STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

December 18, 2006

David Keith, Superintendent
Carrabassett Valley Sanitary District
Village West #35
Carrabassett Valley, Maine 04947

RE: Permit Compliance System Tracking Number (PCS) # MEU502781
Maine Waste Discharge License (WDL) Application # W002781-5L-F-R
Final License

Dear Mr. Keith:

Enclosed please find a copy of your **final** Maine WDL which was approved by the Department of Environmental Protection. Please read the license and its attached conditions carefully. You must follow the conditions in the order to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled "*Appealing a Commissioner's Licensing Decision.*"

If you have any questions regarding this matter, please feel free to call me at 287-7658.

Sincerely,

David Silver
Division of Water Quality Management
Bureau of Land and Water Quality

Enc.
cc: Beth Dehaas, DEP/CMRO;
Sandy Lao, USEPA;

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 760-3143

web site: www.maine.gov/dep

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

DEPARTMENT ORDER

IN THE MATTER OF

CARRABASSETT VALLEY SANITARY DISTRICT	)	PROTECTION AND
CARRABASSETT VALLEY, FRANKLIN CO., MAINE	)	IMPROVEMENT OF WATERS
PUBLICLY OWNED TREATMENT WORKS	)	
SURFACE WASTE WATER DISPOSAL	)	
MEU502781	)	WASTE DISCHARGE LICENSE
#W002781-5L-F-R **APPROVAL**	)	**RENEWAL**

Pursuant to the provisions of 38 M.R.S.A., Section 414-A et seq., and applicable regulations, the Department of Environmental Protection (Department) has considered the application of the CARRABASSETT VALLEY SANITARY DISTRICT (CVSD) with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The applicant has applied to the Department for renewal of Waste Discharge License (WDL) #W002781-5L-D-R, that was issued on May 17, 2000 and expired on May 17, 2005. The CVSD serves 900 living units in addition to the commercial facilities associated with Sugarloaf/USA, a commercial ski resort area, or about 6,000 people. Waste water flows by gravity through an eleven (11) mile series of sewer mains to a pump station at the base of the ski area. Waste water then is pumped, via a 1.2 mile long, sixteen (16) inch diameter force main, to the CVSD treatment facility.

There is one aerated, three primary storage and three backup storage lagoons at the facility. The lagoons are construction by elevated berms with clay liners. The aerated lagoon and the three primary storage lagoons are designed to hold 5.2 million gallons (MG) of waste water, for a total capacity of twenty million, eight hundred thousand (20.8 MG) gallons (4 lagoons X 5.2 MG each lagoon). Each backup lagoon is designed to hold 5.8 MG, or a total backup storage capacity of (3 backup lagoons X 5.8 MG each backup lagoon) seventeen million, four hundred thousand (17.4 MG) gallons, thus providing a total storage capacity of thirty-eight million, two hundred thousand gallons (38.2 MG). Each lagoon covers approximately 2 acres of ground area.

The lagoon effluent is pumped periodically to a land-based, spray irrigation disposal area and snowmaking area consisting of a slow rate sprinkler irrigation system and freeze nucleation (snowmaking) process. Lagoon effluent is discharged to the forty-three (43) acre spray irrigation area (twenty [20] acre west area that has 90 slow rate dispersal nozzles, and a twenty-three [23] acre east area that has 67 nozzles) at a rate not to exceed 100,000 gallons per week per acre. Also a thirty-two (32) acre snowmaking area is designed to accept wastewater that has been subjected to freeze nucleation during the winter months at a rate not to exceed 54 million gallons per year. Additionally, the licensee has requested authorization to utilize the snowmaking area as a spray irrigation area during the spring, summer and fall seasons.

This licensing action is modifying the spray irrigation allowable timeframe from May 1st until October 31st of any given year, to April 15th until November 15th of any given year for a 31 week duration. The facility has been assigned number MEU502781 in the Department's permit compliance system (PCS) for data acquisition and data management.

LICENSE SUMMARY

This license is similar to the May 17, 2000 WDL in that it is:

1. Continuing lagoon effluent monitoring for biochemical oxygen demand (BOD), total suspended solids (TSS), nitrate-nitrogen, and pH on a four sample per year basis (during the months of April or May, June, September, and October or November each year, and lagoon freeboard elevations (from lagoon #4 and #7) on a weekly basis (during the spray irrigation season [April 15th through and including November 15th, of each year]).
2. Maintaining the restriction of requiring spray irrigation to occur only when there is at least ten (10) inches of separation between the ground surface and the ground water table during the time of spray events, as well as maintaining the requirement to monitor the spray irrigation area and distribution system within one hour of spray irrigation startup to detect for leaks, runoff, or other unusual conditions.
3. Continuing the requirement for ground water monitoring well sampling and reporting for depth to water level below landsurface, nitrate-nitrogen, specific conductance, temperature, and pH on a twice per year basis in May and October. Continuing the authorization to accept up to 4,000 gallons per month of sanitary septage wastes to the system. Also continuing the authorization to spray irrigate at a rate not to exceed 100,000 gallons per week per acre (3.7").
4. Authorizating freeze crystalization operations during the winter months to make snow from the effluent over the previously designated snow making area with up to 54 million gallons per winter season (during November 15th to April 15th of the following year) or year round.

This license is different from the May 17, 2000 WDL in that it is:

1. Eliminating lagoon effluent monitoring for chloride, ammonia, and TKN parameters. Also establishing the requirement to monitor specific conductivity and temperature on a four sample per year basis in (a) April or May, (b) June, (c) September, and (d) October or November. It is also establishing the requirement for reporting lagoon freeboard level (on a weekly basis).
2. Establishing the requirement to sample for certain metals on a once per five (5) year basis and expanding the spray irrigation season from April 15th through November 15th of each year.
3. Requiring the submission of a *Spray Irrigation Performance Report* as an exhibit to the application for the next license renewal; as well as maintaining an up-to-date *Operations & Maintenance (O&M) Plan,* and modifying the restriction against spray irrigation if there had been rainfall or precipitation, (exceeding 0.5 inches), within the previous eight-hour period preceding the planned spray event, to a restriction against spraying if there has been more than one (1.0) inch of precipitation within the preceding 24 hour period.
4. Modifying the requirement for ground water well monitoring from a two sample per year frequency (April and November), to a twice per year basis (in May and October). Also eliminating the ground water well monitoring requirement for chloride and chemical oxygen demand, TKN, TDS, Manganese, Iron, alkalinity, but adding sampling for certain metals on a once per five (5) year basis.
5. Authorizing the utilization of the snowmaking area for spray irrigation during the spring, summer and fall seasons with the same limitations as the other areas that are used in spray irrigation, and eliminating the requirement to monitor well #4. Well #4 and #1 have served as upgradient monitoring points in the past. Review of historic sampling results from well #4 and indicates that water levels have been above ground level (and not necessarily representative of other well locations) and the Department finds that well #1 (only) should be used as a background well.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated November 14, 2006, and subject to the conditions listed below, 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, 38 M.R.S.A., Section 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 national resource, that water quality will be maintained and protected;

   (c) The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;

   (d) Where the actual quality of any classified receiving water body 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 quality of any water body, 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.

ACTION

THEREFORE, the Department APPROVES the above noted application of the CARRABASSETT VALLEY SANITARY DISTRICT, to operate a surface waste water disposal (spray irrigation) system that discharges up to 100,000 gallons per week per acre of treated sanitary waste water during the spring, summer and fall season to the spray irrigation areas, and to discharge a maximum of 54 million gallons of freeze crystallized waste water [snowmaking] during the winter season or liquid waste water as spray irrigation to the SISA application area, to the soil above ground water resources of the state, Class GW-A, SUBJECT TO THE FOLLOWING CONDITIONS, and all applicable standards and regulations including:

1. Standard Conditions of Approval for POTW Waste Discharge Licenses dated July 16, 1996, copy attached.

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

3. This license expires five (5) years from the date of signature, below.

DONE AND DATED AT AUGUSTA, MAINE, THIS 22ND DAY OF December, 2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
David P. Littell, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: April 7, 2005

Date of application acceptance: April 21, 2005

FILED
DEC 27 2006
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

Date filed with Board of Environmental Protection _____

This Order prepared by David Silver, BUREAU OF LAND & WATER QUALITY

W27815LF 15DEC06

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS

1. The licensee is authorized to operate a surface waste water treatment and disposal system. The **LAGOON EFFLUENT**[1, 6] **(OUTFALL #001)** shall be limited and monitored as specified below.

	Weekly Maximum	Daily Maximum	Minimum Measurement Frequency	Sample Type
Lagoon Influent Flow *[50050]*	Report, gal/week *[8G]*	Report, gal/day *[07]*	1/Day *[01/01]*	Meter *[MT]*
Lagoon Level, Freeboard *(in Lagoons #4 and #7)* *[82564]*	---	Report, Feet[1] *[27]*	1/Week *[01/07]*	Measure *[MS]*
Biochemical Oxygen Demand *[00310]*	---	100 mg/L *[19]*	1/Month[2] *[01/30]*	Grab *[GR]*
Total Suspended Solids *[00530]*	---	100 mg/L *[19]*	1/Month[2] *[01/30]*	Grab *[GR]*
Nitrate-Nitrogen *[00620]*	---	Report mg/L *[19]*	1/Month[2] *[01/30]*	Grab *[GR]*
Specific Conductance *[00095]*	---	Report (umhos/cm) *[11]*	1/Month[2] *[01/30]*	Grab *[GR]*
Temperature (°C) *[00010]*	---	Report (°C) *[15]*	1/Month[2] *[01/30]*	Grab *[GR]*
pH (Standard Units)** *[00400]*	---	6.0 – 9.0	---	--- --
Metals (Total): Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and *[01002, 01027, 01034, 01042, 01051, 71900, 01067, 01092]*		Report ug/L *[28]*	1/5 Years[3] *[01/5Y]*	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.

Note: For reporting on DMR's report the minimum freeboard recorded for the aerated lagoon. In the event that freeboard levels in any lagoon are two feet or less, then the Licensee shall notify the Compliance Inspector of the elevations, report freeboard levels on a daily basis, and provide a proposal to lower lagoon levels.

**Licensee is required to maintain lagoon effluent between 6.0-9.0 standard units at any time. This licensing action does not require sampling and reporting of pH, however the licensee may be required to demonstrate compliance with this pH range at any time upon request from Department staff.

FOOTNOTES: Refer to page 9 for applicable footnotes.

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

2. The **SPRAY IRRIGATION AREAS** shall be limited and monitored as specified below for land application between April 15th and November 15th of each year:

SIEA – Spray Irrigation East Area (Easterly Spray Irrigation Area – 23 acres)
SIWA – Spray Irrigation West Area (Westerly Spray Irrigation Area – 20 acres)

	Monthly Total	Weekly Maximum	Minimum Measurement Frequency	Sample Type
Application Rate [4] *[51125]*	---	100,000 gallons per acre[5] (3.7 inches/acre) *[8B]*	1/Week *[01/07]*	Measure *[MS]*
Flow – Total Gallons *[82220]*	Report (Gallons) *[80]*	---	1/Month *[01/30]*	Measure *[MS]*

FOOTNOTES: Refer to page 9 for applicable footnotes.

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

3. The **SPRAY IRRIGATION / SNOWMAKING AREA** shall be limited and monitored as specified below:

SISA –Applies from January 1st – December 31 of each year

	Monthly Total as specified	Year to Date Total as specified	Weekly Maximum Per acre as specified	Measurement Frequency as specified	Sample Type as specified
Flow – Total Gallons *[82220]*	Report (Gallons) *[80]*	---	---	1/Month *[01/30]*	Measure *[MS]*
Flow – Total Gallons *[82220]*	---	54 million gallons *[57]*	---	1/Month *[01/30]*	Calculate *[CA]*
Application Rate *[51128]*	---	---	100,000 gallons *[57]*	1/Week *[01/07]*	Measure *[MS]*

**Note: The maximum amount of treated effluent that may be applied to the Snowmaking Field, SISA over the entire year is 54 million gallons. This annual 54 million gallon application volume may be applied as either in snowmaking volume or spray irrigation volume. Example, if 4 million gallons had been applied during the spray irrigation season to SISA application area, then only 50 million gallons may be applied during the snowmaking season. Note: Each fall as soon as meteorological conditions allow, the licensee shall cover the snow making field with a substantially even insulating layer of snow to prevent the ground from freezing. An insulating snow cover must be maintained over the entire site of the snowmaking field during the fall and winter snowmaking period.

Note: The weekly maximum application rate only applies to treated effluent discharged as spray irrigation only and does not apply to the amount of effluent that can be discharged as treated snow effluent.

FOOTNOTES: Refer to page 9 for applicable footnotes.

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS

4. **GROUND WATER MONITORING WELLS[6]; MW1-MW11** (except for the requirement for sampling MW4 which is held in abeyance until further notice from the Department to the licensee)(but to also include **MW-SISA** if and when installed in the spray irrigation / snow-making area [anticipated for spring 2007])

	Daily Maximum as specified	Minimum Measurement Frequency	Sample Type
Depth to Water Level Below Landsurface *[72019]*	Report (feet) *[27]*	2/Year *[02/YR]*	Measure *[MS]*
Nitrate-Nitrogen *[00620]*	10 mg/L *[19]*	2/Year *[02/YR]*	Grab *[GR]*
Specific Conductance *[00095]*	Report (umhos/cm) *[11]*	2/Year *[02/YR]*	Grab *[GR]*
Temperature (°C) *[00010]*	Report (°C) *[15]*	2/Year *[02/YR]*	Grab *[GR]*
pH (Standard Units) *[00400]*	Report (S.U.) *[12]*	2/Year *[02/YR]*	Grab *[GR]*
Total Suspended Solids *[00530]*	Report (mg/L) *[19]*	2/Year *[02/YR]*	Grab *[GR]*
Metals[3] (Total): Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc *[01002, 01027, 01034, 01042, 01051, 71900, 01067, 01092]*	Report ug/L *[28]*	1/5 Years *[01/5Y]*	Grab *[GR]*

Note that well MW4 (located westerly of lagoon #4) had been previously sampled, however, the requirement to sample MW4 held in abeyance subject to review by the Department and the determination that continued testing is required for MW4.

FOOTNOTES: Refer to page 9 for applicable footnotes.

SPECIAL CONDITIONS
A. LIMITATIONS AND MONITORING REQUIREMENTS

Footnotes: **Effluent sampling** for all parameters shall be after the last treatment process on a year-round basis.

Sampling: Sampling and analysis must be conducted 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 shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services.

(1) Lagoon freeboard shall be measured and reported weekly for the aerated lagoon during the months of April through November, inclusive. Storage lagoon effluent shall be sampled at a point after the pump in the distribution line prior to being pumped to the spray field(s) and shall be representative of what is actually being applied to the fields. Any change in sampling location must be approved by the Department in writing.

(2) Lagoon effluent sampling shall occur monthly, four (4) times per year, during the months of (a) April or May, (b) June, (c) September, and (d) October or November of each year. In the event that no wastewater is disposed of via the spray irrigation system during the month, the licensee is not required to sample for effluent monitoring. The option of April or May and October or November provides additional flexibility to the operator to obtain the required data.

(3) Metals testing shall be done in the twelve-month period prior to the license expiration date.

(4) Weekly is defined as Sunday through Saturday. 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 field(s) utilized. Note: 27,152 gallons is equivalent to one acre-inch. The licensee shall measure the flow of waste water to the irrigation area by the use of a flow measuring device that is checked for calibration at least once per calendar year.

(5) For Discharge Monitoring Report (DMR) reporting purposes, the licensee shall 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) Monitoring wells shall be sampled during the months of May and October of each year. Depth to water level shall be measured to the nearest one-hundredth ($1/100^{th}$) of a foot as referenced from the surface of the ground at the base of the monitoring well. 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 waste water was disposed of via the spray-irrigation system or not. Specific Conductance values greater than 275 umhos/cm, consistent trends approaching 275 umhos/cm or sudden spikes from previous levels shall be reported immediately to the Department, and may necessitate the need for additional ground-water testing requirements.

SPECIAL CONDITIONS

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain materials in concentrations or combinations which would impair the uses designated by the classification of the groundwater.
2. The effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

C. TREATMENT PLANT OPERATOR

The treatment facility must be operated by a person holding a minimum of a **Grade II** certificate [or a Maine Professional Engineer (P.E.)] pursuant to Title 32 M.R.S.A., Section 4171 et seq. 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. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department **and shall be postmarked by the thirteenth (13th) day of the month or hand-delivered to a Department Regional Office such that the DMR's are received by the Department by the fifteenth (15th) day of the month following the completed reporting period.** A signed copy of the DMR and all other reports required herein shall be submitted, unless otherwise specified, to the Department's facility inspector at:

Maine Department of Environmental Protection
Division of Water Quality Management
State House Station #17
Augusta, Maine 04333

E. AUTHORIZED DISCHARGES

The Carrabassett Valley Sanitary District is authorized to discharge treated sanitary waste water only in accordance with the terms and conditions of this WDL and only to the spray irrigation / snowmaking disposal fields identified in the Waste Discharge License application. Discharge of waste water from any other location or from sources other than those indicated on said application requires written authorization from the Department. The collection, treatment or discharge of waste water which has constituents unlike that or significantly higher in strength than that of domestic waste water is prohibited without written authorization from the Department.

SPECIAL CONDITIONS

F. NOTIFICATION REQUIREMENT

In accordance with Standard Condition #6, the licensee shall notify the Department of:

1. Any introduction of pollutants into the waste water collection and treatment system from an indirect discharger in a primary industrial category discharging process waste water; and
2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system by a source introducing pollutants into the system at the time of permit issuance. For the purposes of this section, notice regarding substantial change shall include information on:
   (a) the quality and quantity of waste water introduced to the waste water collection and treatment system; and
   (b) any anticipated impact caused by the change in the quantity or quality of the waste water to be discharged from the treatment system.

G. GENERAL OPERATIONAL CONSTRAINTS

1. All waste waters shall receive biological treatment through a properly designed, operated and maintained lagoon system prior to disposal via spray irrigation.
2. The spray irrigation facilities shall 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 it unsatisfactory for usage as a public drinking water supply.
3. The surface waste water disposal system shall not cause the lowering of the quality of the ground water, as measured in the ground water monitoring wells specified by this license, 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.A. § 2601.

   In the event the ground water monitoring results indicate 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 ground water attains applicable standards.
4. The Department shall be notified as soon as the licensee becomes aware of any threat to public health, unlicensed discharge of waste water, sanitary system overflows (SSO's) or any malfunction that threatens the proper operation of the system. Notification shall be made in accordance with the attached Standard Condition #4 of this license. A *sanitary sewer overflow* (SSO) is the release of raw sewage from a sanitary collection system prior to reaching the treatment plant or facility (spills out of manholes, into basements, onto municipal or private property, etc, and into the waters of the State are all considered to be SSO's.
5. The licensee shall maintain a file on the location of all system components and relevant features. Each component shall be mapped and field located sufficiently to allow adequate inspections and monitoring by both the licensee and the Department.

SPECIAL CONDITIONS

G. GENERAL OPERATIONAL CONSTRAINTS (CONT'D)

6. System components including collection pipes, tanks, manholes, pumps, pumping stations, spray disposal fields, and monitoring wells shall be identified and referenced by a unique system identifier in all logs and reports.

H. SPRAY IRRIGATION / SNOWMAKING OPERATIONAL CONSTRAINTS

1. Suitable vegetative cover shall be maintained. Waste water (as liquid spray irrigation) shall 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. The licensee shall have an updated forestry management plan that includes provisions for maintaining the spray irrigation and the snowmaking area in optimum condition for the uptake of nutrients and moisture holding capacity.
2. At least 10 inches of separation from the ground surface to the ground water table shall be present prior to spray irrigation. Wells #5 and #7, may be used to monitor depth to groundwater elevation in the east and west spray irrigation areas. Another well must be installed in the spray irrigation/snowmaking area (SISA) prior to that area being utilized for spray irrigation (please refer to section R of this license for information on compliance with this requirement).
3. No waste water shall be spray irrigated as liquid following a rainfall accumulation exceeding 1.0 inch within the previous 24-hour period. A rain gauge shall be located on site to monitor daily precipitation. The licensee shall also manage application rates by taking into consideration the forecast for rain events in the 48-hour period in the future.
4. No waste water shall be applied as spray irrigation (liquid) where there is snow present on the surface of the ground or when there is any evidence of frost or frozen ground within the upper 10 inches of the soil profile.
5. No traffic or equipment shall be allowed in the spray-irrigation field or snowmaking area except where installation occurs or where normal operations and maintenance are performed (this shall include forest management operations).

I. SPRAY IRRIGATION / SNOWMAKING PROCEDURES, LOGS AND REPORTS

1. Prior to the commencement of spray irrigation for the season, the licensee shall notify the Department's compliance inspector that they have verified that soil conditions are appropriate (frozen ground, soil conditions, etc.) for spray irrigation.
2. The licensee shall install the equivalent of one ground water level inspection well per spray field to verify that 10 inches of separation from the ground surface to the observed ground water level is present prior to spraying. Depths to ground water shall be recorded in accordance with the general format of *"Depth to Groundwater"* provided as Attachment "C" of this license or other format as approved by the Department.

SPECIAL CONDITIONS

I. SPRAY IRRIGATION / SNOWMAKING LOGS AND REPORTS (CONT'D)

3. The licensee shall at all times maintain in good working order and operate at maximum efficiency all waste water collection, treatment and/or control facilities. **Within one hour after start-up of the spray-irrigation system,** the licensee shall walk the spray-irrigation site ***or*** have other means to check the system for leakage in the piping system and determine if individual sprayheads and pump(s) are functioning as designed, and verify that application rates are appropriate for the existing site conditions. The procedures used to determine the system is functioning as designed shall be described in the facility's O&M manual. Should significant malfunctions or leaks be detected, the licensee must shut down the malfunctioning/leaking sections of the spray system and make necessary repairs before resuming operation. The licensee shall cease irrigation if runoff is observed outside the designated boundaries of the spray field(s). The licensee shall field calibrate equipment to ensure proper and uniform spray applications when operating. Calibration involves collecting and measuring application rate at different locations within the application area. A description of the calibration procedures and a logsheet that have been used for recording calibration results shall be included as part of the Operations & Maintenance manual.

4. **The licensee shall maintain a daily log** of all spray irrigation operations which records, the date, weather and soil moisture (see section H above), rainfall, areas irrigated, volume sprayed (gallons), application rates (daily and weekly), and other relevant observations/comments from daily inspections. The log shall be in accordance with the general format of the *"Monthly Operations Log"* provided as Attachment "A" of this license, or other format approved by the Department. Weekly application rates shall be reported in accordance with the general format of the *"Spray Application Report by Week"* provided as Attachment "B" of this license or other format as approved by the Department. The *Monthly Operations Log, Spray Application Report by Week, and Depth to Groundwater* for each month shall be submitted to the Department as an attachment to the monthly Discharge Monitoring Reports (DMR's) in a format approved by the Department. Copies will also be maintained on site for Department review and for license operation maintenance purposes.

J. LAGOON MAINTENANCE

1. The banks of the lagoons shall be inspected periodically during the operating season and properly maintained at all times. There shall be no overflow through or over the banks. Any signs of leaks, destructive animal activity or soil erosion of the banks shall be repaired immediately.

2. The banks of the lagoons shall 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 waters within the lagoons shall be kept free of all vegetation (i.e. grasses, reeds, cattails, etc) that hinders the operation of the lagoon.

3 For lagoons #4 and #7, the licensee shall maintain the freeboard at either (i) a level no higher than design levels or (ii) at a level of no less than three (3) feet.. For all other lagoons, freeboard levels shall be managed such that water elevation is no higher than the design level.

SPECIAL CONDITIONS

J. LAGOON MAINTENANCE (CONT'D)

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

K. DISPOSAL OF SEPTAGE IN WASTE WATER TREATMENT FACILITY

During the effective period of this license, the licensee is authorized to receive and introduce up to **4,000 gallons of septage per month** into the waste water treatment facility subject to the following terms and conditions:

1. This approval is limited to the methods and plans described in the application and supporting documents. Any variation are subject to review and approval prior to implementation.
2. At no time shall the addition of septage cause or contribute to effluent quality violations. If such conditions do exist, the introduction of septage into the treatment process or solids handling stream shall be suspended until effluent quality can be maintained.
3. The licensee shall maintain records which shall include, as a minimum, the following, by date: volume of septage received, source of septage, the hauler transporting the septage, the dates and volume of septage added to the waste water treatment influent and test results.
4. The addition of septage into the treatment process or collection system shall not cause the treatment facility design capacity to be exceeded. If, for any reason, the treatment process or collection system become overloaded, introduction of any more septage into the treatment process or collection system shall be reduced or terminated in order for the elimination of the overload condition.
5. Septage known to be harmful to the treatment process shall not be accepted by the facility. Waste which contains heavy metals, toxic chemicals, extreme pH, flammable or corrosive materials in concentrations harmful to the treatment process shall not be accepted by the facility.
6. Holding tank waste water shall not be recorded as septage but should be reported in the treatment facility influent flow volume.

Septage shall mean any waste, refuse, effluent, sludge or other material removed from a septic tank, cesspool, vault privy or similar source which concentrates wastes or to which chemicals have been added. The District's staff shall be present when septage discharges occur at the receiving site and shall secure the receiving site when deliveries are complete (except when maintenance occurs and staff are present on-site).

SPECIAL CONDITIONS

L. INSPECTIONS AND MAINTENANCE

The licensee shall periodically inspect all system components to ensure the facility is being operated and maintained in accordance with the design of the system. Maintenance logs shall be maintained for each major system component including pumps, pump stations, septic tanks, lagoons, spray apparatus, and pipes. At a minimum, the logs shall include the unique identifier [see Special Condition G(6)], the date of maintenance, type of maintenance performed, names or person performing the maintenance, and other relevant system observations.

M. WET WEATHER FLOW MANAGEMENT PLAN

On or before March 1, 2007, the licensee shall submit to the Department for review and approval, a new or revised Wet Weather Management Plan ***[PCS Code 06799]*** that conforms to Department guidelines for such plans. The revised plan shall include operating procedures for a range of intensities, address solids handling procedures, and provide a written operating and maintenance procedures during the events.

The treatment facility staff shall develop and maintain a Wet Weather Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall.

The licensee shall review the plan at least annually and record any necessary changes to keep the plan up-to-date. Any changes shall be submitted to the Department for review and approval.

N. GROUND WATER MONITORING WELLS AND WATER QUALITY MONITORING PLAN DETAILS

1. As an exhibit to be attached to the next re-licensing application anticipated to be submitted to the Department **on or before September 30, 2011** ***[PCS Code 24599]***, the licensee shall submit to the Department for review and approval, a ground water quality monitoring plan as outlined in Department guidance entitled "*Water Quality Monitoring Plan Details*", enclosed as Attachment "1" of the Fact Sheet of this license. Because Carrabassett Valley is an existing facility, many of the sections of the Attachment "1" do not pertain, however, particular attention should be dedicated to section 9 of this Attachment. Note that annual reporting (as referenced in section 9 of the Plan Details) are suspended, except for the fifth and final year of this license. If contamination is detected in the future, this condition may be reinstated. The report summarizing the prior five years of operation shall be submitted to, and in a format approved by, the Department, electronically and with "hard copy".

2. All monitoring wells shall be equipped with a cap and lock to limit access and shall be maintained in a secured state at all times. The integrity of the monitoring wells shall also be verified annually.

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

SPECIAL CONDITIONS

O. SPRAY IRRIGATION PERFORMANCE REPORT

As an exhibit to the next application for license renewal, the licensee shall submit to the Department a report of the treatment system's performance covering the previous five calendar years ***[PCS Code 90199]***. The report shall be dated and signed by the operator in responsible charge of the system.

The report shall include, but is not necessarily limited to, an updated source description, an updated schematic and narrative of the treatment system and distribution system, a summary of the past performance demonstrating compliance with all terms and conditions of the effective license, a description of any proposed changes in the overall system or operation of the system, and if applicable, proposed changes in the effective license.

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

This facility shall have a current written comprehensive Operation & Maintenance (O & M) Plan. The plan shall provide a systematic approach by which the licensee shall 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 / snowmaking sites are given ample periods of rest to prevent over application, as well as providing a substantially even application of effluent subject to freeze crystallization (snow) over the snowmaking area. It is acknowledged that the operator has limited control over the distribution of the snow made using the freeze crystallization process as winds and weather conditions may exceed the operators ability to completely evenly distribute the snow – effluent over the snowmaking area.

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the licensee shall 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 shall 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 shall submit the updated O & M Plan to their Department inspector for review and comment.

Q. PUBLIC ACCESS TO LAND APPLICATION SITES AND SIGNAGE

Access to the land application sites shall be limited during the season of active site use. The licensee shall install signs measuring at least 8 ½" x 11", in areas of concern around the perimeter of the lagoon and spray irrigation sites that inform the general public that the area is being used to dispose of sanitary waste waters. The signs must be constructed of materials that are weather resistant. The licensee must annually inspect and make any necessary repairs to the signage to comply with this condition.

SPECIAL CONDITIONS

R. SCHEDULE OF COMPLIANCE

On or before March 15, 2007 ***[PCS Code 00199]*****,** plans and details of the well to be installed at the spray irrigation/snowmaking area (SISA) must be submitted to the Department's compliance inspector for review and approval, in the event that the previously dedicated snowmaking area is to be used for spray irrigation during the upcoming 2007 or future spray irrigation seasons. Refer to Section H of this license for more information on this requirement when utilizing the previously dedicated snow-making area for spray irrigation and snow-making.

At least 30 days prior to spray irrigation operations on the SISA, the licensee shall notify the Department Compliance Inspector of the actual location and installation details (construction techniques, depth, screened interval, as-built plans, etc.) of the new well in the SISA and shall provide plans indicating those details. The new well to be installed will be subject to the same requirements as the existing ground water monitoring wells as indicated in Special Conditon A.4 of this license (and will be referred to as MW-SISA).

S. REOPENING OF LICENSE

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.

T. SEVERABILITY

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

Monthly Operations Log **Attachment A** **(Month/Year)** _____)

WDL #W-002781-5L-F-R; Fields # _____ Weekly Application Rate: _____ gallons/acre (_____ inches)

	A	B	C	D	E	F	G	H	I	J	K
Day	DATE	PRECIP Inches	TEMP	WEATHER	WIND- Direction Speed	Soil Moisture	Quanity- Total Gallons Pumped	Name of Field(s) Used	Acres Sprayed (Sum of Col H x Area of Each Field)	Gallons/Acre (inches) (Col G divided by I)	Total Inches
	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
	9										
	10										
	11										
	12										
	13										
	14										
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										
	27										
	28										
	29										
	30										
	31										
Monthly Total =											

Spray Application Report by Week Attachment B Facility Name_____;

WDL # W-002781-5L-F-R; (Month _____, Year _____) Weekly Application Rate _____ gallons/acre _____ inches)

Field Name/#	Effective Spray Area (Acres)	Weekly Limit (Gallons/Acre)	Actual Spray Application Rates (Gallons per Acre)					Number of Exceptions to Weekly Limit	Monthly Average
			Week 1	Week 2	Week 3	Week 4	Week 5		

Note: 1 acre-inch is equivalent to 27,150 gallons of liquid
27,150 gallons per acre is equivalent to 1.0 inch

Total Number of Exceptions

A spray-field's weekly application rate if the total gallons sprayed (Sunday through Saturday) divided by the size of the spray-field in acres or the size in acres of that portion of the spray field utilized.

Signature of Responsible Official: _____, Date _____

Depth to Groundwater (Hundredths of Feet) **Attachment C** (Month _____, Year _____)

Facility Name: Carrabassett Valley Sanitary District Waste Water Treatment Facility; W-002781-5L-F-R

Field Name/#	Monitoring Location	2. Depth to Groundwater (Measured From Ground Surface in Tenths of Feet)					Number of Exceptions	Monthly Average Depth
		Week 1	Week 2	Week 3	Week 4	Week 5		
					Total Number of Exceptions			

Note: Special Condition H of the License requires that a depth of 10 inches from the ground surface to the groundwater table must be present prior to spraying.

Signature of Responsible Offical: _____, Date _____

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **November 14, 2006**

PERMIT NUMBER: **MEU502781**

LICENSE NUMBER: **W002781-5L-F-R**

NAME AND ADDRESS OF APPLICANT:

CARRABASSETT VALLEY SANITARY DISTRICT
Village West #35
Carrabassett Valley, Maine 04947

COUNTY: **Franklin County**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

Route 27
Carrabassett Valley, Maine 04947

RECEIVING WATER/CLASSIFICATION: **Ground Water/Class GW-A**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. David Keith**
Superintendent
(207) 237-3642

1. APPLICATION SUMMARY

The applicant has applied to the Department for renewal of Waste Discharge License (WDL) #W002781-5L-D-R, that was issued on May 17, 2000 and expired on May 17, 2005. The CVSD serves 900 living units in addition to the commercial facilities associated with Sugarloaf/USA, a commercial ski resort area, or about 6,000 people. Waste water flows by gravity through an eleven (11) mile series of sewer mains to a pump station at the base of the ski area. Waste water then is pumped, via a 1.2 mile long, sixteen (16) inch diameter force main, to the CVSD treatment facility.

There is one aerated, three primary storage and three backup storage lagoons at the facility. The lagoons are construction by elevated berms with clay liners. The aerated lagoon and the three primary storage lagoons are designed to hold 5.2 million gallons (MG) of waste water, for a total capacity of twenty million, eight hundred thousand (20.8 MG) gallons (4 lagoons X 5.2 MG each lagoon). Each backup lagoon is designed to hold 5.8 MG, or a total backup storage capacity of (3 backup lagoons X 5.8 MG each backup lagoon) seventeen million, four hundred thousand (17.4 MG) gallons, thus providing a total storage capacity of thirty-eight million, two hundred thousand gallons (38.2 MG). Each lagoon covers approximately 2 acres of ground area.

The lagoon effluent is pumped periodically to a land-based, spray irrigation disposal area and snowmaking area consisting of a slow rate sprinkler irrigation system and freeze nucleation (snowmaking) process. Lagoon effluent is discharged to the forty-three (43) acre spray irrigation area (twenty [20] acre west area that has 90 slow rate dispersal nozzles, and a twenty-three [23] acre east area that has 67 nozzles) at a rate not to exceed 100,000 gallons per week per acre.

1. APPLICATION SUMMARY (Cont'd)

Also a thirty-two (32) acre snowmaking area is designed to accept waste water that has been subjected to freeze nucleation during the winter months at a rate not to exceed 54 million gallons per year. Additionally, the licensee has requested authorization to utilize the snowmaking area as a spray irrigation area during that season. This licensing action authorizes the application of up to 54 million gallons per year to the snowmaking area to be applied as either snow (freeze crystallization) or as spray irrigation applications.

This licensing action is expanding the spray irrigation allowable timeframe from May 1st until October 31st of any given year, to April 15th until November 15th of any given year for a 31 week duration. The facility has been assigned number MEU502781 in the Department's permit compliance system (PCS) for data acquisition and data management.

2. PERMIT SUMMARY

a. History: The most recent permitting/licensing actions include the following:

July 29, 1993 – The Department of Environmental Protection (DEP) authorized the discharge of treated sanitary waste water via spray irrigation with the issuance of WDL #W002781-67-B-R.

September 23, 1994 –DEP issued WDL #W002781-59-C-A which authorized the use of freeze nucleation (snowmaking) as a waste water disposal method during the winter months.

May 17, 2000 – DEP issued WDL #W002781-5L-D-R which modified the 1994 WDL to increase the BOD and TSS concentration limits from the lagoon prior to spray irrigation as well as increased the spray irrigation application rate from 2.0 to 3.7 inches per week per acre. The May 17, 2000 WDL expired on May 17, 2005.

July 18, 2003 – DEP issued WDL #W002781-5L-E-M that authorized the CVSD to receive and treat up to 4,000 gallons of septage per month from local septic haulers servicing entities within the Town of Carrabassett Valley. The July 18, 2003 WDL expired on May 17, 2005 concurrently with WDL #W002781-5L-D-R.

April 7, 2005 – CVSD submitted an application to the DEP for the renewal of WDL #W002781-5L-D-R. The application was accepted for processing by the Department on April 21, 2005.

2. PERMIT SUMMARY (Cont'd)

b. Source Description: The waste waters treated and discharged by the CVSD consists of sanitary and commercial flows from the Sugarloaf Mountain Ski Area and associated facilities, condominium units, and other residential and commercial entities within the district's boundaries. The area is rapidly growing and the district has added over 400 new connections within the past 5 years to the collection system (a level of growth anticipated to continue at that rate). In 2004, the district discharged 52.3 MG (34.8 MG as spray irrigation and 17.5 MG as snow). In 2005 the district expanded its collection system to include 66 new connections. In 2005, the district discharged 60.4 MG with 45.7 MG as spray irrigation and 14.7 MG as snowmaking (freeze crystallization) treated effluent discharge, or 8.1 MG more than the previous year.

c. Waste Water Treatment: Slow rate land irrigation and snowmaking are environmentally sound and appropriate technology for best practicable treatment and disposal of sanitary waste water. The soil and vegetation within the spray irrigation and snowmaking area will provide adequate filtration and adsorption of waste water to preserve the integrity of the soil and both surface and ground water resources in the area.

Snowmaking is appropriate technology for the ski area which generates the greatest volume of sanitary waste water during the months when snow can be generated. The existing surface waste water disposal system consists of a twelve mile long gravity/pressure waste water collection system, one aerated, three primary storage and three backup storage lagoons, a slow rate sprinkler spray irrigation system, eleven (11) stationary snowmaking towers and ancillary equipment. In the year 2005, the system conveyed and treated 60.4 MG of sanitary waste water. It is noted that the potential maximum volume of waste water that could be discharged under ideal conditions (without rain events or ground water table separation issues) is 187 MG (133.3 MG on the 43 acre spray irrigation area and 54 MG at the snow making site).

However, under actual conditions with rain events and elevated ground water table that irrigation could only occur approximately half of the time. Using the 50% adjustment factor, the amount of waste water that could be discharged as spray irrigation under actual or typical conditions is only 133.3 X 50%, or 66.65 MG. It is noted that snowmaking costs more to make per gallon discharged (operational costs are $0.80/1,000 gallons discharged as spray irrigation and $3.00/1,000 gallons discharged as snow). Therefore there is an incentive for the district to discharge effluent as spray irrigation rather than snow. However, with the increasing waste water generated by customers of the district and the limitations on the facility using just spray irrigation, the district must consider other alternative disposal options, including the option to utilize the snowmaking area as also a spray irrigation area (which is being authorized [with conditions] by this license).

2. PERMIT SUMMARY (Cont'd)

During the months of May thru October (but now authorized to be between the months of April thru November) waste water has been and will continue to be sprayed on the 43 wooded acres (and now authorized to be spray irrigated on the 32 acre "snowmaking" area). The 43 wooded acre parcel contains two distinct spray areas designated as the "East Spray Area" (consisting of 23 acres with 25 laterals with a total of 67 spray nozzles) and the "West Spray Area" (consisting of 20 acres with 18 laterals with a total of 90 spray nozzles). Each spray nozzle distributes waste water over an 80 foot diameter circular pattern or a 5,026 square foot area. The 43 wooded acres are heavily wooded with a mature stand of mixed softwoods. The snow deposit area has been cleared of trees and has a ground cover of mixed grasses and non-woody vegetation. The snow deposit area includes eleven (11) fixed towers that distribute the snow-effluent over the 32 acre site. Plans currently include the replacement of those 11 towers with twenty (20) new towers that will provide a more even distribution of the snow-effluent than currently provided. The area downgradient from the spray irrigation and snow making area are forested and have a moderate northeasterly aspect. Stratton Brook, a tributary of Flagstaff Lake, is approximately one mile from the project area.

Both the spray irrigation and snow making areas contain predominately Marlow and Peru soil types which are moderately well drained or well drained. In the snow deposit area it is anticipated that up to 40% of the waste water deposited there will be sublimated or evaporated which reduces the volume of melt water from the 54 MG to approximately 32 MG. The 32 MG volume of melt water has, in the past, been adequately adsorbed by the soil during the melting period following the snowmaking season. It is noted that the freeze crystallization process and effluent snow made during the winter season is to be applied over the entire 32 acre area in order to ensure a substantially even distribution of the material and to provide an insulation layer for continued meltwater runoff to infiltrate into the ground during the winter conditions.

3. CONDITIONS OF THE LICENSE

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges require application of best practicable treatment, be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, Maine law, 38 M.R.S.A., Section 420, and Department Regulation Chapter 530, *Surface Water Toxics Control Program* requires the regulation of toxic substances at the levels set forth for Federal Water Quality Criteria as published by the U.S. Environmental Protection Agency pursuant to the Clean Water Act.

4. RECEIVING WATER QUALITY STANDARDS

Maine law, 38 M.R.S.A § 470 indicates the groundwater at the point of discharge is classified as Class GW-A receiving waters. Maine law, 38 M.R.S.A., §465-C describes the standards for Class GW-A waters as the highest classification of groundwater and shall be of such quality that it can be used for public water supplies. These waters shall be free of radioactive matter or any matter that imparts color, turbidity, taste or odor which would impair the usage of these waters, other than 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

a. Monitoring Parameters

Biochemical Oxygen Demand (BOD_5) - Monitoring for BOD yields an indication the condition of the waste water being applied, of excessive loading of organic material and the effectiveness of the spray-irrigation treatment process.

Nitrate-nitrogen - Nitrogen compounds are by-products of the biological breakdown of ammonia and are inherent in domestic like sanitary wastewater. Because nitrate-nitrogen is weakly absorbed by soil, it functions as a reliable indicator of contamination from waste-disposal sites. 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.

Specific Conductance, Temperature and PH are considered to be "field" parameters meaning that they are measured directly in the field via instrumentation and does not require laboratory analysis. These parameters are considered as surveillance level monitoring parameters and are used as an early-warning indicators of potential groundwater contamination. Temperature data is important in calibrating the conductance measurements.

Total Suspended Solids (TSS) - TSS in the groundwater yields an indication of the integrity of the monitoring wells and of the treatment efficiency.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONT'D)

b. Lagoon Effluent: Monitoring parameters are being modified in this licensing action to eliminate the requirement to sample and report concentration values for Ammonia, Chlorides, and TKN and will now include only BOD_5, TSS, Nitrate-Nitrogen, specific conductivity, temperature, pH on a four samples per year basis and, on a once per five year frequency for certain metals.

Monitoring for these parameters yields an indication of the effectiveness of the lagoon treatment process and the condition of the waste water being applied. Limits of 100 mg/L, daily maximum for BOD and TSS are the Department's best practicable treatment (BPT) requirements established in previous Department licensing actions are being carried forward in this licensing action. Monitoring is being required when wastewater is disposed of via the spray irrigation system. Testing for specific metals in the effluent from the storage lagoon is only required to be performed in the twelve-month period prior to the expiration date of the license.

c. Spray Irrigation Application Rates – Based on the history of the spray applications and information from the applicant, the spray fields are capable of treating and assimilating a weekly maximum application rates of 100,000 gallons (3.7 inches) per acre per week. This licensing action is carrying forward the existing application rate for the existing spray irrigation areas. The weekly limits are established as a margin of safety against hydraulically overloading a spray field and are based on the treatment capabilities of the in-situ soils. Regardless of the calculated rate, the system operator shall monitor each waste application to verify adequate infiltration of the waste into the soil and a spray irrigation cycle must be stopped if runoff outside of the designated spray application field site occurs.

The applicant has requested authorization to utilize the snowmaking area as a spray irrigation area during the spring, summer, and fall periods. In the previous licensing action, the snowmaking area was approved for the disposal of up to 54 million gallons (MG) of waste water per year via the freeze crystallization process. The snowmaking area currently receives approximately 20 MG per year.

The Department finds that the over-application of waste water to certain land may exceed the long term acceptance rate of the soils ability to treat and attenuate the wastes. However, given the General Operational Constraints (Section G of this license) and the Spray Irrigation / Snowmaking Operational Constraints (Section H of this license) the likelihood of over-applications when using the existing snow making area as a dual use area is slight. Therefore, by this licensing action, the Department is authorizing the dual use of the snowmaking area as another spray irrigation zone with the same application rate as the existing spray irrigation area (i.e. 3.7 inches per acre per week). The maximum amount of waste water that can be applied to the Spray Irrigation / Snowmaking Area, in either snow or liquid waste water is 54 million gallons. The ability to use the former snowmaking site as both a snowmaking area and spray irrigation area provides additional resting periods for those spray irrigation areas that would have received the effluent in the event that the snowmaking area was not available as a spray irrigation area.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONT'D)

d. Ground Water Monitoring Wells

Eleven ground water monitoring wells had been monitored on the site, in the past, and are shown on Attachment "3" of this Fact Sheet. Of the eleven wells previously sampled and sampling values reported, only ten are required to be monitored as part of this licensing action. The eleven wells are identified below, however, the ten required to be monitored are MW1, MW2, MW3, MW5, MW6, MW7, MW8, MW9, MW10, and MW11. MW4 is no longer required to be monitored*:

Well Designation	Location
#MW1	Background well, upgradient from all other activities
MW2	Downgradient, and northeasterly from the spray field
MW3	Downgradient, and northerly from the center of the spray field
MW4*	Southwesterly of lagoon #4
MW5	Within the easterly spray field
MW6	Westerly of lagoon #7
MW7	Between lagoons #7 and #2
MW8	Downgradient northeasterly portion of the snowmaking area
MW9	Downgradient northwesterly portion of the snowmaking area
MW10	Background well, upgradient/southwesterly of snowmaking area
MW11	Downgradient, north-central portion of snowmaking area
MWSISA	Well to be located in the snowmaking/spray irrigation area

e. Groundwater Monitoring - Monitoring parameters in this license is being modified from the previous sampling and reporting requirements of ground water elevation on a monthly basis between April through November (inclusive), and twice per year (during the months of April and November) for specific conductance, temperature, pH, Chloride, total nitrate-nitrogen, TKN, total dissolved solids, total manganese, and total iron. The modified sampling and reporting requirements included in this licensing action include depth to the water level below the land surface, nitrate-nitrogen, specific conductance, temperature, pH, and TSS on a twice per year basis during the months of May and October. Also required is the sampling and reporting of certain metals on a once per five year basis (during the twelve-month period prior to the expiration date of the license).

The monitoring parameters are being modified subsequent to Departmental review of historic data collected during the past five (5) years. The Department review of this data indicates no significant impacts to the ground water quality as measured in the existing monitoring wells as a result of the spray irrigation and snowmaking process conducted by CVSD. The Department, therefore, finds that monitoring of certain parameters that were required previously are no longer warranted, and that monitoring at well #4 is no longer necessary (as background conditions may be determined from data obtained in monitoring well #1).

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). For these reasons, the licensee shall field calibrate their equipment on a regular basis to ensure proper application and uniformity, and when operating conditions are changed from the assumed design. See Attachment "2" of this Fact Sheet for use as a guidance document that may be used and describes an appropriate methodology for calibration. 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. 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.

9. PUBLIC COMMENTS

Public notice of this application was made in the Morning Sentinel, a local newspaper with circulation around the project area on or about March 25, 2005. 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 shall 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.

10. DEPARTMENT CONTACTS:

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

David Silver
Division of Water Quality Management
Bureau of Land and Water Quality
Maine Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017
Telephone (207) 287-3901

11. RESPONSE TO COMMENTS

During the period of February 23, 2006 through final agency action on this license, the Department solicited comments on the Carrabassett Valley Sanitary District application for the discharge. The Department did not receive comments from the licensee, state or federal agencies or interested parties that resulted in any substantive change(s) in the terms and conditions of the license. Therefore, the Department has not prepared a Response to Comments section as part of this licensing action.

Water Quality Monitoring Plan Details Attachment "1"
Bureau of Land & Water Quality, Div. of Environmental Assessment

For projects required to monitor the quality and/or levels of surfacewater or groundwater, a water quality monitoring plan/protocol document must be provided as a separate manual, for ease-of-reference by the applicant, consultants, and the Department. This manual must be prepared, signed, and dated by a professional qualified in water chemistry interpretation (and when groundwater flow interpretations and monitoring well selection are conducted to prepare the plan, endorsed by a Certified Geologist), and must in-clude the following, at a minimum:

1. Identification/summary of all monitoring points (e.g. monitoring wells, lysimeters, springs, etc.) to be used for measurement of water levels or for water quality analysis. Monitoring points must have an assigned identification symbol (alpha/numeric), and, where appropriate, elevation referenced to an established, permanent benchmark. Include a map showing all monitoring points.

2. Outline of the monitoring frequency at each monitoring point, by the number of sampling/analysis events per year (e.g. quarterly, etc.) and by month (e.g. April, September, etc.).

3. Provision for obtaining adequate data on background water quality and/or levels, and for using a statistically-valid method for determining a significant increase in parameter concentrations (e.g. contamination levels, but not necessarily MCL's/MEG's). At a minimum, determination of background water quality or levels must consist of quarterly sampling/analysis for 1 year.

4. List of parameters to be analyzed, including references to the laboratory analysis methods to be utilized for each parameter, detection limits for each analysis method, and the MCL's/MEG's for all applicable parameters. All monitoring must include field parameters (conductivity, temperature, pH, and TDS), in addition to parameters specific to the monitoring program objectives.

5. Identification of the qualified personnel to take water level measurements and water quality analysis samples. These tasks should not be done by the applicant or employee of the applicant, but if proposed, then item 6 below must be addressed.

6. Written certification from a qualified expert that personnel to conduct monitoring are or will be adequately trained to properly collect measurements and/or samples by approved methods and protocols.

7. Description of the equipment and methods to be employed for water level measurement and/or water quality analysis sample-taking.

8. Description of the quality assurance/quality control and chain-of-custody protocols to be followed for water quality sampling, preservation, storage, transport, and laboratory analysis.

9. Provision for a professional qualified in water chemistry or groundwater flow interpretation to summarize, evaluate, and provide recommendations on the monitoring results that is submitted annually to the Department, unless a problem is evident, in which case the Department is to be notified immediately. Annual reports must include historical, as well as the most recent year's monitoring data for each monitoring point, which is presented in a tabular format. Reports must be signed/dated by the professional responsible for their preparation.

10. A provision that, if water levels or water quality monitoring results indicate adverse effects are occurring as a result of the project activity, then an evaluation will be made by a qualified professional and an appropriate remedial action/mitigation plan will be developed and submitted to the Department for re-view and approval.

Example Spray Irrigation Field Calibration Report Form
Attachment "2"

Background Data

Describe the reasons for system re-calibration (example annual calibration or change in operating conditions). When there has been a change in operating conditions list the specific changes such as new components (pumps, spray heads, size or type of pipes, etc.) or previously approved design changes.

Describe the current method for estimating the flow of wastewater to the irrigation area, ie, meter or pump calibration data. When using pump calibration data list the estimated flow rate of the pump for the existing site conditions (example gallons per minute). Also note the assumed diameter of coverage for the individual spray heads and the resulting area of application (acreage). Based on this information what is the assumed application rate in inches per hour and gallons per acre. Note: 1 acre-inch equals 27,150 gallons.

System Calibration

Describe or attach illustrations of the system calibration procedure, ie, grid layout or rain gauge or other uniform containers.

List the actual radius of spray coverage of the individual spray heads as measured during the field calibration and note any application uniformity problems such as noticeable ponding or uneven applications.

Calculate the acreage of the application based on the actual radius of coverage measured in the field. Show calculations.

Example: (27,150 gallons/acre/week)(1.5 inch/week)(1.3 acres) = 52,942 gallons/week

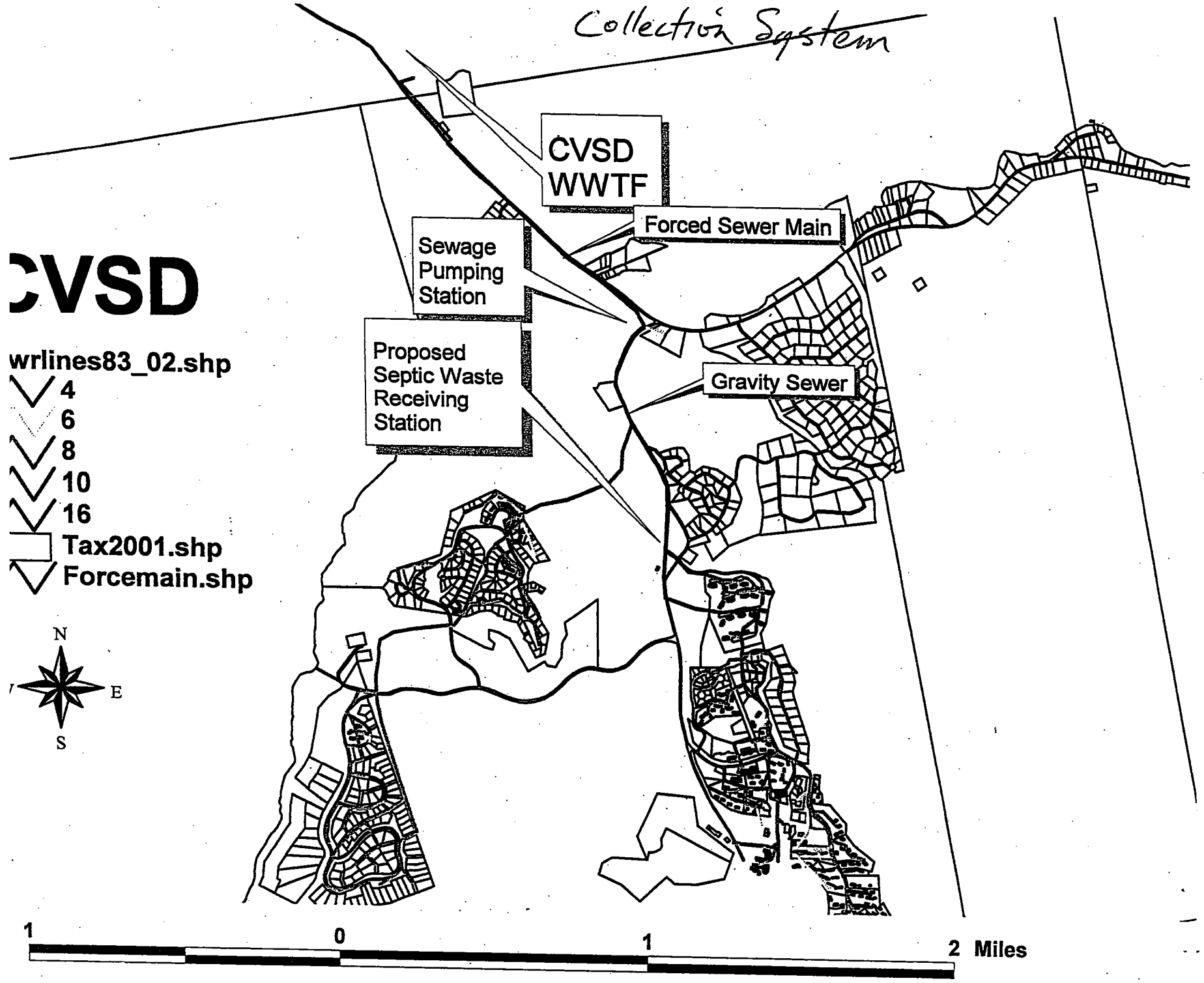
Calculate the estimated hourly application rate in inches per hour and gallons per acre obtained during the above calibration. Show calculations.

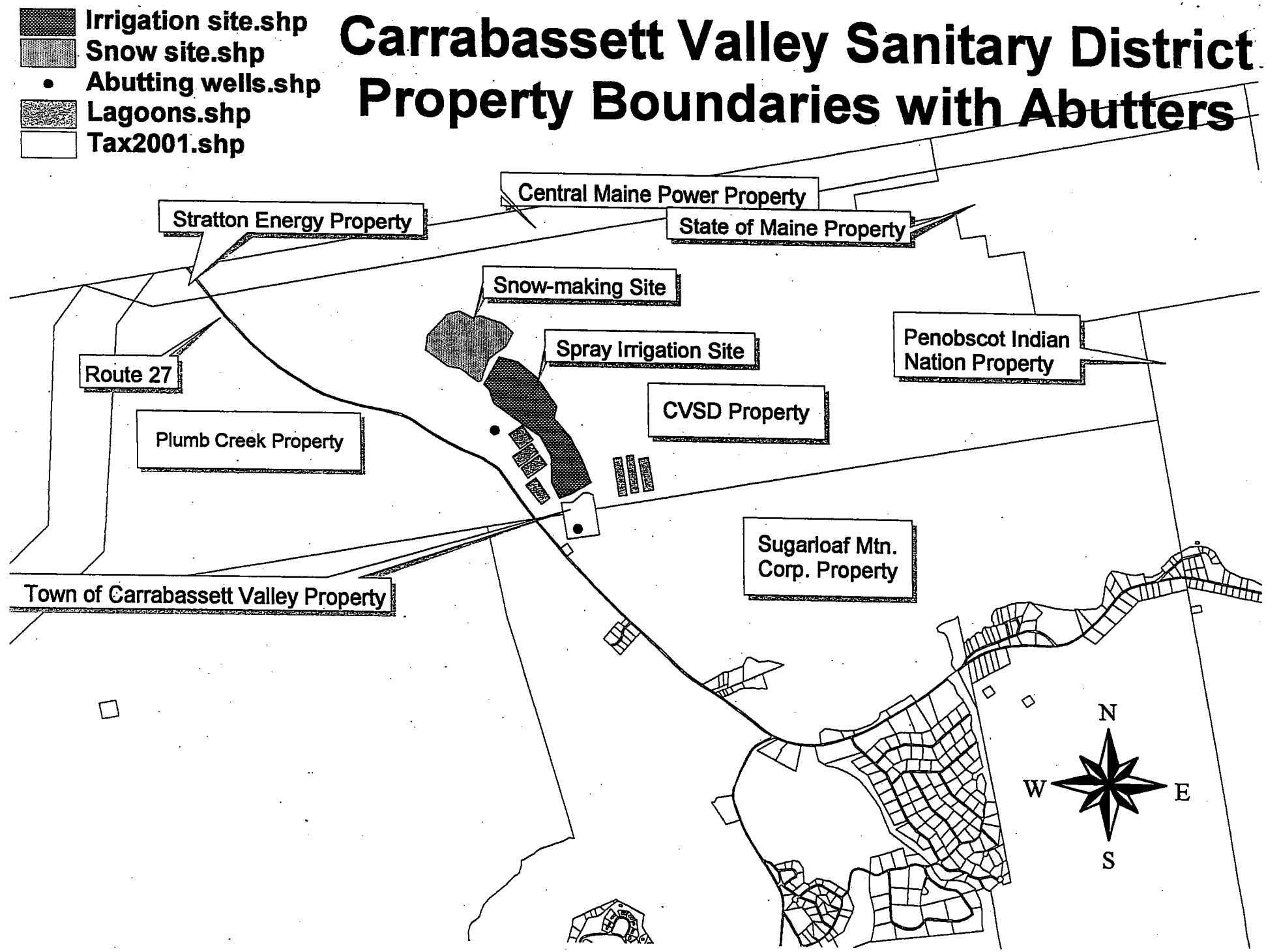
New Calibration Data

What changes to the estimates of wastewater flow are proposed, if any and why? And are the licensed application rates satisfied?

Any adjustments to improve uniformity of spray applications?

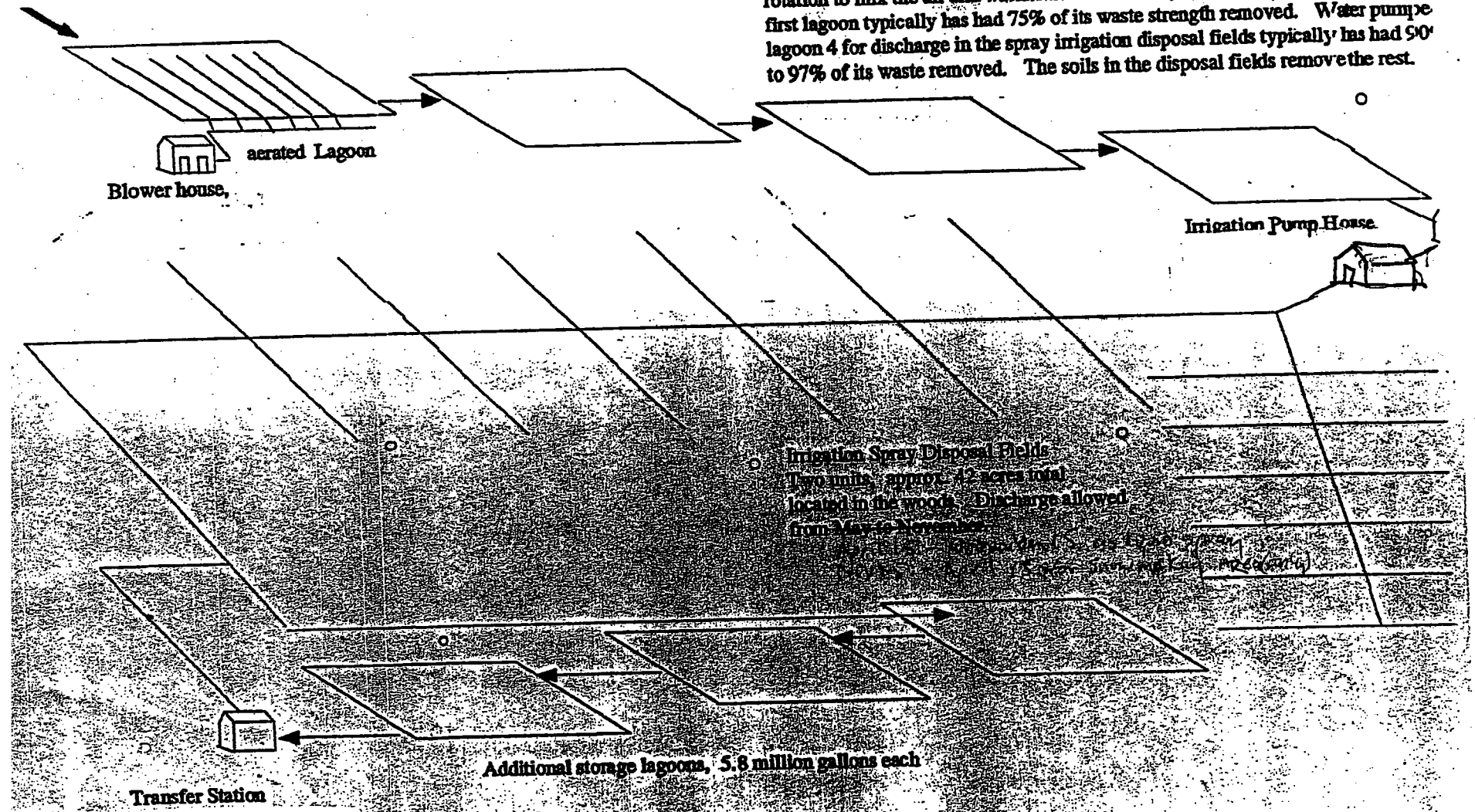
Submitted by: Signature of Operator in Responsible Charge	On Date:
Reviewed by: Signature of Operator in Responsible Charge	On Date:


Collection System
CVSD
WWTF
Forced Sewer Main
Sewage
Pumping
Station
Proposed
Septic Waste
Receiving
Station
Gravity Sewer
CVSD
wrlines83_02.shp
4
6
8
10
16
Tax2001.shp
Forcemain.shp
N
E
S
1
0
1
2 Miles

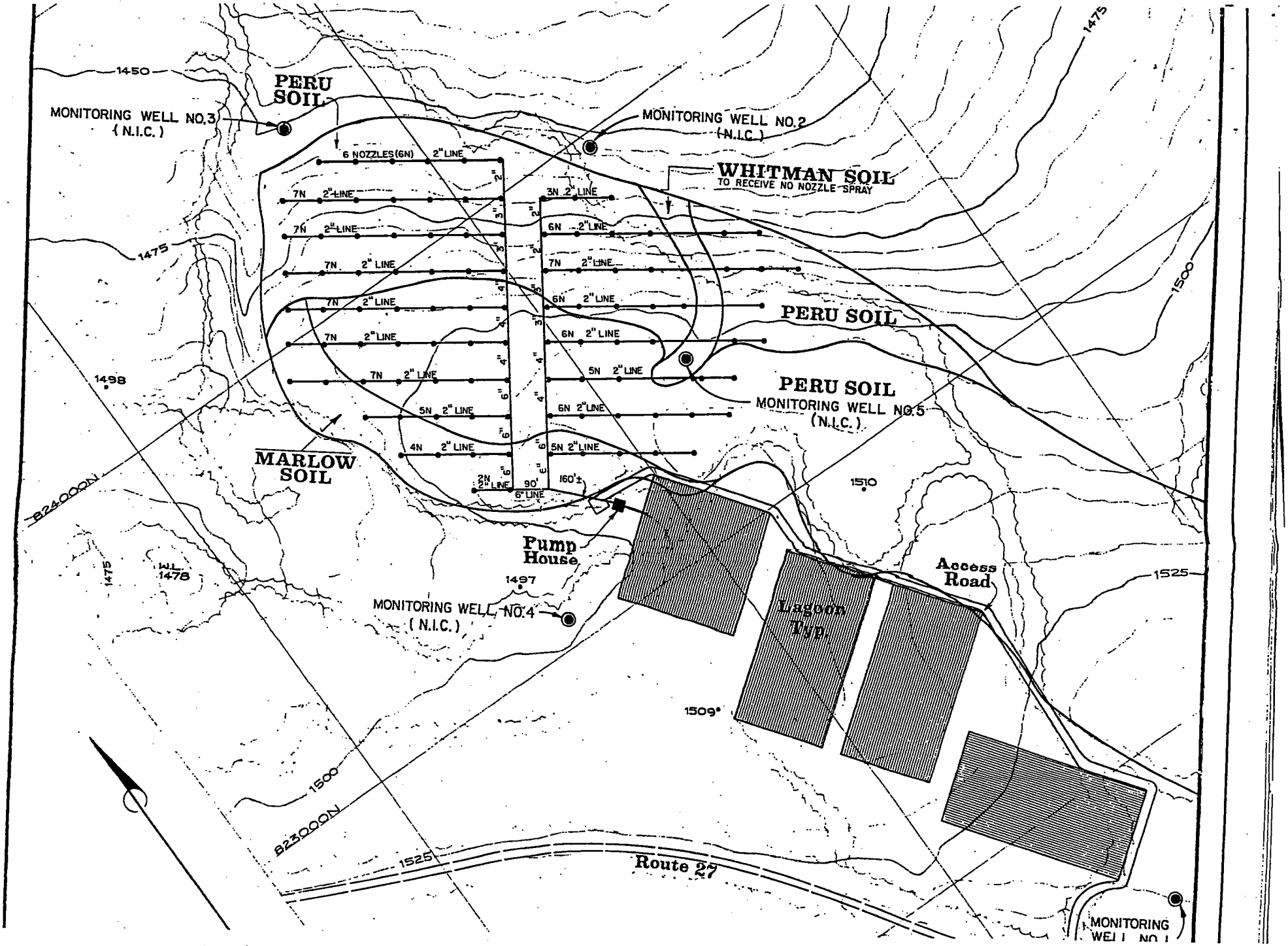

Irrigation site.shp
Snow site.shp
Abutting wells.shp
Lagoons.shp
Tax2001.shp
Carrabassett Valley Sanitary District
Property Boundaries with Abutters
Central Maine Power Property
Stratton Energy Property
State of Maine Property
Snow-making Site
Spray Irrigation Site
Penobscot Indian Nation Property
Route 27
CVSD Property
Plumb Creek Property
Sugarloaf Mtn. Corp. Property
Town of Carrabassett Valley Property
N
W
E
S

t raw sewage
i from Sugarloaf enters here.
aries from 25,000 to 350,000 gallons per day

Four treatment lagoons, each with a capacity of 5.2 million gallons provide the biological treatment. Detention time is from 60 days at maximum flow to 6 months at minimum flow. The lagoons each cover 2 surface acres and are 9 feet deep. The first lagoon is aerated by 18 air mixer/diffusers. The diffusers are 3 foot high plastic standpipes with nylon propellers inside, spinning in count rotation to mix the air and water which enters from the bottom. Water leaving first lagoon typically has had 75% of its waste strength removed. Water pumpe lagoon 4 for discharge in the spray irrigation disposal fields typically has had 90 to 97% of its waste removed. The soils in the disposal fields remove the rest.



Seven groundwater quality monitoring wells within the disposal site.
Typical values from groundwater are: nitrate, < 1mg/l; phosphorus, < 0.2 mg/L.


PERU SOIL
MONITORING WELL NO.3 (N.I.C.)
MONITORING WELL NO.2 (N.I.C.)
WHITMAN SOIL
TO RECEIVE NO NOZZLE SPRAY
6 NOZZLES(6N) 2" LINE
7N 2" LINE
3N 2" LINE
6N 2" LINE
5N 2" LINE
4N 2" LINE
2N 2" LINE
6" LINE
90'
160'±
PERU SOIL
PERU SOIL
MONITORING WELL NO.5 (N.I.C.)
MARLOW SOIL
Pump House
MONITORING WELL NO.4 (N.I.C.)
Lagoon Typ.
Access Road
Route 27
MONITORING WELL NO.1
1450
1475
1498
1500
1510
1497
1509
1525
W.L. 1478
B24000N
B23000N

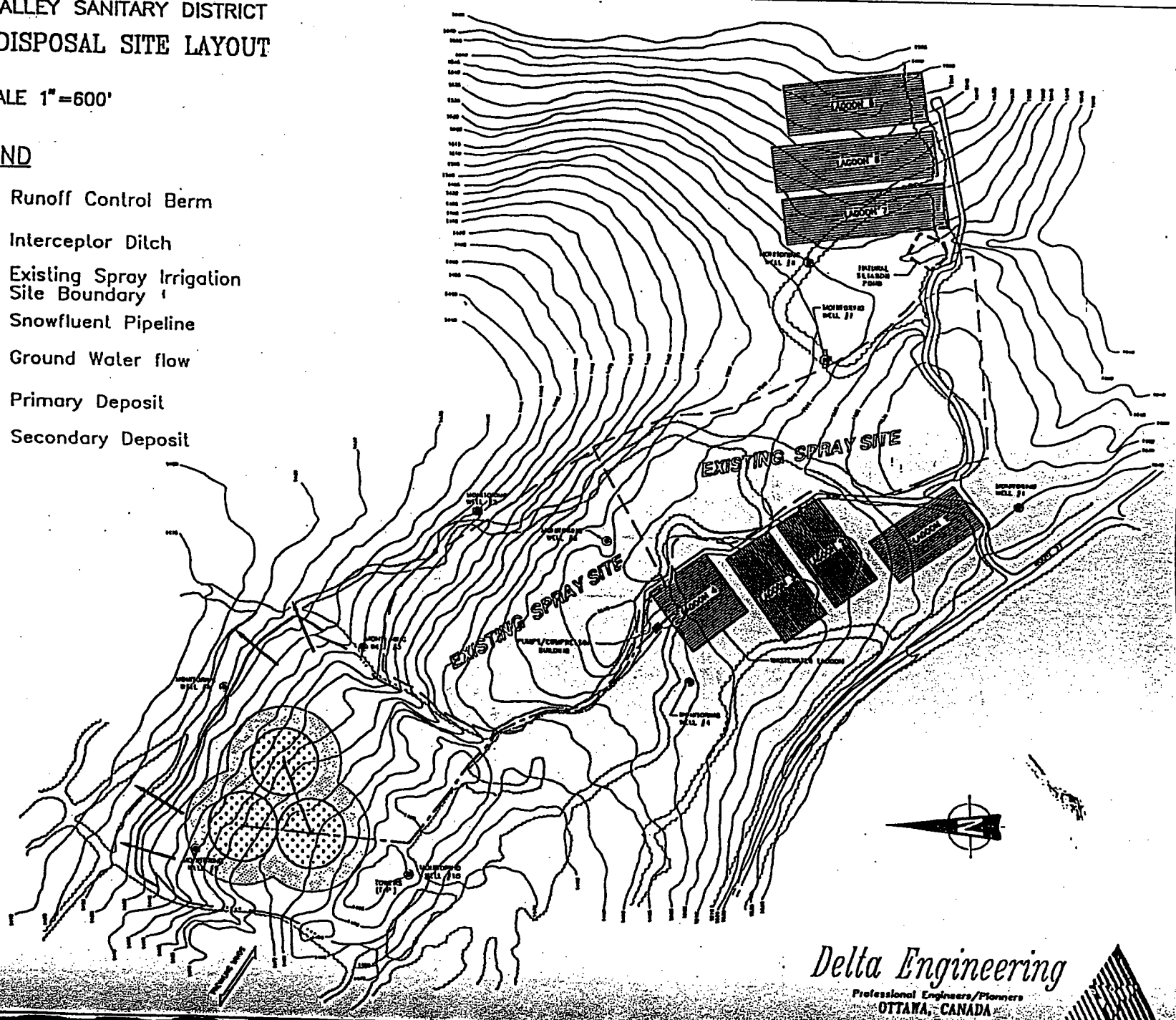
CARRABASETT VALLEY SANITARY DISTRICT

SNOWFLUENT DISPOSAL SITE LAYOUT

SCALE 1"=600'

LEGEND

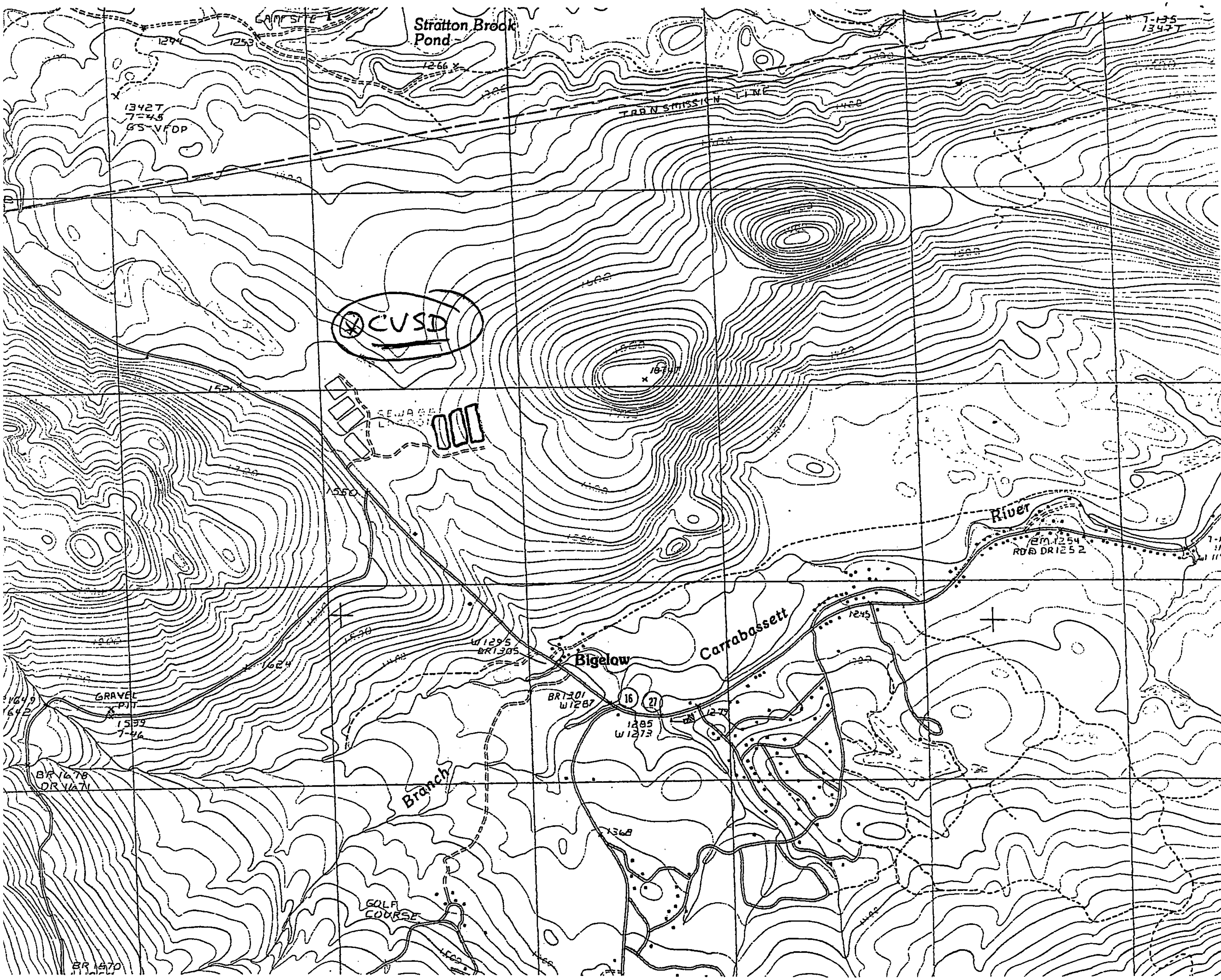
- Runoff Control Berm
- Interceptor Ditch
- Existing Spray Irrigation Site Boundary
- Snowfluent Pipeline
- Ground Water flow
- Primary Deposit
- Secondary Deposit



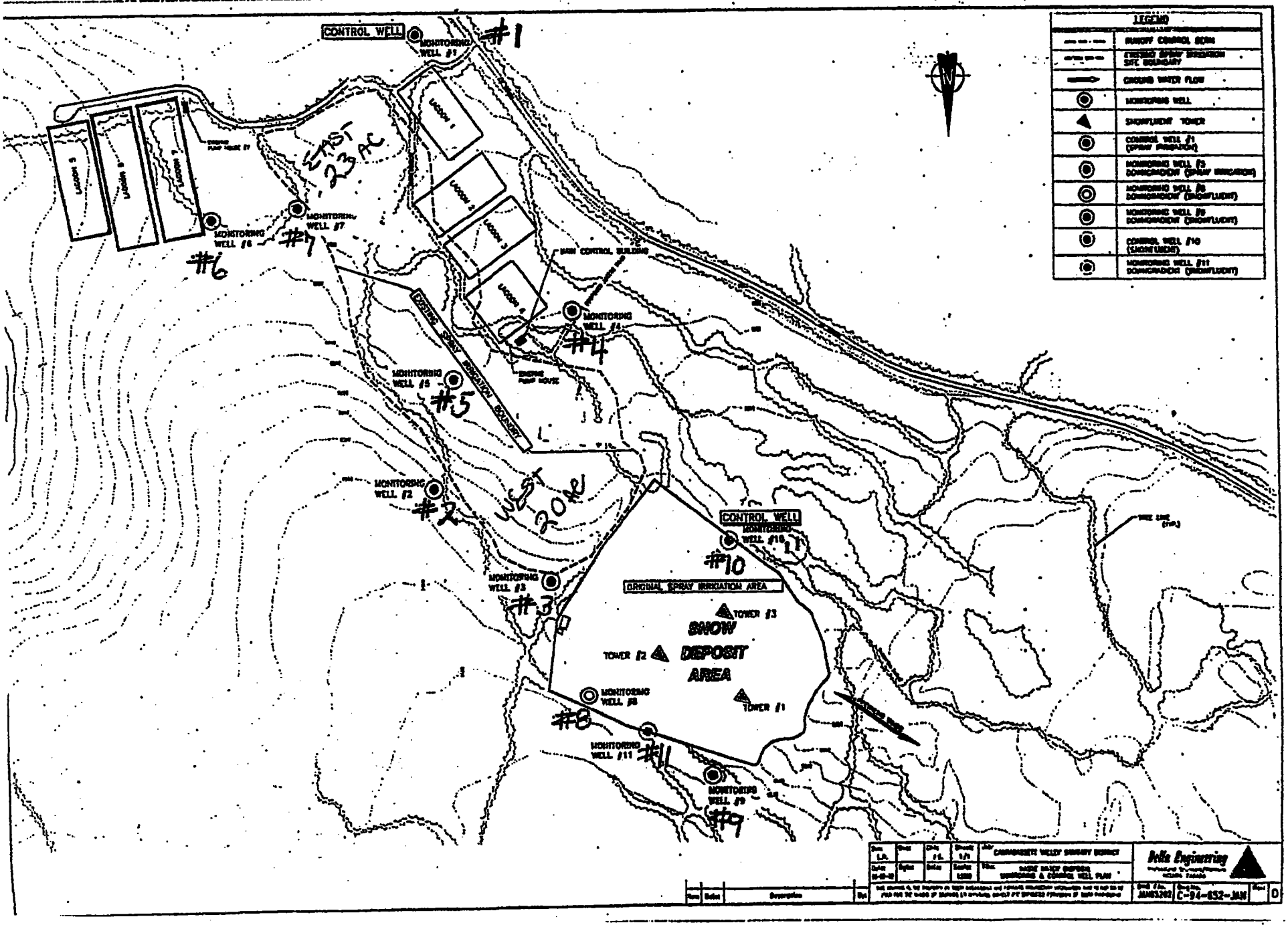
Delta Engineering

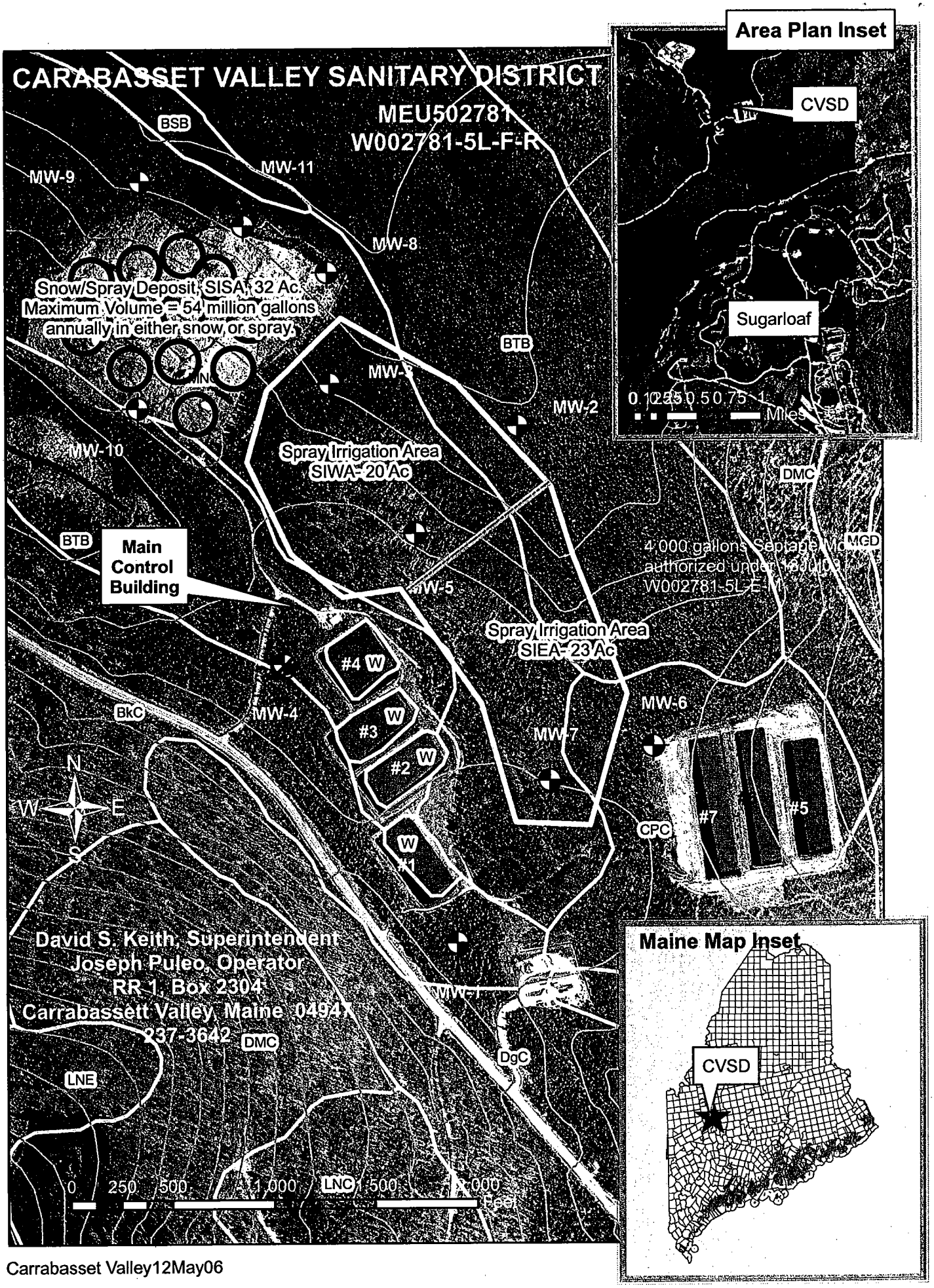
Professional Engineers/Planners

OTTAWA, CANADA


Stratton Brook Pond
CAMPSITE
1244
1253
1266
1342T
7-45
GS-VFDP
TRANSMISSION LINE
7-135
1347T
CUSD
SEWAGE LAGOON
1521
1550
1624
GRAVEL PIT
1599
7-46
BR 1678
DR 1671
W1295
BR1305
Bigelow
BR1301
W1287
16
27
1285
W1273
1279
1368
Carrabassett
River
1245
BM 1254
RD DR1252
Branch
GOLF COURSE
BR 1670

ATTACHMENT A





Carrabasset Valley12May06