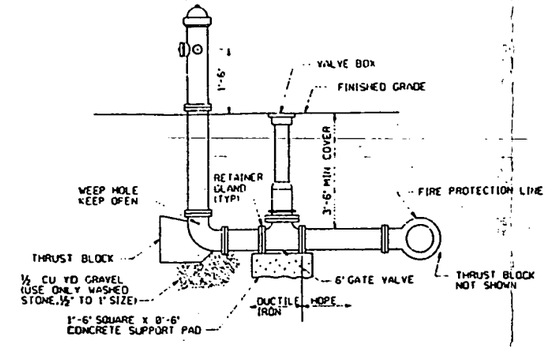
PREPARED UNDER PARSONS PROJECT ORDER NUMBER
WPRAP/P0145



TYPICAL GUARD POST (1)
NTS

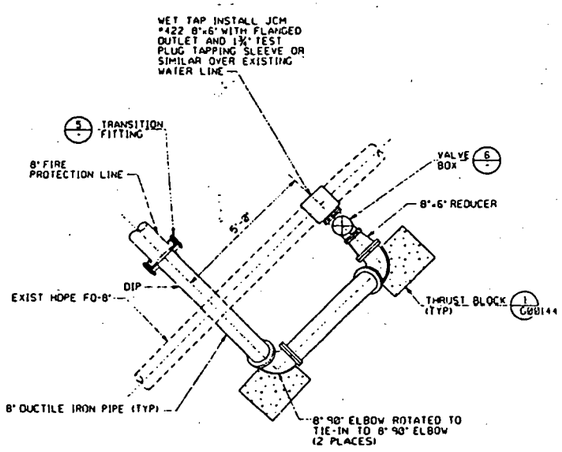


GUARD POST LOCATIONS (2)
NTS

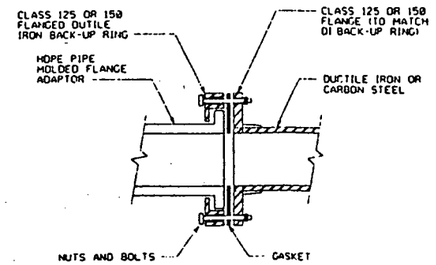


FIRE HYDRANT WITH GATE VALVE (3) REF G00143 G00141
NTS

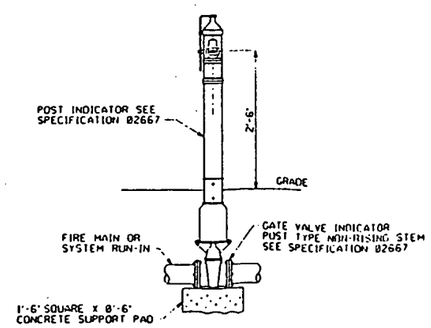
NOTE: FLANGE ADAPTOR'S SHALL BE USED AT ALL TRANSITIONS OF UNLIKE PIPING MATERIAL.



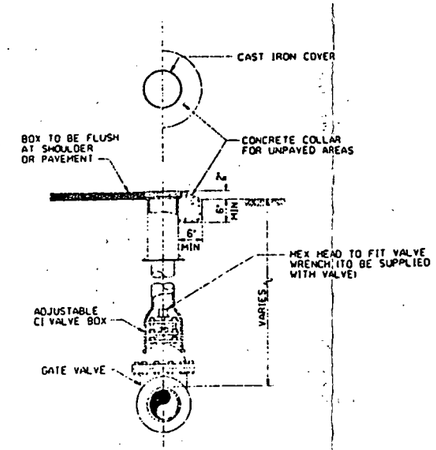
FIRE PROTECTION TIE-IN (4) REF G00143 G00141 G00176
NTS



TRANSITION FITTING (5) REF G00143 G00177 G00206
NTS



POST INDICATOR VALVE (7) REF G00143 G00141
NTS



VALVE BOX (6) REF G00143 G00141 G00206
NTS

NOTE: VALVE SIZE 12" MAXIMUM

NOTES

1. UNLESS OTHERWISE NOTED ALL MATERIALS SHALL CONFORM TO THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 1995.

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EDC

FOR INFORMATION ONLY

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS
91X-5900-G-00141	UTILITY PLAN
91X-5900-G-00176	UTILITY PROFILES - FIRE PROTECTION LINE
91X-5900-G-00177	UTILITY PROFILE - FORCE MAIN
91X-5900-G-00144	DETAILS - SHEET 2 OF 6
91X-5900-G-00206	DETAILS - SHEET 5 OF 6

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REV NO	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FORMAN	QA/R	DATE
B	CERTIFIED FOR CONSTRUCTION	SM	NA		02/12/96

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
CIVIL DETAILS
SHEET 1 OF 6

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. ESPARZA	07/28/95	E. RUBRIN	02/12/96	E. RUBRIN	01/25/96

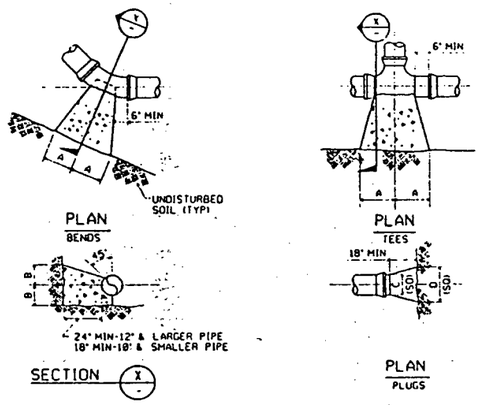
PLANT/BLDG. NO	FLOOR	SCALE	CLASS
		NONE	

SUBMITTED FOR APPROVAL	FERNALD CAU APPROVAL
S. HALLETTE 02/13/96	NA

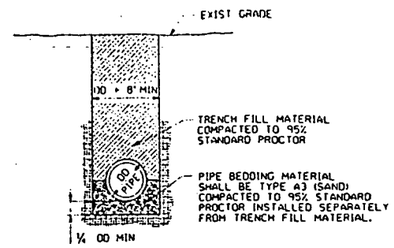
PREPARED UNDER FUNDING PROJECT ORDER NUMBER	D.O. PROJECT NO	TEMP PROJECT NO	DRAWING INDEX CODE NO	SHEET NO	REV NO
WPRAP/P0145		VBS 1.1.1.1.1.3.1 00-90701	91X-5900-G-00143	G0010	0

TYPE	SIZE	1/4 BENDS		1/2 BENDS		1/8 BENDS		TEES		PLUGS	
		A	B	A	B	A	B	A	B	C	D
2000 PSF SOIL	6"	16"	10"	9"	10"	6"	8"	10"	12"	10"	21"
	8"	22"	13"	12"	13"	8"	10"	13"	16"	12"	24"
	10"	26"	17"	14"	17"	10"	13"	16"	20"	14"	36"
	12"	29"	21"	16"	21"	11"	16"	18"	24"	16"	41"
	16"	38"	27"	-	-	-	-	24"	30"	-	-
	20"	42"	38"	-	-	-	-	27"	30"	-	-
	24"	48"	38"	-	-	-	-	36"	38"	-	-

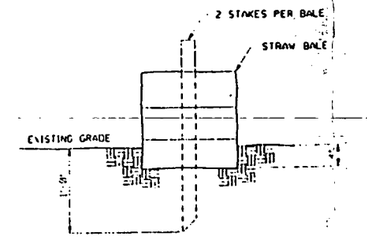
NOTE: BASED ON 150 PSI STATIC PRESSURE PLUS A.W.W.A. WATER HAMMER. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.



THRUST BLOCKS (1) REF G00144 G00141 G00143 G00206
NTS
SEE NOTE 2



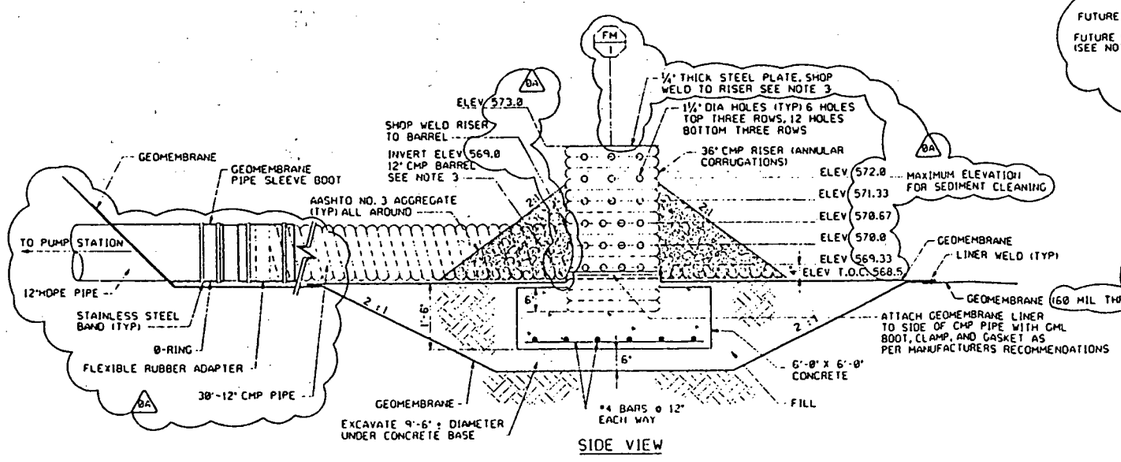
TYPICAL PIPE BEDDING (2) REF G00144 G00141
NTS



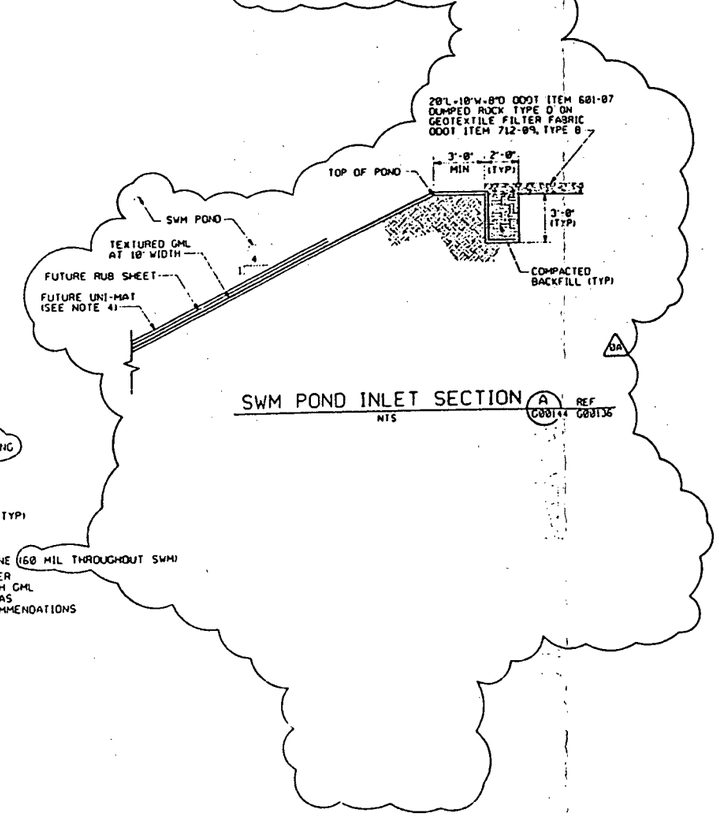
NOTE:
1. STRAW BALES TO BE USED WHEN NATURAL GROUND IS LEVEL OR SLOPING AWAY FROM PROJECT.
2. PLACE STRAW BALES APPROXIMATELY PARALLEL TO BOTTOM OF FILL SLOPE AND AROUND THE CATCH BASINS INLETS.
3. STRAW BALES SHALL BE STANDARD SIZE 18"x18"x48".
4. FOR EROSION CONTROL MAINTENANCE SEE SPECIFICATIONS.

STRAW BALE BARRIER (3) REF G00144 G00137
NTS

NOTE:
CONTRACTOR HAS THE OPTION TO INSTALL SILT FENCE INSTEAD OF STRAW BALE BARRIER. SILT FENCE SHALL BE IN ACCORDANCE WITH "RAINWATER AND LAND DEVELOPMENT", OHIO'S STANDARDS FOR STORMWATER MANAGEMENT, LAND DEVELOPMENT AND URBAN STREAM PROTECTION, SECOND EDITION 1996.



RISER PIPE (4) REF G00144 G00141 G00177
NTS



SWM POND INLET SECTION (A) REF G00144 G00136
NTS

NOTES

1. UNLESS OTHERWISE NOTED ALL MATERIALS SHALL CONFORM TO THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 1995.
2. THRUST BLOCKS SHALL BE INSTALLED ON ALL ELBOW BENDS, TEES AND PLUGS ON UNDERGROUND PIPE 4 INCHES AND LARGER.
3. ALL STEEL PLATE AND CORREGATED METAL PIPE IS TO BE EPOXY COATED. ALL FIELD WELDS ARE TO RECEIVE EPOXY COATING AT COMPLETION.
4. UNI-MAT SHALL BE PROVIDED AT 4:1 SLOPE, IF NECESSARY FOR ACCESS TO THE BOTTOM OF POND FOR CLEANING PURPOSES. USE OF VACUUM OR DREDGING IS RECOMMENDED TO PREVENT LINER PUNCTURE. (9A)

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FOR INFORMATION ONLY

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS
91X-5900-G-00136	GRADING PLAN - SHEET 1 OF 2
91X-5900-G-00137	GRADING PLAN - SHEET 2 OF 2
91X-5900-G-00141	UTILITY PLAN
91X-5900-G-00177	UTILITY PROFILE - FORCE MAIN
91X-5900-G-00143	DETAILS - SHEET 1 OF 6
91X-5900-G-00206	DETAILS - SHEET 5 OF 6

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REV NO	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERNALD	DATE
1	REVISED PER DCN/001 REV 0	[illegible]	NA	[illegible]
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
CIVIL
DETAILS
SHEET 2 OF 6

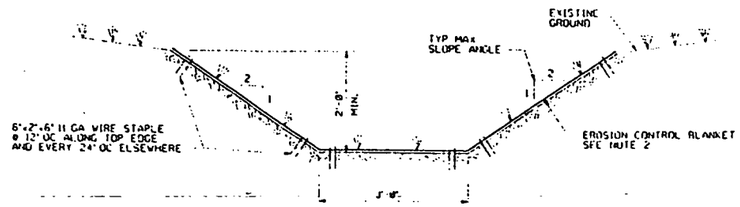
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. ESPARZA	07/30/95	E. KUBRIN	02/12/96	E. KUBRIN	01/05/96

A-E CONTRACT NO	FLOOR	SCALE	CLASS
		NONE	

SUBMITTED FOR APPROVAL: S. MALLETTE 02/13/96
FERNALD CRU APPROVAL: NA

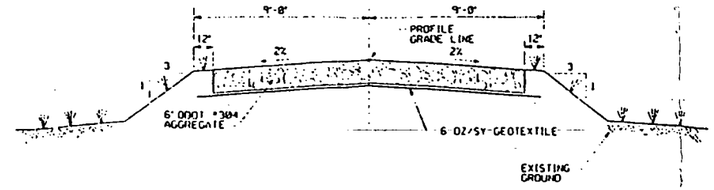
A-E CODE PROJECT NO	DATE	FERNALD PROJECT NO	DRAWING SHEET CODE NO	SHEET NO	REV NO
		WBS 1.1.1.1.1.1 00-90701	91X-5900-G-00144	G0011	1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER WPRAP/P0145

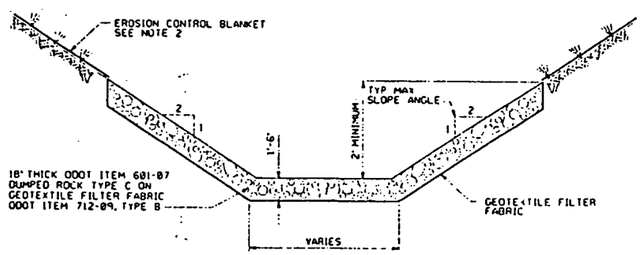


NOTE:
1. FOR DITCH INVERT ELEVATION SEE PLANS

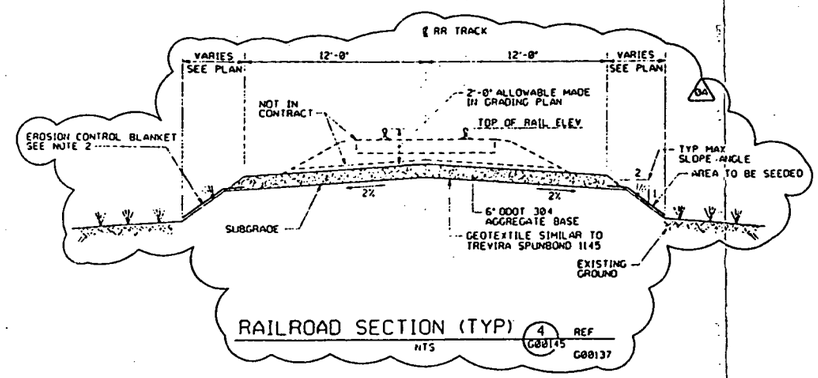
TYPICAL SEEDED DITCH (1) REF G00145 G00136 G00137
NTS



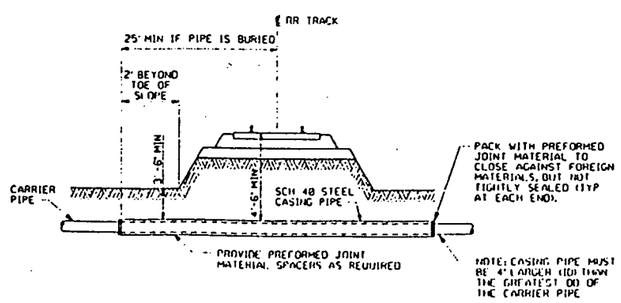
GRAVEL ROAD (2) REF G00145 G00136
NTS



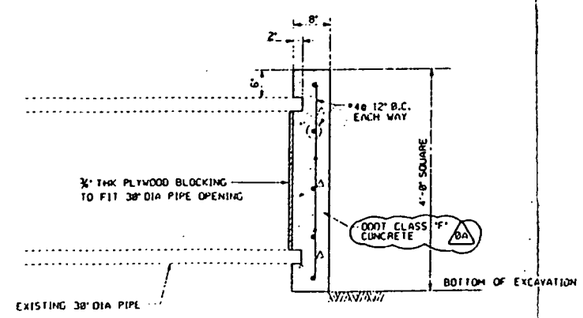
TYPICAL FLAT BOTTOM DITCH
AND EMERGENCY DITCH (3) REF G00145 G00136
NTS



RAILROAD SECTION (TYP) (4) REF G00145 G00137
NTS



PIPELINES CROSSING UNDER RR TRACKS (TYP) (5) REF G00145 G00136
NTS



EXIST PIPE END SEAL (TYP) (6) REF G00145 G00135
NTS

NOTES

1. UNLESS OTHERWISE NOTED ALL MATERIALS SHALL CONFORM TO THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 1995.
2. EROSION CONTROL BLANKETS SIMILAR TO NORTH AMERICAN GREEN STRAW/COCONUT TYPE SC 150, .35 LB/SY OF STRAW, .15 LB/SY COCONUT, NET SHALL BE HEAVYWEIGHT UV STABILIZED TOP, AND LIGHTWEIGHT BOTTOM, THREAD SHALL BE COTTON, BIO-DEGRADABLE.
3. EROSION CONTROL MEASURES SHALL FOLLOW OHIO DEPARTMENT OF NATURAL RESOURCES "RAINWATER AND LAND DEVELOPMENT" OHIO'S STANDARDS FOR STORMWATER MANAGEMENT LAND DEVELOPMENT AND URBAN STREAM PROTECTION.

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EDC

FOR INFORMATION ONLY

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS
91X-5900-G-00135	SITE PLAN/DEMOLITION PLAN
91X-5900-G-00136	GRADING PLAN - SHEET 1 OF 2
91X-5900-G-00137	GRADING PLAN - SHEET 2 OF 2

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REV NO	ISSUE OR REVISION PURPOSE - DESCRIPTION	A E	PLANCO	DATE
		INITIALS AND DATE		
1	REVISED PER DCN/001 REV 0	[illegible]	NA	[illegible]
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

UNITED STATES
DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMDIATION SYSTEM DESIGN
SITE IMPROVEMENT

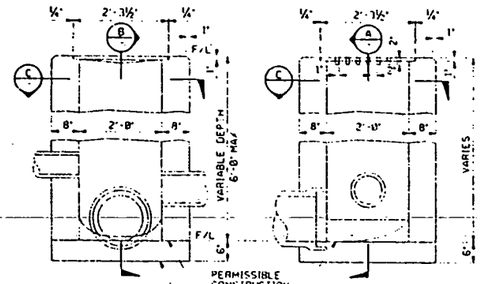
DRAWING TITLE
CIVIL
DETAILS
SHEET 3 OF 6

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. ESPARZA	08/06/95	E. KLOBUCHAR	02/12/96	E. KLOBUCHAR	02/05/96

PLANT/BLDG NO | FY CODE | SCALE: NONE | CLASS

SUBMITTED FOR APPROVAL: S. MALLETTE 02/13/96 (A E, DATE)
FERNCO CRU APPROVAL: NA (DATE)

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	OU1 PROJECT NO	FY-AP PROJECT NO	DRAWING REF CODE NO	SHEET NO	REV NO
WPRAP/P0145		WBS 1.1.1.1.1.1.1 00-90701	91X-5900-G-00145	G0012	1

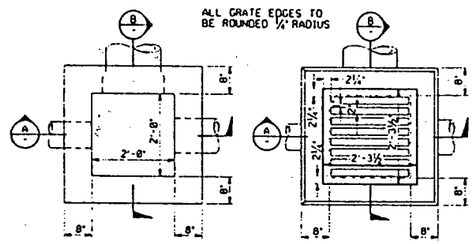


SECTION A NTS

SECTION B NTS

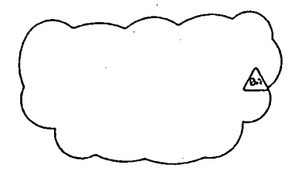
NOTES:

1. LOCATION AND ELEVATION WHEN GIVEN ON THE PLANS OR PROFILE IS TOP CENTER OF THE GRATE.
2. GRATING DESIGN SHALL BE ESSENTIALLY THE SAME AND EQUALLY AS STRONG AS THE ONE SHOWN HEREON. WEIGHT OF GRATE, 20 LBS MINIMUM. 6A
3. BRICK, CONCRETE BLOCK OR CAST-IN-PLACE WALLS HAVE A NOMINAL THICKNESS OF 8 INCHES. PRECAST WALLS SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES AND BE REINFORCED SUFFICIENTLY TO PERMIT SHIPPING AND HANDLING WITHOUT DAMAGE.
4. CONCRETE, CAST-IN-PLACE, TO BE CLASS C. ALL PRECAST CONCRETE SHALL MEET THE REQUIREMENTS OF 705.13 WITH 6 +/- 2% AIR VOID CONTENT IN THE HARDENED CONCRETE AND BE MARKED WITH CATCH BASIN NUMBER.
5. OPENINGS FOR PIPES SHALL BE O.D. +2" WHEN FABRICATED OR FIELD CUT.



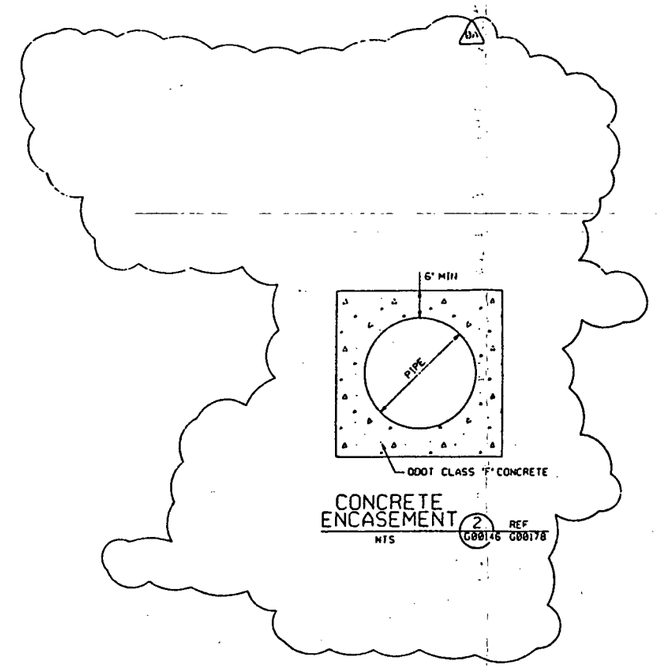
SECTION C NTS

PLAN VIEW

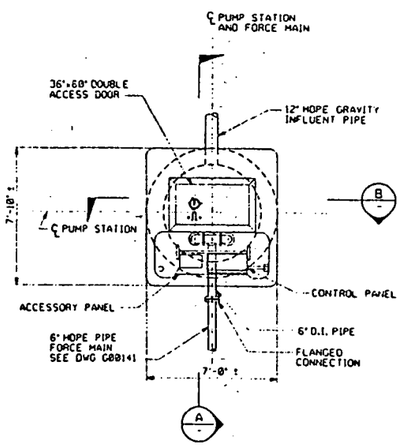


ODOT 2-2B CATCH BASIN 1 NTS REF C00146 C00212 C00137 C00178

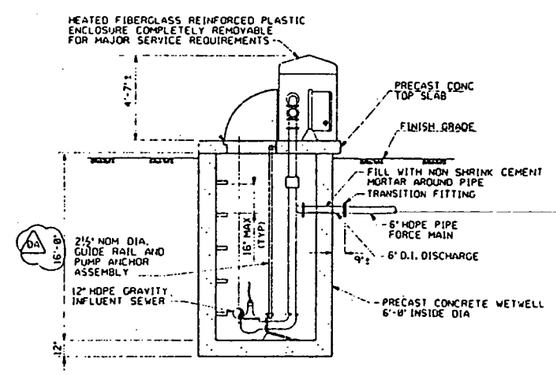
NOTE: FOR CATCH BASINS ST-2 AND ST-6 USE ODOT 2-3 CATCH BASIN.



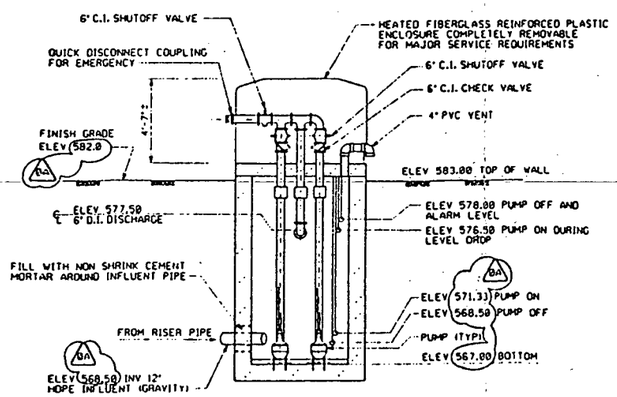
CONCRETE ENCASEMENT 2 NTS REF C00146 C00178



PLAN VIEW



SECTION A NTS



NOTE: PUMP STATION SHOWN IS A GORMAN-RUPP J-SERIES. OTHER UNITS MAY BE CONSIDERED AS PROVIDED FOR IN THE SPECIFICATIONS

SECTION B NTS

PUMP STATION 3 NTS REF C00146 C00141 C00177

NOTES

1. UNLESS OTHERWISE NOTED ALL MATERIALS SHALL CONFORM TO THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 1995.

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EDC

FOR INFORMATION ONLY

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS
91X-5900-G-00136	GRADING PLAN - SHEET 1 OF 2
91X-5900-G-00137	GRADING PLAN - SHEET 2 OF 2
91X-5900-G-00141	UTILITY PLAN
91X-5900-G-00177	UTILITY PROFILE - FORCE MAIN
91X-5900-G-00178	UTILITY PROFILE - CULVERTS
91X-5900-G-00212	UTILITY PROFILE - STORM SEWER

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REV NO	ISSUE OR REVISION PURPOSE - DESCRIPTION	A E	REVIEWER	DATE
1	REVISED PER DCN/001 REV 0	[illegible]	NA	[illegible]
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
CIVIL DETAILS
SHEET 4 OF 6

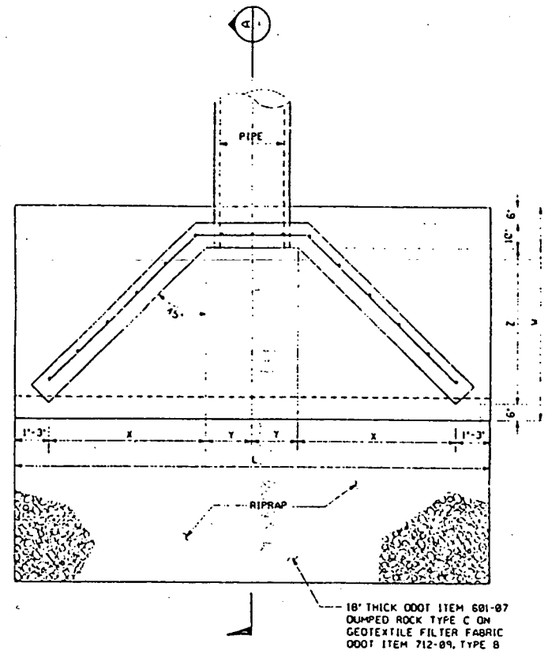
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. ESPARZA	07/30/95	E. KUBRIN	02/12/96	D. REED	01/09/96

PLANT/BLDG NO | FLOOR | SCALE: NONE | CLASS

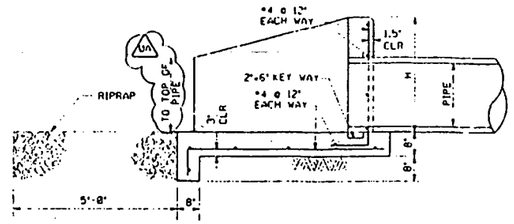
SUBMITTED FOR APPROVAL: S. MALLETTE 02/13/96 (A E, DATE)
FERNCO CRU APPROVAL: NA (DATE)

DOE PROJECT NO | TECP PROJECT NO: WBS 1.1.1.1.1.1 00-90701 | DRAWING NUMBER CODE NO: 91X-5900-G-00146 | SHEET NO: G0013 | REV NO: 1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER: WPRAP/P0145



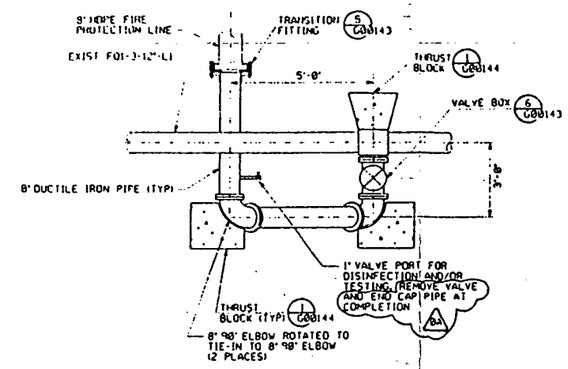
PLAN
NTS



HEADWALL MAIN DIMENSION						
PIPE SIZE	L	W	H	X	Y	Z
18"	11'-10"	5'-3"	3'-0"	3'-5"	1'-3"	3'-5"
24"	14'-0"	6'-1"	3'-6"	4'-3"	1'-6"	4'-3"

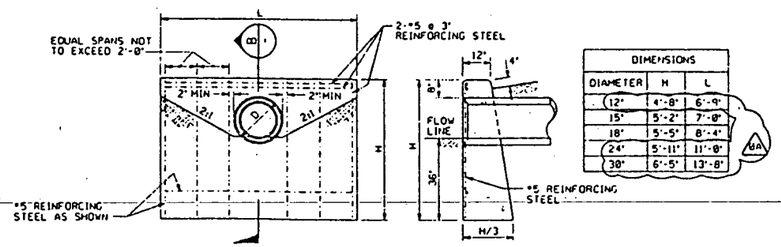
SECTION A
NTS

HEADWALL WITH WINGS 1 / G00206 REF G00136 G00137 G00175 G00178
NTS



NOTE:
FOR WET TAP INSTALL 12"X8" DUAL COMPRESSION SEAL TAPPING SLEEVE OVER EXISTING WATER LINE OR INSTALL 12" CUTTING-IN SLEEVE AND 12"X8" TAPPING TEE FOR DRY TAP

NORTH FIRE PROTECTION TIE-IN 3 / G00206 REF G00141 G00176
NTS



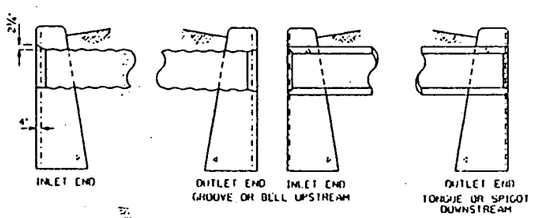
DIMENSIONS		
DIAMETER	H	L
12"	4'-8"	6'-9"
15"	5'-2"	7'-0"
18"	5'-5"	8'-4"
24"	5'-11"	11'-0"
30"	6'-5"	13'-8"

ELEVATION
NTS

SECTION B
NTS

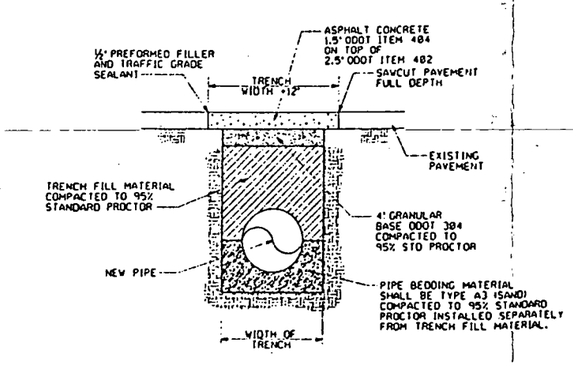
NOTES

1. HEADWALL WHERE REQUIRED WILL BE PROVIDED FOR NON-SPEVED CULVERTS HAVING A DIAMETER OR RISE OF 36 INCHES OR LESS.
2. CONCRETE SHALL BE CLASS "C". REINFORCING STEEL SHALL BE #5 AS SHOWN.
3. CHAMFER ALL EXPOSED CORNERS ¾ OF AN INCH.
4. FOR TWIN 18" PIPES PROVIDE 1'-0" MINIMUM CLEARANCE BETWEEN PIPES.



END TREATMENT AT HEADWALL

HEADWALL 2 / G00206 REF G00137 G00178
NTS



PAVEMENT REPAIR DETAIL 4 / G00206 REF G00137
NTS

NOTES

1. UNLESS OTHERWISE NOTED ALL MATERIALS SHALL CONFORM TO THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 1995.

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EDC

FOR INFORMATION ONLY

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS
91X-5900-G-00141	UTILITY PLAN
91X-5900-G-00136	GRADING PLAN - SHEET 1 OF 2
91X-5900-G-00137	GRADING PLAN - SHEET 2 OF 2
91X-5900-G-00175	GRADING SECTIONS
91X-5900-G-00176	UTILITY PROFILE - FIREWATER LINE
91X-5900-G-00178	UTILITY PROFILES - CULVERTS
91X-5900-G-00143	DETAILS - SHEET 1 OF 6
91X-5900-G-00144	DETAILS - SHEET 2 OF 6

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REV NO	REVISION PURPOSE - DESCRIPTION	A E	REVIEW	DATE
1	REVISED PER DCN/001 REV 0	[illegible]	NA	[illegible]
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
CIVIL DETAILS
SHEET 5 OF 6

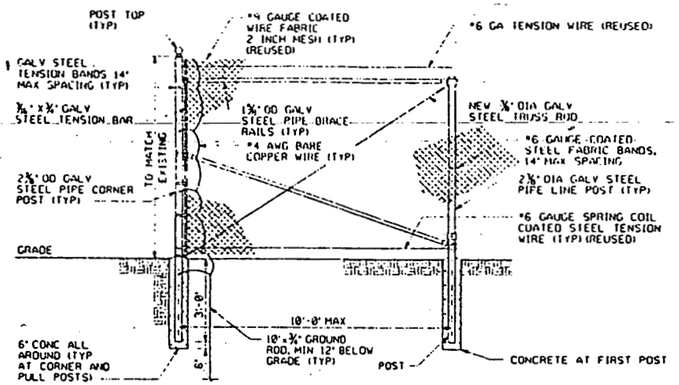
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
V. LIU	12/01/95	E. KUBRIN	02/12/96	D. REED	01/09/96

PLANT/BLDG NO	FLOOR	SCALE	CLASS
		NONE	

SUBMITTED FOR APPROVAL: S. MALLETTE 02/13/96
FERNCO CAI APPROVAL: NA

PREPARED UNDER PARSON PROJECT ORDER NUMBER: WPRAP/P0145

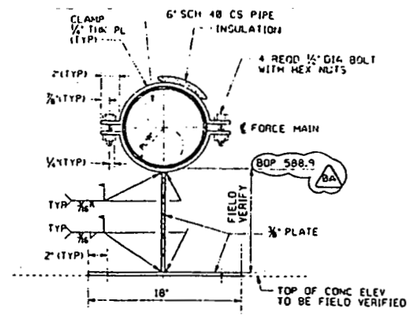
DOE PROJECT NO	FEMP PROJECT NO	DRAWING INDEX CODE NO	SHEET NO	REV NO
	WBS 1.1.1.1.1.3.1 00-90701	91X-5900-G-00206	G0014	1



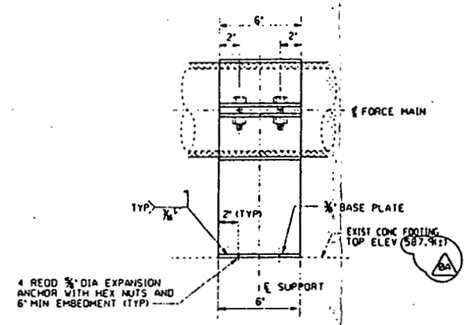
PULL POST FENCE (1) REF G00207 G00135
NTS

NOTES:

1. BOLTS SHALL BE ASTM A-193 GR B7 WITH LOCK WASHERS AND HEAVY HEX NUTS ASTM A-194 GR 2H.
2. BOLT HOLE DIAMETER TO BE 1/8 INCH LARGER THAN BOLT DIAMETER.
3. ALL GUIDE MATERIAL CARBON STEEL EXCEPT AS NOTED.
4. ALL WELDING TO BE DONE PRIOR TO INSTALLING METAL PARTS AGAINST DUCTILE IRON PIPE
5. EXPOSED CARBON STEEL MATERIAL TO BE PAINTED AS FOLLOWS:
   A. PREPARE SURFACE IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL (SSPC) SP-6.
   B. PRIME ALL BARE METAL NOT IN CONTACT WITH CONCRETE/GROUT WITH ZINC-RICH LEAD FREE PRIMER. APPLY TWO COATS OF EXTERIOR LATEX GLOSS ENAMEL FOR THE FINISH COAT. FOLLOW SSPC PAINT 13 AND PAINT 20.

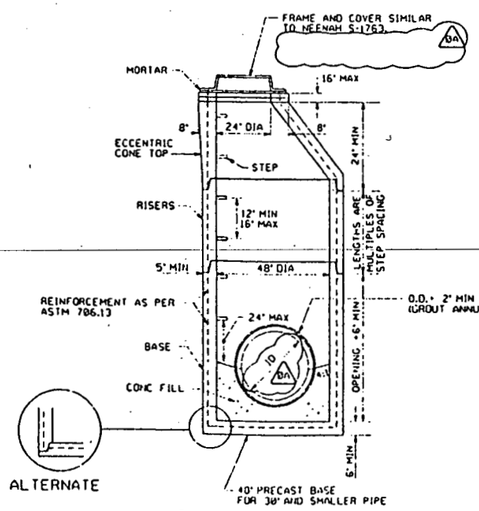


SECTION

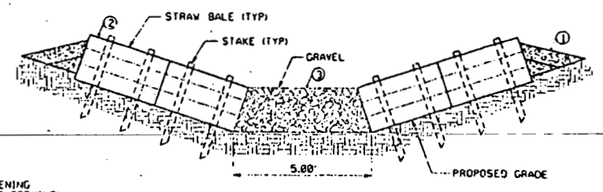


ELEVATION

FORCE MAIN SUPPORT (2) REF G00207 G00177
NTS

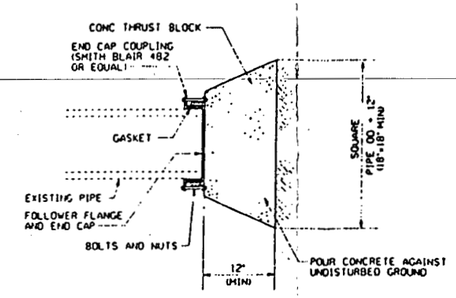


ODOT MH-3 MANHOLE (3) REF G00207 G00135 G00212
NTS



① ODOT ITEM 304 STABILIZED CRUSHED AGGREGATE (2-6" COURSES) ON FILTER FABRIC, ODOT ITEM 712.09, TYPE D.
② INSTALL STRAW BALE AS SHOWN ON DWG G00144.
③ GRAVEL TO BE ODOT ITEM 601.07, TYPE D DUMPED ROCK. TOP WIDTH TO BE SAME AS STRAW BALES.

CHECK DAM (4) REF G00207 G00136 G00137
NTS



END CAP (5) REF G00207 G00135
NTS

NOTE:
CONTRACTOR TO FIELD MEASURE EXIST PIPE OD BEFORE ORDERING CORRECT SIZE OF END CAP COUPLING.

NOTES

1. UNLESS OTHERWISE NOTED ALL MATERIALS SHALL CONFORM TO THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 1995.

P - 261

EDC

FOR INFORMATION ONLY

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS
91X-5900-G-00135	SITE PLAN/DEMOLITION PLAN
91X-5900-G-00141	UTILITY PLAN
91X-5900-G-00136	GRADING PLAN - SHEET 1 OF 2
91X-5900-G-00137	GRADING PLAN - SHEET 2 OF 2
91X-5900-G-00177	UTILITY PROFILE - FORCE MAIN
91X-5900-G-00178	UTILITY PROFILES - CULVERTS

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REV NO	ISSUE OR REVISION PURPOSE - DESCRIPTION	A.E.	FERNCO	DATE
1	REVISED PER DCN/001 REV 0	[illegible]	NA	[illegible]
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

DETAILS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
CIVIL DETAILS
SHEET 6 OF 8

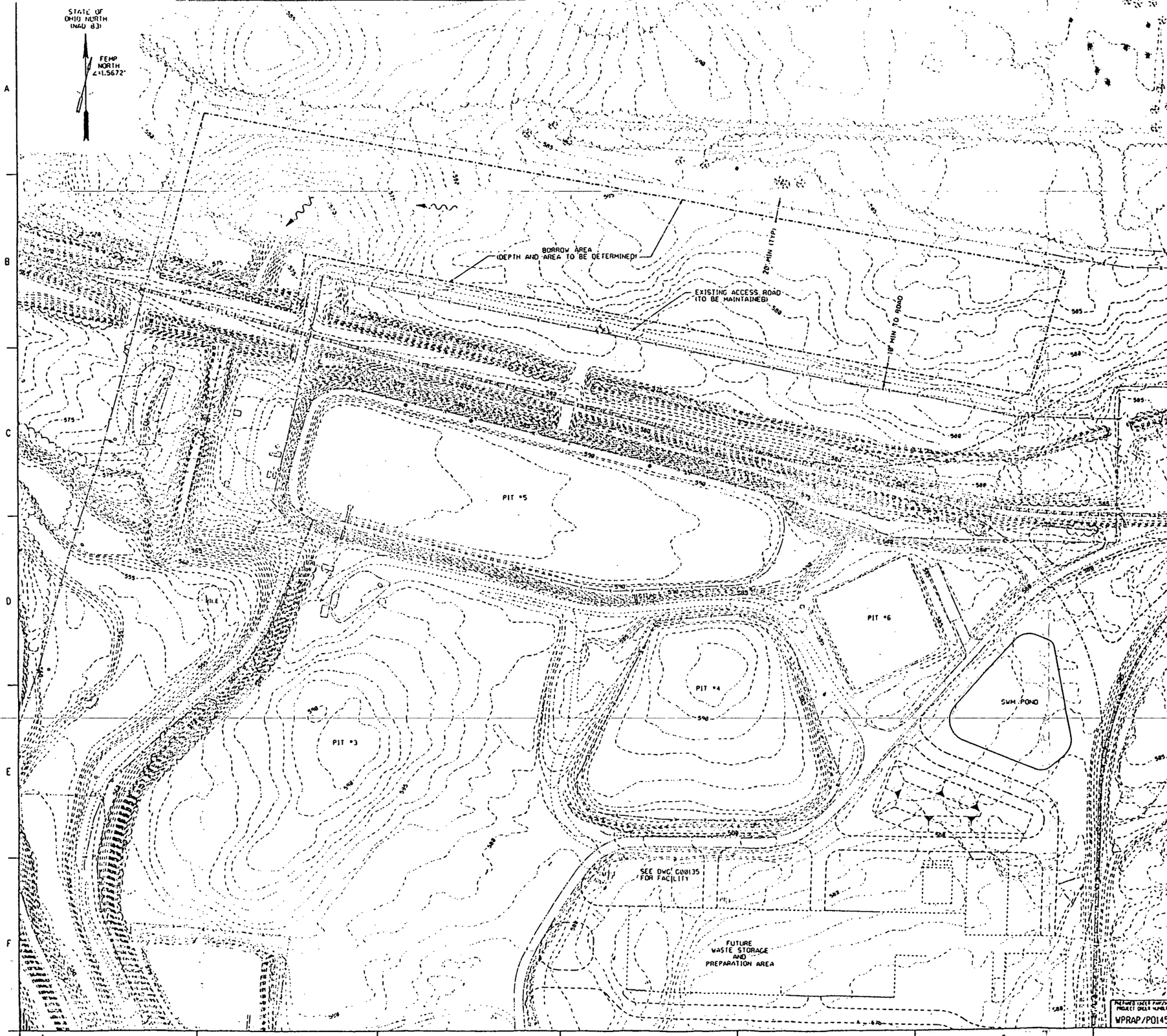
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. LINDGREN	10-28-95	E. RUBRIN	02/12/96	E. RUBRIN	02/13/96

PLANT ENGR NO	FLOOR	SCALE	CLASS
		NONE	

SUBMITTED FOR APPROVAL	FERNCO CAU APPROVAL
S. MALLETTE 02/13/96	NA

A.E. DATE	TEMP PROJECT NO	DRAWING MGMT CODE NO	SHEET NO	REV NO
	VBS 1.1.1.1.3.1 00-90701	91X-5900-G-00207	G0015	1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER
VPRAP/P0145



NOTES

1. EXISTING CONDITIONS SHOWN ON THIS DRAWING WERE PREPARED FROM THE DOCUMENTS LISTED BELOW.

EXISTING SITE DATA SOURCE (IN PLANT FILES)
PARSONS TOPOGRAPHY, 1992

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EDC

FOR INFORMATION ONLY

REF DWG NO.	DRAWING TITLE
91X-5900-X-00216	DRAWING INDEX
91X-5900-X-00217	LEGEND AND SYMBOLS
91X-5900-G-00135	SITE PLAN / DEMOLITION PLAN

22

REV NO	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERNCO	DATE
0	CERTIFIED FOR CONSTRUCTION	SM	NA	02/12/96

INITIALS AND DATE

UNITED STATES
DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
OU1 REMEDIATION SYSTEM DESIGN
SITE IMPROVEMENT

DRAWING TITLE
CIVIL
BORROW AREA LOCATION

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
A. LINDGREN	12/29/95	E. KUBRIN	02/12/96	E. KUBRIN	01/05/96

PLANT/BLDG NO	FLOOR	SCALE	CLASS
		1"=60'	

SUBMITTED FOR APPROVAL	FERNCO CBU APPROVAL
S. MALLETTE 02/13/96	NA

A-E PROJECT NO	FERNCO PROJECT NO	DRAWING INDEX CODE NO	SHEET NO	REV NO
	WBS 1.1.1.1.1.3.1 00-90701	91X-5900-G-00214	G0016	0

PREPARED UNDER PARSONS PROJECT ORDER NUMBER: WPRAP/P0145