

HANCOCK ASSOCIATES

Surveyors | Engineers | Scientists

24679

March 4, 2022

Ipswich Planning Board
Town Hall, 25 Green Street
Ipswich, MA 01938

RE: 55 Waldingfield Road – Phase 1A
Site Plan Review & Special Permit Applications
Response to Initial Drainage and Stormwater Management Review (Task 2)

Mr. Ethan Parsons and Planning Board Members:

On behalf of Ora, Inc., Hancock Associates is pleased to respond to comments given by Robert Puff, P.E. in his drainage and stormwater management review dated December 22, 2021, for the above referenced project with respect to regulatory standards of the Planning Board and good engineering design practice for drainage and stormwater management facilities.

The following comments are offered in response to Robert Puff's letter.

Stormwater Management, Drainage, and Grading:

Peer review comment:

- 1. Pre Development Calculations: Exception is taken to the computer model of pond 1P. The detailed topographic worksheet clearly indicates that additional storage volume and exfiltration is available southeasterly of the assumed P1 location. Based on this observation, it is anticipated that the pre development runoff rate at design point 2 is somewhat overestimated for the pre development 10 and 100 year storms (i.e., that the ability of the area to exfiltrate and temporarily store runoff is underestimated by the model). Revised calculations should be conducted in this area to confirm that adequate post development runoff mitigation is provided.*

Hancock's response:

The calculations have been revised as requested. The natural catchment areas southeast of natural catchment area 1P have been modeled in HydroCAD under existing and proposed conditions. The peak runoff table has been revised in this report. Note that the natural catchment areas labels have been revised in the HydroCAD Calculations to match Sheet #3.

Peer review comment:

- 2. Pre vs Post Runoff Comparison: Exception is taken to the composition of design point 2. Topographic plans indicate that subcatchment 4 flows toward and across a low point in Waldingfield Road, whereas subcatchment 3 is separated from this flowage by a high point within and along Waldingfield Rd (to the east). As such, the current design point 2 should be split into two analysis points, with the first point comparing pre development pond 2P and post development pond 3P discharges (note that the current calculations indicate a significant increase in runoff rate during the 100 year storm at this location), and the second comparing the pre development runoff rates from the combination of pond 1P and subcatchment 3 with the post development runoff rate from subcatchment 3.*

Hancock's response:

The calculations have been revised as requested. Design Point #2 has been separated into Design Points 2A and 2B. See the HydroCAD Calculations and Watershed Plans for details.

185 Centre Street | Danvers, MA 01923 | V: 978-777-3050 | F: 978-774-7816 | HancockAssociates.com

BOSTON, CHELMSFORD, DANVERS, MARLBOROUGH, NEWBURYPORT, PRINCETON, MA | CONCORD, NH

Peer review comment:

3. Greater specificity should be provided relative to the proposed regrading of the horse pasture. Notations, spot grading, and dimensions should be provided that reflect the assumptions made in the calculations (in particular, with respect to pond discharge locations, elevations, and lengths). Furthermore, since these areas are part of the stormwater management design, they should be included in the 'Operation and Maintenance' document for routine inspection.

Hancock's response:

Proposed grading in the horse pasture area has been revised to accommodate the changes related to comment #2. Additional information related to the grading of these natural depressions has been added to the plans. The Operation and Maintenance Plan has been updated to include inspections of these areas.

Peer review comment:

4. As noted in the 'initial' review, no calculations were provided relative to stormwater impacts associated with the eastern 500 linear feet of driveway widening (i.e., the driveway segment from the project entrance at Waldingfield Road into the site approximately 500 feet). The design engineer has indicated that this section is analyzed as part of a Phase 1B development proposal, however, review of that proposal has not been authorized by the Planning Board, or conducted by this reviewer, to date.

Hancock's response:

The Phase 1B Development proposal has been submitted and reviewed at the time of this response.

Peer review comment:

5. Remaining drafting and housekeeping items:
 - a. Prior comment requested that a note be placed on the drawings to specify that all runoff from the roof of the new building addition is required to be conveyed to the infiltration chamber (as assumed in the calculations). This note was not found on the plans.

Hancock's response:

A note has been added to the plans specifying that all roof runoff from the building addition is required to be conveyed to the infiltration chamber system.

Peer review comment:

- b. The proposed 'Soil Stabilizer' detail should include manufacturer product information and/or material specifications. In addition, the intended use of the product should be indicated on the plans and in the 'Section for Pea Stone' detail.

Hancock's response:

A revised detail for the Soil Stabilizer has been added to the plans.

Peer review comment:

- c. The 'Peak Runoff Table' contained on pages 3 and 9 of the Stormwater Report should be updated to reflect the results of the revised calculations.

Hancock's response:

The peak runoff table has been revised as requested.

DEP Stormwater Management Standards:

Peer review comment:

1. *Standards 4 and 8 – As previously requested, the Long Term Pollution Prevention Plan (LTPPP) and the Construction Period Pollution Prevention Plan (CPPPP) should be revised to address the subjects contained in the ‘Checklist for Stormwater Report.’ The documents should be revised and reformatted as needed. Reference should also be made to the ‘initial’ review (September 8, 2021) for additional specific items requested beyond those in the ‘checklist.’*
 - a. *It is further noted that the LTPPP is written largely with respect to construction, but does not contain substantive instruction with respect to long term operation at the site. Similarly, the CPPPP contains certain items which should be included in the LTPPP.*

Hancock’s response:

The LTPPP and CPPPP have been revised as requested.

Peer review comment:

2. *Standard 10 – The submitted Illicit Discharge Compliance Statement should be signed and dated for the record.*

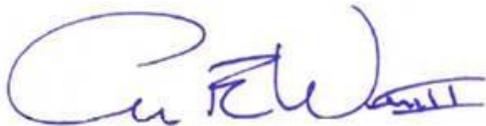
Hancock’s response:

The Illicit Discharge Compliance Statement has been signed and dated.

We look forward to discussing these issues at a future hearing.

Sincerely,

HANCOCK ASSOCIATES on behalf of Ora, Inc.

A handwritten signature in blue ink, appearing to read "Charles E. Wear, III". The signature is fluid and cursive, with a large initial "C" and "W".

Charles E. Wear, III, P.E.
Engineering Manager/Senior Project Manager

cc: Robert Puff, P.E.