BOWIE INC.
477 RIVER ROAD
TOPSHAM ME 04086
207-798-1346

February 17, 2021

Town of Durham Planning Board
Durham ME 04222

RE: BOWIE'S ORGANICS

At the advertised Public Hearing held January 16, 2019 Bowie Inc. presented the Durham Planning Board with the Application documentation and P.E. certified Engineering Plans for a Conditional Use Permit for a Wood Recycling and Compost business. The Biomass and Compost recycling site was historically used extensively and continuously by several owners/operators for a variety of construction purposes. These historical uses operated for several decades and included a mineral extraction/gravel pit, construction materials storage, sorting and processing, producing, and managing off-site excavated construction materials, an asphalt batch plant and storage of site clearing debris such as stumps, brush, and excavated topsoil. Bowie operated the site for several of the historical uses including storage of logs for future processing on and off site. The construction materials, biomass recycling/grinding, and firewood business evolved into what is now BOWIE'S ORGANICS.

The Planning Board accepted the Conditional Use Site Plan Application as completed for processing. A Quorum was declared, and the Planning Board completed a detailed review of the Application by discussing, reviewing, and taking public input for each of the required Application items. Motions were made and approved with" YES" votes for all but two (2) conditions - **clear title and financial capacity**. Following Public Hearing protocol, the Application received preliminary approval with two Conditions – demonstration of **clear title and financial capacity.** The Application was tabled, and Formal Approval was to be finalized at the February 2019 Planning Board Meeting. Bowie was not required to attend the February 2019 PB Meeting. Review of February's Planning Board Meeting Minutes shows that the Planning Board did not discuss or act on Final Approval as was stated at the January PB Meeting.

Bowie began site clean- up, on-site materials management and site preparation work per engineering plans and specifications while simultaneously pursuing the two Conditions – (1) **clear title, and (2) financial capacity.** The clear title took 16 months to acquire from Crooker Construction. On April 30, 2020 title was transferred to Bowie Inc. (copy of the deed is enclosed).

In early May 2020 I provided a copy of the deed to Bob Forest and informed him that Bowie Inc. would be clearing the land on Cushing Road and shaping the lot according to the approved engineering plans and specifications. Over 95% of materials required for site shaping and construction existed on-site and was used for stormwater management, noise control berms, balance of cuts and fills, and compost pad grading.

The engineers, Al Hodsdon, PE President of A.E. Hodsdon and Charlie Wallace, PE, President of Resource Systems Engineering and Project Manager/Agent for Bowie Inc were both informed and have periodically inspected progress during this time. Durham's Codes Enforcement Officer, Bob Forest has also been kept informed of progress with site work. Bowie's site work to date has been self- financed. The balance of Site Work financing will be from Bath Savings as described in Exhibit 6 to this letter.

In January 2021, I approached Bob to meet with both engineers on site. Shortly thereafter Bob informed Bowie Inc. that we needed to reapply and use the new application form. Bob agreed that Bowie could electronically file all required documents to facilitate forwarding to all Planning Board Members. Bob indicated that full size drawings were not needed for this current submittal because there were no changes to site engineering drawings, he already had those plans, and they were already provided to Planning Board Members in January 2019. Bowie Inc agreed to provide five sets of 11" X 17" paper plans of all relevant engineering documents for ease of PB Member review.

The Office Building shown on the Site Plan is not planned for current construction and will be dealt with at a future date.

Respectfully submitted,
BOWIE INC.

Clayton Bowie

signature of applicant

Clayton Bowie
President

ATTACHMENTS

1. Abutters list

EXHIBITS

1. Stormwater Management Plan
2. Site and survey Plans
3. Compliance Sound Level Study
4. Mark Cenci Geologist reports
5. Deed
6. Bath Savings Bank Letter
7. Criteria Approval
8. Maine Department Inland Fisheries & Wildlife Letter
9. FEMA 100 Year Flood Plain
10. Maine Historical Preservation letter
11. Bowie Sign
12. Durham Fire Department Letter
13. Photographs
14. No Deer Wintering Area Map
15. Maine Department of Environmental Protection Permits

Resource
Systems
Engineering

ATTACHMENT 1

PUBLIC NOTICE OF INTENT TO FILE
February 17, 2021

Please take notice that Bowie's Organics, 477 River Road, Topsham, Maine intends to file a Conditional Use Permit Application with the Town of Durham pursuant to Article 6 Conditional Use of the Town of Durham Land Use Ordinance on or about February 19, 2021.

The application is for processing soil, biomass, firewood, log milling and composting on Cushing Road in Durham, Maine.

The intent is for the Application to be part of the Agenda for the March 5, 2021 Planning Board Meeting.

30 Parkers Way
Brunswick, Maine 04011
207 725-7896

BOWIE'S ORGANICS
ABUTTERS LIST

Map 8

Lot #

14: Bowie's

4: Philip A. & Donna W. LaPierre
236 Rabbit Road
Durham, Maine 04222

12: Maine Custom Woodlands
1326 Hallowell Road
Durham, Maine 04222

13: Central Maine Power
One City Center – 5th Floor
Portland, Maine 04101

15: David A. Stephenson
Hilary Smith
176 Cushing Road
Durham, Maine 04222

15A: Susan G. Peterson
130 Cushing Road
Durham Maine 04222

15C: Mario & Lucretia Pascarelli
160 Cushing Road
Durham, Maine 04222

17: Crooker Realty/Equipment, LLC
P O Box 5001
Topsham, Maine 04086

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City, State, ZIP+4® Durham

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City, State, ZIP+4® Durham

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EXHIBIT 1

Stormwater Management Plan
For the
Bowie Organics Facilities
Durham, Maine
Project No. 30-18

Prepared by:

A.E. Hodsdon
Consulting Engineers
10 Common Street
Waterville, Maine
873-5164

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APPENDIX

Exhibit No. 1: Stormwater Management Site Plan – Sheet 1
Stormwater Details – Sheet 2

STORMWATER MANAGEMENT PLAN

A. GENERAL

The control and management plan of the stormwater from the proposed Bowie Organics Facility has been prepared. The accompanying site plan shows the areas of the facility that are completely surrounded by control berms. The stormwater management plan incorporates the reuse of the stormwater along with storage and sedimentation before discharge to the adjacent area.

B. PRE VERSUS POST DEVELOPMENT STORMWATER

1. **Pre-Development**: The existing site is the lower levels of a gravel pit. The runoff from this site presently leaves the site as sheet flow all along the north and east side of the lot. Even though gravel is considered to be impervious, it will absorb some of the rainfall. We have not made any adjustments for that fact.

2. **Post-Development**: The post development runoff will be the same volume as the pre-development because we have the same surfaces. The only exception is that 2.9 acres of the 11.15 acres will direct the runoff to the two stormwater ponds. The runoff that does not go through the ponds is actually being reduced by at least one third. The flow being treated by the ponds is discussed further in this submission.

C. DESIGN FLOWS

The site has been designed to capture all the water inside the berm. This area is 2.9 acres in area. Because this is a very small site, we have used the Rational Method (Q = Intensity Times Area) to determine the runoff from a 25-year storm. The site is located on an old gravel extraction pit. There is still gravel on the site and this will be the predominant surface that the activities will be performed on. However, we have treated this surface as though it was all paved.

The expected runoff from the 2.9 acres inside the berm is calculated to be 41,700 c.f. in one hour during a 25-year storm. The discharge structure has a discharge capacity when full of 14,400 c.f./hr. Therefore, the pond has a storage capacity of 27,800 c.f. The combined discharge and storage is 42,280 c.f. (14,000 + 27,880).

This means that the pond has the capacity to detain up to 4 inches an hour rain event without any water discharging over the emergency spillway.

All other rain water that falls outside the berms will be leaving the site in the same sheet flow process as it does now.

D. Sediment Control

The stormwater plan has actually two ponds. The first is a small pond that will capture sediment, if any, in the runoff from a light rain event (1" in 24 hrs. or less). The overflow from this pond will enter the larger stormwater pond that under normal conditions will have several days of storage.

The smaller pond will collect a lot of the sediment. This pond will be easier to maintain by removing the sediment. Scheduled maintenance of the ponds is discussed in Section G of this submission.

E. Buffering

We are proposing a 100 foot wide buffer on the northwest side of the parcel. This will catch the water draining from the western half of the site. The runoff will enter the buffer area in a sheetflow and pass through this naturally vegetated area as it leaves the site. In essence, the drainage will continue to flow from this area just as it does now.

F. Structures

The only permanent structures to be constructed for stormwater management are the ponds and the 35 foot level spreader. The level spreader will spread out the discharge from the stormwater pond as it goes back to the natural runoff area. This will require some monitoring and if necessary, some maintenance.

G. Maintenance Plan

A check list for periodic maintenance of the stormwater facilities has also been prepared. It covers the maintenance of the various components of the stormwater system.

1. **List of Measures**: The following permanent erosion control features have been or will be installed on this site and shall be inspected and maintained by the owner.

    a. Stone Berm Level Lip Spreaders
    b. Wooded Buffers
    c. Culverts
    d. Road Ditches
    e. Ditch Turn-outs to Level Spreaders/Buffers

2. **Inspection and Maintenance Tasks**

Level Lip Spreaders – the Owner shall inspect level spreaders monthly, at the beginning of the spring season, and after each significant rainfall event.

Any signs of channelization shall be immediately repaired. Over time, the level spreaders will fill with sediment and shall be cleaned out whenever sediment volume exceeds 50% of the storage capacity.

The stone berms shall be maintained in a level condition. Settlement or washout shall be replaced with properly sized stone.

Wooded Buffers - the Owner shall be responsible for maintaining the integrity and function of the wooded buffers. The buffers shall be inspected monthly, at the beginning of the spring season, and after each significant rainfall event.

Any erosion or channelization in the buffers shall be repaired immediately. Unless severe erosion occurs, all repair work shall be done by hand. As the wooded buffers are designed to be left in as natural state as possible, repair work shall consist of filling eroded areas by hand and covering with mulch from the facility.

Culverts – the Owner shall inspect culverts monthly, at the end of the spring runoff, and after each significant rainfall event.

Culvert inlets and outlets shall be kept clean to provide free flow. Any scouring or erosion shall be repaired immediately using hand laid stone riprap. Sediment built up in plunge pools shall be removed whenever ½ of the storage capacity has been reached. Culverts that are heaved by frost action shall be reset at the appropriate grades to provide free flow.

Ditches – the Owner shall inspect all road ditches monthly, at the beginning of the spring season, and after each significant rainfall event. The capacity and the vegetative or riprap cover of ditches shall be maintained.

Any erosion in vegetated ditches shall be immediately repaired by filling, seeding and covering with erosion control fabric as mulch. Any erosion in rip rapped ditches shall be immediately repaired by replacing and reshaping ditches. Vegetated ditches shall be mowed to a 4" height at least once annually between July 15 and September 15.

Outlets – outlets shall be maintained in a free draining state. Debris shall be removed. Plunge pools shall be inspected for erosion and repaired as needed with additional filter fabric and hand laid riprap. Outlets that have been heaved by frost-action shall be reset to the proper grade.

Storage Pools – the storage pools shall be inspected for sediment buildup. Any sediment or debris collected in the sediment ponds shall be removed in the early spring at the same time as the ditch cleaning.

The pools shall be mowed no more than twice annually to maintain a grass height of 12 inches or less. Weeds and other unwanted plants shall be removed by hand annually.

Fertilizers or pesticides shall not be used in the berms around the ponds.

Maintenance log forms are attached at the end of this section.

3. **Responsible Parties**

The Owner is the responsible party. The Owner is:

Clayton Bowie, Owner
477 River Road
Topsham, ME 04086
Tel. 207-798-1346

The engineer who prepared this application is:

Albert E. Hodsdon III
A.E. Hodsdon Engineers
10 Common Street
Waterville, Maine 04901
Tel. 873-5164
Fax. 872-0645
e-mail: al@aehodsdon.com

4. **Housekeeping Plan**

a. Spill Prevention: All 'household quantities" of hazardous materials (cleaners, solvents, etc.) stored on-site shall be stored in suitable containers in locked storage rooms. Disposal of household hazardous waste shall be off-site at approved disposal facilities. The proposed facility will not store other than "household quantities" of substances anywhere on-site.

In the case of accidental spills by vehicles or equipment an immediate effort shall be made to contain the spill by ditching, spreading absorbent material (sawdust, Speedi-Dry, cat litter, etc.) or by other means. The material shall be dug up, placed in a suitable container and disposed of off-site at an appropriate facility. In the event that more than 5 gallons of hazardous material is spilled the following shall be immediately notified:

Maine DEP Oil Spill Response – 1-800-482-0777
Maine DEP Hazardous Material Spill – 1-800-452-4664
State Police - 911
Durham Fire Department - 911

b. Groundwater Protection: Construction, equipment shall be maintained in a leak-free state. No hazardous materials or oils will be disposed of on site. In the event of spills, the procedure outlined above shall be followed.

An existing on-site well will be classified as a public water supply. Construction equipment shall be parked a minimum of 100 feet away from this well.

5. **Fugitive Sediment and Dust**

Dust on access roads shall be controlled during construction by the application of water or calcium chloride.

Temporary erosion control shall be installed before beginning construction and the soil and erosion control plan (indicated on drawings) shall be followed in order to prevent unnecessary erosion.

6. **Debris and Other Materials**

Construction debris, hazardous waste or oily waste my not be disposed of on-site for any reason. All such materials shall be transported off-site and disposed of at property licensed disposal facilities.

7. **Use of Phosphorous Containing Fertilizers Prohibited**

The use of phosphorous containing fertilizer shall be prohibited at the site.

Maintenance Plan
Bowie Organics Facilities Stormwater Management Systems

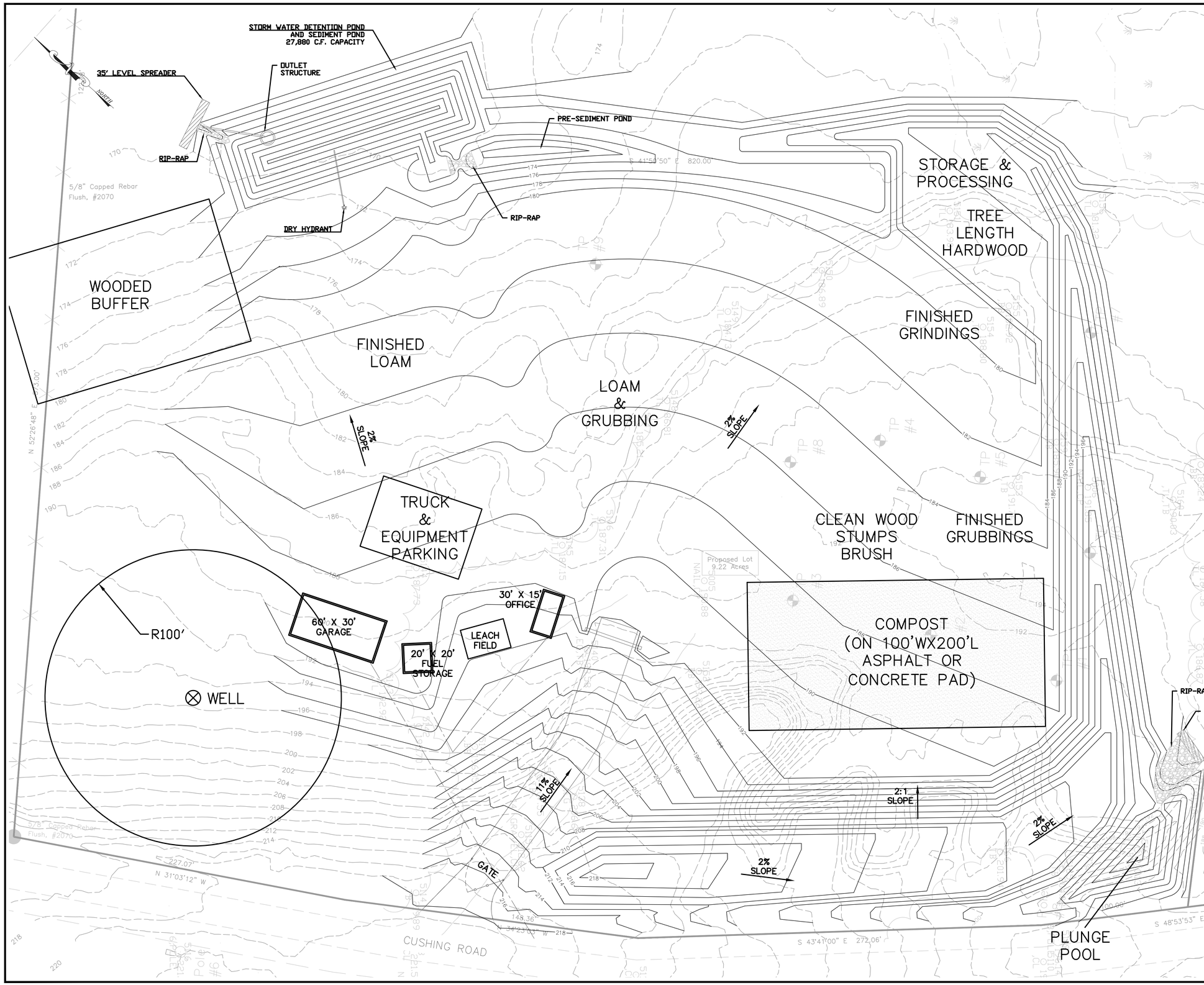
	Spring	Fall or Yearly	After a Major Storm
Vegetated Areas			
Inspect all slopes and embankments			
Replace bare areas or areas with sparse growth			
Armor areas with rill erosion with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows.			
Stormwater Channels			
Inspect ditches, swales and other open stormwater channels			
Remove any obstructions and accumulated sediments or debris			
Control vegetated growth and woody vegetation			
Repair any erosion of the ditch lining			
Mow vegetated ditches			
Remove woody vegetation growing through riprap			
Repair any slumping side slopes			
Replace riprap where underlying filter fabric or underdrain gravel is showing or where stones have dislodged.			
Culverts			
Remove accumulated sediments and debris in both stormwater ponds			
Repair any erosion damage at the culvert's inlet and outlet			
Roadways & Parking Surfaces			
Clear accumulated winter sand in parking lots and along roadways			
Grade road shoulders and remove excess sand either manually or by a front-end loader			
Grade gravel roads and gravel shoulders to maintain a crown in the access road			
Cleanout the sediment within water bars or open-top culverts			
Ensure that stormwater is not impeded by accumulation of material or false ditches in the shoulder			
Buffers			
Inspect treatment buffers for evidence of erosion, concentrated flow or encroachment by development			
Manage the buffer's vegetation with the requirements in any deed restrictions			
Mow vegetation in non-wooded buffers no shorter than six (6) inches and less than three (3) times per year.			
Repair any signs of erosion within a buffer or on the berms			
Inspect and repair down-slope of all spreaders and turn-outs for erosion			
Extend level spreader, if needed for a better distribution of flow			
Cleanout any accumulation of sediment within the spreader bay			
Filtration & Infiltration Basins			
No filtration devices are proposed			
Other Practices and Measures			
Contact the local CEO for appropriate inspection and maintenance requirements for other drainage control and runoff treatment measures.			

Exhibit No.

1

Stormwater Management Plan for the Bowie Organics Facilities

1. Stormwater Management Site Plan (Sheet 1) and Stormwater Details (Sheet 2)



No.	Revisions	Date	App'd.

BOWIE'S ORGANICS

CUSHING RD. DURHAM, MAINE

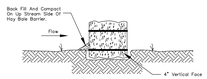
STORMWATER MANAGEMENT
SITE PLAN

STATE OF MAINE
ALBERT E. HODSDON, III
No. 2925
LICENSED
PROFESSIONAL ENGINEER

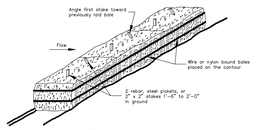
© AEHodsdon
CONSULTING ENGINEERS
10 Common St. Waterville, Me. 04901 (207) 873-5164

Drawn By:	GL	Scale:	AS SHOWN
Checked By:	GL	Date:	10/24/2018
Approved By:	AEH	Date:	10/24/2018
File No.	30-18-DURHAM.DWG	Project No.	30-18

Sheet No. 1 Of 2



EMBEDDING DETAIL



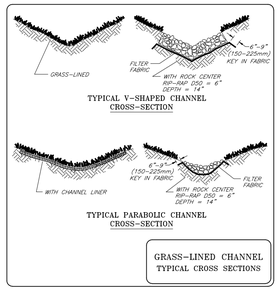
ANCHORING DETAIL

CONSTRUCTION SPECIFICATIONS

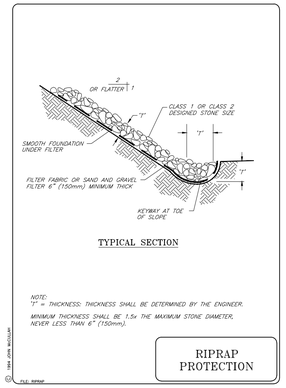
1. Bales shall be Placed in a row with ends tightly abutting the adjacent bales.
2. Each bale shall be embedded in the soil a minimum of 4".
3. Bales shall be securely anchored in place by stakes or rebar driven through the bales. The first stake in each bale shall be angled toward previously laid bale to force bales together.
4. Inspection shall be frequent and repair or replacement shall be made promptly as needed.
5. Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.

Straw Or Hay Bale Barrier Detail

Not To Scale



GRASS-LINED CHANNEL TYPICAL CROSS SECTIONS



RIPRAP PROTECTION

STABILIZATION NOTES:

Waterways Shall Be Stabilized In Accordance With The Appropriate Standard And Specification For Rip-Rap Swales.

1. Shall Be Removed And Disposed Of So As Not To Interfere With The Proper Functioning Of The Waterway.
2. The Waterway Shall Be Excavated Or Shaped To Line, Grade, And Cross Section As Required To Meet The Criteria Specified Herein, And Be Free Of Bank Projections Or Other Irregularities Which Will Impede Normal Flow.
3. Fills Shall Be Compacted As Needed To Prevent Unequal Settlement That Would Cause Damage In The Completed Waterway.
4. All Earth removed and Not Needed In Construction Shall Be Spread Or Disposed Of So That It Will Not Interfere With The Functioning Of The Waterway.
5. Construction Operations Shall Be Carried Out In Such A Manner That Erosion And Air and Water Pollution Will Be Minimized. State and Local Laws Will Be Complied With.
6. Stabilization Shall Be Done According To The Appropriate Standard And Specifications For Rip-rap Swales

All Disturbed Areas To Be Revegitated As Follows:

Hay Mulch	2 Bales/1000 sq. ft.
Ground Limestone	138 lb./1000 sq. ft.
Fertilizer 10-20-20	18.4 lb./1000 sq. ft.

SEED MIX
See Specifications

Erosion Control Notes

1. Install silt fence as shown on the drawings and at the limit of clearing for all site work and above all water courses to protect against erosion from construction. Install along contour with guidelines provided in latest edition of MDEP BMP manual and in accordance with details. Maintain silt fence until disturbed areas have established vegetative cover.

2. Construct a construction entrance at the intersection of the project entrance and the Town Road to limit the amount of vehicle tracking from the site during construction.

3. Prior to construction the contractor shall prepare and submit a schedule and marked up plan indicating the progress of the work and the timing for stabilizing disturbed areas. Special attention shall be given to the 14-day limit between disturbance and stabilization.

4. All disturbed areas shall be stabilized or provided with temporary erosion control within 14-days of disturbance. During winter conditions, all disturbed areas shall be stabilized with 7-days of disturbance.

5. All disturbed areas within 100 feet of any protected water course shall be stabilized or provided with temporary erosion control within 48-hours of disturbance.

6. Temporary erosion control shall include erosion control blankets or mulch. Apply hay or straw mulch at a rate of 2 square bales per 1,000 sq. ft. to form a continuous cover over bare soil. Maintain mulch cover by wetting or placing netting over mulch.

7. Erosion control blanket shall be used in all ditches and on disturbed slopes in excess of 15% grade.

8. All disturbed areas that do not receive final seeding by September 15th of the construction year shall receive a winter rye seeding at the rate of 3 lbs. per 1,000 sq. ft. A heavy layer (4") of hay or straw mulch shall also be applied.

9. All disturbed areas shall receive 4" of loam. The loam shall be seeded, fertilized and mulched at the rates shown in the notes.

10. All erosion control devices, check dams, silt fence, etc, shall remain in place and be maintained until grass has become 85% established.

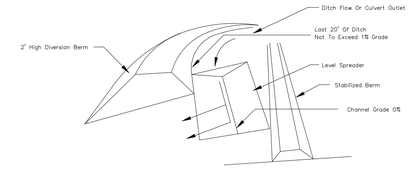
11. Additional erosion control may be required by the municipality and/or the Maine DEP to stop soil from leaving the site. Any additional erosion control required will be the responsibility of the contractor.

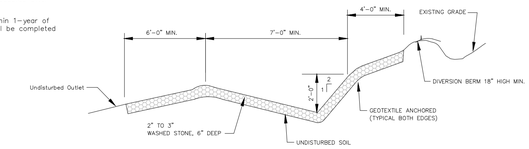
12. The contractor shall inspect and repair all erosion control measures after each rainfall and shall keep a log of these events.

13. The contractor shall repair and re-seed all eroded areas within 1-year of the date of substantial completion of the work. Repair work shall be completed within 14-days of notification.

Level Spreader Notes:

1. LEVEL SPREADERS SHALL BE INSTALLED WITH A LEVEL INSTRUMENT. CONSTRUCT LEVEL LIP TO 0% GRADE TO ENSURE UNIFORM SHEET FLOW. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL (NOT FILL).
2. SELECT GEOTEXTILE FABRIC BASED ON UNDISTURBED SOILS (SANDS, SILTS, CLAYS, ETC.)
3. PLACE 6" LAYER OF UNIFORMLY GRADED STONE 2" TO 3" IN DIA. RAKE TO FORM A SMOOTH UNIFORM SURFACE. DO NOT FILL VOIDS IN STONE.
4. THE INLET DITCH SHALL NOT EXCEED A 1% GRADE FOR AT LEAST 20 FEET BEFORE ENTERING THE LEVEL SPREADER.
5. STONE RUN-OFF CONVERTED TO SHEET FLOW ACROSS OUTLET APRON SHALL FLOW ONTO UNDISTURBED AREAS.
6. CONSTRUCTION OF LEVEL SPREADER SHALL BE FROM UPHILL SIDE ONLY. LEVEL LIP AND AREA BELOW SPREADER SHALL BE AT EXISTING GRADES & UNDISTURBED BY EARTHWORK OR EQUIPMENT.
8. CONSTRUCT SPREADER WITH LIP AT ELEVATION INDICATED ON PLANS.

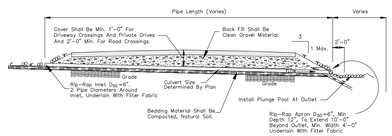




Section A-A

Level Spreader Detail

Not To Scale

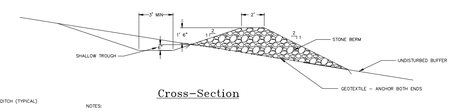


Typical Culvert Cross-Section

Not To Scale

STONE SPECIFICATIONS:

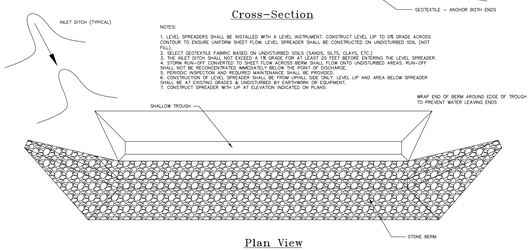
SIZE	% PASSING
12"	100
6"	84-100
3"	68-83
1"	42-55
3/16" (#4)	8-12



Cross-Section

NOTES:

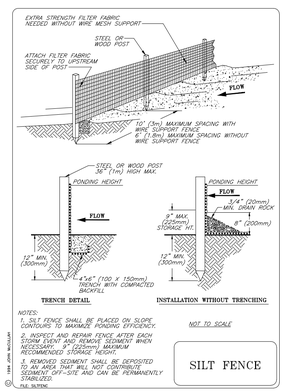
1. LEVEL SPREADERS SHALL BE INSTALLED WITH A LEVEL INSTRUMENT. CONSTRUCT LEVEL LIP TO 0% GRADE ACROSS CONTOUR TO ENSURE UNIFORM SHEET FLOW. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL (NOT FILL).
2. SELECT GEOTEXTILE FABRIC BASED ON UNDISTURBED SOILS (SANDS, SILTS, CLAYS, ETC.)
3. THE INLET DITCH SHALL NOT EXCEED A 1% GRADE FOR AT LEAST 20 FEET BEFORE ENTERING THE LEVEL SPREADER.
4. STONE RUN-OFF CONVERTED TO SHEET FLOW ACROSS BERM SHALL FLOW ONTO UNDISTURBED AREAS. RUN-OFF SHALL NOT BE RECONCENTRATED IMMEDIATELY BELOW THE POINT OF DISCHARGE.
5. PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PROVIDED.
6. CONSTRUCTION OF LEVEL SPREADER SHALL BE FROM UPHILL SIDE ONLY. LEVEL LIP AND AREA BELOW SPREADER SHALL BE AT EXISTING GRADES & UNDISTURBED BY EARTHWORK OR EQUIPMENT.
7. CONSTRUCT SPREADER WITH LIP AT ELEVATION INDICATED ON PLANS.



Plan View

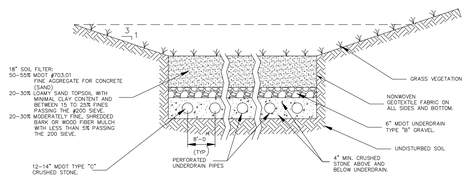
Stone Bermed Level Lip Spreader Detail

Not To Scale



NOT TO SCALE

SILT FENCE

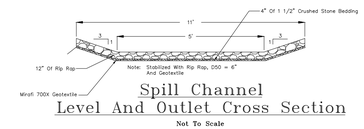


(OPTIONAL) FILTER SWALE - CROSS SECTION

Not To Scale

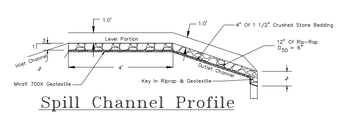
NOTES:
1. Piping and filter media shall be installed only after the site is completely stabilized with permanent measures
2. Seed Mix for stabilization shall be a mix of:

Creeping Red Fescue - 0.46 lb./1,000 sf.
Red Top - 0.05 lb./1,000 sf.
Tall Fescue - 0.46 lb. /1,000 sf.



Spill Channel
Level And Outlet Cross Section

Not To Scale

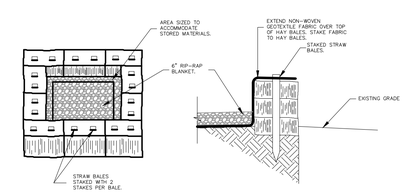


Spill Channel Profile

Not To Scale

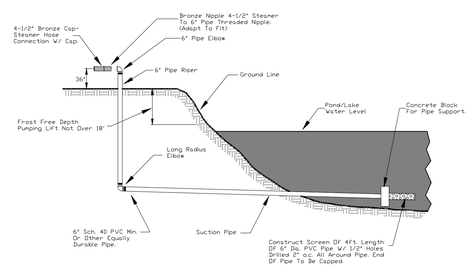
Notes:

1. The Structure Shall Be Inspected After Each Rain And Repairs Made As Needed.
2. Sediment Shall Be Removed And The Trap Restored To Its Original Dimensions When The Sediment Has Accumulated To 1/2 The Design Depth Of The Trap. Removed Sediment Shall Be Deposited In A Suitable Area And In Such A Manner That Will Not Erode.
3. Structures Shall Be Removed And The Area Stabilized When The Remaining Drainage Area Has Been Properly Stabilized.



Temporary Hay Bale Sediment Filter Detail

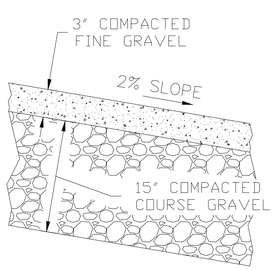
Not To Scale



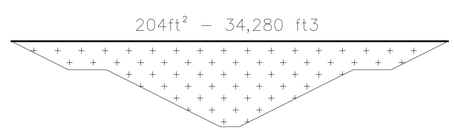
Dry Hydrant Detail

Not To Scale

WATER TABLE LEVELS	
TEST PIT #	DEPTH TO WATER TABLE
1	52'
2	>84'
3	>50'
4	>48'
5	>60'
6	>48'
7	>48'
8	>48'
9	>84'



TYPICAL GRADING FOR WORK SURFACE

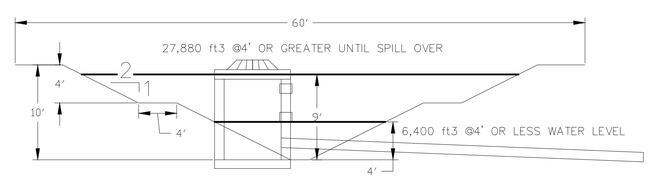


Current 2:1 side slope

201,000 ft²site to pond

4" rain event = 66,330

SEDIMENT POND SECTION VIEW



No.	Revisions	Date	App'd.
1	WATER TABLE LEVELS & TYPICAL GRADING DETAIL ADDED	11/26/18	AEH

BOWIE'S ORGANICS

CUSHING RD. DURHAM, MAINE

STORMWATER DETAILS

STATE OF MAINE ALBERT E. HODSDON, III No. 2923 LICENSED PROFESSIONAL ENGINEER

© AEHodsdon CONSULTING ENGINEERS
10 Common St. Waterville, Me. 04901 (207) 873-5164

Drawn By:	GL	Scale:	AS SHOWN
Checked By:	GL	Date:	10/24/2018
Approved By:	AEH	Date:	10/24/2018
File No.	30-18-DURHAM.DWG	Project No.	30-18

Sheet No. 2 Of 2

EXHIBIT 2

SITE LOCUS MAP

PROJECT NAME AND OWNER
BOWIE'S ORGANICS, DURHAM, MAINE
CLAYTON "CHIP" BOWIE
477 RIVER ROAD
TOPSHAM, MAINE 04086

PROJECT ENGINEER/PROJECT MANAGER/AGENT/SITE PLAN/COMPLIANCE
SOUND LEVEL STUDY:
Resource Systems Engineering
Charles F. Wallace, Jr., P.E.
PO Box K – 30 Parkers Way
Brunswick, Maine 04011

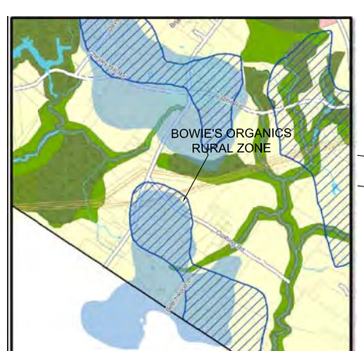
STORMWATER MANAGEMENT PLAN:
A. E. Hodsdon Consulting Engineers
10 Common Street
Waterville, Maine 04901

SURVEY PLAN
Wayne T. Wood & Co.
30 Wood Drive
Gray, Maine 04039

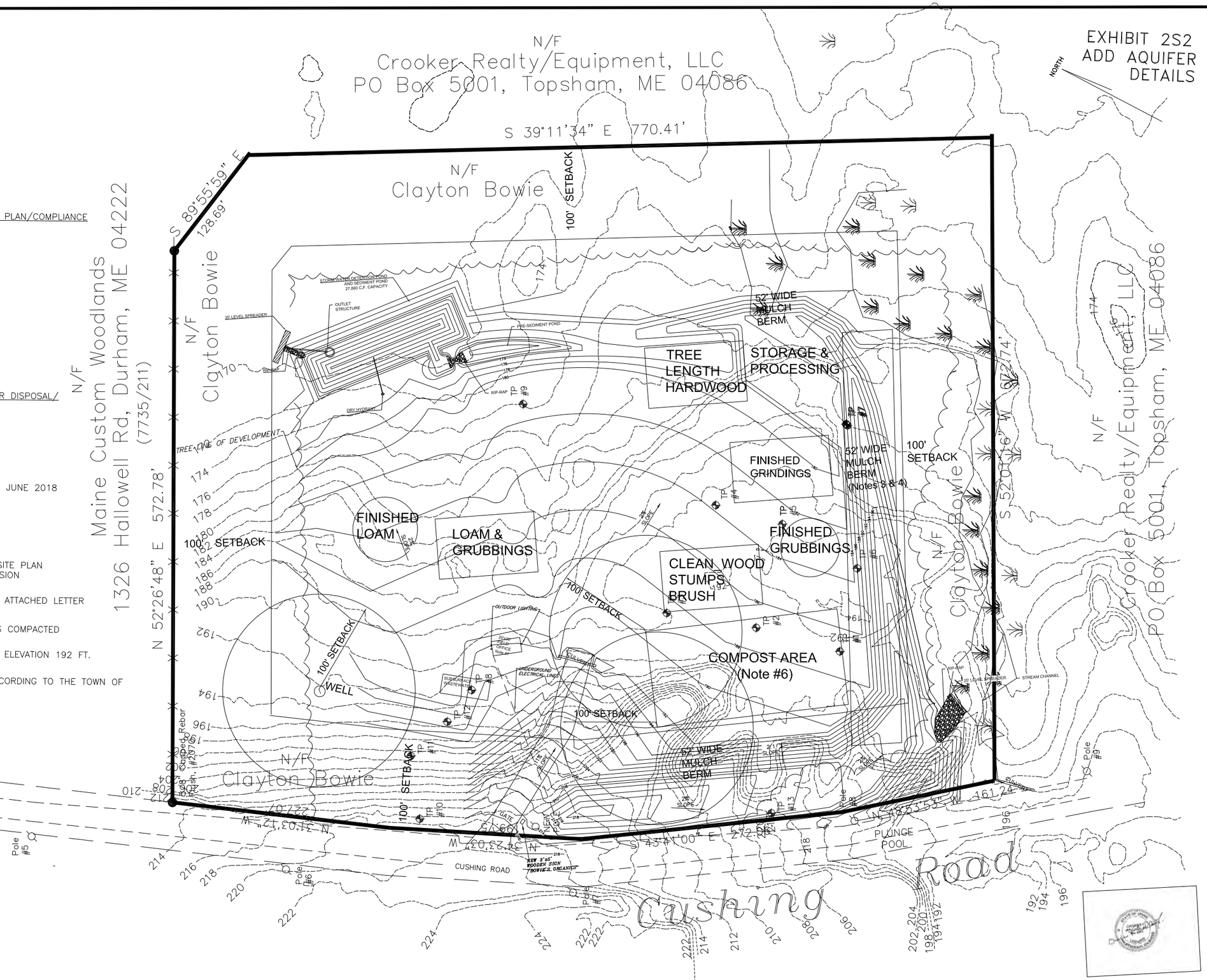
GEOLOGY/SOIL SUITABILITY/SUBSURFACE WASTEWATER DISPOSAL/
DRINKING WATER WELL:
Mark Cenci Geologic, Inc.
93 Mill Road
North Yarmouth, Maine 04097

NOTES:

1. REFERENCE WAYNE WOOD & CO. SURVEY PLAN, JUNE 2018
2. PROPOSED LOT 13.62 ACRES
3. CLAY & MULCH BERM: 12' HIGH
   4' TOP
   52' BASE
4. SEE A.E. HODSDON STORMWATER MANAGEMENT SITE PLAN SHEETS 1 & 2 FOR GRADING, DRAINAGE, AND EROSION CONTROL DETAILS
5. LOCATION OF AQUIFER ON PROPERTY: REFER TO ATTACHED LETTER BY MARK CENCI GEOLOGIC
6. TO BE PLACED ON A 100'w X 200'l IMPERVIOUS COMPACTED GRAVEL, RECLAIM, ASPHALT OR CONCRETE PAD
7. FIELD OFFICE: 20'x30', FULL FOUNDATION, BASE ELEVATION 192 FT. PEAK HEIGHT 26 FT. $\frac{6}{12}$ PITCH
8. THIS SITE IS NOT IN THE HISTORIC DISTRICT ACCORDING TO THE TOWN OF DURHAM'S HISTORIC DISTRICT COMMISSION.



50 0 50
SCALE IN FEET (1 in. = 50 ft.)



DWG NO.: C01–1S	SHEET: 1 OF 1
PROJECT: 180327	REV: 2
DRWN: TJJ	DATE: 1–04–19
CHECK: CFW	APP'D:

BOWIE'S ORGANICS
DURHAM, MAINE
SITE PLAN

Resource Systems Engineering
30 PARKERS WAY
P. O. Box K
Brunswick, Maine
(207) 725–7896

WAYNE WOOD & co.

PROFESSIONAL LAND SURVEYING
and LAND PLANNING
30 Wood Drive, Gray, Maine 04039

WETLANDS DELINEATION
Telephone (207) 657-3330
wtwco@securespeed.net

Property Description
For
Chip Bowie
(13.61 acres ~ Durham)

A certain lot or parcel of land situated on the Northeasterly side of Cushing Road in the Town of Durham, County of Androscoggin and State of Maine being more particularly described as follows:

Beginning at a 5/8" capped rebar (#2070) found set in the ground on the assumed Northeasterly side line of Cushing Road at the Southerly corner of land now or formerly of Maine Custom Woodlands (7735/211);

Thence N 52°26'48" E following a wire fence along land of the said Maine Custom Woodlands 572.78 feet to a 5/8" capped rebar (#2070) found set in the ground at the Easterly corner of land of the said Maine Custom Woodlands and on the Southerly boundary of land now or formerly of Central Maine Power Company (1001/205, 687/431 & 605/573);

Thence S 89°55'59" E along land of the said Central Maine Power Company 128.69 feet to a point;

Thence S 39°11'34" E across land of the Grantor 770.41 feet to a point;

Thence S 52°01'16" W continuing across land of the Grantor 672.74 feet to a point on the assumed Northeasterly side line of the said Cushing Road;

Thence N 48°53'53" W along the assumed Northeasterly side line of the said Cushing Road 161.24 feet to a point;

Thence N 43°41'00" W continuing along the assumed Northeasterly side line of the said Cushing Road 272.06 feet to a point;

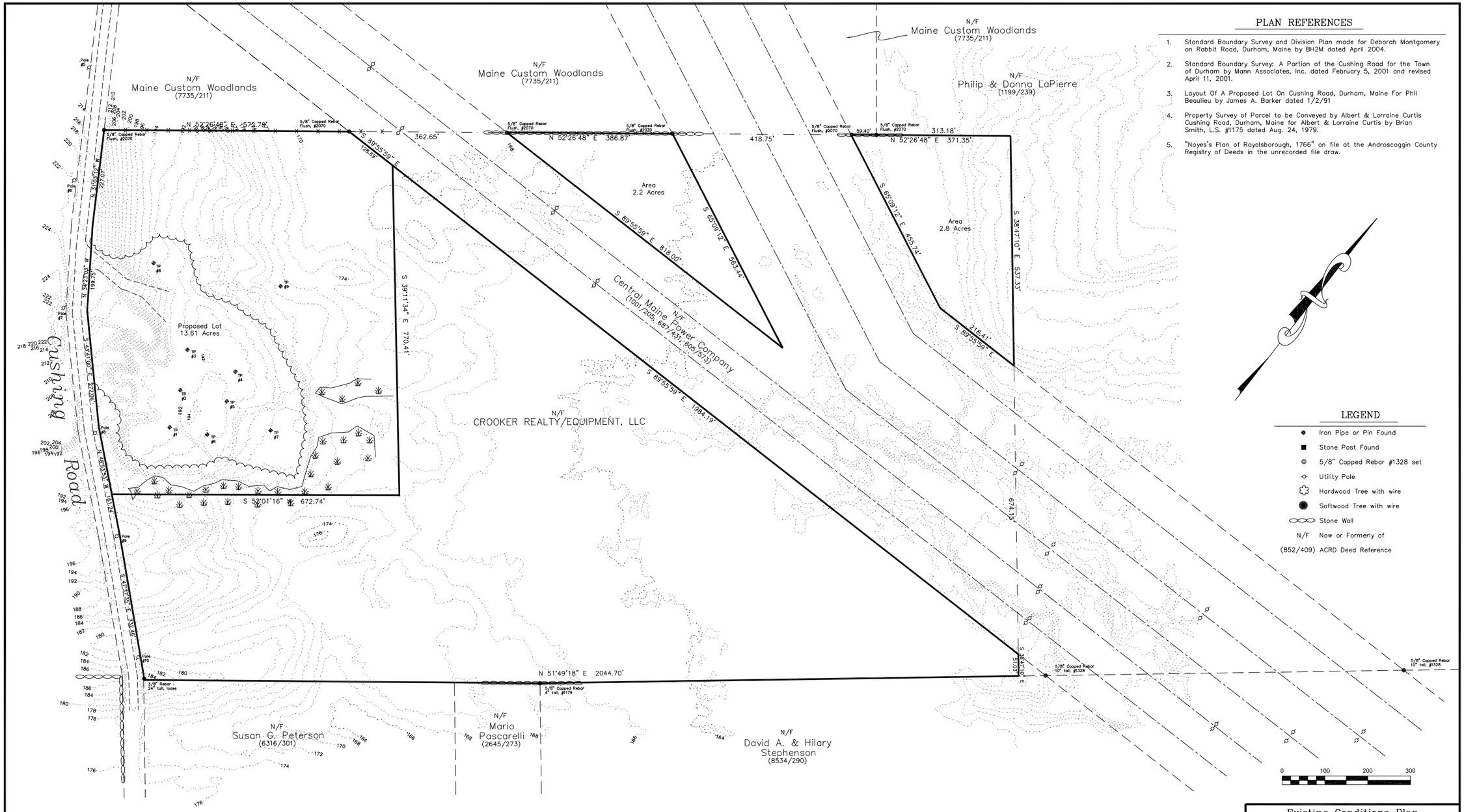
Thence N 34°23'03" W continuing along the assumed Northeasterly side line of the said Cushing Road 199.75 feet to a point;

Thence N 31°03'12" W continuing along the assumed Northeasterly side line of the said Cushing Road 227.07 feet to the point of beginning. Containing 13.61 acres.

All bearings are Magnetic of the Year 2004.

Meaning and intending to convey a portion of the premises conveyed to this Grantor by a deed recorded in the Androscoggin County Registry of Deeds in Book 9013 on Page 157.

216171-13.61 acres



PLAN REFERENCES

1. Standard Boundary Survey and Division Plan made for Deborah Montgomery on Rabbit Road, Durham, Maine by BH2M dated April 2004.
2. Standard Boundary Survey: A Portion of the Cushing Road for the Town of Durham by Mann Associates, Inc. dated February 5, 2001 and revised April 11, 2001.
3. Layout Of A Proposed Lot On Cushing Road, Durham, Maine For Phil Beaulieu by James A. Barker dated 1/2/91
4. Property Survey of Parcel to be Conveyed by Albert & Lorraine Curtis Cushing Road, Durham, Maine for Albert & Lorraine Curtis by Brian Smith, L.S. #1175 dated Aug. 24, 1979.
5. "Noyes's Plan of Royalsborough, 1766" on file at the Androscoggin County Registry of Deeds in the unrecorded file draw.

LEGEND

- Iron Pipe or Pin Found
- Stone Post Found
- 5/8" Capped Rebar #1328 set
- Utility Pole
- Hardwood Tree with wire
- Softwood Tree with wire
- Stone Wall
- N/F Now or Formerly of
- (852/409) ACRD Deed Reference

NOTES

1. Owner of Record is Crooker Realty/Equipment, LLC by deed recorded in the Androscoggin County Registry of Deeds in book 9013 page 157.
2. All bearings are Magnetic of the year 2004 as per the plan referenced in #1 and calculated from angles of an actual on the ground survey.
3. This property is shown as Lot 14 on the Town of Durham Tax Map 8.
4. The Wetlands information on this plan is from Mark Cenci Geologic.
5. The contours shown on this plan are from LiDAR taken from the MGIS website.

STATE OF MAINE
WAYNE T. WOOD
1328
PROFESSIONAL LAND SURVEYOR

Existing Conditions Plan

on

Cushing Road
Durham, Maine

for

Chip Bowie
P.O. Box 356 ~ Topsham, ME 04086

WAYNE WOOD &CO.
Gray, Maine 04039
(207)657-3330

Drwn. By: WtW/KIW	Date June 2018
Scale: 1" = 100'	
Drwg. No. 1 of 1	Job No. 216171
Bk.No.	

Resource
Systems
Engineering

EXHIBIT 3

October 25, 2018
File: 180327

Clayton "Chip" Bowie
477 River Road
Topsham, Maine 04086

Town of Durham
630 Hallowell Road
Durham, Maine 04222

Attn: Bob Forrest, Code Enforcement Officer

REFERENCE: Bowie's Organics, Cushing Road, Durham, Maine

SUBJECT: Compliance Sound Level Study

Dear Mr. Forrest,

Resource Systems Engineering (RSE) was retained by Mr. Bowie to conduct a Pre-development Ambient Sound Study, a Sound Prediction Model and a Post-Development Sound Level Study for his property on Cushing Road in Durham, Maine. The Town of Durham has a Noise Ordinance in their Land Use Ordinance under Article 6 Section F.14 *Noise*. The daytime (7 am to 7 pm) limit is 55 dBA and the nighttime (7pm to 7 am) limit is 45 dBA. The purpose of the sound level studies is to demonstrate that Bowie's Organics bio-mass project on his Cushing Road site (Map 8 Lot 14) complies with Durham's Noise Ordinance (NO). (Ref. Appendix I for Durham's NO). Bowie's Organics will be a daytime operation (7am-7pm). There will be no nighttime (7pm to 7am) operations or outside equipment maintenance. Consequently, this study focused on the daytime limit of 55 dBA.

To put Bowie's operations into context, RSE measured existing ambient sound levels, real-time operation of equipment to be utilized and a field test of the loudest equipment operating on the undeveloped site. Equipment measurements were used to develop and calibrate a computerized outdoor acoustical model to predict future sound levels. The noise model was also used to establish the location and dimensions of a noise control berm constructed from a combination of clay soils and organic mulch. The following report and associated Appendices present the results of measurements and predicted future sound levels.

Existing Ambient Sound Levels

On May 13 through May 17, 2018RSE recorded sound levels at Bowie's Cushing Road site to determine existing ambient sound levels (A.K.A. Pre-Development Ambient (PDA)) Sound Levels). Monitoring positions were designated as MP-1 and MP-2. To determine sound levels without special noise controls, RSE also recorded sound levels from wood processing operations at Bowie's undeveloped site on August 29, 2018. Monitoring positions were designated as MP-2 (same location from PDA sound measurements) and MP-3. During wood processing routine operations on the undeveloped site, sound levels were simultaneously recorded at MP-1, MP-2 and MP-3 without an intervening barrier. Figure E14-1 shows the positions where sound levels were recorded. MP-1 was located on the Bowie Site, MP-2 was located on Bowie's east property line adjacent to the nearest residential property line and MP-3 was located on the site approximately 50 feet east of the Multitek Wood Processor motor and exhaust.

30 Parkers Way
Brunswick, Maine 04011
207 725-7896

Figure E14-1. Sound Level Measurement Positions

On May 13 at approximately 8:30 am through May 17 at approximately 12:50 pm, RSE simultaneously recorded ambient sound levels at two locations (MP-1 and MP-2) using two Larson Davis Model 812 Sound Level Meters. The LD812s were set to record sound levels at 1-minute intervals. Durham regulates noise on the basis of 1-minute time periods. (Ref. Appendix I) The instruments meet Type 1 (precision) performance requirements of American National Standard Specifications, ANSI Standard S1.4-1983 Specifications for Sound Level Meters. Both microphones were mounted on tripods at a height of four to five feet above the ground. Measurements for this study complied with Durham's Noise Ordinance and were generally in accordance with Maine Department of Environmental Protection regulations in Chapter 375.10 and American National Standards Institute (ANSI) Acoustical Standards S12.9 - Methods for Measurement of Environmental Sound Outdoors. Meters were field calibrated per manufacturer's specifications before and after each measurement period. Results of the calibrations are available upon request. Appendix II presents 1-minute equivalent sound level ($L_{Aeq,\ 1\text{-minute}}$) measurement results for the period May 13 through May 17, 2018.

During the existing sound level measurement period, winds ranged from calm to 16 mph from various directions. Temperature ranged from 42° to 75° Fahrenheit. Relative humidity ranged from 23% to 100%. Weather data was downloaded from Wunderground Weather service found at www.wunderground.com and can be found in Appendix III.

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Equipment Sound Levels

On May 18, 2018 RSE recorded sound levels of Bowie's equipment that will be operating at the proposed site. Measurements were recorded at 1-minute intervals during routine operations at offsite work sites for approximately 5 minutes at each position. Measurements were in accordance with ANSI Standards S12.9-1993/Part 3(R2008) and recorded at 30-foot and 50-foot distances at locations around the equipment. The intent was to determine the loudest sound levels from routine operations of equipment intended for use on the Bowie site. Appendix IV presents Figure IV-1 that shows the location of the Multitek Wood Processor, Honda Wood Splitter and Woodmizer Sawmill measured on Bowie's property at 477 River Road in Topsham. The Komatsu Excavator measurements were recorded on a job site in Lisbon (Figure IV-2 Photo). Figure IV-3 summarizes the loudest measurement results for each piece of equipment. The loudest 1-minute equivalent sound levels ($L_{Aeq,\ 1\text{-}min}$) are summarized in Table 1.

Table 1: Loudest 1-Minute Equivalent Sound Levels

Measured Sound Levels at 50 feet	
Equipment	**Loudest $L_{Aeq,\ 1\text{-}minute}$ (dBA)**
Multitek Wood Processor	85.0
Komatsu Excavator	69.8
Measured Sound Levels at 30 feet	
Equipment	**Loudest $L_{Aeq,\ 1\text{-}minute}$ (dBA)**
Honda Wood Splitter	72.4
Woodmizer Sawmill	81.3
Sound Levels Normalized(A)/Measured(M) at 50 feet	
Equipment	**Loudest $L_{Aeq,\ 1\text{-}minute}$ (dBA)**
Multitek Wood Processor	85.0 (M)
Komatsu Excavator	69.8 (M)
Honda Wood Splitter	68.4 (A)
Woodmizer Sawmill	77.3 (A)

Multitek Wood Processor Test

On August 29, 2018 from approximately 8:00 am to 8:30 am RSE recorded sound levels of the Multitek Wood Processor and Excavator in operation at the proposed site. The purpose of these measurements was to record wood processing "noise" at the proposed location on the undeveloped site and at the nearest residential property line – MP-2. No measurements were recorded along Cushing Road during this test. The results also informed the need for noise controls integrated into the site design. Sound levels were simultaneously recorded at two positions (MP-2 and MP-3) using two Larson Davis Model 831 Sound Level Meters, Real Time Analyzers and Audio Recorders. The LD831 sound level meters were set to record sound levels at 5-second and 1-minute intervals. Both microphones were mounted on tripods at a height of four to five feet above the ground. Meters were field calibrated per manufacturer's specifications before and after each measurement period. Measurements for this study complied with Durham's Noise Ordinance and were generally in accordance with Maine Department of Environmental Protection regulations in Chapter 375.10 and American National Standards Institute (ANSI) Acoustical Standards S12.9 - Methods for Measurement of Environmental Sound Outdoors. Results of calibrations are available upon request. Appendix V presents equivalent 5-second and 1-minute measurement results for the August 29, 2018 test. Results show that the Multitek Wood Processor can operate in compliance with Durham's 1-minute daytime Noise standard of 55 dBA during routine operations on the undeveloped site.

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Future Sound Levels

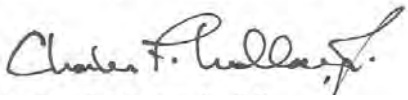
RSE developed a computerized noise prediction model to inform site design features with respect to noise controls and compliance when operating all equipment simultaneously. Using recognized and internationally approved software CADNA/A by DATAKUSTIK and sound level measurements of Bowie's equipment recorded individually on May 18, 2018, RSE determined that compliance with Durham's daytime noise standard required construction of a noise control berm. Field measurement results presented in Appendix IV were used in the model to establish a "worst case" operating scenario. The "worst case" includes all equipment operating simultaneously at their loudest level with a ground absorption of 0.0 which is a hard reflecting surface such as frozen ground. In the model, RSE did not include a noise reduction from the existing soft ground or vegetation around the site. The model includes a 12-foot high, organic noise control berm shown Exhibit 14 Figure E14-2. The Multitek processor is the dominant noise source of the equipment that will be used at the Bowie site. Results at MP-2 (Bowie's property line) from the Multitek and excavator sound level measurements recorded on August 29, 2018 ranged between 49.6 to 51.2 dBA without a noise control berm. The "worst case" prediction model result at R5 (Bowie's property line) is 51 dBA with all equipment operating simultaneously but with a berm and stockpiles as noise controls. Without the Multitek operating, the future sound level results are predicted to be 6 to 7 dBA less than the results shown on Figure E14- 2. Figure E14- 2 results include the noise reduction from the proposed 12-foot high berm and strategic location of product stockpiles.

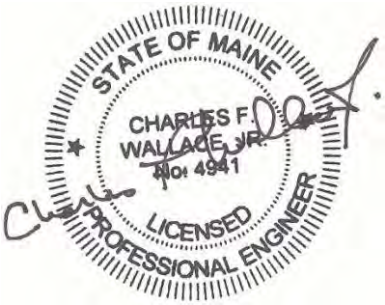
Conclusion

According to the noise prediction model, Bowie's Organics will comply with the Town of Durham's daytime (7am-7pm) noise limit of 55 dBA (Figure E14-2). RSE concludes that Bowie's operation will not exceed the Town of Durham's Daytime Noise Ordinance. RSE's conclusion assumes the site grades and berms are constructed as shown in the Conditional Use Application Site Plan, Exhibit 2 and the Stormwater Management Site plan, Exhibit 9.

If you have any questions, please do not hesitate to contact us at (207) 725-7896.

Respectfully submitted,
Resource Systems Engineering





Charles F. Wallace, Jr., PE
President

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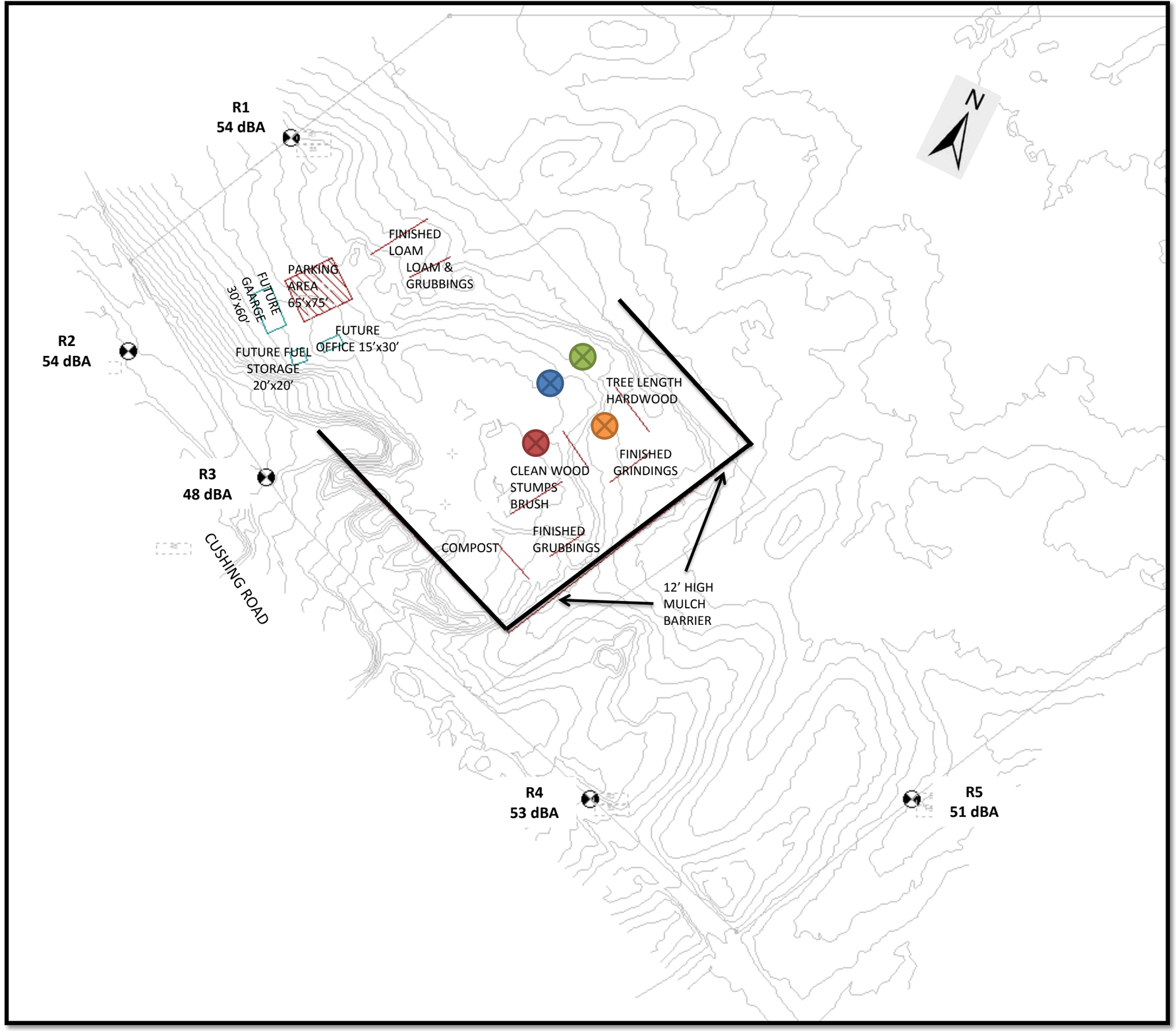

FIGURE E14-2
BOWIE'S ORGANICS
DURHAM, MAINE

PREDICTED SOUND LEVELS MODEL

12 FOOT HIGH BARRIER
(ORGANIC MULCH BERM)
& STOCKPILES FOR NOISE CONTROL

RSE FILE #180327
October 25, 2018

Note: without Processor deduct 6-7 dBA

EXCAVATOR (Height = 10')

PROCESSOR (Height = 8')

SAWMILL (Height = 8')

PORTABLE LOG SPLITTER (Height = 3')

Resource Systems Engineering
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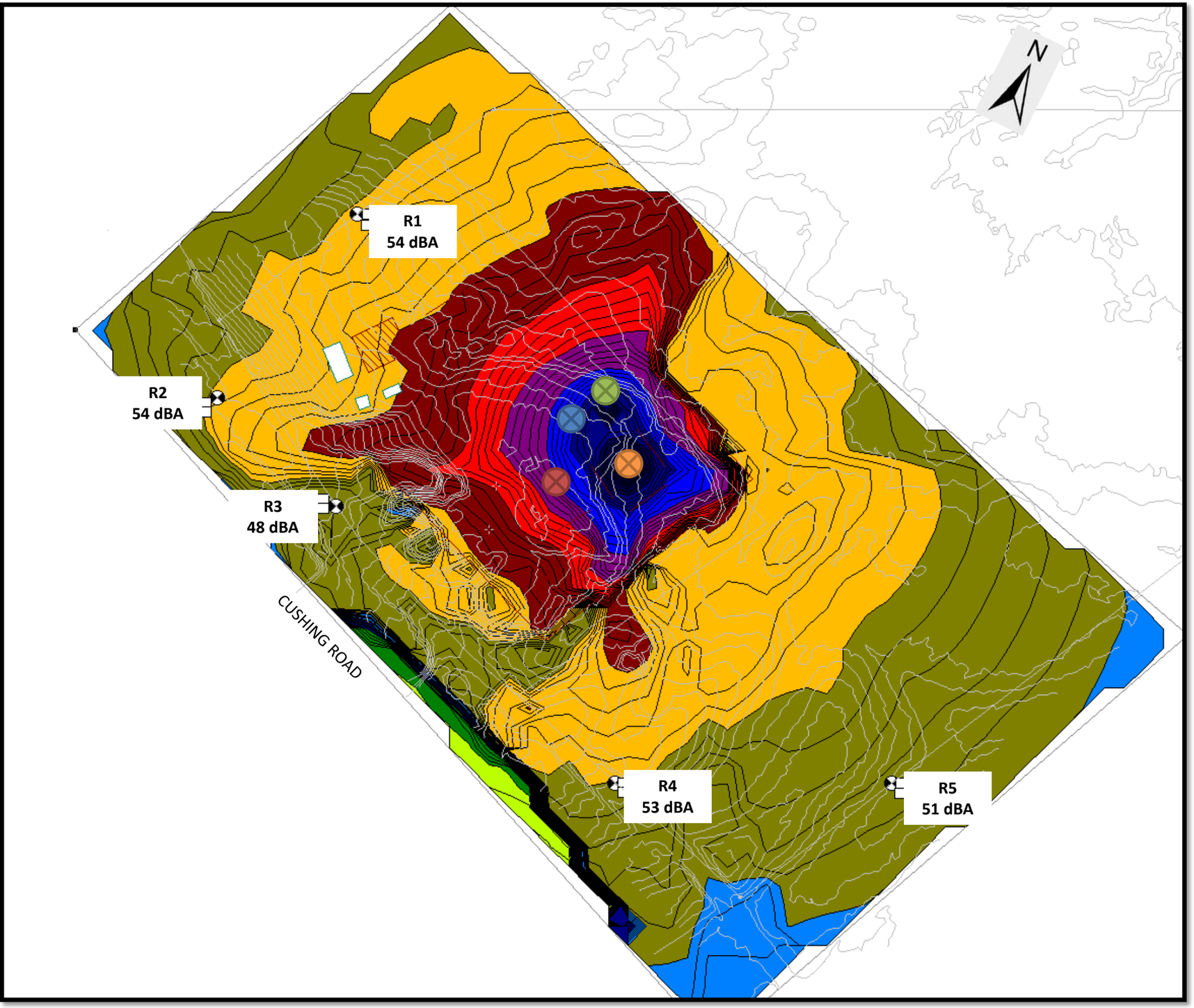

FIGURE E14-2A
BOWIE'S ORGANICS
DURHAM, MAINE

PREDICTED SOUND LEVELS MODEL

12 FOOT HIGH BARRIER
(ORGANIC MULCH BERM)
& STOCKPILES FOR NOISE CONTROL

RSE FILE #180327
October 25, 2018

EXCAVATOR (Height = 10')

PROCESSOR (Height = 8')

SAWMILL (Height = 8')

PORTABLE LOG SPLITTER (Height = 3')

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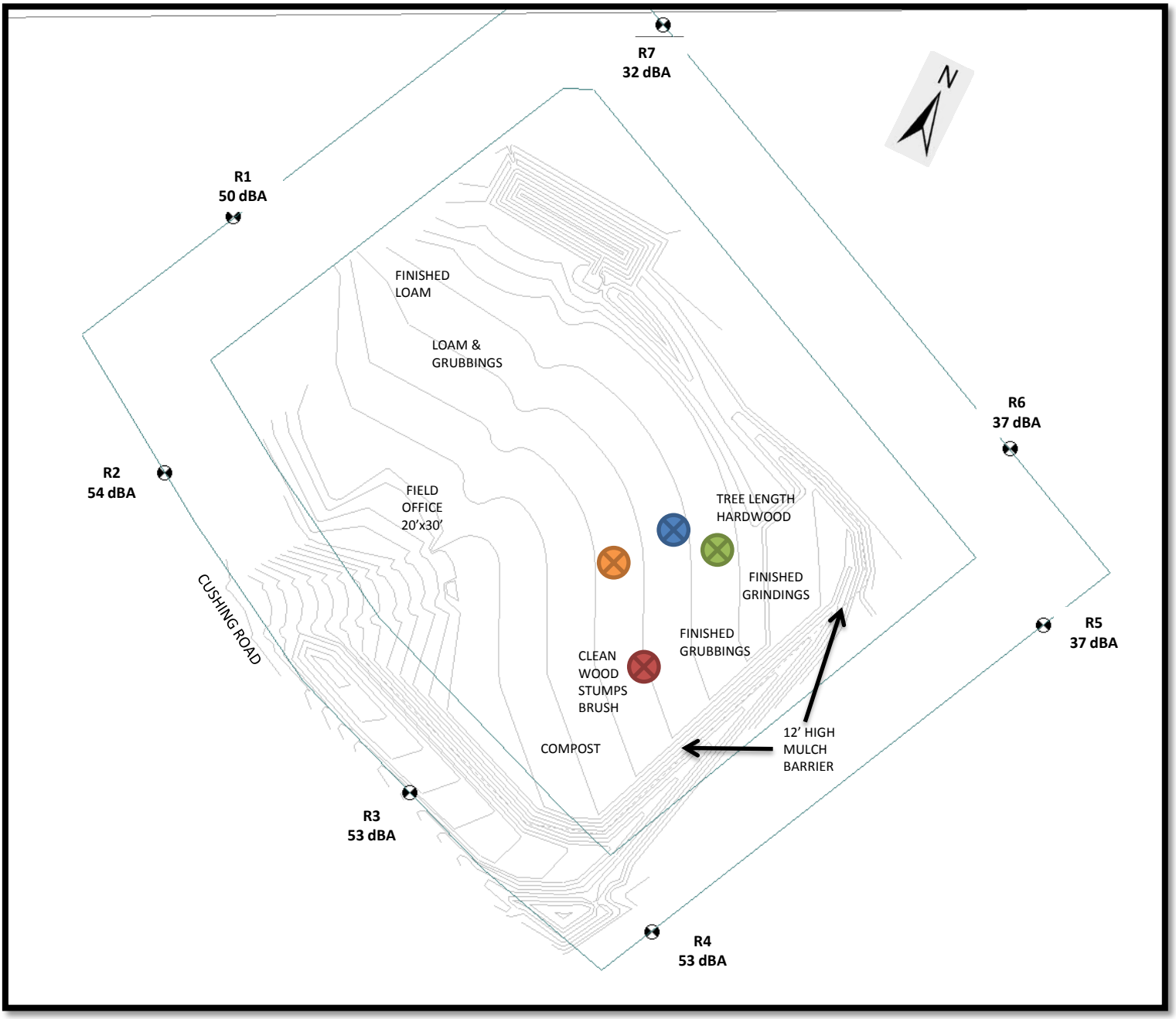

FIGURE E14-2S1
BOWIE'S ORGANICS
DURHAM, MAINE

PREDICTED SOUND LEVELS MODEL

12 FOOT HIGH BARRIER
(ORGANIC MULCH BERM)
& STOCKPILES FOR NOISE CONTROL

RSE FILE #180327
November 21, 2018

Note: without Processor deduct 6-7 dBA

EXCAVATOR (Height = 10')

PROCESSOR (Height = 8')

SAWMILL (Height = 8')

PORTABLE LOG SPLITTER (Height = 3')

Resource Systems Engineering
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APPENDIX 1

TOWN OF DURHAM NOISE ORDINANCE

ARTICLE 6. SECTION F.14 NOISE

12) Natural Resources

a) No plants listed on the Federal or State List of Endangered Species or other rare or exemplary plant feature will be affected adversely by the proposed use.
b) No irreplaceable natural areas including those listed in the State Register of Critical Areas (5 M.R.S.A. ss.3314) will be adversely affected by the proposed use.
c) The Board must find that no public rights to access to any water body will be diminished by the proposed use.

13) Financial & Technical Capacity

a) In cases where funding is required but final commitment of all necessary money cannot be made until all approvals are received and other reasonable conditions are met, an applicant shall be deemed to have demonstrated sufficient financial capacity to gain conditional approval if it has:
   (i) secured a cash equity commitment to the project sufficient to demonstrate the applicant's ability to go forward. The board will consider 20 percent equity of the total cost of a project as the normal equity commitment but reserves the right to lower or raise this amount if special circumstances of an individual project warrant it, and
   (ii) submitted a financial plan for the remaining financing, and
   (iii)received a letter from an appropriate financial institution expressing its intention to provide that financing subject to reasonable conditions of acceptance.

   The Planning Board may waive such evidence for projects costing $20,000 or less upon a showing satisfactory to them that the Applicant has resources to undertake the project.
b) In determining whether the Applicant has the technical capability to comply with this Ordinance, the Board must find that the Applicant possesses thorough training, experience, or retention of professionals with such training and experience, the knowledge and expertise necessary to assure compliance.

14) Noise

a) The maximum permissible sound pressure level of any continuous, regular or frequent or intermittent source of sound produced by any activity shall be limited by the time period and land use which it abuts listed below. Sound levels shall be measured at least 4 feet above ground at the property boundary of the source.

Sound Pressure Level Limits Using the Sound
Equivalent Level of One Minute (leg 1)
(Measured in dB(a) Scale)

7 a.m. - 7 p.m.	7 p.m. - 7 a.m.
55	45

b) Noise shall be measured by a meter set on the A-weighted response scale, fast response. The meter shall meet the American National Standards Institute (ANSI SI 4-1961) "American Standard Specification for General Purpose Sound Level Meters."

c) No person shall engage in construction activities, on a site abutting any residential use between the hours of 9 p.m. and 6:30 a.m. The following activities shall be exempt from these regulations:

   (i) Sounds emanating from safety signals, warning devices, emergency pressure relief valves and other emergency activities.

15) Odor

a) No person, wherever located, shall cause or allow the emission of odorous air contaminants from any source such as to result in detectable odors at the lot line of the source which are measured in excess of the following limits:

   (i) For areas used for residential or commercial purposes within 500 feet of the lot line of the source, it is a violation if odors are detected after the odorous air has been diluted with seven (7) or more volumes of odor free air.

   (ii) In all other land areas, it is a violation if odors are detected after the odorous air has been diluted with fifteen (15) or more volumes of odor free air.

b) For the purposes of this Regulation, two odor measurements shall be made within a period of one hour, these measurements being separated by at least fifteen (15) minutes. These measurements shall be made outside the property line of the property from which the emission originates.

c) The Bamebey-Cheney Scentometer, suitably calibrated, or any other instrument, device, or technique equivalent may be used in the determination of the intensity of an odor and may be used as a guide in the enforcement of the performance standard.

16) Lighting

a) No lights shall be placed in view of any public roadway or street so that its beams or rays are directed at any portion of the roadway when such light is of such brilliance and so positioned as to impair the vision of the driver of any motor vehicle upon said roadway.

b) Lighting with a lumen output equal to or greater than a 200-watt mercury light shall not be directed toward the sky or adjacent properties.

c) No rotating or flashing lights or signals, except safety signaling devices as required by law, are permitted. This standard shall be waived as to Christmas lights.

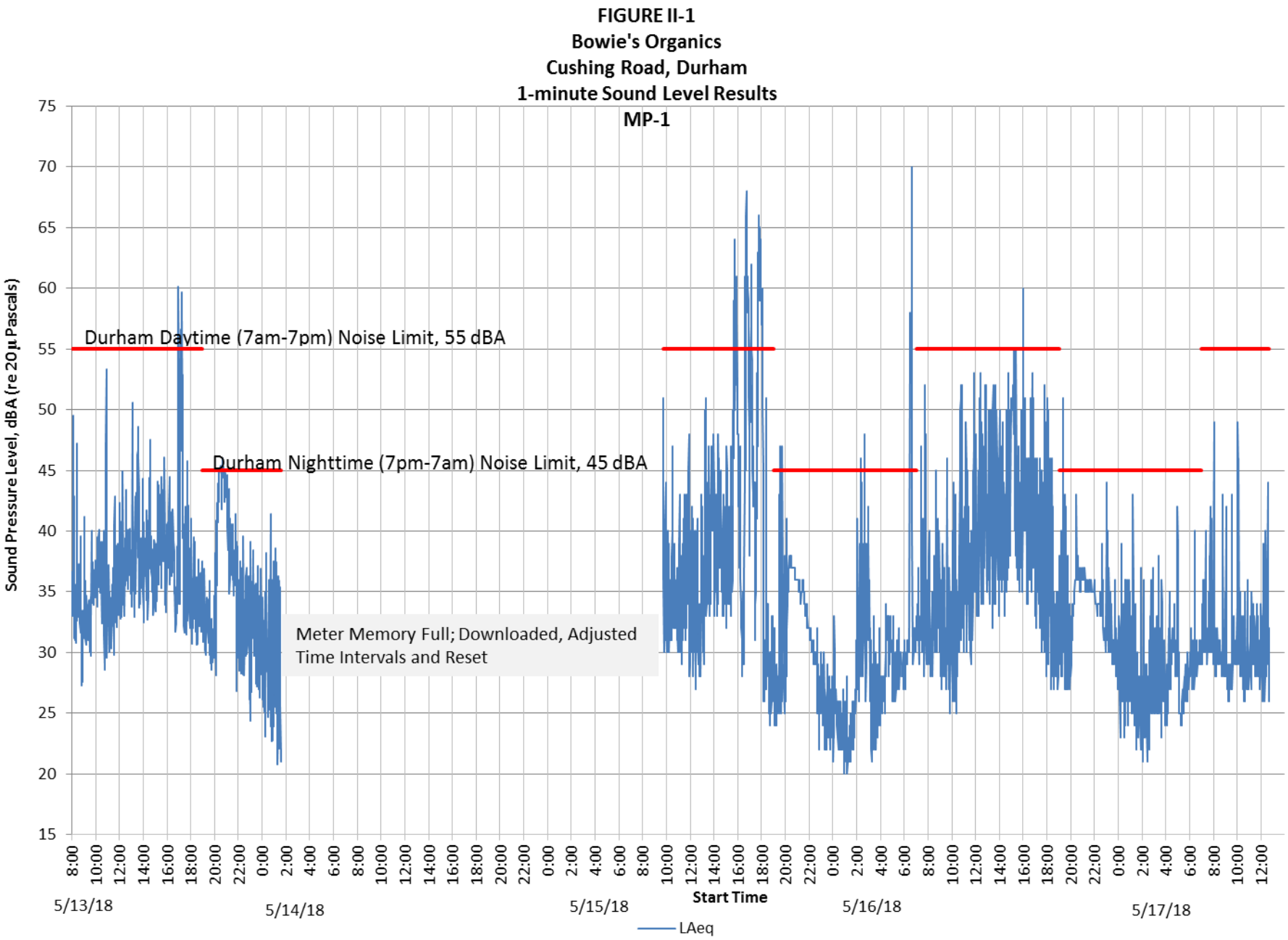
17) Explosive Materials

No flammable, explosive or combustible liquids, solids or gases shall be stored in bulk (defined as greater than the liquid equivalent of 200 gallons) above ground unless they are located at least 75 feet from any lot line, or in bulk stored below ground unless they are located at least 40 feet from any lot line, and all such materials shall be stored in a manner and location which is in compliance with the rules and regulations of the Maine Department of Environmental Protection rules and regulations of the Maine Department of Public Safety, and any other applicable federal state and local regulations then in

APPENDIX II

1-MINUTE SOUND LEVEL RESULTS

MAY 13 – 17, 2018



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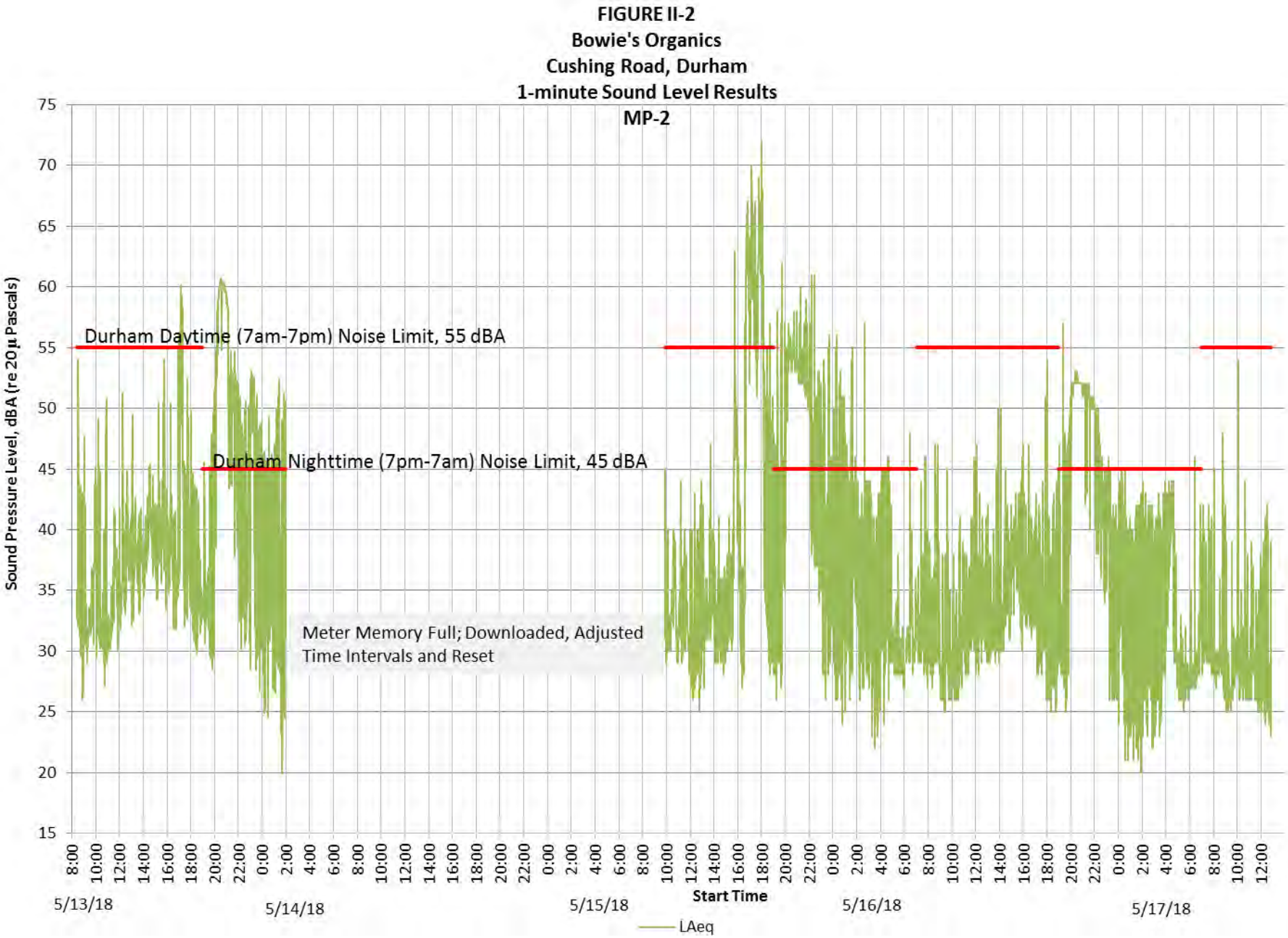

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APPENDIX III

MAY 13 – 17, 2018

WEATHER

www.wundergroundweather.com

APPENDIX III
Hourly Weather History & Observations

	Time (EDT)	Temp.	Windchill	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
5/13/2018	12:56 AM	37.0 °F	-	36.0 °F	96%	30.18 in	10.0 mi	Calm	Calm	-	N/A		Clear
	1:56 AM	35.1 °F	-	34.0 °F	96%	30.19 in	10.0 mi	Calm	Calm	-	N/A		Clear
	2:56 AM	34.0 °F	-	34.0 °F	100%	30.21 in	10.0 mi	Calm	Calm	-	N/A		Clear
	3:27 AM	33.8 °F	-	32.0 °F	93%	30.16 in	10.0 mi	Calm	Calm	-	N/A		Partly Cloudy
	3:56 AM	32.0 °F	28.7 °F	30.9 °F	96%	30.21 in	10.0 mi	North	3.5 mph	-	N/A		Clear
	4:14 AM	33.8 °F	29.6 °F	32.0 °F	93%	30.15 in	10.0 mi	North	4.6 mph	-	N/A		Partly Cloudy
	4:56 AM	32.0 °F	-	30.9 °F	96%	30.22 in	10.0 mi	Calm	Calm	-	N/A		Clear
	5:56 AM	32.0 °F	-	30.9 °F	96%	30.23 in	10.0 mi	Calm	Calm	-	N/A		Clear
	6:56 AM	37.0 °F	-	36.0 °F	96%	30.25 in	10.0 mi	Calm	Calm	-	N/A		Clear
	7:56 AM	42.1 °F	-	37.9 °F	85%	30.26 in	10.0 mi	Calm	Calm	-	N/A		Clear
	8:56 AM	51.1 °F	-	39.0 °F	63%	30.26 in	10.0 mi	SSW	4.6 mph	-	N/A		Clear
	9:56 AM	55.0 °F	-	39.9 °F	57%	30.25 in	10.0 mi	Variable	4.6 mph	-	N/A		Clear
	10:56 AM	59.0 °F	-	35.1 °F	41%	30.25 in	10.0 mi	SSW	6.9 mph	-	N/A		Clear
	11:56 AM	63.0 °F	-	32.0 °F	31%	30.23 in	10.0 mi	ESE	6.9 mph	-	N/A		Clear
	12:56 PM	64.9 °F	-	27.0 °F	24%	30.21 in	10.0 mi	ESE	10.4 mph	18.4 mph	N/A		Clear
	1:56 PM	64.0 °F	-	25.0 °F	23%	30.19 in	10.0 mi	SE	9.2 mph	-	N/A		Clear
	2:56 PM	64.0 °F	-	28.9 °F	27%	30.18 in	10.0 mi	South	11.5 mph	18.4 mph	N/A		Clear
	3:56 PM	63.0 °F	-	36.0 °F	37%	30.16 in	10.0 mi	South	15.0 mph	18.4 mph	N/A		Clear
	4:56 PM	61.0 °F	-	36.0 °F	39%	30.14 in	10.0 mi	South	13.8 mph	20.7 mph	N/A		Clear
	5:56 PM	59.0 °F	-	42.1 °F	53%	30.14 in	10.0 mi	South	12.7 mph	20.7 mph	N/A		Clear
	6:56 PM	55.9 °F	-	42.1 °F	60%	30.13 in	10.0 mi	SSE	10.4 mph	-	N/A		Clear
	7:56 PM	51.1 °F	-	44.1 °F	77%	30.13 in	10.0 mi	SSE	9.2 mph	-	N/A		Clear
	8:56 PM	46.9 °F	-	45.0 °F	93%	30.14 in	10.0 mi	SSE	8.1 mph	-	N/A		Clear
	9:36 PM	46.4 °F	42.9 °F	44.6 °F	93%	30.09 in	10.0 mi	SSE	6.9 mph	-	N/A		Scattered Clouds
	9:45 PM	46.4 °F	42.4 °F	44.6 °F	93%	30.09 in	10.0 mi	SSE	8.1 mph	-	N/A		Mostly Cloudy
	9:56 PM	46.9 °F	-	45.0 °F	93%	30.14 in	10.0 mi	South	11.5 mph	-	N/A		Overcast
	10:56 PM	46.9 °F	-	45.0 °F	93%	30.13 in	10.0 mi	South	10.4 mph	-	N/A		Overcast
	11:56 PM	46.9 °F	-	45.0 °F	93%	30.12 in	10.0 mi	South	8.1 mph	-	N/A		Overcast

	Time (EDT)	Temp.	Windchill	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
5/14/2018	12:56 AM	46.9 °F	-	45.0 °F	93%	30.10 in	10.0 mi	South	9.2 mph	-	N/A		Overcast
	1:56 AM	46.9 °F	-	45.0 °F	93%	30.08 in	10.0 mi	South	6.9 mph	-	N/A		Overcast
	2:26 AM	46.4 °F	42.9 °F	44.6 °F	93%	30.03 in	10.0 mi	South	6.9 mph	-	N/A		Overcast
	2:56 AM	46.9 °F	-	46.0 °F	97%	30.06 in	10.0 mi	South	6.9 mph	-	N/A		Overcast
	3:56 AM	46.9 °F	-	45.0 °F	93%	30.04 in	10.0 mi	South	5.8 mph	-	N/A		Overcast
	4:21 AM	46.4 °F	42.9 °F	44.6 °F	93%	30.00 in	10.0 mi	SSW	6.9 mph	-	N/A		Overcast
	4:56 AM	46.9 °F	-	45.0 °F	93%	30.05 in	10.0 mi	SSW	5.8 mph	-	N/A		Overcast
	5:56 AM	46.9 °F	-	46.0 °F	97%	30.05 in	10.0 mi	South	4.6 mph	-	N/A		Overcast
	6:56 AM	48.0 °F	-	46.0 °F	93%	30.06 in	9.0 mi	SSW	4.6 mph	-	N/A		Overcast
	7:03 AM	48.2 °F	-	46.4 °F	93%	30.00 in	9.0 mi	SSW	3.5 mph	-	N/A		Overcast
	7:56 AM	48.0 °F	-	46.0 °F	93%	30.06 in	10.0 mi	SW	5.8 mph	-	N/A		Overcast
	8:56 AM	50.0 °F	-	46.0 °F	86%	30.05 in	10.0 mi	SW	5.8 mph	-	N/A		Overcast
	9:15 AM	51.8 °F	-	46.4 °F	82%	30.00 in	10.0 mi	SW	5.8 mph	-	N/A		Overcast
	9:56 AM	52.0 °F	-	46.0 °F	80%	30.03 in	10.0 mi	WSW	5.8 mph	-	N/A		Overcast
	10:15 AM	53.6 °F	-	46.4 °F	77%	29.97 in	10.0 mi	SW	9.2 mph	-	N/A		Overcast
	10:56 AM	55.0 °F	-	46.9 °F	74%	30.02 in	10.0 mi	SSW	6.9 mph	-	N/A		Overcast
	11:56 AM	57.9 °F	-	48.0 °F	70%	29.99 in	10.0 mi	Variable	6.9 mph	-	N/A		Partly Cloudy
	12:56 PM	63.0 °F	-	48.9 °F	60%	29.97 in	9.0 mi	South	10.4 mph	-	N/A		Clear
	1:56 PM	64.9 °F	-	51.1 °F	61%	29.94 in	10.0 mi	South	10.4 mph	-	N/A		Clear
	2:56 PM	66.0 °F	-	52.0 °F	60%	29.92 in	10.0 mi	SSE	12.7 mph	-	0.00 in		Clear
	3:56 PM	64.9 °F	-	52.0 °F	63%	29.91 in	10.0 mi	South	12.7 mph	-	0.00 in		Clear
	4:56 PM	64.0 °F	-	52.0 °F	65%	29.89 in	10.0 mi	SSE	10.4 mph	-	0.00 in	Rain	Light Rain
	5:56 PM	63.0 °F	-	52.0 °F	67%	29.88 in	10.0 mi	South	11.5 mph	16.1 mph	0.00 in		Clear
	6:56 PM	61.0 °F	-	52.0 °F	72%	29.87 in	10.0 mi	South	10.4 mph	-	N/A		Clear
	7:56 PM	57.9 °F	-	51.1 °F	78%	29.88 in	10.0 mi	SSE	8.1 mph	-	N/A		Clear
	8:56 PM	55.0 °F	-	51.1 °F	86%	29.90 in	10.0 mi	SSE	3.5 mph	-	N/A		Clear
	9:56 PM	53.1 °F	-	50.0 °F	89%	29.91 in	10.0 mi	SSE	3.5 mph	-	N/A		Clear
	10:56 PM	51.1 °F	-	48.9 °F	92%	29.90 in	10.0 mi	Calm	Calm	-	N/A		Clear
	11:56 PM	48.9 °F	-	48.0 °F	97%	29.90 in	10.0 mi	Calm	Calm	-	N/A		Clear

	Time (EDT)	Temp.	Windchill	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
5/15/2018	12:56 AM	48.0 °F	-	46.0 °F	93%	29.91 in	10.0 mi	Calm	Calm	-	N/A		Clear
	1:56 AM	46.9 °F	-	46.9 °F	100%	29.90 in	7.0 mi	North	3.5 mph	-	N/A		Clear
	2:56 AM	45.0 °F	-	44.1 °F	97%	29.88 in	2.5 mi	Calm	Calm	-	N/A		Clear
	3:03 AM	46.4 °F	43.5 °F	46.4 °F	100%	29.83 in	1.8 mi	SSE	5.8 mph	-	N/A		Clear
	3:07 AM	46.4 °F	45.2 °F	46.4 °F	100%	29.83 in	3.0 mi	SSE	3.5 mph	-	N/A		Clear
	3:53 AM	44.6 °F	-	44.6 °F	100%	29.82 in	2.5 mi	Calm	Calm	-	N/A		Clear
	3:56 AM	45.0 °F	-	45.0 °F	100%	29.87 in	4.0 mi	Calm	Calm	-	N/A		Clear
	4:56 AM	43.0 °F	-	43.0 °F	100%	29.86 in	10.0 mi	Calm	Calm	-	N/A		Clear
	5:56 AM	45.0 °F	-	44.1 °F	97%	29.84 in	10.0 mi	Calm	Calm	-	N/A		Clear
	6:56 AM	51.1 °F	-	48.9 °F	92%	29.85 in	10.0 mi	North	-	-	N/A		Scattered Clouds
	7:56 AM	55.9 °F	-	52.0 °F	87%	29.84 in	6.0 mi	Calm	Calm	-	N/A		Overcast
	8:56 AM	61.0 °F	-	53.1 °F	75%	29.82 in	10.0 mi	Calm	Calm	-	N/A		Mostly Cloudy
	9:56 AM	66.9 °F	-	55.0 °F	66%	29.80 in	10.0 mi	South	3.5 mph	-	N/A		Overcast
	10:56 AM	73.9 °F	-	57.0 °F	55%	29.76 in	10.0 mi	SSW	10.4 mph	-	N/A		Mostly Cloudy
	11:56 AM	75.0 °F	-	59.0 °F	57%	29.75 in	10.0 mi	SW	12.7 mph	-	0.00 in		Mostly Cloudy
	12:56 PM	68.0 °F	-	59.0 °F	73%	29.79 in	10.0 mi	NNW	16.1 mph	24.2 mph	0.00 in	Rain	Light Rain
	1:56 PM	69.1 °F	-	57.0 °F	65%	29.75 in	10.0 mi	North	15.0 mph	-	0.00 in		Scattered Clouds
	2:56 PM	68.0 °F	-	55.9 °F	65%	29.76 in	10.0 mi	North	10.4 mph	-	N/A		Overcast
	3:56 PM	61.0 °F	-	59.0 °F	93%	29.83 in	6.0 mi	NNE	3.5 mph	-	0.12 in	Rain	Heavy Rain
	4:56 PM	60.1 °F	-	59.0 °F	96%	29.85 in	7.0 mi	Calm	Calm	-	0.04 in	Rain	Rain
	5:56 PM	60.1 °F	-	59.0 °F	96%	29.84 in	6.0 mi	SSE	3.5 mph	-	0.09 in	Rain	Rain
	6:56 PM	60.1 °F	-	60.1 °F	100%	29.87 in	10.0 mi	Calm	Calm	-	0.01 in		Overcast
	7:31 PM	60.8 °F	-	59.0 °F	94%	29.83 in	1.0 mi	Calm	Calm	-	N/A		Scattered Clouds
	7:41 PM	60.8 °F	-	59.0 °F	94%	29.83 in	4.0 mi	Calm	Calm	-	N/A		Partly Cloudy
	7:50 PM	60.8 °F	-	59.0 °F	94%	29.83 in	0.5 mi	SSW	3.5 mph	-	N/A	Fog	Fog
	7:56 PM	59.0 °F	-	59.0 °F	100%	29.89 in	0.2 mi	SSW	3.5 mph	-	N/A	Fog	Fog
	8:06 PM	59.0 °F	-	59.0 °F	100%	29.85 in	1.5 mi	SE	3.5 mph	-	N/A		Clear
	8:13 PM	60.8 °F	-	59.0 °F	94%	29.86 in	7.0 mi	SE	3.5 mph	-	N/A		Clear
	8:27 PM	59.0 °F	-	59.0 °F	100%	29.86 in	1.8 mi	Calm	Calm	-	N/A		Clear
	8:29 PM	59.0 °F	-	57.2 °F	94%	29.87 in	0.8 mi	Calm	Calm	-	N/A		Clear
	8:34 PM	57.2 °F	-	57.2 °F	100%	29.87 in	0.5 mi	East	3.5 mph	-	N/A	Fog	Fog
	8:38 PM	59.0 °F	-	59.0 °F	100%	29.87 in	1.0 mi	East	3.5 mph	-	N/A		Mist
	8:43 PM	59.0 °F	-	59.0 °F	100%	29.88 in	2.5 mi	Calm	Calm	-	N/A		Partly Cloudy
	8:48 PM	57.2 °F	-	57.2 °F	100%	29.88 in	1.0 mi	Calm	Calm	-	N/A		Mist
	8:50 PM	57.2 °F	-	57.2 °F	100%	29.88 in	0.5 mi	Calm	Calm	-	N/A	Fog	Fog
	8:56 PM	57.0 °F	-	57.0 °F	100%	29.93 in	0.2 mi	Calm	Calm	-	N/A	Fog	Fog
	9:04 PM	55.4 °F	-	55.4 °F	100%	29.89 in	0.2 mi	Calm	Calm	-	N/A	Fog	Fog
	9:32 PM	55.4 °F	-	55.4 °F	100%	29.90 in	0.5 mi	Calm	Calm	-	N/A	Fog	Fog
	9:37 PM	57.2 °F	-	57.2 °F	100%	29.90 in	1.2 mi	Calm	Calm	-	N/A		Partly Cloudy
	9:41 PM	57.2 °F	-	57.2 °F	100%	29.90 in	5.0 mi	Calm	Calm	-	N/A		Partly Cloudy

	Time (EDT)	Temp.	Windchill	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
	9:46 PM	55.4 °F	-	55.4 °F	100%	29.90 in	1.5 mi	Calm	Calm	-	N/A		Scattered Clouds
	9:48 PM	55.4 °F	-	55.4 °F	100%	29.90 in	0.8 mi	Calm	Calm	-	N/A		Mist
	9:52 PM	55.4 °F	-	55.4 °F	100%	29.90 in	0.2 mi	Calm	Calm	-	N/A	Fog	Fog
	9:56 PM	55.0 °F	-	55.0 °F	100%	29.95 in	0.2 mi	Calm	Calm	-	N/A	Fog	Fog
	10:12 PM	55.4 °F	-	55.4 °F	100%	29.91 in	0.8 mi	Calm	Calm	-	N/A		Mostly Cloudy
	10:18 PM	55.4 °F	-	55.4 °F	100%	29.91 in	3.0 mi	Calm	Calm	-	N/A		Scattered Clouds
	10:56 PM	55.0 °F	-	54.0 °F	96%	29.97 in	9.0 mi	Calm	Calm	-	N/A		Clear
	11:20 PM	55.4 °F	-	53.6 °F	94%	29.95 in	2.0 mi	Calm	Calm	-	N/A		Clear
	11:27 PM	53.6 °F	-	53.6 °F	100%	29.95 in	3.0 mi	Calm	Calm	-	N/A		Clear
	11:30 PM	53.6 °F	-	53.6 °F	100%	29.95 in	1.5 mi	Calm	Calm	-	N/A		Clear
	11:32 PM	53.6 °F	-	53.6 °F	100%	29.95 in	0.8 mi	Calm	Calm	-	N/A		Clear
	11:36 PM	53.6 °F	-	53.6 °F	100%	29.96 in	0.2 mi	Calm	Calm	-	N/A	Fog	Fog
	11:56 PM	53.1 °F	-	53.1 °F	100%	30.01 in	0.5 mi	SE	5.8 mph	-	N/A	Fog	Fog
	11:58 PM	53.6 °F	-	53.6 °F	100%	29.97 in	1.0 mi	SSE	5.8 mph	-	N/A		Mist
5/16/2018	12:00 AM	51.8 °F	-	51.8 °F	100%	29.97 in	3.0 mi	Calm	Calm	-	N/A		Partly Cloudy
	12:16 AM	51.8 °F	-	51.8 °F	100%	29.97 in	1.8 mi	Calm	Calm	-	N/A		Partly Cloudy
	12:19 AM	51.8 °F	-	51.8 °F	100%	29.97 in	0.8 mi	Calm	Calm	-	N/A		Clear
	12:27 AM	50.0 °F	-	50.0 °F	100%	29.97 in	0.5 mi	Calm	Calm	-	N/A	Fog	Fog
	12:34 AM	51.8 °F	-	51.8 °F	100%	29.97 in	1.0 mi	Calm	Calm	-	N/A		Clear
	12:51 AM	50.0 °F	-	50.0 °F	100%	29.98 in	2.0 mi	North	3.5 mph	-	N/A		Clear
	12:56 AM	50.0 °F	-	50.0 °F	100%	30.03 in	3.0 mi	Calm	Calm	-	N/A		Clear
	12:59 AM	48.2 °F	-	48.2 °F	100%	29.98 in	2.0 mi	SSE	5.8 mph	-	N/A		Partly Cloudy
	1:13 AM	53.6 °F	-	53.6 °F	100%	29.99 in	10.0 mi	Calm	Calm	-	N/A		Partly Cloudy
	1:24 AM	51.8 °F	-	50.0 °F	94%	30.00 in	1.5 mi	Calm	Calm	-	0.01 in		Partly Cloudy
	1:28 AM	50.0 °F	-	50.0 °F	100%	30.00 in	0.8 mi	NNW	3.5 mph	-	0.01 in		Mist
	1:34 AM	51.8 °F	-	51.8 °F	100%	30.01 in	1.0 mi	Calm	Calm	-	0.01 in		Clear
	1:42 AM	51.8 °F	-	51.8 °F	100%	30.01 in	1.5 mi	North	3.5 mph	-	0.01 in		Partly Cloudy
	1:46 AM	51.8 °F	-	51.8 °F	100%	30.01 in	0.8 mi	NNW	4.6 mph	-	0.01 in		Partly Cloudy
	1:56 AM	51.1 °F	-	50.0 °F	96%	30.06 in	1.0 mi	NNE	5.8 mph	-	0.01 in		Partly Cloudy
	2:07 AM	50.0 °F	-	50.0 °F	100%	30.02 in	1.8 mi	NNE	8.1 mph	-	N/A		Partly Cloudy
	2:09 AM	50.0 °F	-	50.0 °F	100%	30.02 in	3.0 mi	NNE	9.2 mph	-	N/A		Partly Cloudy
	2:56 AM	48.9 °F	-	43.0 °F	80%	30.09 in	10.0 mi	NNE	11.5 mph	-	N/A		Clear
	3:56 AM	48.0 °F	-	42.1 °F	80%	30.13 in	10.0 mi	NNE	6.9 mph	-	N/A		Mostly Cloudy
	4:56 AM	46.9 °F	-	39.0 °F	74%	30.17 in	10.0 mi	NNE	5.8 mph	-	N/A		Overcast
	5:56 AM	46.0 °F	41.9 °F	39.0 °F	76%	30.20 in	10.0 mi	North	8.1 mph	-	N/A		Overcast
	6:56 AM	46.0 °F	41.4 °F	34.0 °F	63%	30.23 in	10.0 mi	NE	9.2 mph	-	N/A		Scattered Clouds
	7:56 AM	48.0 °F	-	35.1 °F	61%	30.26 in	10.0 mi	NE	8.1 mph	-	N/A		Clear
	8:56 AM	48.9 °F	-	33.1 °F	54%	30.27 in	10.0 mi	East	4.6 mph	-	N/A		Clear
	9:56 AM	51.1 °F	-	34.0 °F	52%	30.29 in	10.0 mi	Variable	3.5 mph	-	N/A		Clear
	10:56 AM	55.0 °F	-	36.0 °F	49%	30.28 in	10.0 mi	SSW	5.8 mph	-	N/A		Clear

	Time (EDT)	Temp.	Windchill	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
	11:56 AM	57.0 °F	-	35.1 °F	44%	30.27 in	10.0 mi	SSW	9.2 mph	-	N/A		Clear
	12:56 PM	57.9 °F	-	34.0 °F	41%	30.25 in	10.0 mi	SSE	11.5 mph	-	N/A		Clear
	1:56 PM	57.9 °F	-	33.1 °F	39%	30.25 in	10.0 mi	SSE	11.5 mph	-	N/A		Clear
	2:56 PM	60.1 °F	-	36.0 °F	41%	30.22 in	10.0 mi	South	15.0 mph	-	N/A		Clear
	3:56 PM	60.1 °F	-	37.0 °F	42%	30.20 in	10.0 mi	South	9.2 mph	17.3 mph	N/A		Clear
	4:56 PM	55.9 °F	-	42.1 °F	60%	30.20 in	10.0 mi	South	10.4 mph	18.4 mph	N/A		Clear
	5:56 PM	53.1 °F	-	44.1 °F	71%	30.19 in	10.0 mi	South	12.7 mph	-	N/A		Clear
	6:56 PM	51.1 °F	-	44.1 °F	77%	30.18 in	10.0 mi	South	10.4 mph	-	N/A		Clear
	7:56 PM	48.0 °F	-	44.1 °F	86%	30.17 in	10.0 mi	South	8.1 mph	-	N/A		Clear
	8:56 PM	46.0 °F	43.1 °F	44.1 °F	93%	30.17 in	10.0 mi	SE	5.8 mph	-	N/A		Clear
	9:37 PM	46.4 °F	44.3 °F	44.6 °F	93%	30.11 in	10.0 mi	SSE	4.6 mph	-	N/A		Scattered Clouds
	9:46 PM	46.4 °F	45.2 °F	44.6 °F	93%	30.11 in	10.0 mi	SSE	3.5 mph	-	N/A		Mostly Cloudy
	9:56 PM	46.0 °F	43.1 °F	44.1 °F	93%	30.16 in	10.0 mi	SSE	5.8 mph	-	N/A		Overcast
	10:56 PM	46.0 °F	42.5 °F	45.0 °F	96%	30.14 in	10.0 mi	SSE	6.9 mph	-	N/A		Overcast
	11:56 PM	46.9 °F	-	45.0 °F	93%	30.11 in	10.0 mi	South	9.2 mph	-	N/A		Overcast
5/17/2018	12:56 AM	46.9 °F	-	45.0 °F	93%	30.09 in	10.0 mi	South	5.8 mph	-	N/A		Overcast
	1:51 AM	46.4 °F	45.2 °F	44.6 °F	93%	30.02 in	10.0 mi	South	3.5 mph	-	N/A		Partly Cloudy
	1:56 AM	46.0 °F	-	45.0 °F	96%	30.07 in	10.0 mi	Calm	Calm	-	N/A		Scattered Clouds
	2:08 AM	46.4 °F	45.2 °F	44.6 °F	93%	30.01 in	10.0 mi	SE	3.5 mph	-	N/A		Mostly Cloudy
	2:49 AM	46.4 °F	42.9 °F	44.6 °F	93%	29.99 in	10.0 mi	SSE	6.9 mph	-	N/A		Partly Cloudy
	2:56 AM	46.0 °F	43.1 °F	45.0 °F	96%	30.04 in	10.0 mi	South	5.8 mph	-	N/A		Partly Cloudy
	3:56 AM	45.0 °F	-	45.0 °F	100%	30.03 in	10.0 mi	Calm	Calm	-	N/A		Clear
	4:27 AM	44.6 °F	-	44.6 °F	100%	29.97 in	10.0 mi	Calm	Calm	-	N/A		Partly Cloudy
	4:56 AM	45.0 °F	-	44.1 °F	97%	30.02 in	9.0 mi	Calm	Calm	-	N/A		Clear
	5:28 AM	44.6 °F	43.1 °F	44.6 °F	100%	29.96 in	7.0 mi	SSE	3.5 mph	-	N/A		Partly Cloudy
	5:56 AM	45.0 °F	-	45.0 °F	100%	30.02 in	6.0 mi	Calm	Calm	-	N/A		Scattered Clouds
	6:03 AM	44.6 °F	-	44.6 °F	100%	29.97 in	6.0 mi	Calm	Calm	-	N/A		Mostly Cloudy
	6:35 AM	46.4 °F	-	44.6 °F	93%	29.97 in	7.0 mi	Calm	Calm	-	N/A		Scattered Clouds
	6:56 AM	46.9 °F	-	45.0 °F	93%	30.03 in	10.0 mi	Calm	Calm	-	N/A		Partly Cloudy
	7:56 AM	51.1 °F	-	48.0 °F	89%	30.03 in	10.0 mi	Calm	Calm	-	N/A		Clear
	8:56 AM	55.0 °F	-	48.9 °F	80%	30.04 in	10.0 mi	Calm	Calm	-	N/A		Clear
	9:56 AM	57.9 °F	-	51.1 °F	78%	30.04 in	10.0 mi	Calm	Calm	-	N/A		Clear
	10:56 AM	63.0 °F	-	53.1 °F	70%	30.04 in	10.0 mi	Calm	Calm	-	N/A		Clear
	11:56 AM	68.0 °F	-	53.1 °F	59%	30.03 in	10.0 mi	North	3.5 mph	-	N/A		Clear
	12:56 PM	72.0 °F	-	55.0 °F	55%	30.02 in	10.0 mi	South	3.5 mph	-	N/A		Clear
	1:56 PM	73.9 °F	-	54.0 °F	50%	30.01 in	10.0 mi	West	5.8 mph	-	N/A		Clear
	2:56 PM	75.9 °F	-	54.0 °F	46%	30.00 in	10.0 mi	West	9.2 mph	-	N/A		Partly Cloudy
	3:56 PM	75.0 °F	-	53.1 °F	46%	30.01 in	10.0 mi	West	5.8 mph	-	N/A		Partly Cloudy

APPENDIX IV

MAY 18, 2018

MOBILE EQUIPMENT CHARACTERIZATION

FIGURE IV-1

APPROXIMATE LOCATION OF EQUIPMENT DURING CHARACTERIZATION SOUND LEVELS

October 22, 2018

Resource Systems Engineering
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FIGURE IV-2
MEASUREMENTS OF KOMATSU EXCAVATOR

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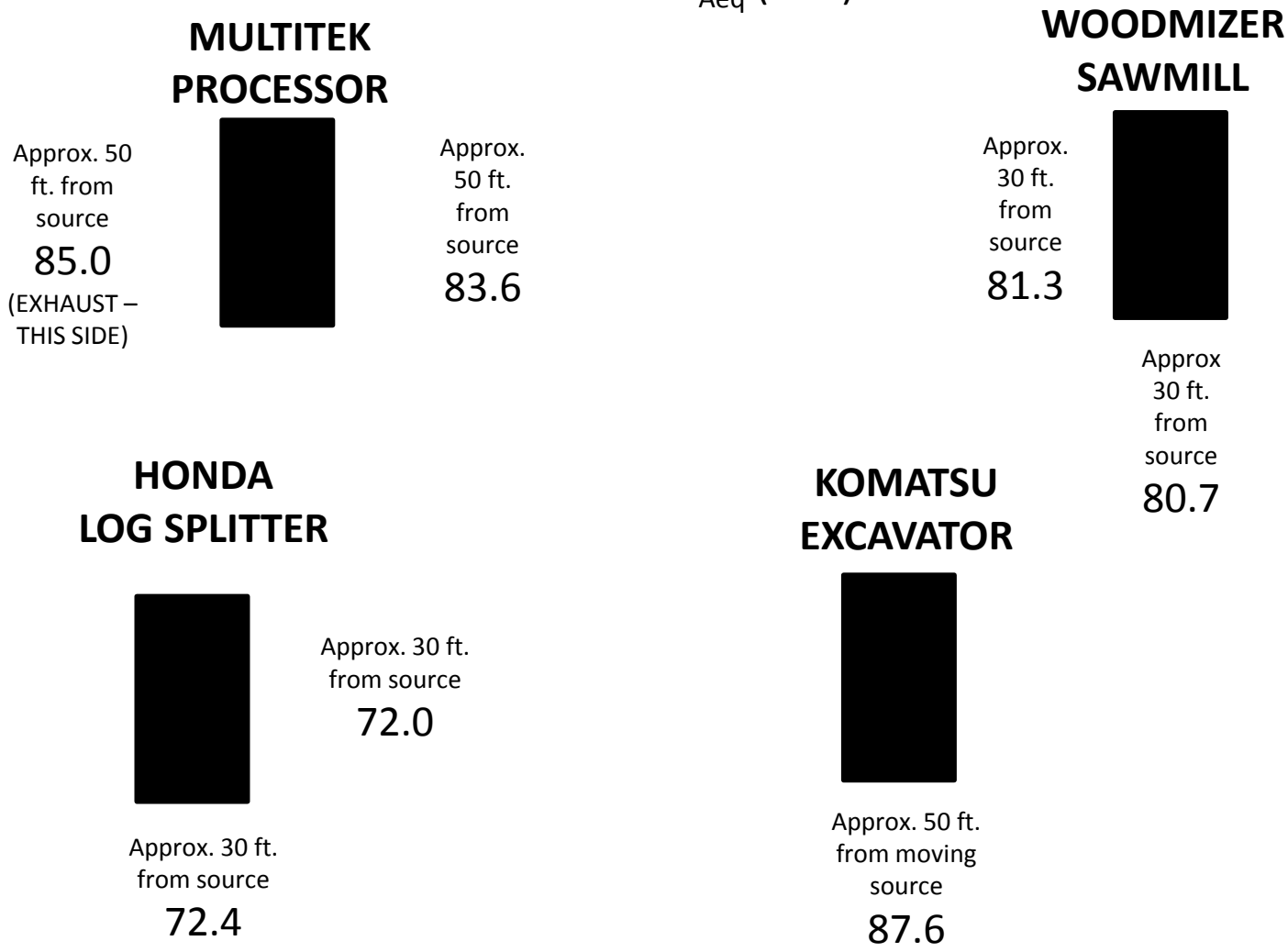
FIGURE IV-3
EQUIPMENT CHARACTERIZATION SOUND MEASUREMENT RESULTS
1-minute L_{Aeq} (dBA)



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APPENDIX V

5-SECOND AND 1-MINUTE SOUND LEVEL RESULTS

AUGUST 29, 2018

FIGURE V-1
Bowie's Organics
Durham
5-Second LAeq Sound Level Reults
August 29, 2018

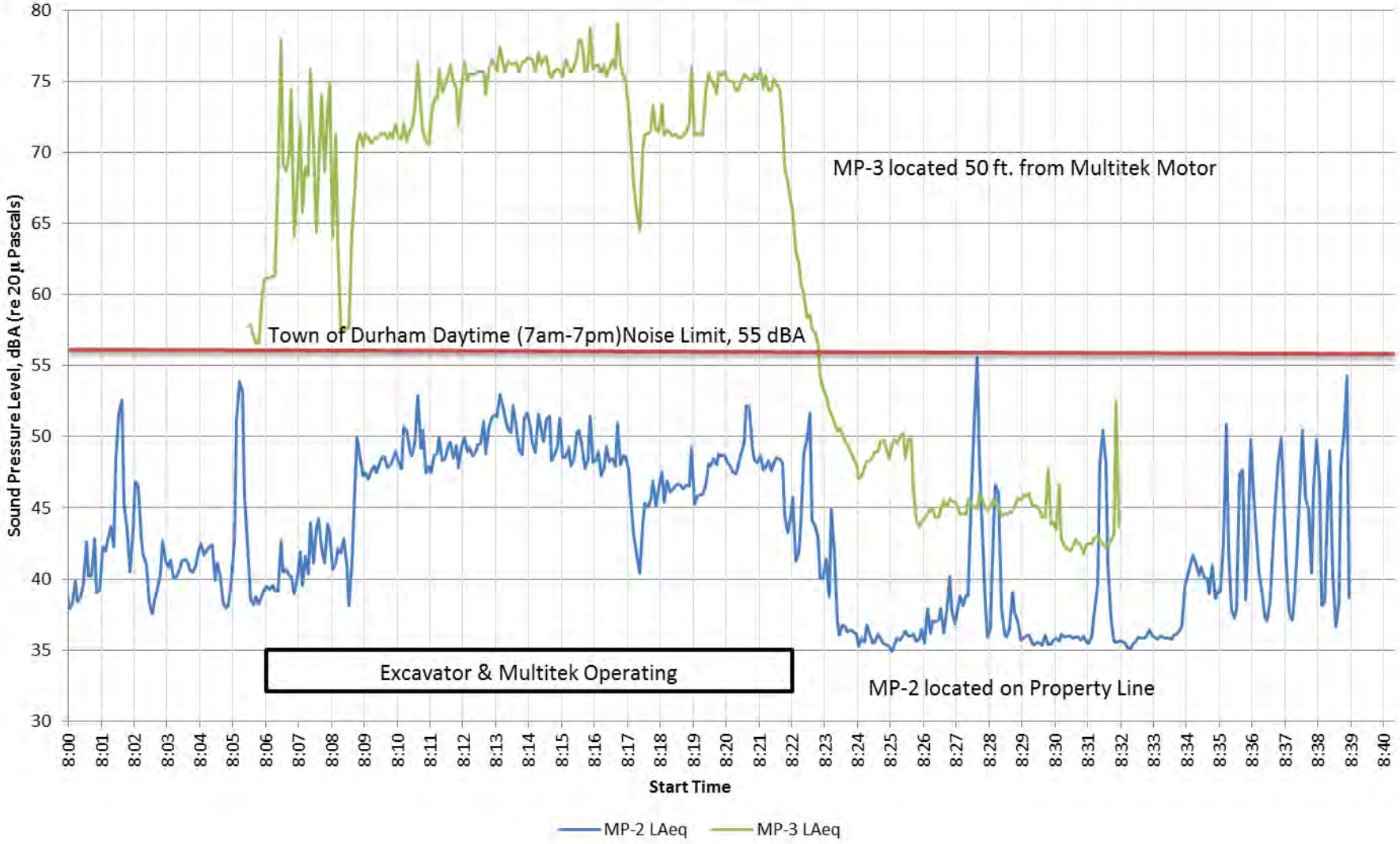

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FIGURE V-2
Bowie's Organics
Durham
1-Minute LAeq Sound Level Results
August 29, 2018

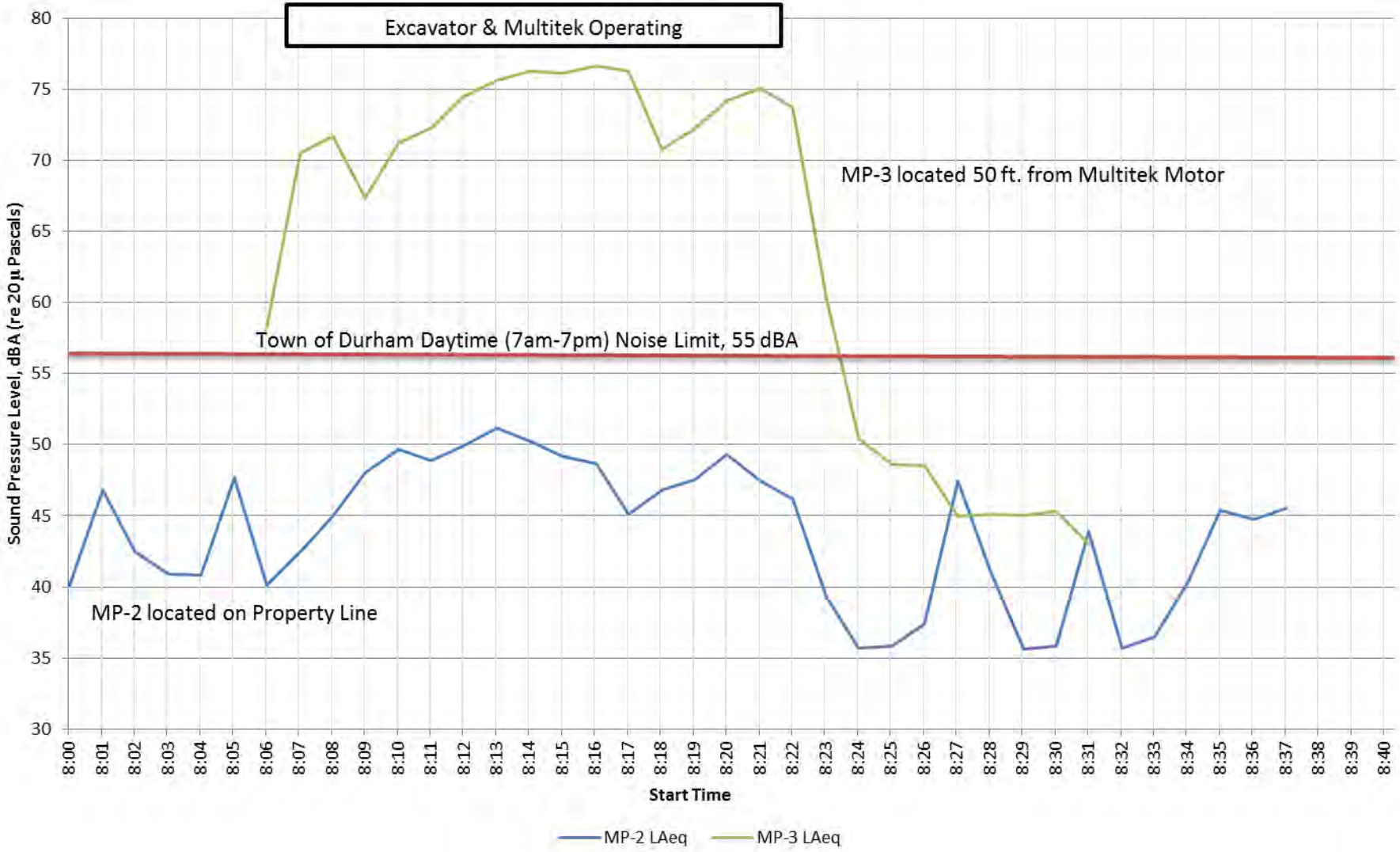

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EXHIBIT 4

Mark Cenci
Geologic, Inc.

CERTIFIED GEOLOGIST/LICENSED SITE EVALUATOR

93 Mill Road • North Yarmouth, Maine 04097
Cell: 207.329.3524 • mark@markcenci.com
www.markcenci.com

Wetland Investigation and Soil Report
Cushing Road, Durham

Date: October 18, 2018

To: Chip Bowie
PO Box 356
Topsham, ME 04086

Wetlands Summary:

Palustrine forested and scrub-shrub wetlands were found and delineated on the property. There is a drainage in the easterly wetland that is a DEP jurisdictional stream. Floodplain wetlands located within 25 feet of the stream channel are Wetlands of Special Significance (WOSS) and a buffer of no-disturbance measured 75 feet from the stream channel is recommended. The wood waste working area should be at least 100 feet from this stream channel. There are no vernal pools on the property in the areas investigated.

Soil Investigation Summary:

Nine test pits were investigated, located and described. Soil logs are attached.

Test pit #8 was found to be suitable for wastewater disposal. The test pit is rated Large for size and is classified as 8C according to the *Rules*. Additional suitable sites are available.

Test pit #9 was described for stormwater control purposes. Test pits #1 through #7 were found to meet the standards for wood waste according to the *NRPA*.

Dates of Investigation: July 19, 2016; May 21, 22, and 23, 2018.

Location of the Investigation:

The property investigated is located on the northerly side of Cushing Road, Durham. The driveway cut is approximately 1,900 feet east of Hallowell Road. The area investigated is the southerly portion of lot 14 on Tax Map 8, which is 39 acres in size.

Purposes of the Investigation:

The purposes of the wetland investigation are to identify and describe wetlands on the property according to definitions in the Maine Natural Resources Protection Act (the *NRPA*) to determine if specific alteration and filling permits are required and if there are any setbacks required under the *NRPA*, to determine the Maine DEP jurisdictional status of any streams and to identify any potential vernal pools.

The purpose of the soil investigation is to identify, describe and locate a suitable area for wastewater disposal, according to the Maine Subsurface Wastewater Disposal Rules (the *Rules*), to accommodate a single family home, and to describe the soils at the location of the stormwater control feature and to investigate the soil conditions at random and representative location on the property to determine if the soils meet the Standards for a Wood Waste Facility according to the *NRPA* for Permit By Rule approval.

Methods of the Investigation:

A literature search and on-site investigations were made. The investigations were performed following the guidelines described in the 1987 Corps of Engineers Delineation Manual and the 2009 Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region. This procedure uses a multiple parameter approach that requires the presence of three primary components for an area to be identified as a wetland: 1) hydric soils; 2) predominance of hydrophytic vegetation; and 3) wetland hydrology.

The vernal pool investigation was done following the recommendations of Maine DEP and Maine Inland Fisheries and Wildlife using the *Maine Association of Wetland Scientists Vernal Pool Technical Committee April 2014 Vernal Pool Protocol*.

The Durham Tax Map was used in the field during the investigation.

Wetland/upland boundary features were identified and flagged alpha-numerically in the field and were located by a Trimble Geo-XH GPS device, capable of sub meter accuracy. Soil test pits were dug by excavator and were flagged in the field and were also located by GPS. The GPS data was post processed for accuracy and sent to Wayne T. Wood & Co.as an AutoCAD file to be included as layers on the site plan.

Site Location and Description:

The property is located on the northeasterly slope of an area of knolls and dissected terraces (see Figure 1). Drainage is to East Branch Chandler Brook. There are no mapped streams on the property on the USGS topo sheet. There are forested and scrub-shrub wetlands depicted on the property on the *National Wetlands Inventory.*

Results of the Wetlands Investigation:

Areas in proximity to the wood waste working facility were investigated for the presence of wetlands. Wetlands were found on the property and are more extensive than depicted on the *National Wetlands Inventory* map. All wetlands are classified as Palustrine forested and scrub-shrub wetlands.

There is a northeasterly flowing drainage that crosses Cushing Road onto the property. Wetlands are associated with this drainage. The westerly side of the wetlands were delineated. The drainage is a DEP jurisdictional stream and there is a buffer of no disturbance required. The buffer is 75 feet in width, measure from the stream channel. Floodplain wetlands within 25 feet of this channel are Wetlands of Special Significance. The no-disturbance buffer can be reduced to no less than 25 feet with a Permit, if necessary.

Item #7 of the *Standards for Permit-by-Rule Wood Waste Processing Facilities* requires that the working area must be located at least 100 feet from the channel of the jurisdictional stream.

Other wetlands delineated are not Wetlands of Special Significance and there are no other buffers of no-disturbance required. Any direct filling of these wetlands must be approved by a Permit. These wetlands require no setbacks of 100 feet under Item #7.

There are no Significant Vernal Pools within 250 feet of the working area of the facility.

Results of the Soils Investigation:

The area is depicted as an association of Adams loamy sand, Hartland very fine sandy loam, Belgrade very fine sandy loam and Elmwood fine sandy loam on the *National Cooperative Soil Survey* (see attached photomap and descriptions). These soils formed in fine to medium textured glacio-marine sediments. On-site soil testing agrees with this mapping.

Nine soil test pits were dug and logged. All were located by GPS. Soil description logs are enclosed.

Test pit #8 was investigated as a site for a subsurface wastewater disposal area. The soil is a fine sandy loam with a silt loam restrictive horizon at 16 inches below the surface. There is a seasonally high-water table at the restrictive horizon. The soil is rated Large by the *Rules* for wastewater disposal sizing and is categorized as 8C.

A typical septic system for a three-bedroom home on this soil is a 1000-gallon septic tank and a stone bed disposal area, 20' x 55' in size. Other disposal options include space saving chambers and Eljen Indrain devices. The disposal area will be mounded 16 inches above existing grades.

Test pit #9 is at the site of a proposed stormwater control feature. The soil is a fine sandy loam with a restrictive silt loam to silt clay loam subsoil at 18 inches below the surface. The pit was dug to 7 feet below the surface.

Test pits #1 through #7 were logged to demonstrate that the site s underlain by suitable soils for a wood waste facility. The soils are suitable. Any loose sands found in the test pits are underlain by silt loam, which will serve to protect groundwater.

Mark Cenci
Maine Certified Geologist #467
Maine Licensed Site Evaluator #262

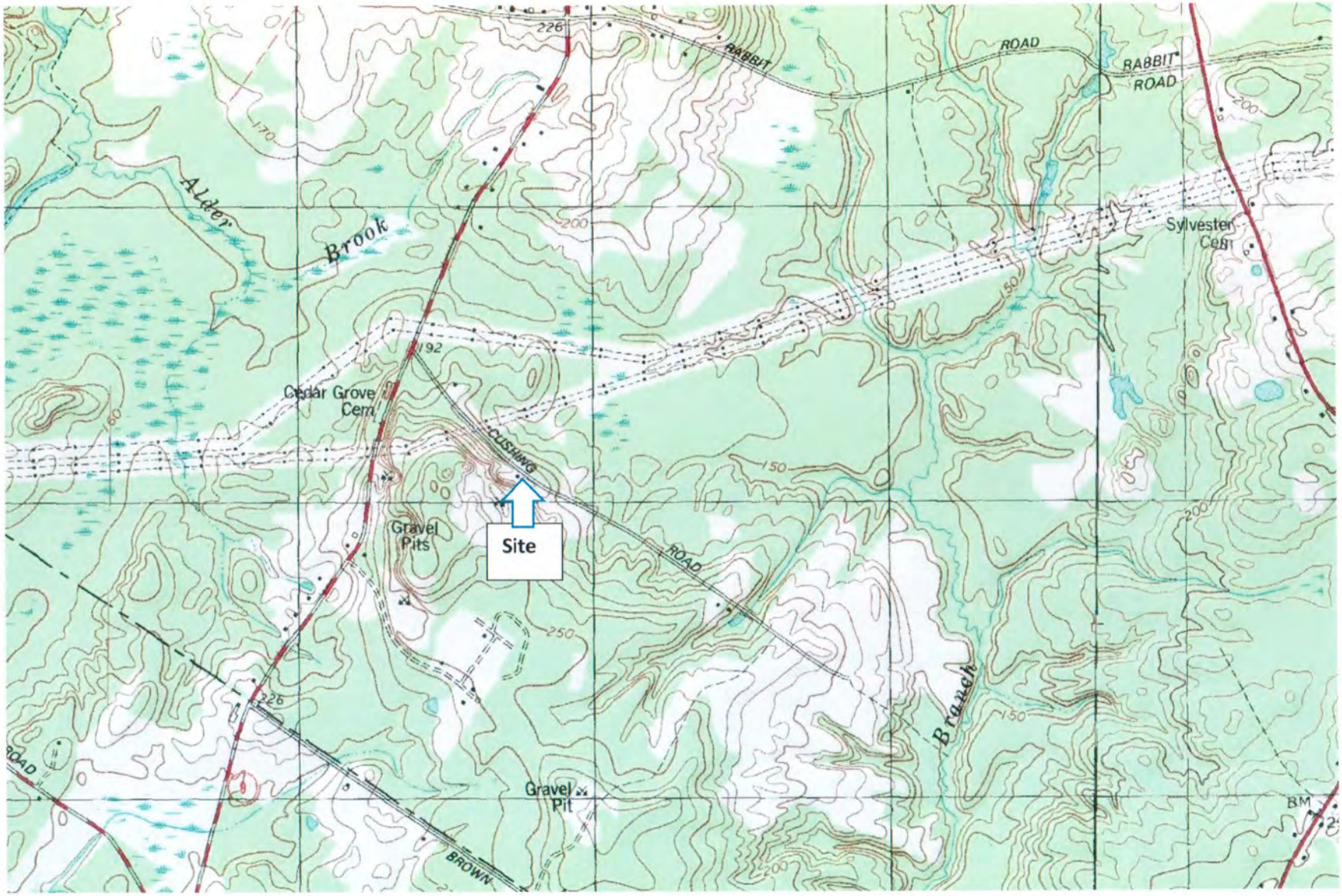
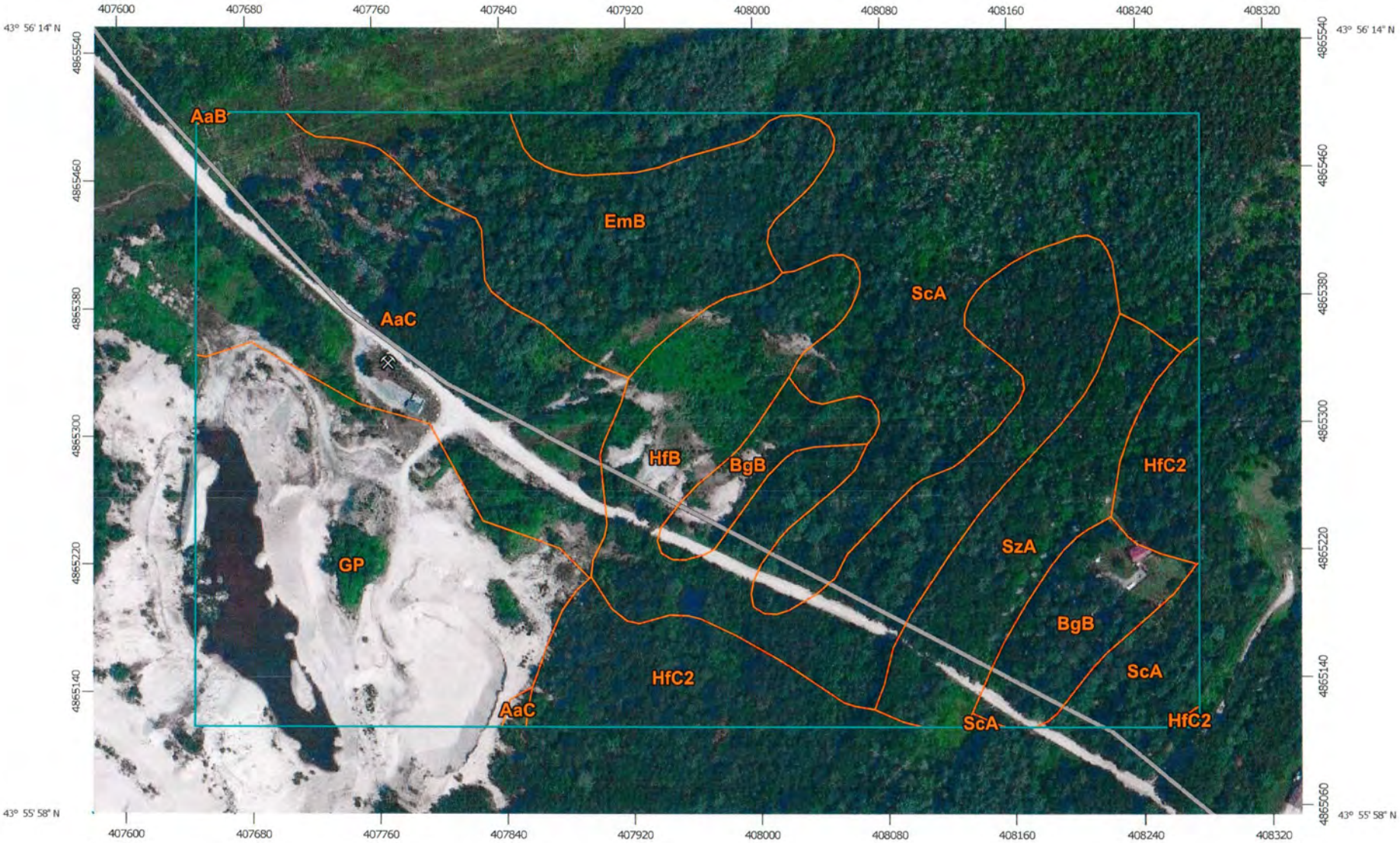


Figure 1.

Topographic Locus Map of the Area of Cushing Road, Durham

Soil Map—Androscoggin and Sagadahoc Counties, Maine
(Area of Cushing Road, Durham)



Map Scale: 1:3,470 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Androscoggin and Sagadahoc Counties, Maine
Survey Area Data: Version 16, Sep 14, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 20, 2010—Jul 18, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Androscoggin and Sagadahoc Counties, Maine (ME606)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
AaB	Adams loamy sand, 0 to 8 percent slopes	0.0	0.0%
AaC	Adams loamy sand, 8 to 15 percent slopes	9.7	16.1%
BgB	Belgrade very fine sandy loam, 2 to 8 percent slopes	3.3	5.5%
EmB	Elmwood fine sandy loam, 2 to 8 percent slopes	6.3	10.5%
GP	Sand and gravel pits	10.5	17.5%
HfB	Hartland very fine sandy loam, 2 to 8 percent slopes	9.6	16.0%
HfC2	Hartland very fine sandy loam, 8 to 15 percent slopes, eroded	4.3	7.1%
ScA	Scantic silt loam, 0 to 3 percent slopes	12.7	21.0%
SzA	Swanton fine sandy loam, 0 to 3 percent slopes	3.7	6.2%
Totals for Area of Interest		**60.2**	**100.0%**

U.S. Fish and Wildlife Servic

National Wetlands Inventory

Area of Cushing Road, Durham

Aug 22, 2016

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

CHIP BOWIE CUSHNA ROAD, DURHAM 7-19-16

Observation Hole # TP-1 ☒ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
6	MEDIUM SAND			
12				
18		LOOSE	LIGHT BROWN	
24	FINE SAND			
30				
36	SILTY FINE SAND TO -72"	FIRM		
42				WATER TABLE AT -52"
48				

Soil Classificatioin		Slope	Limiting Factor	☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth
Profile	Condition	Percent	Depth	

Observation Hole # TP-2 ☒ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
6	GRAVELLY SAND FILL			
12				
18		LOOSE		
24				
30				
36	LOAMY FINE SAND TO -84"			
42		LOOSE		
48				

Soil Classificatioin		Slope	Limiting Factor	☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth
Profile	Condition	Percent	Depth	

Observation Hole # TP-3 ☒ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	FINE SANDY LOAM		DARK BROWN	
6				
12	LOAMY		RED TO YELLOW BROWN	
18	FINE SAND	LOOSE		
24			OLIVE YELLOW	
30				
36				NONE TO -50" MIN.
42				
48				

Soil Classificatioin		Slope	Limiting Factor	☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth
Profile	Condition	Percent	Depth	

Observation Hole # TP-4 ☐ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
6				
12	MIXED SAND			
18	AND			
24	CLAY FILL			
30	TO			
36	-48"			
42	FINE SANDY LOAM BELOW			
48				

Soil Classificatioin		Slope	Limiting Factor	☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth
Profile	Condition	Percent	Depth	

[signature] CG #467 8-17-16

Site Evaluator Signature ~~SE #~~ Date

CHIP BOWIE CUSHING ROAD DURHAM 7-19-16

Observation Hole # TP-5 ☒ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
6	MIXED			
12	FINE			
	SAND			
18	AND	LOOSE		
24	LOAM			NONE
30	FILL			TO
				~60"
36				
	ASPHALT			
42	12" FILL			
48	SAND / FINE SANDY LOAM			

Soil Profile	Classificatioin Condition	Slope Percent	Limiting Factor Depth	☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole # TP-6 ☒ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
6	FINE		DARK	
	SANDY	FRIABLE	BROWN	
12	LOAM			
18				
	SILT		OLIVE	WATER
24	LOAM	FIRM		TABLE
30				
36				
	SAND	LOOSE	BROWN	
42				
48	SILT LO			

Soil Profile	Classificatioin Condition	Slope Percent	Limiting Factor Depth	☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

POSSIBLE SEPTIC SYSTEM SITE

Observation Hole # TP-7 ☒ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	FINE		DARK	
	SANDY	FRIABLE	BROWN	
6	LOAM			
	MEDIUM			
12			RED	
	SAND	LOOSE	BROWN	
18				
24				WATER
	SILT	FIRM	OLIVE	TABLE
30	LOAM		BROWN	
36				
42				
48				

Soil Profile	Classificatioin Condition	Slope Percent	Limiting Factor Depth	☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole # TP-8 ☒ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
6	FINE		DARK	
	SANDY	FRIABLE	BROWN	
12	LOAM		OLIVE	
			YELLOW	
18	SILT	FIRM	OLIVE	FEW
24	LOAM		BROWN	
30				
36				
42				
48				

Soil Profile	Classificatioin Condition	Slope Percent	Limiting Factor Depth	☒ Groundwater ☒ Restrictive Layer ☐ Bedrock ☐ Pit Depth
8	C		16	

Site Evaluator Signature — CG #467 (~~SE#~~) — 8-17-16 Date

CHIP BOWIE CUSHING ROAD DURHAM 5-21-18

Observation Hole # TP-9 ☒ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	FINE		DK BROWN	
6	SAND/	FRIABLE		
12	LOAM		YELLOW BROWN	
18				COMMON
24	SILT LOAM	FIRM	OLIVE GRAY	
30	TO		TO	
36	CLAY		GRAY	
42	LOAM			
48	LIMIT OF		PIT AT	7'

Soil Profile	Classificatioin Condition	Slope Percent	Limiting Factor Depth	
8	D		14	☒ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole # ☐ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
6				
12				
18				
24				
30				
36				
42				
48				

Soil Profile	Classificatioin Condition	Slope Percent	Limiting Factor Depth	
				☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole # ☐ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
6				
12				
18				
24				
30				
36				
42				
48				

Soil Profile	Classificatioin Condition	Slope Percent	Limiting Factor Depth	
				☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole # ☐ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
6				
12				
18				
24				
30				
36				
42				
48				

Soil Profile	Classificatioin Condition	Slope Percent	Limiting Factor Depth	
				☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Mark Olsen — Site Evaluator Signature

262 — SE #

8-10-18 — Date

Mark Cenci
Geologic, Inc.

CERTIFIED GEOLOGIST/LICENSED SITE EVALUATOR

93 Mill Road • North Yarmouth, Maine 04097
Cell: 207.329.3524 • mark@markcenci.com
www.markcenci.com

Date: November 26, 2018

To: Charles Wallace
Resource Systems Engineering
P O Box K
30 Parkers Way
Brunswick, Maine 04011

RE: Location of Aquifer on Cushing Road property, Bowie Project

Method of Investigation:

Library research of published geologic and soil information and on-site test pit data.

Background:

Since the 1980's the Maine Geological Survey has published maps and descriptive narratives for many of the topographic quadrants in Maine, estimating the location and extent of sand and gravel aquifers. *The Significant Sand and Gravel Aquifers of the North Pownal Quadrangle, Maine* compiled by Craig D, Neil, dated 1999, is one in the series. (Maine Geological Survey Open-File No. 99-25).

The mapping project uses known well location and yield information, gravel pit data and observations, geophysical data at selected locations and published topographic, soil map and aerial photographic information to estimate the characteristics and boundaries of the aquifers.

A detail from this map is enclosed. It locates the main body of the aquifer in the area between Brown Road and Cushing Road, with known data points from wells shown. The boundary of the aquifer is estimated, as depicted as dashed lines. A portion of the Bowie project along Cushing Road is included in this estimated boundary.

Discussion:

An aquifer is any surficial deposit or body of bedrock that is capable of delivering water to a user. The Maine Geological Survey defines a *Significant Sand and Gravel Aquifer* as a sand and gravel deposit that allows a "well in that deposit to be pumped at a rate of 10 gallons per minute (gpm) or more. To sustain a yield of 10 gpm or more, a deposit must be permeable enough for water to flow readily into the well as it is pumped and there must be sufficient depth of water in the well so that it will not be pumped dry."

These soil and groundwater conditions require sand to gravel to be present below the water table. Soil test pit data reveals that fine textured silts and clay layers are present on the Bowie property. These fine sediment layers interfere with the permeability and transmissivity of ground water and limit the sediments as a significant aquifer.

The aquifer boundary was not established by any water well or geophysical or soil test pit/boring information. As such, on-site soil test pit information must take precedence in determining the aquifer extent. On site test pit information reveals the aquifer does not extend onto the property.

Conclusions:

The boundary of the significant sand and gravel aquifer depicted on the *Significant Sand and Gravel Aquifers of the North Pownal Quadrangle, Maine* must be regarded as incorrect on the Bowie property.

Mark Cenci, Maine Certified Geologist #467

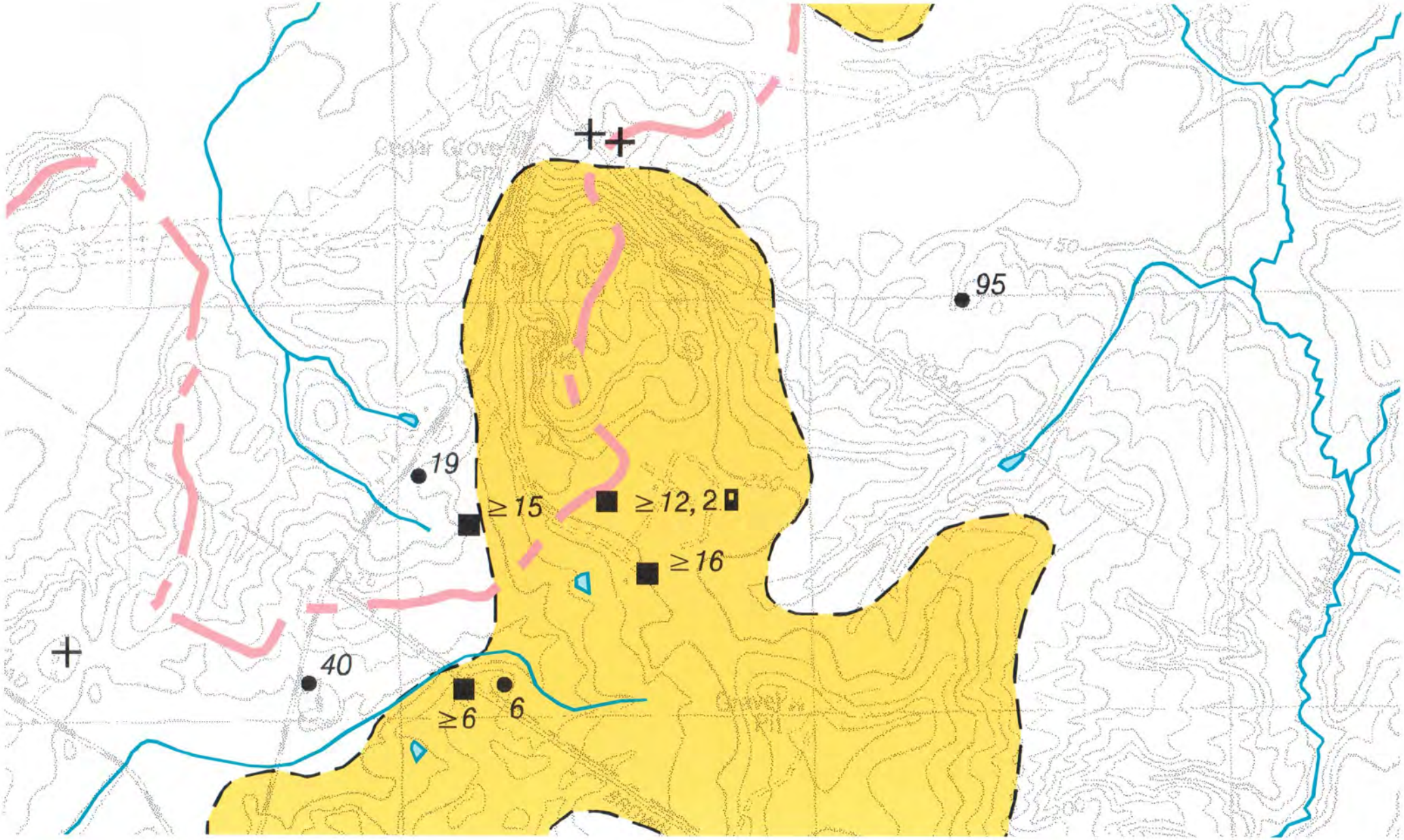

Cedar Grove
Cem
152
150
95
19
≥15
≥12, 2
≥16
40
≥6
6
Chapman
Hill
200

EXHIBIT 4

Mark Cenci
Geologic, Inc.

CERTIFIED GEOLOGIST/LICENSED SITE EVALUATOR

93 Mill Road • North Yarmouth, Maine 04097
Cell: 207.329.3524 • mark@markcenci.com
www.markcenci.com

Date: January 4, 2019

To: Charles Wallace
Resource Systems Engineering
P O Box K
30 Parkers Way
Brunswick, Maine 04011

RE: Effects on the sand and gravel aquifer by the proposed Bowie project.

Date of Investigation: December 8, 2018.

Method of Investigation:

An excavator was used to dig four soil test pits to a depth of 15 feet, where needed. The test pits were flagged and located with a Trimble Geo-XH, capable of sub meter accuracy. Results were post processed for accuracy and the data was sent to Resource Systems Engineering to be placed on the site plan.

Background:

In a letter to Charles Wallace from Mark Cenci, CG, dated November 26, 2018, the conclusion was established that:

"The boundary of the significant sand and gravel aquifer depicted on the *Significant Sand and Gravel Aquifers of the North Pownal Quadrangle, Maine* must be regarded as incorrect on the Bowie property."

The correct boundary of the aquifer could not, and cannot, be established by Bowie or his contractors, because a subsurface investigation beneath Cushing Road and the abutter's gravel pit property across the road is not authorized. Therefore, the only determination that can be made is where the aquifer is not located.

Discussion:

Four soil test pits were dug into undisturbed natural soils on the Bowie property. Test pits 10 and 11 were dug 25 and 65 feet, respectively, from the right of way of Cushing Road, placing them within the 100-foot buffer setback from the road. Test pit 12 was dug 115 feet from the road right of way and is located approximately 145 feet from the nearest proposed activity, which is the Loam and Grubbings pile. Test pit 13 was dug 10 feet from the right of way of Cushing Road, located approximately 105 feet from the Compost area.

The test pits revealed that the deposit of sand that is extensive across Cushing Road on the pit property is poorly developed on the property being used by Bowie. Test pits 12 and 13 revealed very fine sandy loam and silt loam beneath a thin fine sand. Test pits 10 and 11 did reveal sands which are similar in depositional history to the extensive sands to the south, but are too limited in scope to host aquifer conditions.

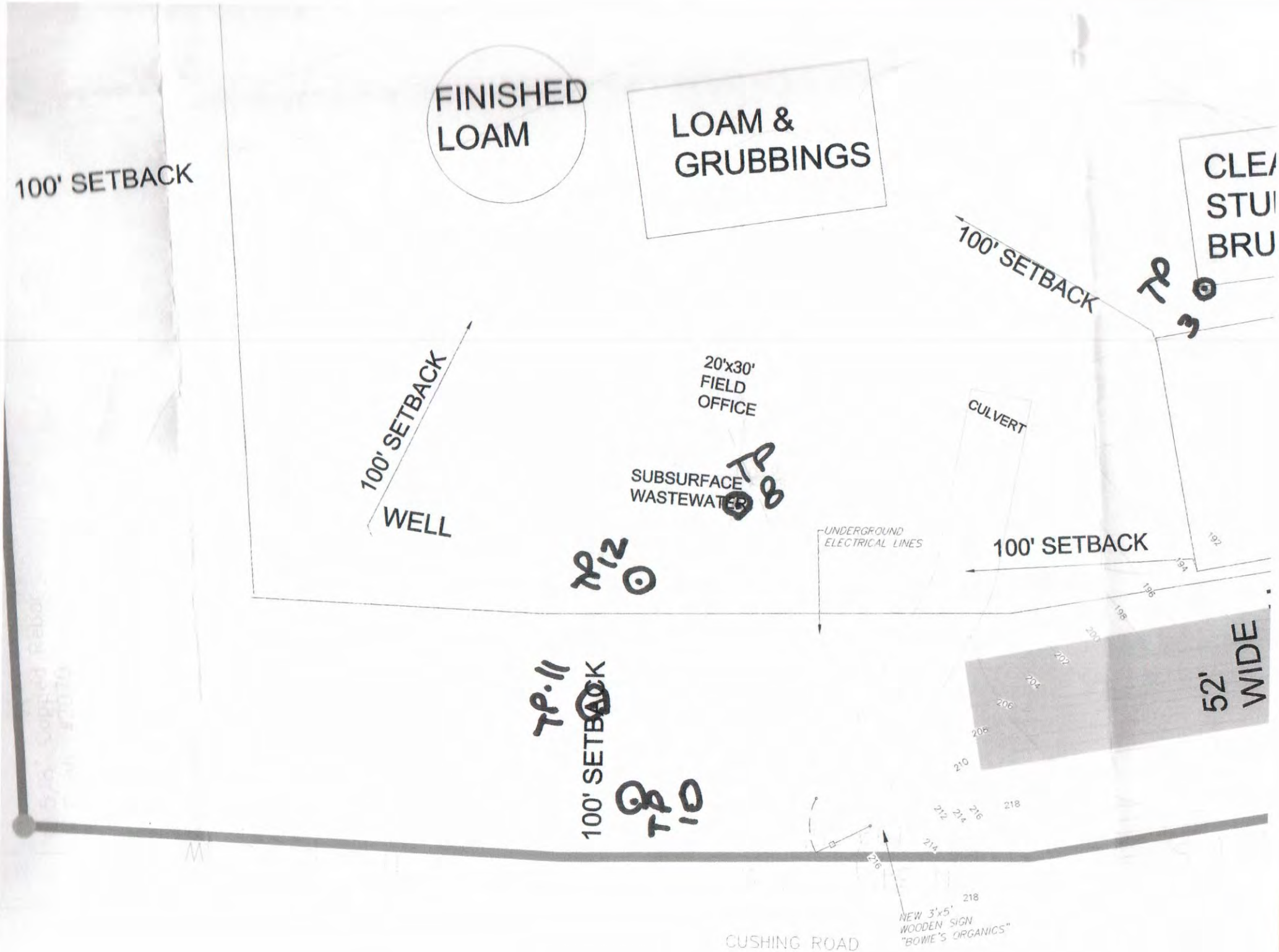
Furthermore, the proposed wood processing and composting are more than 190 feet from the nearest sands, which are located hydraulically upgradient of the proposed activity.

Conclusions:

The boundary of the significant sand and gravel aquifer depicted on the *Significant Sand and Gravel Aquifers of the North Pownal Quadrangle, Maine* must be regarded as incorrect on the Bowie property.

Furthermore, the wood processing and composting activities proposed are located hydraulically downgradient of the aquifer, which located to the south on the abutting property across the road. There will be no effects on the aquifer from the proposed Bowie activities.

Mark Cenci, Maine Certified Geologist #467


FINISHED LOAM
LOAM & GRUBBINGS
CLEA STUI BRU
100' SETBACK
100' SETBACK
100' SETBACK
100' SETBACK
100' SETBACK
20'x30' FIELD OFFICE
CULVERT
SUBSURFACE WASTEWATER
WELL
UNDERGROUND ELECTRICAL LINES
52' WIDE
TP 8
TP 12
TP 3
TP 11
TP 10
NEW 3'x5' WOODEN SIGN "BOWIE'S ORGANICS"
CUSHING ROAD

Mark Cenci
Geologic, Inc.

CERTIFIED GEOLOGIST/LICENSED SITE EVALUATOR

93 Mill Road • North Yarmouth, Maine 04097
Cell: 207.329.3524 • mark@markcenci.com
www.markcenci.com

Date: January 4, 2019

To: Charles Wallace
Resource Systems Engineering
P O Box K
30 Parkers Way
Brunswick, Maine 04011

RE: Location of the stream channel, Bowie property, Cushing Road.

Background:

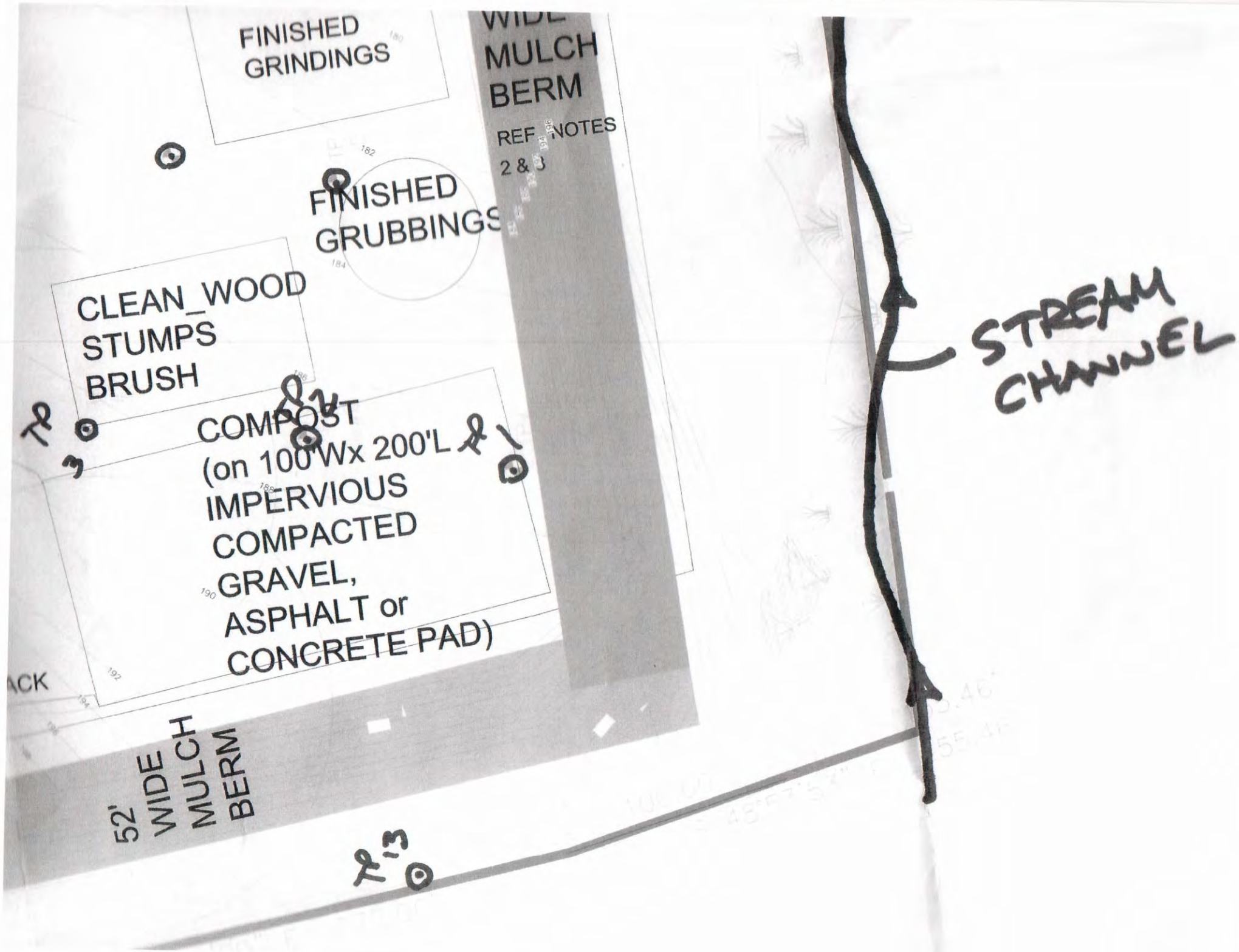
In the *Wetland Investigation and Soil Report Cushing Road, Durham* by Mark Cenci Geologic, Inc., dated October 18, 2018, the presence of a stream channel and the requirement of a 100-foot buffer of no-disturbance from the channel was noted, but the location of the channel was not provided to the client.

Channel location information was subsequently provided to Resource Systems Engineering, based upon gps positions taken during the wetland investigation. The channel is now depicted on the site plan.

Conclusions:

The stream channel is more than 100 feet from the proposed wood processing and composting activities of the Bowie project.

Mark Cenci, Maine Certified Geologist #467


FINISHED GRINDINGS
WIDE MULCH BERM
REF NOTES 2 & 3
FINISHED GRUBBINGS
CLEAN_WOOD STUMPS BRUSH
COMPOST (on 100'Wx 200'L IMPERVIOUS COMPACTED GRAVEL, ASPHALT or CONCRETE PAD)
52' WIDE MULCH BERM
STREAM CHANNEL

SCHAEFFER DOUGLAS TITLE
Close with Confidence

707 Sable Oaks Drive, Suite 350, South Portland, ME 04106 * 207-775-0900
11 Bowdoin Mill Island, Topsham, ME 04086 * 207-729-8991
45 Forest Falls Drive, Yarmouth, ME 04096 * 207-846-3460

EXHIBIT 5

May 12, 2020

Bowie, Inc.
PO Box 356
Topsham, ME 04086

RE: **Cushing Road, Durham, ME 04222**
Our File No.: 200383-Y

Dear Bowie, Inc.:

Enclosed please find your **original** recorded Deed for the above-referenced property.

It was a pleasure to be of service to you, and we hope you keep us in mind for any future title and/or closing needs.

Should you have any questions or concerns, please do not hesitate to contact us.

Very truly yours,

Dorothy Jost
Schaeffer Douglas Title
Enclosure

Bk 10359 Pg159 #7173
05-01-2020 @ 01:22p

QUITCLAIM DEED WITH COVENANT

DLN#1002040093887 {Maine Statutory Short Form}

KNOW ALL MEN BY THESE PRESENTS, that Crooker Construction, LLC (f/k/a Crooker Realty/Equipment, LLC) a Maine limited liability company with offices in Topsham, Maine, in consideration of One Dollar ($1.00) and other good and valuable consideration paid by Bowie Inc. a Maine corporation with offices at 47 River Road, Topsham, Maine, the receipt whereof is hereby acknowledged, does hereby GIVE, GRANT, BARGAIN, SELL AND CONVEY unto the said Bowie Inc., its successors and assigns forever, with Quitclaim Covenants, as follows:

> A certain lot or parcel of land, together with any improvements thereon, situated in the Town of Durham, County of Androscoggin and State of Maine, being more particularly described in the attached Exhibit A.

IN WITNESS WHEREOF, Crooker Construction, LLC has caused this instrument to be executed this 28th day of April 2020.

Crooker Construction, LLC

By _____
Thomas C. Sturgeon, President

_____
Witness

State of Maine
County of Sagadahoc

April 28, 2020

Then personally appeared the above named Thomas C. Sturgeon, in his capacity as President of Crooker Construction, LLC, and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of Crooker Construction, LLC.

_____
~~Notary Public~~/Attorney-at-Law
John McAcree
Attorney At Law
Bar # 6655

QUITCLAIM DEED WITH COVENANT

{Maine Statutory Short Form}

KNOW ALL MEN BY THESE PRESENTS, that Crooker Construction, LLC (f/k/a Crooker Realty/Equipment, LLC) a Maine limited liability company with offices in Topsham, Maine, in consideration of One Dollar ($1.00) and other good and valuable consideration paid by Bowie Inc. a Maine corporation with offices at 47 River Road, Topsham, Maine, the receipt whereof is hereby acknowledged, does hereby GIVE, GRANT, BARGAIN, SELL AND CONVEY unto the said Bowie Inc., its successors and assigns forever, with Quitclaim Covenants, as follows:

> A certain lot or parcel of land, together with any improvements thereon, situated in the Town of Durham, County of Androscoggin and State of Maine, being more particularly described in the attached Exhibit A.

IN WITNESS WHEREOF, Crooker Construction, LLC has caused this instrument to be executed this 28th day of April 2020.

Crooker Construction, LLC

By _____
Thomas C. Sturgeon, President

_____
Witness

State of Maine
County of Sagadahoc

April 28, 2020

Then personally appeared the above named Thomas C. Sturgeon, in his capacity as President of Crooker Construction, LLC, and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of Crooker Construction, LLC.

_____
~~Notary Public/~~Attorney-at-Law
John McAcree
Attorney At Law
Bar #6655

Exhibit A

Property Description
For
Chip Bowie
(13.61 acres Durham)

A certain lot or parcel of land situated on the Northeasterly side of Cushing Road in the Town of Durham, County of Androscoggin and State of Maine being more particularly described as follows:

Beginning at a 5/8" capped rebar (#2070) found set in the ground on the assumed Northeasterly side line of Cushing Road at the Southerly comer of land now or formerly of Maine Custom Woodlands (7735/211);

Thence N 52°26'48" E following a wire fence along land of the said Maine Custom Woodlands 572.78 feet to a 5/8" capped rebar (#2070) found set in the ground at the Easterly corner of land of the said Maine Custom Woodlands and on the Southerly boundary of land now or formerly of Central Maine Power Company (1001/205, 687/431 & 605/573);

Thence S 89° 55' 59" E along land of the said Central Maine Power Company 128.69 feet to a point;

Thence S 39° 11 '34" E across land of the Grantor 770.41 feet to a point;

Thence S 52°01' 16" W continuing across land of the Grantor 672.74 feet to a point on the assumed Northeasterly side line of the said Cushing Road;

Thence N 48° 53' 53" W along the assumed Northeasterly side line of the said Cushing Road 161.24 feet to a point;

Thence N 43° 41' 00" W continuing along the assumed Northeasterly side line of the said Cushing Road 272.06 feet to a point;

Thence N 34° 23' 03" W continuing along the assumed Northeasterly side line of the said Cushing Road 199.75 feet to a point;

Thence N 31° 03' 12" W continuing along the assumed Northeasterly side line of the said Cushing Road 227.07 feet to the point of beginning. Containing 13.61 acres.

All bearings are Magnetic of the Year 2004.

Meaning and intending to convey a portion of the premises conveyed to this Grantor by a deed recorded in the Androscoggin County Registry of Deeds in Book 9013 on Page 157.

216171-13.61 acres

Exhibit A

Property Description
For
Chip Bowie
(13.61 acres Durham)

A certain lot or parcel of land situated on the Northeasterly side of Cushing Road in the Town of Durham, County of Androscoggin and State of Maine being more particularly described as follows:

Beginning at a 5/8" capped rebar (#2070) found set in the ground on the assumed Northeasterly side line of Cushing Road at the Southerly comer of land now or formerly of Maine Custom Woodlands (7735/211);

Thence N 52°26'48" E following a wire fence along land of the said Maine Custom Woodlands 572.78 feet to a 5/8" capped rebar (#2070) found set in the ground at the Easterly corner of land of the said Maine Custom Woodlands and on the Southerly boundary of land now or formerly of Central Maine Power Company (1001/205, 687/431 & 605/573);

Thence S 89° 55' 59" E along land of the said Central Maine Power Company 128.69 feet to a point;

Thence S 39° 11 '34" E across land of the Grantor 770.41 feet to a point;

Thence S 52°01' 16" W continuing across land of the Grantor 672.74 feet to a point on the assumed Northeasterly side line of the said Cushing Road;

Thence N 48° 53' 53" W along the assumed Northeasterly side line of the said Cushing Road 161.24 feet to a point;

Thence N 43° 41' 00" W continuing along the assumed Northeasterly side line of the said Cushing Road 272.06 feet to a point;

Thence N 34° 23' 03" W continuing along the assumed Northeasterly side line of the said Cushing Road 199.75 feet to a point;

Thence N 31° 03' 12" W continuing along the assumed Northeasterly side line of the said Cushing Road 227.07 feet to the point of beginning. Containing 13.61 acres.

All bearings are Magnetic of the Year 2004.

Meaning and intending to convey a portion of the premises conveyed to this Grantor by a deed recorded in the Androscoggin County Registry of Deeds in Book 9013 on Page 157.

216171-13.61 acres

Maine Real Estate Transfer Tax Paid
TINA M. CHOUINARD, REGISTER
ANDROSCOGGIN COUNTY MAINE E-RECORDED

EXHIBIT 6

Benj. F. Packard

Bath Savings Institution

Since 1852

February 18, 2021

Planning Board
Town of Durham
630 Hallowell Rd
Durham ME 04222

Subject: Bowie Inc. – Cushing Road Property

To the Planning Board:

Bowie Inc. has sufficient funds available for the completion of the work required at Cushing Road as summarized in the table below.

Item	Amount
Dry Hydrant	$1,000
Entrance Gate	$1,200
Wooden Sign	$500
Labor	$4,000
Contingency	$700
Total	$7,400

If the Town of Durham requires it, Bath Savings will issue a letter of credit to the Town of Durham for $7,400 for completion of this project. Please advise me of the letter of credit format preferred by the Town.

Thank you.

Sincerely,

Julie Wagoner
SVP Commercial Lending
Bath Savings Institution
207-371-4211

Approval Criteria

The following criteria are to be used by the Planning Board in judging applications for conditional use approval and shall serve as minimum requirements for approval of the conditional use. The conditional use shall not be approved if in the judgment of the Planning Board the applicant is not able to reasonably meet one or more of these standards. In all instances, the burden of proof shall be on the applicant and such burden of proof shall include the production of evidence necessary to complete the application and persuade the Board. All conditional uses must be shown by the applicant to satisfy the following criteria:

1) Will not result in undue water or air pollution. ***THERE WILL BE NO UNDUE WATER OR AIR POLLUTION***

2) Has sufficient water available for the reasonably foreseeable needs of the proposed use, including fire protection. Will not cause an unreasonable burden on an existing water supply, if one is to be utilized. This criteria shall include use of an aquifer and the applicant must show that its use will not harm the wells of those currently relying upon said aquifer. ***SITE PLAN AND STORMWATER DETAILS (SHEET 2) SHOWS FIRE/STORMWATER POND AND DRY HYDRANT PORTABLE PUMP. ALSO SHOWN IS A WATER SUPPLY WELL FOR DRINKING WATER. THERE WILL BE NO HARM TO THE AQUIFER OR THE OFF-SITE WATER WELLS USED BY OTHERS.***

3) Will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result. ***THE SITE PLAN SHOWS THAT THE NEW TOPOGRAPHY WILL DIRECT THE STORMWATER RUNOFF TO THE STORMWATER POND. See STORMWATER MANAGEMENT PLAN AND DETAILS IN THE***

4) Will not cause highway or public road congestion or unsafe conditions with respect to use of the highway or public road existing or proposed. ***THIS PROJECT WILL NOT CAUSE TRAFFIC CONGESTION OR UNSAFE CONDITIONS BECAUSE THE PROPOSED TRAFFIC WILL BE LESS THAN THE HISTORICAL USE OF THE SITE FOR LAND CLEARING, DEBRIS STORAGE AND GRAVEL EXCAVATION.***

5) Will provide for adequate sewage disposal in conformity with the State Plumbing Code and all other applicable regulations. ***PORTABLE TOILETS WILL BE ONSITE. FUTURE BUILDINGS WILL BE SERVED BY AN ONSITE SUBSURFACE WASTEWATER DISPOSAL SYSTEMAS SHOWN ON THE SITE PLAN AT TEST PIT 8.***

6) The proposed development will have adequate fire protection.. ***SITE PLAN AND STORMWATER DETAILS (SHEET 2) VSHOWS FIRE/STORMWATER POND AND DRY HYDRANT PORTABLE PUMP. ALSO REFER TO EXHIBIT 1S2; LETTER FROM DURHAM FIRE DEPARTMENT. THE PROPOSED DEVELOPMENT WILL HAVE ADEQUATE FIRE PROTECTION***

7) Will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites or rare and irreplaceable natural areas, any deer wintering areas identified by the Maine Department of Fish and Wildlife or other agency or any public rights for physical or visual access to water bodies. ***REFER TO EXHIBIT 8; EMAIL FROM CORY R. STEARNS, WILDLIFE BIOLOGIST, MAINE DEPT. INLAND FISHERIES AND WILDLIFE***

8) Is in conformance with the Town's Comprehensive Plan, and all other applicable Town ordinances. ***THE PROPOSED DEVELOPMENT COMPLIES WITH THE CONDITIONAL USE CRITERIA AND THEREFORE IS IN CONFORMANCE WITH DURHAM'S COMPREHENSIVE PLAN.***

9) The applicant has adequate financial and technical capacity to meet the standards required by this Ordinance. ***CONDITIONAL USE PERMIT APPLICATION***

10) Whenever situated in whole or in part, within 250 feet of any pond, lake, stream or river waters, will not adversely affect the quality of such body of water or unreasonably affect the shoreline of such body of water. ***THIS SITE IS NOT WITHIN 250' OF ANY POND, LAKE OR RIVER. THE PROPOSED DEVELOPMENT MEETS MAINE DEP'S REQUIREMENTS FOR SETBACKS FROM STREAMS OF SPECIAL SIGNIFICANCE AND WETLANDS AND CONFORMS TO THE MAINE DEP'S STTANDARDS FOR A PERMIT BY RULE.***

11) Will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of ground water. ***THIS PROJECT WILL NOT AFFECT THE QUALITY OR QUANTITY OF GROUND WATER BECAUSE THERE WILL BE NO ADVERSE IMPACT OF THE ADJACENT AQUIFER AND SITE GRADING WILL PROVIDE A MARGIN OF SAFETY FROM GROUNDWATER IN THE DEVELOPED PORTION OF THE SITE. SEE STORMWATER MANAGEMETN PLAN DETAILS AND MARK CENCI'S REPORTS.***

12) The applicant will determine, based on the Federal Emergency Management Agency's Flood Boundary and Floodway Maps and Flood Insurance Rate Maps, whether the site of the proposed use is in a flood-prone area. If the site of proposed use, or any part of it, is in such an area the applicant will determine the 100-year flood elevation and flood hazard boundaries within the site. The proposed use shall include a condition of plot approval requiring that principal structures on any lots where the proposed use is to be conducted shall be constructed with their lowest floor including the basement, at least three (3) feet above the 100-year flood elevation and will only be constructed if permitted under the Town's Flood Hazard Ordinance. ***THE SITE IS NOT WITHIN THE BOUNDARIES OF THE MAPPED 100-YEAR FLOOD PLAIN FOR DURHAM EXHIBIT 9***

13) Will not have an adverse impact on spawning grounds, fish, aquatic life, bird and other wildlife habitat. ***THIS PROJECT WILL NOT HAVE AN ADVERSE IMP ACT ON SPAWNING GROUNDS, FISH, AQUATIC LIFE, BIRD AND OTHER WILDLIFE HABITAT BECAUSE IT IS A FORMER MINED OUT GRAVEL PIT HISTORICALLY USED AS AN ASPHALT BATCH PLANT AND SUBSTANTIAL STORAGE OF SITE CLEARING DEBRIS.***

14) Will not cause noise, odor, glare, or vibration to disturb the peaceful enjoyment of adjacent property ***THIS PROJECT WILL NOT CAUSE NOISE, ODOR, GLARE, OR VIBRATION TO DISTURB THE PEACEFUL ENJOYMENT OF ADJACENT PROPERTYBECAUSE IT WILL COMPLY WITH DURHAM'S VERY RESTRICTIVE NOISE STANDARD FOR DAYTIME OPERATION. THE OPERATING SCHEDULE WILL BE 7 AM TO 7 PM MONDAY THROUGH SATURDAY AND 10 AM TO 4 PM ON SUNDAYS. THERE WILL BE FIREWOOD PROCESSING ON SUNDAYS***

15) Will not place an excessive burden on the ability of the Town to provide municipal, governmental or educational services. ***THIS PROJECT WILL NOT PLACE AN EXCESSIVE BURDEN ON THE ABILITY OF THE TOWN TO PROVIDE MUNICIPAL, GOVERNMENTAL OR EDUCATIONAL SERVICES***

Article 6.F. Conditional Use Performance Standards

1) Air Pollution. ***THERE WILL BE NO AIR POLLUTION REQUIRING A PERMIT FROM USEPA OR MAINE DEP. OPERATING EQUIPMENT IS FITTED WITH MUFFLERS AND TREATMENT EQUIPMENT REQUIRED BY FEDERAL AND STATE AIR POLLUTION LAWS, RULES AND REGULATIONS. DUST WILL BE CONTROLLED AS NEEDED USING WATER FROM THE STORMWATER POND AND A TANK TRUCK AS NEEDED.***

   a) Approval of the conditional use and any building permit issued for development within the scope of this Article shall expire if the work involved has not commenced within nine months from the date on which the permit is granted, and if such work has not been substantially completed within 36 months of the date on which the permit was granted.
   b) That emissions of any particulate matter or gaseous material will not cause soiling of any material beyond the lot line.
   c) That emissions will not have any detectable odor (as determined under the standard listed below for odor).
   d) That emissions will not cause any health effects in normal persons residing within a radius of 1000 feet from the lot lines. Health effects include but are not limited to headaches, nausea, lung or other forms of cancer, skin lesions, eye irritations, and other clinically diagnosed disorders traceable to air pollution.

2) Water Pollution. ***THERE WILL BE NO WATER POLLUTION DISCHARGES FROM THIS SITE. SEE STORMWATER MANAGEMENT PLANS***

   a) The Applicant will meet all applicable water quality control standards of the Maine Department of Environmental Protection.
   b) The Applicant will not degrade any surface or subsurface water supplies below the State's primary drinking water standard, or if such water is already below such standard. Will not lower the quality of the water below the State's secondary drinking water standard.
   c) The Applicant will not by reason of any activity, alter the quality of any surface or subsurface water in such a way as to adversely affect any fish, plants, or animals which might live in, around, or drink from such water.

3) Water Supply. ***THERE WILL BE A NEW WELL AND STORMWATER MANAGEMENT POND***

   In determining whether the applicant has met this criteria, the Board must find that the water supply will meet the maximum anticipated demand of all persons residing in, or using the supply, and also the demand of any equipment to be installed which will use such water under conditions equivalent to the water levels in existence during the driest year in the preceding ten (10) years within Androscoggin County, and will not, in satisfying such demand, diminish the quality of water available to any wells located on the same aquifer as the water supply in question. The Board must also find that the water supply will sustain fire suppression requirements recommended for the proposed development consistent with the recommendations of the National Fire Protection Association for the fire loading level of the proposed development under NFPA 1142, Water Supplies for Suburban and Rural Fire Fighting, 1999.

4) Soils ***REFER TO EXHIBIT 4*** No activity shall be permitted in any area where the soil is rated severe or very severe for the proposed activity, according to the County Soil Survey of the U.S.D.A. Soil Conservation Service, unless evidence is presented to the Planning Board as the case may be, within the application for a permit, that construction methods will overcome any pertinent soil inadequacies.

5) Soil Erosion ***THERE IS AN EXISTING CLEARED SITE. THERE WILL BE NO REMOVAL OF ANY SUBSTANTIAL NEW VEGETATION. THE TOPOGRAPHY WILL CHANGE FOR ON-SITE WATER TO FLOW TOWARDS THE STORMWATER POND AND OFF SITE RUN-ON WATER WILL BE DIVERTED AWAY FROM PROCESSING AREAS.***

In determining whether this standard has been met, the Board must find that the following practices will be followed:

a) Preserve the Landscape- The landscape shall be preserved in its natural state insofar as practical by minimizing tree removal, disturbance of soil, and by retaining existing vegetation insofar as practical during construction. ***EXISTING SITE IS CLEARED***

b) Erosion Control-Filling, excavation, and earth moving activities shall be carried out in a way that keeps erosion and sedimentation to a minimum, including:

(i) preservation and protection of natural vegetation where possible.

(ii) keeping duration of exposure of disturbed soils to as short a period as possible and stabilizing the disturbed soils as quickly as practicable.

(iii) use of temporary vegetation or mulching to protect exposed critical areas during development.

(iv) where appropriate or necessary, use of debris basin, sediment basins, silt traps or other acceptable methods to trap the sediment from storm water run-off.

(v) no storage of fill materials within fifty (50) feet of the banks of any stream, intermittent or perennial, or water body.

(vi) topsoil shall not be removed from the site, except for surplus topsoil removed from areas to be occupied by buildings, paving, or other surfaces that will not be revegetated.

(vii) adequate provision shall be made for surface drainage so that removal of storm waters will not have an unreasonable adverse effect on neighboring properties, downstream water quality, soil erosion or the public storm drain system. Whenever possible, on-site absorption of run-off shall be used to minimize discharges from the site. Drainage facilities shall be designed for a 25-year, 24-hour stonn frequency.

6) Vehicular Access & Circulation: ***THE EXISTING DRIVEWAY WILL NOT BE RELOCATED. LINE OF SITE DISTANCE IS GREATER THAN 200 FT.***

In determining whether the application has met this criteria the Board must find that:

a) Road right-of-way shall be a minimum of fifty (50) feet wide. Road dimensions, geometry, and materials shall conform with the requirements shown in Figures 1 and II. for roads in the Growth District, or Figures III and IV for roads in the Rural Residential-Transitional District.

b) All streets and private streets in the development shall be paved to following standards. ***N/A***

(i) AGGREGATE BASE - Base materials shall be screened or crushed gavel of hard durable particle, free from vegetable matter, lumps or balls of clay and other deleterious. The gradation of the part that passes a (2) two-inch square mesh sieve shall meet the following grading requirements.

Sieve Designation	% By Weight Passing Square Mesh Sieves
2 Inch	100%
'A inch	45-70%
1/4 inch	30-55%
No. 40	0-30%
No. 200	0-7%

*Aggregate for the base shall contain no particles of rock exceeding 4 inches in any dimension.

(ii) AGGREGATE SUBBASE- Aggregate subbase shall be sand or gravel of hard durable particles free from vegetable matter, lumps or balls of clay or other deleterious matter. The gradation of the part that passes a (6) six-inch square mesh sieve shall meet the following grading requirements.

Sieve Designation	% By Weight Passing Square Mesh Sieves
6 inch	100%
1/4 inch	70%
No. 40	30-70%
No. 200	0-7%

*Aggregate subbase shall not contain no particles of rock exceeding (6) six inches in any dimension.

(iii) SURFACE LEVELING MATERIAL-if required shall conform to the gradation requirements of Aggregate Base above but shall not contain particles of rock which will not pass the 3/4" sieve.

(iv) BITUMINOUS PAVEMENT-Pavement shall be constructed of two courses of bituminous concrete. Pavement shall be MDOT "Superpave" as specified in Section 401 conforming to the latest revisions of the Maine Department of Transportation "Standard Specifications for Highways and Bridges /'

(A) Compacted Binder Course 19.5mm Superpave

(B) Compacted Surface Course – 12.5mm or 9.5mm Superpave

(C) Pavement width shall be a minimum of twenty-two (22) feet for roads in the Growth District for which Town Acceptance of such road is to be sought, and twenty (20) feet for all roads in the Rural Residential – Transitional District.

(D) Bituminous mix shall be obtained from batch plants whose mix designs have been tested and approved by Maine Department of Transportation inspectors for the grading specified. Asphalt content of the mix provided shall in no case be less than that recommended by the MDOT inspector's test report.

(v) CULVERTS - Culverts shall be new zinc coated corrugated metal pipe or of smooth bore plastic and shall be sized and located as determined by drainage calculation, but in no case shall be smaller than twelve (12) inches in diameter.

(vi) SIGNS- Signs required by the Board such as "Speed Limit", "Stop", "Curve", etc., shall be constructed and located so as to conform with the "Manual on Uniform Traffic Control Devices for Streets and Highways", published by the United States Department of Transportation, most recent revision.

(vii) SIDEWALKS- Sidewalks if proposed shall be a minimum of five (5) feet in width and shall be constructed of two 1" thick courses of MDOT grading "D" bituminous pavement over a minimum 8" thick gravel base. Base shall conform to the requirement listed for roadway aggregate base stated in paragraph 2.1 . above.

(viii) CURBS- Curbs, if proposed, shall at a minimum be designed in accordance with Maine Department of Transportation standard details for bituminous curb and shall be constructed as outlined in Maine Department of Transportation Standard Specification. Section 609.04

c) Construction Requirements-Surface leveling material, gravel base and sub-base shall be compacted over the full width and length of road bed including shoulders to a minimum of 95% of modified proctor density in accordance with American Society for Testing Materials standard ASTM D1556 and D1557. Bituminous pavement shall be compacted to a minimum of 92% of the theoretical maximum density as established in accordance with AASHTO Test T209, ASTM D2950 and ASTM D2726.

(i) No bituminous paving shall be placed between November 15 and April 15 or when the temperature is below thirty five (35) degrees Fahrenheit or when the gravel base is frozen. Bituminous placed after September 15th shall also be rolled with a pneumatic tire roller in addition to steel rollers.

(ii) The finished surface of the pavement shall be smooth and tightly compacted with no loose or poorly embedded stone evident. A sixteen (16) foot straight edge or string line when placed parallel to the centerline of the pavement and a ten (10) foot straight edge or string line when placed transverse to the center line shall not show a variation exceeding 1/4" inch.

d) Parking- At least one on-site parking space shall be provided for each employee or other person anticipated to be at the site of the proposed use at any one time (i.e. 6 employees and an average of 3 customers per hour would equal 9 required spaces.) Parking lots of over 10 spaces shall be completely screened from view of public streets

or other public land by a vegetative buffer consistent with the general performance standards of the Land Use Ordinance.

e) Vehicular Access-Provision shall be made for vehicular access to the development and circulation upon the lot in such a manner as to safeguard against hazards to traffic congestion on any street and to provide safe and convenient circulation on public streets and within the development. More specifically, access and circulation shall also conform to the following standards and the design criteria below:

(i) the street giving access to the lot and neighboring streets which can be expected to carry traffic to and from the development shall have traffic carrying capacity and be suitable improved to accommodate the amount and types of traffic generated by the proposed use.

(ii) where necessary to safeguard against hazards to traffic and pedestrians and/or to avoid traffic congestion, provision shall be made for turning lanes, traffic directional islands, frontage roads, driveways and traffic controls within public streets.

(iii) access ways shall be of a design and have sufficient capacity to avoid queuing of entering vehicles on any street.

f) Sight Distances- Driveways shall be designed in profile and grading and located to provide the required sight distance measured in each direction. Sight distances shall be measured from the driver's seat of a vehicle standing on that portion of the exit driveway with the front of the vehicle a minimum of 10 feet behind the curbline or edge of shoulder, with the height of the eye 3 1/2 feet, to the top of an object 4 1/2 feet above the pavement. The required sight distances are listed below for various posted speed limits.

Table 1 – Sight Distance

Posted Speed (MPH)	Sight Distance (Feet)
20	155
25	200
30	250
35	305
40	360
45	425

The minimum allowable sight distances listed above for all accesses, may require up to 50% greater sight distances when at least 30% of the traffic using the driveway will be larger vehicles

(i) All commercial entrances regardless of traffic volume may be required by the Planning Board to be paved with bituminous concrete pavement within 30 feet of the street right-of-way if anticipated traffic volume requires an assured smooth surface to facilitate exit and entry without risk of sudden stop due to rutting.

(ii) All commercial driveways regardless of driveway volume may be required by the Planning Board to be paved with bituminous concrete pavement within 30 feet of the street right-of-way if anticipated traffic volume requires and assured smooth surface to facilitate exit and entry without risk of sudden stop due to rutting.

(iii) No development shall increase the volume capacity ratio of any street above 0.8 nor reduce the street's Level of Service to "D" or below as determined by using the capacity analysis procedures set forth in the 1985 Highway Capacity Manual. Special Report 290 as published by the Transportation Research Board.

9) Solid Waste ***SOLID WASTE GENERATED ON-SITE WILL BE MINIMAL, SEPERATED AND CONTAINED FOR OFF SITE DISPOSAL AT A LICENSED FACILITY.***

In determining whether this standard has been met, when other facilities are to be used, the Board must find that a contract exits with a licensed facility, which is in substantial compliance with State Law, and which has sufficient capacity for 5 years of disposal by the proposed use.

10) Landscaping & Buffering: ***THE EXISTING "LANDSCAPING" WILL NOT BE REMOVED. VISUAL BUFFERING WILL BE PROVIDED BY A NOISE CONTROL BERM AS SHOWN ON THE SITE PLAN***

11)

a) The landscape shall be preserved in its natural state insofar as possible when constructing buildings and accessory structures, parking lots, and drives or roadways, by minimizing tree removal and grade changes.

(i) All parking lots shall be landscaped along the property boundaries with shrubbery, trees, and other landscape materials.

b) Landscaping shall be designed and planted to define, soften, or screen the appearance of off-street parking areas from the public right-of-way and abutting properties and/or structures and to minimize the encroachment of the proposed use on neighboring land uses.

(i) Landscaping will be completed within six months of completion of any structure.

(ii) All buffer vegetation shall remain alive for a least one year from the date of planting and shall as a condition for approval, guarantee replacement of any material which may have died before the expiration of said year period, with equivalent vegetation which will likewise be guaranteed for at least one year from the date of planting.

c) The proposed use will not restrict or block any view from a public road or other public land of any water body, hill in excess of 450 feet above sea level, open field of over 100 acres in size, or unusual natural feature such as glacial boulder concentration or rock outcropping. View shall be defined for these purposes as the field of vision of an arc of 15 degrees at any elevation from horizontal. Restrict or block shall mean to interrupt or obscure such view for a period of 5 seconds when traveling at a speed of 10 miles per hour.

d) No industrial or commercial buildings or uses shall be established in, or about (defined as any closer than 1000 feet), a residential use unless a landscaped Buffer Strip is provided to visually screen the building or uses.

e) Screening shall be defined as eliminating any view to humans standing at ground level of the residential use, or from the windows of a two story building within such location. Where no natural vegetation can be maintained or due to varying site conditions natural

vegetation cannot provide screening, the landscaped buffer may consist of fences, walls, tree planting, hedges or combinations thereof.

f) The buffering shall be sufficient to minimize the impacts of any kind of potential use such as: 1) loading and unloading operations, 2) outdoor storage areas, 3) vehicle parking, 4) mineral extraction, 5) waste collection and disposal areas.

g) Where a potential safety hazard to small children would exist were they to enter the area of commercial or industrial use, physical screening/barriers shall be used to deter entry to such premises. The buffer areas shall be maintained and vegetation replaced as necessary to insure continuous year round screening.

12) Historic & Archeological Resources: ***EXHIBIT 10; EMAIL FROM DR. ARTHUR SPIESS, SENIOR ARCHAEOLOGIST, MAINE HISTORIC PRESERVATION***

a) No stone walls or granite posts, abutments or markers older than 100 years of age will be tom down unless relocated on the property, no cemetery or grave marker will be disturbed, no archeological site identified by the Maine Historic Preservation Commission will be disturbed, no structure listed on the National Register of Historic places will be tom down or its exterior facade altered except to restore it in accordance with the standards of the Secretary of the Interior, and no churches or school buildings older than 100 years of age will be tom down or altered except to restore them in accordance with their original design.

b) There shall be no construction or excavation done within a twenty-five (25) feet zone around burial sites and from all boundaries of an established graveyard unless the construction or excavation is pursuant to a lawful order or permit for the relocation of bodies or when necessary for the construction of a public improvement, as approved by a vote of Town Meeting, or in the case of a state highway, by the Commissioner of Transportation. Graveyards shall be treated as if they were residential uses and Buffer Areas shall be required for them regardless of whether the burial site or graveyard is properly recorded in the deed to the property.

c) The design of any remodeled existing structure, or of any new structure to be constructed in any District or any new use in any District which is to be located within 1500 feet of any lot line of, or which would be visible from any portion of a public way adjacent to:

(i) any structure, site or archaeological site or other property listed on, or deemed eligible by the Maine Historic Preservation Commission for listing on the National Register of Historic Places, or

(ii) which has been identified by the Maine Historic Preservation Commission as

(A) a structure, site, archaeological site, or property of national, statewide or local historic significance, or

(B) a structure, site, archaeological site, or property whose exterior appearance is worthy of protection from incompatible uses due to its historically aesthetic qualities (such properties meeting the criteria in sections a. and b. will be on file at the Town Office for review) is compatible with such historic properties, in terms of mass, scale, design, building material, and height. Appropriate Buffer Strips of 25 feet shall be maintained at all lot lines of property abutting such historic properties.

13) Natural Resources: ***THE EXISTING LANDSCAPE WILL NOT BE REMOVED OR ADDED TO. THERE IS NO RIGHT OF WAY TO ANY WATER BODY.***

a) No plants listed on the Federal or State List of Endangered Species or other rare or exemplary plant feature will be affected adversely by the proposed use.
b) No irreplaceable natural areas including those listed in the State Register of Critical Areas (5 M.R.S.A. ss.3314) will be adversely affected by the proposed use.
c) The Board must find that no public rights to access to any water body will be diminished by the proposed use.

14) Financial & Technical Capacity:

a) In cases where funding is required but final commitment of all necessary money cannot be made until all approvals are received and other reasonable conditions are met, an applicant shall be deemed to have demonstrated sufficient financial capacity to gain conditional approval if it has:
   (i) secured a cash equity commitment to the project sufficient to demonstrate the applicant's ability to go forward. The board will consider 20 percent equity of the total cost of a project as the normal equity commitment but reserves the right to lower or raise this amount if special circumstances of an individual project warrant it, and
   (ii) submitted a financial plan for the remaining financing, and
   (iii) received a letter from an appropriate financial institution expressing its intention to provide that financing subject to reasonable conditions of acceptance.

   The Planning Board may waive such evidence for projects costing $20,000 or less upon a showing satisfactory to them that the Applicant has resources to undertake the project.
b) In determining whether the Applicant has the technical capability to comply with this Ordinance, the Board must find that the Applicant possesses thorough training, experience, or retention of professionals with such training and experience, the knowledge and expertise necessary to assure compliance.

15) Noise: ***EXHIBIT 3 BOWIE'S ORGANICS WILL BE A DAYTIME OPERATION AND WILL COMPLY WITH DURHAM'S NOISE STANDARD.***

a) The maximum permissible sound pressure level of any continuous, regular or frequent or intermittent source of sound produced by any activity shall be limited by the time period and land use which it abuts listed below. Sound levels shall be measured at least 4 feet above ground at the property boundary of the source.

Sound Pressure Level Limits Using the Sound
Equivalent Level of One Minute (leg 1)
(Measured in dB(a) Scale)

7 a.m. – 7 p.m.	7 p.m. – 7 a.m.
55	45

Noise shall be measured by a meter set on the A-weighted response scale, fast response. The meter shall meet the American National Standards Institute (ANSI SI 4-1961) "American Standard Specification for General Purpose Sound Level Meters".

b) No person shall engage in construction activities, on a site abutting any residential use between the hours of 9 p.m. and 6:30 a.m. The following activities shall be exempt from these regulations:

(i) Sounds emanating from safety signals, warning devices, emergency pressure relief valves and other emergency activities.

16) Odor: ***THERE WILL BE NO ODOROUS AIR DISCHARGED FROM PROPOSED OPERATIONS ON THE SITE.***

a) No person, wherever located, shall cause or allow the emission of odorous air contaminants from any source such as to result in detectable odors at the lot line of the source which are measured in excess of the following limits:

(i) For areas used for residential or commercial purposes within 500 feet of the lot line of the source, it is a violation if odors are detected after the odorous air has been diluted with seven (7) or more volumes of odor free air.

(ii) In all other land areas, it is a violation if odors are detected after the odorous air has been diluted with fifteen (15) or more volumes of odor free air.

b) For the purposes of this Regulation, two odor measurements shall be made within a period of one hour, these measurements being separated by at least fifteen (15) minutes. These measurements shall be made outside the property line of the property from which the emission originates.

c) The Bamebey-Cheney Scentometer, suitably calibrated, or any other instrument, device, or technique equivalent may be used in the determination of the intensity of an odor and may be used as a guide in the enforcement of the performance standard.

17) Lighting: ***NO LIGHTING WILL BE INSTALLED; DAYTIME OPERATION ONLY. FURTURE BUILDINGS WILL HAVE RESIDENTIAL SCALE SECURITY LIGHTING WITH FULL CUTOFF LUMINAIRE FIXTURES.***

a) No lights shall be placed in view of any public roadway or street so that its beams or rays are directed at any portion of the roadway when such light is of such brilliance and so positioned as to impair the vision of the driver of any motor vehicle upon said roadway.

b) Lighting with a lumen output equal to or greater than a 200-watt mercury light shall not be directed toward the sky or adjacent properties.

c) No rotating or flashing lights or signals, except safety signaling devices as required by law, are permitted. This standard shall be waived as to Christmas lights.

18) Explosive Materials: ***THERE WILL BE NO STORAGE OF FLAMMABLE, EXPLOSIVE OR COMBUSTIBLE LIQUIDS, SOLIDS OR GASES STORED ON-SITE IN ACCESS OF 50 GLS.***

No flammable, explosive or combustible liquids, solids or gases shall be stored in bulk (defined as greater than the liquid equivalent of 200 gallons) above ground unless they are located at least 75 feet from any lot line, or in bulk stored below ground unless they are located at least 40 feet from any lot line, and all such materials shall be stored in a manner and location which is in compliance with the rules and regulations of the Maine Department of Environmental Protection rules and regulations of the Maine Department of Public Safety, and any other applicable federal state and local regulations then in

effect. This provision shall not apply to storage tanks for heating fuel located in basement areas of residential structures.

19) Signage: ***ONE WOODEN SIGN (15 SQ.FT.) WILL BE INSTALLED AT ENTRANCE; EXHIBIT 11***

a) No sign shall be illuminated with flashing, moving or animated-type lights.
b) No sign advertising goods or services shall be located off the site of the lot on which the related services or goods are to be sold or located, except as provided for in this Ordinance.
c) Signs containing name of business, or person residing on the site or advertising goods, or services to be sold on the site or events to be held on the site, shall not exceed twenty-four (24) square feet in total area. This area may be divided between up to two signs.
d) The square footage of only one side of a double sided sign shall be counted, provided that the two sides say the same thing.
e) The top of no sign shall extend higher than fifteen (15) feet above the ground.
f) In addition, up to two Official Business Directional Signs are permitted.
g) Signs may be erected and maintained under the Maine Traveler Informational Services Act-23 M.R.S.A.ss.1901-1925, to identify and point the way to public accommodations and facilities, commercial services for the traveling public, and points of scenic, historical, cultural, recreational, educational, and religious interest. The second line of the legend may be used to indicate additional directional information such as the street name.
h) The following are exempt of the signage standard:
   (i) Flags and insignia of any government.
   (ii) Legal notices, identification, information, or directional signs erected or required by governmental bodies.
   (iii) Signs directing and guiding traffic and parking on private property, but bearing no advertising matter or commercial identification.
   (iv) Yard and garage sale signs posted for less than seven (7) days.

20) Educational Services: ***THERE WILL BE NO CHILDREN INVOLVED WITH THIS SITE***

The proposed use or development will not when Hilly occupied and used cause the population of the Durham Elementary School to increase by more than 10% in the first year of full occupancy or use. In making this finding the Board may use actual numbers of school age children to be living in the proposed development, or if not available, may assume that the development will house 1 child for each additional bedroom over one, in each dwelling unit.

EXHIBIT 8

Resource Systems Engineering

From: Stearns, Cory R <Cory.R.Stearns@maine.gov>
Sent: Thursday, December 13, 2018 3:02 PM
To: Resource Systems Engineering
Cc: Perry, John
Subject: RE: [EXTERNAL SENDER] Deer Wintering Area, Durham
Attachments: Cushing Rd, Durham.jpg

Hi Tina,

Attached is a map of the wildlife resources near Cushing Rd, Durham. We do not have a mapped deer wintering area at the location you indicated. Let me know if you have any questions.

-Cory

Cory Stearns
Wildlife Biologist
Maine Dept. Inland Fisheries and Wildlife
15 Game Farm Rd
Gray, ME 04039
(207) 657-5759

Correspondence to and from this office is considered a public record and may be subject to a request under the Maine Freedom of Access Act. Information that you wish to keep confidential should not be included in email correspondence.

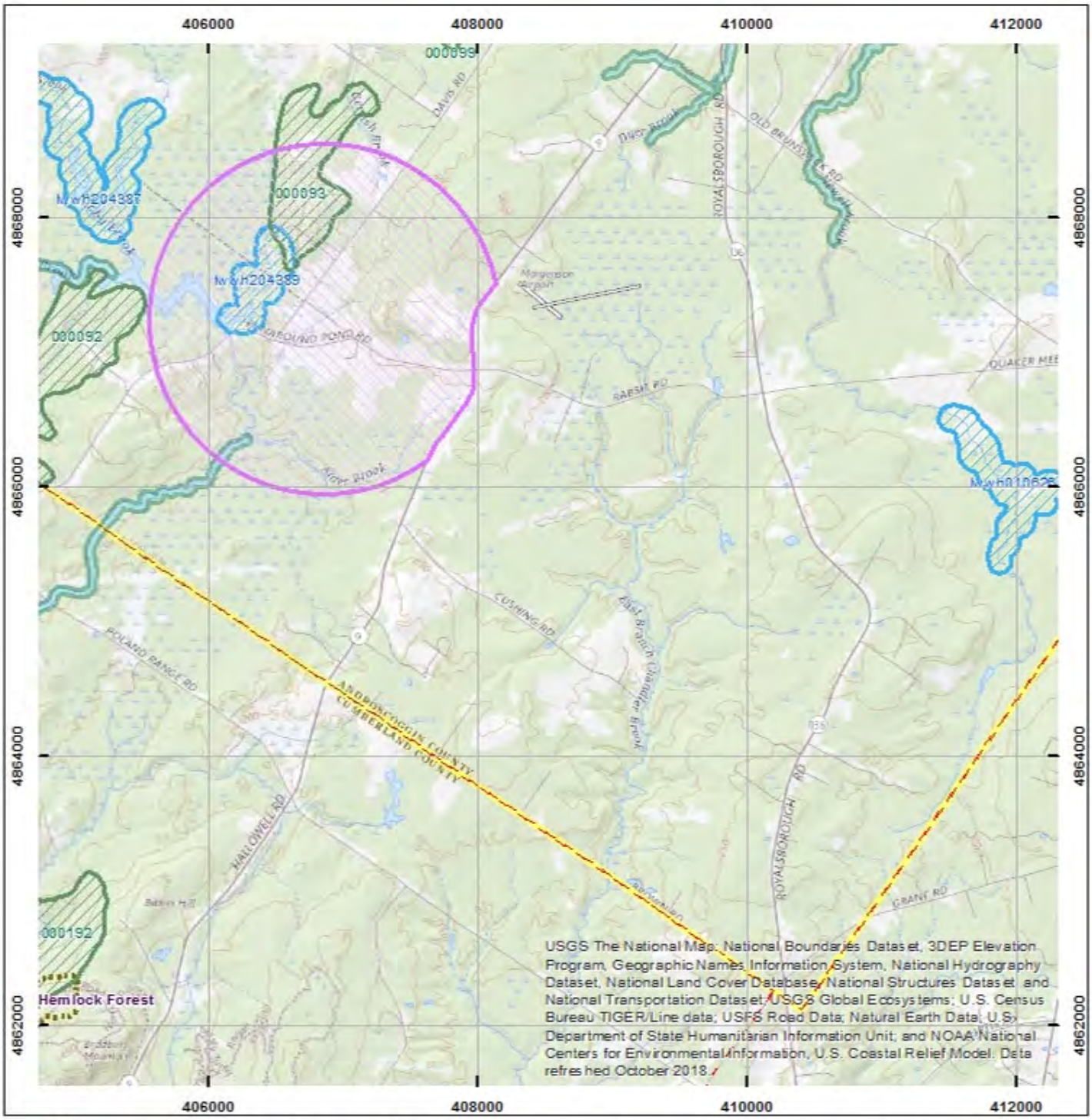
From: Resource Systems Engineering [mailto:rse@rsemaine.com]
Sent: Thursday, December 13, 2018 12:05 PM
To: Stearns, Cory R <Cory.R.Stearns@maine.gov>
Subject: [EXTERNAL SENDER] Deer Wintering Area, Durham

Hello,

I would like you to confirm that there is no Deer Wintering area according to the attached Map. We have a client who is applying for a Conditional Use Permit in the Town of Durham, Maine and the Town is requesting a written letter from IF&W confirming the Map is correct.

Thank you,
Tina

Tina Jones
Office Manager
Resource Systems Engineering
P O Box K
30 Parkers Way
Brunswick, Maine 04011
(207) 725-7896
www.resourcesystemsengineering.com



Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: ER Tool Test (Version 1)

Maine Department of Inland Fisheries and Wildlife

0 0.225 0.45 0.9 1.35 1.8 Miles

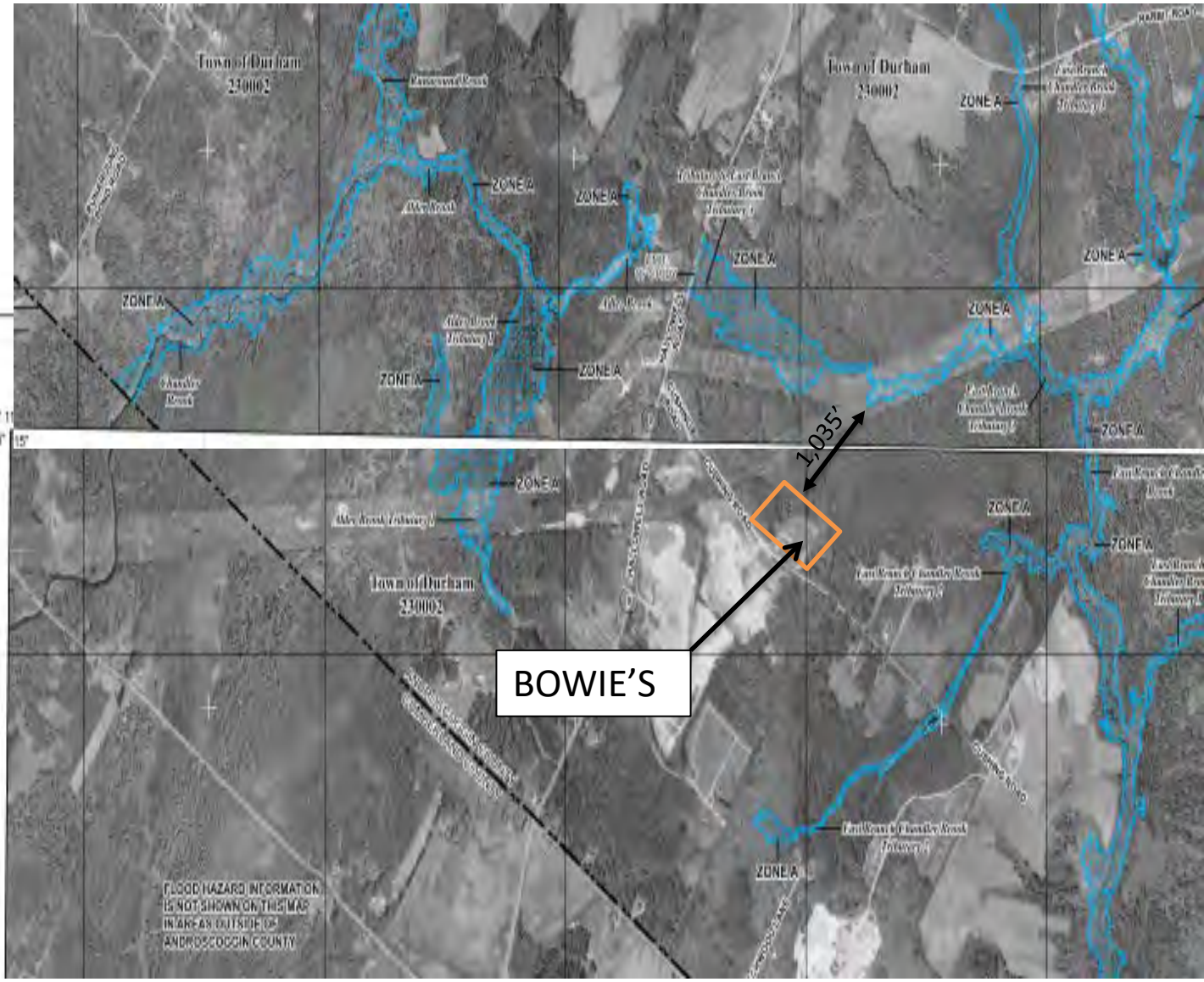
Projection: UTM, NAD83, Zone 19N

Date: 2018-12-13

- Deer Winter Area
- Inland Waterfowl/Wading Bird
- ETSc Environmental Review Polygons
- Special Concern-occupied habitats(100ft buffer)

Exhibit 9

Bowie's Organics
Cushing Road
Durham, Maine
DISTANCE FROM 100 YEAR FLOOD PLAIN



Source: Federal Emergency Management Agency, National Flood Insurance Program, Androscoggin County, Maine.
Panel 435 and 445 of 470

EXHIBIT 10

Resource Systems Engineering

From: Spiess, Arthur <Arthur.Spiess@maine.gov>
Sent: Friday, December 21, 2018 11:40 AM
To: Resource Systems Engineering
Subject: RE: [EXTERNAL SENDER] MHPC #1623-18 Cushing Road, Durham

Ms. Jones:
Thank you for the additional information about the proposed Bowie project. I tried to call just now to discuss the issue, but had to leave a message.

The information you supplied yesterday shows the project location moved a couple of hundred yards east of the location you supplied back with the initial submission. We can now see on the air photo that there is a pre-existing gravel pit at the location indicated on air photos.

If there is not going to be any expansion of the pre-existing gravel pit excavation, then no archaeological survey will be necessary. Certainly there is no issue of a possible archaeological site within a previous gravel pit excavation. If the pit is going to be expanded beyond the limits of the existing pit, then archaeological survey will be necessary.

The issue of exactly how close known, nearby archaeological sites are located is moot. The soils and topography around the proposed project are very similar to where the archaeological sites are located.

Sincerely, Art Spiess

Dr. Arthur Spiess
Senior Archaeologist, Maine Historic Preservation
State House Station 65
Augusta, ME 04333
desk phone: 207-287-2789

From: Resource Systems Engineering [mailto:rse@rsemaine.com]
Sent: Thursday, December 20, 2018 1:39 PM
To: Spiess, Arthur <Arthur.Spiess@maine.gov>
Subject: [EXTERNAL SENDER] MHPC #1623-18 Cushing Road, Durham

We received the attached letter and wanted to clarify the location and nature of Bowie's proposed project. The Bowie Site was first opened in 1971 and was used for a variety of uses over the past 48 years - including a couple of periods when there was a portable asphalt batch plant operating on the same site. The site was predominantly used for a pile down, lay down and reclaim area for a variety of soils, stumps, site clearing debris storage, etc.

Its proposed use is for processing soil, biomass, firewood, log milling and composting. The applicant is currently a small firewood business that originated in Topsham, Maine. The attached google map shows the location with a 500 yard radius around the site to represent the comment in the letter that there are "known sites in a similar setting".

We need to have you locate your referenced project on the attached map so we can determine the need, if any, for an archaeological survey.

We need to submit this data to the Town of Durham by Friday January 4, COB; we would appreciate a response by email ASAP.

Please review again and advise.

Thank you,
Tina

Tina Jones
Office Manager
Resource Systems Engineering
P O Box K
30 Parkers Way
Brunswick, Maine 04011
(207) 725-7896
www.resourcesystemsengineering.com

ELECTRONIC FILE CONFIDENTIALITY NOTICE AND DISCLAIMER

The information contained in this electronic file is privileged and confidential and is intended only for the use of the individual or entity stated in the address above. If the reader of this electronic file is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this electronic file is strictly prohibited. If you have received this electronic file in error, please immediately notify the sender to arrange for its return. The intended recipient of this electronic file acknowledges and consents to the fact that the sender, Resource Systems Engineering, makes no claim that these electronic files are current, accurate or correct. It is the sole responsibility of the intended recipient of this electronic file to verify the contents of this electronic file with the paper plans, letters and reports produced by Resource Systems Engineering, which, when signed and stamped are considered correct. The intended recipient may not amend this electronic file in any way without the express permission of an authorized official of Resource Systems Engineering. Any use or reuse of this electronic file in any manner whatsoever is at the user's sole risk and the user agrees, to the fullest extent permitted by law, to hold Resource Systems Engineering harmless and to indemnify it from all claims, losses, damages, expenses and costs including all reasonable attorneys fees that may arise from its use or reuse. Before using the electronic file, call the Project Engineer for the latest revisions. Please sign and fax to Resource Systems Engineering at 207-729-6245

EXHIBIT 11

October 19, 2018

Resource Systems Engineering
Copyright Oct. 2018

EXHIBIT 12

DURHAM FIRE & RESCUE

615 HALLOWELL RD
DURHAM, MAINE 04222
207 353-2473
FAX 207 353-8917

11/30/2018

Chip Bowie
PO Box 356
Topsham, ME 04086

Mr. Bowie,

I apologize for the delay of this letter. I have spoken with CEO Forrest to convey the following information so it did not delay your planning approval.

I have visited the site off Cushing Road here in Durham where you are submitting plans for a composting/brush removal facility with attached storm water retention pond that could be used as an alternate water source for the fire department. At this time I see no reason not to approve your plan. I would only request that when you build the retention pond we have a discussion about fire department access and possible a "dry hydrant" hookup.

Please feel free to contact me with any questions or concerns.

Respectfully,

Joseph C. Moore
Chief of Department

CC: Robert Forrest, Durham CEO

Bowie's Organics

EXHIBIT 13

October 2018

Resource Systems Engineering
Copyright Oct. 2018

BOWIE'S ORGANICS

October 2018

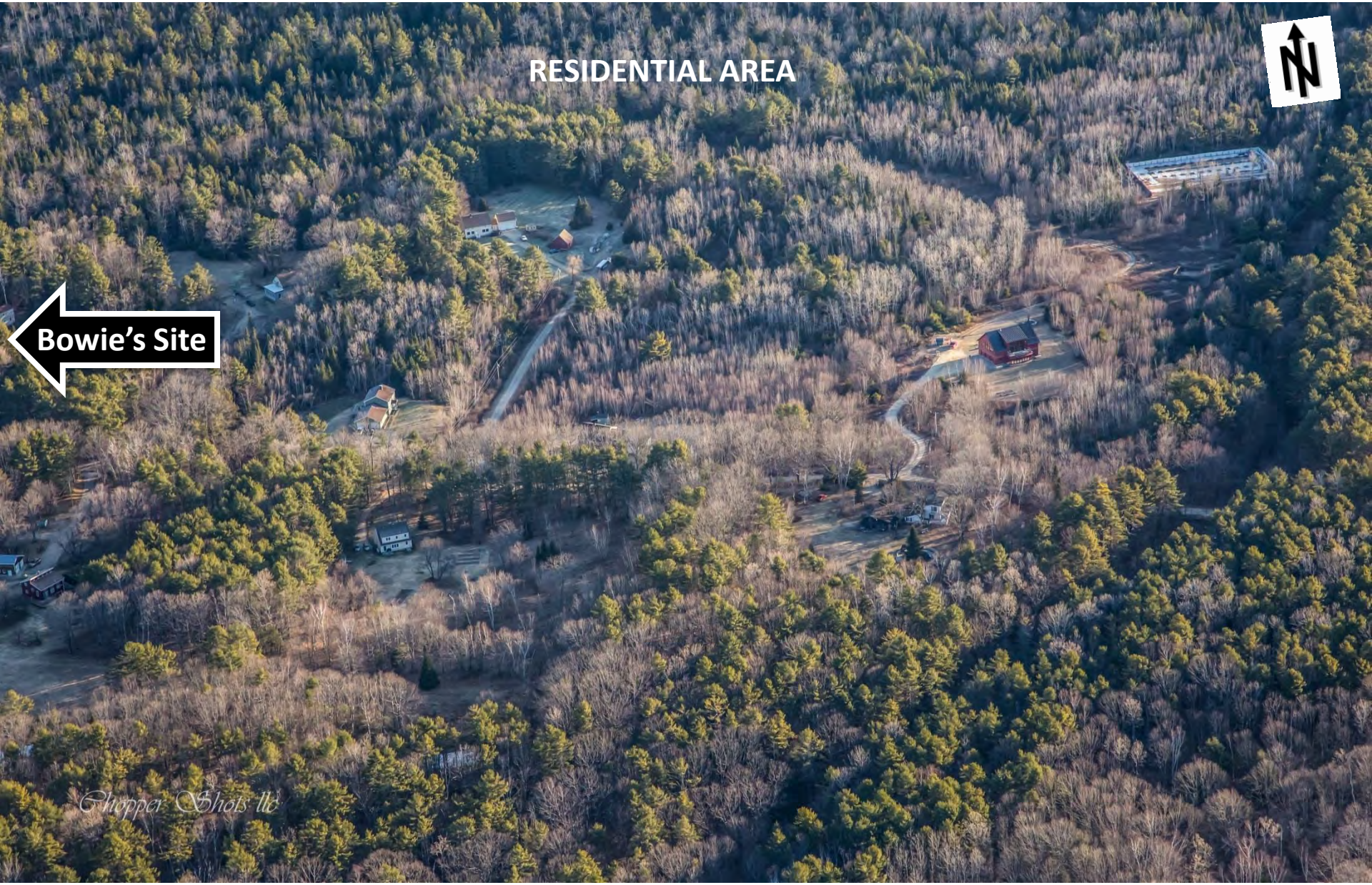
Resource Systems Engineering
Copyright Oct. 2018

BOWIE'S ORGANICS

October 2018

Resource Systems Engineering
Copyright Oct. 2018

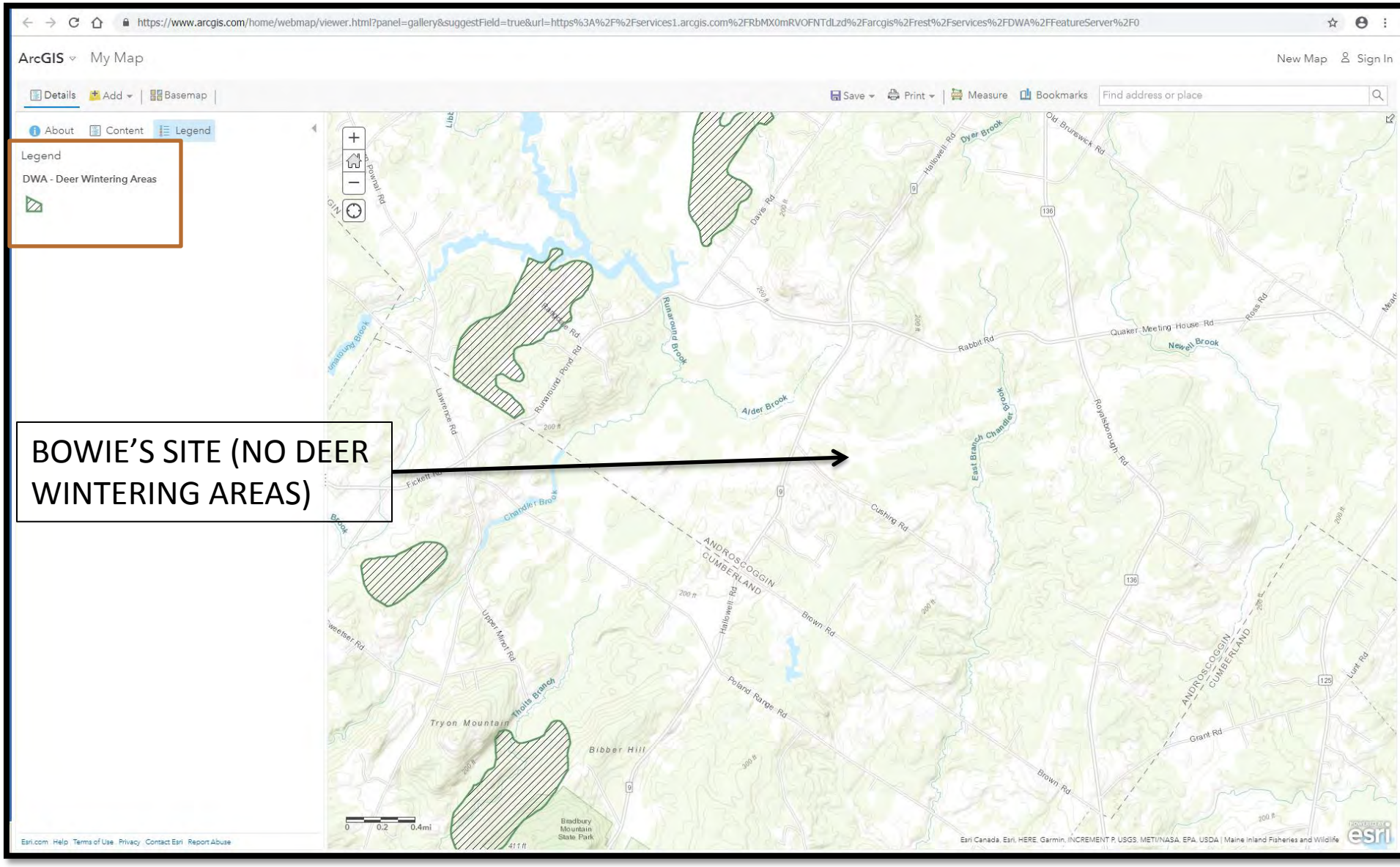
BOWIE'S ORGANICS



October 2018

Resource Systems Engineering
Copyright Oct. 2018

EXHIBIT 14



Resource Systems Engineering
Copyright 2018

Resource Systems Engineering

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JANET T. MILLS
GOVERNOR

EXHIBIT 15

GERALD D. REID
COMMISSIONER

February 14, 2019

Clayton Bowie
d/b/a Bowie's Organics
477 River Road
Topsham, ME 04086

RE: Permit-By-Rule Wood, Leaf and Yard Waste Composting Facility
DEP Application #S-022517-CB-B-P

Dear Mr. Bowie:

The Department has received your application for a Permit-By-Rule Wood, Leaf and Yard Waste Composting Facility to be located on Cushing Road (Tax Map 8, Lot 14) in Durham. The application is complete and complies with the application requirements in the *Solid Waste Management Rules: Composting Facilities*, 06-096 C.M.R. ch. 410 § 5, (last amended June 30, 2018).

This Permit-By-Rule Facility is subject to the following conditions:

1. The composting facility shall be operated in compliance with 06-096 C.M.R. ch. 410 § 5; and

2. The Standard Conditions of Approval, a copy attached as Appendix A.

If you have any questions, please contact the project manager, Carla Hopkins, at (207) 215-3314.

Sincerely,

Paula M. Clark

Paula M. Clark, Director
Division of Materials Management
Bureau of Remediation and Waste Management

pc: project file

XCH84071

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
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
(207) 764-0477 FAX: (207) 760-3143

website: www.maine.gov/dep

Appendix A

STANDARD CONDITIONS TO ALL SOLID WASTE FACILITY LICENSES

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL. VIOLATIONS OF THE CONDITIONS UNDER WHICH A LICENSE IS ISSUED SHALL CONSTITUTE A VIOLATION OF THAT LICENSE AGAINST WHICH ENFORCEMENT ACTION MAY BE TAKEN, INCLUDING REVOCATION.

1. **Approval of Variations from Plans.** The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed by the license. Any consequential variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.
2. **Compliance with All Applicable Laws.** The licensee shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.
3. **Compliance with All Terms and Conditions of Approval.** The licensee shall submit all reports and information requested by the Department demonstrating that the licensee has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.
4. **Transfer of License.** The licensee may not transfer the solid waste facility license or any portion thereof without approval of the Department.
5. **Initiation of Construction or Development Within Two Years.** If the construction or operation of the solid waste facility is not begun within two years of issuance of within 2 years after any administrative and judicial appeals have been resolved, the license lapses and the licensee must reapply to the Department for a new license unless otherwise approved by the Department.
6. **Approval Included in Contract Bids.** A copy of the approval must be included in or attached to all contract bid specifications for the solid waste facility.
7. **Approval Shown to Contractors.** Contractors must be shown the license by the licensee before commencing work on the solid waste facility.
8. **Background of key individuals.** A licensee may not knowingly hire as an officer, director or key solid waste facility employee, or knowingly acquire an equity interest or debt interest in, any person convicted of a felony or found to have violated a State or federal environmental law or rule without first obtaining the approval of the Department.
9. **Fees.** The licensee must comply with annual license and annual reporting fee requirements of the Department's rules.
10. **Recycling and Source Reduction Determination for Solid Waste Disposal Facilities.** This condition does not apply to the expansion of a commercial solid waste disposal facility that accepts only special waste for landfilling.

Appendix A

STANDARD CONDITIONS TO ALL SOLID WASTE FACILITY LICENSES

The solid waste disposal facility shall only accept solid waste that is subject to recycling and source reduction programs, voluntary or otherwise, at least as effective as those imposed by 38 MRSA Chapter 13.

11. **Deed Requirements for Solid Waste Disposal Facilities.** Whenever any lot of land on which an active, inactive, or closed solid waste disposal facility is located is being transferred by deed, the following must be expressly stated in the deed:

A. The type of facility located on the lot and the dates of its establishment and closure.
B. A description of the location and the composition, extent, and depth of the waste deposited.
C. The disposal location coordinates of asbestos wastes must be identified.

DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: November 2018 Contact: (207) 287-2452

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner: (1) an administrative process before the Board of Environmental Protection (Board); or (2) a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

This information sheet, in conjunction with a review of the statutory and regulatory provisions referred to herein, can help a person to understand his or her rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

The laws concerning the DEP's *Organization and Powers*, 38 M.R.S. §§ 341-D(4) & 346; the *Maine Administrative Procedure Act*, 5 M.R.S. § 11001; and the DEP's *Rules Concerning the Processing of Applications and Other Administrative Matters* ("Chapter 2"), 06-096 C.M.R. ch. 2.

DEADLINE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written appeal within 30 days of the date on which the Commissioner's decision was filed with the Board. Appeals filed more than 30 calendar days after the date on which the Commissioner's decision was filed with the Board will be dismissed unless notice of the Commissioner's license decision was required to be given to the person filing an appeal (appellant) and the notice was not given as required.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017. An appeal may be submitted by fax or e-mail if it contains a scanned original signature. It is recommended that a faxed or e-mailed appeal be followed by the submittal of mailed original paper documents. The complete appeal, including any attachments, must be received at DEP's offices in Augusta on or before 5:00 PM on the due date; materials received after 5:00 pm are not considered received until the following day. The risk of material not being received in a timely manner is on the sender, regardless of the method used. The appellant must also send a copy of the appeal documents to the Commissioner of the DEP; the applicant (if the appellant is not the applicant in the license proceeding at issue); and if a hearing was held on the application, any intervenor in that hearing process. All of the information listed in the next section of this information sheet must be submitted at the time the appeal is filed.

INFORMATION APPEAL PAPERWORK MUST CONTAIN

Appeal materials must contain the following information at the time the appeal is submitted:

1. *Aggrieved Status.* The appeal must explain how the appellant has standing to maintain an appeal. This requires an explanation of how the appellant may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions, or conditions objected to or believed to be in error.* The appeal must identify the specific findings of fact, conclusions regarding compliance with the law, license conditions, or other aspects of the written license decision or of the license review process that the appellant objects to or believes to be in error.
3. *The basis of the objections or challenge.* For the objections identified in Item #2, the appeal must state why the appellant believes that the license decision is incorrect and should be modified or reversed. If possible, the appeal should cite specific evidence in the record or specific licensing requirements that the appellant believes were not properly considered or fully addressed.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.
5. *All the matters to be contested.* The Board will limit its consideration to those matters specifically raised in the written notice of appeal.
6. *Request for hearing.* If the appellant wishes the Board to hold a public hearing on the appeal, a request for public hearing must be filed as part of the notice of appeal, and must include an offer of proof in accordance with Chapter 2. The Board will hear the arguments in favor of and in opposition to a hearing on the appeal and the presentations on the merits of an appeal at a regularly scheduled meeting. If the Board decides to hold a public hearing on an appeal, that hearing will then be scheduled for a later date.
7. *New or additional evidence to be offered.* If an appellant wants to provide evidence not previously provided to DEP staff during the DEP's review of the application, the request and the proposed evidence must be submitted with the appeal. The Board may allow new or additional evidence, referred to as supplemental evidence, to be considered in an appeal only under very limited circumstances. The proposed evidence must be relevant and material, and (a) the person seeking to add information to the record must show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process; <u>or</u> (b) the evidence itself must be newly discovered and therefore unable to have been presented earlier in the process. Specific requirements for supplemental evidence are found in Chapter 2 § 24.

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, and is made easily accessible by the DEP. Upon request, the DEP will make application materials available during normal working hours, provide space to review the file, and provide an opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer general questions regarding the appeal process.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed, the license normally remains in effect pending the processing of the appeal. Unless a stay of the decision is requested and granted, a license holder may proceed with a project pending the outcome of an appeal, but the license holder runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge receipt of an appeal, and will provide the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, any materials submitted in response to the appeal, and relevant excerpts from the DEP's application review file will be sent to Board members with a recommended decision from DEP staff. The appellant, the license holder if different from the appellant, and any interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. The appellant and the license holder will have an opportunity to address the Board at the Board meeting. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, the license holder, and interested persons of its decision.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court (see 38 M.R.S. § 346(1); 06-096 C.M.R. ch. 2; 5 M.R.S. § 11001; and M.R. Civ. P. 80C). A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board's Executive Analyst at (207) 287-2452, or for judicial appeals contact the court clerk's office in which your appeal will be filed.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

Resource Systems Engineering

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JANET T. MILLS
GOVERNOR

GERALD D. REID
COMMISSIONER

February 6, 2019

Clayton Bowie
Bowie's Organics
477 River Road
Topsham, Maine 04086

RE: PERMIT-BY-RULE WOOD WASTE PROCESSING FACILITY;
DEP # S-022517-WK-A-P

Dear Mr. Bowie:

The Department has reviewed the application of Bowie's Organics for a permit-by-rule wood waste processing facility. The application is complete and complies with the application requirements in Chapter 409, Section 7 of the *Maine Solid Waste Management Rules* (last amended July 27, 2014). The wood waste processing facility will be located across from 75 Cushing Road in Durham, Maine.

This permit-by-rule is subject to the following conditions:

1. The Standard Conditions of Approval, a copy attached.
2. The processing facility may only handle wood waste. It may not accept for processing any painted wood, treated wood, chipboard, plastic, wood with fasteners, nails, paint or coatings, or wood that is otherwise contaminated.

3. Storage areas for stumps and grindings shall be limited to a total of one (1) acre. Individual storage piles may not exceed 10,000 square feet. The total waste handling area may not exceed three (3) acres. Processed wood wastes must be distributed for use or disposal within two years of receipt at the facility. The facility annual report must be submitted by February 28 of each year for the previous calendar year.

4. The facility must be operated in compliance with Chapter 409, Section 7.

If you have any questions, please contact Randy McMullin in the Southern Maine Regional Office, at 822-6300.

Sincerely,

Paula M. Clark

Paula M. Clark, Director
Division of Materials Management
Bureau of Remediation and Waste Management

cc: Randy McMullin, DEP (project file)
original order file

XRM84068

enclosure: Standard Conditions of Approval

Appendix A

STANDARD CONDITIONS TO ALL SOLID WASTE FACILITY LICENSES

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL. VIOLATIONS OF THE CONDITIONS UNDER WHICH A LICENSE IS ISSUED SHALL CONSTITUTE A VIOLATION OF THAT LICENSE AGAINST WHICH ENFORCEMENT ACTION MAY BE TAKEN, INCLUDING REVOCATION.

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3. **Compliance with All Terms and Conditions of Approval.** The licensee shall submit all reports and information requested by the Department demonstrating that the licensee has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.
4. **Transfer of License.** The licensee may not transfer the solid waste facility license or any portion thereof without approval of the Department.
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DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: November 2018 Contact: (207) 287-2452

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OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

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The Board will formally acknowledge receipt of an appeal, and will provide the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, any materials submitted in response to the appeal, and relevant excerpts from the DEP's application review file will be sent to Board members with a recommended decision from DEP staff. The appellant, the license holder if different from the appellant, and any interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. The appellant and the license holder will have an opportunity to address the Board at the Board meeting. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, the license holder, and interested persons of its decision.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court (see 38 M.R.S. § 346(1); 06-096 C.M.R. ch. 2; 5 M.R.S. § 11001; and M.R. Civ. P. 80C). A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board's Executive Analyst at (207) 287-2452, or for judicial appeals contact the court clerk's office in which your appeal will be filed.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.