August 30, 2012

Craig Rennie, Compliance Supervisor Alteration of Terrain Bureau NH DES 29 Hazen Drive PO Box 95 Concord, NH 03302-0095

RE: Revisions to Antrim Wind Energy Alteration of Terrain permit application, No. 120131-015, and Section 401 WQ Certification Request

Craig:

As discussed, Antrim Wind Energy (AWE) may be adding a radar tower to the project site, pending approval of the system by the FAA.

The addition of the radar tower will change the total impervious area from the site from 500,940 square feet to 501,065 square feet, an increase of 125 square feet, and civil design plans are revised for sheets C-12, C-17, C-20, and G-3, which depict the details the radar tower and radar tower site. These changes will need to be reflected in the Alteration of Terrain permit application under 6.C. and 7., respectively.

The last revision to the Alteration of Terrain permit application, submitted August 6, 2012, increased the total area of disturbance from 2,522,124 square feet to 2,648,448 square feet, which will remain unchanged for addition of the radar tower. Due to the addition of 126,324 outlined in the August 6, 2012 submittal, the Alteration of Terrain fee will need to be supplemented with an additional \$500, which has been sent to you under separate cover, and a copy of that check is attached.

The 401 Water Quality Certification, under 2.6., also needs to be revised to reflect the change the total impervious area from 500,940 square feet to 501,065 square feet, an increase of 125 square feet.

The stormwater plans, specifically Sheets WS-2, WS-3, and SW-12, have been revised to reflect this change as well. Sheets WS-2 and WS-3 show the proposed location of the radar tower in relation to the watersheds and site soils respectively. Sheet SW-12 shows a more detailed view of the tower location relative to WTG-10. A Small Pervious Area buffer, labeled B-25, has been designed to meet the project Water Quality requirements for this new impervious area. A buffer design calculation sheet is included with this submittal.

At your request, a grading plan for the proposed additional laydown yard is also being submitted at this time, and is sheet C-1A.

Finally, there are some corrections that we would like to make to the Wetlands Permit application first three pages and the Response to Env-Wt 302.04(a). Corrections to the application includes updating the Agent Information to include Dana Valleau, instead of Josh

Brown, and corrections to the wetlands impact table to reflect the correct total wetland impact amount, which is 9,755 square feet. The correction to the Response to Env-Wt 302.4(a) includes correcting the total wetland impact area to 9,755 square feet or 0.22 acres in a number of places in the text.

If you have any questions or comments, please let us know.

Sincerely,

John B. Kenworthy *Executive Officer*

Antrim Wind Energy LLC

155 Fleet Street

Portsmouth, NH 03801-4050

Phone: 603-570-4842

Enclosure Attachments

Antrim Wind Energy LLC 155 Fleet Street Portsmouth, NH 03801

603-570-4842

Centrix Bank & Trust
1 Atwood Lane, Bedford, New Hampshire 03110

001040 54-202/114

8/28/2012

DATE _____

PAY TO THE ORDER OF Treasurer State of New Hampshire

**500.00

DOLLARS

State of New Hampshire Treasury 25 Capitol Street, Room 121 Concord, NH 03301 10 . . .

Memo

SEC Docket 2012-1 - AOT Permit Increase

AUTHORIZED SIGNATURE

Antrim Wind Energy LLC

Treasurer State of New Hampshire

AOT Permit Fee increase

8/28/2012

001040 500.00

Centrix Checking

SEC Docket 2012-1 - AOT Permit Increase

500.00

Antrim Wind Energy LLC

Treasurer State of New Hampshire

AOT Permit Fee increase

8/28/2012

001040 500.00



THE STATE OF NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES LAND RESOURCES MANAGEMENT WETLANDS BUREAU



29 Hazen Drive, PO Box 95 Concord, NH 03302-0095

Phone: (603) 271-2147 Fax: (603) 271-6588

Website: http://des.nh.gov/organization/divisions/water/wetlands/index.htm
Permit Application Status: http://des.nh.gov/onestop/index.htm

WETLANDS PERMIT APPLICATION

				ile Number:			
Administrative	Administrative	Adı	ministrative	Check No.			
Use Only	Use Only		Use Only	Amount:			
				Initials:			
1. REVIEW TIME AND IMPACT	TYPE: Use Attachment "A" to o	determine revie	ew time and impact	type.			
Expedited Review, Minimum Ir	mpact	, Minimum Impa	ct Standard	d Review, Minor or Major Impact			
2. PROJECT LOCATION:							
ADDRESS: 354 Keene Rd.			TOWN/CIT	Y: Antrim			
TAX MAP: See attached.	BLOCK:		LOT: See attached.	UNIT:			
LOCATION COORDINATES: N: 203,	,000 E: 890,000		☐ Latitude/Longitude	☐ UTM ☑ State Plane			
3. PROPERTY OWNER INFOR	MATION:						
NAME: See attached Exhibit 10.							
EMAIL or FAX:			PHONE:	PHONE:			
MAILING ADDRESS:							
IMAILING ADDITEGO.							
TOWN/CITY:	Al.		STATE:	ZIP CODE:			
4. APPLICANT INFORMATION	v :						
NAME: Antrim Wind Energy, LLC							
EMAIL or FAX: generate@eolian-ene	ergy.com		PHONE: 603-5	PHONE: 603-570-4842			
MAILING ADDRESS: 155 Fleet St.							
TOWN/CITY: Portsmouth		STATE: NH	ZIP CODE: 03801-4050				
5. AGENT INFORMATION:							
NAME: Dana B. Valleau		Y NAME: TRC	AME: TRC				
EMAIL or FAX: dvalleau@trcsolutions	s.com	PHONE: 207-620	PHONE: 207-620-3834 / 207-215-4582				
MAILING ADDRESS: 14 Gabriel Dr	ive						
	-		07477	TIP CORE A COST			
TOWN/CITY: Augusta			STATE: ME	ZIP CODE: 04330			

6. CHECK BOX TO	INDICATE APPL	ICABLE PROJECT	TYPES:						
Excluding culverts of a lake/pond of w page 1 do NOT ow lake/pond.	wetland, tidal buff	Work in a wetland, stream, river (excluding docks on rivers), prime wetland, prime wetland buffer, tidal water, salt mash, sand dune, tidal buffer zone or in a pond of which the entire bed and banks are owned by the property owner(s) listed on page 1.							
☐ Dock construction, a RIVER.	maintenance, rep	air or replacement	on All culver replacen		uction, maintenance,	repair or			
7. PROJECT DESC	RIPTION:								
The proposed Antrim Wind Energy Project is a wind energy generation facility to be located in Antrim, New Hampshire. The project will include construction of ten (10) wind turbine generators, a substation, and associated access roads, crane pads, and stormwater management facilities. The proposed site is generally linear, running approximately north to south along the ridge top of Tuttle Hill and Willard Mountain and spanning several individually owned parcels. The site will be accessed from State Route 9 (Keene Road). Approximately 4.0 miles of gravel road will be constructed. Within the project area approximately 63 acres will be disturbed during construction. Following construction approximately 49.4 acres will be restored and revegetated including temporary works space, temporary laydown yards, roadway shoulders and side slopes, and much of the turbine construction pad area at tower locations. Approximately 11.5 acres will remain as permanently developed area including the access road, substation yard, crane pads, and tower foundations.									
8. INDICATE AREA	OF PROPOSED	IMPACTS FOR EA	CH RESOURCE:						
Resource:	Permanent Sq. Ft.	Permanent Lin. Ft.	Temporary Sq. Ft.	Temporary Lin. Ft.	After-the-fact Sq. Ft.	After-the-fact Lin. Ft.			
Forested wetland	5,672	-		-		-			
Scrub-shrub wetland	3,631	-		-		-			
Emergent wetland		-		-		-			
Wet meadow		-		-		-			
Bog		-		-		-			
Prime wetland		-		-		-			
Prime wetland buffer		-		-		-			
Docking structure		-		-		-			
Tidal Buffer Zone		-		-		-			
Tidal water		-		-		-			
Salt Marsh		-		-		-			
Sand dune		-		-		-			
Intermittent Stream	156	156							
Perennial Stream	296	74							

River

Pond								
Other								
Total	9,755 230							
9 - 13. IF APPLICABLE, PROVIDE:								
10. Cubic yards of								
11. Contributing wa	atershed size(s) of i	mpacted stream(s) and river(s) (acres	or square miles):	AN-29: 1	12.6 ac. AN-	17:106.4 ac.	
12. U. S. Geologica	al Survey Topograp	hic Map Waterbo	ody name: North Bra	anch River				
13. ONLY Required for docking structures	(a) Straight line distance	pin to pin (lin. ft.)	Actual natural navigab	(b) (a) + (b) / 2 = Shoreline pin to pin (lin. ft.) Shoreline Frontage				
14. APPLICATION	N FEE:							
Minimum Impact, Expedited Review Application: Flat fee of \$ 200 OR - Minimum, Minor or Major Impact, Standard Review Application: Complete calculation below								
Total temporary and p	permanent impacts:			9,755 sq. ft.	Х	\$0.20 =	1,951	
Temporary Docking S	tructure:			sq. ft.	Х	\$1.00 =		
Permanent Docking S	Structure:			sq. ft.	Х	\$2.00 =		
Projects proposing shoreline structures add \$200 or NA =								
						Total =		
	Th	e Application Fee	is above calculated	Total or \$200, which	ever is (greater =	<u>1,951</u>	
15. INDICATE REL	ATED FILE / APP	ROVAL NO. ANI	STATUS:					
Existing Wetlands Bu	reau file no. this ap	plication is replac	ing: No. 2012-00211					
Wetlands Bureau enfo	orcement (subject a	and abutting prop	erties):					
Wetlands Bureau eme	ergency authorization	on (subject prope	rty):					
Wetlands Bureau denials (subject and abutting properties):								
Wetlands Bureau withdrawals (subject and abutting properties):								
Wetlands Bureau approvals (subject and abutting properties):								
Shoreland Program waiver or permit:								
Alteration of Terrain Bureau: No. 120131-015								
Watershed Management Program:								
Subsurface Systems		00219						
Other NHDES Programs and Bureaus: SEC No. 2012-001								

Lake

Response to Env-Wt 302.04(a)

- (a) For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project's design in assessing the impact of the proposed project to areas and environments under the department's jurisdiction:
- (1) The need for the proposed impact;

Impacts to wetlands have been avoided and minimized to the greatest extent practical. Turbine, access road, substation, and collector system facilities have been carefully sited to meet design, operational, and safety needs while avoiding and minimizing impacts to natural resources, including wetlands.

Ten identified wetlands will be impacted either temporarily or permanently as a result of Project construction and operation. No jurisdictional vernal pools, or areas currently described as potential vernal pools will be impacted as a result of Project construction or operation. In total, approximately 0.22 acres (9,755 square feet) of wetland impact are expected to be incurred as a result of construction and operation of the proposed Project. This small amount of impact is the result of careful Project planning and design, which aimed to avoid and minimize impacts to these important resources. The direct wetland impacts are those which were deemed unavoidable during the Project planning process.

(2) The alternative proposed by the applicant is the one with the least impact to wetlands or surface waters on site:

During the development of the Project the AWE made significant efforts to avoid and minimize impact to wetlands and surface waters. Prior to siting of any facilities, AWE conducted a reconnaissance survey for sensitive resources, including wetlands, streams and natural communities. Once these areas were identified, facilities were sited and formal delineations were conducted. During detailed design of the facility, numerous revisions were made to the iterative Project layout design process to further reduce the level of impact of the Project. However, due to design and construction constrains of wind projects in New England, some level of wetland impact was unavoidable. AWE believes that the Project, as presented, represents the lowest possible degree of impact to wetlands and surface waters. For additional information on the alternatives evaluated for this Project, please refer to Section H of the SEC Application.

(3) The type and classification of the wetlands involved;

Detailed narrative descriptions of all identified wetland features relevant to the Project are provided in the full Wetland Delineation Report, which is provided in Exhibit 5 of this Wetlands Permit Application.

In general, wetlands within the Project area consist primarily of small forested wetlands that occur along skidder trails, in confined pockets in the regional bedrock, in saddle areas along the ridgeline, and in areas with poorly drained soils that support wetland vegetation. Streams within the Project area include unnamed perennial and intermittent streams which drain either to the north toward Route 9, or to the southeast into Gregg Lake. Because the proposed Project area is along a ridgeline and is moderately well drained, very few perennial streams occur. Observations in the field generally

suggest that rainfall and snow-melt quickly run off the ridge to lower elevations, without collecting volumes that fill natural depressions or create natural ponds.

A total of ten wetlands will be impacted by Project operation and development. Seven of these are palustarine forested wetlands (five PFO1 and two PFO4), and three are palustarine scrub-shrub wetlands (PSS1) in maintained electric transmission ROW and in a former gravel borrow pit. For detailed descriptions of these wetlands, please see the Supplemental Wetland Delineation Report, Exhibit 5 of this Application, Table 4-1.

(4) The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters;

The locations of wetlands to be impacted relative to nearby wetlands and surface waters are illustrated in Appendix A, Figure 2 provided in the Supplemental Wetland Delineation Report, which is Exhibit 5 of this Application.

(5) The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area;

None of the wetlands or surface waters impacted by the Project is considered rare.

(6) The surface area of the wetlands that will be impacted;

In total, approximately 0.22 acres (9,755 square feet) of wetland impact are expected to be incurred as a result of construction and operation of the proposed Project. Specific impacts to individual wetlands are described in Table 4-1 of the Supplemental Wetland Delineation Report, which is provided in Exhibit 5 of this Application.

(7) The impact on plants, fish and wildlife including, but not limited to:

The Project does not expect to have an undue adverse impact on fish and wildlife species. A detailed discussion of the fish and wildlife impacts associated with the Project is included in Section I of the SEC Application and associated appendices.

- a. Rare, special concern species;
- b. State and federally listed threatened and endangered species;
- c. Species at the extremities of their ranges;
- d. Migratory fish and wildlife;
- e. Exemplary natural communities identified by the DRED-NHB; and
- f. Vernal pools.
- (8) The impact of the proposed project on public commerce, navigation and recreation;

A detailed discussion of impact of the Project on public commerce, navigation and recreation is included in Section J of the SEC Application.

(9) The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake;

A detailed discussion of the aesthetic impact of the Project is included in Section I of the SEC Application and associated appendix. The Project does not anticipate having an undue adverse impact.

(10) The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to which the dock would block or interfere with the passage through this area;

The Project is located entirely on private land and any land access is granted at the will of the landowners. The Project will limit access to their immediate project facilities and access to the remainder of the property will remain at the landowner's will. Please see Section J.1 of the SEC application for a further discussion of public rights of passage or access.

(11) The impact upon abutting owners pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to rip-rap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties;

No wetland impacts will occur within 20 feet of adjacent property boundaries. All abutting property owners will be notified of the proposed project in accordance with NHDES rules. Documentation of this notification is found in Exhibit 4.

(12) The benefit of a project to the health, safety, and well being of the general public;

Public health and safety impacts of the Project are discussed in Section I of the SEC Application.

(13) The impact of a proposed project on quantity or quality of surface and ground water. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and the difference in the quality of water entering and exiting the site;

Due to the lack of groundwater resources on the site, this project is not expected to have any direct or indirect impacts on groundwater drinking resources. The AWE site does not have any aquifers on the project site and there are no source water protection and/or well head protection areas on or adjacent to the site. The closest public water supply well is 1.06 miles from the project development. The project does not propose to make large groundwater withdrawals and thus will have no effect on groundwater supply.

Most of the site is made up of stony soils that are relatively shallow in depth to bedrock, and observations in the field generally suggest that rainfall and snow melt in the spring quickly run off the ridge to lower elevations, without collecting volumes that fill natural depressions or create natural ponds. The small forested wetland areas on the site occur along skidder trails, confined pockets in the regional bedrock, and in saddle areas along the ridgeline. These type of soils limit the value of these wetlands for groundwater recharge. Additionally, wetlands with peaty, organic soils increase the retention time of water, slowing recharge.

The limited ability of the site wetlands to recharge groundwater combined with limited sources of potential project pollutants that would adversely affect the quality of the groundwater results in a very low potential for this project to adversely affect groundwater quality.

The majority of wetlands in the project are perched with shallow depths to bedrock or impervious soils and rely on precipitation, surface sheet flow, and shallow subsurface flows for maintenance of wetland hydrology. There are a few wetlands occurring along benches at the toe of steep slopes where the hydrology of the wetland relies primarily on the discharge of groundwater from breakout seeps. Because the project has minimal wetland impacts (0.22 acres of impact total in 10 distinct wetland areas) and proposes to maintain natural flow patterns to the extent practical, there should be minimal change in groundwater discharge patterns to wetlands.

The intent in the project development has been to minimize surface water and stormwater runoff impacts starting with the initial field survey work through the design phase and by implementing accepted erosion control and stormwater Best Management Practices (BMPs) during construction and operation of the facility. During the field survey portion of the project, areas of drainage including jurisdictional wetland and streams as well as non-jurisdictional drainage (to the extent possible) were mapped during field surveys. The design phase included maintaining natural drainage patterns where possible through the use of culverts and subsurface stone drainage ways (stone mattresses). During construction, field drainage conditions will be taken into consideration, and there will be flexibility to install appropriate measures to maintain drainage. Any runoff from the roads will be routed into undisturbed buffers to help maintain water quality and disperse and distribute water volumes to approximate pre-development flows.

Additional erosion control and stormwater BMPs to protect surface water quality during construction of this project have focused on control of erosion during construction through use of sediment barriers and the use of soil stabilization measures including erosion control blankets, spray-on polymer emulsions, and prompt stabilization of exposed surfaces. See the Civil Design Plans at Exhibit 7A of the SEC Application.

The proposed development will alter approximately 63 acres of land. In order to evaluate the project's effect on peak stormwater runoff rates, a hydrologic model was developed to evaluate the existing and proposed drainage conditions on the site. The results of the analyses indicate that there is no significant change in peak discharge rates between the pre- and post-development conditions for the 2, 10, and 50 year storm events (See the stormwater management plans included in the Alteration of Terrain permit application included as Appendix 2B of the SEC application).

(14) The potential of a proposed project to cause or increase flooding, erosion, or sedimentation;

The project has been designed in conformance with standard best management practices for wind park construction and stormwater management. Details of the stormwater management plans for the Project are included in the Alteration of Terrain permit application included as Appendix 2B of the SEC Application.

(15) The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards;

This criterion typically applies to projects involving shoreline alterations. Since there are no large open bodies of water or flowing streams being affected by the Project, proposed redevelopment of the site will not redirect current or wave energy. Stream crossings have been designed in accordance with the *New Hampshire Stream Crossing Guidelines* to the extent practicable to minimize the potential for erosion resulting from new crossings.

(16) The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland or wetland complex were also permitted alterations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage of ownership of that wetland and the percentage of that ownership that would be impacted;

AWE has leased approximately 1,854 acres of private land on seven parcels for the development of the Project. All wetlands that will be impacted by the Project are located entirely within these parcels.

(17) The impact of the proposed project on the values and functions of the total wetland or wetland complex;

The AWE project has been designed to avoid and minimize impacts on wetlands to the extent practicable. This started with desktop review of readily available information including USGS and NWI mapping to identify the field survey area. The initial assessment of the field survey corridor started with investigation for vernal pools as snow cover left the site and later for wetlands. As it was determined there would be wetland impacts and needs for changes in project alignment and design, additional survey area was added and investigated for natural resources. This is typical of an iterative process that continued throughout the period of resource delineation and civil design (May – October, 2011).

The total permanent impact to wetlands and surface water resources is approximately 0.22 acres. This wetland impact is only 0.3 percent of the land area to be disturbed by this project (63 acres).

The primary function of wetlands on the project site is wildlife habitat. The very small area of impact inherently limits the amount of impact to this function. Additionally the narrow, linear nature of these impacts (primarily from gravel roads) further limits impact to this function. The one perennial stream crossing has been designed with an open bottom arch culvert which will allow for maintenance of the natural substrates and unrestricted flows along the natural channel.

There are indirect impacts from road construction and a turbine pad to vernal pool terrestrial habitat (VP1, 2, 3, and 7), however these impacts are only to upland area and do not include any impact to the associated wetlands. It is not anticipated that these impacts will adversely affect the productivity of these pools. There is no direct impact to any of the vernal pool breeding habitats (depression). See the attached Vernal Pool Report at Exhibit 6 for additional information.

(18) The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication;

An evaluation of the impact of the Project on historic sites is included in Section I and Appendices 9C and 9D of the SEC Application.

(19) The impact upon the value of areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries; and

No such areas have been identified within the Project area.

(20) The degree to which a project redirects water from one watershed to another.

The Project has been designed to minimize the impacts to hydrology on the site and minimize the interruption of the natural flow. Details of the design can be found in the Alteration of Terrain permit application included as Appendix 2B of the SEC Application.

BUFFER DESIGN CRITERIA (Env-Wq 1508.08)

Type **B-25 - Small Pervious Area Buffer**

Enter the type of buffer (e.g., residential buffer) and the node name in the drainage analysis, if applicable

Yes		Yes/No	Is the buffer adjacent to the area that you are treating? ← yes
Yes		Yes/No	Does the runoff enter the buffer as sheet flow (naturally or with a level spreader?)
No		Yes/No	Has a level spreader been provided?
	-	%F	% Forest (F) cover in the buffer (remaining assumed to be meadow (M)).
1	100.0	%M	% Meadow cover in the buffer
	-	%A	Hydrologic soil group (HSG) in buffer (%A, %B, %C). Remaining assumed to be D soil
	-	%B	
1	100.0	%C	
	-	%D	
	15.0	%	Buffer Slope ← ≤ 15%

If a Residential or Small Pervious Area buffer is proposed:

No Yes/No	Is the runoff from a single family or duplex residential lot?	← yes		
10.0	L_{FP} = maximum flow path to the buffer			
0.01 ac	A = area draining to the buffer			
0.01 ac	A_{IMP} = impervious area draining to the buffer			
50.0 %	I = percent impervious area draining to the buffer	← ≤ 10%		
TRUE	Option A check: $A_{IMP} \le 1$ ac & $L_{FP} \le 100'$	← yes for		
FALSE	Option B check: $I \le 10\% \& L_{FP} \le 150'$	A or B		
No	Level Spreader proposed? (Sheet flow without the aid of a LS)			
Good	Slope check	← ≤ 15%		
60 feet	Buffer base length due to soil type (weighted based on HSG)			
30 feet				
30 feet	Buffer length adjustment due to percent of meadow in buffer			
120 feet	Minimum buffer length required ¹			

If a Developed Area Buffer with a Level Spreader is proposed:

No		Level Spreader proposed?	← yes				
	ac	A = Area draining to the buffer ²					
	ac	A_I = impervious area draining to the buffer 2					
-	%	Percent impervious of the area that is draining to the buffer					
Good		Slope check	← ≤ 15%				
-	sf	Buffer base area due to soil type in the buffer (weighted based on HS	G)				
-	sf	Buffer area adjustment due to impervious cover draining to buffer					
-	sf	Buffer area adjustment due to steepness of buffer					
-	sf	Buffer area adjustment due to percent of meadow in buffer					
-	sf	A_{MIN} = Minimum buffer area required					
	ft	$L_{LS} = \underline{\text{total}}$ length of level spreader(s) provided ³					
	ft	$L_B = buffer length^4$					
	sf	$A_{\rm B}$ = buffer area provided	$\leftarrow \geq A_{MIN}$				

If a Roadway Buffer is proposed:

No	Yes/No	LS proposed? Roadway/shoulder must sheet directly to the buffer.	← no
	Yes/No	Do any other areas drain to the buffer (other than roadway & shoulder	r)? ← no
	Yes/No	Is the road parallel to the contours of the buffer slope?	← yes
Good		Natural slope check ⁵	← ≤ 20%
	feet	How much embankment slope counts toward the buffer? ⁶	← 0 - 20 feet
	Lane(s)	Number of travel lanes draining to the buffer	
	20.0	Minimum buffer flow path (L _{MIN})	
	feet	Buffer flow path	$\leftarrow \geq L_{MIN}$

If a Ditch Turn Out Buffer is proposed:

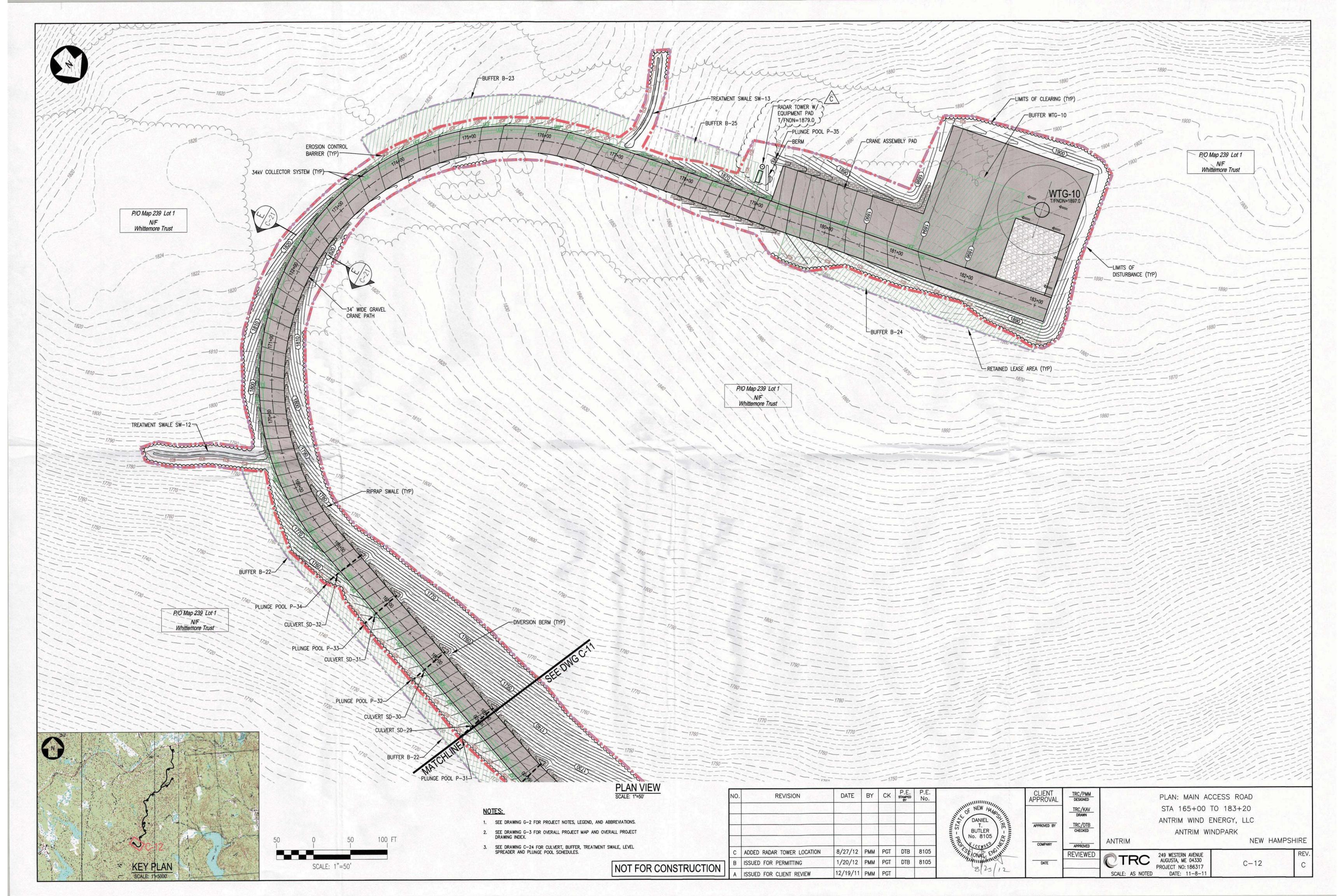
No		Level Spreader proposed?	← yes		
1	feet	Level Spreader Length ⁷			
	Yes/No	Do any other areas drain to the buffer (other than roadway & shoulder)?			
	sf	Drainage Area to the ditch	← ≤ 6000 sf		
Good		Slope check	← ≤ 15%		
- 1	feet	Buffer base length due to soil type (weighted based on HSG)			
30	feet	Buffer length adjustment due to steepness of buffer			
30	feet	Buffer length adjustment due to percent of meadow in buffer			
60	feet	Minimum buffer length required ⁸			

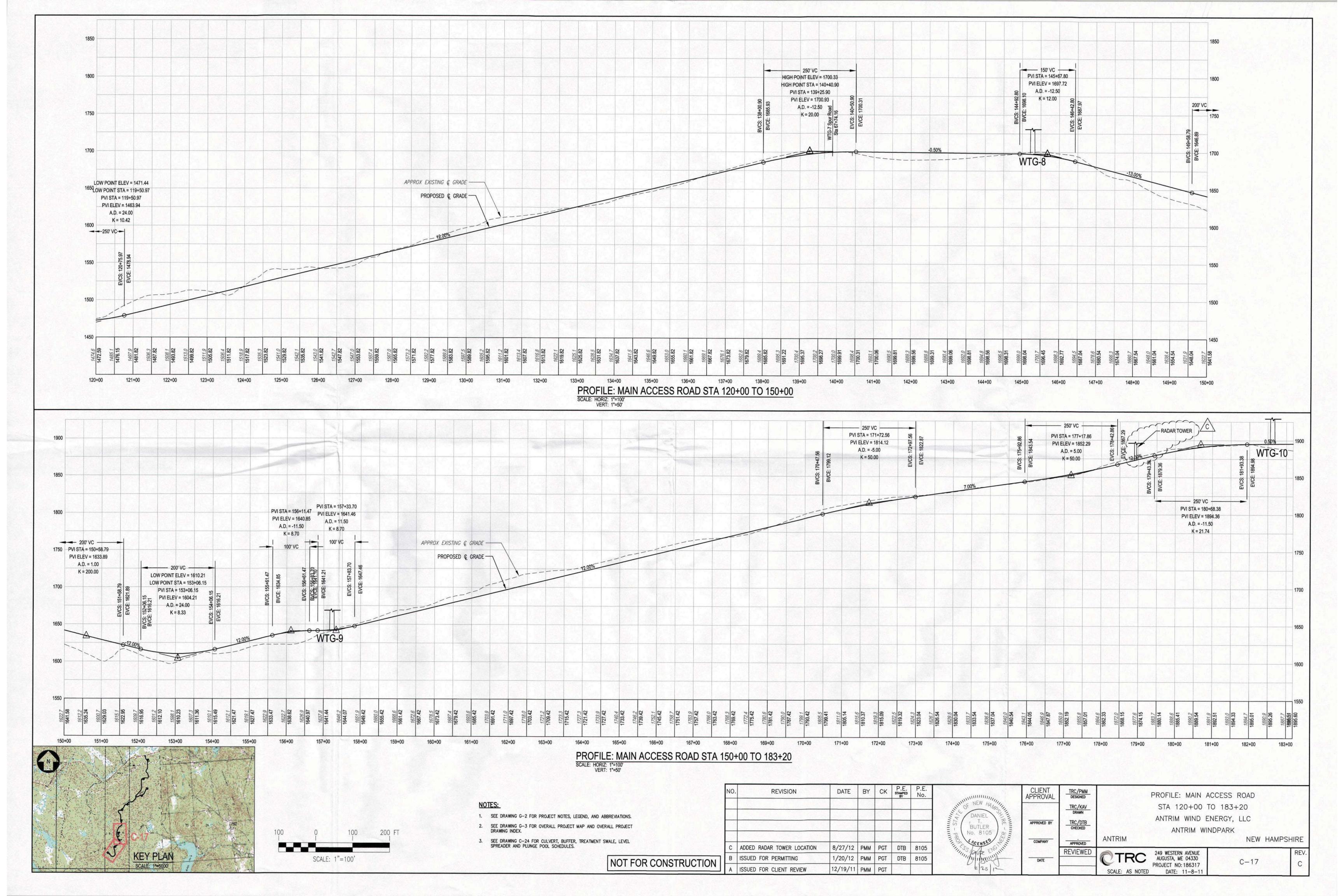
- 1. Minimum buffer length is the total of the above three cells OR 45', whichever is greater.
- 2. If a detention structure is used upstream of the level spreader, the drainage area draining to the buffer shall considered equal to 1 acre of impervious area for every 1 cfs of peak 2-year, 24-hr outflow from the detention structure.
- 3. Minimum level spreader length is 20 feet and maximum is 50 feet. You may use multiple level spreaders if the stormwater is evenly distributed to them.

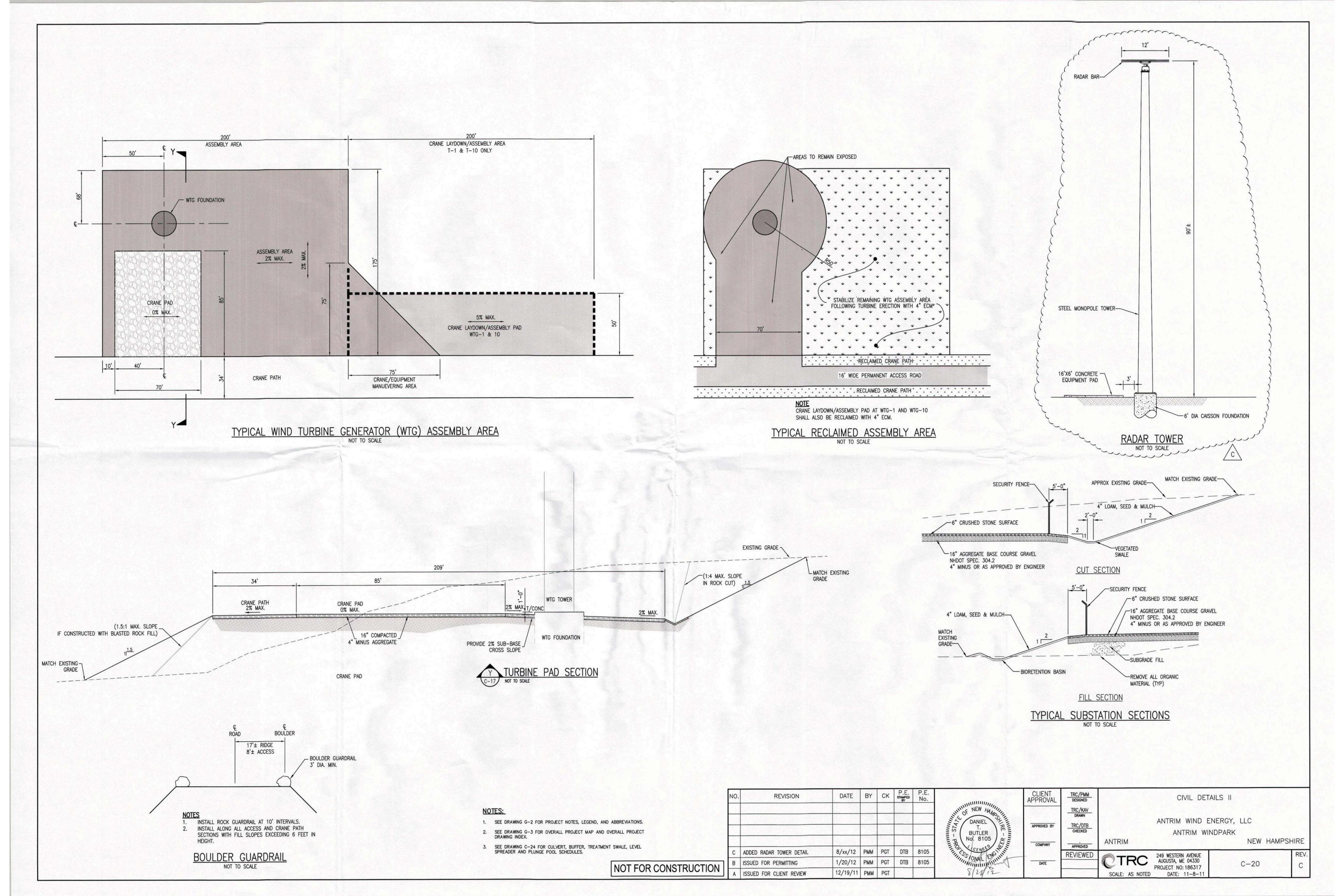
Example: $A_{MIN} = 6,000$ sf with a 100' buffer available. Therefore the LS lengths must total 60 feet (6,000 sf/ 100'); however LS lengths must be between 20' and 50' so one 60' long level spreader is not permitted. The design would have two LS, each 30'. As long as a collection basin is provided to evenly distribute the flow to the two level spreaders.

- 4. Minimum buffer length 50 feet.
- 5. If the slope is man-made, it must be 15% or flatter.
- 6. 20' (max) of the roadway embankment slope may count towards the buffer length if it is 3:1 or flatter.
- 7. Minimum level spreader length is 20 feet and maximum is 50 feet. You may use multiple level spreaders if the stormwater is evenly distributed to them. For example, you may have a total length of 100 feet for the level spreaders as long as you have two 50' level spreaders.
- 8. Minimum buffer length is the total of the above three cells OR 50', whichever is greater.

Designer's Notes:		
A buffer length of 120 feet is provided.		







GENERAL NOTES

- 2 FOOT CONTOURS DEVELOPED FROM AERIAL SURVEY BY JAMES W SEWALL CO, 2011.
- 2. PLANIMETRIC AND TOPOGRAPHIC INFORMATION ARE SHOWN IN NEW HAMPSHIRE STATE PLANE US-FEET, NAD 83, VERTICAL DATUM IS NAVD 1988 US-FEET, SEE DRAWING G-3 FOR PROJECT BENCHMARKS. HORIZONTAL AND VERTICAL LOCATION COORDINATES FOR ALL IMPROVEMENTS WILL BE PROVIDED TO THE CONTRACTOR BY THE ENGINEER IN ELECTRONIC FORMAT AFTER NH DES APPROVALS.
- NATURAL RESOURCE DATA, INCLUDING WETLAND DELINEATION BOUNDARIES AND OTHER SENSITIVE RESOURCES PERFORMED BY TRC, 2011.

CLEARING AND STOCKPILING OPERATIONS

- INSTALL PERIMETER EROSION CONTROL MEASURES PRIOR TO SOIL DISTURBANCE.
- 2. EQUIPMENT LAYDOWN AREA AND THE SUBSTATION AREA: CLEAR TIMBER AND BRUSH WITHIN LIMIT OF DISTURBANCE. GRUBBING SHALL BE PERFORMED AFTER ESTABLISHMENT AND STABILIZATION OF TEMPORARY OR PERMANENT DRAINAGE COURSES BUT JUST PRIOR TO PRELIMINARY GRADING; STUMPS SHALL BE GROUND TO GRADE OR REMOVED AND GROUND ON-SITE TO GENERATE EROSION CONTROL MIX (ECM).
- 3. ALL DISTURBED AREAS SHALL BE TEMPORARILY STABILIZED AS SOON AS PRACTICABLE, BUT NO LATER THAN 45 DAYS OF INITIAL DISTURBANCE, WHERE FEASIBLE, CONTRACTOR OPERATIONS SHALL MAINTAIN THE NATURAL COVER MATERIAL OR USE NATURAL VEGETATIVE BUFFER STRIPS TO AID IN SEDIMENT RETENTION, AND TO REDUCE THE POTENTIAL OF SOIL EROSION
- 4. THE CONTRACTOR SHALL MINIMIZE THE AMOUNT OF DISTURBANCE AT ANY ONE TIME BY STAGING CONSTRUCTION AS MUCH AS PRACTICAL FOR EFFICIENT CONSTRUCTION OF THE PROJECT. THE UNSTABILIZED DISTURBED AREA SHALL NOT EXCEED 5 ACRES UNLESS THE FOLLOWING CONDITIONS ARE MET:
- . SUBMIT DOCUMENTATION THAT THE REQUIRED AREAS OF CUTS AND FILLS ARE SUCH THAT AN AREA OF DISTURBANCE OF 5 ACRES OR LESS WOULD UNREASONABLY LIMIT THE CONSTRUCTION SCHEDULE:
- SUBMIT A CONSTRUCTION SEQUENCE PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A
- CPESC SPECIALIST: AND . EMPLOY AN ENVIRONMENTAL MONITOR DURING CONSTRUCTION
- 5. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - BASE COURSE GRAVELS HAVE BEEN INSTALLED.
 - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED. . A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED.
 - OR, EROSION CONTROL BLANKETS OR EROSION CONTROL MIX HAS BEEN PROPERLY INSTALLED.
 - EXPOSED LEDGE SHALL BE CONSIDERED STABLE.
- ACCESS ROADS, WTG ASSEMBLY AREAS, AND RIDGE ROADS: IN FILL AREAS LESS THAN 5 FEET, CLEAR TIMBER AND BRUSH AND GRUB AS DESCRIBED IN 2 ABOVE. IN FILL AREAS EXCEEDING 5 FEET, GRUBBING AND STUMP REMOVAL IS NOT REQUIRED.
- 7. STRIPPED TOPSOIL SHALL BE STOCKPILED ON-SITE WITHIN DISTURBED AREAS FOR USE IN STABILIZING ACCESS ROAD DITCHES AND FOR FINAL STABILIZATION OF ROAD SHOULDERS, WTG ASSEMBLY AREAS, LAYDOWN AREAS AND SLOPES. AN EROSION CONTROL BARRIER SHALL BE INSTALLED AROUND SOIL STOCKPILES THAT ARE EXPECTED TO REMAIN UNDISTURBED FOR MORE THAN 48 HOURS, OR PRIOR TO A STORM EVENT. THAT BARRIERS SHALL BE ADEQUATELY LOCATED AND REINFORCED TO PREVENT COLLAPSE DURING A STORM EVENT AND THE POTENTIAL SLUMPING OF THE PILE. IF NO ACTIVITY IS SCHEDULED WITHIN 30 DAYS, APPLY HAY AND/OR STRAW MULCH AS SPECIFIED HEREIN, UNLESS DIRECTED OTHERWISE. 4 INCHES OF ECM MAY ALSO BE USED. HAY/STRAW MULCH MAY ALSO BE SUPPLEMENTED BY TEMPORARY SEEDING WITH ANNUAL RYEGRASS AS SPECIFIED HEREIN FOR AREAS WHERE ADDITIONAL ACTIVITY IS NOT EXPECTED FOR SEVERAL MORE WEEKS. APPLY ANCHORED MULCH OR SUPPLEMENTAL SEEDING DURING WINTER CONSTRUCTION.
- 8. STOCKPILE GENERATED ECM ON-SITE WITHIN DISTURBED AREAS.
- 9. REMOVE EXCESS SPOILS FROM SITE THAT WILL NOT BE USED FOR THE FINAL DESIGN AND STABILIZATION.

CONSTRUCTION OF ACCESS ROADS, ASSEMBLY AREAS, RIDGE ROADS & SUBSTATION

- PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL USE SURVEY CREWS TO ACCURATELY LOCATE ALL IMPROVEMENTS INCLUDING ROADWAY CENTERLINES AND LIMITS OF DISTURBANCE. PROVIDE ADDITIONAL STAKING AND MARKING AT LOCATIONS WHERE STORMWATER CONTROL MEASURES ARE TO BE INSTALLED.
- 2. DUE TO DIFFERING SITE CONDITIONS, MINOR HORIZONTAL AND VERTICAL ADJUSTMENTS, WITHIN PERMIT CONSTRAINTS, MAY BE NECESSARY FOR PROPER CONSTRUCTION AND INTERPRETATION OF THE CONTRACT DRAWINGS. ALL ADJUSTMENTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION.

CONSTRUCTION OF PERMANENT STORMWATER MANAGEMENT SYSTEMS

- GRADING TO BE CONDUCTED IN ACCORDANCE WITH PERMITTED PERMANENT STORMWATER MANAGEMENT DESIGN.
- 2. ONCE FINAL GRADES ARE ACHIEVED, EXPOSED SOIL SURROUNDING THE STORMWATER MANAGEMENT STRUCTURES SHALL BE PERMANENTLY STABILIZED AS DESCRIBED HEREIN.

CRANE PAD CONSTRUCTION

- 1. FOLLOWING CONSTRUCTION OF THE WTG ASSEMBLY AREA SUBGRADES, BRING CRANE PADS TO FINISH GRADE WITH 4-INCH MINUS CRUSHED STONE. AREAS TO BE REVEGETATED (ASSEMBLY AREAS, ETC.) MAY BE BROUGHT TO FINISH GRADE WITH SUBGRADE MATERIAL. SPREAD AND COMPACT MATERIAL AS NECESSARY TO THE LIMITS DEPICTED ON CONTRACT DOCUMENTS. MINOR VERTICAL AND HORIZONTAL ADJUSTMENTS, WITHIN PERMIT CONSTRAINTS, MAY BE NECESSARY TO ACCOMMODATE SPECIFIC SITE CONDITIONS. ALL ADJUSTMENTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION.
- 2. PORTIONS OF THE WTG ASSEMBLY AREA WITHIN A 50-FOOT RADIUS OF THE TURBINE GENERATOR AND THE CRANE PAD SHALL REMAIN AS A PERMANENT DISTURBANCE. ALL OTHER AREAS WITHIN THE WTG ASSEMBLY AREA SHALL BE PERMANENTLY STABILIZED AS DESCRIBED HEREIN. PRIOR TO PERMANENT STABILIZATION, THE CONTRACTOR SHALL PERMANENTLY PIN THE FOUR CORNERS OF THE WTG LAYDOWN AREA.

CLEAN-UP & FINAL STABILIZATION

- AT STREAM CROSSINGS, COMPLETE FINAL RESTORATION (FINISH GRADE, SEED AND MULCH) OF ALL AREAS WITHIN 100 FEET OF THE WATERBODY WITHIN 48 HOURS OF FINAL GRADING, UNLESS DIRECTED OTHERWISE. ALL OTHER AREAS OF EXPOSED SOIL SHALL BE PERMANENTLY RE-VEGETATED OR OTHERWISE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING.
- 2. UPON COMPLETION OF CONSTRUCTION ACTIVITIES, ALL WORK AREAS SHALL BE CLEARED OF CONSTRUCTION DEBRIS AND OTHER MATERIALS.
- 3. SPECIFIC CLEAN-UP REQUIREMENTS TO INVOLVE: REMOVAL OF ALL TEMPORARY WORK TRAILERS: REMOVAL OF MATERIAL & EQUIPMENT: DISPOSAL OF ALL RUBBISH RESULTING FROM CLEARING, CONSTRUCTION, & INSTALLATION; ROUGH GRADING & STABILIZATION OF EMBANKMENTS MADE FOR CONSTRUCTION PURPOSES; FILLING OF ANY EXCAVATIONS; & REPAIRING RUTS IN ACCESS ROADS.

CONSTRUCTION MONITORING

- 1. THE PERMITTEE SHALL EMPLOY THE SERVICES OF AN ENVIRONMENTAL MONITTOR ("MONITOR"). THE MONITOR SHALL BE A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL OR A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE AND SHALL BE EMPLOYED TO INSPECT THE SITE FROM THE START OF ALTERATION OF TERRAIN ACTIVITIES UNTIL THE ALTERATION OF TERRAIN ACTIVITIES ARE COMPLETED AND THE SITE IS CONSIDERED STABLE.
- 2. DURING THIS PERIOD, THE MONITOR SHALL INSPECT THE SUBJECT SITE AT LEAST ONCE A WEEK. AND IF POSSIBLE, DURING ANY 1/2-INCH OR GREATER RAIN EVENT (I.E. 1/2-INCH OF PRECIPITATION OR MORE WITHIN A 24 HOUR PERIOD). IF UNABLE TO BE PRESENT DURING SUCH A STORM. THE MONITOR SHALL INSPECT THE SITE WITHIN 24 HOURS OF THIS EVENT.
- 3. THE INSPECTIONS SHALL BE FOR THE PURPOSES OF DETERMINING COMPLIANCE WITH THE PERMIT. THE MONITOR SHALL SUBMIT A WRITTEN REPORT TO THE DEPARTMENT WITHIN 24 HOURS OF THE INSPECTIONS. THE REPORTS SHALL, AT A MINIMUM, DESCRIBE WHETHER THE PROJECT IS BEING CONSTRUCTED IN ACCORDANCE WITH THE APPROVED SEQUENCE, IDENTIFY ANY DEVIATION FROM THE CONDITIONS OF THIS PERMIT AND THE APPROVED PLANS, AND IDENTIFY ANY OTHER NOTED DEFICIENCIES.
- 4. THE MONITOR SHALL PROVIDE TECHNICAL ASSISTANCE AND RECOMMENDATIONS TO THE CONTRACTOR ON THE APPROPRIATE BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROLS REQUIRED TO MEET THE REQUIREMENTS OF RSA 485-A:17 AND ALL APPLICABLE DES PERMIT CONDITIONS.
- 5. WITHIN 24 HOURS OF EACH INSPECTION, THE MONITOR SHALL SUBMIT A REPORT TO DES VIA EMAIL (TO CRAIG RENNIE AT: craig.rennie@des.nh.gov AND TO JENNIFER DROCIAK AT: jennifer.drociak@des.nh.gov).

WINTER CONSTRUCTION NOTES

FOR WORK PROPOSED DURING THE WINTER SEASON (TYPICALLY NOVEMBER 1 - APRIL 15), THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING PRACTICES:

- A PLAN AND SCHEDULE OF ACTIVITIES SHALL BE SUBMITTED TO THE PERMITTEE FOR APPROVAL PRIOR TO ANY WORK BEING DONE.
- LIMIT THE TOTAL AREA OF EXPOSED SOIL TO THAT IN WHICH EARTH WORK CAN BE COMPLETED WITHIN 15 DAYS AND MULCHED WITHIN ONE DAY PRIOR TO A SNOW EVENT.
- EXPOSED SOIL MAY BE LEFT BARE FOR NO MORE THAN 15 DAYS.
- MULCH ALL EXPOSED SOIL WHERE NO ACTIVITY IS SCHEDULED WITHIN 7 DAYS AND PRIOR TO A FORECASTED SNOW EVENT OF MORE THAN 1 INCH.
- WHERE PRACTICABLE, MULCH SHOULD BE APPLIED AT THE END OF EACH DAY'S WORK FOR AREAS THAT ARE FINAL GRADED. OTHERWISE, MULCH THE FOLLOWING DAY.
- DO NOT APPLY MULCH OVER MORE THAN 1 INCH OF SNOW.
- HAY OR STRAW MULCH SHALL BE APPLIED AT 140 LBS/1000 S.F. (APPROX.. 4 BALES) AND SO THAT THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH.
- ECM IS THE PREFERRED MULCHING MATERIAL AND SHALL BE APPLIED AT A MINIMUM 4 INCH THICKNESS, WITH HIGHER AMOUNTS AS DESCRIBED HEREIN.
- ECM IS THE PREFERRED EROSION CONTROL BARRIER. IF ECM IS NOT AVAILABLE, INSTALLATION OF SILT FENCE ON FROZEN GROUND MAY BE MODIFIED FROM ILLUSTRATIONS AND DETAIL DRAWINGS TO SUBSTITUTE SIX INCHES OF SUITABLE NON-ORGANIC MATERIAL OVER THE BOTTOM OF THE SILT FENCE IN LIEU OF TRENCHING AND BACKFILLING FABRIC.
- A DOUBLE ROW OF EROSION CONTROL BARRIER WILL BE USED WHERE REQUIRED WITHIN 100 FEET OF WETLANDS AND WATER BODIES.
- INSPECTION OF EROSION CONTROL MEASURES AND ANY NEEDED REPAIR/REPLACEMENT OF WHICH SHALL OCCUR EACH DAY.
- ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1. AND SEEDING AND PLACING 3 TO 4 TONS/ACRE OF MULCH, SECURED WITH ANCHOR NETTING, ELSEWHERE, THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- AFTER NOVEMBER 15, INCOMPLETE ROAD, SUBSTATION, OR TURBINE PAD AREAS, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.
- PERMANENT SEEDING IS NOT REQUIRED DURING THE WINTER SEASON: HOWEVER, IF DONE, THE CONTRACTOR SHALL FOLLOW PROCEDURES FOR DORMANT SEEDING. THE PERMANENT SEED MIX SHALL BE APPLIED AT THREE TIMES THE STANDARD RATE AND MULCHED. RE-VEGETATION SUCCESS MUST BE INSPECTED BY THE CONTRACTOR IN THE FOLLOWING SPRING (AFTER APRIL 15) AND RE-SEEDED AS NECESSARY IF VEGETATIVE COVER IS LESS THAN 75 PERCENT. ACCEPTANCE OF DORMANT SEEDING AS SUCCESSFUL WILL NOT OCCUR UNTIL AFTER JUNE 1 OF THE FOLLOWING SPRING.

LEASE AREA DIAMETER Ø, DIA MARKET SE AN ADDRESS OF MY PERSON NUMBER _____ PROPERTY LINE APP'D **APPROVED** CENTERLINE _____ TANGENT RIGID STRUCTURE EDGE OF PAVEMENT BUILDING CATCH BASIN EDGE OF GRAVEL CEN CENTER 1050 ----1050 ----CONTOUR CUBIC FEET PER SECOND BUILDING CAST IRON CENTERLINE CL, Q STONEWALL ∞ CORRUGATED METAL PIPE $\sim\sim\sim$ $\sim\sim\sim\sim$ TREELINE CLEANOUT CHAIN LINK FENCE ----CONC CONCRETE CORNER CULVERT c====== CUBIC YARD DEMO DEMOLITION UNDERGROUND ----UGF DER DEAD END RIGID STRUCTURE FIBER DRAIN MANHOLE UNDERGROUND DUCTILE IRON 34kV COLLECTOR DRAIN DRAWING DWG OVERHEAD -OHE-OHE-ECB EROSION CONTROL BERM 34kV COLLECTOR EROSION CONTROL MIX OVERHEAD ELEVATION TRANSMISSION EMH ELECTRIC MANHOLE FORCE MAIN UTILITY POLE FEET SURVEY CONTROL POINT HIGH DENSITY POLYETHYLENE HDPE SPOT ELEVATION HYD **HYDRANT** STREAM INFLUENT INVERT WETLANDS LINEAR FEET POUNDS VERNAL POOL MAXIMUM MANHOLE DRAINAGE FLOW \Longrightarrow MINIMUM

EXISTING

CIVIL ABBREVIATIONS

CB

CFS

COR

CY

ECM

NAD83

NTS

PVC

R. RAD

REQ'D

STA

THK

TOS

12/19/11 PMM PGT

A ISSUED FOR CLIENT REVIEW

T, XFMR

NAVD88

MONITORING WELL

NOT TO SCALE

OUTSIDE DIAMETER

PERFORATED CLAY

PRIMARY SLUDGE

RADIUS

ROOF DRAIN

SLOPE, SEWER

STORM DRAIN

SQUARE FEET

TRANSFORMER

THICKNESS

UNDERDRAIN

UNDERGROUND

VITRIFIED CLAY

POTABLE WATER

TYPICAL

WITH

TOP OF FOUNDATION

TOP OF STRUCTURE

TEMPORARY BENCH MARK

UNDERGROUND ELECTRIC

WIND TURBINE GENERATOR

UNIVERSAL TRANSVERSE MERCATOR

SQUARE STATION

REQUIRED

POINT OF TANGENCY

POLYVINYL CHLORIDE

NORTH AMERICAN DATUM 1983

NOT AVAILABLE/APPLICABLE

POUNDS PER SQUARE FOOT

POUNDS PER SQUARE INCH

REINFORCED CONCRETE PIPE

SANITARY SEWER MANHOLE

NORTH AMERICAN VERTICAL DATUM 1988

NORTH

LEGEND

SIGN

PLUNGE POOL

PERMANENT CHECK DAM

EROSION CONTROL BARRIER

MATCHLINE

PERMEABLE BASE

ROAD CONSTRUCTION

STORMWATER

BUFFER

TURBINE LOCATION

SCALE: AS NOTED DATE: 11-8-11

LIMIT OF DISTURBANCE

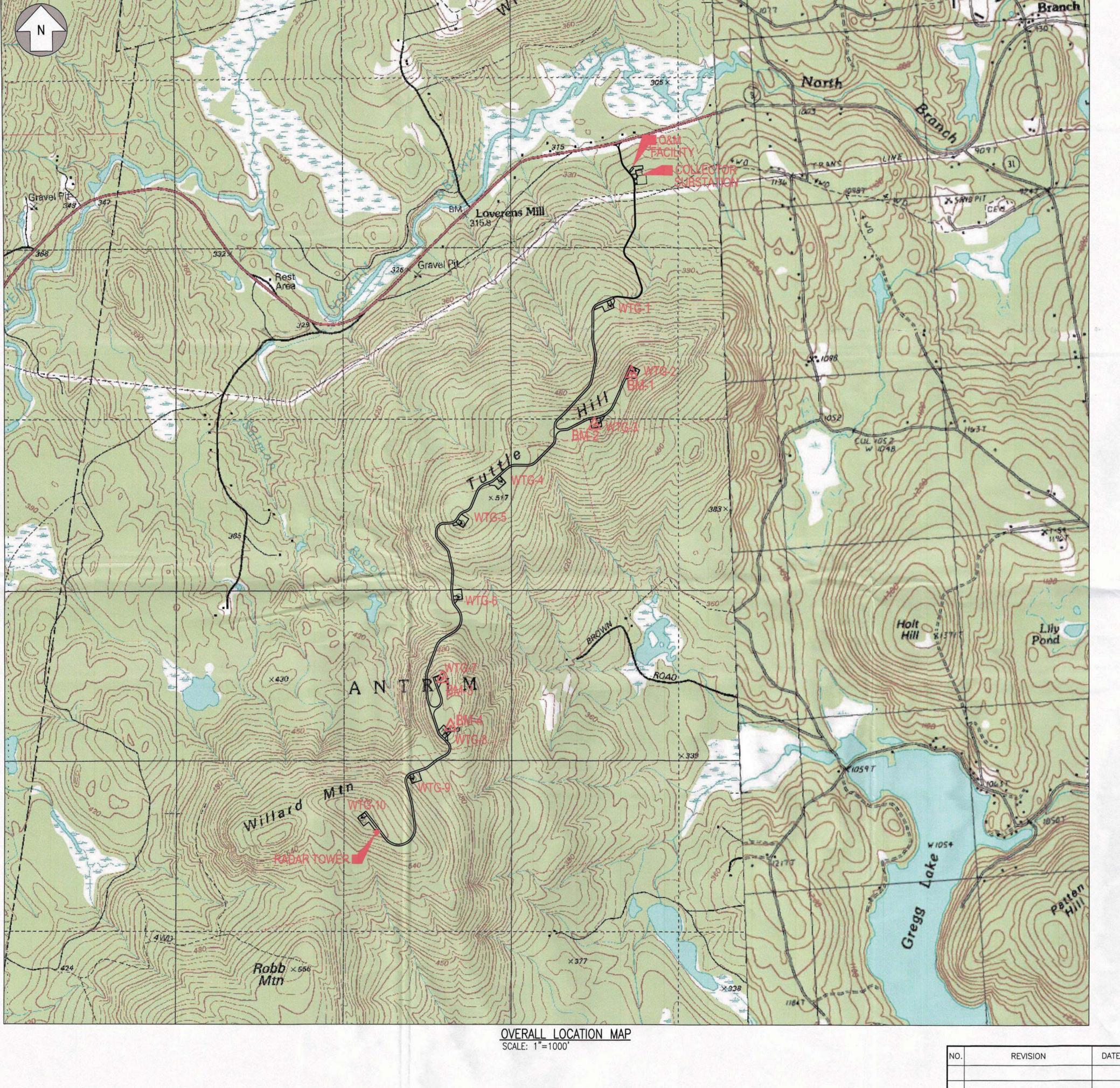
PROPOSED

-

ECB —

WTG-3

N	١٥.	REVISION	DATE	BY	СК	P.E. STAMPED BY	P.E. No.		CLIENT APPROVAL	TRC/PMM DESIGNED	PROJECT NOTES, LEGEND AND ABBREVIATIONS
									APPROVED BY COMPANY	TRC/KAV DRAWN TRC/DTB CHECKED APPROVED	ANTRIM WIND ENERGY, LLC ANTRIM WINDPARK ANTRIM NEW HAMPSHIRE
	C	REVISED PER DES REVIEW COMMENTS				DTB	8105	-		REVIEWED	TRC 249 WESTERN AVENUE AUGUSTA, ME 04330 C 2
NOT FOR CONSTRUCTION	В	ISSUED FOR PERMITTING	1/20/12			DTB	8105	1	DATE		AUGUSTA, ME 04330 PROJECT NO: 186317 G-2 B



SCALE: 1"=1000'

DRAWING INDEX

TITLE SHEET PROJECT NOTES, LEGEND AND ABBREVIATIONS G-2 OVERALL LOCATION MAP & DRAWING INDEX

STA 0+00 TO 15+00 PLAN: MAIN ACCESS ROAD PLAN: MAIN ACCESS ROAD STA 15+00 TO 30+00 C-3PLAN: MAIN ACCESS ROAD STA 30+00 TO 45+00 PLAN: MAIN ACCESS ROAD C-4 STA 45+00 TO 60+00 C-5 PLAN: MAIN ACCESS ROAD STA 60+00 TO 75+00 C-6 PLAN: MAIN ACCESS ROAD STA 75+00 TO 90+00 C-7 PLAN: MAIN ACCESS ROAD STA 90+00 TO 105+00 C-8 PLAN: MAIN ACCESS ROAD STA 105+00 TO 120+00 C-9 PLAN: MAIN ACCESS ROAD STA 120+00 TO 135+00 PLAN: MAIN ACCESS ROAD STA 135+00 TO 150+00 C-11 PLAN: MAIN ACCESS ROAD STA 150+00 TO 165+00 PLAN: MAIN ACCESS ROAD STA 165+00 TO 183+20 C-13 PLAN: WTG-2 & 3 SPUR ROAD STA 0+00 TO 15+00 PLAN: WTG-2 & 3 SPUR ROAD STA 15+00 TO 21+30 STA 0+00 TO 60+00 PROFILE: MAIN ACCESS ROAD C-16 PROFILE: MAIN ACCESS ROAD STA 60+00 TO 120+00 C-17 PROFILE: MAIN ACCESS ROAD STA 120+00 TO 183+20 PROFILES: WTG-2 & 3 AND STA 0+00 TO 21+30 WTG-7 SPUR ROADS STA 0+00 7+65

CIVIL DETAILS I C-20 CIVIL DETAILS II

C-21 CIVIL DETAILS III EROSION CONTROL NOTES & DETAILS I C-22

C-23 EROSION CONTROL NOTES & DETAILS II

CULVERT / BUFFER / TREATMENT SWALE / LEVEL SPREADER / PLUNGE POOL SCHEDULES

PRE-DEVELOPMENT WATERSHED PLAN POST-DEVELOPMENT WATERSHED PLAN

MEDIUM INTENSITY HYDROLOGIC SOIL GROUP PLAN

STORMWATER MANAGEMENT PLAN STA 0+00 TO 15+00 STA 15+00 TO 30+00 STORMWATER MANAGEMENT PLAN SW-2 STORMWATER MANAGEMENT PLAN SUBCATCHMENT OVERVIEW STORMWATER MANAGEMENT PLAN STA 30+00 TO 45+00 SW-4 STORMWATER MANAGEMENT PLAN STA 45+00 TO 60+00 STORMWATER MANAGEMENT PLAN STA 60+00 TO 75+00 SW-6 STORMWATER MANAGEMENT PLAN STA 75+00 TO 90+00 SW-7 STORMWATER MANAGEMENT PLAN STA 90+00 TO 105+00 STORMWATER MANAGEMENT PLAN STA 105+00 TO 120+00 STORMWATER MANAGEMENT PLAN STA 120+00 TO 135+00 SW-9 STORMWATER MANAGEMENT PLAN STA 135+00 TO 150+00 STORMWATER MANAGEMENT PLAN STA 150+00 TO 165+00 STORMWATER MANAGEMENT PLAN

STA 165+00 TO 183+20

STORMWATER MANAGEMENT PLAN NORTH SPUR ROAD: STA 0+00 TO 15+00 NORTH SPUR ROAD: STA 15+00 TO 21+30 STORMWATER MANAGEMENT PLAN

PROJECT BENCHMARKS

▲ BM-1 12" SPIKE ELEV=1741.83

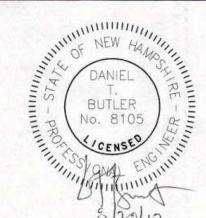
12" SPIKE ELEV=1758.94 **▲** BM-2

△ BM-3

1. SEE DRAWING G-2 FOR PROJECT NOTES, LEGEND & ABBREVIATIONS.

NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY	СК	P.E. STAMPED BY	P.E. No.
С	ADDED RADAR TOWER LOCATION	8/27/12	РММ	PGT	DTB	8105
В	ISSUED FOR PERMITTING	1/20/12	РММ	PGT	DTB	8105
Α	ISSUED FOR CLIENT REVIEW	12/19/11	РММ	PGT	Will the	



CLIENT APPROVAL	TRC/PMM DESIGNED
	TRC/KAV DRAWN
APPROVED BY	TRC/DTB CHECKED
COMPANY	APPROVED
	REVIEWED

OVERALL LOCATION MAP & DRAWING INDEX ANTRIM WIND ENERGY, LLC ANTRIM WINDPARK

NEW HAMPSHIRE

CTRC 249 WESTERN AVENUE AUGUSTA, ME 04330 PROJECT NO: 186317
SCALE: AS NOTED DATE: 11-8-11 G-3

