

Appendix B

Correspondence



February 15, 2021

Mr. John Welch
Dane County Solid Waste Manager
1919 Alliant Energy Center Way
Madison, WI 53713

File Ref: FID 113127300
Dane County
SW/CORR

Subject: Acceptance of Proposed Alternative Geotechnical Investigation Program for Feasibility Study,
Dane County Landfill Site No. 2 (Rodefild), License #3018

Dear Mr. Welch:

The Department of Natural Resources (department) has reviewed the proposed alternative geotechnical investigation program (AGIP) for the proposed vertical expansion of the Dane County Landfill. The program was detailed in a SCS Engineers (SCS) document titled *Alternative Geotechnical Investigation Program, Eastern Vertical Expansion, Dane County Landfill Site No. 2 (Rodefild), Madison, Wisconsin (License No. 3018)*, dated January 8, 2021. The proposed expansion would be in the N ½ of Section 25 and NE ¼ of SE ¼ of Section 25, Township 7 North, Range 10 East, City of Madison, Dane County, Wisconsin. The proposed approximate 21-acre Eastern Vertical Expansion would be located completely within the limits of the Eastern Expansion area approved in 2014.

The department has reviewed the document and accepts the proposed program. Because no new borings or monitoring wells are to be installed for the proposed AGIP, and the department's review time of this proposal was reduced as a result, the department is waiving the review fee for this proposal. Please include a copy of the request and this letter in the feasibility report. Additionally, please include in the feasibility report any new and pertinent geotechnical or hydrogeologic information pertaining to the study area that has been collected since the Eastern Expansion area was approved in 2014, such as new soil borings or groundwater quality exceedances and elevations. Formal approval of the AGIP would be included in the department's feasibility determination for this project. The department's comments on the proposed program and rationale for this acceptance are provided below.

The footprint of the proposed Eastern Vertical Expansion comprises an approximate area of 21 acres, which would be located entirely within the currently permitted footprint of the Eastern Expansion. Installing additional borings or wells within 300 feet of the proposed limits of the Eastern Vertical Expansion would not be feasible, as this would involve drilling into areas of the landfill that have been constructed and contain waste. Because of this, the proposed program would rely on regional and site-specific geotechnical and hydrogeologic information that has been collected over the course of previous investigations. The Eastern Expansion Feasibility Report, submitted in May 2013, documented information obtained from 10 new soil borings, five new water table wells, and three new piezometers installed during the feasibility study, in addition to 11 soil borings, five water table wells, and three piezometers that existed prior to the feasibility study.

The department reserves the right to require additional geotechnical information if necessary to fully evaluate subsurface conditions at the site and to complete review of the feasibility study. If major changes are made to the proposed footprint during design development, Dane County should work with the department to determine if additional geotechnical investigation will be needed. The department may also require the installation of additional monitoring wells and piezometers as part of the feasibility determination or plan of operation approval.

if the department determines additional monitoring points are needed to adequately monitor groundwater quality around the landfill.

Please contact Tyler Sullivan at (608) 516-3962 or tyler.sullivan@wisconsin.gov if you have questions or comments regarding this letter.

Sincerely,

A handwritten signature in cursive script that reads "Cynthia Moore".

Cynthia Moore
Waste and Materials Management Program Supervisor
South Central Region

cc: Betsy Powers – Bpowers@scsengineers.com
Roxanne Wienkes – Wienkes.Roxanne@countyofdane.com
Carolyn Cooper – DNR - SCR
Tyler Sullivan – DNR - SCR
Ann Bekta – DNR - SCR
Joe Lourigan – DNR
Valerie Joosten – DNR



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2021-AGL-2313-OE

Issued Date: 02/12/2021

John Welch
John Welch
1919 Alliant Energy Center Way
Madison, WI 53713

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill 1
Location:	Madison, WI
Latitude:	43-02-41.46N NAD 83
Longitude:	89-15-00.18W
Heights:	995 feet site elevation (SE) 91 feet above ground level (AGL) 1086 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 08/12/2022 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

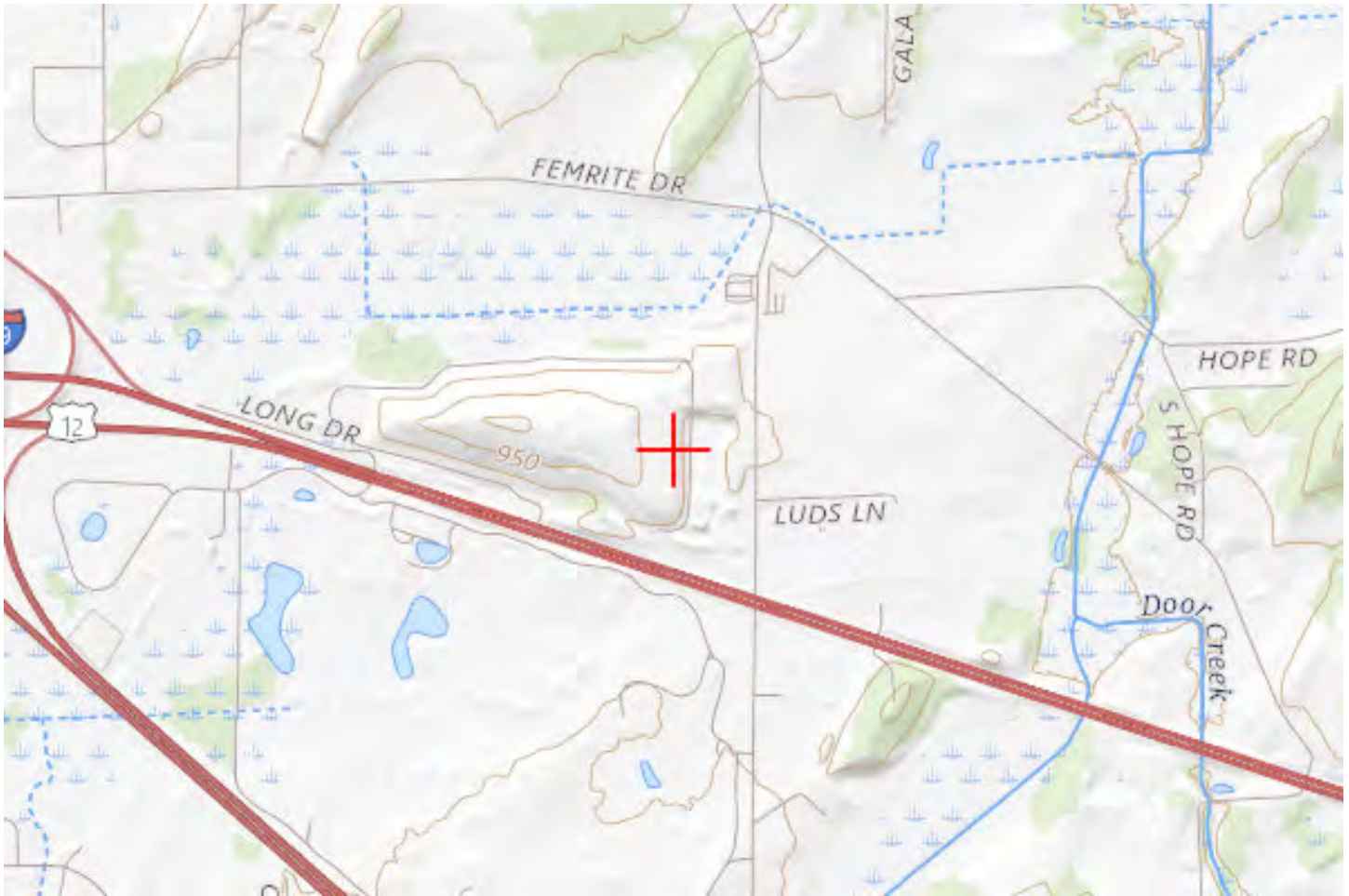
If we can be of further assistance, please contact our office at (816) 329-2508, or vee.stewart@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-AGL-2313-OE.

Signature Control No: 466232431-469233414

(DNE)

Vee Stewart
Specialist

Attachment(s)
Map(s)







Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2021-AGL-2314-OE

Issued Date: 02/12/2021

John Welch
John Welch
1919 Alliant Energy Center Way
Madison, WI 53713

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill 2
Location:	Madison, WI
Latitude:	43-02-43.80N NAD 83
Longitude:	89-15-08.19W
Heights:	980 feet site elevation (SE)
	106 feet above ground level (AGL)
	1086 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

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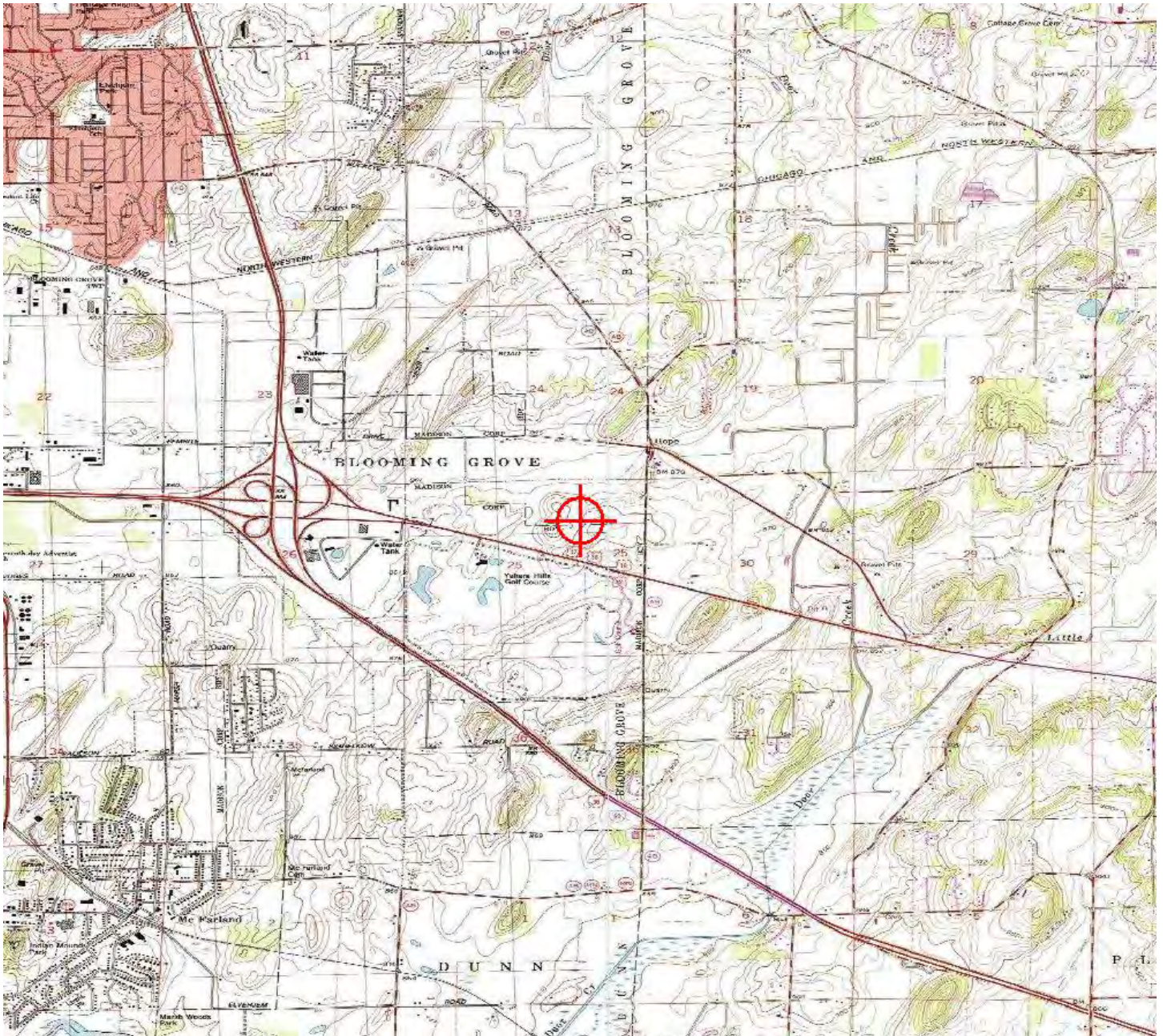
If we can be of further assistance, please contact our office at (816) 329-2508, or vee.stewart@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-AGL-2314-OE.

Signature Control No: 466232432-469233409

(DNE)

Vee Stewart
Specialist

Attachment(s)
Map(s)





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Federal Aviation Administration
Southwest Regional Office
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10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2021-AGL-2315-OE

Issued Date: 02/12/2021

John Welch
John Welch
1919 Alliant Energy Center Way
Madison, WI 53713

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill 3
Location:	Madison, WI
Latitude:	43-02-43.75N NAD 83
Longitude:	89-15-06.86W
Heights:	990 feet site elevation (SE) 96 feet above ground level (AGL) 1086 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

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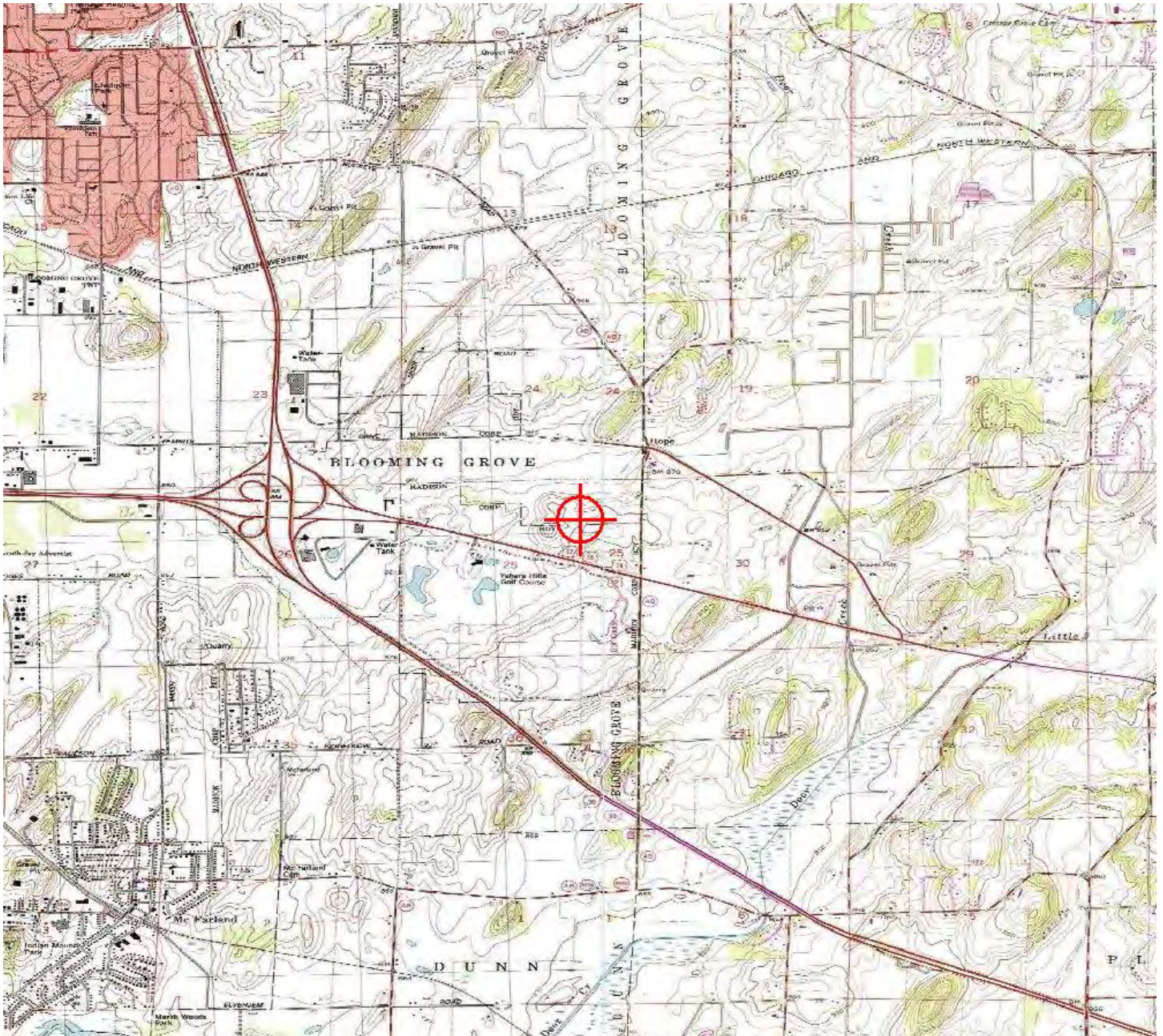
If we can be of further assistance, please contact our office at (816) 329-2508, or vee.stewart@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-AGL-2315-OE.

Signature Control No: 466232433-469233413

(DNE)

Vee Stewart
Specialist

Attachment(s)
Map(s)





Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2021-AGL-2316-OE

Issued Date: 02/12/2021

John Welch
John Welch
1919 Alliant Energy Center Way
Madison, WI 53713

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill 4
Location:	Madison, WI
Latitude:	43-02-47.42N NAD 83
Longitude:	89-14-56.85W
Heights:	971 feet site elevation (SE)
	115 feet above ground level (AGL)
	1086 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

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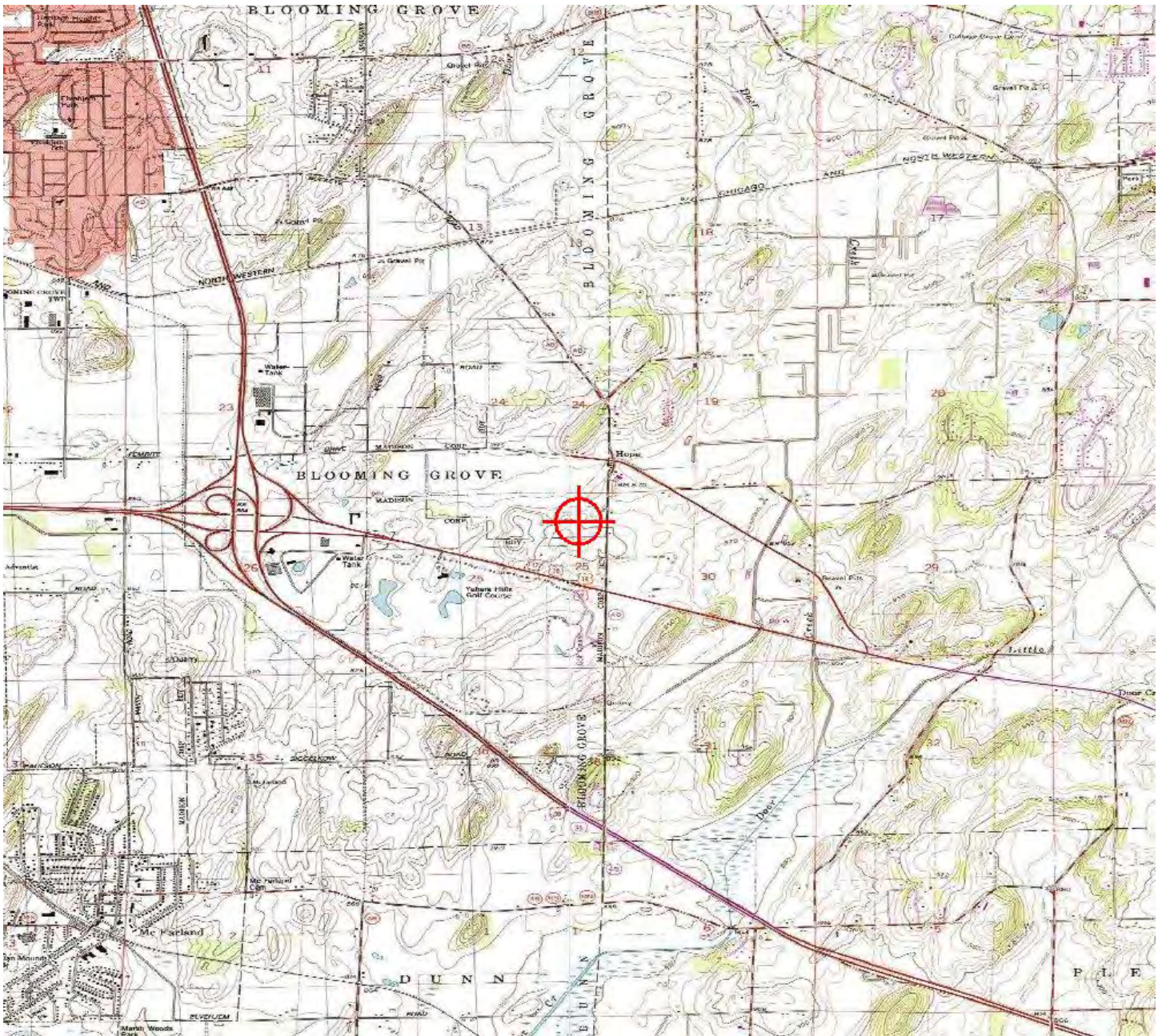
If we can be of further assistance, please contact our office at (816) 329-2508, or vee.stewart@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-AGL-2316-OE.

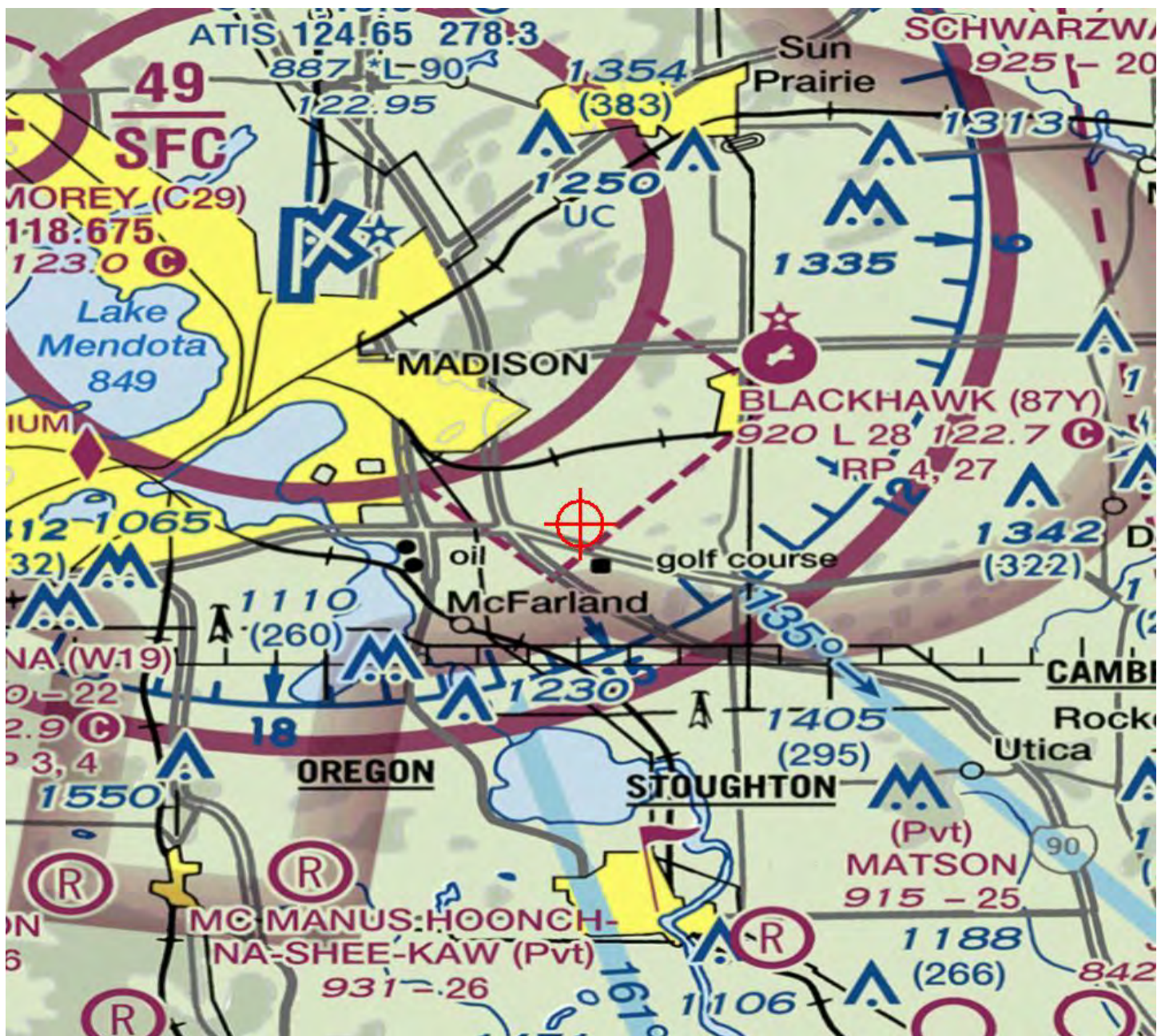
Signature Control No: 466232434-469233410

(DNE)

Vee Stewart
Specialist

Attachment(s)
Map(s)







Mail Processing Center
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Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2021-AGL-2317-OE

Issued Date: 02/12/2021

John Welch
John Welch
1919 Alliant Energy Center Way
Madison, WI 53713

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill 5
Location:	Madison, WI
Latitude:	43-02-49.81N NAD 83
Longitude:	89-14-56.15W
Heights:	959 feet site elevation (SE)
	127 feet above ground level (AGL)
	1086 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

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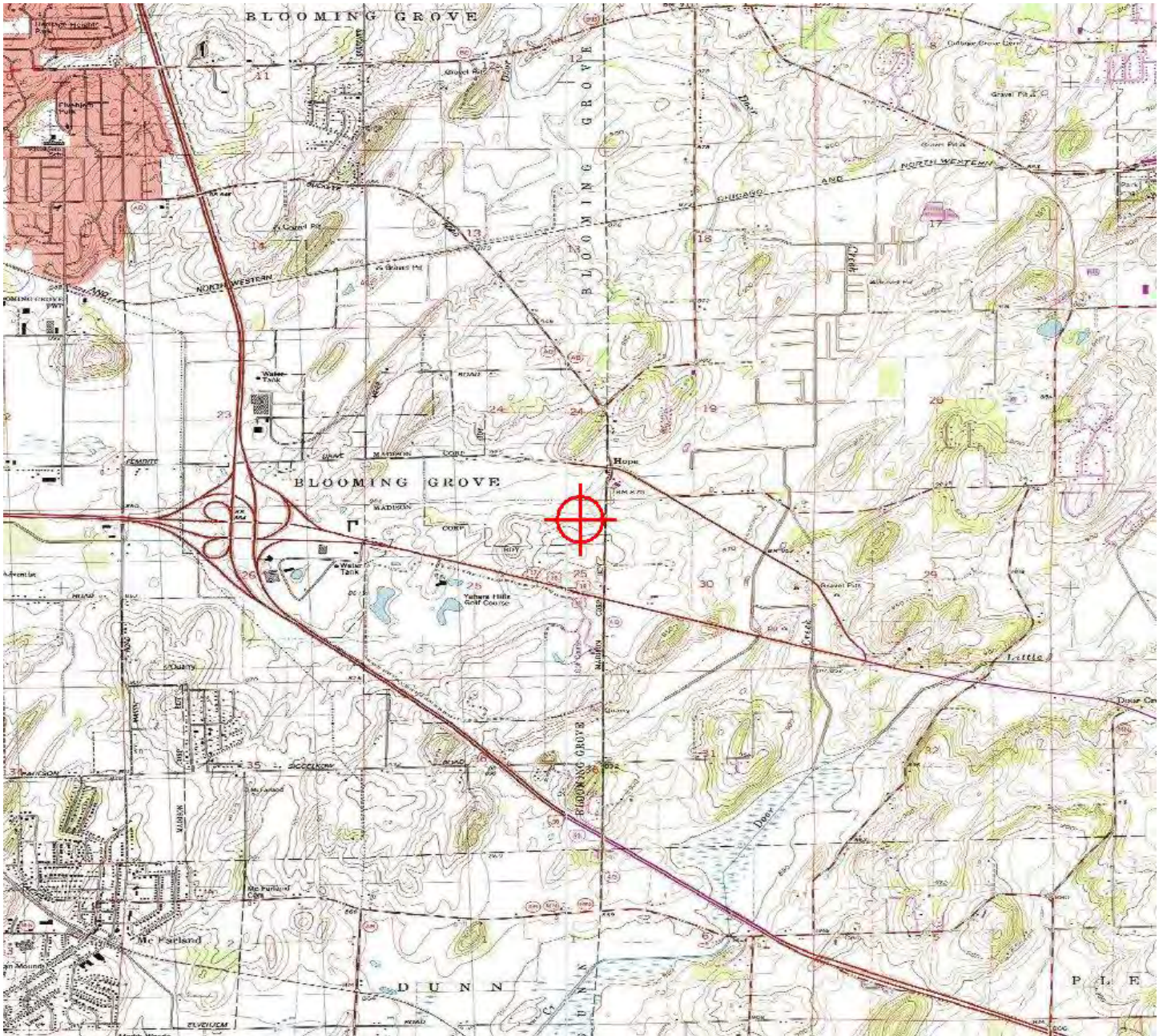
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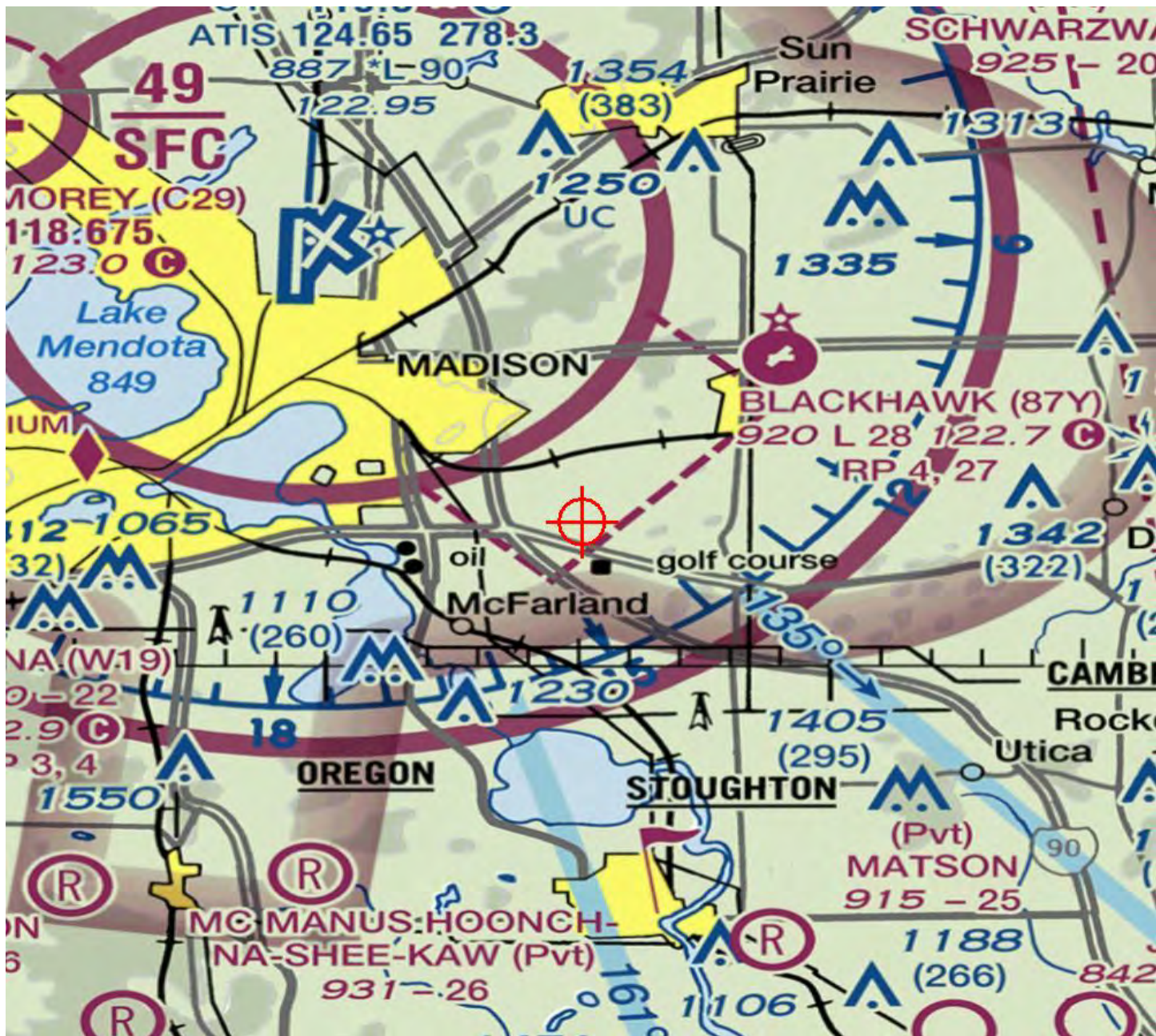
Signature Control No: 466232435-469233416

(DNE)

Vee Stewart
Specialist

Attachment(s)
Map(s)







Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2021-AGL-2318-OE

Issued Date: 02/12/2021

John Welch
John Welch
1919 Alliant Energy Center Way
Madison, WI 53713

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill 6
Location:	Madison, WI
Latitude:	43-02-49.86N NAD 83
Longitude:	89-14-53.97W
Heights:	959 feet site elevation (SE)
	127 feet above ground level (AGL)
	1086 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

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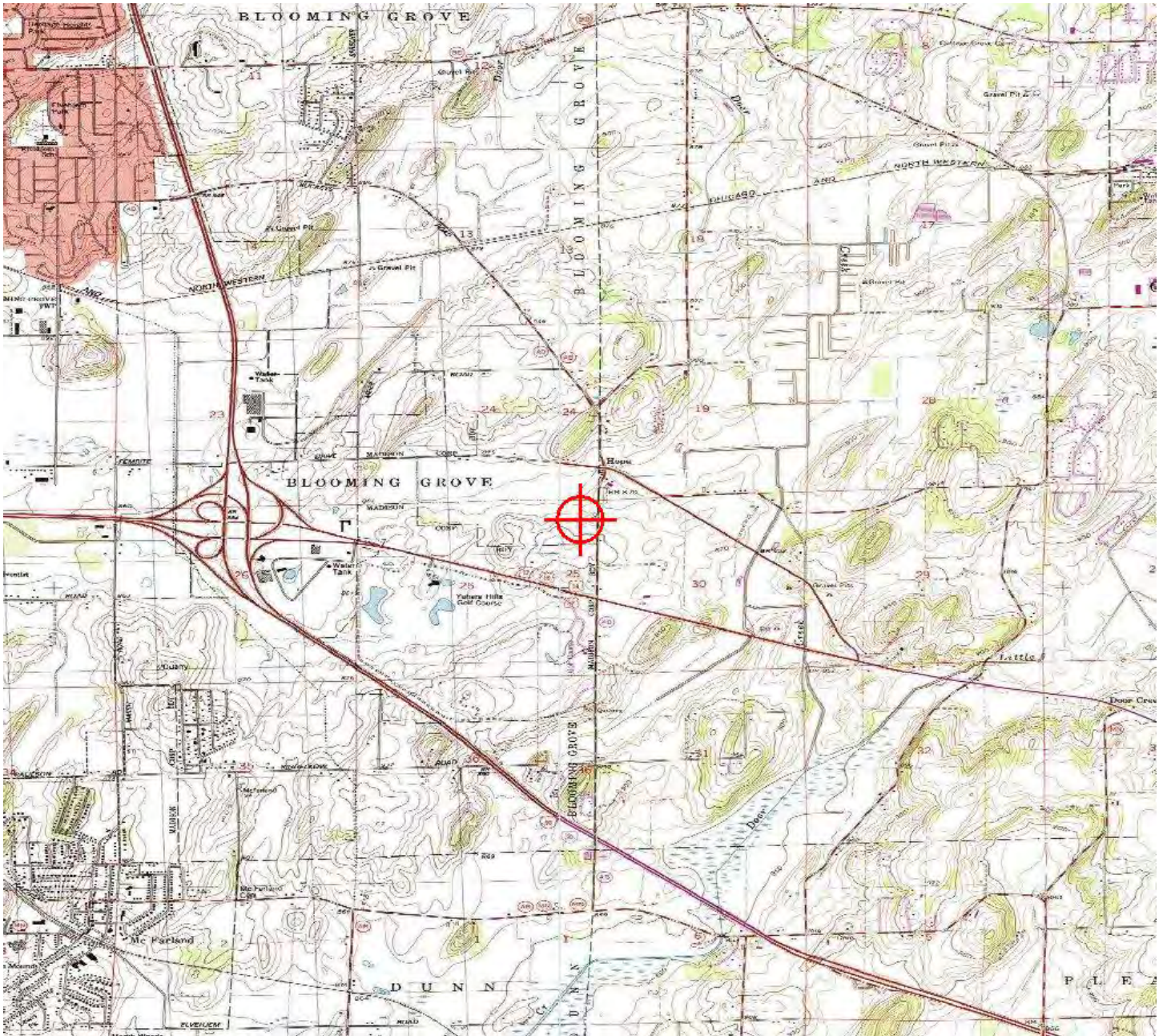
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Signature Control No: 466232436-469233408

(DNE)

Vee Stewart
Specialist

Attachment(s)
Map(s)





Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2021-AGL-2319-OE

Issued Date: 02/12/2021

John Welch
John Welch
1919 Alliant Energy Center Way
Madison, WI 53713

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill 7
Location:	Madison, WI
Latitude:	43-02-42.04N NAD 83
Longitude:	89-14-55.42W
Heights:	998 feet site elevation (SE)
	88 feet above ground level (AGL)
	1086 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

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This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

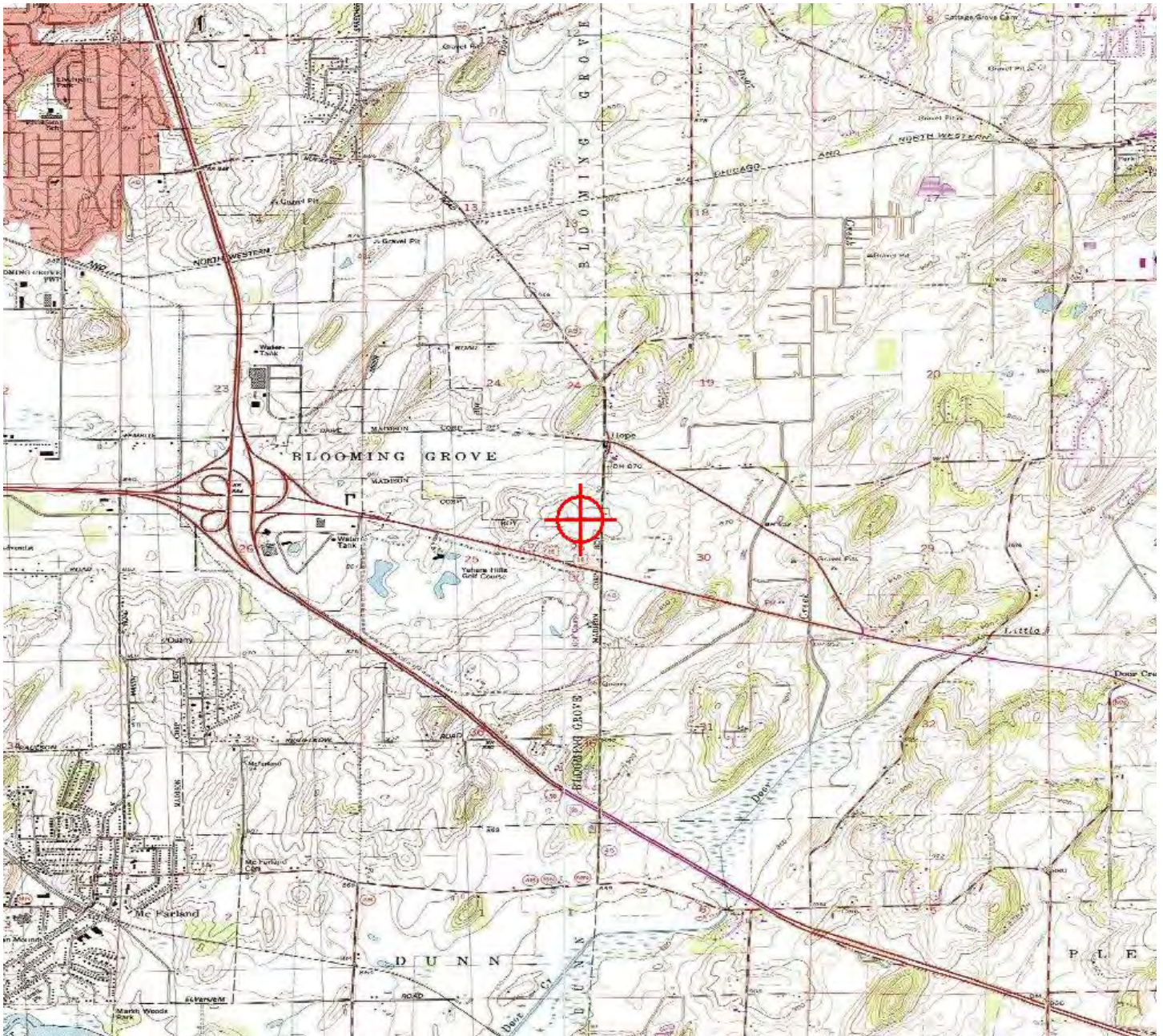
If we can be of further assistance, please contact our office at (816) 329-2508, or vee.stewart@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-AGL-2319-OE.

Signature Control No: 466232437-469233417

(DNE)

Vee Stewart
Specialist

Attachment(s)
Map(s)







Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2021-AGL-2320-OE

Issued Date: 02/12/2021

John Welch
John Welch
1919 Alliant Energy Center Way
Madison, WI 53713

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill 8
Location:	Madison, WI
Latitude:	43-02-34.21N NAD 83
Longitude:	89-14-53.79W
Heights:	959 feet site elevation (SE) 127 feet above ground level (AGL) 1086 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 08/12/2022 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

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This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

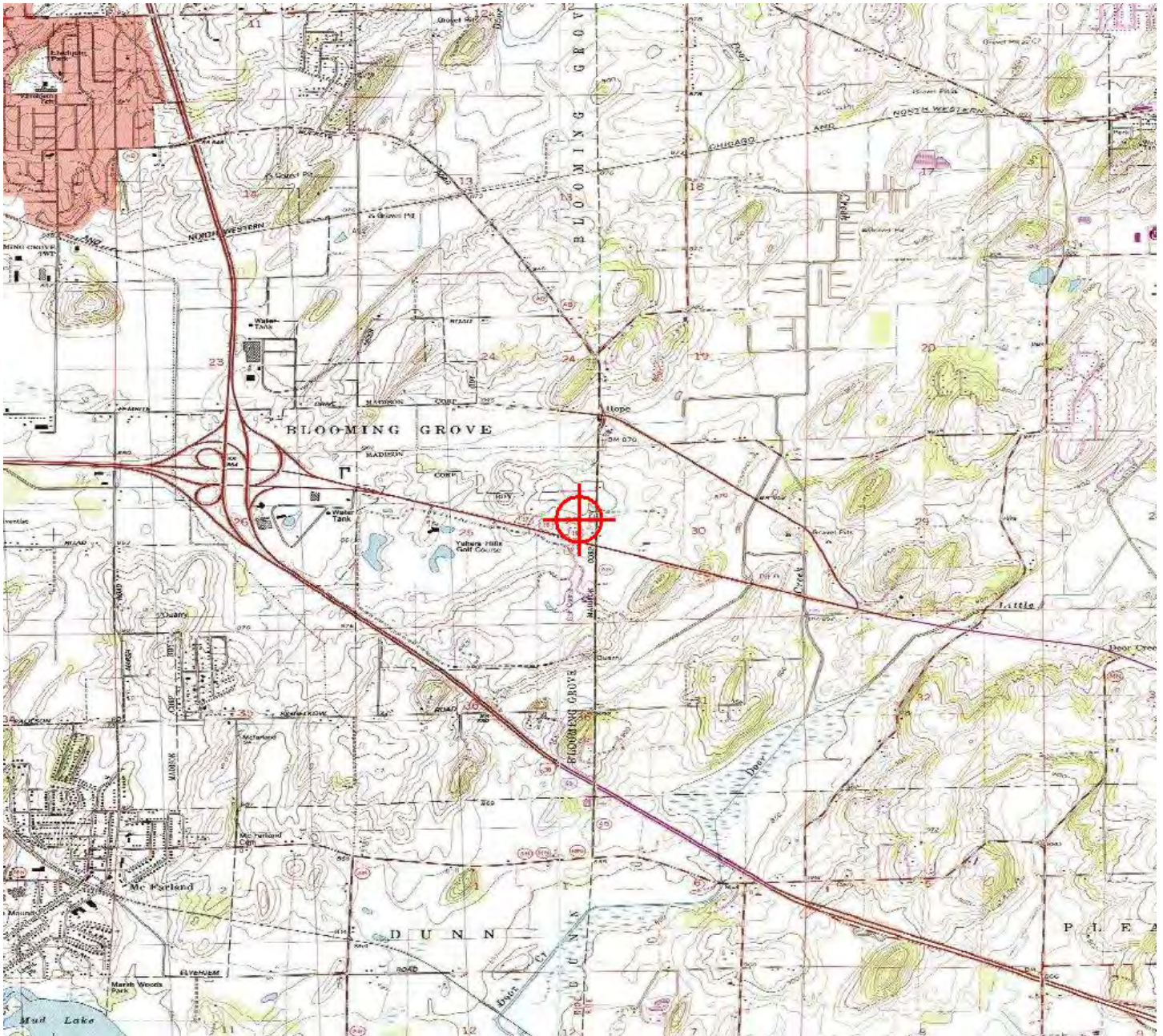
If we can be of further assistance, please contact our office at (816) 329-2508, or vee.stewart@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-AGL-2320-OE.

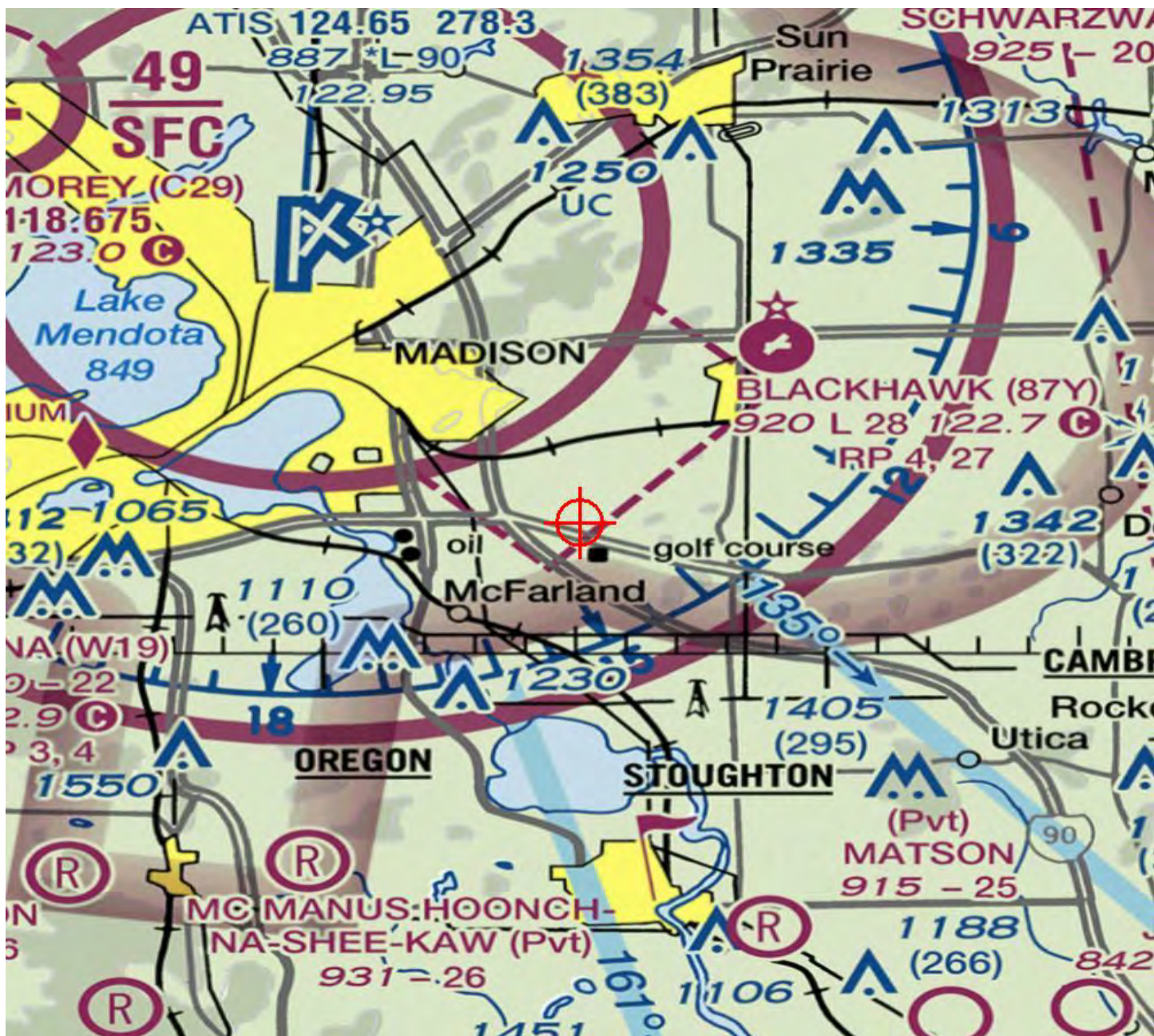
Signature Control No: 466232438-469233411

(DNE)

Vee Stewart
Specialist

Attachment(s)
Map(s)







Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2021-AGL-2321-OE

Issued Date: 02/12/2021

John Welch
John Welch
1919 Alliant Energy Center Way
Madison, WI 53713

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill 9
Location:	Madison, WI
Latitude:	43-02-34.23N NAD 83
Longitude:	89-14-56.83W
Heights:	959 feet site elevation (SE)
	127 feet above ground level (AGL)
	1086 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 08/12/2022 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

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If we can be of further assistance, please contact our office at (816) 329-2508, or vee.stewart@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-AGL-2321-OE.

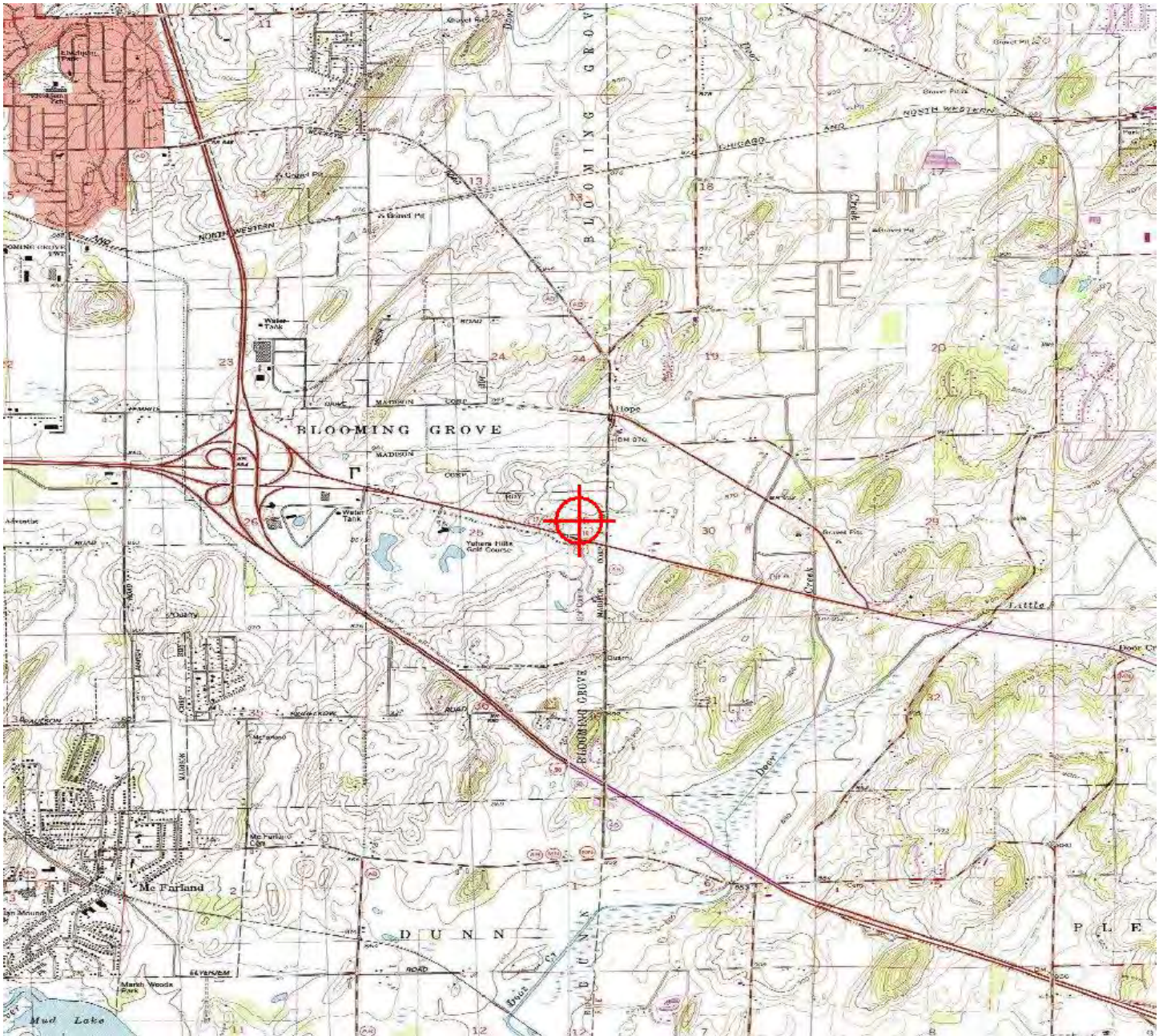
Signature Control No: 466232439-469233415

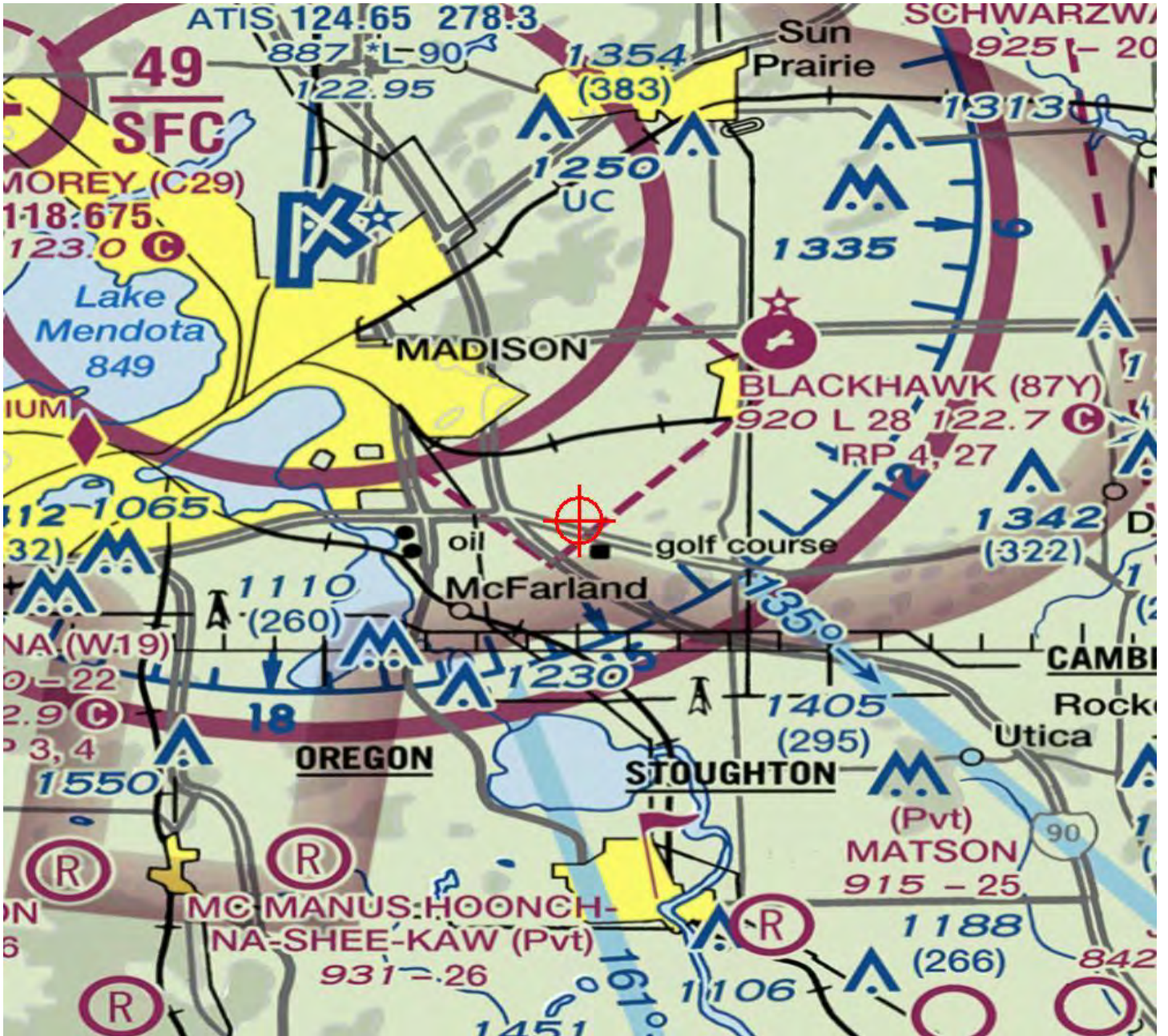
(DNE)

Vee Stewart
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2021-AGL-2321-OE







Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2021-AGL-2322-OE

Issued Date: 02/12/2021

John Welch
John Welch
1919 Alliant Energy Center Way
Madison, WI 53713

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill 10
Location:	Madison, WI
Latitude:	43-02-40.60N NAD 83
Longitude:	89-15-08.40W
Heights:	980 feet site elevation (SE)
	106 feet above ground level (AGL)
	1086 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 08/12/2022 unless:

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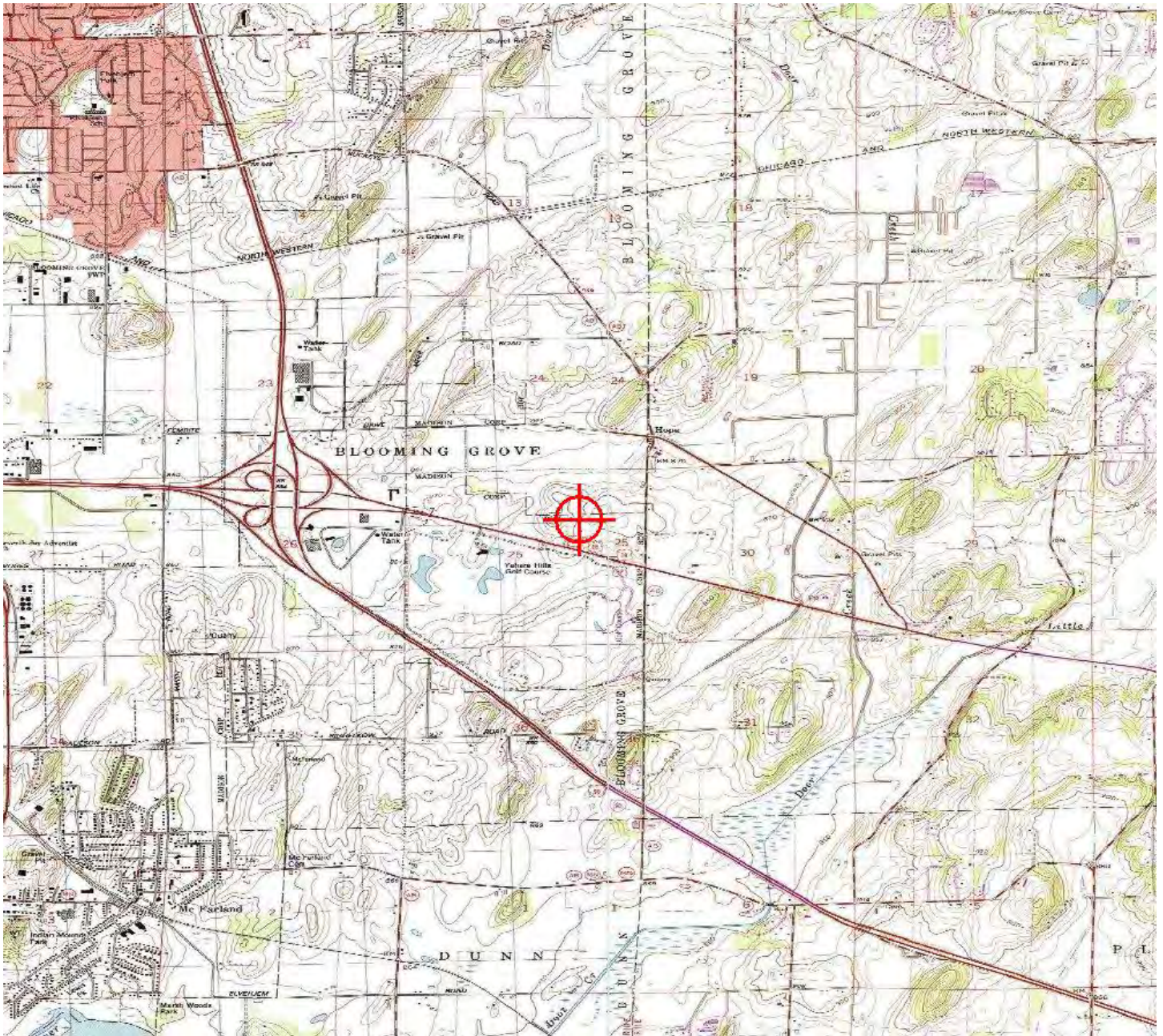
If we can be of further assistance, please contact our office at (816) 329-2508, or vee.stewart@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-AGL-2322-OE.

Signature Control No: 466232440-469233412

(DNE)

Vee Stewart
Specialist

Attachment(s)
Map(s)





November 20, 2020

Mr. John Welch
Dane County Solid Waste Manager
1919 Alliant Energy Center Way
Madison, WI 53713

File Ref: FID 113127300
Dane County
SW/CORR

Subject: Initial Site Report Opinion Letter for the Proposed Vertical Expansion of Dane County Landfill Site No. 2 (Rodefeld), License #3018

Dear Mr. Welch:

The Department of Natural Resources (department) has completed a review of the initial site report (ISR) for the proposed vertical expansion of the Dane County Landfill Site No. 2 (Rodefeld). The report, dated September 8, 2020, was prepared on behalf of Dane County by SCS Engineers (SCS) and was received by the department on September 9, 2020. The department sent a letter to Dane County on October 5, 2020 indicating that the department determined the ISR to be complete.

It is the department's opinion, based on the information presented in the ISR, that the proposed expansion has potential for development as a solid waste disposal facility. A summary of the proposal and potential constraints to the site's feasibility are outlined below.

PROPOSAL DESCRIPTION

Site Location and Land Use

The proposed expansion would be in the N ½ of Section 25 and NE ¼ of SE ¼ of Section 25, Township 7 North, Range 10 East, City of Madison, Dane County, Wisconsin. The proposed approximate 21-acre Eastern Vertical Expansion will be located completely within the limits of the Eastern Expansion area approved in 2014. The landfill property is located approximately 1 mile east of the Interstate 90/39 and U.S. Highway 12 & 18 interchange. The landfill property is adjoined to the east by County Highway AB and to the south by U.S. Highway 12 & 18.

The proposed expanded landfill, including the existing active municipal solid waste (MSW) landfill, would continue to occupy 104.6 acres of the approximately 220-acre parcel owned by Dane County. The proposed vertical expansion has a footprint of 21.3 acres, but this would not change the current total permitted footprint of 104.6 acres. The present land use nearby is a mixture of rural wooded land and wetlands to the north, a mixture of commercial and residential development to the east, a mixture of commercial and wooded land to the west, and a large golf course to the south, across U.S. Highway 12 & 18.

Because the proposed vertical expansion will be located completely within the limits of the Eastern Expansion area approved in 2014, an Agricultural Impact Statement is not required, and a change in zoning classification for the 220-acre parcel owned by Dane County is not required.

Proposed Design Capacity, Service Area, and Anticipated Site Life

The proposed vertical expansion would have a design capacity of approximately 1,007,700 cubic yards. The anticipated service area includes municipalities and industries within Dane County and minimal municipalities and industries outside of Dane County. The proposed expansion is estimated to have a site life of approximately three to three and a half years.

Transportation and Access

The proposed vertical expansion is not expected to change the landfill's existing traffic routes. The landfill is currently accessed from US Highway 12 & 18 via an access road on the south side of the landfill.

The Wisconsin Department of Transportation (WisDOT) is planning changes to the US Highway 12 & 18 and County AB interchange. The proposed changes may impact both traffic routes and access to the landfill, as well as the landfill's existing screening and storm water features located near the interchange.

Please continue to keep the department informed of any updates, necessary landfill design modifications, and potential impacts to the landfill regarding the proposed interchange project as the permitting process for the proposed vertical expansion continues.

Waste Types and Characteristics

The landfill accepts non-hazardous municipal, industrial, and commercial solid waste. These three waste types comprise approximately 97 percent of the landfill's total volume, with the remaining three percent comprised of special permitted waste. During summer months, the landfill receives, on average, approximately 20 to 30 percent more waste by volume. The landfill receives approximately 300,000 cubic yards/year.

Initial Site Inspection

A request for an Initial Site Inspection (ISI) for the proposed vertical expansion was submitted to the department on May 7, 2020. Due to the COVID-19 pandemic, the department did not conduct an in-person inspection of the site, but instead completed a desktop review of the submittal, supplemented with photographs taken at the site by SCS Engineers on behalf of Dane County. Because the proposed Eastern Vertical Expansion area would not change the existing horizontal limits of waste filling for the currently permitted active landfill (Eastern Expansion), the lack of a field inspection for the proposed vertical expansion was not considered significant to the findings presented in the department's ISI preliminary opinion letter dated June 10, 2020. The department's ISI preliminary opinion letter identified the site location as having potential for development of a landfill expansion.

The ISI letter noted the presence of two navigable ponds within 1,000 feet of the existing limits of waste filling, both located to the south of the landfill on the Yahara Hills Golf Course. An exemption from s. NR 504.04(3)(a), Wis. Adm. Code was granted for Ponds A and B in the department's February 3, 2014 Determination of Site Feasibility - Eastern Expansion. Dane County anticipates requesting a similar exemption as part of the permitting for the proposed Eastern Vertical Expansion. The department also noted the presence of three ponds located approximately 300 feet southeast of the existing limits of waste filling; however, the ISR indicated that those three ponds are manmade storm water ponds designed for flow control and sediment removal. Exemptions for those three manmade ponds will not be required. The existing conditions plan drawing should clearly identify all waterways that are considered under the locational criteria of s. NR 504.04 and waterways that were constructed for the purpose of storm water management.

The ISI letter noted that the existing limits of waste filling are located within 1,000 feet of Highway 12 & 18, Hope Park, and Yahara Hills Golf Course. An exemption from the NR 504.04(3)(d) locational criteria was granted as part of the Eastern Expansion. A similar exemption may be requested for the Eastern Vertical Expansion by Dane County if adequate screening is unable to be provided. Dane County proposes to incorporate screening through the use of strategically placed plantings, screening berms and soil core berms within the waste mass constructed in conjunction with the filling sequence.

The ISI letter noted the presence of Blackhawk Airfield in Cottage Grove, as well as two other small private airstrips located within approximately 5 miles of the proposed vertical expansion. The ISR included notification letters sent by Dane County to the Federal Aviation Administration (FAA), Little Wheel Field, Blackhawk Airfield, and Quale Airport. The FAA's official response to Dane County's notification letter and any further communication with the FAA regarding notices of construction or airspace review, as well as any further communication with the above listed airports, should be included in the feasibility report.

The ISI request noted the presence of two private water supply wells located within 1,200 feet of the existing limits of waste filling: Dane County's biogas facility well (YZ391) and the Michael Niebuhr well (PW-51). Exemption requests should be included in the feasibility report for YZ391 and PW-51, and variance applications should be submitted to the department in accordance with NR 812.43 for wells that have not been granted variances in the past. In the department's ISI letter, six additional private water supply wells were noted because they appeared to be near or within the 1,200-foot setback zone. The ISR stated the wells had either been abandoned without replacement, abandoned and replaced outside the 1,200-foot setback zone, or installed just outside the 1,200-foot setback zone. These wells include the Hope Park Well, the Hope Lutheran Church Well, the Julie Acker Well, the Community Well, the Country Corners Well, and the Dane County Public Works Well. The department asked Dane County to include well abandonment reports for the private water supply wells. The ISR included well abandonment reports for five of the six private water supply wells. The sixth well, the Dane County Public Works Well, is a high capacity well installed in 2015 outside of the 1,200-foot setback.

Regional Geotechnical Information

The proposed site is located in an area underlain by a thick sequence of unconsolidated glacial drift of the Horicon Formation deposited over dolomite bedrock of Ordovician age. The Horicon Formation generally consists of brown sandy till, but also includes sand and gravel deposited by glacial melt water and clay, silt, and sand deposited in glacial lakes. Specific surficial soils mapped by the United States Department of Agriculture (USDA), Natural Resource Conservation Service in the vicinity of the site range from well drained silt-loam to poorly drained muck and consist primarily of the following: Dodge silt loam, Ringwood silt loam, Sable silty clay loam, Houghton muck, and St. Charles silt loam. Previous site subsurface investigations encountered glacial sediments that extended down to at least 95 feet below the land surface. The sediments encountered consist of silty clay (glacial lacustrine deposits), silty sand glacial till with scattered pebbles, cobbles, boulders, (poorly sorted ice contact deposits), and sand and gravel (outwash and lacustrine sand deposits). The first bedrock encountered is the Galena-Platteville dolomite bedrock of the Sinnipee Group. The Galena-Platteville dolomite is found at about 70 feet below ground surface in proximity to the US Highway 12 & 18 intersection with County Highway AB to a depth of 153 feet below ground surface just to the east of the expansion area. In the area of the site there is also a fault complex, informally called the Yahara Hills Complex where the disturbed area is subdivided into discrete blocks separated by normal faults. The faults are not part of any currently active geologic process and are therefore considered inactive.

There are three major aquifers and one aquitard in Dane County. The aquifers consist of a shallow sand and gravel aquifer; an upper bedrock aquifer consisting of Ordovician rocks such as the St. Peter Sandstone and the Prairie Du Chien Dolomite; and a lower bedrock aquifer consisting of the Mount Simon Cambrian Sandstone. The upper and lower bedrock aquifers are separated by the Eau Claire Shale Formation, acting as an aquitard. The un lithified

sand and gravel aquifers can yield economically useful quantities of water in some areas of the County. However, the Cambrian sandstone units are considered to be the principal aquifer in the County. The elevation of the regional water table in the area of the proposed expansion is approximately 880 feet above mean sea level (ft-MSL). In the area of the proposed expansion, the groundwater system consists of two distinct hydrostratigraphic units, a bedrock aquifer, and the surficial glacial deposits. According to regional sources the flow in the bedrock aquifer is generally to the southwest. In general, the groundwater flow direction in the glacial unit in the area of the eastern expansion is to the north with a slight northwesterly component based on historical water table maps. Based on previous hydrogeological investigations, the elevation of the water table ranges from about 857 to 874 feet ft-MSL.

The proposed site lies within the Yahara River watershed. The northern half of the site drains to Door Creek which joins the Yahara River near Lake Kegonsa. The southern half of the site drains to Mud Lake, a widening of the Yahara River, at the north end of Lake Waubesa.

Preliminary Design Concepts

The proposed expansion is a vertical expansion over the existing active landfill and would share the design features already approved for the existing facility. The proposed vertical expansion will be designed to increase the existing municipal solid waste design capacity and would result in a peak elevation of approximately 1,084 ft-MSL. Sedimentation basins, diversion berms and/or perimeter drainage swales will be constructed and/or modified to contain surface water runoff from the proposed development and to release collected surface water in a controlled manner.

POTENTIAL CONSTRAINTS ON SITE FEASIBILITY

At this time, the department has identified the following locational and performance criteria that may limit the potential for site development.

Navigable Ponds: There are two manmade navigable ponds located less than 1,000 feet from the proposed vertical expansion. Exemptions were approved for these ponds during prior site permitting. A new exemption from the requirements of s. NR 504.04(3)(a), Wis. Adm. Code, will need to be requested in the feasibility report.

Water Supply Wells: There are two active water supply wells within 1,200 feet of the proposed vertical expansion, the biogas facility well (YZ391) and Michael Niebuhr well (PW-51). A new exemption from s. NR 504.04(3)(f), Wis. Adm. Code, will need to be requested in the feasibility report for these wells. If these wells have previously been granted variances under s. NR 812.43, Wis. Adm. Code, no additional NR 812 variances would be required for the proposed vertical expansion because the limits of waste with respect to the well locations are not changing. The previously issued variances would remain valid for the proposed expansion if a favorable feasibility determination was issued. In the feasibility report, please provide any previously issued NR 812 variances for the wells. Any wells that would need a variance from the 1,200-foot locational setback criterion in ch. NR 812, Wis. Adm. Code would require notification of variance applications to the well owner.

State Highway 12 & 18 and Public Park: The proposed landfill expansion boundary is located about 300 feet from State Highway 12 & 18, about 450 feet from the boundary of the Yahara Hills Public Golf Course to the south, and about 350 feet from the boundary of Hope Park to the north. Both the Yahara Hills Public Golf Course and Hope Park are public parks. The required setback to a state trunk highway and to a public park is 1,000 feet. That setback can be replaced by appropriate screening used so that the waste filling operation cannot be viewed from the highway, the park or the golf course within 1,000 feet. A new exemption from s. NR 504.04(3)(d) may need to be requested for the proposed vertical expansion if adequate screening cannot be provided. The feasibility report

should include line of sight drawings from the various locations within all of these areas where the waste may most likely be visible as the waste height increases to show the visual effect of screening.

NOTICE

In accordance with ss. 289.22 and 289.23, Wis. Stats., the applicant must notify all affected municipalities and apply for all specified local approvals at least 120 days before a feasibility report can be submitted to the department (the exact time period depends upon the municipal response). The Waste Facility Siting Board has specific requirements which apply to the municipal notification. For additional information on these requirements, please contact the Wisconsin Waste Facility Siting Board at (608) 267-7854. The feasibility report must contain documentation showing that all proper notifications and applications for all specified local approvals have been made, in accordance with s. NR 512.06, Wis. Adm. Code.

This opinion letter does not approve or deny the proposed expansion. If Dane County wishes to pursue the proposed expansion, the feasibility report must address the concerns listed above and contain the information required in ch. NR 512, Wis. Adm. Code. This includes the requirement to include a request for an exemption for all locational and performance criteria or other code requirements that the proposed landfill cannot meet. Each exemption request needs to include an explanation demonstrating why the exemption is warranted. Please also remember that the department may request additional information as it reviews the feasibility report.

Please contact Tyler Sullivan at (608) 516-3962 or tyler.sullivan@wisconsin.gov or Carolyn Cooper at (608) 275-7779 or carolyn.cooper@wisconsin.gov if you have questions or comments regarding this letter.

Sincerely,



Cynthia Moore
Waste and Materials Management Program Supervisor
South Central Region

CC: Betsy Powers - BPowers@scsengineers.com
Carolyn Cooper – DNR – SCR
Tyler Sullivan – DNR - SCR
Ann Bekta – DNR - SCR
Joe Lourigan – DNR
Valerie Joosten – DNR

Powers, Betsy

From: Beauchamp, Bobb (FAA) <Bobb.Beauchamp@faa.gov>
Sent: Monday, October 5, 2020 1:48 PM
To: Powers, Betsy
Cc: Bartell, Deb (FAA)
Subject: RE: Proposed Vertical Expansion in Madison, WI

This email originated from outside of SCS Engineers. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Betsy,

FAA Advisory Circular 150/5200-34A, Construction or Establishment of Landfills Near Public Airports, includes a description of landfill actions that are subject to the requirements found at 49 USC 44718(d). These requirements only apply to new (constructed after April 5, 2000) landfills. They do not apply to existing landfills that are expanded or modified after April 5, 2000.

The project you describe is a vertical expansion of an existing landfill unit. The limitations on construction within 6 miles of a qualifying airport therefore do not apply.

Further, we have identified no airports within 5,000' (piston aircraft) or 10,000' (turbojet aircraft) of the proposed project. Therefore, the limitations of 40 CFR 258.10 also do not apply.

Note that other aspects of the project may still apply, such as notice of construction and airspace review.

From: Powers, Betsy <BPowers@scsengineers.com>
Sent: Monday, October 05, 2020 10:55 AM
To: Beauchamp, Bobb (FAA) <Bobb.Beauchamp@faa.gov>
Subject: RE: Proposed Vertical Expansion in Madison, WI

It will be a vertical expansion of an existing waste cell(s). It will require a new permit; we need to go through the full Wisconsin DNR permitting process. Again, it will fall fully within the existing limits of waste footprint though.
Betsy

From: Beauchamp, Bobb (FAA) <Bobb.Beauchamp@faa.gov>
Sent: Monday, October 5, 2020 10:51 AM
To: Powers, Betsy <BPowers@scsengineers.com>
Subject: RE: Proposed Vertical Expansion in Madison, WI

This email originated from outside of SCS Engineers. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Betsy,

Is the vertical expansion to an existing waste cell? Will the expansion require the issuance of a new permit, or the amendment of an existing permit?

From: Powers, Betsy <BPowers@scsengineers.com>

Sent: Monday, October 05, 2020 9:09 AM

To: Beauchamp, Bobb (FAA) <Bobb.Beauchamp@faa.gov>; Bartell, Deb (FAA) <deb.bartell@faa.gov>; Rathsack, Allison <rathsack.allison@countyofdane.com>

Cc: Welch, John <Welch@countyofdane.com>; Wienkes, Roxanne <Wienkes.Roxanne@countyofdane.com>

Subject: RE: Proposed Vertical Expansion in Madison, WI

Hi Bobb,

Here you go. Let me know if you need anything else.

Thank you,

Betsy

From: Beauchamp, Bobb (FAA) <Bobb.Beauchamp@faa.gov>

Sent: Monday, October 5, 2020 9:06 AM

To: Powers, Betsy <BPowers@scsengineers.com>; Bartell, Deb (FAA) <deb.bartell@faa.gov>; Rathsack, Allison <rathsack.allison@countyofdane.com>

Cc: Welch, John <Welch@countyofdane.com>; Wienkes, Roxanne <Wienkes.Roxanne@countyofdane.com>

Subject: RE: Proposed Vertical Expansion in Madison, WI

This email originated from outside of SCS Engineers. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Betsy,

Our office does review and respond to proposals such as this. However, we have not been physically in our office since March, so I don't have access to the contents of the letter. Would it be possible for you to send it electronically? Once I have them I can review and prepare our response.

From: Powers, Betsy <BPowers@scsengineers.com>

Sent: Monday, October 05, 2020 8:50 AM

To: Bartell, Deb (FAA) <deb.bartell@faa.gov>; Rathsack, Allison <rathsack.allison@countyofdane.com>; Beauchamp, Bobb (FAA) <Bobb.Beauchamp@faa.gov>

Cc: Welch, John <Welch@countyofdane.com>; Wienkes, Roxanne <Wienkes.Roxanne@countyofdane.com>

Subject: RE: Proposed Vertical Expansion in Madison, WI

Hi Deb and Bobb,

Allison is on maternity leave, but I wanted to check on status of review of the notification letter regarding a proposed vertical expansion at the Dane County Landfill Site No. 2 (Rodefild) in Madison, WI. Do you plan to issue a formal response? If you have any questions, please feel free to reach out to this group.

Thanks much,

Betsy

Betsy Powers, PE*

Senior Project Manager/Civil Engineer

SCS Engineers

2830 Dairy Drive

Madison, WI 53718-6751 USA

608-333-5408 (Cell)

bpowers@scsengineers.com

*Licensed in WI

Driven by Client Success

From: Bartell, Deb (FAA) <deb.bartell@faa.gov>

Sent: Monday, August 31, 2020 3:40 PM

To: Rathsack, Allison <rathsack.allison@countyofdane.com>; Beauchamp, Bobb (FAA) <Bobb.Beauchamp@faa.gov>

Cc: Welch, John <Welch@countyofdane.com>; Wienkes, Roxanne <Wienkes.Roxanne@countyofdane.com>; Powers, Betsy <BPowers@scsengineers.com>

Subject: RE: Proposed Vertical Expansion in Madison, WI

Importance: High

This email originated from outside of SCS Engineers. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Allison,

Thank you for sending this electronically. Copying our environmental protections specialist, Bobb Beauchamp, for his review.

I am not currently working at the office, but we are picking up mail. I don't recall seeing this letter, so thank you for the email.

Bobb – please let Allison know if we have any comments.

Thanks,

Deb Bartell

Manager, Chicago Airports District Office

Federal Aviation Administration

847-294-7335

From: Rathsack, Allison <rathsack.allison@countyofdane.com>

Sent: Wednesday, August 26, 2020 5:09 PM

To: Bartell, Deb (FAA) <deb.bartell@faa.gov>

Cc: Welch, John <Welch@countyofdane.com>; Wienkes, Roxanne <Wienkes.Roxanne@countyofdane.com>; 'Powers, Betsy' <BPowers@scsengineers.com>

Subject: Proposed Vertical Expansion in Madison, WI

Good afternoon Deb,

Dane County sent a notification letter to your attention via certified mail on or around June 26, 2020 regarding a proposed vertical expansion (attached for reference). I'm wondering if you had any follow-up questions or concerns regarding this proposed vertical expansion located at:

Dane County Landfill Site No. 2 (Rodefild)
7102 U.S. Highway 12 & 18
Madison, WI 53718.

If you'd like to discuss anything, feel free to call me at 608.514.2319.

I look forward to your response.

Thanks,

Allison Rathsack
Dane County, Waste & Renewables
Special Projects & Materials Manager
608-514-2319

Powers, Betsy

From: Rortvedt, Eric - DNR <Eric.Rortvedt@wisconsin.gov>
Sent: Monday, August 3, 2020 9:09 PM
To: Powers, Betsy
Cc: Bekta, Ann M - DNR
Subject: RE: Dane County Rodefild Vertical Landfill Expansion

Categories: Filed by Newforma

This email originated from outside of SCS Engineers. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Betsy,

You are correct that I was thinking a construction NOI would be submitted for this expansion. However, I agree that this expansion would qualify to be covered under an update to the Tier 2 industrial storm water management plan and not require submittal of a storm water construction site NOI. I don't review landfill expansions very often and had forgotten about the policy change that is outlined in the 2016 memo. Thanks for the reminder.

Eric Rortvedt, P.E.

Phone: (608) 273-5612 (voice mail only)

Eric.Rortvedt@Wisconsin.gov

From: Powers, Betsy <BPowers@scsengineers.com>
Sent: Monday, August 03, 2020 4:58 PM
To: Rortvedt, Eric - DNR <Eric.Rortvedt@wisconsin.gov>
Subject: RE: Dane County Rodefild Vertical Landfill Expansion

Hi Eric,

Thank you for clarifying the expectations for the vertical expansion. Follow-up on the NOI. We are hoping to update the Tier 2 industrial storm water management plan as part of the expansion permitting to incorporate construction events, as allowed under the 3800-2016-02 guidance document (Storm Water Discharge Permit Coverage at Solid Waste Landfills), so that the County does not have to obtain separate construction site permit coverage for every construction event. Is the Construction NOI the NOI you were referring to?

I'll be forwarding your email to Ann Bekta as well so she is in the loop – FYI.

Thanks!

Betsy

From: Rortvedt, Eric - DNR <Eric.Rortvedt@wisconsin.gov>
Sent: Monday, August 3, 2020 2:43 PM
To: Powers, Betsy <BPowers@scsengineers.com>
Subject: Dane County Rodefild Vertical Landfill Expansion

This email originated from outside of SCS Engineers. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Betsy,

I have my emails from communication with Adam Hogan on the Dane County Rodefild Expansion evaluated back in 2013 (FIN 51607). The original proposed design for the storm water treatment ponds back in 2013 were based on s. NR 504.09 (1)(e), Wis. Adm. Code, which is out of date with NR 151 standards. We had them increase the size of the ponds and the outlet controls to meet 80% TSS control and they utilized the Dane County approach with a one-year storm and the 5 micron settling velocity. Since part of the drainage area to the ponds was considered existing development (or managed as part of the landfill area), the peak flow standard to maintain 1- and 2-yr flows was not applied.

Since the vertical expansion of the landfill should have similar hydrology coming off the vertically expanded landfill area, so long as the runoff drainage areas will continue to flow to the existing storm water facilities, I see no need to require any peak flow or TSS analysis of the existing storm water facilities that will continue to serve the proposed vertical expansion area of the landfill.

Please submit this email with the storm water NOI that is submitted to the Department.

Thank you,

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Eric Rortvedt, P.E.

Stormwater Engineer – Bureau of Watershed Management

Wisconsin Department of Natural Resources

Phone: (608) 273-5612 (voice mail only)

Eric.Rortvedt@Wisconsin.gov





DANE COUNTY DEPARTMENT OF WASTE & RENEWABLES

County Executive
Joseph T. Parisi

1919 Alliant Energy Center Way ♦ Madison, Wisconsin 53713
Phone: (608) 266-4018 ♦ Fax: (608) 267-1533

Director
John Welch P.E.

June 26, 2020

Federal Aviation Administration
ATTN Deb Bartell
Great Lakes Region
Chicago Airports District Office
2300 East Devon Avenue
Des Plaines, IL 60018

Subject: Landfill Location Relative to Existing Airports
Dane County Landfill Site No. 2 (Rodefild) – Eastern Vertical Expansion
Madison, Wisconsin (License No. 3018)

Dear Ms. Bartell,

Dane County, Department of Waste & Renewables is preparing permit documents for a proposed vertical expansion of the Dane County Landfill Site No. 2 (Rodefild). The facility is located within the City of Madison, Dane County, Wisconsin. The proposed vertical expansion is located at 7102 U.S. Highway 12 & 18, Madison, WI 53718. Figure 1 shows the extent of the proposed vertical expansion, setbacks, and surrounding private and public airports.

The Wisconsin Administrative Code, 500.03(4) and the Code of Federal Regulations, 40 CFR Part 258.10(d)(1), define an airport as a "public-use airport open to the public without prior permission and without restrictions within the physical capacities of available airport facilities". Dane County has reviewed the Wisconsin Airport Directory & Pilot's Guide prepared by the Wisconsin Department of Transportation (WisDOT), Bureau of Aeronautics, revised August 2019. The research indicates that there are no airport runways designed and used by turbojet aircraft located within 10,000 feet or designed and used by piston-type aircraft within 5,000 feet of the proposed expansion site, per NR 504.04(3)(e) and 40 CFR Part 258.10(a).

Blackhawk Airfield (Airport Code: 87Y) located in Cottage Grove, Wisconsin, is a privately owned airport for public use that is located approximately 5.0 miles from the limits of the proposed vertical expansion. The Blackhawk Airfield is the only public use airport within the 5-mile radius of the proposed vertical expansion, per NR 504.04(3)(e)(2) and 40 CFR Part 258.10(b). The next nearest public airport is the Dane County Regional - Truax Field Airport (Airport Code: MSN) located approximately 7 miles northwest of the approved limits of waste.

There are two privately owned, not for public use, airstrips within 5 miles of the proposed vertical expansion area. One airstrip is Little Wheel Field (Airport Code: 59WI) located approximately 3.6 miles east of the proposed vertical expansion and the second airport is Quale Airport (Airport Code: 87WI) located approximately 2.9 miles southeast of the proposed vertical expansion. Since these airstrips are not for public use, they are not an appropriate consideration under Title 49 § 44718(d) of the United States Code.

Dane County requests that the FAA review this information, confirm our findings, and provide a response to the proposed eastern vertical expansion as soon as possible. If you have any questions or require additional information, please feel free to contact me at (608)516-4154 or Welch@countyofdane.com.

Sincerely,

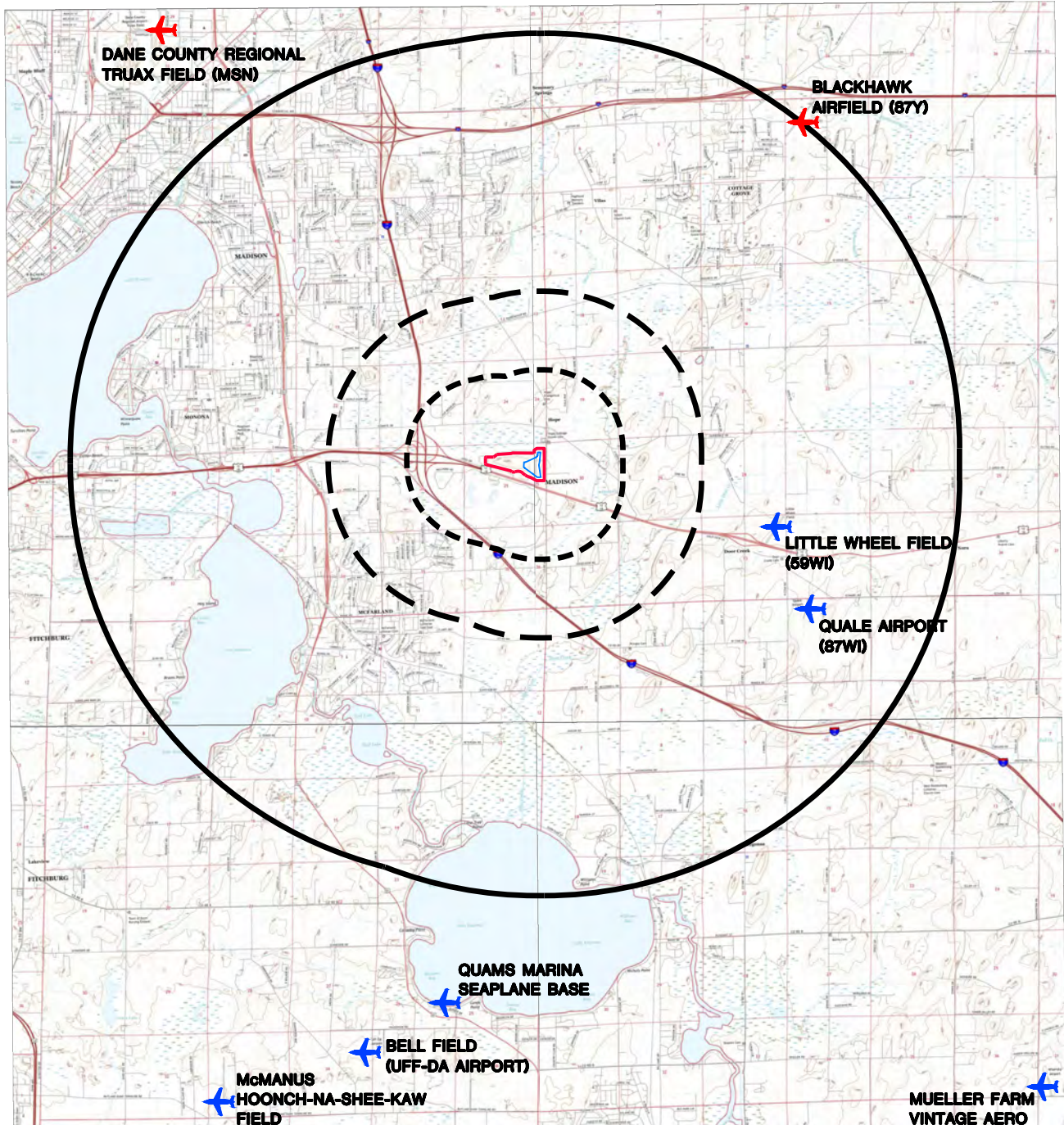
A handwritten signature in black ink, appearing to read 'John Welch', with a stylized flourish at the end.

John Welch, P.E.
Director of Waste & Renewables

Attachments:

Figure 1 – Regional Airport Locations

CC: Allison Rathsack – Dane County
Roxanne Wienkes – Dane County
Betsy Powers – SCS Engineers



LEGEND

- APPROVED LIMITS OF WASTE
- PROPOSED VERTICAL EXPANSION LIMITS
- - - 5,000-FOOT RADIUS FROM LIMITS OF WASTE
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- 5-MILE RADIUS FROM LIMITS OF WASTE
- ✈ PUBLIC AIRPORT
- ✈ PRIVATE AIRPORT

SCALE: 1" = 10,000'

NOTES:

1. MAP SOURCE: MADISON EAST, COTTAGE GROVE, STOUGHTON AND RUTLAND 2018 7.5 MINUTE SERIES (TOPOGRAPHIC) QUADRANGLE MAPS, DANE COUNTY, WISCONSIN.
2. AIRPORT SOURCE: WISCONSIN AIRPORT REFERENCE POINTS KMZ FILE DOWNLOADED FROM WISCONSINDOT.GOV. AND OURAIRPORTS.COM.
3. THE RADII SHOWN ARE IN ACCORDANCE WITH THE REQUIREMENTS OF NR 504.04(3)(E).

CLIENT	DANE COUNTY DEPARTMENT OF WASTE AND RENEWABLES 1919 ALLIANT ENERGY CENTER WAY MADISON, WI 53713		SITE	DANE COUNTY LANDFILL SITE NO. 2 7102 US HWY 12/18 MADISON, WISCONSIN		REGIONAL AIRPORT LOCATIONS		
	PROJECT NO.	25220091.00		DRAWN BY:	KP	ENGINEER	FIGURE	
	DRAWN:	06/18/2020		CHECKED BY:	KG		SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	1
	REVISED:	06/22/2020		APPROVED BY:				



DANE COUNTY DEPARTMENT OF WASTE & RENEWABLES

County Executive
Joseph T. Parisi

1919 Alliant Energy Center Way ♦ Madison, Wisconsin 53713
Phone: (608) 266-4018 ♦ Fax: (608) 267-1533

Director
John Welch P.E.

June 26, 2020

Blackhawk Airfield Inc
Cheryl Strassman
2534 South Fish Hatchery Road
Fitchburg, WI 53711

Subject: Landfill Location Relative to Existing Airports
Dane County Landfill Site No. 2 (Rodefild) – Eastern Vertical Expansion
Madison, Wisconsin (License No. 3018)

Dear Ms. Strassman,

Dane County, Department of Waste & Renewables is preparing permit documents for a proposed vertical expansion of the Dane County Landfill Site No. 2 (Rodefild). The facility is located within the City of Madison, Dane County, Wisconsin.

The proposed vertical expansion is located at 7102 U.S. Highway 12 & 18, Madison, WI 53718. Figure 1 shows the extent of the proposed vertical expansion, setbacks, and surrounding private and public airports.

As part of the expansion process, Dane County is required to notify all airports within a 5-mile radius of the proposed vertical expansion. Please consider this letter your formal notification under NR 504.04(3)(e) and 40 CFR Part 258.10(b).

If you have any questions or require additional information, please feel free to contact me at (608)516-4154 or Welch@countyofdane.com.

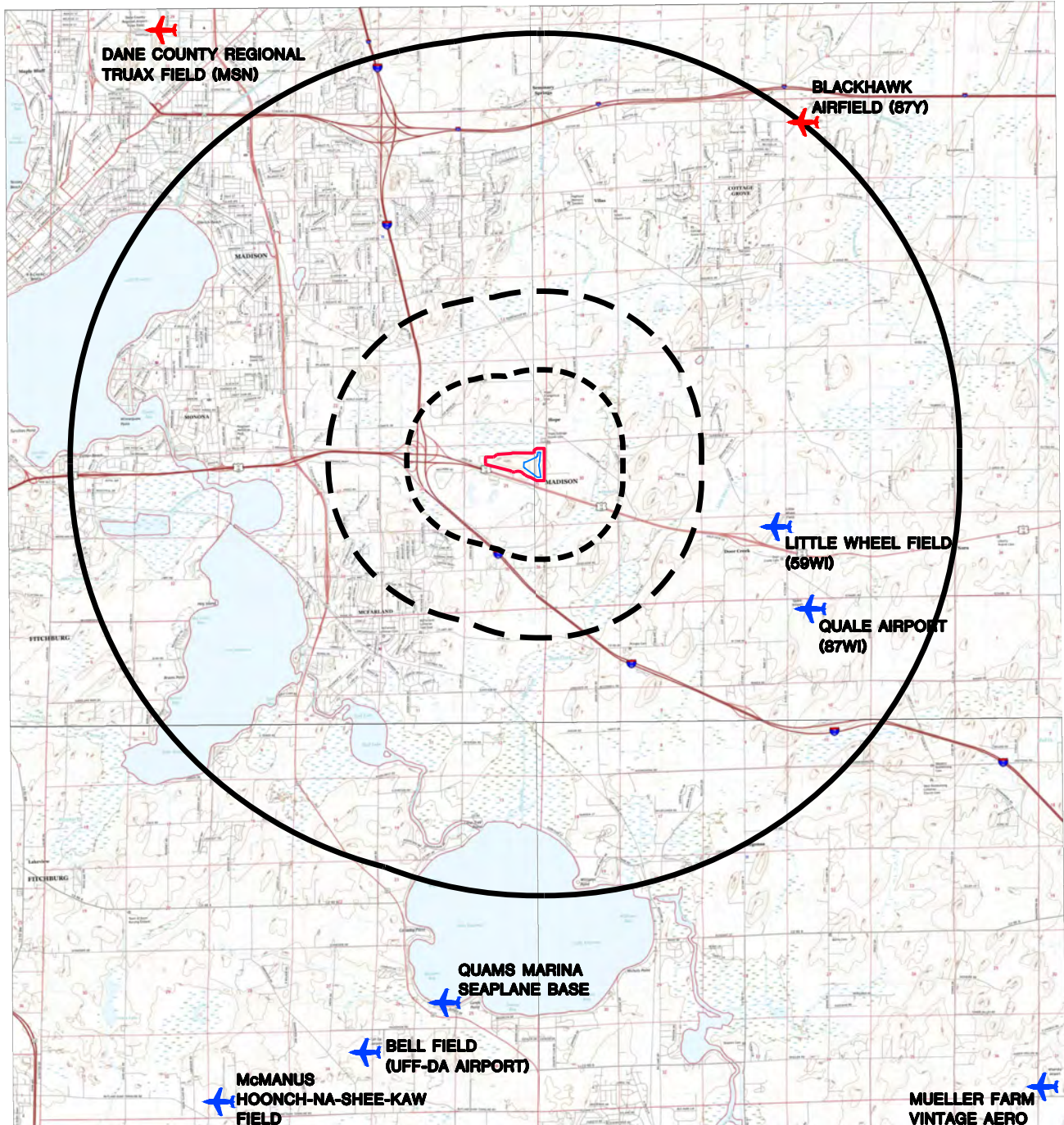
Sincerely,

John Welch, P.E.
Director of Waste & Renewables

Attachments:

Figure 1 – Regional Airport Locations

CC: Allison Rath sack – Dane County
Roxanne Wienkes – Dane County
Betsy Powers – SCS Engineers



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- ✈ PUBLIC AIRPORT
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SCALE: 1" = 10,000'

NOTES:

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CLIENT DANE COUNTY DEPARTMENT OF WASTE AND RENEWABLES 1919 ALLIANT ENERGY CENTER WAY MADISON, WI 53713	SITE DANE COUNTY LANDFILL SITE NO. 2 7102 US HWY 12/18 MADISON, WISCONSIN	REGIONAL AIRPORT LOCATIONS	
PROJECT NO. 25220091.00	DRAWN BY: KP	<div style="text-align: center;"> SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830 </div>	FIGURE
DRAWN: 06/18/2020	CHECKED BY: KG		1
REVISED: 06/22/2020	APPROVED BY:		



DANE COUNTY DEPARTMENT OF WASTE & RENEWABLES

County Executive
Joseph T. Parisi

1919 Alliant Energy Center Way ♦ Madison, Wisconsin 53713
Phone: (608) 266-4018 ♦ Fax: (608) 267-1533

Director
John Welch P.E.

June 26, 2020

Little Wheel Field Airport
Keith Swalheim
121 Glenn Drive
Cottage Grove, WI 53527

Subject: Landfill Location Relative to Existing Airports
Dane County Landfill Site No. 2 (Rodefild) – Eastern Vertical Expansion
Madison, Wisconsin (License No. 3018)

Dear Mr. Swalheim,

Dane County, Department of Waste & Renewables is preparing permit documents for a proposed vertical expansion of the Dane County Landfill Site No. 2 (Rodefild). The facility is located within the City of Madison, Dane County, Wisconsin.

The proposed vertical expansion is located at 7102 U.S. Highway 12 & 18, Madison, WI 53718. Figure 1 shows the extent of the proposed vertical expansion, setbacks, and surrounding private and public airports.

As part of the expansion process, Dane County is required to notify all airports within a 5-mile radius of the proposed vertical expansion. Please consider this letter your formal notification under NR 504.04(3)(e) and 40 CFR Part 258.10(b).

If you have any questions or require additional information, please feel free to contact me at (608)516-4154 or Welch@countyofdane.com.

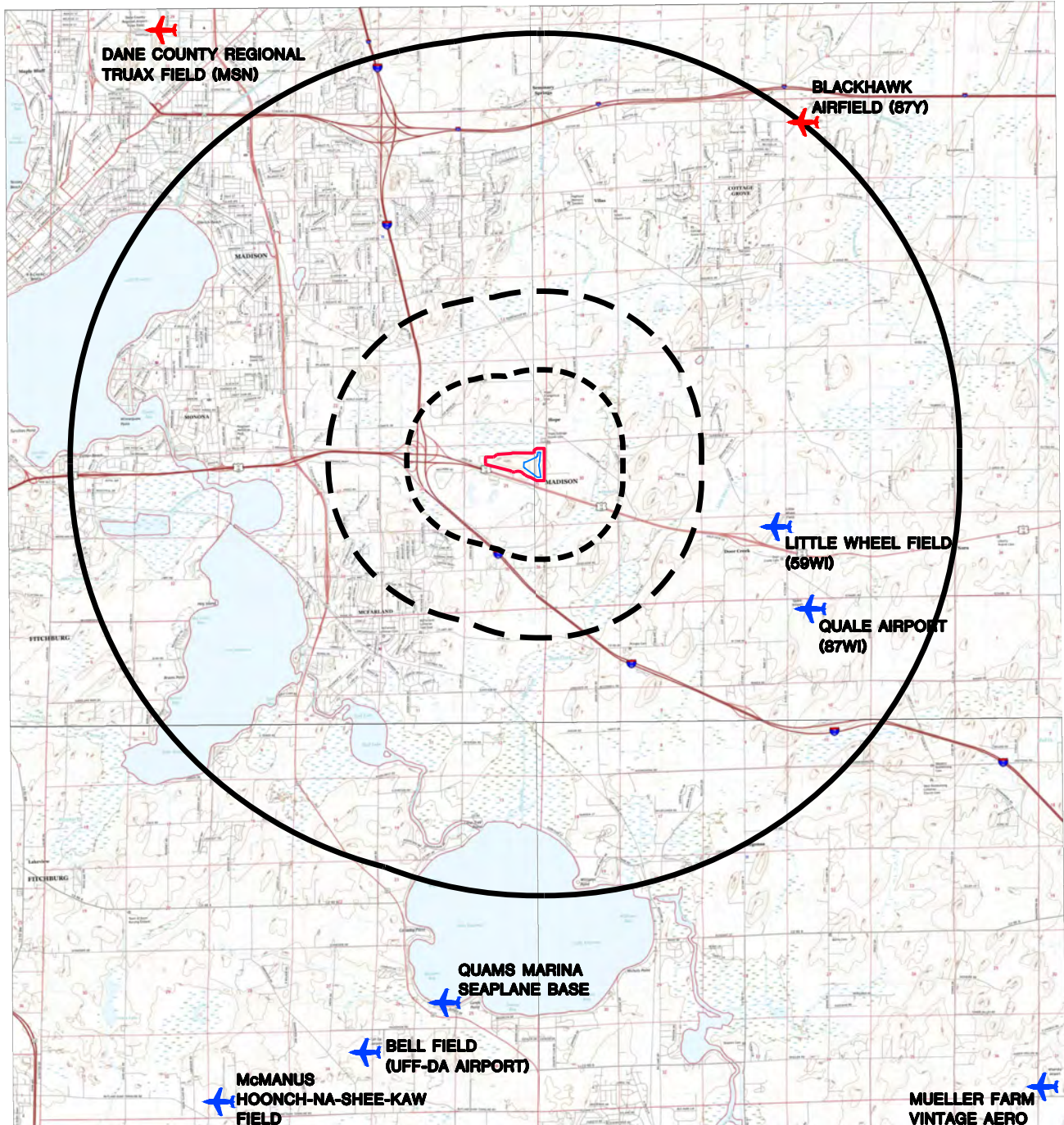
Sincerely,

John Welch, P.E.
Director of Waste & Renewables

Attachments:

Figure 1 – Regional Airport Locations

CC: Allison Rathsack – Dane County
Roxanne Wienkes – Dane County
Betsy Powers – SCS Engineers



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SCALE: 1" = 10,000'

NOTES:

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PROJECT NO. 25220091.00	DRAWN BY: KP	<div style="text-align: center;"> SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830 </div>	FIGURE
DRAWN: 06/18/2020	CHECKED BY: KG		
REVISED: 06/22/2020	APPROVED BY:		1



DANE COUNTY DEPARTMENT OF WASTE & RENEWABLES

County Executive
Joseph T. Parisi

1919 Alliant Energy Center Way ♦ Madison, Wisconsin 53713
Phone: (608) 266-4018 ♦ Fax: (608) 267-1533

Director
John Welch P.E.

June 26, 2020

Quale Airport
Richard Quale
3114 North Star Road
Cottage Grove, WI 53527

Subject: Landfill Location Relative to Existing Airports
Dane County Landfill Site No. 2 (Rodefild) – Eastern Vertical Expansion
Madison, Wisconsin (License No. 3018)

Dear Mr. Quale,

Dane County, Department of Waste & Renewables is preparing permit documents for a proposed vertical expansion of the Dane County Landfill Site No. 2 (Rodefild). The facility is located within the City of Madison, Dane County, Wisconsin.

The proposed vertical expansion is located at 7102 U.S. Highway 12 & 18, Madison, WI 53718. Figure 1 shows the extent of the proposed vertical expansion, setbacks, and surrounding private and public airports.

As part of the expansion process, Dane County is required to notify all airports within a 5-mile radius of the proposed vertical expansion. Please consider this letter your formal notification under NR 504.04(3)(e) and 40 CFR Part 258.10(b).

If you have any questions or require additional information, please feel free to contact me at (608)516-4154 or Welch@countyofdane.com.

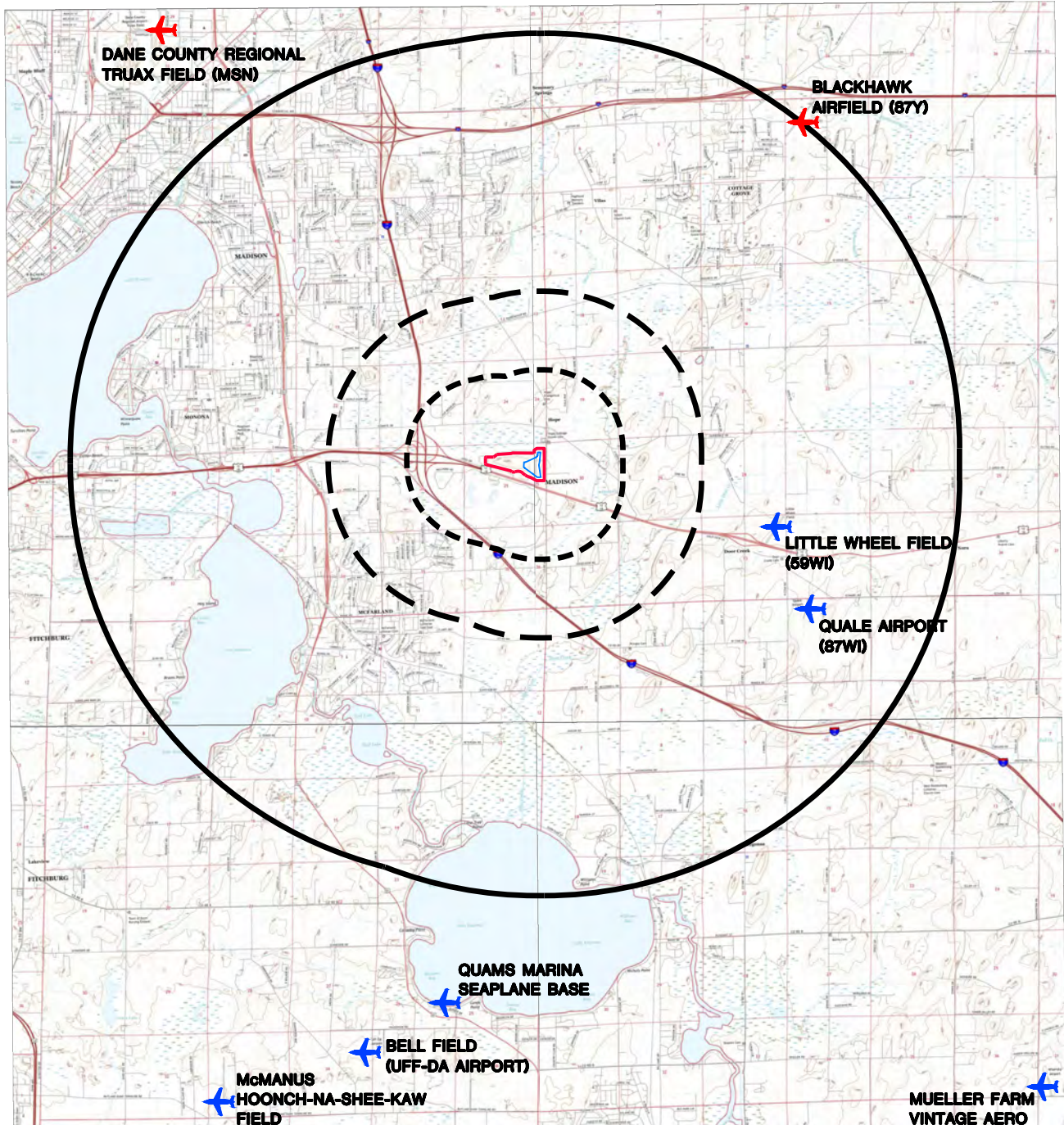
Sincerely,

John Welch, P.E.
Director of Waste & Renewables

Attachments:

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CC: Allison Rath sack – Dane County
Roxanne Wienkes – Dane County
Betsy Powers – SCS Engineers



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SCALE: 1" = 10,000'

NOTES:

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DRAWN: 06/18/2020	CHECKED BY: KG		1
REVISED: 06/22/2020	APPROVED BY:		



DANE COUNTY DEPARTMENT OF WASTE & RENEWABLES

County Executive
Joseph T. Parisi

1919 Alliant Energy Center Way ♦ Madison, Wisconsin 53713
Phone: (608) 266-4018 ♦ Fax: (608) 267-1533

Director
John Welch P.E.

September 3, 2020

Little Wheel Field Airport
Jodi Coon
2024 Meadow Drive
Stoughton, WI 53589

Subject: Landfill Location Relative to Existing Airports
Dane County Landfill Site No. 2 (Rodefild) – Eastern Vertical Expansion
Madison, Wisconsin (License No. 3018)

Dear Ms. Jodi Coon,

Dane County, Department of Waste & Renewables is preparing permit documents for a proposed vertical expansion of the Dane County Landfill Site No. 2 (Rodefild). The facility is located within the City of Madison, Dane County, Wisconsin.

The proposed vertical expansion is located at 7102 U.S. Highway 12 & 18, Madison, WI 53718. Figure 1 shows the extent of the proposed vertical expansion, setbacks, and surrounding private and public airports.

As part of the expansion process, Dane County is required to notify all airports within a 5-mile radius of the proposed vertical expansion. Please consider this letter your formal notification under NR 504.04(3)(e) and 40 CFR Part 258.10(b).

If you have any questions or require additional information, please feel free to contact me at (608)516-4154 or Welch@countyofdane.com.

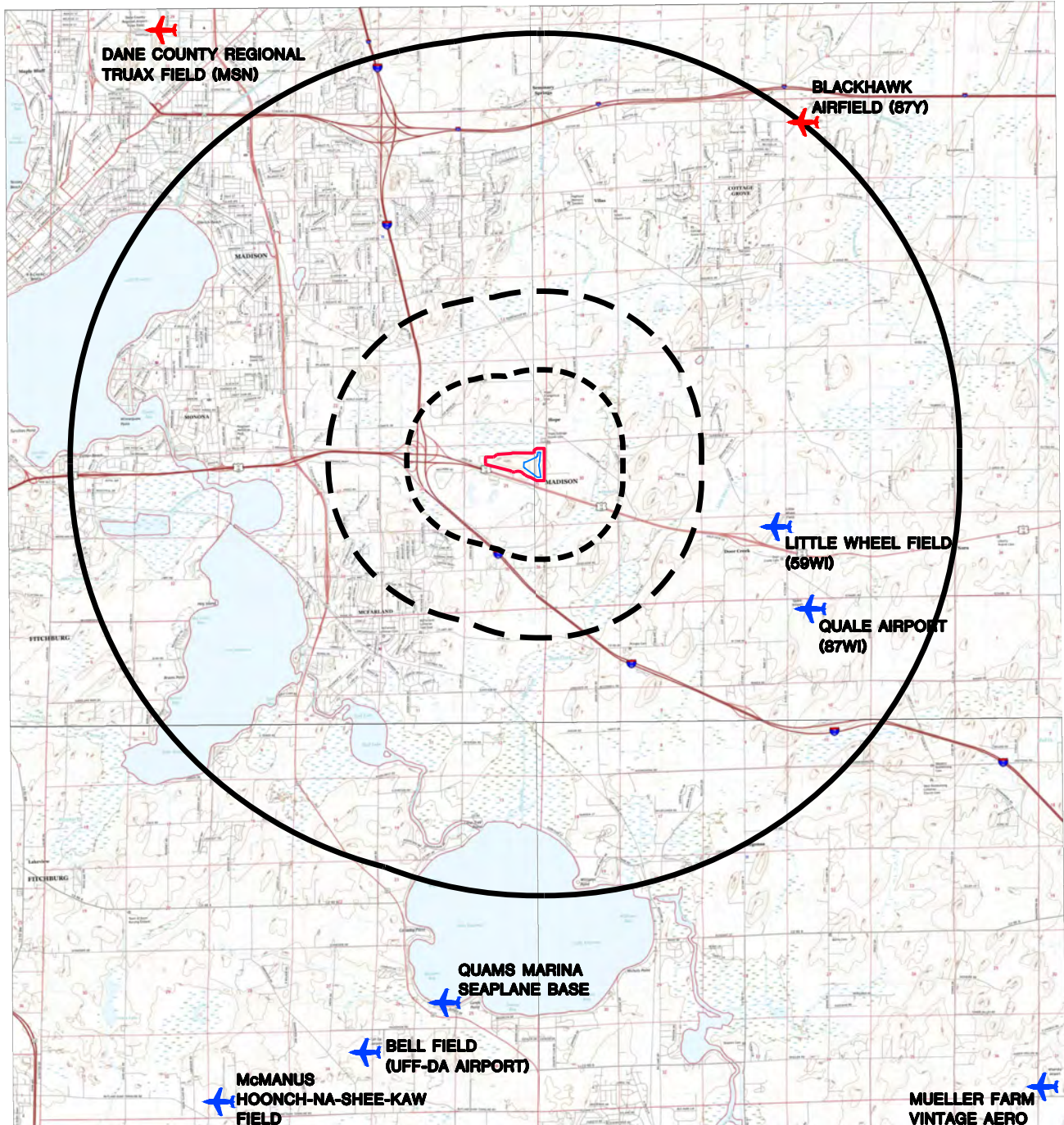
Sincerely,

John Welch, P.E.
Director of Waste & Renewables

Attachments:

Figure 1 – Regional Airport Locations

CC: Allison Rath sack – Dane County
Roxanne Wienkes – Dane County
Betsy Powers – SCS Engineers



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CLIENT DANE COUNTY DEPARTMENT OF WASTE AND RENEWABLES 1919 ALLIANT ENERGY CENTER WAY MADISON, WI 53713	SITE DANE COUNTY LANDFILL SITE NO. 2 7102 US HWY 12/18 MADISON, WISCONSIN	REGIONAL AIRPORT LOCATIONS	
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DRAWN: 06/18/2020	CHECKED BY: KG		
REVISED: 06/22/2020	APPROVED BY:		1



June 10, 2020

File Ref: FID 113127300
Dane County
SW/CORR

Mr. John Welch
Director of Waste & Renewables
Dane County Landfill
1919 Alliant Energy Center Way
Madison WI 53713

Subject: Initial Site Inspection Response-Proposed Eastern Vertical Expansion, Dane County Landfill
Site No. 2 (Rodefeld), License #3018

Dear Mr. Welch:

This letter documents the initial site inspection (ISI) review performed by the Department of Natural Resources (department) for the proposed Eastern Vertical Expansion at Dane County Landfill Site No.2 (Rodefeld). Due to the COVID-19 pandemic, the department did not conduct an in-person inspection of the site, but instead completed a desktop review of the submittal, supplemented with photographs taken at the site by SCS Engineers, on behalf of Dane County. Because the proposed Eastern Vertical Expansion area would not change the existing horizontal limits of waste filling for the currently permitted active landfill (Eastern Expansion), the lack of a field inspection for the proposed vertical expansion is not considered significant to the findings presented in this letter.

The purpose of the ISI desktop review was to identify any potential conflicts the proposed expansion might have with the location and performance standards in s. NR 504.04, Wis. Adm. Code. The department evaluated the information in SCS Engineers' May 7, 2020 ISI request letter as part of the desktop review. Additional information for the proposed expansion area was provided by SCS Engineers on May 20, 2020 and May 27, 2020. According to the information provided, the proposed expansion consists of a vertical expansion located within the limits of the Eastern Expansion area of the currently permitted active landfill (License #3018). The Dane County Landfill Site No. 2 (Rodefeld) Eastern Expansion plan of operation was approved in August 2014. Further discussion regarding the approximate acreage and site life of the proposed Eastern Vertical Expansion area would be addressed in the Initial Site Report (ISR) and Feasibility Report.

The proposed Eastern Vertical Expansion is located in the North ½ of Section 25 and NE ¼ of SE ¼, T7N, R10E, City of Madison, Dane County, Wisconsin. Please review this description for accuracy and include Township and Range in future site location descriptions.

Based on the review of the documents included with the May 7, 2020 ISI request, various mapping programs, department files, and additional information provided by SCS Engineers, the department's preliminary opinion regarding the suitability of site location is that the site location has potential. However, there may be some conflicts with the locational criteria contained in s. NR 504.04(3), Wis. Adm. Code that will need to be addressed. If there are conflicts that cannot be satisfactorily addressed in accordance with applicable requirements, the conflicts would be constraints to site development.

Summary of Locational Criteria: As described in s. NR 504.04(3)(a) to (i), Wis. Adm. Code, there are several locational criteria that apply to the proposed landfill expansion. The proposed limits of filling may not be located within:

- (a) *1,000 feet of any navigable lake, pond or flowage.* The ISI request states that there are two navigable ponds within 1,000 feet of the existing limits of waste filling. Both of these ponds are located on the Yahara Hills Golf Course, south of the Rodefeld Landfill, and are referred to as Ponds A and B in past landfill permitting documents.

An exemption from s. NR 504.04(3)(a), Wis. Adm. Code was granted for Ponds A and B in the department's February 3, 2014 Determination of Site Feasibility - Eastern Expansion. Dane County anticipates requesting a similar exemption as part of the permitting for the proposed Eastern Vertical Expansion.

Based on aerial images from Google Earth, three ponds appear to be located approximately 250 feet to 350 feet southeast of the existing limits of waste filling, north of Highway 12 & 18 and east of County Highway AB. If these ponds are not sedimentation control structures, then a request for an exemption from s. NR 504.04(3)(a), Wis. Adm. Code should be requested in the Feasibility Report.

If Dane County pursues expansion of the landfill within the 1,000-foot setback zone, please request and justify an exemption to this locational criterion.

- (b) *300 feet of any navigable river or stream.* According to the ISI request, the existing limits of waste filling are not within 300 feet of a navigable river or stream. The department's web-based surface water data viewer map also indicates this area is not within 300 feet of a navigable river or stream.
- (c) *A floodplain.* According to the ISI request, the existing limits of waste filling are not within a floodplain. The department's web-based surface water data viewer map also indicates this area is not in a floodplain.
- (d) *1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate or federal aid primary highway or the boundary of any public park or state natural area, unless the landfill is screened.*

According to the ISI request, the existing limits of waste filling are located within 1,000 feet of Highway 12 & 18. Appropriate screening would need to be incorporated into the design of the facility, and Dane County anticipates requesting an exemption to this requirement in the Feasibility Report. Previous exemptions to this requirement have been approved with appropriate visual screening incorporated into the landfill's design.

Hope Park and Yahara Hills Golf Course are also located within 1,000 feet of the existing limits of waste filling but were not included in the ISI Request. Previous exemptions to this requirement were granted in the department's February 3, 2014 Determination of Site Feasibility – Eastern Expansion with appropriate visual screening incorporated into the landfill's design. If Dane County pursues expansion of the landfill within the 1,000-foot setback for the highway and public parks, plans for adequate screening would likely be required. If adequate screening is provided to comply with the locational criteria, an exemption may not need to be requested. Screening should be utilized to the maximum extent practicable.

- (e) *An area where the design or operation of the landfill would pose a significant bird hazard to aircraft.*

According to the ISI request, the existing limits of waste filling are not located within 10,000 feet of any airport runway end used by turbojet aircraft or within 5,000 feet of any airport runway end used only by piston-type aircraft or within an area where substantial bird hazard to aircraft would be created.

As part of the Eastern Expansion permitting, the Federal Aviation Administration (FAA) stated that the previous Eastern Expansion would not be incompatible with operations of existing public-use or private-use airports.

According to the ISI request, Blackhawk Airfield in Cottage Grove appears to be approximately 5 miles from the existing limits of waste filling. Two other small private airstrips are located east of County Highway N, approximately 2.5 to 3-miles from the existing limits of waste filling.

Title 49 U.S. Code of Federal Regulations § 44718(d), requires notification to the FAA by any landfill applicant wishing to propose to construct a landfill that may be within 5 miles of an existing airport for a landfill expansion. Section NR 509.06 (3), Wis. Adm. Code requires that the ISR contain the initial response letter from the FAA. All airports identified to be within 5 miles of the existing limits of waste filling should also be contacted. Please include copies of a current FAA notification letter, a current FAA response letter, current notification letters to the airports and their respective responses in the ISR.

- (f) *1,200 feet of any public or private water supply well.* According to the ISI request, there are two private water supply wells located within 1,200 feet of the existing limits of waste filling: Dane County's biogas facility well (YZ391) and the Michael Niebuhr well (PW-51).

An exemption for PW-51 was previously granted in the department's February 3, 2014 Determination of Site Feasibility - Eastern Expansion. Variance Approvals for YZ391 were granted on May 31 and August 14, 2018. If Dane County pursues expansion of the landfill within the 1,200-foot setback zone, please request and justify an exemption to this locational criterion or provide an alternative water supply to these properties.

Since the approval of the Eastern Expansion in 2014, six (6) private water wells near or within the 1,200-foot setback zone have either been abandoned without replacement, abandoned and replaced outside the 1,200-foot setback zone, or installed just outside the 1,200-foot setback zone: the Hope Park Well, the Hope Lutheran Church Well, the Julie Acker Well, the Community Well, the Country Corners Well, and the Dane County Public Works Well.

Please include well abandonment reports (Well Filling and Sealing Reports) in the ISR for all of the water supply wells that were previously located within 1,200 feet of the existing landfill limits of waste but have been abandoned since the 2014 Eastern Expansion (even if the well was replaced with a new well outside the 1,200-foot radius). Section NR 504.04 (2) (a), Wis. Adm. Code requires that the department re-evaluate this locational criterion for each subsequent expansion.

- (g) *200 feet of a fault that has had displacement in Holocene time.* The ISI request states that the existing limits of waste filling are not located in the area of a fault. Further discussion regarding the geologic stability of the area would be addressed in the ISR and feasibility report.
- (h) *Seismic impact zone.* The ISI request states that the existing limits of waste filling are not located in a seismic impact zone.

- (i) *Unstable areas.* The ISI request states that the existing limits of waste filling are not located within unstable areas as defined in s. NR 500.03(246), Wis. Adm. Code. Further discussion regarding the geologic stability of the area would be addressed in the ISR and Feasibility Report.

It appears that the site meets or could be constructed and operated to meet the performance standards in s. NR 504.04 (4), Wis. Adm. Code.

- (a) *Wetland Areas* – The expansion is a vertical expansion above and within the existing approved waste limits. No wetland setback issues that were not previously addressed in the siting process for the Eastern Expansion area are anticipated. The discharge of gradient control water from the existing Eastern Expansion will continue as approved in the Eastern Expansion feasibility and plan of operation approvals. The vertical expansion should not increase the volume of water discharged to the northern wetland from the existing operating gradient control system. The issue of potential storm water impacts to wetlands would be further evaluated if Dane County proceeds with the siting process.
- (b) *Critical Habitat Areas* – Based on a review of the Natural Heritage Inventory, no endangered resources were identified in the project area. Additionally, a vertical landfill expansion is covered by the No/Low Impact List for All Species at All Times of the Year category under the department's Broad Incidental Take Permit/Authorization, as provided for under s. 29.604 Wis. Stats. An Endangered Resources (ER) Review Verification form pertaining to the Eastern Vertical Expansion was submitted by the department on May 13, 2020. Further review for endangered resources is not anticipated for the proposed project.

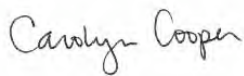
Archaeological issues and historical structures for the site were cleared by Richard Kubicek, Departmental Archaeologist/Departmental Historic Preservation Officer, on May 13, 2020.

The performance criteria outlined in s. NR 504.04 (4) (c) through (f), Wis. Adm. Code include evaluation of surface water, groundwater, gas migration and air contaminant impacts. These performance criteria would be evaluated during the department's review of a Feasibility Report for the proposed expansion.

The locational and performance criteria will be evaluated again as the department reviews the ISR and Feasibility Report. Please keep in mind that as the department continues its review of the proposed expansion and as new information is presented, additional questions, concerns or requests for further information may occur before a feasibility determination is made.

Please do not hesitate to contact me by telephone at 608-275-7779 or by email at carolyn.cooper@wisconsin.gov if you have any questions about this letter.

Sincerely,



Carolyn Cooper, P.G.
Hydrogeologist
South Central Region

cc: Cynthia Moore - DNR – SCR (e-copy) Ann Bekta - DNR – SCR (e-copy)
Joe Lourigan - DNR - WA/5 (e-copy) Valerie Joosten – DNR - WA/5 (e-copy)
Tyler Sullivan – DNR – SCR (e-copy)
Betsy Powers – SCS Engineers (e-copy) – Bpowers@scsengineers.com



August 23, 2018

Mr. John Welch
Dane County Department of Public Works
1919 Alliant Energy Center Way
Madison, WI 53713

FILE REF: FID# 113127300
Dane County
SW Approvals

SUBJECT: Plan of Operation Approval Modification, Dane County Landfill No. 2 (Rodefeld),
License No. 3018

Dear Mr. Welch:

The requested modifications to your plan of operation which include modifications to the gas extraction system, native prairie seed mix, and design of the downslope flumes at the Dane County Landfill No. 2 (Rodefeld) have been reviewed and approved. Please include the attached approval in the written operating record for the landfill as specified in s. NR 506.17, Wis. Adm. Code.

Gas Extraction System

Dane County proposes to modify the gas extraction system to more efficiently extract gas from the closed portions (Phases 1 through 8) of the landfill and to provide a connection to the renewable natural gas processing facility currently under construction. A new header system is proposed in the landfill west of the Eastern Expansion. The new single wall header and lateral system will be installed in the rooting zone above the geomembrane cap. All headers/lateral will be installed at a minimum slope of 2%, will be equal or greater in size to that analyzed in the plan of operation, and all condensate will drain to one of five knockouts that connect to the existing leachate collection system. The only liquid present within the proposed header/lateral system will be gas condensate generated within the system. The natural gas plant will continuously monitor the quantity and quality of the landfill gas going into the plant. Any air intrusion into the system would quickly be noted by the gas plant and header/lateral repairs would be made as needed.

Because of the known gas system issues in the older portions of the landfill, in 2018 Dane County intends to install the new header system in areas of the landfill that were capped prior to 2017. The remainder of the proposed system will be installed incrementally, as deemed necessary, in the future. Existing portions of the extraction system which have been replaced will be valved off or physically disconnected.

Native Prairie Seed Mix

Dane County proposes to use a Native Pollinator Friendly Seed Mixture consisting of 65% native grasses and 35% forbs and legumes with a mature height of 4-6 feet for vegetating final cover areas. The native seed mix selected will not require burning, will provide erosion control, will create habitat for butterflies, and will have shallow root depths. Walking paths consisting of shorter grass will be utilized from the access road along the top of the landfill to maintain gas wells and perform the surface emission monitoring on final cover areas.

Routine maintenance will be performed on the final cover areas of the landfill receiving the native prairie seed mix by a contractor for the first five years after planting. During the first year, the entire seeded area will be mowed a minimum of three times; and will be spot treated with herbicide and reseeded as necessary. During the second year, the entire seeded area will be mowed between one and three times; and will be spot treated with herbicide and reseeded as necessary. During the third through fifth year, spot mowing, spot herbicide treatments, and reseeded will be completed as necessary. After the first five years, Dane County will perform maintenance as needed.

Downslope Flumes

Dane County proposes to replace the downslope riprap spillways and wood walls at the bottom of the spillways approved in the 1994 Western Expansion plan of operation with the 2014 Eastern Expansion downslope flume design. The new design of the diversion berms, downslope flumes, and energy dissipaters will meet the requirements of ss. NR 504.09, NR 216 and NR 151, Wis. Adm. Code.

If you have any questions regarding this letter, please contact Ann Bekta at (608)743-4845 or ann.bekta@wisconsin.gov.

Sincerely,

A handwritten signature in cursive script that reads "Cynthia Moore".

Cynthia Moore
Waste and Materials Management Program Supervisor
South Central Region

cc: Robert Regan - regan@countyofdane.com
George Shereda - GShereda@trcsolutions.com
Ann Bekta – ann.bekta@wisconsin.gov
Adam Hogan – adam.hogan@wisconsin.gov
Valerie Joosten – valerie.joosten@wisconsin.gov

**BEFORE THE
STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES**

**PLAN OF OPERATION APPROVAL MODIFICATION
FOR THE
DANE COUNTY LANDFILL NO. 2 (RODEFELD) (#3018)**

FINDINGS OF FACT

1. Dane County owns and operates the Dane County Landfill No. 2 (Rodefeld), a solid waste disposal facility located in the N1/2 of Section 25, T7N, R10E, City of Madison, Dane County, Wisconsin.
2. Conditional plan of operation approvals were issued by the department for the facility on August 14, 1984, March 14, 1994 and August 13, 2014.
3. On July 30, 2018, Dane County submitted a request to the department for modifications to the plan of operation approval. The review fee of \$1,650 was mailed to the department on August 13, 2018.
4. The information submitted in connection with the modification request includes:
 - a. A letter entitled "Plan Modification, Dane County Landfill Site No. 2 – Rodefeld, Madison, Wisconsin (License No. 3018)" dated July 27, 2018 which was received by the department on July 30, 2018.
 - b. A letter entitled "Plan Modification – Addendum No. 1, Dane County Landfill Site No. 2 - Rodefeld, Madison, Wisconsin (License No. 3018)" dated August 20, 2018 which was emailed to the department on August 20, 2018.
5. Additional documents considered in connection with the modification request include the following:
 - a. The department's August 13, 2014 plan of operation approval.
 - b. The department's March 14, 1994 plan of operation approval.
 - c. The department files for the Dane County Landfill (License #3018).
6. The condition set forth below will not inhibit compliance with the standards set forth in the applicable portions of chs. NR 500-538, Wis. Adm. Code.

CONCLUSIONS OF LAW

1. The department has authority under s. 289.30(6), Stats., to modify a plan of operation approval if the modification would not inhibit compliance with the applicable portions of chs. NR 500-538, Wis. Adm. Code.

2. In accordance with the foregoing, the department has authority under s. 289, Stats., to issue the following plan of operation approval modification.

PLAN OF OPERATION APPROVAL MODIFICATION

The department hereby approves the proposed modification to the plan of operation for the gas extraction system, native prairie seed mix, and design of the downslope flumes at the Dane County Landfill No. 2 (Rodefild), subject the provisions of chs. NR 500 through NR 538, Wis. Adm. Code and the following:

1. Dane County shall mow around gas extraction wells, valves and other protrusions in the final cover system prior to performing the surface emission monitoring and as needed for monitoring, maintenance, and operation of the gas extraction wells, valves and other protrusions. The County shall also mow the path needed to perform the surface emissions monitoring in accordance with the construction and operation permits issued for the landfill by the department's Air Management Program.

This approval is based on the information available to the department as of the date of approval. If additional information, project changes or other circumstances indicate a possible need to modify this approval, the department may ask you to provide further information relating to this activity. Likewise, the department accepts proposals to modify approvals, as provided for in state statutes and administrative codes.


NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review department decisions must be filed.

For judicial review of a decision pursuant to sections 227.52 and 227.53, Stats., you have 30 days after the decision is mailed, or otherwise served by the department, to file your petition with the appropriate circuit court and serve the petition on the department. Such a petition for judicial review shall name the department of Natural Resources as the respondent.

Dated: August 23, 2018

DEPARTMENT OF NATURAL RESOURCES
For the Secretary



Cynthia Moore
Waste & Materials Management Supervisor
South Central Region



Ann M. Bekta, P.E.
Waste Management Engineer
South Central Region



8413 Excelsior Drive, Suite 160, Madison, WI 53717
T 877.633.5520 | W www.cornerstoneeg.com

March 12, 2015

Mr. Adam Hogan
Solid and Hazardous Waste Management Section
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711

Re: Dane County No. 2 (Rodefeld) Landfill – License No. 3018
Phase 9 Cell 1 Construction Documentation Report
Professional Geologist Certification

Dear Mr. Hogan:

During December 2014, Dane County prepared and submitted a Documentation Report to the Wisconsin Department of Natural Resources (WDNR) for the Phase 9 – Cell 1 Liner Construction at the Dane County No. 2 (Rodefeld) Landfill. On January 29, 2015, the WDNR issued a Conditional Construction Documentation Approval Letter to Dane County. Condition No. 3 of the Approval required that a report be submitted to the WDNR by and under the seal of a Professional Geologist regarding the adequacy of the gas probe and monitoring well installation and abandonment information included in the Phase 9 Cell 1 Documentation Report within 60 days of the date of the Approval.

The gas probe and monitoring well information included in Appendix I of the Documentation Report was reviewed for adequacy as requested by the WDNR and the findings of the review are summarized as part of this letter. Although the gas probe and monitoring well installation and abandonment work was not observed or performed under the direction of a Professional Geologist, the provided information generally meets the requirements of the NR 507 and NR 141. Suggestions were provided to Dane County regarding further substantiating the documentation in the Report. As a result, Dane County prepared WDNR Well Information Forms (WIFs) in accordance with NR 507 to further supplement information provided on the the boring and monitoring well installation and abandonment logs included in the Report and to comply with the code requirements. The WIFs are attached to this letter. It is also understood since monitoring wells (M-9AR, M-9BR, M-28R, M-302AR, and M-302BR) were installed as replacement wells, that specific NR 507 requirements were met by the data collected at previously installed wells.

Mr. Adam Hogan
March 12, 2015
Page 2



As a reviewer of the information presented in the Documentation Report and as suggested by the WDNR, it has been recommended to Dane County that subsequent drilling and monitoring well installation/abandonment activities be observed by or under the direction of a Professional Geologist.

Upon your review of this letter, please contact me at 630-410-7224 with any further questions.

Sincerely,

Cornerstone Environmental Group, LLC

A handwritten signature in blue ink, appearing to read "John C. Oswald".

John C. Oswald, P.G.
Senior Project Manager

Enclosure: Attachments

cc: Ann Bekta - WDNR
Dennis Mack - WDNR
John Welch - Dane County



I _____, hereby certify that I am a licensed professional

John C. Oswald

geologist in the State of Wisconsin in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code; that the preparation of this document has not involved any unprofessional conduct as detailed in ch. GHSS 5, Wis. Adm. Code; 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 in chs. NR 500 to 538, Wis. Adm. Code.

GROUNDWATER MONITORING WELL INFORMATION FORM
Chapter 281 and 289, Ws. Stats.
Form 4400-89

REV 7-98

Completed By (Name and Firm)
Robert Regan - Dan County

Remarks:

Completion of this form is mandatory under s. NR 507.14 and NR 110.25 Wis. Admin. Code. Failure to file this form may result in forfeiture of not less than \$10 nor more than \$5,000 for each day of violation. Personally identifiable information provided is intended to be used by the Department for the purposes related to the waste management program.

Facility Name Dane County			Facility ID Number 113127300		License, Permit or Monitoring No. 0318		Date 2/25/15		Completed By (Name and Firm) Robert H. H. H. (Dane County)								
WT Unique Well No	Well Name	DNR Well ID Number	Well Location	Dir. N S E W	Date Established	Well Casing Diam. Type	Elevations Top of Well Casing Ground Surface	Reference MSL Datum (ft)	Screen Top	Depths Initial Groundwater Well Depth		Screen Length	Well Type	Well Status	Ent. Grad. Dist. to Waste		
8X884	M9A	012	382700	X	4/17/82	2" P	876.58	872.75	✓	2.0	3.0	10	11/100	P	NO	0	190
8X885	M9B	013	382700	X	4/17/82	2" P	875.90	872.75	✓	5.2	5.5	3	12/100	P	NO	0	190
EI 270	M28	034	382510	X	7/21/89	2" P	887.91	886.31	✓	23.80	44.5	20.7	11/100	P	Y	5	50
VM940	M302A	152	382879	X	11/8/2012	2" P	880.55	878.0	✓	16.8	21.9	26.8	11/100	P	0	60	
VM941	M302B	154	382879	✓	11/8/2012	2" P	880.49	877.9	✓	58.60	22.0	43.60	12/100	P	0	60	
VM947	M304A	158	382119	✓	11/1/2012	2" P	885.26	882.7	✓	22.5	25.1	32.5	11/100	P	-	6	
VM946	M304B	160	382113	✓	11/7/2012	2" P	884.84	882.50	✓	58.2	24.6	43.2	12/100	P	-	0	

Location Coordinates Are:
☒ State Plane Coordinate
☐ Northern
☐ Central
☒ Southern
☐ Local Grid System

Grid Origin Location: (Check if estimated: ☐)

Lat. _____ ° _____ ' _____ " Long. _____ ° _____ ' _____ " or
 St. Plane _____ ft. N. _____ ft. E. S/C/N Zone _____

Remarks:

Completion of this form is mandatory under s. NR 507.14 and NR 110.25 Wis. Admin. Code. Failure to file this form may result in forfeiture of not less than \$10 nor more than \$5,000 for each day of violation. Personally identifiable information provided is intended to be used by the Department for the purposes related to the waste management program.



August 13, 2014

File Ref: FID 113127300
Dane County
SW Approval

Mr. John Welch
Dane County Solid Waste Manager
1919 Alliant Energy Center Way
Madison, WI 53713

Subject: Eastern Expansion Plan of Operation, Dane County No. 2 (Rodefild) Landfill
(#3018)

Dear Mr. Welch:

We have completed our review of your plan of operation for the proposed Dane County No. 2 (Rodefild) Landfill Eastern Expansion and determined that it is consistent with Wisconsin's solid waste regulations. Therefore, the plan of operation is approved subject to compliance with chs. NR 500-538, Wis. Adm. Code and the conditions of the attached approval.

We have provided a summary of the facility's approval conditions (attachment #3). This condition summary is for informational purposes and does not relieve you of the compliance requirements of any condition prior to issuance of the summary.

This approval does not relieve you of obligations to meet all other applicable federal, state and local permits, as well as zoning and regulatory requirements.

If you have any questions regarding this approval, please contact Ann Bekta at (608)743-4845 or Adam Hogan at (608)275-3292.

Sincerely,

Dennis Mack, P.E.
Waste and Materials Management Program
South Central Region

attachments

c: Ann Bekta – Janesville
Adam Hogan - SCR
Bob Grefe - WA/5
Joe Lourigan – WA/5
Colleen Stork (financial responsibility file) – WA/5
Dennis Marshall - DAMarshall@trcsolutions.com

RECEIVED AUG 15 2014

**PROJECT SUMMARY
DANE COUNTY NO. 2 (RODEFELD) LANDFILL
EASTERN EXPANSION**

GENERAL INFORMATION

AUTHORIZED CONTACT: Mr. John Welch
Dane County Solid Waste Manager
1919 Alliant Energy Center Way
Madison, WI 53713

LICENSEE AND PROPERTY OWNER: Dane County Department of Public Works – Solid Waste Division

SITE LOCATION: The Dane County Rodefild Landfill is located in the N ½ of Section 25, T7N, R10E, in the City of Madison, Dane County, Wisconsin.

ACREAGE AND ACCESS: The proposed horizontal expansion will add approximately 28.6 acres to the landfill footprint. The total licensed disposal area will be approximately 104.6 acres (76 existing acres + 28.6 proposed acres) of an approximately 220.43-acre parcel of land owned by Dane County. Access to the facility will be via the existing route for the site from State Highway 12/18.

PROPOSED CAPACITY: The proposed horizontal and vertical expansion will provide approximately 3,837,900 cubic yards of design capacity. The proposed capacity added to the existing approved landfill capacity (7,071,400 cubic yards) provides a total site capacity of 10,909,300 cubic yards. Dane County anticipates that it will receive approximately 164,390 tons of waste annually. A 7:1 waste to daily cover ratio was assumed.

WASTE TYPES AND GENERATORS SERVED: The site will accept non-hazardous industrial special wastes, residential, commercial and construction and demolition wastes for disposal. The anticipated general service area includes Dane County, Wisconsin and adjacent surrounding areas. Dane County utilizes soil and other alternative daily cover material for daily cover of the waste. Approved alternative daily covers are Con cover, contaminated soil and street sweepings.

A Special Waste Acceptance Plan (Appendix P) is approved for the site as part of the plan of operation. This plan will be used to screen industrial waste (referred to as "special wastes"). The program calls for specific testing protocols and disposal procedures based on the waste type. Under this program the landfill is able to accept many specifically categorized special wastes without additional Department review and may self-approve various additional special wastes for beneficial use. The program identifies certain waste types which must receive prior Department approval on a case-by-case basis.

Special wastes may include but are not limited to, asbestos (friable and non-friable), contaminated soil (petroleum and other contaminants), dredged sediment and soil, street sweepings, animal carcasses, treated medical waste, small amounts of nonhazardous wastewater treatment plant wastes and sludge, and coal/wood wastes.

PERIOD OF LONG TERM CARE RESPONSIBILITY: Dane County must, by law, provide financial assurance sufficient to care for the landfill for a period of 40 years following landfill

closure. However, Dane County will be responsible for long term care of the facility in perpetuity.

SITE CHARACTERISTICS

For a detailed description of the site characteristics refer to the Feasibility Determination for the proposed expansion to the Dane County No. 2 (Rodefild) Landfill issued by the Department February 3, 2014.

EXISTING LANDFILL DESIGN

The original landfill (51.5 acres) plan of operation was approved on August 14, 1984 and had four phases (starting on the west side of the site and proceeding to the east). The liner consisted of 5 feet of clay overlain by a 1 foot sand drainage blanket and 6 inch diameter schedule 80 PVC leachate collection pipes. A lysimeter was constructed under the liner on the northern end of each phase.

A horizontal and vertical expansion plan of operation was approved on March 14, 1994. The vertical expansion (Phase 5) was placed over phases 1 through 3. The horizontal expansion (21.7 acres) consisted of three phases (Phase 6, 7, and 8) to the west of Phase 1 of the original footprint. The liner of the vertical expansion consisted of 4 feet of clay overlain by a 60 mil HDPE geomembrane and a 1 foot granular drainage blanket and 6 inch diameter Schedule 80 PVC leachate collection pipes. A lysimeter was constructed under the liner on the northern end of Phase 6.

Approximately 38 acres of the landfill have final cover. The final cover over the original landfill footprint consists of 2 feet of clay, 18 inches of rooting zone and 6 inches of topsoil. The final cover over the vertical expansion (Phase 5) consists of 2 feet of clay, 40 mil HDPE geomembrane, a geocomposite drainage layer, 18 inches of rooting zone and 6 inches of topsoil.

The landfill has an active gas extraction system consisting of 52 extraction wells and gas to energy facilities. The gas system was evaluated as part of the plan of operation submittal (Addendum #2). Several wells had high liquid levels or obstructions and will need to be replaced as noted in Table 7-1 of Addendum #2.

PROPOSED LANDFILL DESIGN

The Eastern Expansion consists of approximately 45.6 acres of disposal area composed of 28.6 acres of horizontal expansion area, and 17 acres of vertical expansion area that overlay the existing landfill. The vertical expansion area will overlay the eastern side of the existing landfill that currently has approved final cover. The topsoil and most of the rooting zone material will be removed and remaining composite liner layers will be placed as described below.

SUBBASE GRADES: In the horizontal expansion area, the subbase grades have been designed with 3:1 interior sideslopes on all sides of the landfill. Elevations of the subbase excavation range from approximately 866 ft MSL in the northern portion of Phases 9 and 10 to approximately 878 ft MSL at the high point of Phases 9 and 10. The subbase design maintains the bottom of the clay component of the composite liner at all locations (excluding the sumps and leachate collection line undercuts) to be no lower than the high groundwater elevations observed on June 1, 2008.

GRADIENT CONTROL SYSTEM: In lieu of the 10-foot separation distance to the high groundwater table, Dane County will install a groundwater gradient control system in the horizontal expansion area to minimize the chances of groundwater reaching the bottom of the compacted clay liner. The gradient control system will consist of 6-inch diameter Sch. 80 PVC or SDR 11 HDPE collection piping located in 2-foot wide box-type trenches. A 1-foot thick select granular fill drainage layer will be placed over the pipe trenches and will extend 25 feet on each side of the gradient control trenches. The select granular fill material used to construct the drainage layer will have a minimum hydraulic conductivity of 1×10^{-3} cm/s and the select aggregate fill in the box trenches will have a hydraulic conductivity of 1×10^{-2} cm/s. The gradient control pipes will follow the layout of the leachate collection pipes except in the area of the sumps where the gradient control pipes will jog to the west approximately 18 feet to avoid the sumps. The gradient control pipes will slope at 0.39 percent from South to North and will connect to a lateral pipe that runs east to west between Phases 9 and 10. The lateral will then run in a northwest direction under the Northeastern Sedimentation Basin before discharging to the ground surface adjacent to Northern Wetland 1. A groundwater monitoring point similar to a leachate head well in design (GCM-1) will be installed under the subbase grades of Phase 9-Cell 1 to monitor the performance of the gradient control system.

BASE GRADES: The base grades (top of composite clay liner) over the base horizontal expansion of the landfill range from approximate elevation of 870 MSL in the northern end of Phases 9 and 10 to an approximate elevation of 884 MSL at the high point of Phases 9 and 10. The base of the landfill will have a minimum slope in grade of 2.0 percent and a maximum distance of 260-feet between leachate collection pipes.

COMPOSITE LINER: For the horizontal expansion, the liner will consist of 4 feet of compacted clay overlain by a 60-mil HDPE geomembrane. The clay used in the liner will meet the specifications listed in s. NR 504.06(2), Wis. Adm. Code. The 60-mil HDPE geomembrane will be placed directly on top of the compacted, tested, and smoothed clay liner. The 3:1 side slopes will be covered by a textured 60-mil HDPE geomembrane. The geomembrane will be covered by a 12-oz/sy nonwoven geotextile and a one-foot-thick drainage blanket.

For the vertical expansion over existing final cover that has a geomembrane layer, the topsoil and rooting zone material will be removed to the extent possible to create a uniform and positive slope, and to provide a smooth surface for placement of the 12 oz geotextile layer and 12-inch thick select aggregate leachate drainage layer. A minimum of 6 inches of general fill will be left in place over the existing geocomposite drainage layer so the geocomposite material will not be disturbed during soil excavation. The existing 40 mil HDPE geomembrane layer, 2-foot thick clay layer and geocomposite drainage layer will be left in place to serve as a composite liner.

For the vertical expansion over existing final cover that does not have a geomembrane layer, the topsoil and rooting zone material will be removed to expose the existing 2-foot thick clay layer. After the clay has been exposed, the clay will be tested on a 100-foot grid pattern for dry density and in-place moisture content to determine the degree of soil compaction remaining in the clay. If the clay does not meet the clay specification of 90% modified Proctor density or 95% standard Proctor density per NR 504.06(2)(f)3, Wis. Adm. Code, the top one-foot of clay will be removed and stockpiled. The bottom 1-foot of clay will then be tested to verify that it meets the requirements of NR 504.06(2)(f)3, Wis. Adm. Code. Since Shelby tube samples were collected and tested during installation of the clay to confirm that the clay met the requirements of NR 504.06(2)(a), Wis. Adm. Code, additional testing is not required. After the 2-foot clay layer has been verified or replaced, a 40 mil HDPE geomembrane will be placed over the clay. The geomembrane will be covered by a 12-oz/sy nonwoven geotextile and a one-foot-thick drainage blanket.

Procedures that will be performed for clay liner compaction verification over the vertical expansion area will consist of the following:

- Remove the existing general fill and topsoil layers.
- Perform field density tests on the top of the clay layer at a maximum 100 foot grid pattern.
- Leave areas with passing field density tests in-place.
- Remove and temporarily stockpile clay in areas with failing field density test results.
- Perform field density test on top of the bottom one foot thick clay layer at a maximum 100 foot grid pattern.
- Leave areas with passing field density test results in-place.
- Recompact areas with failing field density tests. Perform field density tests on a maximum 100 foot grid pattern.
- Replace removed clay in six inch lifts. Perform field density test on a maximum 100 foot offset grid pattern for each lift.
- Collect Shelby tube samples for laboratory hydraulic conductivity testing for every three acres or less per one foot thickness of clay placement.
- Repeat clay placement procedures for areas with laboratory hydraulic conductivity test results greater than 1×10^{-7} cm/s.

DRAINAGE BLANKET: The 1-foot-thick granular drainage blanket will have a permeability of 1 cm/s or greater. The drainage blanket will meet the specifications listed in s. NR 504.06(5)(t), Wis. Adm. Code.

LEACHATE LEVEL MONITORING: There will at least two leachate headwells in each phase of the landfill. The headwells will consist of 4-inch-diameter SDR 11 HDPE pipe with a 5-foot perforated section at the end of the headwell. The rest of the headwell will be solid pipe extending up the sidewall to the surface. The headwell piping will be bedded at the base of the granular drainage blanket.

LEACHATE COLLECTION SYSTEM: The proposed leachate collection system will consist of 6-inch-diameter, Sch. 80 PVC or SDR 11 HDPE pipes installed in shallow v-shaped trenches. The primary leachate collection trenches are sloped at a minimum of 0.9% to the south and 0.8% to the north (based on design calculations required by s. NR 514.06(14), Wis. Adm. Code). The collection lines have a high point where phases 9 and 10 meet phases 11 and 12. A minimum of 4 inches of gravel will be placed in the trenches prior to installation of the leachate collection pipes. The pipe bedding material will consist of washed stone. After the pipes have been installed the remaining gravel will be placed so that a minimum of 6 inches of material is above the top of the pipe after the trenches are filled. Cleanouts will be installed on both ends of each pipeline segment. The leachate collection lines will be approximately 2,000 feet in length.

The leachate conveyance system will consist of four sumps connected to the collection pipe trenches. At each sump location, one inclined 18-inch diameter SDR 17 HDPE riser pipes will extend from the bottom of the sump up to an access vault at the top of the landfill perimeter berm. Each pump (approximately 50 to 65 gpm) will be fitted with a pressure transducer to monitor leachate heads and control pump operation. Each of the collection sumps is designed to minimize the volume of liquid that remains in the sump after pumping. The leachate holding capacity of the sump below the elevation of the leachate collection pipe trench will be approximately 8,600 gallons. The volume of each sump will be the same. The bottom dimensions of the sump will be approximately 20 feet wide and 25 feet long. The top dimensions of the sump will be approximately 40 feet wide and 45 feet long. The depth of the sump is approximately 3 feet.

The sump area design will include (bottom to top) a 4 foot clay liner, a 60 mil HDPE geomembrane liner, and 2 layers of 12-oz/sy geotextile cushion. One-inch-thick HDPE plates will be installed over the base of the sump for additional protection of the geomembrane liner.

Leak location testing will be conducted after the leachate collection layer has been placed on the base grades and the lower half of the sideslopes. In addition, Dane County may perform a 24 hour water leak test of the sump.

An 8X6 foot concrete perimeter access vault will be installed at the top of the perimeter berm at each sump location. Leachate pumped up the riser pipes will be transferred to leachate forcemain piping at these vaults. The leachate transfer line will be equipped with check valves so that leachate cannot pump from the sump in one phase into the sump of another phase when the pump in that phase is not operating. The leachate forcemain transfer line for Phases 9 and 10 will be located on the north side of the landfill in the perimeter berm. The leachate forcemain transfer line for Phases 11 and 12 will be located on the south side of the landfill in the perimeter berm. The forcemain will be a double contained pipe consisting of 3-inch-diameter SDR 17 HDPE forcemain pipe within a 6-inch SDR 17 HDPE containment pipe. The leachate forcemain pipes run west to the MMSD manhole located next to U.S. Highway 12/18.

The side slope riser vaults will also provide access points for maintenance of the pumps. The pumps will be fitted with rollers or the equivalent to facilitate installation and removal through the inclined riser pipes and are designed to be maneuvered from the top of the riser pipe by lift cables.

LEACHATE COLLECTION AND TREATMENT: Leachate collected from the landfill is transported by forcemain pipe to the existing City of Madison sanitary sewer line located along Highway 12/18. Leachate that is not recirculated back into the waste mass will be routed through the City of Madison sewer system and treated at the Madison Metropolitan Sewer District (MMSD) wastewater treatment plant.

LEACHATE RECIRCULATION: A leachate recirculation plan was included in the plan of operation report (Appendix K). Leachate will be recirculated in the expansion area by surface application and horizontal distribution methods. Open surface trenches or ponds will not be utilized. Leachate will not be recirculated in areas that do not have active gas extraction systems installed. The leachate recirculation operations and reporting will be performed in accordance with NR 506.135, Wis. Adm. Code and leachate recirculation monitoring will be performed in accordance with NR 507.215, Wis. Adm. Code.

Leachate recirculation will not begin until a minimum of 20 vertical feet of waste have been placed over the leachate collection system. A minimum setback distance of 100 lateral feet will be maintained from the perimeter sideslopes.

Surface application of leachate may be accomplished at the working face by distributing leachate onto the waste using a tanker truck or directly pumping from the leachate collection system. Distribution piping or hose will be placed directly on the waste surface to minimize misting or airborne aerosols. Applications will be conducted during periods of low wind speeds and at times when or in areas where the public is excluded to reduce the potential for exposure.

The application of leachate directly to the waste prior to, and during compaction will allow the moisture to be incorporated directly into the waste. The surface application rates will be limited to an amount that can be added without generating runoff, creating seeps or ponding, or

generating odors. The application areas will be covered with newly placed waste or cover soil as soon as possible or at least by the end of the same working day.

The horizontal distribution system will consist of perforated HDPE pipes run in parallel and 50 to 150 feet apart. There will be 10 to 30 feet of waste between successive horizontal distribution pipes. The distribution pipes will be connected with a forcemain that will extend from the sump riser to allow for direct pumping of leachate to the distribution pipes. At the start of each distribution pipe a control valve will be installed which will control the volume of leachate that will be allowed into the pipe. The system will be operated by applying leachate to a horizontal line for a period, then recirculation will stop and gas will be extracted from that line. Typically, the horizontal lines will alternate: one line will receive leachate while the next line will extract gas.

The perforated distribution pipes will be installed in a trench that is a minimum 2 feet wide and 2 feet deep. The distribution pipes will be bedded on approximately 1 foot of bedding material and will be covered with approximately 1 foot of bedding material. The bedding material will have a minimum permeability of 1×10^{-2} cm/sec and will consist of coarse aggregate, shredded tires or other beneficially reused materials. The horizontal trenches will then be covered with a geotextile, refuse and then daily cover or alternative daily cover. The end of the trench containing the perforated pipe will be sealed with bentonite.

Warning Symptoms

Leachate recirculation will be suspended upon discovery of warning symptoms and may not resume in the area where the problem occurred until changes are made to the system or the warning symptoms have declined to acceptable levels. Dane County will notify the Department in writing within 7 days of the discovery of warning symptoms and suspension of leachate recirculation. Warning symptoms may include the following:

- Leachate chemistry showing acidic conditions and high CODs and gas lacking in methane
- Leachate head wells showing persistent elevated liquid levels
- Gas wells flooded and /or showing little or no gas production
- Carbon monoxide detected in gas at levels indicating potential subsurface fire, and/or evidence of smoke, burning odors, or other signs of subsurface fire
- Leachate seeps that are constant or recurring in areas near active recirculation or liquids addition
- Ponded leachate over recirculation trenches or on the active fill area
- Gas or odor emissions that require major adjustments of the gas extraction system to control
- Gas generation that is close to or exceeding flare and /or gas utilization equipment capacity when keeping vacuum on all gas extraction wells
- Anomalous increase in leachate pumping in or near a leachate drainage basin being subjected to leachate recirculation

Failure Thresholds

Leachate recirculation will be suspended whenever any of the failure thresholds are exceeded. Leachate recirculation may not resume until the Department has reviewed and approved changes to the system that will result in meeting the thresholds. Dane County will notify the Department within 3 days of the discovery of exceeding any failure threshold. Failure thresholds may include the following:

- Flowing leachate seeps with constant liquid output and observable flow for many feet down a sideslope

- Cracks, open or closed, across the waste surface, or other signs of block movement of waste
- Abnormal vibration or shaking while standing on the waste surface from traffic several feet away
- Trucks or other vehicles sinking into soft MSW, particularly if waste is wet or saturated, but only if this problem is persistent and not weather-related
- Visible changes in outline of the waste mass (i.e., bulging or obvious changes in slope)
- Collapse of access roads or other soil structures such as biopiles or stockpiles
- Massive odor and gas release that cannot be readily controlled by operation of gas extraction controls

PHASES: The Expansion will be divided into four phases (Phases 9, 10, 11 and 12) consisting of seven construction events (Phase 9 will have 2 Cells and Phase 10 will have 3 Cells). Construction of Phase 10 will include tying into the existing Phase 4 perimeter berm along the western side of Phase 10. Phase 11 will also tie into the existing berm for Phase 4 on the western side of Phase 11. Temporary delineation berms will be used between construction events to separate waste, waste contact water and leachate in developed areas from undeveloped areas. The berms will be constructed with the same select aggregate fill that is used for the 1-foot-thick drainage layer. The aggregate will be placed 5.5 feet high with a 3:1 sideslope and will be covered with a geomembrane and additional aggregate. The geomembrane and aggregate material covering the berm will be removed when the next portion of the phase is constructed, and the aggregate fill material will be used for the leachate collection drainage layer.

FINAL COVER: The maximum elevation of the landfill will be approximately 1000 ft MSL. Prior to placement of the final cover system, a 6-inch thick (minimum) grading layer will be placed over the waste. The final cover system meets the requirements of NR 504.07 and will consist of the following layers (top to bottom):

Clay Option

- 6 inches of topsoil
- 2.5 feet of rooting zone
- Geocomposite drainage layer
- 40-mil flexible polyethylene geomembrane
- 2 feet compacted clay

Geosynthetic Clay Liner (GCL) Option

- 6 inches of topsoil
- 2.5 feet of rooting zone
- Geocomposite drainage layer
- 40-mil flexible polyethylene geomembrane
- GCL
- 2 feet of fine-grained soil barrier layer

Perimeter drainage pipes will be installed at the toe of the slope of the geocomposite drainage layer as required by s. NR 504.07(6)(b), Wis. Adm. Code. The perimeter drainage pipe will consist of 4-inch-diameter SDR 17 perforated pipe which will be bedded in coarse aggregate with a hydraulic conductivity of 1×10^{-2} or greater. The drainage pipe will outlet every 200 feet along the perimeter of the landfill. Riprap will be provided at each outlet to prevent scouring.

SURFACE WATER DRAINAGE: Surface water runoff will be controlled by drainage channels, diversion berms, downslope discharge structures, culverts, and sedimentation basins.

Diversion berms will be installed along the final cover system to limit erosion and to collect and transfer surface water to a downslope discharge flume.

The ditch created by the diversion berm will be a minimum of 3 feet deep and will be seeded. The minimum slope along the flow line will be a minimum of 2%. The downslope flumes will convey surface water runoff collected by the diversion berms to the perimeter drainage ditches. The inlets to the discharge structures will consist of pipe end sections. The main downslope flumes will be 18-inch to 30-inch-diameter SDR 32.5 HDPE pipe. The downslope flumes will terminate in concrete energy dissipators with internal baffles prior to discharging into the sedimentation basins.

Surface water ditching is designed to handle the peak flow from a 25-year, 24-hour storm event. The concentrated flow areas with a shear stress of 0.6 psf or greater are designed to have erosion matting or other equivalent erosion stabilization. Concentrated flow areas with 5 fps or greater velocities are designed to with permanent erosion stabilization, such as turf reinforcement mat or riprap.

Three sedimentation basins (West, Northeast and Southeast) will receive surface water runoff from the landfill for removal of sediment prior to discharging water to the surrounding wetland areas. The existing west sedimentation basin will not be modified for the Expansion. The new (Northeast and Southeast) sedimentation basins will be designed as wet detention basins with a 5-foot deep permanent pool and outlet to settle 80 % of sediment during construction and 80% of Total Suspended Solids (TSS) control for post-construction conditions. The 80% TSS is based on an annual average storm of 1-year, 24-hour storm event. The principal spillway and outlet protection will be designed to pass a 25-year, 24-hour storm event. The emergency spillway will be designed to pass a 100-year storm event. The basins will dewater a 25-year, 24-hour storm in less than 3 days as required by NR 504.09(1)(e), Wis. Adm. Code, but still have the permanent pool below the sedimentation basin outlet.

GAS EXTRACTION SYSTEM: The Eastern Expansion gas extraction system will include gas extraction wells to be installed within the waste mass. The proposed vertical gas extraction well placement will be based on an approximate 150-foot radius of influence. The borings for the wells will be 36 inches in diameter and will extend to 10 feet above the leachate collection system in the horizontal expansion area and to within two feet of the proposed liner system over the vertical expansion area. A six-inch-diameter Sch. 80 perforated pipe will be placed in the 36-inch-diameter gravel pack. The solid portion of the extraction well will be six-inch Sch. 80 pipe. The bottom 2/3 to 3/4 of the pipe within each well will be perforated. The non-perforated piping will extend through the landfill cover for maintenance access and flow rate adjustments. The wells will be connected to a looped HDPE header pipe which has condensate knockout points that will drain to the leachate collection system. The condensate knockouts will be located within the landfill limits of waste and will remove condensate from the transfer pipes to prevent the condensate from leaving the landfill. The system is designed to achieve a minimum vacuum of 10 inches of water column at the gas extraction well that is located the furthest distance from the blower.

Horizontal gas extraction wells will be used in areas of limited waste depth over the vertical expansion area and are laid out with a 100-foot radius of influence. (See revised plan sheet 14 contained in Addendum No. 1). Horizontal gas extraction well will consist of 6-inch diameter perforated horizontal pipe and an 8-inch diameter vertical soil wall pipe (See detail 1/28 in Addendum No. 1). The vertical section will extend from the well head to a minimum of 5 feet below the final waste grades or 10 feet below the top of the final cover. The length of the perforated section of the proposed horizontal gas extraction wells will extend approximately 200

feet; however, the layout may be adjusted at the time of installation depending on the waste filling and the operational conditions.

The gas collection system will consist of HDPE pipe and will transport the extracted landfill gas from the wells to the two existing blower facilities. The first blower, located to the west of the landfill, has a flow capacity of approximately 2,000 scfm and can supply approximately 85 inches w.c. of vacuum. The second blower, located to the east of the landfill, has the flow capacity of 1,000 scfm flow and can supply approximately 40 inches w.c. of vacuum. A third blower, located to the east of the landfill and dedicated to the flare, has a capacity between 200 and 1,200 scfm. The flare serves as a backup to the gas to energy facility. Prior to reaching their capacity, the existing blowers will be replaced with larger equipment that can handle the additional flow from the Expansion.

GAS UTILIZATION: Dane County operates a gas to energy recovery facility that generates electrical power that is sold to the local utility. The County has seven landfill gas fired reciprocating engines/generators. Five are housed in the West Gas to Energy Generation Facility and two are housed in the East Gas to Energy Generation Facility. The flare is located next to the East Gas to Energy Generation Facility. The East Gas to Energy Generation Facility and the flare will be relocated to an area along the southern boundary of the existing landfill prior to construction of the Phase 11 liner.

FACILITY OPERATION

BUFFER ZONE: Prior to beginning construction activities that involve the mobilization of heavy equipment for soil excavation, buffer zones and setbacks to wetlands will be established. The buffer zones between construction areas and wetlands will be established to prohibit construction equipment, materials, and contractors' staff from entering these areas. Wherever possible, a minimum 50-foot wide undisturbed buffer zone between delineated wetlands and constructed features will be established. However, in a few locations a 25-foot to 30-foot undisturbed buffer zone will be needed. No portions of Wetland 1 (North Wetland) or Wetland 4 (South Wetland) are proposed to be removed or filled as part of the Eastern Expansion construction.

Erosion control fencing, boulders and sediment control logs will be placed along the outside edge of the wetlands undisturbed buffer zones. Dane County will also place durable signs with bold lettering that say "WETLAND PROTECTION AREA – THIS AREA NOT TO BE DISTURBED" along the buffer zone.

DISPOSAL OPERATION: Placement of waste will then begin in the horizontal expansion area in the northeast corner of Phase 9 Cell 1, and progress west and southward. Phase 10 Cell 1 will be filled next and then Phase 10 Cell 2, Phase 10 Cell 3, Phase 9 Cell 2, Phase 11 and Phase 12. Compaction equipment and procedures capable of consistently achieving a minimum waste density of 1,200 pounds per cubic yard of municipal waste will be used. At the end of each day 6 inches of daily cover soil or an alternate daily cover (in accordance with the requirements of NR 506.055) will be placed on the working disposal area.

The final cover and gas extraction systems will be installed in increments after the waste in each phase reaches final grades.

WASTE SCREENING: Incoming waste loads will be weighed at the scale. If the gate attendant identifies unauthorized waste in a load, the load will not be accepted for disposal. The site manager will be consulted in instances when the gate attendant questions the acceptability of a waste load. The landfill has a random load inspection program to spot check for the

presence of detectable hazardous or toxic wastes. The entrance gate will be locked during non-operating hours.

SOIL STOCKPILING PLAN: The Expansion design calculations indicate that approximately 549,000 cubic yards of general fill/topsoil will be excavated from the Expansion footprint. There will be approximately 168,000 cubic yards of excess soil remaining after development of the Expansion and construction of the final cover for the existing landfill. As soil is excavated, the soil not needed for the phase being developed (excess soil) will be hauled and stockpiled. A stockpile and grading plan was contained in the plan of operation. The plan shows the location of the surface water controls along with hauling routes around the Expansion. Because stockpiling of soil is an on-going process of adding and taking of soil from the piles, the solid stockpile quantities and sizes provided in the plan of operation are approximate.

CONTROL OF TOTAL SUSPENDED PARTICULATE MATTER (TSP) AND WINDBLOWN DEBRIS: During construction TSP will be controlled primarily through the application of water to haul roads, limiting the number of haul roads, and limiting the speed of vehicles on haul roads to 15 mph. During daily landfill operations the primary means of controlling TSP generated by vehicular traffic will be the application of dust suppressant and water to haul roads. The amount of bare soil onsite will be minimized by vegetating exposed soil areas and soil stockpiles. In addition, access roads and bare soil areas that produce visible amounts of dust will be watered.

The primary methods of controlling windblown litter and debris will be: 1) maintaining a small working face, 2) covering portions of the active area as they are filled, 3) taking advantage of prevailing wind directions and orienting daily landfill operations accordingly, 4) collecting windblown litter on a routine basis, 5) positioning temporary fences or wind screens around the working area to intercept windblown debris and 6) permanent fences located around the landfill perimeter to intercept blowing debris.

ORGANIC STABILITY

An organic stability plan was included in the plan of operation report (Appendix S) in accordance with NR 514.07(9), Wis. Adm. Code which requires landfills to submit a plan for significantly reducing the amount of degradable organic material remaining after site closing in order to materially reduce the amount of time the landfill will take to achieve landfill organic stability.

The objective of the landfill organic stability plan is achievement of all of the measured goals in NR 514.07(9)(c), Wis. Adm. Code and stated below.

Goals of the Organic Stability Plan

1. A monthly average total methane plus carbon dioxide gas production rate less than or equal to 5% of the maximum monthly average total gas production rate observed during the life of the facility, or less than 7.5 cubic feet of total gas per year for each cubic yard of waste in the facility.
2. A steady downward trend in the rate of total methane plus carbon dioxide gas production.
3. Production of total methane plus carbon dioxide gas cumulatively representing 75% or greater of the projected total gas production of the landfilled waste.
4. Reduction of the time necessary to reach landfill organic stability to 40 years or less after site closing.

Dane County's general approach to decrease the time required for the landfill to reach organic stability includes two elements:

1. Increase the moisture content in the waste mass to increase the waste degradation rate.
2. Continue to divert additional organics from the landfill by not accepting waste that could be composted.

Leachate Recirculation

Increasing the moisture content is the primary strategy to reduce the amount of time required to reach organic stability. Increasing the moisture content is anticipated to increase the rate of waste degradation, which will reduce the amount of non-degraded organic material left in the landfill at the end of the post-closure period (40 years after closure). The moisture content will be increased through leachate recirculation. Total liquid addition will be limited to the currently approved allowable rate of 6,400 gallons per acre per day.

Recirculating leachate helps accomplish the following:

- Stabilization of the waste mass through accelerated biodegradation
- Reduction of leachate treatment costs
- Improved compaction and maximization of approved airspace
- Improved waste mass stability and ultimately long-term integrity of the final cover through reduced post-capping differential settlement
- Enhanced gas production

Monitoring and Evaluation

Implementation of the organic stability plan will be monitored and evaluated for effectiveness. The leachate recirculation monitoring will be in accordance with NR 507.215(1)-(4), Wis. Adm. Code which includes liquid mass balance, leachate head, leachate characteristics and landfill gas monitoring. Refer to the attached landfill gas monitoring table.

Yard Waste Composting

Dane County will continue to divert material suitable for composting to the on-site composting operations.

Contingency Plan

The contingency plan will need to be implemented if monitoring and evaluation of the organic stability plan indicate the facility is unlikely to achieve the goals outlined in NR 514.07(9)(c), Wis. Adm. Code and stated above. If it is determined that liquid addition may not achieve the landfill organic stability goals due to technical, operational, or political issues, then Dane County will evaluate the other options available at that time for achieving organic stability and will update the contingency plan as part of the annual reporting process. Contingency plan options could include but are not limited to the following:

- Divert composting items to off-site source.
- Divert other organic waste streams from the landfill

- Pre-process organic or hybrid waste (e.g. composting or shredding) before placement in the landfill
- Implement aerobic bioreactor approach to landfill operations
- Delay final cover installation for a longer period of time

Reporting

Annual progress reports will be prepared as required by NR 514.07(9)(d), Wis. Adm. Code. Each annual report will include an evaluation of whether changes are needed in the plan to correct problems or improve results. Dane County may update the contingency plan at this time also. Dane County may submit the annual organic stability report as part of the landfill annual report required by the attached approval. Every 5 years, Dane County will examine progress against the approved plan to evaluate the likelihood that the plan will enable the facility to reach the goals listed above and determine whether the contingency plan will be implemented. A report describing the evaluation and determination will be submitted to the Department as part of the annual report for that year. The Department may require that the contingency plan be implemented if its review finds that the progress the landfill has made is significantly different than the approved plan.

ENVIRONMENTAL MONITORING

Environmental and performance monitoring will extend through active site operation and long-term care. Monitoring data will be reported to the Department in an electronic format specified by the Department, as required by s. NR 507.26(3), Wis. Adm. Code. See attachments.

CLOSURE AND LONG TERM CARE COSTS

Although Dane County will be perpetually responsible for the long term care of this landfill, proof of owner financial responsibility is only required for closure of the most expensive area, and for long term care of the entire facility for a period of 40 years. Actions to be taken during closure and long term care, along with the associated cost estimates, are summarized below. Closure costs reflect the most expensive area to close, which includes 39.9 acres of the existing landfill and Phase 9 Cell 1 and Phase 10 Cell 1 of the horizontal expansion for a total of 53.2 acres. The closure cost includes the installation of a multi-layered composite cap and a vertical gas extraction system. The composite cap will require the placement of a clay barrier layer and geocomposite clay liner, a 40-mil LLDPE geomembrane, a geonet drainage layer, a rooting zone layer and topsoil. Long term care costs reflect estimated yearly expenses for: groundwater, surface water, gas, leachate, and settlement monitoring; leachate collection and treatment; gas extraction system operation and maintenance; site maintenance; site inspections; and erosion repairs. All costs are based on 2014 unit prices and are rounded to the nearest \$100.

CLOSURE COSTS:

Item	Quantity	Unit cost	Estimated Cost
Final Cover Construction			
Mobilization	1 each	\$50,000/each	\$50,000
Clay placement (2 feet)	171,660 cy	\$10.50/cy	\$1,802,400
40-mil textured LLDPE	283,240 sy	\$5.40/sy	\$1,529,500
Geocomposite drainage layer	283,240 sy	\$5.00/sy	\$1,416,200
Rooting zone layer (2.5 ft)	214,580 cy	\$5.00/cy	\$1,072,900
Topsoil (6 inches)	42,920 cy	\$4.50/cy	\$193,100
Seed, fertilizer & mulch	54 acres	\$2,700/ac	\$145,800
Subtotal Final Cover Construction Costs			\$6,209,900
Miscellaneous (surface water management, features, etc.)⁽¹⁾	1 LS		\$621,000
Gas Collection System			
Gas wells (assumes 9 wells with an average depth of 90 feet)	810 LF	\$117/LF	\$94,800
Gas header piping	3,640 LF	\$43/LF	\$156,500
Engineering, Documentation and Administration⁽¹⁾	1 LS		\$621,000
Subtotal of Closure Costs			\$7,703,200
Legal, Financial, and Administrative Services⁽²⁾			\$385,200
		Subtotal	\$8,088,400
		10% Contingency	\$808,800
		Total Cost	\$8,897,200
		Cost/Acre	\$167,240

(1) Cost assumed to be 10% of final cover construction costs.

(2) Cost assumed to be 5% of closure costs.

LONG TERM CARE COSTS:

Item	Quantity	Unit Cost	Estimated Annual Cost
General Care			
Reseed site areas/Repair erosion damage	1 acre	\$2,950/acre	\$3,000
Lawn mowing – 3 times annually	3 each	\$4,423/each	\$13,300
Maintenance of drainage features(ponds/ditches/culverts)	1 LS		\$3,000
Maintenance of access/perimeter roads	1 LS		\$4,400
Site inspection – semi-annual, including annual report	1 LS		\$3,200
General maintenance/replacement of gas system components(blower and flare replacement every 20 years)	1 LS		\$14,700
Site electricity – blower, flare, pumps	1 LS		\$23,700
		Subtotal	\$65,300
Leachate Collection and Treatment			
Leachate pump inspection/maintenance - weekly	52 each	\$108/each	\$5,600
Leachate line cleaning and pressure testing	4 days	\$2,142/day	\$8,600
Leachate pump replacement(2 pumps & controls per year)	2 pumps	\$4,284/pump	\$8,600
Leachate treatment by MMSD	2,840,141 gal	\$0.003/gallon	\$8,500
Condensate treatment by MMSD	140,000 gal	\$0.003/gallon	\$400
		Subtotal	\$31,700
Environmental Monitoring			
Gas probe monitoring – quarterly	4 quarters	\$365/quarter	\$1,500
Gas well monitoring – monthly	12 months	\$1,195/month	14,300
Leachate head well measurement – monthly	12 months	\$186/month	\$2,200
Gas well leachate monitoring – quarterly	4 quarters	\$659/quarter	\$2,600
Groundwater sampling and elevation measurement – annual	1 LS		\$9,800
Groundwater laboratory costs – annual	1 LS		\$7,400
Monitoring reporting - quarterly	4 quarters	\$2,357/quarter	\$9,400
Groundwater well repair/maintenance - annual	1 LS		\$1,100
		Subtotal	\$48,300
Legal, financial and administrative costs – 5% of the annual cost			\$7,300
		Subtotal	\$152,600
		10% Contingency	\$15,300
		Total	\$167,900
		Cost/Acre	\$1,605

**BEFORE THE
STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES**

**CONDITIONAL PLAN OF OPERATION APPROVAL
FOR THE
DANE COUNTY NO. 2 (RODEFELD) LANDFILL EASTERN EXPANSION
(LICENSE NO. 3018)**

FINDINGS OF FACT

The Department finds that:

1. Dane County ("County") owns and operates the Dane County Landfill No. 2 (Rodefeld), a solid waste disposal facility located in the N ½ of Section 25, T7N, R10E, City of Madison, Dane County, Wisconsin.
2. Conditional plan of operation approvals were issued by the Department for the facility on August 14, 1984 and March 14, 1994.
3. The Department issued a determination of need and feasibility approval for an expansion to the existing facility February 3, 2014.
4. On April 2, 2014, Dane County submitted to the Department a plan of operation for the landfill expansion. The Department declared the plan of operation complete on June 18, 2014. The Department received the correct review fee of \$7,700 for the plan of operation on April 9, 2014.
5. The information submitted in connection with the plan of operation review includes the following:
 - a. A report and appendices entitled "Eastern Expansion Plan of Operation, Dane County No. 2 (Rodefeld) Landfill, Madison, Wisconsin" and 33 accompanying plan sheets, dated April 1, 2014. This submittal was received by the Department on April 2, 2014.
 - b. A report entitled "Addendum No. 1, Eastern Expansion Plan of Operation Report" dated June 9, 2014 and received by the Department on June 11, 2014. This addendum included items need for completeness, the Purchase and Sale Agreement for 54.9 acres of land purchased from the City of Madison, an assessment of the existing gas extraction system, revised closure and long-term care costs and revised plan sheets.
 - c. A June 19, 2014, email from Dennis Marshall (TRC) addressing the Department's questions regarding the gradient control discharge elevation.
 - d. A July 3, 2014 Dane County letter regarding gas probe abandonment and relocations.
 - e. A July 9, 2014 email from John Welch (Dane County) concurring with Department requested changes to the Gradient Control Monitoring device GCM-1.
 - f. A report entitled "Dane County Public works Department – Solid Waste Division, Dane County No. 2 (Rodefeld) Landfill, Madison, Wisconsin, Addendum No. 2 - Eastern Expansion Plan of Operation Report" dated August 7, 2014 and received by the Department on August 8, 2014. This addendum included the private well and water supply agreement, additional PAL/ACL data analysis and other clarifications requested by the Department.

6. Additional documents considered in the review of the plan of operation include the following:
 - a. The Department's February 3, 2014 Feasibility Determination.
 - b. The Department's August 14, 1984 and March 14, 1994 plan of operation approvals.
 - c. The Department's June 18, 1992 plan of operation approval modification for ConCover as alternative daily cover.
 - d. The Department's June 14, 2002 plan of operation approval modification for use of a GCL in the final cover.
 - e. The Department's February 26, 1996 plan of operation approval modification for groundwater standards.
 - f. The Department's October 24, 2008 plan of operation approval modification for leachate recirculation.
 - g. Department files for the Dane County No. 2 (Rodefild) Landfill (#3018).
7. Additional facts relevant to the review of the plan of operation include:
 - a. Selected solid waste materials can be approved by the Department as an alternative daily cover under the provisions of ss. NR 506.055(1) and (3), Wis. Adm. Code.
 - b. Control of groundwater table rise under liners by use of gradient control systems is a demonstrated technology.
 - c. Placement of a composite liner over existing waste that is underlain by a clay liner provides for the necessary containment to comply with 40 CFR 258 RCRA Subtitle D minimum requirements for MSW landfills.
 - d. The leachate collection line in Phase 2 has a jetting device and hose stuck in the pipe approximately 425 feet from the south cleanout.
 - e. The landfill had gas migration issues on the south end Phase 3 near gas probe GP-11 in 2007 and 2008.
8. Neither the applicant, nor any person owning a 10% or greater legal or equitable interest in the applicant, or the assets of the applicant:
 - a. Is in noncompliance with a plan approval or order issued by the Department for a solid or hazardous waste facility in Wisconsin;
 - b. Owns or previously owned a 10% or greater legal or equitable interest in a person, or in the assets of a person, who is not in compliance with a plan approval or order issued by the Department for a solid or hazardous waste facility in Wisconsin.
9. The applicant has demonstrated to the Department that the storm water control requirements for Dane County No. 2 (Rodefild) Landfill are at least as stringent as the applicable regulations under subch. II of ch. NR 216, Wis. Adm. Code.

10. Before the Department may approve an ACL, the Department must first grant an exemption to the groundwater standard established in ch. NR 140, Wis. Adm. Code for the respective groundwater monitoring point and parameter. The approvals listed below granted exemptions to the groundwater standards established in ch. NR 140, Wis. Adm. Code for the groundwater monitoring points and parameters that have an ACL listed in Table 7 of Attachment #2:
 - a. The February 3, 2014 Eastern Expansion Feasibility Determination.
 - b. The February 26, 1996 Ground Water Standards Plan Modification approving ACLs and PALs
 - c. The August 17, 1993 Feasibility Determination for the Dane County Rodefeld Expansion
11. The Department's February 26, 1996 approval for NR 140 Groundwater Exemptions approved PALs and ACLs for parameters at wells M--9A through WT-208A.
12. In the April 1, 2014 Plan of Operation Report Dane County proposed PALs and ACLs for parameters at wells M-17B and M-301A through M-303A.
13. Addendum 2 to the plan of operation was submitted on August 8, 2014 and included proposed ACLs for parameters at wells M-5B, M-14A, M-14B, WT-201A/201AR, WT-202B, WT-204A and WT-207A/207AR.
14. In order to check Dane County's proposed PAL and ACLs, the Department calculated PALs and ACLs for those parameters and wells for which NR 140 groundwater exemptions have been granted and for which Dane County submitted proposed PALs and ACLs. The Department's approved PALs and ACLs are located in tables 6 and 7 of Attachment #2.
15. The NR 140 groundwater PALs for indicator parameters and the NR 140 groundwater ACLs established in this approval are based on at least 8 sample results for each substance at each groundwater monitoring point.
16. The PALs for indicator parameters established in this approval are equal to the mean background water quality plus 3 standard deviations or the mean background water quality plus the minimum increase specified in Table 3, ch. NR 140, Wis. Adm. Code, whichever is greater.
17. The ACLs established in this approval are equal to the mean background water quality plus 2 standard deviations in accordance with Department's Solid Waste Technical Guidance for PAL/ACL Calculations (guidance document WA 1105, 2007).
18. The calculated PALs were rounded up to 2 significant figures and calculated ACLs were rounded up in accordance with Department's Solid Waste Technical Guidance for PAL/ACL Calculations (guidance document WA 1105, 2007)
19. The Department has determined that the exemptions which were granted for the wells and parameters listed in the table below will need to be rescinded because they are not warranted for the reasons listed in the table:

Well	GEMS ID#	Parameter	Date Exemption was Issued	Reason for Rescinding Exemption
WT-105 AR	126	Chloride	2/3/2014 Feasibility Determination	The average concentration is below the NR 140 PAL of 125 mg/l ug/L. All samples since 2000 are below NR 140 PAL.

20. The February 3, 2014 Feasibility Determination granted code exemptions for the proposed Dane County Landfill Eastern Expansion. Except where otherwise specified in this approval, the exemptions granted in the February 3, 2014 feasibility determination apply to the Plan of Operation.
21. The Department granted an exemption from s. NR 512.09(6)(c), Wis. Adm. Code, which requires consolidation testing data in the February 3, 2014 feasibility determination. Dane County has demonstrated circumstances that warrant an exemption from s. NR 504.06(6)(c), Wis. Adm. Code which requires primary and secondary settlement calculations, since the consolidation testing data is not available.
22. The special conditions set forth below are needed to assure that the landfill is operated in an environmentally sound fashion and will not inhibit compliance with the standards set forth in the applicable provisions of chs. NR 500-538, Wis. Adm. Code.

CONCLUSIONS OF LAW

1. The Department has authority under s. 289.30, Stats. to approve a plan of operation with special conditions if the conditions are needed to ensure compliance with chs. NR 500 to 538, Wis. Adm. Code.
2. The Department has authority under s. NR 140.28, Wis. Adm. Code, and ss. 160.19(8) to (10), Stats., to grant exemptions to groundwater quality standards and to establish corresponding alternative concentration limits.
3. The Department has authority under s. NR 500.08(4), Wis. Adm. Code, to grant exemptions from specific rule requirements of chs. NR 500 to 538, Wis. Adm. Code, if provided with appropriate documentation that the proposal will not cause environmental pollution as defined in s.299.01(4), Stats.
4. The Department has authority under s. NR 140.20, Wis. Adm. Code, and s. 160.15(3), Stats., to establish preventive action limits for groundwater indicator parameters at waste disposal facilities.
5. The conditions of approval set forth below are needed to ensure compliance with chs. NR 500 to 538, Wis. Adm. Code.
6. In accordance with the foregoing, the Department has the authority under ch. 289, Stats., to issue the following conditional approval.

GRANTS OF EXEMPTION

1. The Department hereby rescinds the ch, NR 140, Wis. Adm. Code groundwater exemptions which were previously granted for the wells and parameters listed in the table under finding of fact #19, above, for the reasons listed in the table.
2. Dane County has demonstrated circumstances that warrant an exemption from s. NR 504.06(6)(c), Wis. Adm. Code, requiring primary and secondary settlement calculations of collection trench subbases, based on justification provided in the feasibility study that consolidation testing data were not necessary to evaluate if excessive collection trench settlement was likely.

CONDITIONAL PLAN OF OPERATION APPROVAL

The Department hereby approves the Plan of Operation for the Eastern Expansion at the Dane County No. 2 (Rodefild) Landfill subject to compliance with chs. NR 500-538, Wis. Adm. Code, and the following conditions:

1. The total design capacity of this landfill expansion (combined refuse, daily and intermediate cover volume) may not exceed 3,837,900 cubic yards.
2. All aspects of construction and operation of the landfill shall be performed in accordance with the plan of operation, the requirements of chs. NR 500 to 538, Wis. Adm. Code, and the conditions of the approval. In the case of any discrepancies between the approval conditions and the plan of operation, the approval conditions shall take precedence.
3. Any proposed changes to the plan or this approval shall be presented to the Department. If the changes are compatible with the desired performance of this landfill, as determined by the Department, an addendum will be added to this approval indicating acceptance of those changes. Written Department approval is necessary prior to implementing any changes with the exception of minor field modifications that are documented in accordance with NR 516.04(3)(d), Wis. Adm. Code. All field modifications shall be discussed with the Department prior to implementation. Other changes may be handled as expedited plan modifications under s. NR 514.09, Wis. Adm. Code as appropriate.

Operation, Design, and Construction

4. Private wells PW-43, PW-45, and PW-48 shall be properly abandoned by a Wisconsin licensed well driller or pump installer and the abandonment shall be documented in the Phase 9 Cell 1 construction documentation report.
5. A replacement gas monitoring well for GP-23 shall be installed in the southeast corner of the landfill property if any building is constructed on the south side of Highway 12/18 and is within 1,000 feet of the landfill waste limits.
6. The proposed location and design for replacement gas probes for GP-3, 4, 5 and 24 shall be submitted to the Department a minimum of 30 day prior to installation. The gas probes shall be located along the east side of the landfill property between the landfill and a residence or other structure.

7. The storm water ditch near stock pile No. 1 shall be rerouted onto the County owned property if the lease agreement with the City of Madison is terminated. The storm water ditch shall be rerouted as soon as practical but no later than 90 days after the lease has been terminated.
8. The southeastern sedimentation basin shall be redesigned so that the sedimentation basin discharge remains on County property if the lease agreement with the City of Madison is terminated. The redesigned sedimentation basin drawings shall be submitted to the Department for review and approval as soon as practical but no later than 60 days after the lease has been terminated.
9. The gradient control and leachate collection system shall be constructed 6-inch diameter Sch. 80 PVC or SDR 11 HDPE collection piping.
10. After the clay in the vertical expansion has been exposed, the clay shall be tested on a 100-foot grid pattern for dry density and in-place moisture content to determine the degree of soil compaction remaining in the clay.
11. Alternate daily cover material may not be used as daily cover or interim cover on exterior side slopes or final grades and may not contain free liquids.
12. All pumps and flow recording devices shall be tested and maintained to ensure that leachate is pumped out of the landfill continuously and the reported flows are accurate.
13. In case of malfunction of leachate extraction pump, the pump shall be made operational or replaced within five work days of detecting the malfunction or in accordance with an alternative schedule approved by the Department.

This condition supersedes condition 23 of the Department's March 14, 1994 plan of operation approval.

14. The side-slope riser leachate collection system design shall include a method of detecting when the sump pumps are not properly operating.
15. Dane County shall remove accumulated sediment from behind silt fences, and make necessary repairs to the fencing, as soon as practicable after each storm event.
16. For recompacted soil used in subgrade and berm construction, the following tests shall be performed:
 - a. For recompacted soil used in subgrade and berm construction, dry density and as-placed moisture content shall be determined on an approximate 100 foot grid pattern for each one foot thickness of soil placed. The grid pattern shall be offset on each subsequent layer of tests. A minimum of 2 density and moisture content tests for each one foot thickness of soil placed shall be performed to fully define the degree of soil compaction obtained in confined areas where equipment movement is hindered or hand compaction is necessary.
 - b. For recompacted soil used in subgrade, one moisture-density curve or line of optimums analysis shall be developed for every 5,000 cubic yards or less of soil placed and for each major soil type utilized. At least 5 points shall be established on each curve. If a line of optimums analysis is performed, at least 2 curves shall be included for each

analysis. A representative sample for every 5,000 cubic yards or less of soil placed shall be analyzed for Atterberg limits. If apparent changes in soil quality are observed during soil placement, a one-point Proctor analysis shall be utilized to verify the applicability of previously analyzed moisture-density curves.

- c. For recompacted soil used in berm construction, one moisture-density curve or line of optimums analysis shall be developed for every 20,000 cubic yards or less of soil placed and for each major soil type utilized. At least 5 points shall be established on each curve. If a line of optimums analysis is performed, at least 2 curves shall be included for each analysis. A representative sample for every 20,000 cubic yards or less of soil placed shall be analyzed for Atterberg limits. If apparent changes in soil quality are observed during soil placement, a one-point Proctor analysis shall be utilized to verify the applicability of previously analyzed moisture-density curves.

- 17. Leachate recirculation shall be performed and monitored in accordance with the plan of operation and NR 500-538, Wis. Adm. Code.

This condition supersedes conditions 6 -10 of the Department's October 24, 2008 plan of operation approval modification.

- 18. For liner or final cover construction storm water inspections shall be performed and documented in the construction documentation report required by NR 516, Wis. Adm. Code. The inspections shall include the following:

- a. Weekly inspections shall be performed of implemented erosion and sediment control best management practices.
- b. Inspections of erosion and sediment controls shall be performed within 24 hours after a precipitation event of 0.5 inches or greater. A precipitation event may be considered to be the total amount of precipitation recorded in any continuous 24-hour period.
- c. Repair or replace erosion and sediment control best management practices as necessary shall be performed within 24 hours of an inspection or department notification that repair or replacement is needed.
- d. Maintain, at the construction site or available via an Internet website, weekly written reports of all inspections conducted by or for the landfill owner. Weekly inspection reports shall include all of the following:
 - i. The date, time and location of the construction site inspection.
 - ii. The name of the individual who performed the inspection.
 - iii. An assessment of the condition of erosion and sediment controls.
 - iv. A description of any erosion and sediment control best management practice implementation and maintenance performed.
 - v. A description of the present phase of land disturbing construction activity at the landfill.

- 19. Dane County shall notify the Department's waste management engineer assigned to this site a minimum of one week prior to beginning each of the construction events listed below for the purpose of allowing the Department to inspect the work. A fee shall be paid to the Department for each inspection in accordance with s. NR 520.04(5), Wis. Adm. Code. The inspection fees

shall be paid at the time the construction documentation review fee is submitted to the Department.

Liner Construction Events

- a. Gradient control system construction
- b. Clay placement
- c. Geomembrane deployment and seaming
- d. Sump construction/side slope riser placement
- e. Drainage blanket placement/leachate line installation

Final Cover Construction Events

- f. Clay/barrier layer placement
- g. Geocomposite clay liner installation (if used)
- h. Geomembrane cap installation/seaming
- i. Placement of piping within the drainage layer
- j. Root zone and topsoil placement

Gas System Construction Events

- k. Gas extraction well placement
- l. Gas header pipe installation

This condition supersedes Condition 7 of the Department's March 14, 1994 plan of operation approval, condition 1 of the Department's November 30, 1995 approval and condition 2 of the Department's September 8, 2009 approval.

20. Final cover placement may be delayed up to two years after attaining maximum waste filling grades in each phase of closure provided that the requirements of s. NR 514.07(3), Wis. Adm. Code are met. At no time shall the waste grades exceed the approved maximum waste filling grades for this facility as shown on plan sheet 33 and Table 5-2 of the plan of operation.

This condition supersedes Condition 27 of the Department's March 14, 1994 plan of operation approval.

21. Final cover systems that use a geosynthetic clay layer shall comply with the requirements of NR 504.07(4)(a) and NR 516.07(2m), NR Wis. Adm. Code and the plan of operation.

This condition supersedes the conditions 1 – 9 of the Department's June 14, 2002 plan of operation approval modification for use of a GCL in the final cover.

22. Prior to abandoning and/or replacing existing gas extraction wells in the area of the vertical overlay, the County shall contact the Department to discuss how the gas extraction well will be abandoned, if the well should be replaced, and how the well will be designed if it is to be replaced.
23. Any active vertical gas extraction well experiencing leachate head levels covering 50 percent or more of the screened interval shall be re-measured within 90 days of the initial measurement. Leachate extraction equipment shall be installed within 180 days after confirmation of the liquid level in any vertical gas extraction well that exhibits leachate head levels covering 50 percent or more of the screened interval during two consecutive monitoring periods. Alternatively, an assessment documenting the system's ability to control gas surface emissions in the area of the gas well with high liquids may be submitted in the next annual report. Unless the Department

specifies in writing, after having reviewed the assessment that a replacement well is not necessary, the gas extraction well or wells shall be replaced. The Department may require installation of leachate extraction equipment in wells that exhibit leachate head levels covering less than 50 percent of the open screened interval if, in the Department's opinion, dewatering is necessary to maintain an effective gas extraction system or if it is determined that the head levels are a result of actual leachate head levels in that location of the landfill.

Environmental Monitoring

24. Dane County shall perform environmental monitoring during both the active life and post-closure care in accordance with Environmental Monitoring Tables 1 through 5 in Attachment #1, as well as air quality and wastewater monitoring in accordance with the appropriate Department permits. The RCRA sub-title D wells are listed in Table 1a.

This condition supersedes all environmental monitoring requirements contained in previous approvals.

25. NR 140 Preventative Action Limits (PALs) and NR 140 Alternative Concentration Limits (ACLs) are established for the groundwater monitoring points and respective parameters listed in Tables 6 and 7 in Attachment #2.
26. The baseline groundwater quality sampling for MW-119A, MW-8A and WT-207AR shall be performed in accordance with NR 507.18, Wis. Adm. Code by December 31, 2016. Dane County shall submit a request for NR 140 groundwater exemptions where needed and propose PALs and ACLs for specific wells and parameters in accordance with Department's Solid Waste Technical Guidance for PAL/ACL Calculations, within 60 days after receiving the analytical results from the eighth baseline sample round.
27. Dane County shall collect baseline groundwater data in accordance with ch. NR 507, Wis. Adm. Code for each of the groundwater monitoring points listed in tables 6 and 7 of Attachment #2 which indicate that baseline groundwater data is needed or that the well needs to be installed. Baseline groundwater monitoring data shall also be collected for all future new or replacement groundwater monitoring devices located greater than 10 feet from the original well or screened in a different vertical interval. Dane County shall collect baseline groundwater data within four years from the date of well construction for the respective well. Dane County shall submit a request for NR 140 groundwater exemptions where needed and propose PALs and ACLs for specific wells and parameters in accordance with Department's Solid Waste Technical Guidance for PAL/ACL Calculations, within 60 days after receiving the analytical results from the eighth baseline sample round.
28. Dane County shall respond to groundwater standards exceedances observed in groundwater monitoring wells or in the groundwater gradient control system in accordance with the applicable provisions of chapters NR 140 and NR 508, Wis. Adm. Code.

Inspection and Reporting

29. Dane County shall submit an annual report to the Department no later than April 30th of each year that summarizes the following activities from the previous calendar year:

General

- a. Provide full size topographic map or plan view drawings to show the site and surrounding areas one-quarter mile in all directions. On the map show property boundary, any structures, private water supply wells, and property owner's name.
- b. Provide a color coded site map showing all landfill phases, all wells including the abandoned wells numbered and labeled, the entire leachate collection and transfer piping system, gas system (including all buried component), and gas monitoring probes.
- c. Provide a color coded site map showing all landfill phase, areas covered with final cover, areas covered with intermediate cover, and areas actively being filled.
- d. Provide survey information for the purpose of settlement calculation of the final cover. At a minimum, vertical datum (MSL) and horizontal datum based on the Wisconsin state plan coordinate system will be provided for at two cross sections that will run from east to west across the entire limits of waste where the 5% slope intercepts the 4:1 slope.

Waste Volumes and Types

- e. Total volume and tonnage of special wastes, and tabulation by waste category for each of the waste types in the special waste plan which were accepted for disposal during the previous calendar year.
- f. Computation of the total volume of all wastes disposed at this facility, and the proportions of special wastes compared to the total volume of landfill filled.
- g. The use of alternate daily cover material. The report shall contain at a minimum the following:
 - i. Identification of the waste generator or hauler of the alternate daily cover material accepted for disposal.
 - ii. Quantity of material used as alternate daily cover (in units of cubic yards and tons).
 - iii. Estimated density of the daily cover materials.
 - iv. Coverage ratio.
 - v. Alternate beneficial use applications such as dikes, berms or other structures in the landfill.
 - vi. The ratio of waste to alternative daily cover by volume for the year.
 - vii. Discussion of problems encountered and recommendations.

Gas Extraction System

- h. Records of periods of shutdown of the gas extraction system, length of time of shutdown, and corrective action for the system or individual extraction wells.

- i. Any maintenance, cleaning, repair, or replacement of extraction wells, header or lateral lines, blower or gas combustion equipment components, or valve assemblies.
- j. An assessment of the performance of the gas extraction system, including liquid levels in the gas extraction wells, the quality and quantity of gas produced from the facility, and the removal of volatile organic compounds and other substances in the gas.
- k. Surface emission monitoring results.

Groundwater and Gradient Control

- l. An assessment of the groundwater and surface water flow patterns and quality trends.
- m. An assessment of the condition and operation of the gradient control system.

Leachate Collection and Recirculation System

- n. Tabulation of volumes of leachate, leachate heads, and chemical quality data for the leachate
- o. Annual leachate recirculation reporting required by NR 506.135(5), Wis. Adm. Code
- p. Documentation of cleaning efforts and observations for leachate and gradient control collection pipes, and records of integrity of the secondary containment features of the leachate extraction and conveyance system.

Landfill Maintenance

- q. Any evidence of differential settlement or impeded drainage, downslope soil slips or movements, exposed geomembrane or subsurface drain materials, integrity of surface swales and other drainage features, any evidence of water ponding or formation of depressions, and cover condition in the surface water diversion berms and final cover spillways.
- r. An assessment of vegetative cover vigor and diversity, evidence of animal intrusion, soil slumping or exposure of the capping layer.
- s. A description of all repairs made to the cap and vegetative cover, protective structures, monitoring devices, and sedimentation ponds, etc.
- t. A description of the haul road condition and any repairs needed. A description of the type of repair and the date of completion.
- u. The actions used to minimize windblown debris. The report shall contain at a minimum the following information:
 - i. Dates when the wind speed was greater than or equal to 30 mph at the working face.
 - ii. Dates when the landfill was shut down due to wind.

- iii. Dates when staff collected debris off-site.

Storm Water Inspections

- v. Storm water inspections shall be performed during landfill operations and documented as follows:
 - i. Annual facility site compliance inspections shall be performed to verify that the site drainage conditions and potential pollution sources identified in the plan of operation remain accurate, and that the best management practices prescribed in the plan of operation are being implemented, properly operated, and adequately maintained.
 - ii. Quarterly visual inspections of storm water discharge quality at each outfall shall be conducted within the first 30 minutes after runoff begins discharging from the outfall or as soon as practical, but no later than 60 minutes after the beginning of discharge. The inspections shall include observations of color, odor, turbidity, floating solids, foam, oil sheen or other readily observable indicators of storm water pollution. Documentation of the inspections shall include the inspection date, inspection personnel, visual quality of the storm water discharge, and probable sources of any storm water contamination.

This condition supersedes Condition 28 of the Department's March 14, 1994 plan of operation approval, condition 2 of the Department's December 13, 2002 approval, conditions 6(a) and (b) of the Department's August 21, 2003 approval and condition 10 of the Department's October 24, 2008 approval.

- 30. Dane County shall include, as part of the landfill operating record required by s. NR 506.17, Wis. Adm. Code, the following information:
 - a. Special waste disposal records.
 - b. Alternate daily cover records.

Financial Responsibility and Long Term Care

- 31. Revised proof of financial responsibility for closure and long term care shall be established within 60 days of the date of this approval, in accordance with ch. NR 520, Wis. Adm. Code. The proof of financial responsibility shall be established based upon the approved costs contained in the attached summary document.

This approval is based on the information available to the Department as of the date of approval. If additional information, project changes or other circumstances indicate a possible need to modify this approval, the Department may ask you to provide further information relating to this activity. Likewise, the Department accepts proposals to modify approvals, as provided for in state statutes and administrative codes.

NOTICE OF APPEAL RIGHTS

If you believe you have a right to challenge this decision made by the Department, you should know that Wisconsin statutes and administrative codes establish time periods and requirements for reviewing Department decisions.

To seek judicial review of the Department's decision, sections 227.52 and 227.53, Stats., establish criteria for filing a petition for judicial review. You have 30 days after the decision is mailed or otherwise served by the Department to file your petition with the appropriate circuit court and serve the petition on the Department. The petition shall name the Department of Natural Resources as the respondent.

Dated: August 13, 2014

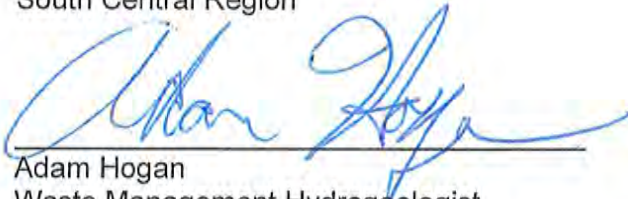
DEPARTMENT OF NATURAL RESOURCES
For the Secretary,



Dennis Mack, P.E.
Waste and Materials Management Program
South Central Region



Ann M. Bekta, P.E.
Waste Management Engineer
South Central Region



Adam Hogan
Waste Management Hydrogeologist
South Central Region

Attachment #1 for the Dane County Rodefeld Eastern Expansion Plan of Operation,
License # 3018
Environmental Monitoring Tables
page 1 of 9

Table 1a Detection Groundwater Monitoring NR 507 Wells										
Wells	DNR ID#	WUWN	Comment ¹	Wells	DNR ID#	WUWN	Comment ¹	Sampling & Reporting ² Frequency	Parameter Codes	Parameters
Non-SubTitle D Wells										
Annual VOCs										
M-6A	7	BX879		WT-202AR	132	FF150		Sample Semiannually June and December	72020 Elevation, Groundwater (feet above mean sea level) 00001 Odor 00002 Color 00003 Turbidity 00010 Temperature, of water taken in field °C 00094 Field Conductivity @ 25° C(umho/cm) 00400 Field pH (standard units) 00941 Chloride, filtered (mg/L) 22413 Total Hardness, filtered (mg/L) 39036 Alkalinity, filtered (mg/L)	
M-9A	12	BX884		WT-202BR	134	JF020				
M-9B	13	BX885		WT-203A	117	IM422				
M-14A	17	BX889		WT-204A	118	IM423				
M-14B	18	BX890		WT-205A	119	IM424				
M-17B	20	BX892	To be abandoned	WT-206AR	125	BX904				
M-23	23	BX895		WT-207AR	141	VM944				
M-25A	25	BX897		WT-208AR	142	PI999				
M-25BR	130	FF149		M-301A	150	VM942				
M-26A	27	BX899		M-302A	152	VM940	To be abandoned			
M-26B	28	BX900		M-302B	154	VM941	To be abandoned			
M-28	34	EI270	To be abandoned	M303A	156	VM943	To be abandoned			
M-29	35	EI271		M-17BR	168		To be constructed			
P-103B	47	FH850		M-28R	170		To be constructed			
WT-108A	53	FH852		M-302AR	172		To be constructed			
P-108B	123	IM428		M-302BR	174		To be constructed			
WT-113A	57	FH854		M-303AR	176		To be constructed			
P-119B	67	FH858								
WT-201AR	124	BX903								
SubTitle D Wells										
Semiannual VOCs										
M-17A	19	BX891	To be abandoned					Sample Semiannually June and December	72020 Elevation, Groundwater (feet above mean sea level) 00001 Odor 00002 Color 00003 Turbidity 00010 Temperature, of water taken in field °C 00094 Field Conductivity @ 25° C(umho/cm) 00400 Field pH (standard units) 00941 Chloride, filtered (mg/L) 22413 Total Hardness, filtered (mg/L) 39036 Alkalinity, filtered (mg/L)	VOCs (ug/L) Using EPA Solid Waste Method 8260 (NR 507, appendix III)
WT-103A	45	FH849								
WT-105AR	126	LO774								
WT-119A	65	FH857								
M-17AR	166		To be constructed							

1. Monitoring Points that are abandoned are no longer monitored.
2. Unless specifically stated, reporting is as per code typically within 60 days after the end of the specified monitoring period.
Trip Blank (999) and/or Field Blank (997) data must also be submitted electronically.

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1. Monitoring Points that are abandoned are no longer monitored.

2. Unless specifically stated, reporting is as per code typically within 60 days after the end of the specified monitoring period.

Attachment #1 for the Dane County Roadside Eastern Expansion Plan of Operation
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Environmental Monitoring Tables

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Table 1c

Private Water Supply Wells with NR 812 Variances																																																													
Well	DNR ID#	WUWN	OWNER	Comment ¹																																																									
Community Well PW-50 ² , PW-51 ³	98	FW225	Various																																																										
	96	NG618	Michael Niebuhr																																																										
<table><tr><th>Sampling & Reporting⁴ Frequency</th><th>Parameter Codes</th><th>Parameters</th></tr><tr><td rowspan="17">Sample <u>Annually</u> June</td><td>00001</td><td>Odor</td></tr><tr><td>00002</td><td>Color</td></tr><tr><td>00003</td><td>Turbidity</td></tr><tr><td>00010</td><td>Temperature, of Water taken in field °C</td></tr><tr><td>00094</td><td>Field Conductivity @ 25° C(umho/cm)</td></tr><tr><td>00400</td><td>Field pH (standard units)</td></tr><tr><td>00410</td><td>Alkalinity, total (mg/L)</td></tr><tr><td>00620</td><td>Nitrate Nitrogen(Nitrate + Nitrite as N), total (mg/L)</td></tr><tr><td>00900</td><td>Hardness, total (mg/L)</td></tr><tr><td>00929</td><td>Sodium, total (mg/l)</td></tr><tr><td>00940</td><td>Chloride, total (mg/L)</td></tr><tr><td>00945</td><td>Sulfate, total (mg/L)</td></tr><tr><td>00951</td><td>Fluoride, total (mg/l)</td></tr><tr><td>01002</td><td>Arsenic, total (ug/L)</td></tr><tr><td>01007</td><td>Barium total (ug/L)</td></tr><tr><td>01027</td><td>Cadmium, total (ug/L)</td></tr><tr><td>01034</td><td>Chromium, total (ug/L)</td></tr><tr><td>01042</td><td>Copper, total (ug/l)</td></tr><tr><td>01051</td><td>Lead, total (ug/l)</td></tr><tr><td>01055</td><td>Manganese, total (ug/L)</td></tr><tr><td>01077</td><td>Silver, total (ug/l)</td></tr><tr><td>01092</td><td>Zinc, total (ug/l)</td></tr><tr><td>01147</td><td>Selenium, total (ug/l)</td></tr><tr><td>71900</td><td>Mercury, total (ug/l)</td></tr><tr><td>74010</td><td>Iron, total (mg/L)</td></tr><tr><td colspan="2"></td><td>VOCs (ug/L) Using EPA Solid Waste Method 8260 (NR 507, appendix III)</td></tr></table>					Sampling & Reporting ⁴ Frequency	Parameter Codes	Parameters	Sample <u>Annually</u> June	00001	Odor	00002	Color	00003	Turbidity	00010	Temperature, of Water taken in field °C	00094	Field Conductivity @ 25° C(umho/cm)	00400	Field pH (standard units)	00410	Alkalinity, total (mg/L)	00620	Nitrate Nitrogen(Nitrate + Nitrite as N), total (mg/L)	00900	Hardness, total (mg/L)	00929	Sodium, total (mg/l)	00940	Chloride, total (mg/L)	00945	Sulfate, total (mg/L)	00951	Fluoride, total (mg/l)	01002	Arsenic, total (ug/L)	01007	Barium total (ug/L)	01027	Cadmium, total (ug/L)	01034	Chromium, total (ug/L)	01042	Copper, total (ug/l)	01051	Lead, total (ug/l)	01055	Manganese, total (ug/L)	01077	Silver, total (ug/l)	01092	Zinc, total (ug/l)	01147	Selenium, total (ug/l)	71900	Mercury, total (ug/l)	74010	Iron, total (mg/L)			VOCs (ug/L) Using EPA Solid Waste Method 8260 (NR 507, appendix III)
Sampling & Reporting ⁴ Frequency	Parameter Codes	Parameters																																																											
Sample <u>Annually</u> June	00001	Odor																																																											
	00002	Color																																																											
	00003	Turbidity																																																											
	00010	Temperature, of Water taken in field °C																																																											
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	00400	Field pH (standard units)																																																											
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74010	Iron, total (mg/L)																																																												
		VOCs (ug/L) Using EPA Solid Waste Method 8260 (NR 507, appendix III)																																																											

1. Monitoring points that are abandoned are no longer monitored.

2. Also known as PW-98 and unique well # LO889.

3. Background sampling to be conducted twice within the first year as per condition 24 of the feasibility determination.

4. To be reported as per code within 10 days of landfill owner's or operator's receipt of results.
 Trip Blank (999) and/or Field Blank (997) data must also be submitted electronically.

Attachment #1 for the Glacier Ridge Landfill Southeast Expansion Plan of Operation

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Environmental Monitoring Tables

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Table 2a

Leachate Characteristic Monitoring

Leachate Characteristic Monitoring					
Monitoring Pt.	DNR ID#	Comment ¹	Sampling & Reporting ² Frequency	Parameter Codes	Parameters
Lift Station #1 (next to MH-101)	402		Sample/Record Total Volumes <u>Monthly</u> Report Semiannually in June and December See Note 3	00032	Leachate Volume Pumped (1000s of gallons)
			Sample <u>Quarterly</u> March, June, September, December	00010 00094 00150 00310 00340 00400 00410 00610 00665 00900	Field Temperature Field Conductivity @ 25oC (umho/cm) Suspended Solids, total (mg/l) BOD (5 day @ 20°C (mg/L) COD, unfiltered (mg/L) Field pH, (standard units) Alkalinity, total as CaCO3 (mg/L) Nitrogen, Ammonia, total (mg/L as N) Phosphorus, total (mg/l, P) Hardness, total (mg/L as CaCO3)
			Sample <u>Semiannually</u> June and December	00001 00002 00003 00625 00630 00929 00940 00945 01027 01051 01055 01092 71900 74010	Odor Color Turbidity Nitrogen, Kjeldahl, total (mg/L as N) Nitrate + Nitrite as N, total (mg/l) Sodium, total (mg/L) Chloride, total (mg/L) Sulfate, total (mg/L) Cadmium, total (ug/l) Lead, total (mg/L) Manganese, total (mg/L) Zinc, total (ug/l) Mercury, total (mg/L) Iron, total (mg/L)
			Sample <u>Annually</u> June	00951 01002 01007 01012 01034 01037 01042 01059 01067 01077 01087 01097 01147	Fluoride, total (mg/L) Arsenic, total (mg/L) Barium, total (ug/L) Beryllium, total (ug/l) Chromium, total (ug/l) Cobalt, total (ug/l) Copper, total (ug/l) Thallium, total (ug/l) Nickel, total (ug/l) Silver, total (ug/l) Vanadium, total (ug/l) Antimony, total (ug/l) Selenium, total (ug/l)
			VOCs (ug/L) Using EPA Solid Waste Method 8260 (NR 507, appendix III)		
			Semi-volatiles, using EPA Method SW-8270 (NR 507, appendix IV)		

1. Monitoring Points that are abandoned are no longer monitored.

2. Unless specifically stated, reporting is as per code typically within 60 days after the end of the specified monitoring period. For items indicated as "Report Semiannually", the reporting is due within 60 days after the end of the last monitoring period in the semiannual period. The semiannual periods will run January-June and July-December unless an alternative period is proposed and the Department concurs.

3. Also record daily leachate recirculation volumes in operating record per the Leachate Recirculation Plan.

**Attachment #1 for the Glacier Ridge Landfill Southeast Expansion Plan of Operation
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Environmental Monitoring Tables

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Table 2b

Leachate Headlevel and Volume Monitoring

Monitoring Pt.	DNR ID#	Comment''	Sampling & Reporting ² Frequency	Parameter Codes	Parameters
MLH-1	517		Sample <u>Monthly</u> Report Semiannually	00031 Depth of Leachate from top of liquid level to bottom in feet 99423 Elevation, Leachate Head feet above mean sea level	
MLH-2	518				
MLH-3R	599				
MLH-4	520				
MLH-6N	521				
MLH-6S	522				
MLH-7N	523				
MLH-7S	524				
MLH-8N	600				
MLH-8S	602				
MHL-9N	800	To be constructed			
MHL-9S	802	To be constructed			
MLH-10N	804	To be constructed			
MLH-10S	806	To be constructed			
MLH-11N	808	To be constructed			
MLH-11S	810	To be constructed			
MLH-12N	812	To be constructed			
MLH-12S	814	To be constructed			
LV8			Sample <u>Monthly</u> Report Semiannually	00032 Leachate Volume Pumped 99723 Leachate volume recirculated	
LV9		To be constructed			
LV10		To be constructed			
LV11		To be constructed			
LV12		To be constructed			

1. Monitoring Points that are abandoned are no longer monitored.

2. Unless specifically stated, reporting is as per code typically within 60 days after the end of the specified monitoring period. For items indicated as "Report Semiannually", the reporting is due within 60 days after the end of the last monitoring period in the semiannual period. The semiannual periods will run January-June and July-December unless an alternative period is proposed and the Department concurs.

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Table 3a

Landfill Gas Extraction						Sampling & Reporting ¹ Frequency		Parameter Codes	Parameters
Gas Extraction Well - DNR ID #									
Monitoring Pt	ID#	Comment ¹	Monitoring Pt	ID#	Comment ¹				
GW-1	531		GW-101	820	2	Sample Monthly Report Semiannually			46385 Well Head Pressure (inches of water column) 99098 Gas Flow Rate (scfm) 46388 Gas Temperature (° F) 46387 Valve Opening (% open) 85547 Percent Methane, by volume 85550 Percent Oxygen, by volume 46382 Header Pressure (inches of water column) 00056 Volume of liquid pumped from well (gallons/month)
GW-2R	571		GW-102	822	2				
GW-3	533		GW-103	824	2				
GW-4R	593		GW-104	826	2				
GW-5R	594		GW-105	828	2				
GW-6	536		GW-106	830	2				
GW-7R	595		GW-107	832	2				
GW-8R	596		GW-108	834	2				
GW-9A	562		GW-109	836	2				
GW-10R	597		GW-110	838	2				
GW-11R	610		GW-111	840	2				
GW-12R	620		GW-112	842	2				
GW-13A	564		GW-113	844	2				
GW-14R2	634		GW-114	846	2				
GW-15A	566		GW-115	848	2				
GW-16R	598		GW-116	850	2				
GW-17R	612		GW-117	852	2				
GW-18	548		GW-118	854	2				
GW-19R	624		GW-119	856	2				
GW-20R	628		GW-120	858	2				
GW-21R	628		GW-121	860	2				
GW-22R	614		GW-122	862	2				
GW-23	553		GW-123	864	2				
GW-24	554		GW-124	866	2				
GW-25A	572		GW-125	868	2				
GW-26A	573		GW-126	870	2				
GW-27	557		GW-127	872	2				
GW-28R	574		GW-128	874	2				
GW-29R	575		GW-129	876	2				
GW-30R	576		GW-130	878	2				
GW-31	561					Sample Annually June			00023 Elevation, Leachate Head feet above mean sea level 00031 Depth of Leachate from top of liquid level to bottom in feet
GW-32	577								
GW-33R	630								
GW-34R	632								
GW-35	580								
GW-36	581								
GW-37	582								
GW-38	583								
GW-39	584								
GW-40	585								
GW-41	586								
GW-42	587								
GW-43	588								
GW-44	589								
GW-45	590								
GW-46	591								
GW-47	592								
GW-48	604								
GW-49	606								
GW-50	608								
GW-51 EXP	616								
GW-52 EXP	618								
Gas Blower									
West Gas Plant Blower			530			Sample Monthly Report Semiannually			46382 Header Pressure (inches of water column) 98927 Gas Extracted, Total Monthly Volume (1000 cu. ft. /month) 99098 Gas Flow Rate (scfm) 46388 Gas Temperature (° F) 85547 Percent Methane, by volume 85550 Percent Oxygen, by volume
East Gas Plant Blower			698						
						Sample Annually June			VOCs using USEPA Method TO-15 or TO-14A

1. Monitoring Points that are abandoned are no longer monitored.

2. To be constructed.

3. Unless specifically stated, reporting is as per code typically within 60 days after the end of the specified monitoring period. For items indicated as "Report Semiannually", the reporting is due within 60 days after the end of the last monitoring period in the semiannual period. The semiannual periods will run January-June and July-December unless an alternative period is proposed and the Department concurs.

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Environmental Monitoring Tables

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Monitoring Point - DNR ID #					
Table 3b					
Landfill Gas Monitoring Probes					
Monitoring Pt	ID#	Comment ¹	Monitoring Pt	ID#	Comment ¹
GP-1S	500		GP-20	703	
GP-1D	501		GP-21	704	
GP-2S	502		GP-22	705	
GP-2D	503		GP-23	706	
GP-3S	504		GP-24	707	to be abandoned
GP-3D	505		GP-25	708	
GP-4S	506	to be abandoned	GP-26	709	to be abandoned
GP-4D	507	to be abandoned	GP-27	710	to be abandoned
GP-5S	508		GP-4RS	714	to be constructed
GP-5D	509		GP-4RD	716	to be constructed
GP-6S	510	to be abandoned	GP-6RS	718	to be constructed
GP-6D	511	to be abandoned	GP-6RD	720	to be constructed
GP-7	512		GP-24R	722	to be constructed
GP-8	513		GP-26R	724	to be constructed
GP-9	514		GP-27R	726	to be constructed
GP-10	515				
GP-11	516				
GP-12	525				
GP-13	526				
GP-14	527				
GP-15	528				
GP-16	529				
GP-17	700				
GP-18	701				
GP-19	702				
Site Conditions					
Site Conditions			Site Conditions		
			Record monthly at same time as blower Report Semiannually		
			00021 Ambient Air Temperature (° F) 00025 Barometric Pressure (mm of Hg) 46381 Trend in Barometric Pressure 00007 Ground Conditions 1=frozen, 2=wet, 3=dry		

1. Monitoring Points that are abandoned are no longer monitored.

2. Unless specifically stated, reporting is as per code typically within 60 days after the end of the specified monitoring period. For items indicated as "Report Semiannually", the reporting is due within 60 days after the end of the last monitoring period in the semiannual period. The semiannual periods will run January-June and July-December unless an alternative period is proposed and the Department concurs.

3. Immediate notification may be necessary under NR 507.22(1)(c) Wis. Adm. Code.

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Environmental Monitoring Tables

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Table 4

Lysimeter and Surfacewater Monitoring						Parameter Codes	Parameters
Monitoring Pt.	DNR ID #	Comments	Monitoring Pt.	DNR ID #	Comments	Sampling & Reporting ² Frequency	Parameters
Lysimeters							
LS-1	300					Sample <u>Monthly</u> Report Semiannually	74064 Lysimeter discharge volume pumped (gal)
LS-2	301						
LS-3	302						
LS-4	303						
LS-6	304					Sample <u>Annually</u> June	00001 Odor 00002 Color 00003 Turbidity 00094 Field Conductivity @ 25° C(umho/cm) 00340 COD, Unfiltered 00400 Field pH (standard units) 00410 Alkalinity, total as CaCO ₃ (mg/L) 00530 Nitrate + Nitrite as N, total (mg/l) 00900 Hardness, total (mg/L as CaCO ₃) 00929 Sodium, total (mg/L) 00940 Chloride (mg/L) 00945 Sulfate, total (mg/L) 01055 Manganese, total (mg/L) 74010 Iron, total (mg/L) VOCs (ug/L) Using EPA Solid Waste Methods 8021 or 8260 (NR 507, appendix III)
Staff Gauges							
SG-Park						Sample <u>Semiannually</u> June and December	99520 Elevation, Surface Water (ft. above mean sea level)
Sedimentation Basins							
SW-1, NE Sed. Basin						Inspect <u>Quarterly</u> March, June, September, and December	Visual inspection for: Odor, Turbidity, Floating Solids, Foam, Oil Sheen ³
SW-2, SE Sed. Basin							
SW-3, West Sed. Basin							

1. Monitoring Points that are abandoned are no longer monitored.

2. Unless specifically stated, reporting is as per code typically within 60 days after the end of the specified monitoring period. For items indicated as "Report Semiannually", the reporting is due within 60 days after the end of the last monitoring period in the semiannual period. The semiannual periods will run January-June and July-December unless an alternative period is proposed and the Department concurs.

3. See Storm Water Pollution Prevention Plan.

Attachment #1 for the Glacier Ridge Landfill Southeast Expansion Plan of Operation

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Environmental Monitoring Tables

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Table 5			
Settlement Monitoring			
Monitoring Point	Sampling & Reporting ² Frequency	Parameter Codes	Parameters
Two cross sections as proposed, see condition 29. d.	Measure <u>Annually</u> June Until 5 years after closure; then every 5 years Report in Annual Report	99422	Elevation, Ground Surface feet above mean sea level

1. Monitoring Points that are abandoned are no longer monitored.

2. Unless specifically stated, reporting is as per code typically within 60 days after the end of the specified monitoring period.

Attachment #2 for the Dane County Rodefeld Eastern Expansion Plan of Operation,

License #: 3018

PAL and ACL Tables

August 2014 - page 1 of 2

Table 6 Groundwater Indicator Parameter Preventative Action Limits (PALs)

Wells	DNR ID#	WUWN	Abandoned or to be Abandoned	Alkalinity (mg/L) GEMS ID#: 39036	Hardness (mg/L) GEMS ID#: 22413	Specific Conductance (umhos/cm) GEMS ID#: 00094	Comments
NR 140 Wells							
M-301A	150	VM942		480	490	1200	Approved in 2014 Plan of Operation Eastern Expansion
M-302A	152	VM940	X	470	480	890	Approved in 2014 Plan of Operation Eastern Expansion
M-302B	154	VM941	X	500	500	930	Approved in 2014 Plan of Operation Eastern Expansion
M-303A	156	VM943	X	550	680	1400	Approved in 2014 Plan of Operation Eastern Expansion
M-9A	12	BX884		490	550	1100	These values were approved in the February 26, 1996 Approval
M-9B	13	BX885		440	440	810	These values were approved in the February 26, 1996 Approval
M-14A	17	BX889		620	2100	3200	These values were approved in the February 26, 1996 Approval
M-14B	18	BX890		510	920	2000	These values were approved in the February 26, 1996 Approval
M-17A	19	BX891	X	390	350	950	These values were approved in the February 26, 1996 Approval
M-17B	20	BX892	X	360	460	970	These values were approved in the February 26, 1996 Approval
M-23	23	BX895		390	420	760	These values were approved in the February 26, 1996 Approval
M-25A	25	BX897		660	1100	2100	These values were approved in the February 26, 1996 Approval
M-25B	26	BX898		460	550	1100	These values were approved in the February 26, 1996 Approval
M-26A	27	BX899		460	610	1100	These values were approved in the February 26, 1996 Approval
M-26B	28	BX900		430	510	890	These values were approved in the February 26, 1996 Approval
M-28	34	EI270	X	500	570	1100	These values were approved in the February 26, 1996 Approval
M-29	35	EI271		390	440	750	These values were approved in the February 26, 1996 Approval
WT-103A	45	FH849		580	960	1700	These values were approved in the February 26, 1996 Approval
P-103B	47	FH850		480	560	1000	These values were approved in the February 26, 1996 Approval
WT-105A	50	FH851		450	470	830	These values were approved in the February 26, 1996 Approval
WT-108A	53	FH852	XX	470	480	820	These values were approved in the February 26, 1996 Approval
P-108B	123	IM428		430	1400	840	These values were approved in the February 26, 1996 Approval
WT-119A	65	FH857		510	530	930	These values were approved in the February 26, 1996 Approval
P-119B	67	FH858		430	470	860	These values were approved in the February 26, 1996 Approval
WT-201AR	124	BX903		670	930	2400	These values were approved in the February 26, 1996 Approval
WT-202A	115	IM420	XX	580	710	1300	These values were approved in the February 26, 1996 Approval
P-202B/WT-202B	116	IM421	XX	440	1100	810	These values were approved in the February 26, 1996 Approval
WT-203A	117	IM422		490	1000	920	These values were approved in the February 26, 1996 Approval
WT-204A	118	IM423		440	630	830	These values were approved in the February 26, 1996 Approval
WT-205A	119	IM424		440	440	780	These values were approved in the February 26, 1996 Approval
WT-206AR	125	BX904		500	750	1000	These values were approved in the February 26, 1996 Approval
WT-207A	121	IM426	XX	570	1300	1700	These values were approved in the February 26, 1996 Approval
WT-208A	122	IM427	XX	680	1200	2900	These values were approved in the February 26, 1996 Approval

X well to be abandoned, XX well was previously abandoned
Subtitle D wells are in bold

Attachment #2 for the Dane County Rodefeld Eastern Expansion Plan of Operation,
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PAL and ACL Tables
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Table 7												
Groundwater Alternative Concentration Limits (ACLs)												
Wells	DNR ID#	WUWN	Abandoned or to be Abandoned	Antimony (ug/l) 01095	Arsenic (ug/L) GEMS ID#: 01000	Cadmium (ug/L) GEMS ID#: 01025	Chloride (mg/L) GEMS ID#: 00940 or 00941	Iron (mg/L) GEMS ID#: 01046	Manganese (ug/L) GEMS ID#: 01056	Nitrate (as N) (mg/L) GEMS ID#: 00618	Sulfate GEMS ID#: 00946	Comments
NR 140 Wells												
M-5B	6	BX878						1.90				Approved in 2014 Plan of Operation Eastern Expansion
M-14A	17	BX889					230					Approved in 2014 Plan of Operation Eastern Expansion
M-14B	18	BX890					320					Approved in 2014 Plan of Operation Eastern Expansion
M-17B	20	BX892	X				220					Approved in 2014 Plan of Operation Eastern Expansion
WT-108A	53	FH852				*						Approved in 2014 Plan of Operation Eastern Expansion
WT-119A	65	FH857		*								Approved in 2014 Plan of Operation Eastern Expansion
WT-201AR	124	BX903					310					Approved in 2014 Plan of Operation Eastern Expansion
WT-202B	116	IM421						0.53				Approved in 2014 Plan of Operation Eastern Expansion
WT-207AR	141	VM944					420					Approved in 2014 Plan of Operation Eastern Expansion
M-301A	150	VM942							110			Approved in 2014 Plan of Operation Eastern Expansion
M-302A	152	VM940	X						380			Approved in 2014 Plan of Operation Eastern Expansion
M-302B	154	VM941	X						97	3.0		Approved in 2014 Plan of Operation Eastern Expansion
M-303A	156	VM943	X						74			Approved in 2014 Plan of Operation Eastern Expansion
M-9B	13	BX885			23.4				144			These values were approved in the February 26, 1996 Approval
M-14A	17	BX889				4.9		2	2706			These values were approved in the February 26, 1996 Approval
M-14B	18	BX890						1.68	158			These values were approved in the February 26, 1996 Approval
M-25A	25	BX897						0.24				These values were approved in the February 26, 1996 Approval
M-26A	27	BX899				3.2						These values were approved in the February 26, 1996 Approval
M-26B	28	BX900				3.5						These values were approved in the February 26, 1996 Approval
WT-103A	45	FH849							668		341	These values were approved in the February 26, 1996 Approval
P-103B	47	FH850						0.15				These values were approved in the February 26, 1996 Approval
P-119B	67	FH858						0.69				These values were approved in the February 26, 1996 Approval
WT-202A	115	IM420	XX					8				These values were approved in the February 26, 1996 Approval
WT-208A	122	IM427	XX				410					These values were approved in the February 26, 1996 Approval
WT-201A	114	BX903	XX				360					These values were approved in the February 26, 1996 Approval**

Subtitle D Wells are in **Bold**

* An ACL will be calculated in the future if background sampling indicates an ACL is necessary
X well to be abandoned, XX well was previously abandoned

**An April 3, 1996 letter corrects the 360 mg/L chloride ACL and assigns it to WT-201A rather than WT-204A as it appears in the table in the February 26, 1996 document

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
3911 Fish Hatchery Road
Fitchburg WI 53711-5397

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
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October 26, 2012

John Welch
Dane County Landfill
1919 Alliant Energy Center Way
Madison, WI 53713

FID # 113127300
Dane County
SW/CORR

**Subject: Proposed Dane County Rodefild Landfill Eastern Expansion -- Alternative
Geotechnical Program for Feasibility Study**

Dear Mr. Welch:

We have reviewed the proposed alternative geotechnical investigation program for the proposed eastern expansion at the Dane County Rodefild Landfill. The program was detailed in a TRC, Inc. document dated October 12, 2012 and received by the Department on October 15, 2012. The Department requested additional information via email on October 22, 2012. Addendum Number 1 of the proposed alternative geotechnical investigation program was submitted on October 25, 2012 via email.

Based on our review, we are approving your proposed geotechnical program with a few modifications. Our comments on the proposed program and rationale for this approval are provided below. Please include a copy of this letter in the feasibility study for the proposed expansion.

The proposed program would utilize information from a number of previously drilled soil borings to characterize the proposed expansion area. These previous borings are both adjacent to and within the proposed landfill expansion footprint. The proposed expansion area would be characterized by 11 previous borings, 2 of which are within the proposed overlay portion of the eastern expansion limits of waste, 3 of which are within the proposed limits of waste for the horizontal expansion area, and 6 of which are outside the limits of waste and in proximity to the proposed expansion. The proposed expansion will be further characterized by 7 additional proposed borings located in the proposed eastern expansion area limits of waste to the east of the existing limits of waste for the Dane County Landfill and 3 additional proposed borings located outside the proposed limits of waste locations to the east, north, and south of the proposed expansion. Some of the additional boring will be converted to monitoring wells. The additional borings and monitoring wells would be contracted and observed by TRC, Inc., to characterize the area not covered in previous work. The combination of existing and new borings and wells would provide subgrade geotechnical information from 21 locations, which meets the basic code requirement for a 24-acre site.

The proposed program provides monitoring wells around the perimeter of the proposed expansion footprint. Two piezometers and 2 water table wells are proposed within the proposed horizontal expansion footprint. These wells would provide groundwater quality data until

abandoned for liner construction. The eastern expansion and the existing Rodefild Landfill would become one contiguous landfill at that time.

The Department does not anticipate granting an exemption to the requirements of NR 512.11(2), Wis. Adm. Code, to reduce the dimensions of the required cross sections.

The Department does not anticipate granting an exemption to the requirements of NR 512.09(6), Wis. Adm. Code, to reduce the required soil sampling for consolidation testing.

The TRC, Inc., submittal requested a number of exemptions to NR 512 to accommodate the use of existing information in this alternative geotechnical investigation program. Our acceptance of your proposed program encompasses the areas of the code from which exemptions were requested. Formal approval of exemption requests would occur in the Department's feasibility determination.

The Department reserves the right to require additional geotechnical information if necessary to fully evaluate subsurface conditions at the site and to complete our review of your feasibility study. If major changes are made to the proposed footprint during the course of design development, you should work with the Department to determine if additional geotechnical investigation will be needed.

Please notify Adam Hogan of my staff prior to commencing drilling. Please do not hesitate to contact Adam at (608) 275-3292 if you have any questions about this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "Dennis Mack", written in a cursive style.

Dennis Mack, P.E.
Waste Management Team Supervisor
South Central Region

cc: Ann Bekta – Janesville
Bob Grefe – WA/5
Brad Wolbert – WA/5
John Oswald, P.G., 708 Heartland Trail, Suite 3000, Madison, WI 53717