

Consulting December 19, 2019

Engineers and Scientists

GEI Project No. 1610536

Mr. Tim Muehlfeld, P.E. WEC Business Services, LLC 333 W. Everett Street, A231 Milwaukee, Wisconsin 53203

### Re: Landfill Inspection Report We Energies Presque Isle Power Plant Landfill No. 3 Marquette Township, Michigan

Dear Mr. Muehlfeld:

GEI Consultants of Michigan, P.C. (GEI) is pleased to provide this landfill inspection report for the We Energies Presque Isle Power Plant (PIPP) Landfill No. 3. The inspection was completed to comply with 40 CFR 257 Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments and specifically with § 257.84(b) Annual inspections by a qualified professional engineer.

### § 257.84 Inspection Requirements for CCR Landfills

(b) Annual inspections by a qualified professional engineer.

(1) Existing and new CCR landfills and any lateral expansion of a CCR landfill must be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:

(i) A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspections by a qualified person and results of previous annual inspections); and

(ii) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.

(2) *Inspection report*. The qualified professional engineer must prepare a report following each inspection that addresses the following:

(i) Any changes in geometry of the structure since the previous annual inspection;

(ii) The approximate volume of CCR contained in the unit at the time of the inspection;

(iii) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit; and

(iv) Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.

## Background

The landfill is located in the NW 1/2 of the SE 1/4 of Section 6, Township 48 North, Range 25 West, approximately 4 miles west of the power plant in Marquette Township, Marquette County, Michigan. The landfill is permitted by the Michigan Department of Environmental Quality (MDEQ) under Construction Permit No. 0400 dated February 27, 2002, and the current Operating License. Figure 1 – Site Location Figure, shows the location of the landfill relative to the power plant and the City of Marquette, Michigan. Cell 1 of Landfill No. 3 was constructed in the 2003 construction season and placed into service on October 8, 2005. Cell 2 of Landfill No. 3 was constructed during the 2007 construction season and placed into service on October 10, 2008. The perimeter slopes of Cell 1 were closed during the 2014 construction season and the remainder of the landfill was closed during the 2019 construction season. With the issuance of the Cell 2 closure construction documentation report approval from the Michigan Department of Environment, Great Lakes, and Energy on October 21, 2019, PIPP Landfill No. 3 began the 30-year post-closure care period.

GEI was retained to perform an annual inspection of the landfill in compliance with § 257.84(b)Annual inspections by a qualified professional engineer. The inspection was performed on November 27, 2018. Copies of the site location figure, landfill inspection forms, existing site conditions drawing, and inspection photo log are appended to this letter-report and constitute the entirety of the report.

## Site Inspections

Multiple landfill site inspections were performed during 2019. An initial landfill site inspection was performed on May 21, 2019 to observe the perimeter slopes of Landfill No. 3 at the onset of the closure construction project. Additional inspections of the landfill were completed on July 2, July 24, September 5, October 2, and October 9, 2019. The May 21, inspection included a meeting with landfill operation personnel to discuss the daily operation of the facility including ash placement, fugitive dust control, storm water/contact water management, leachate hauling, and operation of the leachate collection and removal system; review of the leachate hauling and landfill operating records; observation of the existing site conditions including the access road and cell entrance; the Cell 1 final cover slopes. The July 2 and July 24 inspections included the perimeter slope of Cell 1, final cover construction in Cell 2, fugitive dust control, storm water/contact water management, leachate hauling, and operation of the leachate collection and removal system. The September 5 inspection was the final site inspection at the end of construction. The October 2 inspection centered two areas of erosion along the south face of the completed final cover, and the October 9 inspection documented the erosion repairs. We Energies completed final cover construction September 5, 2019 and the closure construction documentation report was approved by Michigan Department of Environment, Great Lakes, and Energy on October 21, 2019. The We Energies PIPP Landfill No. 3 contains 642,460 cubic yards of CCR.

Based on review of the site and discussions with the landfill operation personnel the landfill operations ran smoothly until power plant operations ceased and landfill closure construction began on May 16, 2019. Ash placement in the landfill prior to the beginning of final cover construction had been limited due to reduced operations. Approximately 18,310 cubic yards of CCR were disposed in the landfill in 2019. The landfill ceased accepting waste and geomembrane liner placement began on June 20, 2019. Leachate hauling has been consistent with one to four truckloads per day being transported for disposal. With the closure of the power plant, We Energies began transporting and disposing of leachate at the Marquette Area Wastewater Treatment Facility on April 23, 2019. The fugitive dust control measures worked well during operation and closure, there have been no citizen complaints received or logged for fugitive dust during 2019.

Overall the landfill is in very good condition. The perimeter slopes of Cell 1 closed in 2014 are in good condition. The vegetation appeared to be well established with no observed bare spots, no significant erosion, no woody vegetation, no animal burrows, no signs of differential settlement, and no areas of instability. During the May 21, 2019 inspection at the onset of the closure construction, GEI recommended that the Cell 1 final cover receive an application of fertilizer, which was applied during the final site restoration of the Cell 2 final cover.

The We Energies Landfill No. 3 is a double lined landfill with a primary leachate collection system and secondary leachate detection system. The leachate collection system is a network of perforated collection pipes running east-west across the landfill within a 12-inch sand drainage layer. The pipes drain to the leachate collection sumps along the east perimeter berm of the landfill. The sump in Cell 2 gravity drains to the sump in Cell 1 where it is extracted by sump pumps installed in side slope riser pipes. The sump in Cell 1 has two extraction pumps that are individually controlled by pressure transducers installed inside each side slope riser pipe. The pumps are powered on when the leachate head level in the side slope riser reaches 36 inches and power off when the level reaches 18 inches. In the event of a pump failure a high-level alarm is activated when the sump level reaches 54 inches of leachate head. In accordance with Part 115, Solid Waste Management of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, We Energies is obligated to maintain the leachate head level to less than 12 inches on the base of the landfill, excluding the sump, that level is reached if the leachate head level in the side slope risers reaches 62.4 inches of head.

The leak detection system consists of a geocomposite drainage layer between the primary composite liner system and a secondary geomembrane liner. A secondary sump with a side slope riser pipe and leachate extraction pump is installed in each cell. On the day of the inspection the secondary pumps, P-2-1 installed in Cell 1 and P-4-1 installed in Cell 2 had not run. Head level in the primary and secondary sumps are included on the inspection forms.

### Closing

During the 2019 construction season, We Energies completed final closure of the PIPP Landfill No. 3. Construction began on May 16, 2019 and was substantially completed September 5, 2019. The annual inspection of the We Energies Landfill No. 3 was completed in compliance with § 257.84(b) Annual inspections by a qualified professional engineer. Overall the landfill is in very good condition. The final cover system was installed over the remaining open areas of the landfill preventing fugitive dust generation, contact water run-off, and storm water run-on. The leachate system is functioning as designed and the landfill operators are keeping up with leachate hauling. Based on my observations and discussions with the landfill personnel the landfill is constructed and being operated in accordance with Construction Permit No. 0400 dated February 27, 2002; the current Operating License; the requirements of Part 115, Solid Waste Management of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended; and 40 CFR 257 Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments.

The inspection was completed by John, M. Trast, P.E. I am a licensed professional engineer in the State of Michigan in accordance with Article 20 of the Occupational Code, Public Act 299 of 1980, as amended. This document has been prepared in accordance with the Michigan Administrative Rules, Department of Licensing and Regulatory Affairs, Professional Engineers – General Rules, Part 3 – Standards of Practice and Professional Conduct; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements of Part 115 of PA 451, as amended and 40 CFR 257.

2019 Landfill No. 3 Inspection Presque Isle Power Plant Landfill We Energies

If you have any questions regarding this landfill inspection, please contact me at 920-455-8299.

Sincerely,

GEI CONSULTANTS, INC.

John M. Trast, P.E. Vice President

Attachments: Figure 1 - Site Location Landfill Inspection Photo Log Landfill Inspection Form 05/21/2019 and 10/09/2019 Drawing C-4 Final Cover Grades



#### JXT:cah

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Photo No. 1: Aerial photo of PIPP Landfill No. 3 looking northeast 09/26/2019



Photo No. 2: South slope of the PIPP Landfill No. 3 looking northwest 10/1/2019





Photo No. 3: East slope of the PIPP Landfill No. 3 looking west 09/26/2019



Photo No. 4: East slope of the PIPP Landfill No. 3 looking north 10/01/2019





Photo No. 5: East and north slopes of the PIPP Landfill No. 3 looking southwest 09/26/2019



Photo No. 6: East and north slopes of the PIPP Landfill No. 3 looking southwest 09/26/2019





Photo No. 7: West slope of the PIPP Landfill No. 3 looking east 09/26/2019



Photo No. 8: West slope of the PIPP Landfill No. 3 looking north 10/1/2019

| PIPP ASH LANDFILL #3 - ANNUAL INSPECTION |  |                              |                           |  |  |  |
|--|--|------------------------------|---------------------------|--|--|--|
|  |  |                              |                           |  |  |  |
| INSPECTOR:                               | John Trast                                   |                              |                           |  |  |  |
| INSPECTION DATE/TIME:                    | 5/21/2019                                    |                              |                           |  |  |  |
| WEATHER:                                 |  |                              |                           |  |  |  |
| Temperature:                             | 60° F  |                              |                           |  |  |  |
| Conditions:                              | Overcast                                     |                              |                           |  |  |  |
| Wind:                                    | Mild   |                              |                           |  |  |  |
| Wind Direction:                          | NW   |                              |                           |  |  |  |
| Precipitation:                           | None   |                              |                           |  |  |  |
| LEACHATE COLLECTION SYS                  | TEM:   |                              |                           |  |  |  |
| Load-out Facility:                       |  | Sump:                        |                           |  |  |  |
| High level alarms:                       | No   | Pump #1-1:                   | Available                 | 24.1 in Primary LCS Sump               |  |  |
| Low level alarms:                        | NO   | Pump #1-2:                   | Available                 | 33.5 in Primary LCS Sump               |  |  |
|  | NO   | Pump #2-1:                   | Available                 | 20.2 in Cell 1 Secondary               |  |  |
|  | 7.2 ft                                       | Pump #4-1:                   | Available                 | 19.0 In Cell 2 Secondary               |  |  |
| I ank volume:                            | 64521 gallons                                | Control Panel:               | Available                 |  |  |  |
| Pump:                                    | Available                                    | Note: 62.4" in D1            | 1 or D1 0 o               | sucted to 10" of bood on bood liner    |  |  |
| Pad Condition:                           | G000   | svstem is in good w          | 1 of P1-2 e               | duates to 12 of head on base liner     |  |  |
| Comments.                                | maintained in comp                           | pliance with the oper        | ating licens              | e requirements.                        |  |  |
|  | •  | •                            | ų                         | •                                      |  |  |
| STABILITY/EROSION OF FINAL               | _ COVERS & WAST                              | TE SLOPES:                   |                           |  |  |  |
| Final Covers:                            | <b>V</b>                                     |                              |                           |  |  |  |
| Waste Slopes:                            | The final eavier clar                        | aa annaar stabla wi          | th no choose              | and instability as significant         |  |  |
| Comments :                               | erosion no woody                             | vegetation no anima          | in no obser<br>al burrows | or concerns regarding the final        |  |  |
|  | cover slopes. Lindl                          | berg is beginning the        | e final cove              | r construction and reshaping the       |  |  |
|  | ash slope. Everyth                           | ing appeared to be i         | n good con                | dition with no observed instability or |  |  |
|  | significant erosion.                         | The interior storm/co        | ontact wate               | r control ditch are in good condition. |  |  |
|  |  |                              |                           |  |  |  |
| Note:                                    | Check mark indica                            | ates slope appears           | stable and                | I no significant erosion.              |  |  |
| LANDFILL OPERATIONS:                     |  |                              |                           |  |  |  |
| Fugitive Dust Control:                   |  | Stormwater Manag             | gement                    |  |  |  |
| Tracking Pads :                          | $\checkmark$                                 | Exterior Ditches:            | $\checkmark$              |  |  |  |
| Cattle Guards :                          | $\checkmark$                                 | Interior Ditches:            | $\checkmark$              |  |  |  |
| Access Road Clean:                       | <b>V</b>                                     | Catch Basin:                 | $\checkmark$              |  |  |  |
| Landfill Surfaces Groomed:               | <b>V</b>                                     | Culverts:                    | $\checkmark$              |  |  |  |
| Airbourne Dust Visible:                  | No   |                              |                           |  |  |  |
| Sign of Recent Dust Deposition:          | No   |                              |                           |  |  |  |
| Comments:                                | Landfill operations<br>closure of Landfill N | have ceased and A.<br>√o. 3. | Lindberg &                | Sons, Inc. are beginning the final     |  |  |
|  |  |                              |                           |  |  |  |
| Note:                                    | Check mark indice                            | ates that the feature        | es are acce               | entable.                               |  |  |
| Aute.                                    | Succes mark mult                             | also that the realth         | course acce               | pravio,                                |  |  |

| PIPP ASH LANDFILL #3 - ANNUAL INSPECTION   |  |   |  |  |  |  |
|--|--|---|--|--|--|--|
|  |  |   |  |  |  |  |
| INSPECTOR:   | John Trast   | /Kevin Rautiola   |  |  |  |  |
| INSPECTION DATE/TIME:  | 10/9/2019  |   |  |  |  |  |
| WEATHER:   |  |   |  |  |  |  |
| Temperature:   | 60° F  |   |  |  |  |  |
| Conditions:  | Overcast   |   |  |  |  |  |
| Wind:  | Mild   |   |  |  |  |  |
| Wind Direction:  | NW   |   |  |  |  |  |
| Precipitation:   | None   |   |  |  |  |  |
| LEACHATE COLLECTION SYS  | TEM:   |   |  |  |  |  |
| Load-out Facility:   |  | Sump:   |  |  |  |  |
| High level alarms:   | No   | Pump #1-1: Available  | NR   | Primary LCS Sump   |  |  |
| Low level alarms:  | No   | Pump #1-2: Available  | NR   | Primary LCS Sump   |  |  |
| Leak alarms  | No   | Pump #2-1: Available  | NR   | Cell 1 Secondary   |  |  |
| Tank Level :   | 5.0 ft   | Pump #4-1: Available  | NR   | Cell 2 Secondary   |  |  |
| Tank Volume:   | 41825 gallons  | Control Panel: Available  |  |  |  |  |
| Pump:  | Available  |   |  |  |  |  |
| Pad Condition:   | Good   | Note: 62.4" in P1-1 or P1-2 eq  | uates to   | o 12" of head on base liner  |  |  |
| Comments:  | Leachate tank level  | s are good. Leachate levels are   | being  | maintained in compliance   |  |  |
|  | readings were not r  | ead (NR)  | . HOWE   | ever individual sump   |  |  |
| STABILITY/EROSION OF FINAL COVERS & WASTE SLOPES:  |  |   |  |  |  |  |
|  |  | E SLOPES.   |  |  |  |  |
| Final Covers:  | ✓  |   |  |  |  |  |
| Final Covers:<br>Waste Slopes:   | <ul><li>✓</li></ul>  |   |  |  |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :   | ☑<br>☑<br>The final cover slop   | bes appear stable with no observ  | ed inst  | ability, no significant  |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :   | ☑<br>☑<br>The final cover slop<br>erosion, no woody  | bes appear stable with no observ<br>vegetation, no animal burrows, o  | red instant  | ability, no significant<br>erns regarding the final  |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :   | ✓<br>✓<br>The final cover slop<br>erosion, no woody<br>cover slopes. Lind  | bes appear stable with no observ<br>vegetation, no animal burrows, o<br>berg completed erosion repairs of   | red insta<br>r conc<br>on the fi   | ability, no significant<br>erns regarding the final<br>inal cover. Everything  |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :   | <ul> <li>☑</li> <li>☑</li> <li>The final cover slop<br/>erosion, no woody<br/>cover slopes. Lindl<br/>appeared to be in g</li> </ul>   | bes appear stable with no observ<br>vegetation, no animal burrows, o<br>berg completed erosion repairs o<br>lood condition with no observed   | red insta<br>r conc<br>on the fi<br>instabil   | ability, no significant<br>erns regarding the final<br>nal cover. Everything<br>ity or significant erosion.  |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :   | ☑<br>☑<br>The final cover slop<br>erosion, no woody v<br>cover slopes. Lindt<br>appeared to be in g  | bes appear stable with no observ<br>vegetation, no animal burrows, o<br>berg completed erosion repairs o<br>lood condition with no observed   | red insta<br>r conc<br>on the fi<br>instabil   | ability, no significant<br>erns regarding the final<br>inal cover. Everything<br>ity or significant erosion.   |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :   | ☑<br>☑<br>The final cover slop<br>erosion, no woody<br>cover slopes. Lind<br>appeared to be in g   | bes appear stable with no observ<br>vegetation, no animal burrows, o<br>berg completed erosion repairs o<br>lood condition with no observed   | red insta<br>r conc<br>on the fi<br>instabil   | ability, no significant<br>erns regarding the final<br>nal cover. Everything<br>ity or significant erosion.  |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :<br><b>Note:</b>   | The final cover slop<br>erosion, no woody v<br>cover slopes. Lindt<br>appeared to be in g Check mark indica  | bes appear stable with no observ<br>vegetation, no animal burrows, o<br>berg completed erosion repairs o<br>lood condition with no observed<br>ates slope appears stable and  | red insta<br>r conc<br>on the fi<br>instabil<br><b>no sig</b> i                            | ability, no significant<br>erns regarding the final<br>inal cover. Everything<br>ity or significant erosion.<br><b>nificant erosion.</b>   |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :<br><b>Note:</b><br>LANDFILL OPERATIONS:   | The final cover slop<br>erosion, no woody v<br>cover slopes. Lind<br>appeared to be in g Check mark indica   | bes appear stable with no observed<br>vegetation, no animal burrows, o<br>berg completed erosion repairs o<br>ood condition with no observed<br>ates slope appears stable and   | red insta<br>r conc<br>on the fi<br>instabil<br><b>no sig</b> i                            | ability, no significant<br>erns regarding the final<br>inal cover. Everything<br>ity or significant erosion.<br>nificant erosion.  |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :<br>Note:<br>LANDFILL OPERATIONS:<br>Fugitive Dust Control:  | The final cover slop<br>erosion, no woody<br>cover slopes. Lindl<br>appeared to be in g Check mark indica  | bes appear stable with no observed vegetation, no animal burrows, oberg completed erosion repairs of the condition with no observed ates slope appears stable and <u>Stormwater Management</u>  | red insta<br>r conc<br>on the fi<br>instabil<br><b>no sig</b> i                            | ability, no significant<br>erns regarding the final<br>nal cover. Everything<br>ity or significant erosion.<br>nificant erosion.   |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :<br>Note:<br>LANDFILL OPERATIONS:<br>Fugitive Dust Control:<br>Tracking Pads :   | The final cover slop<br>erosion, no woody v<br>cover slopes. Lindt<br>appeared to be in g Check mark indication  | bes appear stable with no observed vegetation, no animal burrows, obserg completed erosion repairs of the condition with no observed ates slope appears stable and <u>Stormwater Management</u> Exterior Ditches:   | red insta<br>r conc<br>on the fi<br>instabil<br>no sigi                                    | ability, no significant<br>erns regarding the final<br>inal cover. Everything<br>ity or significant erosion.   |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :<br><b>Note:</b><br>LANDFILL OPERATIONS:<br>Fugitive Dust Control:<br>Tracking Pads :<br>Cattle Guards :   | The final cover slop<br>erosion, no woody v<br>cover slopes. Lindl<br>appeared to be in g Check mark indication  | bes appear stable with no observed<br>vegetation, no animal burrows, ob<br>org completed erosion repairs of<br>ood condition with no observed<br>ates slope appears stable and<br><u>Stormwater Management</u><br>Exterior Ditches: □<br>Interior Ditches: □  | red insta<br>r conc<br>on the fi<br>instabil<br><b>no sig</b> i                            | ability, no significant<br>erns regarding the final<br>inal cover. Everything<br>ity or significant erosion.   |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :<br><b>Note:</b><br>LANDFILL OPERATIONS:<br>Fugitive Dust Control:<br>Tracking Pads :<br>Cattle Guards :<br>Access Road Clean:   | The final cover slop erosion, no woody wood wood wood wood wood wood wo  | bes appear stable with no observed<br>vegetation, no animal burrows, ob<br>berg completed erosion repairs of<br>rood condition with no observed<br>ates slope appears stable and<br><u>Stormwater Management</u><br>Exterior Ditches: □<br>Interior Ditches: □<br>Catch Basin: □  | red insta<br>r conc<br>on the fi<br>instabil<br><b>no sig</b> i                            | ability, no significant<br>erns regarding the final<br>nal cover. Everything<br>ity or significant erosion.  |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :<br><b>Note:</b><br>LANDFILL OPERATIONS:<br>Fugitive Dust Control:<br>Tracking Pads :<br>Cattle Guards :<br>Access Road Clean:<br>Landfill Surfaces Vegetated:   | The final cover slope erosion, no woody v cover slopes. Lindt appeared to be in g Check mark indication  | bes appear stable with no observed<br>vegetation, no animal burrows, ob<br>perg completed erosion repairs of<br>lood condition with no observed<br>ates slope appears stable and<br><u>Stormwater Management</u><br>Exterior Ditches: □<br>Interior Ditches: □<br>Catch Basin: □<br>Culverts: □   | red insta<br>r conc<br>on the fi<br>instabil   | ability, no significant<br>erns regarding the final<br>inal cover. Everything<br>ity or significant erosion.   |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :<br><b>Note:</b><br>LANDFILL OPERATIONS:<br>Fugitive Dust Control:<br>Tracking Pads :<br>Cattle Guards :<br>Access Road Clean:<br>Landfill Surfaces Vegetated:<br>Airbourne Dust Visible:  | The final cover slope erosion, no woody v cover slopes. Lindle appeared to be in g Check mark indication   | bes appear stable with no observed<br>vegetation, no animal burrows, ob<br>org completed erosion repairs of<br>ood condition with no observed<br>ates slope appears stable and<br>Stormwater Management<br>Exterior Ditches: ☑<br>Interior Ditches: ☑<br>Catch Basin: ☑<br>Culverts: ☑  | red insta<br>r conc<br>on the fi<br>instabil   | ability, no significant<br>erns regarding the final<br>inal cover. Everything<br>ity or significant erosion.   |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :<br>Comments :<br><b>Note:</b><br>LANDFILL OPERATIONS:<br>Fugitive Dust Control:<br>Tracking Pads :<br>Cattle Guards :<br>Cattle Guards :<br>Access Road Clean:<br>Landfill Surfaces Vegetated:<br>Airbourne Dust Visible:<br>Sign of Recent Dust Deposition:              | The final cover slope erosion, no woody wood wood wood wood wood wood wo   | bes appear stable with no observed<br>vegetation, no animal burrows, ob<br>berg completed erosion repairs of<br>lood condition with no observed<br>ates slope appears stable and<br><u>Stormwater Management</u><br>Exterior Ditches: □<br>Interior Ditches: □<br>Catch Basin: □<br>Culverts: □   | red insta<br>r conc<br>on the fi<br>instabil   | ability, no significant<br>erns regarding the final<br>nal cover. Everything<br>ity or significant erosion.  |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :<br>Comments :<br>IANDFILL OPERATIONS:<br>Fugitive Dust Control:<br>Tracking Pads :<br>Cattle Guards :<br>Access Road Clean:<br>Landfill Surfaces Vegetated:<br>Airbourne Dust Visible:<br>Sign of Recent Dust Deposition:<br>Comments:                                    | The final cover slope erosion, no woody v cover slopes. Lindt appeared to be in g Check mark indication Check mark indication No No No No Landfill disposal op Lindberg & Sons Jr  | bes appear stable with no observed<br>berg completed erosion repairs of<br>bood condition with no observed<br>ates slope appears stable and<br>Stormwater Management<br>Exterior Ditches: □<br>Catch Basin: □<br>Catch Basin: □<br>Culverts: □<br>erations have ceased. The final   | r conc<br>on the fi<br>instabil<br>no sign   | ability, no significant<br>erns regarding the final<br>inal cover. Everything<br>ity or significant erosion.<br><b>Inificant erosion.</b>  |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :<br>Comments :<br>Eustria Control:<br>Fugitive Dust Control:<br>Tracking Pads :<br>Cattle Guards :<br>Cattle Guards :<br>Access Road Clean:<br>Landfill Surfaces Vegetated:<br>Airbourne Dust Visible:<br>Sign of Recent Dust Deposition:<br>Comments:                     | The final cover slope erosion, no woody wood wood wood wood wood wood wo   | es appear stable with no observer<br>vegetation, no animal burrows, ob<br>org completed erosion repairs of<br>ood condition with no observed<br>ates slope appears stable and<br>Stormwater Management<br>Exterior Ditches: ☑<br>Interior Ditches: ☑<br>Catch Basin: ☑<br>Culverts: ☑<br>erations have ceased. The final<br>nc. are maintaining the slopes ur | red insta<br>on the fi<br>instabil<br>no sigu<br>cover i<br>ntil vege                      | ability, no significant<br>erns regarding the final<br>inal cover. Everything<br>ity or significant erosion.<br><b>Inificant erosion.</b><br>s completed and A.<br>etation is fully established. |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :<br>Comments :<br><b>Note:</b><br>LANDFILL OPERATIONS:<br>Fugitive Dust Control:<br>Tracking Pads :<br>Cattle Guards :<br>Cattle Guards :<br>Access Road Clean:<br>Landfill Surfaces Vegetated:<br>Airbourne Dust Visible:<br>Sign of Recent Dust Deposition:<br>Comments: | The final cover slope erosion, no woody wood wood wood wood wood wood wo   | bes appear stable with no observed<br>berg completed erosion repairs of<br>bood condition with no observed<br>ates slope appears stable and<br>Stormwater Management<br>Exterior Ditches: □<br>Exterior Ditches: □<br>Catch Basin: □<br>Culverts: □<br>erations have ceased. The final<br>boc. are maintaining the slopes ur                                  | red insta<br>r conc<br>on the fi<br>instabil<br>no sigu<br>no sigu<br>cover i<br>atil vege | ability, no significant<br>erns regarding the final<br>inal cover. Everything<br>ity or significant erosion.<br><b>hificant erosion.</b><br>s completed and A.<br>etation is fully established.  |  |  |
| Final Covers:<br>Waste Slopes:<br>Comments :<br>Comments :<br>Eugitive Dust Control:<br>Tracking Pads :<br>Cattle Guards :<br>Cattle Guards :<br>Access Road Clean:<br>Landfill Surfaces Vegetated:<br>Airbourne Dust Visible:<br>Sign of Recent Dust Deposition:<br>Comments:   | The final cover slope erosion, no woody v cover slopes. Lindt appeared to be in g Check mark indication Check mark indication No No No No Landfill disposal op Lindberg & Sons, Ir | bes appear stable with no observed<br>berg completed erosion repairs of<br>bood condition with no observed<br>ates slope appears stable and<br>Stormwater Management<br>Exterior Ditches: □<br>Exterior Ditches: □<br>Catch Basin: □<br>Culverts: □<br>erations have ceased. The final<br>hoc. are maintaining the slopes ur                                  | red insta<br>r conc<br>on the fi<br>instabil<br>no sign<br>cover i<br>ttil vege            | ability, no significant<br>erns regarding the final<br>inal cover. Everything<br>ity or significant erosion.<br><b>hificant erosion.</b><br>Is completed and A.<br>etation is fully established. |  |  |



**BURIED POWER** UGE UGE UGE - +IGF-----MW-97 MW-79  $M/M_{-78}$ - - - $\searrow$ ~~ Ĵ~v∕~ N-78F  $\overline{(},$  $\sim$  $\langle \rangle$ ANCHOR TRE . . . . . . . . . . . . . . . . . . . 609 grd end end end TIE-IN ALONG 4:1 SLOPE 233 234 237 238 232 235 236 239 × \ grd SEE DETAIL × × grd grd grd grd SEE DETAIL 4 253 250 251 252 255 × × × grd grd 890. 270 275 grd . 🔺 316 crst 306 -878-grd -876-CO PIPE BOOTS -974-SEE DETAILS \_<del>\_\_\_\_</del>\_\_\_868\_\_\_\_<del>\_\_337</del> 334  $-\frac{1}{4}-x$ grd grd grd -862 -858-<del>358</del> 856 <u>35</u>9 grd \_\_\_\_\_grd\_\_ 376 380 toe CÓ PIPE BOOT toe SEE DETAILS 71/101 402 grd FINAL COVER SYSTEM 403 x ard 7 SEE DETAIL  $\overline{77}$ 418 **9**07 421 417 422 425 424 **9**06 gind gupph **4**35 gad 24" OF ROOTING SOIL TO – MAXIMIZE SLOPE OF 4H:1V. -844-AND 6" TOPSOIL -842-+  $\bigcirc$ -840-----838-----\_836\_\_\_\_ -834-EXTENDED LEACHATE HEADER CLEANOUT FINAL COVER TERMINATION 24" OF ROOTING SOIL TO MAXIMIZE SLOPE OF 4H:1V. AND 6" TOPSOIL AT INTERCELL BERM-9 SEE DETAIL  $\sim$ 7 LIMIT OF CONSTRUCTION -MW-99 JXT Designed: JXT Checked: JLC Drawn: JE 0 Х Х Х not original scale. NO. DATE **ISSUE/REVISION** APP Submittal Date: 10/11/2019

| LEGEND             |  |
|--------------------|--|
| 830                | EXISTING GROUND SURFACE CONTOUR          |
|                    | EXISTING ASPHALT HAUL ROAD               |
| - <u>x x x x x</u> | EXISTING FENCE                           |
| B\MW-70            | EXISTING SOIL BORING/MONITORING WELL     |
|                    | EXISTING TREELINE                        |
|                    | APPROVED LIMIT OF WASTE                  |
|                    | EXISTING LINER GEOMEMBRANE ANCHOR TRENCH |
| c.o. O             | EXISTING LEACHATE CLEANOUT               |
|                    | EXISTING RISER VAULT                     |
| СР                 | CONTROL POINT                            |
|                    | LIMIT OF CONSTRUCTION                    |
|                    | EXISTING COVER GEOMEMBRANE ANCHOR TRENCH |
| >>                 | EXISTING SURFACE WATER DIVERSION BERM    |
|                    | EXISTING LEACHATE FORCEMAIN PIPE         |
|                    | EXISTING CULVERT                         |

BURIED POWER

LECTRICAL

TRANSFORMER

— UGE—

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SCALE IN F

UGE UGE UGE UGE

MH-4

MH-3

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MW-98

NZ 500

870 ------

× <sup>343</sup>GRV

|   | CONTROL POINT                              |
|---|--|
| • | LIMIT OF CONSTRUCTION                      |
| • | EXISTING COVER GEOMEMBRANE ANCHOR TRENCH   |
|   | EXISTING SURFACE WATER DIVERSION BERM      |
|   | EXISTING LEACHATE FORCEMAIN PIPE           |
|   | EXISTING CULVERT                           |
| • | FINAL GRADE CONTOUR (2019)                 |
|   | DOCUMENTATION POINT NUMBER AND DESCRIPTION |

**CONTROL POINT DATA TABLE** SITE GRID STATE PLANE ELEVATION POINT NORTH (FT.) NUMBER EAST NORTH EAST DESCRIPTION CP-6223 8,270.000 3,400.000 657,996.38 26,127,035.25 780.62 PERMIT 7,489.167 4,504.239 657,209.97 26,128,135.35 853.75 TRIMEDIA SPIKE(2015) 8,006.373 4,612.143 657,726.56 26,128,245.79 845.07 TRIMEDIA 2014(2015) 8,269.930 2,865.060 657,998.85 26,126,500.36 869.91 CP-6221 GEI 2015 9,075.010 2,865.030 658,803.81 26,126,504.33 CP-6220 867.01 GEI 2015 7,853.125 4,487.888 847.52 TPT STS TCI

dtb, 11/16/15

NOTES:

1. BASE MAP FROM AIR PHOTO BY AERO-METRIC ENGINEERING, TAKEN ON 4/3/1998.

2. HORIZONTAL GRID IS A LOCAL SITE GRID REFERENCED TO MICHIGAN STATE PLANE NORTH COORDINATE SYSTEM NAD83 CORS96 (2011) INTERNATIONAL FEET. 3. ELEVATIONS REFERENCED TO NAVD88.

N7,000 4. PROPERTY LINE SHOWN IS FROM SURVEY PERFORMED BY SUNDBERG, CARLSON AND ASSOCIATES, (SCA) DATED 2-1-1988. SEE SCA PROJECT # 8710-814, REV. NO. C FOR COMPLETE SITE BOUNDARY SURVEY.

5. LANDFILL NO. 3, PHASES 1-2 FINAL COVER GRADES AND BORROW AREAS TOPOGRAPHY SURVEY PERFORMED BY A. LINDBERG AND SONS, INC., ON 9/13/2019.



| We Energies         | Presque Isle Power Plant<br>Landfill No. 3<br>Cell 2 Final Cover Construction Documentation | DWG. NO.<br>C-4 |
|---------------------|---|-----------------|
| Marquette, Michigan | Final Cover Grades  | SHEET NC        |
| GEI Project 1902386 |   | 4               |

Filename: J:\LANDFILLS\WE - PRESQUE ISLE\WE\_PIPP\_LF3\1902386 - PHASE 2 FC CD\DWG\1902386001\_PLANS&XSCD.DWG Last saved by: JCALAWAY Last Plotted: 2019-10-04