



March 7, 2019

Mr. Thomas Friedlander

Chairman
Conservation Commission
Town of Sudbury
275 Old Lancaster Road
Sudbury, Massachusetts 01776

Dear Mr. Friedlander and Members of the Commission

Subject: Review of Construction Plans for the Coolidge at Sudbury Phase 2.

Hancock Associates is pleased to present this list of changes that have been made to the Coolidge at Sudbury Phase 2 site plans between the conditional approval of the notice of intent and the current construction drawing set included herewith.

Title Sheet:

1. Title changed to Construction Drawing Set.
2. Sheet size for all sheets changed from 24" x 36" to 30" x 42".
3. Sheet index updated.

Notes:

1. No changes this sheet.

Existing Conditions Plan:

2. Not included in construction set.

Layout and materials plan:

1. The two retaining walls flanking the driveway to parking under proposed building and adjacent to the building have been removed and grading has been adjusted in the area to a maximum 3:1 slope.
2. A retaining wall has been added north of the driveway to parking under and adjacent to the proposed building for airflow to louvre.
3. The 8' diameter cooling tower south of the driveway to parking under the proposed building has been relocated to the roof.
4. A 10' wide porous concrete strip has been added to the Grasspave fire access lane per Sudbury Fire Department comments as was required in Phase 1. Porous concrete retains drainage characteristics of Grasspave system. No change to drainage calculations required.
5. The proposed building location was shifted slightly south (approx. 4'). The distance from the edge of wetlands has changed from 55' to 51'.
6. An additional man access door has been added to east side of the proposed building. The sidewalk in this area has been extended to allow access to the new door.

7. An additional man door has been added to the proposed building on the south side of the driveway to parking under. A small concrete landing has been added at this door.
8. Location of a proposed deck has been added to the rear of the proposed building.
9. The retaining wall that wraps around the southeastern corner of the building and north of the infiltration basin area has been extended to the south to allow fire ladder access to the upper floor.

Grading, Drainage, and Utilities Plan:

1. The shape of the infiltration basin has been slightly changed to accommodate the extension of the retaining wall in this area (see item #9 in Layout and Materials Plan). The incremental basin capacity has been maintained.
2. To allow better vehicle clearance to the parking area beneath the building, the first floor elevation has been changed from 154 to 155.
3. To allow better clearance for vans entering the parking area beneath the proposed building, the driveway to this parking area has been regraded to flatten out at the approach to the entrance.
4. "Prop Dmh-5" weir elevation has been changed from 144.35 to 142.50 to accommodate lowering of proposed catch basins further up-line (see items #23 and #25 in Grading, Drainage, and Utilities Plan)
5. "Prop Dmh-5" invert in from the isolator row has been changed from 142.2 to 140.30 to accommodate lowering of proposed catch basins further up-line (see items #24 and #26 in Grading, Drainage, and Utilities Plan).
6. "Prop Dmh-5" invert in from the isolator row underdrain has been changed from 141.5 to 139.6 to accommodate lowering of proposed catch basins further up-line (see items #24 and #26 in Grading, Drainage, and Utilities Plan).
7. "Prop Dmh-5" invert out to the infiltration pond has been changed from 141.5 to 139.6 to accommodate lowering of proposed catch basins further up-line (see items #24 and #26 in Grading, Drainage, and Utilities Plan).
8. "Prop Dmh-5" rim location has been adjusted.
9. "Prop Dmh-4" rim location has been adjusted.
10. "Prop Dmh-4" rim elevation has been changed from 147.7 to 146.7 to improve slope for fire truck access.
11. "Prop Dmh-4" invert in from "Prop Dmh-3" has been changed from 142.3 to 140.4 to accommodate lowering of proposed catch basins further up-line (see items #24 and #26 in Grading, Drainage, and Utilities Plan).
12. "Prop Dmh-4" invert out to the isolator row has been changed from 142.25 to 140.35 to accommodate lowering of proposed catch basins further up-line (see items #24 and #26 in Grading, Drainage, and Utilities Plan).
13. "Prop Dmh-3" rim elevation has been changed from 148.5 to 144.8.
14. "Prop Dmh-3" invert in from "Prop Dmh-2" has been changed from 142.7 to 140.8 35 to accommodate lowering of proposed catch basins further up-line (see items #24 and #26 in Grading, Drainage, and Utilities Plan).
15. "Prop Dmh-3" invert in from "Prop Trench Drain" has been changed from 142.7 to 141.8 to accommodate specified trench drain style (see item # 28 in Grading, Drainage, and Utilities Plan).
16. "Prop Dmh-3" invert out to "Prop Dmh-4" has been changed from 142.6 to 140.7 to accommodate lowering of proposed catch basins further up-line (see items #24 and #26 in Grading, Drainage, and Utilities Plan).

17. An Underdrain has been added to the porous concrete fire access strip (see item #4 in Layout and Materials Plan) and connected to infiltration basin.
18. "Prop Dmh-3" has had an invert in added for fire access strip underdrain at 141.8 (see item #17 in Grading, Drainage, and Utilities Plan).
19. "Prop Dmh-2" rim elevation has been changed from 148.4 to 146.0 to match regrading of driveway to parking under proposed building (see item #3 in Grading, Drainage, and Utilities Plan).
20. "Prop Dmh-2" invert in from "Prop Cb-3" and "Prop Cb-4" catch basins changed from 144.5 to 141.7 to accommodate lowering of attached catch basins (see items #24 and #26 in Grading, Drainage, and Utilities Plan).
21. "Prop Dmh-2" invert in from "Prop Dmh-1" has been changed from 143.95 to 141.7 to accommodate lowered rim elevation from driveway regrading (see item #3 in Grading, Drainage, and Utilities Plan).
22. "Prop Dmh-2" invert out to "Prop Dmh-3" has been changed from 143.7 to 141.6 to accommodate lowering of attached catch basins (see items #24 and #26 in Grading, Drainage, and Utilities Plan).
23. "Prop Dmh-1" rim elevation has been changed from 152.3 to 152.26 to more accurately specify grading in this area.
24. "Prop Cb-4" rim elevation had been changed from 148.5 to 145.85 to accommodate driveway regrading (see item #3 in Grading, Drainage, and Utilities Plan).
25. "Prop Cb-4" invert out to "Prop Dmh-2" has been changed from 144.6 to 141.8 to accommodate lowered rim elevation from driveway regrading (see item #3 in Grading, Drainage, and Utilities Plan).
26. "Prop Cb-3" rim elevation has been changed from 148.2 to 145.85 to accommodate driveway regrading (see item #3 in Grading, Drainage, and Utilities Plan).
27. "Prop Cb-3" invert out to "Prop Dmh-2" has been changed from 144.6 to 141.8 7 to accommodate lowered rim elevation from driveway regrading (see item #3 in Grading, Drainage, and Utilities Plan).
28. The trench drain at the entrance to the parking area under the proposed building has been specified as Shea 8"x16" or equivalent.
29. "Prop Trench Drain" invert out to "Prop Dmh-3" has been changed from 143.2 to 142.5 to accommodate specified drain type (see item #28 in Grading, Drainage, and Utilities plan).
30. Diameter of the pipe leading out of "Prop Trench Drain" has been changed from 8" to 6" to allow better coverage.
31. Isolator row invert in from "Prop Dmh-3" has been changed from 142.25 to 140.35 to accommodate lowering of proposed catch basins further up-line (see items #24 and #26 in Grading, Drainage, and Utilities Plan).
32. Elevation of the Isolator row bottom stone has been changed from 141.5 to 139.6 to accommodate lowering of proposed catch basins further up-line (see items #24 and #26 in Grading, Drainage, and Utilities Plan)
33. Elevation of the Isolator row top stone has been changed from 147.0 to 145.1 to accommodate lowering of proposed catch basins further up-line (see items #24 and #26 in Grading, Drainage, and Utilities Plan).
34. Water line, gas line, and electrical service paths have been modified to agree with plumbing/architectural/and septic plans.
35. The proposed grading in the area adjacent to the front entrance to the proposed building has been modified to accommodate the 1' rise in first floor elevation (see item #2 Grading, Drainage, and Utilities plan)

36. The proposed retaining wall adjacent to Boston Post Road has been removed.
37. The proposed transformer has been relocated to northeast side of building.
38. Septic system components have been adjusted to agree with septic system design approved by Sudbury Board of Health. (Plans Included in set)

Erosion Control and Construction Sequencing Plan:

1. Updated to reflect minor changes outlined above.

Landscape Plan:

1. Updated to reflect minor changes outlined above.

Details:

1. A detail for porous pavement has been added for the fire access path.
2. The fire hydrant and gate valve details have been modified to specify a manufacturer per Sudbury Water District comments.
3. Fire protection and domestic water service details have been added per Sudbury Water District comments.
4. Sloped granite curb detail has been removed as no sloped granite curbing is proposed.
5. Modified Cape Cod berm detail has been added.

Sewage Disposal System Plan and Details:

1. Sheets now included.
2. Plans show design approved by Health Department.

Please note that through the process of demonstrating compliance with the comprehensive permit, Janet Bernardo of the Horsley Witten Group was retained by the Sudbury Zoning Board of Appeals to review the changes outlined herein. Ms. Bernardo has concluded that none of these changes materially impacted her prior opinions with regard to compliance with Mass DEP stormwater management regulations (see attached peer review letters). Please do not hesitate to contact us with any questions or concerns. Thank you very much.

**Sincerely,
Hancock Associates**

**Jacob T. Lemieux, E.I.T.
Project Civil Engineer**

HANCOCK ASSOCIATES

Celebrating 40 Years of Excellence in Surveying, Engineering & Wetland Science

315 Elm Street, Marlborough, MA 01752

Phone: (508) 460-1111 (ext. 519), Fax: (508) 460-1121

Cell: (508) 264-3505

jlemieux@hancockassociates.com

www.hancockassociates.com

Horsley Witten Group

Sustainable Environmental Solutions

294 Washington Street • Suite 801 • Boston, MA 02108
857-263-8193 • horsleywitten.com



January 4, 2019

Ms. Beth Suedmeyer
Environmental Planner
Planning and Community Development
Town of Sudbury
278 Old Sudbury Road
Sudbury, Massachusetts 01776

Re: Review of Construction Plans for the Coolidge at Sudbury Phase 2
187 – 189 Boston Post Road
Sudbury, Massachusetts

Dear Ms. Suedmeyer and Board Members:

The Horsley Witten Group (HW) is pleased to provide the Town of Sudbury with this report summarizing our review of the construction plans for The Coolidge at Sudbury Phase 2 project located at 187 – 189 Boston Post Road, Sudbury, Massachusetts (Property). The plans and related documents were prepared for B'nai B'rith Housing New England, Inc. (Applicant).

HW received the following documents and plans:

- Notice of Decision of Comprehensive Permit, The Coolidge at Sudbury – Phase 2, dated March 10, 2017;
- Letter to Meagan Donoghue, prepared by Hancock Associates, dated October 25, 2018;
- Letter to Beth Suedmeyer, prepared by B'nai B'rith Housing, dated December 11, 2018;
- Email from William O'Rourke to Beth Suedmeyer, dated December 14, 2018;
- Detail Preliminary Wall Section, prepared by Redi-Rock, dated June 4, 2015; and
- Construction Drawing Set for The Coolidge at Sudbury 2, prepared by Hancock Associates, issued October 5, 2018, which includes:
 - Title Sheet C-1
 - Notes and Legend C-2
 - Layout and Materials Plan C-3
 - Grading, Drainage, and Utilities C-4
 - Erosion Control and Construction Sequencing Plan C-5
 - Landscaping Plan C-6
 - Details C-7
 - Details C-8

Construction Plan/Stormwater Management Review

As requested by the Planning Board HW has reviewed the Construction Drawing Set, submitted by the Applicant in accordance with Section VI. 8 of the Decision; "the Final Detailed Design Plans have been submitted for review, approval, and endorsement."

1. HW recommends that the Applicant include a North Arrow on Sheets C-3, C-4, and C-5.
2. The grasspave vehicle access area scales between 17 feet and 18 feet wide. HW recommends that the Applicant note the width to verify it is constructed in accordance with the requirements of the fire department.
3. HW recommends that the Applicant add spot grades (inside and outside) at the new man door to the under garage near the trench drain as well as on the generator pad. The 8-inch HDPE pipe is close to the surface so that it may be difficult to pour the concrete pad over the drainpipe. A cross section of this area may be useful to confirm constructability.
4. HW recommends that the trench grate is placed 1-inch lower than finish floor of the under garage.
5. The Applicant has adjusted the grades around the proposed catch basins CB-3 and CB-4. The rims are set at 145.8; a high point is set at 146.1. The cross slope of the driveway appears to be at 2%. To capture the majority of runoff in the catch basins the paving in this area will need to be carefully managed.
6. The Applicant has lowered the elevations in the infiltration – isolator row by 1.9 feet. The adjustment does not appear to affect the approved design of the system; however, HW recommends that the detail on Sheet C-7 be revised accordingly. A number of the drainage pipes have been adjusted as well; the revised pipe inverts appear accurate and will not affect the approved design.
7. The Applicant has adjusted the configuration of the infiltration basin slightly. The adjustment does not appear to impact the approved design of the basin.
8. The Applicant has included a Construction Sequence on Sheet C-5; HW recommends that the Applicant verify the sequence numbering for Phase 1.
9. As a reminder, in accordance with Section VII.2 a final SWPPP shall be submitted to the Planning Board prior to the commencement of any work.

Please contact Janet Bernardo at jbernardo@horsleywitten.com or at 857-263-8193 if you have any questions regarding these comments.

Sincerely,

HORSLEY WITTEN GROUP, INC.



Janet Carter Bernardo, P.E.
Senior Project Manager

HANCOCK

ASSOCIATES

January 11, 2019

Ms. Beth Suedmeyer
Environmental Planner
Planning and Community Development
Town of Sudbury
278 Old Sudbury Road
Sudbury, Massachusetts 01776

Dear Ms. Suedmeyer and Members of the Board

Subject: Review of Construction Plans for the Coolidge at Sudbury Phase 2.

Hancock associates recently received a peer letter from Janet Bernardo, P.E. of Horsley Witten Group, Inc. dated January 4, 2019. Please accept this letter, as well as the revised plans also submitted as our responses to the concerns raised in said peer review. **Please note that Hancock Associates responses are shown bold and in blue.**

COMMENT 1: No north arrow on sheets C-3, C-4, AND C-5.

HANCOCK RESPONSE: A North arrow has been added to these sheets.

COMMENT 2: Grasspave fire lane scales between 17 and 18 feet wide.

HANCOCK RESPONSE: The fire lane should be 20 feet wide. It was shown incorrectly and has been modified to maintain a constant width of 20 feet. A dimension showing this width has been added to sheet C-3 (Layout and Materials Plan).

COMMENT 3a: Add spot grades at new man door to the under garage near the trench drain and generator pad.

HANCOCK RESPONSE: Spot grades have been added at this door. The top of the generator pad is approximately ½ foot above grade see sheet C-4 (Grading, Drainage, and Utilities).

COMMENT 3b: 8-inch HDPE is close to surface and may be difficult to install concrete pad over.

HANCOCK RESPONSE: The 8-inch HDPE has been reduced to a 6-inch HDPE. The trench drain has been specified as a SHEA 8"x16" trench drain and the invert has been lowered so that the pipe now has approximately 8.5" of cover.

COMMENT 4: Recommend placing trench drain 1" lower than garage finish floor.

HANCOCK RESPONSE: The garage finished floor is 144.00, the trench drain grate has been set at elevation 143.8 (about 2.4" lower).

COMMENT 5: Paving in catch basin area on driveway to parking under must be carefully managed to ensure proper drainage.

HANCOCK RESPONSE: Acknowledged, cross slope in this area has been increased to 5% to ensure better capture within catch basins. Mountable bituminous berm has been added at this location to further prevent bypassing of the catch basins.

COMMENT 6: Elevation of isolator row has been modified. Detail on sheet C-7 must be updated to reflect changes.

HANCOCK RESPONSE: The detail has been revised.

COMMENT 7: Infiltration basin has been slightly reconfigured, adjustment does not impact approved design.

HANCOCK RESPONSE: Confirmed, the configuration was slightly altered, however all drainage characteristics were preserved.

COMMENT 8: Recommend verify sequence numbering on sheet C-5 for construction sequencing.

HANCOCK RESPONSE: Sequence is verified.

COMMENT 9: SWPPP shall be submitted to the planning board prior to the commencement of any work.

HANCOCK RESPONSE: Acknowledged.

Hancock associates has also received a copy of an email from Vincent Roy, Executive director of the Sudbury Water District. Please review the following answers to the Water District's concerns (Shown in green below).

COMMENT 1: Provide pipe size, material, and curb box style on plan for water service.

HANCOCK RESPONSE: The project is proposing an 8" water main, a 3" domestic water service, and a 6" fire protection service. Both shall be type K copper tubing as specified. Labels have been added to sheet C-4 (Grading, Drainage, and Utilities). We have also added fitting and valve types to the plan.

COMMENT 2: Provide pipe material for water main.

HANCOCK RESPONSE: Material shall be class 52 Ductile Iron Pipe as specified. Label added to sheet C-5 (Grading, Drainage, and Utilities).

COMMENT 3: Gate valves and hydrant must be shown as open right, and manufacturers shall be either Mueller or AVK.

HANCOCK RESPONSE: Notations have been added to details on sheet C-8 (DETAILS).

We believe that all of the concerns raised by Horsley Witten, as well as the Sudbury Water District have been addressed and request that you review these responses and provide confirmation that these issues have been resolved to the Town's satisfaction. Please do not hesitate to contact us with any further questions or concerns. We look forward to continuing to work with the town on this matter. Thank you very much.

Sincerely,
Hancock Associates



Jacob T. Lemieux, E.I.T.

Project Civil Engineer

HANCOCK ASSOCIATES

Celebrating 40 Years of Excellence in Surveying, Engineering & Wetland Science

315 Elm Street, Marlborough, MA 01752

Phone: (508) 460-1111 (ext. 519), Fax: (508) 460-1121

Cell: (508) 264-3505

jlemieux@hancockassociates.com

www.hancockassociates.com

Horsley Witten Group

Sustainable Environmental Solutions

294 Washington Street • Suite 801 • Boston, MA 02108
857-263-8193 • horsleywitten.com



January 23, 2019

Ms. Beth Suedmeyer
Environmental Planner
Planning and Community Development
Town of Sudbury
278 Old Sudbury Road
Sudbury, Massachusetts 01776

Re: Second Peer Review of Construction Plans for the Coolidge at Sudbury Phase 2
187 – 189 Boston Post Road
Sudbury, Massachusetts

Dear Ms. Suedmeyer and Board Members:

The Horsley Witten Group (HW) is pleased to provide the Town of Sudbury with this report summarizing our second peer review of the construction plans for The Coolidge at Sudbury Phase 2 project located at 187 – 189 Boston Post Road, Sudbury, Massachusetts.

HW has received the following additional documents in response to our January 4, 2019 peer review letter:

- Peer Review Response, prepared by Hancock Associates, dated January 11, 2019.
- Construction Drawing Set for The Coolidge at Sudbury 2, prepared by Hancock Associates, revised January 11, 2019, which includes:
 - Title Sheet C-1
 - Notes and Legend C-2
 - Layout and Materials Plan C-3
 - Grading, Drainage, and Utilities C-4
 - Erosion Control and Construction Sequencing Plan C-5
 - Landscaping Plan C-6
 - Details C-7
 - Details C-8

Construction Plan/Stormwater Management Review

As requested by the Planning Board HW has reviewed the Construction Drawing Set, submitted by the Applicant in accordance with Section VI. 8 of the Decision; “the Final Detailed Design Plans have been submitted for review, approval, and endorsement.”

The comments below correlate to HW’s January 4, 2019 review letter. Follow up comments are provided in **bold font**.

1. HW recommends that the Applicant include a North Arrow on Sheets C-3, C-4, and C-5.

The Applicant has added a North Arrow to Sheets C-3, C-4, and C-5. HW is satisfied.

2. The grasspave vehicle access area scales between 17 feet and 18 feet wide. HW recommends that the Applicant note the width to verify it is constructed in accordance with

the requirements of the fire department.

The Applicant has modified the fire lane to maintain a constant width of 20 feet, dimensions have been added to Sheet C-3. HW is satisfied.

3. HW recommends that the Applicant add spot grades (inside and outside) at the new man door to the under garage near the trench drain as well as on the generator pad. The 8-inch HDPE pipe is close to the surface so that it may be difficult to pour the concrete pad over the drainpipe. A cross section of this area may be useful to confirm constructability.

On Sheet C-4, the Applicant has added spot grades near the new man door. The Applicant has also noted that the invert of the trench drain has been lowered, and the 8-inch pipe has been revised to a 6-inch pipe; approximately 8.5 inches of cover will be provided. HW is satisfied.

4. HW recommends that the trench grate is placed 1-inch lower than finish floor of the under garage.

The Applicant has revised the elevation of the trench drain to be approximately 2.4 inches lower than the garage finish floor. HW is satisfied.

5. The Applicant has adjusted the grades around the proposed catch basins CB-3 and CB-4. The rims are set at 145.8; a high point is set at 146.1. The cross slope of the driveway appears to be at 2%. To capture the majority of runoff in the catch basins the paving in this area will need to be carefully managed.

The Applicant has adjusted the cross slope to 5% near CB-3 and CB-4 to ensure better capture within the catch basins. The Applicant has also added a bituminous berm at this location. HW is satisfied.

6. The Applicant has lowered the elevations in the infiltration – isolator row by 1.9 feet. The adjustment does not appear to affect the approved design of the system; however, HW recommends that the detail on Sheet C-7 be revised accordingly. A number of the drainage pipes have been adjusted as well; the revised pipe inverts appear accurate and will not affect the approved design.

The Applicant has updated Sheet C-7 so that the detail of the isolator row is consistent with the plan. HW is satisfied.

7. The Applicant has adjusted the configuration of the infiltration basin slightly. The adjustment does not appear to impact the approved design of the basin.

No further comment is necessary.

8. The Applicant has included a Construction Sequence on Sheet C-5; HW recommends that the Applicant verify the sequence numbering for Phase 1.

The Applicant has verified the construction sequence numbering. No further comment is necessary.

9. As a reminder, in accordance with Section VII.2 a final SWPPP shall be submitted to the Planning Board prior to the commencement of any work.

The Applicant has acknowledged this comment.

The Applicant also responded to Vincent Roy's (Executive Director of the Sudbury Water District) comments, HW reviewed the information and provided comments below in **bold font**, however we defer to Mr. Roy for final acceptance.

1. Provide pipe size, material, and curb box style on plan for water service.

The Applicant has added labels to Sheet C-4 along with fitting and valve types to the plan specifying that the water main will be 8-inches, domestic water service will be 3-inches, and the fire protection service will be 6-inches.

2. Provide pipe material for water main.

The Applicant has added a label to Sheet C-5 specifying that the material will be class 52 Ductile Iron Pipe.

3. Gate valves and hydrant must be shown as open right, and manufacturers shall be either Mueller or AVK.

The Applicant has revised the detail on Sheet C-8 to specify that the gate valve and hydrant will be shown as open right, and the manufactures will be either Muller or AVK.

Please contact Janet Bernardo at jbernardo@horsleywitten.com or at 508-833-6600 if you have any questions regarding these comments.

Sincerely,

HORSLEY WITTEN GROUP, INC.



Janet Carter Bernardo, P.E.
Senior Project Manager