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COVER LETTER

DTE

December 30, 2025

Bushnell Township
2983 E. Boyer
Fenwick, MI 48834

Re: Fish Creek BESS– Township Permit Application

DTE Electric Company (DTE) is pleased to submit its application for a township permit for a battery energy storage system proposed for the Fish Creek Solar substation. In support of its application, DTE submits the following:

- Township Permit Application
- Appendix A: Site plan (11 x 17 and full-size print sets)
- Appendix B: List of Governmental Permits
- Appendix C: Visual Renderings
  Appendix D: Emergency Response Plan Summary
- Appendix E: Decommissioning Plan
- Appendix F: Complaint Resolution
- Appendix G: Sound Modeling Report
- Appendix H: Indemnity Agreement
- Appendix I: BESS Product Details

Included with the application is a check in the amount of $500 to cover the application fee, a check in the amount of $10,000 to fund an escrow account that will be used to reimburse the Township for third-party costs incurred in connection with the review of the application, and a signed escrow agreement.

If you have questions about the application, please contact DTE's Senior Site Manager, Jeff Haines at (440) 477-7738 or jeffrey.haines@dteenergy.com.

Sincerely,

Matthew Wagner

Manager of Renewable Energy Development

DTE

SPECIAL LAND USE APPLICATION

Township Hall
2983 E. Boyer
Fenwick, MI 48834

Township Clerk
175 E Fenwick Rd
Fenwick, MI 48843
989-248-3349

BUSHNELL TOWNSHIP
APPLICATION FOR OFF-SITE BATTERY STORAGE FACILITY PERMIT / MODIFICATION

1. *Applicant and Operator Information.*

Applicant Name: DTE Electric Company
Applicant Address: One Energy Plaza, Detroit, Michigan 48226
Authorized Representative: Matthew Wagner, Manager, Renewable Energy Development
Telephone _____ Email: matthew.j.wagner@dteenergy.com

Operator Name: DTE Electric Company
Operator Address: One Energy Plaza, Detroit, Michigan 48226
Authorized Representative: _____
Telephone _____ Email: _____

Parcel No. 59-003-003-001-00	Property Owner: Onrust Land, LLC
Parcel No. 59-003-003-002-00	Property Owner: DTE Electric Company

2. *Description of the off-site battery storage facility, including proposed megawatts of storage capacity, proposed full-load generating output capacity, type of battery technology, manufacturer equipment specifications, and any augmentation plan.*

The proposed Fish Creek BESS project consists of 120 battery energy storage system (BESS) units located on land in Section 3 of Bushnell Township ("Project"). The Project site is an approximately 7-acre area adjacent to the Fish Creek Solar project. The Project's total storage capacity will be 132 megawatts (MW), with a full-load generating output capacity of 528 megawatt-hours (MWh). Construction is anticipated to start in the second quarter of 2026 and to be complete in the second quarter of 2027. There are no plans for augmentation at this time.

The following describes the facility components shown on **Sheets C5.2-C5.5** of the site plan attached as **Appendix A**:

a. Battery Energy Storage Equipment

DTE proposes to use 120 BESS units manufactured by LG Energy Solution Vertech (Model #: JF 4HR DC LINK), which utilize lithium iron phosphate (LFP) battery cells. Each BESS unit is designed to be a self-contained system that incorporates the batteries themselves, the liquid cooling system, and the energy management system (EMS). Each BESS unit will be monitored and controlled by way of integrated software. Each BESS unit also incorporates fire detection and alarm systems. Product specifications for the BESS units, including the applicable standards and certifications, are included on **Sheet C5.2 and C5.3 of Appendix A** and separately as **Appendix I**.

b. Electrical Collection System

In addition to the BESS units, the Project will incorporate 30 inverter-transformer skids and 3 auxiliary transformers. The nearby solar modules will generate electricity that can be stored by the BESS units as Direct Current (DC) electricity and released to the electrical grid on demand. *See* **Sheet C5.4 of Appendix A**. The BESS units are designed to store DC electricity. Before the electricity is transmitted from the BESS units to the substation (and on to the electrical grid), it must be converted to Alternating Current (AC). The Project's electrical collection system is designed so that DC current from the BESS units will travel to the inverters where the DC current is converted into AC current. The inverters then step-up the AC electrical voltage to what is referred to as medium voltage, so that the electricity may flow to the substation via underground collection lines.

c. Substation

The Project will be connected to an existing substation constructed for the Fish Creek Solar project. The substation will collect the electrical current and step-up the voltage before delivery to the point of interconnection with the transmission system, typically at 115 kilovolt (kV) or 345 kV. The substation is adjacent to an existing Michigan Electric Transmission Company (METC) transmission facility, and electricity will move from the substation to an METC switchyard (to be constructed), and to the METC transmission facility. The location of the adjacent substation is shown on **Sheet C2.1 of Appendix A**.

d. Internal Access Roads

The Project incorporates 20-foot-wide internal gravel access roads. The gravel access roads are designed to accommodate emergency vehicles in the case of a fire or emergency on site and DTE's routine maintenance of the facility. *See* **Sheet C5.1 of Appendix A**.

3. *If the applicant is not the fee simple owner, an affidavit or evidence of an agreement establishing that the applicant has the requisite permissions of the fee simple property owner to apply for the necessary permits for a township permit.*

DTE is the fee simple owner of Parcel 59-003-003-002-00, and DTE is currently under contract to purchase an approximately 4.6-acre portion of Parcel 59-003-003-001-00 from Onrust Land, LLC for development of the Project. Section 14 of the purchase agreement acknowledges that DTE may seek zoning approvals prior to closing and commits the seller to cooperating in those efforts. Upon request, DTE will provide a letter countersigned by the seller indicating seller consent to this application.

4. *A site plan showing the size and location of all proposed buildings, structures, and equipment including but not limited to transformers by type, inverters by type, and battery storage units by type, required setbacks, parcel lines, access roads, signage, fences, vegetation, drainage systems, easements, public rights-of-way, dwelling units located within 1,000 feet of off-site battery storage facility components, private roads, floodplains, bodies of water, lighting, proposed access routes, gen-tie and collection lines, screening, elevations, and environmentally sensitive areas. The site plan must be drawn to scale and must indicate how the off-site battery storage facility will be connected to the electric grid.*

The Project site plan is attached as **Appendix A**. It is drawn to the scale noted on the drawings.

The site plan is overlaid on high resolution aerial photography that shows existing conditions and references an ALTA survey for parcel lines, easements, and road right-of-way boundaries. The site plan depicts the location of all proposed BESS units, transformers, inverters and associated components, proposed screening, parcel lines, access roads, perimeter fencing, all required setbacks, and lighting. The nearest dwelling unit is 899.67 feet from the perimeter of the Project.

Except for the required safety signage shown on **Sheet C5.1 of Appendix A** that will be located on the perimeter security fence, no signs are proposed. The point of interconnection to the transmission system, the gen-tie line and substation, are located on the parcel owned by DTE (Parcel # 59-003-003-002-00) and are shown on **Sheet C2.0 of Appendix A**.

5. *A grading plan and a stormwater management plan. The applicant shall demonstrate consultation with the county drain commissioner regarding the grading and stormwater management plans.*

See **Sheet C4.0 through 4.2 of Appendix A**, which contain DTE's grading plan and stormwater management plan, respectively. Review of the grading plan and stormwater management plan by the Montcalm County Drain Commissioner, Todd Sattler, is in process. DTE expects to reach an understanding with the Drain Commissioner in January of 2026, before asking the Township for final approval of this application.

6. *A list of governmental permits the applicant requires for the construction, operation, or decommissioning of the off-site battery storage facility and an anticipated timeline for obtaining such permits.*

See **Appendix B**, which contains a list of all governmental permits required for construction, operation, or decommissioning and DTE's timeline for obtaining them.

7. *Renderings depicting views of the off-site battery storage facility, including one view from the public right-of-way.*

See **Appendix C**, which contains typical rendered views of the Project, including two views from the public right-of-way.

8. *Planned security measures to prevent unauthorized access.*

The Project will be surrounded by a perimeter security fence compliant with the National Electric Code (NEC). The fence will have locked gates and completely enclose the Project to restrict unauthorized access.

9. *A transportation plan to be utilized during the construction of the off-site battery storage facility and anticipated construction timeline.*

The construction phases of a battery storage facility do not require intersection improvements to accommodate the delivery of oversized loads, which in turn minimizes road wear and tear.

All deliveries of equipment and materials, and access to the site by construction personnel, will be via Condensery Road, a paved road, Condensery Road was the transportation route utilized

during construction of the substation. Construction is anticipated to start in the second quarter of 2026 and to be complete in the second quarter of 2027.

10. *An emergency and fire response plan and demonstrated consultation with local emergency responders.*

Appendix D contains a summary of DTE's emergency response plan. A letter demonstrating consultation with Ed Lingeman, Fire Chief of the Sheridan Community Fire Department, will be provided prior to the start of construction.

11. *A proposed agreement to decommission the off-site battery storage facility that includes removal of all structures, fencing, equipment, foundations, footings, any debris, and restoration of the land and ground cover vegetation within a specified period of the use being discontinued, together with an engineer's estimate of the cost of decommissioning, and the proposed financial security in an amount not less than the estimated decommissioning of the facility.*

See **Appendix E**, which contains a decommissioning plan and estimate of the associated costs prepared by Bowman Consulting Group, Ltd. The decommissioning plan contemplates that all components of the battery storage facility, including overhead and shallow underground cables, equipment pads and foundations, portions of the access road, gravel pad areas, fencing, light poles, and ancillary equipment will be removed upon decommissioning. Once complete, topsoil and permanent vegetation will be established.

DTE proposes entering into a decommissioning agreement with the Township, as a means of obligating DTE to follow its proposed decommissioning plan. DTE proposes entering into a decommissioning agreement that follows the form utilized for Fish Creek Solar. DTE proposes delivering a decommissioning agreement and surety bond following approval of the Township permit, in accordance with Section 8.6 of Ordinance 2025-1118. DTE proposes that the decommissioning surety bond be in an amount equal to the decommissioning estimate provided to the Township and for the proposed decommissioning agreement to include a provision providing for periodic review and adjustment of the decommissioning bond amount.

12. *Description of a proposed process for resolving complaints from nearby residents concerning construction or operation of the off-site battery storage facility.*

Appendix F contains DTE's proposed complaint resolution process. As part of its proposed complaint resolution process, DTE will make a complaint resolution form available for distribution to Township residents.

13. *Other information specified in the township approved application:*

Section 7.2 of Ordinance 2025-1118 requires that the off-site battery storage facility not generate sound pressure levels in excess of 55 dBA Leq (1 hour) as measured at the property line of any parcel that is not primarily dedicated to the operation of the off-site battery storage facility or any parcel that, at the time of application, is not primarily dedicated to the operation of equipment or facilities for producing, generating, transmitting, delivering or furnishing gas or electricity for the production of light, heat or power to or for the public for compensation. Section 7.2 also requires a sound modeling report using the A-weighted scale as designed by the American

National Standards Institute. Attached as **Appendix G** is a sound modeling report demonstrating that the Project satisfies the requirements of Section 7.2.

Section 7.3 of Ordinance 2025-1118 requires that an off-site battery storage facility be constructed and operated with the latest addition of NFPA 855: Standard for the Installation of Stationary Energy Storage Systems at the time of application. Compliance includes that all system components and equipment shall be listed by a Nationally Recognized Testing Laboratory to UL 9540 (Standard for Energy Storage Systems and Equipment) and that Battery Energy Storage Systems are subject to UL 9540A (Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems), as applicable. The specifications for the BESS units and inverters selected for the Project satisfy NFPA and UL requirements, as detailed on **Sheet C5.2 of Appendix A**, and the equipment will be installed per the manufacturers' instructions. The site plan attached as **Appendix A** shows that the Project complies with the dimensional and site requirements of NFPA 855.

Section 7.4 of Ordinance 2025-1118 requires that lighting be down shielded to avoid casting light onto adjacent properties. As shown on **Sheet C5.2 of Appendix A**, all planned lighting for the facility is down shielded.

Section 7.5 of Ordinance 2025-1118 requires that the off-site battery storage facility must have a security fence around its perimeter that complies with applicable state and federal codes. The National Electric Code (NEC) requires the facility be surrounded by a minimum 7-foot fence. As depicted on **Sheet C5.0 of Appendix A,** DTE plans to install a 7-foot perimeter security fence with 1-foot barbed wire in compliance with the NEC. The fence will be chain-link with locked gates, and it will completely enclose the Project.

Section 7.6 of Ordinance 2025-1118 requires that a battery energy storage system be screened in a manner that obscures views of the battery energy system from adjacent properties, obscures views of the battery energy system from public road rights-of-way and promotes aesthetic compatibility with the surrounding area. DTE is not proposing any screening because the project is located behind the existing substation and is more than 500 feet from the nearest public road right-of-way and 899 feet from the nearest dwelling unit.

Section 7.8 of Ordinance 2025-1118 requires to the extent feasible, unless otherwise required by the State of Michigan or federal agency having jurisdiction, all collection lines, wires, conduits, cables, and gen-tie lines must be located underground. Cabling between BESS units and inverters may be located underground or will otherwise run through above-ground wire management systems that securely route and protect cables. Lines running from the Project to the adjacent substation will be located underground.

Section 7.9 of Ordinance 2025-1118 provides that an off-site battery storage facility may not commence commercial operation until it complies with applicable state and federal environmental laws, including, but not limited to, the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, MCL 324.101 to 324.90106. As shown by the list of required permits in **Appendix B**, DTE plans to address all requirements of applicable legal requirements.

Section 9.3 of Ordinance 2025-1118 provides that a self-insured township permit holder may, in lieu of compliance with the insurance provisions set forth in Section 9.1 and 9.2 of Ordinance 2025-1118, may enter into an indemnification agreement with the Township. DTE's proposed form of indemnification agreement with minimum coverages meeting the requirements of Section 9.1 and 9.2 of Ordinance 2025-1118 is attached hereto as **Appendix H**.

14. Financial Requirements.

(a) Application fee in the amount of $500.00.

(b) Escrow deposit in the amount of $10,000.00.

Applicant's signature_____ Date _____
Matthew Wagner
Title: Manager, Renewable Energy Development

* ONLY COMPLETE APPLICATIONS WILL BE ACCEPTED*
APPLICATIONS SHOULD BE RETURNED TO THE TOWNSHIP CLERK

(For office use only)

Date application filed: _____
Date application fee paid: _____
Escrow deposit date: _____
Date presented to the Township Board: _____
Date of public hearing: _____
Date of permit determination: _____
Approved: ____
Denied: ____
Date decommissioning agreement signed: _____
Date of decommissioning financial security filed: _____
Date indemnity agreement signed: _____
Date permit issued: _____

Notes:

DTE

APPENDIX A: SITE PLAN

DTE ELECTRIC COMPANY
FISH CREEK BATTERY ENERGY STORAGE SYSTEM
BESS PERMIT PLAN SET

SITE DATA

1. PROPERTY OWNER
DTE ELECTRIC COMPANY
ONE ENERGY PLAZA
DETROIT, MI 48226

SITE MANAGER: JEFF HAINES
EMAIL: jeffrey.haines@dteenergy.com

PROJECT MANAGER: LANCE SCHMIDT
EMAIL: lance.schmidt@dteenergy.com

2. CONTRACTOR
J. RANCK ELECTRIC, INC.
1993 GOVER PARKWAY
MT PLEASANT, MI 48858
PHONE: (800) 792-3822
CONTACT: RYAN WALWORTH
EMAIL: rwalworth@jranck.com

3. ENGINEER
BOWMAN
947 MYERS STREET, SUITE B
RICHMOND, VA 23230
PHONE: (804) 616-3240
CONTACT: TIFFANY WOODWARD
EMAIL: tiffany.woodward@bowman.com

4. SURVEYOR
ELEVATION DATA IS FROM A TOPOGRAPHIC SURVEY PERFORMED BY SURVEYING SOLUTIONS, INC. (SSI) DATED SEPTEMBER 11, 2025.

5. SITE ADDRESS
3566 E CONDENSERY ROAD
SHERIDAN, MI 48884

6. PROJECT COORDINATES
N 43.204137, 85.001067 W

7. ACREAGE
LOD AREA = 8.47 AC

8. HORIZONTAL DATUM:
NAD83 MICHIGAN STATE PLANES,
SOUTH ZONE, INTERNATIONAL FOOT (MI83-SIF)

9. VERTICAL DATUM:
NAVD 1988

10. FEMA DETAILS:
FEMA MAPPING IS NOT AVAILABLE IN THE PROJECT LOCATION.

11. PROPERTY ID
PER THE ALTA BY ATWELL, DATED 05/21/2024 AND THE ONRUST BESS EXHIBIT DATED 10/07/2025:
59-003-003-002-00,
59-003-003-001-00 PARCEL B

PARCEL ID 59-003-003-002-00 LEGAL DESCRIPTION:
THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 3, TOWN 9 NORTH, RANGE 6 WEST;

EXCEPTING THEREFROM

2 ACRES, MORE OR LESS, COMMENCING AT THE NORTHWEST CORNER OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER; THENCE EAST 8 RODS; THENCE SOUTH 40 RODS; THENCE WEST 8 RODS; THENCE NORTH 40 RODS TO THE PLACE OF BEGINNING, BUSHNELL TOWNSHIP, MONTCALM COUNTY, MICHIGAN.

ALSO DESCRIBED AS:

A PARCEL OF LAND SITUATED IN THE TOWNSHIP OF BUSHNELL, COUNTY OF MONTCALM, STATE OF MICHIGAN AND DESCRIBED AS FOLLOWS TO-WIT:

PART OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 3, TOWNSHIP 9 NORTH, RANGE 6 WEST, DESCRIBED AS COMMENCING AT THE NORTH QUARTER CORNER OF SAID SECTION 3 ON THE STANDARD TOWNSHIP LINE; THENCE SOUTH 89° 49' 59" EAST 3.37 FEET ALONG SAID STANDARD TOWNSHIP LINE TO THE SOUTH QUARTER CORNER SECTION OF SECTION 34, TOWNSHIP 10 NORTH, RANGE 6 WEST; THENCE SOUTH 89° / 59' 45" EAST 128.63 FEET ALONG SAID STANDARD TOWNSHIP LINE TO THE POINT OF BEGINNING; THENCE CONTINUING SOUTH 89° 49' 45" EAST 646.97 FEET ALONG SAID STANDARD TOWNSHIP LINE; THENCE SOUTH 02° 25' 27" WEST 523.29 FEET; THENCE SOUTH 01° / 00' 06" WEST 574.26 FEET; THENCE SOUTH 05° 29' 33" WEST 76.23 FEET; THENCE SOUTH 13° 51' 55" EAST 107.28 FEET TO A POINT ON THE NORTH 1/8 LINE OF SAID SECTION 3; THENCE NORTH 89° 28' 22" WEST 785.65 FEET ALONG SAID 1/8 LINE TO A POINT OF THE NORTH-SOUTH QUARTER LINE OF SAID SECTION 3; THENCE NORTH 00° / 55' 13" EAST 607.72 FEET ALONG SAID NORTH-SOUTH QUARTER LINE; THENCE SOUTH 89° 49' 45" EAST 132.00 FEET; THENCE NORTH 00° 55' 13" EAST 660.00 FEET TO THE POINT OF BEGINNING, CONTAINING 20.44 ACRES OF LAND MORE OR LESS. SUBJECT TO RIGHT OF WAY FOR CONDENSERY ROAD AND ALL EASEMENTS, RESTRICTIONS, AND RESERVATIONS OF RECORD.

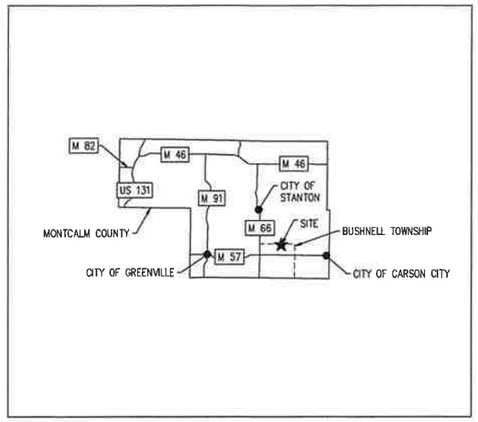
AND

A PARCEL OF LAND SITUATED IN THE TOWNSHIP OF BUSHNELL, COUNTY OF MONTCALM, STATE OF MICHIGAN AND DESCRIBED AS FOLLOWS TO-WIT:

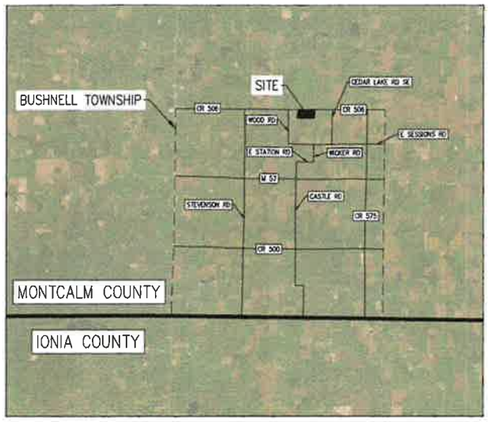
PART OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 3, TOWNSHIP 9 NORTH, RANGE 6 WEST, DESCRIBED AS COMMENCING AT THE NORTH QUARTER CORNER OF SAID SECTION 3 ON THE STANDARD TOWNSHIP LINE; THENCE SOUTH 89° / 49' 59" EAST 3.37 FEET ALONG SAID STANDARD TOWNSHIP LINE TO THE SOUTH QUARTER CORNER OF SECTION 34, TOWNSHIP 10 NORTH, RANGE 6 WEST; THENCE SOUTH 89° 59' 45" EAST 775.60 FEET ALONG SAID STANDARD TOWNSHIP LINE TO THE POINT OF BEGINNING; THENCE CONTINUING SOUTH 89° 49' 45" EAST 531.29 FEET ALONG SAID TOWNSHIP LINE TO A POINT ON THE EAST 1/8 LINE OF SAID SECTION 3; THENCE SOUTH 01° 23' 29" WEST 1283.55 FEET ALONG SAID EAST 1/8 LINE TO A POINT ON THE NORTH 1/8 LINE OF SAID SECTION 3; THENCE NORTH 89° 08' 22" WEST 513.94 FEET ALONG SAID NORTH 1/8 LINE; THENCE NORTH 13° 51' 55" WEST 107.28 FEET; THENCE NORTH 05° 29' 33" EAST 76.23 FEET; THENCE NORTH 01° / 00' 06" EAST 574.26 FEET; THENCE NORTH 02° / 25' 27" EAST 523.29 FEET TO THE POINT OF BEGINNING, CONTAINING 15.77 ACRES OF LAND MORE OR LESS. SUBJECT TO RIGHT OF WAY FOR CONDENSERY ROAD AND ALL EASEMENTS, RESTRICTIONS, AND RESERVATIONS OF RECORD.

PARCEL ID 59-003-003-001-00, PARCEL B LEGAL DESCRIPTION:
A PARCEL OF LAND SITUATED IN THE TOWNSHIP OF BUSHNELL, COUNTY OF MONTCALM, STATE OF MICHIGAN, AND DESCRIBED AS FOLLOWS, TO – WIT:

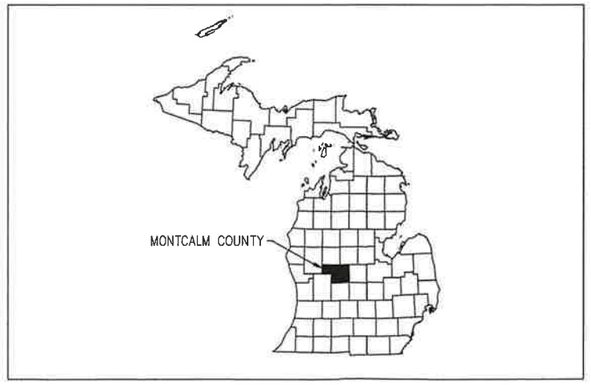
THAT PART OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 3, TOWN 9 NORTH, RANGE 6 WEST, BUSHNELL TOWNSHIP, MONTCALM COUNTY, MICHIGAN, DESCRIBED AS COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 3; THENCE N 89° 49' 45"W 1310.25 FEET ALONG THE NORTH LINE OF SAID SECTION 3 TO THE EAST EIGHTH LINE OF SAID SECTION 3; THENCE S 01° 23' 29"W 1106.81 FEET ALONG SAID EAST EIGHTH LINE TO THE POINT OF BEGINNING; THENCE N 90° 00' 00"E 1081.33 FEET; THENCE S 01° 51' 12"W 193.00 FEET TO A POINT ON THE NORTH EIGHTH LINE OF SAID SECTION 3; THENCE N 89° 08' 22"W 1079.50 FEET ALONG SAID NORTH EIGHTH LINE TO THE EAST EIGHTH LINE OF SAID SECTION 3; THENCE N 01° 23' 29"E 176.74 FEET ALONG SAID EAST EIGHTH LINE TO THE POINT OF BEGINNING. CONTAINING 4.58 ACRES OF LAND, MORE OR LESS. SUBJECT TO ALL EASEMENTS, RESTRICTIONS, AND RESERVATIONS OF RECORD.



VICINITY MAP
N.T.S.



SITE VICINITY MAP
N.T.S.



LOCATION MAP
N.T.S.

Sheet List Table	
SHEET NUMBER	SHEET TITLE
C1.0	COVER SHEET
C2.0	OVERALL SITE PLAN
C2.1	SITE PLAN
C3.0	GRADING PLAN
C4.0	PRE-DEVELOPMENT DRAINAGE AREA MAP
C4.1	POST-DEVELOPMENT DRAINAGE AREA MAP
C4.2	STORMWATER MANAGEMENT CALCULATIONS
C5.0	CONSTRUCTION DETAILS
C5.1	CONSTRUCTION DETAILS
C5.2	EQUIPMENT DETAILS
C5.3	BESS CONTAINER DETAILS
C5.4	INVERTER TRANSFORMER SKID DETAILS
C5.5	AUX DETAILS

Bowman
947 MYERS STREET | SUITE B
RICHMOND, VA 23230
Phone: (804) 616-3240
www.bowman.com

J. RANCK ELECTRIC, INC.
J. RANCK ELECTRIC, INC.
1993 GOVER PKWY
MOUNT PLEASANT, MI 48858

SEAL:
JEFF RUPPERT LICENSED 6201056767 STATE OF MICHIGAN PROFESSIONAL ENGINEER

PROJECT ADDRESS:
FISH CREEK BATTERY ENERGY STORAGE SYSTEM
BUSHNELL TOWNSHIP
MONTCALM COUNTY, MI

Know what's below. Call before you dig.

DRAWING NORTH ARROW (IF APPLICABLE):

DRAWING SCALE (IF APPLICABLE):

ISSUE	DATE	DESCRIPTION
A	2025-12-22	60% PERMIT PLAN SET

NOT FOR CONSTRUCTION

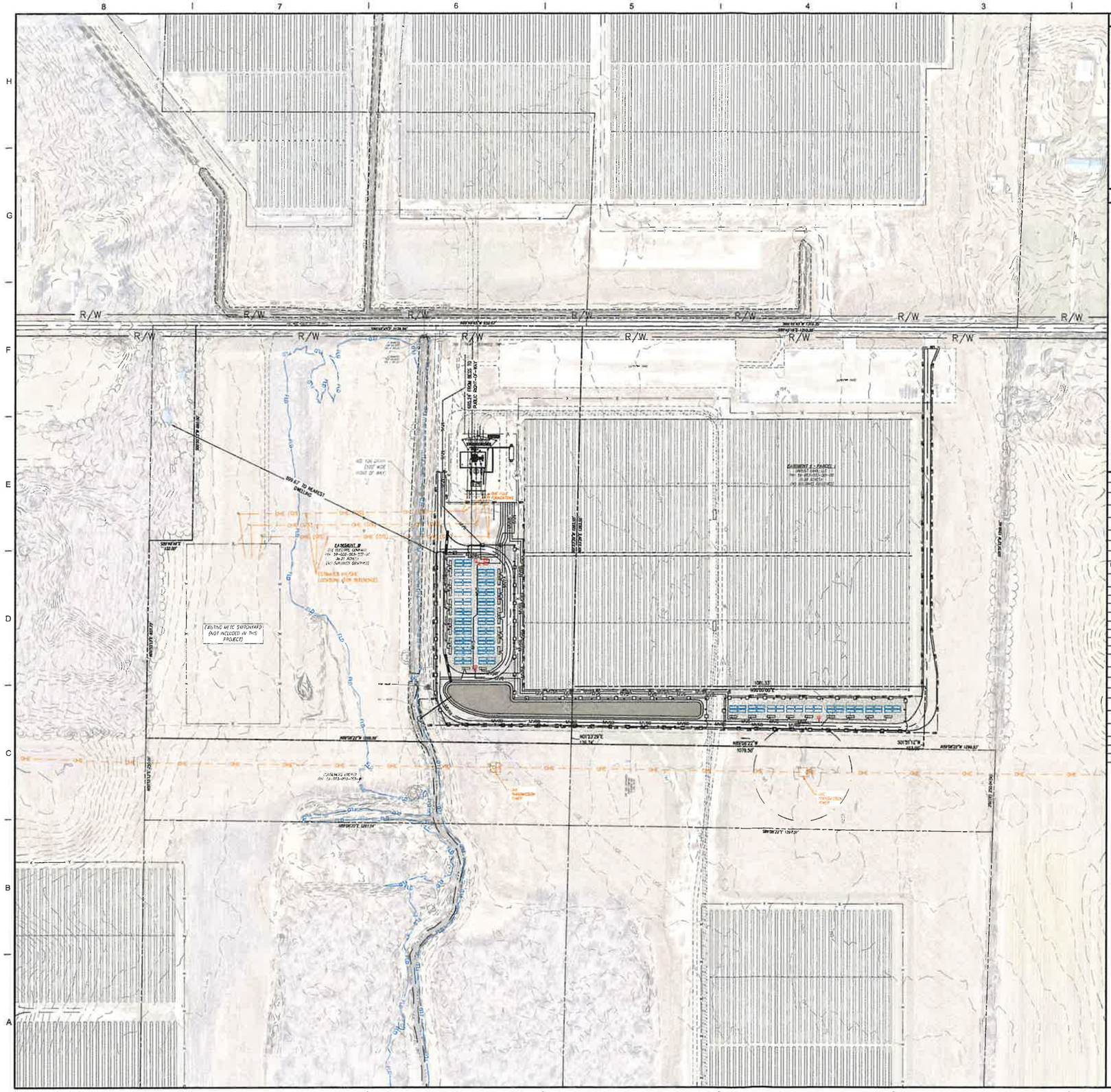
APPROVED BY:
CHECKED BY:
DESIGNED BY:
DRAWN BY:

DTE

DRAWING NAME:
COVER SHEET

DRAWING NO: C1.0
REV: A

FILE: [illegible]



SITE LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACK
- PERIMETER SECURITY FENCE
- ACCESS ROAD
- DITCH
- STREAM
- FLD STATE-REGULATED FLOODPLAIN
- EXISTING GRAVEL ROAD
- 000 EXISTING MAJOR CONTOUR
- 000 EXISTING MINOR CONTOUR
- EXISTING OHE (APPROXIMATE LOCATION)
- EXISTING OHE (FIELD VERIFIED)
- TREE
- BOLLARD
- LIGHT FIXTURE
- BESS UNIT
- PCS UNIT
- AUX. EQUIPMENT

DESIGN ASSUMPTIONS

GENERAL:

1. EXISTING SITE DATA IS A COMBINATION OF KMZ/GIS DATA, TOPOGRAPHIC SURVEY DATA PROVIDED BY THE CLIENT DATED 09/12/2025, 09/26/2025, AND 10/30/2025, EASEMENT EXHIBITS PERFORMED BY ATWELL AND DATED 04/10/2024, AND ALTA/NSPS LAND TITLE SURVEY PERFORMED BY ATWELL AND DATED 05/29/2024.
2. NO ENVIRONMENTAL IMPACTS ARE ANTICIPATED BY THIS PROJECT. NO ONSITE AREAS OF ENVIRONMENTAL IMPORTANCE HAVE BEEN IDENTIFIED THAT WILL BE IMPACTED OR LEAD TO ADDITIONAL ENVIRONMENTAL PERMITTING PER RFI RESPONSE #6.
3. PROPOSED SETBACKS ARE IN COMPLIANCE WITH THE BUSHNELL TOWNSHIP OFF-SITE BATTERY STORAGE FACILITY ADOPTED ORDINANCE.
4. EXISTING WATER LINES IN THE PROJECT'S BESS AREA ARE ASSUMED ABLE TO BE CAPPED AND/OR DECOMMISSIONED. WATER LINE LOCATIONS ARE FROM GPR SCANNING PERFORMED BY SSI AND DATED 10/30/2025.
5. MAXIMUM TIE-DOWN GRADING IN THE PROJECT IS SLOPED AT 3H:1V.
6. SWM:
   - 6.1. IT IS ASSUMED PER THE CLIENT MEETING ON 08/15/2025 THAT STORMWATER QUALITY REGULATIONS ARE NOT APPLICABLE TO THIS PROJECT.
   - 6.2. STORMWATER QUANTITY DESIGN IS BASED ON MONTCALM COUNTY SITE DEVELOPMENT RULES AND THE MONTCALM COUNTY RATIONAL METHOD DETENTION BASIN SIZING TOOL.
   - 6.3. SWM CALCULATIONS ACCOUNT FOR THE VOLUME AND DISCHARGE VALUES SPECIFIED IN THE FISH CREEK SOLAR PARK IFC PLANS BY TETRA TECH DATED 06/03/2024.
   - 6.4. PER THE LOCAL ORDINANCE, 0.5' OF FREEBOARD IS REQUIRED FROM THE 100-YR STORM WATER SURFACE ELEVATION TO THE TOP OF POND.
   - 6.5. THE DOWNSTREAM INVERT OF THE EXISTING OUTFALL TO DRAIN NO. 108 WILL REMAIN. AS SUCH, NO ADDITIONAL EGLE PERMITTING IS ANTICIPATED.
   - 6.6. IT IS ASSUMED THAT ALL BESS AND PCS UNITS WILL HAVE DRIVEN PILE FOUNDATIONS. IT IS ASSUMED THAT AUX. EQUIPMENT WILL BE SET ON CONCRETE PADS.
   - 6.7. THE EMERGENCY SPILLWAY IS PRELIMINARILY DESIGNED TO CONVEY THE 100-YEAR STORM EVENT. FINAL DESIGN WILL BE PROVIDED AT IFC.
   - 6.8. IMPERVIOUS AREA FROM SOLAR PILES IN THE PV AREA WAS CALCULATED WITH AN ASSUMED VALUE OF 0.01 ACRES OF IMPERVIOUS AREA PER ACRE OF ARRAY AREA.
7. EXISTING UTILITY POLES IN THE PROJECT AREA WILL REMAIN UNDISTURBED.
8. CONSTRUCTION LAYDOWN AND PARKING AREAS SHOWN IN THE FISH CREEK SOLAR PARK IFC PLANS AND CLIENT-PROVIDED KMZS ARE ASSUMED TO REMAIN IMPERVIOUS PERMANENTLY.
9. PUMP STATION ACCESS EASEMENT LOCATION IS PER THE ONTRUST EASEMENT CAD DRAWINGS BY ATWELL DATED 04/10/2024.
10. LIGHTING MUST BE DOWN SHIELDED TO REFLECT LIGHT AWAY FROM ADJACENT PROPERTIES.

TOWNSHIP REQUIRED SETBACKS

DESCRIPTION	REQUIRED	PROVIDED
PUBLIC RIGHT-OF-WAY SETBACK	50'	50' MINIMUM
PROPERTY BOUNDARY SETBACK	50'	50'
DWELLING SETBACK	300'	300' MINIMUM

PROJECT SETBACKS

DESCRIPTION	REQUIRED	PROVIDED
EDGE OF ROAD TO TOP OF POND	5'	5'
EDGE OF ROAD TO EQUIPMENT	10' DESIRED, 5' MINIMUM	10' (EXCEPT WHERE NOTED)
FENCE TO EX. FENCE	5'	5'
FENCE TO EQUIPMENT	16'	16'
PV TO EQUIPMENT (N-S)	40'	41.7'
PV TO EQUIPMENT (E-W)	65'	65'
PCS TO PCS	20'	20'
PCS TO BESS	10'	10'
BESS TO BESS	3'	3'
OHE TO FENCE	25'	25'
AUX. EQUIPMENT TO EQUIPMENT	10'	10'

PROJECT SLOPE TABLE

DESCRIPTION	MAX SLOPE	PROVIDED SLOPE
BESS AREA	1%	0.24%
ROAD (LONGITUDINAL)	8%	4.5%
ROAD (CROSS)	2%	2%
TIE-DOWN SLOPES	3:1	3:1
POND SIDE SLOPES	3:1	3:1
POND BOTTOM	0	0

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J. RANCK ELECTRIC, INC.
1993 GOVER PKWY
MOUNT PLEASANT, MI 48858

SEAL:

PROJECT ADDRESS:
FISH CREEK BATTERY ENERGY STORAGE SYSTEM
BUSHNELL TOWNSHIP
MONTCALM COUNTY, MI

811 Know what's below. Call before you dig.

DRAWING NORTH ARROW (IF APPLICABLE):

DRAWING SCALE (IF APPLICABLE):
0 100' 200'
GRAPHIC SCALE
1" = 100'

ISSUE	DATE	DESCRIPTION
A	2025-12-22	BESS PERMIT PLAN SET

HOT FOR CONSTRUCTION

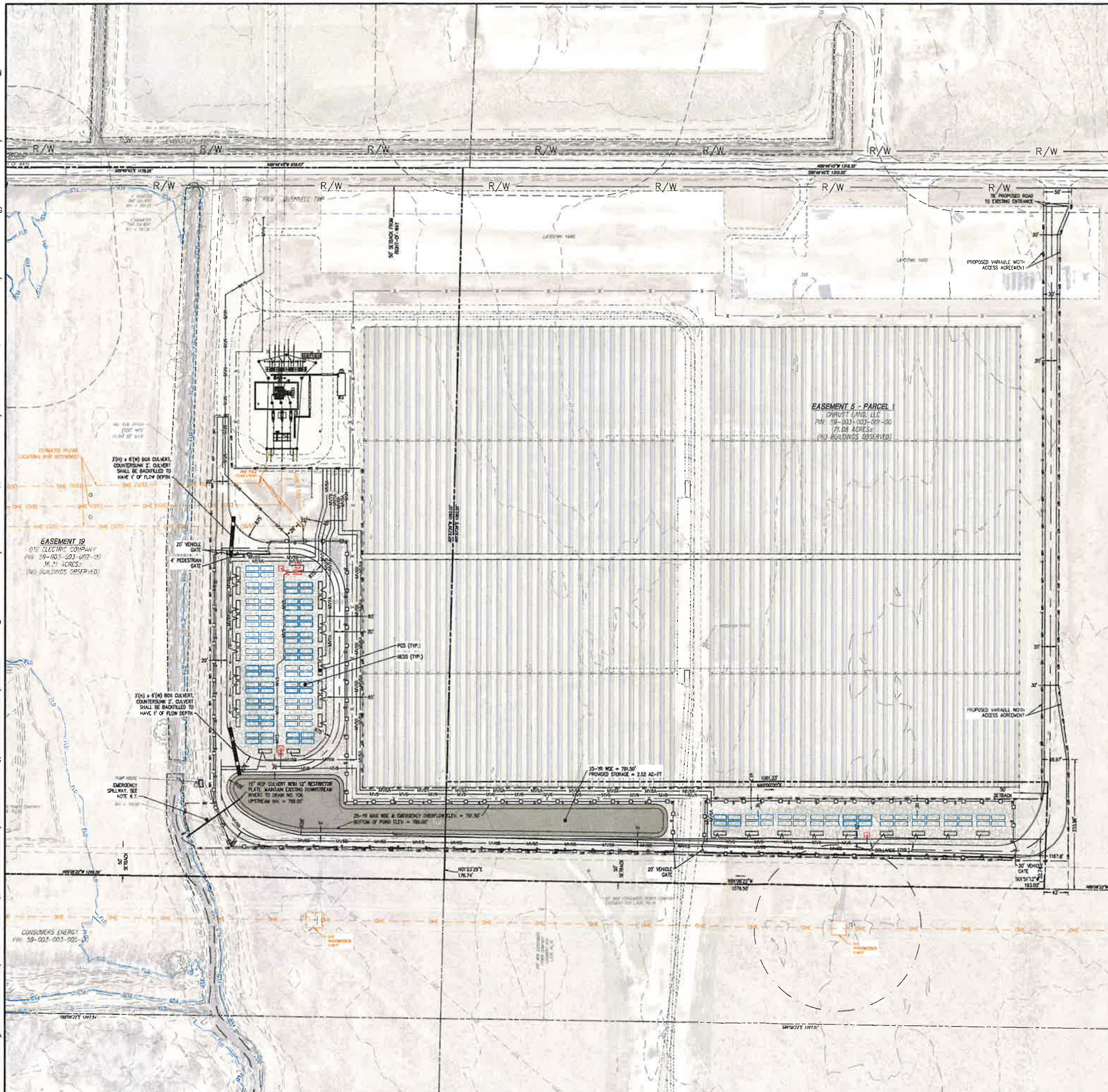
APPROVED BY:
CHECKED BY:
DESIGNED BY:
DRAWN BY:

DTE

DRAWING NAME:
OVERALL SITE PLAN

DRAWING NO: C2.0
REV. A

FILE:



SITE LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACK
- PERIMETER SECURITY FENCE
- ACCESS ROAD
- DITCH
- STREAM
- STATE-REGULATED FLOODPLAIN
- EXISTING GRAVEL ROAD
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING OHE (APPROXIMATE LOCATION)
- EXISTING OHE (FIELD VERIFIED)
- TREE
- BOLLARD
- LIGHT FIXTURE
- BESS UNIT
- PCS UNIT
- AUX. EQUIPMENT

DESIGN ASSUMPTIONS

CIVIL:

1. EXISTING SITE DATA IS A COMBINATION OF KMZ/GIS DATA, TOPOGRAPHIC SURVEY DATA PROVIDED BY THE CLIENT DATED 09/12/2025, 09/26/2025, AND 10/30/2025, EASEMENT EXHIBITS PERFORMED BY ATWELL AND DATED 04/10/2024, AND ALTA/NSPS LAND TITLE SURVEY PERFORMED BY ATWELL AND DATED 05/29/2024.
2. NO ENVIRONMENTAL IMPACTS ARE ANTICIPATED BY THIS PROJECT. NO ONSITE AREAS OF ENVIRONMENTAL IMPORTANCE HAVE BEEN IDENTIFIED THAT WILL BE IMPACTED OR LEAD TO ADDITIONAL ENVIRONMENTAL PERMITTING PER RFI RESPONSE #8.
3. PROVIDED SETBACKS ARE IN COMPLIANCE WITH THE BUSHNELL TOWNSHIP OFF-SITE BATTERY STORAGE FACILITY ADOPTED ORDINANCE.
4. EXISTING WATER LINES IN THE PROJECT'S BESS AREA ARE ASSUMED ABLE TO BE CAPPED AND/OR DEMOLISHED. WATER LINE LOCATIONS ARE FROM GPR SCANNING PERFORMED BY SSI AND DATED 10/30/2025.
5. MAXIMUM TIE-DOWN GRADING IN THE PROJECT IS SLOPED AT 3H:1V.
6. SWM:
   - 6.1. IT IS ASSUMED PER THE CLIENT MEETING ON 09/15/2025 THAT STORMWATER QUALITY REGULATIONS ARE NOT APPLICABLE TO THIS PROJECT.
   - 6.2. STORMWATER QUANTITY DESIGN IS BASED ON MONTCALM COUNTY SITE DEVELOPMENT RULES AND THE MONTCALM COUNTY RATIONAL METHOD DETENTION BASIN SIZING TOOL.
   - 6.3. SWM CALCULATIONS ACCOUNT FOR THE VOLUME AND DISCHARGE VALUES SPECIFIED IN THE FISH CREEK SOLAR PARK IFC PLANS BY TETRA TECH DATED 06/03/2024
   - 6.4. PER THE LOCAL ORDINANCE, 0.5' OF FREEBOARD IS REQUIRED FROM THE 100-YR STORM WATER SURFACE ELEVATION TO THE TOP OF POND.
   - 6.5. THE DOWNSTREAM INVERT OF THE EXISTING OUTFALL TO DRAIN NO. 108 WILL REMAIN. AS SUCH, NO ADDITIONAL EGLE PERMITTING IS ANTICIPATED.
   - 6.6. IT IS ASSUMED THAT ALL BESS AND PCS UNITS WILL HAVE DRIVEN PILE FOUNDATIONS. IT IS ASSUMED THAT AUX. EQUIPMENT WILL BE SET ON CONCRETE PADS.
   - 6.7. THE EMERGENCY SPILLWAY IS PRELIMINARILY DESIGNED TO CONVEY THE 100-YEAR STORM EVENT. FINAL DESIGN WILL BE PROVIDED AT 60%.
   - 6.8. IMPERVIOUS AREA FROM SOLAR PILES IN THE PV AREA WAS CALCULATED WITH AN ASSUMED VALUE OF 0.01 ACRES OF IMPERVIOUS AREA PER ACRE OF ARRAY AREA.
7. EXISTING UTILITY POLES IN THE PROJECT AREA WILL REMAIN UNDISTURBED.
8. CONSTRUCTION LAYDOWN AND PARKING AREAS SHOWN IN THE FISH CREEK SOLAR PARK IFC PLANS AND CLIENT-PROVIDED KMZS ARE ASSUMED TO REMAIN IMPERVIOUS PERMANENTLY.
9. PUMP STATION ACCESS EASEMENT LOCATION IS PER THE ONRUST EASEMENT CAD DRAWINGS BY ATWELL DATED 04/10/2024.
10. LIGHTING MUST BE DOWN SHIELDED TO REFLECT LIGHT AWAY FROM ADJACENT PROPERTIES.

TOWNSHIP REQUIRED SETBACKS

DESCRIPTION	REQUIRED	PROVIDED
PUBLIC RIGHT-OF-WAY SETBACK	50'	50' MINIMUM
PROPERTY BOUNDARY SETBACK	50'	50'
DWELLING SETBACK	300'	300' MINIMUM

PROJECT SETBACKS

DESCRIPTION	REQUIRED	PROVIDED
EDGE OF ROAD TO TOP OF POND	5'	5'
EDGE OF ROAD TO EQUIPMENT	10' DESIRED, 5' MINIMUM	10' (EXCEPT WHERE NOTED)
FENCE TO EX. FENCE	5'	5'
FENCE TO EQUIPMENT	16'	16'
PV TO EQUIPMENT (N-S)	40'	41.7'
PV TO EQUIPMENT (E-W)	65'	65'
PCS TO PCS	20'	20'
PCS TO BESS	10'	10'
BESS TO BESS	3'	3'
OHE TO FENCE	25'	25'
AUX. EQUIPMENT TO EQUIPMENT	10'	10'

PROJECT SLOPE TABLE

DESCRIPTION	MAX SLOPE	PROVIDED SLOPE
BESS AREA	1%	0.24%
ROAD (LONGITUDINAL)	8%	4.5%
ROAD (CROSS)	2%	2%
TIE-DOWN SLOPES	3:1	3:1
POND SIDE SLOPES	3:1	3:1
POND BOTTOM	0	0'

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J. RANCK ELECTRIC, INC.
1993 GOVER PKWY
MOUNT PLEASANT, MI 48858

SEAL: JEFF RUPPERT LICENSED PROFESSIONAL ENGINEER MICHIGAN 6201066767
Digitally signed by Jeff Ruppert, P.E.

PROJECT ADDRESS:
FISH CREEK BATTERY ENERGY STORAGE SYSTEM
BUSHNELL TOWNSHIP
MONTCALM COUNTY, MI

811 Know what's below. Call before you dig.

DRAWING NORTH ARROW (IF APPLICABLE): N

DRAWING SCALE (IF APPLICABLE): 0 60' 120'
GRAPHIC SCALE 1" = 60'

ISSUE	DATE	DESCRIPTION
A	2025-12-22	BESS PERMIT PLAN SET

NOT FOR CONSTRUCTION

APPROVED BY:
CHECKED BY:
DESIGNED BY:
DRAWN BY:

DTE

DRAWING NAME: SITE PLAN

DRAWING NO: C2.1 REV. A

Cut/Fill Report

Generated: 2025-12-18 14:13:21
By user: csembower
Drawing: Q:\CO-PAON-SO\Client Folders\J Ranck 09758 Fish Creek\Engineering\Engineering Plans\Base CAD Files\Q:\CO-PAON-SO\Client Folders\J Ranck 09758 Fish Creek\Engineering\Engineering Plans\Base CAD Files-+200127-01-001 GBASE.dwg

Volume summary

Name	Type	Cut Factor	Fill Factor	2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
EW	full	1.050	1.150	279807.66	7028.19*	4190.08*	2838.11*

Totals

	2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
Total	279807.66	7028.19*	4190.08*	2838.11*

* Value adjusted by cut or fill factor other than 1.0

GRADING AND DRAINAGE LEGEND

- PROPERTY BOUNDARY
- PERIMETER SECURITY FENCE
- ACCESS ROAD
- DITCH
- STREAM
- 597 — EXISTING MAJOR CONTOUR
- 597 — EXISTING MINOR CONTOUR
- 500 — PROPOSED MAJOR CONTOUR
- 502 — PROPOSED MINOR CONTOUR
- TREE
- BOLLARD
- LOD — LIMITS OF DISTURBANCE

EARTHWORK LEGEND

- DEPTH OF CUT GREATER THAN 0.5'
- DEPTH OF FILL GREATER THAN 0.5'
- DEPTH OF CUT OR FILL LESS THAN 0.5'

EASEMENT 19
DTE ELECTRIC COMPANY
PIN: 59-003-003-002-00
36.21 ACRES±
(NO BUILDINGS OBSERVED)

EASEMENT 5 - PARCEL 1
ONWOT LAND, LLC
PIN: 59-003-003-005-00
71.08 ACRES±
(NO BUILDINGS OBSERVED)

CONSUMERS ENERGY
PIN: 59-003-003-025-00

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1993 GOVER PKWY
MOUNT PLEASANT, MI 48858

SEAL:
JEFF RUPPERT LICENSED 6201055767 MICHIGAN PROFESSIONAL ENGINEER

PROJECT ADDRESS:
FISH CREEK BATTERY ENERGY STORAGE SYSTEM
BUSHNELL TOWNSHIP
MONTCALM COUNTY, MI

Know what's below. Call before you dig.

DRAWING NORTH ARROW (IF APPLICABLE):

DRAWING SCALE (IF APPLICABLE):
0 60' 120'
GRAPHIC SCALE
1" = 60'

ISSUE	DATE	DESCRIPTION
A	2025-12-22	90% PERMIT PLAN SET

NOT FOR CONSTRUCTION

APPROVED BY:
CHECKED BY:
DESIGNED BY:
DRAWN BY:

DTE

DRAWING NAME:
GRADING PLAN

DRAWING NO: C3.0
REV. A

FILE: Q:\CO-PAON-SO\CLIENT FOLDERS\J RANCK 09758 FISH CREEK\ENGINEERING\ENGINEERING PLANS\BASE CAD FILES\C3.0 GRADING PLAN.DWG

SWM LEGEND

- PROPERTY BOUNDARY
- PERIMETER SECURITY FENCE
- ACCESS ROAD
- DITCH
- STREAM
- 500 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- 500 PROPOSED MAJOR CONTOUR
- 502 PROPOSED MINOR CONTOUR
- TIME OF CONCENTRATION PATH
- DRAINAGE DIVIDE
- TREE
- HSG A SOILS
- LOD LIMITS OF DISTURBANCE

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J. RANCK ELECTRIC, INC.
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MOUNT PLEASANT, MI 48858

SEAL:

PROJECT ADDRESS:
FISH CREEK BATTERY ENERGY STORAGE SYSTEM
BUSHNELL TOWNSHIP
MONTCALM COUNTY, MI

811 Know what's below. Call before you dig.

DRAWING NORTH ARROW (IF APPLICABLE):

N

DRAWING SCALE (IF APPLICABLE):
0 60' 120'
GRAPHIC SCALE
1" = 60'

A	2025-12-22	[illegible] PERMIT PLAN SET
ISSUE	DATE	DESCRIPTION

NOT FOR CONSTRUCTION

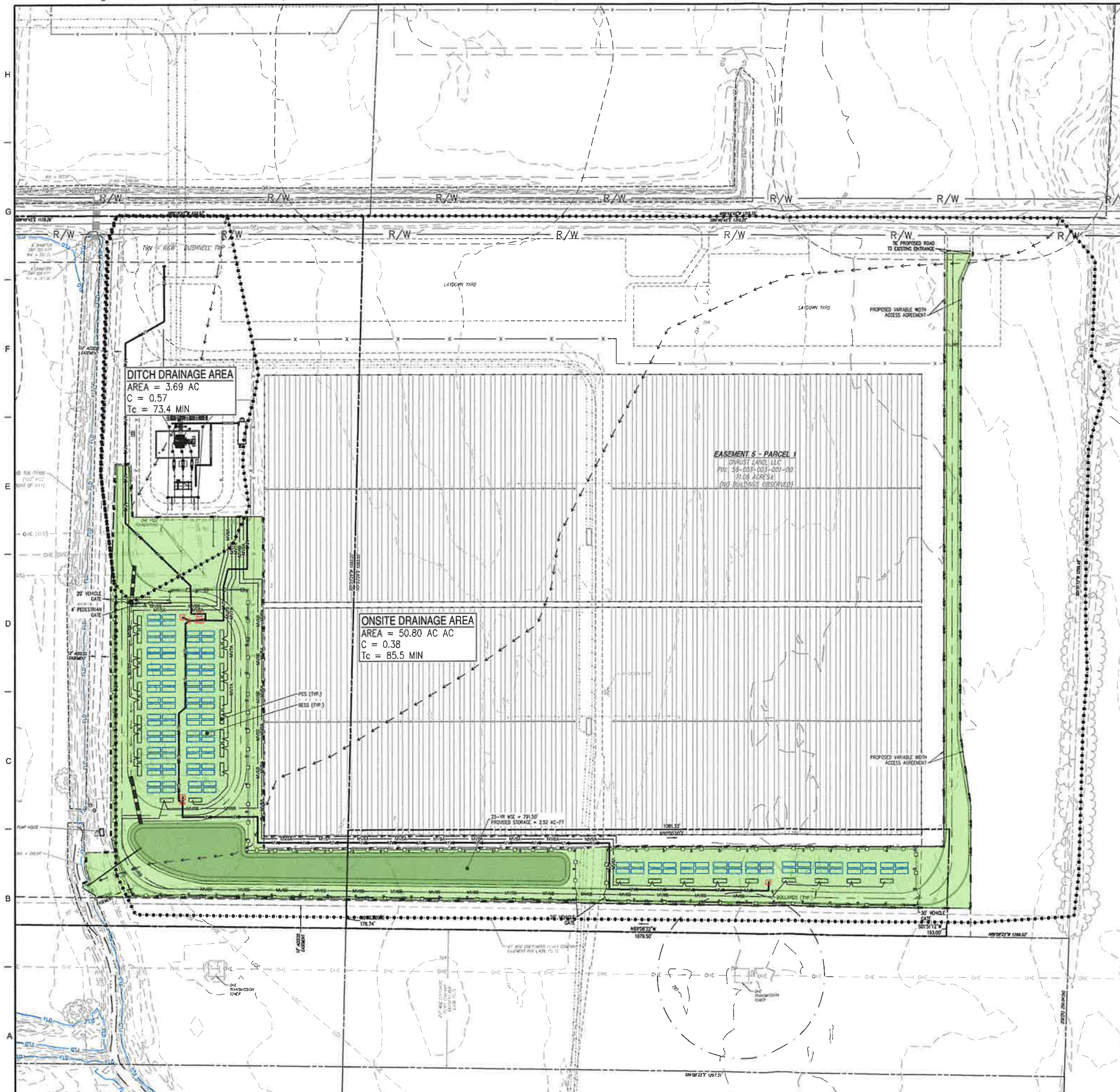
APPROVED BY:
CHECKED BY:
DESIGNED BY:
DRAWN BY:

DTE

DRAWING NAME:
PRE-DEVELOPMENT DRAINAGE AREA MAP

DRAWING NO: C4.0
REV. A

FILE: [illegible]



SWM LEGEND

- PROPERTY BOUNDARY
- PERIMETER SECURITY FENCE
- ACCESS ROAD
- DITCH
- STREAM
- 500 EXISTING MAJOR CONTOUR
- 502 EXISTING MINOR CONTOUR
- 500 PROPOSED MAJOR CONTOUR
- 502 PROPOSED MINOR CONTOUR
- TIME OF CONCENTRATION PATH
- DRAINAGE DIVIDE
- TREE
- HSG A SOILS
- LOD LIMITS OF DISTURBANCE

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1993 GOVER PKWY
MOUNT PLEASANT, MI 48858

SEAL:

JEFF RUPPERT LICENSED PROFESSIONAL ENGINEER MICHIGAN 6201066767

PROJECT ADDRESS:

FISH CREEK BATTERY ENERGY STORAGE SYSTEM
BUSHNELL TOWNSHIP
MONTCALM COUNTY, MI

811 Know what's below. Call before you dig.

DRAWING NORTH ARROW (IF APPLICABLE):

N

DRAWING SCALE (IF APPLICABLE):

0 60' 120'

GRAPHIC SCALE
1" = 60'

ISSUE	DATE	DESCRIPTION
A	2025-12-22	SESC PERMIT PLAN SET

NOT FOR CONSTRUCTION

APPROVED BY:

CHECKED BY:

DESIGNED BY:

DRAWN BY:

DTE

DRAWING NAME

POST-DEVELOPMENT DRAINAGE AREA MAP

DRAWING NO: C4.1

REV. A

FILE:

Rational Method Detention Basin Sizing Tool

Version 1.0

*SEE STORMWATER MANAGEMENT NARRATIVE FOR DETAILS

Location: Montcalm County
Project: Fish Creek BESS (NO PV)
Job No.: 290127-01-001
Date: 12/19/2025
By: C. Bembower

Contributing Area [ac] = 5.33
Runoff "C" Value = 0.67
Allowable Release Rate [cfs/ac] = 0.13
Rainfall Frequency = 25-year
Site Release Rate [cfs] = 1.0829
Factor of Safety = 1.25
Required Storage Volume [cft] = 52743
Time to Empty [hr] = 13.5

Time [hr]	Rainfall Intensity [in/hr]	Runoff Volume [cft]	Discharge Volume [cft]	Storage Volume [cft]	Storage Volume [ac-ft]	Time to Empty [hr]
0.167	5.232	17526	652	21122	0.48	5.4
0.250	4.450	22361	975	27145	0.62	7.0
0.333	3.883	26222	1299	31153	0.72	8.0
0.500	3.082	31199	1949	36563	0.84	9.4
0.667	2.568	34647	2599	40060	0.92	10.3
0.750	2.373	36058	2924	41419	0.95	10.6
0.833	2.211	37321	3249	42590	0.98	10.9
1.000	1.950	39506	3899	44529	1.02	11.4
2.000	1.200	48615	7797	51265	1.18	13.2
3.000	0.887	53930	11695	52743	1.21	13.5
4.000	0.712	57676	15594	52600	1.21	13.5
5.000	0.598	60608	19492	51395	1.18	13.2
6.000	0.518	63007	23391	49520	1.14	12.7
7.000	0.462	65259	27289	47463	1.09	12.2
8.000	0.415	67211	31188	45029	1.03	11.6
9.000	0.378	68932	35086	42308	0.97	10.8
10.000	0.348	70472	38984	39359	0.90	10.1
12.000	0.301	73138	46781	32944	0.76	8.5
18.000	0.217	79012	70172	11050	0.25	2.8
24.000	0.173	84078	93563	0	0.00	0.0

Notes:

1. Runoff volume is calculated by multiplying the Rational formula discharge, CIA, by the time, t. $V_R = (CIA)\,t$
2. Discharge volume is calculated by multiplying the site release rate, Q_o, by the time, t. $V_o = Q_o\,t$
3. Storage volume is calculated by subtracting the discharge volume from the runoff volume and multiplying by the factor of safety. $V_s = (V_R - V_o) f_s$
4. The time to empty is the storage volume divided by the site release rate.

Disclaimer:

Disclaimer: This Excel spreadsheet is furnished by the Montcalm County Drain Commissioner and FTC&H for the convenience of the recipient to show compliance with the Montcalm County Site Development Rules.

Any additional conclusions or information obtained or derived from this spreadsheet program will be at the user's sole risk.

Montcalm County Drain Commissioner
211 W. Main Street
Stanton, MI 48888

Rational Method Detention (XLS).xls

1515 Arboretum Dr SE
Grand Rapids MI 49546

STORMWATER MANAGEMENT NARRATIVE

THE MONTCALM COUNTY RATIONAL METHOD DETENTION BASIN SIZING TOOL WAS USED TO CALCULATE THE REQUIRED STORAGE VOLUME GENERATED FOR THE PROPOSED BESS SITE. THE BESS PROJECT'S C VALUE CALCULATION IS SHOWN BELOW.

BESS-Area Land Cover	C Value	Area (AC)
Gravel (BESS Yard)	0.70	2.57
Aggregate (Road)	0.90	2.04
Concrete (Equipment Pads)	0.90	0.01
Grass	0.30	2.55
Pond	1.00	1.10
Weighted C		0.67

PER THE COUNTY'S DETENTION BASIN SIZING TOOL, THE 25-YR STORM REQUIRED STORAGE VOLUME FOR THE PROPOSED BESS SITE IS 53,749 CF (1.23 AC-FT). PER THE FISH CREEK SOLAR PARK IFC PLAN SET PREPARED BY TETRA TECH AND DATED 06/03/2024, THE EXISTING SOLAR PROJECT DRAINING TO THE PROPOSED POND REQUIRES 1.45 AC-FT (63,162 CF) OF STORAGE FOR THE 25-YR STORM. AS SUCH, THE TOTAL REQUIRED STORAGE VOLUME FOR THE COMBINED BESS AND SOLAR AREAS IS 2.68 AC-FT (116,911 CF) FOR THE 25-YR STORM.

Total Required Storage Volume	
Storage from BESS (cf)	52,743
Storage from PV (cf)	63,162
Total Required Storage (cf)	115,905

THE ALLOWABLE RELEASE RATE FOR THE TOTAL SITE IS 0.13 CFS/AC. ALTHOUGH THE PROPOSED BESS AREA IS 5.72 AC, THE OVERALL CONTRIBUTING AREA TO THE PROPOSED POND IS 50.80 AC, AS SHOWN ON SHEET C7.1. THE OVERALL SITE ALLOWABLE RELEASE RATE CALCULATION FOR THE 25-YR STORM IS SHOWN BELOW.

Overall Site Release Rate Calculation	
Allowable Release Rate (cfs/AC)	0.13
Contributing Area (AC)	50.80
Site Release Rate (cfs)	6.60

THE PROPOSED POND OUTLET WAS SIZED PER THE OUTLET DESIGN EQUATION PROVIDED IN THE MONTCALM COUNTY DRAIN COMMISSIONER SITE DEVELOPMENT RULES. THE EQUATION AND CALCULATION ARE SHOWN BELOW.

$$A = Q/(c*(2gH)^{0.5})$$

Outfall Calculation	
Required Outflow, Q (cfs)	6.60
Orifice Coefficient, c	0.6
Gravity, g (ft/sec^2)	32.2
Headwater Depth, H (ft)	2
Pipe Area (sf)	0.97
Required Pipe Diameter (ft)	1.11
Provided Pipe Diamter (ft)	1.00

PRE-DEVELOPMENT AND POST-DEVELOPMENT INTENSITY VALUE AND RUNOFF CALCULATIONS ARE PROVIDED BELOW. SINCE THE OUTFALL HAS BEEN SIZED TO RESTRICT FLOW TO 6.60 CFS FOR THE 25-YR STORM, THE DISCHARGE FOR ALL SMALLER STORMS WILL HAVE A MAXIMUM DISCHARGE OF 6.60 CFS FROM THE POND. THEREFORE, THE POST-DEVELOPMENT DISCHARGE FROM THE SITE IS LESS THAN THE PRE-DEVELOPMENT DISCHARGE FROM THE SITE FOR THE 1, 2, 5, 10, AND 25-YR STORMS.

Intensity Values, I (in/hr)		Storm Event				
	Tc (min)	1-yr	2-yr	5-yr	10-yr	25-yr
Pre-Dev	110.3	1.18	1.38	1.79	2.08	2.57
Post-Dev	85.5	1.07	1.27	1.62	1.92	2.30

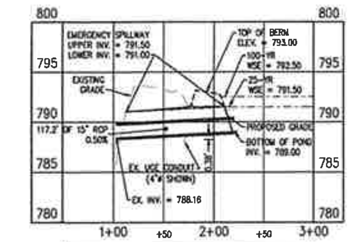
Runoff, Q = CIA (cfs)			Storm Event				
	C Value	DA (AC)	1-yr	2-yr	5-yr	10-yr	25-yr
Pre-Dev	0.34	48.24	19.08	22.74	28.92	34.34	42.14
Post-Dev	0.38	50.5	20.51	24.48	31.06	36.93	45.34

Runoff is restricted to a maximum of 6.60 cfs for the 25-yr storm. The runoff from the site after development will not exceed 6.60 cfs for the 1, 2, 5, and 10-yr storms. As such, the post-development runoff from the site is less than the pre-development flow produced by the site.

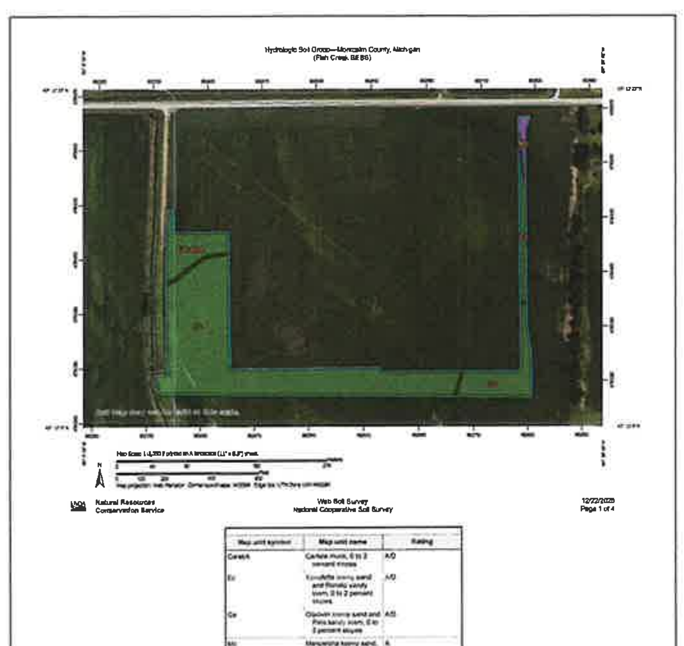
Emergency Spillway Calculations					
C Value	DA (AC)	100-yr I (in/hr)	100-yr Q (cfs)	Head, H (ft)	Length, L (ft)
0.38	50.5	3.09	59.39	1	22.84

STAGE STORAGE TABLE						
ELEV	AREA (sq. ft.)	DEPTH (ft)	AVG END INC. VOL. (cu. ft.)	AVG END TOTAL VOL. (cu. ft.)	CONIC INC. VOL. (cu. ft.)	CONIC TOTAL VOL. (cu. ft.)
[illegible]	[illegible]	N/A	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

*DUE TO CLIENT REQUESTED REVISIONS TO BESS AREA LAND COVER CALCULATIONS AND THE ADDITION OF THE EASTERN ACCESS ROAD (APPROXIMATE LENGTH OF 1,015 FEET), THE CURRENT POND DESIGN MAY NEED TO INCREASE IN DEPTH TO ACCOMMODATE THE ADDITIONAL REQUIRED STORAGE VOLUME AND COMPLY WITH ANY EMERGENCY SPILLWAY AND FREEBOARD REQUIREMENTS. DUE TO THE LAYOUT AND EXISTING TOPOGRAPHICAL CONSTRAINTS, THIS MAY NECESSITATE THE USE OF A PUMP TO DRAIN THE PROPOSED DETENTION POND. FINAL DESIGN OF THE PROJECT'S STORMWATER MANAGEMENT SYSTEM WILL BE COORDINATED WITH CLIENT AND PROVIDED AT THE 90% DESIGN STAGE.



POND OUTFALL PROFILE - STA 0+50 TO STA 3+00
Vertical Exaggeration = 10:1



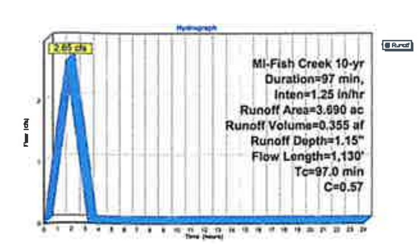
SOILS MAP

DITCH CALCULATIONS

Fish Creek BESS
Prepared by Bowman Consulting Group
HydroCAD 10.20-7a s/n 09435 © 2025 HydroCAD Software Solutions LLC

MI-Fish Creek 10-yr Duration=97 min, Inten=1.25 in/hr
Printed 12/16/2025

Subcatchment 8S: Ditch



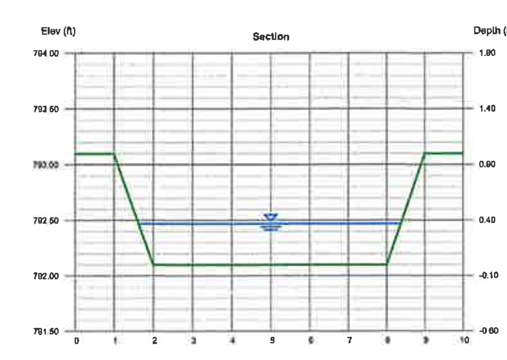
Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Dec 18 2025

Fish Creek BESS Ditch

Trapezoidal		Highlighted	
Bottom Width (ft)	= 6.00	Depth (ft)	= 0.37
Side Slopes (z:1)	= 1.00, 1.00	Q (cfs)	= 2.650
Total Depth (ft)	= 1.00	Area (sqft)	= 2.36
Invert Elev (ft)	= 792.10	Velocity (ft/s)	= 1.12
Slope (%)	= 0.12	Wetted Perim (ft)	= 7.05
N-Value	= 0.022	Crit Depth, Yc (ft)	= 0.19
		Top Width (ft)	= 6.74
		EGL (ft)	= 0.39

Calculations
Compute by: Known Q
Known Q (cfs) = 2.65



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Phone: (804) 616-3240
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1993 GOVER PKWY
MOUNT PLEASANT, MI 48858

SEAL:

PROJECT ADDRESS:
FISH CREEK BATTERY ENERGY STORAGE SYSTEM
BUSHNELL TOWNSHIP
MONTCALM COUNTY, MI

Know what's below. Call before you dig.

DRAWING NORTH ARROW (IF APPLICABLE):

DRAWING SCALE (IF APPLICABLE):
GRAPHIC SCALE 1" = 60'

ISSUE	DATE	DESCRIPTION
A	2025-12-22	BESS PERMIT PLAN SET

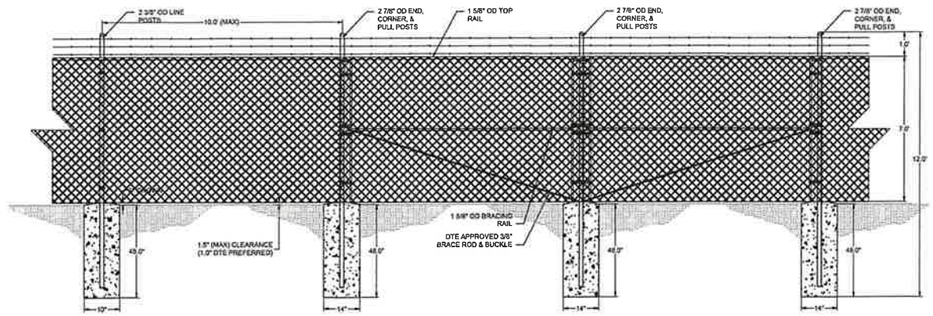
NOT FOR CONSTRUCTION

APPROVED BY:
CHECKED BY:
DESIGNED BY:
DRAWN BY:

DTE

DRAWING NAME:
STORMWATER MANAGEMENT CALCULATIONS

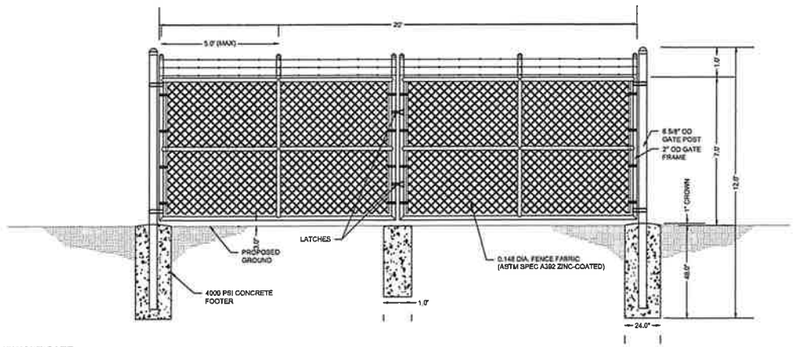
DRAWING NO: C4.2
REV: A



1 7' SECURITY FENCE, 1' BARBED WIRE

SCALE: NTS

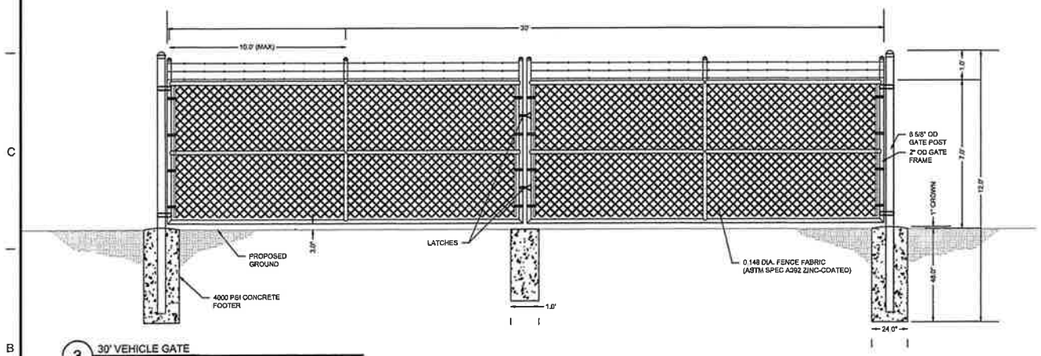
FENCING AND GATE MATERIALS AND ERECTION SHALL FOLLOW DTE TECHNICAL SPECIFICATIONS, EXHIBIT O, APPENDIX 001.



2 20' VEHICLE GATE

SCALE: NTS

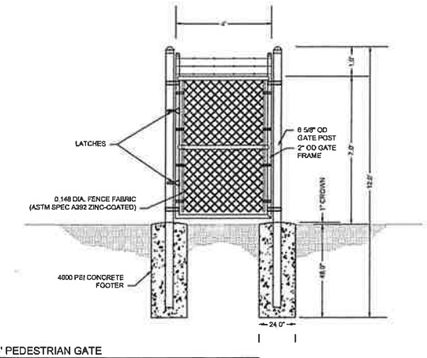
FENCING AND GATE MATERIALS AND ERECTION SHALL FOLLOW DTE TECHNICAL SPECIFICATIONS, EXHIBIT O, APPENDIX 001.



3 30' VEHICLE GATE

SCALE: NTS

FENCING AND GATE MATERIALS AND ERECTION SHALL FOLLOW DTE TECHNICAL SPECIFICATIONS, EXHIBIT O, APPENDIX 001.



4 4' PEDESTRIAN GATE

SCALE: NTS

FENCING AND GATE MATERIALS AND ERECTION SHALL FOLLOW DTE TECHNICAL SPECIFICATIONS, EXHIBIT O, APPENDIX 001.

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BUSHNELL TOWNSHIP
MONTCALM COUNTY, MI

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A	2025-12-22	MSG PERMIT PLAN SET

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APPROVED BY:
CHECKED BY:
DESIGNED BY:
DRAWN BY:

DTE

DRAWING NAME:

CONSTRUCTION DETAILS

DRAWING NO: C5.0

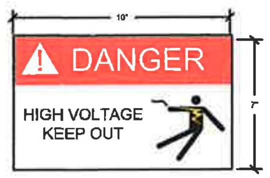
REV: A

FILE: [illegible]

BESS FENCE AND FENCE GATE SIGN CLUSTERS

BESS FENCE CLUSTER

NOTE:
TO BE PLACED ALONG THE PERIMETER OF FENCE EVERY 200 FEET AT EYE LEVEL ALONG WITH APPROPRIATE SIGN CLUSTER LABELS. SEE SIGN CLUSTER NOTES FOR MORE DETAILS.

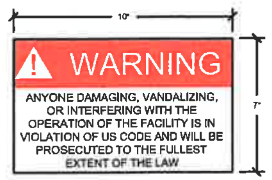


5 HIGH VOLTAGE KEEP OUT WARNING LABEL
SCALE: NTS

NOTE:
TO BE PLACED ALONG THE PERIMETER OF FENCE EVERY 200 FEET AT EYE LEVEL ALONG WITH APPROPRIATE SIGN CLUSTER LABELS. SEE SIGN CLUSTER NOTES FOR MORE DETAILS.

6 NO TRESPASSING LABEL
SCALE: NTS

NOTE:
TO BE PLACED ALONG THE PERIMETER OF FENCE EVERY 200 FEET AT EYE LEVEL ALONG WITH APPROPRIATE SIGN CLUSTER LABELS. SEE SIGN CLUSTER NOTES FOR MORE DETAILS.



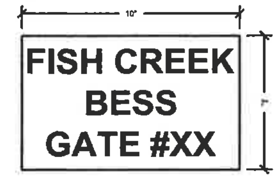
8 VANDALIZING WARNING LABEL
SCALE: NTS

NOTE:
TO BE PLACED ALONG THE PERIMETER OF FENCE EVERY 200 FEET AT EYE LEVEL ALONG WITH APPROPRIATE SIGN CLUSTER LABELS. SEE SIGN CLUSTER NOTES FOR MORE DETAILS.

9 EMERGENCY CONTACT LABEL
SCALE: NTS

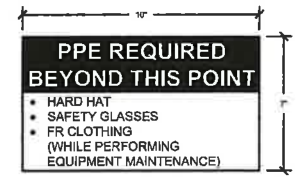
ADDITIONAL SIGNS FOR GATE CLUSTER

NOTE:
LABEL SHALL HAVE SITE NAME AND GATE NUMBER, PER THE AS-BUILT DRAWING PACKAGE. TO BE PLACED AT ACCESS GATES AT EYE LEVEL ALONG WITH APPROPRIATE SIGN CLUSTER LABELS. SEE SIGN CLUSTER NOTES FOR MORE DETAILS.

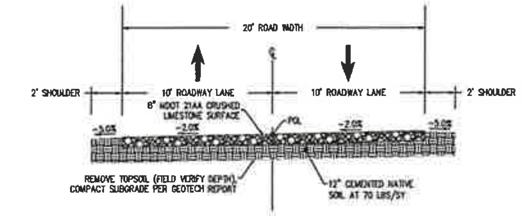


7 GATE NUMBER LABEL
SCALE: NTS

NOTE:
TO BE PLACED AT ACCESS GATES AT EYE LEVEL ALONG WITH APPROPRIATE SIGN CLUSTER LABELS. SEE SIGN CLUSTER NOTES FOR MORE DETAILS.



10 PPE REQUIRED LABEL
SCALE: NTS

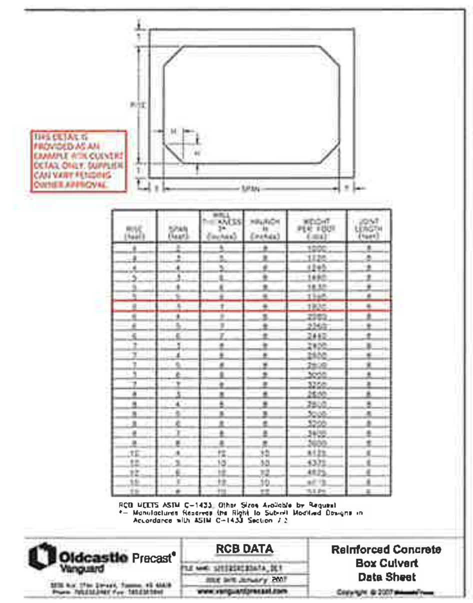


BESS ACCESS ROAD
TYPICAL SECTION
(SCALE 1" = 4')

CONSTRUCTION SPECIFICATIONS:

1. ROAD SECTION IS NOT A COMPLETE STRUCTURAL DESIGN. ROAD SECTION WILL BE STRUCTURALLY DESIGNED AT A LATER DESIGN STAGE.
2. REFER TO GRADING IN PLAN TO DETERMINE INTENDED DIRECTION OF SUPER-ELEVATION.
3. REMOVE TOPSOIL.
4. STABILIZE 12" OF SUBBASE.
5. NO EARLIER THAN 24 HOURS AFTER ROADS ARE STABILIZED, THEY WILL BE PROOF ROLLED. A SUCCESSFUL PROOF ROLL WILL BE LESS THAN 1" OF RUTTING AND LESS THAN ½" OF DEFLECTION. THIS SHALL BE OBSERVED BY A THIRD PARTY TESTING AGENCY. THIS WILL OCCUR THE LENGTH OF THE ROADWAY.
6. INSTALL 8" OF MDOT 21AA CRUSHED LIMESTONE SURFACE AS A CAP ON TOP OF THE STABILIZED SUBBASE.
7. AFTER PLACEMENT OF THE CRUSHED LIMESTONE SURFACE, THE ROAD SHALL BE SURFACE TESTED WITH A NUCLEAR GAUGE TO CONFIRM COMPACTION IN COMPLIANCE WITH THE GEOTECH REPORT. THIS TESTING SHALL OCCUR ONCE EVERY 4,500 FT OR AT LEAST TWO TESTS PER ROAD.
8. PROPOSED ROAD SHALL TIE-IN TO ADJACENT EXISTING GRADING AT A 3H:1V SLOPE.

11 ACCESS ROAD SECTION
SCALE: NTS



NOTES:

1. BOX CULVERT SPANS SHALL BE SELECTED TO ACCOMMODATE ANTICIPATED TRAFFIC LOADS AND TO CONVEY THE ANTICIPATED FLOWS FROM THE PROJECT. VARIOUS SPAN LENGTHS CAN BE USED OTHER THAN THAT WHICH IS STATED ON THE PLANS SO LONG AS THE AREAS OF THE OPENING IS EQUIVALENT TO THAT NOTED BY THE SIZE SPECIFIED ON THE PLANS. THE BOX CULVERT HEIGHT IS RESTRICTED TO 1'; IF A 1' RISE IS NOT AVAILABLE, THE BOX CULVERT SHALL BE COUNTERSUNK.
2. THE REQUIRED SPAN IS 6' WITH A RISE OF 1' FOR DRAINAGE PURPOSES. THE SELECTED CONFIGURATION ABOVE IS TO BE ROTATED BY 90 DEGREES SO THAT THE SPAN IS ADEQUATE.

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DRAWING SCALE (IF APPLICABLE):

ISSUE	DATE	DESCRIPTION
A	2025-12-22	[illegible] PERMIT PLAN SET

NOT FOR CONSTRUCTION

APPROVED BY:
CHECKED BY:
DESIGNED BY:
DRAWN BY:

DTE

DRAWING NAME:
CONSTRUCTION DETAILS

DRAWING NO: C5.1
REV. A

FILE: [illegible]

GKOLED®

DUSK TO DAWN — SERIES GKODDG5

Product Overview

High performing GKODDG5 Dusk To Dawn lights are ideal for providing commercial and residential properties with general perimeter and security lighting. With durable die-cast aluminum housing and advanced LED technology, they are the perfect replacement for a traditional metal halide dusk to dawn. An optional mounting arm is available for increased reach.

DLC LISTED PREMIUM · UL LISTED · WET LOCATION · 5 YEAR

Key Features

CONSTRUCTION:
- Rugged die-cast aluminum housing.
- Housing is completely sealed against moisture and environmental contaminants.

FINISH:
- The exterior is protected by a rust-resistant polyester powder coat finish that provides superior resistance to weathering and corrosion.

OPTICS:
- Light engines are available in standard 4000K and 5000K configurations.
- A range of lumen options available from 6,200 to 12,400 Lumens, replaces up to 250W metal halide.

ELECTRICAL:
- Standard 120-277V input voltage.
- 6KV surge protection on 65W and 90W models.
- 1-10V dimming driver(s) as default.
- THD: ≤20%, Power Factor: ≥90%.

CONTROLS:
- Twist-lock photocell included by default - P0 120-277V.

INSTALLATION:
- Pole mount or wall mount options are available.
- Optional mounting arm is available for increased reach.

WARRANTY:
- 5 Year Limited Warranty.

LISTINGS:
- DesignLights Consortium® (DLC) Premium qualified.
- UL listed for wet locations.
- Rated for ambient operating temperature -40°F to 104°F (-40°C to 40°C).

GKOLED®

100 E. Crossroads Pkwy. Ste. C
Bolingbrook, IL 60440
Phone: 630-793-9449
Web: www.gkoled.com

Performance Data

Lumen Output

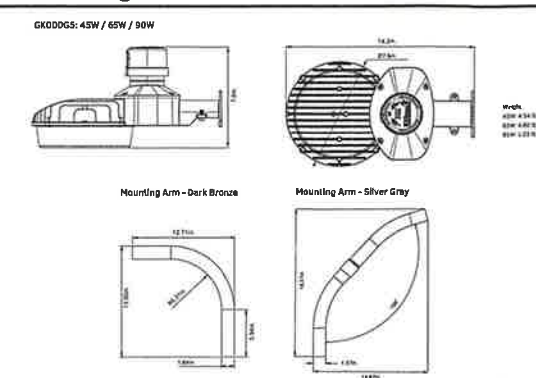
System Watts	Voltage	4000K (70CRI)		5000K (70CRI)	
		Lumens	Efficacy	Lumens	Efficacy
45W	120-277V	6200lm	138lm/W	6200lm	138lm/W
65W	120-277V	8800lm	135lm/W	8800lm	135lm/W
90W	120-277V	12400lm	138lm/W	12400lm	138lm/W

Electrical Data

Number of Drivers	Driver Current (mA)	Nominal Power (W)	Input Voltage (V)	Current (Amps)
1	1100	45	120	0.38
		45	208	0.22
		45	240	0.19
		45	277	0.16
1	1630	65	120	0.54
		65	208	0.31
		65	240	0.27
		65	277	0.23
1	2270	90	120	0.75
		90	208	0.43
		90	240	0.38
		90	277	0.32

Dimensions & Weight

GKODDG5: 45W / 65W / 90W



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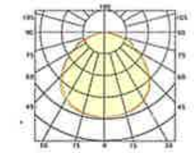
Photometric Distribution

General



Ordering Information

Dusk To Dawn Series GKODDG5 — Example: GKODDG545W27V50KSGP0

Fixture Type	Wattage	Voltage	CCT	Finish	Photocell	Internal Code
GKODDG5	45W	27V 120-277V	40K 4000K	SG Silver Gray*	P0 With Photocell	Blank
	65W		50K 5000K	B Dark Bronze*		Alphanumeric
	90W			B Black		
				W White		

NOTE: *Default finish is silver gray or dark bronze. All other finishes are special order only.

NOTE:
1. LIGHTING FIXTURES ARE TO BE MOUNTED TO FENCE POSTS IN LOCATIONS SHOWN ON THE SITE PLAN.
2. LIGHTING FIXTURE SHOWN IS TYPICAL. EXACT LIGHT FIXTURE TO BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION.

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LG Energy Solution Vertech

Fully Integrated Solutions for Maximized Returns

JF2 4HR DC LINK

Streamlined Energy Storage Systems

The JF2 4HR DC LINK is a flexibly configured BESS solution containing all components for a BESS within a single product that meets domestic content requirements, including batteries, PCS, liquid cooling systems, and EMS. Systems are conveniently designed to be configured with your preferred power converter and minimize site installation costs, time, and footprint, and maximize efficiency and uptime.

- Made in the USA
- 5.11 MWh DC block
- Bankable Solution
- Lifetime energy storage partnership
- Complete warranty and O&M Services
- Advanced EMS and analytics suite

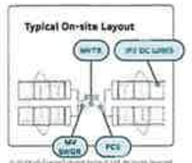
PRODUCT SPECIFICATIONS
Cell Technology: Lithium Iron Phosphate (LFP)
Nominal Energy: 5.11 MWh
Nominal DC Voltage: 1,134V-1,493V
Maximum CP Rate: 0.25 CP (4h)
Weight: 105,821 lb (48,000 kg)
Dimensions: 23' W × 8.4' L × 9.5' H (7.02m W × 2.57m L × 2.90m H)
Degree of Protection: IP55
Thermal Management: Liquid Cooling
Control Software: AEROS™ EMS (controls)

ENVIRONMENT
Operating Temperature Range: -22 ~ 122°F (-30 ~ 50°C)
Altitude: 6,562 ft (< 2,000 m)
Seismic: SDS 1.2g

COMPLIANCE
Safety Features: Gas detection and active venting system, fire detection and alarm system, UL9540A and large scale fire testing
Standards and Certifications: UL9540, UL1973, UL1634, UL1741 (SA, SB), IEEE1547, UN 38.3, NFPA 855, NFPA 69, NFPA 72, IFC/CFC

COMMISSIONING
Battery Cabling: Pre-assembled
PCS – Battery Cabling: Assembled on site by EPC
MVTR – PCS Cabling: Assembled on site by EPC
EMS: Installed on site by EPC
Auxiliary Power Supply: Internally derived

Typical On-site Layout



JF2 4HR DC LINK

Fully Integrated Software Suite

Flexible Plant Controls

The **AEROS™ software suite** offers controls, analytics, and monitoring for optimized site functionality of energy storage and hybrid power plants.

The suite is comprised of **AEROS™ EMS** and **AEROS™ Cloud**.

AEROS™ EMS
On-site controls to manage your energy storage power plants. AEROS™ EMS can be used to dispatch active and reactive power and follow grid and market specific signals

AEROS™ Cloud
A portfolio of cloud-based tools that increases the value of your assets. Includes monitoring and analytics, ESS modeling, anomaly detection and energy market forecasting

The AEROS™ suite leverages proprietary battery data and enables seamless site control.

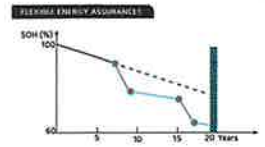
The Flexibility to Achieve Your Long-Term Goals

Long-Term Service Agreements

With our tiered service approach, we offer customers flexible service solutions that can support every need.

Services include preventative maintenance, predictive and degradation analytics, digital twin, cloud dashboard access, and more.

FLEXIBLE ENERGY ASSURANCES



Flexible Warranties

Our vertically integrated approach provides insight into battery functions and enables us to provide comprehensive system-level **warranties for up to 20 years backed by LG Energy Solution**. Additional system-level assurances include:

- **Flexible Energy Assurances** that enable annual warranty adjustment points based on actual system use
- **Availability Assurances** up to 99%
- **Round Trip Efficiency Assurances** ensuring peak system performance

LG Energy Solution Vertech

CONFIDENTIAL

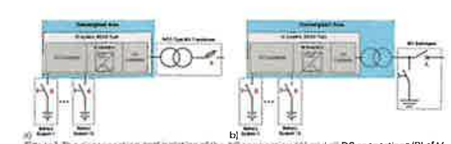


Figure 1. The disconnection and isolation of the AC connection (A) and all DC connections (B) of M BESS Inverter System. a) NEC-type transformer with openable MV-side fuses. b) MV switchgear solution.

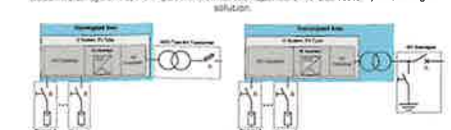


Figure 2. The disconnection and isolation of the AC connection (A) and all DC connections (B) of M PV Inverter System. a) NEC-type transformer with openable MV-side fuses. b) MV switchgear solution.

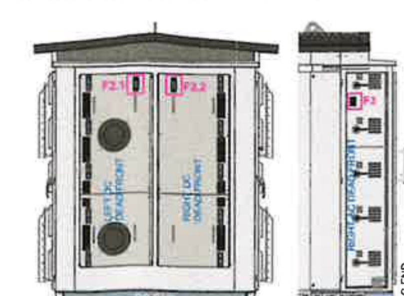


Figure 3. Voltage detection and measurement locations for the verification of LOTO a) DC-side example with two locations F2.1 and F2.2 (a location per each virtual inverter / MPPT), b) AC-side location F3.

CONFIDENTIAL

3 Specifications

3.1 Specification Label

The specification label, i.e. the nameplate of the M System, includes the main data including ratings, certification, type designation and serial numbers. The locations of the nameplate are shown in Figure 4. A sample EPC Power nameplate for M System is shown in Figure 5 and explanations given in Table 1.

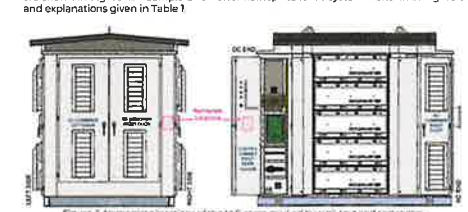


Figure 4. Nameplate locations of the M System marked by pink text and rectangles.

Figure 5. Sample +M10 M System nameplate

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J. RANCK ELECTRIC, INC.
1993 GOVER PKWY
MOUNT PLEASANT, MI 48858

SEAL:
JEFF RUPPERT LICENSED 6201066767 MICHIGAN PROFESSIONAL ENGINEER

PROJECT ADDRESS:
FISH CREEK BATTERY ENERGY STORAGE SYSTEM
BUSHNELL TOWNSHIP
MONTCALM COUNTY, MI

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DRAWING SCALE (IF APPLICABLE):

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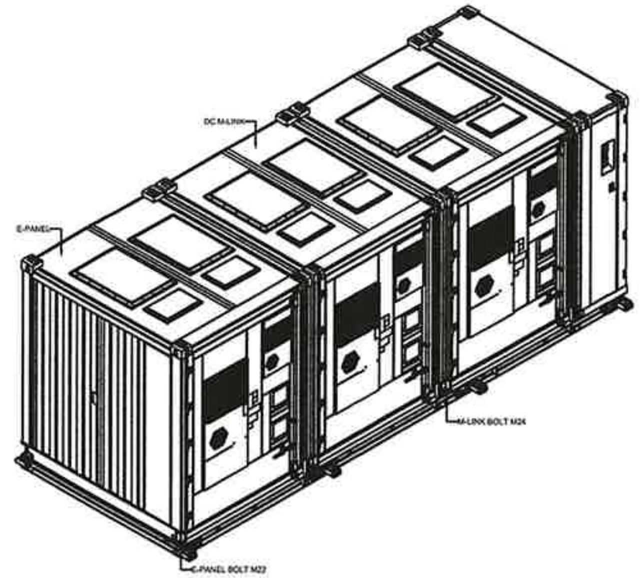
NOT FOR CONSTRUCTION

APPROVED BY:
CHECKED BY:
DESIGNED BY:
DRAWN BY:

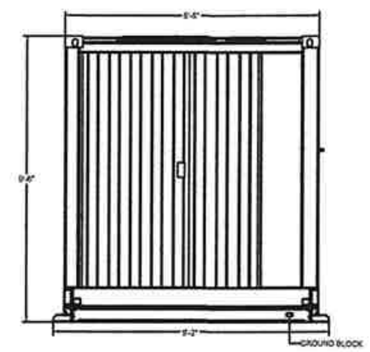
DTE

DRAWING NAME:
EQUIPMENT DETAILS

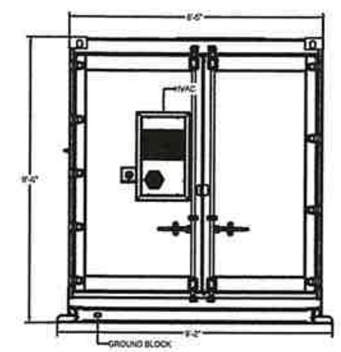
DRAWING NO: C5.2 — REV. A



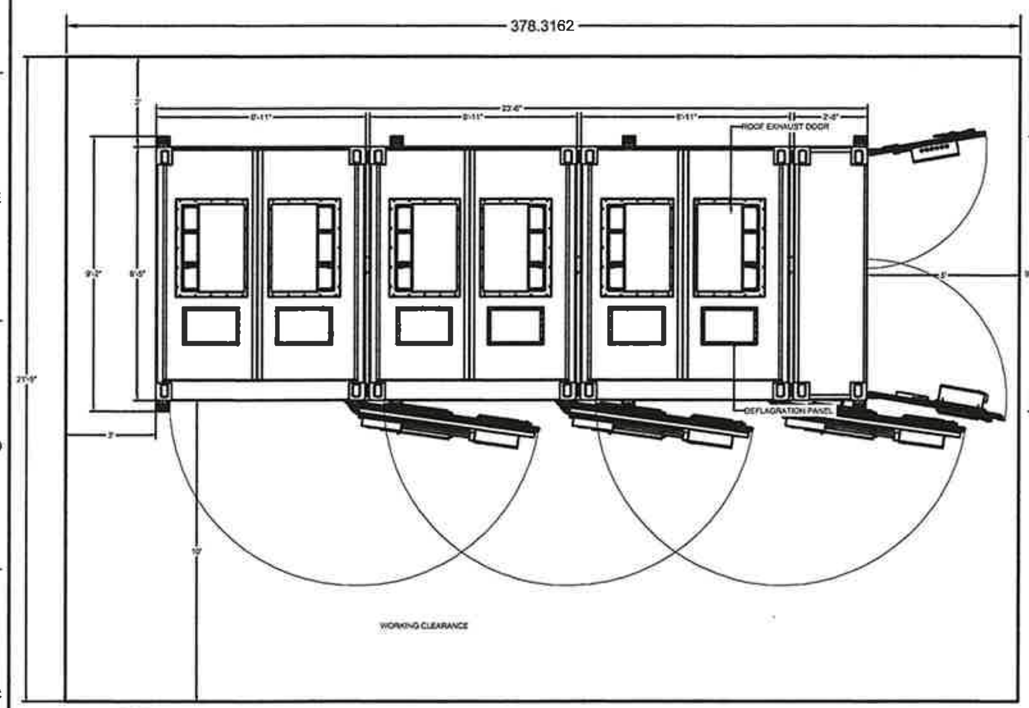
1 BESS CONTAINER (ISOMETRIC VIEW)
SCALE: NTS



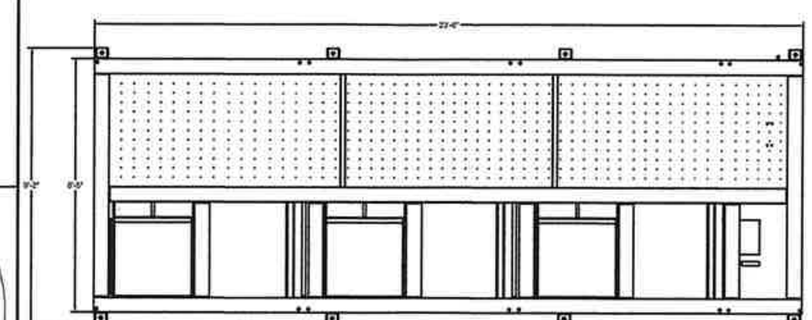
2 BESS CONTAINER (LEFT VIEW)
SCALE: 1/2" = 1'-0"



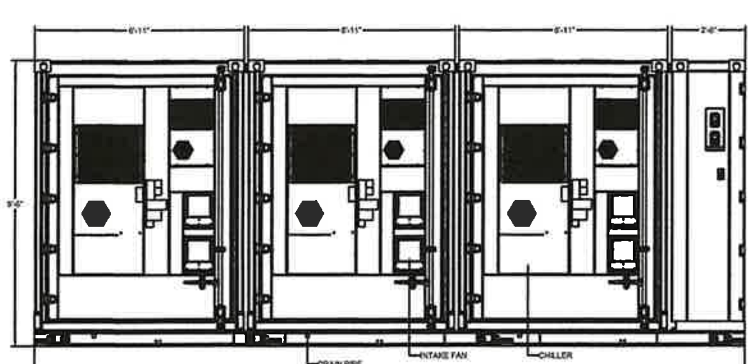
3 BESS CONTAINER (RIGHT VIEW)
SCALE: 1/2" = 1'-0"



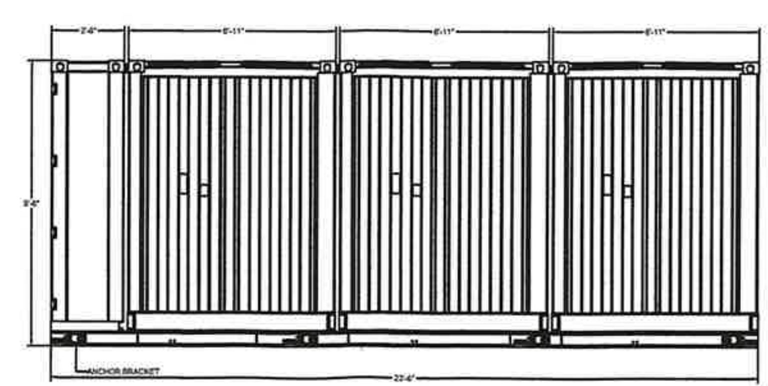
4 BESS CONTAINER (PLAN VIEW)
SCALE: NTS



5 BESS CONTAINER (BOTTOM VIEW)
SCALE: 1/2" = 1'-0"



6 BESS CONTAINER (FRONT VIEW)
SCALE: 1/2" = 1'-0"



7 BESS CONTAINER (REAR VIEW)
SCALE: 1/2" = 1'-0"

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SEAL:

JEFF RUPPERT LICENSED 6201056767 MICHIGAN PROFESSIONAL ENGINEER

PROJECT ADDRESS:
FISH CREEK BATTERY ENERGY STORAGE SYSTEM
BUSHNELL TOWNSHIP
MONTCALM COUNTY, MI

811 Know what's below. Call before you dig.

DRAWING NORTH ARROW (IF APPLICABLE):

DRAWING SCALE (IF APPLICABLE):

ISSUE	DATE	DESCRIPTION
A	2025-12-22	BESS PERMIT PLAN SET

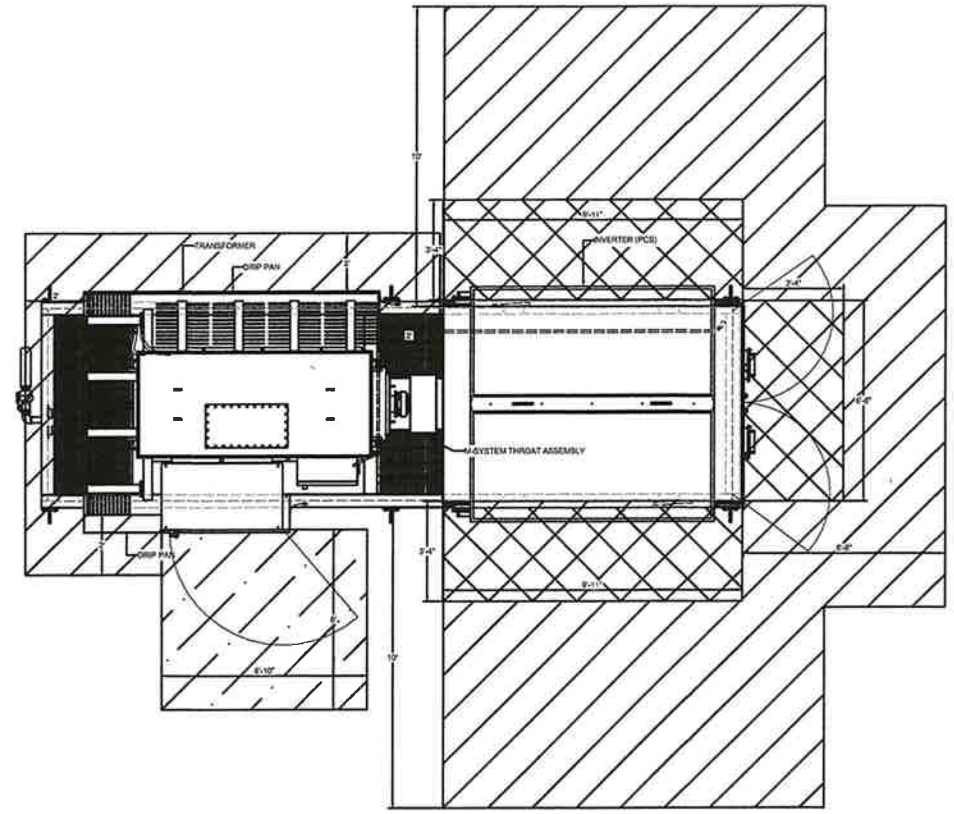
NOT FOR CONSTRUCTION

APPROVED BY:
CHECKED BY:
DESIGNED BY:
DRAWN BY:

DTE

DRAWING NAME:
BESS CONTAINER DETAILS

DRAWING NO: C5.3
REV. A



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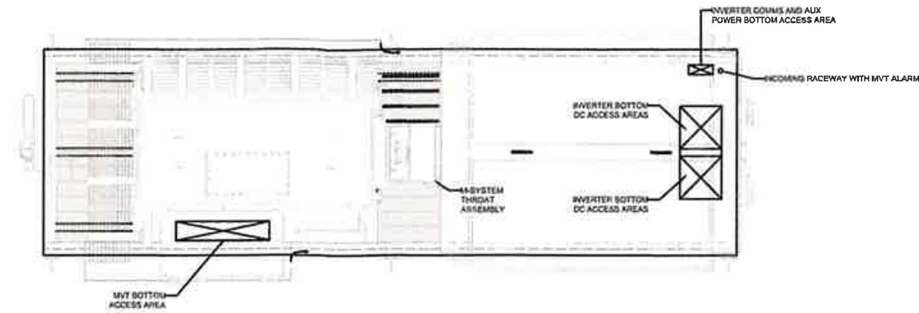

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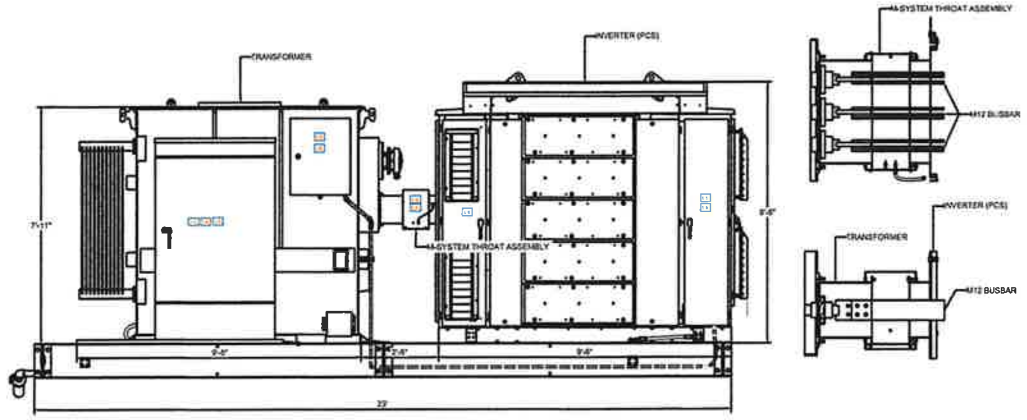

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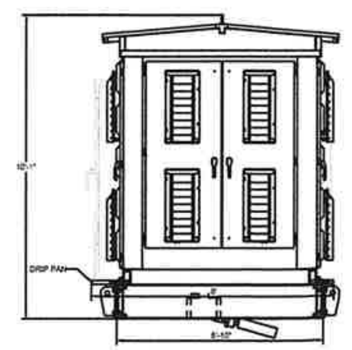

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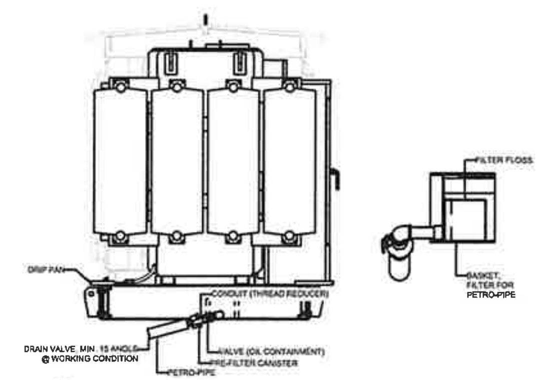

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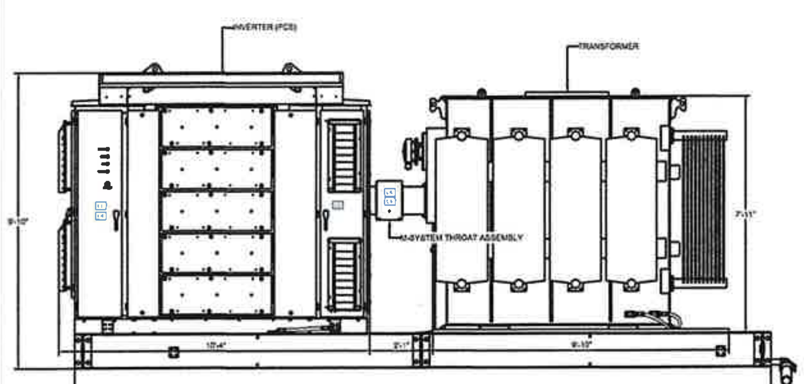

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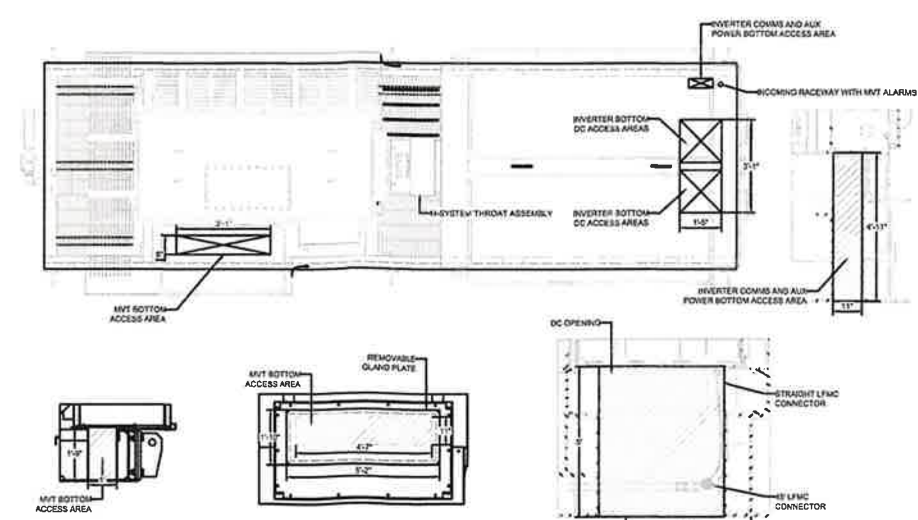

7 INVERTER TRANSFORMER SKID (BOTTOM VIEW) CONDUIT ENTRY
SCALE: NTS

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MONTCALM COUNTY, MI

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NOT FOR CONSTRUCTION

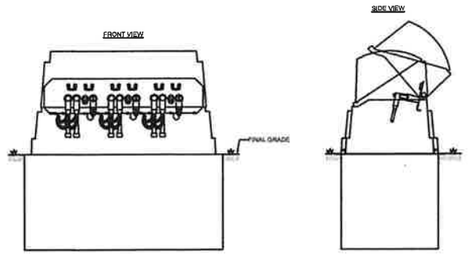
APPROVED BY:
CHECKED BY:
DESIGNED BY:
DRAWN BY:

DTE

DRAWING NAME:
INVERTER TRANSFORMER SKID DETAILS

DRAWING NO: C5.4
REV. A

FILE: [illegible]



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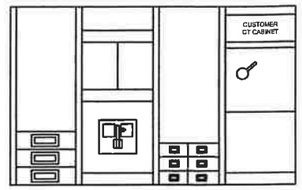

2 AUX SWITCHGEAR (FRONT VIEW)
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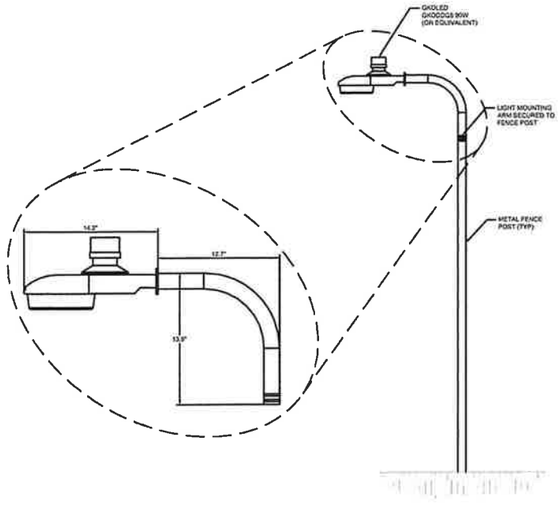

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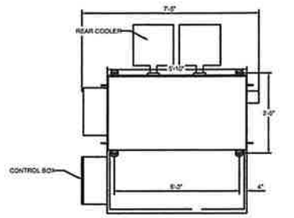

4 AUX TRANSFORMER (PLAN VIEW)
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APPROVED BY:
CHECKED BY:
DESIGNED BY:
DRAWN BY:

DTE

DRAWING NAME:

AUX DETAILS

DRAWING NO: C5.5
REV. A

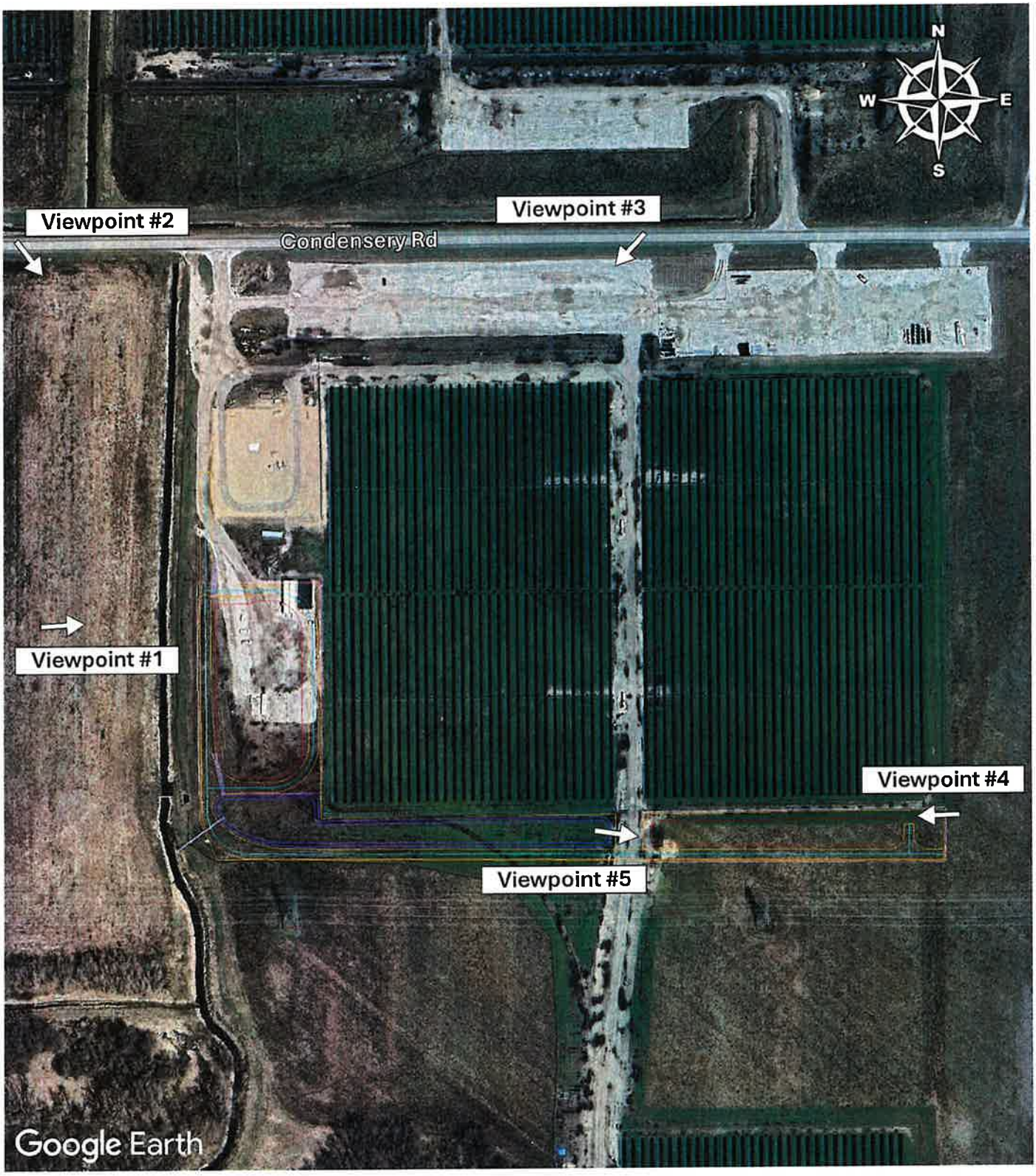
FILE:

DTE

APPENDIX B – LIST OF GOVERNMENTAL PERMITS

Permitting Requirements for Fish Creek Battery Energy Storage System Project – Bushnell Township			
Level	**Permit/Authorization**	**Authorizing Agency**	**Date Submitted/Anticipated Approval**
State	Joint Permit Application (JPA) for Wetlands, Streams, & Floodplain permitting	U.S. Army Corps of Engineers (USACE)/ Michigan Department of Environment, Great Lakes, and Energy (EGLE) Water Resources Division	Submit no impact/no permit needed letter: 2/2/2026 Anticipated Approval: 3/2/2026
State	Threatened & Endangered Species Review	Michigan Department of Natural Resources (MDNR)	Complete. Not expecting impacts to State T&E species
State	National Pollutant Discharge Elimination System (NPDES) General Permit – Construction Stormwater Notice of Coverage (NOC)	EGLE	Submitted: Pending SESC Approval Anticipated Approval: TBD
State	Discharge Request	EGLE	Submit: Not anticipated (pending site plan review)
State	Oversize and/or Overweight Permit	Michigan Department of Transportation (MDOT)	Submit: As needed (BESS container deliveries)
County	Driveway Permit and/or working in ROW Permit (Including utilities)	Montcalm County Road Commission	Submitted: Pending site plan review Approved: TBD
County	Move Permit (Oversite and/or Overweight Permit) (ROW)	Montcalm County Road Commission	Submit: As needed (BESS container deliveries)
County	Permit for utility to cross or parallel a county drain	Montcalm County Drain Commissioner	Submitted: Pending site plan review Anticipated Approval: TBD
County	Permit to connect to a county drain	Montcalm County Drain Commissioner	Submitted: After site plan review Anticipated Approval: TBD
County	Soil Erosion and Sedimentation Control (SESC) Permit	Montcalm County Department of Building Safety	Anticipated Submittal: 2/6/2026 Anticipated Approval: 2/20/2026
County	Electrical, Mechanical, and Plumbing Permits	Montcalm County Department of Building Safety	Anticipated Submittal: 2/6/2026 Anticipated Approval: 2/20/2026

APPENDIX C – VISUAL RENDERINGS

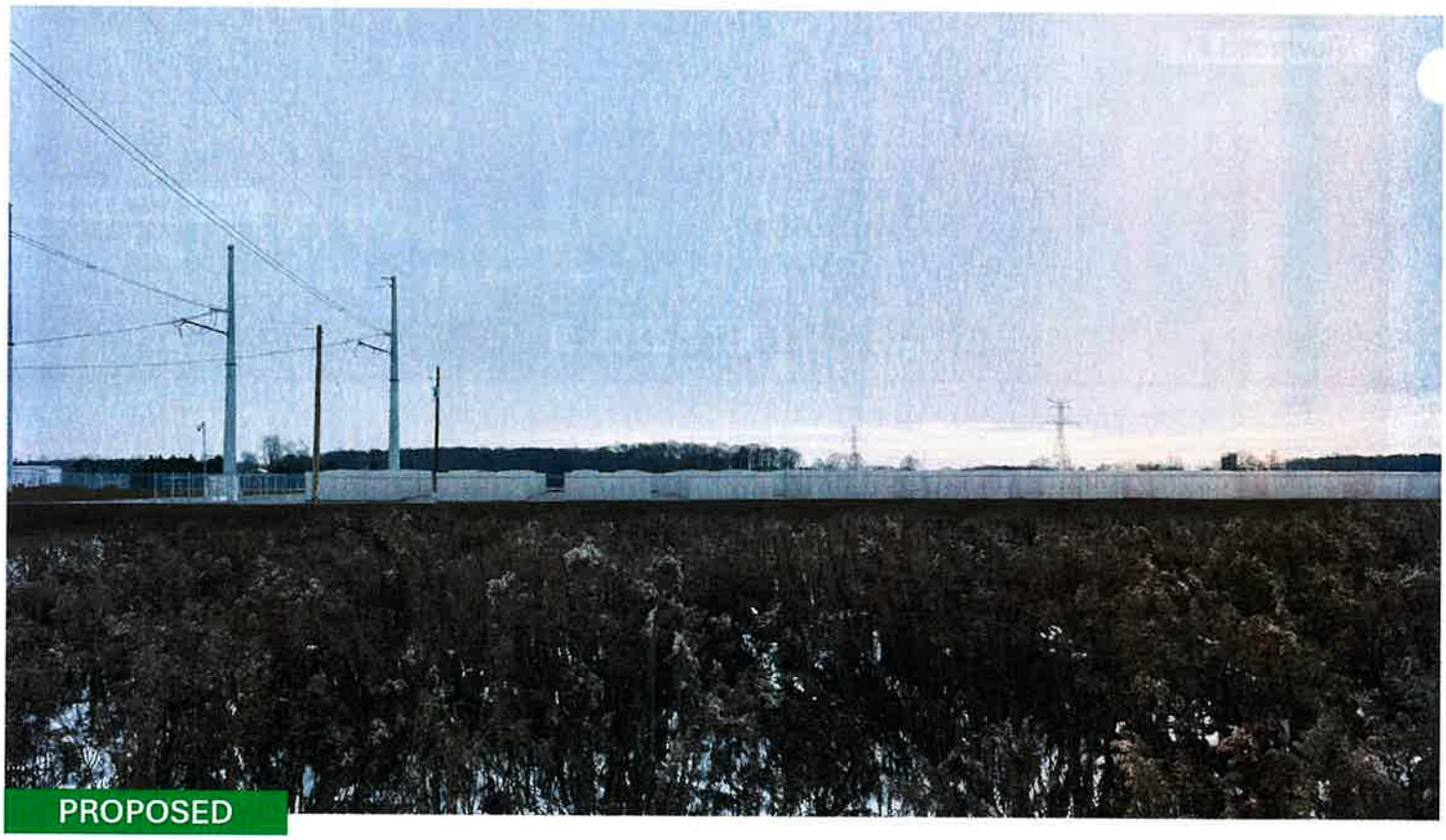


BURNS McDONNELL

Fish Creek BESS Project

Viewpoint Map

DTE



BURNS McDONNELL

Fish Creek BESS Project

Viewpoint #1

DTE

BURNS McDONNELL

Fish Creek BESS Project

Viewpoint #2

DTE

BURNS McDONNELL

Fish Creek BESS Project

Viewpoint #3

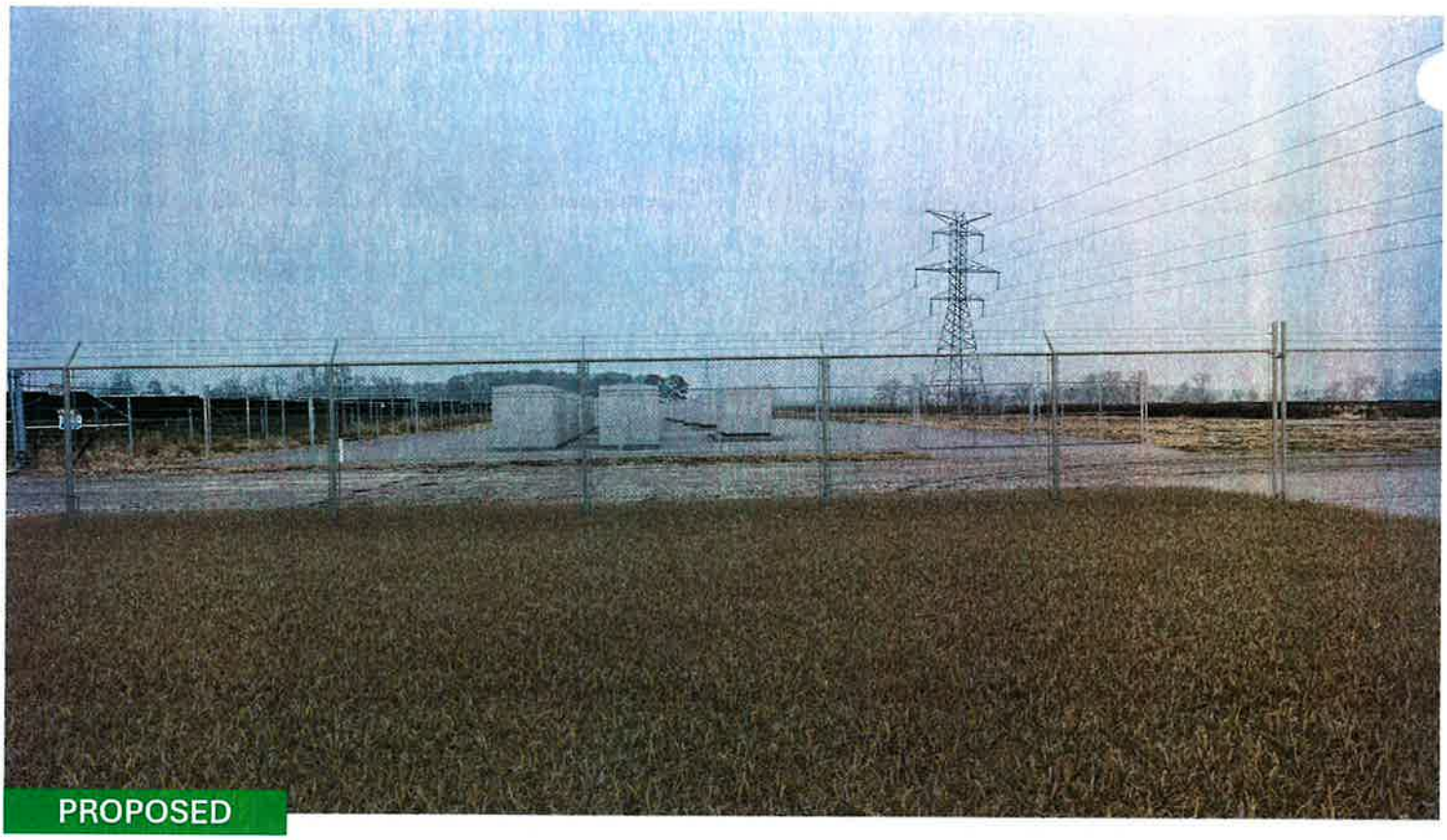
DTE

BURNS McDONNELL

Fish Creek BESS Project

Viewpoint #4

DTE



BURNS McDONNELL

Fish Creek BESS Project

Viewpoint #5

DTE

APPENDIX D – SUMMARY OF EMERGENCY RESPONSE PLAN

Fish Creek Battery Energy Storage System
Emergency Response Plan

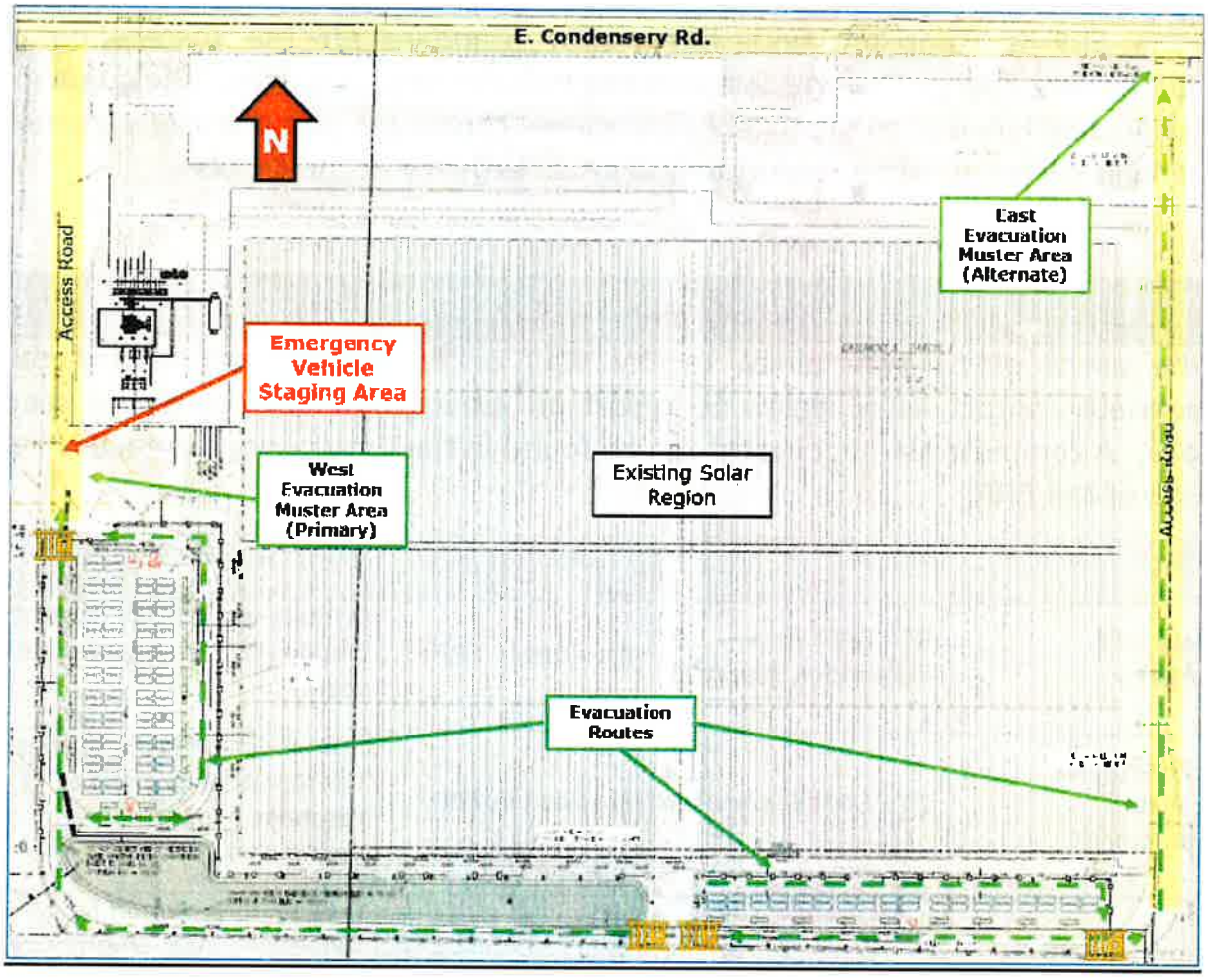
The following is a summary of the Fish Creek Battery Energy Storage System (BESS) facility's Emergency Response Plan (ERP). The ERP document will be finalized following consultation and feedback from local first responder agencies.

The ERP is compliant with NFPA 855: *Standard for the Installation of Stationary Energy Storage Systems* and industry best practices. The guidance should be followed to the extent practicable, consistent with the user's training and experience, when responding to an emergency at the facility.

Primary Emergency Contacts			
In the event of an emergency, facility staff or first responders should call the appropriate contact listed below to report an emergency and coordinate response actions. A complete list of contacts can be found in the Emergency Contacts Directory section of the ERP.			
Contact	**Name**	**Phone Number**	**Support Description**
Primary DTE Emergency	DTE 24/7 First Responder Support	Provided in ERP	Primary emergency contact. Notifies DTE emergency response team.
DTE Emergency Response Coordinator/IC	DTE O&M Supervisor	Provided in ERP	Primary Emergency Response Coordinator/IC – leads DTE site response supporting first responders
Police, Fire, EMS	Sheridan Community Fire Department	911 or # provided in ERP	Contact information for requesting local emergency response to the facility.

Site Overview

The Fish Creek BESS facility is located at 3692 E. Condensery Rd. Sheridan, MI 48884 (South side of E. Condensery Road, between Wood Rd. and Cedar Lake Rd. S.E.). The BESS facility is secured with a gated perimeter fence to restrict unauthorized access.



Site Evacuation

Should an emergency necessitating a site evacuation occur, all personnel on-site will immediately proceed by taking the safest available route to the designated muster area as shown on the diagram of the site above. The site supervisor will account for all personnel on-site and contact 911 to report the emergency.

Emergency Vehicle Access

A 20-foot-wide access road capable of accommodating emergency vehicles runs from the site entrance at E. Condensery Road south to the gated BESS yard. Emergency vehicles should stage on the West access road at the gate of BESS yard. Conditions involving BESS equipment do not warrant unescorted entry into the BESS yard.

Basic Plan

Purpose and Scope

The purpose of this ERP is to provide personnel, contractors, vendors, and emergency responders (e.g., first responders) detailed guidance and information regarding the potential hazards, safety systems, and emergency response considerations involving the battery energy storage system (BESS) at this facility.

Life safety is always the highest priority during any response to an event at this facility.

Among other information, this document considers the following potential hazards associated with BESS, including:

- Electrical
- Stranded or stored energy
- Chemical/Off-gassing
- Elevated temperature
- Fire or explosion

Roles and Responsibilities

Plan Owner – During the design and construction of a BESS facility the Project Manager will assume the role of Plan Owner. Upon commissioning and commercial operations, the Renewable Operations & Maintenance Manager will assume responsibility as the Plan Owner. The Plan Owner, or designee, is responsible for implementing the plan, including:

- Maintaining the ERP document in sufficient state of readiness, including updating the plan annually, at minimum.

- Ensure that tasks associated with, or identified in the ERP are completed, including plan distribution, engagement with first-responders, trainings, exercises, and emergency response.

Emergency Response Coordinator (ERC) – The ERC is responsible for executing the plan in the event of an emergency incident at the BESS facility. The ERC will assume a leadership role in emergency response and will assume, or delegate, the position the Incident Commander (IC).

Activation

The Emergency Response Plan shall be activated in the event of any emergency related to or involving the BESS. Upon identification or notification of an emergency condition, DTE will assign an Emergency Response Coordinator (ERC). The ERC will assume or delegate the role of Incident Commander and work under a Unified Command structure to support first responders.

Training and Exercises

Prior to commissioning of the BESS facility, DTE will provide initial training on the ERP to first responders. Facility staff will offer training and exercise opportunities to first responders annually. Exercise may be included in trainings sessions or conducted as separate activities.

The DTE Emergency Response Coordinator is responsible for coordinating all trainings and site familiarization tours. Documentation of trainings and exercises (including the date, time, and location, participants, and topics covered) shall be retained in a training and exercise repository.

Operations and Maintenance

Operations and maintenance of the BESS shall be conducting in accordance with the BESS manufacturer recommendations, industry best practices, and applicable codes and standards. Procedures for the inspection of safety systems, alarms, and fire protection equipment are included in the maintenance of the BESS and will be performed by DTE Energy or authorized agent(s). Documentation of inspections, testing, and maintenance will be maintained on-site.

General BESS Hazards

Explosion

The primary hazard associated with lithium-ion type batteries is an explosion or deflagration resulting from the uncontrolled accumulation of combustible gasses from thermal runaway in a confined space, such as a BESS enclosure. Although unlikely, if detection and preventative measures fail, a potential explosive event is a critical hazard. Any incident involving BESS equipment should initially be addressed with the assumption of an explosion risk.

Thermal Runaway

Thermal runaway is a chemical process characteristic of lithium-ion batteries in a failure state in which battery cells enter an uncontrolled, self-heating state causing destructively high internal temperatures, melting, and venting of large quantities of flammable/explosive gases. The off-gassing of flammable and potentially explosive gases may result in fire or explosion.

Thermal runaway can occur without subsequent ignition as the flammable gas/air mixture may be too rich to burn. However, a change in the flammable gas/air mixture, such as opening a door to a BESS enclosure, may disrupt the flammable gas/air mixture resulting in a flammable or explosive environment. All precautions described in this document should be observed, as a thermal runaway involving BESS equipment may result in fire or explosion.

Fire and Re-ignition

An external fire to a battery enclosure may expose battery modules to thermal transfer. In the unlikely event that safety systems fail to protect an exposed battery enclosure a potential risk exists where an external fire may propagate to affect exposed battery enclosures.

Explosion is unlikely during active fires within a BESS enclosure, as flammable gases will be consumed as they are released. Attempting to extinguish a BESS fire may INCREASE the risks of an explosion and prolong the incident. Allowing the fire to fully consume the involved components is the preferred tactic to minimize risks and contain the fire. The application of water as extinguishing agent may introduce additional hazards and should only be done in close coordination with the DTE emergency response coordinator and supporting subject matter experts.

Electrical Hazards

Electrical hazards include risk of electric shock and arc flash. Equipment on site contains lethal AC and DC voltages. The power within an energy segment is primarily DC. AC power supplies auxiliary power to control and monitoring systems. Even when de-energized or disconnected, DC voltages remain a hazard. BESS equipment should only be handled by trained personnel with proper PPE.

Non-Contact Voltage Tester: Non-contact voltage testers commonly used by fire departments are only capable of detecting the presence of alternating current (AC) and WILL NOT detect direct current (DC). Non-contact voltage testers should only be used with the guidance of a BESS subject matter expert.

BESS Safety Systems

Energy Management System (EMS)

The Energy Management System (EMS) is the first line of detection and protection for a BESS. The EMS monitors battery conditions and detects abnormal conditions in individual battery cells. The EMS will trigger protective actions in response to abnormal conditions, such as activating cooling and HVAC systems, isolating battery modules, and sending notifications to the BESS operations center.

Emergency Shut Down/Disconnects

Emergency Stops (E-Stop/F-Stop) will disconnect all DC power to the BESS. An Emergency Shut Down will NOT de-energize batteries – stranded energy in battery cells will remain a hazard. The BESS will automatically go into E-Stop in the event of a fire or activation of the emergency ventilation system. The Emergency Shut Down can be remotely operated in coordination with DTE.

Gas Detection, Ventilation, and Explosion Protection

Each battery enclosure is equipped with Hydrogen (H2) gas detection and NFPA 69 explosion protection consisting of emergency ventilation fans and fail-safe dampers to provide passive ventilation.

Fire Detection and Protection

The fire detection and protection system is designed to contain a fire or thermal event to the initiating BESS container and prevent propagation to other equipment without any direct intervention. Each battery enclosure is equipped with an automatic smoke detection system that communicates to a fire alarm control panel. Activation of a smoke sensor will activate horn and strobe notification devices located on the enclosure and transmit an alarm notification to a remote operations center. Activation of the fire detection system will also trigger the ventilation system by opening the roof exhaust vents and air intake dampers located on the door.

Containment

Each battery enclosure is equipped with integrated leak detection, self-sealing shutoffs, and internal containment larger than the total coolant volume reduces risks of human exposure, ecological damage, and allows for proper disposal.

The release or spill of oil from any transformers is minimized by engineered containment within the equipment. Should a transformer fail, site monitoring would indicate problem to remote monitoring personnel and maintenance staff will respond and perform necessary repairs, limiting the potential for any release from extending beyond internal containment to the surround area.

Firefighting water as an extinguishing agent is not recommended for BESS equipment. While unlikely, and in close coordination between firefighters and DTE, the use of firefighting water may be considered for use as a cooling agent applied to the external surfaces of adjacent battery enclosures to prevent propagation. Firefighting water used externally on adjacent battery enclosures would not pose a hazard to surrounding areas.

Emergency Response Guidance

First Responder Initial Response Guidance

Upon arrival, first responders should stage at the designated staging area located at the gate to the BESS yard. Personnel working on-site will meet first responders at the staging area and confirm all the nature of the emergency and that a roll call has been conducted and personnel have been accounted for at the designated muster area.

If no personnel are on-site, first responders should remain at the first responder staging area, or alternate location outside the BESS yard fence and at least 100' from any BESS unit. The first arriving emergency unit, or Incident Commander, should contact DTE using the phone number provided in this plan to confirm no personnel are on-site, determine status of any alarms, confirm the conditions involving BESS equipment, and coordinate additional actions based on the nature of the emergency. Unescorted entry may only be considered for a savable life/known rescue, with firefighters wearing full PPE (i.e., turnout gear with SCBA).

DTE will dispatch to the facility local staff trained and capable of responding to and supporting the emergency response. Upon arrival, a DTE facility staff member will meet with the first responder Incident Commander at the designated staging area for an incident briefing to coordinate and support the emergency response.

BESS Fire/Gas Alarm Response Guidance

Responders should use a defensive approach when responding to an alarm or incident involving the BESS equipment. Structural firefighting PPE with SCBA is recommended.

After completing the initial response guidance, first responders should remain outside the fence and contact DTE to gather information on the status of any alarms and safety systems activated. Continue to maintain a minimum 100' incident safety perimeter. Perform a 360-degree scene size-up from outside the fence/safety perimeter. A portable air monitor may be used to detect the presence of any gas concentrations downwind. Thermal imaging cameras may be used to monitor the surface temperature of adjacent battery enclosures to confirm containment to the affected battery enclosure without propagation.

Once conditions indicate the incident has stabilized, or the fire has been extinguished, do not approach the battery enclosure. Depending on the nature and extent of any damage, it may be necessary continue monitoring conditions before approaching and assessing damage. Prior to approaching and assessing any damaged battery enclosures, Lock Out/Tag Out (LOTO) must be performed by qualified personnel.

APPENDIX E – DECOMMISSIONING PLAN

Bowman

Fish Creek Battery Energy Storage System (BESS)

Decommissioning Plan with Estimate

DTE Electric Company
One Energy Plaza
Detroit, MI 48226

Bowman Consulting Group, Ltd
Richmond Office
947 Myers Street, Suite B,
Richmond, VA 23230

Tiffany Woodward, P.E.

December 22, 2025

Bowman

Table of Contents

Bowman

I. INTRODUCTION

The Fish Creek Battery Energy Storage (BESS) Project is a proposed 132 MWac / 4-hour utility-owned facility located in Bushnell Township, Michigan. The project is located on the site of an existing substation and photovoltaic (PV) solar project owned and operated by DTE Electric Company ("DTE"). The project consists of two areas of battery energy storage system (BESS) equipment, with a proposed stormwater detention pond separating the two areas. The land will be returned as near as practicable to its original condition if the facility is retired. The removal, disposal, and recycling – as appropriate – of the project components are detailed in this Decommissioning Plan for the project.

DTE will be responsible for the implementation of this decommissioning plan. Once the decommissioning of the project is complete, topsoil and permanent vegetation will be established. It is noted that the proposed pond was designed to accommodate the BESS project but also the adjacent PV project. If the PV project is still operational at the time of BESS decommissioning, the pond will remain.

A decommissioning bond will be delivered to the township in an amount equal to the decommissioning estimate included with this plan prior to the start of construction.

II. DECOMMISSIONING AND RECLAMATION OVERVIEW

The goal of decommissioning is to remove the installed BESS equipment and associated infrastructure and return the site to a condition as close to a pre-construction state as is practicable.

The major activities required for the decommissioning of components associated with the BESS facility may include removing BESS units, PCS units, inverters, transformers, overhead and shallow underground cables, equipment pads and foundations, portions of the access road, gravel pad areas, light poles, and ancillary equipment. Standard decommissioning practices will be utilized, including dismantling and repurposing, salvaging/recycling, or disposing of the Fish Creek BESS Project components.

III. DECOMMISSIONING ACTIVITIES

a. TIMELINE

Decommissioning activities are expected to be completed within one (1) year of the cessation of operation of the Fish Creek BESS Project. Once DTE has decided to cease commercial operations at the facility. Any necessary permits will be obtained prior to the start date of decommissioning construction for which such approvals or permits are necessary or required based on the anticipated soil disturbances for both demolition and new temporary construction required for BESS project component removal. After dismantling the facility, components will be removed, and restoration will commence.

b. REMOVAL OF COMPONENTS

Before any demolition begins, the BESS facility will first be disconnected from the electrical grid by following all energy industry safety standards and best practices to allow for the safe dismantling of the project components.

During decommissioning, required regulated materials may be temporarily stored at the site. These regulated materials may consist of fuel, lubricating oil, hydraulic oil, propylene glycol, and other materials required for the decommissioning.

Due to the presence of regulated materials associated with the transformers that contain cooling fluids, there is the potential for spills and/or leaks. The primary concerns associated with these spills and/or leaks are potential impacts to surface water and groundwater resources and/or soil contamination. The Spill Prevention, Control, and Countermeasure (SPCC) Plan will detail the procedures for appropriate storage, cleanup, and disposal of regulated materials to ensure potential impacts are avoided. Any monitoring, transportation, or handling of regulated materials will be conducted in accordance with state law and completed by trained and qualified personnel utilizing established procedures and proper equipment.

Decommissioning will require the removal of the following components:

- Electrical system (transformers, inverters, wires, cables)
- BESS Containers
- PCS Units

- Conduits (underground to a depth of four (4) feet)
- Ancillary equipment foundation(s)
- Fencing
- Gravel access road(s) (upon coordination with the landowners)

Once all the necessary equipment and materials have been removed, the access road(s) will be removed.

c. DISPOSAL OF COMPONENTS

After dismantling and excavating the facility, components will be removed. Materials will be disposed of at authorized sites in accordance with applicable regulations and recycled to the full extent possible.

d. RESTORATION ACTIVITIES

DTE will restore the site to as close to pre-construction conditions as practicable and use best management practices to minimize erosion.

Access roads and other areas compacted by equipment will be de-compacted to ensure drainage of the soil and root penetration prior to fine grading and tilling to a farmable condition or maintaining the existing vegetation. Removed roads will be re-graded to original contours.

All disturbed areas will be seeded with a native seed mix. Reclamation areas shall be compatible with the surrounding land.

e. POST-RECLAMATION ACTIVITIES

After reclamation activities are complete, any National Pollution Discharge Elimination System (NPDES) and/or Soil Erosion and Sedimentation Control permit related control measures will be removed from the site and any remediation activities associated with the SPCC will be completed, if appropriate.

IV. FINANCIAL OBLIGATION

As part of this Decommissioning Plan, Bowman has prepared a detailed cost estimate, which is included with this plan (see Attachment A). A decommissioning bond will be delivered to the Township prior to the start of construction in an amount equal to the

current decommissioning estimate to assure that no public funds will be needed to fund any aspect of the project's decommissioning. DTE will update its decommissioning estimate every 3 years and provide the township with a replacement decommissioning bond in amount equal to the updated estimate. The updated decommissioning estimate and replacement bond will be submitted to the township within 60 days of the anniversary date of its Township permit.

The conservative estimated cost for decommissioning the project is as shown on the estimate provided in Attachment A without consideration of potential salvage value of Project components. The estimated costs are presented in current (2025) dollars. The estimate is based on 60% design information, including facility overall layout, BESS Container, PCS Units, inverters, fencing, access roads, and underground cable routing.

The estimate assumes an offsite landfill is used for disposal of demolition waste. No scrap values were included in the decommissioning estimate. Market conditions may result in cost variations at the time of project decommissioning.

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ATTACHMENT A - DECOMMISSION COST ESTIMATE

Bowman

Opinion of Probable Cost

This opinion of probable costs is based on the engineer's experience in the design and construction of energy facilities and are subject to final engineering. DTE will provide a bond for the total cost of decommissioning and reclamation of the project.

Costs are estimated with best practices at today's values. The total opinion of probable costs for the project is stated on the provided spreadsheet breakout included I this report.

This opinion assumes a third-party contractor, experienced in the construction and decommissioning of BESS facilities will lead the effort. The reported costs include union labor, permitting, materials, taxes, insurance, transport costs, equipment rental, contractor's overhead, and contractor's profit. Labor costs have been estimated using regional labor rates and labor efficiencies from the Bureau of Labor Statistics.

This opinion of cost has been split general items such as permitting, erosion and sediment controls, site items, and site stabilization, which reflects the overall decommissioning process.

Permits for the decommissioning of the BESS facility will be obtained prior to the start of any decommissioning activities. The BESS facility will then be disassembled, with all above and below-grade components removed. This includes all buried cables, conduits, and foundations. Costs for disassembly are overall less than those for original assembly of the facility. It is assumed that there is no salvage value for the items removed.

Methodology for disassembly of the BESS Facility can be found in Table 1. It is expected that the entire site will be re-seeded with native grasses and vegetation. Planting of trees, shrubs, and other woody vegetation (re-forestation) or other beautification is not included in the costs. It is assumed that mulching and stabilization of seeded areas will only be required where gravel roads or concrete foundations are removed. The remainder of site will already be vegetated, and disassembly activities will not significantly disturb the vegetation. Seeding in those areas is included as a precautionary measure.

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TABLE 1 BESS FACILITY ANTICIPATED DISASSEMBLY METHODS	
BESS Containers	Removal by crane and transport via flat-bed to staging location. Assume no disassembly. No assumed salvage value.
PCS Units	Removal by crane and transport via flat-bed to staging location. Assume no disassembly. No assumed salvage value.
Inverters	Removal by crane and transport via flat-bed to staging location. Assume no disassembly. No assumed salvage value.
Transformers	Removal by crane and transport via flat-bed to staging location. Assume no disassembly. No assumed salvage value.
Underground Cable	Excavate to cable depth at one end of the trench. Use tractor or backhoe to pull out all cables in common trench. Cables are direct-buried so complete excavation of trenches is not required. Transport via dump truck to staging area. No assumed salvage value.
Fence	Machine-roll fence fabric. Remove posts via post-puller and transport via dump truck to staging location. No assumed salvage value.
Concrete	Remove with excavator and jack hammer. Backfill and compact as needed. Transport via dump truck to staging area. Assumed offsite disposal.
Gravel	Remove with skid steer with sweeper. Transport via dump truck to staging area. Assumed offsite disposal.

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Off-site Disposal	Assumed disposal at $95/ton or $45/CY including tipping fee.
Re-seeding	Re-seed using an ATV-pulled drill seeder, at 5lbs bulk seed per acre of native grasses. Stabilize and mulch on areas where concrete or gravel was removed only.
Re-Grading	Minor re-grading will be done to restore the site to pre-construction condition.
Erosion & Sediment Control	Install silt fence around project perimeter. Install tracking control (construction entrance) at site entrance and replace once during disassembly. Remove at end of disassembly.

FISH CREEK BESS DECOMMISSIONING PLAN ESTIMATE

Bushnell Township, Montcalm County, Michigan

Methodology:

Unit costs have been derived from a combination of:

1. Historical estimates for BESS facilities with various installation contractors and the contractor's feedback.

2. Publicly available state Department of Transportation unit costs, as applicable. For example DOTs provide unit cost data for public projects which is updated annually for items such as excavation activities, erosion control BMPs, transportation of materials, etc.

Quantities of materials were derived using AutoCAD.

Jeff Ruppert, P.E. Digitally signed by Jeff Ruppert, P.E. Date: 2025.12.22 14:46:05-07'00'

JEFF RUPPERT LICENSED 6201066767 MICHIGAN PROFESSIONAL ENGINEER

ITEM	UNIT	QUANTITY	COST PER UNIT	COST	NOTES
GENERAL ITEMS					
Estimated Administrative Costs	LS	1.0	$5,000.00	$5,000.00	
Mobilization	LS	1.0	$15,000.00	$15,000.00	
Electrical Disconnect	EA	1.0	$6,000.00	$6,000.00	
Permitting	LS	1.0	$16,000.00	$16,000.00	
EROSION AND SEDIMENT CONTROLS					
Install / Remove Construction Entrance	EA	2	$4,500.00	$9,000.00	
Install / Remove Silt Fence	LF	6,818	$10.00	$68,180.00	
Install / Remove Inlet Protection	EA	1	$300.00	$300.00	
Install / Remove Outlet Protection	EA	1	$300.00	$300.00	
SITE ITEMS					
Remove and Haul Surfacing from Road	LF	4,095	$6.00	$24,570.00	Extents of road removal will be per coordination with landowner.
Decompact and Grade Roads	LF	4,095	$3.00	$12,285.00	
Decompact and Grade BESS and Equipment Yard	SF	112,047	$9.00	$1,008,423.00	
Removal of Security Fence (Includes Gates)	LF	4,137	$2.70	$11,169.90	
Chain Link Fence Haul and Offsite Disposal	LF	4,137	$1.00	$4,137.00	
Remove, Load, and Haul Aux. Switchgear Equipment and Foundations	EA	2	$1,500.00	$3,000.00	
Remove, Load, and Haul Aux. Transformer Equipment and Foundations	EA	4	$1,500.00	$6,000.00	
Remove, Load, and Haul BESS Containers and Foundations	EA	120	$3,000.00	$360,000.00	
Remove, Load, and Haul PCS Units and Foundations	EA	30	$3,000.00	$90,000.00	
Remove and Load Underground Cables and Conduit	LF	48,330	$0.60	$28,998.00	
Haul-off Cables and Conduit	LF	48,330	$0.50	$24,165.00	
SITE STABILIZATION					
Topsoil and Turf Re-establishment (Includes Permanent Seeding)	AC	8.47	$7,000.00	$59,290.00	
Decommissioning Total (Present Value)				**$1,751,817.90**	
Assuming inflation of 2.0% per year for 30 Years					
Cost Estimate Effective at 01/01/2056)				**$3,173,175.65**	

DTE

APPENDIX F – COMPLAINT RESOLUTION

Complaint Resolution Plan – Fish Creek Battery Energy Storage System

The following describes DTE Electric Company's ("DTE") proposed complaint resolution process.

DTE will make the attached form available for distribution to residents. DTE will designate a facility representative who will respond to calls placed to the toll-free phone number 1-313-235-4040 and post contact information at the facility location. In addition to the toll-free phone number above, complaints can be mailed to:

DTE Electric Company – ESS Operations
225 Enterprise Dr.
Breckenridge, MI 48615

Or sent by email to: RERPS@DTEEnergy.com. While use of the attached form is preferable, DTE will respond to written complaints that do not utilize the form.

DTE will notify the township if a complaint is received. The DTE facility representative will make reasonable efforts to acknowledge all complaints from residents via email or a telephone response within 10 business days, and resolve complaints within 30 days unless impractical in which case DTE will notify the township and the complainant of an estimated timeframe to resolve the complaint. If no action is to be taken, a detailed explanation of why no action is appropriate will be provided to both the complainant and the township.

If DTE and the complainant desire additional time to resolve the complaint, they may agree, in writing, to an extension of time to resolve the complaint.

The complaint resolution process will be implemented at the start of construction and continue throughout the duration of the project.

Complaint Resolution Form

DTE Electric Company Energy Storage Systems

DTE Electric Company ESS Operations
225 Enterprise Dr.
Breckenridge, MI 48615
Email: rerps@dteenergy.com,
Phone 1-313-235-4040

Complaint Number:	**Date:**
Project:	**Complainant Title:**
Complainant Name:	
Complainant Signature:	
Complainant Address:	
Complainant Phone #:	

Description of Complaint

_____

_____

Corrective Action/Response

_____

_____

The undersigned agree that the subject complaint is adequately described herein and that the specified corrective action is appropriate and no further action is required.

Complainant Signature: _____

Date: _____

DTE Signature _____

Date: _____

[**If the parties cannot agree on the above language.**] The undersigned agree that the subject complaint has been adequately described herein and that DTE has provided an explanation as to why no action is appropriate.

Complainant Signature: _____

Date: _____

DTE Signature _____

Date: _____

APPENDIX G – SOUND MODELING REPORT

DTE–
Sound Propagation Model – Fish Creek BESS
Bushnell Township, Michigan

Submitted by:

Bowman Consulting
179 River Street
Troy, NY 12180

Submitted to:

DTE Electric Company

December, 2025

bowman.com

Table of Contents

Figures

Appendices

1.0 Introduction

1.1 Background

The proposed Fish Creek BESS site (Site) is comprised of an approximately 7-acre area to be developed as a Battery Energy Storage (BESS) Facility. The purpose of this Sound Study is to evaluate the sound emissions from the proposed Site and nearby Substation Transformer and Solar Inverters under normal operating conditions using industry-standard sound propagation modeling techniques for conformance with local standards.

1.2 Site Description

The Site consists of 120 BESS Units, 30 Inverter-Transformer skids, and 3 auxiliary transformers. Additionally, there is an existing high voltage Substation Transformer and two Solar Inverter-Transformer skids located on the property that have also been included in this study. The Site, and adjacent facilities, will consist of the following equipment and infrastructure:

- 120x LG DC Link 5.1 **(BESS)**
- 30x EPC Power 10M **(Inverters with associated transformers)**
- 1x High Voltage Transformer (**Substation)**
- 2x Gamesa 4300 **(Solar Inverters with associated transformers)**
- Gravel access roads and equipment pads.

2.0 Local Standards

Bushnell Township Ordinance No. 2025-1118 states the following:

> *"An off-site battery storage facility shall not generate sound pressure levels in excess of 55 dBA Leq (1 hour) as measured at the property line of any parcel that is not primarily dedicated to the operation of the offsite battery storage facility or any parcel that, at the time of application, is not primarily dedicated to the operation of equipment or facilities for producing, generating, transmitting, delivering or furnishing gas or electricity for the production of light, heat or power to or for the public for compensation. Decibel modeling shall use the A-weighted scale as designed by the American National Standards Institute."*

For the purpose of this study the property line to be considered for compliance with the 55 dB(A) limit includes adjacent parcels that are occupied by other utility land uses such as PV solar arrays, METC switchyard, and transmission lines.

179 River Street, Troy, New York 12180
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3.0 Project Description

3.1 Project Area

The area surrounding the Site is predominantly rural/agricultural with scattered residences. The topography is generally flat, with elevations ranging from 840 to 790 feet amsl. Vegetation consists of medium grass and shrubs with scattered wooded areas. Most of the area immediately to the north and some to the south has been developed as solar facilities. The nearest residences are approximately 900 feet to the west, 1,000 feet to the northeast, and 3,000 feet to the southeast. The Site is split into two areas, with most of the equipment concentrated in the area 300 feet south of the existing Substation Transformer, and the remaining equipment 1,000 feet to the east, and south of the adjacent solar array (Figures 1, 2).

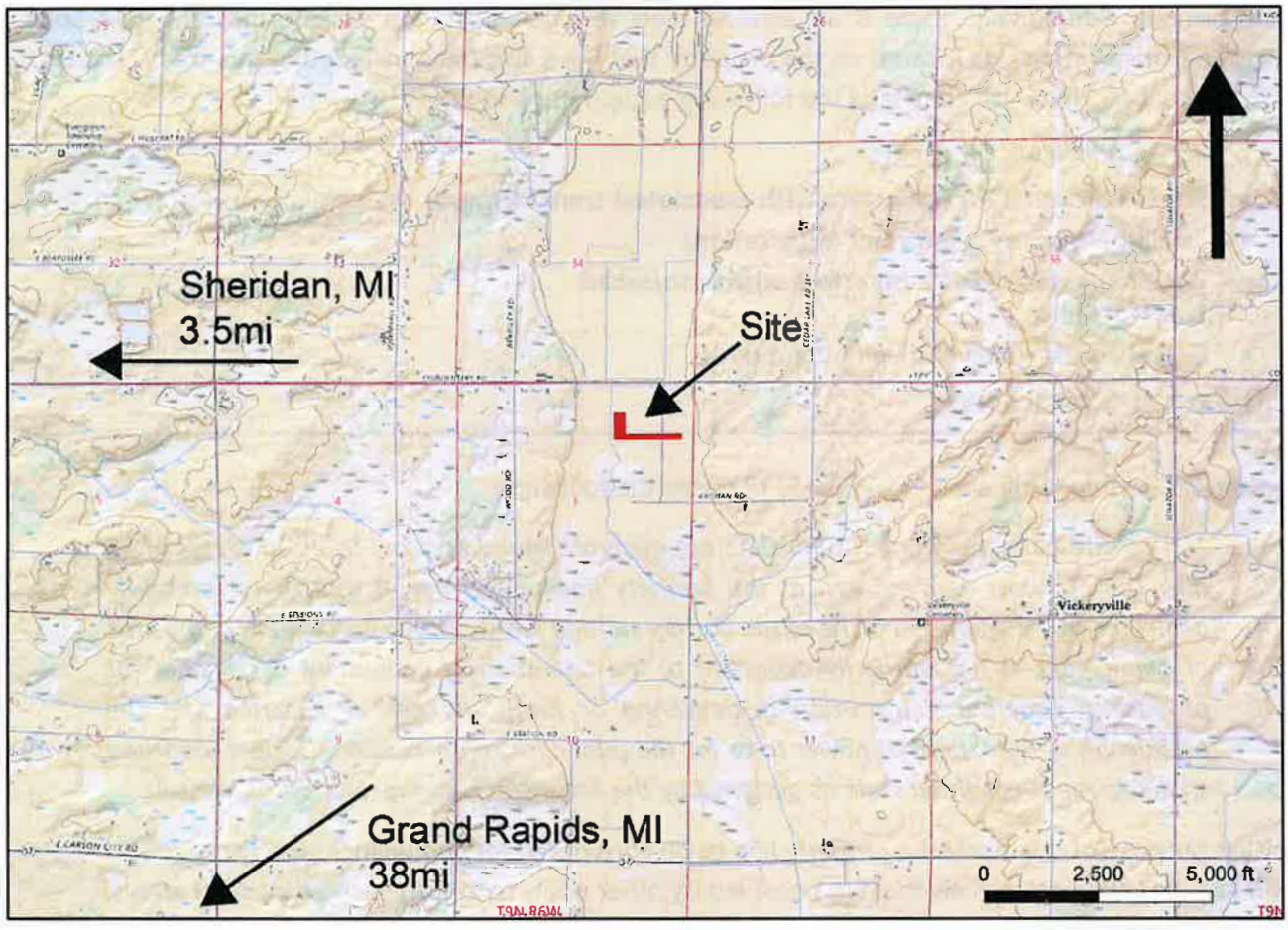

Figure 1 Site Location Map

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3.2 Project Sound Sources

Sound power levels for the BESS units, Inverters, and Substation Transformer were provided by the manufacturers. The sound power levels of the auxiliary and inverter transformers were estimated according to NEMA TP 80050 (formerly NEMA TR-1) (Table 1).

Table 1 Source Sound Power Levels

Sound Source	Octave Band Frequency (Hz) Sound Power Level (dB(A))									Total Sound Power Level	Height Above Grade
	31.5	63	125	250	500	1000	2000	4000	8000	dB(A)	(Feet)
LG DC LINK 5.1	42.4	58.1	40.9	74.2	77.9	77.5	75.2	69.0	60.7	83.0	4.8
EPC Power 10M	-	53.7	65.8	75.6	85.5	81.5	80.9	73.1	63.8	88.3	4.3
Transformers (Inverter Skid)	69.4	72.4	83.4	73.4	73.4	89.4	69.4	66.4	61.4	89.9	4.3
Transformers (Aux)	65.1	68.1	69.1	69.1	69.1	85.1	65.1	62.1	57.1	85.6	3.1
Transformer (Substation)	83.3	84.3	99.3	84.3	88.3	75.3	65.3	58.3	52.3	100.0	7.2
Gamesa 4300 (PV Inverter)		72.5	83.4	92.9	92.4	91.3	89.1	83.1	72.4	98.0	3.7
Transformers (PV)	69.4	72.4	73.4	73.4	73.4	89.4	69.4	66.4	61.4	89.9	5.0

4.0 Sound Propagation Model

A sound propagation model was developed for the area surrounding the Site using ISO 9613-1,2,3 (International Organization for Standardization, 2024) as applied in iNoise acoustic modeling software **(Appendix A)**. The model accounts for surface reflection and absorption (ground attenuation), atmospheric absorption, geometric divergence, additive effect of sound sources, topography, and source sound power level.

The model assumes moderate downwind propagation (wind direction within an arc of 90 degrees with the wind blowing from the source at 11 mph), and a ground-based temperature inversion. Two-foot topographic contours were generated from available data (U.S. Geological Survey, 2016). A ground factor between 0 and 1 was determined for the surrounding areas, 1 indicating soft areas suitable for vegetation and 0 indicating hard surfaces, such as paved roads. A ground factor of (G=0.3) is used for the gravel area of the Site, (G=0) for paved roads, and (G=0.7) for all other areas (Figure 2). Annual average values for temperature and humidity were used: 52°F (11°C) and 70 percent relative humidity **(Appendix B).**

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Each sound source was modeled as a single point source. Sound pressure levels were calculated on a grid spacing between 10 and 150 feet, depending on distance from the project area. At each grid point, sound levels were calculated at 5 feet (1.5-meter) above ground level.

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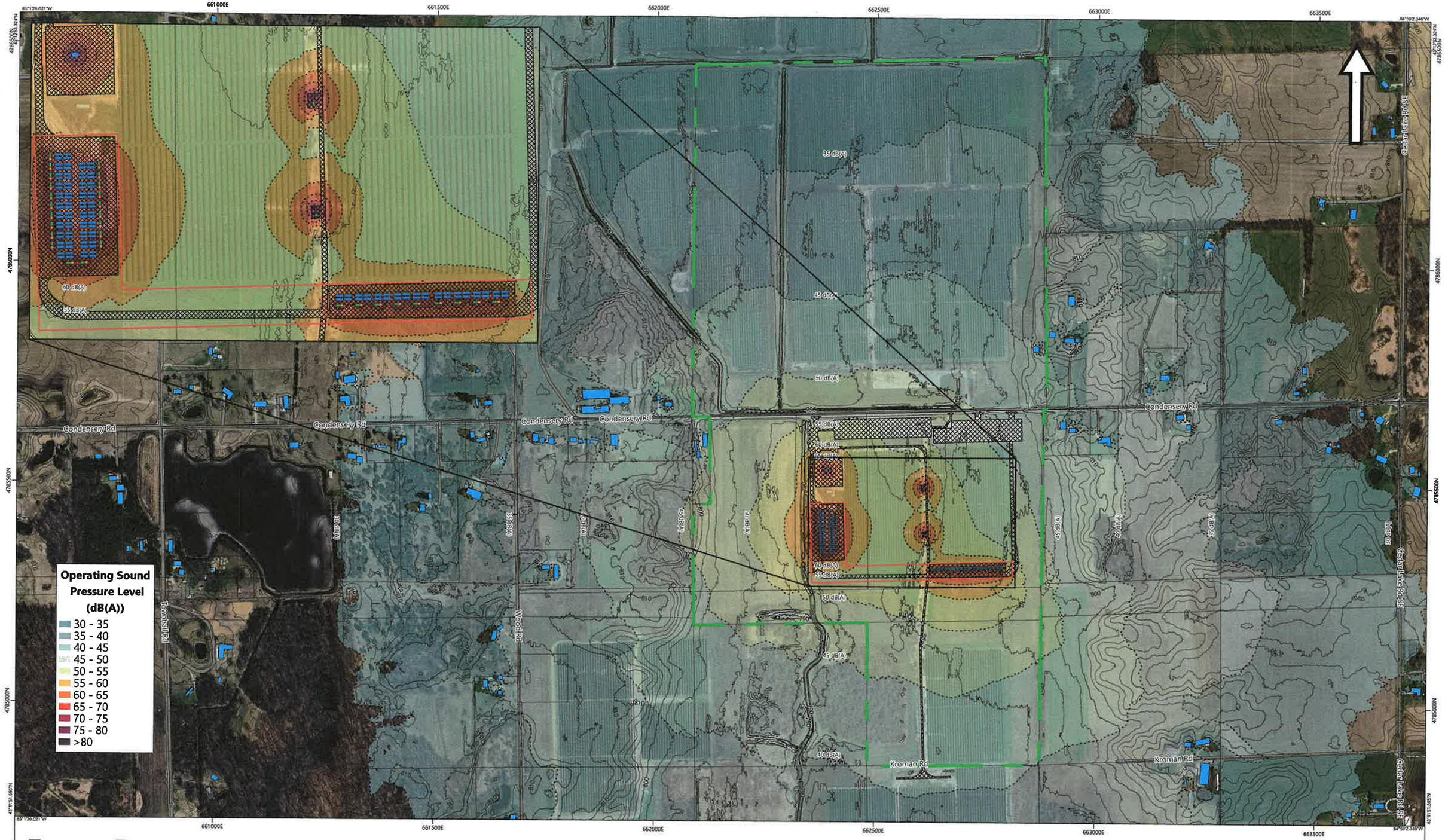

Contours Generated from Lidar..... USGS, 2016
Property Line and Parcel Boundaries..... Montcalm County, 2025
Basemap Imagery..... Google Earth, April 2025
¹ (G=0.7) if not otherwise indicated.

Contour Interval = 2'
1" = 300'
Horizontal Datum: NAD83(2011) / UTM zone 16N
Vertical Datum: NAVD88

Exported: 2025-12-23 23:29

Operating Sound Propagation Model

J. Ranck
Fish Creek BESS
Bushnell Township
Montcalm County, MI

Bowman
179 River Street, Troy, New York 12180
bowman.com

Figure 2

5.0 Results

The modeled sound levels are A-weighted and shown in the form of isolines in 5dB intervals. The model includes all sound sources operating simultaneously and at maximum capacity. The model does not consider sound sources originating from sources not described above, nor ambient sound levels. Sound propagation is generally uniform, with only slight variations due to ground surfaces, topographic attenuation, and the barrier effect of buildings.

6.0 Conclusions

The propagation of sound emissions from the proposed equipment at the Site was modeled using industry standard methods. Model and sound level parameters were chosen to provide conservative results which represent a worst-case scenario assuming the equipment is continuously operating at maximum capacity. Under these conditions, the modeled sound levels do not exceed 50 dB(A) at the property line, which is within the 55 dB(A) regulatory limit.

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7.0 References

International Organization for Standardization. (2024). Acoustics - Attenuation of sound during propagation outdoors (ISO Standard No. ISO 9613-2:2024). Retrieved from https://www.iso.org/standard/74047.html

U.S. Geological Survey. (2016). 3D Elevation Program 1-Meter Resolution Digital Elevation Model. Retrieved September 3, 2025

Appendices

Appendix A - Declaration of Conformity to ISO 9613 and ISO 17534-3

QAI form "Conformity on ISO 9613-2:1996"

The undersigned as the authorized person for the company DGMR Software B.V., ensures that the software product: iNoise, Version: V2024.3 from Date: March 2025 correctly and completely implements the calculation of sound propagation in agreement with ISO 9613-2:1996 in conjunction with the "Uniform and agreed interpretation of ambiguous definitions" of Chapter 5 of ISO/TR 17534-3:2020

Test suite	ISO/TR 17534–3 (Technical Report) – Addendum for ISO 9613–2		
Place and date of publication	**Geneva, International Organization for Standardization ISO 17534-3: 2015 ISO 9613-2: 1996**		
Calculation method	**Recommendations for quality assured implemenation of ISO 9613-2 in software according to ISO 17534-3**		
Test case No.	**Certified results** in dB(A)	**Software calculation result** in dB(A)	**Result inside tolerances**(±0.05) **yes/no**
T01	44,29	44,30	yes
T02	41,53	41,53	yes
T03	39,14	39,15	yes
T04	42,23	42,23	yes
T05	39,30	39,31	yes
T06	40,59	40,60	yes
T07	39,75	39,76	yes
T08	32,48	32,51	yes
T09	32,93	32,95	yes
T10	29,30	29,34	yes
T11	41,30	41,33	yes
T12	43,81	43,84	yes
T13	42,71	42,76	yes
T14	25,38	25,42	yes
T15	49,92	49,97	yes
T16	32,54	32,57	yes
T17	32,72	32,75	yes
T18	34,89	34,90	yes
T19	42,00*	40,62	yes

*The certified result of 42,00 for T19 is not correct. The software result of 40,62 is the correct result. This has been reported to and acknowledged by the ISO 17534 working group.

The Hague, March 2025
Place, date

.....
Signature

Appendix B - Sound Propagation Model Parameters

Report: List of model properties
Model: PV + Substation + BESS

Model property	
Description	PV + Substation + BESS
Responsible	jack.attaway
Calculation method	#-1|Industrial noise|ISO 9613-2:2024|
Created by	jack.attaway on 2025-10-30
Last accessed by	jack.attaway on 2025-12-16
Model created using	iNoise V2024.3
Day Period	00:00 - 24:00
Compound period	Lden
Value	Avg(Day)
Co-ordinate system	NAD83 2011 UTM zone 16N (epsg:6345)
Default terrain level	0
Contour calculation height	1.5
Detail level receiver results	Source results
Detail level grid results	Group results
Calculation optimization on	Yes
Fetching radius [m]	3000
Remove inner walls	Yes
Terrain model	Use only height lines for shielding
Meteorological correction	No meteorological correction
Temperature [K]	284.25
Pressure [kPa]	101.325
Air humidity [%]	70.0
Air absorption [dB/km]	0.03 0.12 0.41 1.07 2.02 3.70 9.35 31.08 111.35
Ground attenuation	General method, ground factor = 0.7
Max. barrier att.	User defined: 70 / 75
Barrier effect	Calculate barrier effect also for direct sight
Max.refl.distance	--
Minimum segment length	2
Distance to length factor	2
Screen segmentation depth	2
Max.refl.depth	1
Limit barrier attenuation (Annex D.3)	No
Apply valley correction for ground attenuation (Annex D.5)	No

DTE

APPENDIX H – INDEMNITY AGREEMENT

INDEMNITY AGREEMENT

This Agreement is made and entered into effective the _____ day of _____, 2026, ("Effective Date"), by and between DTE ELECTRIC COMPANY ("DTE"), a Michigan corporation, with offices at One Energy Plaza, Detroit, Michigan, 48226 and **[INSERT NAME]** TOWNSHIP (the "Township"), a Michigan general law township, with offices at **[INSERT ADDRESS]**. DTE and the Township are sometimes referred to in this Agreement individually as a "Party" and collectively as the "Parties".

WHEREAS, on **[INSERT DATE]**, the Township approved a **[NAME PERMIT]** authorizing DTE to install and maintain **[DESCRIBE USE]** in the Township (the "Project").

WHEREAS, the special use permit requires DTE to enter into an indemnification agreement with the Township in an amount not to exceed $2,000,000.00.

WHEREAS, in full satisfaction of the indemnification requirement, DTE agrees to indemnify the Township as provided herein.

NOW THEREFORE, for and in consideration of the mutual promises contained herein and the benefits to be derived therefrom, the Parties agree as follows:

1. Term. The Term of this Agreement shall commence on the Effective Date and continue until the decommissioning bond or other financial security for decommissioning of all aspects of the Project installed in the Township has been released by resolution of the Township Board of Trustees or other operation of law (the "Release"). This Agreement shall automatically terminate upon the Release; however, the terms of this Agreement shall survive and control the resolution of all claims raised after such Release occurs, which claims otherwise would be controlled and governed by this Agreement based upon facts having occurred prior to the Release.

2. Indemnity. Subject to Sections 3 and 4 of this Agreement, DTE agrees to defend, indemnify, and hold harmless the Township, its trustees, officers, employees, and agents (collectively, "Township Indemnitees"), from and against any losses, claims, actions, liabilities, damages, settlements, judgments, deficiencies, penalties, fines, costs, or expenses, including attorneys' fees (collectively, "Losses") directly or indirectly arising from or attributable to any third-party claim of any nature, including, but not limited to, bodily injury, death, or damage to real or personal property to the extent caused, in whole or party, by the operation, construction, maintenance, or decommissioning of the Project and any related components, or any negligent or more culpable acts or omissions attributable to DTE or its contractors, employees, or agents in an amount not to exceed $2,000,000.00, per event occurring prior to Release, exclusive of attorney's fees and costs related to the defense of the Township.

3. Limitations. Notwithstanding anything to the contrary in this Agreement, DTE is not obligated to defend, indemnify, or hold harmless Township Indemnitees against any Losses to the extent such Losses arise out of or result from, in whole or in part, the Township's or any Township Indemnitee's. gross negligence or more culpable act or omission.

4. Procedures. To invoke the rights of any Township Indemnitee under this Agreement, the Township shall promptly give DTE written notice of any Losses or discovery of

facts on which the Township intends to base a request for indemnification. Each such notice must contain a description of the third-party claim and the nature and amount of the related Losses (to the extent that the nature and amount of the Losses are known at the time). The Township shall promptly furnish DTE copies of all papers and official documents received with respect to any Losses. The Township and each Township Indemnitee agrees to: (i) allow DTE to undertake, conduct, and control, through counsel of its own choosing, the defense, appeal or settlement of any third-party claim as it relates to the acts or omissions of DTE or its contractors, employees, or agents; (ii) cooperate with DTE and its chosen counsel in the defense of any claim or liability and any related settlement negotiations; and (iii) refrain from settling any claim or liability without the prior written consent of DTE. DTE agrees to obtain the Township's prior approval, which shall not be unreasonably withheld, before entering into any proposed settlement. Moreover, upon written notice to DTE, the Township may choose to waive or immediately terminate DTE's indemnification of the Township related to any legal action under this Agreement and obtain its own legal counsel at its own cost for its own defense. If the Township assumes its own defense and terminates DTE's indemnification for any Losses using the process above: (1) DTE has no obligation to reimburse the Township for any Losses or attorney's fees associated with any action that the Township decides to defend and/or settle on its own; and (2) the Township shall not settle any claims on behalf of DTE. Notwithstanding any other provision in this Agreement, DTE shall not be liable for any Losses if the Township fails to comply with the procedures set forth under this Section 4.

5. Notice. Each Party shall deliver all notices, requests, consents, claims, demands, waivers, and other communications under this Agreement (each, a "Notice") in writing and addressed to the other Party at its address set out below (or to any other address that the receiving Party may designate from time to time in accordance with this section). Each Party shall deliver all Notices by personal delivery, nationally recognized overnight courier (with all fees prepaid); facsimile or email (with confirmation of transmission), or certified or registered mail (in each case, return receipt requested, postage prepaid).

If to the Township:	Township Supervisor
with a copy to:	
If to DTE:	Director of Energy Storage Development One Energy Plaza 21st Floor WCB Detroit, MI, 48226
with a copy to:	Office of the General Counsel One Energy Plaza 1635 WCB Detroit, MI, 48226 Attention: General Counsel

6. Successors; Assignment. The terms, covenants and conditions of this Agreement shall be binding upon and shall inure to the benefit of the successors and permitted assigns of the Parties. DTE may assign this Agreement to an affiliated entity (e.g. a subsidiary of DTE) upon written notice to the Township. If DTE desires to assign this Agreement to an unaffiliated entity

(e.g. a corporate entity not controlled by DTE), such an assignment will require approval of the Township expressed in a resolution of the Township Board.

7. Governmental Immunity. Nothing in this Agreement shall be construed as a waiver of governmental immunity or other defenses to liability available to either the Township or any officer or employee of the Township.

8. Authority to Bind. Each Party to this Agreement represents and warrants that the execution, delivery and performance of this Agreement and the consummation of the transactions provided in this Agreement have been duly authorized by all necessary action of the respective Party and that the officer executing this Agreement on its behalf has the full capacity to bind that Party.

9. Applicable Law. The Parties expressly agree that all the terms and provisions hereof shall be governed by and construed under the laws of the State of Michigan.

10. Entire Agreement. This Agreement is executed in satisfaction of the Indemnification Condition and supersedes all prior oral agreements among the Parties with regard to the subject matter hereof. This Agreement represents the entire understanding among the Parties regarding same, making all other representations null and void. No modification, alteration, amendment or waiver of any provision of this Agreement shall be binding upon the Parties unless evidenced by a writing signed by all Parties hereto.

11. Severability. If any part of this Agreement is held to be invalid or unenforceable, the remaining provisions shall be enforceable to the maximum extent permitted by law, provided that such remaining provisions effectuate fully the intent of the Parties as manifested herein.

12. Drafting of Agreement. In the event a dispute arises between the Parties in a court of law or otherwise as to the meaning or interpretation of this Agreement or the rights and responsibilities of the Parties created hereunder, this Agreement shall be deemed to have been drafted by both Parties.

13. Definition of Terms. Any terms capitalized herein but not otherwise defined shall have the meaning as stated in the township permit for the Proejct.

14. Counterparts. This Agreement may be executed in one or more counterparts, each of which is an original, and all of which together constitute only one agreement between the Parties. Delivery of an executed counterpart's signature page of this Agreement, by facsimile, electronic mail in portable document format (.pdf) or by any other electronic means intended to preserve the original graphic and pictorial appearance of a document.

IN WITNESS WHEREOF, DTE and the Township have caused this Agreement to be executed by their duly authorized representatives as of the date first above written.

[INSERT] TOWNSHIP **DTE ELECTRIC COMPANY**

By:	By:
Name:	Name:
Title:	Title:

DTE

APPENDIX I – BESS PRODUCT DETAILS

LG Energy Solution Vertech

Fully Integrated Solutions for Maximized Returns

JF2 4HR DC LINK

Streamlined Energy Storage Systems

The JF2 4HR DC LINK is a flexibly configured BESS solution containing all components for a BESS within a single product that meets domestic content requirements, including batteries, PCS, liquid cooling systems, and EMS. Systems are conveniently designed to be configured with your preferred power converter and minimize site installation costs, time, and footprint, and maximize efficiency and uptime.

- Made in the USA
- 5.11 MWh DC block
- Bankable Solution
- Lifetime energy storage partnership
- Complete warranty and O&M Services
- Advanced EMS and analytics suite

PRODUCT SPECIFICATIONS

Cell Technology
Lithium Iron Phosphate (LFP)
Nominal Energy
5.11 MWh
Nominal DC Voltage
1,134V-1,499V
Maximum CP-Rate
0.25 CP (4h)
Weight
105,821 lb [48,000 kg]
Dimensions
23' W x 8.4' L x 9.5' H
[7.02m W x 2.57m L x 2.90m H]
Degree of Protection
IP55
Thermal Management
Liquid Cooling
Control Software
AEROS™ EMS (controls)

ENVIRONMENT

Operating Temperature Range
-22 ~ 122ºF (-30 ~ 50ºC)
Altitude
6,562 ft [< 2,000 m]
Seismic
SDS 1.2g

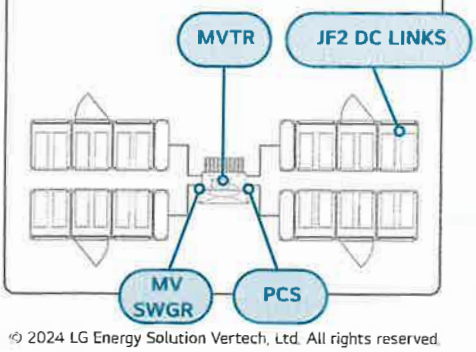
COMPLIANCE

Safety Features
Gas detection and active venting system, fire detection and alarm system, UL9540A and large-scale fire testing
Standards and Certifications
UL9540, UL1973, UL1624, UL1741 (SA, SB), IEEE1547, UN 38.3, NFPA 855, NFPA 69, NFPA 72, IFC/CFC

COMMISSIONING

Battery Cabling
Pre-assembled
PCS – Battery Cabling
Assembled on-site by EPC
MVTR – PCS Cabling
Assembled on-site by EPC
EMS
Installed on-site by EPC
Auxiliary Power Supply
Internally derived

Typical On-site Layout



Fully Integrated Software Suite

Flexible Plant Controls

The **AEROS™ software suite** offers controls, analytics, and monitoring for optimized site functionality of energy storage and hybrid power plants.

The suite is comprised of **AEROS™ EMS** and **AEROS™ Cloud**.

AEROS™ EMS

On-site controls to manage your energy storage power plants. AEROS™ EMS can be used to dispatch active and reactive power and follow grid and market specific signals.

AEROS™ Cloud

A portfolio of cloud-based tools that increases the value of your assets. Includes monitoring and analytics, ESS modeling, anomaly detection and energy market forecasting.

The AEROS™ suite leverages proprietary battery data and enables seamless site control.

- Robust and field-proven energy management system used in over 120 sites
- Customized controls for regional market functions
- Data historian and anomaly detection enables optimized energy market participation

The Flexibility to Achieve Your Long-Term Goals

Long-Term Service Agreements

With our tiered service approach, we offer customers flexible service solutions that can support every need.

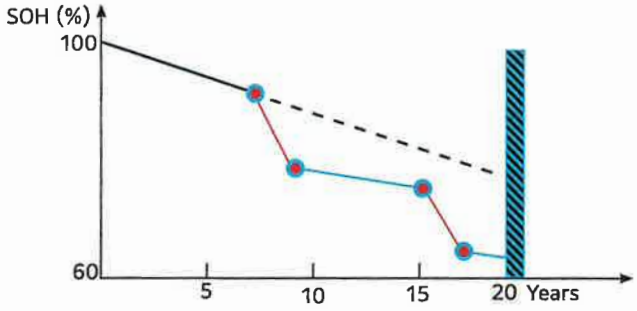
Services include preventative maintenance, predictive and degradation analytics, digital twin, cloud dashboard access, and more.

Flexible Warranties

Our vertically integrated approach provides insight into battery functions and enables us to provide comprehensive system-level **warranties for up to 20 years backed by LG Energy Solution**. Additional system-level assurances include:

- **Flexible Energy Assurances** that enable annual warranty adjustment points based on actual system use
- **Availability Assurances** up to 99%
- **Round Trip Efficiency Assurances** ensuring peak system performance

FLEXIBLE ENERGY ASSURANCES



KEY

- End of Warranty Period
- Warranty Adjustment Point
- Initial Usage Profile (1 cycle/day)
- Aggressive Usage (2 cycles/day)
- Mild Usage (1 cycle/2 days)

LG Energy Solution Vertech
(508) 497-7319
155 Flanders Road, Westborough, MA 01581
LinkedIn
lgensol-vt.com
CONTACT US: lgensol-vt.com/contact-us/