

ANNUAL INSPECTION REPORT

BARRETT LANDFILL

21001 W Coffee Road, New Berlin, Wisconsin 53146 | April 2022



Prepared For:

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1 SITE INFORMATION

The Barrett Landfill is located in the western portion of the City of New Berlin, in Waukesha County, Wisconsin. Figure 1 shows the location of the landfill, its components and locations of the private wells. Figure 2 shows notable features identified during the 2020 Annual Site Inspection. The site can be accessed from two separate entrances, one on Coffee Road and one on Swartz Road and has the following WDNR associated identification numbers:

Site Address: 21001 Coffee Road, New Berlin Wisconsin 53151

Main Entrance Address: 3601 S. Swartz Road, New Berlin, Wisconsin 53151

FID (Facility Identification Number): 268134130

BRRTS Number: 09-68-534609

Solid Waste License Number: 1940

1.1 SITE BACKGROUND

The 39-acre property was a gravel mining pit that was filled with waste once mining operations ceased. When operational, the landfill accepted a variety of wastes including industrial, construction and demolition, ash, foundry sand, asbestos, vehicle shredding fluff and tannery hides. Some waste was open burned.

A leachate collection system was installed in a portion of the landfill. The extent of this system was not documented nor was it constructed over an engineered liner, but likely over less permeable soils. Leachate from the system collects in a sump/lift station and is pumped to a collection tank near the main entrance on S. Swartz Road.

1.2 SITE ACCESS

The site is secured with a perimeter chain link fence, with gate access to Coffee Road on the north and to Swartz Road on the east. The gate should be locked when leaving the site. Use the main entrance on Swartz Road whenever possible. When arriving at the Site, pull into the main entrance drive, making sure vehicle is fully off the road or safely on the side of the road. Use a designated Site key to unlock the lock that is on the chain on the gate. The gate should be closed if the entrance is not visible from working area to help prohibit trespassers. When leaving the Site, wrap the chain through both ends of the entrance gates and connect the lock through both sides of the chain. Check to make sure lock has been secured prior to leaving the Site.

2 ANNUAL SITE INSPECTION

The 2021 Annual Site Inspection was conducted on December 15, 2021, by Kapur field staff, Ashley Wagner and Jenny Skweres. The landfill cover, gas vents, monitoring wells, gas probes, security fence and gates, and the access roads were all inspected. The leachate system had been decommissioned for the remainder of the year, so no inspection of its components took place.

2.1 LANDFILL COVER

The landfill cover was inspected by field staff for any erosion, burrow holes, slumping, woody vegetation, areas lacking vegetation, and ponding/pooling of liquid (water or leachate). Notable features and areas that require future monitoring and/or repairs can be found on Figure 2.

Erosion is occurring in a few areas on the cover: near the northwest retention basin (photo 4-5), on the northern hill face (photo 8), and to the north and south of the newly repaired erosion area (hill face near GV-126) (photos 2-3).

Repairs made (2019) to the erosion channel on the hill face going towards the pond is documented on have remained secure and have blended into the surrounding landfill cover.

A potential deer path was identified connecting the northwest retention basin to the pond (photos 4-5). While this area may not have been an issue of surface water management, it should be monitored for further damage by deer and/or surface water.

There were six (6) animal burrow holes identified during the site inspection; a few examples can be found in photos 6-7, and 9. The burrow holes are located on the center, east, southwest, south (photo 6), northwest and northeast (photo 7) hill face. All burrow holes were marked with a marking flag so repairs could be made in the future with proper materials. *Note: burrow holes documented in 2019/2020 were not repaired (repair proposal had not been approved). The marking flags used to mark the animal burrows were run over by lawn mowing activities. Attempts were made to relocate the animal burrows, however the burrow holes located in the northwest along the site access road, near GV-141 and the east hill face were not relocated.*

Potential slumping appears to be occurring at the south end of the landfill (photos 10-11). This should be monitored in the future to note any changes. Additional soil may be needed to help stabilize the slopes from further slumping. When comparing the photos from the 2020 inspection, no changes to the slopes are apparent.

Areas lacking vegetation or with sparse vegetation were noted throughout the site (photos 1 and 12). These areas were not completely bare and should be monitored in the spring to ensure vegetation has begun to regrow. If vegetation does not appear to be coming back in these areas, grass seed will need to be applied.

Woody vegetation was noted in the northwest near GV-105 (photo 31), and in the southeast near GV-138 (photo 15). Majority of the woody vegetation in these areas were cut down during mowing activities, but these locations should be monitored in the future for any regrowth. The woody vegetation was not cut during recent mowing activities and will need to be removed in 2022.

No areas were identified with ponding/pooling of liquid on the cover. The drainage channels around the landfill were clear of debris.

Trees that were hanging over the fence line that will need removal were identified. On the eastern side of the Site, near GP-8, and on the southern side of the site, near GP-11, large branches were observed hanging over the access drive. These should be cut back so that the access drive does not become inaccessible should these branches fall. This was discussed with the tree trimmers in September 2021. A tree is growing into/leaning on some electric wires on the northeast side of the site. This tree should be cut down so that it does not damage the wires. This was discussed with the tree trimmers in September 2021. Trees were observed bending over the fence in the southwest corner of the property. These should be cut in a way that the potential for damaging the fence is eliminated.

2.2 GAS VENTS

The condition of the gas vent ID, the vent tilt direction, the presence of a screen, the presence and condition of a hose clamp, and the boot liner condition of each gas vent were recorded on the inspection form, which can be found in Appendix B.

All gas vents were renumbered in 2018. During the 2020 inspection, the numbers were darkened using a paint pen, so the IDs are more visible/distinguishable.

A small hole/tear in the boot liners were noted on gas vents GV-119, GV-137 (photos 14), and LHW. The holes should be repaired using a heavy-duty waterproof plumbing seal tape, similar to what was used previously to repair holes/tears in other gas vent boot liners. An example of this type of tape can be found in Appendix C.

Repairs were made to the holes/tears in the boot liners that were identified during a previous site inspection (2018). Some repairs were still intact, some were not. The holes/tears were repaired using a heavy-duty waterproof plumbing seal tape. These repairs that remained appear to be functioning as intended. Repairs made previously to GV-125, GV-133, GV-135, and GV-138. The repairs made previously to GV-119 and GV-137 were no longer intact. To ensure future repairs remain intact, the addition of a hose clamp(s) to further secure the plumbing seal tape is suggested.

The hose clamps on gas vents GV-118 and GV-128 should be tightened/repositioned and the boot potentially taped so there is a better seal between the PVC and the liner.

The screen on GV-109 is bent away from the PVC (photo 20). The screen free of obstruction, however this should be monitored in the future so to ensure that no animal or insect nests block the vent.

Woody vegetation was noted next to GV-105 (photo 32), GV-126, GV-138 and GV-146. The woody vegetation should be cut down and it should be monitored so that regrowth does not occur.

Trees were growing into/around gas vents GV-114 (photo 19) and GV-118 (photo 18). When tree trimming is completed in 2022, the trees around these gas vents should be trimmed back or cut down completely to avoid damage to the gas vents.

Gas vent, GV-136 (photo 27), was hit with the lawnmower in 2021. The landscape crew had attempted to fix it, but due to the significant tilt of the vent, the repairs did not hold. This vent should be cut down and potentially braced when repaired in 2022.

Several gas vents are tilted in various directions. Their tilt direction was noted on the inspection form (Appendix B), and should be monitored for further tilting, which could indicate slumping or further settlement of the landfill cap.

2.3 MONITORING WELLS

The condition of the protective casing, the lock, the polyvinyl chloride (PVC) casing the presence of a cap, and ID of all monitoring wells and leachate head wells were recorded on the inspection form, which can be found in Appendix B.

The ground around monitoring well B-94-14A is a small hill and is eroding at the base (photos 37-38). When a subcontractor makes repairs to the cap, additional soil/stone should be placed at the base of the well to prevent further erosion.

Leachate head wells LHW-94-1 (no photo available) and LHW-94-3 (photos 36) appear to have been hit during mowing operations. The wells are tilted, to the point where there is a void at the base of the wells. Additional cap material or bentonite should be placed at the base of the wells to prevent infiltration or ponding of water in this area. The protective casing cover cannot be removed from LHW-94-3 because it has sunken into the landfill cover. This well should be dug out and its condition evaluated, and either repaired to be brought above grade, or it should be properly abandoned. The depth of this leachate head well is not known and has been in this condition prior to 2017.

While a well cap was present at B-21A, the well is not able to close fully due to obstruction of the cap. A flat, PVC flexible cap should be purchased and installed at B-21A. An example of this cap can be found in Appendix C.

A tear in the boot liner is noted at the unnumbered leachate head well (LHW on southwest corner). These should be repaired in the same manner as the gas vents.

The protective casings on B-96-17, B-96-17A, B-96-18A, W-23 and W-23A are difficult to open as the hinge on the casing is rusted. Attempts should be made to loosen or remove the rust so the wells can be more easily opened. The use of an environmentally friendly product is recommended.

The concrete pad at the base of B-94-19A is cracked (photo 39) and there is a bend in the PVC approximately 6 feet down the well. The well does not appear to be affected by this crack, as the protective casing is in good condition. The bend in the well prohibits longer length pumps or bailers to easily move past it. Future monitoring is recommended.

In previous inspections, dumping of miscellaneous garbage and landscaping debris was noted around monitoring wells B-96-18A and B-96-19B. This area should be monitored in the future for disposal and/or dumping. Any garbage found in 2021, was cleaned up and properly disposed of.

Any wells where locks appeared rusted should be added/replaced. Kapur acquired locks from the previous consultant that the WNDR had purchased as spare locks for the site, which will be used to at these locations.

During the 2020 inspection, well IDs were darkened using a paint pen to darken the label, so the ID is more visible/distinguishable. During every future inspection, these IDs should be remarked to ensure proper identification in the field.

2.4 GAS PROBES

The condition of the protective casing, the lock, the ID, the presence of a cap, and the polyvinyl chloride (PVC) casing of all gas probes were recorded on the inspection form, which can be found in Appendix B.

During the last monitoring event (Fall 2019), the probe cap from gas probe GP-3D was dropped inside the protective casing and were not able to be retrieved. This cap will need to be replaced.

Due to a small diameter protective casing, the current caps on gas probes GP-5 (S, M and D) and GP-2 (S) are hard to remove (not adequate space for hands). A plug style cap should be considered. An example of this plug can be found in Appendix C. GP-6 (S, M, and D) and GP-8 (S) were replaced with a plug style cap.

The PVC diameter used to construct GP-1 (~3/4") is smaller than the current cap present (1") (photo 45). This cap should be replaced with an appropriately sized cap.

Water was noted inside the protective casing of GP-2. The tops of the gas probes are not currently submerged; however, this water should be removed (using a peristaltic pump) so that the freeze/thaw effect of the water does not damage the gas probes.

During the 2020 inspection, well IDs were darkened using a paint pen to darken the label, so the ID is more visible/distinguishable. During every future inspection, these IDs should be remarked to ensure proper identification in the field.

3 OTHER FEATURES

The security fence and gates, and the access roads were inspected for damage. All appeared to be in good condition.

During the 2019 site inspection, it was noted that the access road east of the northwest retention pond is rutted from vehicle and mowing traffic. No repairs were made to this area. However due to the height of the grass, and potentially from mowing traffic this year, the ruts were not as apparent. This area should be monitored in the future and avoided if the ground is wet to prevent further rutting. The area northeast of the pond is rutted from mowing activities (no photo available) and should be repaired.

Much of the leachate system was not inspected since it had been decommissioned for the year, however, it was observed that the connection from the above ground piping to the leachate storage tank (photo 48) should be shortened to prevent it from breaking or breaking the hose that attaches to it.

Two unidentified pipes were noted on the southwest corner of the landfill (north of B-96-17 and B-96-17A) (photos 51-52). Any historic figures of the landfill, including any information on the leachate lines, would help determine what these pipes could be.

4 CONCLUSION

Based off the 2021 Annual Site inspection the following items are in need of repair:

- Erosion channels near the northwest retention basin, on the northern hill face, and to the north and south of the newly repaired erosion area (hill face near GV-126);
- Six (6) animal burrows (and any additional borrows relocated);
- Repair the hole/tear in the boot liner of GV-119, GV-137, and LHW or any other tears identified;
- Tighten/reposition hose clamps on GV-118 and GV-128, and add heavy-duty sealing tape if necessary;
- Remove woody vegetation around GV-105, GV-126, GV-138 and GV-146;
- Trim/remove trees by GV-114 and GV-118;
- Shorten/repair GV-136 from damage done by lawnmower;
- Repairs made to the ground at the base of B-94-14A, LHW-94-1, and LHW-94-3;
- Addition of the proper well caps/plugs in 5 gas probes (GP-1, GP-3D, GP-5S, GP-5M, GP-5D, and GP-2S);
- Attempt to loosen/remove rust from protective casing hinges on B-96-17, B-96-17A, B-96-18A, W-23 and W-23A;
- Replace any damaged/absent locks from wells;
- Remove water from inside protective casing of GP-2 or any other gas probe where water may damage the probes;
- Shorten the connection to the above ground piping to the leachate storage tank should be shortened to prevent it from breaking or breaking the hose that attaches to it.

While the following items are not currently in need of repair, they are to be monitored in the future to ensure the condition is not worsening:

- Deer path connecting the northwest retention basin and the pond;
- Potential slumping of the southern slope;
- Areas with sparse vegetation;
- Woody vegetation around site (near gas vents, on cap, in drainage channels);
- Screen clearance at GV-109;
- Tipping direction/angles of gas vents;
- Concrete pad at base of B-94-19A;
- Disposal and/or dumping near the B-96-18 well nest;
- Road condition northeast of the northwest retention basin; and
- Attempt to identify the pipes found at the southwest corner of the landfill (north of B-96-17 and B-96-17A).

The cost proposal for the repair items that was generated for the WDNR's approval in September 2020 work will be modified to include any additional time and materials needed to complete repair/maintenance items.

FIGURES

PROJECT:
BARRETT LANDFILL
PROJECT

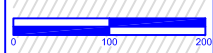
LOCATION:
NEW BERLIN,
WISCONSIN

CLIENT:

NORTH ARROW:



SCALE: 1" = 200'



SEAL:

all in

SHEET:
SITE LAYOUT

DESIGNED BY: XXX
DRAWN BY: XXX
CHECKED BY: XXX
APPROVED BY: XXX
DATE: 12/09/2019

PROJECT NO. 190007.01
FIGURE:



- LEGEND**
- GP-3 ▼ GAS PROBE
 - PRIVATE WELL ● PRIVATE WELL
 - LHW-2 ⊕ LEACHATE HEAD WELL
 - MW-1 ● MONITORING WELL
 - GV-136 ○ GAS VENT

PROJECT:
BARRETT LANDFILL
PROJECT

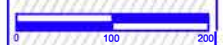
LOCATION:
NEW BERLIN,
WISCONSIN

CLIENT:

NORTH ARROW:



SCALE: 1" = 200'



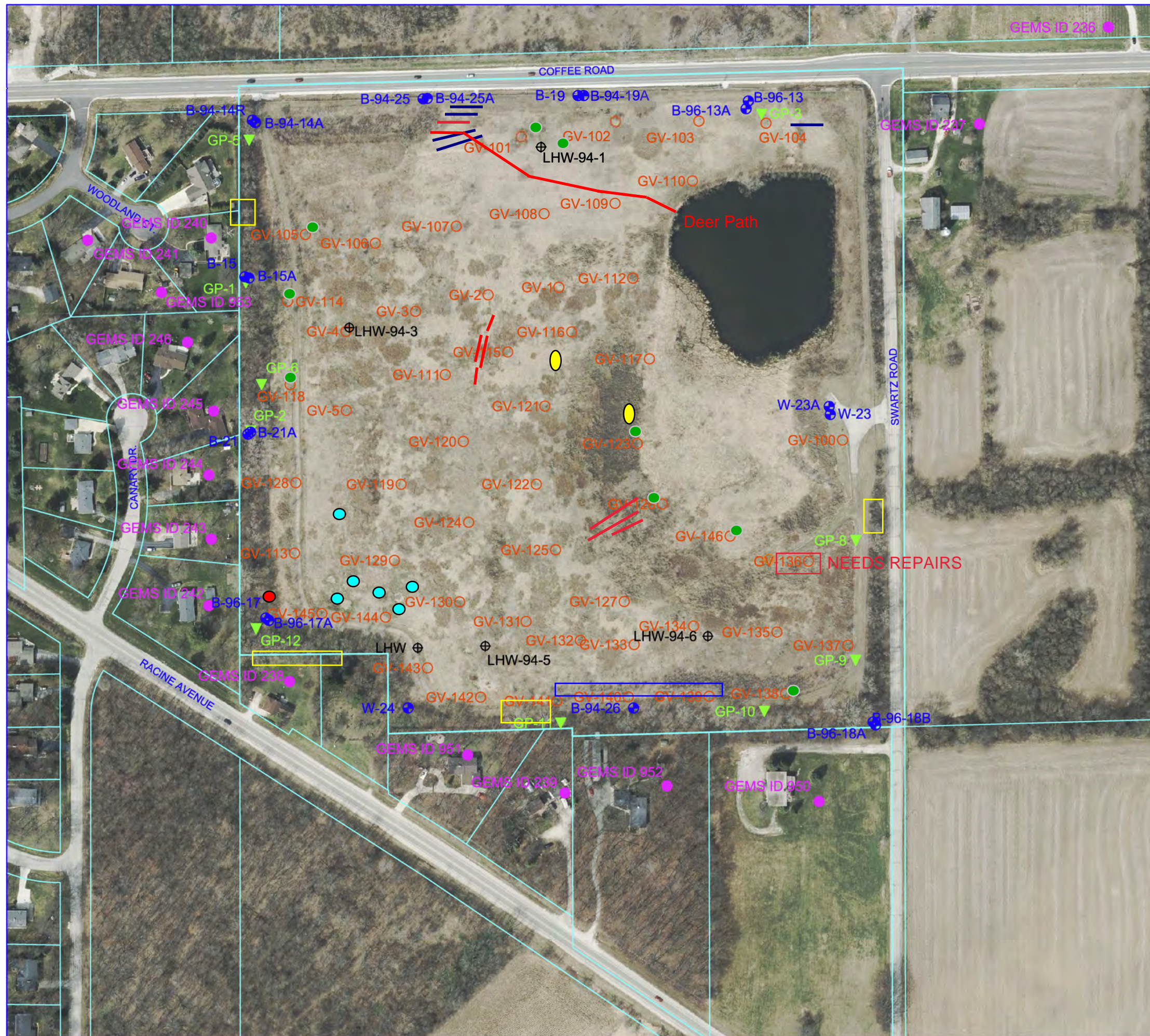
SEAL:

all in

SHEET:
NOTABLE FEATURES
2021 SITE
INSPECTION

DESIGNED BY: XXX
DRAWN BY: XXX
CHECKED BY: XXX
APPROVED BY: XXX
DATE: 12/09/2019

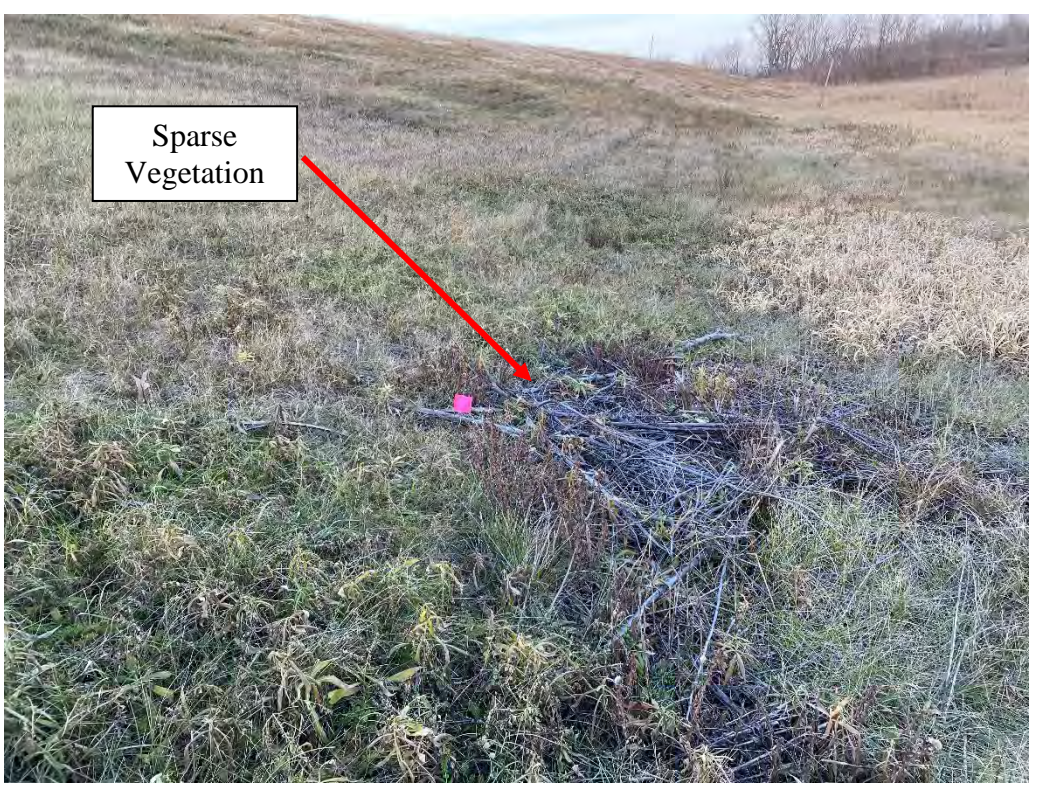

PROJECT NO. 190007.01
FIGURE:



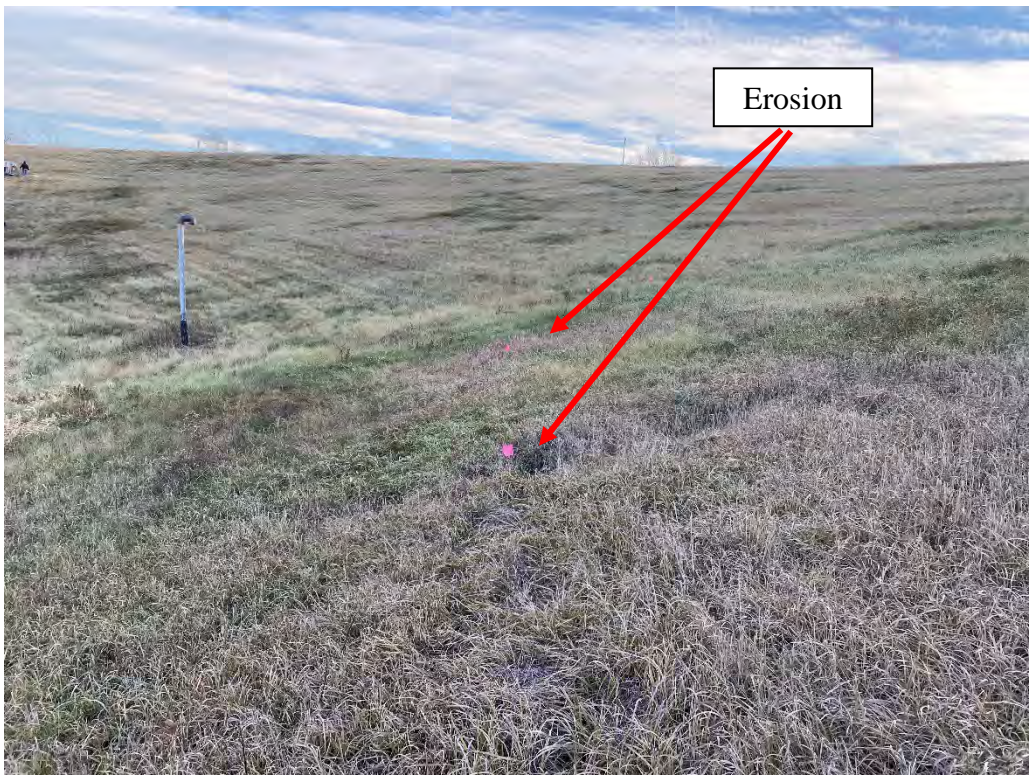

- LEGEND**
- GP-3 ▼ GAS PROBE
 - PRIVATE WELL ● PRIVATE WELL
 - LHW-2 ⊕ LEACHATE HEAD WELL
 - MW-1 ⊕ MONITORING WELL
 - GV-136 ○ GAS VENT
 - WOODY VEGETATION
 - ANIMAL BURROW
 - BARE/SPARSE
 - UNIDENTIFIED PIPES
 - EROSION
 - RUTTING
 - ▭ POTENTIAL SLUMPING
 - ▭ TREES/BRANCHES TO BE REMOVED

APPENDIX A
PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Photo # 1	Date 12/20/21	
Description Subject Property: area of dead/sparse vegetation to be monitored (facing N).		
Photo # 2	Date 12/20/21	
Description Subject Property: Erosion on hill face going towards the pond (facing W).		

PHOTOGRAPHIC LOG

Photo # 3	Date 12/20/21	 <p>A photograph of a grassy hillside under a cloudy sky. A box labeled "Erosion" has two red arrows pointing to a path of eroded vegetation on the slope. A utility pole is visible in the distance.</p>
Photo # 4	Date 12/20/21	 <p>A photograph of a grassy field with a box labeled "Erosion/Deer Path" and two red arrows pointing to a path through the grass. The path appears to be a combination of erosion and a deer path. A utility pole is visible in the distance.</p>

PHOTOGRAPHIC LOG


Photo #	Date	
5	12/20/21	
Description Subject Property: Erosion/Deer Path from NW Retention Basin to Pond (facing ENE).		

Photo #	Date	
6	12/20/21	
Description Animal burrow on southern hill slope (N of GV-144).		

PHOTOGRAPHIC LOG




Photo #	Date	
7	12/20/21	 A close-up photograph of a hole in the ground, partially obscured by dry grass and twigs. A pink flag is placed to the left of the hole, and a red arrow points from a white box labeled "Animal Burrow" to the hole's entrance. <p data-bbox="586 289 834 344">Animal Burrow</p>
<p data-bbox="175 344 431 485">Description Animal burrow on northern hill slope (N of GV-135).</p>		

Photo #	Date	
8	12/20/21	 A wide-angle photograph of a grassy field with a visible erosion gully. A red arrow points from a white box labeled "Erosion" to the gully. Several pink flags are scattered across the field. <p data-bbox="1162 1060 1466 1115">Erosion</p>
<p data-bbox="175 1178 415 1287">Description Erosion on northern hill slope.</p>		

PHOTOGRAPHIC LOG

Photo # 9	Date 12/20/21	
Description Subject Property: Animal burrow on the southern hill face near GV-141 (facing NE).		
Photo # 10	Date 12/20/21	
Description Subject Property: Possible slumping of the southern hill face near GV-141 (facing W).		

PHOTOGRAPHIC LOG


Photo #	Date	
11	12/20/21	
<p>Description</p> <p>Subject Property: Possible slumping of the southern hill face (facing E).</p>		

Photo #	Date	
12	12/20/21	
<p>Description</p> <p>Subject Property: Former woody vegetation with sparse/bare vegetation near GV-116 (facing SW).</p>		

PHOTOGRAPHIC LOG

Photo # 13	Date 12/20/21	
<p>Description Subject Property: GV-139 tilting east southeast (facing S).</p>		

Photo # 14	Date 12/20/21		
<p>Description Subject Property: GV-137 tears in boots (repairs were previously made) (facing SW).</p>			

PHOTOGRAPHIC LOG

Photo # 15	Date 12/20/21	
<p>Description Subject Property: GV-138 tilting south, needs better mowing around vent, previously tape- covered tear in boot is no longer covered, needs repair (facing N).</p>		

Photo # 16	Date 12/2/20	
<p>Description Subject Property: GV-140 tilting south, needs better mowing around vent (facing W).</p>		

PHOTOGRAPHIC LOG

Photo #	Date	
17	12/20/21	
Description		
Subject Property:		
GV-141 no tilt, needs better mowing around vent (facing NW).		

Photo #	Date	
18	12/20/21	
Description		
Subject Property:		
GV-118 western tilt, tree growing very close to vent, should be cut back (facing W).		


PHOTOGRAPHIC LOG

Photo #	Date	
19	12/20/21	
Description		<p>Subject Property: GV-114 western tilt, tree growing into vent, should be cut back (facing W).</p>

Photo #	Date	
20	12/20/21	
Description		<p>Subject Property: GV-109; screen partially off (facing NE).</p>

PHOTOGRAPHIC LOG

Photo #	Date	
21	12/20/21	
Description Subject Property: GV-133 tilting slight north (facing NW).		

Photo #	Date	
22	12/20/21	
Description Subject Property: GV-3 tilting north (facing N).		

PHOTOGRAPHIC LOG

Photo #	Date	
23	12/20/21	
<p>Description Subject Property: GV-142 east tilt, (facing N).</p>		

Photo #	Date	
24	12/20/21	
<p>Description Subject Property: GV-113 tilting north northeast (facing W).</p>		

PHOTOGRAPHIC LOG

Photo #	Date	
25	12/20/21	
Description Subject Property: GV-112 tilting east (facing E).		

Photo #	Date	
26	12/20/21	
Description Subject Property: GV-123 significant east tilt (facing SE).		

PHOTOGRAPHIC LOG

Photo #	Date	
27	12/20/21	
Description Subject Property: GV-136 broken needs repair (facing SW).		

Photo #	Date	
28	12/20/21	
Description Subject Property: GV-136, no beehive in the screen anymore (facing E).		

PHOTOGRAPHIC LOG


Photo #	Date	
29	12/20/21	
Description Subject Property: GV-135 tears in boot (facing W).		

Photo #	Date	
30	12/20/21	
Description Subject Property: GV-110 tilting south (facing E)		


PHOTOGRAPHIC LOG

Photo #	Date	
31	12/20/21	
Description		
Subject Property:		
Woody vegetation growing near GV-105; needs to be removed (facing NW).		

Photo #	Date	
32	12/20/21	
Description		
Subject Property:		
GV-119: tear in boot (facing SW).		

PHOTOGRAPHIC LOG

Photo #	Date	
33	12/20/21	
Description Subject Property: LHW (not numbered) tear in boot (facing N).		

Photo #	Date	
34	12/20/21	
Description Subject Property: LHW-94-5		

PHOTOGRAPHIC LOG

Photo #	Date	
35	12/20/21	
Description Subject Property: LHW-94-3: protective casing sunken into ground, void at surface, needs maintenance or to be abandoned (facing WSW).		

Photo #	Date	
36	12/20/21	
Description Subject Property: LHW-94-6 (facing SE)		

PHOTOGRAPHIC LOG

Photo #	Date	
37	12/20/21	
		<p>Description Subject Property: B-94-14A slope at base of monitoring well is eroding away (facing W)</p>

Photo #	Date	
38	12/20/21	
		<p>Description Subject Property: B-94-14A slope at base of monitoring well is eroding away (facing W)</p>


PHOTOGRAPHIC LOG

Photo #	Date	
39	12/20/21	
Description Subject Property: B-13A (facing S).		

Photo #	Date	
40	12/20/21	
Description Subject Property: B-94-19A: needs new well cap, concrete pad cracked at base.		

PHOTOGRAPHIC LOG

Photo # 41	Date 12/20/21	
<p>Description Subject Property: W-24 (facing E).</p>		

Photo # 42	Date 12/20/21	
<p>Description Subject Property: B-96-18 and B-96-18B (facing E)</p>		


PHOTOGRAPHIC LOG

Photo #	Date	
43	12/20/21	
Description		
Subject Property:		
GP-1: Needs smaller cap (~3/4" needed)		

Photo #	Date	
44	12/20/21	
Description		
Subject Property:		
GP-2		

PHOTOGRAPHIC LOG

Photo #	Date	
45	12/20/21	
Description		
Subject Property:		
GP-9		

Photo #	Date	
46	12/20/21	
Description		
Subject Property:		
GP-6: dented protective casing makes removing well cap difficult, replace GP-6M cap.		

PHOTOGRAPHIC LOG

Photo # 47	Date 12/20/21	
<p>Description Subject Property: GP-8: replaced missing shallow probe cap</p>		

Photo # 48	Date 12/20/21	
<p>Description Subject Property: Tilting connection to leachate holding tank. (facing S)</p>		

APPENDIX B
INSPECTION FORMS



KAPUR & ASSOCIATES LANDFILL GAS PROBE INSPECTION FIELD FORM

Probe	GEMS ID	Time	Protective Casing Condition	Lock Present? Y/N	Lock Condition	Key #	Probe Numbered? Y/N	Cap Present? Y/N	Probe Condition	NOTES
GP-1	280	12:40	Good	Y	Good	2258	Y	Y	Good	Needs smaller cap
GP-2S	284	12:14	Rusted	Y	Rusted	2258	Y	Y	Good	Needs smaller cap
GP-2D	286	12:15	Rusted	Y	Rusted	2258	Y	Y	Good	
GP-3S	287	14:12	Cracked	Y	Good	2258	Y	Y	Good	Cracked casing
GP-3M	288	14:13	Cracked	Y	Good	2258	Y	Y	Good	Cracked casing
GP-3D	289	14:14	Cracked	Y	Good	2258	Y	Y	Good	Cracked casing
GP-4	290	Abandoned								
GP-5S	294	12:48	Good	Y	Good	2258	Y	Y	Good	Well plugs needed
GP-5M	295	12:49	Good	Y	Good	2258	Y	Y	Good	Well plugs needed
GP-5D	296	12:50	Good	Y	Good	2258	Y	Y	Good	Well plugs needed
GP-6S	297	12:32	Good	Y	Good	2258	Y	Y	Good	Replaced cap
GP-6M	298	12:33	Good	Y	Good	2258	Y	Y	Good	
GP-6D	299	12:34	Good	Y	Good	2258	Y	Y	Good	Replaced cap
GP-7	300	Abandoned								
GP-8S	264	11:02	Good	Y	Good	2258	Y	Y	Good	Replaced cap
GP-8M	265	11:03	Good	Y	Good	2258	Y	Y	Good	
GP-8D	266	11:04	Good	Y	Good	2258	Y	Y	Good	
GP-9S	267	11:10	Good	Y	Good	2258	Y	Y	Good	
GP-9M	268	11:11	Good	Y	Good	2258	Y	Y	Good	
GP-9D	269	11:12	Good	Y	Good	2258	Y	Y	Good	
GP-10S	270	11:22	Good	Y	Good	2258	Y	Y	Good	
GP-10M	271	11:23	Good	Y	Good	2258	Y	Y	Good	
GP-10D	272	11:24	Good	Y	Good	2258	Y	Y	Good	
GP-11S	273	11:33	Good	Y	Good	2258	Y	Y	Good	
GP-11M	274	11:34	Good	Y	Good	2258	Y	Y	Good	
GP-11D	275	11:35	Good	Y	Good	2258	Y	Y	Good	
GP-12S	276	11:52	Good	Y	Good	2258	Y	Y	Good	
GP-12M	277	11:53	Good	Y	Good	2258	Y	Y	Good	
GP-12D	278	11:54	Good	Y	Good	2258	Y	Y	Good	

*GP-3D and GP-8S well caps were dropped during sampling into the protective casing and were not able to be retrieved. Need to be replaced.

INSPECTORS: Ashley Wagner, Jenny Skweres

DATE: December 20, 2021



KAPUR & ASSOCIATES LANDFILL GAS VENT INSPECTION FIELD FORM

AVent	Vent Numbered? Y/N	Tilt Direction	Screen Present? Y/N	Hose Clamp Present? Y/N	Hose Clamp Condition	Boot Condition	NOTES
GV-102	Yes	Slightly West	Yes	Yes	Good	Good	
GV-103	Yes	Straight	Yes	Yes	Good	Good	
GV-104	Yes	West Northwest	Yes	Yes	Good	Good	
GV-110	Yes	South	Yes	Yes	Good	Good	
GV-109	Yes	North	Yes	Yes	Good	Good	Screen partially off
GV-4	Yes	Slightly North	Yes	Yes	Good	Good	
GV-3	Yes	North	Yes	Yes	Good	Good	
GV-2	Yes	V. NorthSlightly	Yes	Yes	Good*	Good	
GV-115	Yes	North/ Northeast	Yes	Yes	Good	Good	
GV-121	Yes	Straight	Yes	Yes	Okay	Good	
GV-122	Yes	East Northeast	Yes	Yes	Good	Good	
GV-124	Yes	Slight west	Yes	No	No	Okay	Repair previously made, needs clamp
GV-129	Yes	Straight	Yes	Yes	Good	Good	
GV-113	Yes	Southwest	Yes	NA	NA	NA	
GV-145	Yes	Straight/ Slight West	Yes	Yes	Good	Good	
GV-130	Yes	West/ Southwest	Yes	Yes	Good	Good	
GV-131	Yes	Northeast	Yes	Yes	Good	Good	
GV-125	Yes	Straight	Yes	Yes	Good	Good	
GV-127	Yes	Slightly North	Yes	Yes	Good	Good	
GV-134	Yes	Striaight/ Slight North	Yes	Yes	Good	Good	
GV-135	Yes	Straight	Yes	Yes	Good	Good	
GV-133	Yes	Slight North	Yes	Yes	Good	Good	
GV-132	Yes	Slight North Northeast	Yes	Yes	Good	Good	
GV-100	Yes	Straight	Yes	Yes	Good	Good	
GV-114	Yes	West	Yes	Yes	Good	Good	
LHW	Yes	West	NA	Yes	Good	Tear	Tear in the boot at the base

INSPECTORS: Ashley Wagner, Jenny Skweres

DATE: December 15, 2021



KAPUR & ASSOCIATES LANDFILL GAS VENT INSPECTION FIELD FORM

Vent	Vent Numbered? Y/N	Tilt Direction	Screen Present? Y/N	Hose Clamp Present? Y/N	Hose Clamp Condition	Boot Condition	NOTES
GV-108	Yes	North	Yes	Yes	Good	Good	
GV-107	Yes	North	Yes	Yes	Good	Good	
GV-105	Yes	Northwest	Yes	Yes	Good	Good	Woody vegetation around
GV-106	Yes	North	Yes	Yes	Good	Good	
GV-112	Yes	East	Yes	Yes	Good	Good	
GV-116	Yes	North	Yes	Yes	Good	Good	
GV-1	Yes	Northeast	Yes	Yes	Good	Good	Screen partially off
GV-111	Yes	North	Yes	Yes	Good	Good	
GV-120	Yes	West Northwest	Yes	Yes	Good	Good	
GV-5	Yes	West	Yes	Yes	Good	Good	
GV-119	Yes	West Northwest	Yes	Yes	Good	Tear	Outer portion of boot has tear
GV-128	Yes	Slight West	Yes	Yes	Good	Good	Retightened
GV-144	Yes	North	Yes	Yes	Good	Good	
GV-143	Yes	Straight	Yes	Yes	Good	Good	
GV-142	Yes	East	Yes	Yes	Good	Good	
GV-141	Yes	Slight East	Yes	Yes	Good	Good	
GV-140	Yes	South	Yes	Yes	Good	Good	
GV-139	Yes	East Southeast	Yes	Yes	Good	Good	
GV-138	Yes	South	Yes	Yes	Good	Good	Woody vegetation around
GV-137	Yes	East	Yes	Yes	Good	Tear x2	Two Boot Tears
GV-118	Yes	West	Yes	No	NA	NA	Needs hose clamp
GV-101	Yes	North	Yes	Yes	Good	Good	
GV-146	Yes	North	Yes	Yes	Good	Good	Woody vegetation around
GV-126	Yes	Northeast	Yes	Yes	Good	Good	Woody vegetation around
GV-123	Yes	East	Yes	Yes	Good	Good	
GV-117	Yes	East	Yes	Yes	Good	Good	

INSPECTORS: Ashley Wagner, Jenny Skweres

DATE: December 15, 2021



KAPUR & ASSOCIATES MONITORING WELL INSPECTION FIELD FORM

Well ID	GEMS ID	Protective Casing Condition	Lock Present? Y/N	Lock Condition	Key Number	Well Numbered? Y/N	Cap Present? Y/N	Well Condition	NOTES
B-96-13A	911	Good	Yes	Good	2258	Yes	Yes	Good	
B-94-14A	903	Good	Yes	Good	2258	Yes	Yes	Good	Slumping of soil at base of wells
B-94-14R	902	Good	Yes	Good	2258	Yes	Yes	Good	
B-15	225	Good	Yes	Good	2258	Yes	Yes	Good	Trees/brush disposed of around wells
B-15A	251	Good	Yes	Good	2258	Yes	Yes	Good	Trees/brush disposed of around wells
B-96-17	913	Good	Yes	Good	2258	Yes	Yes	Good	
B-96-17A	914	Good	Yes	Good	2258	Yes	Yes	Good	
B-96-18A	915	Good	Yes	Good	2258	Yes	Yes	Good	
B-96-18B	916	Good	Yes	Bad	2258	Yes	Yes	Good	New lock
B-94-19A	904	Good	Yes	Good	2258	Yes	No	Good	Bend in PVC 6ft Down
B-19	--	Good	Yes	Good	2258	Yes	Yes	Good	
B-21	252	Good	Yes	Good	2258	Yes	Yes	Good	
B-21A	253	Good	Yes	Good	2258	Yes	Yes	Good	
W-23	259	Good	Yes	Good	2258	Yes	Yes	Good	
W-23A	260	Good	Yes	Good	2258	Yes	Yes	Good	
W-24	263	Good	Yes	Good	2258	Yes	Yes	Good	
B-94-25	905	Good	Yes	Good	2258	Yes	Yes	Good	
B-94-25A	906	Good	Yes	Good	2258	Yes	Yes	Good	
LHW-94-3	--	Tilted west	Well has sunk into ground, access to cover restricted						Wells appear to have been hit by mower, space/seal at base needs to be filled in repaired
LHW-94-5	--		Yes	Good	2258	Yes	Yes	Good	
LHW-94-6	--		Yes	Good	2258	Yes	Yes	Good	

INSPECTORS: Ashley Wagner, Jenny Skweres

DATE: December 16, 2021

APPENDIX C
SUGGESTED REPAIR MATERIALS



Home > 1" Torquer Locking Well Plug



1" Torquer Locking Well Plug

★★★★★ No reviews

\$ 6.25

Availability: Many In Stock

- 1 +

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DESCRIPTION

REVIEWS

SHIPPING & DELIVERY

1" Torquer Locking Well Plug

Call 866-514-3684 and receive a 5% discount when ordering a quantity of 50 or more!

The 1-inch orange locking nylon expansion plug is a trusted inexpensive watertight locking plug created with integrity. Torquer plugs are reliable, simple to use locking systems.

It has no metal parts to resist corrosion and a high-tech liquid tight seamless dual rubber gasket. When needed the Torquer plug can be easily disassembled. We can customize the plug with any companies logos and branding. Please contact us for details.

- 1" Torquer Locking Plug T1 min. size .925 (23.5mm) max. size 1.260 (32mm)
- No metal parts.
- Accepts #1 or #3 type padlocks or Safety Lock-Out Tags.
- High-tech liquid tight seamless dual rubber gasket.
- Easily disassembled in the field for decon.
- Strong instrument tethering tool. Dual use with anvil tip.
- Manufactured from an engineering grade polymer blend commonly used to replace steel gears in industry, resistant to most chemicals, unaffected by freezing or high temperatures. Smooth acting ergo grip.

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- Easy on, easy off wingnut.
 - Large, bold, easy to read well ID lettering.
 - Bright safety coloring.
 - Lightweight, yet super strong.
 - Flush OD design for easy well installation.
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 - Specified by groundwater professionals.
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Description & Documents

T-REX® Ferociously Strong Waterproof Tape provides tough waterproof adhesion under wet and dry conditions. Built with R-Flex Technology™, T-REX® Waterproof Tape can stretch up to 700% of its original length. It's strong enough to be used for general purpose indoor or outdoor fixes that require a waterproof seal, like repairing a rip in an above-ground pool or temporarily stopping a leak in a water pipe. Or, apply it underwater and push it into cracks and rough, dirty surfaces.

**Shipping Dimensions:** 4.00 H x 3.55 W x 3.55 D**Shipping Weight:** 0.4375 lbsBrand Name: **T-REX**

Features

- Waterproof backing enhanced with R-Flex Technology™ for greater durability
- Can be used underwater
- UV resistant
- Withstands temperatures from -70°F to 200°F

Specifications



Actual Length	5 yard	Actual Width	4 inch
Color/Pattern	black	Maximum Application Temperature	200 degrees Fahrenheit
Maximum Hold Temperature	200 degrees Fahrenheit	Minimum Application Temperature	32 degrees Fahrenheit
Minimum Hold Temperature	-70 degrees Fahrenheit	Package Quantity	1
Product Form	Roll	Product Type	Waterproof Tape

Please Note: Prices, promotions, styles and availability may vary by store and online. Inventory is sold and received continuously throughout the day; therefore, the quantity shown may not be available when you get to the store. This inventory may include a store display unit. Online orders and products purchased in-store qualify for rebate redemption. Mail-in Rebate is in the form of merchandise credit check, valid in-store only. Merchandise credit check is not valid towards purchases made on MENARDS.COM®. By submitting this rebate form, you agree to resolve any disputes related to rebate redemption by binding arbitration and you waive any right to file or participate in a class action. Terms and conditions available at www.rebateinternational.com®

FERNCO

PVC Flexible Cap, For Pipe Size 2", 2-25/64" Inside Dia.

Item # 2ZU16 Mfr. Model # QC-102 Catalog Page # 2815 UNSPSC # 39121421



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Technical Specs

Item	Flexible Cap	Max. Pressure	4.3 psi
Pipe Fitting Material	PVC	Band Material	300 Stainless Steel
Pipe Size - Pipe Fitting	2"	Resistant To	Chemicals, Fungus Growth, Normal Sewer Gases, Ultraviolet Rays
Standards	ASTM D5926	Max. Temp.	140 Degrees F
Fitting Length	1-1/8"		
Inside Dia.	2-25/64"		

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How can we improve our Technical Specifications ?

Compliance and Restrictions

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 <p>FERNCO PVC Flexible Cap, For Pipe Size 3", 3-33/64" Inside Dia.</p> <p>Item # 2ZU17</p> <p>Web Price ⓘ \$6.32 / each</p> <p>Qty 1 Add to Cart</p>	 <p>FERNCO PVC Flexible Cap, For Pipe Size 1-1/2", 1-57/64" ...</p> <p>Item # 2ZU15</p> <p>Web Price ⓘ \$6.36 / each</p> <p>Qty 1 Add to Cart</p>	 <p>FERNCO PVC Flexible Cap, For Pipe Size 4", 4-33/64" Inside Dia.</p> <p>Item # 2ZU18</p> <p>Web Price ⓘ \$6.72 / each</p> <p>Qty 1 Add to Cart</p>	 <p>VIEGA PROGRESS Copper Cap, Press Connection Type, 1/2" ...</p> <p>Item # 1RPE9</p> <p>Web Price ⓘ \$5.32 / each</p> <p>Qty 1 Add to Cart</p>	 <p>VIEGA PROGRESS Low Lead Bronze Union, Press x Press Connectic ...</p> <p>Item # 5ULZ0</p> <p>Web Price ⓘ \$24.95 / each</p> <p>Qty 1 Add to Cart</p>
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