AIRPORT SOLUTIONS GROUP, LLC
Innovative Airport Development Specialists

December 16, 2016

Mr. John Radcliffe
Chairman
New Bedford Conservation Commission
New Bedford City Hall
133 Williams Street
New Bedford, MA 02744

RE: New Bedford Regional Airport
Terminal Aprons Redevelopment Project
Application for Notice of Intent

Dear Mr. Radcliffe;

Nitsch Engineering prepared a review letter for the New Bedford Conservation Commission dated November 1, 2016 which provided comments to plans and a stormwater management report prepared by ASG on behalf of the New Bedford Airport Commission.
We offer the following response to each of Nitsch's comments:

1. The reports note that the overall Airport Terminal Aprons project will be phased and that the documentation provides is for Phase I only. We understand that the other phases of the project are located outside of the buffer zone but generate stormwater that is ultimately discharged to onsite wetlands. This was discussed at the site visit. Typically, projects are permitted as one phase rather than segmented into different phases. Our understanding is that there is not timetable for completing Phase I or subsequent phases of the project. The Applicant should clarify the scope of all phases of the project, specifically the intent for the stormwater management system and the potential impact on wetland resource areas. *The redevelopment of the Apron areas at the New Bedford Airport are in need of reconstruction due to extensive deterioration based upon pavement that has outlasted its' expected service life, does not meet current FAA criteria, and as identified in the 2010 Mass DEP Variance Order of Conditions #51 needs to address runoff from existing developed areas. The Airport recognizes the need to reconstruct the pavement and has programmed the replacement of the aprons into its' Capital Improvement Program, and has currently scheduled the reconstruction of the apron area as commented on by Nitsch, for the first phase. However, as outlined in Variance condition 51, Mass DEP has recognized that the improvements will be performed over time given the availability of funds, and the Airport has proposed the reconstruction of the remaining portions of the apron during later years The Area currently being permitted was identified as the first area to be reconstructed since this area contains the pavement in the poorest condition, and is the only area that contains development within jurisdictional areas, therefore improving the worst areas first . Proposed improvements to the stormwater management system include the separation of non-industrial and industrial stormwater streams, and the installation of structural BMP including oil-water separator systems to treat discharges.*

2. The existing paved apron area has no stormwater management facilities. Therefore, the proposed closed drainage system is an improvement over the existing system. *As outlined above, the area of ramp being permitted is within the jurisdictional area of the Conservation commission and the ramp currently drains via sheet-flow off the pavement directly into the resource area. Additionally, this area does not include any available upland for the creation of turf filter areas, so therefore in order to comply with stormwater treatment standards the Airport is proposing the installation of a closed drainage system with an oil-water separator prior to discharge.*

3. A headwall is proposed for the new stormwater outfall. We recommend that the plans show stabilization measures at the downstream end of the headwall to minimize impacts to the Bordering Vegetated Wetland (BVW) and comply with Standard 1 of the MassDEP Stormwater Handbook. *We will modify the plans to show armoring of the outfall.*

4. The submitted drainage calculations include the entire airport property (1,790 acres). The Phase I project is only a fraction of that area and specifically impacts a BVW located proximate to the proposed work. Currently, the model includes the project area within a 662-acre drainage area that flows to the south of the airport. To demonstrate compliance with Standard 2, we recommend that the applicant submit and summarize the peak run-off rate with the receiving BVW as the design point. *Revised drainage calculations will be submitted.*

5. The project does not include any infiltration facilities. Per Standard 3, infiltration is required for the portion of the project that includes the installation of an additional 22,000 square feet of pavement, which is considered new development. Soil borings were performed in the project area that show shallow groundwater. Test hole logs were not submitted. *The 22,000 SF of new pavement forms the area for an expansion of the existing aircraft parking apron that will be used to replace parking apron that was removed due to non-compliance with FAA criteria. Airports are unique development situations in that proposed expansions must meet FAA criteria for design and safety standards and also must be located in relation to their use, meaning for this particular instance, that the expansion of the parking apron must be located near the beneficiary. The Airport currently supports a variety of tenants including aircraft services providers, who store, service, and manage aircraft, and each of these has a leased area to perform their activities. The 22,000 SF expansion area is being developed as replacement parking for Colonial Aviation, the tenant located immediately adjacent to the expansion area.*

   New Bedford Airport is currently in the midst of a long-term renovation and reconstruction effort that has included the previous reconstruction of RW 5-23 and the reconstruction of TW A. Future plans include the reconstruction of RW 14-32 and the reconstruction of the aircraft parking aprons, which is the subject of this NOI Application. As discussed above, for each reconstruction effort, the airport must meet FAA design and safety standards, and with that in mind, the airport during the reconstruction of RW 5-23 removed pavement with a net reduction of 70,000 SF of pavement. Additionally, during the reconstruction of TW A the airport removed pavement with a net reduction of 17,000 SF. The relevance of this pavement removal is that as part of the RW 5-23 construction project, the airport removed an aircraft parking apron of approximately 90,000 SF that was available for Colonial Aviation to use. This parking apron was located along TW A across from the terminal building and because the use of this area required personnel to traverse across active TW, the FAA required its removal for safety purposes. Similarly, the removal of

17,000 SF of pavement during the TW A project was necessary to comply with FAA criteria. In that case, FAA criteria required islands to separate TW's from aircraft parking areas. That area was also available for use by Colonial Aviation. In total, the Airport has removed over 100,000 SF of aircraft parking apron which was available for use by Colonial Aviation.

Specifically regarding compliance with Standard #3: The standard requires that the" loss of annual recharge to groundwater shall be eliminated or minimized through the use of environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance." The standard also recognizes that "it may be difficult for Mass Highway to recharge the required volume at every point along an add- a-lane project. For this reason, MassDEP allows Mass Highway to use the macro approach, which allows MassHighway to recharge additional runoff at certain locations along a portion of the highway within a subwatershed to compensate for section of the roadway in the same watershed where it may be difficult to recharge the entire recharge volume." New Bedford Regional Airport is requesting consideration of a waiver of standard #3 due to the unique development requirements at airports, and consideration of the additional recharge from the removal of approximately 100,000 SF of pavement located within the vicinity of apron expansion area.

6. Sizing information has not been provided for the proposed hydrodynamic separator. We recommend that sizing information be provided to confirm the Total Suspended Solids (TSS) removal rates as shown in the calculations and a performance specification be provided to ensure that the unit provided meets the removal requirements of Standard #4, Water Quality Treatment. *Sizing calculations will be provided. Performance requirements will be provided, however, since this construction will be part of a publicly let solicitation, a specific vendor or model cannot be listed.*

7. The project includes areas that are defined by MassDEP as Land Use with Higher Potential Pollutant Loads (LUHPPL). Therefore, the project should comply with the treatment requirements for a LUHPPL, including TSS removal using the best management practices (BMPs) allowed under Standard #5 of the MassDEP Stormwater Management Standards. *The hydrodynamic separator identified in the drainage report has been sized to meet Standard #5.*

8. The Applicant has described the project as a redevelopment project under Standard #7. As defined by the Stormwater Management Standards, the project is a combination of new development and redevelopment. Per the Standards, the area of new development, which includes the additional 22,000 SF of new pavement, is required to meet the Standards. The redevelopment areas are required to meet the Standards to the Maximum Extent Practicable.

   New development areas are required to meet of the applicable standards:
   Standard 1 – Stormwater conveyances: the project will include a hydrodynamic separator to treat stormwater and will verify through the use of a drainage model that discharge velocities will not cause erosion. The Airport will also armor the outfall as a secondary measure to prevent erosion.
   Standard 2 – limit post development discharge rates to pre-development rates: calculations performed during drainage modeling indicate that this standard has been met.

Standard 3 – groundwater recharge: as discussed above in comment #5, the New Bedford Airport is seeking a waiver to this standard. The design meets the standard to the greatest extant practicable.
Standard 4 – Stormwater Management systems shall be designed to remove 80% of TSS: the hydrodynamic separator identified in the stormwater report will provide this level of treatment.
Standard 5 – LUHPPL areas: The hydrodynamic separator identified in the stormwater report will provide this level of treatment.
Standard 6 – Zone II or Interim wellhead protection area of a public water supply: This standard does not apply.
Standard 7 – redevelopment requirements: this standard does not apply.
Standard 8 – erosion and sedimentation control plans: Details for erosion and sedimentation control were included with the NOI application.
Standard 9 – Long term operations and Maintenance plan: The updates to the Airports current plan associated with this specific project were included with the NOI application.
Standard 10 – Illicit discharges: this standard does not apply.

Redevelopment areas are required to meet Standards 1, 2, 3, 4, 5, and 6 to the maximum extent practicable.
Standard 1 – stormwater conveyance: the redevelopment area is not changing the discharge volume and will not increase the discharge velocity. A component of this project is the separation of non-industrial stormwater from industrial stormwater with the industrial stormwater being treated with proposed structural BMPs.
Standard 2 - limit post development discharge rates to pre-development rates: calculations performed during drainage modeling indicate that this standard has been met.
Standard 3 – groundwater recharge: the redevelopment area is not changing the amount of impervious surfaces, therefore there is no change in recharge rate.
Standard 4 - Stormwater Management systems shall be designed to remove 80% of TSS: the hydrodynamic separator identified in the stormwater report will provide this level of treatment.
Standard 5 – LUHPPL areas: the existing aircraft parking area is identified as a LUHPPL area and the New Bedford Airport is proposing to install a hydrodynamic separator that will provide this necessary level of treatment.
Standard 6 – Zone II or Interim wellhead protection area of a public water supply: This standard does not apply.

9. The drainage calculations include extremely long Times of Concentration, including some over 90 minutes. This is because the calculations include sheet flow of 100 feet and Dense Grass as a ground cover. These factors should be revised to include a maximum length of 50 feet, consistent with the Hydrology Handbook for Conservation commissioners. Dense Grass is not typically used as a ground cover in Massachusetts. We recommend that a maximum sheet flow length of 50 feet be used and Grass: Short be used in the calculations. *Time of Concentration values will be modified.*

10. The HydroCAD model includes errors in many of the reaches. We recommend these errors be resolved and the calculations be resubmitted. *The model will be corrected and resubmitted.*

11. Figure 4 of the Notice of Intent (NOI) indicates that the area where additional pavement is proposed to be installed is Priority Habitat for State Protected Rare Species. The applicant should confirm whether the proposed project has a negative impact on Rare Species. *New*

Bedford Airport has received a letter of No Take from NHESP, and the letter has been previously submitted to the Conservation Commission.

12. The proposed plans do not include any riprap at discharge points for the proposed drainage system. We recommend that a riprap pad be provided at all discharge points. *The plans will be modified to include riprap at the proposed outfall.*

13. The proposed discharge from the headwall discharging from PR-OW-1 is close to the wetland line. There are other areas of pavement that are within 25 feet of the wetland line. Typically, the Commission has requested that all work be located outside of 25 feet from wetlands. *We will review the headwall location and relocate it as far as possible from the wetlands. Regarding pavement within 25 feet of the wetland, the existing paved areas are being reconstructed in place, and as discussed above in comment #5, the expansion area has been designed to meet FAA aircraft parking requirements and cannot be reduced in size without eliminating parking positions, therefore the New Bedford Airport is seeking a waiver to the 25 foot setback for the proposed parking area.*

14. We recommend a pavement detail be added to the plans. *Pavement details will be added to the submission.*

15. Pipe sizing calculations were not provided for the project. Many of the proposed pipes are indicated as less than 0.5% slope. Calculations should be provided to confirm adequate sizing of the closed drainage system. *Pipe sizing calculations were included within the drainage report. The Airport is flat and most of the existing and proposed pipes have minimal slopes. The calculations for the pipe sizing will be reviewed for adequacy prior to resubmission.*

16. The proposed replacement culvert does not include any type of headwall or flared-end structure. There are no riprap pads located at the ends of the culvert, the extents of the culvert go beyond the width of the existing gravel road. We recommend that the extents of the culvert be pulled back from the wetlands and that a riprap or some sort of erosion control be added to the plans. *We will review the culvert design and modify the plans to include headwalls and riprap outlet pads if they can be added.*

17. The proposed project includes installing a drain pipe within a foot of the wetland line between DMH -3 and DMH-2. We expect that the installation of this pipe would require excavation in the wetlands. These impacts should be quantified. Another solution may include relocating the pipe so that its installation will not result in impacts to the wetlands. *We will review the design of the drainage pipe and relocate it outside of the wetlands if possible.*

Please do not hesitate to contact us if you need to further discuss this issue.

Very truly yours,

AIRPORT SOLUTIONS GROUP, LLC

Richard A. Lasdin, P.E.
Project Manager

Cc: Scot Servis, New Bedford Airport
Amanda Atwell, Epsilon Associates