TECHNICAL REVIEW MEMORANDUM

Division of Land Resource Regulation

TO: Dan Courtemanch – Project Manager, Division of Land Resource Regulation

FROM: Art McGlauflin – Engineer, Division of Land Resource Regulation

DATE: August 28, 2013

SUBJECT: L-25973-24-A-N/L-25973-B-N, Bingham Wind Project, Bingham et al.

I have reviewed First Wind's responses to my comments regarding the stormwater management plan for the proposed Bingham Wind Project. I still have a few concerns with the management plan. These concerns are listed below (repeating my original numbering). Please, see me if you have any questions about them. Forward these comments to Dale Knapp at Stantec, to Nicholas Porell at SGC Engineering, and to Steve Blake at Fay, Spofford, and Thorndike after your review. Thank you.

14.0 Basic Standard (Bingham Wind Project)

2. We will need to discuss the permit language for construction modification allowances with department management. In my opinion, the construction changes allowed without the department's pre-approval on the Oakfield and Hancock projects are too broad. An allowance permitting increases in the size or small changes in the location of approved stormwater management structures seems reasonable. An allowance permitting the elimination or substitution of approved stormwater structures does not.

4. Plan sheet C-9.2, Section 14.5.1 – The applicant should revise the second bullet item under "Permanent Seeding and Mulching Plan" to delete the phase "unless otherwise approved by the engineer." The 7-day permanent stabilization standard in Appendix A of the Chapter 500 Rules is a performance requirement that all projects must meet.

15. Plan sheet C-7.0 – The applicant should revise the "Grassed Line Ditch Detail" to change note 6.B to require the erosion control mix used for ditch stabilization to be approved by the engineer and to change note 6.C to require the ditch to be protected by anchored mulch or erosion control matting.

12.0 Stormwater Management - General Standard (Bingham Wind Project)

The applicant has now chosen to apply the general standard on a project basis for the Bingham Wind Project. This is acceptable.

37. The applicant should correct the treatment calculations for the Fall Brook watershed to eliminate roadside buffer AD-S11 treating runoff from South Crane Road 1 station 68+00 to station 71+50. This buffer is no longer on the project plans (see plan sheet C-S1.08).

53. The South Crane Road 5 ditch length draining to DT-S31 exceeds 190 feet (the maximum I am willing to allow for ditch turnout buffers with silt-loam soil). An additional turnout buffer will be needed along this road section or the buffer redesigned to be a buffer with stone berm level lip spreader (see plan sheet C-S1.19).

58. The applicant should correct the treatment analysis for the Rift Brook watershed to limit AD-S26 treatment of South Crane Road 6 runoff to that from station 410+50 to station 412+50 and from station 413+00 to station 415+00 (see plan sheet C-S1.15). I got the station limits wrong in my original comment. My apology.

61. The North Crane Road 11 ditch length draining to DT-N27 exceeds 190 feet (the maximum I am willing to allow for ditch turnout buffers with silt-loam soil). An additional turnout will be needed along this road section or the buffer redesigned to be a buffer with stone berm level lip spreader (see plan sheet C-N1.10).

65. AD-N14A needs to be shown on plan sheet C-N1.10. This roadside buffer treats runoff from North Crane Road 11 from station 832+00 to 833+50 in the treatment calculations for the Baker Flowage.

70. DT-N70 and DT-N70A don't appear to have ditches draining to them (see plan sheet C-N1.21). It appears that DT-N70 and DT-N70A could be replaced by extending roadside buffer AD-N30. This would allow treatment of runoff from North Crane Road 16 from station 1201+00 to station 1202+50 (but not from station 1200+00 to station 1201+00) in AD-N30.

12.0 Stormwater Management - Phosphorus Standard (Bingham Wind Project)

Hilton Pond #1 Watershed

79. The phosphorus budget for Hilton Pond #1 is 0.944 pounds per year, the smaller of the budgets found using the standard methodology and the small watershed threshold methodology. The project export in this watershed is still less than the allowed budget and, so, is acceptable.