

CONSTRUCTION QUALITY ASSURANCE FINAL REPORT

PHASE V VALVE HOUSE 7 AND 8, CELL 3 AND 4 FINAL COVERS, AND CELL 7 AND 8 LINER SYSTEMS

ON-SITE DISPOSAL FACILITY

United States Department of Energy
Fernald Closure Project
Fernald, Ohio

prepared by

GEOSYNTEC CONSULTANTS

Fernald Field Office
7400 Willey Road, MS:38
Hamilton, Ohio 45013

under

Fluor Fernald, Inc.
Contract No. 03FF0699



**REVISION 0
MARCH 2005
VOLUME X**

APPENDIX R

HDPE PIPE TEST LOGS

Butt Fusion Joining

1. Item/Title/Description:
VERIFICATION OF THERMAL BUTT FUSION WELDING- TRIAL JOINING

2. Project/Task:
 DSDP/OSDF CONST PROJECT # 20105

3. Specification/Drawing/PO/Req.:
 TECH SPEC 20105-TS-0001, REV 0, SECTION 2605
 Manufacturer's Specs

4. Division Title and Number/Department Title
 490000 SOIL & DISPOSAL FACILITY PROJECTS/ CONSTRUCTION-S&DFP

5. Approved For Use (When Required):
 Signature: _____ Date: _____
 N/A

6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria) VERIFY THAT	8. Status		9. General Remarks
		SAT	UNSAT	
	PIPE SIZE: <u>6 inch</u> SDR#: <u>11</u> NAME OF JOINER: <u>T. O'Hearn</u> FUSION MACHINE <u>98N9400-127</u> (Standard Fusion Machine) AMBIENT TEMPERATURE: <u>51°</u> WEATHER CONDITIONS: FOG: [] yes <input checked="" type="checkbox"/> no PRECIPITATION: [] yes <input checked="" type="checkbox"/> no			ACCEPTABLE WEATHER CONDITIONS <ul style="list-style-type: none"> Do not join HDPE pipe at location temperatures below 40° F or above 104° F unless authorized in writing by the Construction Manager; Do not join HDPE pipe during period of precipitation, in the presence of heavy fog, dew, or areas of ponded water. TIME OF TRAIL JOINT: <u>0830</u> <i>no obstructions</i> <i>pipe was cleaned</i> <i>facing is good.</i>
1.	There are no obstructions inside the pipe.	✓		
2.	The pipe is cleaned with a clean oil free rag prior to facing. Cleaning should extend approximately one inch beyond the face of the pipe. The joint shall be free of moisture, dust, and debris of any kind.	✓		
3.	The pipe is faced. The wheel pressure shall be approximately 85 psi. Facing is considered complete when approximately 5 ribbons have been cut from the pipe. After 5 full ribbons have been cut the wheel pressure should be dropped to 0 psi and the cutting wheel shall continue to rotate to cut the ribbons from the pipe face. NOTE: After the pipe has been faced there shall be no further alignment. If there is realignment the pipe shall be refaced.	✓		

10. Inspector (Printed Name)
Muriel Allen (Signature)

Date: 4-17-04

11. QC Manager/Designee (Printed Name)
 _____ (Signature)

Date: _____

**Welding started @ 8:30 A.M. and finished @ 12:15 P.M.*

6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria)	8. Status		9. General Remarks
		SAT	UNSAT	
4.	All shavings are removed from the facing and the pipe to assure that the shavings are not part of the joint. The operator shall use clean gloves when removing the shavings.	✓		FACING PRESSURE: <u>125 psi</u>
5.	The pipe is checked for proper alignment prior to joining. The jaw can be adjusted to obtain proper alignment. NOTE: If there is realignment the pipe shall be refaced.	✓		Alignment is good PLATE TEMPERATURE: <u>450°</u>
6.	The heater plate is between 400°F and 450°F. NOTE: The heater plate shall be cleaned with a clean oil free cloth.	✓		Heat is satisfactory
7.	The heater plate is inserted into the machine and the pipe ends are brought into firm contact with the plate. The pipe shall be under zero pressure when being heated.	✓		HEAT SOAK PRESSURE: <u>0</u>
8.	The melt bead is approximately 1/8 inch to 1/4 inch in height prior to removing the heat plate. NOTE: The heat time is dependent on pipe diameter and SDR#.	✓		melt bead is good. FUSION PRESSURE: <u>172 psi</u>
9.	Verify the pipe is joined at the required fusion pressure and allowed to cool. 6 INCH SDR 11 FUSION PRESSURE: 172 psi	✓		6 inch perforated pipe
10.	Verify the weld is allowed to cool prior to removing the clamps. NOTE: The required cooling time is achieved when the joint is cool to the touch.	✓		good.
11.	Verify a test strap is prepared (cut out) from the trial butt fusion spool. The test strap shall be at least 6 inches or 15 pipe wall thicknesses long on each side of the fusion and about 1 inch or 1.5 wall thicknesses wide.	✓		test test was good
12.	Verify that the test strap is bent such that the ends of the strap touch.	✓		
13.	Verify that there is no disbondment at the fusion. Any disbondment is unacceptable.	✓		no disbondment

REF: HMI/TM/01/01/01

9. Char. No.	10. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria)	11. Status		12. General Remarks
		SAT	UNSAT	
3.	The pipe is faced. The wheel pressure shall be approximately ^{125, MA 4-17-04} 85 psi. Facing is considered complete when approximately 5 ribbons have been cut from the pipe. After 5 full ribbons have been cut the wheel pressure should be dropped to 0 psi and the cutting wheel shall continue to rotate to cut the ribbons from the pipe face. NOTE: After the pipe has been faced there shall be no further alignment. If there is realignment the pipe shall be refaced.	✓		FACING PRESSURE : <u>125 psi</u> <i>Sat.</i>
4.	All shavings are removed from the facing and the pipe to assure that the shavings are not part of the joint. The operator shall use clean gloves when removing the shavings.	✓		<i>shavings removed.</i> PLATE TEMPERATURE: <u>450°</u>
5.	The pipe is checked for proper alignment prior to joining. The jaw can be adjusted to obtain proper alignment. NOTE: If there is realignment the pipe shall be refaced.	✓		<i>alignment was off, re-aligned, re-faced.</i> <i>Sat.</i> HEAT SOAK PRESS: <u>0</u>
6.	The heater plate is between 400°F and 450°F. NOTE: The heater plate shall be cleaned with a clean oil free cloth.	✓		<i>Heat soak was good.</i>
7.	The heater plate is inserted into the machine and the pipe ends are brought into firm contact with the plate. The pipe shall be under zero pressure when being heated.	✓		<i>Firm contact.</i>
8.	The melt bead is approximately 1/8 inch to 1/4 inch in height prior to removing the heat plate. NOTE: The heat time is dependent on pipe diameter and SDR#.	✓		FUSION PRESSURE: <u>172 psi</u>
9.	The pipe is joined at the required fusion pressure and allowed to cool. 6 INCH SDR 11 FUSION PRESSURE: 172 psi 10 INCH SDR 11 FUSION PRESSURE: 404 psi	✓		<i>6 inch pipe</i>
10.	The weld is allowed to cool prior to removing the clamps. NOTE: The required cooling time is achieved when the joint is cool to the touch.	✓		<i>Sat.</i>

INFORMATION ONLY

1. Item/Title/Description: VERIFICATION OF THERMAL BUTT FUSION WELDING- PRODUCTION JOINING CELL				
2. Project/Task: DSDP/OSDF CONST PROJECT # 20105		3. Specification/Drawing/PO/Req.: TECH SPEC 20105-TS-0001, SEC 2605, part 3.04 Manufacturer's Specs		
4. Division Title and Number/Department Title 490000 SOIL & DISPOSAL FACILITY PROJECTS/ CONSTRUCTION-S&DFP		5. Approved For Use (When Required): Signature: _____ Date: _____ N/A		
6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria) Verify that:	8. Status		9. General Remarks
		SAT	UNSAT	
	PIPE SIZE: <u>6 inch</u> SDR#: <u>11</u> IDENTIFY JOINT: PIPE#: <u>2A</u> TO PIPE#: <u>2-C (cap)</u> NAME OF JOINER: <u>T. O'Hearn</u> FUSION MACHINE #: <u>98N19400-137</u> (Standard Fusion Machine) AMBIENT TEMPERATURE: <u>55°</u> WEATHER CONDITIONS: FOG: [] yes <input checked="" type="checkbox"/> no PRECIPITATION: [] yes <input checked="" type="checkbox"/> no			ACCEPTABLE WEATHER CONDITIONS: • Do not join HDPE pipe at location temperatures below 40° F or above 104° F unless authorized in writing by the Construction Manager; • Do not join HDPE pipe during period of precipitation, in the presence of heavy fog, dew, or areas of ponded water.
1.	There are no obstructions inside the pipe.	✓		<u>Sat.</u>
2.	The pipe is cleaned with a clean oil free rag prior to facing. Cleaning should extend approximately one inch beyond the face of the pipe. The joint is free of moisture, dust, and debris of any kind.	✓		<u>Sat.</u>
10. Inspector (Printed Name) <u>Muriel Allen</u>		(Signature) <u>Muriel Allen</u>		Date: <u>4-17-04</u>
11. QC Manager/Designee (Printed Name)		(Signature)		Date:

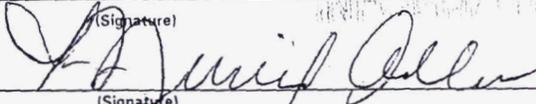
9. Char. No.	10. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria)	11. Status		12. General Remarks
		SAT	UNSAT	
3.	The pipe is faced. The wheel pressure shall be approximately ^{125 MA 4-17-04} 85 psi. Facing is considered complete when approximately 5 ribbons have been cut from the pipe. After 5 full ribbons have been cut the wheel pressure should be dropped to 0 psi and the cutting wheel shall continue to rotate to cut the ribbons from the pipe face. NOTE: After the pipe has been faced there shall be no further alignment. If there is realignment the pipe shall be refaced.	✓		FACING PRESSURE : <u>125 psi</u> <i>Sat.</i>
4.	All shavings are removed from the facing and the pipe to assure that the shavings are not part of the joint. The operator shall use clean gloves when removing the shavings.	✓		<i>Shavings removed</i> PLATE TEMPERATURE: <u>450°</u>
5.	The pipe is checked for proper alignment prior to joining. The jaw can be adjusted to obtain proper alignment. NOTE: If there is realignment the pipe shall be refaced.	✓		<i>Alignment is good</i>
6.	The heater plate is between 400°F and 450°F. NOTE: The heater plate shall be cleaned with a clean oil free cloth.	✓		HEAT SOAK PRESS: <u>0</u>
7.	The heater plate is inserted into the machine and the pipe ends are brought into firm contact with the plate. The pipe shall be under zero pressure when being heated.	✓		<i>Firm Contact</i>
8.	The melt bead is approximately 1/8 inch to 1/4 inch in height prior to removing the heat plate. NOTE: The heat time is dependent on pipe diameter and SDR#.	✓		FUSION PRESSURE: <u>172 psi</u> <i>Bead is Sat.</i>
9.	The pipe is joined at the required fusion pressure and allowed to cool. 6 INCH SDR 11 FUSION PRESSURE: 172 psi ✓ 10 INCH SDR 11 FUSION PRESSURE: 404 psi	✓		<i>6 inch</i>
10.	The weld is allowed to cool prior to removing the clamps. NOTE: The required cooling time is achieved when the joint is cool to the touch.	✓		<i>Sat.</i>

9. Char. No.	10. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria)	11. Status		12. General Remarks
		SAT	UNSAT	
3.	The pipe is faced. The wheel pressure shall be approximately ^{125 MPa} 88 psi. Facing is considered complete when approximately 5 ribbons have been cut from the pipe. After 5 full ribbons have been cut the wheel pressure should be dropped to 0 psi and the cutting wheel shall continue to rotate to cut the ribbons from the pipe face. NOTE: After the pipe has been faced there shall be no further alignment. If there is realignment the pipe shall be refaced.	✓		FACING PRESSURE: <u>125 psi</u> <i>Sat.</i>
4.	All shavings are removed from the facing and the pipe to assure that the shavings are not part of the joint. The operator shall use clean gloves when removing the shavings.	✓		PLATE TEMPERATURE: <u>450°</u> <i>Sat.</i>
5.	The pipe is checked for proper alignment prior to joining. The jaw can be adjusted to obtain proper alignment. NOTE: If there is realignment the pipe shall be refaced.	✓		HEAT SOAK PRESS: <u>0</u> <i>Sat.</i>
6.	The heater plate is between 400°F and 450°F. NOTE: The heater plate shall be cleaned with a clean oil free cloth.	✓		FUSION PRESSURE: <u>172 psi</u> <i>Sat.</i>
7.	The heater plate is inserted into the machine and the pipe ends are brought into firm contact with the plate. The pipe shall be under zero pressure when being heated.	✓		<i>Sat.</i>
8.	The melt bead is approximately 1/8 inch to 1/4 inch in height prior to removing the heat plate. NOTE: The heat time is dependent on pipe diameter and SDR#.	✓		<i>Sat.</i>
9.	The pipe is joined at the required fusion pressure and allowed to cool. 6 INCH SDR 11 FUSION PRESSURE: 172 psi ✓ 10 INCH SDR 11 FUSION PRESSURE: 404 psi	✓		<i>Sat.</i>
10.	The weld is allowed to cool prior to removing the clamps. NOTE: The required cooling time is achieved when the joint is cool to the touch.	✓		<i>Sat.</i>

INFORMATION ONLY

QUALITY EVALUATION PLAN

QEP No. _____ Rev. 0

1. Item/Title/Description: VERIFICATION OF THERMAL BUTT FUSION WELDING- PRODUCTION JOINING CELL				
2. Project/Task: DSDP/OSDF CONST PROJECT # 20105		3. Specification/Drawing/PO/Req.: TECH SPEC 20105-TS-0001, SEC 2605, part 3.04 Manufacturer's Specs		
4. Division Title and Number/Department Title 490000 SOIL & DISPOSAL FACILITY PROJECTS/ CONSTRUCTION-S&DFP			5. Approved For Use (When Required): Signature: _____ Date: _____ <p style="text-align: center;">N/A</p>	
6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria) <i>Verify that:</i>	8. Status		9. General Remarks
		SAT	UNSAT	
	PIPE SIZE: <u>6 inch</u> SDR#: <u>11</u> IDENTIFY JOINT: PIPE#: <u>1-D</u> TO PIPE#: <u>1-T (inlet)</u> NAME OF JOINER: <u>T. O'Hearn</u> FUSION MACHINE #: <u>98N9400-127</u> (Standard Fusion Machine) AMBIENT TEMPERATURE: <u>60°</u> WEATHER CONDITIONS: FOG: [] yes <input checked="" type="checkbox"/> no PRECIPITATION: [] yes <input checked="" type="checkbox"/> no			ACCEPTABLE WEATHER CONDITIONS: <ul style="list-style-type: none"> Do not join HDPE pipe at location temperatures below 40° F or above 104° F unless authorized in writing by the Construction Manager; Do not join HDPE pipe during period of precipitation, in the presence of heavy fog, dew, or areas of ponded water.
1.	There are no obstructions inside the pipe.	✓		<i>no obstructions</i>
2.	The pipe is cleaned with a clean oil free rag prior to facing. Cleaning should extend approximately one inch beyond the face of the pipe. The joint is free of moisture, dust, and debris of any kind.	✓		<i>clean cloth was used for cleaning & prep</i>
10. Inspector (Printed Name) <u>Muriel Allen</u>			(Signature) 	Date: <u>4-17-04</u>
11. QC Manager/Designee (Printed Name)			(Signature)	Date:

9. Char. No.	10. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria)	11. Status		12. General Remarks
		SAT	UNSAT	
3.	The pipe is faced. The wheel pressure shall be approximately 85 psi. Facing is considered complete when approximately 5 ribbons have been cut from the pipe. After 5 full ribbons have been cut the wheel pressure should be dropped to 0 psi and the cutting wheel shall continue to rotate to cut the ribbons from the pipe face. NOTE: After the pipe has been faced there shall be no further alignment. If there is realignment the pipe shall be refaced.	✓		FACING PRESSURE : <u>125 psi</u> <i>facing is good.</i>
4.	All shavings are removed from the facing and the pipe to assure that the shavings are not part of the joint. The operator shall use clean gloves when removing the shavings.	✓		<i>Shavings removed.</i> PLATE TEMPERATURE: <u>450°</u>
5.	The pipe is checked for proper alignment prior to joining. The jaw can be adjusted to obtain proper alignment. NOTE: If there is realignment the pipe shall be refaced.	✓		<i>Alignment is good.</i>
6.	The heater plate is between 400°F and 450°F. NOTE: The heater plate shall be cleaned with a clean oil free cloth.	✓		HEAT SOAK PRESS: <u>0</u>
7.	The heater plate is inserted into the machine and the pipe ends are brought into firm contact with the plate. The pipe shall be under zero pressure when being heated.	✓		<i>firm contact.</i>
8.	The melt bead is approximately 1/8 inch to 1/4 inch in height prior to removing the heat plate. NOTE: The heat time is dependent on pipe diameter and SDR#.	✓		FUSION PRESSURE: <u>172 psi</u> <i>melt bead is good.</i>
9.	The pipe is joined at the required fusion pressure and allowed to cool. 6 INCH SDR 11 FUSION PRESSURE: 172 psi ✓ 10 INCH SDR 11 FUSION PRESSURE: 404 psi	✓		
10.	The weld is allowed to cool prior to removing the clamps. NOTE: The required cooling time is achieved when the joint is cool to the touch.	✓		<i>Sat.</i>

1. Item/Title/Description:
VERIFICATION OF THERMAL BUTT FUSION WELDING- PRODUCTION JOINING CELL

2. Project/Task: DSDP/OSDF CONST PROJECT # 20105
 3. Specification/Drawing/PO/Req.: TECH SPEC 20105-TS-0001, SEC 2605, part 3.04
 Manufacturer's Specs

4. Division Title and Number/Department Title: 490000 SOIL & DISPOSAL FACILITY PROJECTS/ CONSTRUCTION-S&DFP
 5. Approved For Use (When Required):
 Signature: _____ Date: _____
 N/A

6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria) <i>Verify that:</i>	8. Status		9. General Remarks
		SAT	UNSAT	
	PIPE SIZE: <u>6 inch</u> SDR#: <u>11</u> IDENTIFY JOINT: PIPE#: <u>1-T (6in)</u> TO PIPE#: <u>2-B</u> NAME OF JOINER: <u>T. O'Hearn</u> FUSION MACHINE #: <u>98N9400-121</u> (Standard Fusion Machine) AMBIENT TEMPERATURE: <u>70°</u> WEATHER CONDITIONS: FOG: [] yes <input checked="" type="checkbox"/> no PRECIPITATION: [] yes <input checked="" type="checkbox"/> no			ACCEPTABLE WEATHER CONDITIONS: <ul style="list-style-type: none"> Do not join HDPE pipe at location temperatures below 40° F or above 104° F unless authorized in writing by the Construction Manager; Do not join HDPE pipe during period of precipitation, in the presence of heavy fog, dew, or areas of ponded water.
1.	There are no obstructions inside the pipe.	✓		Sat
2.	The pipe is cleaned with a clean oil free rag prior to facing. Cleaning should extend approximately one inch beyond the face of the pipe. The joint is free of moisture, dust, and debris of any kind.	✓		Sat

10. Inspector (Printed Name): Muriel Allen (Signature): Muriel Allen Date: 4-17-04

11. QC Manager/Designee (Printed Name): _____ (Signature): _____ Date: _____

9. Char. No.	10. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria)	11. Status		12. General Remarks
		SAT	UNSAT	
3.	The pipe is faced. The wheel pressure shall be approximately ^{125 MPa 4-17-04} 85 psi. Facing is considered complete when approximately 5 ribbons have been cut from the pipe. After 5 full ribbons have been cut the wheel pressure should be dropped to 0 psi and the cutting wheel shall continue to rotate to cut the ribbons from the pipe face. NOTE: After the pipe has been faced there shall be no further alignment. If there is realignment the pipe shall be refaced.	✓		FACING PRESSURE : <u>125 psi</u> <i>Sat.</i>
4.	All shavings are removed from the facing and the pipe to assure that the shavings are not part of the joint. The operator shall use clean gloves when removing the shavings.	✓		PLATE TEMPERATURE: <u>450°</u> <i>Sat.</i>
5.	The pipe is checked for proper alignment prior to joining. The jaw can be adjusted to obtain proper alignment. NOTE: If there is realignment the pipe shall be refaced.	✓		HEAT SOAK PRESS: <u>0</u> <i>Sat.</i>
6.	The heater plate is between 400°F and 450°F. NOTE: The heater plate shall be cleaned with a clean oil free cloth.	✓		FUSION PRESSURE: <u>172 psi</u> <i>Sat.</i>
7.	The heater plate is inserted into the machine and the pipe ends are brought into firm contact with the plate. The pipe shall be under zero pressure when being heated.	✓		<i>Sat.</i>
8.	The melt bead is approximately 1/8 inch to 1/4 inch in height prior to removing the heat plate. NOTE: The heat time is dependent on pipe diameter and SDR#.	✓		<i>Sat.</i>
9.	The pipe is joined at the required fusion pressure and allowed to cool. 6 INCH SDR 11 FUSION PRESSURE: 172 psi ✓ 10 INCH SDR 11 FUSION PRESSURE: 404 psi	✓		<i>Sat.</i>
10.	The weld is allowed to cool prior to removing the clamps. NOTE: The required cooling time is achieved when the joint is cool to the touch.	✓		<i>Sat.</i>

9. Char. No.	10. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria)	11. Status		12. General Remarks
		SAT	UNSAT	
3.	<p>The pipe is faced. The wheel pressure shall be approximately 85 ¹²⁵ psi. Facing is considered complete when approximately 5 ribbons have been cut from the pipe. After 5 full ribbons have been cut the wheel pressure should be dropped to 0 psi and the cutting wheel shall continue to rotate to cut the ribbons from the pipe face.</p> <p>NOTE: After the pipe has been faced there shall be no further alignment. If there is realignment the pipe shall be refaced.</p>	✓		<p>FACING PRESSURE: <u>125 psi</u></p> <p>Sat.</p>
4.	<p>All shavings are removed from the facing and the pipe to assure that the shavings are not part of the joint. The operator shall use clean gloves when removing the shavings.</p>	✓		<p>Sat.</p> <p>PLATE TEMPERATURE:</p> <p><u>450°</u></p>
5.	<p>The pipe is checked for proper alignment prior to joining. The jaw can be adjusted to obtain proper alignment.</p> <p>NOTE: If there is realignment the pipe shall be refaced.</p>	✓		<p>Sat.</p>
6.	<p>The heater plate is between 400°F and 450°F.</p> <p>NOTE: The heater plate shall be cleaned with a clean oil free cloth.</p>	✓		<p>HEAT SOAK PRESS: <u>0</u></p> <p>Sat.</p>
7.	<p>The heater plate is inserted into the machine and the pipe ends are brought into firm contact with the plate. The pipe shall be under zero pressure when being heated.</p>	✓		<p>Contact.</p>
8.	<p>The melt bead is approximately 1/8 inch to 1/4 inch in height prior to removing the heat plate. NOTE: The heat time is dependent on pipe diameter and SDR#.</p>	✓		<p>FUSION PRESSURE:</p> <p><u>172 psi</u></p> <p>Sat.</p>
9.	<p>The pipe is joined at the required fusion pressure and allowed to cool.</p> <p>6 INCH SDR 11 FUSION PRESSURE: 172 psi</p> <p>10 INCH SDR 11 FUSION PRESSURE: 404 psi</p>	✓		<p>Correct.</p>
10.	<p>The weld is allowed to cool prior to removing the clamps.</p> <p>NOTE: The required cooling time is achieved when the joint is cool to the touch.</p>	✓		<p>Sat.</p>

9. Char. No.	10. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria)	11. Status		12. General Remarks
		SAT	UNSAT	
3.	The pipe is faced. The wheel pressure shall be approximately ^{125 MP} 85 psi. Facing is considered complete when approximately 5 ribbons have been cut from the pipe. After 5 full ribbons have been cut the wheel pressure should be dropped to 0 psi and the cutting wheel shall continue to rotate to cut the ribbons from the pipe face. NOTE: After the pipe has been faced there shall be no further alignment. If there is realignment the pipe shall be refaced.	✓		FACING PRESSURE : <u>125 psi</u> <i>Sat.</i>
4.	All shavings are removed from the facing and the pipe to assure that the shavings are not part of the joint. The operator shall use clean gloves when removing the shavings.	✓		PLATE TEMPERATURE: <u>450</u> <i>Sat.</i>
5.	The pipe is checked for proper alignment prior to joining. The jaw can be adjusted to obtain proper alignment. NOTE: If there is realignment the pipe shall be refaced.	✓		HEAT SOAK PRESS: <u>0</u> <i>Sat.</i>
6.	The heater plate is between 400°F and 450°F. NOTE: The heater plate shall be cleaned with a clean oil free cloth.	✓		<i>Sat.</i>
7.	The heater plate is inserted into the machine and the pipe ends are brought into firm contact with the plate. The pipe shall be under zero pressure when being heated.	✓		FUSION PRESSURE: <u>172 psi</u> <i>Sat.</i>
8.	The melt bead is approximately 1/8 inch to 1/4 inch in height prior to removing the heat plate. NOTE: The heat time is dependent on pipe diameter and SDR#.	✓		<i>Sat.</i>
9.	The pipe is joined at the required fusion pressure and allowed to cool. 6 INCH SDR 11 FUSION PRESSURE: 172 psi 10 INCH SDR 11 FUSION PRESSURE: 404 psi	✓		<i>Sat.</i>
10.	The weld is allowed to cool prior to removing the clamps. NOTE: The required cooling time is achieved when the joint is cool to the touch.	✓		<i>Sat.</i>



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

BUTT FUSION JOINING LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: G03211 TASK NO.: 63

DESCRIPTION: Phase V cell #7 construction / LIS YEAR: 2003

CONTRACTOR: Fluor

MATERIAL DESCRIPTION: FORCEMAIN: [] CONTAINMENT: [X] CARRIER: [] OTHER: []

PIPE DIAMETER: 6" within 10" SDR:

JOINT NO.	DATE (day/mo)	OPER. ID	MACH. ID	GAUGE PRESSURE ()		PLATE TEMPERATURE (F)	PIPE ALIGNMENT ACCEPT/REJECT	ROLL BACK DIMENSION	PASS/FAIL	QA ID
				WELDING	COOL DOWN					
1	12/8/03	JS	MMI 1245002	350 psi	45 min	450°	Accept	3/16	P	W
2	12/8/03	JS	MMI 1245002	350 psi	45 min	450°	Accept	3/16	P	W
3	12/8/03	JS	MMI 1245002	350 psi	45 min	450°	Accept	3/16	P	W
4	12/9/03	JS	MMI 1245002	350 psi	35 min	500°	Accept	3/16	P	W
5	12/9/03	JS	1245002	350 psi	30 min	500°	Accept	3/16	P	W
Trial	12/16/04	KB	9849100	454	30 min	450°	Accept	3/8	F	SS
Trial	1/20/04	KB	9849100	454 psi	30 min	450°	Accept	3/8	P	SS
1	1/20/04	KB	9849100	454 psi	45 min	450°	Accept	3/8	P	SS
2	1/20/04	KB	"	454	30 min	450°	Accept	3/8	P	SS
3	1/20/04	KB	"	454 psi	30 min	450°	Accept	3/8	P	SS
Trial	1/21/04	KB	9849100	460	30 min	450°	Accept	3/16	P	SS
4	1/21/04	KB	"	460 psi	20 min	450°	Accept	3/8	P	SS
5	1/21/04	KB	9849100	460 psi	30 min	450°	Accept	3/16	P	SS
Trial	1/23/04	KB	9849100	450	30 min	450°	Accept	3/16	P	SS
6	1/23/04	KB	9849100	450	30 min	450°	Accept	3/8	P	SS
7	1/23/04	KB	"	450	30 min	450°	Accept	3/8	P	SS

COPY TO:



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

BUTT FUSION JOINING LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: 603211 TASK NO.: 03

DESCRIPTION: Phase IV

YEAR: 2003

CONTRACTOR:

MATERIAL DESCRIPTION: FORCEMAIN: [] CONTAINMENT: [] CARRIER: [] OTHER: []
PIPE DIAMETER: SDR:

Table with columns: JOINT NO., DATE (day/mo), OPER. ID, MACH. ID, GAUGE PRESSURE (PSI) (WELDING, COOL DOWN), PLATE TEMPERATURE (F), PIPE ALIGNMENT ACCEPT/REJECT, ROLL BACK DIMENSION, PASS/FAIL, QA ID. Contains 12 rows of data for joints 1/2 through 5/55.

COPY TO:



GEO SYNTEC CONSULTANTS

FLUOR FERNALD, INC.

BUTT FUSION JOINING LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO: Q3309 TASK NO.: 03

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: Fluor Fernald

MACHINE # 98N9400-127

MATERIAL DESCRIPTION: FORCEMAIN: CONTAINMENT: CARRIER: OTHER:

PIPE DIAMETER: 10 in / 6 in LCS well pen. SDR: 11

JOINT NO.	DATE (day/mo)	OPER. ID	MACH. ID	GAUGE PRESSURE ()		PLATE TEMPERATURE (F)	PIPE ALIGNMENT ACCEPT/REJECT	ROLL BACK DIMENSION	PASS/FAIL	QA ID
				WELDING	COOL DOWN					
1	8 June	T.O.	127	576 ⁸⁵	.50 ⁰⁹⁰⁰	450°	410 to pen Good wall	3/16	PASS	D1E LCS
2	8 June	T.O.	127	576 ⁸⁵	.50 ⁰⁹¹⁰	450°	446 to pen Good	3/16	PASS	D1E LCS
3	8 June	T.O.	127	576 ¹¹⁰³	.50 ¹¹³⁰	450°	42 to pen Good	3/16	PASS	D1E RLS
4	8 June	T.O.	127	576 ¹³⁰⁵	.50 ¹³³⁵	450°	45 to pen Good	3/16	PASS	D1E LDS

COPY TO:



GEO SYNTEC CONSULTANTS

FLUOR FERNALD, INC.

BUTT FUSION JOINING LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO. 603309 TASK NO.: 03

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: Fluor Fernald

6111

MATERIAL DESCRIPTION: FORCEMAIN: CONTAINMENT: CARRIER: OTHER:

PIPE DIAMETER: 6 Type III no 2 SDR:

JOINT NO.	DATE (day/mo)	OPER. ID	MACH. ID	GAUGE PRESSURE ()		PLATE TEMPERATURE (F)	PIPE ALIGNMENT ACCEPT/REJECT	ROLL BACK DIMENSION	PASS/FAIL	QA ID
				WELDING	COOL DOWN					
1 test	13 July	TKO	127	176 ^{PSI}	11:50 .50	450°	Accept	3/8	P	DLF
2	13 July	TKO	127	176 ^{PSI}	11:50 .50	450°	Accept	3/8	P	DLF
3	13 July	TKO	127	177	12:07 .50	450°	Accept	3/8	P	DLF
4	13 July	TKO	127	176	12:35 .50	450°	Accept	3/8	P	DLF
5	13 July	TKO	127	177	15:40 .50	450°	Accept	3/8	P	DLF
6	13 July	TKO	127	176	16:00 .50	450°	Accept	3/8	P	DLF
7	13 July	TKO	127	177	16:30 .50	450°	Accept	3/8	P	DLF

COPY TO:



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

BUTT FUSION JOINING LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO. 6Q3309 TASK NO.: 03

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: Fluor Fernald

Type II No 4

MATERIAL DESCRIPTION: FORCEMAIN: CONTAINMENT: CARRIER: OTHER:

PIPE DIAMETER: 10 in / 6 in SDR:

JOINT NO.	DATE (day/mo)	OPER. ID	MACH. ID	GAUGE PRESSURE ()		PLATE TEMPERATURE (F)	PIPE ALIGNMENT ACCEPT/REJECT	ROLL BACK DIMENSION	PASS/FAIL	QA ID
				WELDING	COOL DOWN					
1	19 July	TKO	127	576	10:30 .50	460°	Accept	3/8	P	01E
2	19 July	TKO	127	576	11:00 .50	460°	Accept	3/8	P	01E
3	19 July	TKO	127	576	11:20 .50	460°	Accept	3/8	P	01E
4	19 July	TKO	127	570	13:55 .50	465	Accept	3/8	P	01E
6	19 July	TKO	127	570	15:50 .50	460°	Accept	3/8	P	01E
5	19 July	TKO	127	570	14:35 .50	460°	Accept	3/8	P	01E
7	19 July	TKO	127	570	16:15 .50	460°	Accept	3/8	P	01E

COPY TO:



GEO SYNTEC CONSULTANTS

FLUOR FERNALD, INC.

BUTT FUSION JOINING LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: 623509 TASK NO.: 03

DESCRIPTION: Phase IV

Est Date YEAR: 2004

CONTRACTOR: Fluor Fernald

4/20/04

MATERIAL DESCRIPTION: FORCEMAIN: CONTAINMENT: CARRIER: OTHER:

PIPE DIAMETER: SDR:

JOINT NO.	DATE (day/mo)	OPER. ID	MACH. ID	GAUGE PRESSURE ()		PLATE TEMPERATURE (F)	PIPE ALIGNMENT ACCEPT/REJECT	ROLL BACK DIMENSION	PASS/FAIL	QA ID
				WELDING	COOL DOWN					
1	05 Aug	TKO	127	575	.50	450°	Accept	3/8	P	DLF/SS
2	05 Aug	TKO	127	575	.50	450°	Accept	3/8	P	DLF/SS
1	06 Aug	TKO	127	176	.50	450°	Accept	1/4	P	DLF
2	06 Aug	TKO	127	176	.50	450°	Accept	1/4	P	DLF
3	06 Aug	TKO	127	176	.50	450°	Accept	1/4	P	DLF
				Facing Pressure		125 PSI	on TK line			

COPY TO:



GEO SYNTEC CONSULTANTS

FLUOR FERNALD, INC.

BUTT FUSION JOINING LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO. 60330.9 TASK NO.: 03

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: Fluor Fernald

VH8 6 in Flanges EALT.

MATERIAL DESCRIPTION: FORCEMAIN: CONTAINMENT: CARRIER: OTHER:

PIPE DIAMETER: Fusion Press 193 SDR: 112

45-15 post weld

JOINT NO.	DATE (day/mo)	OPER. ID	MACH. ID	Facing 150 lb's GAUGE PRESSURE ()		PLATE TEMPERATURE (F)	PIPE ALIGNMENT ACCEPT/REJECT	ROLL BACK DIMENSION	PASS/FAIL	QA ID
				WELDING	COOL DOWN					
①	15 Sept	TKO	127	450°	080° .50	450°	accept	3/8	PASS	DLE
②	15 Sept	TKO	127	450°	.50	450°	accept	3/8	PASS	DLE
③	15 Sept	TKO	127	450°	145° .50	450°	accept	3/8	PASS	DLE

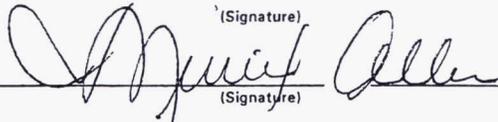
COPY TO:

Pneumatic Testing Results

10-3-07
6-5-04

QUALITY EVALUATION PLAN

QEP No. _____ Rev. 0

1. Item/Title/Description: VERIFICATION OF PRELIMINARY PNEUMATIC TESTS				
2. Project/Task: DSDP/OSDF CONST PROJECT # 20105		3. Specification/Drawing/PO/Req.: TECH SPEC 20105-TS-0001, REV 0 SECTION 2605, Part 3.05		
4. Division Title and Number/Department Title 490000 DSDP/ CONSTRUCTION-S&DFP		5. Approved For Use (When Required): Signature: _____ Date: _____ <p style="text-align: center;">N/A</p>		
6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria) VERIFY THAT:	8. Status		9. General Remarks
		SAT	UNSAT	
1.	A pressure relief valve is installed prior to pneumatic testing of pipe sections. The valve shall be set to release at 15 psi. (sec E2a)	✓		CELL#: <u>7</u> IDENTIFICATION OF THE PIPE BEING TESTED: <u>LDS</u> TEST GAUGE ID#: <u>00-0A437-PI</u> CALIBRATION DATE: <u>4-20-04/4-20-05</u> RELIEF VALVE # <u>SO # 1110331-01-01</u> Test Summary shown on pg 2 ¹⁰ Containment <u>1610 - 10 PSI.</u> <u>1615 - 10 PSI.</u> <u>1620 - 10 PSI.</u> <u>1625 - 10 PSI.</u>
2.	The test gauge has been calibrated within (1) year of date of testing; calibration shall be traceable to National or Industry standards. (sec C)	✓		
3.	The pressure is increased to one-half of the full pneumatic test pressure (5 psi). This pressure should be held for approximately 15 minutes to allow the pipe strains to become somewhat equalized and to detect any possible major leaks by means of soap bubbles or monitoring of test gauge. (sec E2b)	✓		
4.	The pressure is gradually increased to the full pneumatic test pressure (10 psi) and held for 15 minutes. (sec E2c)	✓		
5.	The test passes if gauge pressure does not drop below the full pneumatic test pressure and no leaks are detected. (E2d)	✓		
10. Inspector (Printed Name) Meriel Allen		(Signature) 		Date: 6-5-04
11. QC Manager/Designee (Printed Name)		(Signature)		Date:

COPY

QUALITY EVALUATION PLAN
(Continuation Sheet)

QEP No. _____ Rev. 0

6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria)	8. Status		9. General Remarks
		SAT	UNSAT	
				<p>6" Carrier</p> <p>1630 - 10 psi</p> <p>1635 - 10 psi</p> <p>1640 - 10 psi.</p> <p>1645 - 10 psi.</p> <p>only tested @ 10 psi.</p> <p>both lines carrier / containment</p>

1. Item/Title/Description:
VERIFICATION OF PRELIMINARY PNEUMATIC TESTS

2. Project/Task:
 DSDP/OSDF CONST PROJECT # 20105

3. Specification/Drawing/PO/Req.:
 TECH SPEC 20105-TS-0001, REV 0 SECTION 2605, Part 3.05

4. Division Title and Number/Department Title
 490000 DSDP/ CONSTRUCTION-S&DFP

5. Approved For Use (When Required):
 Signature: _____ Date: _____
 N/A

6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria) VERIFY THAT:	8. Status		9. General Remarks
		SAT	UNSAT	
1.	A pressure relief valve is installed prior to pneumatic testing of pipe sections. The valve shall be set to release at 15 psi. (sec E2a)	✓		CELL#: <u>7</u> IDENTIFICATION OF THE PIPE BEING TESTED: <u>6/10 RLCS + 6/10 LCS.</u> TEST GAUGE ID#: <u>00-0A437-PI</u> <u>0-30 psi</u> CALIBRATION DATE: <u>4-20-04/4-20-05</u> RELIEF VALVE # <u>1110331-01-1</u> 15PS <u>S/N 11002389 - 20psi</u> Test Summary shown on pg 2 <i>The test were satisfactory</i>
2.	The test gauge has been calibrated within (1) year of date of testing; calibration shall be traceable to National or Industry standards. (sec C)	✓		
3.	The pressure is increased to one-half of the full pneumatic test pressure (5 psi). This pressure should be held for approximately 15 minutes to allow the pipe strains to become somewhat equalized and to detect any possible major leaks by means of soap bubbles or monitoring of test gauge. (sec E2b)	✓		
4.	The pressure is gradually increased to the full pneumatic test pressure (10 psi) and held for 15 minutes. (sec E2c)	✓		
5.	The test passes if gauge pressure does not drop below the full pneumatic test pressure and no leaks are detected. (E2d)	✓		

10. Inspector (Printed Name) Meriel Allen (Signature) _____ Date: 6-7-04

11. QC Manager/Designee (Printed Name) _____ (Signature) _____ Date: _____

COPY

QUALITY EVALUATION PLAN
(Continuation Sheet)

QEP No. _____

Rev. _____

0

6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria)	8. Status		9. General Remarks
		SAT	UNSAT	
				*RLCS - 10" - containment <u>Passing</u> 0828 - 10psi 0842 - 10psi 6" - carrier 0946 - 5psi 1001 - 5psi <u>Passed</u> 1003 - 10psi 1018 - 10psi <hr/> LCS - 10" - containment 0910 - 5psi 0925 - 5psi 0925 - 10psi 0940 - 10psi 6" - carrier 1026 - 05psi 1040 MA - 05psi 1041 - 10psi 1056 - 10psi

1. Item/Title/Description:
**VERIFICATION OF HDPE PIPE AND FITTINGS HYDROSTATIC TESTING 10 INCH CONTAINMENT PIPE (ALTERNATE METHOD)
 15 PSI TEST**

2. Project/Task:
 DSDP/OSDF CONST PROJECT # 20105

3. Specification/Drawing/PO/Req.:
 TECH SPEC 20105-TS-0001, Rev 0, SEC 2605, part 3.05C, D

4. Division Title and Number/Department Title
 490000 DSDP/ CONSTRUCTION-S&DFP

5. Approved For Use (When Required):
 Signature: _____ Date: _____
 N/A

6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria) <i>VERIFY THAT:</i>	8. Status		9. General Remarks
		SAT	UNSAT	
1.	The test gauge has been calibrated within (1) year of date of testing. Calibration shall be traceable to national or industry standards.	✓		CELL#: <u>7</u> <input checked="" type="checkbox"/> 10 INCH LDS <input type="checkbox"/> 10 INCH LCS <input type="checkbox"/> 10 INCH LCS REDUNDANT LOCATION: FROM <u>LDS Penetration Box</u> TO <u>Valve House</u> TEST GAUGE ID#: <u>00-A0437PI</u> CALIBRATION DATE: <u>4-20-04/4-20-05</u> Test Summary Attached
2.	The carrier pipe is tested first, then kept water-filled and held at atmospheric pressure during the testing of the containment pipe.	✓		
3.	The expansion phase pressure shall be 25 psi and shall be maintained for a period of 4 hours. If necessary, water is added 4 times at 1-hr intervals to maintain 25 psi (stabilization is achieved if there is no further change in pressure during 4th hour). Test is begun with or without stabilization, or pipe is inspected for leaks and repaired.	✓		
4.	Following the expansion phase, the pressure is reduced by 10 psi to the actual test pressure of 15 psi .	✓		
5.	The test passes when pressure remains steady (+/-5 % of test pressure) for a period of one hour with no visible leakage: the test is failed if pressure drop >5%; leak inspection is performed and/or action is taken to minimize ambient temperature changes.	✓		

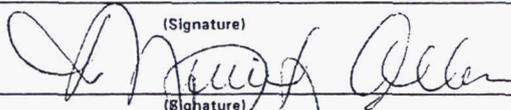
10. Inspector (Printed Name) *Muriel Allen* (Signature) *Muriel Allen*

Date: 6-9-04

11. QC Manager/Designee (Printed Name) _____ (Signature) _____

Date: _____

COPY

1. Item/Title/Description: VERIFICATION OF HDPE PIPE AND FITTINGS HYDROSTATIC TESTING 6 INCH CARRIER PIPE (ALTERNATE METHOD) 60 PSI TEST				
2. Project/Task: DSDP/OSDF CONST PROJECT # 20105		3. Specification/Drawing/PO/Req.: TECH SPEC 20105-TS-0001, REV 0, SEC 2605, part 3.05C, D		
4. Division Title and Number/Department Title 490000 DSDP/ CONSTRUCTION-S&DFP		5. Approved For Use (When Required): Signature: _____ Date: _____ <p style="text-align: center;">N/A</p>		
6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria) <i>VERIFY THAT:</i>	8. Status		9. General Remarks
		SAT	UNSAT	
1.	The test gauge has been calibrated within (1) year of date of testing. Calibration shall be traceable to national or industry standards.	✓		CELL#: <u>7</u> <input checked="" type="checkbox"/> 6 INCH LDS <input type="checkbox"/> 6 INCH LCS <input type="checkbox"/> 6 INCH LCS REDUNDANT LOCATION: FROM <u>LDS Penetration Box</u> TO <u>Valve House</u> TEST GAUGE ID#: <u>00-0A438-PI</u> CALIBRATION DATE: <u>4-20-04/4-20-05</u> TEST SUMMARY CONT'D ON PG 2
2.	The containment pipe is kept at atmospheric pressure during the testing of the carrier pipe.	✓		
3.	The expansion phase pressure shall be 70 psi and shall be maintained for a period of 4 hours. If necessary, water is added 4 times at 1-hr intervals to maintain 70 psi (stabilization is achieved if there is no further change in pressure during 4th hour). Test is begun with or without stabilization, or pipe is inspected for leaks and repaired.	✓		
4.	Following the expansion phase, the pressure is reduced by 10 psi to the actual test pressure of 60 psi.	✓		
5.	The test passes when pressure remains steady (+/-5 % of test pressure) for a period of one hour with no visible leakage: the test is failed if pressure drop >5%; leak inspection is performed and/or action is taken to minimize ambient temperature changes.	✓		
10. Inspector (Printed Name) Mariel Allen		(Signature) 		Date: 6-9-04
11. QC Manager/Designee (Printed Name)		(Signature) 		Date: 6-9-04

COPY

QUALITY EVALUATION PLAN
(Continuation Sheet)

QEP No. _____ Rev. 0

6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria)	8. Status		9. General Remarks
		SAT	UNSAT	
				<p>Carrier was filled 6-8-04 and held overnight (65 psi). Gas^{Pressure} was read @ 0730 A.M. 6-9-04, 60 psi.</p> <p>Started the Hydro test @ 7:30 A.M @ 60 psi at 8:30 A.M the pressure was still @ 60 psi. Geosyntec was there also.</p> <p>0730 - 60 psi 0800 - 60 0830 - 60 ↓ pass</p>

QUALITY EVALUATION PLAN

QEP No. 200407

Rev. 0

1. Item/Title/Description:
VERIFICATION OF HDPE PIPE AND FITTINGS HYDROSTATIC TESTING 10 INCH CONTAINMENT PIPE (ALTERNATE METHOD) 15 PSI TEST

2. Project/Task:
 DSDP/OSDF CONST PROJECT # 20105

3. Specification/Drawing/PO/Req.:
 TECH SPEC 20105-TS-0001, Rev 0, SEC 2605, part 3.05C, D

4. Division Title and Number/Department Title
 490000.DSDP/ CONSTRUCTION-S&DFP

5. Approved For Use (When Required):
 Signature: _____ Date: _____
 N/A

6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria) <i>VERIFY THAT:</i>	8. Status		9. General Remarks
		SAT	UNSAT	
1.	The test gauge has been calibrated within (1) year of date of testing. Calibration shall be traceable to national or industry standards.	✓		CELL#: <u>7</u> <input checked="" type="checkbox"/> 10 INCH LDS <input type="checkbox"/> 10 INCH LCS <input type="checkbox"/> 10 INCH LCS REDUNDANT LOCATION: FROM <u>LDS Penetration Box</u> TO <u>Valve House</u> TEST GAUGE ID#: <u>00-A0437PI</u> CALIBRATION DATE: <u>4-20-04/4-20-05</u> Test Summary Attached
2.	The carrier pipe is tested first, then kept water-filled and held at atmospheric pressure during the testing of the containment pipe.	✓		
3.	The expansion phase pressure shall be 25 psi and shall be maintained for a period of 4 hours. If necessary, water is added 4 times at 1-hr intervals to maintain 25 psi (stabilization is achieved if there is no further change in pressure during 4th hour). Test is begun with or without stabilization, or pipe is inspected for leaks and repaired.	✓		
4.	Following the expansion phase, the pressure is reduced by 10 psi to the actual test pressure of 15 psi.	✓		
5.	The test passes when pressure remains steady (+/-5 % of test pressure) for a period of one hour with no visible leakage; the test is failed if pressure drop > 5%; leak inspection is performed and/or action is taken to minimize ambient temperature changes.	✓		

10. Inspector (Printed Name) Muriel Allen (Signature) Muriel Allen Date: 6-9-04

11. QC Manager/Designee (Printed Name) RICHARD SCHETA (Signature) R. Scheta Date: 6-9-04

QUALITY EVALUATION PLAN

(Continuation Sheet)

2023107

QEP No.

Rev.

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9. Char. No.	10. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria)	11. Status		12. General Remarks
		SAT	UNSAT	
				<p>Containment was filled 6-8-04 and held overnight filled (15 psi). Gage was read @ 0730 A.M. 16 psi. Started the hydro @ 0730 A.M. @ 16 psi at 0830 A.M. the pressure was still @ 16 psi. Geosytec was there. 0730 - 16 psi 0800 - 16 0830 - 16 ✓ pass</p>

QUALITY EVALUATION PLAN

QEP No. 2023557 Rev. 0

1. Item/Title/Description: VERIFICATION OF HDPE PIPE AND FITTINGS HYDROSTATIC TESTING 10 INCH CONTAINMENT PIPE (ALTERNATE METHOD) 15 PSI TEST				
2. Project/Task: DSDP/OSDF CONST PROJECT # 20105		3. Specification/Drawing/PO/Req.: TECH SPEC 20105-TS-0001, Rev 0, SEC 2605, part 3.05C, D		
4. Division Title and Number/Department Title 490000 DSDP/ CONSTRUCTION-S&DFP		5. Approved For Use (When Required): Signature: _____ Date: _____ <p style="text-align: center;">N/A</p>		
6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria) <i>VERIFY THAT:</i>	8. Status		9. General Remarks
		SAT	UNSAT	
1.	The test gauge has been calibrated within (1) year of date of testing. Calibration shall be traceable to national or industry standards.	✓		CELL#: <u>7</u> <input type="checkbox"/> 10 INCH LDS <input checked="" type="checkbox"/> 10 INCH LCS <input checked="" type="checkbox"/> 10 INCH LCS REDUNDANT LOCATION: FROM <u>Valve House 7</u> TO <u>RCS Penetration Box in Cell 7</u> TEST GAUGE ID#: <u>00-0A438-PI 0-300</u> CALIBRATION DATE: <u>4-20-04/4-20-05</u> @ Permission was given to test containment without testing carrier first Test Summary Attached This line was filled 6-21-04 left over night @ 24 psi
2.	The carrier pipe is tested first, then kept water-filled and held at atmospheric pressure during the testing of the containment pipe.	N/A		
3.	The expansion phase pressure shall be 25 psi and shall be maintained for a period of 4 hours. If necessary, water is added 4 times at 1-hr intervals to maintain 25 psi (stabilization is achieved if there is no further change in pressure during 4th hour). Test is begun with or without stabilization, or pipe is inspected for leaks and repaired.	✓		
4.	Following the expansion phase, the pressure is reduced by 10 psi to the actual test pressure of 15 psi.	✓		
5.	The test passes when pressure remains steady (+/-5 % of test pressure) for a period of one hour with no visible leakage: the test is failed if pressure drop >5%; leak inspection is performed and/or action is taken to minimize ambient temperature changes.	✓		
10. Inspector (Printed Name) Muriel Allen		(Signature) 		Date: 6-22-04
11. QC Manager/Designee (Printed Name) RICHARD SCHEPER		(Signature) 		Date: 6-23-04

QUALITY EVALUATION PLAN

(Continuation Sheet)

2023557

QEP No. _____

Rev. _____

0

6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria)	8. Status		9. General Remarks
		SAT	UNSAT	
				<p>This line settled out at 24 psi, it was checked @ 6:46 A.M. 6-22-04 and watched for 1 hr. @ 24 psi. AT 7:46 A.M. the line was declared stabilized. AT 7:51 A.M. the pressure was dropped to 16 ¹⁶ psi and held for 1 hr. AT 8:51 A.M. @ 16 psi this line was declared passing.</p> <p>6:46 - 24 psi 7:46 - 24 psi stabilized <i>press. reduction</i> 7:51 - 16 psi - test 8:51 - 16 psi - passed</p>

2023557

Allen, Muriel

From: Jim Fleck [jfleck@geosyntec.com]
 Sent: Friday, June 18, 2004 4:49 PM
 To: Spanky; Rob Kneip; Mike Hoge; Reinhard Friske; Chuck VanArsdale
 Subject: FW: Hydrostatic Testing in Cell 7

In reference to the E-mail below, I informed Spanky this morning that it would be acceptable to hydrostatically test the containment pipe without filling the carrier pipe with water.

Jim Fleck

-----Original Message-----

From: James Fleck
 Sent: Thu 6/10/2004 5:56 PM
 To: Rob.Kneip@fernald.gov; Mike.Hoge@fernald.gov; Reinhard.Friske@fernald.gov
 Cc: Chuck.VanArsdale@fernald.gov
 Subject: Hydrostatic Testing in Cell 7

I understand that there was discussion about hydrostatically testing the 10-inch-diameter containment pipe without filling the 6-inch-diameter carrier pipe.

Driscopipe literature indicates that SDR-11 HDPE pipe can withstand the following external pressures at the following respective time periods;

- 87 psi - 1 day
- 64 psi - 1 month
- 48 psi - 1 year
- 42 psi - 50 years

Therefore, the 6-inch-diameter pipe should not be in danger of collapse given our relatively low test pressure and the short amount of time under that pressure.

Please let me know if this answers the concerns regarding this situation.

Jim

James A. Fleck, PE
 GeoSyntec Consultants
 7400 Willey Road, MS 38
 Hamilton, OH 45013
 Phone: (513) 648-3418 (Main)
 Phone: (513) 648-3417 (Direct)
 Fax: (513) 648-3415
 Mobile: (513) 266-6949

E-mail: jfleck@geosyntec.com

RECORD 1
PAGE 3 OF 4

2023557

CALIBRATION/PM RECORD

TRANSFER STANDARDS CALIBRATION- RECORD

INSTRUMENT PM CHECK- RECORD

CALIBRATED EQUIPMENT- CALIBRATION RECORD

Equipment # 00-0A438-PI	Manufacturer ASHCROFT	Model # DURAGAUGE	Serial No.: N/A	
Location M&T.E. SHOP		Portable <input checked="" type="checkbox"/> Stationary <input type="checkbox"/>	W/O # PM 104089	
Instrument Range 300 PSI	Tolerance 1 DIVISION	Procedure # IPG001		
Calibration Equipment I.D. 00-A488-TST	Calibration Equipment Description AMETEK DEADWEIGHT TESTER		Cal Due Date 3-22-06	
Calibration Equipment N/A	Calibration Equipment Description N/A		Cal Due Date N/A	
Ambient Conditions 74°F 41% RH		Correction Used (if any) N/A		
INPUT	LOW LIMIT	HIGH LIMIT	AS FOUND	AS LEFT
0 PSI	0 PSI	0 PSI	0 PSI	0 PSI
50 PSI	48 PSI	52 PSI	50 PSI	50 PSI
150 PSI	148 PSI	152 PSI	150 PSI	150 PSI
250 PSI	248 PSI	252 PSI	250 PSI	250 PSI
290 PSI	289 PSI	292 PSI	290 PSI	290 PSI
GENERAL COMMENTS: NEXT P.M. IS DUE: 4-20-05				
Work performed by <i>For Lisher</i>			Date 4-20-04	

RECORD OF
PAGE 1 OF 1

QUALITY EVALUATION PLAN

QEP No. 2023558 Rev. 0

1. Item/Title/Description: VERIFICATION OF HDPE PIPE AND FITTINGS HYDROSTATIC TESTING 10 INCH CONTAINMENT PIPE (ALTERNATE METHOD) 15 PSI TEST			
2. Project/Task: DSDP/OSDF CONST PROJECT # 20105		3. Specification/Drawing/PO/Req.: TECH SPEC 20105-TS-0001, Rev 0, SEC 2605, part 3.05C, D	
4. Division Title and Number/Department Title 490000 DSDP/ CONSTRUCTION-S&DFP		5. Approved For Use (When Required): Signature: _____ Date: _____ <p style="text-align: center;">N/A</p>	
6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria) <i>VERIFY THAT:</i>	8. Status	9. General Remarks
		SAT UNSAT	
1.	The test gauge has been calibrated within (1) year of date of testing. Calibration shall be traceable to national or industry standards.	✓	CELL#: <u>7</u> <input type="checkbox"/> 10 INCH LDS <input checked="" type="checkbox"/> 10 INCH LCS <input type="checkbox"/> 10 INCH LCS REDUNDANT LOCATION: FROM <u>Valve House 7</u> TO <u>LCS Penetration Box in Cell 7</u> TEST GAUGE ID#: <u>00-0A437-PI 0-30</u> CALIBRATION DATE: <u>4-20-04 / 4-20-05</u> Permission was given for the containment to be test without testing the carrier. Test Summary Attached
2.	The carrier pipe is tested first, then kept water-filled and held at atmospheric pressure during the testing of the containment pipe.	N/A	
3.	The expansion phase pressure shall be 25 psi and shall be maintained for a period of 4 hours. If necessary, water is added 4 times at 1-hr intervals to maintain 25 psi (stabilization is achieved if there is no further change in pressure during 4th hour). Test is begun with or without stabilization, or pipe is inspected for leaks and repaired.	✓	
4.	Following the expansion phase, the pressure is reduced by 10 psi to the actual test pressure of 15 psi.	✓	
5.	The test passes when pressure remains steady (+/-5 % of test pressure) for a period of one hour with no visible leakage: the test is failed if pressure drop >5%; leak inspection is performed and/or action is taken to minimize ambient temperature changes.	✓	
10. Inspector (Printed Name) Muriel Allen		(Signature) 	
11. QC Manager/Designee (Printed Name) RICHARD SCHEPER		(Signature) 	
		Date: <u>6-22-04</u>	
		Date: <u>6-23-04</u>	

QUALITY EVALUATION PLAN

(Continuation Sheet)

QEP No. 2023558 Rev. 0

6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria)	8. Status		9. General Remarks
		SAT	UNSAT	
				<p>LCS line was filled 6-21-04 and left over night to stabilize @ 23 psi. This line was checked @ 6:46 A.M. 6-22-04. The LCS line stabilized @ 22.5 psi.</p> <p>This line was watched for 1 hr. to verify no dropping of the pressure.</p> <p>6:46 - 22.5 7:46 - 22.5 stabilized</p> <p style="padding-left: 40px;"><i>reduced to:</i></p> <p>0751 - 16 psi Test 0851 - 16 psi passed.</p>

2 0 2 3 5 5 8

Allen, Muriel

From: Jim Fleck [jfleck@geosyntec.com]
 Sent: Friday, June 18, 2004 4:49 PM
 To: Spanky; Rob Kneip; Mike Hoge; Reinhard Friske; Chuck VanArsdale
 Subject: FW: Hydrostatic Testing in Cell 7

In reference to the E-mail below, I informed Spanky this morning that it would be acceptable to hydrostatically test the containment pipe without filling the carrier pipe with water.

Jim Fleck

-----Original Message-----

From: James Fleck
 Sent: Thu 6/10/2004 5:56 PM
 To: Rob.Kneip@ferald.gov; Mike.Hoge@ferald.gov; Reinhard.Friske@ferald.gov
 Cc: Chuck.VanArsdale@ferald.gov
 Subject: Hydrostatic Testing in Cell 7

I understand that there was discussion about hydrostatically testing the 10-inch-diameter containment pipe without filling the 6-inch-diameter carrier pipe.

Driscopipe literature indicates that SDR-11 HDPE pipe can withstand the following external pressures at the following respective time periods;

- 87 psi - 1 day
- 64 psi - 1 month
- 48 psi - 1 year
- 42 psi - 50 years

Therefore, the 6-inch-diameter pipe should not be in danger of collapse given our relatively low test pressure and the short amount of time under that pressure.

Please let me know if this answers the concerns regarding this situation.

Jim

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RECORD 4
 PAGE 3 OF 4

2023558

CALIBRATION/PM RECORD

TRANSFER STANDARDS CALIBRATION- RECORD

INSTRUMENT PM CHECK- RECORD

CALIBRATED EQUIPMENT- CALIBRATION RECORD

Equipment # 00-0A437-PI	Manufacturer ASHCROFT	Model # DURAGAUGE	Serial No.: N/A
Location M&T.E. SHOP		Portable <input checked="" type="checkbox"/> Stationary <input type="checkbox"/>	W/O # PM 104088

Instrument Range 0-30 PSI	Tolerance 1 DIVISION	Procedure # IPG001
------------------------------	-------------------------	-----------------------

Calibration Equipment I.D. 00-A488-TST	Calibration Equipment Description AMETEK DEADWEIGHT TESTER	Cal Due Date 3-22-05
---	---	-------------------------

Calibration Equipment N/A	Calibration Equipment Description N/A	Cal Due Date N/A
------------------------------	--	---------------------

Ambiant Conditions		Correction Used (if any)		
74° F		N/A		
41% R.H.				
INPUT	LOW LIMIT	HIGH LIMIT	AS FOUND	AS LEFT
0 PSI	0 PSI	0 PSI	0 PSI	0 PSI
5 PSI	4.80 PSI	5.20 PSI	5.0 PSI	5.0 PSI
15 PSI	14.80 PSI	15.20 PSI	15.0 PSI	15.0 PSI
20 PSI	19.80 PSI	20.20 PSI	20.0 PSI	20.0 PSI
25 PSI	24.80 PSI	25.20 PSI	25.0 PSI	25.0 PSI
		N		
		A		

GENERAL COMMENTS:
 NEXT
 P.M.
 IS
 DUE : 4-20-05

Work performed by <i>Ron Fisher</i>	Date 4-20-04
--	-----------------

Copy #	Distribution
1	Return with Work Package



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: ⁶²³²¹¹ ~~001029~~

TASK NO.: ^{3.0} ~~4.2~~

DESCRIPTION: Phase VI

YEAR: 2003

CONTRACTOR: Fluor Fernald

TEST DESCRIPTION: HYDROSTATIC: PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION: 0 Pressure drop over 15 min

MATERIAL DESCRIPTION: FORCEMAIN: CONTAINMENT: CARRIER OTHER:

TARGET PRESSURE: 10 PSI TEST DURATION: 15 min. GAUGE NO.: ^{RS 15} 00A437P GAUGE LOCATION: 90-V1008 VLV

TEST LOCATION: 90-V1008 VLV TO V46

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
—	—	16 Dec 03	1315	0	—	CAW
—	—	16 Dec 03	1322	5 PSI	+5	CAW
1	15 min.	16 Dec 03	1337	5 PSI	0	CAW
2	16 min.	16 Dec 03	1338	10 PSI	+5	CAW
3	21 min.	16 Dec 03	1353	10 PSI	0	CAW

PASS: FAIL:

VISUAL MONITORING:

CONTRACTOR'S REPRESENTATIVE day/mo/yr

Christopher H. Walker 16 Dec 03
CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE day/mo/yr

Colleen P. Sullivan 17 Dec 2003
SITE CQA MANAGER day/mo/yr

COPY TO:



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: ³²¹¹ G01029 TASK NO.: ^{3.0} 4.2

DESCRIPTION: Phase I

YEAR: 2003

CONTRACTOR: Fluor Fernald

TEST DESCRIPTION: HYDROSTATIC: PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION: Section 2605 Technical Specs

MATERIAL DESCRIPTION: FORCEMAIN: CONTAINMENT: CARRIER OTHER:

TARGET PRESSURE: 60 TEST DURATION: min 4hr. GAUGE NO.: ^{RE17} 00A438P GAUGE LOCATION: ^{LS} In line

TEST LOCATION: Lift Station TO V#6 ILTS

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	0	15 Dec 03	1400	60	—	CFA
2	15 min	15 Dec 03	1415	58	-2	
3	30 min	15 Dec 03	1430	54	-4	
4	45 min	15 Dec 03	1445	54	0	
Repressurized	50 min	15 Dec 03	1450	60	+6	
5	60 min	15 Dec 03	1500	60	0	
6	75 min	15 Dec 03	1515	58	-2	
7	17 hr. 15 min	16 Dec 03	0830	53	-5	
Repressurized	17 hr. 25 min	16 Dec 03	0840	60	+7	
8	18 hr. 25 min	16 Dec 03	0940	60	0	CFA
9	19 hr. 25 min	16 Dec 03	1040	60	0	

PASS: FAIL:

VISUAL MONITORING:

CONTRACTOR'S REPRESENTATIVE day/mo/yr

Christopher H. Walker 16 Dec 03
CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE day/mo/yr

Collin F. Sullivan 17 Dec 2003
SITE CQA MANAGER day/mo/yr

COPY TO:



GEO SYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: G03309 TASK NO.: 03

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: FLUOR FERNALD

30 PSI Cap of Valve # 11002389

TEST DESCRIPTION: HYDROSTATIC:

PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION:

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER:

OTHER:

TARGET PRESSURE: 30 PSI

TEST DURATION: 30 min

GAUGE NO.: 00-09437-PI

GAUGE LOCATION:

TEST LOCATION: Valve House 7 RICS LCS ME End of 10in @ Valve House 9

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST:

YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	15 min	7 June 04	0910	5 PSI	NONE	DLE
2	15 min	" " "	0925	10 PSI	NONE	DLE
3	15 min	" " "	0940	10 PSI	NONE	DLE
4						
1	15 min	7 June 04	1026	5 PSI	NONE	DLE
2	15 min	7 June 04	1041	10 PSI	NONE	DLE
3	15 min	7 June 04	1056	10 PSI	NONE	DLE

Muriel Allen 6-7-04

PASS: FAIL:

VISUAL MONITORING:

Walt Mingo 7/5 June/04 CONTRACTOR'S REPRESENTATIVE

Paul Lane 7/5 June/04 CQA REPRESENTATIVE

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE

Colin Johnson 7 June 2004 SITE CQA MANAGER

COPY TO:



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: ~~603309~~ 603309 ^{AL} TASK NO.: ~~03~~ 03

DESCRIPTION: Phase IV

YEAR: ~~2000~~ 2004

CONTRACTOR: Fluor Fernald

1st 10min test Note No Pop of Valve Test Passed

TEST DESCRIPTION: HYDROSTATIC:

PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION:

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER:

OTHER:

TARGET PRESSURE: 10 PSI TEST DURATION: 15 min

GAUGE NO.: 00-09439-PI

GAUGE LOCATION:

TEST LOCATION: Valve House 7 End of main

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST:

YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	15	7 June 04	0828	10 PSI	NONE	DJE
2	15	7 June 04	0842	10 PSI	NONE	DJE
3	15					
1	15	7 June 04	0946	5 PSI	NONE	DJE
2	15	7 June 04	1001	10 PSI	NONE	DJE
3	15	7 June 04	1016	10 PSI	NONE	DJE

[Signature]

6-7-04

PASS:

FAIL:

VISUAL MONITORING: *Walt Mingo*
CONTRACTOR'S REPRESENTATIVE

7 June 04
day/mo/yr

[Signature]
CQA REPRESENTATIVE

7 June 04
day/mo/yr

FINAL APPROVAL: _____
CONTRACTOR'S REPRESENTATIVE

day/mo/yr

Colin Howard
SITE CQA MANAGER

7 June 2004
day/mo/yr

COPY TO:



GEO SYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: G03309 TASK NO.: 03

DESCRIPTION: Phase II

YEAR: 2004

CONTRACTOR: Fluor Fernald

TEST DESCRIPTION: HYDROSTATIC:

PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION:

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER:

OTHER:

TARGET PRESSURE:

TEST DURATION:

00-09437-PI GAUGE NO.:

END DATE 4/20/04 GAUGE LOCATION: KH 2

TEST LOCATION: LDS End TO Penetration Box KH-7

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST:

YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
①	—	5 June	1610	10 PSI	None	
②		↓	1615	↓	↓	
③		↓	1620	↓	↓	
④	Total of 15 min	5 June	1625	10 PSI	None	
<p>Note, completed 4/6/04. Pipe was already pressurized, Ms. Allen completed the test as is and the 2nd test as the first.</p>						
1	—	5 June	1630	10 PSI	None	
2		↑	1635	10 PSI	↓	
3		↓	1640	10 PSI	↓	
4	Total of 15 min	5 June	1645	10 PSI	None	
<p><i>M. Allen</i> 6-7-04</p>						

PASS:

FAIL:

VISUAL MONITORING:

CONTRACTOR'S REPRESENTATIVE day/mo/yr

CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE day/mo/yr

SITE CQA MANAGER day/mo/yr

COPY TO:



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ3309 TASK NO.: 3

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: Fluor Fernald

TEST DESCRIPTION: HYDROSTATIC:

PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION:

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER

OTHER:

TARGET PRESSURE:

TEST DURATION:

GAUGE NO.:

GAUGE LOCATION:

TEST LOCATION: RLES, LPS - V H-8 TO Permittion Box

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST:

YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	FILL	05 Aug	1025	5 PSI	—	OTE
2	Stab	05 Aug	1040	10 PSI	—	OTE
3	Test	05 Aug	1055	10 PSI	None	OTE
1	FILL	05 Aug	1025	5 PSI	—	OTE
2	Stab	05 Aug	1040	10 PSI	—	OTE
3	Test	05 Aug	1055	10 PSI	None	OTE

PASS: FAIL:

VISUAL MONITORING:

Walter Mings 8/5/04
CONTRACTOR'S REPRESENTATIVE day/mo/yr

Paul E... 8/5/04
CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE day/mo/yr

Collin L. Sutton 5 August 2004
SITE CQA MANAGER day/mo/yr

COPY TO:



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: G03309 TASK NO: 03

DESCRIPTION: Phase II

YEAR: 2004

CONTRACTOR: Fluor Fernald

RLCS and LCS

TEST DESCRIPTION: HYDROSTATIC:

PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION: cal 4/20/04

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER

OTHER:

TARGET PRESSURE:

TEST DURATION:

GAUGE NO.: 00-1438

GAUGE LOCATION: V#8

TEST LOCATION: Valve House 8

TO Penetration Boxes RLCS/LCS

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	stab	26 Aug	0755	5 PSI	FILL	DLE
2	stab	26 Aug	0810	5 PSI	None	DLE
3	FILL	26 Aug	0816	10 PSI	Pressure up	DLE
4	Test	26 Aug	0826	10 PSI	None	DLE

LCS read

PASS:
FAIL:

VISUAL MONITORING:

CONTRACTOR'S REPRESENTATIVE: [Signature] 26 Aug/04

CQA REPRESENTATIVE: [Signature] 26 Aug/04

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE: [Signature] day/mo/yr

SITE CQA MANAGER: [Signature] 26 Aug, 2004 day/mo/yr

COPY TO:

Hydrostatic Pressure Testing Results

QUALITY EVALUATION PLAN

QEP No. _____

Rev. 0

1. Item/Title/Description:
 VACUUM TEST LES/RLCS/LDS PENETRATION BOXES - CELL # 7

2. Project/Task:
 OSDF - PROJECT #20105

3. Specification/Drawing/PO/Req.:
 Technical Specifications OSDF 20105-TS-0001, rev 0; Sec 13005 Liner Penetration Boxes

4. Division Title and Number/Department Title
 DSDP/CONSTRUCTION

5. Approved For Use (When Required):
 Signature: _____ Date: _____
 N/A

6. Char. No.	7. Evaluation Characteristic (Code/Specification, Inspection/Test/Examination Techniques, Acceptance Criteria) VERIFY THAT:	8. Status		9. General Remarks
		SAT	UNSAT	
1.	The test gauge has been calibrated within 1 year of use and calibration shall be traceable to a NIST standard. <i>(part 3.03, sec A)</i>	✓		1. Gage # <u>CPS, VG 200</u> Cal. Date <u>9-1-2003</u> <u>RLCS - 3:10 to 3:40 PM</u> 29.4 inches of Vac. <u>LES - 3:55 to 4:25 PM</u> 29.4 inches of Vac. <u>LDS - 10:40 to 11:10</u> 29.5 inches of Vac. This a digital gauge and does not go up or down in increments.
2.	Testing equipment is equipped with a regulator which limits pressure to 15 psi. <i>(3.02H)</i>	N/A		
3.	Fabricator's test specs are met as req'd by sec 3.02H: - open test valve and operate vacuum pump until 10.8 (21.9 Hg) is reached. - if necessary to adjust pressure setting, allow box to stand under vacuum for min of 5 minutes before adjusting pressure. - when pressure is stabilized, allow to stand for 30 minutes. No noticeable pressure drop is allowed for a successful test. - when test is complete, remove pressure from the sump annulus first - • DO NOT ATTEMPT TO REMOVE TEST FITTINGS UNTIL ALL PRESURE IS RELEASED *	✓		
4.	After completion of pneumatic testing, 1.25 inch diameter bentonite-fill-holes are drilled into each chamber of the box. <i>(3.02, sec I)</i>	N/A		
5.	After filling boxes with bentonite, the holes are sealed with HDPE extrudate using extrusion welding equipment. <i>(3.02, sec I)</i>	N/A		

10. Inspector (Printed Name) Muriel Allen (Signature)

Date: 6-3-04

11. QC Manager/Designee (Printed Name) _____ (Signature) _____

Date: _____



GEO SYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)
 LOCATION: FERNALD, OHIO PROJECT NO.: GO-3309 TASK NO.: 3
 DESCRIPTION: Phase IV YEAR: 2004
 CONTRACTOR: Sluice Fernald

TEST DESCRIPTION: HYDROSTATIC: PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):
 PASS/FAIL CRITERION: VACUUM
 MATERIAL DESCRIPTION: FORCEMAIN: CONTAINMENT: CARRIER OTHER:
 TARGET PRESSURE: _____ TEST DURATION: _____ GAUGE NO.: VG-200 GAUGE LOCATION: Penetration
 TEST LOCATION: RLCS / LCS Penetration Box V#7 Box Protocol
 FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME (RLCS)	READING	CHANGE IN READING	QA ID
①	Pull Down	14 July	14:40	23.9	1st Reading	DJE
②	5 min	14 July	14:45	23.9	no change	DJE
③	1/2 hr	14 July	15:15	23.9	No change	DJE
			(LCS)	23.9		
④	Pull Down	14 July	16:20	23.9	1st Reading	DJE
⑤	5 min	14 July	16:25	23.9	no change	DJE
⑥	1/2 hr	14 July	18:05	23.0	no change	DJE

PASS: FAIL:

VISUAL MONITORING: [Signature] 14 July 04 [Signature] 14 July 04
 CONTRACTOR'S REPRESENTATIVE day/mo/yr CQA REPRESENTATIVE day/mo/yr
 FINAL APPROVAL: [Signature] 14 July 2004
 CONTRACTOR'S REPRESENTATIVE day/mo/yr SITE CQA MANAGER day/mo/yr

COPY TO: _____



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: G03309 TASK NO.: 03

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: Fluor Fernald

TEST DESCRIPTION: HYDROSTATIC:

Vacuum PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION: 1/2 hr at 21.9 inches mercury

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER:

OTHER:

TARGET PRESSURE: TEST DURATION:

GAUGE NO.: Q8451 GAUGE LOCATION: RLCS

TEST LOCATION: RLCS, LCS, LDS # VHB

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID	
DS 1	None	20 July	08:10	21.9 in	—	DJE	
2	1/2 hr test	20 July	08:40	21.9 in	None	DLE	
LCS 1	None	20 July	08:45	21.9 in	—	DLE	
2	1/2 hr Test	20 July	09:15	21.9	None	DLE	
CS 1	None	20 July	09:40	21.9	—	DJE	
2	1/2 hr	20 July	(NOT completed Due to Leak)				

Note: No Stabilization Needed, Analog Gauge, Recorded Right To 21.9 in of mercury

PASS:

FAIL:

LDS and RLCS passed Vacuum Test

VISUAL MONITORING:

Walter E. Mungo 7/20/04
CONTRACTOR'S REPRESENTATIVE day/mo/yr

David L. Egan 20/July/04
CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE day/mo/yr

Colin J. Sutton 20 July 2004
SITE CQA MANAGER day/mo/yr

COPY TO:



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: G03309 TASK NO.: 3

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: Fluor Fernald

TEST DESCRIPTION: HYDROSTATIC:

VACUUM PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION: 1/2 hr at 21.9 inches of Mercury

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER

OTHER:

TARGET PRESSURE:

TEST DURATION:

GAUGE NO.: Q8451

GAUGE LOCATION: LCS

VH-8

TEST LOCATION: _____ TO _____

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST:

YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	None	21 July	10:50	21.9	-	DLE
2	1/2 hr test	21 July	11:20	21.9	None	DLE
<p>Note: No Stabilization needed, Analog Gauge, Recorded Right to 21.9 inches of Mercury</p>						

PASS: FAIL:

LCS passed Vacuum Test 21/July/04

VISUAL MONITORING:

Walter E. Mering 7/21/04
CONTRACTOR'S REPRESENTATIVE day/mo/yr

Paul E. ... 21/July/04
CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE day/mo/yr

... 21 July 2004
SITE CQA MANAGER day/mo/yr

COPY TO: _____



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ3309 TASK NO.: 3

DESCRIPTION: Phase I

YEAR: 2004

CONTRACTOR: Fluor Fernald

cal. date 2-23-04

TEST DESCRIPTION: HYDROSTATIC: PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION: 5 min stab 1/2 hr. Hold Vacuum Test

MATERIAL DESCRIPTION: FORCEMAIN: CONTAINMENT: CARRIER: OTHER:

TARGET PRESSURE: TEST DURATION: GAUGE NO.: 93-08115-P1 GAUGE LOCATION: Pen. Box

TEST LOCATION: Cell-8 RLCs/LCS Penetration Boxes

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	Hold for 5 min. stab	26 Aug	13 05	22.0	— N/A	DLE
2	Test	26 Aug	13 10	22.0	—	DLE
3	End Test	26 Aug	13 10	21.9	.1	DLE
1	stab	26 Aug	13 45	22.0	None	DLE
2	Start Test	26 Aug	13 50	22.0	None	DLE
3	End Test	26 Aug	14 20	22.0	None	DLE

PASS: FAIL:

VISUAL MONITORING: Walt Meninger 26 Aug 04
CONTRACTOR'S REPRESENTATIVE day/mo/yr

Paul [Signature] 26 Aug 04
CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: _____
CONTRACTOR'S REPRESENTATIVE day/mo/yr

Colin [Signature] 26 Aug 2004
SITE CQA MANAGER day/mo/yr

COPY TO: _____



GEO SYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: G03309 TASK NO.: 4

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: Fluor Fernald

TEST DESCRIPTION: HYDROSTATIC: PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION: Gauges 10" 00-0A437-PI 0-30 -> 00-0A438-PI 0-300

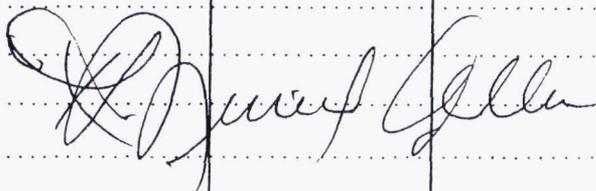
MATERIAL DESCRIPTION: FORCEMAIN: CONTAINMENT: CARRIER: OTHER:

TARGET PRESSURE: 15 PSI TEST DURATION: 1 hr GAUGE NO.: GAUGE LOCATION:

TEST LOCATION: L D S, Penetration to Valve House

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	over nite	9 June	7:30	60	None	DLF
2	↓	↓	8:30	↓	↓	DLF
3	over nite	9 June	7:30	16	None	DLF
	↓	↓	8:30	↓	None	DLF


 6-9-04

PASS:
FAIL:

VISUAL MONITORING: Walt Minges
CONTRACTOR'S REPRESENTATIVE day/mo/yr

Rand Lee 9 June 04
CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: _____
CONTRACTOR'S REPRESENTATIVE day/mo/yr

Colin P. Shaw 9 June 04
SITE CQA MANAGER day/mo/yr

COPY TO: _____



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: G03309 TASK NO: 03

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: Fluor Fernald

LDS Hydro

TEST DESCRIPTION: HYDROSTATIC:

PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION:

Calc. Date 4/20/04

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER

OTHER:

TARGET PRESSURE:

TEST DURATION:

GAUGE NO.: 00-10433 PSI

GAUGE LOCATION: V11.7

TEST LOCATION: Valve House 7

TO Penetration Box

10in LDS

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST:

YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	overnite	6-8-04	Filled			
①	Test	6-9-04	0730	16 PSI	—	DLF
②	Test	6-9-04	0800	10 PSI	None	DLF
③	Test	6-9-04	0830	16 PSI	None	DLF
<p>Containment Pipe was Filled @ June-04 and held overnight (15+ PSI) / 9 June-04 gauge was Read @ 0730 AM 16 PSI started Hydro @ 16 PSI, 0730 AM /</p> <p>The Geosyntec Rep observed the Final 2 Reading</p>						

PASS:
FAIL:

VISUAL MONITORING:

CONTRACTOR'S REPRESENTATIVE 9 June

CQA REPRESENTATIVE 9 June/04

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE Walt Minges 9 June 2004

SITE CQA MANAGER Colin T. Johnson 10 June 2004

COPY TO:



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: G03309 TASK NO: 03

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: Fluor Fernald

LCS Hydro

TEST DESCRIPTION: HYDROSTATIC:

PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION:

CR2 Date 4-20-04

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER

OTHER:

TARGET PRESSURE:

TEST DURATION:

GAUGE NO.: 00-04437-PI

GAUGE LOCATION: V47

TEST LOCATION: Valve House 7

TO LCS penetration Box

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST:

YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
	overwrite	6-21-04	Filled	22.5 PSI	—	
①	stab	6-22-04	06:46	22.5 PSI	None	OLE
②	1 hr. stab. time	6-22-04	07:46	22.5	None	OLE
③	Test	6-22-04	07:51	16 PSI	Reduced 6.5	
④	Test	6-22-04	08:51	16 PSI	None	

As Per M. Allen I
LCS Line was Filled June 21, 04 and left overnight to stabilize @ 22.0 PSI / checked at 0446 June 22-04 of Holding stabilized @ 22.5 / checked as per test.
The Geosyntec Tech. was at last 2 Readings

Note Permission was given for The Containment to be Tested without Testing The Carrier / As Per Fluor Fernald's Q.C./QA M. Allen

PASS:

FAIL:

VISUAL MONITORING:

CONTRACTOR'S REPRESENTATIVE day/mo/yr

David E. 22/June/04
CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL:

Walt Mizes 22/June/2004
CONTRACTOR'S REPRESENTATIVE day/mo/yr

Colin P. Sullivan 22 June 2004
SITE CQA MANAGER day/mo/yr

COPY TO:



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: G03309 TASK NO: 03

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: Fluor Fernald

10in RLCS Hydro

TEST DESCRIPTION: HYDROSTATIC:

PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION:

cat D47e 4-20-04

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER

OTHER:

TARGET PRESSURE:

TEST DURATION:

GAUGE NO.: 00-0A438 PF

GAUGE LOCATION: V H 7

TEST LOCATION: Valve House 7

TO RLCS Penetration Box

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST:

YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
	overnite	21 Jun/04	—	24 PSI		DYE
①	stab.	22 Jun/04	06:46	24 PSI	—	DYE
②	stab.	22 Jun/04	07:46	24 PSI		DYE
③	Test	22 Jun/04	07:51	1.6 PSF	Press. Reduced 1.6 PSF	DYE
④	Test	22 Jun/04	08:51	1.6 PSI	1.6 PSI	DYE

Note: The RLCS line was Filled June 21, 2004 and
 Lost over nite @ 24 PSF, @ 0646 AM June 22, 04
 checked at 24 PSF.

Note: Permission was given to test containment without testing
 carrier first. As per M. Allen, F.F. QC

PASS:
FAIL:

VISUAL MONITORING:

CONTRACTOR'S REPRESENTATIVE day/mo/yr

CQA REPRESENTATIVE 22 Jun/04 day/mo/yr

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE 22 Jun/2004 day/mo/yr

SITE CQA MANAGER 22 June 2004 day/mo/yr

COPY TO:



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: G03309 TASK NO.: 3

DESCRIPTION: Phase V

YEAR: 2004

CONTRACTOR: Fluor Fernald

TEST DESCRIPTION: HYDROSTATIC: PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION: 1 hr stab 1 hr Test Time 0 to 300 PSI

MATERIAL DESCRIPTION: FORCEMAIN: CONTAINMENT: CARRIER OTHER: cal P/N 4/20/04

TARGET PRESSURE: TEST DURATION: 1 HR GAUGE NO.: 00-04438-PF GAUGE LOCATION: V/H-7

TEST LOCATION: 20 RLCS-VH-7 TO Penetration Box

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	overnight	21 June 04				VA/PIE
2	stab.	22 June 04	0646 AM	24 PSI	NO	PIE
3	↓	22 June 04	0746	24 PSI	No TILL No Pressure Fall	PIE
4	Test	22 June 04	0751	16 PSI	No change	PIE
5	Test	22 June 04	0851	16 PSI	No change	PIE

[Handwritten signature]

PASS:

FAIL:

VISUAL MONITORING:

CONTRACTOR'S REPRESENTATIVE day/mo/yr

[Signature] 28 June 04
CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE day/mo/yr

[Signature] 28 June 2004
SITE CQA MANAGER day/mo/yr

COPY TO:



GEOSYNTec CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: 603309 TASK NO.: 03

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: Fluor Fernald

TEST DESCRIPTION: HYDROSTATIC:

PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION:

0.76 BOPST cal 4/20/04
200-04437-PI

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER

OTHER:

TARGET PRESSURE: TEST DURATION:

GAUGE NO.:

GAUGE LOCATION:

TEST LOCATION: LCS VHT containment TO Penetration But Cell 7

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	overnite	21 June 04				VA RJE
2	Stab	22 June 04	0646	22.5	—	VA RJE
3	↓	22 June 04	0746	27.5	NO PENETRATION	VA RJE
4	Test	22 June 04	0751	16.0	NO	VA RJE
5	Test	22 June 04	0851	16.0	NO	VA RJE

M. J. Allen

PASS:
FAIL:

VISUAL MONITORING: CONTRACTOR'S REPRESENTATIVE day/mo/yr

Paul Jones 28 June 04
CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: CONTRACTOR'S REPRESENTATIVE day/mo/yr

Colin P. Sutton 28 June 2004
SITE CQA MANAGER day/mo/yr

COPY TO:



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: G03309 TASK NO: 03

DESCRIPTION: Phase 5 YEAR: 2004

CONTRACTOR: Fluor Fernald

TEST DESCRIPTION: HYDROSTATIC: PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION: 15 min 7.5 stab / 15 at 15 PSF CAL 4/20/04

MATERIAL DESCRIPTION: FORCEMAIN: CONTAINMENT: CARRIER: OTHER:

TARGET PRESSURE: TEST DURATION: GAUGE NO.: 00-0A437-PI GAUGE LOCATION: 5th End

TEST LOCATION: Leach AHO carbon V 11-7 TO 06 Leach AHO L1-7 V 11-7

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: YES NO

OK
...rc
CS
LCS
→
2 HR
TEST
LDS

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	15 min	7 Aug	10:00	7.5	Start	DLE
2	15	7 Aug	10:15	15	up 7.5	DLE
3	15	7 Aug	10:30	15	no change	DLE
				00-0A438-PI	4/20/04	cal Date
1	30 min test	7 Aug	11:25	60 PSI	FILL	DLE
2	↓	7 Aug	14:25	60 PSI	None	
				00-0A439-PI	4/20/04	
1	3m Test	7 Aug	13:05	70 PSI	FILL	DLE
	↓	7 Aug	16:05	70 PSI	None	DLE

PASS:
FAIL:

VISUAL MONITORING:

CONTRACTOR'S REPRESENTATIVE

CQA REPRESENTATIVE

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE

SITE CQA MANAGER

COPY TO:



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ3309 TASK NO.: 3

DESCRIPTION: Phase II

YEAR: 2004

CONTRACTOR: FLUOR FERNALD

TEST DESCRIPTION: HYDROSTATIC:

PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION:

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER

Cal. Date

OTHER:

00-01438-PI

4/20/04

TARGET PRESSURE:

TEST DURATION:

GAUGE NO.:

GAUGE LOCATION:

TEST LOCATION: Both RLCS/LCS 6in, VH 7 TO Penetration Boxes

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST:

YES NO

255
255
255

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
①	start of stab	14 July	10:40	72 PSI	start	DLE
②	stab. 1hr	14 July	11:40	66 PSI	8 PSI pump up to	DLE
		14 July	11:46	74 PSI		DLE
③	stab 1hr	14 July	12:46	68 PSI	6 PSI pump up to	DLE
			13:41	72 PSI		DLE
④	stab 1hr	14 July	13:40	68 PSI	4 PSI pump up to	DLE
			14:15	71		DLE
⑤	stab 1hr	14 July	15:15	68 PSI	2 PSI	DLE
				70	Reduced to	DLE
⑥	start of test 1hr	14 July	16:15	60 PSI	For test	DLE
⑦	↓	14 July	17:15	60 PSI	No change	DLE

PASS:
FAIL:

VISUAL MONITORING:

CONTRACTOR'S REPRESENTATIVE

14 July 04 day/mo/yr

CQA REPRESENTATIVE

14 July 04 day/mo/yr

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE

day/mo/yr

SITE CQA MANAGER

15 July 2004 day/mo/yr

COPY TO:



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ3309 TASK NO.: 3

DESCRIPTION: Phase II

YEAR:

CONTRACTOR:

TEST DESCRIPTION: HYDROSTATIC:

PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION: Stabilize @ 1 hr at 15 Lb's

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER

OTHER:

TARGET PRESSURE: 15 TEST DURATION: 1 hr

GAUGE NO.:

GAUGE LOCATION: V148

TEST LOCATION: V14-8 To Penetration @ Bot LGS

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST:

YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	1115 am	28 July	1115	25	—	PLE
(2)	↓	↓	1515	17	8 ↓ LB	PLE
(3)	1097	↓	1615	17	None	PLE
Water Truck not available As per Spec To Refill						
Test As Per Fluoro Fernald QC R. Sheper						
R. Sheper						

PASS:
FAIL:

VISUAL MONITORING:

Walter Munnings 7/28/04
CONTRACTOR'S REPRESENTATIVE day/mo/yr

David L Evans 28/7/04
CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE day/mo/yr

Colin J. Suban 28 July 2004
SITE CQA MANAGER day/mo/yr

COPY TO:



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: G03309 TASK NO.: 03

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: FLUOR Fernald

TEST DESCRIPTION: HYDROSTATIC:

PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION: 4h stab at 20 lb's / Drop to 15 lb-1 hr cal. 4/20/04

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER:

OTHER:

TARGET PRESSURE: 19 lb TEST DURATION:

GAUGE NO.: 00-01137 GAUGE LOCATION:

TEST LOCATION: KH-8 To Penetration Boxes ^{10"} RLCS and ^{10"} LPS and 6" LPS

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST:

YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	overnight	5 Aug	1700 hr	25 PSI	FILL None	DLE
2	0730	6 Aug	0730	15	10 lb Drop	DLE
3	Test	6 Aug	0830	15	None	DLE
1	overnight	5 Aug	1700 hr	25	FILL None	DLE
2	0730	6 Aug	0730	15	10 lb Drop for Test	DLE
3	Test	6 Aug	0830	15	None	DLE
1	1045 Fill	6 Aug	1045	70		DLE
2	1305 / stab	6 Aug	1305	70	13 PSI	DLE
3	Test Start	6 Aug	1445	60	Drop to 55 PSI for Test	DLE

6" LPS

10 LPS

6" LPS

PASS:
FAIL:

VISUAL MONITORING: Walt Minges 8/6/04
CONTRACTOR'S REPRESENTATIVE day/mo/yr

Paul Eric 8/6/04
CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: _____
CONTRACTOR'S REPRESENTATIVE day/mo/yr

Colin L. Sutton 6 August 2004
SITE CQA MANAGER day/mo/yr

COPY TO: _____



GEOSYNTec CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: G03309 TASK NO: 03

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: Fluor Fernald

CM 4/24/04

TEST DESCRIPTION: HYDROSTATIC: PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION: 70 PSI 4hr / 60 PSI 1 hr RLCs/LCS

MATERIAL DESCRIPTION: FORCEMAIN: CONTAINMENT: CARRIER OTHER:

TARGET PRESSURE: 70/66 TEST DURATION: 5 hr GAUGE NO.: 00-DA 438-PE GAUGE LOCATION: V4.8

TEST LOCATION: _____ TO _____

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
start of FWH	—	26 Aug	09:45	—	—	D1E
Fitted	stabilizing stab.	↓	11:15	73 PSI	Note to 4 hrs.	D1E
1	↓	↓	12:15	72 PSI	1 PSI	D1E
2	↓	↓	13:15	72 PSI	NONE	D1E
3	↓	↓	14:15	72 PSI	NONE	D1E
4	↓	↓	15:15	72 PSI	NONE	D1E
5	Test	26 Aug	16:15	61	After Drop NO change	D1E
Test complete			18:15 hr →			

PASS: FAIL:

VISUAL MONITORING: Walt Minges 26 Aug 04
CONTRACTOR'S REPRESENTATIVE day/mo/yr

Ken E... 26 Aug 04
CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: _____
CONTRACTOR'S REPRESENTATIVE day/mo/yr

Colin S... 26 Aug 2004
SITE CQA MANAGER day/mo/yr

COPY TO: _____



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ3309 TASK NO.: 3

DESCRIPTION: Phase IV

YEAR: 2004

CONTRACTOR: Fluor Fernald

cut Date 09/20/2004

TEST DESCRIPTION: HYDROSTATIC:

PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION: 1 hr at 70 PSI, 3 hr at 60 PSI

MATERIAL DESCRIPTION: FORCEMAIN:

CONTAINMENT:

CARRIER

Steel pipe in V#8

OTHER:

TARGET PRESSURE:

TEST DURATION:

GAUGE NO.: 00-0A438-PI

GAUGE LOCATION:

TEST LOCATION: Metal piping V#8, End of 60/6 East side TO R L CS / L CS To Main head at Line

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST:

YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
①	overnight	21 Sept	06:35 hr	71 PSI	Overnight None	DLE
②	Start of test	21 Sept	07:32 hr	61 PSI	Drop to 61 PSI	DLE
③	↓	21 Sept	08:32 hr	61 PSI	None	DLE
④	↓	21 Sept	09:35 hr	61 PSI	None	DLE
⑤	↓	21 Sept	10:33 hr	61 PSI	None	DLE
	End of Test					

PASS:

FAIL:

VISUAL MONITORING:

CONTRACTOR'S REPRESENTATIVE

21/Sept/2004

CQA REPRESENTATIVE

21/Sept/2004

FINAL APPROVAL:

CONTRACTOR'S REPRESENTATIVE

day/mo/yr

SITE CQA MANAGER

22 Sept 2004

COPY TO:



GEOSYNTec CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: G03309 TASK NO: 03

DESCRIPTION: Phase II

YEAR: 2004

CONTRACTOR: Fluor Fernald

cal Date 4/20/2004

TEST DESCRIPTION: HYDROSTATIC: PNEUMATIC (ATTACH WRITTEN AUTHORIZATION):

PASS/FAIL CRITERION: 1 hr at 70 PSF, 3 hr at 60 PSF

MATERIAL DESCRIPTION: FORCEMAIN: CONTAINMENT: CARRIER OTHER:

TARGET PRESSURE: TEST DURATION: GAUGE NO.: 00-0A438.PZ GAUGE LOCATION: V/H 8

TEST LOCATION: metal piping V/H-8 end of 10/6 pipe LDS To Valve to Main Leachate Line

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: YES NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
①	1 hr	20 Sept	08:45	20 PSF	on up 10 ↓	D1E
②	1 hr	↓	09:45	61 PSF	none	P1E
③	1 hr	↓	10:45	61 PSF	none	D1E
④	1 hr	↓	11:45	61 PSF	none	D1E
⑤	1 hr	↓	12:45	61 PSF	none	D1E
	Completion of	12:45 hr				

PASS:
FAIL:

VISUAL MONITORING: [Signature] 20 Sept day/mo/yr
CONTRACTOR'S REPRESENTATIVE

[Signature] 20 Sept 2004 day/mo/yr
CQA REPRESENTATIVE

FINAL APPROVAL: [Signature] day/mo/yr
CONTRACTOR'S REPRESENTATIVE

[Signature] 21 Sept 2004 day/mo/yr
SITE CQA MANAGER

COPY TO:

**CCT Video Survey and Inspection
Logs**



GeoSyntec Consultants

FLUOR FERNALD, INC.

VIDEO SURVEY SUMMARY

PIPE SURVEYED: Value House #7 6 in LDS

TAPE NO.: 1 part 2 DATE OF RECORDING: 9/20/04 TIME: _____

FOOTAGE START: 0 FOOTAGE FINISH: 262.2

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
0	Butt Fusion	accept	at 0.0, Pipe is half full of water To the 10ft. mark. 10ft To 183ft, Low water To a TRACE of water, at 183ft. The Pipe has about 3 inches of water To the 194ft. at 206ft misc. gravel at the start of the PERF pipe To the 243ft Mark Then large amounts of gravel To the End of the Run at 262.2ft
4 ft	" "	"	
37 ft	" "	"	
75 ft	" "	"	
117 ft	" "	"	
155 ft	" "	"	
191 ft	" "	"	
206 ft	" "	"	
246 ft	" "	"	
262 ft	" "	"	
			Near the 206ft Mark is the PERF pipe start

VIDEO MONITORED BY: David L Evans



GeoSyntec Consultants

FLUOR FERNALD

VIDEO TAPE SUMMARY

By Water Works of Dayton OH: _____
 Phone 877-225-9048, contact Ron Wilks _____
 operator (mike) _____ LCS pipe

TAPE NO. 1 part 4 DATE OF RECORDING: 12/13/04 TIME: _____

STATION: _____ START: _____ FINISH: _____

FOOTAGE: _____ START: 34.9 / 0.0 FINISH: 302.3

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
34.9 + 2.1	Butt Fusion	3/16 Bead	Some Rock / FULL OF WATER
11 + 39.0	Butt fusion	3/16 Bead	Some water
" + 71.8	Butt Fusion	3/16 Bead	Some water
" + 110.2	Butt Fusion	3/16 Bead	Some water
" + 112.0	Butt Fusion	3/16 Bead	Some water
" + 150.7	Butt Fusion	3/16 Bead	Some water
" + 175.2	Butt Fusion	3/16 Bead	Some water
" + 179.0	Butt Fusion	3/16 Bead	Some water
" + 190.2	Butt Fusion	3/16 Bead	Some water
" + 191.2	Butt fusion	3/16 Bead	Some water
" + 192.2	Butt fusion	3/16 Bead	Some water
" + 202.4	Butt Fusion	3/16 Bead	Some water
" + 202.5	Butt fusion	3/16 Bead	Some water, Start of Perf. Pipe
" + 205.4	Butt Fusion	3/16 Bead	Perf To Perf. Pipe
" + 244.2	Butt Fusion	3/16 Bead	Perf. To Perf Pipe
" + 289.2	Butt Fusion	3/16 Bead	Perf. To Perf. Pipe
" + 302.3	End of	Taped	Run

PER: *[Signature]*

APPENDIX S

**REQUESTS FOR CLARIFICATION
OF INFORMATION (RCIs)**

RCI/DCN FORM

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.: 20105	(2) S/C NO.: FSC-659	(3) Pg. 1 ^{of} 2	(4) DATE: 1/15/2004
(5) PROJECT/CWO/RES/S/C TITLE: On-Site Disposal Facility (Phase V) Construction			(6) RCI NO.: 20105-004R
(7) RCI/DCN TITLE: Storage duration of stockpiled Category 1 and 2 material within the OSDF			(6) DCN NO.:
(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
OSDF Impacted Material Placement Plan	20100-PL-007	3PCN1	
(10) REQUESTOR: Bill Zebick NAME (Print & Sign) DATE		(11) CE / PE Charles C. Van Arsdale <i>Charles C. Van Arsdale</i> 1/20/04 NAME (Print & Sign) DATE	
(12) <input checked="" type="checkbox"/> RCI-DESCRIPTION		(13) <input type="checkbox"/> DCN-JUSTIFICATION, EXISTING CONDITION & REQUESTED/PROPOSED CHANGE	
<p>Currently, Section 6.11 of the Impacted Material Placement Plan (IMPP) allows temporary staging of Category 1 and Category 2 materials within the OSDF cells. The IMP Plan requires that a Category 1 stockpile is to be depleted within 30 days from the commencement of constructing a stockpile. The IMP Plan also states that Category 2 material may be staged within the cells during the months of March through December. Can the duration of stockpiling within the cell be lengthened to accommodate winter impacted material placement?</p>			

DESIGN ORGANIZATION RCI - DCN SUMMARY DESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION			
<p>The current IMP Plan assumes that little placement will be performed in the months of January and February. Since Category 2 material is needed for ramps, and roads year round, it is recommended to delete the words "March through December," in the first sentence of Section 6.11.</p> <p>As more and more cells are being utilized, the need for stockpiling Category 1 material is more evident. In order to adhere to the requirements of the IMPP, flexibility is needed to find the appropriate cover material for various categories of material. In the winter months, it is necessary to increase the duration of Category 1 stockpile activities in the OSDF due to the uncertainty of the weather. It is recommended to waive the 30-day stockpile depletion requirement during the winter months of December through February.</p>			
(15) REVIEWS COMPLETED			
<input type="checkbox"/> Configuration Management SSC Review Complete	DO NAME (Print & Sign)	DATE	
<input type="checkbox"/> Impact Assessment Review Complete	<i>K. Baden-Twenebach, K. Board</i>	1/22/04	
	DO NAME (Print & Sign)	DATE	
<input type="checkbox"/> Technical Review Complete	PE NAME (Print & Sign)	DATE	
	<i>K. Baden-Twenebach, K. Board</i>	1/22/04	
	DO NAME (Print & Sign)	DATE	
<input type="checkbox"/> ED-12-4010 Review Complete	PE NAME (Print & Sign)	DATE	
(16) DOES CE AGREE WITH SOLUTION: <input type="checkbox"/> NO <input type="checkbox"/> YES		(17) FIELD WORK COMPLETED:	
IS A PURCHASE REQUISITION REQUIRED: <input type="checkbox"/> NO <input type="checkbox"/> YES			
CE NAME (Print & Sign) DATE		CE OR PE (Print & Sign) DATE:	

RCI/DCN FORM

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.: 20105	(2) S/C NO.: FSC-659	(3) Pg. 1 ^{of} 2	(4) DATE: 2/9/2004
(5) PROJECT/CWO/RES/S/C TITLE: On-Site Disposal Facility (Phase V) Construction		(6) RCI NO.: 20105-005R	
(7) RCI/DCN TITLE: Placement of bagged impacted material by Grid Method		(6) DCN NO.:	
(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
OSDF Impacted Material Placement Plan	20100-PL-007	3PCN1	Addendum 2
(10) REQUESTOR: Kevin Harbin <i>[Signature]</i> NAME (Print & Sign) DATE 2/11/04		(11) CE / PE Charles C. Van Arsdale <i>[Signature]</i> 2/11/04 NAME (Print & Sign) DATE	
(12) <input checked="" type="checkbox"/> RCI-DESCRIPTION		(13) <input type="checkbox"/> DCN-JUSTIFICATION, EXISTING CONDITION & REQUESTED/PROPOSED CHANGE	
<p>Currently, Addendum 2 of the Impacted Material Placement Plan (IMPP) does not specifically allow for bagged impacted material to be placed in accordance to the grid method as described in the Addendum. When the addendum was released bagged impacted material was only placed in trenches because of the way bagged material was handled. Bagged impacted material in Sealand containers was manually placed in trenches because there was not a mechanism to safely dump the Sealand containers. Since then, Construction has come up with a successful and safe way to dump material from Sealand containers. As long as dust control measures are in effect, such as when thorium debris is dumped, the grid method should be a viable option for placement of bagged impacted material, including asbestos.</p>			

DESIGN ORGANIZATION RCI - DCN SUMMARY DESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION

Bagged material may be placed in the OSDF, as long as the requirements of Addendum 2 are followed. The Sealand container containing the bagged impacted material will be unloaded into a prepared grid. An Exclusion Zone will be established at the unloading area and no foot traffic will be allowed until the area has been cleared by the Competent Person. Lifts of Category 1 material will be placed and compacted over the impacted bagged material as per Addendum 2. Water sprays will be employed to eliminate visible emissions.

(15) REVIEWS COMPLETED

<input type="checkbox"/> Configuration Management SSC Review Complete	DO NAME (Print & Sign)	DATE
<input checked="" type="checkbox"/> Impact Assessment Review Complete	K. BADE-TWENEBAH <i>[Signature]</i>	2/11/04
	DO NAME (Print & Sign)	DATE
	UDAY KUMTHEKAR <i>[Signature]</i>	2/11/04
	PE NAME (Print & Sign)	DATE
<input checked="" type="checkbox"/> Technical Review Complete	K. BADE-TWENEBAH <i>[Signature]</i>	2/11/04
	DO NAME (Print & Sign)	DATE
<input checked="" type="checkbox"/> ED-12-4010 Review Complete	UDAY KUMTHEKAR <i>[Signature]</i>	2/11/04
	PE NAME (Print & Sign)	DATE

<p>(16) DOES CE AGREE WITH SOLUTION: <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES</p> <p>IS A PURCHASE REQUISITION REQUIRED: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES</p> <p><i>[Signature]</i> 2/11/04 CE NAME (Print & Sign) DATE</p>	<p>(17) FIELD WORK COMPLETED:</p> <p>_____ CE OR PE (Print & Sign) DATE:</p>
---	--

ORIGINAL

**Addendum No. 2
To
IMPACTED MATERIALS PLACEMENT PLAN
ON-SITE DISPOSAL FACILITY**

**Specialized Placement Plan for Thorium and
Bagged or Non-Bagged Impacted Material**

20100-PL-007

Revision 3

May 14, 2004

United States Department of Energy

**Fernald Closure Project
Fernald, Ohio**

Prepared by

GeoSyntec Consultants
1100 Lake Hearn Drive, NE, Suite 200
Atlanta, Georgia 30342

Under

Fluor Fernald, Inc.
Subcontract 95PS005028

REVISION SUMMARY

<u>Revision</u>	<u>Dated</u>	<u>Description of Revision</u>
0	1/19/98	Initial issuance of Revision 0, <i>Impacted Material Placement Plan, On-Site Disposal Facility</i> (20100-PL-007).
0 PCN 1	7/7/98	Added Revision Summary page and revised physical waste acceptance criteria for debris (Page 4-1) to reflect that transite panels will not be size reduced before disposal in the On-Site Disposal Facility (OSDF).
0 ADD 1	2/17/99	Addendum 1: Issuance of Revision 0, <i>Specialized Placement Plan for Bagged Impacted Material</i> to discuss placement of bagged material into the OSDF.
1	10/11/99	Issuance of Revision 1 based on page changes approved by the U.S. EPA and OEPA. Addendum 1 incorporated into Appendix C.
1 ADD 2	3/31/00	Addendum 2: Issuance of Revision 1, <i>Specialized Placement Plan for Thorium and Non-Bagged Impacted Material</i> to discuss placement of thorium debris and non-bagged material into the OSDF.
1 ADD 3C	3/31/00	Addendum 3: Issuance of Revision 1, <i>Alternative Trenching Method for Placement of Category 2 Impacted Material</i> to discuss placement of Category 2 items by trenching method into the OSDF.
1 TBL 1	3/31/00	Added <i>Placement Restrictions for Specialized Placement Plans</i> table to be inserted in front of Addendum 1 of Appendix C.
1 PCN 1	12/19/00	Revised Category 4 material definition to replace the words "very compressible" with "prone to decomposition" (Page 5-2 and 8-5).
2	5/01	Issuance of Revision 2 to incorporate lessons learned from OSDF Phase I and II and DCN 20102-33 dated July 1, 1998. Addenda 2 and 3 incorporated into Appendix C.
2 PCN 1	6/01	Added liner sludge placement procedure to Section 8.6.5 based on RCI 20102-068R dated June 20, 2000.
3	7/01	Issuance of Revision 3 to incorporate 2 PCN 1.
3 PCN 1	10/1/01	Added alternate placement requirements for Category 3 materials (transite panels) to Section 8.4.
3 PCN 2	3/4/04	Appendix C, Addendum 2: Issuance of Revision 2 of Addendum 2, <i>Specialized Placement for Thorium and Non-Bagged Impacted Material</i> to include placement of bagged material as a viable option.

Addendum No. 2
To
Impacted Material Placement Plan
On-Site Disposal Facility
Specialized Placement Plan for Thorium and Bagged or Non-Bagged Impacted Material

In accordance with Section 8, Article 8.6.1 of the *Impacted Material Placement (IMP) Plan, Revision 0, dated January 1998 for the On-Site Disposal Facility (OSDF)*, a specialized placement plan is required to be prepared for "materials either nominally larger than the physical criteria for the OSDF..." or "not reasonably anticipated by currently identified categories...". This specialized placement plan provides requirements and two options for placement of Category 2, Category 3, Category 4, and Category 5 thorium and non-bagged impacted material. This impacted material cannot be placed as described in Section 8, Article 8.6.3 of the IMP Plan or as described for bagged material in Addendum No. 1, "*Specialized Placement Plan for Bagged Impacted Material*" because of more restrictive radiological requirements for thorium and more restrictive placement requirements for non-bagged asbestos. This placement plan is also a viable option for bagged impacted material, including bagged asbestos.

PLACEMENT REQUIREMENTS

Placement of Category 2, Category 3, Category 4 and Category 5 thorium and bagged or non-bagged impacted material shall be performed in accordance with Fernald Closure Project (FCP) radiological safety procedures, the IMP Plan, including fugitive dust control and storm water runoff control, and the Contractor's approved Safe Work Plan. The Contractor's Safe Work Plan shall be revised to include requirements for placement of impacted material as described in this Addendum No. 2. In addition to the requirements described in the above said documents, thorium and bagged or non-bagged impacted material shall be placed in a manner protective of the health and safety of OSDF personnel and the public, utilizing the As Low As Reasonably Achievable (ALARA) approach and shall meet the OSDF performance criteria stated in the *Design Criteria Package for the OSDF*.

PLACEMENT OPTIONS

Thorium and bagged or non-bagged impacted material (e.g., thorium contaminated debris, broken transite panels, soil containing friable asbestos, and bagged asbestos) is expected to be generated as buildings are demolished. Additionally, some bagged or non-bagged

3-foot thick select impacted material layer above the liner system. See Figure 5 for typical checkerboard pattern configuration and Figure 6 for cross section.

- Grid with bagged or non-bagged impacted material placed by the Grid Method and grid with thorium and bagged or non-bagged impacted material or bagged thorium impacted material placed by the Trenching Method shall not be adjacent to each other in the same horizon. The grids may be placed in a checkerboard pattern, that is diagonally from one another and separated by a minimum 10-foot wide Category 1 berm, when the bagged or non-bagged impacted material is placed within the 14 foot (+/- 2 foot) nominal zone above the top of the 3-foot thick select impacted material layer above the liner system. See Figure 5 for typical checkerboard pattern configuration.
- Bagged or non-bagged impacted material shall be placed above an intervening horizon of Category 1 impacted material.
- Bagged or non-bagged impacted material shall not be placed directly on previously placed Category 2 through 5 impacted material, protective layer, or 2 ft. thick select impacted material layer.
- Bagged or non-bagged impacted material shall not be placed within 6 ft. (1.8 m) under the select impacted material for the final cover system.
- A maximum of two (2) lifts of bagged or non-bagged impacted material may be placed in each grid provided both lifts of bagged or non-bagged impacted material can be placed within the 14 foot (+/- 2 foot) nominal zone above the top of the 3-foot thick select impacted material layer above the liner system and a minimum 6-foot of Category 1 and/or 2 material is placed to separate the two lifts of bagged or non-bagged impacted material. Where the requirement cannot be met, only one (1) lift of bagged or non-bagged impacted material may be placed within a grid for the life of the cell. See Figure 6 for a typical cross section of adjacent grids with two lifts per grid placement.

Bagged or non-bagged impacted material placement in grid(s) shall be in accordance with the following requirements and general procedures and as shown on Figures 1, 2, and 3.

General procedures include:

- Preparation of the grid
- Debris placement
- Initial and additional lifts of Category 1 material

shall not drive on material deposited by the trucks or previously placed thorium-impacted debris to minimize the potential for thorium contamination on the outside of the vehicle. A radiological technician or trained asbestos personnel, as appropriate, will monitor the trucks at the exit to the grid as shown on Figure 1. Fugitive dust and storm water runoff controls shall be in accordance with the IMP Plan. Water trucks and/or water hoses shall be available at the location of placement activities. The top of bagged or non-bagged impacted material shall be surveyed for location and elevation and information shall be submitted to the Construction Manager.

Initial and Additional Lifts of Category 1 Material: As the material placement progresses, an initial 15 inches (375 mm) minimum, 18 inches (450 mm) maximum loose lift of Category 1 material (soil and soil-like material) shall then be placed on top of the bagged or non-bagged impacted material by the end of each working day. No bagged or non-bagged impacted material shall remain uncovered with Category 1 material by the end of the workday. The entire grid shall be covered with an initial lift by the end of five (5) working days. The initial lift shall be compacted with a minimum of four one-way passes of a self-propelled double drum roller compactor, a smooth drum vibratory roller or other compaction equipment approved by the Construction Manager. No compaction testing will be performed on the initial lift above the bagged or non-bagged impacted material. As shown in Figures 2 and 3, the fourth side of the perimeter berm will be constructed after bagged or non-bagged impacted material placement is completed. After the fourth side of the perimeter berm has been placed and initial lift is placed over the bagged or non-bagged impacted material, the temporary diversion berm to control storm water runoff, as needed, shall be removed. An additional 12 inches (300 mm) \pm 3 inches (75 mm) loose lift(s) of Category 1 material shall be placed above the initial lift. Total compacted thickness of Category 1 material placed above the non-bagged impacted material, including the initial lift, shall be at least as thick as the intervening horizon described in the IMP Plan (see attached Figure 3). The Category 1 lift(s) above the initial lift shall be compacted to meet at least 90 percent of the standard Proctor maximum dry density. Appropriate compaction equipment, including the Cat-826 landfill compactor or approved equivalent, shall be used on lifts above the initial lift to meet the specified compaction requirements. Compaction of the additional lift(s) shall be tested in accordance with the IMP Plan.

After compacting the final lift of Category 1 material over the bagged or non-bagged impacted material the Category 1 material shall be proof-rolled. Soft spots indicated by tire ruts more than 3 inches (76 mm) in depth or visible deflection under the moving

- A trench for bagged thorium, bagged or non-bagged impacted material shall not be excavated in previously placed Category 2 through 5 impacted material, protective layer, or 2-ft. thick select impacted material layer.
- A trench for bagged thorium, bagged or non-bagged impacted material shall not be excavated within 6 ft. (1.8 m) under the select impacted material for the final cover system.
- A maximum of two (2) lifts of bagged or non-bagged impacted material may be placed in each grid provided both lifts of bagged or non-bagged impacted material can be placed within the 14 foot (+/- 2 foot) nominal zone above the top of the 3-foot thick select impacted material layer above the liner system and a minimum 6-foot of Category 1 and/or 2 impacted material is placed to separate the two lifts of bagged or non-bagged impacted material. Where the requirement cannot be met, only one (1) lift of bagged or non-bagged impacted material may be placed within a grid for the life of the cell.
- Minimum thickness of Category 1 material under bagged thorium, bagged or non-bagged impacted material trench excavation shall be the thickness of the intervening horizon of Category 1 impacted material as described in the IMP Plan.

Bagged thorium, bagged or non-bagged impacted material placement in a trench shall be in accordance with the following requirements and general procedures and as shown on Figure 4.

General procedures include:

- Trench Excavation
- Debris Placement
- Initial and Additional Lifts of Category 1 Material

Requirements for each procedure are as follows:

Trench Excavation: After a grid(s) is selected and approved, a trench (or trenches) shall be excavated as shown on Figure 4. Each trench shall be a minimum of 3 ft. (0.9 m) deep and a maximum of 4 ft. (1.2 m) deep and between 8 ft. (2.4 m) and 12 ft. (3.6 m) wide. A minimum 6 ft. (1.8 m) distance shall be maintained between top of the side slopes of the adjacent trench. One end of the trench shall be graded to a minimum 5H:1V ramp (subject to approval by Fluor Fernald Safety Engineer) for truck access into the trench. The trench bottom shall be graded at an approximately 1% slope downward away from the truck access ramp. The maximum trench length shall be approximately 70 ft. (21 m)

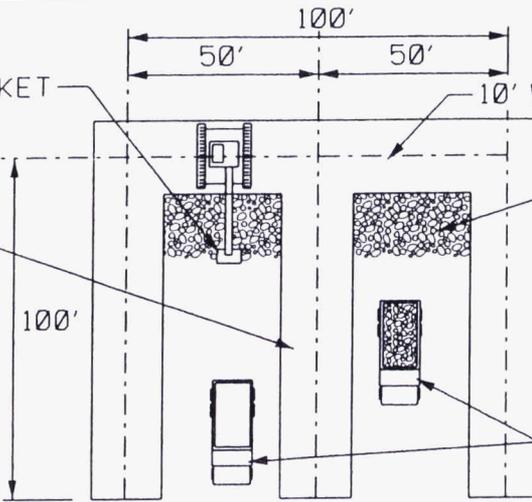
initial lift. Total compacted thickness of Category 1 material placed above the bagged thorium, bagged or non-bagged impacted material, including the initial lift, shall be a minimum 15 inches (375 mm) as shown on attached Figure 4. The Category 1 lift(s) above the initial lift shall be compacted to meet at least 90 percent of the standard Proctor maximum dry density. Appropriate compaction equipment, shall be used on lifts above the initial lift to meet the specified compaction requirements. Compaction of the additional lift(s) shall be tested in accordance with the IMP Plan.

After compacting the final lift of Category 1 material over the bagged thorium, bagged or non-bagged impacted material, the Category 1 material shall be proof-rolled. Soft spots indicated by tire ruts more than 3 inches (76 mm) in depth or visible deflection under the moving proof-rolling equipment shall be stabilized through additional passes of the compactor. The proof-rolling equipment shall have a minimum gross vehicle weight of 20 tons (180 kN) and exert a ground pressure of at least 65 psi (450 kPa). Any soft spot that cannot be stabilized with further compactive effort shall be cause for additional treatment to the satisfaction of the Construction Manager. As shown on Figure 4, the trench will subsequently be covered with an intervening horizon of Category 1 material.

SPREAD AND
TAMP DEBRIS
WITH TRACKHOE BUCKET

ADDITIONAL
ACCESS BERM
AS NEEDED

LOCATION OF
RADIOLOGICAL
CONTROL OR
TRAINED ASBESTOS
PERSONNEL



100'

50' 50'

10' WIDE CAT 1 BERM (TYP.)

BAGGED OR NON-BAGGED
IMPACTED MATERIAL
(TYP.)

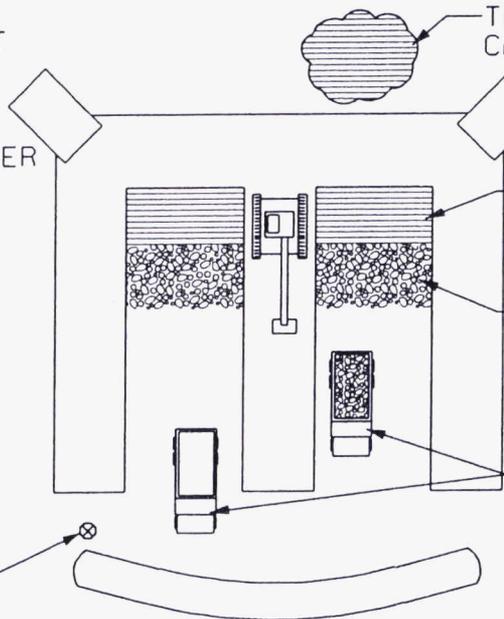
HAUL TRUCKS

TEMPORARY RUNOFF
DIVERSION BERM,
AS NEEDED

PLACING BAGGED OR NON-BAGGED IMPACTED MATERIAL IN GRID
NTS

PLACE INITIAL CAT 1 LIFT
WITH TRACKHOE
OR
PUSH INITIAL CAT 1 LIFT
ONTO MATERIAL WITH DOZER

LOCATION OF
RADIOLOGICAL
CONTROL OR
TRAINED ASBESTOS
PERSONNEL



TEMPORARY
CAT 1 STAGING AREA

RAMP (TYP.)

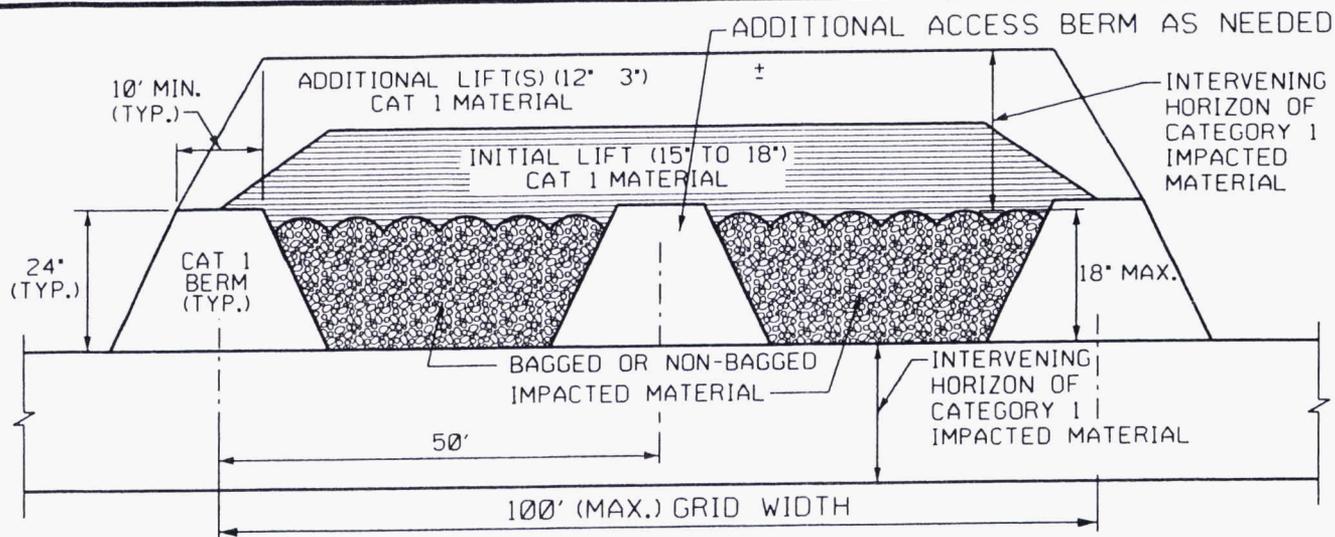
INITIAL LIFT
OF CAT 1
MATERIAL (TYP.)

BAGGED OR NON-BAGGED
IMPACTED MATERIAL
(TYP.)

HAUL TRUCKS

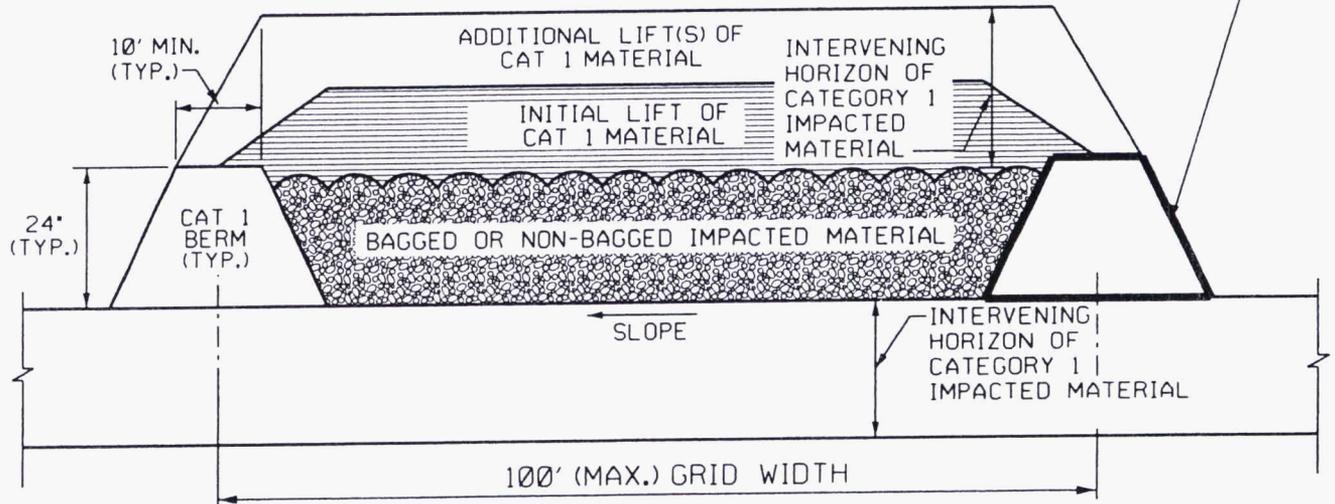
COVERING BAGGED OR NON-BAGGED IMPACTED MATERIAL
NTS

**FIGURE 1
THORIUM, BAGGED OR NON-BAGGED
IMPACTED MATERIAL PLACEMENT
OPTION 1 - GRID METHOD
PLAN VIEW
SHEET 1 OF 3**



SECTION A-A'
NTS

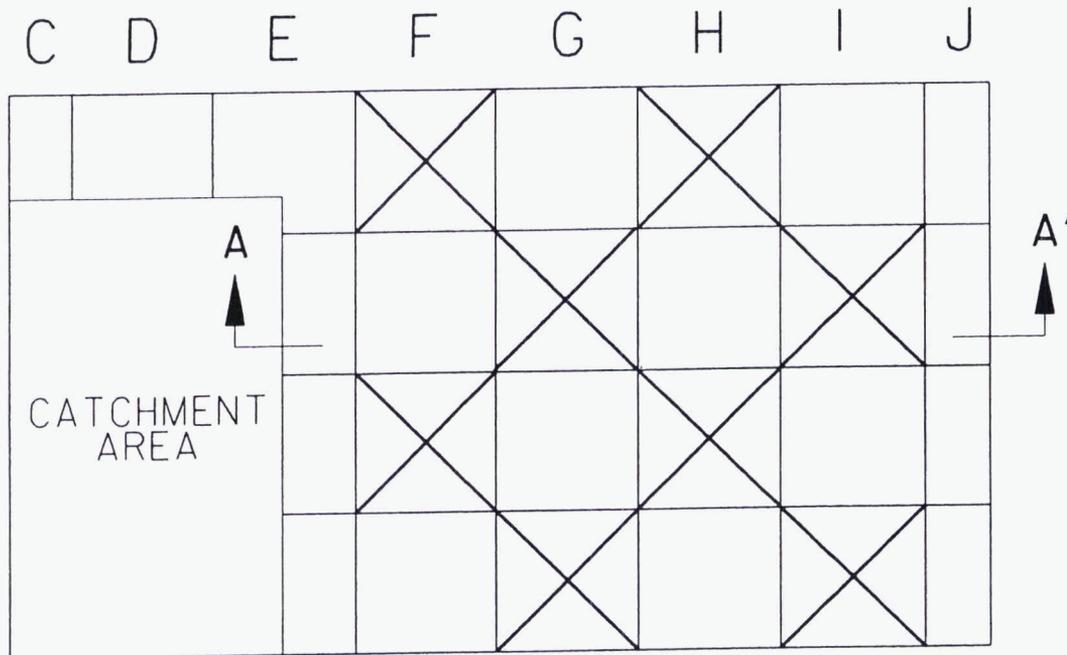
CONSTRUCT CAT 1 BERM ON FOURTH SIDE OF GRID AFTER PLACEMENT OF BAGGED OR NON-BAGGED IMPACTED MATERIAL IS COMPLETED



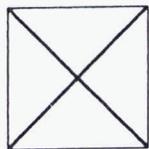
SECTION B-B'
NTS

NOTE: FOR PLAN VIEW SEE FIGURE 2 (SHEET 2 OF 3)

FIGURE 3
THORIUM, BAGGED OR NON-BAGGED
IMPACTED MATERIAL PLACEMENT
OPTION 1 - GRID METHOD
CROSS SECTIONS
SHEET 3 OF 3



OSDF - TYPICAL CELL



POSSIBLE LOCATION OF BAGGED OR
NON-BAGGED IMPACTED MATERIAL WITHIN
14 FT +/- 2 FT OF LOWER HORIZON ABOVE
TOP OF 3 FT THICK SELECT IMPACTED
MATERIAL LAYER

TYPICAL CHECKERBOARD PATTERN IN SAME HORIZON
NTS

FIGURE 5
BAGGED OR NON-BAGGED
IMPACTED MATERIAL PLACEMENT
TYPICAL CHECKERBOARD PATTERN
SHEET 1 OF 1



State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street
Dayton, Ohio 45402-2911

TE

Bob Taft, Governor
J. Lt. Governor
James, Director

Post-it [®] Fax Note		7671	Date	# of pages
To	J. J. Chioy		From	Ohio EPA
Co/Dept			Co	
Phone #			Phone #	
Fax #	x 5131		Fax #	

May 20, 2004

Mr. William J. Taylor
U.S. Department of Energy, Fernald Area Office
P.O. Box 538705
Cincinnati, OH 45253-8705

RE: APPROVAL OSDF IMPP ADDENDUM 2 REVISION 3

Dear Mr. Taylor:

This letter provides Ohio Environmental Protection Agency approval of Addendum 2, Revision 3 of the On-Site Disposal Facility Impacted Material Placement Plan. The approved revisions were initially submitted as RCI Nos. 20105-006R and 20105-007R.

Should you have any questions, please contact Tom Ontko or me.

Sincerely,

Thomas A. Schneider
Fernald Project Manager
Office of Federal Facilities Oversight

- cc: Jim Saric, U.S. EPA
- Terry Hagen, Fluor Fernald
- Mark Shupe, GeoTrans, Inc.
- Michelle Cullerton, Tetra Tech EM Inc.
- Ruth Vandergrift, ODH

RCI/DCN FORM

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.: 20105	(2) S/C NO.: FSC-659	(3) Pg. 1 ^{of} 2	(4) DATE: 2/20/2004
(5) PROJECT/CWO/RES/S/C TITLE: On-Site Disposal Facility (Phase V) Construction			(6) RCI NO.: 20105-006R
(7) RCI/DCN TITLE: Placement of Impacted Material in Checkerboard pattern			(6) DCN NO.:
(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
OSDF Impacted Material Placement Plan	20100-PL-007	3PCN1	Addendum 2
(10) REQUESTOR: Kevin Harbin <small>NAME (Print & Sign) DATE</small>		(11) CE / PE Charles C. Van Arsdale <i>Ch. C. Van Arsdale</i> 2/25/04 <small>NAME (Print & Sign) DATE</small>	
(12) <input checked="" type="checkbox"/> RCI-DESCRIPTION		(13) <input type="checkbox"/> DCN-JUSTIFICATION. EXISTING CONDITION & REQUESTED/PROPOSED CHANGE	
<p>Currently, Addendum 2 of the Impacted Material Placement Plan (IMPP) prohibits impacted material placed by the Grid Method or Trenching method to be placed laterally adjacent to each other within the same horizon. The Addendum is unclear whether a checkerboard pattern for impacted material placement by Grid Method or Trenching Method is permissible. Impacted material placed by Grid Method or Trenching Method in a checkerboard pattern would only be contiguous at the point on the corner of the grid and would not yield a continuous area of special placement spanning over two adjacent grids.</p>			

DESIGN ORGANIZATION RCI - DCN SUMMARY DESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION

The Grid Method, according to Addendum 2 of the IMPP, requires 10-foot berms consisting of Category 1 material to be constructed around and through the center of the impacted material. These berms provide a compacted buffer between less densely compacted material. Therefore, impacted material placed by Addendum 2 would be buffered by the berms in a checkerboard pattern of placement. Also, the checkerboard pattern, with the 100-foot grids with Category 1 material berms, provides for relatively homogeneous mechanical properties which would tend to increase stability and to reduce the potential for differential settlement. A checkerboard pattern of placement in accordance with the Grid Method or Trenching Method of Addendum 2 of the IMPP is consistent with the design intent and is protective of the long term performance of the OSDF.

(15) REVIEWS COMPLETED

<input type="checkbox"/> Configuration Management SSC Review Complete	DO NAME (Print & Sign)	DATE
<input checked="" type="checkbox"/> Impact Assessment Review Complete	<i>K. BATU-TWENEBATH</i>	2/27/04
	DO NAME (Print & Sign)	DATE
	<i>x E. AKUMSTREAN</i>	2/25/2004
<input checked="" type="checkbox"/> Technical Review Complete	PE NAME (Print & Sign)	DATE
	<i>K. BATU-TWENEBATH</i>	2/27/04
<input checked="" type="checkbox"/> ED-12-4010 Review Complete	DO NAME (Print & Sign)	DATE
	<i>x E. AKUMSTREAN</i>	2/25/2004
	PE NAME (Print & Sign)	DATE

<p>(16) DOES CE AGREE WITH SOLUTION: <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES</p> <p>IS A PURCHASE REQUISITION REQUIRED: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES</p> <p><i>Ch. C. Van Arsdale</i> 2/25/04 <small>CE NAME (Print & Sign) DATE</small></p>	<p>(17) FIELD WORK COMPLETED:</p> <p>_____ <small>CE OR PE (Print & Sign) DATE:</small></p>
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RCI/DCN FORM

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.: 20105	(2) S/C NO.: FSC-659	(3) Pg. 1 ^{of} 2	(4) DATE: 2/25/2004
(5) PROJECT/CWO/RES/S/C TITLE: On-Site Disposal Facility (Phase V) Construction			(6) RCI NO.: 20105-007R
(7) RCI/DCN TITLE: Placement of 2 lifts per grid by Addendum 2 Grid Method or Trenching Method			(6) DCN NO.:
(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
OSDF Impacted Material Placement Plan	20100-PL-007	3PCN1	Addendum 2
(10) REQUESTOR: Kevin Harbin <i>[Signature]</i> NAME (Print & Sign) DATE 3/9/04		(11) CE / PE Charles C. Van Arsdale <i>[Signature]</i> NAME (Print & Sign) DATE 3/10/04	
(12) <input checked="" type="checkbox"/> RCI-DESCRIPTION		(13) <input type="checkbox"/> DCN-JUSTIFICATION. EXISTING CONDITION & REQUESTED/PROPOSED CHANGE	
<p>Currently, Addendum 2 of the Impacted Material Placement (IMP) Plan limits impacted material placed by the Grid Method or Trenching method to one lift per grid. Due to the additional amount of Addendum 2 impacted material available, can two lifts of Addendum 2 impacted material, either consecutively or placed apart, be placed within the same grid?</p>			

DESIGN ORGANIZATION RCI - DCN SUMMARY DESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION

A second lift of impacted material using the Grid Method or Trenching Method of Addendum 2 to the IMP Plan may be placed in the same grid if the two lifts are separated by a minimum 6 ft of Category 1 or 2 impacted materials placed in accordance with the IMP Plan. The 6-ft separation layer of Category 1 or 2 impacted materials serve as a buffer or bridging layer over the first lift of impacted material placed by Addendum 2. Additional compaction energy will be transferred to the first lift of impacted material, during the placement and compaction of the overlying Category 1 or 2 impacted materials, and thereby densify the underlying first lift of impacted material placed by Addendum 2. This would help to reduce the potential for differential settlement to occur within the OSDF. Additionally, the impacted materials placed by Addendum 2 are confined by Category 1 soil berms that are placed, compacted and performance tested per the IMP Plan. The Category 1 soil berms and 6-ft buffer of Category 1 and 2 impacted materials provide relatively homogeneous mechanical properties and help in the stability of the impacted materials placed in the OSDF, thereby meeting the OSDF general design criteria. Therefore, allowing a second lift of impacted material to be placed by the Grid Method or Trenching Method of Addendum 2 to the IMP Plan, but separated by 6-ft thick layer of Category 1 or 2 impacted materials, within each grid is consistent with the design intent and is protective of the long term performance of the OSDF.

(15) REVIEWS COMPLETED

Configuration Management SSC Review Complete

Impact Assessment Review Complete

Technical Review Complete

ED-12-4010 Review Complete

DO NAME (Print & Sign) DATE
K. BADU-TWENTEBAH *[Signature]* 3/10/04
 DO NAME (Print & Sign) DATE

PE NAME (Print & Sign) DATE
K. BADU-TWENTEBAH *[Signature]* 3/10/04
 DO NAME (Print & Sign) DATE

PE NAME (Print & Sign) DATE

(16) DOES CE AGREE WITH SOLUTION: NO YES

(17) FIELD WORK COMPLETED:

IS A PURCHASE REQUISITION REQUIRED: NO YES

RCI/DCN FORM

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

PROJECT/CWO/RES NO.: 20105	(2) S/C NO.: FSC-659	(3) Pg. 1 ^{of} 2	(4) DATE: 4/20/2004
(5) PROJECT/CWO/RES/S/C TITLE: On-Site Disposal Facility (Phase V) Construction			(6) RCI NO.: 20105-008R
(7) RCI/DCN TITLE: Use of interior berm for Addendum 2 impacted material placement			(6) DCN NO.:
(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
OSDF Impacted Material Placement Plan	20100-PL-007	3PCN2	Addendum 2, Revision 2
(10) REQUESTOR: Kevin Harbin <small>NAME (Print & Sign)</small>		(11) CE / PE Charles C. Van Arsdale <i>Charles C. Van Arsdale</i> <small>NAME (Print & Sign)</small> 4/22/04 <small>DATE</small>	
(12) <input checked="" type="checkbox"/> RCI-DESCRIPTION		(13) <input type="checkbox"/> DCN-JUSTIFICATION. EXISTING CONDITION & REQUESTED/PROPOSED CHANGE	

Currently, Addendum 2 of the Impacted Material Placement (IMP) Plan requires an additional berm to be constructed in the middle of an approved grid for placement of bagged or non-bagged impacted material. It was understood that this berm was to provide access for a trackhoe or other equipment to spread and compact the thorium debris to the required lift thickness. Bagged asbestos is placed without tamping from the bucket of a trackhoe and therefore does not need the use of an additional berm. Please modify Addendum 2 to remove the construction of an additional berm for the special cases of impacted material placement, such as bagged asbestos, that do not need mechanical tamping.

DESIGN ORGANIZATION RCI - DCN SUMMARY DESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION

A sentence on page 3 of revision 2 of Addendum 2 to the Impacted Materials Placement Plan after the fourth sentence under "Preparation of the ..." to read "This additional berm is not necessary if equipment access for spreading or tamping the impacted material, such as bagged asbestos, is not required." A note should be added to Figures 1, 2, and 3 describing the use of the additional berm for impacted material placement under Addendum 2.

In accordance with Addendum 2, the requirement remains that compaction shall not be performed directly on bagged or non-bagged impacted material and the bagged or non-bagged impacted material shall be covered by an initial 15 to 18 inch loose lift of Category 1 soil material by the end of each working day. Compaction of this initial soil lift and the subsequent lift shall remain as stated in Addendum 2 of the Impacted Material Placement Plan.

(15) REVIEWS COMPLETED

Configuration Management SSC Review Complete

Impact Assessment Review Complete

Technical Review Complete

ED-12-4010 Review Complete

<small>DO NAME (Print & Sign)</small>	<small>DATE</small>
Kwasi Badu-Tweneboah <i>Kwasi Badu-Tweneboah</i>	4/22/04
<small>DO NAME (Print & Sign)</small>	<small>DATE</small>
Uday Kumthekar <i>Uday Kumthekar</i>	4/22/04
<small>PE NAME (Print & Sign)</small>	<small>DATE</small>
Kwasi Badu-Tweneboah <i>Kwasi Badu-Tweneboah</i>	4/22/04
<small>DO NAME (Print & Sign)</small>	<small>DATE</small>
Uday Kumthekar <i>Uday Kumthekar</i>	4/22/04
<small>PE NAME (Print & Sign)</small>	<small>DATE</small>

(16) DOES CE AGREE WITH SOLUTION: NO YES

IS A PURCHASE REQUISITION REQUIRED: NO YES

Charles Van Arsdale
Charles Van Arsdale, Fluor Fernald
CE NAME (Print & Sign) 4/22/04
DATE

(17) FIELD WORK COMPLETED:

CE OR PE (Print & Sign) DATE:



State of Ohio Environn
Southwest

Post-it® Fax Note 7671

To	J.D. Chiou	Date		# of pages	▶
From	Ohio EPA	Co			
Co/Dept		Phone #			
Phone #		Fax #	5131		

401 East Fifth Street
Dayton Ohio 45402-2911

TELE: (937) 285-83

MEMORANDUM

FILE

TO: J.D. Chiou, SDFP Manager, Fluor Fernald
 FROM: Tom Ontko, Ohio EPA *muo*
 DATE: July 7, 2004
 RE: OSDF Phase V RCI 20105-009R

The IMPP requires that pipes with a nominal diameter of 12 inches or more be split or crushed to minimize the creation of voids within the OSDF. The Services Building D&D will generate over 2000 linear feet of 'Ric-Wil' piping. The Ric-Wil pipe is nominally 18 inches in diameter and within the pipe are three smaller pipes: two six-inch steam pipes and one 3-inch condensate pipe. Also inside the Ric-Wil pipe is packing/insulation containing 75% asbestos. This RCI requests relief from the IMPP requirement to crush the pipes.

The Ohio EPA approves this change providing the pipes be placed at a minimum of 12 feet below the compacted clay cap of the cover system and the pipes be spread in a layer no more than one pipe high within the prepared grid. We note that stacking pipes higher than one lift would violate the requirement that Category 2 waste be spread in lifts no higher than 21 inches plus or minus 3 inches. (Section 8.3.1 IMPP)

Approval of these changes does not constitute an assurance that the proposed facilities will operate in compliance with Ohio laws and regulations or that these facilities will perform in a fashion that achieves the objectives of the Operable Unit 2 Record of Decision.

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20105	SUBCONTRACT NO: FSC-653	DATE: 04/27/2004	PAGE 1 OF 3
SUBCONTRACT OR PROJECT TITLE: On-Site Disposal Facility (OSDF) Phase V Construction			RCI NO: 20105-009R
RCI/DCN TITLE: Placement Method of 'Ric-Wil' Pipes Containing Asbestos Insulation			DCN No:

DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:

As part of the D&D of the Service Building at the FEMP site, there are two, 6-in. diameter steam pipe and 3-in. diameter condensate pipe, both encased in an 18-in. nominal diameter 'Ric-Wil' pipe around the building. The remaining annular space within the 'Ric-Wil' pipe is packed with an insulation made of a minimum "...75 percent long fiber asbestos, and shredded sponge thoroughly and uniformly waterproofed..." These pipes will be manifested for disposal in the OSDF. Section 4.3 (page 4-2) of the OSDF Impacted Material Placement (IMP) Plan states that: "...process piping with a nominal diameter of 12 in. or greater shall be split in half..." Splitting the 18-inch diameter 'Ric-Wil' pipes in half could generate a friable asbestos condition, which is potentially hazardous and unsafe. Can the 'Ric-Wil' pipes be placed without cutting them longitudinally? Please clarify.

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION
Impacted Materials Placement Plan	20100-PL-007	3PCN2
FLUOR FERNALD REQUESTOR: (PRINT/SIGN) Anthony Snider		DATE:

DESIGN REVIEW SECTION

X_ RCI ___ DCN	REQUESTOR PROPOSED CHANGE? ___ YES _x_NO	SBDR NO: USQD NO:	PERFORMANCE GRADE: QUALITY LEVEL:	SRC/ENGINEERING REVIEW MADE FOR PG 1, 2 or 3: ___Y ___XN/A
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DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; ___ REQUESTOR PROPOSED CHANGE ACCEPTED; ___ REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; ___ DESIGN ORGANIZATION CHANGE PROVIDED BELOW, ___ CHANGE REJECTED WITH JUSTIFICATION BELOW; _X_ RCI CLARIFICATION ADDRESSED BELOW

See attached response, which indicate that the pipes can be cut into 10-ft lengths, wrapped at the ends to minimize exposure and placed as Category 5 ACM-insulated piping in 20-ft by 20-ft square by 4-ft deep trenches as described in Section 8.6.4 of the IMP Plan. In order to minimize potential development of differential settlement or voids within the OSDF, due to the possible collapse of the pipes, it is recommended that the pipes be placed at a minimum of 12 ft below the compacted clay cap of the final cover system.

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) <i>Kristi Bady-Trenchard</i> DATE <i>4/30/04</i>	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) _____ DATE _____
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) _____ DATE _____	CHANGE COMPLETED NAME (PRINTED/SIGNED) _____ DATE _____

DESIGN ORGANIZATION RESPONSE TO RCI NO. 20105-009R

PLACEMENT METHOD FOR 'RIC-WIL' PIPES CONTAINING ASBESTOS INSULATION

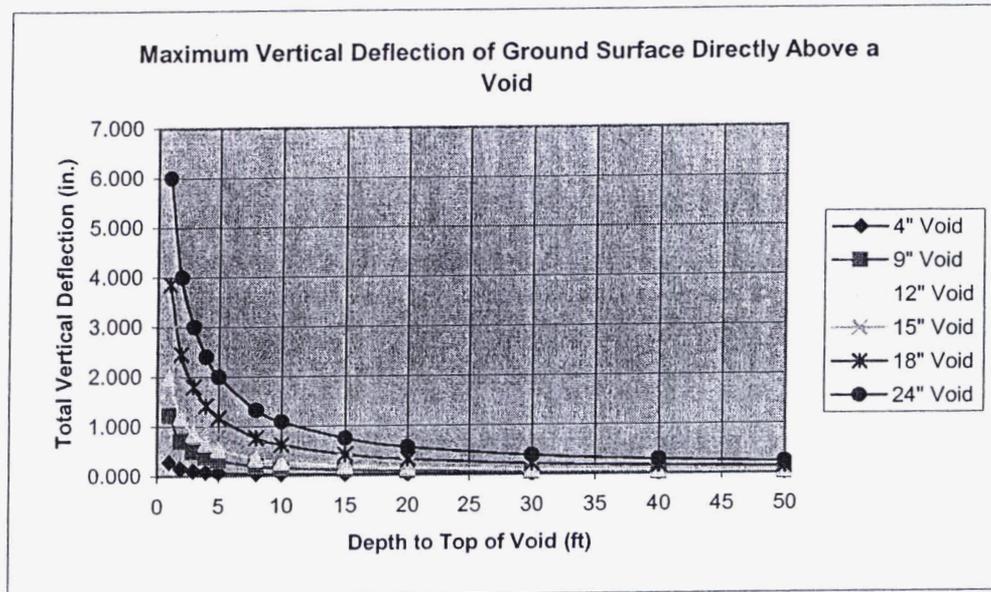
As part of RCI No. 20104-001R for the Intervening Layer Thickness, an analysis was performed to evaluate the settlement of the final cover system as a function of the depth of void. A 12-in. diameter void was used to model the complete collapse of a 12-in. diameter metal pipe, which is the maximum diameter intact pipe that can be placed in the OSDF. The analysis showed that a 12-in. diameter void located 4 feet from the bottom of the cover system would result in a calculated settlement of 0.46 in. at the top of the compacted clay cap in the OSDF final cover system. This implied that the debris containing pipes should not be placed within 6 ft of the compacted clay cap component of the final cover system (i.e., 3-ft thick select impacted material plus 1-ft thick contouring layer plus 2-ft thick compacted clay cap).

The above analysis has been extended to an 18-in. diameter void to represent the 'Ric-Wil' pipe. The settlement at the surface due to a void occurring at depths of 1 to 50 feet was calculated and plotted as shown in the attached sheet. The results of the analysis show that an 18-in. diameter void located 14 feet below the final cover system would result in a calculated settlement of 0.46 in at the top of the compacted clay cap in the OSDF final cover system. Therefore, the 'Ric-Wil' pipe shall be placed at approximately 12-ft depth below the compacted clay cap of the final cover system. The proposed depth for placement of the 'Ric-Wil' pipes is conservative, because, it is very unlikely that the 'Ric-Wil' pipes and the two inner steam and condensate pipes would all collapse at the same time. Also, the insulation within the pipes would reduce the total void space becoming 18 in. assuming the 'Ric-Wil' and inner pipes collapsed completely.

The 'Ric-Wil' pipes shall be placed in accordance with Section 8.6.4 of the IMP Plan for the placement of ACM-insulated piping in the OSDF. The 'Ric-Wil' pipes shall be cut in 10 ft maximum lengths, wrapped at the ends with appropriate material to reduce the potential of exposure to friable asbestos and placed in 20 ft by 20 ft square by 4 feet deep trenches, as described in Section 8.6.4 of the IMP Plan.

Void Settlement Calculations for Fernald OSDF Project - RCI No.20105-009R

Void Diameter (in)	4	9	12	15	18	24
Void Depth (ft)	4" Void	9" Void	12" Void	15" Void	18" Void	24" Void
1	0.286	1.227	2.000	2.885	3.857	6.000
2	0.154	0.711	1.200	1.786	2.455	4.000
3	0.105	0.500	0.857	1.293	1.800	3.000
4	0.080	0.386	0.667	1.014	1.421	2.400
5	0.065	0.314	0.545	0.833	1.174	2.000
8	0.041	0.201	0.353	0.543	0.771	1.333
10	0.033	0.163	0.286	0.441	0.628	1.091
15	0.022	0.110	0.194	0.300	0.429	0.750
20	0.017	0.083	0.146	0.227	0.325	0.571
30	0.011	0.056	0.098	0.153	0.220	0.387
40	0.008	0.042	0.074	0.115	0.166	0.293
50	0.007	0.033	0.059	0.093	0.133	0.235



Depth to Cavity (ft)	Maximum Expected Surface Deflection	
	12 in. Void	18 in. Void
6 (3 ft Category 1, 1 ft Contour Layer, 2 ft Clay Layer)	0.46	1.00
8 (5 ft Category 1, 1 ft Contour Layer, 2 ft Clay Layer)	0.35	0.77
14 (11 ft Category 1, 1 ft Contour Layer, 2 ft Clay Layer)		0.46
18.5 (15.5 ft Category 1, 1 ft Contour Layer, 2 ft Clay Layer)		0.35



State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor
Jennette Bradley, Lt. Governor
Christopher Jones, Director

MEMORANDUM

TO: J.D. Chiou, SDFP Manager, Fluor Fernald
FROM: Tom Ontko, Ohio EPA
DATE: March 3, 2004
RE: RCI 20112-001R

This RCI adds a mud mat beneath the floor foundation slab for the final two valve houses.

The Ohio EPA approves this change.

Approval of these changes does not constitute an assurance that the proposed facilities will operate in compliance with Ohio laws and regulations or that these facilities will perform in a fashion that achieves the objectives of the Operable Unit 2 Record of Decision.

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20112	SUBCONTRACT NO: N/A	DATE: 02/04/04	PAGE 1 OF 1
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SUBCONTRACT OR PROJECT TITLE: Valve House Construction	RCI NO: 20112-001R
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RCI/DCN TITLE: Concrete fill 'mud mat'	DCN No:
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DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:
 Construction is recommending placement of a 3 inch to 6 inch concrete fill (min. 2500 psi 28 days) 'mud mat' beneath Valve Houses to improve the work environment (Safety) and the constructability of the Floor foundation slab.

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION
20112-TS-0001	Section 02200 Earthwork	Rev. 0
20112-TS-0001	Section 03100 Concrete	Rev. 0

FLUOR FERNALD REQUESTOR: (PRINT/SIGN) Don Goetz 	DATE: 02/04/04
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DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI <input type="checkbox"/> DCN	REQUESTOR PROPOSED CHANGE? <input type="checkbox"/> YES <input type="checkbox"/> NO	SBDR NO: USQD NO:	PERFORMANCE GRADE: QUALITY LEVEL:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3: Y N/A
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DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; REQUESTOR PROPOSED CHANGE ACCEPTED; REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW, CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW

Agree. MIB OK -> BUT CONSIDER USE OF "FEASIBLE FILL" TO ALLOW EXCAVATION OF RECESSED AREA FOR FORMING OF CORNER SUMP. TRNK

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) <i>M. Boszormenyi</i> DATE <i>2/10/04</i>	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) <i>Tom Kucip</i> DATE <i>2/10/04</i>
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) <i>Don Goetz</i> DATE <i>02/10/04</i>	CHANGE COMPLETED NAME (PRINTED/SIGNED) DATE

9372856404

MAR-03-04 02:44PM FROM-OEPA SOUTHWEST OFC, E

9372856404

T-382 P 01/02 F-077

State of Ohio

SOU

TELE:

Post-It® Fax Note		7671	Date	# of pages ▶
To	JD Chiou		From	OEPA
Co./Dept.			Co	
Phone #			Phone #	
Fax #	X5731		Fax #	

401 East Fifth Street
Dayton, Ohio 45402-2811

Governor
Governor
& Director

MEMORANDUM

TO: J.D. Chiou, SDFP Manager, Fluor Fernald
 FROM: Tom Ontko, Ohio EPA
 DATE: March 3, 2004
 RE: RCI 20112-002R

This RCI changes the splicing specifications for rebar in the valve house walls.

The Ohio EPA approves this change.

Approval of these changes does not constitute an assurance that the proposed facilities will operate in compliance with Ohio laws and regulations or that these facilities will perform in a fashion that achieves the objectives of the Operable Unit 2 Record of Decision.

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20112	SUBCONTRACT NO: N/A	DATE: 02/04/04	PAGE 1 OF 1
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SUBCONTRACT OR PROJECT TITLE: Valve House Construction	RCI NO: 20112-002R
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RCI/DCN TITLE: Reinforcement installation Valve House walls	DCN No:
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DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:
 Construction is recommending addition of a lap splice for the #5 and #8 vertical wall reinforcement shown on the affected documents listed below. Addition of lap splices will enable the concrete protective liner installer greater access to the liner panels during installation. Splices shall be 24 inch min. for #8 bar and 15 inch min. for #5 bar; as measured from the top of the 18 inch floor foundation.

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION
Valve House 7 Structural Details I	90X-5500-S-00678	Rev. 0
Valve House 7 Structural Details II	90X-5500-S-00679	Rev. 0
VALVE HOUSE 8 STRUCTURAL DETAILS III	90X-5500-S-00680	REV. 0
VALVE HOUSE 8 STRUCTURAL DETAILS IV	90X-5500-S-00681	REV. 0

FLUOR FERNALD REQUESTOR: (PRINT/SIGN) Don Goetz 	DATE: 02/04/04
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DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI <input type="checkbox"/> DCN	REQUESTOR PROPOSED CHANGE? <input type="checkbox"/> YES <input type="checkbox"/> NO	SBDR NO: USQD NO:	PERFORMANCE GRADE: QUALITY LEVEL:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3: Y N/A
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DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; REQUESTOR PROPOSED CHANGE ACCEPTED;
 REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW, CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW

Use 30" minimum splice for #8 bars. Use 15" minimum splice for #5 bars as requested. ACI 318-02, 12.2

NOTE: VERTICAL REINFORCEMENT AT AND ADJACENT TO WALL PENETRATIONS SHALL BE INSTALLED PER DESIGN DRAWINGS TO MINIMIZE ANCHOR BOLT INTERFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) <i>M. Boserman</i> DATE <i>2/10/04</i>	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) <i>Paul Kneip</i> DATE <i>2/10/04</i>
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) <i>Don Goetz</i> DATE <i>02/10/04</i>	CHANGE COMPLETED NAME (PRINTED/SIGNED) DATE

SHEET M-6
THANK

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20112	SUBCONTRACT NO:	DATE: 4/5/04	PAGE 1	OF 3
SUBCONTRACT OR PROJECT TITLE: Valve Houses 7 & 8			RCI NO: 20112-003R	
RCI/DCN TITLE: Qualification of Design Mix			DCN No:	

DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:
Quantity of Coarse and Fine Aggregate as specified for the concrete Mix Design (page 2) does not exactly match as proposed by Miami Valley Ready Mix (page 3)

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION
Technical Specifications	20112-TS-0001 (Section 03100-Concrete)	0

FLUORBERNARD REQUESTOR: (PRINT/SIGN)
~~UDAY KUMTHEKAR / Uday Kumar~~ **SURINDER KUMAR / S. Kumar** DATE: **4/5/04**

DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI	REQUESTOR PROPOSED CHANGE? <input checked="" type="checkbox"/> YES	SBDR NO:	PERFORMANCE GRADE:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3: Y <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> DCN	<input type="checkbox"/> NO	USQD NO:	QUALITY LEVEL: 4	

DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; REQUESTOR PROPOSED CHANGE ACCEPTED; REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW; CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW

Unit weight of fresh concrete as specified varies from 138-155 lbs/ft³. A slight variation in Coarse & Fine aggregate will keep the unit weight in that range without affecting its strength. Miami Valley Ready Mix is, therefore, acceptable.

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) DATE	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) DATE
SURINDER KUMAR / S. Kumar 4/6/04	
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) DATE	CHANGE COMPLETED NAME (PRINTED/SIGNED) DATE
UDAY KUMTHEKAR / Uday Kumar 4/6/04	

TABLE 03100-01
CONCRETE MIX DESIGN

Portland Cement, ASTM C 150 Type II	564 lb/yd ³
Pozzolan: Fly Ash, ASTM C 618 Class F or Silica Fume, ASTM C 1240	80 – 110 lb/yd ³ 28 lb/yd ³
Coarse Aggregate, SSD* ASTM C 33	1900 lb/yd ³ , 1 inch maximum size
Fine Aggregate, SSD ASTM C 33	1250 lb/yd ³
Water/(Content + Pozzolan) (total water content will vary depending on type and amount of pozzolan used)	0.38
High-Range Water Reducing Admixture (HRWRA)	Per specified slump requirements
Air Entraining Admixture (AEA) ASTM C 231	Sufficient to produce 5% ±1% air at point of delivery
Slump – ASTM C 143	4 inches ± 1 inch
Unit Weight, Fresh Concrete	138 – 155 lb/ft ³
Compressive Strength, 28 days (minimum) ASTM C 39	4000 psi
SSD* - saturated, surface dry condition	

[END OF SECTION]

Miami Valley Ready Mix

7466 New Haven Rd.
Harrison, Ohio 45030

Ph 513.738.1933
Fax 513.738.1935

Quotation:

04/02/2004

Customer: Fluor Daniel Fernald
Project: Valve House
Location: Willey Road

Price: 

Mix Name:	4000	ID Number:	4000ext a/e
Slump(in):	4	Design W/C:	0.38
Type of Construction:	Slab	Design Streng	4000
Minimum wall thickness:	2"		
Concrete Exposure :	Severe		
Type of Concrete :	Air-entrained	5 %	
Type of Structure:	Other than railings, curbs, sills, ornamental work and with more than 1 in. cover		
Concrete Environment:	Exposed	to freeze thaw cycles	

MIX COMPONENTS IN 1 CUBIC YARD.

Material	Class	Source	Target Weights lb/yd
Cement	Type I	Lone Star	564.00
Uzzolan A	Slag	Lone Star Aucem	0.00
Uzzolan B	Fly Ash	US Ash	80.00
Fine Aggregate	sand	MM Ross	1059.57
Medium Aggregate	#8	MM Ross	158.39
Coarse Aggregate	#57	MM Ross	1714.29
Water	Potable	Well	247.82
Total			3824.07

ADMIXTURE DOSES IN FLUID ONCES

		Oz/Cwt	Oz/Yd
Air	Air Mix 200	0.45	2.90
Water Reducer	WR 91	6.00	38.64
Super	MR	0.00	0.00
Calcium	HE	0.00	0.00

Remarks: Must be cured according to ACI 308

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20112	SUBCONTRACT NO: N/A	DATE: 04/22/04	PAGE 1 OF 1
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SUBCONTRACT OR PROJECT TITLE: Valve House Construction	RCI NO: 20112-004R
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RCI/DCN TITLE: Mud Mat/Vapor Barrier	DCN No:
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DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:

Can the 4000 PSI, 6 inch (+/-) mud mat at valve houses 7 and 8 be used as the vapor barrier?

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION
20112-TS-0001	Section 03100 Concrete	Rev. 0

FLUOR FERNALD REQUESTOR: (PRINT/SIGN) Don Goetz 	04/22/04
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DESIGN REVIEW SECTION

<input type="checkbox"/> RCI	REQUESTOR PROPOSED CHANGE? <input type="checkbox"/> YES	SBDR NO:	PERFORMANCE GRADE:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3: Y N/A
<input type="checkbox"/> DCN	<input type="checkbox"/> NO	USQD NO:	QUALITY LEVEL:	

DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; REQUESTOR PROPOSED CHANGE ACCEPTED; REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW, CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW

THE MUD MAT WILL BE ADEQUATE FOR THE ENVIRONMENTAL REQUIREMENTS OF THE VALVE HOUSES. MJB 4/26/04

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) <i>M. J. Cooper</i> DATE <i>4-26-04</i>	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) <i>R. Kasip</i> DATE <i>4/26/04</i>
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED)  DATE <i>04/26/04</i>	CHANGE COMPLETED NAME (PRINTED/SIGNED) DATE

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20112	SUBCONTRACT NO: N/A	DATE: 04/27/04	PAGE 1 OF 1
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SUBCONTRACT OR PROJECT TITLE: Valve House Construction	RCI NO: 20112-005R
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RCI/DCN TITLE: Clarification of Structural Layout	DCN No:
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DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:
Please clarify the dimensional requirements of the vertical #5 reinforcing steel bars in the west wall, east face, Valve House 7

DOCUMENTS AFFECTED Valve House 7 Structural Details I	DOCUMENT NUMBER 90X-5500-S-00678	REVISION 1
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FLOOR FERNALD REQUESTOR: (PRINT/SIGN) Don Goetz	DATE: 04/27/04
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DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI	REQUESTOR PROPOSED CHANGE? <input type="checkbox"/> YES	SBDR NO:	PERFORMANCE GRADE:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3:
<input type="checkbox"/> DCN	<input type="checkbox"/> NO	USQD NO:	QUALITY LEVEL:	Y N/A

DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; REQUESTOR PROPOSED CHANGE ACCEPTED; REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW, CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW

The vertical #5 reinforcing steel in the west wall, east face of Valve House 7 should be installed per detail "H" shown on Sheet S-2. The minimum concrete cover in this area should be 3" as indicated on detail "A" shown on Sheet S-2.

ADDITIONAL CLARIFICATION: The required inside face reinforcement for the north and south walls is shown for the mid-wall step. At the lower and upper step elevations, the inside face steel reinforcement will fall at 3" below the top of wall. At the mid step elevation, an additional #5 horizontal bar should be added at the height corresponding to 3" below the top of the wall at the mid step, and extended into the upper step at least 24". The vertical inside face #5 reinforcing steel at the mid step should be extended up to 3" below the top of the mid step wall height.

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) DATE Mike Borgman <i>M. Borgman</i> 4/28/04	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) DATE Rob Kneip <i>Rob Kneip</i> 4/29/04
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) DATE <i>[Signature]</i> 4/29/04	CHANGE COMPLETED NAME (PRINTED/SIGNED) DATE

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20112	SUBCONTRACT NO: N/A	DATE: 04/28/04	PAGE 1 OF 1
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SUBCONTRACT OR PROJECT TITLE: Valve House Construction	RCI NO: 20112-006R
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RCI/DCN TITLE: Installation of reinforcement, Valve House walls.	DCN No:
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DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:
To improve constructability; request approval to splice horizontal reinforcing bars adjacent to the vertical shear keys in the valve house walls.

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION
Valve House 7 Structural Details II	90X-5500-S-00679	0
Valve House 8 Structural Details II	90X-5500-S-00681	0

FLUOR FERNALD REQUESTOR: (PRINT/SIGN) Don Goetz	DATE: 04/28/04
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DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI	REQUESTOR PROPOSED CHANGE? <input type="checkbox"/> YES	SBDR NO:	PERFORMANCE GRADE:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3:
<input type="checkbox"/> DCN	<input type="checkbox"/> NO	USQD NO:	QUALITY LEVEL:	<input type="checkbox"/> Y <input type="checkbox"/> N/A

DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; REQUESTOR PROPOSED CHANGE ACCEPTED; REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW, CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW

Splicing horizontal reinforcement for constructability is acceptable. Provide minimum lap splice of 18 inches.

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) <i>M. J. Borgman</i> DATE <i>4/29/04</i> Mike Borgman	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) <i>Rob Kneip</i> DATE <i>4/29/04</i> Rob Kneip
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) <i>[Signature]</i> DATE <i>04/30/04</i>	CHANGE COMPLETED NAME (PRINTED/SIGNED) DATE

ORIGINAL

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20112	SUBCONTRACT NO: N/A	DATE: 05/10/04	PAGE 1 OF 1
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SUBCONTRACT OR PROJECT TITLE: Valve House Construction	RCI NO: 20112-007R
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RCI/DCN TITLE: Alternate Threaded Rod Installation	DCN No:
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DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:
 Construction is requesting approval to install anchors (threaded rod) in valve house walls embedded with the wall pours as an alternative to a post pour drill and epoxy installation. Anchors would be embedded a minimum of 6 inches with washer and double nut on the embedded end of each anchor.

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION
Valve House Mechanical Details VI	90X-5500-M-00677	0

FLUOR FERNALD REQUESTOR: (PRINT/SIGN) Don Goetz <i>Don Goetz</i>	DATE: 05/11/04
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DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI	REQUESTOR PROPOSED CHANGE? <input type="checkbox"/> YES	SBDR NO:	PERFORMANCE GRADE:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3: Y N/A
<input type="checkbox"/> DCN	<input type="checkbox"/> NO	USQD NO:	QUALITY LEVEL:	

DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; REQUESTOR PROPOSED CHANGE ACCEPTED;
 REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW, CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW

*USE 1 1/4" ; 316 S.S. THREADED ROD, WASHERS + NUTS.
 PLACE ANCHORS AS INDICATED ON SHEET M-6.
 USING BOLT RING TEMPLATE.*

Attwyl

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) DATE Rob Kneip <i>Rob Kneip</i> 5/11/04	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) DATE Rob Kneip <i>Rob Kneip</i> 5/11/04
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) DATE <i>Don Goetz</i> 05/11/04	CHANGE COMPLETED NAME (PRINTED/SIGNED) DATE

ORIGINAL

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20112	SUBCONTRACT NO: N/A	DATE: June 23, 2004	PAGE 1 OF 2
SUBCONTRACT OR PROJECT TITLE: EPLTS Valve House 7 and 8		RCI NO: 20112-008R	
RCI/DCN TITLE: Valve House # 8: North and South Wall Reinforcement alignment at penetration		DCN No:	

DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:

Field alignment of pipe penetration in North and South walls of Valve House 8 is such that existing LTS pipe is not centered over 3rd vertical reinforcing bar from west edge. Also, pipe is approximately 1" from 4th bar from west.

Can these bars be bent toward the East to better align with piping to allow optimal placement of penetration reinforcing steel?

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION
Drawing 90X-5500-S-00680 Detail S		Rev. 0

FLUOR FERNALD REQUESTOR: (PRINT/SIGN) *Shane Thompson* *S. Thompson 6-23-04* DATE: June 23, 2004

DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI ___ DCN	REQUESTOR PROPOSED CHANGE? <input checked="" type="checkbox"/> YES ___ NO	SBDR NO: USQD NO:	PERFORMANCE GRADE: QUALITY LEVEL:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3: Y N/A
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DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; ___ REQUESTOR PROPOSED CHANGE ACCEPTED;
 REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; ___ DESIGN ORGANIZATION CHANGE PROVIDED BELOW, ___ CHANGE REJECTED WITH JUSTIFICATION BELOW; ___ RCI CLARIFICATION ADDRESSED BELOW

SEE ATTACHED SKETCH.
RWIC

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION
<i>N/A.</i>	<i>n/a.</i>	<i>N/A.</i>

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) <i>M. Borzomani</i> DATE <i>6/24/04</i> <i>M. J. Boyer</i>	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) <i>R. W. Wolfe</i> DATE <i>6/24/04</i>
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) <i>S. Thompson</i> DATE <i>6-24-04</i>	CHANGE COMPLETED NAME (PRINTED/SIGNED) _____ DATE _____

ORIGINAL

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20112	SUBCONTRACT NO: N / A	DATE: June 28, 2004	PAGE 1 OF 1
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SUBCONTRACT OR PROJECT TITLE: EPLTS Valve House 7 and 8	RCI NO: 20112 - 009R
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RCI/DCN TITLE: Valve House #8 : RLCS, LCS, and LDS East wall piping elevations.	DCN No:
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DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:

Field routing of existing piping elevations is at 44 inches vertical on center from foundation, instead of the 3'- 5" (typical) per the drawing.

May these 3 piping systems remain in their current configuration considering system integrity should not be impacted during facility operations.

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION
Drawing 90X - 5500 - S - 00679 ⁰⁰⁶⁸¹		Rev. 0

FLUOR FERNALD REQUESTOR: (PRINT/SIGN) Shane Thompson <i>S.T.H.</i>	DATE: 06/28/2004
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DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI	REQUESTOR PROPOSED CHANGE? <input type="checkbox"/> YES	SBDR NO:	PERFORMANCE GRADE:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3:
<input type="checkbox"/> DCN	<input checked="" type="checkbox"/> NO	USQD NO:	QUALITY LEVEL:	Y N/A

DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; REQUESTOR PROPOSED CHANGE ACCEPTED; REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW, CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW

44" TYPICAL ELEVATION ABOVE BASE SLAB IS ACCEPTABLE AT VALVE HOUSE #8. EAST WALL PENETRATION CHANGE IS A RESULT OF LOWERING VALVE HOUSE #8 BY ~3" TO MATCH AS-BUILT ELEVATION OF EXISTING L.T.S. LINE AS FOUND DURING EXCAVATION.

ADDITIONAL DOCUMENTS AFFECTED OR ADDED		
DOCUMENT TITLE	DOCUMENT NUMBER	REVISION
DWG. VALVE HOUSE 8, STRUCTURAL DETAILS	90X-5500-S-00681	0
DWG. VALVE HOUSE 8, MECHANICAL DETAILS	90X-5500-M-00674	0

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) <i>[Signature]</i> DATE <i>6/29/04</i>	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) <i>FOR KNEIP</i> DATE <i>6/29/04</i>
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) <i>[Signature]</i> DATE	CHANGE COMPLETED NAME (PRINTED/SIGNED) <i>[Signature]</i> DATE

ORIGINAL

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER:	SUBCONTRACT NO:	DATE: 07/26/2004	PAGE 1 OF 1
SUBCONTRACT OR PROJECT TITLE: Valve house #7			RCI NO: 20112-01012
RCI/DCN TITLE: Stainless steel pipe flange North, South and East walls.			DCN No:

DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:

Requesting to cut the split ring stainless pipe flange into 6 individual sections to insure proper seating at wall surface. Imbedded 1 1/4" stainless bolts does not allow proper seating with split ring current configuration. Once split ring modification is complete and installed, 1/2" x 1 1/2" stainless flat stock shall be welded accordingly at seam or joint locations. Also requesting to utilize multiple split gaskets, staggering the seams, to ensure a positive seal due to the irregularity of the surface on the concrete wall.

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION
DRAWING	90 X 5500 M 00677	0

FLUOR FERNALD REQUESTOR: (PRINT/SIGN) <i>S. Thompson</i>	DATE: 7-26-04
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DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI	REQUESTOR PROPOSED CHANGE? <input checked="" type="checkbox"/> YES	SBDR NO:	PERFORMANCE GRADE:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3:
<input type="checkbox"/> DCN	<input type="checkbox"/> NO	USQD NO:	QUALITY LEVEL:	Y N/A

DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; REQUESTOR PROPOSED CHANGE ACCEPTED; REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW, CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change)
NAME (PRINTED/SIGNED) <i>John McCloy</i> DATE <i>7/28/04</i>	NAME (PRINTED/SIGNED) <i>Rob Kneip</i> DATE <i>7/28/04</i>
REQUESTOR CONCURRENCE	CHANGE COMPLETED
NAME (PRINTED/SIGNED) <i>S. Thompson</i> DATE <i>7-28-04</i>	NAME (PRINTED/SIGNED) DATE

ORIGINAL

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20112	SUBCONTRACT NO:	DATE: 08/17/2004	PAGE 1 OF 1
SUBCONTRACT OR PROJECT TITLE: Valve houses #7 & #8			RCI NO: <i>20112-011R</i>
RCI/DCN TITLE: Utilizing an alkyd enamel paint in leu of an epoxy coating for piping systems.			DCN No:

DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:
 Requesting to an alkyd enamel based paint in leu of an epoxy coating do to harmful fumes or emissions.

Ruse

DOCUMENTS AFFECTED Specifications	DOCUMENT NUMBER Spec. 9900-6 paragraph G line #2	REVISION <i>0</i>
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FLUOR FERNALD REQUESTOR: (PRINT/SIGN) <i>S. Thompson</i>	DATE: <i>8-17-2004</i>
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DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI <input type="checkbox"/> DCN	REQUESTOR PROPOSED CHANGE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	SBDR NO: USQD NO:	PERFORMANCE GRADE: QUALITY LEVEL:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3: Y N/A
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DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; REQUESTOR PROPOSED CHANGE ACCEPTED;
 REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW, CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW

STARTLY Agree to Supply Preparation Requirements and ensure that Quality Assurance is present to check Preparation & Priming & Finish Coat Thickness. Ruse

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) <i>[Signature]</i> DATE <i>8/18/04</i>	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) <i>[Signature]</i> DATE <i>8/18/04</i>
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) <i>[Signature]</i> DATE <i>8-18-04</i>	CHANGE COMPLETED NAME (PRINTED/SIGNED) DATE



*Industrial
and
Marine
Coatings*

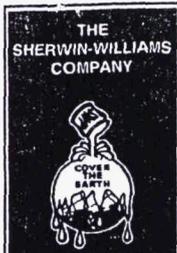
INDUSTRIAL ENAMEL

B54 SERIES

APPLICATION BULLETIN

Revised 12/03

SURFACE PREPARATION	APPLICATION CONDITIONS		
<p>Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.</p> <p>Iron & Steel Minimum surface preparation is Hand Tool Clean per SSPC-SP2. Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. For better performance, use Commercial Blast Cleaning per SSPC-SP6, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils). Prime any bare steel within 8 hours or before flash rusting occurs.</p> <p>Aluminum Remove all oil, grease, dirt, oxide, and other foreign material by Solvent Cleaning per SSPC-SP1. Primer required.</p> <p>Galvanized Steel Allow to weather a minimum of six months prior to coating. Solvent Clean per SSPC-SP1 (recommended solvent is VM&P Naphtha). When weathering is not possible, or the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 and apply a test patch. Allow paint to dry at least one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP7 is necessary to remove these treatments. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2, prime the area the same day as cleaned.</p> <p>Masonry and Concrete For surface preparation, refer to SSPC-SP13/NACE 6. Surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 28 days @ 75°F. Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement and hardeners. Fill bug holes, air pockets and other voids with a cement patching compound. Weathered masonry and soft or porous cement board must be brush blasted or power tool cleaned to remove loosely adhering contamination and to get to a hard, firm surface. Laitance must be removed by etching with a 10% muriatic acid solution and thoroughly neutralized with water.</p> <p>Wood Surface must be clean, dry, and sound. Paint as soon as possible. No painting should be done immediately after a rain or during foggy weather. Knots and pitch streaks must be scraped, sanded and spot primed. All nail holes or small openings must be properly caulked. Sand to remove any loose or deteriorated surface wood and to obtain a proper surface profile. Self priming.</p> <p>Previously Painted Surfaces If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, additional abrasion of the surface and/or removal of the previous coating may be necessary. Re-test surface for adhesion. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.</p>	<p>Temperature: 40°F minimum, 120°F maximum (air, surface, and material) At least 5°F above dew point</p> <p>Relative humidity: 85% maximum</p> <tr> <th colspan="2">APPLICATION EQUIPMENT</th> </tr> <p>The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with the existing environmental and application conditions.</p> <p>Reducer Not recommended</p> <p>Clean Up Mineral Spirits, R1K4</p> <p>Airless Spray</p> <p>Pressure 2500 psi Hose 1/4" ID Tip015" Filter 100 mesh</p> <p>Conventional Spray</p> <p>Gun Binks 95 Fluid Nozzle 66 Air Nozzle 63PB Atomization Pressure .. 50 psi Fluid Pressure 20-25 psi</p> <p>Brush</p> <p>Brush Natural Bristle</p> <p>Roller</p> <p>Cover 3/8" woven with phenolic core</p> <p>If specific application equipment is listed above, equivalent equipment may be substituted.</p>	APPLICATION EQUIPMENT	
APPLICATION EQUIPMENT			



*Industrial
and
Marine
Coatings*

INDUSTRIAL ENAMEL

B54 SERIES

INDUSTRIAL
& MARINE
COATINGS

APPLICATION BULLETIN

APPLICATION PROCEDURES	PERFORMANCE TIPS																										
<p>Surface preparation must be completed as indicated.</p> <p>Mixing Instructions: Mix paint thoroughly by boxing and stirring before use.</p> <p>Apply paint at the recommended film thickness and spreading rate as indicated below:</p> <p>Recommended Spreading Rate per coat:</p> <table border="0"> <tr> <td>Wet mils:</td> <td>4.5 - 9.0</td> </tr> <tr> <td>Dry mils:</td> <td>2.0 - 4.0</td> </tr> <tr> <td>Coverage:</td> <td>175 - 350 sq ft/gal approximate</td> </tr> </table> <p>NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.</p> <p>Drying Schedule @ 4.6 mils wet @ 50% RH:</p> <table border="0"> <tr> <td></td> <td>@50°F</td> <td>@ 77°F</td> <td>@110°F</td> </tr> <tr> <td>To touch:</td> <td>3 hours</td> <td>1-2 hours</td> <td>30 minutes</td> </tr> <tr> <td>Tack free:</td> <td>8 hours</td> <td>4-5 hours</td> <td>4 hours</td> </tr> <tr> <td>To recoat:</td> <td>12 hours</td> <td>8 hours</td> <td>3 hours</td> </tr> <tr> <td>To cure:</td> <td>7 days</td> <td>7 days</td> <td>3 days</td> </tr> </table> <p>Drying time is temperature, humidity and film thickness dependent.</p> <p>Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.</p>	Wet mils:	4.5 - 9.0	Dry mils:	2.0 - 4.0	Coverage:	175 - 350 sq ft/gal approximate		@50°F	@ 77°F	@110°F	To touch:	3 hours	1-2 hours	30 minutes	Tack free:	8 hours	4-5 hours	4 hours	To recoat:	12 hours	8 hours	3 hours	To cure:	7 days	7 days	3 days	<p>Stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.</p> <p>When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle</p> <p>Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.</p> <p>No reduction of material is recommended as it can affect film build, appearance, and adhesion.</p> <p>In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Mineral Spirits, R1K4.</p> <p>Deep tinted colors may exhibit burnishing characteristics.</p> <p>Refer to Product Information sheet for additional performance characteristics and properties.</p>
Wet mils:	4.5 - 9.0																										
Dry mils:	2.0 - 4.0																										
Coverage:	175 - 350 sq ft/gal approximate																										
	@50°F	@ 77°F	@110°F																								
To touch:	3 hours	1-2 hours	30 minutes																								
Tack free:	8 hours	4-5 hours	4 hours																								
To recoat:	12 hours	8 hours	3 hours																								
To cure:	7 days	7 days	3 days																								
CLEAN UP INSTRUCTIONS	SAFETY PRECAUTIONS																										
<p>Clean spills and spatters immediately with Mineral Spirits, R1K4. Clean tools immediately after use with Mineral Spirits, R1K4. Follow manufacturer's safety recommendations when using any solvent.</p>	<p>Refer to the MSDS sheet before use.</p> <p>Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.</p>																										

The statements made herein are based on our research and/or the research of others believed to be accurate.

No guarantee of their accuracy is made however, and such statements may be changed without notice.

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REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20112	SUBCONTRACT NO:	DATE: 9-1-2004	PAGE 1	OF 1
SUBCONTRACT OR PROJECT TITLE: Valve Houses 7 & 8			RCI NO: 20112-012R	
RCI/DCN TITLE: Change of bolt torque on HDPE flange			DCN No: 20112-603	

DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:
Request change of bolt torque for HDPE molded flange to cast-iron valve.

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION

FLUOR FERNALD REQUESTOR: (PRINT/SIGN) 9/13/04	DATE:
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DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI	REQUESTOR PROPOSED CHANGE? <input checked="" type="checkbox"/> YES	SBDP NO:	PERFORMANCE GRADE:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3:
<input checked="" type="checkbox"/> DCN	<input type="checkbox"/> NO	USQD NO:	QUALITY LEVEL: 9/13/04	<input type="checkbox"/> Y <input type="checkbox"/> N/A

DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS: REQUESTOR PROPOSED CHANGE ACCEPTED; REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW. CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW

Valve House 7 bolt torque acceptable as installed. 9/13/04
Valve House 8 bolt torque to be 35 foot pounds.
Torque Bolts on HDPE Flanges per Valve manufacturers recommendations.

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED): [Signature] DATE: 9/14/04	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED): [Signature] DATE: 9-1-04
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED): Walt Minges DATE: 9/1/04	CHANGE COMPLETED NAME (PRINTED/SIGNED): [Signature] DATE: [Signature]

76890 ORIGINAL

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20112	SUBCONTRACT NO:	DATE: 9-1-2004	PAGE 1	OF 1
SUBCONTRACT OR PROJECT TITLE: Valve Houses 7 & 8			RCI NO: 20112-012R	
RCI/DCN TITLE: Change of bolt torque on HDPE flange			DCN No:	

DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:
Request change of bolt torque for HDPE molded flange to cast-iron valve.

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION

FLUOR FERNALD REQUESTOR: (PRINT/SIGN)	DATE:
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DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI	REQUESTOR PROPOSED CHANGE? <input checked="" type="checkbox"/> YES	SBDR NO:	PERFORMANCE GRADE:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3: Y N/A
<input type="checkbox"/> DCN	<input type="checkbox"/> NO	USQD NO:	QUALITY LEVEL:	

DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; REQUESTOR PROPOSED CHANGE ACCEPTED; REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW; CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW
Valve House 7 bolt torque acceptable as installed, Valve House 8 bolt torque to be 35 foot pounds.

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) <i>[Signature]</i> DATE 9-1-04	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) DATE
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) <i>Walt Minges</i> DATE 9/1/04	CHANGE COMPLETED NAME (PRINTED/SIGNED) DATE

ORIGINAL

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20113	SUBCONTRACT NO:	DATE: 9-3-04	PAGE 1	OF 1
SUBCONTRACT OR PROJECT TITLE: Valve Issues #4#5			RCI NO: 20113-032	
RCI/DCN TITLE: LOWERS			DCN No:	

DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:

Requesting to maintain manufacturer's mill finish for final acceptance in lieu of the Kynar 500 or equivalent.

DOCUMENTS AFFECTED Specifications	DOCUMENT NUMBER Section 10211 Page 2 Part 2.03 A.A. A	REVISION 0
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FLUOR FERNALD REQUESTOR: (PRINT/SIGN) <i>S. Thomsen</i>	DATE: 9-3-04
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DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI <input type="checkbox"/> DCN	REQUESTOR PROPOSED CHANGE? <input type="checkbox"/> YES <input type="checkbox"/> NO	SBDR NO: USQD NO:	PERFORMANCE GRADE: QUALITY LEVEL:	SRC/ENGINEERING REVIEW MADE FOR PG 1, 2 or 3: Y N/A
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DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS: REQUESTOR PROPOSED CHANGE ACCEPTED; REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW, CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION
<i>N/A</i>		

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) <i>John D. Croft</i> DATE 9-7-04	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) <i>Rob Kweir</i> DATE 9/7/04
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) <i>S. Thomsen</i> DATE 9-7-04	CHANGE COMPLETED NAME (PRINTED/SIGNED) DATE

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER 20112	SUBCONTRACT NO:	DATE: 09-07-04	PAGE 1 OF 1
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SUBCONTRACT OR PROJECT TITLE: <i>VH-7</i>	RCI NO: 20112-014R
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RCI/DCN TITLE: <i>VH-7 - Switched Receptacles for Pumps</i> <i>+VH-8</i>	DCN No:
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DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED: Request to change LP7-2 and LP7-4 to switched receptacles feeding PMP-701 and PMP-702, *Respectively*.

DOCUMENTS AFFECTED Drawings	DOCUMENT NUMBER 90X-5500-E-00668 Sheet NO. E-4	REVISION 0
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FLUOR FERNALD REQUESTOR: (PRINT/SIGN) <i>Bo Heinrich</i>	DATE: <i>9/02/04</i>
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DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI	REQUESTOR PROPOSED CHANGE? <input checked="" type="checkbox"/> YES	SBDP NO:	PERFORMANCE GRADE:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3:
<input type="checkbox"/> DCN	<input type="checkbox"/> NO	USQD NO:	QUALITY LEVEL:	<input type="checkbox"/> Y <input type="checkbox"/> N/A

DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; REQUESTOR PROPOSED CHANGE ACCEPTED; REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW, CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW

Also, LP8-2 and LP8-4 in Valve House 8 should be changed to switched receptacles feeding pumps PMP-801 + PMP-802, respectively. Existing receptacle boxes on West Wall located near tanks to be used to mount switches. Rink

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) <i>John M. Kelly</i> DATE <i>9-8-04</i>	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) <i>[Signature]</i> DATE <i>9/8/04</i>
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) <i>[Signature]</i> DATE <i>9/08/04</i>	CHANGE COMPLETED NAME (PRINTED/SIGNED) DATE

ORIGINAL

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: <i>20112</i>	SUBCONTRACT NO:	DATE: <i>9-9-04</i>	PAGE <i>1</i>	OF <i>1</i>
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SUBCONTRACT OR PROJECT TITLE: <i>VALVE HOUSE 8</i>		RCI NO: <i>20112-1112 015R</i>
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RCI/DCN TITLE: <i>EAST WALL PIPE PENETRATION INTERIOR FLANGES</i>	DCN No:
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DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:
Requesting to field modify bottom of two part HDPE flanges to ensure proper seating for weld at wall liner. Not to exceed less than 1/2 inch total thickness of flange itself. REASON: TEST PORT VALVE SADDLES TOO CLOSE TO EAST WALL

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION

FLUOR FERNALD REQUESTOR: (PRINT/SIGN) <i>S. Thompson</i>	DATE: <i>9-9-2004</i>
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DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI <input type="checkbox"/> DCN	REQUESTOR PROPOSED CHANGE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	SBDP NO: USQD NO:	PERFORMANCE GRADE: QUALITY LEVEL:	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3: Y N/A
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DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; ___ REQUESTOR PROPOSED CHANGE ACCEPTED; ___ REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; ___ DESIGN ORGANIZATION CHANGE PROVIDED BELOW, ___ CHANGE REJECTED WITH JUSTIFICATION BELOW; ___ RCI CLARIFICATION ADDRESSED BELOW

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET. NAME (PRINTED/SIGNED) <i>John J. McClellan</i>	DATE <i>9-10-04</i>	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) <i>[Signature]</i>	DATE <i>9/9/04</i>
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) <i>S. Thompson</i>	DATE <i>9-7-04</i>	CHANGE COMPLETED NAME (PRINTED/SIGNED)	DATE

APPENDIX T

DESIGN CHANGE NOTICES (DCNs)

RCI/DCN FORM

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.: 20105	(2) S/C NO.: -	(3) Pg. 1 ^{Of} 3	(4) DATE: 01/28/04
(5) PROJECT/CWO/RES/S/C TITLE: On-Site Disposal Facility (OSDF) Phase V Construction			(6) RCI NO.:
(7) RCI/DCN TITLE: Subsurface Drain Relocation			(6) DCN NO.: 20105-004
(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
Construction Drawings	90X-5500-G-00691	0	
Technical Specifications			
(10) REQUESTOR: <i>Russell Shively</i> 1/28/04 NAME (Print & Sign) DATE		(11) CE / PE <i>Russell Shively</i> 1/28/04 NAME (Print & Sign) DATE	
(12) <input type="checkbox"/> RCI-DESCRIPTION		(13) <input checked="" type="checkbox"/> DCN-JUSTIFICATION, EXISTING CONDITION & REQUESTED/PROPOSED CHANGE	
<p>Justification: Revision to the above-referenced OSDF West Interceptor Ditch Regrading Plan drawing is necessary to revise control points associated with two subsurface drain pipes as needed to relocate the pipes. Drainpipe control points require revision due to changes in field conditions.</p> <p>Existing Condition: Existing control points D-2 through D-6 are incorrect on the above-referenced drawing due to changes in field conditions.</p> <p>Proposed Change: Revise subsurface drain control points D-2 through D-6 as listed on the attached control point table in order to relocate pipes shown on the attached figure.</p>			

DESIGN ORGANIZATION RCI - DCN SUMMARY DESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION

SEE ATTACHED

(15) REVIEWS COMPLETED

<input type="checkbox"/> Configuration Management SSC Review Complete	DO NAME (Print & Sign)	DATE
<input checked="" type="checkbox"/> Impact Assessment Review Complete	<i>Charles P. Van Arsdale</i>	1/28/04
<input checked="" type="checkbox"/> Technical Review Complete	DO NAME (Print & Sign)	DATE
<input type="checkbox"/> ED-12-4010 Review Complete	<i>K. Baden-Twenebe</i>	1/28/04
	PE NAME (Print & Sign)	DATE
	<i>Charles P. Van Arsdale</i>	1/28/04
	DO NAME (Print & Sign)	DATE
	<i>K. Baden-Twenebe</i>	1/28/04
	PE NAME (Print & Sign)	DATE

(16) DOES CE AGREE WITH SOLUTION: NO YES

IS A PURCHASE REQUISITION REQUIRED: NO YES

Russell Shively 1/28/04
CE NAME (Print & Sign) DATE

(17) FIELD WORK COMPLETED:

CE OR PE (Print & Sign) DATE:

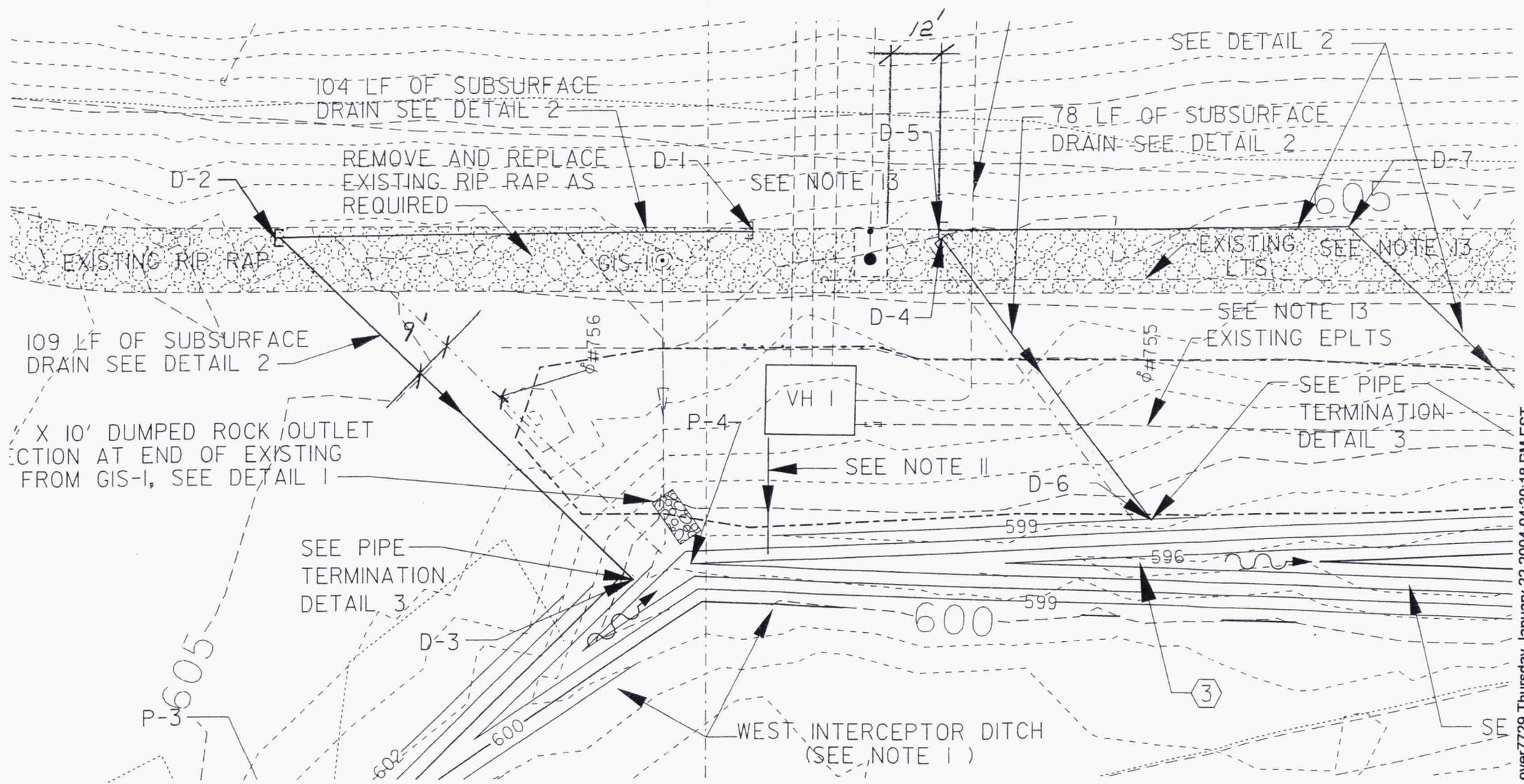
Rev. 1/22/04

REVISED

CONSTRUCTION CONTROL POINTS - SUBSURFACE DRAIN

POINT	EASTING	NORTHING	BOTTOM OF PIPE ELEVATION	DESCRIPTION
D-1	1350691.08	482988.93	600.0	INSTALL CAP
D-2	1350689.81	483103.95	599.7	INSTALL 45 DEGREE LATERAL W/CAP
D-3	1350606.32	483017.42	599.4 +/-	MATCH EXISTING ELEV.
D-4	1350689.44	482943.69	599.2	INSTALL CAP
D-5	1350691.33	482944.34	598.6	INSTALL CAP
D-6	1350620.42	482893.46	599.0 +/-	MATCH EXISTING ELEV.
D-7	1350691.87	482846.29	598.3	INSTALL 45 DEGREE BEND
D-8	1350622.29	482775.95	598.0 +/-	MATCH EXISTING ELEV.

DCN 20105-004
PAGE 2 OF 3



 RELOCATED DRAIN
 Previous location

REV. 1/22/04

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20105	SUBCONTRACT NO: FSC-653	DATE: 6/24/04	PAGE 1 OF 1
SUBCONTRACT OR PROJECT TITLE: On-Site Disposal Facility (OSDF) Phase V Construction			RCI NO:
RCI/DCN TITLE: Cell 8 expansion construction drawings and calculations			DCN No: 20105-005

DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:
 With the need of additional airspace to accommodate projected impacted material quantities, Cell 8 is proposed to be expanded by 100 feet to the south. This expansion will increase airspace capacity by approximately 50,000 to 60,000 cubic yards. The following Construction Drawings and calculations have been revised to incorporate this expansion.

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION
Phase V Construction Drawings		
Sheet G-2A Site Development Plan III - Cell 8	90X-6000-G-00413	1A
Sheet G-6A Subgrade Grading Plan V - Cell 8 Liner System	90X-6000-G-00414	1A
Sheet G-7A Compacted Clay Liner Grading Plan II - Cell 8 Liner System	90X-6000-G-00415	1A
Sheet G-15A Final Cover System Grading Plan III - Cell 8	90X-6000-G-00417	1A
Sheet G-20A OSDF North- South Sections III	90X-6000-G-00419	1A
Final Design Calculation Package OSDF Revision of OSDF Phase V, Volume VII		1A

FLUOR FERNALD REQUESTOR: (PRINT/SIGN) Charles C. Van Arsdale <i>Charles C. Van Arsdale</i>	DATE: 6/24/04
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DESIGN REVIEW SECTION

<input type="checkbox"/> RCI	REQUESTOR PROPOSED CHANGE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	SBDP NO:	PERFORMANCE GRADE: 4	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3:
<input checked="" type="checkbox"/> DCN		USQD NO:	QUALITY LEVEL: 4	<input type="checkbox"/> Y <input checked="" type="checkbox"/> XN/A

DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS: REQUESTOR PROPOSED CHANGE ACCEPTED; REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW, CHANGE REJECTED WITH JUSTIFICATION BELOW; RCI CLARIFICATION ADDRESSED BELOW

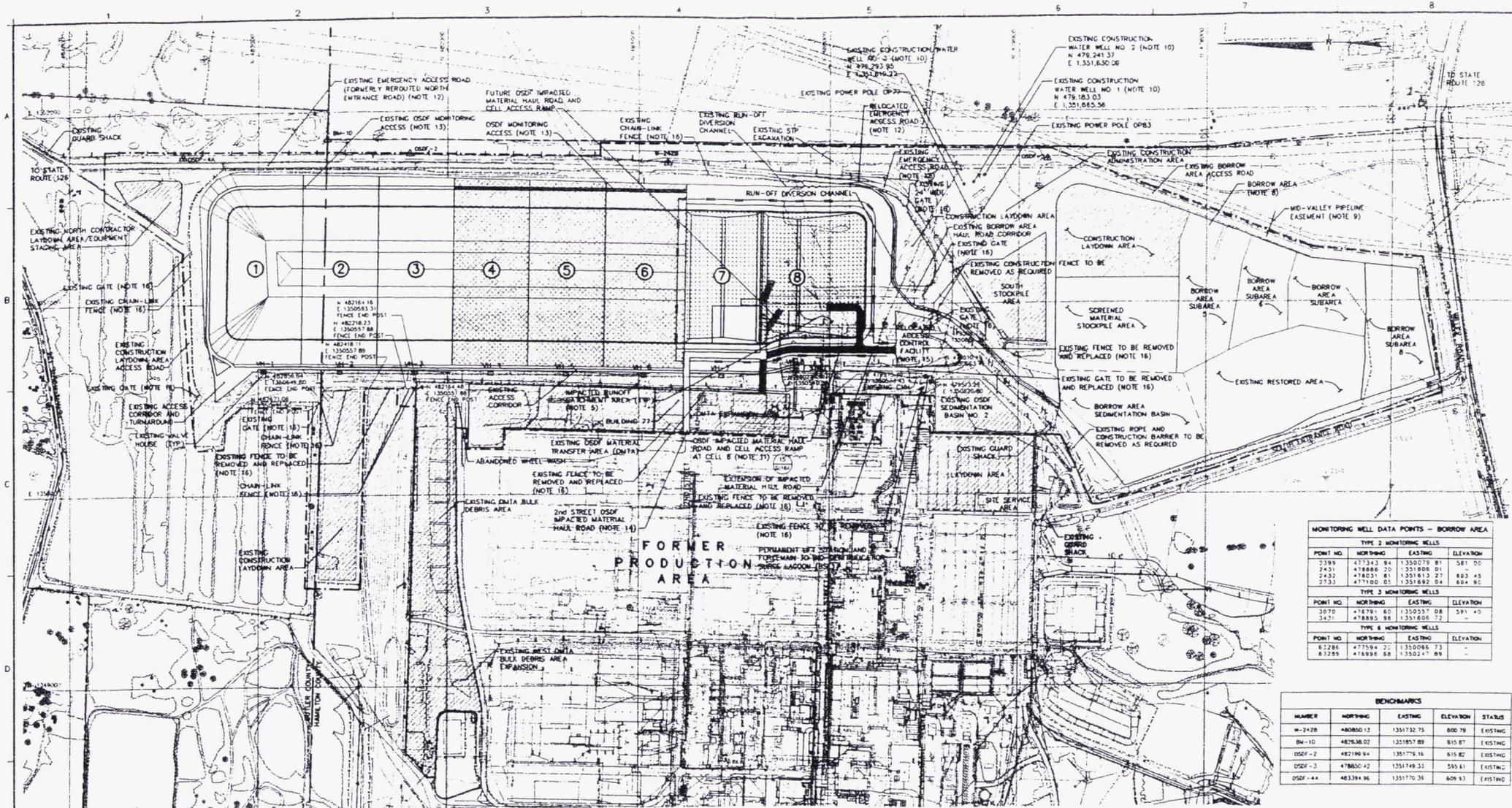
See attached drawings and calculations. Drawings will be issued and incorporated into the existing Phase V Construction Drawing set upon concurrence.

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION
		#01

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) James Fleck <i>James Fleck</i>	DATE 6/24/04	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) Uday Kumthekar <i>Uday Kumthekar</i>	DATE 6/24/04
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) Charles C. Van Arsdale <i>Charles C. Van Arsdale</i>	DATE 6/24/04	CHANGE COMPLETED NAME (PRINTED/SIGNED)	DATE



MONITORING WELL DATA POINTS - BORROW AREA

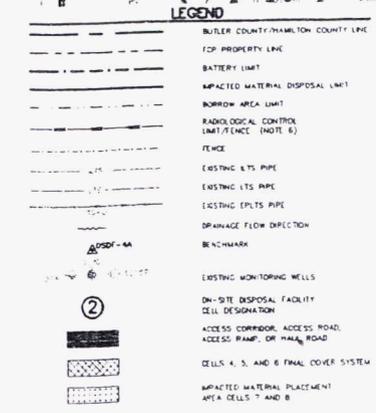
TYPE 2 MONITORING WELLS			
POINT NO.	NORTHING	EASTING	ELEVATION
2399	471343.84	1350079.81	581.00
2431	478866.20	1351806.01	603.45
2432	478031.81	1351813.27	603.45
2733	477100.05	1351682.04	604.90

TYPE 3 MONITORING WELLS			
POINT NO.	NORTHING	EASTING	ELEVATION
3070	478791.80	1350917.08	581.40
3421	478895.88	1351606.72	603.45

TYPE 6 MONITORING WELLS			
POINT NO.	NORTHING	EASTING	ELEVATION
6328	477594.22	1350086.73	581.00
6329	478996.08	1350247.89	603.45

BENCHMARKS

NUMBER	NORTHING	EASTING	ELEVATION	STATUS
W-2428	480800.12	1351732.75	800.79	EXISTING
BW-10	482638.02	1351957.89	815.87	EXISTING
OSDF-2	482190.64	1351776.16	615.82	EXISTING
OSDF-3	478630.42	1351749.33	593.61	EXISTING
OSDF-44	483394.96	1351770.36	609.93	EXISTING



- NOTES**
- PURPOSE OF THIS DRAWING IS TO CONCEPTUALLY ILLUSTRATE SITE DEVELOPMENT FOR OSDF PHASE V WITH SUPPORT FACILITIES INCLUDING BUT NOT LIMITED TO HAUL ROADS, GUARD SHACKS, EQUIPMENT WASH FACILITY, CONSTRUCTION ADMINISTRATION AREA, PARKING AREA, CONSTRUCTION LAYDOWN AREA, ACCESS CONTROL FACILITY, RADIOLOGICAL CONTROL LIMIT/FENCE, STOCKPILE AREAS, AND SEMI-TRAILER BAYS. SIZE AND LOCATION OF SUPPORT FACILITIES MAY VARY FROM THOSE SHOWN.
 - CONSTAIN AND CONTROL WATER GENERATED DURING CONSTRUCTION AND FILLING OF OSDF IN ACCORDANCE WITH SPECIFICATION SECTIONS 02700 AND 13000.
 - PREPARE EARTHWORK WORK PLAN IN ACCORDANCE WITH SPECIFICATION SECTION 02700.
 - EXISTING CONTOURS ARE NOT SHOWN FOR CLARITY. EXISTING CONTOURS ARE SHOWN ON GRADING PLANS. ADDITIONAL EXISTING CONTOURS ARE SHOWN ON REFERENCE DRAWINGS. EXISTING CONDITIONS SHALL BE VERIFIED IN ACCORDANCE WITH SPECIFICATION SECTION 02700.
 - IMPACTED RUNOFF CATCHMENT AREA IN ACTIVE CELL SHALL REMAIN OPEN UNTIL COMPLETION OF SECOND LEFT OF COMPACTED CELL CAP IS COMPLETED IN ADJACENT UPRIGHT CELL AND IMPACTED RUNOFF CATCHMENT AREA IN DOWNGRADENT CELL IS CONSTRUCTED AND OPERATIONAL.
 - RADIOLOGICAL CONTROL LIMIT/FENCE INDICATES LIMIT OF RADIOLOGICAL CONTROL FOR IMPACTED MATERIAL HANDLING AND PLACEMENT. FENCE SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02700.
 - GEOTECHNICAL DATA POINTS ARE SHOWN ON DRAWINGS G-4, G-6, AND G-8A.
 - BORROW AREA MANAGEMENT SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 13000.
 - LOCATE MID-VALLEY PIPELINE EASEMENT IN ACCORDANCE WITH SPECIFICATION SECTION 07100. DO NOT ENTER PIPELINE EASEMENT.
 - CONSTRUCTION WATER SHALL BE OBTAINED FROM EXISTING WELL HOUSES LOCATED WEST OF FORMER PRODUCTION AREA AT LOCATIONS A, B, 784, AND 1348 (A) AND W 481, 454, B AND E 1330 (B) AND CONSTRUCTION WATER WELLS SHOWN ON THIS DRAWING.

- OSDF IMPACTED MATERIAL HAUL ROAD AND CELL ACCESS RAMP AT CELL 8 GRADING PLANS ARE SHOWN ON DRAWING G-18A.
- EMERGENCY ACCESS ROAD TO BE USED FOR EMERGENCY RESPONSE DELIVERY OF CONSTRUCTION MATERIALS AND EQUIPMENT AS APPROVED BY CONSTRUCTION MANAGER.
- OSDF MONITORING ACCESS TO BE USED FOR MAINTENANCE, SEEDING, IRRIGATION, MONITORING, INSPECTION, EQUIP OPERATIONS, AND EMERGENCY VEHICLES ONLY.
- SECOND STREET IMPACTED MATERIAL HAUL ROAD MAY BE ROUTED AROUND BUILDING 77 BASED ON CONSTRUCTION SCHEDULE. CONSTRUCT SECOND STREET IMPACTED MATERIAL HAUL ROAD TO BE OPERATIONAL BEFORE CONSTRUCTION OF CELL 4 FINAL COVER SYSTEM.
- CONSTRUCT RELOCATED ACCESS CONTROL FACILITY TO BE OPERATIONAL BEFORE CONSTRUCTION OF CELL 4 FINAL COVER SYSTEM. LOCATION AND DESIGN OF RELOCATED ACCESS CONTROL FACILITY TO BE PROVIDED BY CONSTRUCTION MANAGER.
- DESIGNATE FINAL CONFIGURATION OF OSDF FENCE AND GATES. CHAIN-LINK FENCE AND GATES SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02803.

18 04/23 PRE-FINAL REVISION 1 SUBMITTAL TO F/DOE PER BOM

19 04/23 PRE-FINAL REVISION 2 SUBMITTAL TO F/DOE PER BOM

20 04/23 PRE-FINAL SUBMITTAL TO F/DOE

21 04/23 PRE-FINAL SUBMITTAL TO F/DOE

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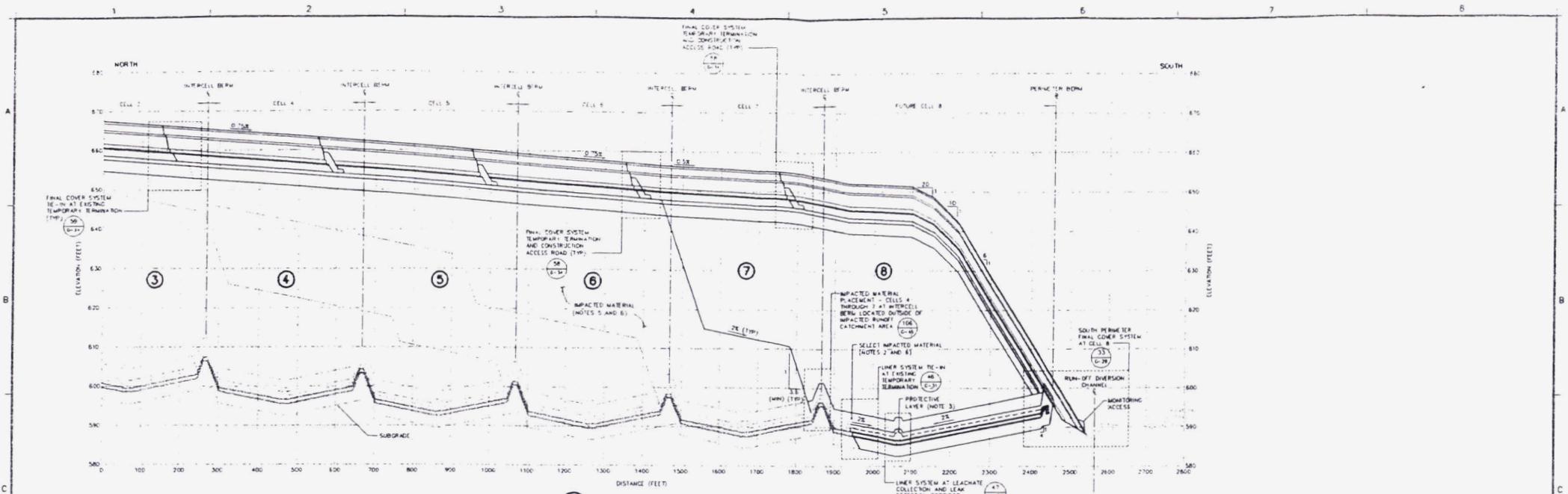
376 04/23 PRE-FINAL SUBMITTAL TO F/DOE

377 04/23 PRE-FINAL SUBMITTAL TO F/DOE

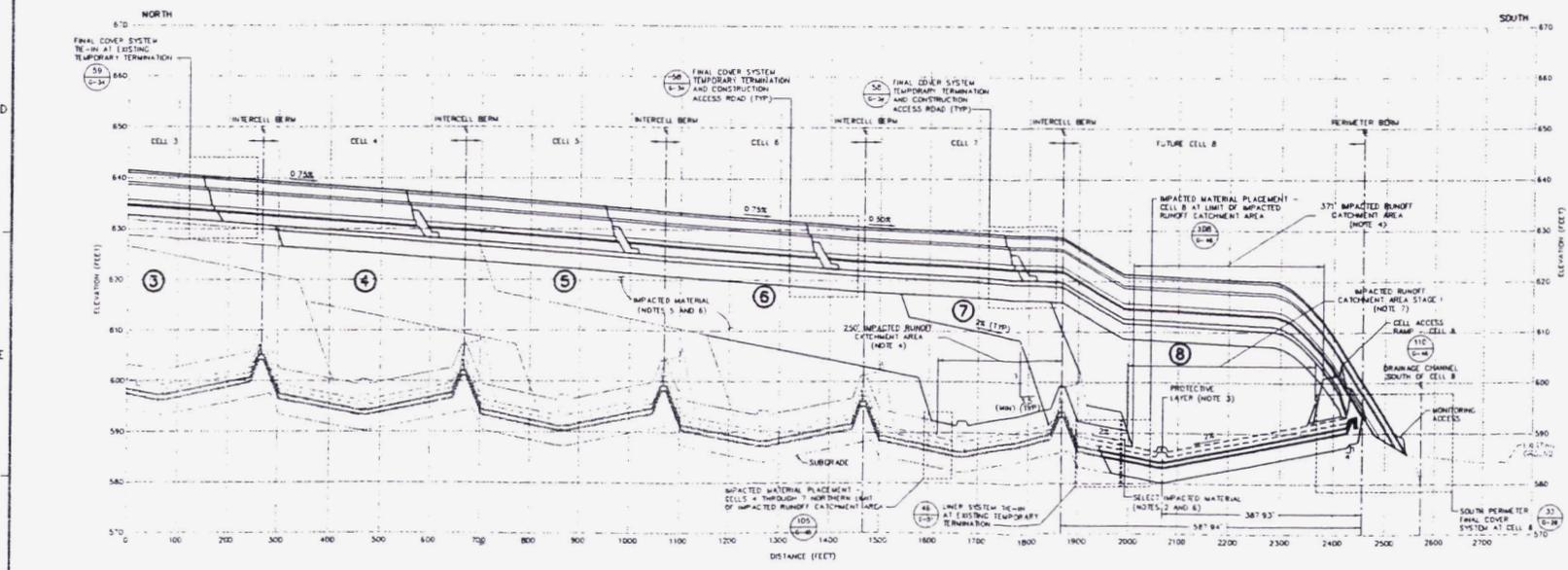
378 04/23 PRE-FINAL SUBMITTAL TO F/DOE

379 04/23 PRE-FINAL SUBMITTAL TO F/DOE

380 04/2



A
SECTION
NORTH-SOUTH CELL 8
HORIZONTAL SCALE 1" = 100'
VERTICAL SCALE 1" = 10'
NOT TO SCALE



B
SECTION
NORTH-SOUTH CELL 8 AT IMPACTED RUNOFF CATCHMENT AREA
HORIZONTAL SCALE 1" = 100'
VERTICAL SCALE 1" = 10'
NOT TO SCALE

- NOTES**
1. SECTIONS ARE SHOWN TO SCALE AS NOTED EXCEPT FOR GEOMETRICS WHICH ARE SHOWN AT AN ENLARGED SCALE FOR CLARITY. MATERIAL TOLERANCES SHALL BE WITHIN LIMITS GIVEN IN SPECIFICATIONS.
 2. A MINIMUM THICKNESS OF 3 FEET OF SELECT IMPACTED MATERIAL SHALL BE PLACED ABOVE PROTECTIVE LAYER AND BELOW CONTOURING LAYER. THICKNESS OF SELECT IMPACTED MATERIAL OVERLAPPING PROTECTIVE LAYER MAY BE REDUCED TO 2 FEET IF FIRST LIFT OF IMPACTED MATERIAL TO BE PLACED OVER SELECT IMPACTED MATERIAL IS CATEGORY 1 IMPACTED MATERIAL.
 3. PROTECTIVE LAYER SHALL CONSIST OF NON-IMPACTED DRAINABLE MATERIAL IN IMPACTED RUNOFF CATCHMENT AREA AND IMPACTED MATERIAL IN REMAINING ACTIVE CELL AREAS EXCLUDING CELL AREA AT INTERCELL BERM TEMPORARY LINER SYSTEM TERMINATION. PROTECTIVE LAYER SHALL CONSIST OF NON-IMPACTED NON-GRANULAR MATERIAL IN ACTIVE AND FUTURE CELL AREAS OF TEMPORARY LINER SYSTEM TERMINATION. NON-IMPACTED PROTECTIVE LAYER SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02240. IMPACTED PROTECTIVE LAYER SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 13010.
 4. IMPACTED RUNOFF CATCHMENT AREA IN ACTIVE CELL SHALL REMAIN OPEN UNTIL COMPACTION OF SECOND LIFT OF COMPACTED CLAY CAP IS COMPLETED IN ADJACENT UPDRIFT CELL AND IMPACTED RUNOFF CATCHMENT AREA IN FUTURE CELL IS CONSTRUCTED AND OPERATIONAL.
 5. IMPACTED MATERIAL INTERIM SLOPES SHALL BE NO STEEPER THAN 3:1 H:1 V. INTERIM SLOPE CONFIGURATION SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY AND MAY VARY BASED ON SEQUENCE AND SCHEDULE FOR REMOVAL OF IMPACTED MATERIAL FROM OPERABLE UNITS. EXISTING IMPACTED MATERIAL GRADES SHOWN ARE APPROXIMATE.
 6. IMPACTED MATERIAL PLACEMENT SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 13010.
 7. DEVELOP AND MAINTAIN CELL 8 IMPACTED RUNOFF CATCHMENT AREA AS SHOWN ON DRAWINGS 0-18 AND 0-19 AND IN ACCORDANCE WITH SPECIFICATION SECTION 13010 AND 02270.

REV.	NO.	DATE	DESCRIPTION	DES. BY	CHK. BY	APP. BY
1	04.08.14		PRELIMINARY DESIGN SUBMITTAL TO 17.000 PER DOC.	MS	JAS	MS
2	04.08.27		FINAL SUBMITTAL TO 17.000 PER DOC.	MS	JAS	MS
3	03.12.08		PRELIMINARY SUBMITTAL TO 17.000	MS	JAS	MS

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

FLUOR FERNALD, INC.

PROJECT: ON-SITE DISPOSAL FACILITY - PHASE V

FILE: OSDF NORTH-SOUTH SECTIONS III

DATE: 04.08.14

PROJECT NO: 20105

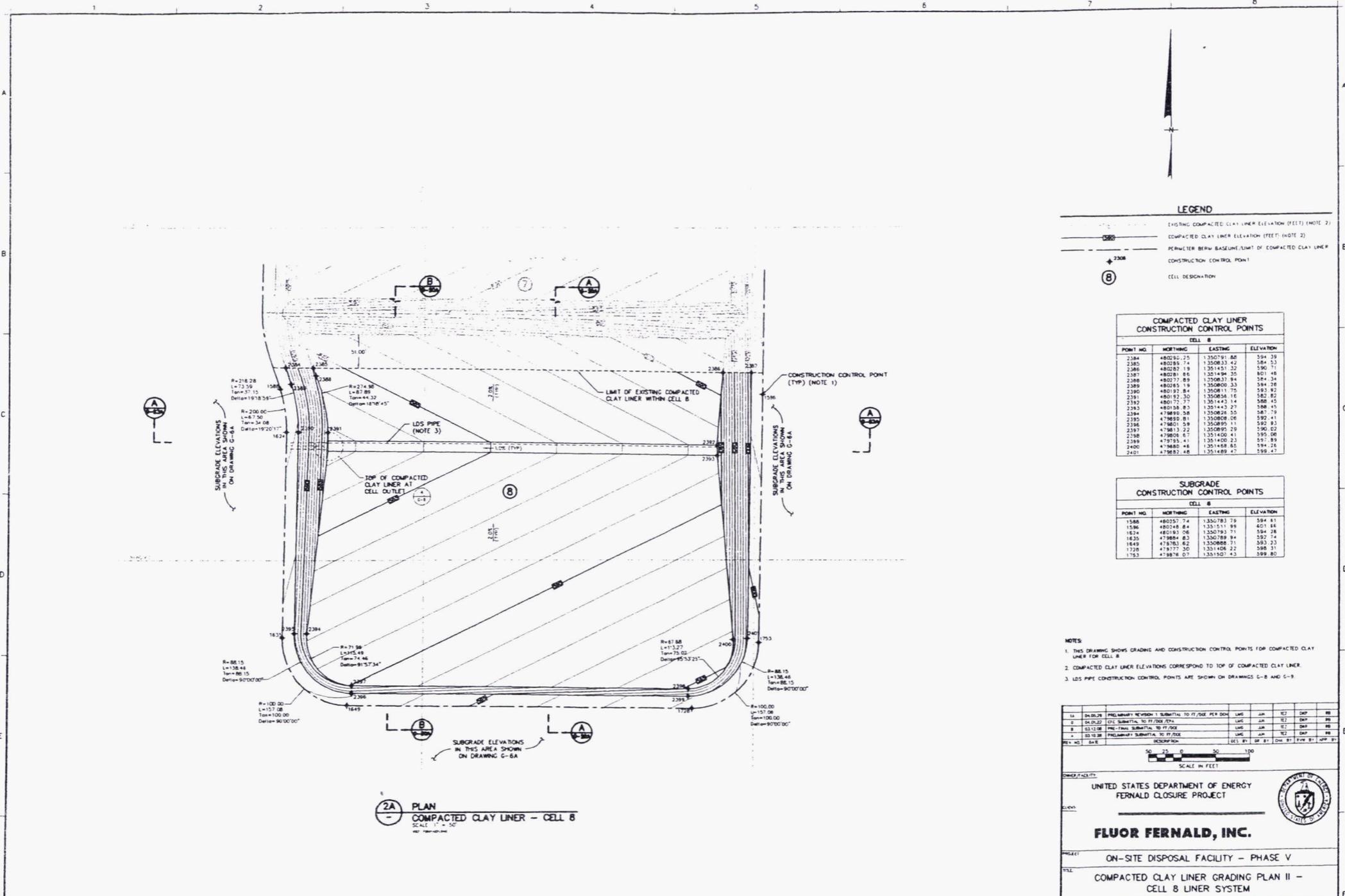
CONTRACT NO: D070009

FLUOR FERNALD, INC. 10000 WOODLAWN DRIVE, SUITE 100, FERNALD, OHIO 43017

FLUOR FERNALD, INC. 10000 WOODLAWN DRIVE, SUITE 100, FERNALD, OHIO 43017

FLUOR FERNALD, INC. 10000 WOODLAWN DRIVE, SUITE 100, FERNALD, OHIO 43017

FLUOR FERNALD, INC. 10000 WOODLAWN DRIVE, SUITE 100, FERNALD, OHIO 43017



LEGEND

- (EXISTING COMPACTED CLAY LINER ELEVATION (FEET) (NOTE 2))
- (COMPACTED CLAY LINER ELEVATION (FEET) (NOTE 2))
- (PERIMETER BERM BASELINE/LIMIT OF COMPACTED CLAY LINER)
- ▲ (CONSTRUCTION CONTROL POINT)
- ⓑ (CELL DESIGNATION)

COMPACTED CLAY LINER CONSTRUCTION CONTROL POINTS

CELL 8

POINT NO.	NORTHING	EASTING	ELEVATION
2384	480280.75	1350791.88	594.39
2385	480281.74	1350833.42	584.53
2386	480287.19	1351451.32	590.71
2387	480281.85	1351498.55	601.48
2388	480277.89	1350837.94	584.34
2389	480285.19	1350800.33	584.28
2390	480192.84	1350811.75	583.82
2391	480192.30	1350834.16	582.82
2392	480171.77	1351443.14	588.45
2393	480158.85	1351443.27	588.45
2394	479890.58	1350826.55	587.79
2395	479890.81	1350808.08	592.41
2396	479801.59	1350895.11	592.83
2397	479813.22	1350895.29	590.82
2398	479808.67	1351400.41	595.08
2399	479795.41	1351400.23	597.89
2400	479848.48	1351498.82	594.24
2401	479852.48	1351489.47	599.47

SUBGRADE CONSTRUCTION CONTROL POINTS

CELL 8

POINT NO.	NORTHING	EASTING	ELEVATION
1586	480257.74	1350793.79	594.81
1624	480248.64	1351511.99	601.64
1624	480193.06	1350793.71	584.28
1635	479894.83	1350789.84	592.74
1849	479783.82	1350888.71	583.23
1739	479777.30	1351406.22	588.31
1753	479876.07	1351507.43	599.80

- NOTES**
1. THIS DRAWING SHOWS GRADING AND CONSTRUCTION CONTROL POINTS FOR COMPACTED CLAY LINER FOR CELL 8.
 2. COMPACTED CLAY LINER ELEVATIONS CORRESPOND TO TOP OF COMPACTED CLAY LINER.
 3. LDS PIPE CONSTRUCTION CONTROL POINTS ARE SHOWN ON DRAWINGS C-8 AND C-9.

REV.	NO.	DATE	DESCRIPTION	BY	CHK.	APP.
1A	04/08/29		PRELIMINARY REVISION 1 SUBMITTAL TO FF/DOE PER DOW	LWS	JAM	RET
1B	04/08/22		DC SUBMITTAL TO FF/DOE PER DOW	LWS	JAM	RET
1C	03/13/08		PRE-FINAL SUBMITTAL TO FF/DOE	LWS	JAM	RET
1D	03/10/08		PRELIMINARY SUBMITTAL TO FF/DOE	LWS	JAM	RET

SCALE IN FEET: 0 25 50 100

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

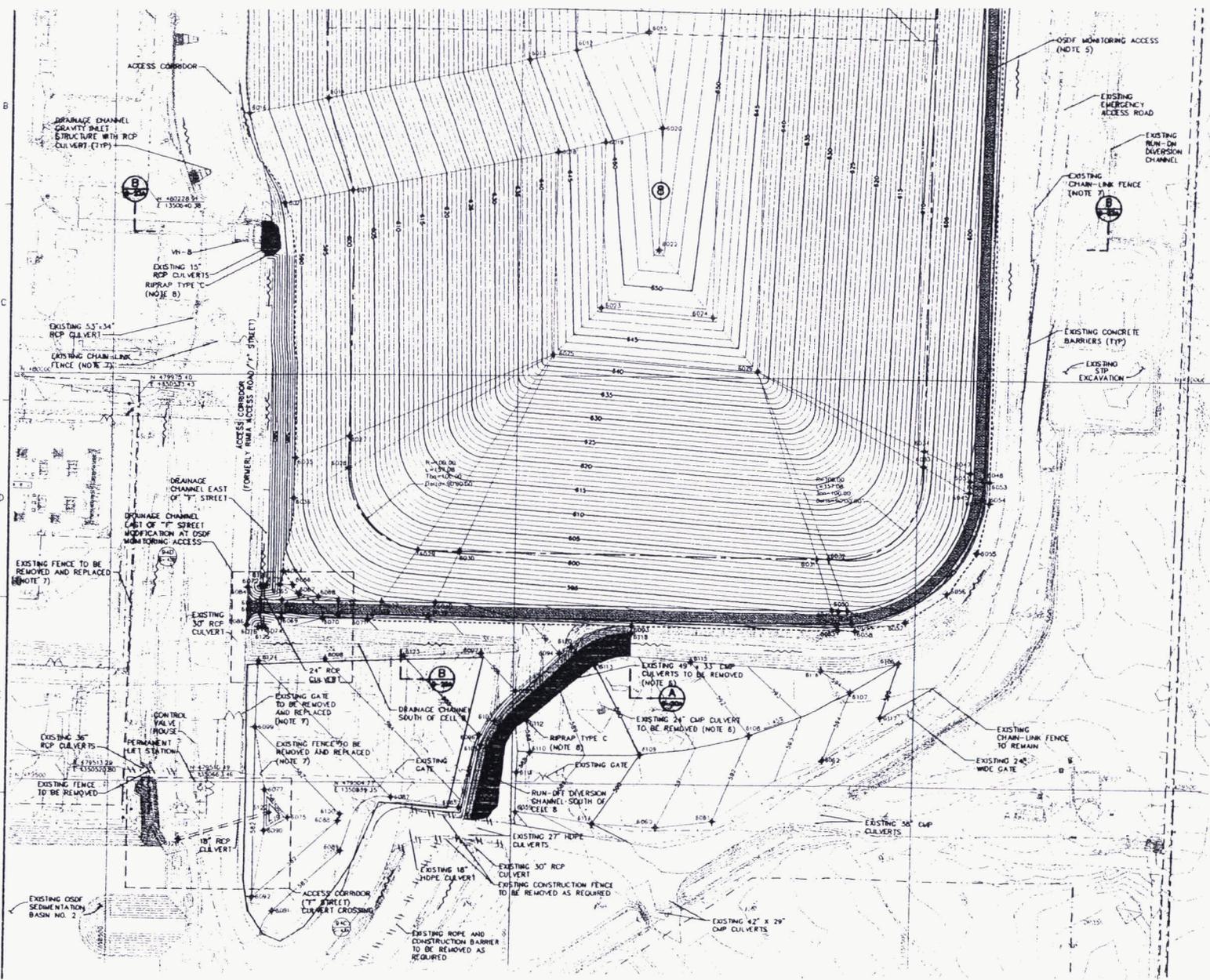
FLUOR FERNALD, INC.

PROJECT: ON-SITE DISPOSAL FACILITY - PHASE V

TITLE: COMPACTED CLAY LINER GRADING PLAN II - CELL 8 LINER SYSTEM

PROJECT NO.: 20105
CONTRACT NO.: CMT0699
FLUOR DRAWING NO.: 301-6300-C-0041A
DESIGNATE PROJECT NO.:

2A PLAN
COMPACTED CLAY LINER - CELL 8
SCALE: 1" = 50'



FINAL COVER SYSTEM CONSTRUCTION					
POINT NO.	NORTHING	EASTING	ELEVATION	POINT NO.	POINT NO.
8013	480389.04	1351027.76	630.11	8075	8075
8013	480388.80	1351029.42	644.71	8076	8076
8014	480339.58	1350758.21	622.26	8077	8077
8015	480422.35	1350758.63	654.48	8078	8078
8015	480321.21	1350481.86	386.07	8079	8079
8016	480228.45	1350758.78	600.82	8080	8080
8018	480274.94	1351047.15	643.82	8081	8081
8018	480287.19	1351025.33	640.52	8082	8082
8020	480305.44	1351170.28	653.09	8083	8083
8021	480210.88	1350708.84	588.88	8084	8084
8022	480155.71	1351173.43	652.34	8085	8085
8024	480073.86	1351241.20	648.50	8086	8086
8025	480208.99	1351038.13	642.34	8087	8087
8025	480208.99	1351038.13	642.34	8088	8088
8027	479923.88	1350780.42	599.78	8089	8089
8028	479884.78	1350789.84	589.28	8090	8090
8029	479784.51	1350878.58	600.01	8091	8091
8030	479783.13	1350828.57	600.49	8092	8092
8031	479777.86	1351376.03	604.86	8093	8093
8032	479777.47	1351391.81	625.02	8094	8094
8033	479893.26	1351507.84	608.73	8095	8095
8033	479893.26	1351507.84	608.73	8096	8096
8034	479933.10	1351507.84	608.73	8097	8097
8035	479898.84	1350723.58	608.84	8098	8098
8036	479898.84	1350723.58	608.84	8099	8099
8037	479791.08	1350722.45	588.21	8100	8100
8038	479791.08	1350722.45	588.21	8101	8101
8039	479705.10	1350821.88	588.27	8102	8102
8040	479705.10	1350821.88	588.27	8103	8103
8040	479720.25	1350888.72	589.86	8104	8104
8041	479714.16	1351149.37	589.82	8105	8105
8042	479698.09	1351402.71	593.95	8106	8106
8043	479714.16	1351149.37	589.82	8107	8107
8044	479698.09	1351402.71	593.95	8108	8108
8045	479698.09	1351402.71	593.95	8109	8109
8046	479698.09	1351402.71	593.95	8110	8110
8047	479698.09	1351402.71	593.95	8111	8111
8048	479698.09	1351402.71	593.95	8112	8112
8049	479698.09	1351402.71	593.95	8113	8113
8050	479698.09	1351402.71	593.95	8114	8114
8051	479698.09	1351402.71	593.95	8115	8115
8052	479698.09	1351402.71	593.95	8116	8116
8053	479698.09	1351402.71	593.95	8117	8117
8054	479698.09	1351402.71	593.95	8118	8118
8055	479698.09	1351402.71	593.95	8119	8119
8056	479698.09	1351402.71	593.95	8120	8120
8057	479698.09	1351402.71	593.95	8121	8121
8058	479698.09	1351402.71	593.95	8122	8122
8059	479698.09	1351402.71	593.95	8123	8123
8060	479698.09	1351402.71	593.95	8124	8124
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8062	479698.09	1351402.71	593.95	8126	8126
8063	479698.09	1351402.71	593.95	8127	8127
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8065	479698.09	1351402.71	593.95	8129	8129
8066	479698.09	1351402.71	593.95	8130	8130
8067	479698.09	1351402.71	593.95	8131	8131
8068	479698.09	1351402.71	593.95	8132	8132
8069	479698.09	1351402.71	593.95	8133	8133
8070	479698.09	1351402.71	593.95	8134	8134
8071	479698.09	1351402.71	593.95	8135	8135
8072	479698.09	1351402.71	593.95	8136	8136
8073	479698.09	1351402.71	593.95	8137	8137
8074	479698.09	1351402.71	593.95	8138	8138
8075	479698.09	1351402.71	593.95	8139	8139
8076	479698.09	1351402.71	593.95	8140	8140
8077	479698.09	1351402.71	593.95	8141	8141
8078	479698.09	1351402.71	593.95	8142	8142
8079	479698.09	1351402.71	593.95	8143	8143
8080	479698.09	1351402.71	593.95	8144	8144
8081	479698.09	1351402.71	593.95	8145	8145
8082	479698.09	1351402.71	593.95	8146	8146
8083	479698.09	1351402.71	593.95	8147	8147
8084	479698.09	1351402.71	593.95	8148	8148
8085	479698.09	1351402.71	593.95	8149	8149
8086	479698.09	1351402.71	593.95	8150	8150
8087	479698.09	1351402.71	593.95	8151	8151
8088	479698.09	1351402.71	593.95	8152	8152
8089	479698.09	1351402.71	593.95	8153	8153
8090	479698.09	1351402.71	593.95	8154	8154
8091	479698.09	1351402.71	593.95	8155	8155
8092	479698.09	1351402.71	593.95	8156	8156
8093	479698.09	1351402.71	593.95	8157	8157
8094	479698.09	1351402.71	593.95	8158	8158
8095	479698.09	1351402.71	593.95	8159	8159
8096	479698.09	1351402.71	593.95	8160	8160
8097	479698.09	1351402.71	593.95	8161	8161
8098	479698.09	1351402.71	593.95	8162	8162
8099	479698.09	1351402.71	593.95	8163	8163
8100	479698.09	1351402.71	593.95	8164	8164
8101	479698.09	1351402.71	593.95	8165	8165
8102	479698.09	1351402.71	593.95	8166	8166
8103	479698.09	1351402.71	593.95	8167	8167
8104	479698.09	1351402.71	593.95	8168	8168
8105	479698.09	1351402.71	593.95	8169	8169
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8107	479698.09	1351402.71	593.95	8171	8171
8108	479698.09	1351402.71	593.95	8172	8172
8109	479698.09	1351402.71	593.95	8173	8173
8110	479698.09	1351402.71	593.95	8174	8174
8111	479698.09	1351402.71	593.95	8175	8175
8112	479698.09	1351402.71	593.95	8176	8176
8113	479698.09	1351402.71	593.95	8177	8177
8114	479698.09	1351402.71	593.95	8178	8178
8115	479698.09	1351402.71	593.95	8179	8179
8116	479698.09	1351402.71	593.95	8180	8180
8117	479698.09	1351402.71	593.95	8181	8181
8118	479698.09	1351402.71	593.95	8182	8182
8119	479698.09	1351402.71	593.95	8183	8183
8120	479698.09	1351402.71	593.95	8184	8184
8121	479698.09	1351402.71	593.95	8185	8185
8122	479698.09	1351402.71	593.95	8186	8186
8123	479698.09	1351402.71	593.95	8187	8187
8124	479698.09	1351402.71	593.95	8188	8188
8125	479698.09	1351402.71	593.95	8189	8189
8126	479698.09	1351402.71	593.95	8190	8190
8127	479698.09	1351402.71	593.95	8191	8191
8128	479698.09	1351402.71	593.95	8192	8192
8129	479698.09	1351402.71	593.95	8193	8193
8130	479698.09	1351402.71	593.95	8194	8194
8131	479698.09	1351402.71	593.95	8195	8195
8132	479698.09	1351402.71	593.95	8196	8196
8133	479698.09	1351402.71	593.95	8197	8197
8134	479698.09	1351402.71	593.95	8198	8198
8135	479698.09	1351402.71	593.95	8199	8199
8136	479698.09	1351402.71	593.95	8200	8200

- NOTES:
- THIS DRAWING SHOWS CONSTRUCTION CONTROL POINTS FOR FINAL COVER SYSTEM FEATURES AND FINAL FENCE CONFIGURATION.
 - FINISHED GRADE ELEVATIONS INCLUDING OSDF MONITORING ACCESS CORRIDOR TOPSOIL LAYER.
 - CONSTRUCTION CONTROL POINTS FOR LIMIT OF FINAL COVER SYSTEM TEMPORARY BARRIER LIMIT FOR COMPACTED CLAY CAP FOR CELL B ARE SHOWN.
 - FINAL COVER SYSTEM FOR CELLS 7 AND 8 MAY BE CONSTRUCTED CONCURRENT WITH FINAL COVER SYSTEM TEMPORARY BARRIER CELL B FINAL COVER SYSTEM DRAWING C-16.
 - OSDF MONITORING ACCESS DETAILS ARE SHOWN ON DRAWINGS C-37, C-38, MONITORING ACCESS ELEVATIONS TO THE 1% WITH EXISTING ACCESS CORRIDOR.
 - REMOVE EXISTING CULVERTS AND STOCKPILE MATERIAL AT LOCATIONS DESIGNATED.
 - INDICATES FINAL CONFIGURATION OF OSDF FENCE AND GATES, CHAIN-LINK FENCE WITH SPECIFICATION SECTION 02031.
 - PLACE RIPRAP WITH AREA SHOWN. RIPRAP THICKNESS SHALL BE 1.5 FEET SPECIFICATION.

NO.	DATE	PRELIMINARY SUBMITTAL TO 10% RFP PER E
1	04/26/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
2	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
3	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
4	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
5	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
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7	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
8	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
9	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
10	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
11	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
12	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
13	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
14	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
15	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
16	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
17	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
18	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
19	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
20	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
21	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
22	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
23	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
24	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
25	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
26	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
27	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
28	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
29	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
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47	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
48	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
49	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E
50	04/27/22	PRELIMINARY SUBMITTAL TO 10% RFP PER E

UNITED STATES DEPARTMENT OF

RCI/DCN FORM

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.: 20112	(2) S/C NO.:	(3) Pg. 1 ^{of} 1	(4) DATE: January 16, 2004
(5) PROJECT/CWO/RES/S/C TITLE: Valve House Construction			(6) RCI NO.:
(7) RCI/DCN TITLE: Maximum rock particle size in 4-inch lifts			(6) DCN NO.: 20112-001
(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
Technical Specifications for OSDF Enhanced Permanent Leachate Transmission System (EPLTS) Valve Houses 7 and 8	20112-TS-0001	0	Section 02200 Earthwork
(10) REQUESTOR: Charles C. Van Arsdale <i>Charles C. Van Arsdale</i> 1/16/04 NAME (Print & Sign) DATE		(11) CE / PE Charles C. Van Arsdale <i>Charles C. Van Arsdale</i> 1/20/04 NAME (Print & Sign) DATE	

(12) <input type="checkbox"/> RCI-DESCRIPTION	(13) <input checked="" type="checkbox"/> DCN-JUSTIFICATION. EXISTING CONDITION & REQUESTED/PROPOSED CHANGE
<p><u>Justification:</u> Change maximum rock particle size in a 4-inch thick loose lift of compacted fill to match current OSDF Technical specification requirements.</p> <p><u>Existing Condition:</u> Section 02200, Part 3.08D specifies a maximum rock particle size of 3 inches for a 4-inch thick loose lift of compacted fill.</p> <p><u>Proposed Change:</u> Change maximum rock particle size for a 4-inch thick loose lift of compacted fill from 3-inches to 2-inches.</p>	

DESIGN ORGANIZATION RCI - DCN SUMMARY DESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION

Change the second sentence of Section 02200, Part 3.08, Article D of the EPLTS Valve Houses Specification to read as follows: "D. For nominal 4-inch (+/- 1 inch) thick loose lifts, the maximum rock particle size shall be 2 inches."

(15) REVIEWS COMPLETED

<input checked="" type="checkbox"/> Configuration Management SSC Review Complete <i>RCWK</i>	DO NAME (Print & Sign) DATE Rob Kneip <i>Rob Kneip</i> 1/21/04
<input checked="" type="checkbox"/> Impact Assessment Review Complete <i>RCWK</i>	DO NAME (Print & Sign) DATE K. Bada-Terebush <i>K. Bada-Terebush</i> 1/20/04
<input checked="" type="checkbox"/> Technical Review Complete <i>RCWK</i>	PE NAME (Print & Sign) DATE Rob Kneip <i>Rob Kneip</i> 1/21/04
<input checked="" type="checkbox"/> ED-12-4010 Review Complete <i>RCWK</i>	DO NAME (Print & Sign) DATE K. Bada-Terebush <i>K. Bada-Terebush</i> 1/20/04
	PE NAME (Print & Sign) DATE

(16) DOES CE AGREE WITH SOLUTION: <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES A PURCHASE ACQUISITION REQUIRED: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES Charles C. Van Arsdale <i>Charles C. Van Arsdale</i> 1/20/04 CE NAME (Print & Sign) DATE	(17) FIELD WORK COMPLETED: <div style="text-align: center; font-size: 2em; opacity: 0.5;">20094</div> CE OR PE (Print & Sign) DATE:
--	---



State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor
Jennette Bradley, Lt. Governor
Christopher Jones, Director

MEMORANDUM

TO: J.D. Chiou, SDFP Manager, Fluor Fernald
FROM: Tom Ontko, Ohio EPA
DATE: February 26, 2004
RE: DCN 20112-002

Valve House 7 walls are 18 inches higher than VH 1 thru 6. This DCN up-grades the rebar specifications.

The Ohio EPA approves this change.

Approval of these changes does not constitute an assurance that the proposed facilities will operate in compliance with Ohio laws and regulations or that these facilities will perform in a fashion that achieves the objectives of the Operable Unit 2 Record of Decision.

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20112	SUBCONTRACT NO: N/A	DATE: 2/24/04	PAGE 1 OF 1
--------------------------	------------------------	------------------	-------------

SUBCONTRACT OR PROJECT TITLE: Valve House 7 Construction	RCI NO:
--	---------

RCI/DCN TITLE: Valve House 7 Reinforcing Steel Design Change	DCN No: 20112-002
---	----------------------

DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:

The design of the Valve House #7 foundation wall includes a net wall height increase of 18 inches ~~as~~ compared to existing Valve Houses 1 through 6. Using the same conservative design methodology as presented in the GeoSyntec Consultants structural calculations, additional vertical reinforcement steel will be required at the outside face of the foundation walls. A change from #8 bars @ 12" cc to #9 bars @ 12" cc is recommended. If tension lap splices are to be used during construction, the minimum length of the splice should be 36 inches.

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION
Valve House 7 Structural Details I	90X-5500-S-00678	Rev. 0
Valve House 7 Structural Details II	90X-5500-S-00679	Rev. 0

FLUOR FERNALD REQUESTOR: (PRINT/SIGN) Rob Kneip <i>[Signature]</i>	DATE: 02/24/04
---	-------------------

DESIGN REVIEW SECTION

<input type="checkbox"/> RCI	REQUESTOR PROPOSED CHANGE? <input checked="" type="checkbox"/> YES	SBDR NO:	PERFORMANCE GRADE: <u>5</u>	SRC/ENGINEERING REVIEW REVIEW MADE FOR PG 1, 2 or 3: Y <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> DCN	<input type="checkbox"/> NO	USQD NO:	QUALITY LEVEL: <u>4</u>	

DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS; REQUESTOR PROPOSED CHANGE ACCEPTED; REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW, CHANGE REJECTED WITH JUSTIFICATION BELOW; RQ CLARIFICATION ADDRESSED BELOW

Calculations verify design change. *[Signature]*

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) <i>M. Borgmann</i> DATE <i>2/24/04</i>	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) _____ DATE _____
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) <i>[Signature]</i> DATE <i>2/24/04</i>	CHANGE COMPLETED NAME (PRINTED/SIGNED) _____ DATE _____

REQUEST FOR CLARIFICATION/DESIGN CHANGE NOTICE

CHANGE OR CLARIFICATION REQUEST SECTION

PROJECT NUMBER: 20112	SUBCONTRACT NO:	DATE: 9-1-2004	PAGE 1	OF 1
SUBCONTRACT OR PROJECT TITLE: Valve Houses 7 & 8			RCI NO: 20112-012R	
RCI/DCN TITLE: Change of bolt torque on HDPE flange			DCN No: 20112-003	

DESCRIPTION OF REQUESTED CLARIFICATION or PROPOSED CHANGE or CHANGE TO BE ADDRESSED:
Request change of bolt torque for HDPE molded flange to cast-iron valve.

DOCUMENTS AFFECTED	DOCUMENT NUMBER	REVISION

FOR FORMAL REQUESTOR: (PRINT/SIGN) _____ DATE: _____

DESIGN REVIEW SECTION

<input checked="" type="checkbox"/> RCI	REQUESTOR PROPOSED CHANGE? <input checked="" type="checkbox"/> YES	SBDR NO:	PERFORMANCE GRADE:	SRC/ENGINEERING REVIEW MADE FOR PG 1, 2 or 3: Y N/A
<input checked="" type="checkbox"/> DCN	___ NO	USQD NO:	QUALITY LEVEL: 9/13/04	

DESIGN ORGANIZATION EVALUATION, SOLUTION OR COMMENTS: REQUESTOR PROPOSED CHANGE ACCEPTED;
 ___ REQUESTOR PROPOSED CHANGE ACCEPTED WITH MODIFICATIONS BELOW; DESIGN ORGANIZATION CHANGE PROVIDED BELOW. ___ CHANGE REJECTED WITH JUSTIFICATION BELOW; ___ RCI CLARIFICATION ADDRESSED BELOW

Valve House 7 bolt torque acceptable as installed. 9/13/04
Valve House 8 bolt torque to be 35 foot pounds.
Torque Bolts on HDPE Flanges per Valve manufacturers recommendations.

ADDITIONAL DOCUMENTS AFFECTED OR ADDED

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION

APPROVAL SECTION

DESIGN ORGANIZATION APPROVAL OF CLARIFICATION OR CHANGE AND VERIFICATION THAT ED-12-5002 REQUIREMENTS MET NAME (PRINTED/SIGNED) [Signature] DATE 9/14/04	PE CONCURRENCE (Not Required if none assigned or for Requestor Proposed Change) NAME (PRINTED/SIGNED) _____ DATE _____
REQUESTOR CONCURRENCE NAME (PRINTED/SIGNED) Walt Minges DATE 9/1/04	CHANGE COMPLETED NAME (PRINTED/SIGNED) _____ DATE _____

76896 ORIGINAL

APPENDIX U

**NONCONFORMANCE REPORTS
(NCRs)**

GeoSyntec Consultants



CONSTRUCTION NONCONFORMANCE REPORT

¹ ORIGINATOR: Collin P. Sukow	² TITLE/ORGANIZATION: Site CQA Manager - Geosyntec Consultants	³ NCR NUMBER: 20105-002	⁴ DATE DISCOVERED: 2 June 2004
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⁵ RESPONSIBLE ORGANIZATION/PROJECT: Fluor Construction - The Istre Company/OSDF	⁶ ASSESSMENT ACTIVITY: Construction Quality Control	⁷ HOLD TAG: () YES (x) NO
		⁸ REMOVED (Initial/Date): N/A

⁹ REQUIREMENTS (Identify requirement from document [e.g., CQA plan, specification, drawing, etc.]):

Technical Specifications 20105 Rev 0; 02770.1.04.D: Submit to Construction Manager for review at least 14 calendar days prior to Geomembrane placement, a Certificate of Calibration less than 12 months old for the filed tensiometer, vacuum gauges, and pressure gauges.....

¹⁰ NONCONFORMANCE TYPE: Construction Nonconformance (x) Material Deviation ()

¹¹ NONCONFORMANCE (Fully describe as it relates to requirements. Use supplemental sheets as required):

Approximately 134,712 sq-ft of geomembrane liner has been deployed to date. There are no calibrated vacuum or pressure gauges on site for non-destructive testing. As a result, none of the deployed geomembrane liner has been non-destructively tested.

¹² ORIGINATOR'S SIGNATURE: <i>Collin P. Sukow</i>	¹³ DATE PROVIDED TO RESPONSIBLE MANAGER: 7 June 2004
---	--

¹⁴ RESPONSIBLE MANAGER'S PROPOSED CORRECTIVE ACTION:

Use As-Is () Reject () Other (x)
Repair () Rework ()

Fluor may continue to deploy the secondary geomembrane liner at their own risk. However, work cannot proceed over geomembrane liner that has not been destructively and non-destructively tested. *Equipment will be calibrated prior to release of geomembrane liner.*

¹⁵ RESPONSIBLE MANAGER (NAME, TITLE, ORGANIZATION):

Gordon M. Sturabo

¹⁶ RESPONSIBLE MANAGER'S SIGNATURE: <i>Gordon M. Sturabo</i>	¹⁷ PROPOSED COMPLETION DATE:	¹⁸ DATE FORWARDED TO APPROVAL AUTHORITY:
--	---	---

CONSTRUCTION NONCONFORMANCE REPORT

¹⁹ EVALUATION OF PROPOSED CORRECTIVE ACTION: Accept Reject ()
Comments ()

²⁰ APPROVAL AUTHORITY SIGNATURE:

James A. F. [Signature]

²¹ DATE:

7-15-04

²² VERIFICATION OF CORRECTIVE ACTION (Describe who, what, when, where):

VERIFIER'S SIGNATURE:

Collin P. [Signature]

²⁴ DATE:

7-15-04

²⁵ APPROVAL AUTHORITY SIGNATURE:

²⁶ DATE CLOSED:

²⁷ CONTINUATION FROM BLOCK ____:



CONSTRUCTION NONCONFORMANCE REPORT

¹ ORIGINATOR: Collin P. Sukow	² TITLE/ORGANIZATION: Site CQC Manager - GeoSyntec Consultants	³ NCR NUMBER: NCR 20105-003	⁴ DATE DISCOVERED: 7 June 2004
⁵ RESPONSIBLE ORGANIZATION/PROJECT: Fluor Construction	⁶ ASSESSMENT ACTIVITY: Construction Quality Control	⁷ HOLD TAG: () YES (x) NO	
		⁸ REMOVED (Initial/Date): N/A	

⁹ REQUIREMENTS (Identify requirement from document [e.g., CQA plan, specification, drawing, etc.]):
 Technical Specifications EPLTS Valve Houses (VH) 7 and 8 Rev B; 03100 Table 03100-01: Air Entraining Admixture (AEA) ASTM C-231 will be sufficient to produce 5% +/- 1% air at point of delivery. Slump - ASTM C 143 shall be 4 inches +/- 1 inch.

¹⁰ NONCONFORMANCE TYPE: Construction Nonconformance () Material Deviation (x)

¹¹ NONCONFORMANCE (Fully describe as it relates to requirements. Use supplemental sheets as required):
 Field test results of the concrete poured on 7 June 2004 for the north and south walls of VH-7 resulted in a slump of 8.5 inches and 6.5 % entrained air.

¹² ORIGINATOR'S SIGNATURE: <i>Collin P. Sukow</i>	¹³ DATE PROVIDED TO RESPONSIBLE MANAGER: 7 June 2004
---	--

¹⁴ RESPONSIBLE MANAGER'S PROPOSED CORRECTIVE ACTION:

Use As-Is () Reject () Other ()
 Repair () Rework (x)

*Remove north and south walls of Valve House #7,
 as they did not meet project requirements.*

¹⁵ RESPONSIBLE MANAGER (NAME, TITLE, ORGANIZATION):
Gordon M. Stamba

¹⁶ RESPONSIBLE MANAGER'S SIGNATURE: <i>Mike Stamba</i>	¹⁷ PROPOSED COMPLETION DATE:	¹⁸ DATE FORWARDED TO APPROVAL AUTHORITY:
--	---	---

CONSTRUCTION NONCONFORMANCE REPORT

¹⁹ EVALUATION OF PROPOSED CORRECTIVE ACTION: Comments ()	Accept (<input checked="" type="checkbox"/>)	Reject (<input type="checkbox"/>)
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²⁰ APPROVAL AUTHORITY SIGNATURE: <i>James A. Flynn</i>	²¹ DATE: 7-15-04
--	--------------------------------

²² VERIFICATION OF CORRECTIVE ACTION (Describe who, what, when, where):

VERIFIER'S SIGNATURE: <i>Collin P. Sabers</i>	²⁴ DATE: 7-15-04
--	--------------------------------

²⁵ APPROVAL AUTHORITY SIGNATURE:	²⁶ DATE CLOSED:
---	----------------------------

²⁷ CONTINUATION FROM BLOCK _____:



CONSTRUCTION NONCONFORMANCE REPORT

19. EVALUATION OF PROPOSED CORRECTIVE ACTION: Comments ()			Accept ()	Reject ()
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20. APPROVAL AUTHORITY SIGNATURE:	21. DATE:
-----------------------------------	-----------

22. VERIFICATION OF CORRECTIVE ACTION (Describe who, what, when, where):

VERIFIER'S SIGNATURE: <i>Collin P. Sutton</i>	24. DATE: <i>7 Jan 2005</i>
--	--------------------------------

25. APPROVAL AUTHORITY SIGNATURE:	26. DATE CLOSED:
-----------------------------------	------------------

27. CONTINUATION FROM BLOCK ____:

Fluor Fernald

INITIAL DS DATE 8/6/04

ORIGINATOR/ASSESSOR

Nonconformance Number/Revision	NCR No.: <u>793</u>	Revision No. <u>0</u>
2 Dates	Date Discovered: <u>7/9/04</u>	Date NCR Issued: <u>7/12/04</u>
3 Type of Nonconformance	<input checked="" type="checkbox"/> FINDING <input type="checkbox"/> CONCERN	
4 Project Number Project/Activity @ Fac/Loc/Bldg.	<u>VALVE HOUSE #7 / PROJECT # 20112</u>	
5 Hazard Category	Nuclear: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 Radiological: <input type="checkbox"/> Non-Nuclear: <input type="checkbox"/> High Hazard <input type="checkbox"/> Moderate Hazard <input checked="" type="checkbox"/> Low Hazard Industrial: <input checked="" type="checkbox"/> Standard Industrial Hazard <input type="checkbox"/> Other Industrial Hazard Not Designated <input type="checkbox"/> Desktop review, document review, etc.	
6 Assessment	<input checked="" type="checkbox"/> Internal (Site) <input type="checkbox"/> External (OEPA, DOE) <input type="checkbox"/> Supplier/Vendor _____	
7 Assessment Type	<input type="checkbox"/> Audit <input type="checkbox"/> Surveillance <input checked="" type="checkbox"/> Inspection <input type="checkbox"/> Self Assessment <input type="checkbox"/> Other _____	
8 Assessment Number	<u>QEP # 2023721</u>	
9 Responsible Program/Project Division/Vendor	<input type="checkbox"/> WPRAP <input type="checkbox"/> D&DP <input checked="" type="checkbox"/> S&DFP <input type="checkbox"/> M&IS <input type="checkbox"/> WMP <input type="checkbox"/> AM <input type="checkbox"/> SH&Q <input type="checkbox"/> SP <input type="checkbox"/> CPM <input type="checkbox"/> OP <input type="checkbox"/> ADM <input type="checkbox"/> Supplier/Vendor/Subcontractor <input type="checkbox"/> Other	
10 Responsible Department/Vendor	<u>DEMOLITION, SOILS AND DISPOSAL</u>	
11 Responsible Manager/Supervisor/Vendor (Print Name)	<u>TOM BEASLEY</u>	
12 Functional Area (NA for Vendors) (choose any that apply) (Ref. RM-0016)	<input type="checkbox"/> CM <input type="checkbox"/> ED <input type="checkbox"/> RD <input type="checkbox"/> MS <input type="checkbox"/> QA <input type="checkbox"/> AC <input type="checkbox"/> PM <input type="checkbox"/> PI <input type="checkbox"/> FM <input type="checkbox"/> EP <input type="checkbox"/> EW <input type="checkbox"/> MT <input type="checkbox"/> OP <input type="checkbox"/> PT <input type="checkbox"/> SE <input type="checkbox"/> TR <input checked="" type="checkbox"/> CT <input type="checkbox"/> HR <input type="checkbox"/> PC <input type="checkbox"/> EM <input type="checkbox"/> FP <input type="checkbox"/> NS <input type="checkbox"/> SH <input type="checkbox"/> RP	
13 QA Criteria (choose one that applies Ref. RM-0012) Other Criteria (CONOPS, etc.) (not RM-0012 applicable)	<input type="checkbox"/> 1 Program <input type="checkbox"/> 2 Training <input type="checkbox"/> 3 Quality Improvement <input type="checkbox"/> 4 Document/Records <input type="checkbox"/> 5 Work process <input type="checkbox"/> 6 Design <input type="checkbox"/> 7 Procurement <input checked="" type="checkbox"/> 8 Inspect/Test <input type="checkbox"/> 9 Management Assessment <input type="checkbox"/> 10 Independent Assessment <input type="checkbox"/> Other	
14 Requirement Description	Cite the requirement (clearly, concisely, and completely) and its source, including document identification number, page and paragraph number. A copy of the document (or page of the document) in which the requirement appears may be attached or added to the NCR file. Use additional or separate sheets as necessary.	
15 Nonconformance Description	Describe the nonconformance. Include details such as supplier names, container numbers, purchase order, work order, or requisition numbers) and clearly describe the deviation from the written requirement. Use additional or separate sheets as necessary.	
16 Tagging Required / Number of Tags	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Number of Tags: <u>N/A</u>	
17 Originator/Assessor	Name: <u>PAUL SESSLER</u> Signature: <u>Paul Sessler</u> Date: <u>7/12/04</u>	
MANAGER/SUPERVISOR'S REVIEW		
18 Manager/Supervisor (Trained/Briefed on QA-0001)	Name: <u>ROBERTO FEISKE</u> Signature: <u>R Feiske</u> Date: <u>7-12-04</u>	
19 Response Date From Responsible Organization	REQUESTED RESPONSE DATE: <u>08-09-04</u> (Reply within 20 working days)	



REPORT OF TEST ON CONCRETE CYLINDERS

10018 International Boulevard
Cincinnati, Ohio 45246
(513) 860-1070

RECEIVED

AUG 17 2004

Cylinder/Set No. 04-9

Project No. CN2004011 (GQ3309)

PROJECT DATA

FIELD DATA

Project Name Fluor Fernald

Date Sampled 7/9/04

Contractor _____

Slump 4"

Designer _____

Air Content 4.5%

Concrete Supplier Spurlino

Truck No. 25

Specified Strength & Type 4,000 AE

Ticket No. 224272

Supplied Strength & Type 4,000 AE w/ retarder

Ambient Temp. 83°F

Location of Concrete VH #7 north and south walls

Concrete Temp. 75°F

Technician CHW

Time of Test 8:20 a.m.

LABORATORY DATA

Cylinder No.	A	B	C			
Date Received	7/09/04	7/09/04	7/09/04			
Date Tested	7/12/04	7/16/04	8/06/04			
Age When Tested, Days	3	7	28			
Maximum Load, Pounds	82,500	105,500	140,000			
Compressive Strength, psi	2,920	3,730	4,950			
Cylinder Weight in Lbs.	28.2	28.4	28.6			
Type of Break	Shear	Columnar	Shear			

REMARKS:

At G. Harris
 FULLER, MOSSBARGER, SCOTT AND MAY
 ENGINEERS, INC.

INITIAL DS DATE 8/19/04		ORIGINATOR/ASSESSOR	
1	Nonconformance Number/Revision	NCR No.: 799	Revision No. 0
2	Dates	Date Discovered: 7/28/04	Date NCR Issued: 7/29/04
3	Type of Nonconformance	<input checked="" type="checkbox"/> FINDING <input type="checkbox"/> CONCERN	
4	Project Number Project/Activity @ Fac/Loc/Bldg.	VALVE HOUSE # 7 PROJECT # 20112	
5	Hazard Category	Nuclear: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 Radiological: <input type="checkbox"/> Non-Nuclear: <input type="checkbox"/> High Hazard <input type="checkbox"/> Moderate Hazard <input type="checkbox"/> Low Hazard Industrial: <input checked="" type="checkbox"/> Standard Industrial Hazard <input type="checkbox"/> Other Industrial Hazard Not Designated <input type="checkbox"/> Desktop review, document review, etc.	
6	Assessment	<input checked="" type="checkbox"/> Internal (Site) <input type="checkbox"/> External (OEPA, DOE) <input type="checkbox"/> Supplier/Vendor	
7	Assessment Type	<input type="checkbox"/> Audit <input type="checkbox"/> Surveillance <input type="checkbox"/> Inspection <input type="checkbox"/> Self Assessment <input checked="" type="checkbox"/> Other WALKDOWN	
8	Assessment Number	N/A	
9	Responsible Program/Project Division/Vendor	<input type="checkbox"/> WPRAP <input type="checkbox"/> D&DP <input checked="" type="checkbox"/> S&DFP <input type="checkbox"/> M&IS <input type="checkbox"/> WMP <input type="checkbox"/> ARP <input type="checkbox"/> SH&Q <input type="checkbox"/> SP <input type="checkbox"/> CPM <input type="checkbox"/> OP <input type="checkbox"/> ADM <input type="checkbox"/> Supplier/Vendor/Subcontractor <input type="checkbox"/> Other	
10	Responsible Department/Vendor	DEMOLITION, SOILS AND DISPOSAL PROJECT	
11	Responsible Manager/Supervisor/Vendor (Print Name)	(For Concerns, assign to Project/Program Director) TOM BEASLEY	
12	Functional Area (NA for Vendors) (choose any that apply) (Ref. RM-0016)	<input type="checkbox"/> CM <input type="checkbox"/> ED <input type="checkbox"/> RD <input type="checkbox"/> MS <input type="checkbox"/> QA <input type="checkbox"/> AC <input type="checkbox"/> PM <input type="checkbox"/> PI <input type="checkbox"/> FM <input type="checkbox"/> EP <input type="checkbox"/> EW <input type="checkbox"/> MT <input type="checkbox"/> OP <input type="checkbox"/> PT <input type="checkbox"/> SE <input type="checkbox"/> TR <input checked="" type="checkbox"/> CT <input type="checkbox"/> HR <input type="checkbox"/> PC <input type="checkbox"/> EM <input type="checkbox"/> FP <input type="checkbox"/> NS <input type="checkbox"/> SH <input type="checkbox"/> RP	
13	QA Criteria (choose one that applies Ref. RM-0012) Other Criteria (CONOPS, etc.) (not RM-0012 applicable)	<input type="checkbox"/> 1 Program <input type="checkbox"/> 2 Training <input type="checkbox"/> 3 Quality Improvement <input type="checkbox"/> 4 Document/Records <input checked="" type="checkbox"/> 5 Work process <input type="checkbox"/> 6 Design <input type="checkbox"/> 7 Procurement <input type="checkbox"/> 8 Inspect/Test <input type="checkbox"/> 9 Management Assessment <input type="checkbox"/> 10 Independent Assessment <input type="checkbox"/> Other	
14	Requirement Description Cite the requirement (clearly, concisely, and completely) and its source, including document identification number, page and paragraph number. A copy of the document (or page of the document) in which the requirement appears may be attached or added to the NCR file. Use additional or separate sheets as necessary.	PER TECHNICAL SPECIFICATIONS 20112-TS-0001 SECTION 2605 PART 3.02.D STATES THE MAXIMUM ALLOWABLE DEPTH OF CUTS, GOUGES, OR SCRATCHES ON THE EXTERIOR SURFACE OF HDPE PIPE IS 10% OF WALL THICKNESS	
15	Nonconformance Description Describe the nonconformance. Include details such as supplier names, container numbers, purchase order, work order, or requisition numbers) and clearly describe the deviation from the written requirement. Use additional or separate sheets as necessary.	SOUTHERN MOST PIPE ON EAST WALL HAS CUT IN PIPE .110" DEEP, WALL THICKNESS OF PIPE .997"	
16	Tagging Required / Number of Tags	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Number of Tags: N/A	
17	Originator/Assessor	Name: PAUL SESSLER Signature: <i>Paul Sessler</i> Date: 7/29/04	
MANAGER/SUPERVISOR'S REVIEW			
18	Manager/Supervisor (Trained/Briefed on QA-0001)	Name: REINOLD FUSCO Signature: <i>Reinold Fusco</i> Date: 7-29-04	
19	Response Date From Responsible Organization	REQUESTED RESPONSE DATE: 8/26/04 (Reply within 20 working days)	

NONCONFORMANCE REPORT FORM

RESPONSIBLE ORGANIZATION'S CORRECTIVE ACTION RESPONSE	
Nonconformance Number/Revision	NCR No.: <u>799</u> Revision No. <u>0</u>
20 Root Cause Analysis <small>Provide documentation as attachment. Use additional or separate sheets as necessary</small>	<input type="checkbox"/> YES Level 1 Cat.: <input type="checkbox"/> (human performance.) <input type="checkbox"/> (natural phenom/sabotage) <input checked="" type="checkbox"/> NO <input type="checkbox"/> (equip.) <input type="checkbox"/> (other) <input type="checkbox"/> Supplier/Vendor/Subcontractor List Cause: <u>N/A</u> <small>(root cause per their program)</small>
21 Corrective Action (CA) Description and Disposition <small>Describe the actions necessary to correct the nonconformance. Corrective actions must be detailed and complete. They must be written in a clear, concise, and verifiable manner. The corrective action must also include actions to prevent recurrence. Use additional or separate sheets as necessary.</small> <small>(A disposition of Accept-as-is or Repair REQUIRES a written Technical Concurrence/Justification below)</small>	A) Hardware NCR: → <input checked="" type="checkbox"/> Accept-as-is <input checked="" type="checkbox"/> Repair <input type="checkbox"/> Rework <input type="checkbox"/> Reject B) Non-Hardware NCR: → <input type="checkbox"/> Other: _____ See Attached Corrective Action Plan <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <u>MANUFACTURER SIME TO INSTALL AND WELD SPLIT OR TWO PART HOPE FLANGES TO ENSURE PROPER INSTALLATION NOT TO IMPACT SYSTEM INTEGRITY PS 8-11-04 PATCH, WELD, OR GLAZE IDENTIFIED AREA OF CUT</u>
22 Technical Concurrence/Justification (mark NA if not applicable)	<u>8-19-04</u> Name: <u>Sessler</u> Signature: <u>Sessler</u> Date: <u>8-19-04</u>
23 Was a Design Change Notice Required?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No DCN # <u>N/A</u> Date Issued _____
24 Was a SBDP Performed? Was a USQD Performed?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No SBDP # _____ Date Issued _____ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No USQD # <u>N/A</u> Date Issued _____
25 Actions taken to Prevent Recurrence <small>Use additional or separate sheets as necessary.</small>	<u>NO MORE VALVE HOUSES TO BUILD</u>
26 Proposed Completion Date For CA	Date: <u>8-2-04</u>
27 Responsible Manager/Supervisor/Vendor	Name: <u>TM Bousley</u> Signature: <u>[Signature]</u> Date: <u>8-11-04</u>
EVALUATION OF THE CORRECTIVE ACTION RESPONSE BY THE ORIGINATOR/ASSESSOR	
28 Response Acceptable?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
29 Originator's/Assessor's	Name: <u>SESSLER</u> Signature: <u>Sessler</u> Date: <u>8-11-04</u>
COMPLETION OF THE CORRECTIVE ACTIONS BY THE RESPONSIBLE ORGANIZATION	
30 Date Corrective Action Completed	Date: <u>8/11/04</u>
31 Responsible Manager/Supervisor/Vendor	Name: <u>TM Bousley</u> Signature: <u>[Signature]</u> Date: <u>8/11/04</u>
VERIFICATION OF COMPLETED CORRECTIVE ACTIONS BY THE VERIFIER	
32 Verification Action <small>(Describe what objective evidence was examined to verify completion of this action and attach documentation to the NCR)</small>	<u>CUT INSPECTED PRIOR TO BACKFILL VERIFIED EXTENSION WELD.</u>
33 Verifier	Name: <u>Ronald Presie</u> Signature: <u>[Signature]</u> Date: <u>8-18-04</u>
CLOSURE BY THE VERIFIER'S MANAGER/SUPERVISOR	
34 Verifier's Manager/Supervisor (NCR Closed)	Name: <u>M. K. Miller</u> Signature: <u>[Signature]</u> Date: <u>8/19/04</u>

DATE 7/1/04

ORIGINATOR/ASSESSOR

1	Nonconformance Number/Revision	NCR No.: 800	Revision No. 0
2	Dates	Date Discovered: 7/28/04	Date NCR Issued: 7/29/04
3	Type of Nonconformance	<input checked="" type="checkbox"/> FINDING <input type="checkbox"/> CONCERN	
4	Project Number Project/Activity @ Fac/Loc/Bldg.	VALVE HOUSE #7 AND #8 / PROJECT # 20112	
5	Hazard Category	Nuclear: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 Radiological: <input type="checkbox"/> Non-Nuclear: <input type="checkbox"/> High Hazard <input type="checkbox"/> Moderate Hazard <input type="checkbox"/> Low Hazard Industrial: <input checked="" type="checkbox"/> Standard Industrial Hazard <input type="checkbox"/> Other Industrial Hazard Not Designated <input type="checkbox"/> Desktop review, document review, etc.	
6	Assessment	<input checked="" type="checkbox"/> Internal (Site) <input type="checkbox"/> External (OEPA, DOE) <input type="checkbox"/> Supplier/Vendor	
7	Assessment Type	<input type="checkbox"/> Audit <input type="checkbox"/> Surveillance <input type="checkbox"/> Inspection <input type="checkbox"/> Self Assessment <input checked="" type="checkbox"/> Other WALKDOWN	
8	Assessment Number	N/A	
9	Responsible Program/Project Division/Vendor	<input type="checkbox"/> WPRAP <input type="checkbox"/> D&DP <input checked="" type="checkbox"/> MS&DFP <input type="checkbox"/> M&IS <input type="checkbox"/> WMP <input type="checkbox"/> APF <input type="checkbox"/> SH&Q <input type="checkbox"/> SP <input type="checkbox"/> CPM <input type="checkbox"/> OP <input type="checkbox"/> ADM <input type="checkbox"/> Supplier/Vendor/Subcontractor <input type="checkbox"/> Other	
10	Responsible Department/Vendor	DEMOLITION, SOILS AND DISPOSAL PROJECT	
11	Responsible Manager/Supervisor/Vendor (Print Name)	(For Concerns, assign to Project/Program Director) TOM BEASLEY	
12	Functional Area (NA for Vendors) (choose any that apply) (Ref. RM-0016)	<input type="checkbox"/> CM <input type="checkbox"/> ED <input type="checkbox"/> RD <input type="checkbox"/> MS <input type="checkbox"/> QA <input type="checkbox"/> AC <input type="checkbox"/> PM <input type="checkbox"/> PI <input type="checkbox"/> FM <input type="checkbox"/> EP <input type="checkbox"/> EW <input type="checkbox"/> MT <input type="checkbox"/> OP <input type="checkbox"/> PT <input type="checkbox"/> SE <input type="checkbox"/> TR <input checked="" type="checkbox"/> VCT <input type="checkbox"/> HR <input type="checkbox"/> PC <input type="checkbox"/> EM <input type="checkbox"/> FP <input type="checkbox"/> NS <input type="checkbox"/> SH <input type="checkbox"/> RP	
13	QA Criteria (choose one that applies Ref. RM-0012) Other Criteria (CONOPS, etc.) (not RM-0012 applicable)	<input type="checkbox"/> 1 Program <input type="checkbox"/> 2 Training <input type="checkbox"/> 3 Quality Improvement <input type="checkbox"/> 4 Document/Records <input checked="" type="checkbox"/> 5 Work process <input type="checkbox"/> 6 Design <input type="checkbox"/> 7 Procurement <input type="checkbox"/> 8 Inspect/Test <input type="checkbox"/> 9 Management Assessment <input type="checkbox"/> 10 Independent Assessment <input type="checkbox"/> Other	
14	Requirement Description Cite the requirement (clearly, concisely, and completely) and its source, including document identification number, page and paragraph number. A copy of the document (or page of the document) in which the requirement appears may be attached or added to the NCR file. Use additional or separate sheets as necessary.	PER DRAWING 90X-5500-M00677 ONE PIECE FLANGE IS IDENTIFIED FOR INTERIOR WALL FOR HOPE PIPING	
15	Nonconformance Description Describe the nonconformance. Include details such as supplier names, container numbers, purchase order, work order, or requisition numbers) and clearly describe the deviation from the written requirement. Use additional or separate sheets as necessary.	EAST WALL ON BOTH VALVE HOUSE #7 AND #8 ARE MISSING ONE PIECE FLANGE ON ALL THREE HOPE PIPES, FLANGES CANNOT BE INSTALLED WITHOUT CUTTING PIPING	
16	Tagging Required / Number of Tags	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Number of Tags: N/A	
17	Originator/Assessor	Name: PAUL SESSLER Signature: <i>Paul Sessler</i> Date: 7/29/04	
MANAGER/SUPERVISOR'S REVIEW			
18	Manager/Supervisor (Trained/Briefed on QA-0001)	Name: <i>Benjamin F...</i> Signature: <i>[Signature]</i> Date: 7-29-04	
19	Response Date From Responsible Organization	REQUESTED RESPONSE DATE: 8/24/04 (Reply within 20 working days)	

NONCONFORMANCE REPORT FORM

ORIGINATOR/ASSESSOR

1	Nonconformance Number/Revision	NCR No.: 850	Revision No. 0
2	Dates	Date Discovered: 12/05/04	Date NCR Issued: 12/07/04
3	Type of Nonconformance	<input checked="" type="checkbox"/> FINDING <input type="checkbox"/> CONCERN	
4	Project Number Project/Activity @ Fac/Loc/Bldg.	2105 On Site Disposal Facility	
5	Hazard Category	Nuclear: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 Radiological: <input type="checkbox"/> Non-Nuclear: <input type="checkbox"/> High Hazard <input type="checkbox"/> Moderate Hazard <input type="checkbox"/> Low Hazard Industrial: <input checked="" type="checkbox"/> Standard Industrial Hazard <input type="checkbox"/> Other Industrial Hazard Not Designated <input type="checkbox"/> Desktop review, document review, etc.	
6	Assessment	<input type="checkbox"/> Internal (Site) <input type="checkbox"/> External (OEPA, DOE) <input type="checkbox"/> Supplier/Vendor	
7	Assessment Type	<input type="checkbox"/> Audit <input type="checkbox"/> Surveillance <input checked="" type="checkbox"/> Inspection <input type="checkbox"/> Self Assessment <input checked="" type="checkbox"/> Other <i>field observation</i>	
8	Assessment Number	N/A	
9	Responsible Program/Project Division/Vendor	<input type="checkbox"/> BO <input checked="" type="checkbox"/> DSDP <input type="checkbox"/> S,H&O <input type="checkbox"/> OS <input type="checkbox"/> FCP <input checked="" type="checkbox"/> SILOS <input type="checkbox"/> CPM <input type="checkbox"/> WPP <input type="checkbox"/> OP <input type="checkbox"/> OTHER	
10	Responsible Department/Vendor	DSDP Construction	
11	Responsible Manager/Supervisor/Vendor (Print Name)	(For Concerns, assign to Project/Program Director Mr. Gordon M. Stumbo, OSDF Construction Manager / <i>Ron Powell</i>	
12	Functional Area (NA for Vendors) (choose any that apply) (Ref. RM-0016)	<input type="checkbox"/> CM <input type="checkbox"/> ED <input type="checkbox"/> RD <input type="checkbox"/> MS <input type="checkbox"/> QA <input type="checkbox"/> AC <input type="checkbox"/> PM <input type="checkbox"/> PI <input type="checkbox"/> FM <input type="checkbox"/> EP <input type="checkbox"/> EW <input type="checkbox"/> MT <input type="checkbox"/> OP <input type="checkbox"/> PT <input type="checkbox"/> SE <input type="checkbox"/> TR <input checked="" type="checkbox"/> CT <input type="checkbox"/> HR <input type="checkbox"/> PC <input type="checkbox"/> EM <input type="checkbox"/> FP <input type="checkbox"/> NS <input type="checkbox"/> SH <input type="checkbox"/> RP	
13	QA Criteria (choose one that applies Ref. RM-0012) Other Criteria (CONOPS, etc.) (not RM-0012 applicable)	<input type="checkbox"/> 1 Program <input type="checkbox"/> 2 Training <input type="checkbox"/> 3 Quality Improvement <input type="checkbox"/> 4 Document/Records <input checked="" type="checkbox"/> 5 Work process <input type="checkbox"/> 6 Design <input type="checkbox"/> 7 Procurement <input type="checkbox"/> 8 Inspect/Test <input type="checkbox"/> 9 Management Assessment <input type="checkbox"/> 10 Independent Assessment <input type="checkbox"/> Other	
14	Requirement Description Cite the requirement (clearly, concisely, and completely) and its source, including document identification number, page and paragraph number. A copy of the document (or page of the document) in which the requirement appears may be attached or added to the NCR file. Use additional or separate sheets as necessary.	Per Technical Spec. 2770-12, Section I-1, and I-2. (1) Make all trial seams on excess pieces of geomembrane to verify that seaming conditions are adequate. Conduct trial seams on the same material to be installed and under similar field conditions as production seams. Conduct trial seaming at the beginning of each seaming period and at least once each four hours, for each seaming apparatus used that day prior to seaming. (2) Cut four specimens, each 1.0 inch wide, from the trial seam sample. Test two specimens in shear and two in peel, using a field tensiometer	
15	Nonconformance Description Describe the nonconformance. Include details such as supplier names, container numbers, purchase order, work order, or requisition numbers) and clearly describe the deviation from the written requirement. Use additional or separate sheets as necessary.	GML Panels, P-72, P-73, and P-73 No trial test's were made. Three GML panels were placed on East side of cell #4 from 1:00 pm to 5:00 pm. No QC samples were taken on these GML panels	
16	Tagging Required / Number of Tags	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Number of Tags: <i>N/A</i>	
17	Originator/Assessor	Name: <u>Mark A. Longhauser</u>	Signature: <i>Mark A. Longhauser</i> Date: <u>12/07/04</u>
MANAGER/SUPERVISOR'S REVIEW			
18	Manager/Supervisor (Trained/Briefed on QA-0001)	Name: <u>Reinhard Friske</u>	Signature: <i>Reinhard Friske</i> Date: <u>12/07/04</u>
19	Response Date From Responsible Organization	REQUESTED RESPONSE DATE: <u>1/10/05</u> (Reply within 20 working days)	

Subgrade

CELL 7 LINER

PIPE DRAWINGS

Pipe Drawings

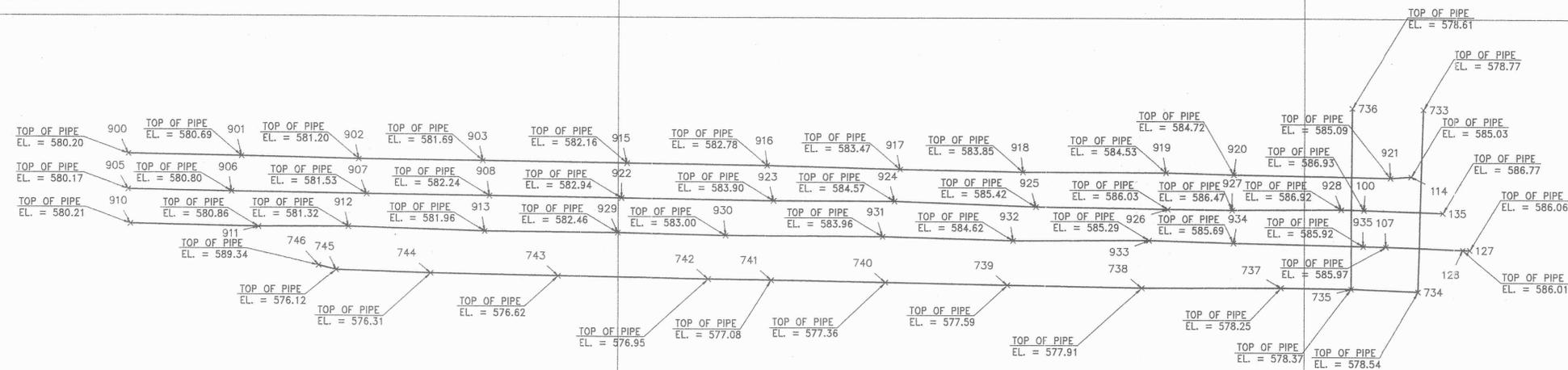
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E 1350700.0000

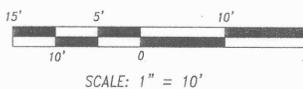
E 1350800.0000



CELL 7 LDS, LCS, RLCS, AND
HORIZONTAL MONITORING WELL (HMW)

POINT	NORTHING	EASTING	ELEVATION (AS-BUILT)	DESCRIPTION
100	480572.75	1350808.59	586.93	TOP/RLCS @ WELD
107	480567.51	1350811.84	585.97	TOP/LCS @ WELD
114	480577.56	1350815.52	585.03	TOP/LDS @ WELD
127	480564.11	1350824.25	586.06	TOP/LCS @ WELD
128	480567.13	1350823.21	586.01	TOP/LCS @ WELD
135	480572.39	1350820.23	586.77	TOP/RLCS @ WELD
733	480587.16	1350817.29	578.77	END T/P
734	480561.05	1350816.55	578.54	90BEND T/P
735	480564.44	1350806.73	578.37	TEE T/P
736	480587.31	1350806.84	578.61	END T/P
737	480561.56	1350796.59	578.25	P/S WELD
738	480561.48	1350776.28	577.91	T/P
739	480561.80	1350756.76	577.59	WELD
740	480562.15	1350738.97	577.36	T/P
741	480562.44	1350722.34	577.08	WELD
742	480562.57	1350713.17	576.95	WELD
743	480562.94	1350691.30	576.62	T/P
744	480563.29	1350672.76	576.31	45LAT
745	480563.69	1350656.94	576.12	T/P
746	480564.32	1350656.46	589.34	10 D-17 4 TOP
900	480580.25	1350628.69	580.20	TOP/LDS
901	480579.96	1350645.22	580.69	TOP/LDS
902	480579.58	1350662.18	581.20	TOP/LDS @ WELD
903	480579.43	1350680.33	581.89	TOP/LDS
905	480575.17	1350628.65	580.17	TOP/RLCS
906	480574.88	1350643.79	580.80	TOP/RLCS
907	480574.59	1350663.34	581.53	TOP/RLCS @ WELD
908	480574.41	1350681.31	582.24	TOP/RLCS
910	480570.21	1350628.98	580.21	TOP/LCS
911	480569.84	1350647.70	580.86	TOP/LCS
912	480569.89	1350660.71	581.32	TOP/LCS @ WELD
913	480569.33	1350680.62	581.96	TOP/LCS
915	480579.14	1350701.27	582.18	TOP/LDS @ WELD
916	480578.87	1350721.72	582.78	TOP/LDS
917	480578.37	1350741.07	583.47	TOP/LDS @ WELD
918	480578.03	1350759.01	583.85	TOP/LDS
919	480578.00	1350779.78	584.53	TOP/LDS @ WELD
920	480577.74	1350799.71	584.72	TOP/LDS
921	480577.37	1350812.49	585.09	TOP/LDS
922	480574.14	1350700.48	582.94	TOP/RLCS @ WELD
923	480573.82	1350722.66	583.90	TOP/RLCS
924	480573.79	1350740.25	584.57	TOP/RLCS @ WELD
925	480573.06	1350760.91	585.42	TOP/RLCS
926	480572.79	1350780.06	586.03	TOP/RLCS @ WELD
927	480572.69	1350789.48	586.47	TOP/RLCS
928	480572.82	1350805.31	586.92	TOP/RLCS
929	480569.18	1350699.95	582.46	TOP/LCS @ WELD
930	480568.91	1350715.71	583.00	TOP/LCS
931	480568.71	1350738.54	583.96	TOP/LCS @ WELD
932	480568.19	1350757.56	584.62	TOP/LCS
933	480568.31	1350777.31	585.29	TOP/LCS @ WELD
934	480567.95	1350789.67	585.69	TOP/LCS
935	480567.57	1350808.49	585.92	TOP/LCS

NOTE:
ALL ELEVATIONS WERE TAKEN AT THE CENTERLINE OF
TOP OF AS-BUILT PIPE.



**TECUMSEH
SURVEYING, INC.**
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL
MANAGEMENT PROJECT
OSDF CELL 7

REVISIONS:

REVISED: 11-23-2004

Designed By:

Drawn By:

F.A.M.

Checked By:

L.E.H.

Approved By:

L.E.H.



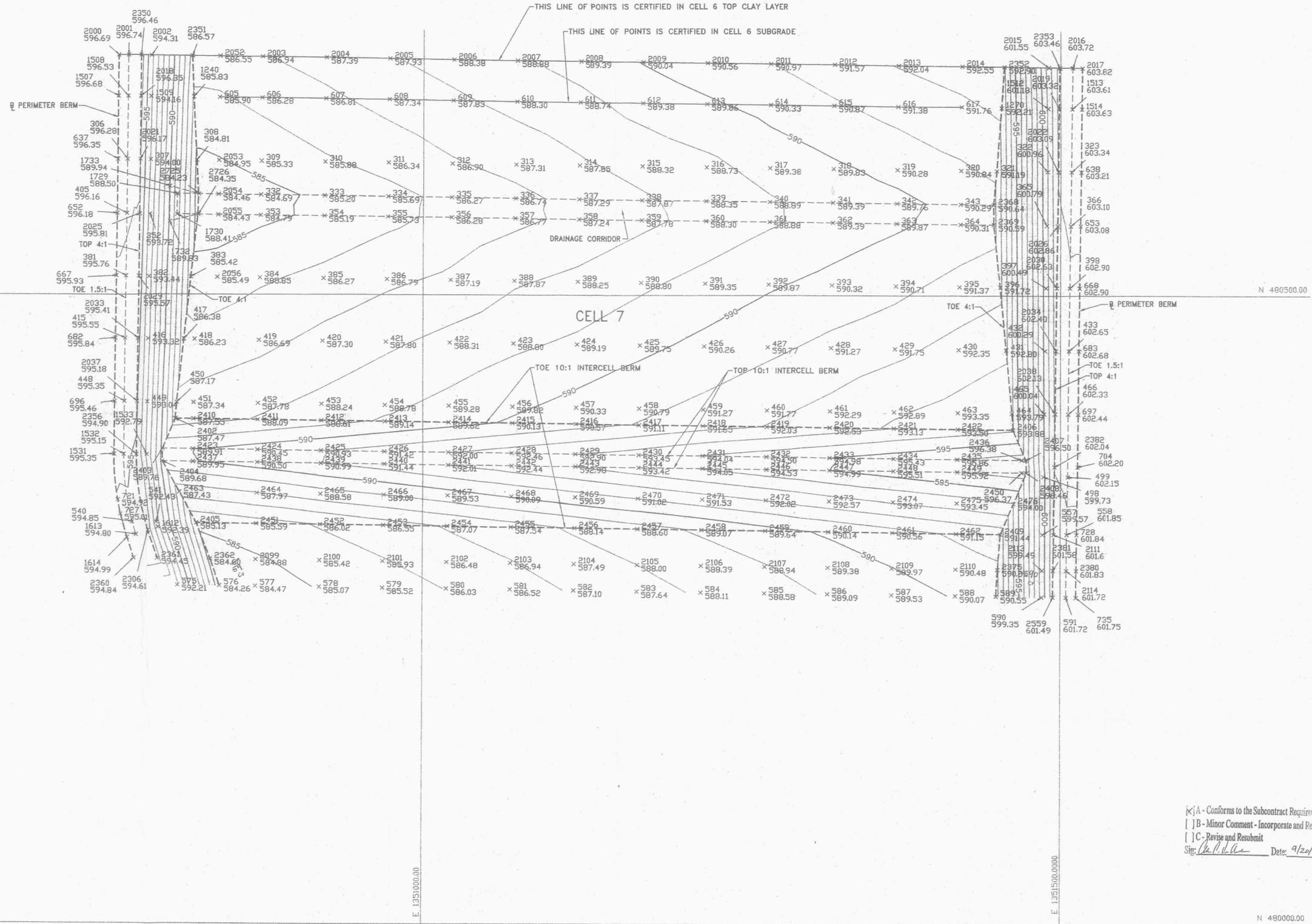
Date: 1-15-2004

Scale: 1" = 10'

Project No.

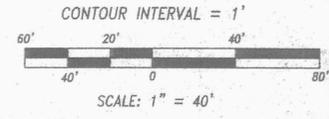
CELL 7
HORIZONTAL
MONITORING
PIPE
AS-BUILT DRAWING
PHW 718-02100-005K
Sheet No. *R6* of 6
1 OF 1

Compacted Clay Liner



LEGEND:

- 2100
619.21 = POINT NUMBER AND ELEVATION
- = AS-BUILT INDEX CONTOUR
- - - = AS-BUILT INTERMEDIATE CONTOUR
- - - - = TOE OF SLOPES



A - Conforms to the Subcontract Requirements
 B - Minor Comment - Incorporate and Resubmit
 C - Revise and Resubmit
 Site: *Ed. A.* Date: *9/20/04*

REVISIONS:

REVISED: 8-18-04

Designed By:

Drawn By:

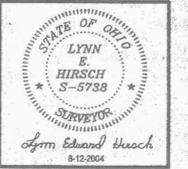
F.A.M.

Checked By:

L.E.H.

Approved By:

L.E.H.



Date: 8-18-04

Scale: 1" = 40'

Project No.

AS-BUILT
COMPACTED CLAY
LAYER
CELL 7
PHY 7-03100-005.B
Sheet No. Rev 2
1 OF 1

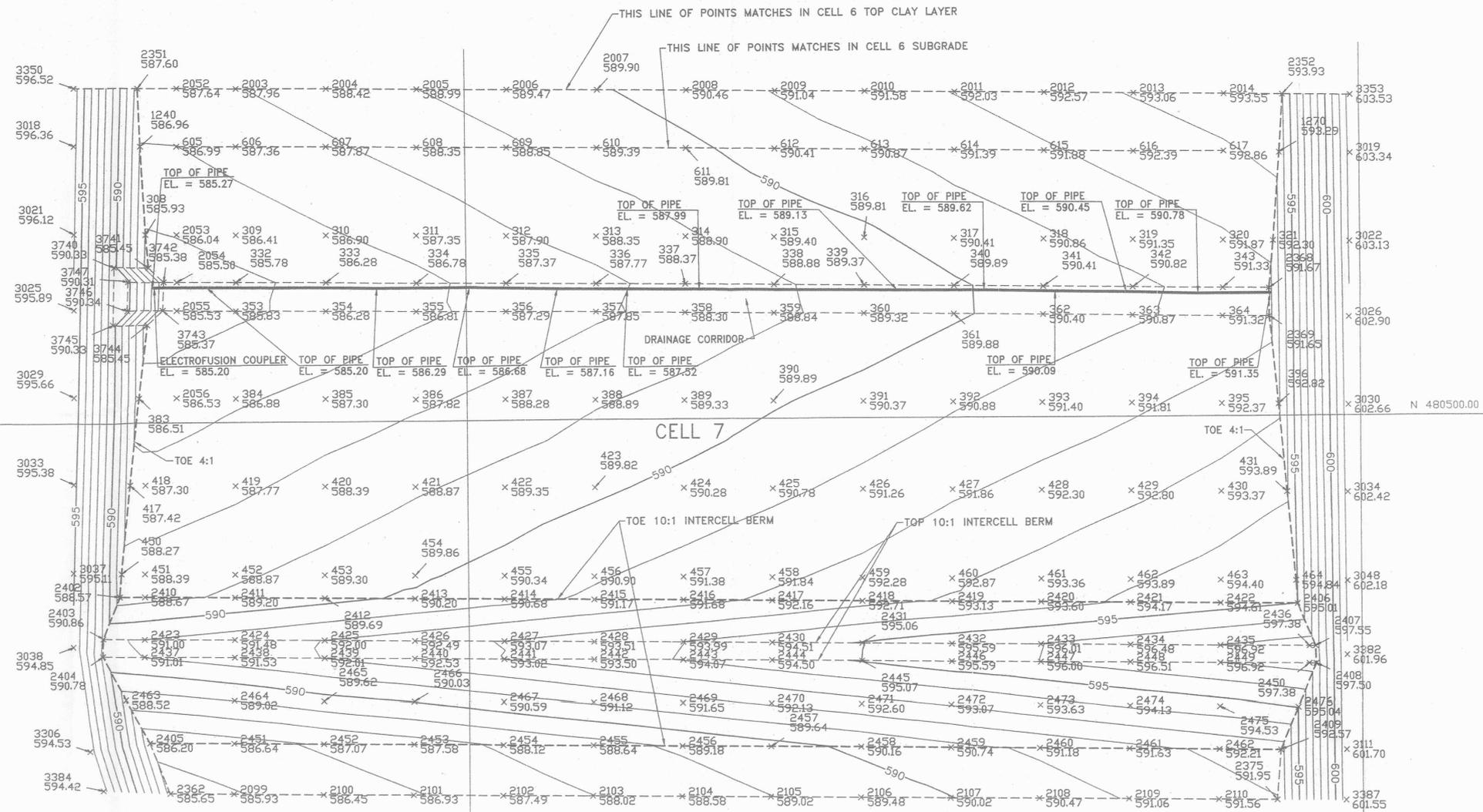
TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 613 738-2134
FAX: 613 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL
MANAGEMENT PROJECT
OSDF CELL 7

**Secondary Geomembrane
Panel Layout**

LDS Layer

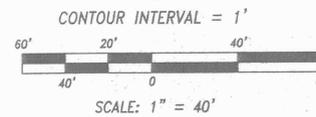
Y:\FERNALD-2004\TASK 13\DWG\CT ASBLT LDS.DWG



LEGEND:

- × 2100 = POINT NUMBER AND ELEVATION
- × 619.21 = AS-BUILT INDEX CONTOUR
- = AS-BUILT INTERMEDIATE CONTOUR

A - Conforms to the Subcontract Requirements
 B - Minor Comment - Incorporate and Resubmit
 C - Revise and Resubmit
 Sig: *[Signature]* Date: 2/23/05



REVISIONS:

Designed By:	
Drawn By:	F.A.M.
Checked By:	LEH.
Approved By:	LEH.



Date: 10-13-2004
 Scale: 1" = 40'

Project No.:
 AS-BUILT
 LDS LAYER
 CELL 7
 PHV7R-02100-00SD
 Sheet No. Rev C
 1 OF 1

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL
MANAGEMENT PROJECT
OSDF CELL 7

TECUMSEH
SURVEYING, INC.
 4948 CINCINNATI-BROOKVILLE ROAD
 SHANDON, OHIO 45013
 TELEPHONE: 513 738-2134
 FAX: 513 738-2756

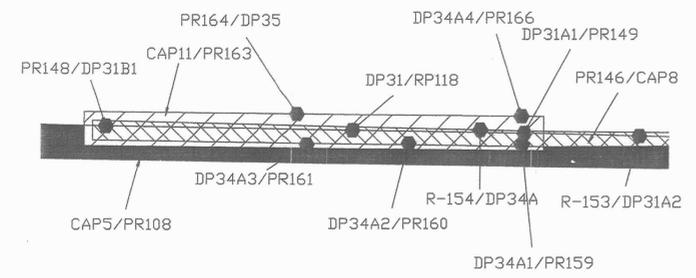
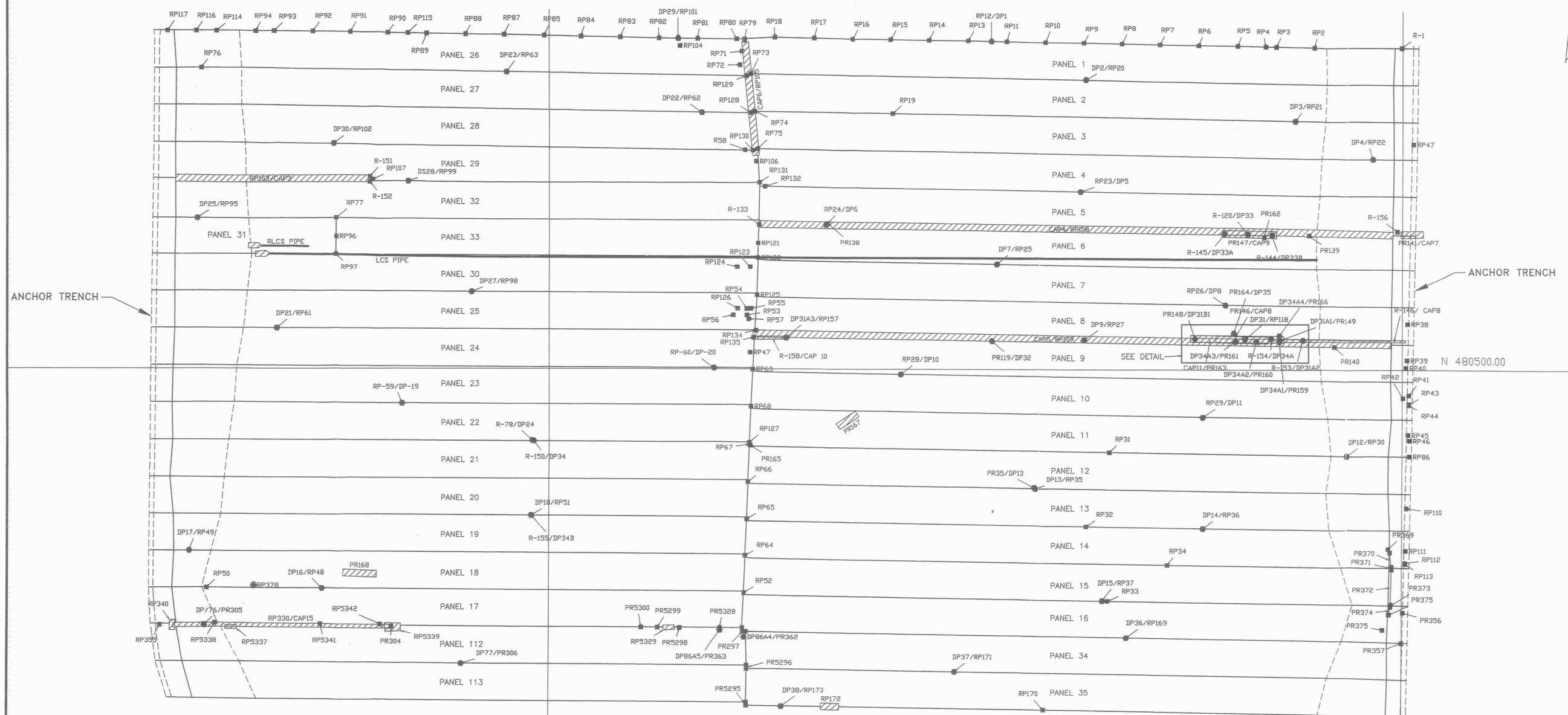
**Primary Geomembrane
Panel Layout**

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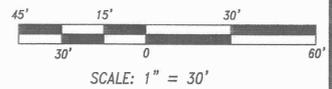
TECUMSEH SURVEYING, INC.
 4948 CINCINNATI-BROOKVILLE ROAD
 SHANDON, OHIO 45013
 TELEPHONE: 513 738-2134
 FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 7



- LEGEND:**
- PANEL 42 = PANEL NUMBER
 - = PATCH REPAIR LOCATION
 - = SPECIAL REPAIR
 - ▲ = DESTRUCTIVE TEST
 - ▨ = EXTRUSION WELD/CAP

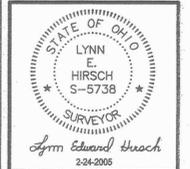
A - Conforms to the Subcontract Requirements
 B - Minor Comment - Incorporate and Resubmit
 C - Revise and Resubmit
 Date: 3/2/05



REVISIONS:

REVISED: 8-11-2004	REVISIONS:
REVISED: 9-30-2004 PER GEOSYNTEC	
REVISED: 2-17-2006 PER GEOSYNTEC	
REVISED: 2-24-2006 PER GEOSYNTEC	

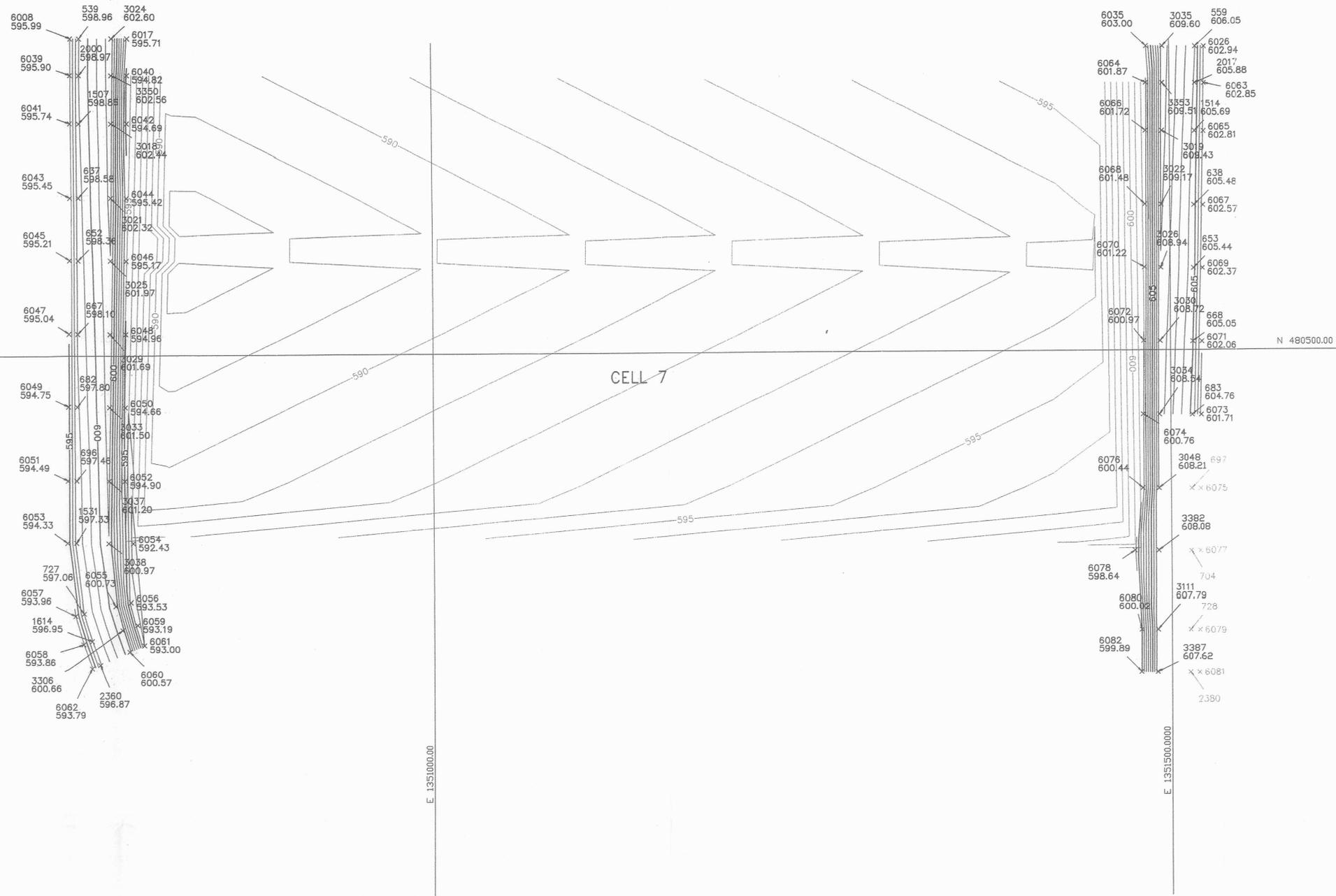
Designed By:	LE.H.
Drawn By:	F.A.M.
Checked By:	LE.H.
Approved By:	LE.H.



Date: 7-22-2004
 Scale: 1" = 30'
 Project No.:
 CELL 7
 PRIMARY
 GEOSYNTHETIC
 LINER
 PHV 7/18 - 63100 - 005E
 Sheet No. 061
 1 OF 1

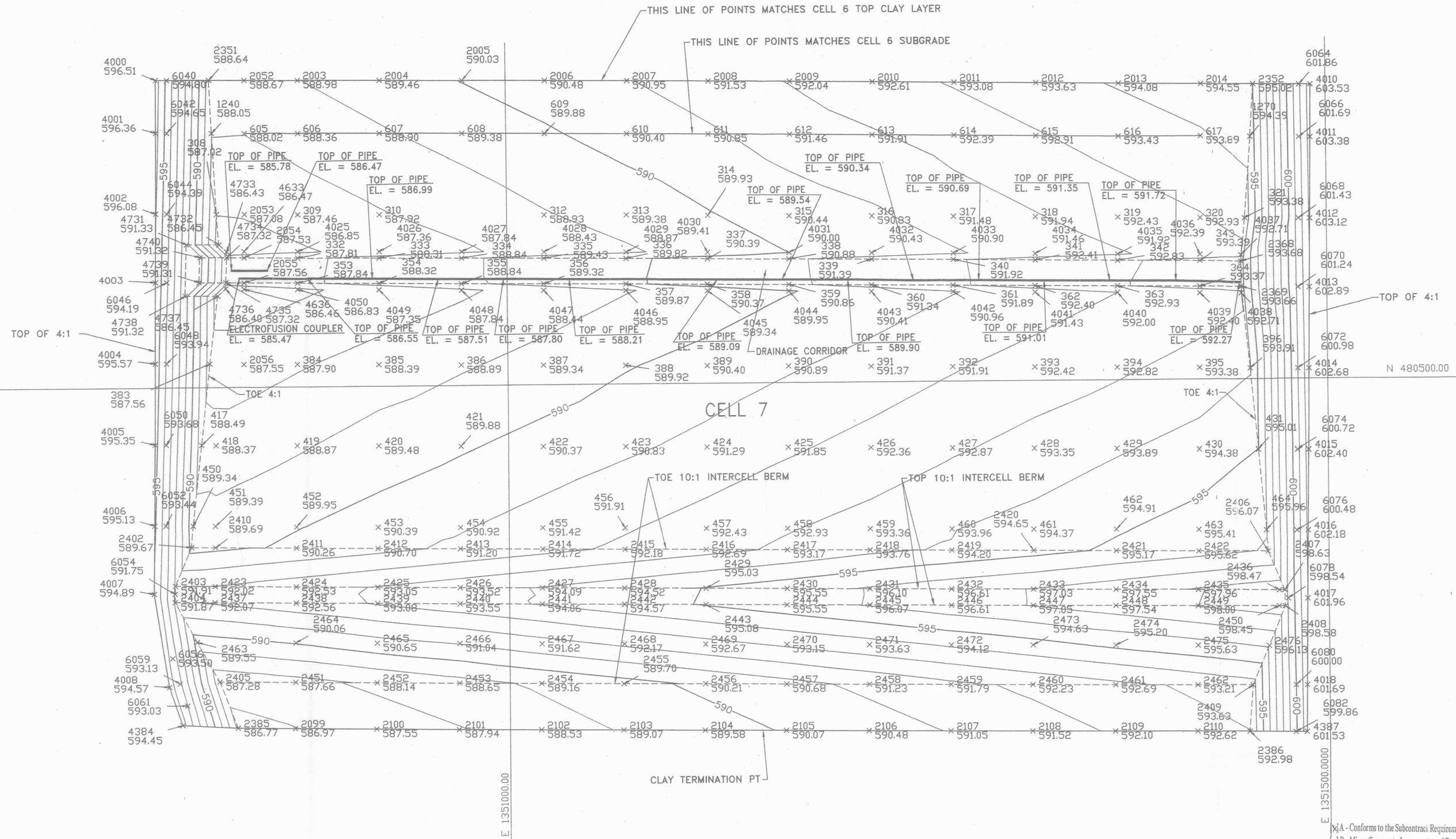
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LCS Layer

V:\FERNALD-2004\TASK 13\DWG\10-4-04 C7 As-Built LCS Layer.DWG



TECUMSEH SURVEYING, INC.
 4948 CINCINNATI-BROOKVILLE ROAD
 SHANDON, OHIO 45013
 TELEPHONE: 513 738-2134
 FAX: 513 738-2766

FLUOR FERNALD, INC.
 FERNALD ENVIRONMENTAL
 MANAGEMENT PROJECT
 OSDF CELL 7

REVISIONS:

REVISED: 2-25-2005	MCK
REVISED: 2-25-2005	MCK
REVISED: 3-2-2005	

Designed By:	
Drawn By:	F.A.M.
Checked By:	E.H.
Approved By:	E.H.

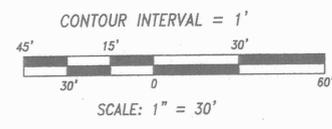


A - Conforms to the Subcontract Requirements
 B - Minor Comment - Incorporate and Resubmit
 C - Revise and Resubmit
 Sig: *[Signature]* Date: 3/2/05

Date:	10-4-2004
Scale:	1" = 30'
Project No.:	
AS-BUILT LCS LAYER CELL 7	
Sheet No. <i>105 F</i>	Rev <i>2</i>
1 OF 1	

LEGEND:

- * 2100 = POINT NUMBER AND ELEVATION
- 619.21 = AS-BUILT INDEX CONTOUR
- = AS-BUILT INTERMEDIATE CONTOUR
- = TOE OF SLOPES



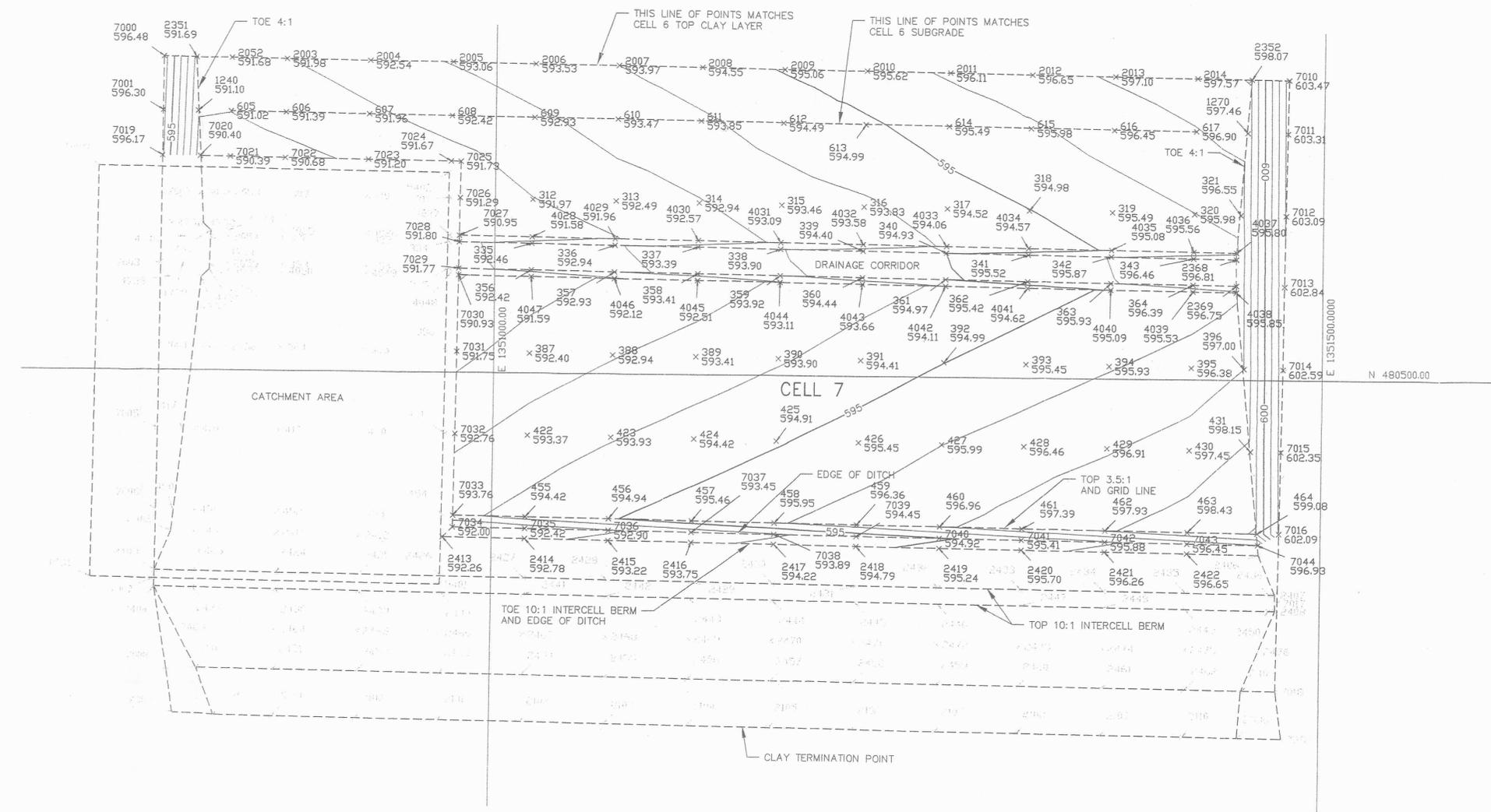
Protective Layer

SELECT LAYER



TECUMSEH SURVEYING, INC.
 4948 CINCINNATI-BROOKVILLE ROAD
 SHANDON, OHIO 45013
 TELEPHONE: 513.738-2134
 FAX: 513.738-2756

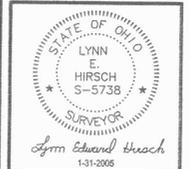
**FLUOR FERNALD, INC.
 FERNALD ENVIRONMENTAL
 MANAGEMENT PROJECT
 OSDF CELL 7**



Y:\FERNALD-2004\TASK 13\DWG\12-14-04 CT As-built Top Select.DWG

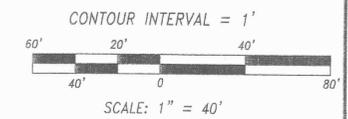
REVISIONS:

Designed By:	
Drawn By:	F.A.M.
Checked By:	L.E.H.
Approved By:	L.E.H.



[X] A - Conforms to the Subcontract Requirements
 [] B - Minor Comment - Incorporate and Resubmit
 [] C - Revise and Resubmit
 Sig: *[Signature]* Date: 2/23/05

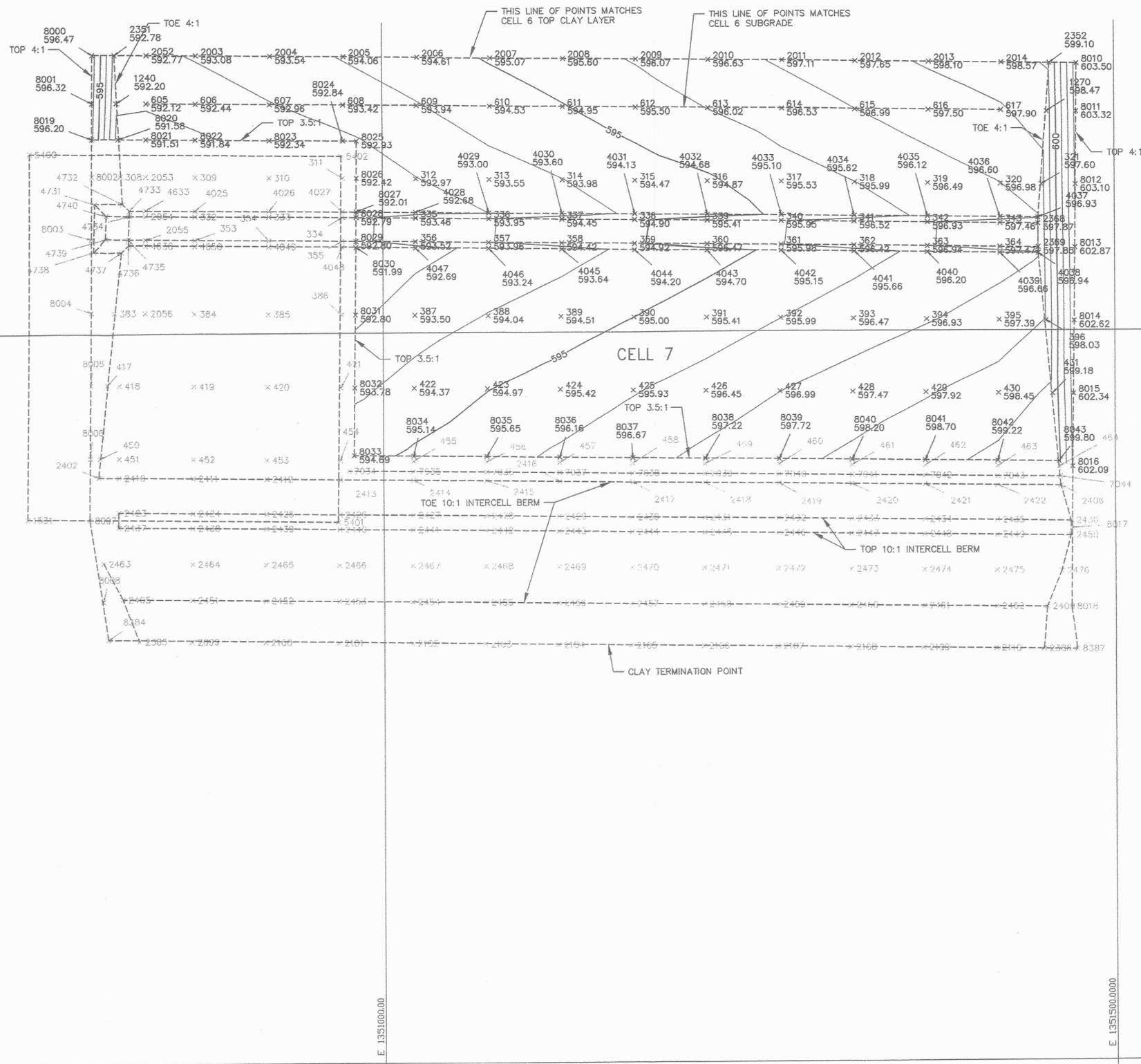
- LEGEND:**
- x 2100 619.21 = POINT NUMBER AND ELEVATION
 - = AS-BUILT INDEX CONTOUR
 - = AS-BUILT INTERMEDIATE CONTOUR
 - - - - = TOE OF SLOPES



Date:	12-14-04
Scale:	1" = 40'
Project No.	
AS-BUILT TOP OF SELECT LAYER CELL 7	
PHV 7/8-0200-005H	
Sheet No. Rev 0	
1 OF 1	

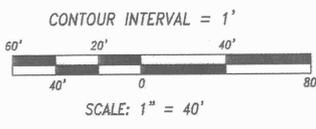
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MATERIAL**

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LEGEND:

- * 2100 = POINT NUMBER AND ELEVATION
- 619.21 = AS-BUILT INDEX CONTOUR
- = AS-BUILT INTERMEDIATE CONTOUR
- * 2100 = TO BE CERTIFIED AT A LATER DATE



REVISIONS:

REVISED: 2-24-2005

Designed By:

Drawn By: M.C.K.

Checked By: L.E.H.

Approved By: L.E.H.

A - Conforms to the Subcontract Requirements
 B - Minor Comment - Incorporate and Resubmit
 C - Revise and Resubmit
 Sig: *Ch. L. Huber* Date: 3/2/05



Date: 2-3-2005
 Scale: 1" = 40'
 Project No.:
 AS-BUILT
 TOP OF CATEGORY 1
 SELECT LAYER
 CELL 7
 PN 712-02100-0051M
 Sheet No. 1 of 1

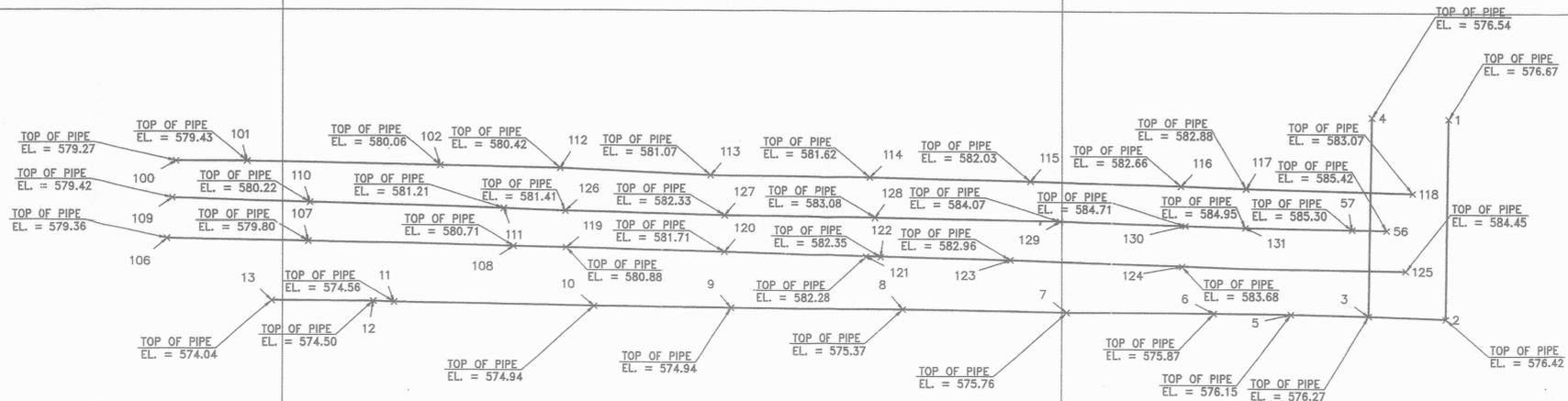
TECUMSEH SURVEYING, INC.
 4948 CINCINNATI-BROOKVILLE ROAD
 SHANDON, OHIO 45013
 TELEPHONE: 513 738-2134
 FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 7

CELL 8 LINER

N 480200.0000

N 480100.0000



TECUMSEH SURVEYING, INC.
 4948 CINCINNATI-BROOKVILLE ROAD
 SHANDON, OHIO 45013
 TELEPHONE: 513 738-2134
 FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
 OSDF CELL 8

E 1350700.0000

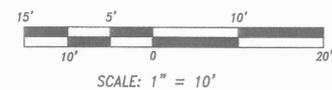
E 1350800.0000

E 1350900.0000

POINT	NORTHING	EASTING	ELEVATION (AS-BUILT)	DESCRIPTION
1	480186.49	1350849.66	576.67	END TOP/PIPE
2	480160.80	1350849.36	576.42	90 BEND TOP/PIPE
3	480161.14	1350839.47	576.27	TEE TOP/PIPE
4	480186.65	1350839.81	576.54	END TOP/PIPE
5	480161.36	1350829.55	576.15	WELD TOP/PIPE
6	480161.45	1350819.63	575.87	WELD TOP/PIPE
7	480161.45	1350800.63	575.76	TOP/PIPE
8	480161.76	1350779.74	575.37	WELD TOP/PIPE
9	480161.92	1350757.49	574.94	TOP/PIPE
10	480162.08	1350739.89	574.94	WELD TOP/PIPE
11	480162.48	1350714.25	574.56	WELD TOP/PIPE
12	480162.61	1350711.61	574.50	WELD TOP/PIPE
13	480162.70	1350698.57	574.04	WELD TOP/PIPE
56	480172.15	1350841.77	585.42	TOP/RLCS @ WELD
57	480172.22	1350837.38	585.30	TOP/RLCS @ WELD
100	480180.63	1350886.54	579.27	TOP/LDS
101	480180.61	1350895.51	579.43	TOP/LDS @ WELD
102	480180.08	1350720.07	580.06	TOP/LDS
106	480170.72	1350685.36	579.36	TOP/LCS
107	480170.36	1350703.30	579.80	TOP/LCS @ WELD
108	480169.76	1350729.48	580.71	TOP/LCS
109	480175.93	1350686.07	579.42	TOP/RLCS
110	480175.32	1350703.50	580.22	TOP/RLCS @ WELD
111	480174.61	1350728.19	581.21	TOP/RLCS
112	480179.82	1350735.42	580.42	TOP/LDS @ WELD
113	480178.94	1350754.85	581.07	TOP/LDS
114	480178.71	1350775.45	581.62	TOP/LDS @ WELD
115	480178.26	1350795.97	582.03	TOP/LDS
116	480177.75	1350815.39	582.66	TOP/LDS @ WELD
117	480177.47	1350823.74	582.88	TOP/LDS
118	480176.94	1350845.06	583.07	TOP/LDS
119	480169.92	1350736.26	580.88	TOP/LCS @ WELD
120	480169.12	1350756.82	581.71	TOP/LCS
121	480168.67	1350775.01	582.28	TOP/LCS @ WELD
122	480168.62	1350776.87	582.35	TOP/LCS @ WELD
123	480168.16	1350793.43	582.96	TOP/LCS
124	480167.43	1350815.55	583.68	TOP/LCS @ WELD
125	480166.94	1350844.18	584.45	TOP/LCS
126	480174.32	1350736.13	581.41	TOP/RLCS @ WELD
127	480173.82	1350756.66	582.33	TOP/RLCS
128	480173.57	1350776.13	583.08	TOP/RLCS @ WELD
129	480173.19	1350799.74	584.07	TOP/RLCS
130	480172.88	1350815.98	584.71	TOP/RLCS @ WELD
131	480172.46	1350823.66	584.95	TOP/RLCS

CELL 8 LDS, LCS, RLCS, AND HORIZONTAL MONITORING WELL (HMW)

NOTE:
 ALL ELEVATIONS WERE TAKEN AT THE CENTERLINE OF TOP OF AS-BUILT PIPE.



REVISIONS:

REVISED: 11-23-2004
REVISED: 2-25-2005

Designed By:	
Drawn By:	F.A.M.
Checked By:	L.E.H.
Approved By:	L.E.H.

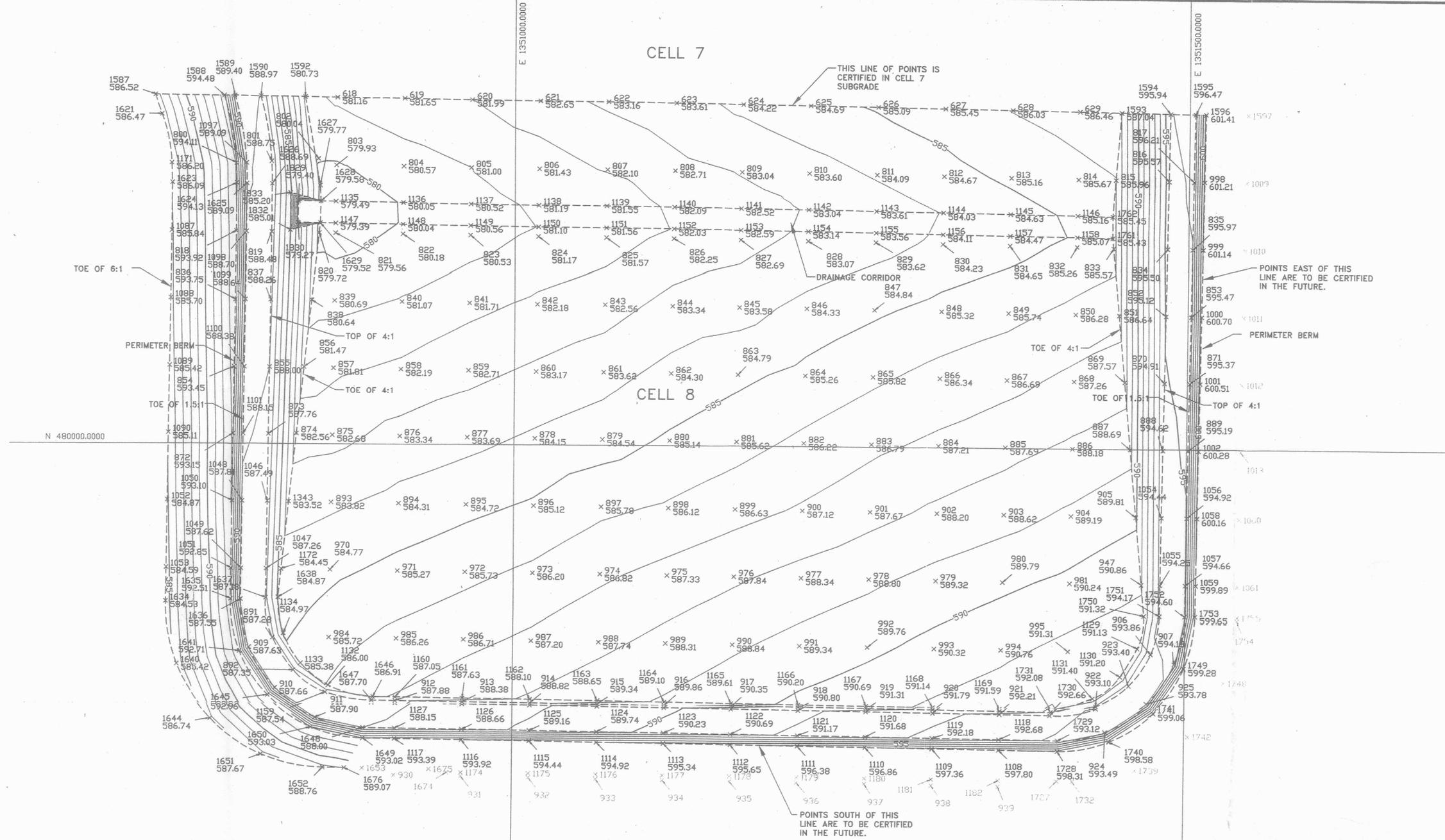


[X] A - Conforms to the Department Requirements
 [] B - Minor Comments - Resubmit and Resubmit
 [] C - Revise and Resubmit
 Sig: *[Signature]* Date: 3/2/05

Date:	11-17-2004
Scale:	1" = 10'
Project No.:	
CELL 8 HORIZONTAL MONITORING PIPE	
AS-BUILT DRAWING	
Sheet No. Rev 1	
1 OF 1	

SUBGRADE

Y:\FERNALD-2004\TASK 15\DWG\19-04 CB AS-Built SG.DWG



CELL 7

CELL 8

THIS LINE OF POINTS IS CERTIFIED IN CELL 7 SUBGRADE

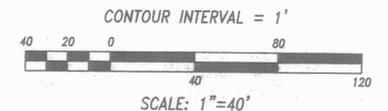
POINTS EAST OF THIS LINE ARE TO BE CERTIFIED IN THE FUTURE.

POINTS SOUTH OF THIS LINE ARE TO BE CERTIFIED IN THE FUTURE.

LEGEND:

- * 2100 = POINT NUMBER AND ELEVATION
- 619.21 = AS-BUILT INDEX CONTOUR
- = AS-BUILT INTERMEDIATE CONTOUR

A - Conforms to the Subcontract Requirements
 B - Minor Comment - Incorporate and Resubmit
 C - Revise and Resubmit
 Sig: *[Signature]* Date: 3/3/05



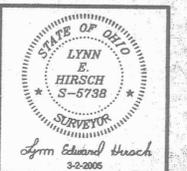
TECUMSEH SURVEYING, INC.
 4948 CINCINNATI-BROOKVILLE ROAD
 SHANDON, OHIO 45013
 TELEPHONE: 513 738-2134
 FAX: 513 738-2756

FLUOR FERNALD, INC.
 FERNALD ENVIRONMENTAL
 MANAGEMENT PROJECT
 OSDF CELL 8

REVISIONS:

REVISED: 2-25-2005
REVISED: 3-2-2005

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.



Date: 8-19-2004

Scale: 1" = 40'

Project No.
 CELL 8
 AS-BUILT
 SUBGRADE
 LAYER
 DWG 7/2-0100-0050
 Sheet No. Rev 2
 1 OF 1

COMPACTED CLAY LINER

**SECONDARY GEOMEMBRANE
PANEL LAYOUT**

Y:\Fernald\2004\Task 15\DWG\6-2-04 C8 Second Liner.dwg

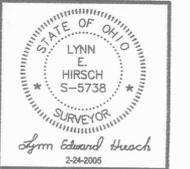
TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 46013
TELEPHONE: 513 736-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL
MANAGEMENT PROJECT
OSDF CELL 8

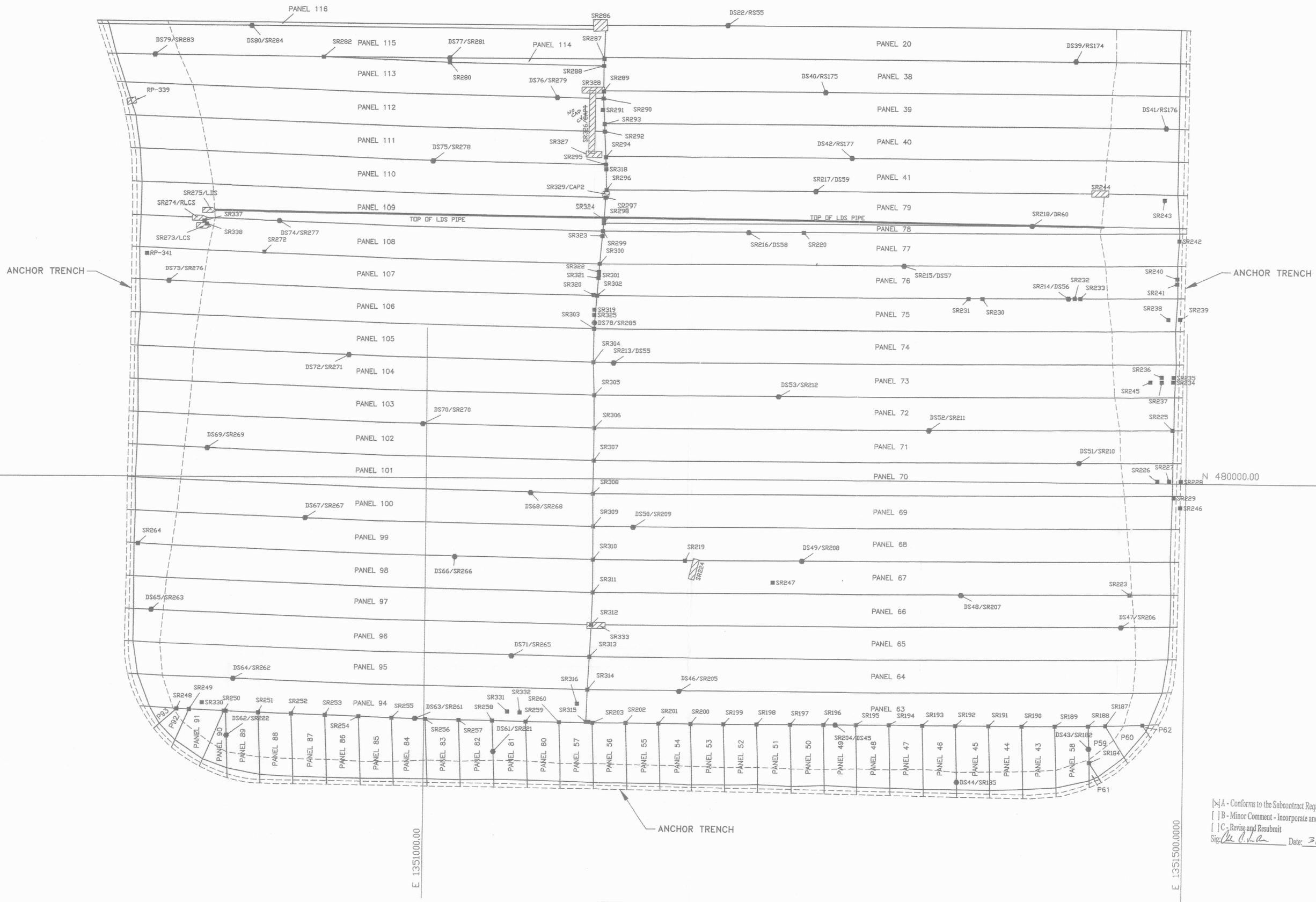
REVISIONS:

REVISED : 8-10-2004
REVISED : 8-20-2004 PER GEOSYNTEC
REVISED : 2-18-2006 PER GEOSYNTEC
REVISED : 2-24-2006 PER GEOSYNTEC

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.

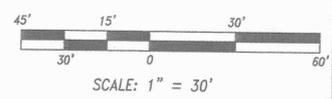


Date:	8-2-2004
Scale:	1" = 30'
Project No.:	
CELL 8 SECONDARY GEOSYNTHETIC LINER	
DIV 718-02160-0059	
Sheet No. Rev 1	
1 OF 1	



LEGEND:

- PANEL 42 = PANEL NUMBER
- = PATCH REPAIR LOCATION
- = DESTRUCTIVE TEST
- ▨ = EXTRUSION WELD/CAP



☑ A - Conforms to the Subcontract Requirements
 [] B - Minor Comment - Incorporate and Resubmit
 [] C - Revise and Resubmit
 Sig: *L.E.H.* Date: 3/2/05

LDS LAYER

**PRIMARY GEOMEMBRANE
PANEL LAYOUT**

PERIMETER BERM



TECUMSEH SURVEYING, INC.
 4948 CINCINNATI-BROOKVILLE ROAD
 SHANDON, OHIO 45013
 TELEPHONE: 513 738-2134
 FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL
MANAGEMENT PROJECT
OSDF CELL 8

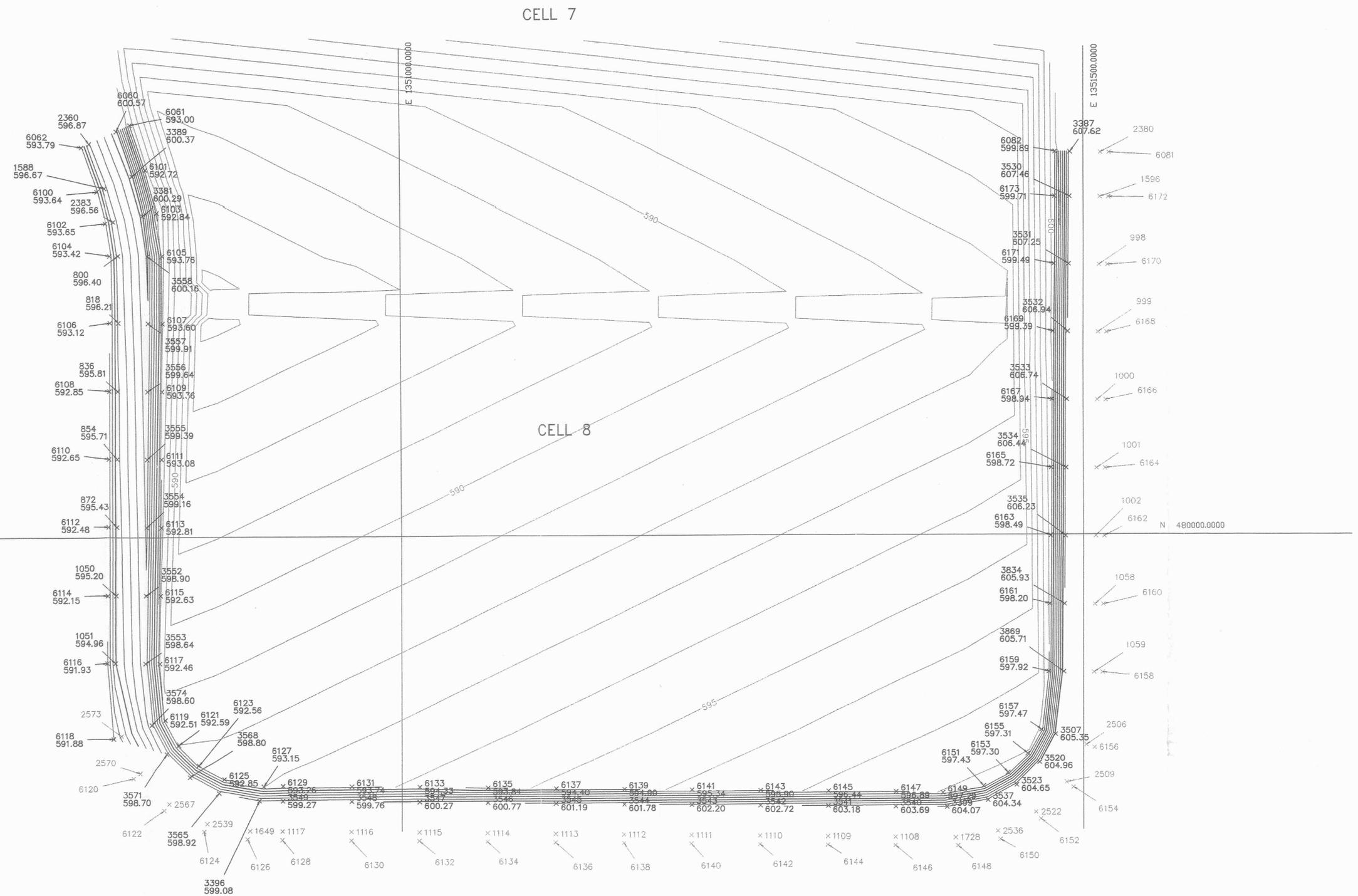
REVISIONS:

REVISED: 2-25-2005

Designed By:	
Drawn By:	M.C.K.
Checked By:	L.E.H.
Approved By:	L.E.H.



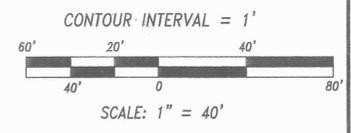
Date:	2-3-2005
Scale:	1" = 40'
Project No.	
AS-BUILT PERIMETER BERM CELL 8	
PHV 7/8-02100-0057	
Sheet No. Rev 1	
1 OF 1	



LEGEND:

- x 2100 = POINT NUMBER AND ELEVATION
- 619.21 = AS-BUILT INDEX CONTOUR
- = AS-BUILT INTERMEDIATE CONTOUR
- 2100 = TO BE CERTIFIED AT LATER DATE

A - Conforms to the Subcontract Requirements
 B - Minor Comments - Incorporate and Resubmit
 C - Revise and Resubmit
 Sig: *Ch. C. H. H.* Date: *3/2/05*



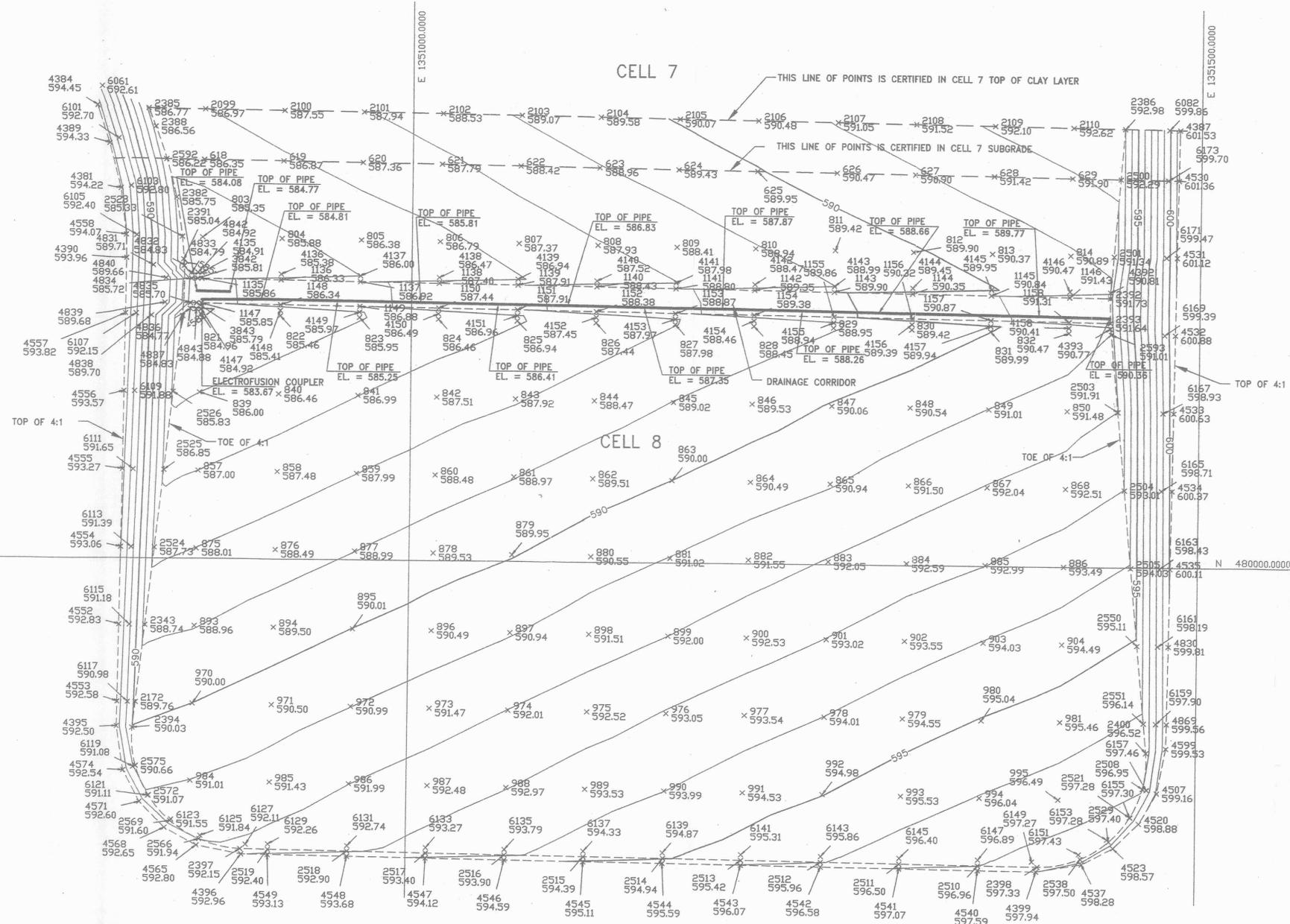
LCS LAYER

Y:\FERNALD-2004\TASK 15\DWG\10-6-04 C8 ASBIT LCS.DWG



TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513.736-2134
FAX: 513.736-2756

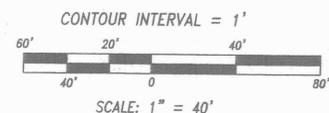
FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL
MANAGEMENT PROJECT
OSDF CELL 8



LEGEND:

- * 2100 = POINT NUMBER AND ELEVATION
- * 619.21 = POINT NUMBER AND ELEVATION
- = AS-BUILT INDEX CONTOUR
- - - = AS-BUILT INTERMEDIATE CONTOUR
- - - - = TOE OF SLOPES

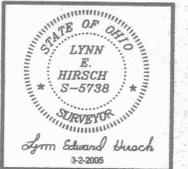
[A] - Conforms to the Subcontract Requirements
[B] - Minor Comment - Incorporate and Resubmit
[C] - Revise and Resubmit
Ch. A. Hirsch Date: 3/3/05



REVISIONS:

REVISED: 2-25-2005	
REVISED: 2-25-2005 MCK	
REVISED: 3-2-2005	

DESIGNED BY: F.A.M.
DRAWN BY: F.A.M.
CHECKED BY: L.E.H.
APPROVED BY: L.E.H.



Date: 10-6-2004
Scale: 1" = 40'
Project No.:
AS-BUILT
LCS LAYER
CELL 8
Sheet No.: PHW02100.0057
1 OF 1

PROTECTIVE LAYER

VALVE HOUSE 7 AND 8

WEEKLY FIELD NOTES

SUPPLIER DOCUMENT SUBMITTAL

FDF PROJECT NO.: 05	CONTRACT NO.: PHV3	SUBMITTAL NO.: 20105-PHV3-02100-001	REV.: 0	DATE: 4/15/04	Page 1 of 2
---------------------	--------------------	-------------------------------------	---------	---------------	-------------

FROM:	TO: FDF ENGINEERING/CONSTRUCTION DOCUMENT CONTROL (ECDC), MS 52-7
SIGNATURE: <i>Shuman</i> 4/15/04	RECEIVED BY: DATE: 4-15-04

QTY	DOCUMENT NUMBER	REV	DOCUMENT FAMILY									TITLE/DESCRIPTION	SUBMITTAL TYPE			ASSOCIATED SPECIFICATION	SUBMITTAL ACTION					
			PRO	II&S	MED	TRG	CON	ENG	QAC	OPER	DRFT		CFC	INF	A		B	C				
7	PHV3-02100-001	0								X			Land surveyor's license and resume of survey supervisor [also applies to submittal nos. 20105-PHV7/8-02100-001 & 20112-PHV-02100-001 (VH7&8)]		X		02100-1.05A	X				

REVIEW DISTRIBUTION

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KWASI BADU-TWENEBOAH - GEOSYNTEC	38				
DON PFISTER - DOE	45				

NO COMMENTS: COMMENTS: (PLEASE USE SPACE BELOW FOR COMMENTS OR INDICATE IF ATTACHMENTS)

ORIGINAL

RECEIVED BY: DATE: 4/15/04 (SIGN/DATE AND RETURN A COPY TO ECDC, MS 52-7)	SUBMITTAL TYPE: (BY SUPPLIER) CFC - CERTIFIED FOR CONSTRUCTION INF - INFORMATION/RECORD DRFT - DRAFT/PRELIMINARY	SUBMITTAL ACTION CODE: (BY FDF) A - Conforms to the Subcontract Requirements B - Minor Comments - Incorporate and Resubmit C - Revise and Resubmit (SEE COMMENTS)
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Ohio's Engineers and Surveyors Board

Exams	Comity	Companies	Renewals	Enforcement	FAQ + Site Index
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Website Quick Links License Search

Lynn Hirsch

Address1: 3610 State Line Rd

Address2:

City: Okeana

State: OH

Zip: 45053

License Expires: 12/31/2004

Last Updated: 4/1/2004

A - Conforms to the Subcontract Requirements
 B - Minor Comment - Incorporate and Resubmit
 C - Revise and Resubmit
 Sig: *Ch. C. K. ...* Date: 4/2/04

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State Board of Registration for Professional Engineers and Surveyors

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 VOICE +1 614 466 3651 FAX +1 614 728 3059 US TOLL FREE +1 877 644 6364
 TTY / TDD / ESPAÑOL Ohio Relay Service +1 800 750 0750

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7511A

operations, Sewers, Subdivisions, and Buildings.

1962-1972

Balke Engineers

Cincinnati, Ohio

Field Engineer for the design and field survey for all initial property and engineering survey work related to the design and construction of Interstate Highways.

1960-1962

Punshon Engineering

Cincinnati, Ohio

Instrument operator, the work performed consisted of Property surveys of tracts of land to be subdivided and the construction surveying of the proposed subdivisions, as well as small property surveys for private land owners.

Education

1959-1962

Ohio College of Applied Science
University of Cincinnati

Cincinnati, Ohio

Associated Degree in Civil Engineering Technology
Registered Land Surveyor – Indiana, Kentucky, Ohio,
Texas, and West Virginia.

Summary

Lynn Hirsch has over 41 years of Surveying experience. He has worked on numerous surveying projects including: Highway and Railroad design, Sanitary Landfills, Subdivision surveys and other projects. These projects include topographic, profile, and cross sectioning as well as cadastral surveying.

LYNN E. HIRSCH - L S, President

Experience

2003- Present Tecumseh Surveying Inc. Cincinnati, Ohio
President of this newly formed company.

2001-2003 David Estes Engineering Cincinnati, Ohio
Senior Surveyor for projects including: Property surveys,
All of the work involved in the capping of cell 1 and related
projects for I.T. Corporation and the OSDF Cell project
4 and 5, and the filling of cells 2 and 3 and related projects
for the Fluor Daniels Company.(see letter to Alan Honhorst
for REQUEST TO BID SURVEY DOCUMENT).

1996-2001 Hirsch and Assoc. Surveying Okeana, Ohio
President of Hirsch and Assoc. Surveying.
Senior Surveyor for projects including: Property surveys,
Sanitary landfills, Subdivisions, Railroads, Earthwork
Operations. Did all the work at the Fernald Plant in
OSDF 1,2 and 3, SWU area, Borrow area, Old sewer
Plant area.(see letter to Alan Honhorst for REQUEST TO
BID SURVEY DOCUMENT).

1974-1984 & Zorn Engineering Cincinnati, Ohio
1987-1996

Senior Surveyor for projects including: Property surveys,
Sanitary landfills, Subdivisions, Railroads, Interstate Hwys.,
Water Lines, Sewer Lines, Earthwork operations, Apartment
Complexes and Industrial Parks.

1984-1986 O' Rourke Const. Co. Cincinnati, Ohio

Field Engineer for the design and field survey for all
construction projects including: Streets, Waterlines, Earthwork
operations, Sewers, Subdivisions, and Buildings.

1972-1984 Gallenstein Const. Co. Cincinnati, Ohio

Field Engineer for the design and field survey for all
Construction projects including: Streets, Waterline, Earthwork

SUPPLIER DOCUMENT SUBMITTAL

DF PROJECT NO: 2	CONTRACT NO: PHV	SUBMITTAL NO. 20112-PHV-02100-001	REV.: 0	DATE: 2/17/04	Page 1 of 2
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FROM:	TO: FDF ENGINEERING/CONSTRUCTION DOCUMENT CONTROL (ECDC), MS 52-7
SIGNATURE: <u>Shumar</u> <u>2/18/04</u>	RECEIVED BY: <u>CR</u> DATE: <u>2-19-04</u>

QTY	DOCUMENT NUMBER	REV	DOCUMENT FAMILY								TITLE/DESCRIPTION	SUBMITTAL TYPE			ASSOCIATED SPECIFICATION	SUBMITTAL ACTION				
			PRO	H&S	MED	TRG	CON	ENG	QAC	OPER		DRFT	CFC	INF		A	B	C		
9	PHV-02100-001	0							X					X				X		

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MIKE STUMBO	60				
REINHARD FRISKE	64				
KWASI BADU-TWENEBOAH - GEOSYNTEC	38				
DON PFISTER - DOE	45				

NO COMMENTS: RLK COMMENTS: (PLEASE USE SPACE BELOW FOR COMMENTS OR INDICATE IF ATTACHMENTS)

ORIGINAL

RECEIVED BY: <u>[Signature]</u> DATE: <u>2/24/04</u> (SIGN/DATE AND RETURN A COPY TO ECDC, MS 52-7)	SUBMITTAL TYPE: (BY SUPPLIER) CFC - CERTIFIED FOR CONSTRUCTION INF - INFORMATION/RECORD DRFT - DRAFT/PRELIMINARY	SUBMITTAL ACTION CODE: (BY FDF) A - Conforms to the Subcontract Requirements B - Minor Comments - Incorporate and Resubmit C - Revise and Resubmit (SEE COMMENTS)
--	---	--



Ohio's Engineers and Surveyors Board

Exams	County	Companies	Renewals	Enforcement	FAQ + Site Index
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Website Quick Links

License Search

Lynn Hirsch

Address1: 3610 State Line Rd

Address2:

City: Okeana

State: OH

Zip: 45053

License Expires: 12/31/2004

Last Updated: 1/28/2004

A - Conforms to the Subcontract Requirements

B - Minor Comment - Incorporate and Resubmit

C - Revise and Resubmit

Sig: *[Signature]* Date: 2/24/04

Rev →
Rev →

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#011



State Board of Registration for Professional Engineers and Surveyors

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TTY/TDD/ESPAÑOL Ohio Relay Service +1 800 750 0750

[EMAIL Search](#) | [Board](#) | [Website manager](#)

LYNN E. HIRSCH - L S, President

Experience

2003- Present Tecumseh Surveying Inc. Cincinnati, Ohio
President of this newly formed company.

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All of the work involved in the capping of cell 1 and related
projects for I.T. Corporation and the OSDF Cell project
4 and 5, and the filling of cells 2 and 3 and related projects
for the Fluor Daniels Company.(see letter to Alan Honhorst
for REQUEST TO BID SURVEY DOCUMENT).

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President of Hirsch and Assoc. Surveying.
Senior Surveyor for projects including: Property surveys,
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Plant area.(see letter to Alan Honhorst for REQUEST TO
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1974-1984 & Zorn Engineering Cincinnati, Ohio
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1984-1986 O' Rourke Const. Co. Cincinnati, Ohio

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1972-1984 Gallenstein Const. Co. Cincinnati, Ohio

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Construction projects including: Streets, Waterline, Earthwork

operations, Sewers, Subdivisions, and Buildings.

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Texas, and West Virginia.

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SUPPLIER DOCUMENT SUBMITTAL

PDF PROJECT NO. 20.

CONTRACT NO. PHV

SUBMITTAL NO. 20112-PHV-02100-002

REV. 4

DATE 5/11/04

Page 1 of 2

FROM:
McCumseh Surveyors
948 Cincinnati Brookville Road
Shandon, OH 45013

Lynn E. Hirsch

SIGNATURE:

TO: FDF ENGINEERING/CONSTRUCTION DOCUMENT CONTROL (ECDC), MS 52-7

RECEIVED BY:

[Signature]

DATE

5-11-04

QTY	DOCUMENT NUMBER	REV	DOCUMENT FAMILY								SUBMITTAL TYPE			ASSOCIATED SPECIFICATION	SUBMITTAL ACTION			
			PRO	H&S	MED	TRG	CON	ENG	QAC	OPER	DRFT	CFC	INF		A	B	C	
3	PHV-02100-002	4							X					X	02100-1 05B	X		

REVIEW DISTRIBUTION

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CHUCK VANARSDALE (APPROVER)	64				
DON PFISTER - DOE	45				

NO COMMENTS: COMMENTS: (PLEASE USE SPACE BELOW FOR COMMENTS OR INDICATE IF ATTACHMENTS)

ORIGINAL

RECEIVED BY: *Chuck Vanarsdale* DATE: 5/14/04
(SIGN/DATE AND RETURN A COPY TO ECDC, MS 52-7)

SUBMITTAL TYPE (BY SUPPLIER)
CFC - CERTIFIED FOR CONSTRUCTION
INF - INFORMATION/RECORD
DRFT - DRAFT/PRELIMINARY

SUBMITTAL ACTION CODE (BY FDF)
A - Conforms to the Subcontract Requirements
B - Minor Comments - Incorporate and Resubmit
C - Revise and Resubmit (SEE COMMENTS)

ON-SITE DISPOSAL FACILITY PHASE V

Tecumseh Surveyors, Inc.
4948 Cinti Brookville Road
Shandon, OH 45013

Submittal No. 20112-PHV-02100-002
Revision 4, 5/11/2004

Document No. PHV-02100-002
Revision 4

Title/Description: Valve House 8 Field Notes 5-01 – 5/08/04



A - Conforms to the Subcontract Requirements
 B - Minor Comment - Incorporate and Resubmit
 C - Revise and Resubmit
Sig: Chris C. Verbeke Date: 5/11/04

Date: _____
Sig: _____
 A - Conforms to the Subcontract Requirements
 B - Minor Comment - Incorporate and Resubmit
 C - Revise and Resubmit

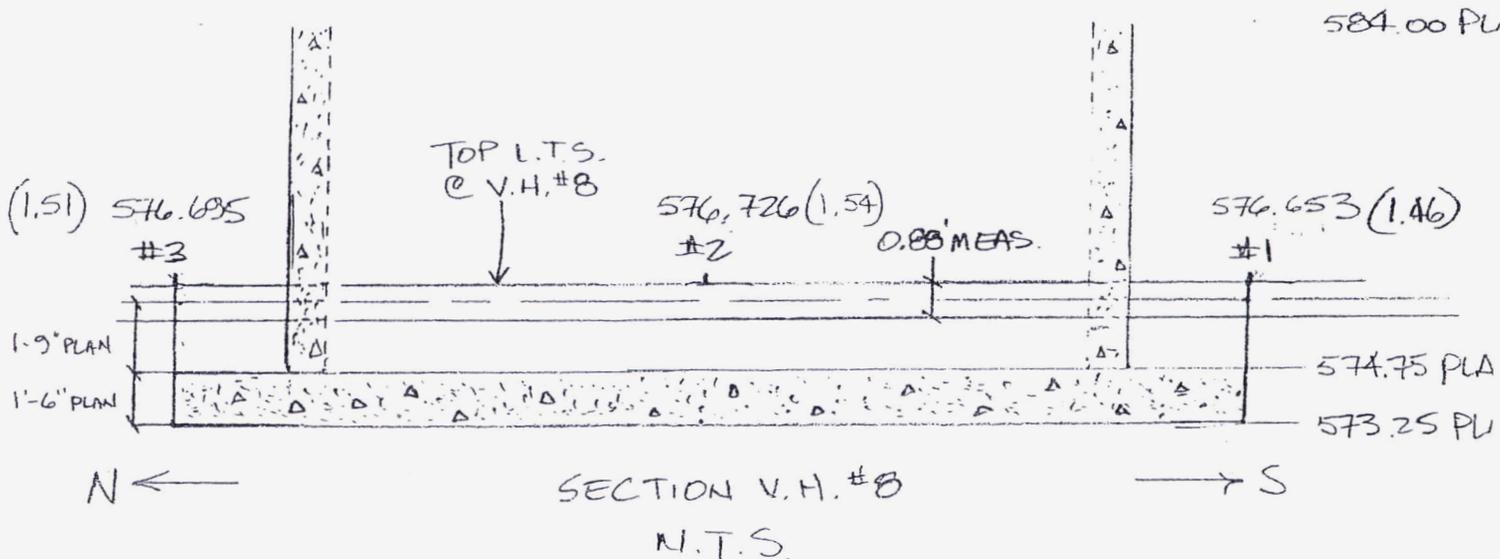


Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
Shandon, Ohio 45013

05/04/2004
TODD P. MIKEV
AS-BUILDER
C.V.H.#8
(CELL 856 LAYE)

PT#	N.	E.	ELEV	DESC.
1	480162.304	1350648.576	576.653	TOP/PIPE
2	480176.282	1350648.858	576.726	TOP/PIPE
3	480190.371	1350648.914	576.695	TOP/PIPE



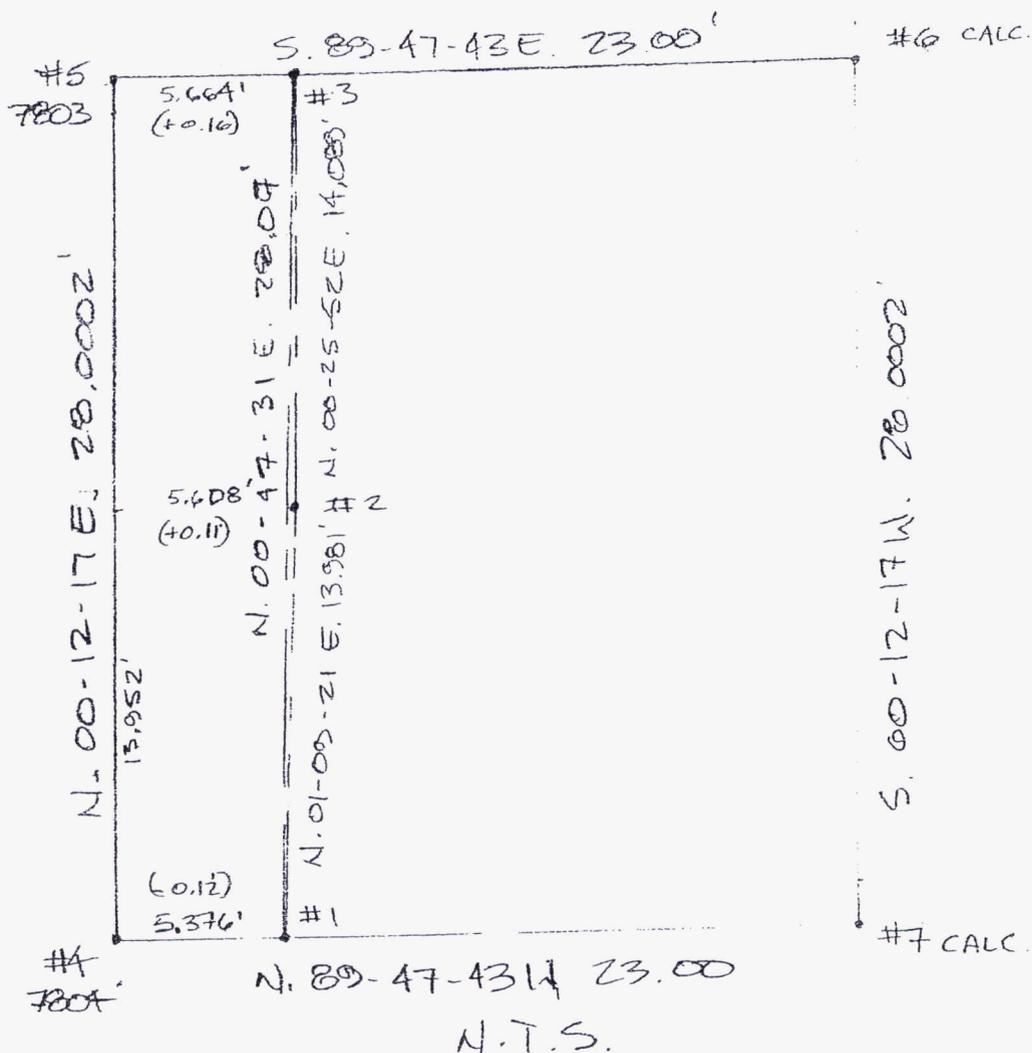
*NOTE: PTS. 1, 2 & 3 ARE AS-BUILT LOCATIONS AS OF 05/04/2004. NUMBERS IN () ARE CALCULATED CENTER-OF-PIPE DIFFERENCES TO TOP-OF-FOOTING, EX #1 576.65 AS-BUILT TOP/PIPE FOR PT #1, - 0.44 1/2 THICKNESS PIPE 576.21 - 574.75 TOP/FOOTING PER PLAN (1.46)



Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
Shandon, Ohio 45013

05/05/2004
TODD R., JOEY
L.T.S. PIPE V.H.
PLAN VIEW



* NOTE: PT. NUMBERS #4 (7804) AND #5 (7803) ARE FROM E.P.L.T.S. VALVE HOUSE 798 PLANS, SHEET 6. PT. NUMBER 1-3 ARE AS-BUILT LOCATIONS OF L.T.S. PIPE V.H. #8. PT NUMBERS 6 & 7 ARE CALCULATED POINTS.

PT. #	N.	E.
6	480130.2679	1350666.2999
7	480162.2678	1350666.1998

SUPPLIER DOCUMENT SUBMITTAL

DF PROJECT NO. 26. CONTRACT NO. PHV SUBMITTAL NO. 20112-PHV-02100-002 REV. 3 DATE: 5/04/04 Page 1 of 2

FROM: *Lynn E. Hirsch*
 ecumseh Surveyors
 948 Cintr Brookville Road
 Sandon, OH 45013
 SIGNATURE

TO: FDF ENGINEERING/CONSTRUCTION DOCUMENT CONTROL (ECDC), MS 52-7

RECEIVED BY: *[Signature]* DATE: 5-4-04

QTY	DOCUMENT NUMBER	REV	DOCUMENT FAMILY									TITLE/DESCRIPTION	SUBMITTAL TYPE			ASSOCIATED SPECIFICATION	SUBMITTAL ACTION				
			PRO	H&S	MED	TRG	CON	ENG	QAC	OPER	DRFT		CFC	INF	A		B	C			
3	PHV-02100-002	3								X			Weekly Field Notes 4/26/04-4/30/04		X		02100-1.05B	X			

REVIEW DISTRIBUTION

NAME	MS	NAME	MS	NAME	MS
ECDC	52-7				
CHUCK VANARSDALE (APPROVER)	64				
DON PFISTER - DOE	45				

NO COMMENTS COMMENTS: (PLEASE USE SPACE BELOW FOR COMMENTS OR INDICATE IF ATTACHMENTS)

ORIGINAL

RECEIVED BY: <i>[Signature]</i> DATE: <u>5/4/04</u> (SIGN/DATE AND RETURN A COPY TO ECDC, MS 52-7)	SUBMITTAL TYPE: (BY SUPPLIER) CFC - CERTIFIED FOR CONSTRUCTION INF - INFORMATION/RECORD DRFT - DRAFT/PRELIMINARY	SUBMITTAL ACTION CODE: (BY FDF) A - Conforms to the Subcontract Requirements B - Minor Comments - Incorporate and Resubmit C - Revise and Resubmit (SEE COMMENTS)
--	---	--

ON-SITE DISPOSAL FACILITY PHASE V

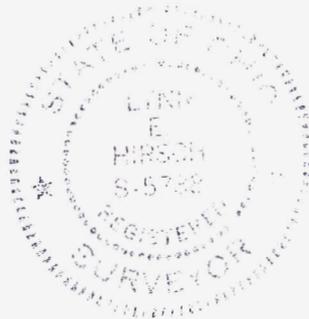
Tecumseh Surveyors, Inc.
4948 Cinti Brookville Road
Shandon, OH 45013

Submittal No. 20112-PHV-02100-002
Revision 3, 5/04/2004

Document No. PHV-02100-002
Revision 3

Title/Description: Valve House 8 Field Notes 4-26 – 4/30/04

#011



A - Conforms to the Subcontract Requirements
 B - Minor Comment - Incorporate and Resubmit
 C - Revise and Resubmit
Sig: Lin E. Hirsch Date: 5/7/04



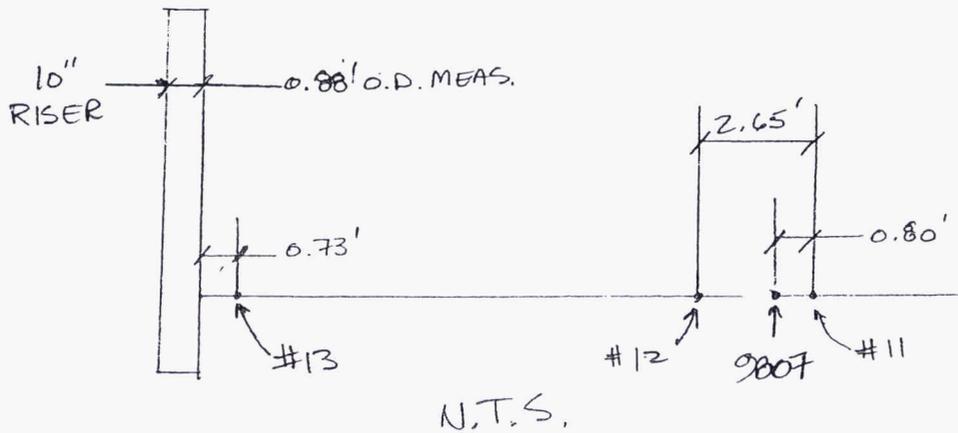
04/22/2004
TODD R. JOEY

Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
Shandon, Ohio 45013

AS-BUILT LOCATIONS - HORIZONTAL MONITORING WELL CELLS

PT#	N.	E.	ELEV.	DESC.
1	480186.491	1350849.663	576.665	END TOP/PIPE (3800)
2	480160.798	1350849.359	576.419	90° BEND TOP/PIPE (3800)
3	480161.141	1350839.471	576.274	TEE TOP/PIPE (3800)
4	480186.954	1350839.805	576.533	END TOP/PIPE (3800)
5	480161.364	1350829.554	576.150	WELD TOP/PIPE (3800)
6	480161.449	1350819.630	575.872	WELD TOP/PIPE
7	480161.453	1350800.631	575.760	TOP/PIPE
8	480161.775	1350779.736	575.366	WELD TOP/PIPE
	480161.923	1350757.492	574.936	TOP/PIPE
10	480162.082	1350739.890	574.942	WELD TOP/PIPE
11	480162.483	1350714.249	574.560	WELD TOP/PIPE
12	480162.605	1350711.607	574.500	WELD TOP/PIPE
13	480162.699	1350698.570	574.040	WELD TOP/PIPE



*NOTE: 9800 POINT NUMBERS FROM REV. 1 SHEET G-44.

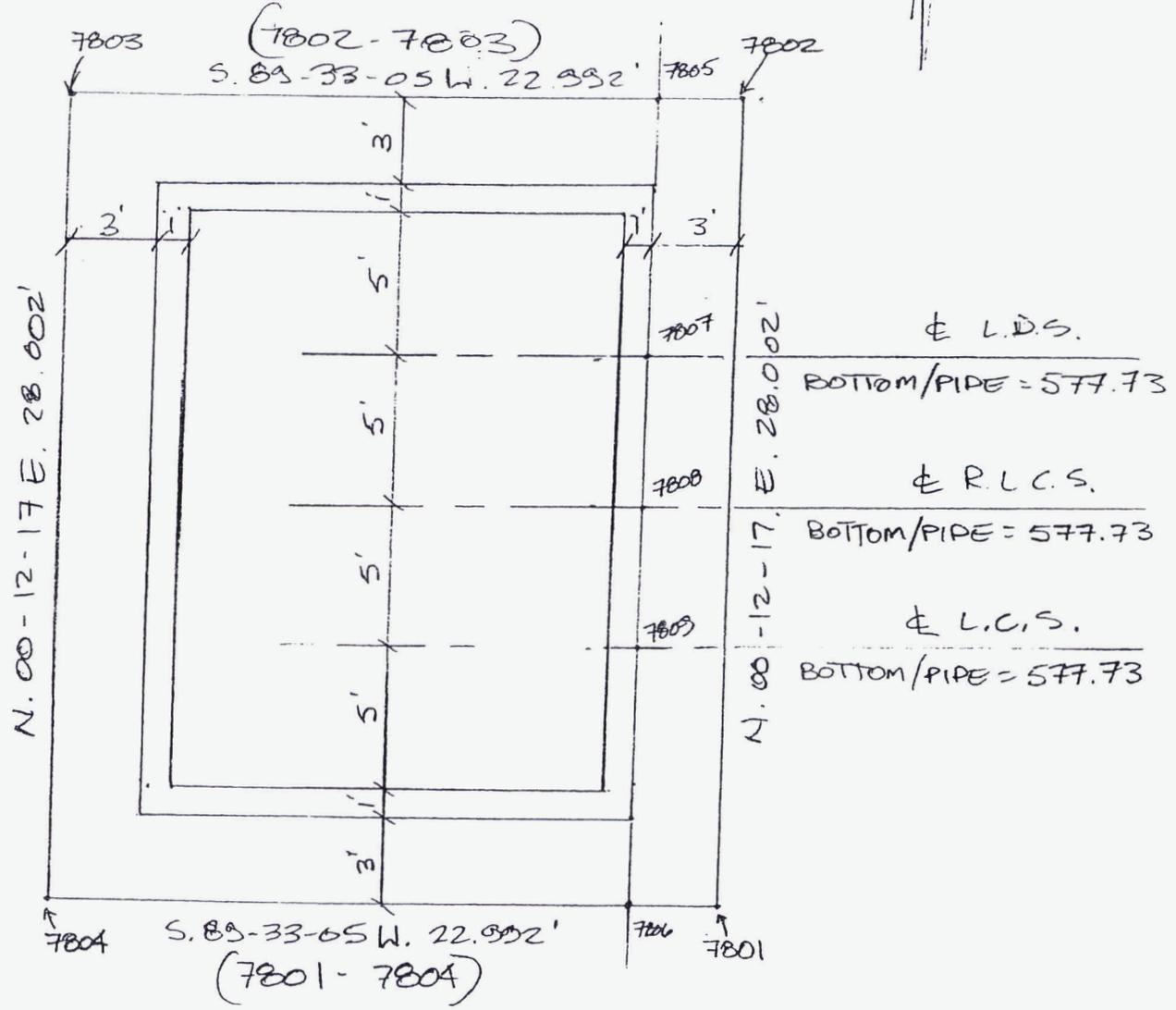


04/26/2004
 TODD R. PAUL
 (CELL) S.G. LAYE

Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
 Shandon, Ohio 45013

± L.C.S., R.L.C.S., L.D.S. PIPES @ V.H. #8
 N.T.S.



PT #	N.	E.	ELEV.	DESC.
7805	480190.5065	1350663.2901		(3') N.E. COR.
7806	480162.5065	1350663.1901		(3') S.E. COR.
7807	480181.5066	1350663.2580	577.73	± L.D.S. @ V.H. #8
7808	480176.5066	1350663.2401	577.73	± R.L.C.S. @ V.H. #8
7809	480171.5066	1350663.2222	577.73	± L.C.S. @ V.H. #8

SUPPLIER DOCUMENT SUBMITTAL

PROJECT NO: 201 CONTRACT NO: PHV SUBMITTAL NO. 20112-PHV-02100-002 REV: 2 DATE: 4/09/04 Pg. 2 of 2

FROM: cumseh Surveyors
48 Cinti. Brookville Road
London, OH 45013
SIGNATURE: *Lynn E Hirsch*

TO: FDF ENGINEERING/CONSTRUCTION DOCUMENT CONTROL (ECDC), MS 52-7
RECEIVED BY: *[Signature]* DATE: *4-13-04*

QTY	DOCUMENT NUMBER	REV	DOCUMENT FAMILY								SUBMITTAL TYPE			ASSOCIATED SPECIFICATION	SUBMITTAL ACTION					
			PRO	H&S	MED	TRG	CON	ENG	QAC	OPER	DRFT	CFC	INF		A	B	C			
3	PHV-02100-002	2e							X					X				X		

REVIEW DISTRIBUTION

NAME	MS	NAME	MS	NAME	MS
ECDC	52-7				
CHUCK VANARSDALE (APPROVER)	64				
DON PFISTER - DOE	45				

COMMENTS: COMMENTS: (PLEASE USE SPACE BELOW FOR COMMENTS OR INDICATE IF ATTACHMENTS)

ORIGINAL

RECEIVED BY: *[Signature]* DATE: *4/15/04*
(SIGN/DATE AND RETURN A COPY TO ECDC, MS 52-7)

SUBMITTAL TYPE: (BY SUPPLIER)
CFC - CERTIFIED FOR CONSTRUCTION
INF - INFORMATION/RECORD
DRFT - DRAFT/PRELIMINARY

SUBMITTAL ACTION CODE: (BY FDF)
A - Conforms to the Subcontract Requirements
B - Minor Comments - Incorporate and Resubmit
C - Revise and Resubmit (SEE COMMENTS)

ON-SITE DISPOSAL FACILITY PHASE V

Tecumseh Surveyors, Inc.
4948 Cinti Brookville Road
Shandon, OH 45013

Submittal No. 20112-PHV-02100-002
Revision 1, 4/08/2004

Document No. PHV-02100-002
Revision 1

Title/Description: Valve House 7 Field Notes 3-29 – 4/02/04



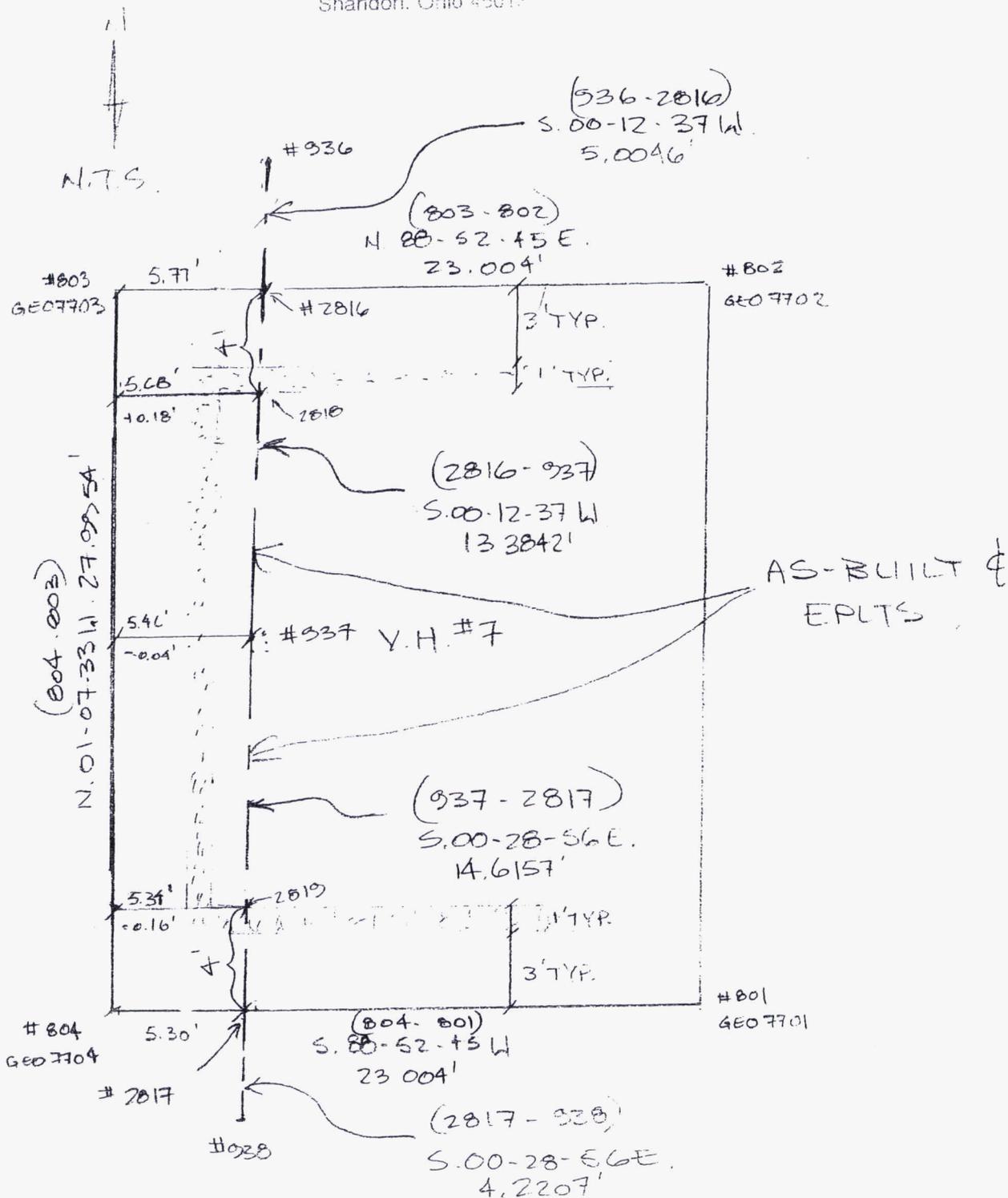
#011

A - Conforms to the Subcontract Requirements
 B - Minor Comment - Incorporate and Resubmit
 C - Revis and Resubmit
Sig: *[Signature]* Date: 4/15/04



Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
 Shandon, Ohio 45015



*NOTE: PTS. 936, 937 & 938 ARE AS-BUILT LOCATIONS.
 PTS. 2816-2819 ARE CALL LOCATIONS.

ON-SITE DISPOSAL FACILITY PHASE V

Tecumseh Surveyors, Inc.
4948 Cinti Brookville Road
Shandon, OH 45013

Submittal No. 20112-PHV-02100-002
Revision 0, 3/15/2004

Document No. PHV-02100-002
Revision 0

Title/Description: Valve House 7 Field Notes 2-25 – 3/09/04



#012

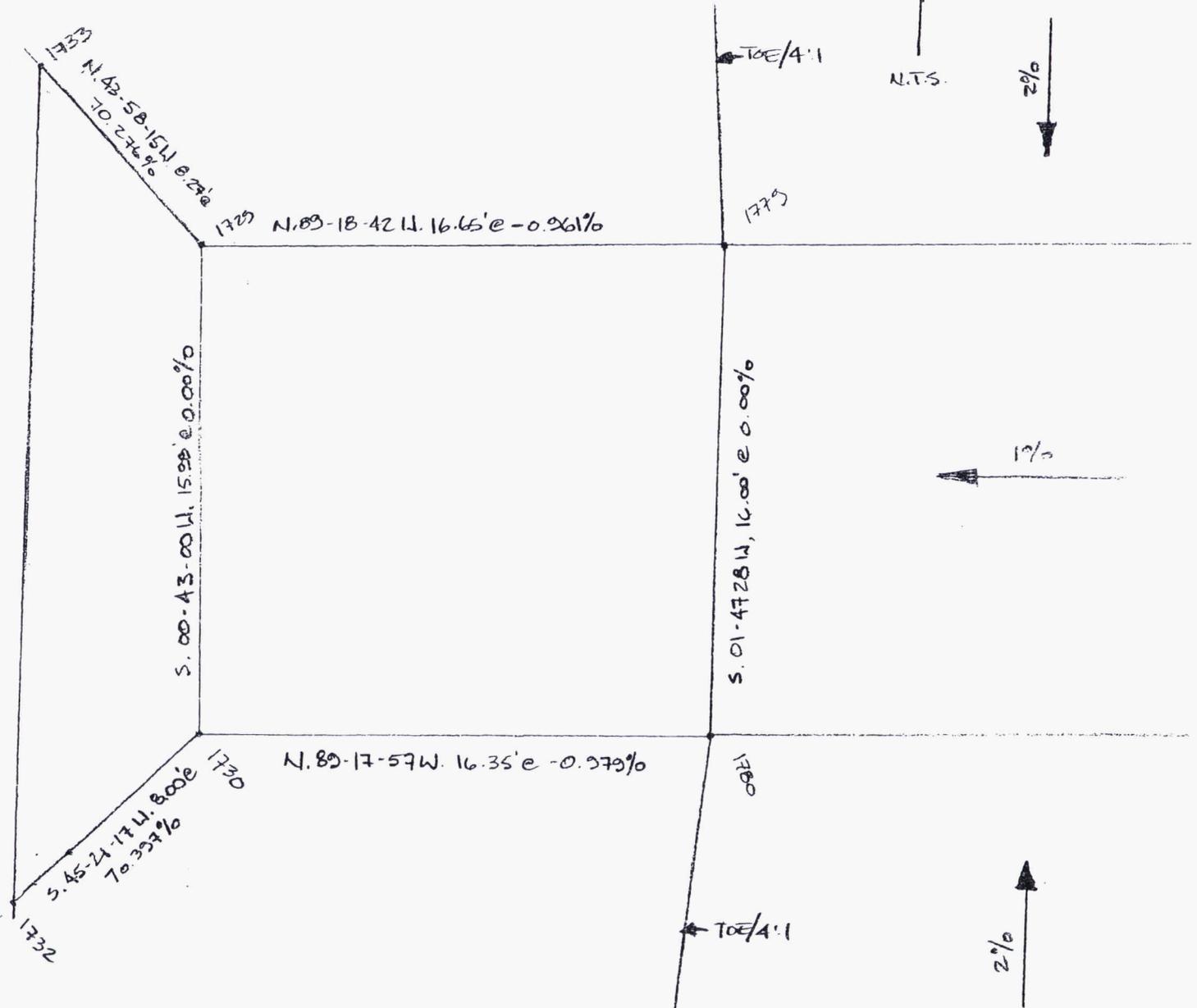


Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
Shandon, Ohio 45013

03/09/04
TODD, PAUL
C7 56
CELL OUTLET
PG 1 OF

CELL 7 SUBGRADE @ CELL OUTLET



A - Conforms to the Subcontract Requirements

B - Minor Comment - Incorporate and Resubmit

C - Revise and Resubmit

Sig: Dr. J. J. J. J. Date: 3/19/04
for CV



03/09/04
TODD PAUL
CELL TS.
@CELL OUT

Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
Shandon, Ohio 45013

PT#	N.	E.	ELEV.	DESC.
1729	480 580.60	1350 807.08	581.04	S.G. @ CELL OUTLET
1730	480 564.61	1350 806.88	581.04	S.G. @ CELL OUTLET
1732	480 558.99	1350 801.19	586.67	S.G. @ CELL OUTLET
1733	480 586.55	1350 801.34	586.85	S.G. @ CELL OUTLET
1779	480 580.40	1350 823.73	581.20	TOE/4:1
1780	480 564.41	1350 823.73	581.20	TOE/4:1

PT#	PROP.	SHOT	C/F
1729	581.04	585.78	C-4.74
1730	581.04	585.28	C-4.24
32	586.67	580.03	C-1.36
1733	586.85	589.16	C-2.31
1779	581.04	585.21	C-4.17
1780	581.04	585.64	C-4.60

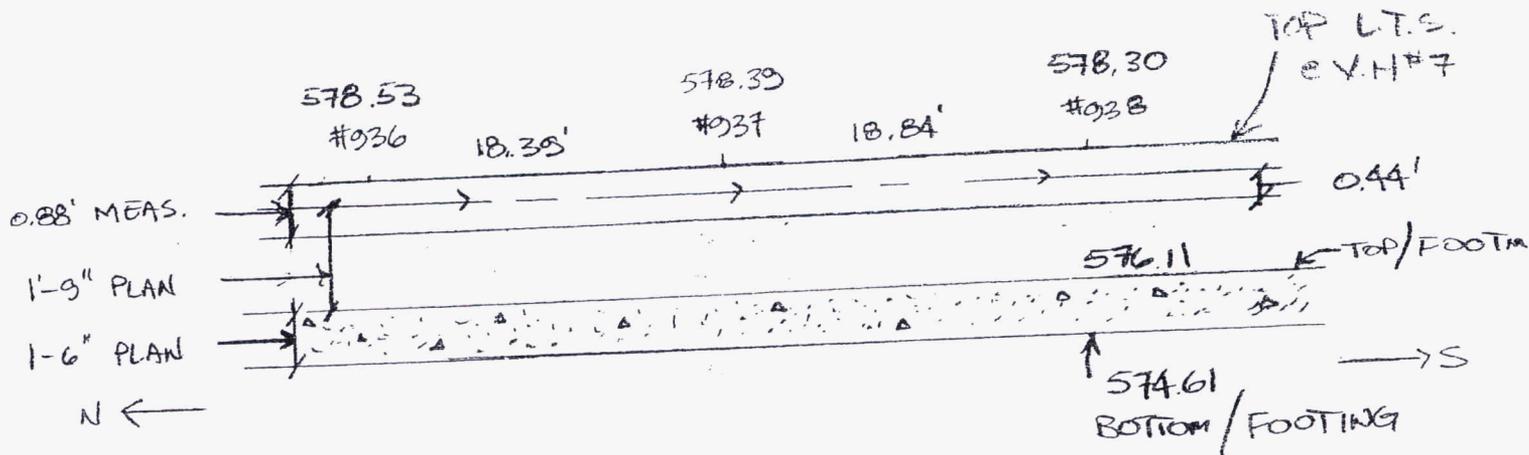


Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
Shandon, Ohio 45013

02/25/2004
TODD R. PAUL
V.H. #7
AS-BUILT EPLT
LOCATION

EXISTING L.T.S. @ V.H. #7



N.T.S.

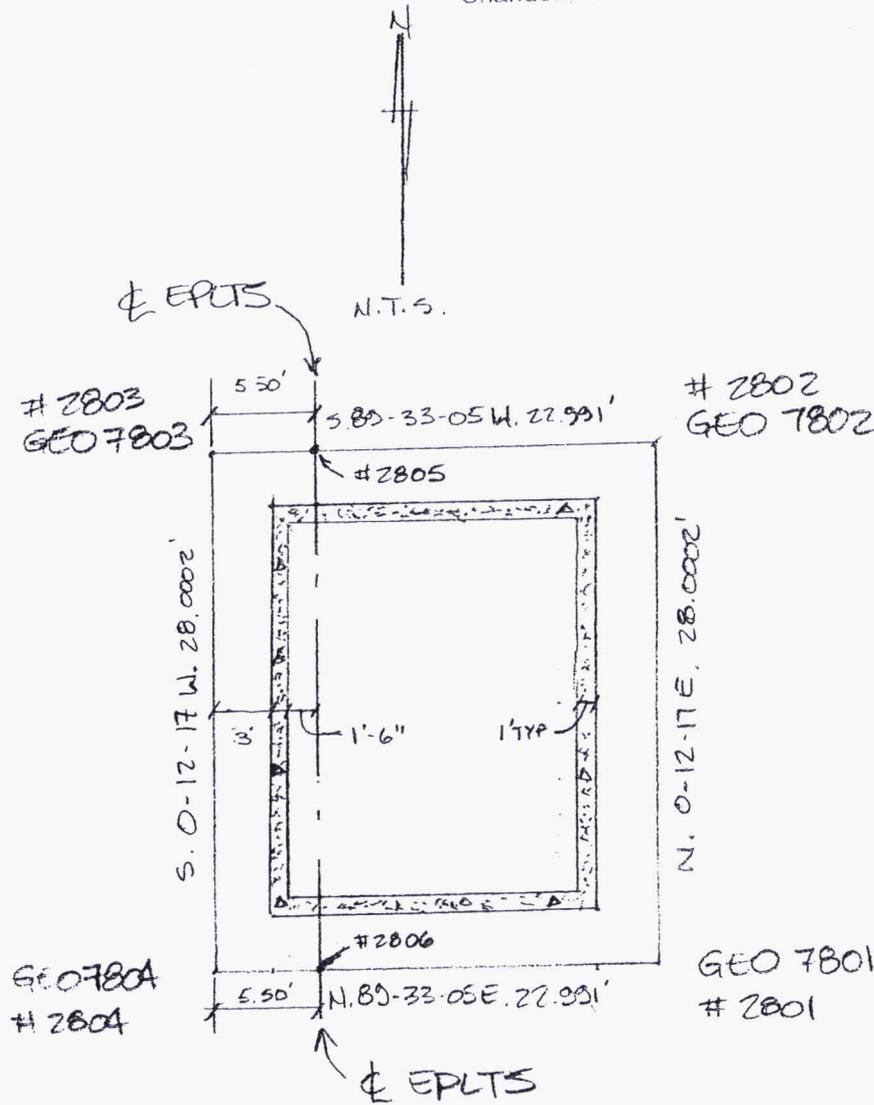
PT#	N.	E.	ELEV.	DESC.	DATE
936	480593.9774	1350614.3091	578.53	TOP L.T.S.	02/24/04
937	480575.5888	1350614.2417	578.39	TOP L.T.S.	02/24/04
938	480556.7530	1350614.4002	578.30	TOP L.T.S.	02/24/04



Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
Shandon, Ohio 45013

02/19/2004
TODD R, JOEY T.
V. H. # 8



PT #	PROP TP	SHOT	C/F	DATE
2805 (805)	576.88	582.13	C-5.25	02/19/04
2806 (806)	576.78	582.08	C-5.30	02/19/04

*NOTE: TOP/LEAGHATE ARE PROPOSED ELEVATIONS NOT AS-BUILT LOCATIONS.



02/23/2004
TODD R. PAULLE
V.H #7 AS-B41C

Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
Shandon, Ohio 45013

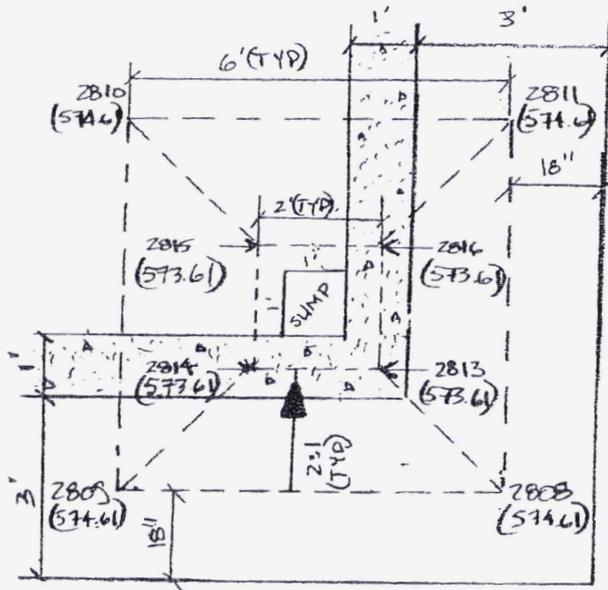
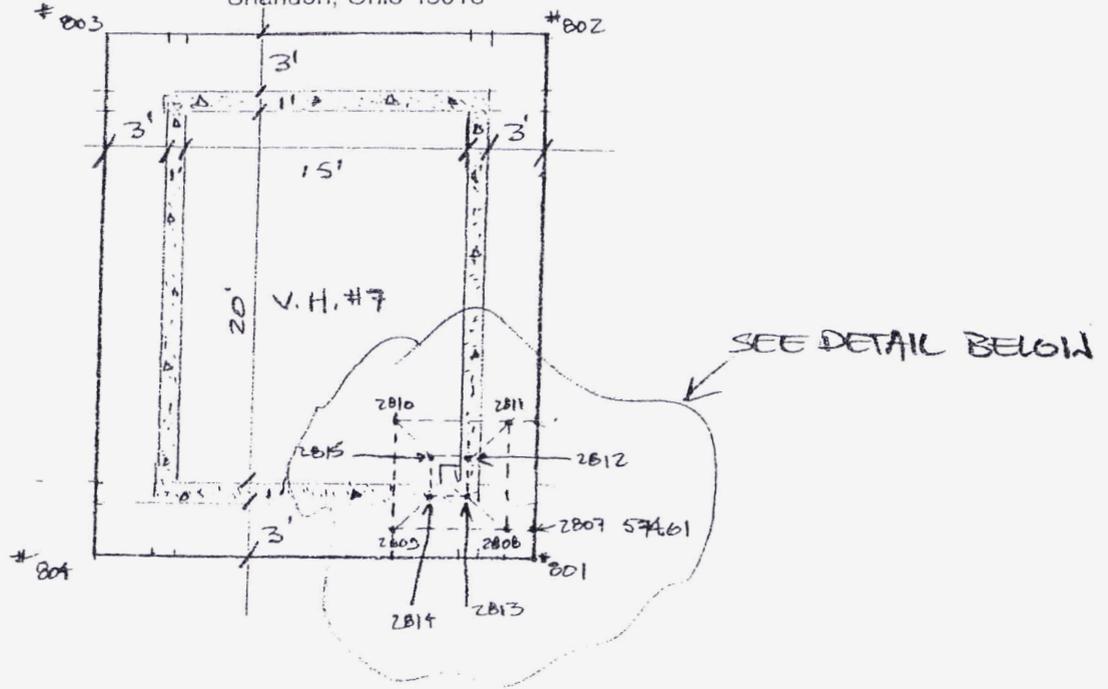
PT#	N.	E.	ELEV.	DESC.
915	480579.1390	1350701.2728	582.16	TOP L.D.S. @ WELD
916	480578.8650	1350721.7186	582.78	TOP L.D.S.
917	480578.3691	1350741.0703	583.47	TOP L.D.S. @ WELD
918	480578.0278	1350759.0077	583.85	TOP L.D.S.
919	480577.9958	1350779.7796	584.53	TOP L.D.S. @ WELD
920	480577.7362	1350789.7131	584.72	TOP L.D.S.
921	480577.3692	1350812.4851	585.09	TOP L.D.S.
922	480574.1442	1350700.4818	582.94	TOP R.L.C.S. @ WELD
923	480573.8175	1350722.6556	583.90	TOP R.L.C.S.
924	480573.7877	1350740.2539	584.57	TOP R.L.C.S. @ WELD
925	480573.0617	1350760.9079	585.42	TOP R.L.C.S.
926	480572.7892	1350780.0586	586.03	TOP R.L.C.S. @ WELD
927	480572.6919	1350789.4769	586.47	TOP R.L.C.S.
928	480572.8168	1350805.3132	586.92	TOP R.L.C.S.
929	480569.1809	1350699.9446	582.46	TOP L.C.S. @ WELD
930	480568.8141	1350715.7077	583.00	TOP L.C.S.
931	480568.7139	1350738.5348	583.96	TOP L.C.S. @ WELD
932	480568.1910	1350757.5577	584.62	TOP L.C.S.
933	480568.3093	1350777.3077	585.29	TOP L.C.S. @ WELD
934	480567.9528	1350789.6738	585.69	TOP L.C.S.
935	480567.5685	1350808.4932	585.92	TOP L.C.S.



Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
Shandon, Ohio 45013

02/26/2004
TODD R. PAULI
V.H. #7
SUMP DET



SUMP DETAIL

#801 576.11 TOP/FOOTING
574.61 BOTTOM/FOOTING

ON-SITE DISPOSAL FACILITY PHASE V

Tecumseh Surveyors, Inc.
4948 Cinti Brookville Road
Shandon, OH 45013

Submittal No. 20112-PHV-02100-002
Revision 0, 2/11/2004

Document No. PHV-02100-002
Revision 0

Title/Description: Cell 7 Field Notes 2-02 – 2/06/04



A - Conforms to the Subcontract Requirements
 B - Minor Comment - Incorporate and Resubmit
 C - Revise and Resubmit
Sig: *John C. Walker* Date: 2/23/04



02/04/2004
 TODD, PAUL
 V.H.#7 AS BULL

Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
 Shandon, Ohio 45013

PT#	PROP.	SHOT	C/F	DESC	DATE
801	574.75	583.39	C-8.64	S.E. COR @ BOTTOM/FOOTING	02/03/04
802	574.75	583.27	C-8.52	N.E. COR @ BOTTOM/FOOTING	02/03/04
803	574.75	579.02	C-4.27	N.W. COR @ BOTTOM/FOOTING	02/03/04
804	574.75	578.15	C-3.44	SW COR @ BOTTOM/FOOTING	02/03/04

PT#	N.	E.	ELEV.	DESC
900	480580.2452	1350628.6905	580.20	TOP L.D.S.
901	480579.9604	1350645.2199	580.69	TOP L.D.S.
902	480579.5757	1350662.1827	581.20	TOP L.D.S.@WELD
903	480579.4263	1350680.3257	581.69	TOP L.D.S.
904	480579.3213	1350701.3819	582.25	TOP L.D.S.@END
905	480575.1655	1350628.6510	580.17	TOP R.L.C.S.
906	480574.8756	1350643.7889	580.80	TOP R.L.C.S.
907	480574.5924	1350663.3401	581.53	TOP R.L.C.S.@WELD
908	480574.4061	1350681.3053	582.24	TOP R.L.C.S.
909	480574.1559	1350700.4927	583.06	TOP R.L.C.S.@END
910	480570.2693	1350628.9809	580.21	TOP L.C.S.
911	480569.8394	1350647.6947	580.86	TOP L.C.S.
912	480569.8893	1350660.7141	581.32	TOP L.C.S.@WELD
913	480569.3318	1350680.6222	581.96	TOP L.C.S.
-	480569.1390	1350699.9253	582.64	TOP L.C.S.@END



Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
Shandon, Ohio 45013

02/06/2004

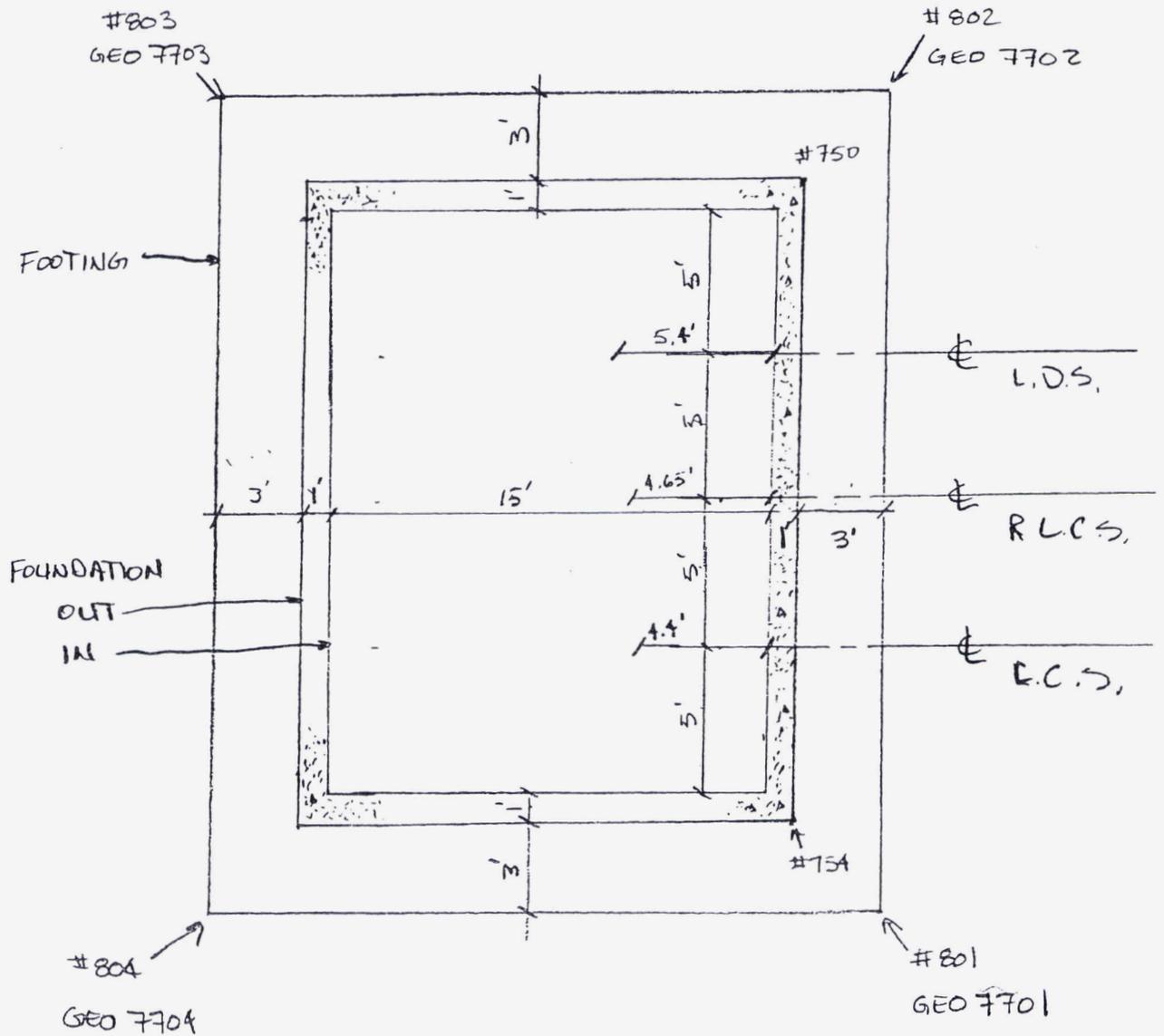
V.H. #7

(PIPE LENGTHS
INSIDE V.H. #7)

TODD R., PAUL R.



N.T.S.



V.H. #7
PLAN VIEW

BM CONTROL CHECK

Project : RALPH 5700 CONTROL CHECK

User name	defo1377	Date & Time	10:20:58 AM 2/4/2004
Coordinate System	Projection from data collector	Zone	Zone from data collector
Project Datum	(WGS 84)	Geoid Model	Not selected
Vertical Datum	Not selected		
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

Name	Code	Design Northing	Design Easting	Delta North	Delta East	Cut/Fill
BM2 6-27-03	BM2	482199.913	1351779.190	-0.072	0.040	-0.013
BM2 7-03-03	BM2	482199.913	1351779.190	0.012	-0.027	-0.058
BM2 7-09-03	BM2	482199.913	1351779.190	0.017	-0.006	-0.053
BM2 7-11-03	BM2	482199.913	1351779.190	0.010	-0.022	0.028
BM2 7-17-03	BM2	482199.913	1351779.190	-0.035	0.079	-0.002
BM2 7-22-03	BM2	482199.913	1351779.190	-0.054	0.019	-0.042
BM 2 8-8-03	BM2	482199.913	1351779.190	-0.014	0.031	0.036
BM 2 8-11-03	BM2	482199.913	1351779.190	-0.036	0.052	0.079
BM2 8-18-03	BM2	482199.913	1351779.190	0.005	0.044	-0.045
BM2 8-25-03	BM2	482199.913	1351779.190	-0.025	0.042	0.038
BM2 9-04-03	BM2	482199.913	1351779.190	-0.045	0.027	-0.022
BM2 9-10-03	BM2	482199.913	1351779.190	-0.091	0.029	-0.069
9-25-03	BM2	482199.913	1351779.190	0.065	-0.033	-0.064
10-03-03	BM2	482199.913	1351779.190	0.036	-0.031	-0.047
10-08-03	BM2	482199.913	1351779.190	0.040	-0.067	0.038
10-15-03	BM2	482199.913	1351779.190	0.045	-0.087	0.010
BM2 10-21-03	BM2	482199.913	1351779.190	0.017	0.000	0.009
BM2 10-28-03	BM2	482199.913	1351779.190	-0.012	0.000	-0.053
BM2 11-05-03	BM2	482199.913	1351779.190	-0.028	0.008	0.016
BM2 11-13-03	BM2	482199.913	1351779.190	0.008	0.019	0.056
BM2 11-18-03	BM2	482199.913	1351779.190	0.014	0.027	0.028
BM2 12-01-03	BM2	482199.913	1351779.190	0.003	-0.021	0.085
BM2 1-08-04	BM2	482199.913	1351779.190	-0.064	0.038	0.068
BM2 1-13-04	BM2	482199.913	1351779.190	-0.053	0.088	0.069
BM2 10-28-04	BM2	482199.913	1351779.190	-0.012	0.000	-0.053
BM2 11-18-04	BM2	482199.913	1351779.190	0.014	0.027	0.028

BM 1-20-04	BM2	482199.913	1351779.190	-0.023	0.016	-0.002
BM 1-27-04	BM2	482199.913	1351779.190	-0.037	0.032	-0.002
BM 2-03-04	BM2	482199.913	1351779.190	-0.086	0.022	-0.028

[Back to top](#)

BM CONTROL CHECK

Project : CAMERONS 4800 CONTROL CHECK

User name	defo1377	Date & Time	1:05:01 PM 2/4/2004
Coordinate System	Projection from data collector	Zone	Zone from data collector
Project Datum	(WGS 84)	Geoid Model	Not selected
Vertical Datum			
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

Name	Code	Design Northing	Design Easting	Delta North	Delta East	Cut/Fill
BM2-6-12-03	BM2	?	?	0.030	0.044	-0.047
BM2 6/23/03	BM2	482199.913	1351779.190	-0.020	0.002	-0.040
BM2 7/29/03	BM2	482199.913	1351779.190	0.009	0.021	0.010
BM2 9-12-03	BM2	482199.913	1351779.190	-0.027	0.034	-0.013
BM2/1/04/04		482199.913	1351779.190	-0.062	-0.006	-0.059
BM2/1/08/04	BM2	482199.913	1351779.190	-0.068	0.014	-0.057
BM2/1/15/04	BM2	482199.913	1351779.190	-0.057	0.021	-0.051
BM2/1/28/04	BM2	482199.913	1351779.190	-0.057	0.007	-0.051
BM2/2/04/04	BM2	482199.913	1351779.190	-0.067	0.002	-0.057

[Back to top](#)

SUPPLIER DOCUMENT SUBMITTAL

PROJECT NO: 20112	CONTRACT NO: PHV	SUBMITTAL NO: 20112-PHIV-02100-004	REV: 0	DATE: 08/27/04	Page 1 of 1
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FROM: Tecumseh Surveying, Inc. SIGNATURE:	TO: FDF ENGINEERING/CONSTRUCTION DOCUMENT CONTROL (ECDC), MS 52-7 RECEIVED BY: DATE: 8-30-04
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QTY	DOCUMENT NUMBER	REV	DOCUMENT FAMILY								TITLE/DESCRIPTION	SUBMITTAL TYPE			ASSOCIATED SPECIFICATION	SUBMITTAL ACTION			
			PRO	II&S	MED	TRG	CON	ENG	QAC	OPER		DRAFT	CFC	INF		A	B	C	
0	PHV-02100-002-004	0								X		Original field notes, layout, computations (signed and sealed), sketches and drawings, and associated electronic files		X		02100-1.05.D			

REVIEW DISTRIBUTION

NAME	MS	NAME	MS	NAME	MS
ECDC	52-7	Mike Hoge	52-5		
Bob Kneip (Approver)	52-5	Mike Borgman	20		
regg Johnson	60				
huck VanArsdale	64				
einhard Friske	64				
wasi Badu-Tweneboah	38				
Don Pflanz	45				

COMMENTS: COMMENTS (PLEASE USE SPACE BELOW FOR COMMENTS OR INDICATE IF ATTACHMENTS)

REVIEW WAIVED BY APPROVER

ORIGINAL

RECEIVED BY: DATE: 9/1/04 (SIGN/DATE AND RETURN A COPY TO ECDC, MS 52-7)	SUBMITTAL TYPE: (BY SUPPLIER) CFC - CERTIFIED FOR CONSTRUCTION INF - INFORMATION/RECORD DRAFT - DRAFT/PRELIMINARY	SUBMITTAL ACTION CODE: (BY FDF) A - Conforms to the Subcontract Requirements B - Minor Comments - Incorporate and Resubmit C - Revise and Resubmit (SEE COMMENTS)
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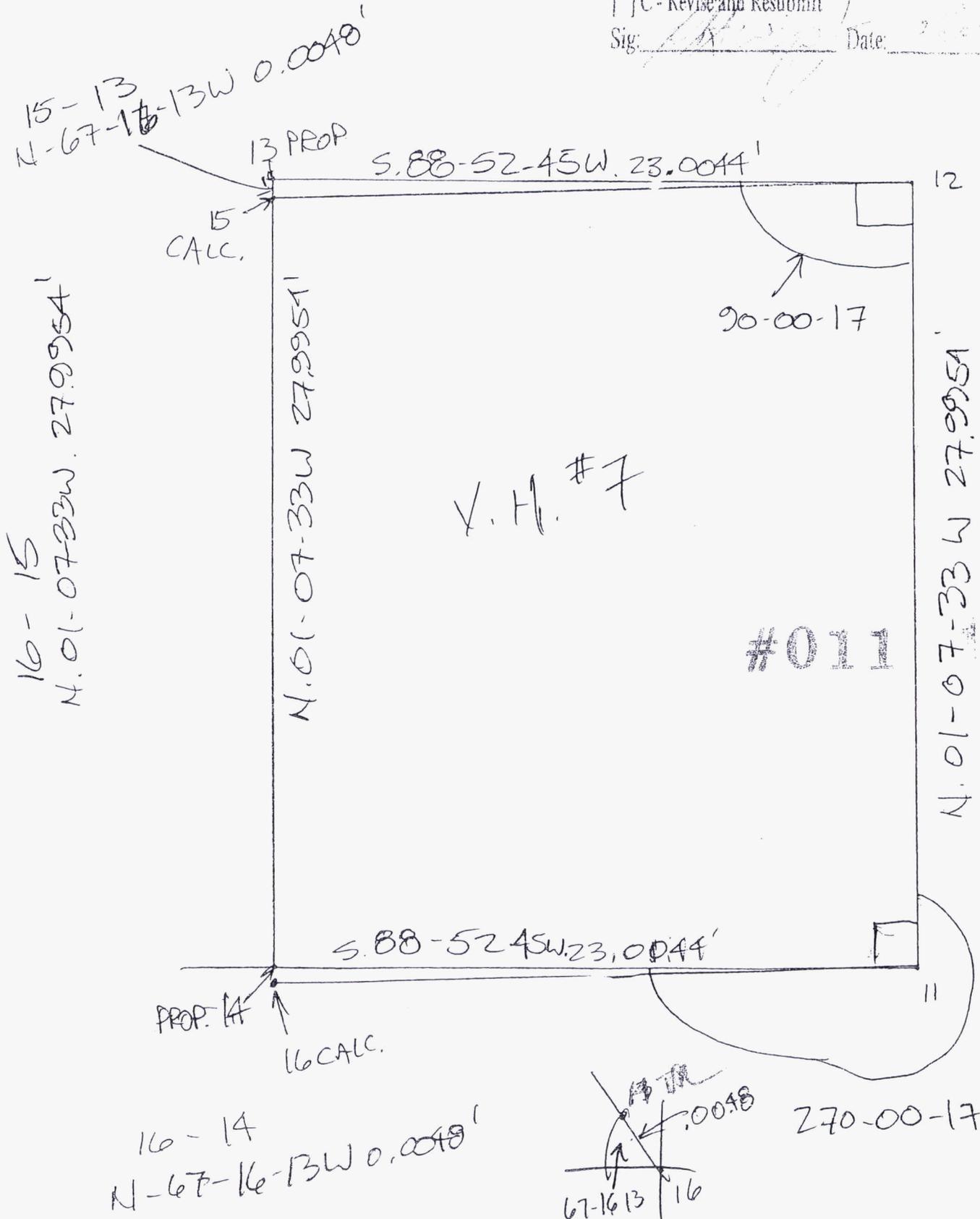


Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
Shandon, Ohio 45013

- A - Conforms to the Subcontract Requirements
- B - Minor Comment - Incorporate and Resubmit
- C - Revise and Resubmit

Sig: [Signature] Date: 2/20/01

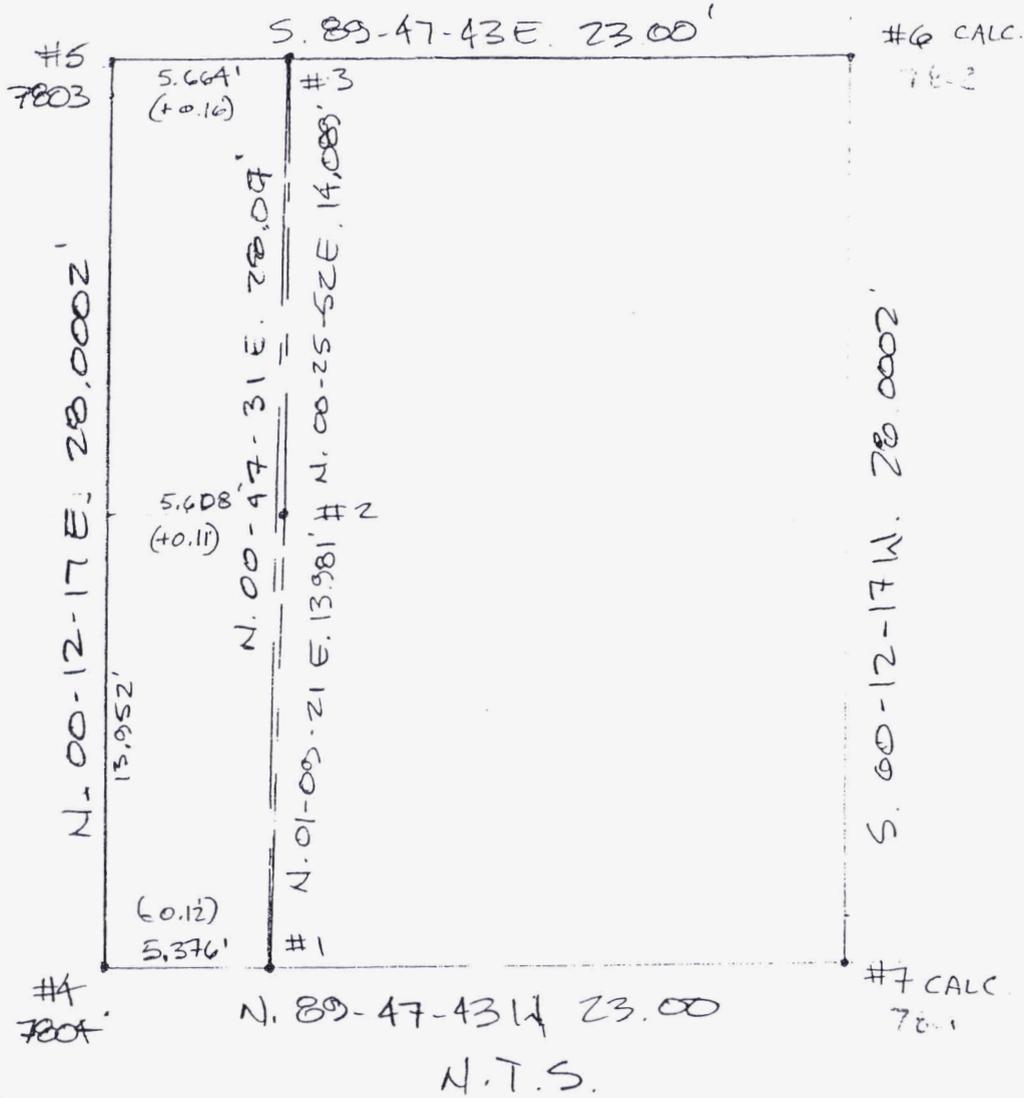




Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
Shandon, Ohio 45013

05/05/2004
TODD R., JOEY T.
L.T.S. PIPE V.H. #8
PLAN VIEW



* NOTE: PT. NUMBERS #4 (7804) AND #5 (7803) ARE FROM E.P.L.T.S. VALVE HOUSE #8 PLANS, SHEET G-3. PT. NUMBER 1-3 ARE AS-BUILT LOCATIONS OF L.T.S. PIPE V.H. #8. PT. NUMBERS 6 & 7 ARE CALCULATED POINTS.

PT.#	N.	E.
6	480930.2679	1350666.2999
7	480162.2678	1350666.1998

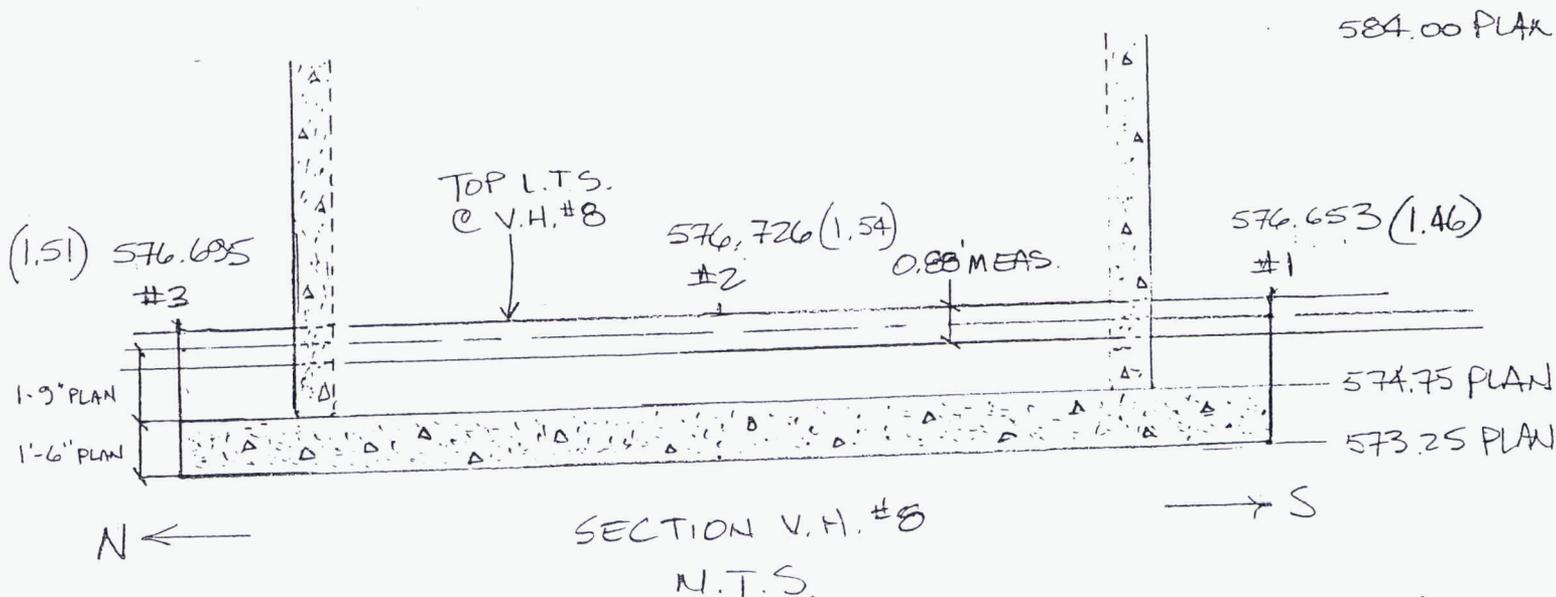


Tecumseh Surveying, Inc.

4948 Cincinnati Brookville Road
Shandon, Ohio 45013

05/04/2004
TODD F., MIKE V.
AS-BUILT ERTS
@ V.H.#8
(CELLS & LAYER)

PT#	N.	E.	ELEV	DESC.
1	480162.304	1350648.576	576.653	TOP/PIPE
2	480176.282	1350648.858	576.726	TOP/PIPE
3	480190.371	1350648.914	576.695	TOP/PIPE



*NOTE: PTS. 1, 2 & 3 ARE AS-BUILT LOCATIONS AS OF 05/04/2004.
NUMBERS IN () ARE CALCULATED CENTER-OF-PIPE DIFFERENCES TO TOP-OF-FOOTING,
EX #1 576.65 AS-BUILT TOP/PIPE FOR PT #1,
- 0.44 1/2 THICKNESS PIPE
576.21
- 574.75 TOP/FOOTING PER PLAN

CELL 7 36

TODD, PAUL

05/12/04

TOP 1511

#	PROP	SHOT	C/F
1613			
57A			
1588			
1588			
734			
1614			
727			F-2.42
721			F-0.65
715			F-0.58
1531			F-0.04
686			F-0.35
682			F-0.24
667			GRADE
652			F-0.26
637			C-0.07
1507			F-0.26

BS	H.I	FS	ELEV.	DESC.
0.37	581.82		581.45	T.B.M. NAIL P. 735
		1.97	579.85	✓
		7.32	574.50	GRD E S.W. COR
		8.73	573.08	T./COR E.S.W.
		8.75	573.07	COR E.S.W. FK
		7.32	574.50	GRD C N.W. COR
		8.65	573.17	T./COR E.N. W. COR

TODD, PAUL

05/12/04

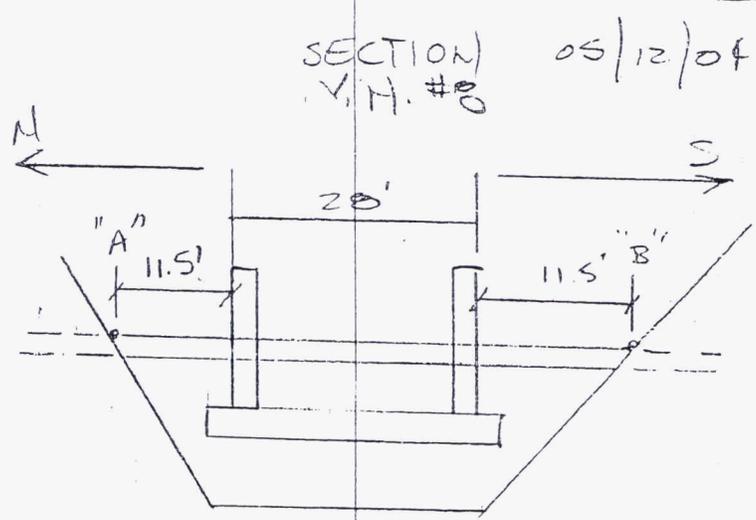
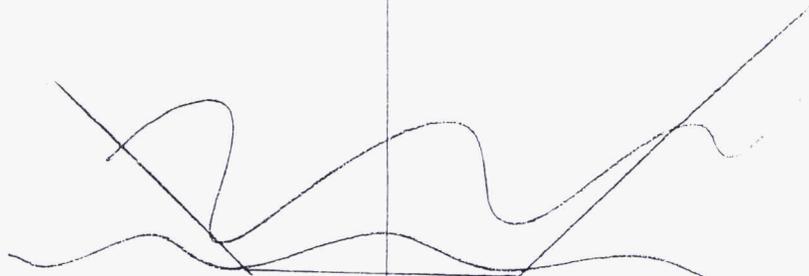
5.85

BS.	H.I.	F.S.	ELEV.	DESC.
0.37	581.82		581.45	T.B.M. WALL P. 735
		7.31	574.51	GRD @ W.E. COR.
		8.57	573.25	CON @ N.E. COR.
		8.61	573.21	CON @ N.E. FORM
		8.65	573.17	CON @ CENTER
		8.73	573.09	CON @ S.E. FORM
		8.73	573.09	CON @ S.E. COR.
		7.32	574.50	GRD @ S.E. COR.
		0.37	581.45	T.B.M. WALL P. 735

B.S.	H.I.	F.S.	ELEV.	DESC.
0.31	581.76		581.45	T.B.M. WALL P. 735
		1.91	579.85	HIST W/ V.H. #8 ✓
		5.01	576.75	"A"
		5.22	576.54	"B"
		0.31	581.45	T.B.M. WALL P. 735 ✓

TODD, PAUL

05/12/04



SUPPLIER DOCUMENT SUBMITTAL

PDF PROJECT NO.: 20112	CONTRACT NO.: PHV	SUBMITTAL NO.: 20112-PHV-03100-001	REV.: 0	DATE: 3/15/04	Page 1
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FROM: TO: FDF ENGINEERING/CONSTRUCTION DOCUMENT CONTROL (ECDC), MS 52-7

SIGNATURE: *S. Kumar* 3/15/04 RECEIVED BY: *[Signature]* DATE: 3-16-04

QTY	DOCUMENT NUMBER	REV	DOCUMENT FAMILY								SUBMITTAL TYPE			SUBMITTAL ACTION				
			PRO	H&S	MED	TRG	CON	ENG	QAC	OPER	DRFT	CFC	INF	ASSOCIATED SPECIFICATION	A	B		
10	PHV-03100-001	0							X					X				X

REVIEW DISTRIBUTION

NAME	MS	NAME	MS	NAME	MS
ECDC	52-7	ROB KNEIP (APPROVER)	52-5		
CHUCK VANARSDALE	64	MIKE HOGE	52-5		
GREGG JOHNSON	60	MIKE BORGMAN	52-0		
TOM BEASLEY	60				
REINHARD FRISKE	64				
KWASI BADU-TWENEBOAH - GEOSYNTEC	38				
DON PHISTER - DOE	45				

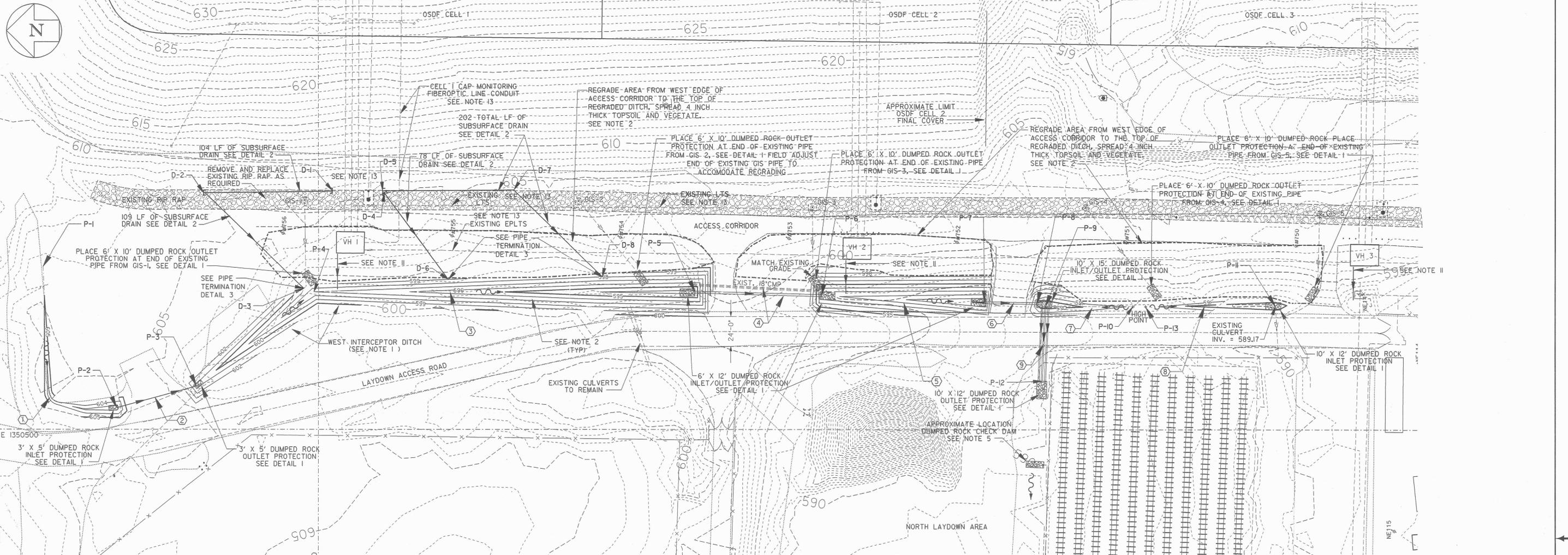
NO COMMENTS: COMMENTS: (PLEASE USE SPACE BELOW FOR COMMENTS OR INDICATE IF ATTACHMENTS)

ORIGINAL

RECEIVED BY: <i>[Signature]</i> DATE: 3/24/04 (SIGN/DATE AND RETURN A COPY TO ECDC, MS 52-7)	SUBMITTAL TYPE: (BY SUPPLIER) CFC - CERTIFIED FOR CONSTRUCTION INF - INFORMATION/RECORD DRFT - DRAFT/PRELIMINARY	SUBMITTAL ACTION CODE: (BY FDF) A - Conforms to the Subcontract Requirements B - Minor Comments - Incorporate and Resubmit C - Revise and Resubmit (SEE COMMENTS)
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CONSTRUCTION DRAWINGS
(NOT AN AS-BUILT DRAWING)

**RE-GRADING PLAN FOR WEST
INTERCEPTOR DITCH**



CONSTRUCTION CONTROL POINTS - WEST INTERCEPTOR DITCH AND CULVERTS

POINT	EASTING	NORTHING	ELEVATION	DESCRIPTION
P-1	1350630.81	483217.53	605.7 +/-	MATCH EXISTING DITCH
P-2	1350517.25	483159.44	602.5	INVERT FOR REINSTALLED 12" CMP CULVERT
P-3	1350534.60	483096.79	600.6	INVERT FOR REINSTALLED 12" CMP CULVERT
P-4	1350610.23	483003.70	597.0	FLOWLINE ELEVATION OF DITCH
P-5	1350610.25	482702.69	593.4	INVERT FOR REINSTALLED 18" CMP CULVERT
P-6	1350607.40	482602.73	592.2	INVERT FOR REINSTALLED 18" CMP CULVERT
P-7	1350601.85	482474.18	589.8	INVERT FOR NEW 18" HDPE CULVERT
P-8	1350601.14	482432.61	589.2	INVERT FOR NEW 18" HDPE CULVERT
P-9	1350598.71	482426.37	589.0	INVERT FOR TRIPLE 12" HDPE CULVERTS
P-10	1350598.73	482357.23	591.3	DITCH ELEVATION - HIGH POINT
P-11	1350599 +/-	482245 +/-	589.2	DITCH ELEVATION, FIELD ADJUST LOCATION
P-12	1350538.77	482429.12	588.9	INVERT FOR TRIPLE 12" HDPE CULVERTS
P-13	1350598.73	482347.23	591.3	DITCH ELEVATION - HIGH POINT

CONSTRUCTION CONTROL POINTS - SUBSURFACE DRAIN

POINT	EASTING	NORTHING	BOTTOM OF PIPE ELEVATION	DESCRIPTION
D-1	1350691.08	482988.93	600.0	INSTALL CAP
D-2	1350689.96	483089.84	599.7	INSTALL 45 DEGREE LATERAL W/CAP
D-3	1350613.35	483011.50	599.4 +/-	MATCH EXISTING ELEV.
D-4	1350690.42	482948.65	599.2	INSTALL CAP
D-5	1350691.30	482949.29	598.6	INSTALL CAP
D-6	1350620.42	482897.71	599.0 +/-	MATCH EXISTING ELEV.
D-7	1350691.87	482846.29	598.3	INSTALL 45 DEGREE BEND
D-8	1350622.29	482775.95	598.0 +/-	MATCH EXISTING ELEV.

GENERAL NOTES

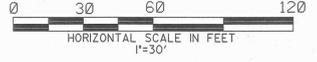
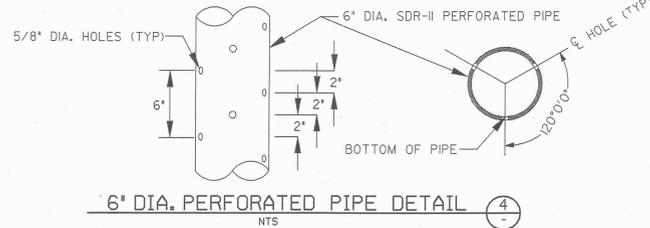
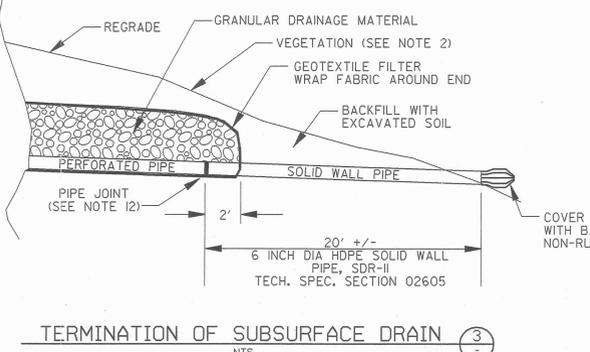
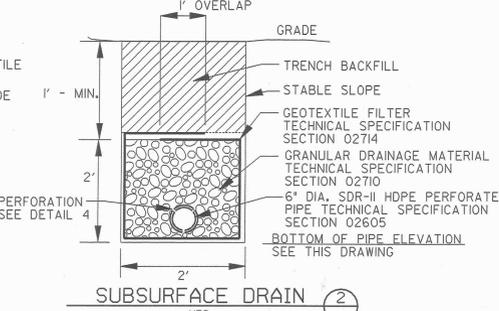
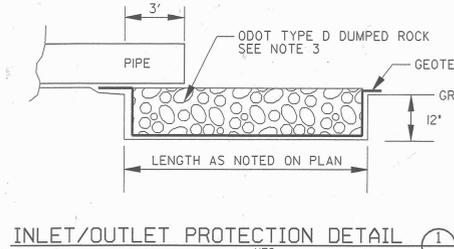
- REGRADE V-DITCH CROSS SECTION TO 3 (HORIZONTAL) TO 1 (VERTICAL) SIDE SLOPES UNLESS OTHERWISE NOTED. EXCAVATION AND FILL TO BE IN ACCORDANCE WITH TECHNICAL SPECIFICATION SECTION 02200.
- REVEGETATE DITCH SIDE SLOPES, DISTURBED AREAS AND ADJACENT AREAS AS INDICATED ON DRAWING WITH INTERIM VEGETATION IN ACCORDANCE WITH TECHNICAL SPECIFICATION SECTION 02930.
- INSTALL ODOT TYPE D DUMPED ROCK PROTECTION IN ACCORDANCE WITH ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS SECTION 600, ITEM 601.07. INSTALL ROCK PROTECTION TO WIDTH AND LENGTH SHOWN ON PLAN.
- TRENCHING AND BACKFILLING FOR CULVERTS AND SUBSURFACE DRAIN SHALL BE IN ACCORDANCE WITH TECHNICAL SPECIFICATION SECTION 02215.
- INSTALL AND MAINTAIN EROSION AND SEDIMENT CONTROLS INCLUDING CHECK DAMS AS PER TECHNICAL SPECIFICATION SECTION 02270 SURFACE WATER MANAGEMENT AND EROSION CONTROL AND AS SHOWN ON PLAN.
- FIELD ADJUST REGRADE OF DITCH TOP OF SLOPES TO MATCH EXISTING GRADES.
- CLEAR AND GRUB AREAS TO BE REGRADED.
- GRID COORDINATE SYSTEM CORRESPONDS TO THE STATE PLANAR NORTH AMERICAN DATUM (NAD) 1983 OHIO SOUTH.
- ELEVATIONS ARE IN FEET ABOVE SEA LEVEL DATUM. (SEA LEVEL DATUM REFERS TO NATIONAL GEODETIC VERTICAL DATUM (NGVD)).
- TOPOGRAPHY BASED UPON OCTOBER 2003 FLYOVER. ACTUAL ELEVATIONS MAY DIFFER FROM THOSE SHOWN. FIELD VERIFY EXISTING CONDITIONS, SURVEY INFORMATION AND UTILITY LOCATIONS BEFORE CONSTRUCTION BEGINS.
- EXTENSION OF THE EXISTING DOWNSPOUTS TO THE WEST INTERCEPTOR TRENCH WILL BE PERFORMED BY AQUIFER RESTORATION/WASTEWATER PROJECT GROUP.
- ELECTROFUSION COUPLINGS AS SPECIFIED IN TECHNICAL SPECIFICATION 02605 MAY BE USED IN JOINING PERFORATED AND SOLID WALL PIPES.
- PRIOR TO CONSTRUCTION FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES INCLUDING FIBER OPTIC CONDUIT, LITS, EPLTS, HORIZONTAL MONITORING WELL AND CELL 1 OUTLET PIPING. FIELD ADJUST BOTTOM OF PIPE ELEVATIONS AND/OR LOCATIONS OF SUBSURFACE DRAIN IF REQUIRED.

KEY NOTES

- FIELD VERIFY FLOWLINE TO MATCH THE EXISTING P.I. LOCATION.
- REINSTALL EXISTING 12" CMP CULVERT (LENGTH = 65 FT) TO INVERT ELEVATIONS SHOWN.
- REGRADE EXISTING DITCH TO FLOWLINE SHOWN.
- REINSTALL EXISTING 18" CMP CULVERT (LENGTH = 100 FT) TO INVERT ELEVATIONS SHOWN.
- REGRADE EXISTING DITCH TO FLOWLINE SHOWN.
- REPLACE EXISTING 12" CULVERT WITH 18" SDR-17 HDPE CULVERT (LENGTH = 40 FT) TO INVERT ELEVATIONS SHOWN.
- REGRADE EXIST. DITCH TO FLOW NORTH AS SHOWN.
- REGRADE EXIST. DITCH TO FLOWLINE AS SHOWN.
- REPLACE EXISTING 12" HDPE CULVERT WITH TRIPLE 12" SDR-17 HDPE CULVERTS (LENGTH = 60 FT EA.) AND INSTALL TO INVERT ELEVATIONS SHOWN. CENTER PIPES ON COORDINATE SPECIFIED WITH 3' C/C SPACING.

LEGEND

- P-3 CONSTRUCTION CONTROL POINT
- 605 PROPOSED CONTOUR
- EXISTING CONTOUR
- FLOW ARROW
- POWER POLE
- DUMPED ROCK
- EXISTING RIP RAP



NO.	REVISIONS	DATE	DWN. BY	APPD. NO.	REVISIONS	DATE	DWN. BY	APPD. NO.	REF. DWG. NO.
0	ISSUED CERTIFIED FOR CONSTRUCTION	01/07/04	WJO	REP					

NOTE:
FLUOR FERNALD
CADD DRAWING,
DO NOT REVISE
MANUALLY.

CONFIGURATION
MANAGEMENT
DRAWING
EXISTING STRUCTURES OR COMPONENTS
SHOWN ON THIS DRAWING ARE UNDER
CONSTRUCTION MANAGEMENT CONTROL.
COGNIZANT ENGINEER DATE

APPROVALS	
CIVIL & STR.	SAFETY ENG. MAINTENANCE
ELECTRICAL ENGINEER	FIRE PROTECT.
INSTRUMENT MECHANICAL	WASTE MNGMNT SECURITY PROJECTS
CHECKED	CONSTRUCTION
APPROVED	CADD SERVICES

Fernald Closure Project
FLUOR FERNALD, INC.
U.S. DEPARTMENT OF ENERGY

ON-SITE DISPOSAL FACILITY
WEST INTERCEPTOR DITCH
REGRADE PLAN
PROJ. NO. 2005
DATE 11/17/03
DRAWN WJO
90X-5500-G-00691 0