DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 7/27/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/2000	
Contractor(s):	Ryan Central Inc. ProAct	**Contractor(s) Rep:** John Johnson (Ryan Central) Guillermo Arredondo (ProAct)	

SITE CONDITIONS	
Weather (AM): Mostly Sunny	**Temperature:** 68
Weather (PM): Partly Cloudy	**Temperature:** 80
Precipitation: None	**Wind:** SW 3-16 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Haul truck; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Volvo A40 Haul truck; 1-Komatsu PC360LC Long Reach Excavator; 2-Cat D6T Dozers, 1-John Deere 9520 Tractor

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -2 Foreman, 4 Operators, 1 Laborer

- Continued placement of bridging layer in Pond 2.
- Continued placement of structural fill in Pond 1 in a single 11 to 12 inch loose lift.
- Continued compacting structural fill placed in Pond 1 with an 815 compactor.
- Began regrading CCR in Pond 2.
- Received delivery of structural fill material from off-site source for Pond 1.
- Water truck for dust control and fill moisture.

Summary of Dewatering through 07-08-19:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

GOLDER

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None
			Total: 13,838,510 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder observed placement of bridging layer in single lift using CCR in Pond 2.
- Golder monitored placement of structural fill in Pond 1, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder observed regrading of CCR in the western half of Pond 2.
- Golder observed import of structural fill for Pond 1.
- Golder observed use of water truck for dust control on site.

SUMMARY OF SURVEYOR'S ACTIVITIES

None

SUMMARY OF PROBLEMS AND RESOLUTIONS

None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson **Signature:**

PHOTOGRAPHS

GOLDER

Compacting placed structural fill in Pond 1, looking northwest.

Placing structural fill in Pond 1, looking north.

Placing bridging layer in Pond 2, looking west.

Removing saturated material from Pond 2 prior to bridging layer being placed.

S.F. LIFT MAP / LIFT 3

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 7/29/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/2000	
Contractor(s):	Ryan Central Inc. ProAct	**Contractor(s) Rep:** John Johnson (Ryan Central) Guillermo Arredondo (ProAct)	

SITE CONDITIONS	
Weather (AM): Mostly Sunny	**Temperature:** 68
Weather (PM): Mostly Cloudy	**Temperature:** 84
Precipitation: None	**Wind:** SW 5-17 mph

EQUIPMENT ON SITE
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Volvo A40 Haul truck; 1-Komatsu PC360LC Long Reach Excavator; 2-Cat D6T Dozers, 1-John Deere 9520 Tractor

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -2 Foreman, 6 Operators, 2 Laborers

- Continued placement of bridging layer in Pond 2.
- Continued placement of structural fill in Pond 1 in a single 11 to 12 inch loose lift.
- Continued compacting structural fill placed in Pond 1 with an 815 compactor.
- Completed clean-up of area west of Pond 2 containing contaminated soils.
- Structural Fill import for Pond 1.
- Water truck for dust control and fill moisture.

ProAct Services – 1 Foreman

- ProAct onsite at 0700 to startup dewatering system in Pond 2.
- Turbidity readings were taken by ProAct every hour while pumping to discharge channel and licensed tester onsite in P.M.
- System back flushed and filters changed as needed.

GOLDER

Summary of Dewatering through 07-29-19:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None

Total: 13,838,510 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder observed placement of bridging layer in a single layer using CCR in Pond 2.
- Golder monitored placement of structural fill in Pond 1, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder performed Standard test on Troxler 3440 prior to density testing.
- Performed density test's SFDT-23 and SFDT-24 on 9-inch compacted structural fill lift's 1 and 3 placed in Pond 1 using a Troxler 3440 Nuclear Gauge (see density test map). Compacted and tested structural fill met all specifications.
- Golder monitored removal of contaminated soils west of Pond 2 and placement in lined dumpster, contaminated water pumped into baker tank.
- Golder observed import of structural fill for Pond 1.
- Golder observed pumping of Pond 2 thru filtering system into discharge channel.
- Golder observed use of water truck for dust control on site.

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

SUMMARY OF SURVEYOR'S ACTIVITIES
None

SUMMARY OF PROBLEMS AND RESOLUTIONS
None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)
None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES
None

SUBMITTED BY GOLDER:	
CQA Field Manager: David Hutchinson	**Signature:**

PHOTOGRAPHS

Compacting lift of structural fill in Pond 1, looking north.

GOLDER

Placing bridging layer in Pond 2, looking southeast.

Baker tank for holding of contaminated water until disposal off-site, looking southeast.

Preparing to pump contaminated water into baker tank.

Density testing compacted lift of structural fill in Pond 1, looking south.

GOLDER

S.F. LIFT MAP / LIFT 2
LIFT 2
PLACED 7.22.19
PLACED 7.24.19
PLACED 7.23.19
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
TYPE 1 COVER TERMINATION
TYPE 2 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
EAST DIKE RIPRAP SUBGRADE
CRACKING CREST
FOREBAY
JRWMW-15002
JRWMW-15003
JRWMW-15001
JRWMW-15006
JRWMW-15005

GOLDER

S.F. LIFT MAP / LIFT 3
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
LIFT 3
7.39.19
7.27.19
7.26.19
2.0%
JRWMW-15002
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
EAST DIKE RIPRAP SUBGRADE
GRADING CREST
JRWMW-15001
JRWMW-15005
JRWMW-15006
TYPE 3 COVER TERMINATION
FOREBAY
TYPE 4 COVER TERMINATION

GOLDER

DENSITY TEST MAP
LIFT 3
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
EAST DIKE RIPRAP SUBGRADE
GRADING CREST
TYPE 1 COVER TERMINATION
TYPE 2 COVER TERMINATION
FOREBAY
SFDT-23
SFDT-24
SFDT-22
LIFT 3
2.0%

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 7/30/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/2000	
Contractor(s):	Ryan Central Inc. ProAct	**Contractor(s) Rep:** John Johnson (Ryan Central) Guillermo Arredondo (ProAct)	

SITE CONDITIONS	
Weather (AM): Mostly Sunny	**Temperature:** 68
Weather (PM): Mostly Sunny	**Temperature:** 90
Precipitation: None	**Wind:** W 0-10 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Volvo A40 Haul truck; 1-Komatsu PC360LC Long Reach Excavator; 2-Cat D6T Dozers, 1-John Deere 9520 Tractor

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -2 Foreman, 5 Operators, 2 Laborers

- Continued placement of bridging layer in Pond 2.
- Continued regrading of CCR in Pond 2.
- Continued excavation of Pond 2's south dike and hauling material to Pond 2.
- Continued removing saturated CCR from the northeast corner of Pond 2 to dry.
- Continued placement of structural fill in Pond 1 in a single 11 to 12 inch loose lift.
- Continued compacting structural fill placed in Pond 1 with an 815 compactor.
- Structural Fill import for Pond 1.
- Water truck for dust control and fill moisture.

ProAct Services – 1 Foreman

- ProAct onsite at 0700 to startup dewatering system in Pond 2.
- Turbidity readings were taken by ProAct every hour while pumping to discharge channel and licensed tester onsite in A.M.
- System back flushed and filters changed as needed.
- Began breaking down hoses, pumps and filter system for demobilization.

GOLDER

Summary of Dewatering through 07-30-19:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder observed placement of bridging layer in a single layer using CCR in Pond 2.
- Golder observed regrading of CCR in Pond 2.
- Golder observed excavation of Pond 2's south dike, material placed into Pond 2 for use in bridging layer.
- Golder observed removal of saturated CCR from the northeast corner of Pond 2, material spread in a thin 2 inch lift to dry prior to use in bridging layer.
- Golder monitored placement of structural fill in Pond 1, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder performed Standard test on Troxler 3440 prior to density testing.
- Performed density test's SFDT-25 and SFDT-27 on 9-inch compacted structural fill lift 4 placed in Pond 1 using a Troxler 3440 Nuclear Gauge (see density test map). Compacted and tested structural fill met all specifications.
- Golder observed import of structural fill for Pond 1.

GOLDER

- Golder observed discharge of water in baker tanks thru filtering system and into the discharge channel.
- Golder observed use of water truck for dust control on site.

SUMMARY OF SURVEYOR'S ACTIVITIES
None

SUMMARY OF PROBLEMS AND RESOLUTIONS
None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)
None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES
None

SUBMITTED BY GOLDER:	
CQA Field Manager: David Hutchinson	**Signature:**

PHOTOGRAPHS

Compacting lift of structural fill in Pond 1, looking north.

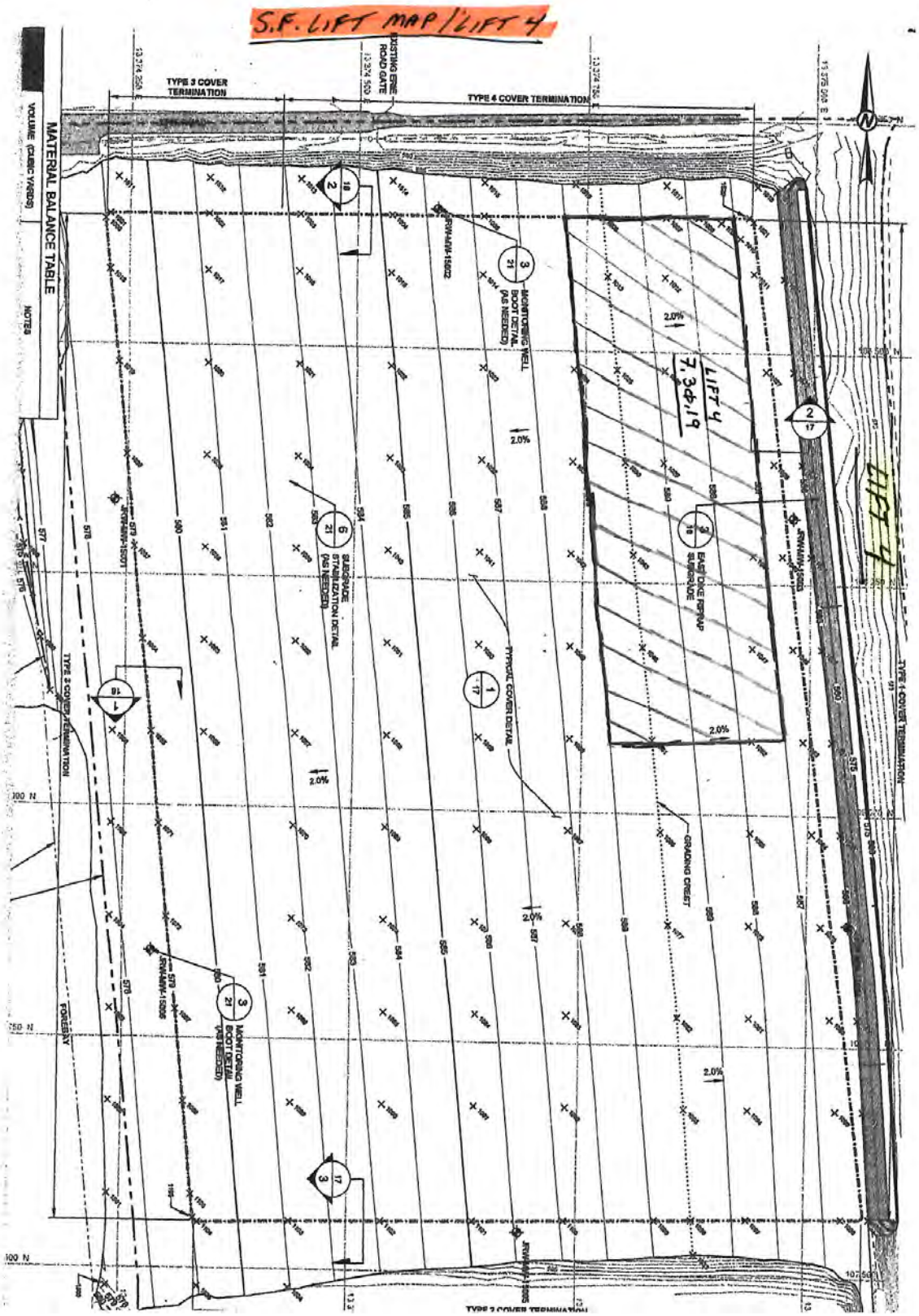
Placing bridging layer in Pond 2, looking north.

Removing saturated CCR from the northeast corner of Pond 2, looking southeast.

Regrade of CCR in Pond 2, looking east.

CCR excavated from south dike being placed in Pond 2 for bridging layer, looking east.

GOLDER


S.F. LIFT MAP/LIFT 4
TYPE 3 COVER TERMINATION
EXISTING EPHE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
LIFT 4
7,384.19
LIFT 4
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
TYPE 2 COVER TERMINATION
FORESLOPE
TYPE 1 COVER TERMINATION
2.0%

GOLDER

DENSITY TEST MAP/LIFT 4
TYPE 3 COVER TERMINATION
EXISTING EPHE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
EAST DIKE RIPRAP SUBGRADE
GRADING CREST
TYPE 2 COVER TERMINATION
FORESBY
SFDT-25
SFDT-26
SFDT-27
LIFT 4
2.0%

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 7/31/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/2000	
Contractor(s):	Ryan Central Inc. ProAct	**Contractor(s) Rep:** John Johnson (Ryan Central) Guillermo Arredondo (ProAct)	

SITE CONDITIONS	
Weather (AM): Mostly Cloudy	**Temperature:** 66
Weather (PM): Partly Cloudy	**Temperature:** 85
Precipitation: None	**Wind:** E 2-9 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Volvo A40 Haul truck; 1-Komatsu PC360LC Long Reach Excavator; 2-Cat D6T Dozers, 1-John Deere 9520 Tractor

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -2 Foreman, 5 Operators, 2 Laborers

- Removed fence around east end of the discharge channel and installed waddles.
- Removed the sheet pylon running under the perimeter road from the southeast corner of Pond 2 toward the south to the discharge channel.
- Continued placement of bridging layer in Pond 2.
- Continued regrading of CCR in Pond 2.
- Continued placement of structural fill in Pond 1 in a single 11 to 12 inch loose lift.
- Continued compacting structural fill placed in Pond 1 with an 815 compactor.
- Structural Fill import for Pond 1.
- Water truck for dust control and fill moisture.

ProAct Services – 1 Foreman

- ProAct onsite at 0700 to completed breakdown of the filter system for repositioning.

Summary of Dewatering through 07-31-19:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

GOLDER

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder observed placement of bridging layer in a single layer using CCR in Pond 2.
- Golder observed regrading of CCR in Pond 2.
- Golder monitored placement of structural fill in Pond 1, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder performed Standard test on Troxler 3440 prior to density testing.
- Performed density test's SFDT-28 and SFDT-30 on 9-inch compacted structural fill lift 4 placed in Pond 1 using a Troxler 3440 Nuclear Gauge (see density test map). Compacted and tested structural fill met all specifications.
- Golder observed import of structural fill for Pond 1.
- Golder observed use of water truck for dust control on site.

SUMMARY OF SURVEYOR'S ACTIVITIES

None

SUMMARY OF PROBLEMS AND RESOLUTIONS

None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

SUBMITTED BY GOLDER:	
CQA Field Manager: David Hutchinson	**Signature:**

PHOTOGRAPHS

Removing sheet pylon east of Pond 2 and discharge channel, looking north.

Compacting lift of structural fill placed in Pond 1, looking northeast.

Removing fence along east side of discharge channel, looking south.

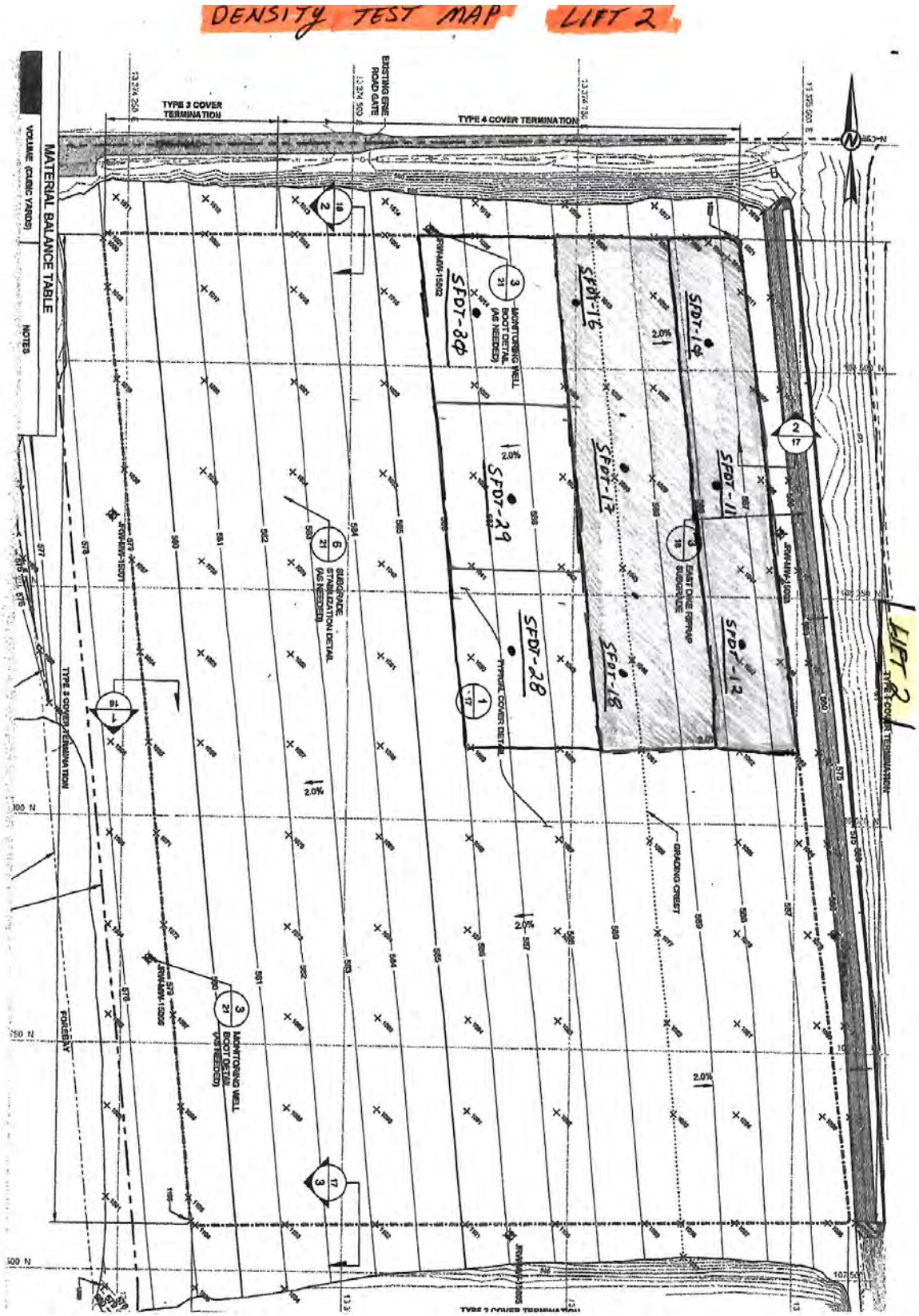
Overview of Pond 2, looking west.

Structural fill import for Pond 1, looking east.

GOLDER

S.F. LIFT MAP / LIFT 2
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
LIFT 2
PLAYED 7.29.19
PLAYED 7.29.19
PLAYED 7.29.19
7.30.19
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TOE DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
TYPE 3 COVER TERMINATION
FOREBAY
TYPE 2 COVER TERMINATION
TYPE 4 COVER TERMINATION
JRW-MW-15003
JRW-MW-15005
JRW-MW-15006
JRW-MW-15001
FIGURE 2

GOLDER


DENSITY TEST MAP
LIFT 2
TYPE 3 COVER TERMINATION
TYPE 4 COVER TERMINATION
EXISTING EAST ROAD GATE
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
TYPE 3 COVER TERMINATION
FORCEMAIN
SFDT-8Φ
SFDT-29
SFDT-28
SFDT-1Φ
SFDT-11
SFDT-12
SFDT-16
SFDT-18
LIFT 2

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/1/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/2000	
Contractor(s):	Ryan Central Inc.	**Contractor(s) Rep:** John Johnson (Ryan Central)	

SITE CONDITIONS	
Weather (AM): Mostly Sunny	**Temperature:** 61
Weather (PM): Sunny	**Temperature:** 81
Precipitation: None	**Wind:** W 0-6 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Volvo A40 Haul truck; 2-Cat D6T Dozers, 1-John Deere 9520 Tractor

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -2 Foreman, 5 Operators, 2 Laborers

- Continued placement of bridging layer in Pond 2.
- Continued regrading of CCR in Pond 2.
- Continued placement of structural fill in Pond 1 in a single 11 to 12 inch loose lift.
- Continued compacting structural fill placed in Pond 1 with an 815 compactor.
- Continue excavating Pond 2's south dike and placing material into Pond 2 for bridging layer.
- Structural Fill import for Pond 1.
- Water truck for dust control and fill moisture.
- Demobilized Komatsu PC360LC Long Reach Excavator

Summary of Dewatering through 07-31-19:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

GOLDER

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder observed placement of bridging layer in a single layer using CCR in Pond 2.
- Golder observed regrading of CCR in Pond 2.
- Golder monitored placement of structural fill in Pond 1, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder performed Standard test on Troxler 3440 prior to density testing.
- Performed density test's SFDT-31 and SFDT-33 on 9-inch compacted structural fill lift 4 placed in Pond 1 using a Troxler 3440 Nuclear Gauge (see density test map). Compacted and tested structural fill met all specifications.
- Golder observed excavation of Pond 2's south dike and placement of excavated material into Pond 2 for bridging layer.
- Golder observed import of structural fill for Pond 1.
- Golder observed use of water truck for dust control on site.

SUMMARY OF SURVEYOR'S ACTIVITIES

None

SUMMARY OF PROBLEMS AND RESOLUTIONS

None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson **Signature:**

GOLDER

PHOTOGRAPHS

Excavation of Pond 2's south dike, looking southeast.

Placement of bridging layer in Pond 2, looking south.

Overview of Pond 1, looking north.

Overview of Pond 2, looking southwest.

S.F. LIFT MAP / LIFT 3
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
LIFT 3
7-28-19
LIFT 3
7-27-19
LIFT 3
7-26-19
8-1-19
MONITORING WELL BOOT DETAIL (AS NEEDED)
SURGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
TYPE 3 COVER TERMINATION
FOREBAY
TYPE 4 COVER TERMINATION
2.0%

GOLDER

DENSITY TEST MAP
LIFT 3
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SFDT-33
SFDT-23
SFDT-24
SFDT-32
SFDT-31
SFDT-22
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST CREEK SPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
TYPE 3 COVER TERMINATION
FOREBAY
TYPE 4 COVER TERMINATION
LIFT 3

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/2/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/2000	
Contractor(s):	Ryan Central Inc.	**Contractor(s) Rep:** John Johnson (Ryan Central)	

SITE CONDITIONS	
Weather (AM): Sunny	**Temperature:** 61
Weather (PM): Sunny	**Temperature:** 81
Precipitation: None	**Wind:** W 2-6 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Volvo A40 Haul truck; 2-Cat D6T Dozers, 1-John Deere 9520 Tractor

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -2 Foreman, 5 Operators, 2 Laborers

- Continued placement of bridging layer in Pond 2.
- Continued regrading of CCR in Pond 2.
- Continued placement of structural fill in Pond 1 in a single 11 to 12 inch loose lift.
- Continued compacting structural fill placed in Pond 1 with an 815 compactor.
- Continue excavating Pond 2's south dike and placing material into Pond 2 for bridging layer.
- Removed bollards and casing from MW-15005 south of Pond 2 prior to excavating around monitoring well and lowering.
- Structural Fill import for Pond 1.
- Water truck for dust control and fill moisture.

Summary of Dewatering:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.

GOLDER

06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.
Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder observed placement of bridging layer in a single layer using CCR in Pond 2.
- Golder observed regrading of CCR in Pond 2.
- Golder monitored placement of structural fill in Pond 1, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder performed Standard test on Troxler 3440 prior to density testing.
- Performed density test's SFDT-34 and SFDT-36 on 9-inch compacted structural fill lift 4 placed in Pond 1 using a Troxler 3440 Nuclear Gauge (see density test map). Compacted and tested structural fill met all specifications.
- Golder observed excavation of Pond 2's south dike and placement of excavated material into Pond 2 for bridging layer.
- Golder monitored removal of MW-15005 bollards and protective casing prior to removing surrounding CCR and lowering well pipe. Ryan cut well done to about 5 feet above final grade, well to be set at final elevation by sub-contractor after completion of cap.
- Golder observed import of structural fill for Pond 1.
- Golder observed use of water truck for dust control on site.

SUMMARY OF SURVEYOR'S ACTIVITIES

None

SUMMARY OF PROBLEMS AND RESOLUTIONS

None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

SUBMITTED BY GOLDER:	
CQA Field Manager: David Hutchinson	**Signature:**

PHOTOGRAPHS

Placement of structural fill in Pond 1, looking north.

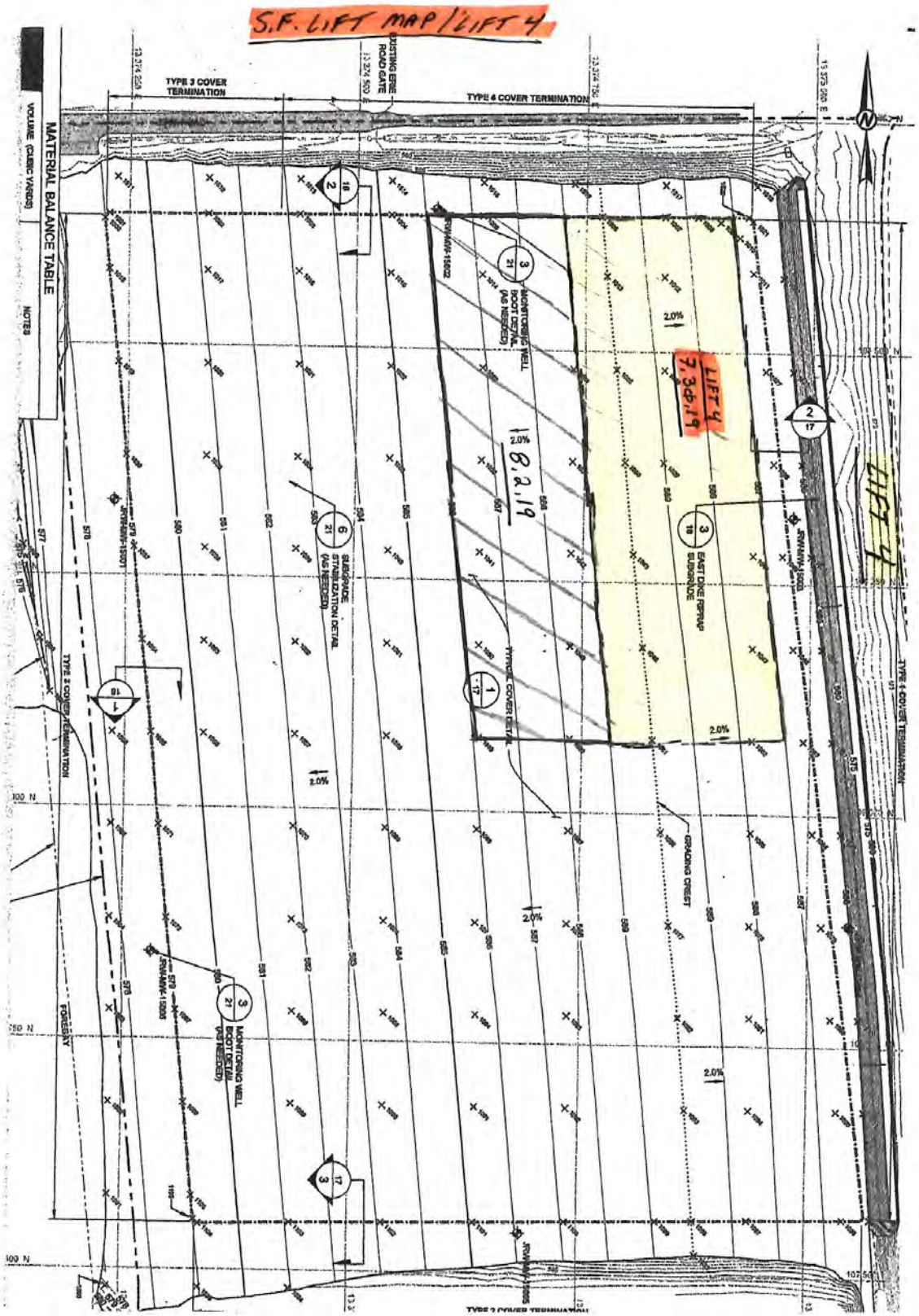
GOLDER

Compaction of structural fill placed in Pond 1, looking west.

Removing protective casing from MW-15005, looking north.

Removing remaining CCR from around MW-15005, looking northeast.

Excavation of Pond 2's south dike, looking south.


S.F. LIFT MAP / LIFT 4
TYPE 3 COVER TERMINATION
EXISTING EERE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
FORESHY
LIFT 4
7.30.19
8.2.19
2.0%

GOLDER

DENSITY TEST. MAP/LIFT 4
TYPE 3 COVER TERMINATION
EXISTING EFME ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
TYPE 3 COVER TERMINATION
FORESHY
TYPE 4 COVER TERMINATION
LIFT 4
SFDT-34
SFDT-35
SFDT-36
SFDT-26
SFDT-27
2.0%

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/3/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/1530	
Contractor(s):	Ryan Central Inc.	**Contractor(s) Rep:** John Johnson (Ryan Central)	

SITE CONDITIONS	
Weather (AM): Mostly Sunny	**Temperature:** 63
Weather (PM): Mostly Sunny	**Temperature:** 83
Precipitation: None	**Wind:** N 2-5 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Volvo A40 Haul truck; 1-Cat D6T Dozers, 1-John Deere 9520 Tractor

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -1 Foreman, 3 Operators, 2 Laborers

- Continued placement of bridging layer in Pond 2.
- Continued regrading of CCR in Pond 2.
- Continued placement of structural fill in Pond 1 in a single 11 to 12 inch loose lift.
- Continued compacting structural fill placed in Pond 1 with an 815 compactor.
- Removed bollards and casing from MW-15006 south of Pond 2 prior to excavating around monitoring well and lowering.
- Structural Fill import for Pond 1.
- Water truck for dust control and fill moisture.

Summary of Dewatering:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

GOLDER

Week 9		Week 10		Week 11		Week 12	
07/01/19:	175,586 gal.	07/08/19:	107,894 gal.	07/15/19:	None	07/22/19:	15,890 gal.
07/02/19:	129,459 gal.	07/09/19:	44,007 gal.	07/16/19:	17,852 gal.	07/23/19:	15,310 gal.
07/03/19:	13,878 gal.	07/10/19:	25,922 gal.	07/17/19:	20,293 gal.	07/24/19:	23,572 gal.
07/04/19:	None	07/11/19:	27,943 gal.	07/18/19:	None	07/25/19:	None
07/05/19:	137,112 gal.	07/12/19:	18,335 gal.	07/19/19:	20,316 gal.	07/26/19:	None
07/06/19:	95,100 gal.	07/13/19:	None	07/20/19:	None	07/27/19:	None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder observed placement of bridging layer in a single layer using CCR in Pond 2.
- Golder observed regrading of CCR in Pond 2.
- Golder monitored placement of structural fill in Pond 1, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder performed Standard test on Troxler 3440 prior to density testing.
- Performed density test's SFDT-37 and SFDT-39 on 9-inch compacted structural fill lift 5 placed in Pond 1 using a Troxler 3440 Nuclear Gauge (see density test map). Compacted and tested structural fill met all specifications.
- Golder monitored removal of MW-15006 bollards and protective casing prior to removing surrounding CCR and lowering well pipe. Ryan cut well done to about 5 feet above final grade, well to be set at final elevation by sub-contractor after completion of cap.
- Golder observed import of structural fill for Pond 1.
- Golder observed use of water truck for dust control on site.

SUMMARY OF SURVEYOR'S ACTIVITIES

None

SUMMARY OF PROBLEMS AND RESOLUTIONS

None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

SUBMITTED BY GOLDER:	
CQA Field Manager: David Hutchinson	**Signature:**

PHOTOGRAPHS

Re-grading of CCR in Pond 2, looking southwest.

GOLDER

Placing 11 inch to 12 inch loose lift of structural fill in Pond 1, looking northeast.

Moisture conditioning of structural fill in Pond 1, looking northeast.

GOLDER

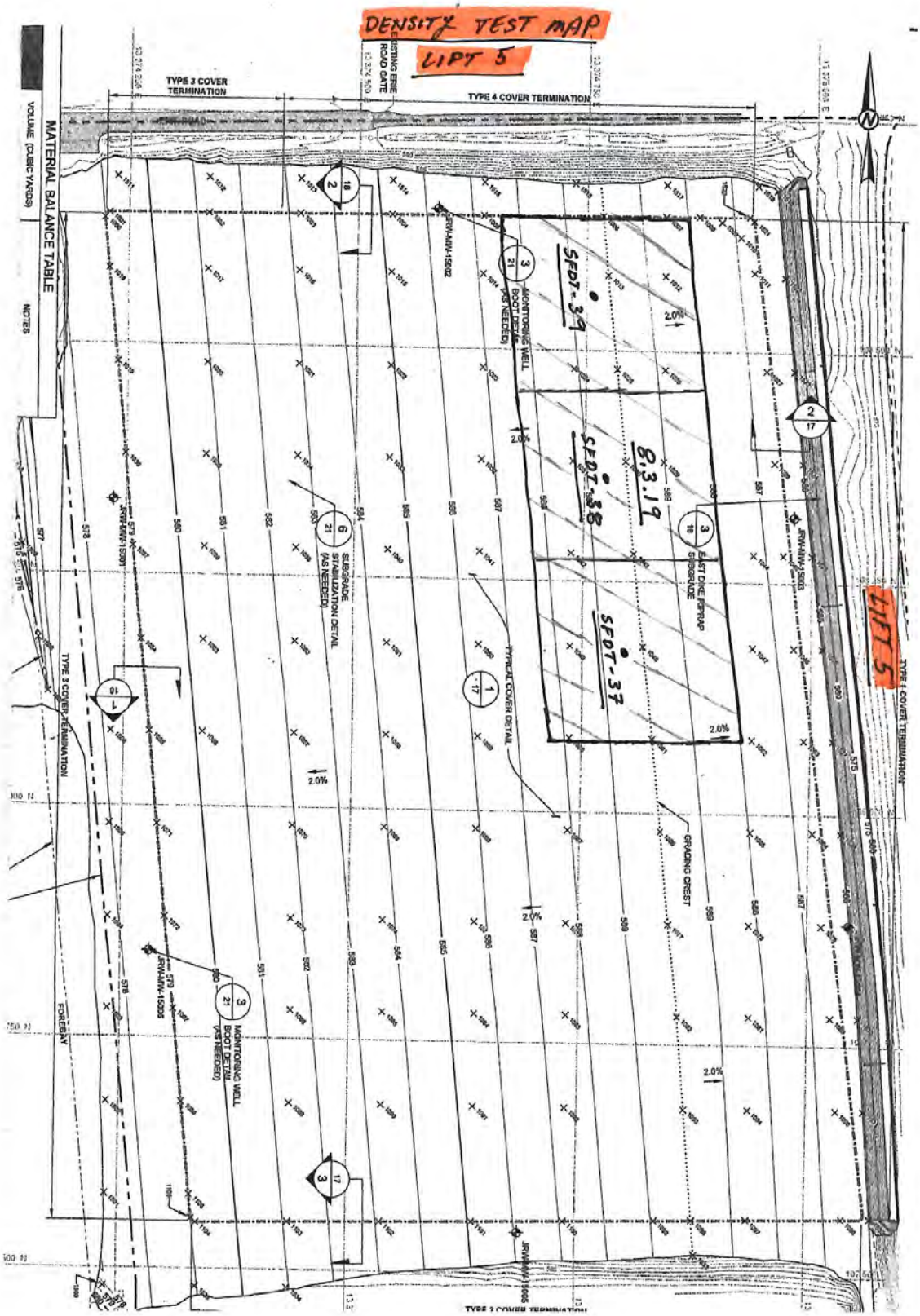
Removing remaining CCR from around MW-15006, looking west.

Overview of Ponds 1 and 2, looking northeast.

GOLDER

S.F. LIFT MAP
LIFT 5
LIFT 5
8.3.19
TYPE 3 COVER TERMINATION
EXISTING ETME ROAD GATE
TYPE 4 COVER TERMINATION
TYPE 1 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
FORESHY
JRWMW-15002
JRWMW-15003
JRWMW-15001
JRWMW-15006
2.0%
100 N
200 N
300 N
N

GOLDER


DENSITY TEST MAP
LIFT 5
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
SFDT-39
SFDT-38
SFDT-37
8.3.19
LIFT 5
MONITORING WELL BOOT DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
GRADING CREST
TYPE 3 COVER TERMINATION
FOREBAY
TYPE 4 COVER TERMINATION
2.0%

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/5/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/2000	
Contractor(s):	Ryan Central Inc. ProAct	**Contractor(s) Rep:** John Johnson (Ryan Central) Guillermo Arredondo (ProAct)	

SITE CONDITIONS	
Weather (AM): Sunny	**Temperature:** 66
Weather (PM): Mostly Sunny	**Temperature:** 89
Precipitation: None	**Wind:** SE 2-6 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Cat D6T Dozers, 1-John Deere 9520 Tractor

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -2 Foreman, 4 Operators, 2 Laborers

- Continued placement of bridging layer in Pond 2.
- Continued regrading of CCR in Pond 2.
- Continued placement of structural fill in Pond 1 in a single 11 to 12 inch loose lift.
- Continued compacting structural fill placed in Pond 1 with an 815 compactor.
- Continued cutting access road east of discharge channel to sub-grade.
- Structural Fill import for Pond 1.
- Water truck for dust control and fill moisture.
- Demobilized Volvo A40G haul truck.

ProAct Services – 1 Foreman

- ProAct onsite at 0700 to set-up pumps and hoses from Pond 2 to baker tank and discharge channel.

Summary of Dewatering:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

GOLDER

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder observed placement of bridging layer in a single layer using CCR in Pond 2.
- Golder observed regrading of CCR in Pond 2.
- Golder monitored placement of structural fill in Pond 1, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder performed Standard test on Troxler 3440 prior to density testing.
- Performed density test's SFDT-40 and SFDT-43 on 9-inch compacted structural fill lift 5 placed in Pond 1 using a Troxler 3440 Nuclear Gauge (see density test map). Compacted and tested structural fill met all specifications.
- Golder observed cutting of the access road east of the discharge channel from Pond 2 to the Chemical Ponds.
- Golder observed import of structural fill for Pond 1.
- Golder observed use of water truck for dust control on site.

SUMMARY OF SURVEYOR'S ACTIVITIES

None

SUMMARY OF PROBLEMS AND RESOLUTIONS

None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson **Signature:**

PHOTOGRAPHS

Structural fill lift being placed in Pond 1, looking west.

GOLDER

Compaction of placed lift of structural fill in Pond 1, looking west.

Import of structural fill to Pond 1, looking northeast.

Performing Standard Test prior to start of density testing.

Overview of Pond 2, looking southwest.

S.F. LIFT MAP
LIFT 5
TYPE 3 COVER TERMINATION
EXISTING EERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
FORCEMAIN
8.5:1
8.3:1
2.0%
LIFT 5

GOLDER

DENSITY TEST MAP
LIFT 5
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
SFDT-40
SFDT-39
SFDT-38
SFDT-37
SFDT-41
SFDT-42
SFDT-43
8.3.19
LIFT 5
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
TYPE 3 COVER TERMINATION
TYPE 4 COVER TERMINATION
FOREBAY
2.0%

GOLDER

S.F. LIFT MAP
LIFT 6
TYPE 3 COVER TERMINATION
EXISTING EDGE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE REPAIR SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
TYPE 3 COVER TERMINATION
FOREBAY
TYPE 4 COVER TERMINATION
8.5.19
LIFT 6

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/6/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/1530	
Contractor(s):	Ryan Central Inc. ProAct	**Contractor(s) Rep:** John Johnson (Ryan Central) Guillermo Arredondo (ProAct)	

SITE CONDITIONS	
Weather (AM): Partly Sunny	**Temperature:** 70
Weather (PM): Overcast	**Temperature:** 75
Precipitation: Rain	**Wind:** NW 3-7 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Cat D6T Dozers, 1-John Deere 9520 Tractor

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -2 Foreman, 5 Operators, 2 Laborers

- Continued placement of structural fill in Pond 1 in a single 11 to 12 inch loose lift.
- Continued compacting structural fill placed in Pond 1 with an 815 compactor.
- Began cutting structural fill placed in Pond 1 to liner finish grade.
- Structural Fill import for Pond 1.
- Water truck for dust control and fill moisture.

ProAct Services – 1 Foreman

- ProAct onsite at 0700 to complete set-up of pumps and filter system at Pond 2

Summary of Dewatering:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

GOLDER

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder monitored placement of structural fill in Pond 1, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder observed cutting of placed, compacted and tested structural fill to liner sub-grade along the east side of Pond 1.
- Golder observed import of structural fill for Pond 1.
- Golder observed use of water truck for dust control on site.

SUMMARY OF SURVEYOR'S ACTIVITIES

None

SUMMARY OF PROBLEMS AND RESOLUTIONS

None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson **Signature:**

PHOTOGRAPHS

GOLDER

Structural fill lift being placed in Pond 1, looking west.

Cutting placed and compacted structural fill in Pond 1 to liner sub-grade, looking north.

Overview of Pond 1, looking north.

Overview of Pond 2, looking southwest.

S.F. LIFT MAP
LIFT 6
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SLEDGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
EAST DIKE RIPRAP SUBGRADE
GRADING CREST
FOREBAY
TYPE 3 COVER TERMINATION
TYPE 4 COVER TERMINATION
8.5.19
8.6.19
LIFT 6

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/7/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/2000	
Contractor(s):	Ryan Central Inc.	**Contractor(s) Rep:** John Johnson (Ryan Central)	

SITE CONDITIONS	
Weather (AM): Mostly Sunny	**Temperature:** 66
Weather (PM): Partly Sunny	**Temperature:** 87
Precipitation: None	**Wind:** SW 0-5 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Cat D6T Dozers, 1-John Deere 9520 Tractor

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -2 Foreman, 5 Operators, 1 Laborers

- Continued placement of structural fill in Pond 1 in a single 11 to 12 inch loose lift.
- Continued compacting structural fill placed in Pond 1 with an 815 compactor.
- Continued cutting structural fill placed in Pond 1 to liner finish grade.
- Constructed temporary access road from west gate to Pond 2.
- Proof rolled section of Pond 2 bridging layer.
- Structural Fill import for Pond 1.
- Water truck for dust control and fill moisture.

Summary of Dewatering:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

GOLDER

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder monitored placement of structural fill in Pond 1, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder performed Standard test on Troxler 3440 prior to density testing.
- Performed density test's SFDT-44 and SFDT-49 on 9-inch compacted structural fill lift 5 placed in Pond 1 using a Troxler 3440 Nuclear Gauge (see density test map). Compacted and tested structural fill met all specifications.
- Golder observed cutting of placed, compacted and tested structural fill to liner sub-grade east of grading crest in Pond 1.
- Golder observed construction of temporary access road from west gate to Pond 2 using structural fill.
- Golder monitored proof roll of bridging layer in Pond 2 bounded by certification points; 1057, 1059, 1101 and 1103.
- Golder observed import of structural fill for Pond 1.
- Golder observed use of water truck for dust control on site.

SUMMARY OF SURVEYOR'S ACTIVITIES

None

SUMMARY OF PROBLEMS AND RESOLUTIONS

None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

Bi-Weekly construction meeting with CEC, Ryan and Golder representitives.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

GOLDER

None

SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson **Signature:**

PHOTOGRAPHS

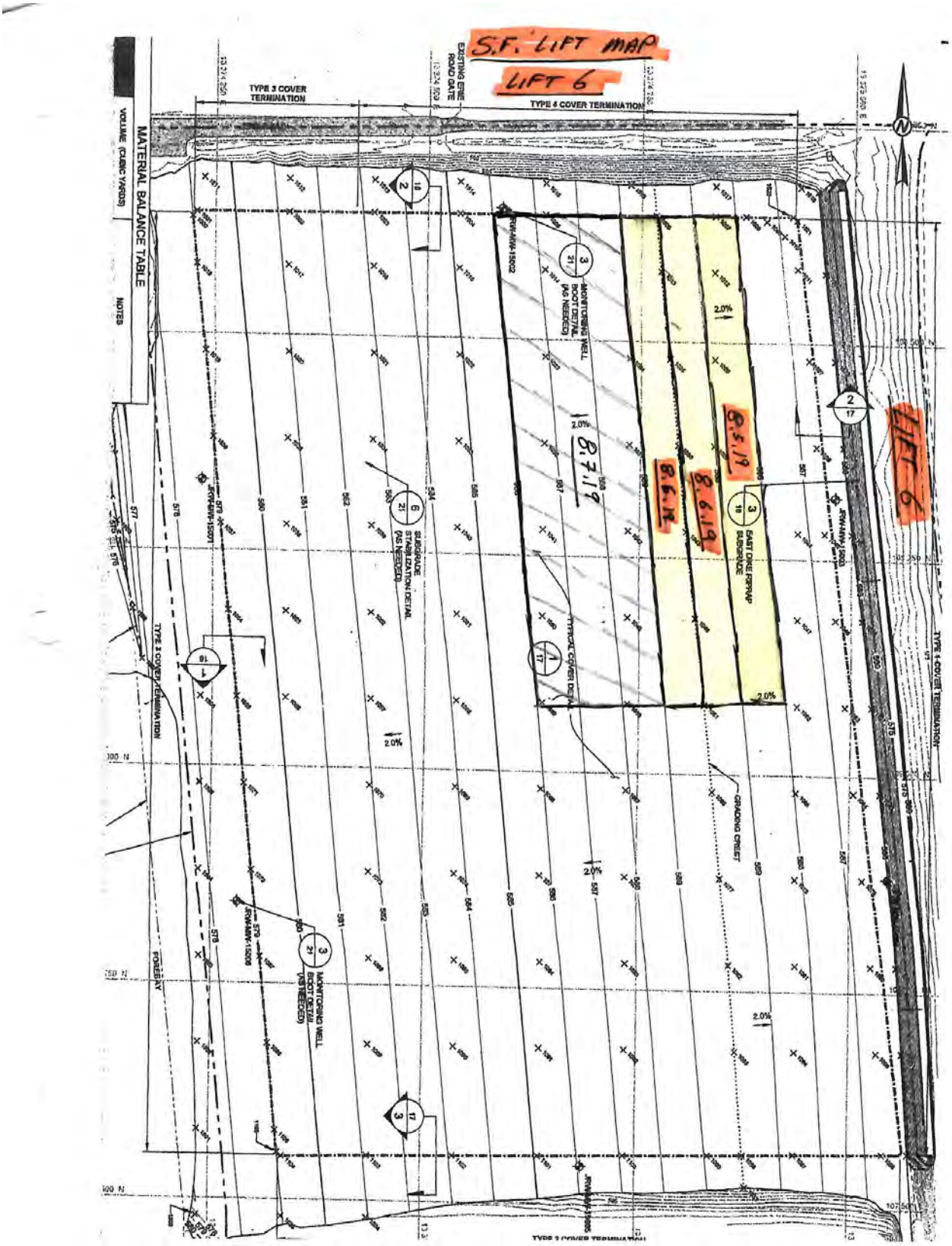
Structural fill lift being placed in Pond 1, looking northwest.

Constructing temp access road to west gate for imports, looking southwest.

Proof rolling of bridging layer in Pond 2.

Overview of Pond 2, looking west.

Structural fill import to Pond 1, looking north.


S.F. LIFT MAP
LIFT 6
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
TYPE 2 COVER TERMINATION
FOREBAY
TYPE 1 COVER TERMINATION
8.5.19
8.6.19
8.7.19
LIFT 6

GOLDER

DENSITY TEST MAP
LIFT 6
TYPE 3 COVER TERMINATION
EXISTING EPIC ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
SFDT-44
SFDT-43
SFDT-45
SFDT-48
SFDT-46
SFDT-49
LIFT 6
MONITORING WELL BOOT DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
GRADING CREST
TYPE 3 COVER TERMINATION
TYPE 4 COVER TERMINATION
FORCEMAIN
2.0%

GOLDER

Composite Proof Roll Map

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/8/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/2000	
Contractor(s):	Ryan Central Inc.	**Contractor(s) Rep:** John Johnson (Ryan Central)	

SITE CONDITIONS	
Weather (AM): Mostly Sunny	**Temperature:** 68
Weather (PM): Sunny	**Temperature:** 83
Precipitation: None	**Wind:** W 2-13 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 2-Cat D6T Dozers, 1-John Deere 9520 Tractor

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -1 Foreman, 5 Operators, 1 Laborers

- Began placement of structural fill in Pond 2 in a single 11 to 12 inch loose lift.
- Began compacting structural fill placed in Pond 2 with an 815 compactor.
- Continued finish grading of structural fill placed in Pond 1.
- Structural Fill import for Pond 2.
- Import of class 2NS.
- Water truck for dust control and fill moisture.

Summary of Dewatering:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

GOLDER

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder monitored placement of structural fill in Pond 1, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder performed Standard test on Troxler 3440 prior to density testing.
- Performed density test's SFDT-50 and SFDT-51 on 9-inch compacted structural fill lift 1 placed in Pond 2 using a Troxler 3440 Nuclear Gauge (see density test map). Compacted and tested structural fill met all specifications.
- Golder observed finish grading structural fill to liner sub-grade in Pond 1.
- Golder observed import of structural fill for Pond 2.
- Golder collected samples of topsoil from Salenbien and Cherry Hill stockpiles for Michigan 10 Metals and BTEX compound/pesticides testing. Samples dropped at Brighton Analytical labs.
- Golder observed use of water truck for dust control on site.

SUMMARY OF SURVEYOR'S ACTIVITIES

None

SUMMARY OF PROBLEMS AND RESOLUTIONS

None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

SUBMITTED BY GOLDER:

GOLDER

CQA Field Manager: David Hutchinson **Signature:**

PHOTOGRAPHS

Compacting lift of structural fill in Pond 2, looking south.

Density testing structural fill lift in Pond 2, looking east.

Overview of Pond 1, looking south.

S.F. LIFT MAP / LIFT 2
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
PLACED 7.22.19 / LIFT 1
LIFT 1 PLACED 7.15.19
LIFT 1 PLACED 7.16.19
LIFT 1 PLACED 7.24.19
LIFT 1 PLACED 7.25.19
LIFT 1 PLACED 7.20.19
LIFT 1 PLACED 7.16.19
LIFT 1 PLACED 7.19.19
PLACED 7.24.19
LIFT 1 8/8/19
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
GRADING CREST
FOREBAY
TYPE 2 COVER TERMINATION
TYPE 1 COVER TERMINATION
2.0%

GOLDER

DENSITY TEST MAP
LIFT 1
LIFT 1
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
TYPE 1 COVER TERMINATION
TYPE 2 COVER TERMINATION
TYPE 3 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
GRADING CREST
FOREBAY
SFDT-1
SFDT-2
SFDT-3
SFDT-4
SFDT-5
SFDT-6
SFDT-7
SFDT-8
SFDT-9
SFDT-10
SFDT-11
SFDT-12
SFDT-13
SFDT-14
SFDT-15
SFDT-19
SFDT-20
SFDT-21
SFDT-50
SFDT-51
2.0%
= PREVIOUSLY TESTED

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/9/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/2000	
Contractor(s):	Ryan Central Inc.	**Contractor(s) Rep:** John Johnson (Ryan Central)	

SITE CONDITIONS	
Weather (AM): Sunny	**Temperature:** 60
Weather (PM): Sunny	**Temperature:** 82
Precipitation: None	**Wind:** W 2-9 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Cat D6T Dozers, 1-John Deere 9520 Tractor, 1-Cat TL1055D Tele-Handler

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -1 Foreman, 4 Operators, 1 Laborers

- Continued placement of structural fill in Pond 2 in a single 11 to 12 inch loose lift.
- Continued compacting structural fill placed in Pond 2 with an 815 compactor.
- Continued finish grading of structural fill placed in Pond 1.
- Proof rolled section of Pond 2 bridging layer.
- Structural Fill import for Pond 2.
- Water truck for dust control and fill moisture.
- Mobilized one Cat TL1055D Tele-Handler.

Summary of Dewatering:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

GOLDER

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder monitored placement of structural fill in Pond 2, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder performed Standard test on Troxler 3440 prior to density testing.
- Performed density test SFDT-52 on 9-inch compacted structural fill lift 1 placed in Pond 2 using a Troxler 3440 Nuclear Gauge (see density test map). Compacted and tested structural fill met all specifications.
- Golder observed finish grading of placed, compacted and tested structural fill Pond 1.
- Golder monitored proof roll of bridging layer in Pond 2 bounded by certification points; 1057, 1056, 1103 and 1104.
- Golder monitored survey of liner sub-grade in Pond 1.
- Golder observed import of structural fill for Pond 2.
- Golder observed use of water truck for dust control on site.

SUMMARY OF SURVEYOR'S ACTIVITIES

Rowe surveyor shot cert points for liner sub-grade in Pond 1, area surveyed bounded by points; 1000, 1019, 1027 and 1021.

SUMMARY OF PROBLEMS AND RESOLUTIONS

None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

Bi-Weekly construction meeting with CEC, Ryan and Golder representatives.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

GOLDER

None

SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson **Signature:**

PHOTOGRAPHS

Survey of certification points for liner sub-grade in Pond 1, looking north.

Maintaining moisture of placed fill, looking west.

Finish grading of liner sub-grade in Pond 1, looking west.

Placement of structural fill lift in Pond 2, looking south.

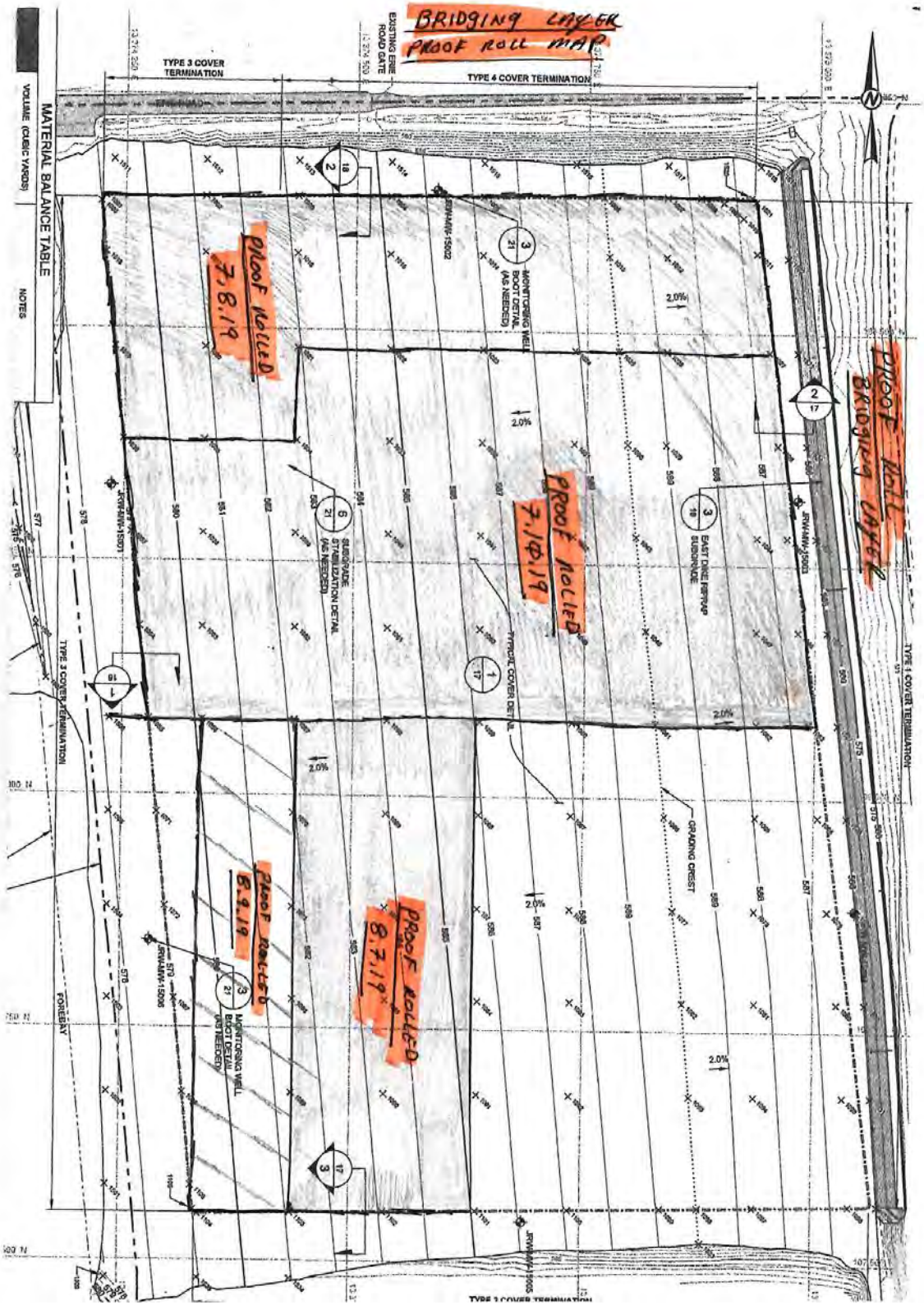
Proof roll of bridging layer in Pond 2, looking south.

S.F. LIFT MAP / LIFT 2
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
PLACED 7.22.19 / LIFT 1
LIFT 1 PLACED 7.15.19
LIFT 1 PLACED 7.16.19
LIFT 1 PLACED 7.24.19
LIFT 1 PLACED 7.25.19
LIFT 1 PLACED 7.26.19
LIFT 1 PLACED 7.18.19
LIFT 1 PLACED 7.19.19
PLACED 7.24.19
LIFT 1 8.9.19
LIFT 1 8/8/19
LIFT 1 8.9.19
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
TYPE 1 COVER TERMINATION
TYPE 2 COVER TERMINATION
FOREBAY
2.0%

GOLDER

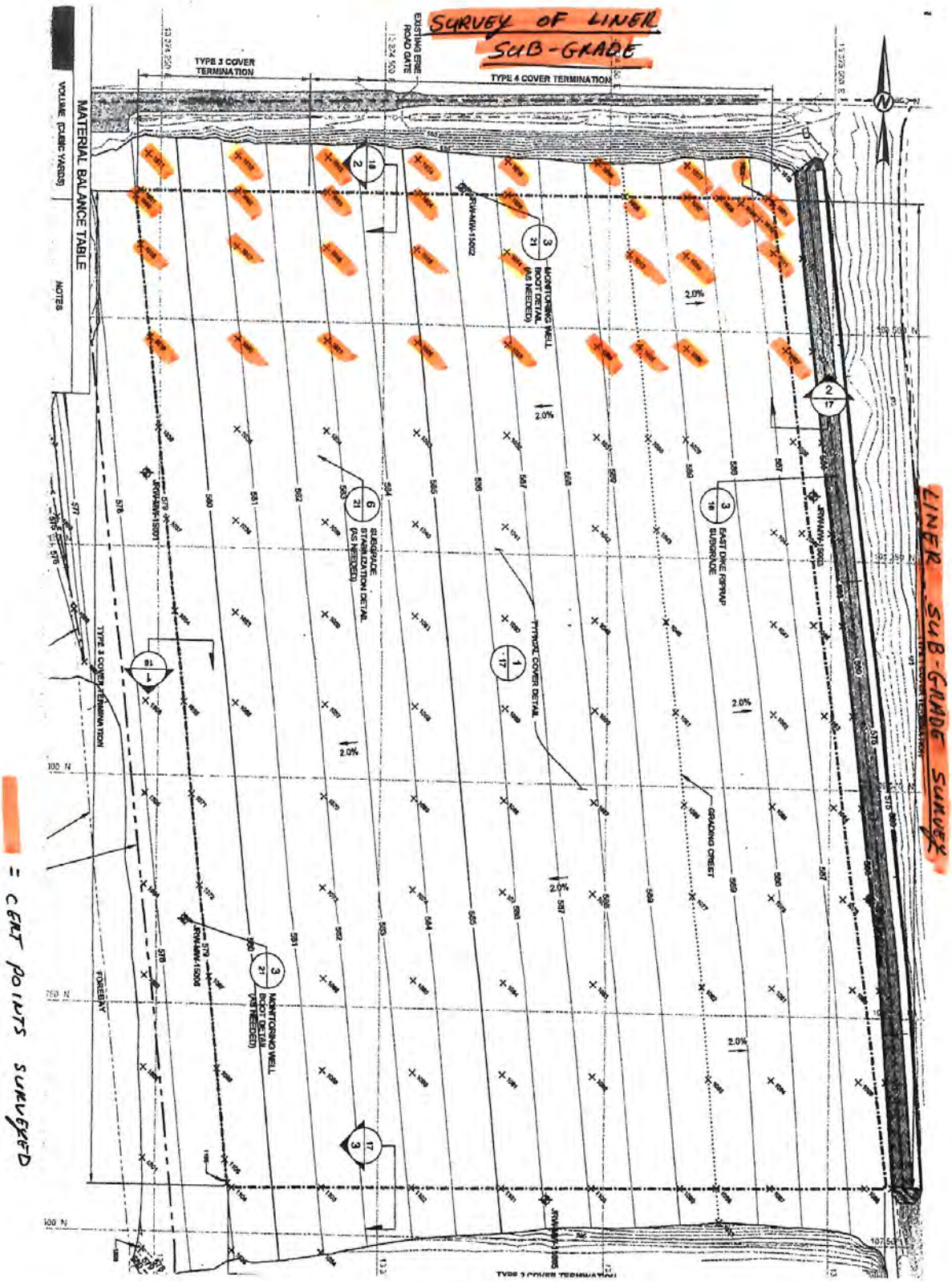
DENSITY TEST MAP
LIFT 1
LIFT 1
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
TYPE 1 COVER TERMINATION
TYPE 2 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
SFDT-1
SFDT-2
SFDT-3
SFDT-4
SFDT-5
SFDT-6
SFDT-7
SFDT-8
SFDT-9
SFDT-13
SFDT-14
SFDT-15
SFDT-19
SFDT-20
SFDT-21
SFDT-50
SFDT-51
SFDT-52
JRWMW-15002
JRWMW-15003
JRWMW-15005
JRWMW-15006
JRWMW-15007
MONITORING WELL BOOT DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
GRADING CREST
FOREBAY
2.0%
= PREVIOUSLY TESTED

GOLDER



Composite Proof Roll Map

GOLDER



Survey of Liner Sub-Grade Shot

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/10/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/1500	
Contractor(s):	Ryan Central Inc.	**Contractor(s) Rep:** John Johnson (Ryan Central)	

SITE CONDITIONS	
Weather (AM): Partly Sunny	**Temperature:** 55
Weather (PM): Partly Sunny	**Temperature:** 75
Precipitation: None	**Wind:** W 1-6 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Cat D6T Dozers, 1-John Deere 9520 Tractor, 1-Cat TL1055D Tele-Handler

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -1 Foreman, 4 Operators

- Continued finish grading of structural fill placed in Pond 1.
- Over-Excavated soft spot in Pond 2 bridging layer and backfilled with dry material.
- Water truck for dust control and fill moisture.

Summary of Dewatering:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

GOLDER

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder observed finish grading of placed, compacted and tested structural fill Pond 1.
- Golder observed over-excavation of soft spot found in the bridging layer of Pond 2 during previous day's proof roll. Saturated clay found below the 3 foot bridging layer removed and replaced with dry CCR used for bridging layer.
- Golder observed use of water truck for dust control on site.

SUMMARY OF SURVEYOR'S ACTIVITIES

None

SUMMARY OF PROBLEMS AND RESOLUTIONS

While over-ex of soft spot in Pond 2 area to the north was found also to be pumping while excavator was backfilling the over-ex area. Upon further investigation by over-excavating the area found that the material below bridging layer was saturated and not supporting the bridging layer above causing the whole 3 foot layer to pump. After discussion with CEC, Ryan and Golder site reps it was decided to berm off the excavation and discuss further on Monday with CEC and Golder engineers on how to proceed.

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

Bi-Weekly construction meeting with CEC, Ryan and Golder representatives.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson **Signature:**

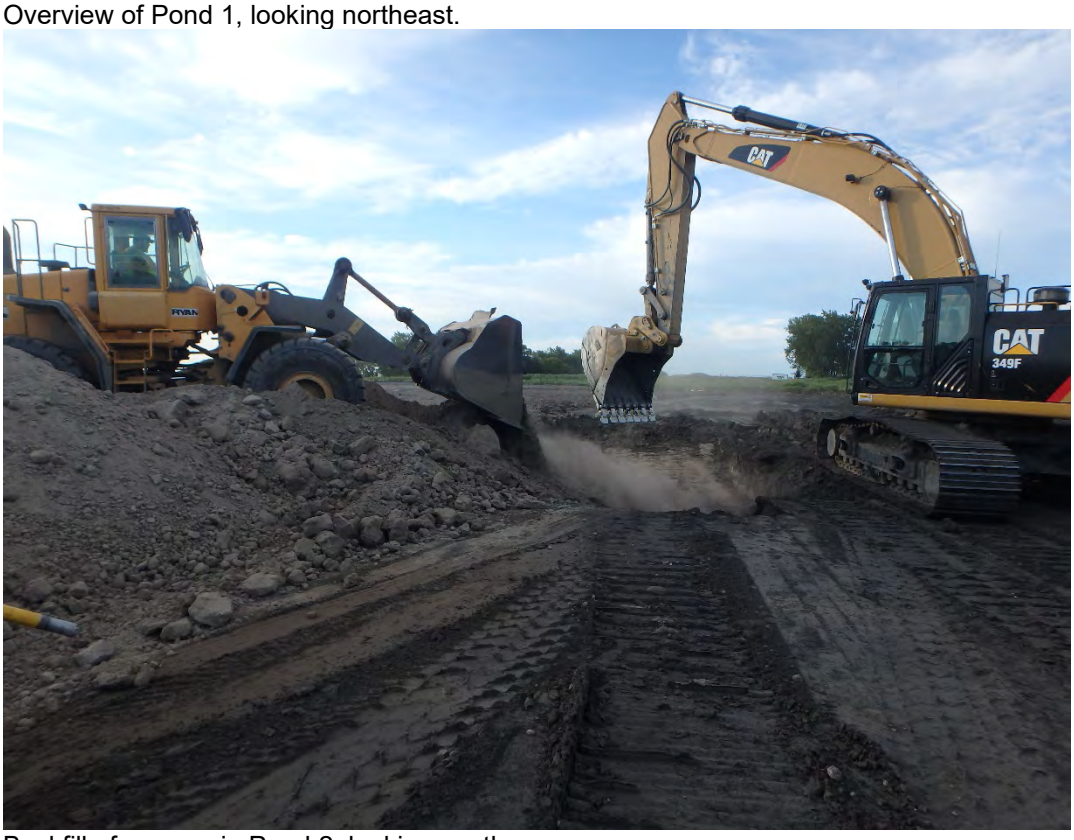
PHOTOGRAPHS

GOLDER

Finish grading structural fill in Pond 1, looking northeast.

Over-ex of soft spot in bridging layer of Pond 2, looking south.

Overview of Pond 1, looking northeast.



Backfill of over-ex in Pond 2, looking south.

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/12/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/2000	
Contractor(s):	Ryan Central Inc. Chesapeake	**Contractor(s) Rep:** John Johnson (Ryan Central) Emiliano Saenz (Chesapeake)	

SITE CONDITIONS	
Weather (AM): Mostly Cloudy	**Temperature:** 69
Weather (PM): Mostly Cloudy	**Temperature:** 80
Precipitation: None	**Wind:** SW 0-10 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Cat D6T Dozers, 1-John Deere 9520 Tractor, 1-Cat TL1055D Tele-Handler

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -1 Foreman, 4 Operators, 1 Laborers

- Continued placement of structural fill in Pond 2 in a single 11 to 12 inch loose lift.
- Continued compacting structural fill placed in Pond 2 with an 815 compactor.
- Continued finish grading of structural fill placed in Pond 1.
- Smooth drum used to roll liner finish grade surveyed for liner deployment.
- Proof rolled section of Pond 2 bridging layer.
- Over-Excavated soft area in Pond 2 and backfilled with dry CCR for bridging layer.
- Structural Fill import for Pond 2.
- Water truck for dust control and fill moisture.

Chesapeake – 1 Superintendent, 12 Technicians, 2 Laborers

- Set-up equipment/gear for geomembrane installation.
- Filling sandbags for liner ballast.

Summary of Dewatering:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
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05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

GOLDER

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
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06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
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06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

Week 9	Week 10	Week 11	Week 12
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07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
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07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder monitored placement of structural fill in Pond 2, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder performed Standard test on Troxler 3440 prior to density testing.
- Performed density test's SFDT-53 and 54 on 9-inch compacted structural fill lift 1 placed in Pond 2 using a Troxler 3440 Nuclear Gauge (see density test map). Compacted and tested structural fill met all specifications.
- Golder observed finish grading of placed, compacted and tested structural fill Pond 1.
- Golder observed rolling liner finish grade surveyed with smooth drum prior to walk-down for final approval to deploy geomembrane.
- Golder monitored proof roll of bridging layer in Pond 2 bounded by certification points; 1059, 1060, 1099.5 and 1101.
- Golder observed over-excavation of soft area in Pond 2, saturated material removed, textile deployed and backfilled with dry CCR.
- Golder observed Chesapeake setting-up equipment/gear.
- Golder observed import of structural fill for Pond 2.
- Golder observed use of water truck for dust control on site.

SUMMARY OF SURVEYOR'S ACTIVITIES

None

SUMMARY OF PROBLEMS AND RESOLUTIONS

None

GOLDER

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)
Pre-Construction meeting with CEC, Ryan, Chesapeake and Golder covering geomembrane installation.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES
At about 1730 a semi with frameless trailer loaded with structural fill turned over while dumping load. Driver appeared to be uninjured just needing assistance with door on cab to exit the semi. Ryan Central has lead on the accident investigation.

SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson **Signature:**

PHOTOGRAPHS

Proof roll of additional area of Pond 2 bridging layer, looking south.

GOLDER

Smooth drum rolling surveyed liner sub-grade, looking northwest.

Removal of saturated CCR from soft area found while proof rolling in Pond 2, looking southwest.

Maintaining moisture of placed fill and dust control, looking north.

Overview of Pond 1, looking north.

S.F. LIFT MAP / LIFT 1
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
GRADING CREST
TYPE 1 COVER TERMINATION
TYPE 2 COVER TERMINATION
TYPE 3 COVER TERMINATION
FORBERY
PLACED 7.22.19 / LIFT 1
PLACED 7.15.19
PLACED 7.16.19
PLACED 7.24.19
PLACED 7.25.19
PLACED 7.18.19
PLACED 7.19.19
PLACED 7.26.19
PLACED 7.24.19
LIFT 1 8.12.19
LIFT 1 8.8.19
LIFT 1 8.9.19
LIFT 1 8.12.19
LIFT 1 8.9.19
LIFT 1
2.0%

GOLDER

DENSITY TEST MAP
LIFT 1
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
LIFT 1
SFDT-1
SFDT-2
SFDT-3
SFDT-4
SFDT-5
SFDT-6
SFDT-7
SFDT-8
SFDT-9
SFDT-13
SFDT-14
SFDT-15
SFDT-19
SFDT-20
SFDT-21
SFDT-50
SFDT-51
SFDT-52
SFDT-53
SFDT-54
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRAZING CREST
FOREBAY
TYPE 2 COVER TERMINATION
TYPE 1 COVER TERMINATION
= PREVIOUSLY TESTED

GOLDER

Composite Proof Roll Map

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/13/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/1600	
Contractor(s):	Ryan Central Inc. Chesapeake	**Contractor(s) Rep:** John Johnson (Ryan Central) Emiliano Saenz (Chesapeake)	

SITE CONDITIONS	
Weather (AM): Mostly Cloudy	**Temperature:** 70
Weather (PM): Mostly Cloudy	**Temperature:** 75
Precipitation: Rain	**Wind:** SW 1-4 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Cat D6T Dozers, 1-John Deere 9520 Tractor, 1-Cat TL1055D Tele-Handler

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -1 Foreman, 3 Operators, 1 Laborers

- Assist with righting of semi with frameless dump that turned over previous workday and clean-up of soil containing fluids that leaked from semi.
- Received delivery of 4 inch ADS perforated and non-perforated pipe for above-cap drainage system.

Chesapeake – 1 Superintendent, 12 Technicians, 2 Laborers

- Continued set-up equipment/gear for geomembrane installation.
- Filling sandbags for liner ballast.

Summary of Dewatering:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

GOLDER

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder observed righting of semi-trailer and clean-up of contaminated soils.
- Golder observed Chesapeake setting-up equipment/gear.

SUMMARY OF SURVEYOR'S ACTIVITIES

Rowe shot additional certification points of liner sub-grade, area surveyed bounded by points; 1019, 1027, 1046 and 1054 (see attached survey map).

SUMMARY OF PROBLEMS AND RESOLUTIONS

None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson **Signature:**

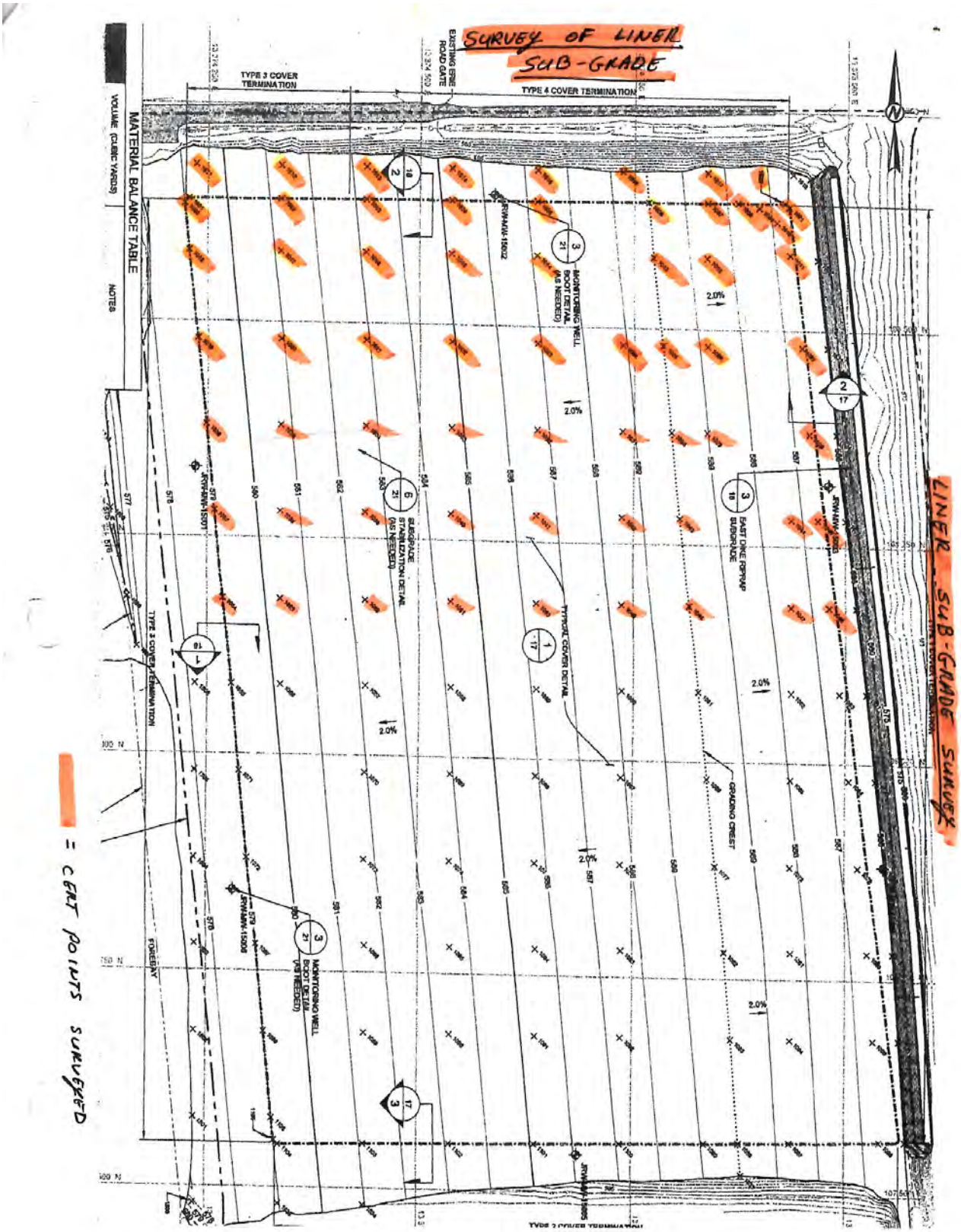
GOLDER

PHOTOGRAPHS

Dressing access road to Pond 2, looking southeast.

Overview of Pond 1, looking north.

4 inch ADS pipe for above-cap drainage system.


SURVEY OF LINER SUB-GRADE
LINER SUB-GRADE SURVEY
= CERT POINTS SURVEYED
TYPE 3 COVER TERMINATION
TYPE 4 COVER TERMINATION
EXISTING EPDM ROAD GATE
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL ROOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
EAST DIKE RIPRAP SUBGRADE
GRADING CREST
FOREBAY
2.0%

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/14/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/2000	
Contractor(s):	Ryan Central Inc. Chesapeake	**Contractor(s) Rep:** John Johnson (Ryan Central) Emiliano Saenz (Chesapeake)	

SITE CONDITIONS	
Weather (AM): Partly Sunny	**Temperature:** 70
Weather (PM): Mostly Sunny	**Temperature:** 80
Precipitation: None	**Wind:** NW 0-9 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Cat D6T Dozers, 1-John Deere 9520 Tractor, 1-Cat TL1055D Tele-Handler

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -1 Foreman, 3 Operators, 2 Laborers

- Rerouting of access road from west gate.
- Continued finish grading of liner sub-grade in Pond 1.
- Proof rolled additional area of Pond 2 bridging layer.
- Picked rocks from section of liner sub-grade to be approved for deployment.

Chesapeake – 1 Superintendent

- No work due to previous night's rain.

Summary of Dewatering:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

GOLDER

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder observed rerouting of west access road to outside of Pond 1 geomembrane limits.
- Golder observed finish grading of Pond 1's liner sub-grade.
- Golder monitored proof roll east side of Pond 2 (see Proof Roll Map below), area rolled passed.
- Golder observed Ryan walk section of Pond 1 bounded by cert points (1000, 1021, 1027 and 1019) prior to sub-grade walk down by CEC, Ryan and Golder for approval to deploy liner.
- Golder performed visual inspection of Pond 1 liner sub-grade with CEC and Ryan representatives.

SUMMARY OF SURVEYOR'S ACTIVITIES

None

SUMMARY OF PROBLEMS AND RESOLUTIONS

None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

SUBMITTED BY GOLDER:	
CQA Field Manager: David Hutchinson	**Signature:**

PHOTOGRAPHS

Dressing access road to Pond 2, looking southeast.

Overview of Pond 1, looking southwest.

Proof roll of bridging layer in Pond 2, looking southeast.

Finish grading Pond 1 liner sub-grade, looking north.

Rolling finish grade in Pond 1, looking southeast.

BRIDGING LAYER
PROOF ROLL MAP
TYPE 3 COVER TERMINATION
EXISTING EFME ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
PROOF ROLLED 7.8.19
PROOF ROLLED 7.19.19
PROOF ROLL BRIDGING LAYER
PROOF ROLLED 8.14.19
PROOF ROLL 8.12.19
PROOF ROLLED 8.7.19
PROOF ROLLED 8.9.19
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
EAST DIKE RIPRAP SUBGRADE
GRADING CREST
TYPE 3 COVER TERMINATION
FOREBAY
TYPE 4 COVER TERMINATION
2.0%

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/15/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/2000	
Contractor(s):	Ryan Central Inc. Chesapeake	**Contractor(s) Rep:** John Johnson (Ryan Central) Emiliano Saenz (Chesapeake)	

SITE CONDITIONS	
Weather (AM): Partly Sunny	**Temperature:** 70
Weather (PM): Mostly Sunny	**Temperature:** 80
Precipitation: None	**Wind:** NW 0-9 mph

EQUIPMENT ON SITE
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Cat D6T Dozers, 1-John Deere 9520 Tractor, 1-Cat TL1055D Tele-Handler

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -1 Foreman, 3 Operators, 2 Laborers

- Continue grading bridging layer in Pond 2.
- Rolled liner sub-grade in Pond 1 with smooth drum roller.
- Continue placement of bridging layer in Pond 2.
- Hauled bottom ash removed from over-excavation in Pond 2 east of certification point 1071 for use in bridging layer.
- Picked rocks from section of liner sub-grade to be approved for deployment.
- Water truck for dust and moisture conditioning of liner sub-grade.

Chesapeake – 1 Superintendent, 11 Technicians, 1 operator, 2 Laborers

- Chesapeake began deployment of geomembrane in Ponds.
- Chesapeake preformed trial welds for fusion and extrusion prior to any seaming or repairs.
- Chesapeake seamed all panels deployed today using the fusion method.
- Chesapeake preformed air pressure testing of all fusion seams to days deployed geomembrane.
- Chesapeake made repairs to all defects on panels P-1 thru P-8 deployed today.
- Chesapeake began vacuum testing of repairs
- Chesapeake field tested destructs DS-1 thru DS-12 marked today.
- Chesapeake placed sandbags around the outside edges of all deployed liner.

GOLDER

Summary of Dewatering:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13
07/29/19: None
07/30/19: 23,124 gal.
Total: 13,861,634 gal.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder observed placement and grading of bridging layer in Pond 2.
- Golder observed Ryan walk section of Pond 1 bounded by cert points (1019, 1027, 1037 and 1045) prior to sub-grade walk down by CEC, Ryan and Golder for approval to deploy liner.
- Golder performed visual inspection of Pond 1 liner sub-grade cleared of surface rocks, organics and protrusions bounded by cert points (1019, 1027, 1037 and 1045) with CEC and Ryan representatives, area approved for deployment of geomembrane.
- Golder observed removal of bottom ash from over-excavation east of Pond 2 cert point 1071 and haul for use in bridging layer in Pond 2.
- Performed CQA oversight and documentation on geomembrane installation.
- Performed CQA oversight and documentation on geomembrane installation on Ponds of 40mil HDPE micro-spike geomembrane panels P-1 thru P-12 today.
- Chesapeake installed approximately 111,870sf of geomembrane on Ponds today for a total of 111,870sf to date.
- Golder monitored deployment of 40mil micro-spike geomembrane panels P-1 thru P-8.

GOLDER

- Golder monitored and documented trial seams for fusion and extrusion in A.M and P.M. preformed prior to seaming or repair activities and every 5 hours of operation.
- Golder observed seaming of all deployed panels on Ponds by fusion seaming method using 2 wedges.
- Golder monitored non-destructive testing of all fusion seams by air pressure testing to a minimum of 30psi for 5 minutes with a loss of no more than 4psi in accordance to specifications.
- Golder monitored repairs to geomembrane by extrusion method to install patches in accordance to specifications.
- Golder monitored vacuum testing of repairs.
- Golder marked destructive test locations DS-1 thru DS-12 on geomembrane for removal by Chesapeake and destructive field testing onsite.
- Golder monitored field testing of destructs DS-1 thru DS-12 prior to shipping for third party testing.

SUMMARY OF SURVEYOR'S ACTIVITIES
None

SUMMARY OF PROBLEMS AND RESOLUTIONS
None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)
None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES
None

SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson **Signature:**

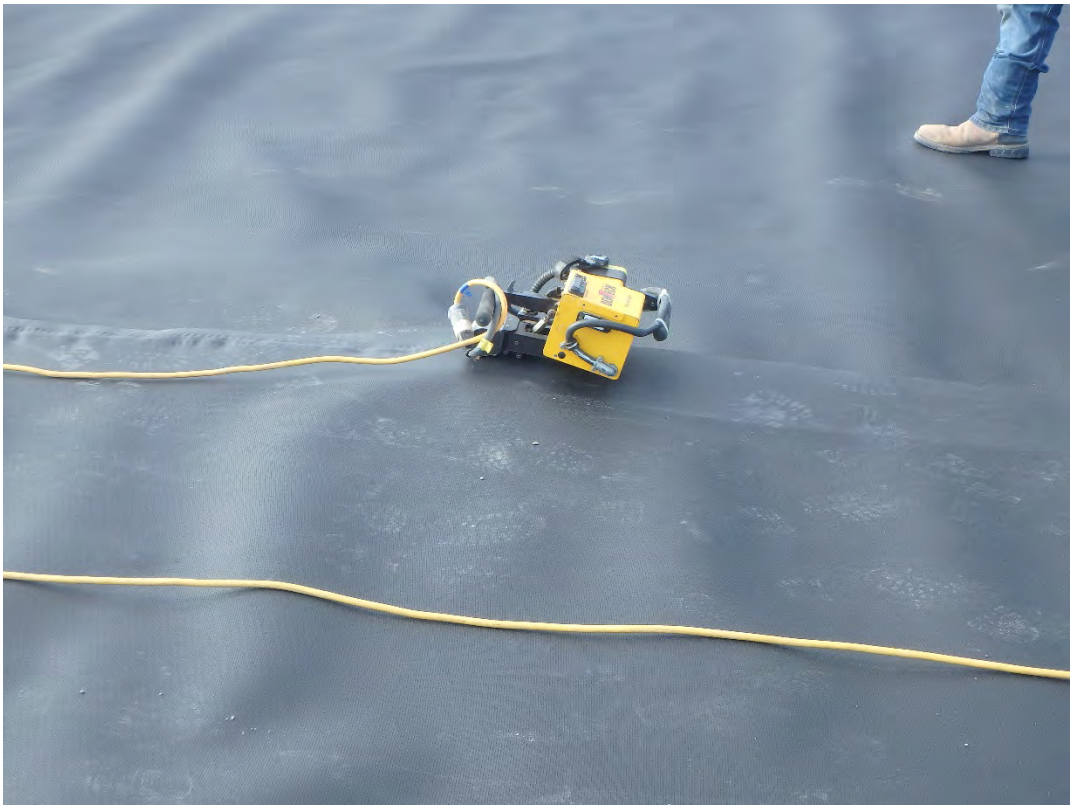
GOLDER

PHOTOGRAPHS

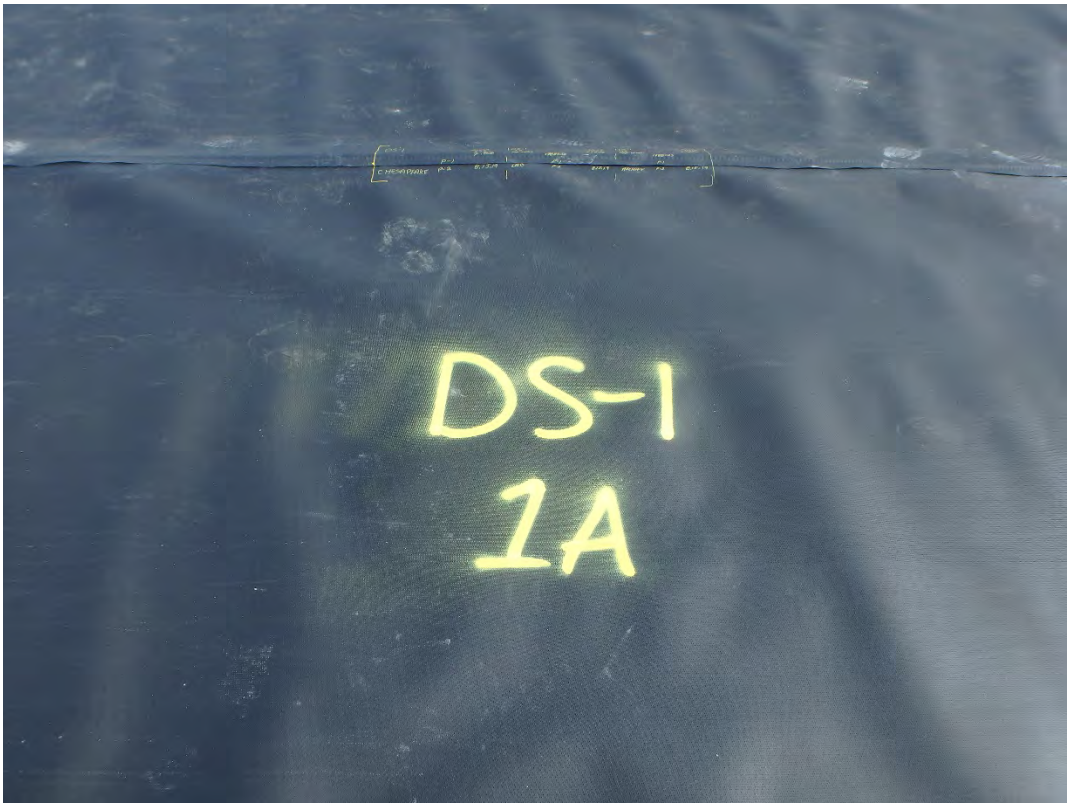
Deployment of 40mil geomembrane in Pond 1, looking west.

Producing trial weld for field testing.

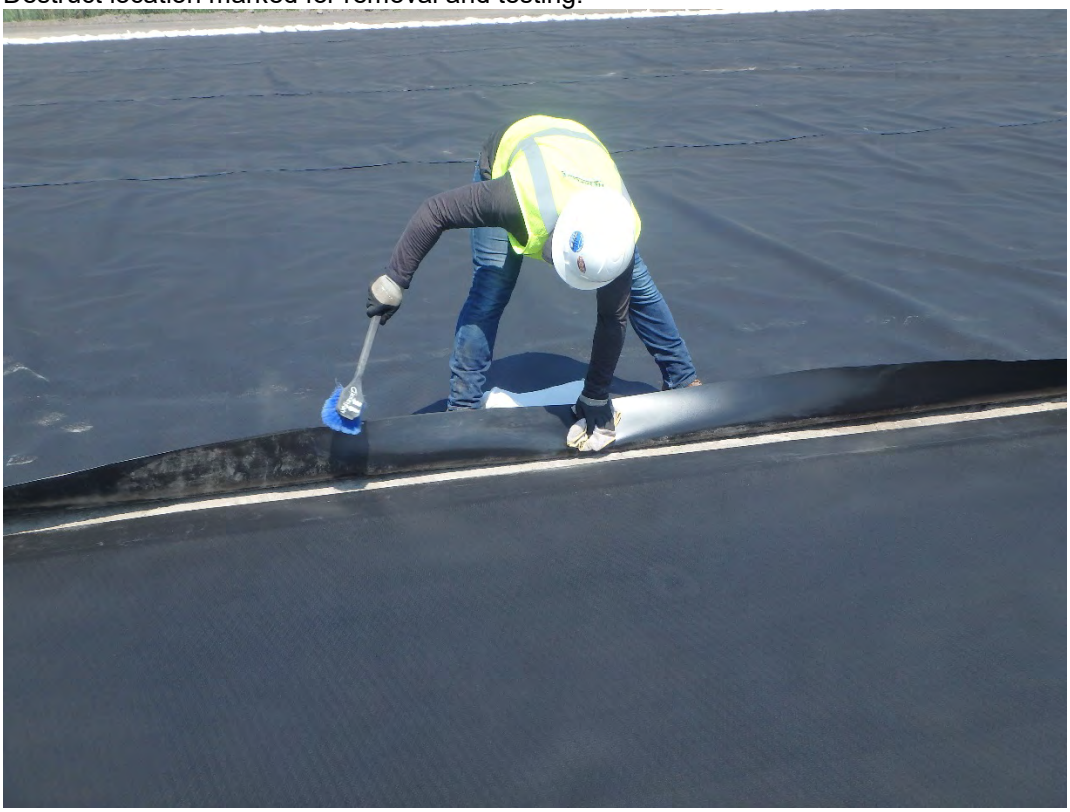
Testing of trial weld prior to start of seaming.


Seaming of geomembrane by fusion method.

GOLDER



Destruct location marked for removal and testing.



Cleaning liner overlap ahead of fusion seaming device.

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/16/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/2030	
Contractor(s):	Ryan Central Inc. Chesapeake ProAct	**Contractor(s) Rep:** John Johnson (Ryan Central) Emiliano Saenz (Chesapeake) Guillermo Arredondo (ProAct)	

SITE CONDITIONS	
Weather (AM): Mostly Cloudy	**Temperature:** 61
Weather (PM): Mostly Sunny	**Temperature:** 84
Precipitation: None	**Wind:** W 0-12 mph

EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Cat D6T Dozers, 1-John Deere 9520 Tractor, 1-Cat TL1055D Tele-Handler

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -1 Foreman, 4 Operators, 2 Laborers

- Continued placement of structural fill in Pond 2 in a single 11 to 12 inch loose lift.
- Continued compacting structural fill placed in Pond 2 with an 815 compactor.
- Continued finish grading of structural fill placed in Pond 1.
- Began installation of French Drain to dewater soft area in Pond 2.
- Rolled liner sub-grade in Pond 1 with smooth drum roller.
- Picked rocks from section of liner sub-grade to be approved for deployment.
- Import structural fill.
- Water truck for dust and moisture conditioning of liner sub-grade.

ProAct Services – 1 Foreman

- ProAct onsite at 0900 to pump baker tanks to discharge channel.
- Turbidity readings were taken by ProAct while pumping to discharge channel and licensed tester onsite in A.M.

Chesapeake – 1 Superintendent, 11 Technicians, 1 operator, 2 Laborers

- Chesapeake continued deployment of geomembrane in Pond 1.
- Chesapeake preformed trial welds for fusion prior to any seaming.
- Chesapeake seamed all panels deployed today using the fusion method.
- Chesapeake preformed air pressure testing of all fusion seams performed today on deployed geomembrane.

GOLDER

- Chesapeake continued vacuum testing of repairs
- Chesapeake began deployment of geotextile above geomembrane.
- Chesapeake sewed all geotextile seams on geotextile panels placed today.
- Chesapeake placed sandbags around the outside edges of all deployed liner.

Summary of Dewatering:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13	Week 14
07/29/19: None	08/16/19: 49,780
07/30/19: 23,124 gal.	**Total: 13,911,414 gal**.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder monitored placement of structural fill in Pond 2, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder performed Standard test on Troxler 3440 prior to density testing.
- Performed density test's SFDT-55 thru 61 on 9-inch compacted structural fill lift's 1 thru 3 placed in Pond 2 using a Troxler 3440 Nuclear Gauge (see density test map). Compacted and tested structural fill met all specifications.
- Golder observed finish grading of placed, compacted and tested structural fill Pond 1.
- Golder observed rolling liner finish grade surveyed with smooth drum prior to walk-down for final approval to deploy geomembrane.

GOLDER

- Golder observed Ryan walk section of Pond 1 bounded by cert points (1037, 1045, 1046 and 1055) prior to sub-grade walk down by CEC, Ryan and Golder for approval to deploy liner.
- Golder performed visual inspection of Pond 1 liner sub-grade cleared of surface rocks, organics and protrusions bounded by cert points (1037, 1045, 1046 and 1055) with CEC and Ryan representatives, area approved for deployment of geomembrane.
- Golder observed installation of a French Drain in Pond 2 to dewater soft area found during proof roll.
- Performed CQA oversight and documentation on geomembrane installation.
- Performed CQA oversight and documentation on 40mil HDPE micro-spike geomembrane and 8oz. geotextile installed today.
- Chesapeake installed approximately 142,560sf of geomembrane on Ponds today for a total of 254,430sf to date.
- Golder monitored deployment of 40mil micro-spike geomembrane panels P-9 thru P-17.
- Golder monitored and documented trial seams for fusion in A.M and P.M. preformed prior to seaming activities and every 5 hours of operation.
- Golder observed seaming of all deployed panels on Ponds by fusion seaming method using 3 wedges.
- Golder monitored non-destructive testing of all fusion seams by air pressure testing to a minimum of 30psi for 5 minutes with a loss of no more than 4psi in accordance to specifications.
- Golder monitored vacuum testing of repairs.
- Golder marked destructive test locations DS-13 thru DS-26 on geomembrane for removal by Chesapeake and destructive field testing onsite.
- Golder observed deployment of 8oz. geotextile above geomembrane.
- Golder observed all seams of geotextile sewn in accordance to specifications.

SUMMARY OF SURVEYOR'S ACTIVITIES
Rowe onsite to shoot additional area of liner sub-grade in Pond 1 bounded by certification points 1037, 1045, 1046 and 1055.

SUMMARY OF PROBLEMS AND RESOLUTIONS
None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)
None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES
None

SUBMITTED BY GOLDER:	
CQA Field Manager: David Hutchinson	**Signature:** David Hutchinson

GOLDER

PHOTOGRAPHS

Deployment of 8oz. geotextile in Pond 1, looking west.

Sewing geotextile seam.

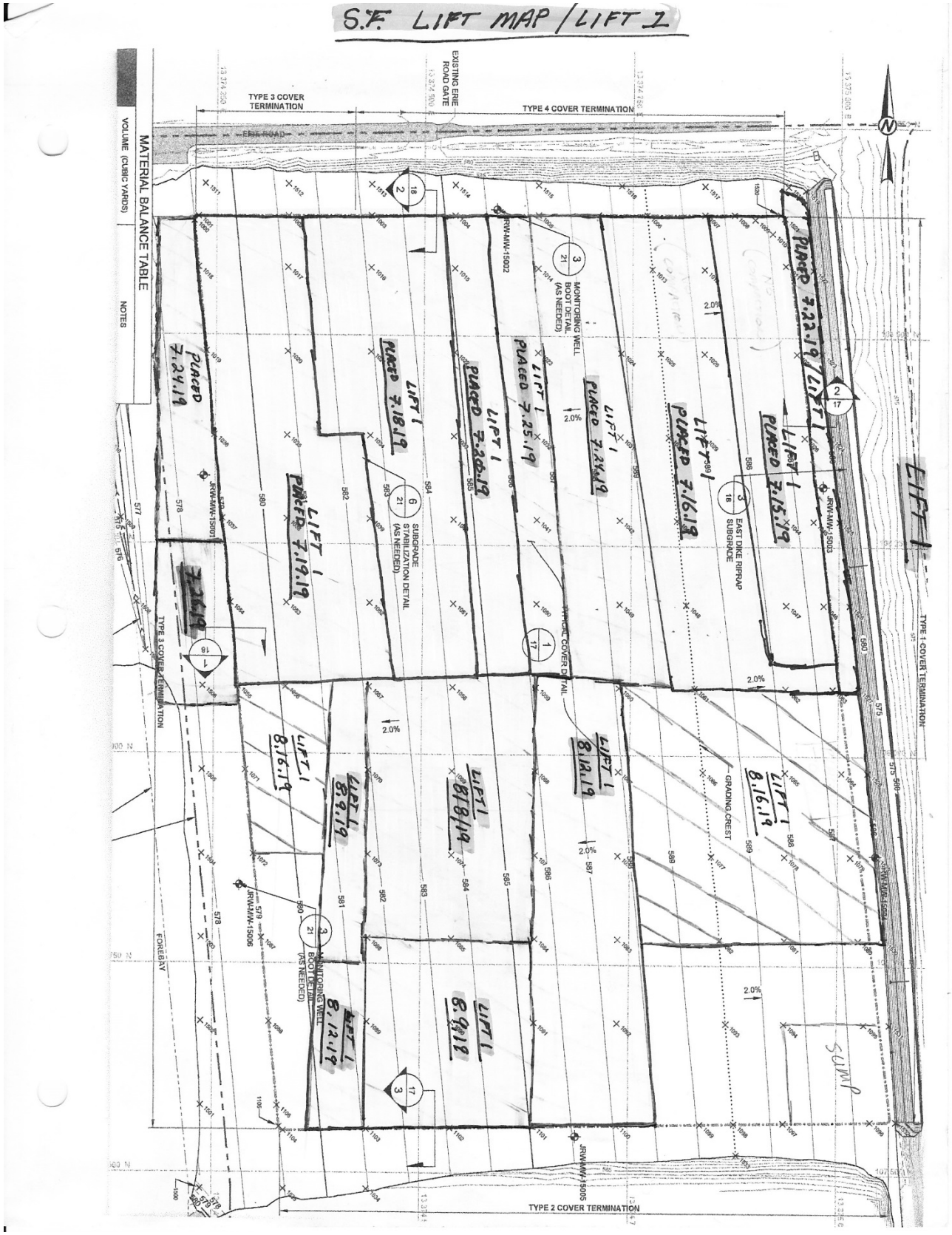
Overview of geomembrane deployed in Pond 1, looking west.

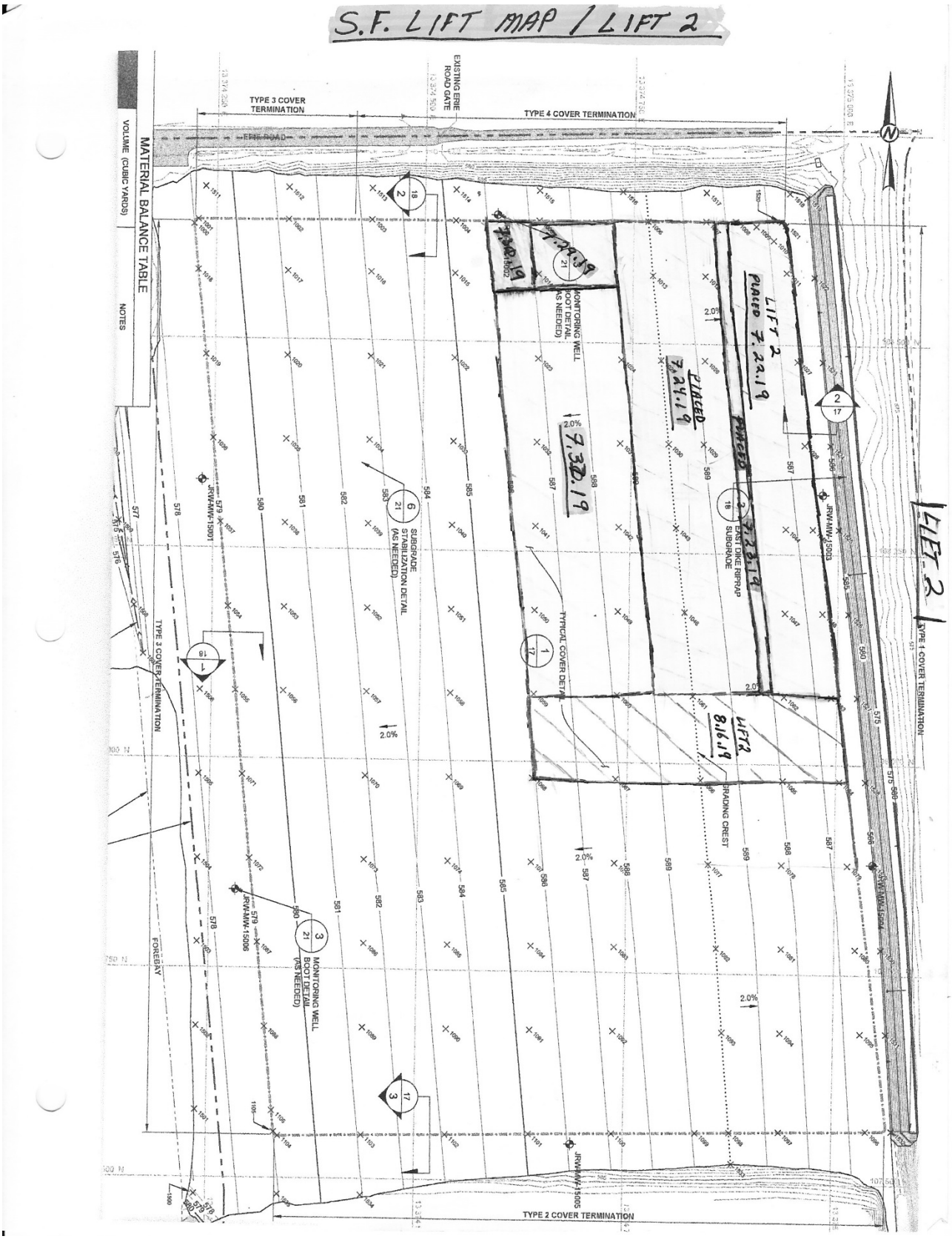
Seaming of geomembrane by fusion method.

Structural fill import to Pond 2, looking west.

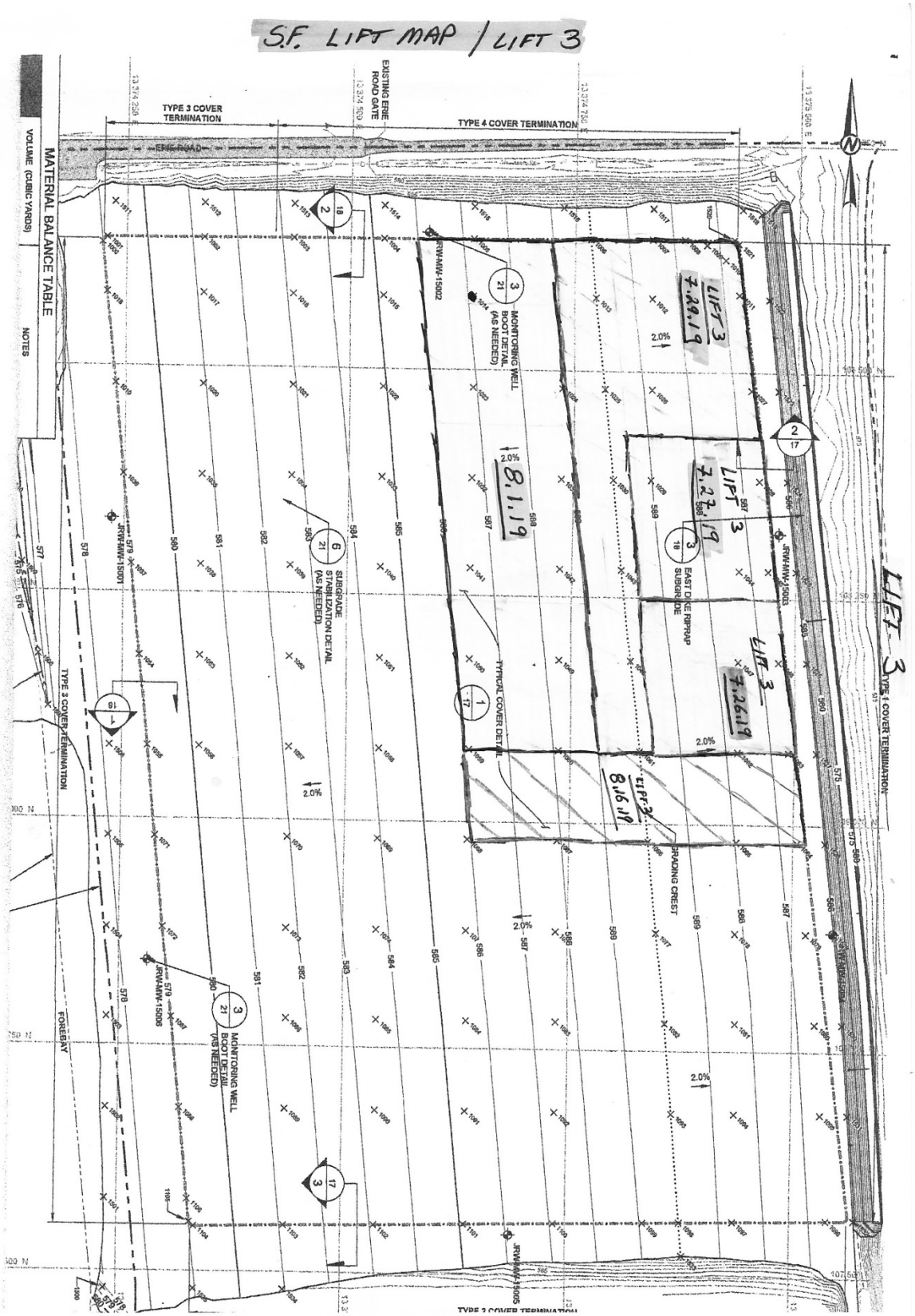
French drain in Pond 2, looking east.

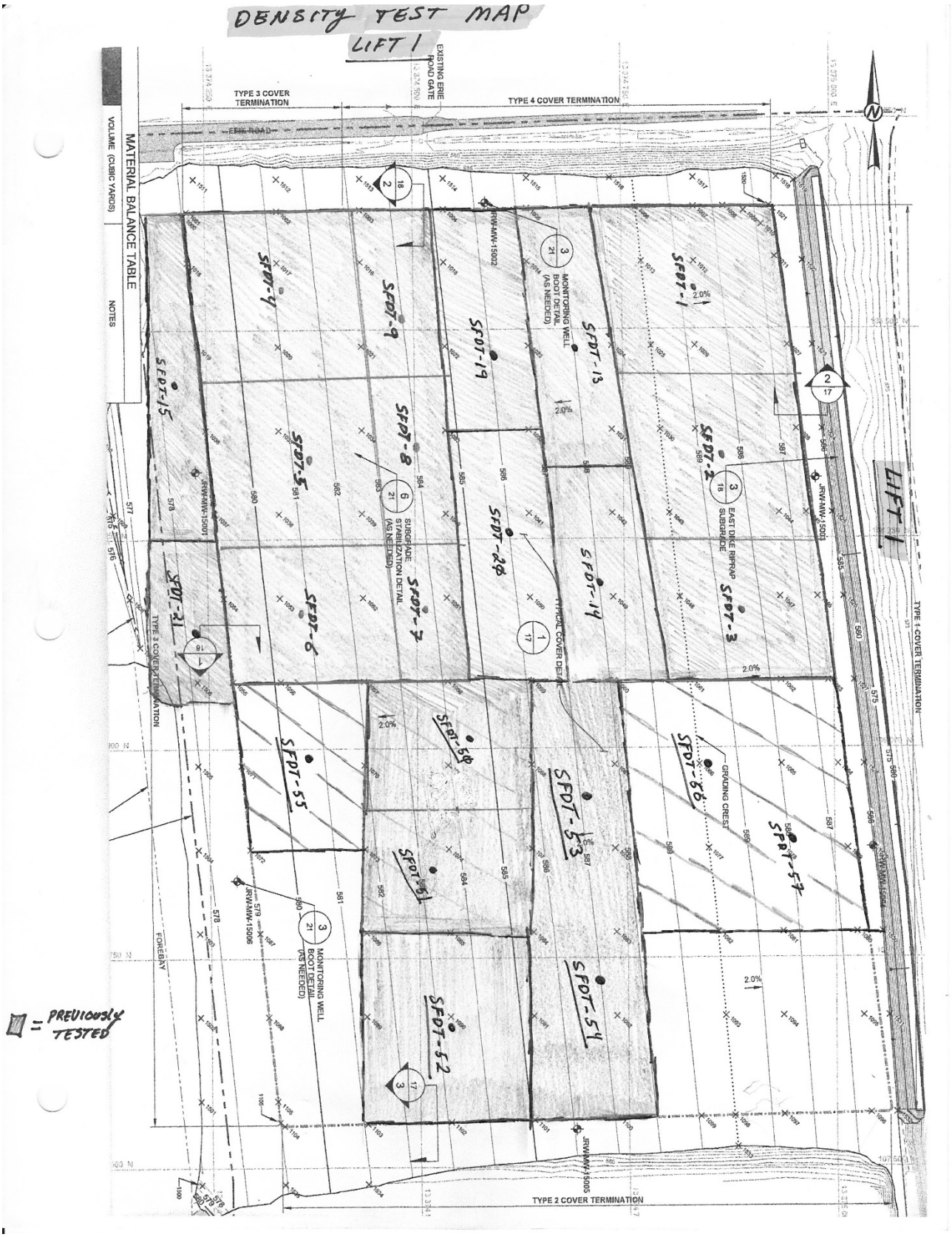
DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure



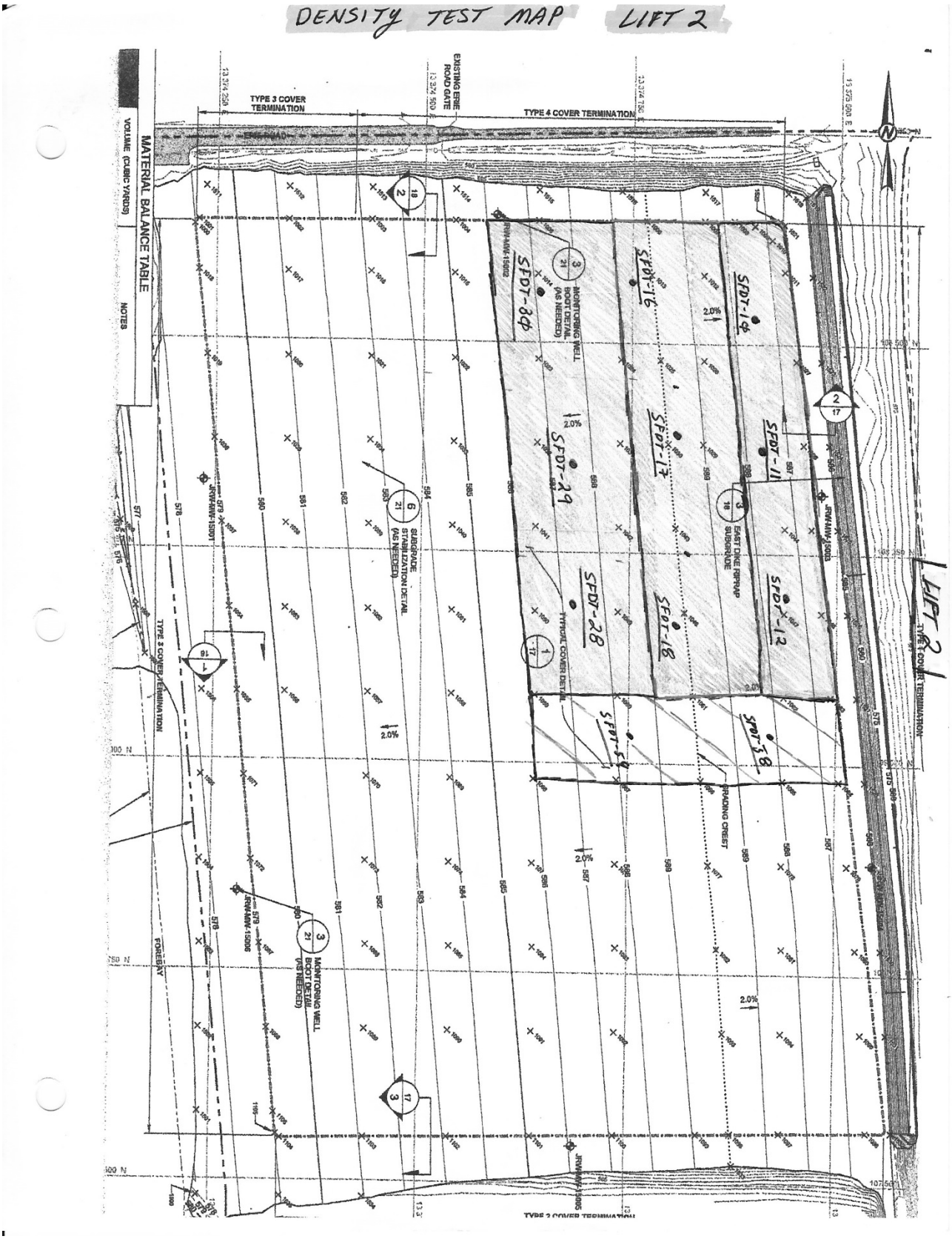

S.F. LIFT MAP / LIFT 2
LIFT 2
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
ERIE ROAD
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
LIFT 2 PLACED 7.22.19
PLACED 7.24.19
7.30.19
7.22.19
EAST DIKE RIPRAP SUBGRADE
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
LIFT 2 8.16.19
GRADING CREST
TYPE 1 COVER TERMINATION
TYPE 3 COVER TERMINATION
FOREBAY
MONITORING WELL BOOT DETAIL (AS NEEDED)
TYPE 2 COVER TERMINATION
JRW-MW-15001
JRW-MW-15002
JRW-MW-15003
JRW-MW-15004
JRW-MW-15005
JRW-MW-15006

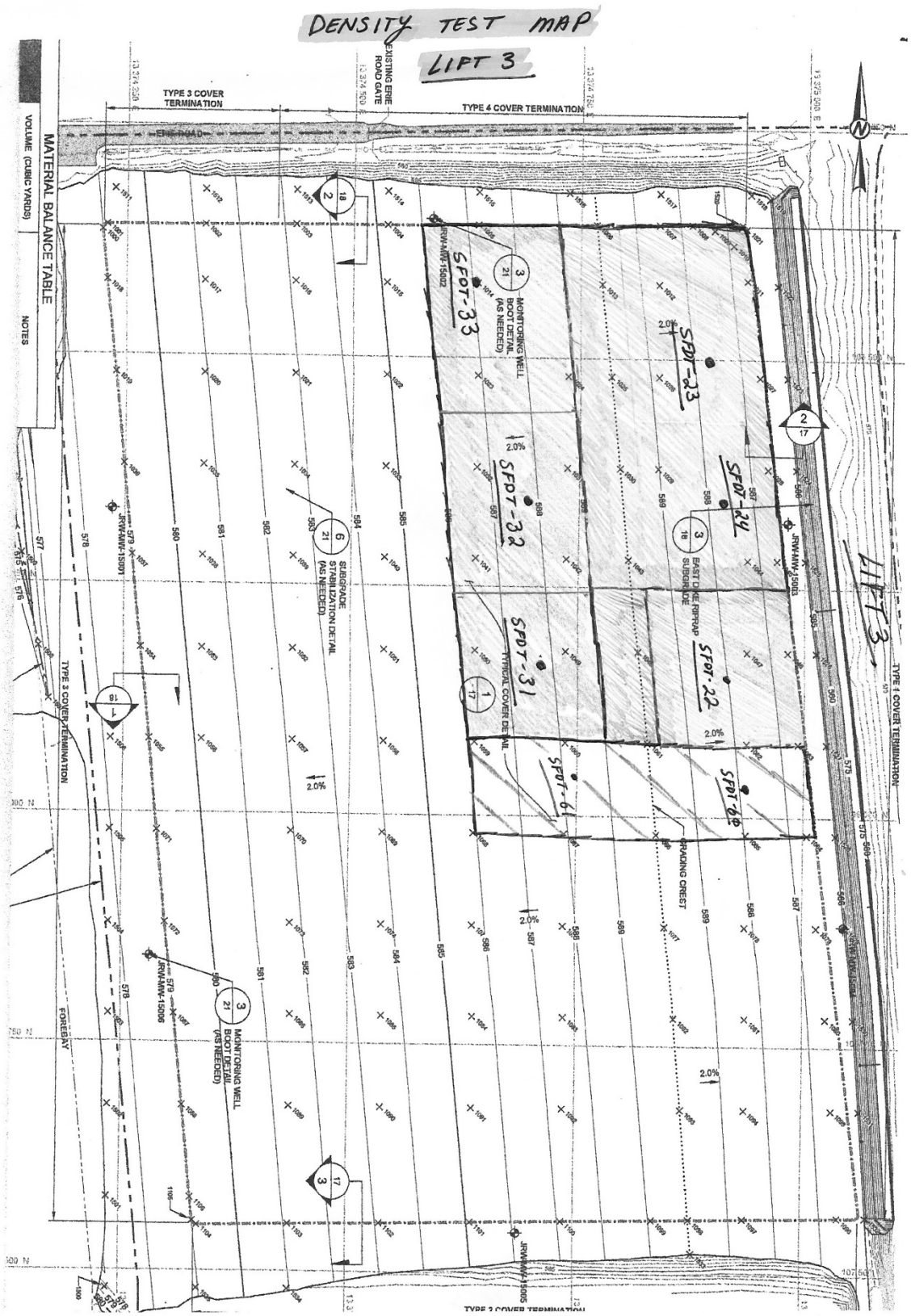
GOLDER


S.F. LIFT MAP / LIFT 3
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
ERIE ROAD
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
LIFT 3 7.29.19
LIFT 3 7.27.19
LIFT 3 7.26.19
LIFT 3 8.1.19
LIFT 3 8.16.19
MONITORING WELL BOOT DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
GRADING CREST
FOREBAY
TYPE 3 COVER TERMINATION
TYPE 4 COVER TERMINATION
JRW-MW-15002
JRW-MW-15001
JRW-MW-15006
JRW-MW-15005
2.0%


DENSITY TEST MAP
LIFT 1
LIFT 1
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
ERIE ROAD
TYPE 1 COVER TERMINATION
TYPE 2 COVER TERMINATION
TYPE 3 COVER TERMINATION
FOREBAY
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
GRADING CREST
JRW-MW-15001
JRW-MW-15002
JRW-MW-15003
JRW-MW-15004
JRW-MW-15005
JRW-MW-15006
SFDT-1
SFDT-2
SFDT-3
SFDT-4
SFDT-5
SFDT-6
SFDT-7
SFDT-8
SFDT-9
SFDT-13
SFDT-14
SFDT-15
SFDT-19
SFDT-20
SFDT-21
SFDT-52
SFDT-53
SFDT-54
SFDT-55
SFDT-56
SFDT-57
SFDT-58
SFDT-61
2.0%
= PREVIOUSLY TESTED

GOLDER


DENSITY TEST MAP LIFT 2
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
EAST DIKE RIPRAP SUBGRADE
TRACING CREST
TYPE 3 COVER TERMINATION
FOREBAY
LIFT 2
TYPE 4 COVER TERMINATION
SFDT-1φ
SFDT-11
SFDT-12
SFDT-13
SFDT-14
SFDT-15
SFDT-16
SFDT-17
SFDT-18
SFDT-19
SFDT-28
SFDT-29
SFDT-3φ
2.0%


DENSITY TEST MAP
LIFT 3
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
ERIE ROAD
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
TYPE 1 COVER TERMINATION
TYPE 3 COVER TERMINATION
FOREBAY
SFDT-33
SFDT-23
SFDT-24
SFDT-32
SFDT-22
SFDT-31
SFDT-6
SFDT-20
LIFT 3
2.0%

GOLDER

DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

PROJECT OVERVIEW			
Project Title:	J.R. Whiting Ponds 1 and 2 Closure CQA	**Project Number:** 1788523	**Date:** 8/17/2019
Client:	Consumers Energy	**Site/Location:** Erie, MI	
GAI Personnel:	David Hutchinson	**Arrival/Departure Time:** 0630/1730	
Contractor(s):	Ryan Central Inc. Chesapeake ProAct	**Contractor(s) Rep:** John Johnson (Ryan Central) Emiliano Saenz (Chesapeake) Guillermo Arredondo (ProAct)	

SITE CONDITIONS	
Weather (AM): Partly Sunny	**Temperature:** 68
Weather (PM): Mostly Cloudy	**Temperature:** 82
Precipitation: None	**Wind:** W 3-9 mph

EQUIPMENT ON SITE
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; 1-John Deere 644G Loader; 1-Cat CS56B Smooth Drum Roller; 1-Cat D6T Dozers, 1-John Deere 9520 Tractor, 1-Cat TL1055D Tele-Handler

SUMMARY OF CONSTRUCTION

Work performed while Golder was onsite:

Ryan Central -1 Foreman, 3 Operators, 2 Laborers

- Continued placement of structural fill in Pond 2 in a single 11 to 12 inch loose lift.
- Continued compacting structural fill placed in Pond 2 with an 815 compactor.
- Completed installation of French Drain to dewater soft area in Pond 2.
- Proof roll of bridging layer in Pond 2.
- Rolled liner sub-grade in Pond 1 with smooth drum roller.
- Import structural fill.
- Water truck for dust and moisture conditioning of liner sub-grade.

ProAct Services – 1 Foreman

- ProAct onsite at 0900 to check baker tanks.

Chesapeake – 1 Superintendent, 11 Technicians, 1 operator, 2 Laborers

- Chesapeake continued deployment of geomembrane in Pond 1.
- Chesapeake preformed trial welds for fusion and extrusion prior to any seaming or repairs.
- Chesapeake seamed all panels deployed today using the fusion method.
- Chesapeake preformed air pressure testing of all fusion seams performed today on deployed geomembrane.
- Chesapeake made repairs to all defects on panels P-9 thru P-22 deployed.
- Chesapeake continued vacuum testing of repairs

GOLDER

- Chesapeake placed sandbags around the outside edges of all deployed liner.

Summary of Dewatering:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: None	06/01/19: None

Week 5	Week 6	Week 7	Week 8
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	06/24/2019: 218,008 gal.
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	06/25/2019: 208,371 gal.
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	06/26/2019: 181,215 gal.
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	06/27/2019: 216,650 gal.
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	06/28/2019: 208,921 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: 102,207 gal.	06/29/2019: 135,907 gal.

Week 9	Week 10	Week 11	Week 12
07/01/19: 175,586 gal.	07/08/19: 107,894 gal.	07/15/19: None	07/22/19: 15,890 gal.
07/02/19: 129,459 gal.	07/09/19: 44,007 gal.	07/16/19: 17,852 gal.	07/23/19: 15,310 gal.
07/03/19: 13,878 gal.	07/10/19: 25,922 gal.	07/17/19: 20,293 gal.	07/24/19: 23,572 gal.
07/04/19: None	07/11/19: 27,943 gal.	07/18/19: None	07/25/19: None
07/05/19: 137,112 gal.	07/12/19: 18,335 gal.	07/19/19: 20,316 gal.	07/26/19: None
07/06/19: 95,100 gal.	07/13/19: None	07/20/19: None	07/27/19: None

Week 13	Week 14
07/29/19: None	08/16/19: 49,780
07/30/19: 23,124 gal.	**Total: 13,911,414 gal**.

GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder monitored placement of structural fill in Pond 2, Cat D6T with GPS placed material in a single 11 to 12 inch loose lift. Cat 815 sheep foot was used to compact to 9 inches.
- Golder performed Standard test on Troxler 3440 prior to density testing.
- Performed density test's SFDT-62 thru 65 on 9-inch compacted structural fill lift's 2 and 3 placed in Pond 2 using a Troxler 3440 Nuclear Gauge (see density test map). Compacted and tested structural fill met all specifications.
- Golder monitored proof roll along west side of Pond 2 using Cat water truck.
- Golder observed installation of a French Drain in Pond 2 to dewater soft area found during proof roll.
- Performed CQA oversight and documentation on geomembrane installation.
- Performed CQA oversight and documentation on 40mil HDPE micro-spike geomembrane installed today.
- Chesapeake installed approximately 79,200sf of geomembrane on Ponds today for a total of 333,630sf to date.

GOLDER

- Golder monitored deployment of 40mil micro-spike geomembrane panels P-18 thru P-22.
- Golder monitored and documented trial seams for fusion and extrusion in A.M and P.M. preformed prior to seaming or repair activities and every 5 hours of operation.
- Golder observed seaming of all deployed panels on Ponds by fusion seaming method using 3 wedges.
- Golder monitored non-destructive testing of all fusion seams by air pressure testing to a minimum of 30psi for 5 minutes with a loss of no more than 4psi in accordance to specifications.
- Golder observed repairs to defects by extrusion method.
- Golder monitored vacuum testing of repairs.
- Golder marked destructive test locations DS-27 thru DS-33 on geomembrane for removal by Chesapeake and destructive field testing onsite.
- Golder monitored field testing of destructs DS-13 thru DS-33 prior to shipping for third party testing.

SUMMARY OF SURVEYOR'S ACTIVITIES
Rowe onsite to shoot additional area of liner sub-grade in Pond 1 bounded by certification points 1037, 1045, 1046 and 1055.

SUMMARY OF PROBLEMS AND RESOLUTIONS
None

SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)
None

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES
None

SUBMITTED BY GOLDER:	
CQA Field Manager: David Hutchinson	**Signature:**

GOLDER

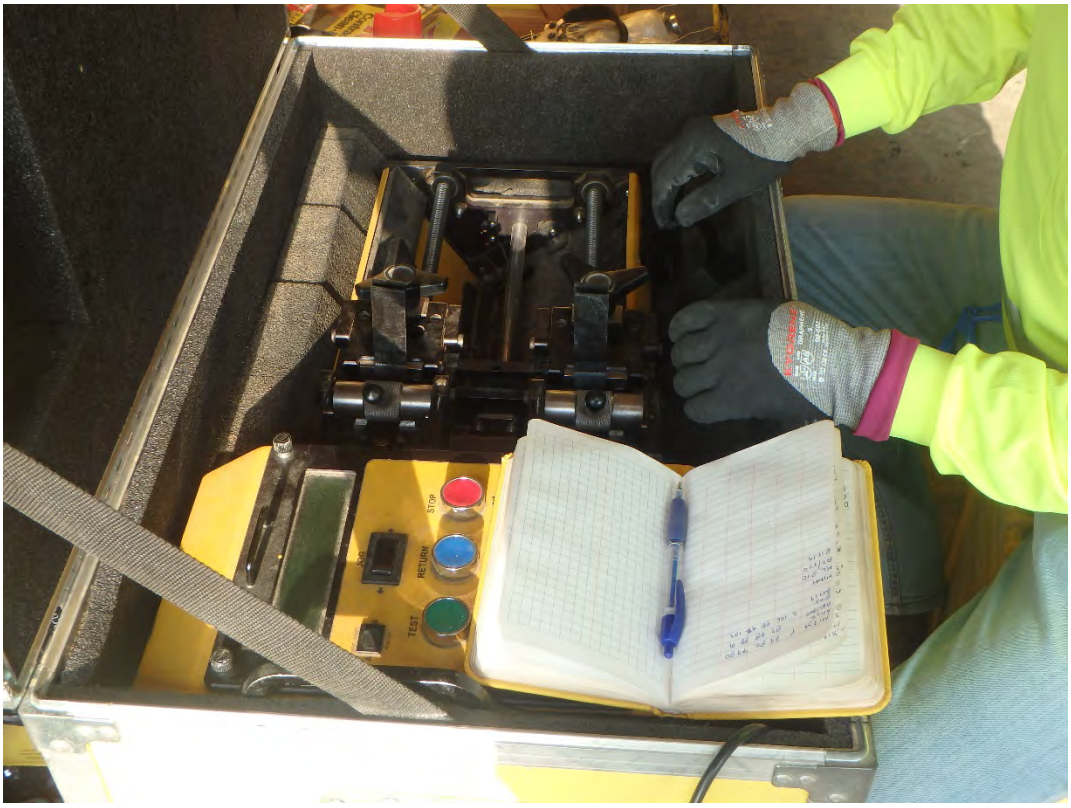
PHOTOGRAPHS

Placing structural fill lift in Pond 2, looking southwest.

Deploying geomembrane in Pond 1, looking north.

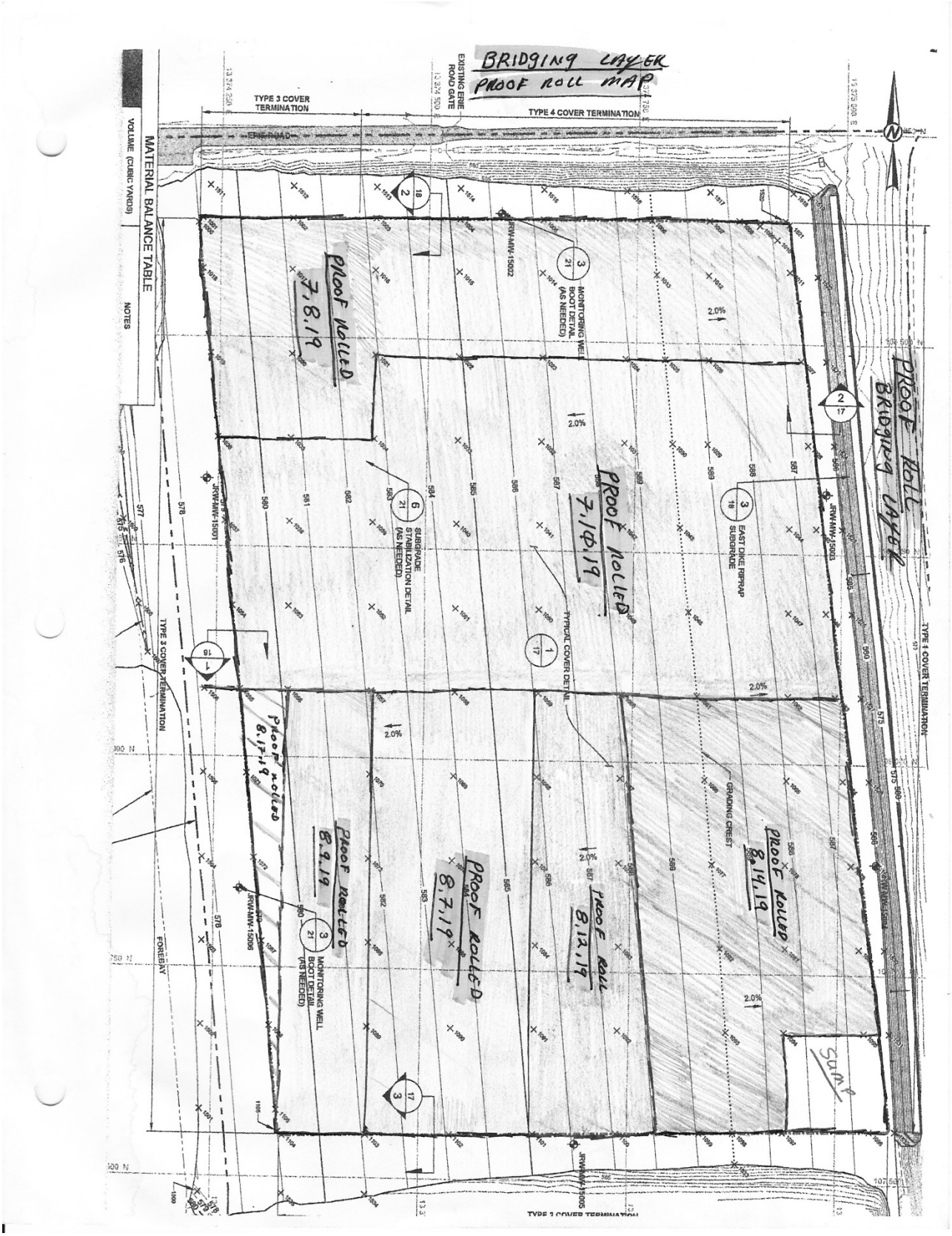
Seaming by fusion method of geomembrane.

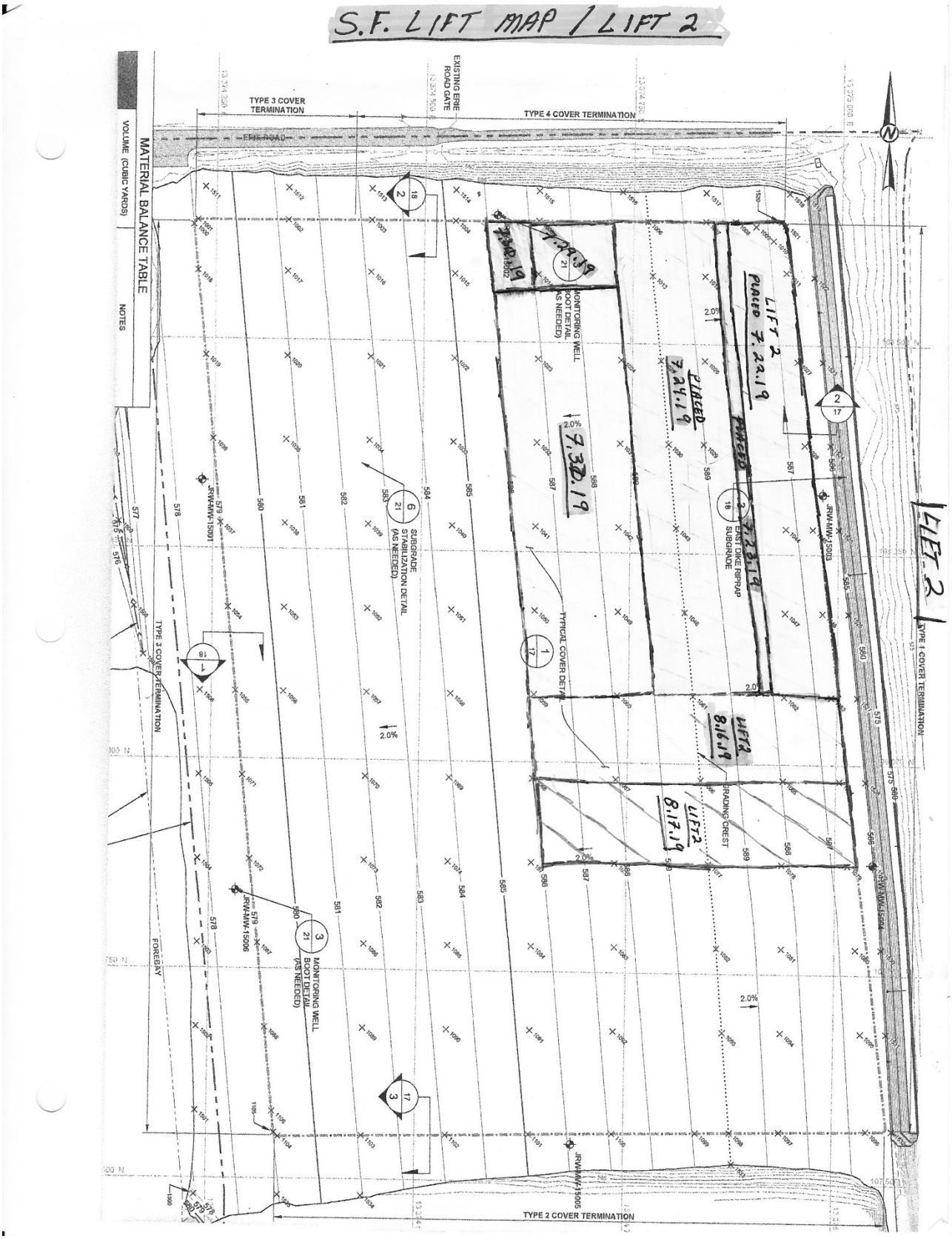
Fusion trial weld.

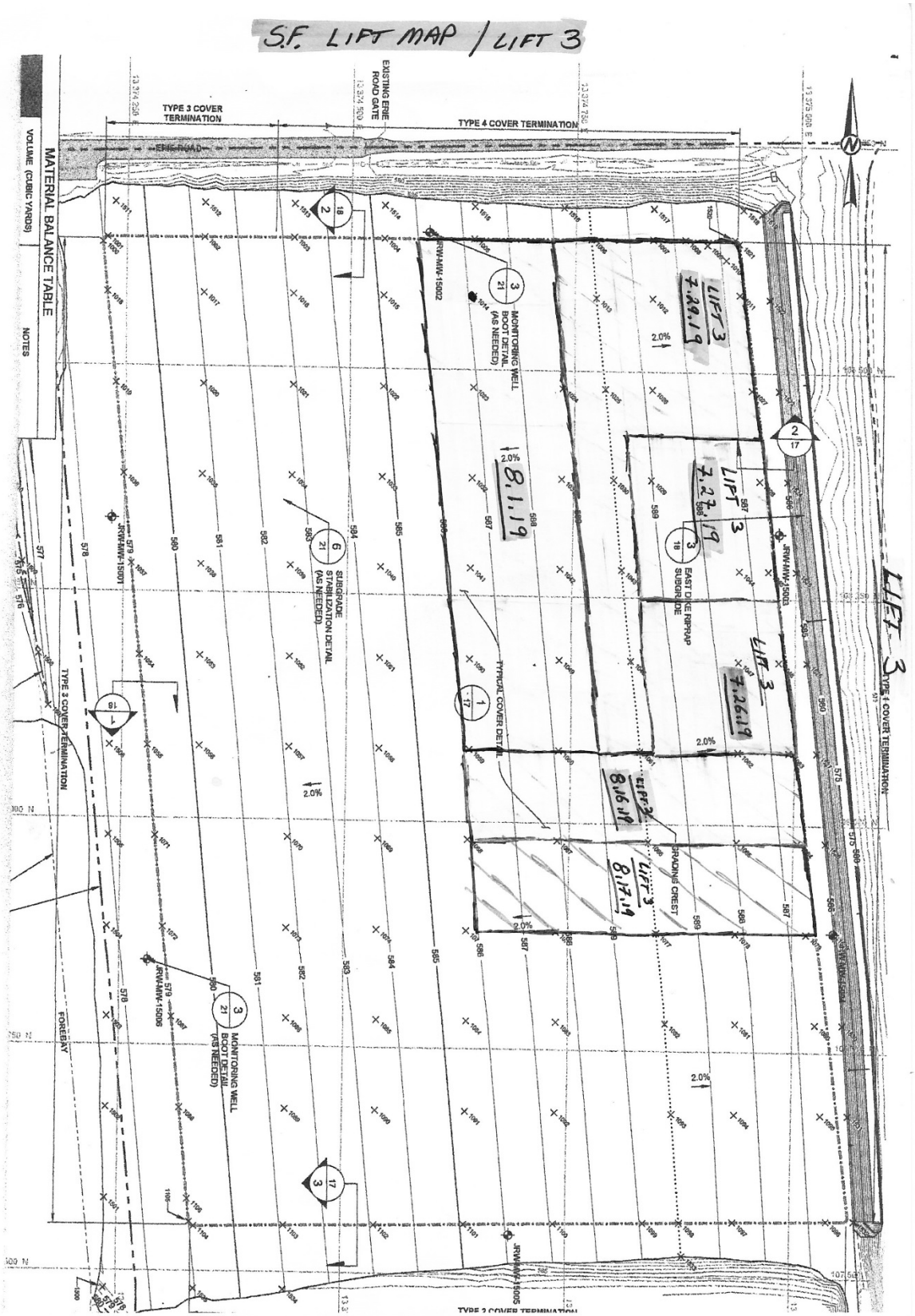


Field testing of destructs.

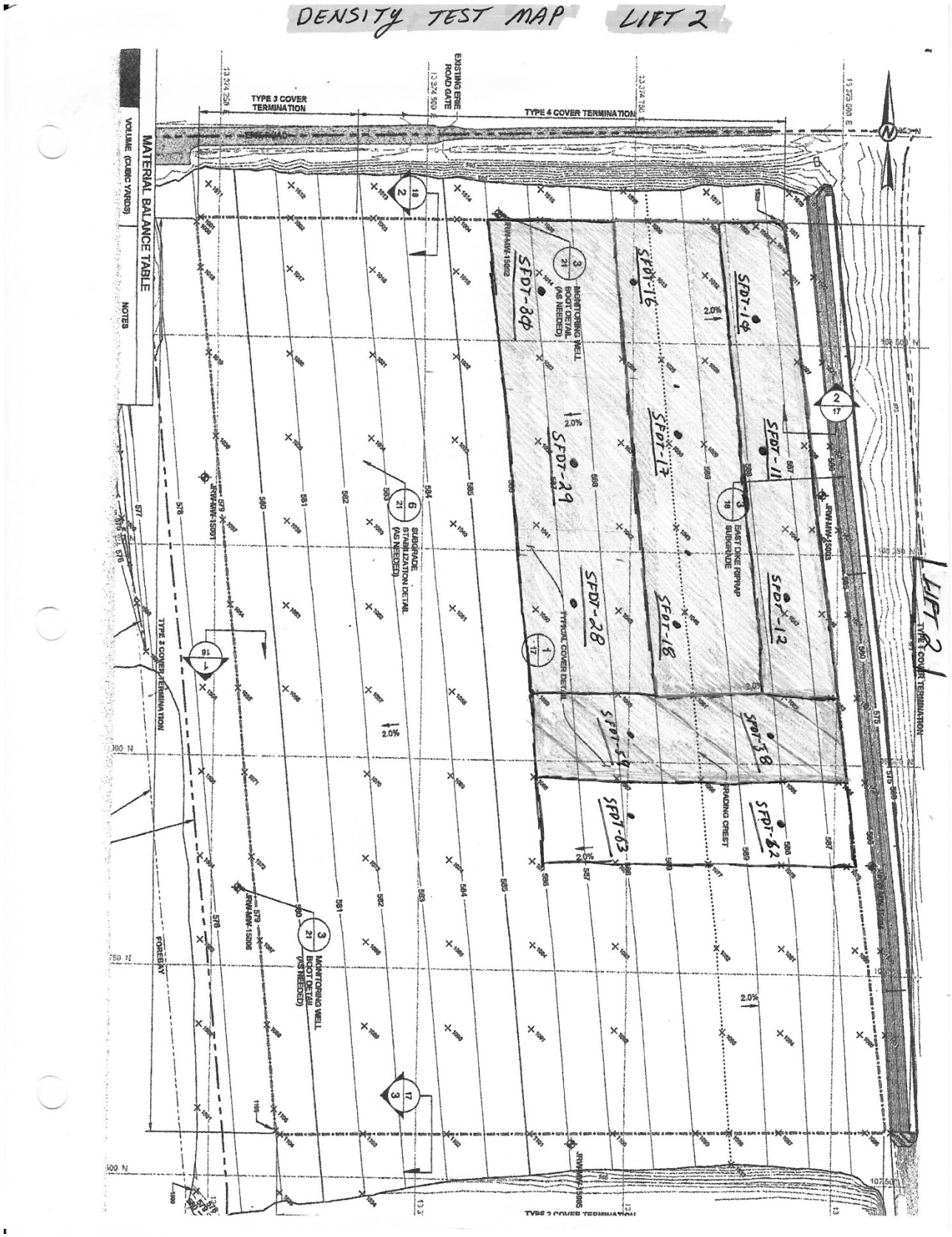
Preparing to deploy liner, looking northwest.

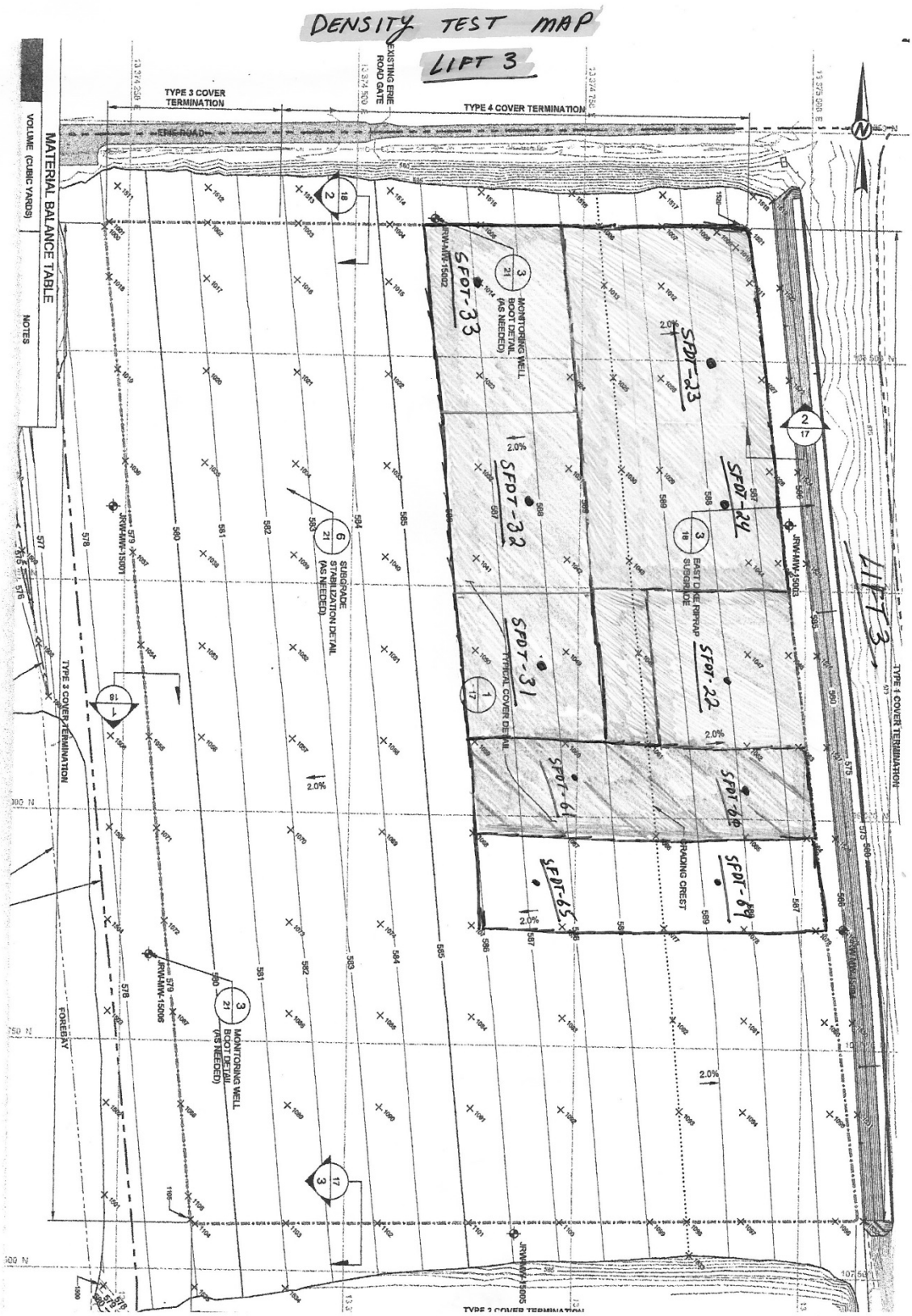

BRIDGING LAYER
PROOF ROLL MAP
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
ERIE ROAD
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
PROOF ROLLED 7.8.19
PROOF ROLLED 7.10.19
PROOF ROLLED 8.12.19
PROOF ROLLED 8.14.19
PROOF ROLLED 8.7.19
PROOF ROLLED 8.9.19
PROOF ROLLED 8.12.19
PROOF ROLL BRIDGING LAYER
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
FOREBAY
TYPE 3 COVER TERMINATION
TYPE 4 COVER TERMINATION
JRW-MW-15002
JRW-MW-15001
JRW-MW-15003
JRW-MW-15006
JRW-MW-15005
2.0%
SUMP


S.F. LIFT MAP / LIFT 2
LIFT 2
TYPE 3 COVER TERMINATION
EXISTING EENE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
TYPICAL COVER DETAIL
EAST DIKE RIPRAP SUBGRADE
TRACING CREST
JRW-MW-15001
JRW-MW-15003
JRW-MW-15004
JRW-MW-15005
JRW-MW-15006
TYPE 3 COVER TERMINATION
TYPE 4 COVER TERMINATION
TYPE 2 COVER TERMINATION
FOREBAY
PLACED 7.22.19
PLACED 7.23.19
PLACED 7.24.19
7.30.19
LIFT 2 8.16.19
LIFT 2 8.17.19


S.F. LIFT MAP / LIFT 3
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
ERIE ROAD
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
LIFT 3 7.29.19
LIFT 3 7.27.19
LIFT 3 7.26.19
LIFT 2 8.16.19
LIFT 3 8.17.19
8.1.19
2.0%
MONITORING WELL BOOT DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
GRADING CREST
JRW-MW-15002
JRW-MW-15003
JRW-MW-15001
JRW-MW-15006
JRW-MW-15005
TYPE 3 COVER TERMINATION
FOREBAY
TYPE 4 COVER TERMINATION
TYPE 3 COVER TERMINATION

GOLDER


DENSITY TEST MAP
LIFT 2
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
TRACING CREST
TYPE 2 COVER TERMINATION
FOREBAY
SFDT-1Φ
SFDT-11
SFDT-12
SFDT-16
SFDT-17
SFDT-18
SFDT-29
SFDT-28
SFDT-3Φ
SFDT-63
SFDT-62
LIFT 2


DENSITY TEST MAP
LIFT 3
TYPE 3 COVER TERMINATION
EXISTING ERIE ROAD GATE
TYPE 4 COVER TERMINATION
ERIE ROAD
MATERIAL BALANCE TABLE
VOLUME (CUBIC YARDS)
NOTES
MONITORING WELL BOOT DETAIL (AS NEEDED)
SUBGRADE STABILIZATION DETAIL (AS NEEDED)
EAST DIKE RIPRAP SUBGRADE
TYPICAL COVER DETAIL
GRADING CREST
TYPE 1 COVER TERMINATION
TYPE 3 COVER TERMINATION
FOREBAY
JRW-MW-15001
JRW-MW-15002
JRW-MW-15003
JRW-MW-15004
JRW-MW-15005
JRW-MW-15006
SFDT-33
SFDT-23
SFDT-24
SFDT-32
SFDT-22
SFDT-31
SFDT-61
SFDT-65
SFDT-69
LIFT 3
2.0%

GOLDER