

JM Fiske Environmental

To: Timothy Kelley  
D.W. White Construction, Inc  
867 Middle Road  
Acushnet, MA 02743

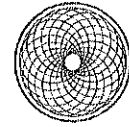
**RE: New Bedford Regional Airport 2018 Wetland Replication Monitoring, New Bedford Regional Airport (NBRA) AIP Project No. 3-25-0034-XX-2017**

**Date October 08, 2018**

Dear Mr. Kelley,

This report is being presented in conjunction with work associated with the New Bedford Regional Airport (NBRA) AIP Project No. 3-25-0034-XX-2017, MassDEP #SE49-0729 and the City of New Bedford Airport Gravel Road Special Conditions . A permanent gravel access road was installed during the airport project. The construction of the access road filled a portion of an existing wetland, which necessitated the construction of the wetland replication area and subsequent wetland replication area monitoring for two years. The wetland replication area was constructed and planted between March 14 and April 19 of 2018. JM Fiske allowed for a full growing season to occur prior to the first wetland replication area monitoring which took place September 07, 2018. This is a deviation from the requested July monitoring in Special Condition 57 outline by the New Bedford Conservation Commission. JM Fiske Environmental (JM Fiske) felt a more accurate depiction of the replication area would be given if a longer growing period passed from the tie of installation.

The replication area was cleared and grubbed within the first week of March. The site was initially excavated to a depth approximately 12-inches below the final design grade elevations, depicted on the drawings, to allow for placement of wetland topsoil and construction of micro-topography. Sub-grade elevations were excavated the second week of April to include pit and mound topography. An As-built can be found in Attachment A.

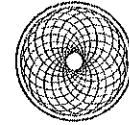


A site visit was conducted by the New Bedford Conservation Agent, The Airports Environmental Monitor from Epsilon, JM Fiske Environmental and D.W. White to observe the sub-grade and come to a consensus and approval of the sub-grade prior to installation of the wetland soil. After the approval, approximately 12 inches of evenly mixed organic/mineral soil was placed within the replication area bringing grades to the final elevations. Soil amendments from off-site sources were needed. The Contractor provided written documentation identifying the supplier and location of the source material and certification for approval. Wetland top soil was deposited in the replication area in a manner that minimized travel and subsequent compaction of the sub-grade. The operator was able to reach in and deposit wetland soil to the back side of the mitigation area without having to travel back and forth. Once the final wetland mitigation area final elevations were approved the site was ready to be seeded and planted. Soil certifications can be found in Attachment B.

On April 19, 2018 the wetland replication area was sown with the specified wetland seed mix following the manufacturers recommended seeding rates and application guidelines. The area was also planted with woody shrubs. Seed and plant certifications can be found in Attachment B.

September 07, 2018, JM Fiske Environmental conducted the first wetland mitigation monitoring in compliance with 310 CMR 10.55 (4), as directed by the New Bedford Conservation Commission. A July monitoring was not conducted as JM Fiske felt the need to allow for a longer establishment period after initial planting. Per the condition 57 this report documents the establishment of at least 75% coverage of indigenous wetland plants within the replication areas; survival of planted shrubs & trees and recommended action; document the presence of invasive species within the replication area and recommend control methods.

Overall the replication area is very robust with over 75% coverage of native wetland species. The dominant wetland species is Fall Panicgrass (*Panicum dichotomiflorum*) a native Facultative Wetland Plant (FACW) with a cover of approximately 85% and relative cover of 18.10%. Fall Panicgrass was in the specified seed mix. The next dominant species present are the wetland species Nodding Beggartick (*Bidens cernua*),



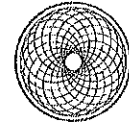
Lurid Sedge (*Carex lurida*) and Broom Sedge (*Carex scoparia*) all native obligate (OBL) wetland species with an overall cover of approximately 38% and a relative cover of 8.04%. The next three dominant species had an overall cover of approximately 20.5 % each and a relative cover of 4.34%- American Burnweed (*Erechtites hieraciifolius*) a non-native facultative upland (FACU) plant, Cinnamon Fern (*Osmunda cinnamomea*) a native FACW species and the introduced White Clover (*Trifolium repens*) which is an introduced FACU species. All three of these species were volunteers. The remaining species documented in the herbaceous layer can be found in the 2018 Fall Replication Area Monitoring NBRA table in Attachment C along with representative photos.

The species dominant in the shrub layer where those planted in during the original replication installation accept Gray Birch (*Betula populifolia*, FAC) and Sweet Fern (*Comptonia peregrina*). The Red Maple (*Acer rubrum*, FAC), Sweet Pepperbush (*Clethra alnifolia*, FAC), Highbush Blueberry (*Vaccinium corymbosum*, FACW) and Pussy Willow (*Salix discolor*, FACW) all were equally dominant with an overall cover of 20% and relative cover of 21.46%. There was some insect damage to the Red Maples and deer browsing to the Highbush Blueberry but nothing detrimental.

There were also twenty-nine volunteer species of which only sixteen are native. It is not uncommon for wetland replication areas to have non-native wetland plants during the establishment period. Seed often comes in on the wetland mitigation soil or in the seed mixes. These species typically die out as the wetland becomes more established.

There were a two invasive species located during the monitoring- Purple Loosestrife and Bittersweet. During the monitoring, any invasive plants discovered were pulled out by the roots and removed from the site. There is no invasive treatment recommended at this time.

The wetland replication area exhibits signs of hydric conditions. There are several areas of ponding through the replication area, saturated soils and drainage patterns. No soil profiles were conducted during this monitoring period but will be conducted during the July 2019 replication area monitoring event.



JM Fiske Environmental

Overall the wetland replication is looking healthy. The replication area is dominated with more than 75% cover of native wetland species, the woody species installed are alive and show minimal signs of insect damage or animal browsing, there is no need for invasive species control, there has been species recruitment and hydric conditions are present. A 2019 replication area monitoring event is scheduled for July 31, 2019.

If you have any questions please let me know. Thank you.

Sincerely yours,

Julia Fiske  
JM Fiske Environmental  
321 Zerah Fiske Road  
Shelburne, MA 01370  
4134-625-6375  
jmfiskeenvironmental@yahoo.com

ATTACHMENT A  
AS-BUILT



NO.	REVISION	DATE

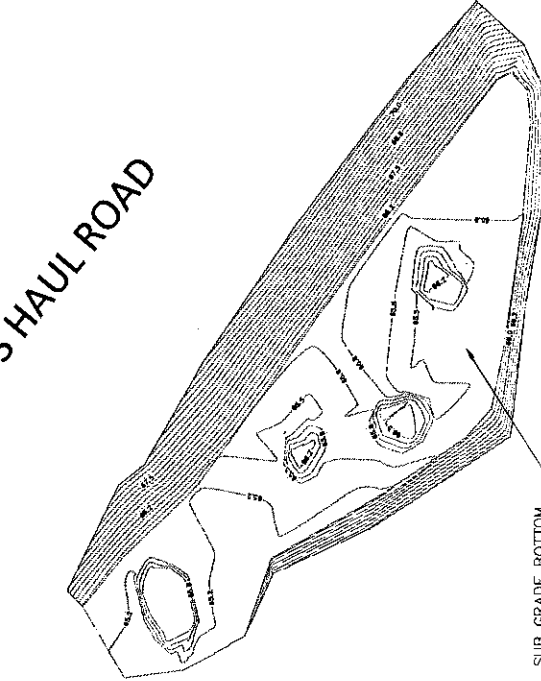
NEW BEDFORD AIRPORT  
WETLAND REPLICATION  
SUB GRADE AS-BUILT PLAN

SCALE: 1" = 100'  
DATE: 10/1/01  
PROJECT NO.: 01-0000

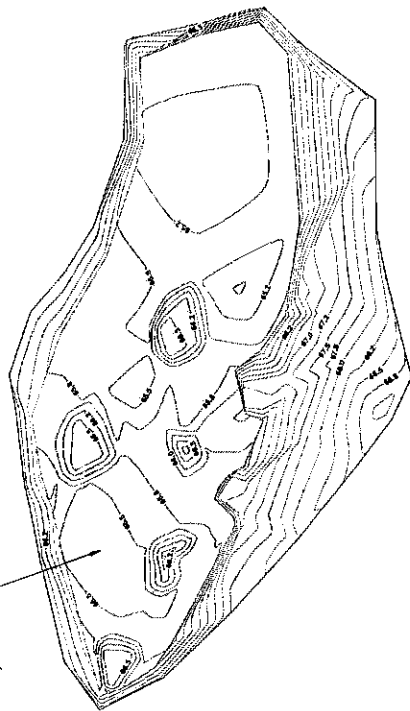
AB1-1



ACCESS HAUL ROAD



SUB GRADE BOTTOM  
AREA=1,876 S.F.



SUB GRADE BOTTOM  
AREA=2,139 S.F.

**ATTACHMENT B  
CERTIFICATIONS**

Submittal Number: 12

Revision Number: 0

**CONTRACTOR SUBMITTAL FORM  
(GENERAL CONTRACTOR)**

Job Name: Runway 14-32 Taxiways

New Bedford, MA

AIP No. 3-25-0034-055-2017

Airport Solutions Group Job No. \_\_\_\_\_

Contractor: Agresource, Inc.

Address: 100 Main Street Amesbury, MA 01913

Contractor's Contact: Mike Carignan Phone Number: 978-388-5110

Reviewed By: \_\_\_\_\_ Date Submitted: 3/8/2018

Check here if submittal is from a subcontractor

Item No.: M-009-1 - Wetland Soil

Specification Section and Paragraph: M-009-2.1

**CERTIFICATION**

I HEREBY CERTIFY that the attached submittal has been reviewed under the terms of the Contract Documents and is in conformity with the requirements of the plans and specifications unless specifically noted otherwise. It is understood that the Contractor is responsible for dimensions and quantities to be confirmed and correlated at the site, for information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction, and for coordination of the Work of all trades.

- 1- Submitted as specified
- 2 - Submitted "AS EQUAL" to the product specified
- 3 - Submitted "IN SUBSTITUTION" to the product specified
- 4 - Subcontractor submittal form included
- 5 - Other

Description of Submittal Components: Wetland Soil Analysis

**For additional comments attach and number additional pages.**





Analysis Report For:				Copy To:		
Mike Carignan AgResource 110 Boxford Rd Rowley MA 01969				Dave Harding AgResource 110 Boxford Rd Rowley MA 01969		
LAB ID:	SAMPLE ID:	REPORT DATE:	SAMPLE TYPE:	FEEDSTOCKS	COMPOSTING METHOD	COUNTY
C10315	Barnstable	03/02/2018				

**COMPOST ANALYSIS REPORT**  
*Compost Test 1C*

Analyte	Results (As is basis)		Results (Dry weight basis)
	(Weight basis)	(Volume Basis)*	
pH	6.9	—	—
Soluble Salts (1:5 w:w)	0.44 mmhos/cm	—	—
Bulk Density <sup>1</sup>	—	1485 lb/yd <sup>3</sup>	—
Solids	51.5 %	765 lb/yd <sup>3</sup>	—
Moisture	48.5 %	720 lb/yd <sup>3</sup>	—
Organic Matter	13.9 %	206 lb/yd <sup>3</sup>	26.9 %
Total Nitrogen (N)	0.3 %	5.2 lb/yd <sup>3</sup>	0.7 %
Organic Nitrogen <sup>2</sup>	0.3 %	5.2 lb/yd <sup>3</sup>	0.7 %
Ammonium N (NH <sub>4</sub> -N)	< 2.6 mg/kg <i>or</i> < 0.0003 %	< 0.004 lb/yd <sup>3</sup>	< 5.0 mg/kg <i>or</i> < 0.0005 %
Carbon (C)	7.7 %	114 lb/yd <sup>3</sup>	14.9 %
Carbon:Nitrogen (C:N) Ratio	22.00	—	22.00
Phosphorus as (P <sub>2</sub> O <sub>5</sub> ) <sup>3</sup>	0.08 %	1.20 lb/yd <sup>3</sup>	0.16 %
Potassium (as K <sub>2</sub> O) <sup>3</sup>	0.10 %	1.52 lb/yd <sup>3</sup>	0.20 %
Calcium (Ca)	0.32 %	4.76 lb/yd <sup>3</sup>	0.62 %
Magnesium (Mg)	0.09 %	1.30 lb/yd <sup>3</sup>	0.17 %
Sulfur (S)	0.04 %	0.52 lb/yd <sup>3</sup>	0.07 %
Sodium (Na)	67 mg/kg	0.10 lb/yd <sup>3</sup>	130 mg/kg
Aluminum (Al)	2046 mg/kg	3.04 lb/yd <sup>3</sup>	3972 mg/kg
Iron (Fe)	3017 mg/kg	4.48 lb/yd <sup>3</sup>	5857 mg/kg
Manganese (Mn)	106 mg/kg	0.16 lb/yd <sup>3</sup>	205 mg/kg
Copper (Cu)	9.5 mg/kg	0.01 lb/yd <sup>3</sup>	18.5 mg/kg
Zinc	27.2 mg/kg	0.04 lb/yd <sup>3</sup>	52.8 mg/kg

<sup>1</sup>Volume results are calculated on the basis of laboratory-determined compost bulk density

<sup>2</sup>See comments on back of report.

<sup>3</sup>To convert phosphorus as (P<sub>2</sub>O<sub>5</sub>) into elemental phosphorus (P), divide by 2.29. To convert potassium (as K<sub>2</sub>O) into elemental potassium (K), divide by 1.20.

## INTERPRETATION

<b>pH</b>	pH is a measure of active acidity in the feedstock or compost. The pH scale is 0 (acidic) to 14 (basic) with 7 being neutral. Most finished composts will have pH values in the range of 5.0 to 8.5. Ideal pH depends on compost use. A lower pH is preferred for certain ornamental plants while a neutral pH is suitable for most other applications. pH is not a measure of the total acidity or alkalinity and cannot be used to predict the effect of compost on soil pH.
<b>Soluble Salts</b>	Soluble salts are determined by measuring electrical conductivity (EC) in a 1:5 (compost:water, weight ratio) slurry. EC is related to the total soluble salts dissolved in the slurry and is measured in units of millimhos/cm (mmhos/cm). Compost soluble salt levels typically range from 1 to 10 mmhos/cm. High salinity may be toxic to plants. Ideal soluble salt levels will depend on the end use of the compost. Final compost blends with soil or container media/potting mixes should be tested for soluble salts.
<b>% Solids, % Moisture</b>	The ideal moisture content for composting will depend on the water holding capacity of the materials being composted. In general, high organic matter materials have a higher water holding capacity and a higher ideal moisture content. A typical starting compost mix will have an ideal % solids content of 35-55 % (65-45 % moisture). Finished compost should have a % solids content of 50-60 % (50-40 % moisture).
<b>% Organic Matter</b>	There is no ideal organic matter level for feedstocks or finished compost. Organic matter content will decrease during composting. The organic matter content (dry weight basis) of typical feedstocks and starting mixes will be greater than 60 % while that of finished compost will be in the range of 30-70 %. An organic matter content (dry weight basis) of 50-60 % is desirable for most compost uses.
<b>Nitrogen : Total, Organic, Ammonium, and Nitrate</b>	Total nitrogen (N) includes all forms of nitrogen: organic N, ammonium N ( $\text{NH}_4\text{-N}$ ), and nitrate N ( $\text{NO}_3\text{-N}$ ). Total N will normally range from less than 1 % to around 5 % (dry weight basis) in most feedstocks and from 0.5 to 2.5 % (dry weight basis) in finished composts. $\text{NO}_3\text{-N}$ (an optional test) is generally present in only low concentrations in immature composts, although it may increase as the compost matures. $\text{NH}_4\text{-N}$ levels may be high during initial stages of the composting process, but decrease as maturity increases. Organic N is determined by subtracting the inorganic N forms, $\text{NH}_4\text{-N}$ and $\text{NO}_3\text{-N}$ , from total N. However, because $\text{NO}_3\text{-N}$ levels are generally very low, total nitrogen minus $\text{NH}_4\text{-N}$ provides a good estimate of organic N in most composts and is the value shown on the front of this report. In stable, finished composts, most of the N should be in the organic form. While $\text{NH}_4\text{-N}$ and $\text{NO}_3\text{-N}$ are immediately available to plants, organic N is only slowly available, approximately 10 to 20 % per year. However, mineralization or break-down of organic N into available inorganic forms depends on the C:N ratio (see below) as well as factors such as soil moisture and temperature.
<b>Total Carbon</b>	Total carbon (C) is a direct measurement of all organic and inorganic carbon in the compost sample. Unless the sample has a high pH (> 8.3) or is known to contain carbonates, essentially all carbon will be in the organic form. Compost organic matter typically contains around 54 % organic carbon by weight. The carbon content of individual feedstocks may vary from this ratio.
<b>Carbon: Nitrogen Ratio</b>	This is the ratio of total carbon (C) to total nitrogen (N) in the compost sample provided. C:N ratio may be used as an indicator of compost stability and N availability. Compost C:N ratio typically decreases during composting if the starting C:N ratio is > 25, but may increase if the starting C:N ratio is low (< 15) and N is lost during the composting process. Composts with high C:N ratios (> 30) will likely immobilize or tie-up N if applied to soil, while those with low C:N ratios (< 20) will mineralize or break-down organic N to inorganic (plant-available) N.
<b>Phosphorus, Potassium</b>	Phosphorus (P) and potassium (K) are plant macronutrients. Values reported are for total amounts given in the oxide forms ( $\text{P}_2\text{O}_5$ and $\text{K}_2\text{O}$ ). These results provide an indication of the nutrient value of the compost sample. However, plant availability of total phosphorus and potassium in compost has not yet been established.
<b>Nitrogen, Phosphorus, Potassium Balance</b>	When compost is applied on the basis of nitrogen (N), most composts will have an excess of phosphorus (P) and potassium (K) relative to crop demand. These mineral elements and salts can accumulate to above optimum levels with repeated application. Growers using compost should regularly soil test to monitor P, K and salt accumulation and should consider using other nutrient sources or nitrogen fixing legumes in their crop rotation especially when P and K levels are above optimum.



Analysis Report For:				Copy To:		
Mike Carignan AgResource 110 Boxford Rd Rowley MA 01969				Dave Harding AgResource 110 Boxford Rd Rowley MA 01969		
LAB ID:	SAMPLE ID:	REPORT DATE:	SAMPLE TYPE:	FEEDSTOCKS	COMPOSTING METHOD	COUNTY
C10315	Barnstable					

**COMPOST ANALYSIS REPORT**

Analyte	Results (As is basis)		Results (Dry weight basis)
	(Weight basis)	(Volume Basis)*	
Water extractable phosphorus <sup>1</sup> as (P <sub>2</sub> O <sub>5</sub> ) <sup>2</sup>	0.01 %	0.11 lb/yd <sup>3</sup>	0.01 %

\*Volume results are calculated on the basis of laboratory-determined compost bulk density

<sup>1</sup>: 1:100 (w:w, solids:water) extraction ratio

<sup>2</sup>To convert phosphorus as (P<sub>2</sub>O<sub>5</sub>) into elemental phosphorus (P), divide by 2.29.



508.845.2143 Phone  
 508.842.9245 Fax  
 www.bigelownurseries.com

455 WEST MAIN ST.  
 NORTHBOROUGH MA 01532

April 18, 2018

We hereby certify the nursery stock supplied by Bigelow Nurseries, Inc., for M.O.N. LANDSCAPING, INC.,  
 P.O. BOX 70220, NO. DARTMOUTH, MA 02747. Shipped April 18, 2018. Job: RUNWAY 14-32  
 TAXIWAYS, NEW BEDFORD REG. AIRPORT, , NEW BEDFORD  
 Invoice # 196961

Description	Qty Shipped
ACER RUBRUM #7 4 FT	10
SALIX DISCOLOR #3	30
ACER RUBRUM #7 4 FT	10

All stock meets requirements of the pertinent project plans, special provisions and specifications of the  
 department of transportation in all respects. Processing, testing, and inspection control of raw material are  
 in conformance with all articles furnished.

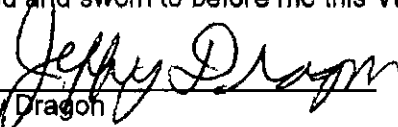
All records and documents pertinent to this certificate and not submitted here with will be maintained  
 available by the undersigned for the period of not less than one year from final payment.



Steve Davis

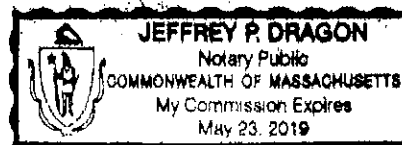
**Wholesale Sales**

Subscribed and sworn to before me this Wednesday, 18 April, 2018



Jeffrey Dragon

Notary Public





# CERTIFICATE OF COMPLIANCE

Contract No. \_\_\_\_\_

Date: 5/4/2018

Exp. No. \_\_\_\_\_

We hereby certify that Vaccinium corymbosum  
(material or description of material)

Furnished to: M O N Landscaping, Inc.  
(name of contractor)

For use on: New Bedford Airport  
(project name)

In the amount of: 30 identified by: V010HH  
(quantity)

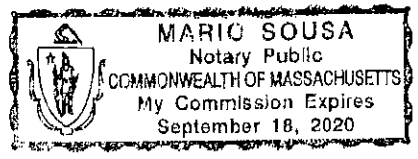
shipped on: 4/16/2018 to be true to variety and free from disease at the time of shipment. We further certify that all plants furnished on this order conform to the standards set by the American Association of Nurserymen as described in the booklet ANSI Z60.1-2004 which is entitled American Standard For Nursery Stock. All records and documents pertinent to this certificate and not submitted herewith will be maintained available by the undersigned for a period of not less than three years from the date of final payment to Sylvan Nursery, Inc.

Sylvan Nursery, Inc.  
1028 Horseneck Road  
Westport, MA 02790

Mary Hallene  
Mary Hallene

5/4/2018  
Date

Sales Manager 5/7/18  
Title





# CERTIFICATE OF COMPLIANCE

Contract No. \_\_\_\_\_

Date: 5/4/2018

Fap. No. \_\_\_\_\_

We hereby certify that Clethra alnifolia  
(material or description of material)

Furnished to: M O N Landscaping, Inc.  
(name of contractor)

For use on: New Bedford Airport  
(project name)

in the amount of: 30 Identified by: C480GE  
(quantity)

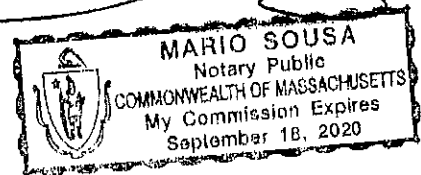
shipped on: 4/16/2018 to be true to variety and free from disease at the time of shipment. We further certify that all plants furnished on this order conform to the standards set by the American Association of Nurserymen as described in the booklet ANSI Z60.1-2004 which is entitled American Standard For Nursery Stock. All records and documents pertinent to this certificate and not submitted herewith will be maintained available by the undersigned for a period of not less than three years from the date of final payment to Sylvan Nursery, Inc.

Sylvan Nursery, Inc.  
1028 Horseneck Road  
Westport, MA 02790

Mary Hallene  
Mary Hallene

5/4/2018  
Date

Sales Manager 5/7/18  
Title





# E H TURF SUPPLY, INC.

d/b/a ALLENS SEED

693 SOUTH COUNTY TRAIL  
EXETER, RHODE ISLAND 02822

Tel.: (401) 294-2722

294-6252 FAX

## CERTIFICATE OF COMPLIANCE (Manufactured or Fabricated Materials)

Contract Item No. M-009-3

Date: 5/1/2018

We Hereby Certify That: Runway 14-32 Taxiways, New Bedford Airport, New Bedford, Seed Mix Lot No. 18-023  
(Description of Kind of Material)

To Be Furnished To: D.W. White Construction by MON Landscaping, Inc. (Sub)  
(Name of Contractor)

For Use On: Runway 14-32 Taxiways, New Bedford, MA, Project  
(Project Name)

Federal Aid Project #3-25-0034-055-2017 Contract #: Project #:

In The Amount of: 100 SY

Identified by: Seed tag. See attached.

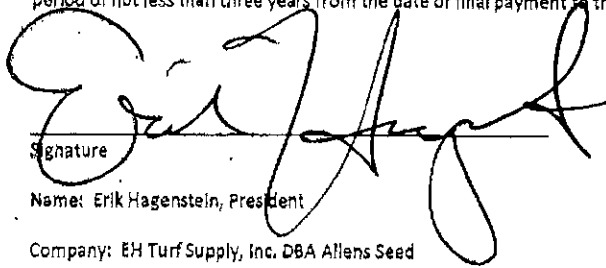
Shipped between: 4/01/18 and 4/30/18

Shipped Via: Truck  
(Method of Shipping)

Manufacturer: EH Turf Supply, Inc. DBA Allens Seed

Meets the requirements of the pertinent project plans, special provisions, and specifications of the Massachusetts Department of Transportation in all respects, product testing, and inspection control of raw materials are in conformance with all applicable specifications, drawings, and or standards of all articles furnished and all amendments thereto.

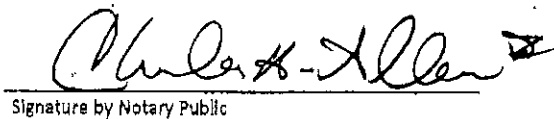
All records and documents pertinent to this certificate and not submitted herewith shall be maintained available by the undersigned for a period of not less than three years from the date of final payment to the state from federal funds.

  
Signature

Name: Erik Hagenstein, President

Company: EH Turf Supply, Inc. DBA Allens Seed

Address: 693 South County Trail  
Exeter, RI 02822  
(401) 294-2722

  
Signature by Notary Public

CHARLES H. ALLEN IV  
NOTARY PUBLIC OF RHODE ISLAND  
Comm. # 781177  
My Commission Expires 7/13/2021

MON NEW BEDFORD WETLAND REPLICATION SEED MIX

Item	Botanical Name	Purity	Germ	Dorm
Virginia Wildrye	<i>Elymus virginicus</i>	19.69%	92%	6%
Riverbank Wildrye	<i>Elymus riparius</i>	15.95%	96%	
Lurid (Shallow) Sedge	<i>Carex lurida</i>	13.84%	74%	9%
Creeping Red Fescue	<i>Festuca rubra</i>	8.92%	90%	
Green Bulrush	<i>Scirpus atrovirens</i>	7.97%	95%	
Marsh (Dense) Blazing Star	<i>Liatris spicata</i>	7.87%	98%	
Cave-In-Rock Switchgrass	<i>Panicum virgatum, Cave-In-Rock</i>	5.93%	85%	
Blunt Broom Sedge	<i>Carex scoparia</i>	4.32%	61%	20%
Boneset	<i>Eupatorium perfoliatum</i>	2.60%	14%	72%
Fowl Bluegrass	<i>Poa palustris</i>	1.90%	68%	17%
Smooth Panicgrass	<i>Panicum dichotomiflorum</i>	.93%	9%	28%
New England Aster	<i>Aster novae-angliae</i>	.89%	39%	42%
Nodding Bur Marigold	<i>Bidens cernua</i>	.87%	10%	83%
Spotted Joe Pye Weed	<i>Eupatorium maculatum</i>	.87%	14%	71%
Common Sneezeweed	<i>Helenium autumnale</i>	.69%	95%	
Silky Dogwood	<i>Cornus amomium</i>	.50%	1%	94%
Swamp Milkweed	<i>Asclepias incarnata</i>	.46%	20%	68%

Crop: .53% Inert: 5.23% Weeds: .04% Date Tested: 2/2018 Lot No. 18-023

ALLEN'S SEED STORE, INC., gives no warranty expressed or implied, as to description, quality, productivity, or any other matter of any seeds, bulbs or plants it sells, and will not be responsible for the crop.

FROM: ALLEN'S SEED STORE, INC., EXETER, R.I. 02822

TO:

---



---



---





# E H TURF SUPPLY, INC.

d/b/a ALLENS SEED

693 SOUTH COUNTY TRAIL  
EXETER, RHODE ISLAND 02822

Tel.: (401) 294-2722  
294-4621 SHOP  
294-6262 FAX

## CERTIFICATE OF COMPLIANCE (Manufactured or Fabricated Materials)

Contract Item No. T-901-1

Date: 5/7/2018

We Hereby Certify That: New Bedford Runway Upland Seed Mix Lot No. 18-021  
(Description of Kind of Material)

To Be Furnished To: D.W. White Construction by MON Landscaping, Inc. (Sub)  
(Name of Contractor)

For Use On: Runway 14-32 Taxiway 14-32 Taxiways, New Bedford, MA, Project  
(Project Name)

Federal Aid Project #3-25-0034-055-2017

Contract #:

Project #:

In The Amount of: 6,000 SY

Identified by: Seed tag. See attached:

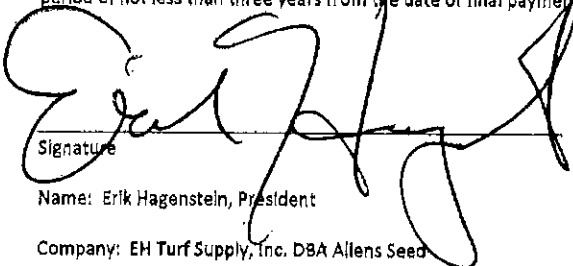
Shipped between: 4/01/18 and 4/30/18

Shipped Via: Truck  
(Method of Shipping)

Manufacturer: EH Turf Supply, Inc. DBA Allens Seed

Meets the requirements of the pertinent project plans, special provisions, and specifications of the Massachusetts Department of Transportation in all respects, product testing, and inspection control of raw materials are in conformance with all applicable specifications, drawings, and or standards of all articles furnished and all amendments thereto.

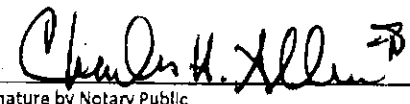
All records and documents pertinent to this certificate and not submitted herewith shall be maintained available by the undersigned for a period of not less than three years from the date of final payment to the state from federal funds.

  
Signature

Name: Erik Hagenstein, President

Company: EH Turf Supply, Inc. DBA Allens Seed

Address: 693 South County Trail  
Exeter, RI 02822  
(401) 294-2722

  
Signature by Notary Public

**CHARLES H. ALLEN IV**  
NOTARY PUBLIC OF RHODE ISLAND  
Comm. # 761177  
My Commission Expires 7/13/2021

MON NEW BEDFORD RUNWAY UPLAND SEED MIX

% by wt.	Purity	Germ.
34 Creeping Red Fescue	33.37	93
33 Fawn Tall Fescue	32.85	92
33 Winter Rye	32.34	85

Crop: .33                      Inert: 1.09                      Weeds: .02  
Date Tested: 10/17                      Lot No. 18-021  
No Noxious Weeds Found

ALLEN'S SEED STORE, INC., gives no warranty expressed or implied, as to description, quality, productiveness, or any other matter of any seeds, bulbs or plants it sells, and will not be responsible for the crop.

**FROM:** ALLEN'S SEED STORE, INC., EXETER, R.I. 02822

**TO:**

---

---

---

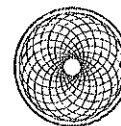
**ATTACHMENT C  
PLANT LIST  
PHOTOGRAPHS**

2018 Fall Replication Area Monitoring NBRA

Scientific Name	Common Name	% Cover	Relative % Cover	R1IND Status	Invasive/ Native
<b>Herbaceous</b>					
<i>Panicum dichotomiflorum</i>	Fall Panicgrass	85.5	18.10	FACW	Native
<i>Bidens cernua</i>	Nodding Beggartick	38	8.04	OBL	Native
<i>Carex lurida</i>	Lurid Sedge	38	8.04	OBL	Native
<i>Carex scoparia</i>	Broom Sedge	38	8.04	FACW	Native
<i>Erechtites hieraciifolius*</i>	American Burnweed	20.5	4.34	FACU	Introduced
<i>Osmunda cinnamomea*</i>	Cinnamon Fern	20.5	4.34	FACW	Native
<i>Trifolium repens*</i>	White Clover	20.5	4.34	FACU	Introduced
<i>Asclepals incarnata</i>	Swamp Milkweed	10.5	2.22	OBL	Native
<i>Dichanthelium clandestinum</i>	Deertongue	10.5	2.22	FACW	Native
<i>Echinochloa crus-gali*</i>	Barnyard Grass	10.5	2.22	FAC	Introduced
<i>Eupatorium perfoliatum</i>	Boneset	10.5	2.22	FACW	Native
<i>Euphorbia helioscopia*</i>	Madwoman's Milk	10.5	2.22	NL	Introduced
<i>Euthamia graminifolia*</i>	Grassleaved Goldenrod	10.5	2.22	FACW	Native
<i>Festuca rubra</i>	Creeping Red Fescue	10.5	2.22	FACU	Native
<i>Lactuca biennis*</i>	Tall Blue Lettuce	10.5	2.22	FAC	Native
<i>Poa palustris</i>	Fowl Bluegrass	10.5	2.22	FACW	Native
<i>Polygonum pennsylvanicum*</i>	Pennsylvania Smartweed	10.5	2.22	FACW	Native
<i>Rubus hispidis*</i>	Swamp Dewberry	10.5	2.22	FACW	Native
<i>Scirpus atrovirens</i>	Green Bulrush	10.5	2.22	OBL	Native
<i>Symphotrichum novae-angliae</i>	New England Aster	10.5	2.22	FACW	Native
<i>Symphotrichum puniceum*</i>	Purpiestem Aster	10.5	2.22	OBL	Native
<i>Vicia cracca*</i>	Bird Vetch	10.5	2.22	NL	Introduced
<i>Acer rubrum*</i>	Red Maple	3	0.63	FAC	Native
<i>Chamaecrista fasciculata</i>	Partridge Pea	3	0.63	FACU	Native
<i>Cyperus strigosus*</i>	Straw-colored Flatsedge	3	0.63	FACW	Native
<i>Daucus carota*</i>	Queen Anne's Lace	3	0.63	UPL	Introduced
<i>Phytolacca americana*</i>	American Pokeweed	3	0.63	FACU	Native
<i>Solanum dulcamara*</i>	Climbing Nightshade	3	0.63	FAC	Introduced
<i>Tanacetum vulgare*</i>	Common Tansy	3	0.63	FACU	Introduced
<i>Setaria pumilla*</i>	Yellow Foxtail	3	0.63	FAC	Introduced
<i>Toxicodendron radicans*</i>	Poison Ivy	3	0.63	FAC	Native
<i>Rumex acetosa</i>	Sheep Sorrel	3	0.63	UPL	Introduced
<i>Plantago major*</i>	Common Plantain	3	0.63	FACU	Introduced

2018 Fall Replication Area Monitoring NBRA

Scientific Name	Common Name	% Cover	Relative % Cover	R1IND Status	Invasive/ Native
<i>Vitis spp.*</i>	Grape	3	0.63		Native
<i>Potentilla norvegica*</i>	Norwegian Cinquefoil	3	0.63	FAC	Native
<i>Ambrosia artemisiifolia*</i>	Ragweed	3	0.63	FACU	Native
<i>Digitaria serlata*</i>	Crabgrass	3	0.63	NL	None
<i>Polygonum hydropiperoides*</i>	Swamp Smartweed	3	0.63	OBL	Native
<i>Lythrum salicarium*</i>	Purple Loosestrife	3	0.63	OBL	Invasive
<i>Celastrus orbiculatus*</i>	Bittersweet	3	0.63	UPL	Invasive
		472.5			
<b><i>Shrubs</i></b>					
<i>Acer rubrum</i>	Red Maple	20.5	21.46	FAC	Native
<i>Clethra alnifolia</i>	Sweet Pepperbush	20.5	21.46	FAC	Native
<i>Vaccinium corymbosum</i>	Highbush Blueberry	20.5	21.46	FACW	Native
<i>Salix discolor</i>	Pussy Willow	20.5	21.46	FACW	Native
<i>Comptonia peregrina*</i>	Sweetfern	10.5	11.00	NL	Native
<i>Betula populifolia*</i>	Gray Birch	3	3.14	FAC	Native
<i>* denotes volunteer species</i>					



JM Fiske Environmental

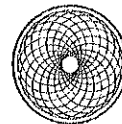
NBRA AIP Project No. 3-25-0034-XX-2017  
2018 Fall Replication Area Monitoring  
New Bedford, MA



Photo 1  
September 07, 2018  
Western lobe looking  
ESE toward gravel  
road.



Photo 2  
September 07, 2018  
Eastern lobe looking  
WNW with gravel  
road on the right.



JM Piske Environmental

NBRA AIP Project No. 3-25-0034-XX-2017  
2018 Fall Replication Area Monitoring  
New Bedford, MA



Photo 3  
September 07, 2018  
Center of the  
replication area looking  
SSE toward airport  
with gravel road on the  
left.

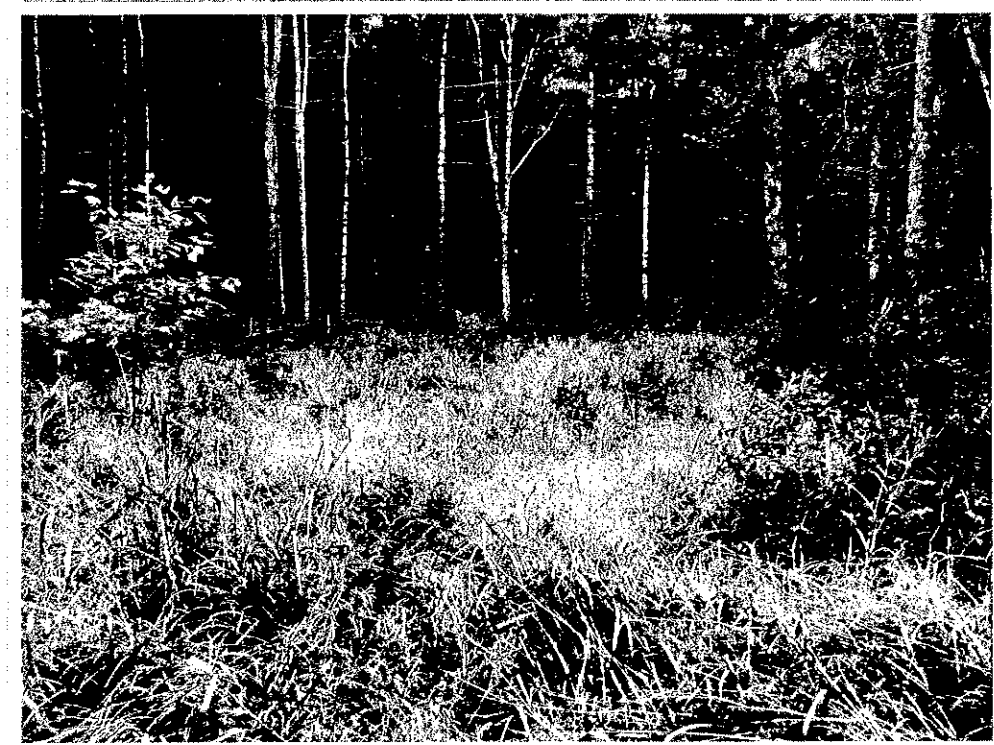


Photo 4  
September 07, 2018  
Center of the  
replication area looking  
due west with gravel  
road to the east.