STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JANET T. MILLS
GOVERNOR

GERALD D. REID
COMMISSIONER

March 6, 2020

Butch Bracy
Mount Desert Island Regional School System
AOS #91
P.O. Box 60
Mount Desert, ME 04660
BBRACY@MDIRSS.ORG

Sent via electronic mail
Delivery confirmation requested

RE: ICIS Tracking Number #MEU503319
Maine Waste Discharge License (WDL) Application # W003319-6B-F-R
Proposed Draft License Renewal

Dear Mr. Bracy:

Attached is a proposed draft MEPDES permit and Maine WDL which the Department proposes to issue for your facility as a final document after opportunity for your review and comment. By transmittal of this letter, you are provided with an opportunity to comment on the proposed draft permit and its special and standard conditions. If it contains errors or does not accurately reflect present or proposed conditions, please respond to this Department so that changes can be considered.

By copy of this letter, the Department is requesting comments on the proposed draft permit from various state and federal agencies and from any other parties who have notified the Department of their interest in this matter.

The comment period begins on March 6, 2020 and ends on April 6, 2020. All comments on the proposed draft permit must be received in the Department of Environmental Protection office on or before the close of business on April 6, 2020. Failure to submit comments in a timely fashion will result in the proposed draft/license permit document being issued as drafted.

Comments in writing should be submitted to my attention at the following address:

Maine Department of Environmental Protection
Bureau of Water Quality
Division of Water Quality Management
17 State House Station
Augusta, ME 04333-0017
Aaron.A.Dumont@maine.gov

If you have any questions regarding the matter, please feel free to contact me.

Sincerely,

Aaron Dumont
Division of Water Quality Management
Bureau of Water Quality
Aaron.A.Dumont@maine.gov
Phone: 207-287-1939

Enclosure

cc: Gary Brooks, DEP/NMRO
Lori Mitchel, DEP/CMRO
Marelyn Vega, USEPA
Richard Carvalho, USEPA

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

MOUNT DESERT ISLAND REGIONAL SCHOOL SYSTEM BAR HARBOR, HANCOCK COUNTY, ME SURFACE WASTEWATER DISPOSAL SYSTEM MEU503319 W003319-6B-F-R **APPROVAL**	)	PROTECTION AND IMPROVEMENT OF WATERS AND WASTE DISCHARGE LICENSE **RENEWAL**

Pursuant to *Conditions of licenses*, 38 M.R.S. § 414-A, and applicable regulations, the Department of Environmental Protection (Department) has considered the application of MOUNT DESERT ISLAND REGIONAL SCHOOL SYSTEM (Licensee), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

On April 25, 2019, the Department accepted as complete for processing an application from the licensee for the renewal of Waste Discharge License (WDL) #W-003319-6B-E-R / Integrated Compliance Information System (ICIS) tracking number #MEU503319, which was issued by the Department on September 3, 2014, for a five-year term. The 9/3/2014 license authorized the operation of a surface wastewater disposal (spray-irrigation) system for the treatment and seasonal disposal (April 15th – November 15th) of treated sanitary wastewater to the north and easterly of the Mount Desert Island Regional High School. The surface wastewater disposal system was located 5.45 acres of which 5.16 acres were determined suitable for spray irrigation. At present the wastewater disposal system has a total area of 3.85 acres and discharges to groundwater, Class GW-A, located in Bar Harbor, Maine. The treatment system has a design capacity based on 750 students and staff is approximately 9,300 gallons per day (gpd).

LICENSE SUMMARY

This licensing action is carrying forward all the terms and conditions of the previous licensing action.

CONCLUSIONS

Based on the findings summarized in the attached and incorporated Fact Sheet dated March 6, 2020, and subject to the special and standard conditions that follow, the Department makes the following CONCLUSIONS:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.

2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.

3. The provisions of the State's antidegradation policy, *Classification of Maine waters*, 38 M.R.S.§ 464(4)(F), will be met, in that:

    a. Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;

    b. Where high quality waters of the State constitute an outstanding natural resource, that water quality will be maintained and protected;

    c. Where the standards of classification of the receiving waterbody are not met, the discharge will not cause or contribute to the failure of the waterbody to meet the standards of classification;

    d. Where the actual quality of any classified receiving waterbody exceeds the minimum standards of the next highest classification that higher water quality will be maintained and protected; and

    e. Where a discharge will result in lowering the existing water quality of any waterbody, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.

4. The discharge will be subject to effluent limitations that require application of best practicable treatment as defined in *Conditions of licenses*, 38 M.R.S. § 414-A(1)(D).

ACTION

THEREFORE, the Department APPROVES the above noted application of the MOUNT DESERT ISLAND REGIONAL SCHOOL SYSTEM to operate a surface wastewater disposal (spray irrigation) system for the treatment and seasonal disposal (April 15 – November 15) of secondary treated wastewater with spray amounts in accordance with table A.2 of this license to spray field SF-1 of secondary treated sanitary wastewater indirectly to ground water, Class GW-A, in Bar Harbor, Maine, SUBJECT TO THE FOLLOWING CONDITIONS, and all applicable standards and regulations including:

1. *Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable to All Permits*, revised July 1, 2002, copy attached.

2. The attached Special Conditions, including any effluent limitations and monitoring requirements.

3. This license and the authorization to discharge become effective upon the date of signature below and expire at midnight five (5) years from the effective date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this license, the authorization to discharge and the terms and conditions of this license and all modifications and minor revisions thereto remain in effect until a final Department decision on the renewal application becomes effective. [*Maine Administrative Procedure Act*, 5 M.R.S. § 10002 and *Rules Concerning the Processing of Applications and Other Administrative Matters*, 06-096 CMR 2(21)(A) (amended June 9, 2018)]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

DONE AND DATED AT AUGUSTA, MAINE, THIS _____ DAY OF _____, 2020.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
GERALD D. REID, Commissioner

Date filed with Board of Environmental Protection _____.

Date of initial receipt of application: April 25, 2019
Date of application acceptance: April 25, 2019

This Order prepared by Aaron Dumont, BUREAU OF WATER QUALITY

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Beginning the effective date of this license, the licensee is authorized to operate a surface wastewater treatment and disposal system. The **STORAGE LAGOON EFFLUENT(1)** (**OUTFALL #001)** must be limited and monitored as specified below:

Monitoring Parameters	**Daily Maximum** as specified	**Minimum Measurement Frequency** as specified	**Sample Type** as specified
Biochemical Oxygen Demand *(July and August)* *[00310]*	100 mg/L *[19]*	2/Year(2) *[02/YR]*	Grab *[GR]*
Lagoon Level Freeboard *(April 1st—November 30th)* *[82564]*	Two feet (minimum level) *[27]*	1/Week(2) *[01/07]*	Measure *[MS]*
Total Suspended Solids *(July and August)* *[00530]*	100 mg/L *[19]*	2/Year(2) *[02/YR]*	Grab *[GR]*
Nitrate-Nitrogen *(July and August)* *[00620]*	Report mg/L *[19]*	2/Month(2) *[02/YR]*	Grab *[GR]*

The bracketed italicized numeric values in the table above and the tables that follow are code numbers that the Department personnel utilize to code the monthly Discharge Monitoring Reports.

FOOTNOTES: See Pages 8 – 9 of this license for applicable footnotes.

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

2. Application of wastewater to the land via a spray irrigation system must be limited to the time frame of April 15th – November 15th of each year. The **SPRAY IRRIGATION FIELDS (SF1)** must be limited and monitored as specified below.

Monitoring Parameters	**Monthly Total**	**Weekly Maximum** as specified	**Minimum Measurement Frequency** as specified	**Sample Type** as specified
Application Rate (Weekly)(4) *(April 15th – May 31st)* *[51125]*		54,300 gal/acre/week(5) (2.0 in/week) *[8B]*	1/Week *[01/07]*	Calculate *[CA]*
Application Rate (Weekly)(4) *(June)* *[51125]*		81,450 gal/acre/week(5) (3.0 in/week) *[8B]*	1/Week *[01/07]*	Calculate *[CA]*
Application Rate (Weekly)(4) *(July)* *[51125]*		95,025 gal/acre/week(5) (3.5 in/week) *[8B]*	1/Week *[01/07]*	Calculate *[CA]*
Application Rate (Weekly)(4) *(August)* *[51125]*		86,880 gal/acre/week(5) (3.2 in/week) *[8B]*	1/Week *[01/07]*	Calculate *[CA]*
Application Rate (Weekly)(4) *(September)* *[51125]*		59,730 gal/acre/week(5) (2.2 in/week) *[8B]*	1/Week *[01/07]*	Calculate *[CA]*
Application Rate (Weekly)(4) *(October – November 15th)* *[51125]*		27,150 gal/acre/week(5) (1.0 in/week) *[8B]*	1/Week *[01/07]*	Calculate *[CA]*
Flow – Total Gallons(3) *[51500]*	Report (Gallons) *[57]*	---	1/Month *[01/30]*	Calculate *[CA]*

The bracketed italicized numeric values in the table above and the tables that follow are code numbers that the Department personnel utilize to code the monthly Discharge Monitoring Reports.

FOOTNOTES: See Pages 8 – 9 of this license for applicable footnotes.

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

3. **GROUNDWATER MONITORING WELLS**:

- MW-1A (Corresponds to the well located downgradient of the lagoons is located southwesterly of lagoon #1)
- MW-2A (corresponds to the well located downgradient from the spray irrigation area is located southerly of spray lateral A)
- MW-3A (corresponds to the well located upgradient from the spray irrigation area is located northerly of spray lateral #1)

Monitoring Parameter	**Daily Maximum** As specified	**Measurement Frequency** as specified	**Sample Type** as specified
Depth to Water Level Below Landsurface *(May 1 – October 31)* *[72019]*	Report (feet)(6) *[27]*	3/Year(7)(8) *[03/YR]*	Measure *[MS]*
Nitrate-Nitrogen *[00620]*	10 (mg/L) *[19]*	3/Year(8) *[03/YR]*	*Grab* *[GR]*
Specific Conductance *[00095]*	Report (umhos/cm) *[11]*	3/Year(8)(9) *[03/YR]*	*Grab* *[GR]*
Temperature (°C) *[00010]*	Report (°C) *[04]*	3/Year(8)(9) *[03/YR]*	*Grab* *[GR]*
Total Suspended Solids *[00530]*	Report (mg/L) *[19]*	3/Year(8) *[03/YR]*	*Grab* *[GR]*
pH (Standard Units) *[00400]*	Report (S.U.) *[12]*	3/Year(8)(9) *[03/YR]*	*Grab* *[GR]*

The bracketed italicized numeric values in the table above and the tables that follow are code numbers that the Department personnel utilize to code the monthly Discharge Monitoring Reports.

FOOTNOTES: See Pages 8 – 9 of this license for applicable footnotes.

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS

4. Sampling of the **LAGOON UNDERDRAIN** must be conducted **in the month of July of each year** as specified below.

Monitoring Parameter	**Daily Maximum** As specified	**Measurement Frequency** as specified	**Sample Type** as specified
Flow Rate *[00058]*	Report GPM *[78]*	1/Year *[01/YR]*	Estimate *[ES]*
Specific Conductance *[00095]*	Report (umhos/cm) *[11]*	1/Year *[01/YR]*	*Grab* *[GR]*
Temperature (°C) *[00010]*	Report (°C) *[04]*	1/Year *[01/YR]*	*Grab* *[GR]*

The bracketed italicized numeric values in the table above and the tables that follow are code numbers that the Department personnel utilize to code the monthly Discharge Monitoring Reports.

FOOTNOTES: See Pages 8 – 9 of this license for applicable footnotes.

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

FOOTNOTES: Special Condition A(1), A(2) & A(3)

Sampling – Any change in sampling location must be approved by the Department in writing. The licensee must conduct sampling and analysis in accordance with; a) methods approved by 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis must be analyzed by a laboratory certified by the State of Maine's Department of Health and Human Services for wastewater. Samples that are sent to a publicly owned treatment works (POTW) pursuant to *Waste discharge licenses*, 38 M.R.S. § 413 are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules*, 10-144 CMR 263 (effective December 19, 2018). Laboratory facilities that analyze compliance samples in-house are subject to the provisions and restrictions of 10 − 144 CMR 263. If the licensee monitors any pollutant more frequently than required by the license using test procedures approved under 40 CFR Part 136 or as specified in this license, the results of this monitoring must be included in the calculation and reporting of the data submitted in the discharge monitoring report (DMR).

1. **Storage Lagoon Effluent Sampling Location** − Storage lagoon effluent must be sampled from the sampling port on the effluent pipe leading from the lagoon pumphouse to the spray irrigation area and must be representative of what is sprayed on the spray-irrigation fields.

2. **Lagoon Effluent Sampling** − All lagoon effluent sampling must be conducted in the months of **July and August** of each calendar year in accordance with approved methods for sampling, handling and preservation with the exception of Lagoon Level Freeboard. Lagoon Level Freeboard must be measured between the months of **April through November** of each year. The licensee is not required to test for these parameters during a month where no wastewater was disposed of via the spray irrigation system.

3. **Flow** − The licensee must measure the flow of wastewater to the irrigation area using a flow meter. The methodology must be checked for calibration at least once per calendar year.

4. **Application Rate** − A field's daily or weekly application rate is the total gallons sprayed over the applicable period of time divided by the size of the wetted area of the spray irrigation field in acres or the size in acres of that portion of the field utilized. Note: 27,152 gallons is equivalent to 1 acre-inch.

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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

FOOTNOTES: Special Condition A(1), A(2) & A(3)

5. **Discharge Monitoring Report** − "Weekly" is defined as Sunday through Saturday. The licensee must measure the flow of wastewater to the irrigation area by the use of a flow measuring device that is checked for calibration at least once per calendar year. For Discharge Monitoring Report (DMR) reporting purposes, the licensee must report the highest weekly application rate for the month in the applicable box on the form. Compliance with weekly reporting requirements must be reported for the month in which the calendar week ends.

6. **Depth to Water Level** − Measured to the nearest one-tenth ($1/10^{th}$) of a foot as referenced from the surface of the ground at the base of the monitoring well.

7. **Depth to Water Level Below the Land Surface** − must be conducted at the monitoring wells in accordance with the sampling frequency specified in footnote #8 below.

8. **Groundwater Monitoring Period** − Groundwater sampling must be conducted three times per year in the months of **(1) May, (2) July or August, and (3) October** of each year. Sampling, handling and preservation must be conducted in accordance with federally approved methods (See footnote #1 above).

9. **Field Measurements** – Specific conductance (calibrated to 25.0°C), temperature, and pH are considered to be "field" parameters, and are to be measured in the field via instrumentation. The licensee is required to test for these parameters whether wastewater was disposed of via the spray-irrigation system or not.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent must not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the use designated by the classification of the groundwater.

2. The effluent must not lower the quality of any classified body of groundwater below such classification, (groundwater is a classified body of water under 38 M.R.S. § 465-C) or lower the existing quality of any body of water if the existing quality is higher than the classification.

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SPECIAL CONDITIONS

C. TREATMENT PLANT OPERATOR

The person who has the management responsibility over the wastewater treatment facility must hold a **Maine Grade I** Spray Irrigation Treatment System (SITS) certificate, or equivalent as allowed pursuant to *Sewerage Treatment Operators,* Title 32 M.R.S., Sections 4171-4182 and *Regulations for Wastewater Operator Certification*, 06-096 CMR 531 (effective May 8, 2006). All proposed contracts for facility operation by any person must be approved by the Department before the licensee may engage the services of the contract operator.

D. AUTHORIZED DISCHARGES

The licensee is authorized to discharge only in accordance with: 1) the licensee's General Application for Waste Discharge License, accepted for processing on April 25, 2019; 2) the terms and conditions of this license; and 3) only to the existing spray-irrigation fields (SF-1). Discharges of wastewater from any other point source(s) are not authorized under this license, and must be reported in accordance with Standard Condition D(1)(F), *Twenty-four hour reporting*, of this license.

E. NOTIFICATION REQUIREMENT

In accordance with Standard Condition D, the licensee must notify the Department of the following:

1. Any substantial change in the volume or character of pollutants being introduced into the wastewater collection and treatment system by a source introducing pollutants to the system at the time of license issuance.

2. For the purposes of this section, notice regarding substantial change must include information on:

    a. the quality and quantity of wastewater introduced to the wastewater collection and treatment system; and

    b. any anticipated impact caused by the change in the quantity or quality of the wastewater to be discharged from the treatment system.

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SPECIAL CONDITIONS

F. GENERAL OPERATIONAL CONSTRAINTS

1) All wastewater must receive pretreatment through the 37,000 gallon septic tank and a properly designed, operated and maintained lagoon system prior to land irrigation.

2) The spray irrigation facilities must be effectively maintained and operated at all times so that there is no discharge to surface waters, nor any contamination of ground water which will render them unsatisfactory for usage as a public drinking water supply.

3) The surface wastewater disposal system must not cause lowering of the quality of the groundwater below the State Primary and Secondary Drinking Water Standards specified in the Maine State Drinking Water Regulations pursuant to Maine Law 22 M.R.S. § 2611.

4) In the event groundwater indicates adverse effects, the licensee may be required to take immediate remedial action(s), which may include but not limited to, adjustment of the irrigation schedule or application rates, a reduction of the pollutant loading, or ceasing operation of the system until the groundwater attains applicable standards.

5) The Department must be notified as soon as the licensee becomes aware of any threat to public health, unlicensed discharge of wastewater, or any malfunction that threatens the proper operation of the system, and action taken to repair/correct, and prevent recurrence. Notification must be made in accordance with the attached Standard Condition #4 of this license.

G. SPRAY IRRIGATION OPERATIONAL CONSTRAINTS

1. Suitable vegetative cover must be maintained. Wastewater may not be applied to areas without sufficient vegetation or ground cover as to prevent erosion or surface water runoff outside the designated boundaries of the spray fields.

2. At least 10 inches of separation from the ground surface to the groundwater table must be present prior to spraying.

3. There must be no runoff outside the designated spray field boundaries as a result of operation of the spray system.

4. No wastewater must be applied to the site following a rainfall accumulation exceeding 1.0 inch within the previous 24-hour period. A rain gauge must be located onsite to monitor daily precipitation. The licensee must also manage application rates by taking into consideration the forecast for rain events in the 48-hour period in the future.

5. No wastewater must be applied where there is snow present on the surface of the ground.

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SPECIAL CONDITIONS

G. SPRAY IRRIGATION OPERATIONAL CONSTRAINTS (cont'd)

6. No wastewater must be applied when there is frost within the upper 10 inches of the soil profile.

7. No traffic or equipment must be allowed in the spray irrigation field except where installation occurs or where normal operations and maintenance are performed.

H. SPRAY IRRIGATION OPERATIONAL PROCEDURES, LOGS AND REPORTS

1. **Each day prior to irrigating**, the licensee must visually inspect the spray irrigation site to determine if the soil moisture conditions are appropriate for spraying and all the operational constraints listed in Special Condition G above are met.
2. The licensee must at all times maintain in good working order and operate at maximum efficiency all wastewater collection, treatment and/or control facilities. **Within one hour after start-up of the spray irrigation system**, the licensee must walk the spray irrigation site (and maintenance staff will also periodically monitor the spray equipment throughout the day) to check the system for leakage in the piping system and determine if individual spray heads and pump(s) are functioning as designed, and verify that application rates are appropriate for the existing site conditions. Should significant malfunctions or leaks be detected, the licensee must shut down the malfunctioning portion of the spray system and make necessary repairs before resuming operation of the spray system. The licensee must cease irrigation if runoff is observed outside the designated boundaries of the spray field(s).

3. **The licensee must maintain a daily log of all spray irrigation operations** which records, date, weather and soil conditions, rainfall, lagoon freeboard (top of lagoon to the water surface), areas irrigated, volume sprayed (gallons), application rates (daily and hourly), and other relevant observations/comments from daily inspections. The log must be in accordance with the format or similar format of the "*Monthly Operations Log*" provided as **Attachment "A**" of this license**.**

   Weekly spray application rates must be reported in accordance with the format or similar format of the "*Spray Application Report by Week*" provided as **Attachment B** of this license. Depth to water below land surface observed in monitoring wells must be reported in accordance with the format or similar format provided as **Attachment A** of this license.

   The daily operational logs and weekly spray application reports for each month must be submitted to the Department as an attachment to the monthly Discharge Monitoring Reports. Copies will also be maintained on site for Department review and for license operation maintenance purposes.

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SPECIAL CONDITIONS

I. VEGETATION MANAGEMENT

1. The licensee must remove grasses and other vegetation such as shrubs and trees if necessary so as not to impair the operation of the spray irrigation system, ensure uniform distribution of wastewater over the desired application area and to optimize nutrient uptake and removal.

2. The vegetative buffer zones along the perimeter of the site must be maintained to maximize vegetation and forest canopy density in order to minimize off-site drift of spray.

J. LAGOON MAINTENANCE

1. The banks of the lagoon must be inspected periodically during the operating season (at least two times per year) and properly maintained at all times. There must be no overflow through or over the banks. Any signs of leaks, destructive animal activity or soil erosion of the banks must be repaired immediately.

2. The banks of the lagoon must be maintained to keep them free of woody vegetation and other vegetation that may be detrimental to the integrity of the bank and/or lagoon liner. The water within the lagoons must be kept free of all vegetation (i.e. grasses, reeds, cattails, etc) that hinders the operation of the lagoon.

3. The licensee must maintain the lagoon freeboard at a level no higher than design levels.

4. The treatment and storage lagoons must be dredged as necessary to maintain the proper operating depths in all lagoons that will provide best practicable treatment of the wastewater. All material removed from the lagoon(s) must be properly disposed of in accordance with all applicable State and Federal rules and regulations.

5. The licensee must maintain the lagoon freeboard at design levels or at least two (2) feet whichever is greater. The storage lagoon must be operated in such a way as to balance the disposal of wastewater via spray irrigation, including the necessary storage capacity for precipitation, to ensure that design freeboard levels are maintained.

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SPECIAL CONDITIONS

K. SEPTIC TANK

1. Septic tanks, grease interceptors and other treatment tanks must be regularly inspected (at least once per calendar year) and maintained to ensure that they are providing best practicable treatment.

2. Tank contents should be removed whenever the sludge and scum occupies one-third of the tank's liquid capacity or whenever levels approach maximum design capacity. Following pumping, the tanks must be checked for damage at key joints and the inlet and outlet baffles, and repaired promptly if damaged. The licensee must keep a pumping log including the date of pumping, quantity of material removed, name and number of licensed contractor, pumping frequency and other relevant observations.

L. INSPECTIONS AND MAINTENANCE

The licensee must periodically inspect all system components to ensure the facility is being operated and maintained in accordance with the design of the system. Maintenance logs must be maintained for each major system component including pumps, pump stations, septic tanks, lagoons, spray apparatus, and pipes. At a minimum, the logs must include the unique identifier, the date of maintenance performed, name(s) of person(s) performing the maintenance, and other relevant system observations.

1. The licensee must maintain an approved groundwater quality monitoring plan prepared by a professional qualified in water chemistry. The plan must include historical current monitoring data for each monitoring point, represented in tabular and graphical form.

2. All monitoring wells must be equipped with a cap and lock to limit access and must be maintained in a secured state at all times. The integrity of the monitoring wells must also be verified annually in order to insure representative samples of groundwater quality.

3. The Department reserves the right to require increasing the depth of and/or relocating any of the groundwater monitoring wells if the well is frequently dry or is determined not to be representative of groundwater conditions.

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SPECIAL CONDITIONS

M. OPERATIONS AND MAINTENANCE (O&M) PLAN AND SITE PLAN(S)

This facility must have a current written comprehensive O&M Plan. The plan must provide a systematic approach by which the licensee must at all times, properly operate and maintain all facilities and the systems of treatment and control (and related appurtenances) which are installed or used by the licensee to achieve compliance with the conditions of this license. Of particular importance is the management of the spray application sites such that the spray sites are given ample periods of rest to prevent over application.

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the licensee must evaluate and modify the O& M Plan including site plan(s) and schematic(s) for the wastewater treatment facility to ensure that it is up-to-date. The O&M Plan must be kept on-site at all times and made available to the Department personnel upon request.

Within 90 days of completion of new and substantial upgrades of the wastewater treatment facility, the licensee must submit the updated O & M Plan to their Department inspector for review and comment.

N. PUBLIC ACCESS TO LAND APPLICATION SITES AND SIGNAGE

Public access to the land application sites must be controlled during the season(s) of active site use. Such controls must include the posting of signs showing the activities being conducted at each site. The licensee must install signs measuring at least 8 ½" x 11" around the perimeter of the lagoon and spray irrigation site that inform the general public that the area is being used to dispose of sanitary wastewater. Each sign must be placed such that at least two other signs (one left, one right) may be seen from any one posted sign. The signs must be constructed of materials that are weather resistant.

The licensee must walk the perimeter of the lagoon and spray site prior to the beginning of each spray season and make any necessary repairs to the signage to comply with this condition.

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SPECIAL CONDITIONS

O. MONITORING AND REPORTING

Electronic Reporting

NPDES Electronic Reporting, 40 C.F.R. 127, requires MEPDES permit holders to submit monitoring results obtained during the previous month on an electronic discharge monitoring report to the regulatory agency utilizing the USEPA electronic system.

Electronic Discharge Monitoring Reports (DMRs) submitted using the USEPA NetDMR system, must be:

1. Submitted by a facility authorized signatory; and
2. Submitted no later than **midnight on the 15th day of the month** following the completed reporting period.

P. MONITORING AND REPORTING

Documentation submitted in support of the electronic DMR may be attached to the electronic DMR. Toxics reporting must be done using the DEP toxsheet reporting form. An electronic copy of the Toxsheet reporting document must be submitted to your Department compliance inspector as an attachment to an email. In addition, a hardcopy form of this sheet must be signed and submitted to your compliance inspector, or a copy attached to your NetDMR submittal will suffice.

Documentation submitted electronically to the Department in support of the electronic DMR must be submitted no later than midnight on the 15th day of the month following the completed reporting period.

Toxsheet reporting forms must be submitted electronically as an attachment to an email sent to your Department compliance inspector. In addition, a signed hardcopy of your toxsheet must also be submitted. A signed copy of the DMR and all other reports required herein must be submitted to the Department assigned compliance inspector (unless otherwise specified) following address:

Bureau of Land and Water Quality
Eastern Maine Regional Office
Maine Department of Environmental Protection
106 Hogan Road
Bangor, Maine 04401

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SPECIAL CONDITIONS

Q. REOPENING OF LICENSE FOR MODIFICATIONS

Upon evaluation of any required test results, results of inspections and/or reporting required by the Special Conditions of this licensing action, additional site specific or any other pertinent information or test results obtained during the term of this license, the Department may, at anytime and with notice to the licensee, modify this license to require additional monitoring, inspections and/or reporting based on the new information.

R. SEVERABILITY

In the event that any provision(s), or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit must remain in full force and effect, and must be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **DECEMBER 11, 2019**

COMPLIANCE TRACKING NUMBER: **MEU503319**
LICENSE NUMBER: **W003319-6B-F-R**

NAME AND MAILING ADDRESS OF APPLICANT:

MOUNT DESERT ISLAND REGIONAL SCHOOL SYSTEM
DR. MARC EDWARD GOUSSE, SUPERINTENDENT
AOS #91
P.O. BOX 60
MOUNT DESERT, ME 04660

COUNTY: **HANCOCK COUNTY**

NAME AND ADDRESS OF FACILITY:

MOUNT DESERT ISLAND REGIONAL HIGH SCHOOL
1081 EAGLE LAKE ROAD
MOUNT DESERT, MAINE 04660

RECEIVING WATER CLASSIFICATION: **Groundwater/Class GW-A**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER:

HERMAN "BUTCH" BRACY
PLANT SUPERVISOR
207-288-5011
E-MAIL: BBRACY@MDIRSS.ORG

1. APPLICATION SUMMARY:

On April 25, 2019, the Department accepted as complete for processing an application from the licensee for the renewal of Waste Discharge License (WDL) #W-003319-6B-E-R / Integrated Compliance Information System (ICIS) tracking number #MEU503319, which was issued by the Department on September 3, 2014, for a five-year term. The 9/3/2014 license authorized the operation of a surface wastewater disposal (spray-irrigation) system for the treatment and seasonal disposal (April 15th – November 15th) of treated sanitary wastewater to the north and easterly of the Mount Desert Island Regional High School.

1. Application Summary (cont'd)

The surface wastewater disposal system was located 5.45 acres of which 5.16 acres were determined suitable for spray irrigation. At present the wastewater disposal system has a total area of 3.85 acres and discharges to groundwater, Class GW-A, located in Bar Harbor, Maine. The treatment system has a design capacity based on 750 students and staff is approximately 9,300 gallons per day (gpd).

2. LICENSE SUMMARY

a. Terms and Conditions: This licensing action is carrying forward all the terms and conditions of the previous licensing action.

b. History: Recent Department licensing actions include the following:

August 2, 1994 – The Department issued WDL #W003319-58-A-N, which authorized the operation of a new surface wastewater disposal system for the treatment and disposal of sanitary wastewater.

April 22, 1999 – The Department issued WDL #W003319-5L-B-R, which renewed the surface wastewater disposal system.

February 4, 2004 – The Department of Human Services, Bureau of Health (BOH) commented to the DEP about the school's existing practice of spraying undisinfected wastewater onto athletic and practice fields. The Bureau of Health commented that the practice should cease immediately on the athletic or practice fields or that the wastewater should be disinfected.

April 27, 2004 – The Department wrote to MDHS regarding the Bureau of Health's recommendations and indicated that DEP concurred with the BOH assessment in that the wastewater should be disinfected (if applied to the athletic fields) or that a new spray irrigation area should be identified and used.

May 17, 2004 – Mount Desert High School revised its application to utilize a new spray irrigation area.

September 15, 2004 – The Department issued MEU503319/WDL #W003319-5L-C-M which renewed the surface wastewater disposal system for a five-year term.

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2. LICENSE SUMMARY (cont'd)

November 3, 2004 – The Department issued Administrative Modification to MEU503319/WDL W00319-5L-C-R, that revised a footnote reference and corrected Special Condition A.3.

September 8, 2009 – The Department issued MEU503319/WDL W003319-6B-D-R which renewed the surface wastewater disposal system for a five-year term.

July 19, 2011 – The Department issued Minor Revision to MEU503319/WDL W003319-6B-D-R. This Minor Revision corrected the parameters table and required the Mount Desert Hight School to report wastewater flow to Spray Field #1 in gallons.

September 3, 2014 – The Department issued MEU503319/W003319-6B-E-R for a five-year term.

April 25, 2019 – The Mount Desert Island Regional School System submitted a timely and complete General Application to the Department for renewal of the September 3, 2014 MEPDES permit. The application was accepted for processing on April 25, 2019, and was assigned MEU503319/W003319-6B-F-R.

c. Source Description: – Wastewater is generated from the school's restrooms, kitchen facilities, water fountains, home economic classrooms and janitorial services and is characterized as having similar characteristics to domestic wastewater. The school generates approximately 9,300 gallons per day (GPD) of wastewater from 650 students (12 gpd per student) and 100 teachers and staff (15 gpd per teacher/staff) while the school is in session (200 days per year). Additionally, the licensee estimates that 10,400 gpd of precipitation and groundwater flows into the lagoons and is spray irrigated. Therefore, the spray irrigation system must dispose of (9,300 X 200) =1.9 million gallons per year (MGY) of septic tank wastewater and (10,400 X 365) = 3.8 MGY of precipitation/groundwater inflow for a total of 5.7 MGY.

d. Wastewater Treatment (Spray irrigation): – The applicant treats sanitary wastewater through a slow-rate land irrigation system (spray irrigation). Prior to spraying, the wastewater receives pretreatment through a single 37,000-gallon septic tank and a series of three (3) facultative lagoons. The three lagoons have a combined surface area of 3.2 acres and a maximum operating capacity (assuming two feet of freeboard) of 5.1 MG (682,500 cubic feet X 7.48 gallons per cubic foot). The lagoons provide a calculated average detention time of 327 days (5.1 MG ÷ 5.7 MGY X 365 days per year). Although the calculated detention time is 327 days, the school manages the wastewater by completely pumping all wastewater out of the lagoons during the summer months. Wastewater generated by the school is directed from the septic tank to lagoon #1 or lagoon #3 for facultative treatment. Wastewater from lagoons #1 and #3 is conveyed to lagoon #2 for polishing. From lagoon #2, effluent is pumped onto the spray irrigation area via a 4-inch diameter polyethylene force main. In 2004 when the spray field was moved the flow control structures were left open and are no longer operational.

2. LICENSE SUMMARY (cont'd)

The irrigation area includes nine lateral distribution lines leading from the force main. The lateral distribution lines each contain between three and nine distribution nozzles that spray wastewater in a circular pattern with a diameter of 90 feet.

In the past, the licensee has reported problematic conditions with the lagoon berms in the past and Department staff has observed wastewater overtopping the berms and holes in the berms that have allowed wastewater to flow in an uncontrolled manner to adjacent wetlands. The Department issued a Notice of Violation (dated June 11, 2003) to the school citing the need to cease unlicensed discharges to the wetland, prevent overtopping of the lagoon berms with wastewater, and to evaluate the integrity of the lagoons.

e. Site Conditions – The lagoon and spray irrigation areas are located on moderately level to sloping terrain (generally ranging between 0-8% slope) about 2,500 feet northeasterly of Somes Sound, 500 feet northerly of the school complex and approximately 200 feet westerly of Heath Brook, the nearest water body. Soil surveys performed of the area of the spray irrigation system indicate the soil is predominantly Dixfield with some inclusions of Lamoine and Tunbridge soils. These soils are characterized as moderately well to somewhat poorly drained and formed in glacial till deposits and glaciomarine sediments. There are some rock outcrops in the spray irrigation area. The spray irrigation area is currently used as wooded land (without structures or building improvements).

3. CONDITIONS OF THE LICENSE

Conditions of licenses, 38 M.R.S. Section 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving water attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S., Section 420 and Department rule 06-096 CMR Chapter 530, *Surface Water Toxics Control Program,* require the regulation of toxic substances not to exceed levels set forth in Department rule 06-096 CMR Chapter 584, *Surface WaterQuality Criteria for Toxic Pollutants*, and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface water are maintained and protected.

4. RECEIVING WATER QUALITY STANDARDS

Classification of Ground Waters, 38 M.R.S. § 470 classifies the groundwater at the point of discharge as Class GW-A receiving water. *Standards of Classification of Ground Water,* 38 M.R.S., Section 465-C(1), describes the standards for water classified as Class GW-A as the highest classification of groundwater and must be of such quality that it can be used for public water supplies. The water must be free of radioactive matter or any matter that imparts color, turbidity, or odor which would impair use of the water, other than that occurring from natural phenomena.

5. TREATMENT

Slow-rate land irrigation treatment is an environmentally sound and appropriate technology for best practicable treatment and disposal of sanitary wastewater. The soils and vegetation within the irrigation area will provide adequate filtration and absorption to preserve the integrity of the soil and both the surface and groundwater quality in the area.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Lagoon Effluent

The previous licensing action established best practicable treatment (BPT) concentration limits of 100 mg/L for biochemical oxygen demand (BOD_5) and total suspended solids (TSS) along with a "report" only requirement for nitrate-nitrogen. The license established a twice-per-year (July and August) effluent monitoring requirement for all three parameters for the waste water as it exits the lagoon to be sprayed.

Monitoring for these parameters yields an indication of the effectiveness of the lagoon treatment process and the condition of the wastewater being applied. The monitoring requirements are being carried forward in this licensing action.

A review of the Discharge Monitoring Report (DMR) for the period **September 2014 – August 2019** indicates the following:

BOD_5 (n=8)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Daily Maximum	100	13 - 47	26

TSS (n=7)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Daily Maximum	100	43 - 320	110

Nitrate-nitrogen - Nitrogen compounds are by-products of the biological breakdown of ammonia and organic nitrogen and are inherent in domestic sanitary wastewater. Because nitrate-nitrogen is weakly absorbed by soil, it functions as a reliable indicator of contamination from waste disposal sites. Also, elevated levels of nitrate-nitrogen in the drinking water supply are of human health concern. The limit of 10 mg/L is a National Primary Drinking Water standard. The monitoring requirements for nitrate-nitrogen are being carried forward in this licensing action.

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6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

A review of the DMR data for the period **September 2014 – August 2019** indicates the following:

Nitrate-nitrogen concentration (n=8)

Value	**Limit (mg/L)**	**Range (mg/L)**	**Average (mg/L)**
Daily Maximum	Report	<0.05 – 0.50	0.50

For averaging purposes, values reported as "less than" were calculated at the detection limit.

Spray Irrigation Application Rates (Weekly)

The weekly maximum spray irrigation rate of 95,000 gallons per acre (3.5 inches/week) in order to maintain a minimum of 10 inches of unsaturated soil in the spray irrigation area is based on the characteristics of the in-situ soils and a groundwater mounding model prepared by S. W. Cole Engineering. Regardless of the calculated rate, the system operator must monitor each wastewater application to verify adequate infiltration into the soil. An irrigation cycle should be stopped if runoff or excessive ponding start to occur. This licensing action is carrying forward the spray irrigation system limitations as follows:

Application Rate (inches/week)	Weekly Maximum (gal/acre/wk)	Weekly Total on 4.35 acres	Weeks Applied
2.0	54,300	280,188	April 15-May 31
3.0	81,450	420,282	June
3.5	95,025	490,329	July
3.2	86,880	448,301	August
2.2	59,730	308,207	September
1.0	27,150	140,094	October-November 15
Note: 1 acre-inch is equivalent to 27,150 gallons			

A review of DMR data for the period of **September 2014 – August 2019** indicates the following:

Weekly Maximum Limit (gal/acre/wk)	Range (gal/acre/wk)	Average (gal/acre/wk)	Weeks Applied
54,300	53,767−54,259	54,106 (n=3)	April 15-May 31
81,450	77,454−81,429	79,906 (n=5)	June
95,025	91,610-93,273	92,194 (n=4)	July
86,880	68,900-84,909	77,460 (n=3)	August
59,730	N/A	58,004 (n=0)	September
27,150	N/A	25,603 (n=0)	October-November 15

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Lagoon Levels (freeboard)

The amount of freeboard space between the lagoon or pond surface elevation and the lowest point in the top of the respective berm is being measured to prevent overtopping of the berms and to evaluate facility operation for managing flows and annual precipitation. This licensing action is carrying forward the requirement of a minimum of two feet of freeboard, to be measured weekly from April 1 – November 30, to ensure that the wastewater will not overtop the lagoon berms and will provide ample opportunity for the licensee to properly manage the wastewater levels in the lagoons.

A review of DMR data for the period **September 2014 – August 2019** indicates the following:

Lagoon Level Freeboard-April – November (n=34)

Value	**Minimum Level (feet)**	**Range (feet)**	**Average (feet)**
Daily Maximum	2	3 – 6	5.06

Groundwater Monitoring Wells

The facility has three monitoring wells: MW-1A is located downgradient from the lagoon to monitor lagoon leakage; MW-2A is located downgradient from the spray irrigation area to monitor effects on the groundwater from the spray irrigation operation and MW-3A is located upgradient from the spray irrigation area in order to monitor ambient groundwater conditions.

The Department has determined that total suspended solids tests are appropriate methods for measuring the amount of particulates in groundwater. This licensing action is carrying forward the groundwater monitoring requirements from the previous licensing action.

A review of DMR data for the period **September 2009 – August 2019** indicates the following:

Temperature (n=15)

MW	**Limit** (Deg F)	**Range** (Deg F)	**Average** (Deg F)
MW-1A	Report	45 – 60	53
MW-2A	Report	42 – 55	50
MW-3A	Report	44 – 55	50

Specific Conductance (n=14)

MW	**Limit (**umhos/cm)	**Range (**umhos/cm)	**Average (**umhos/cm)
MW-1A	Report	239 – 363	302
MW-2A	Report	76 – 157	115
MW-3A	Report	19 – 94	33

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Depth to Water Level Below Land surface (n=29)

MW	**Limit** (ft)	**Range (**ft)	**Average** (ft)
MW-1A	Report	3.6 – 4.9	4.2
MW-2A	Report	2.8 – 8.6	4.8
MW-3A	Report	7.8 – 20.7	13.3

pH (n=14)

MW	**Limit** (SU)	**Range** (SU)
MW-1A	Report	5.37 – 7.09
MW-2A	Report	4.74 – 6.45
MW-3A	Report	5.09 – 6.35

Total Suspended Solids (n=14)

MW	**Limit** (mg/L)	**Range** (mg/L)	**Average** (mg/L)
MW-1A	Report	2 – 54	20.3
MW-2A	Report	<2 – 25	<5.5
MW-3A	Report	<5 – <0.50	<0.5

*For calculation purposes, results reported as "less than" were calculated at the detection limit.

Nitrate-Nitrogen (n=15)

MW	**Limit** (mg/L)	**Range (**mg/L)	**Average (**mg/L)
MW-1A	10	<0.05 – 0.50	<0.50
MW-2A	10	<0.05 – 0.05	<0.50
MW-3A	10	<0.05 – 0.5	<0.50

Chloride (total) (n=14)

MW	**Limit** (mg/L)	**Range (**mg/L)	**Average (**mg/L)
MW-1A	Report	3.2 – 9.0	5.4
MW-2A	Report	14 – 41	24.1
MW-3A	Report	2.2 – 4.2	3.4

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7. SYSTEM CALIBRATION

Discharge rates, application rates and uniformity of application change over time as equipment gets older and components wear or if the system is operated differently from the assumed design. Operating below design pressure greatly reduces the coverage diameter and application uniformity resulting in increased ponding and, as a result, not allowing maximum use of the area available. For these reasons, the licensee should field calibrate their equipment on a regular basis to ensure proper application and uniformity and when operating conditions are changed from the assumed design.

Calibration involves collecting and measuring flow at several locations in the application area (typically a grid pattern of containers with uniform diameters). Rain gauges work best because they already have a graduated scale from which to read the application amount without having to perform additional calculations.

8. GREASE TRAPS

Although not specifically required by this licensing action, it is the Department's recommendation that any food preparation facility or dining halls serviced by the spray irrigation treatment system have an external grease interceptor preceding the septic tank to help facilitate best practicable treatment and ensure proper functioning of the septic tank(s). Grease interceptors should be inspected by the licensee at least two times per year and the septic tank cleaned when the volume of the grease equals more than 50% of the capacity of the tank.

9. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As licensed, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the water body to meet standards for Class GW-A classification.

10. PUBLIC COMMENTS

Public notice of this application was made in the Mt. Desert Islander, a newspaper with circulation in the area of the proposed discharge on or about March 20, 2014. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft licenses must have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

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11. DEPARTMENT CONTACTS

Additional information concerning this licensing action may be obtained from and written comments should be sent to:

Aaron Dumont
Bureau of Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-1939
e-mail: Aaron.A.Dumont@maine.gov

12. RESPONSE TO COMMENTS

This section left blank until the end of the comment period.

Attachment A

Monthly Operations Log

MDIRHSS (WDL #W003319) **(Month/Year)** _____

Spray Field #_____ **Weekly Application Rate:** _____gallons/week

A	B	C	D	E	F	G
Date	Precipitation Previous 24 hours (inches)	Air Temp (°F)	Weather	Wind-Direction Speed (mph)	Depth To GW in Observation well (inches)	Total Gallons Pumped (gallons)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
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21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

Signature of Responsible Official: _____ Date _____

Attachment B

Spray Application Report by Week

MDIRHSS (WDL #W003319) **(Month/Year)** _____

Spray Field #	Weekly Limit (Gallons/Week)	Spray Application Rates (Gallons/Week)					Monthly Total
		Week 1	Week 2	Week 3	Week 4	Week 5	

Signature of Responsible Official: _____ Date _____

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **DECEMBER 11, 2019**

COMPLIANCE TRACKING NUMBER: **MEU503319**
LICENSE NUMBER: **W003319-6B-F-R**

NAME AND MAILING ADDRESS OF APPLICANT:

MOUNT DESERT ISLAND REGIONAL SCHOOL SYSTEM
MR. HOWARD COLTER, SUPERINTENDENT
AOS #91
P.O. BOX 60
MOUNT DESERT, ME 04660

COUNTY: **HANCOCK COUNTY**

NAME AND ADDRESS OF FACILITY:

MOUNT DESERT ISLAND REGIONAL HIGH SCHOOL
1081 EAGLE LAKE ROAD
MOUNT DESERT, MAINE 04660

RECEIVING WATER CLASSIFICATION: **Groundwater/Class GW-A**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER:

HERMAN "BUTCH" BRACY
PLANT SUPERVISOR
207-288-5011
E-MAIL: BBRACY@MDIRSS.ORG

1. APPLICATION SUMMARY:

On April 25, 2019, the Department of Environmental Protection (Department) accepted as complete for processing an application from the Mount Desert Island Regional School System (licensee) for the renewal of Waste Discharge License (WDL) #W-003319-6B-E-R / Integrated Compliance Information System (ICIS) tracking number #MEU503319, which was issued by the Department on September 3, 2014, for a five-year term.

1. APPLICATION SUMMARY (cont'd)

The 9/3/2014 license authorized the operation of a surface wastewater disposal (spray-irrigation) system for the treatment and seasonal disposal (April 15th – November 15th) of treated sanitary wastewater to the north and easterly of the Mount Desert Island Regional High School complex and comprises 5.45 acres (of which 5.16 acres are suitable for spray irrigation) of land to groundwater, Class GW-A, in Bar Harbor, Maine. The treatment system has a design capacity based on 750 students and staff is approximately 9,300 gallons per day (gpd).

2. LICENSE SUMMARY

a. Terms and Conditions: This licensing action is carrying forward all the terms and conditions of the previous licensing action.

b. History: Recent Department licensing actions include the following:

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February 4, 2004 – The Department of Human Services, Bureau of Health (BOH) commented to the DEP about the school's existing practice of spraying undisinfected wastewater onto athletic and practice fields. The Bureau of Health commented that the practice should cease immediately on the athletic or practice fields or that the wastewater should be disinfected.

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2. LICENSE SUMMARY (cont'd)

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BOD_5 (n=8)

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Daily Maximum	100	13 - 47	26

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6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

A review of the DMR data for the period **September 2014 – August 2019** indicates the following:

Nitrate-nitrogen concentration (n=8)

Value	**Limit (mg/L)**	**Range (mg/L)**	**Average (mg/L)**
Daily Maximum	Report	<0.05 – 0.50	0.50

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Spray Irrigation Application Rates (Weekly)

The weekly maximum spray irrigation rate of 95,000 gallons per acre (3.5 inches/week) in order to maintain a minimum of 10 inches of unsaturated soil in the spray irrigation area is based on the characteristics of the in-situ soils and a groundwater mounding model prepared by S. W. Cole Engineering. Regardless of the calculated rate, the system operator must monitor each wastewater application to verify adequate infiltration into the soil. An irrigation cycle should be stopped if runoff or excessive ponding start to occur. This licensing action is carrying forward the spray irrigation system limitations as follows:

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54,300	53,767−54,259	54,106 (n=3)	April 15-May 31
81,450	77,454−81,429	79,906 (n=5)	June
95,025	91,610-93,273	92,194 (n=4)	July
86,880	68,900-84,909	77,460 (n=3)	August
59,730	N/A	58,004 (n=0)	September
27,150	N/A	25,603 (n=0)	October-November 15

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Lagoon Levels (freeboard)

The amount of freeboard space between the lagoon or pond surface elevation and the lowest point in the top of the respective berm is being measured to prevent overtopping of the berms and to evaluate facility operation for managing flows and annual precipitation. This licensing action is carrying forward the requirement of a minimum of two feet of freeboard, to be measured weekly from April 1 – November 30, to ensure that the wastewater will not overtop the lagoon berms and will provide ample opportunity for the licensee to properly manage the wastewater levels in the lagoons.

A review of DMR data for the period **September 2014 – August 2019** indicates the following:

Lagoon Level Freeboard-April – November (n=34)

Value	**Minimum Level (feet)**	**Range (feet)**	**Average (feet)**
Daily Maximum	2	3 – 6	5.06

Groundwater Monitoring Wells

The facility has three monitoring wells: MW-1A is located downgradient from the lagoon to monitor lagoon leakage; MW-2A is located downgradient from the spray irrigation area to monitor effects on the groundwater from the spray irrigation operation and MW-3A is located upgradient from the spray irrigation area in order to monitor ambient groundwater conditions.

The Department has determined that total suspended solids tests are appropriate methods for measuring the amount of particulates in groundwater. This licensing action is carrying forward the groundwater monitoring requirements from the previous licensing action.

A review of DMR data for the period **September 2009 – August 2019** indicates the following:

Temperature (n=15)

MW	**Limit** (Deg F)	**Range** (Deg F)	**Average** (Deg F)
MW-1A	Report	45 – 60	53
MW-2A	Report	42 – 55	50
MW-3A	Report	44 – 55	50

Specific Conductance (n=14)

MW	**Limit (**umhos/cm)	**Range (**umhos/cm)	**Average (**umhos/cm)
MW-1A	Report	239 – 363	302
MW-2A	Report	76 – 157	115
MW-3A	Report	19 – 94	33

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Depth to Water Level Below Land surface (n=29)

MW	**Limit** (ft)	**Range (**ft)	**Average** (ft)
MW-1A	Report	3.6 – 4.9	4.2
MW-2A	Report	2.8 – 8.6	4.8
MW-3A	Report	7.8 – 20.7	13.3

pH (n=14)

MW	**Limit** (SU)	**Range** (SU)
MW-1A	Report	5.37 – 7.09
MW-2A	Report	4.74 – 6.45
MW-3A	Report	5.09 – 6.35

Total Suspended Solids (n=14)

MW	**Limit** (mg/L)	**Range** (mg/L)	**Average** (mg/L)
MW-1A	Report	2 – 54	20.3
MW-2A	Report	<2 – 25	<5.5
MW-3A	Report	<5 – <0.50	<0.5

*For calculation purposes, results reported as "less than" were calculated at the detection limit.

Nitrate-Nitrogen (n=15)

MW	**Limit** (mg/L)	**Range (**mg/L)	**Average (**mg/L)
MW-1A	10	<0.05 – 0.50	<0.50
MW-2A	10	<0.05 – 0.05	<0.50
MW-3A	10	<0.05 – 0.5	<0.50

Chloride (total) (n=14)

MW	**Limit** (mg/L)	**Range (**mg/L)	**Average (**mg/L)
MW-1A	Report	3.2 – 9.0	5.4
MW-2A	Report	14 − 41	24.1
MW-3A	Report	2.2 – 4.2	3.4

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7. SYSTEM CALIBRATION

Discharge rates, application rates and uniformity of application change over time as equipment gets older and components wear or if the system is operated differently from the assumed design. Operating below design pressure greatly reduces the coverage diameter and application uniformity resulting in increased ponding and, as a result, not allowing maximum use of the area available. For these reasons, the licensee should field calibrate their equipment on a regular basis to ensure proper application and uniformity and when operating conditions are changed from the assumed design.

Calibration involves collecting and measuring flow at several locations in the application area (typically a grid pattern of containers with uniform diameters). Rain gauges work best because they already have a graduated scale from which to read the application amount without having to perform additional calculations.

8. GREASE TRAPS

Although not specifically required by this licensing action, it is the Department's recommendation that any food preparation facility or dining halls serviced by the spray irrigation treatment system have an external grease interceptor preceding the septic tank to help facilitate best practicable treatment and ensure proper functioning of the septic tank(s). Grease interceptors should be inspected by the licensee at least two times per year and the septic tank cleaned when the volume of the grease equals more than 50% of the capacity of the tank.

9. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As licensed, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the water body to meet standards for Class GW-A classification.

10. PUBLIC COMMENTS

Public notice of this application was made in the Mt. Desert Islander, a newspaper with circulation in the area of the proposed discharge on or about March 20, 2014. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft licenses must have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

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11. DEPARTMENT CONTACTS

Additional information concerning this licensing action may be obtained from and written comments should be sent to:

Aaron Dumont
Bureau of Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 592-7161
e-mail: Aaron.A.Dumont@maine.gov

12. RESPONSE TO COMMENTS

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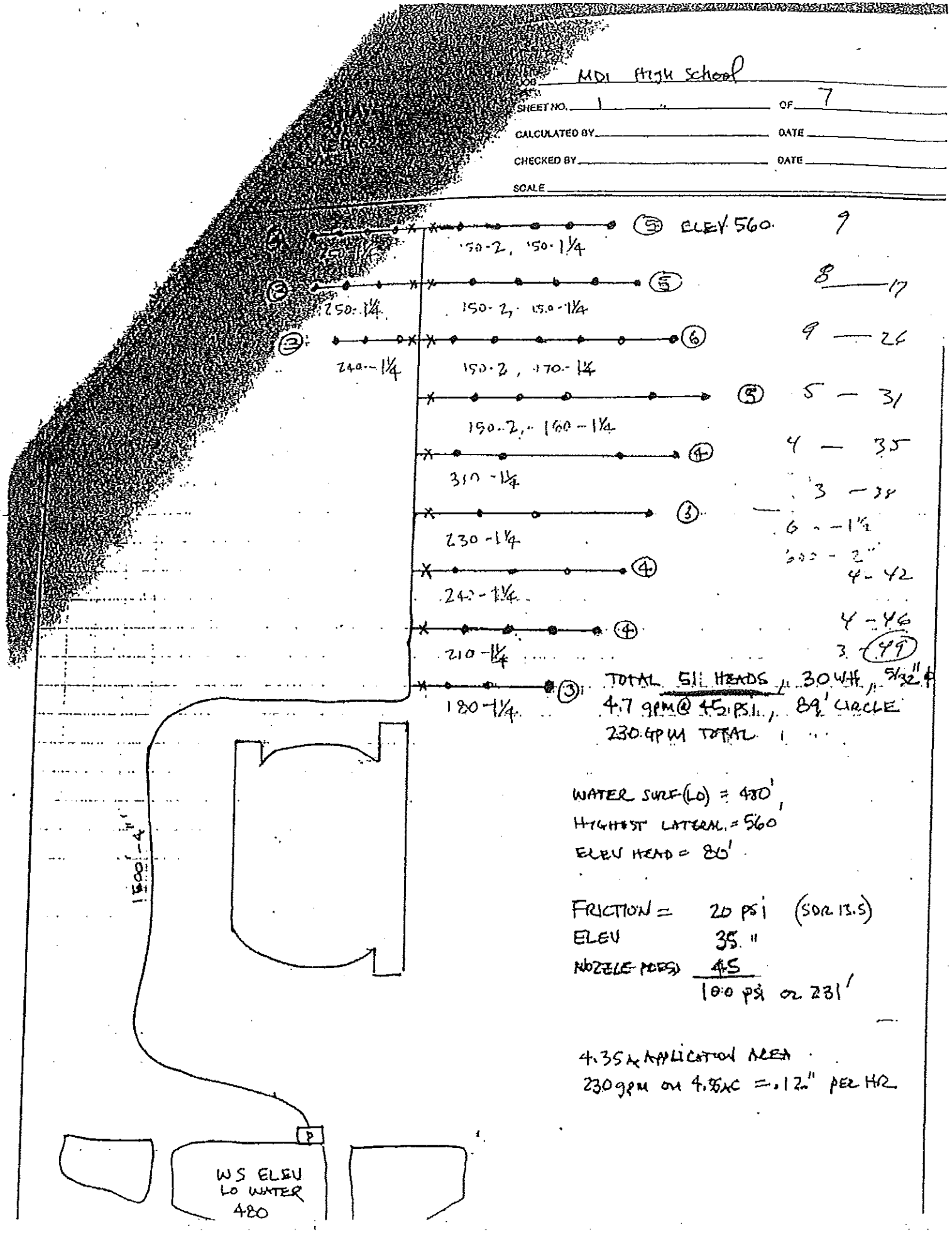
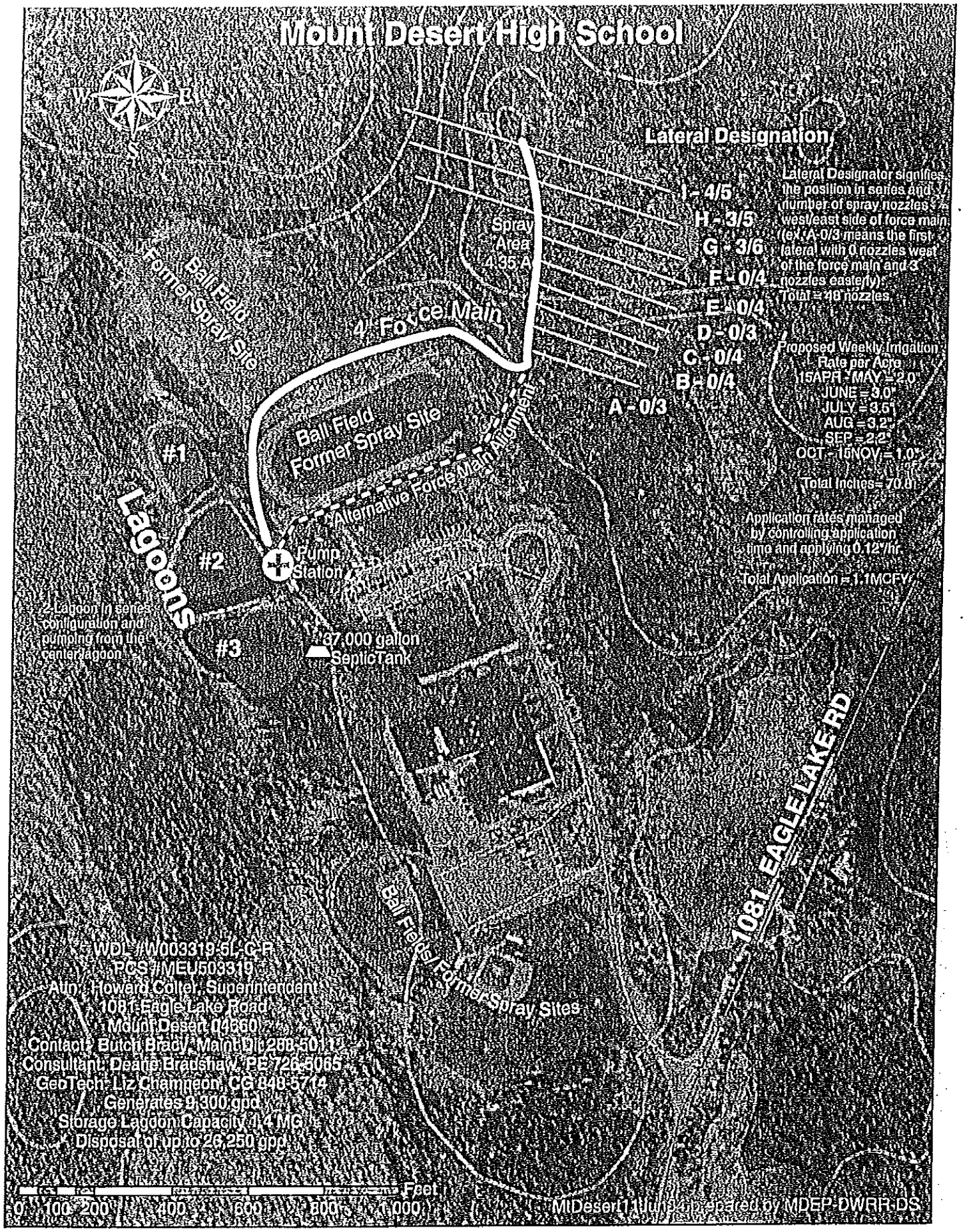
ATTACHMENT A


JOB MDI High School
SHEET NO. 1 OF 7
CALCULATED BY DATE
CHECKED BY DATE
SCALE
⑤ ELEV 560
150-2, 150-1¼
⑤
150-2, 150-1¼
⑥
150-2, 170-1¼
⑤
150-2, 160-1¼
④
310-1¼
③
230-1¼
④
240-1¼
④
210-1¼
③
180-1¼
9
8 — 17
9 — 26
5 — 31
4 — 35
3 — 38
6 - 1½
3 - 2"
4 - 42
4 - 46
3 (49)
TOTAL 51 HEADS, 30 WT, 5/32" #
4.7 gpm @ 45 PSI, 89' CIRCLE
230 GPM TOTAL
WATER SURF (LO) = 480'
HIGHEST LATERAL = 560
ELEV HEAD = 80'
FRICTION = 20 psi (SDR 13.5)
ELEV 35 "
NOZZLE PRESS 45
100 psi or 231'
4.35 Ac APPLICATION AREA
230 gpm on 4.35 Ac = .12" PER HR
1500' - 4"
P
WS ELEV
LO WATER
480


Mount Desert High School
Lateral Designation
I - 4/5
H - 3/5
G - 3/6
F - 0/4
E - 0/4
D - 0/3
C - 0/4
B - 0/4
A - 0/3
Lateral Designator signifies the position in series and number of spray nozzles west/east side of force main ((ex) A-0/3 means the first lateral with 0 nozzles west of the force main and 3 nozzles easterly).
Total = 48 nozzles
Proposed Weekly Irrigation Rate per Acre
15APR - MAY = 2.0"
JUNE = 3.0"
JULY = 3.5"
AUG = 3.2"
SEP = 2.2"
OCT - 15NOV = 1.0"
Total Inches = 70.0"
Application rates managed by controlling application time and applying 0.12"/hr.
Total Application = 1.1MGFY
Spray Area 4.35 A
4" Force Main
Former Spray Site
Ball Field
Former Spray Site
Alternative Force Main Alignment
#1
#2
#3
Lagoons
Pump Station
97,000 gallon Septic Tank
2 Lagoon in series configuration and pumping from the center lagoon
1081 EAGLE LAKE RD
Ball Field Former Spray Sites
WDL #W003319-5L-C-R
PCS #MEU503319
Attn: Howard Collier, Superintendent
1081 Eagle Lake Road
Mount Desert 04660
Contact: Butch Brady, Maint Dir 288-5011
Consultant: Deane Bradshaw, PE 726-5065
GeoTech: Liz Champeon, CG 848-5714
Generates 9,300 gpd
Storage Lagoon Capacity 1.4 MG
Disposal of up to 26,250 gpd
Feet
0 100 200 400 600 800 1,000
MtDesert11.dwg
Prepared by MDEP-DWRR-DS

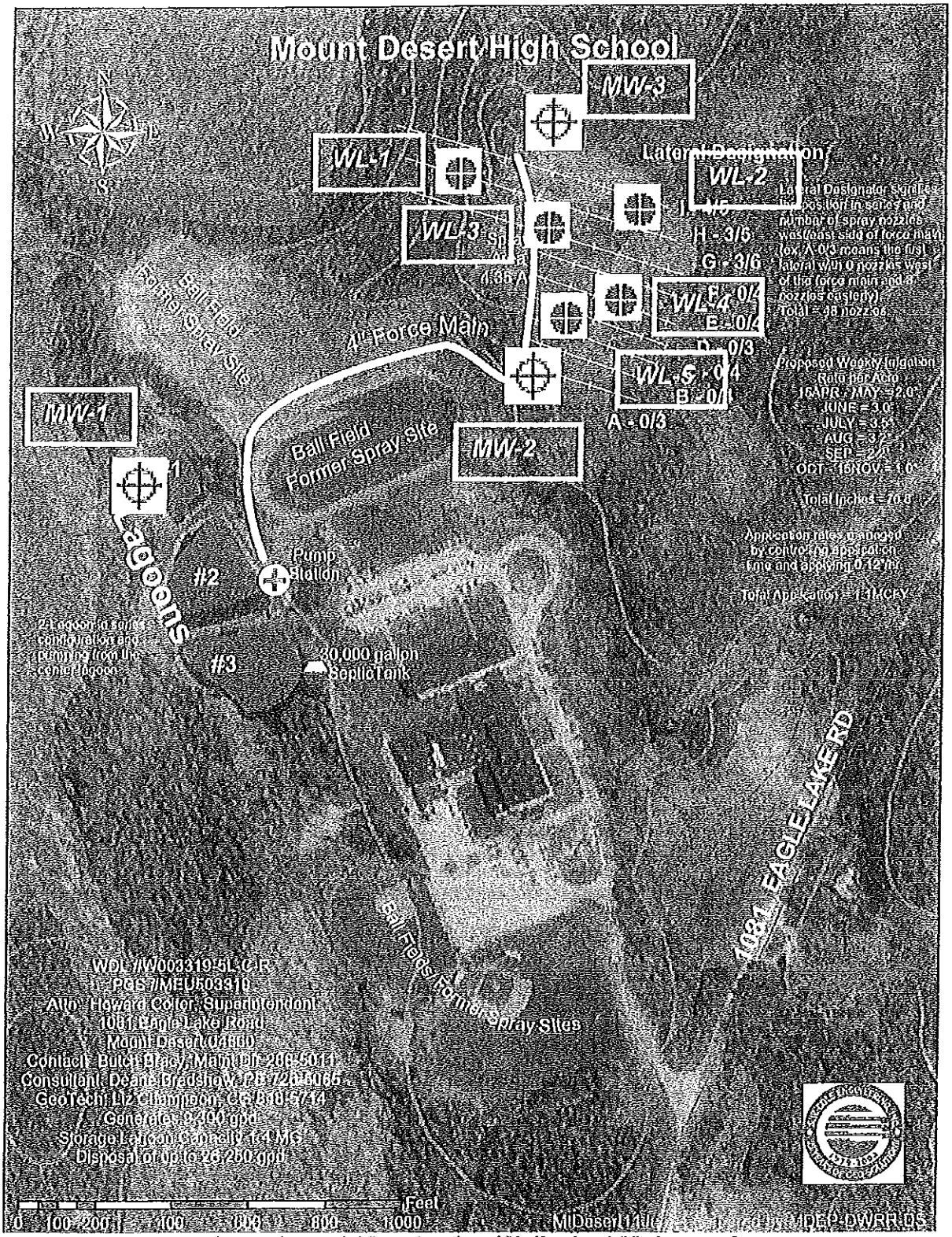


Figure 1 Proposed Locations Of Monitoring Wells And Moisture Sensors