AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.) the "CWA", and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap.21, §§26-53),

Sterling Suffolk Racecourse, LLC

is authorized to discharge from the facility located at

111 Waldemar Avenue
East Boston, MA 02128

to a receiving water named

Sales Creek (MA71-12)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on the first day of the calendar month following 60 days after signature if comments are received. If no comments are received, this permit shall become effective following signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit consists of 26 pages in Part I, including effluent limitations, monitoring requirements and nutrient management plan requirements; 19 pages in Part II, including standard NPDES and concentrated animal feeding operation ("CAFO") conditions and definitions; and, Figure 1, Suffolk Downs Production Area, Track Area and Outfalls.

Signed this day of

Ken Moraff, Acting Director
Office of Ecosystem Protection
Environmental Protection Agency
Region I
Boston, MA

David Ferris, Director
Massachusetts Wastewater Management Program
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I
A. Effluent Limitations and Monitoring Requirements

1. Production Area Process Wastewater Discharges

During the period beginning on the effective date of this permit and lasting through its expiration date, the following discharge from the Production Area is authorized:

a. There shall be no discharge of process wastewater pollutants into waters of the United States from the Production Area except when rainfall causes an overflow, provided that each of the following criteria are met:

(1) Suffolk's Production Area is designed, constructed, operated and maintained to contain all process-generated wastewaters plus the runoff from the 25-year, 24-hour rainfall event for the location of the CAFO[1];

(2) The design storage volume of the process wastewater retention structure is adequate to contain all manure, litter, and process wastewater accumulated during the storage period considering, at a minimum, the following:

(A) the volume of manure, litter, process wastewater, and other wastes accumulated during the storage period;
(B) the volume of normal precipitation less evaporation during the storage period;
(C) the volume of runoff from the Production Area's drainage area from normal rainfall events during the storage period;
(D) the volume of direct precipitation from the 25-year, 24-hour rainfall event;
(E) the volume of runoff from the Production Area from the 25-year, 24-hour rainfall event;
(F) the volume of residual solids remaining in the process wastewater retention structure after liquid has been removed;
(G) sediment load in the runoff from the Production Area; and,
(H) all necessary freeboard to maintain structural integrity of the process wastewater retention structure.

(3) Suffolk must maintain, on-site, engineering design and construction plans documenting that Suffolk has sufficient storage capacity to ensure compliance with the effluent limitations specified in Part I.A.1.a. (1) and (2) above; and,

(4) The maximum length of time between emptying events for the Production Area process wastewater retention structure is the 60 day storage period used by Suffolk to calculate the required design volume of the collection system in Part I.A.1.a.(2) above.

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[1] This design and implementation standard meets the effluent requirements for best available technology economically achievable (BAT) contained 40 C.F.R. § 412.13; also note that Suffolk's CAFO separately is subject to the effluent requirements for best practicable control technology currently available (BPT) contained in 40 C.F.R. § 412.12, which requires a design and implementation standard consistent with the 10 year, 24 hour rainfall event. Therefore, under the applicable EPA regulations the BPT requirement is subsumed by the BAT requirement.

b. The discharge authorized by Part I.A.1.a. above may be discharged into Sales Creek through **Outfall Serial Numbers 001 and 002**. Such discharge shall be: 1) limited and monitored as specified below; 2) not cause a violation of the Massachusetts Surface Water Quality Standards for the receiving water; and 3) be minimized and controlled by implementation of the nutrient management terms and conditions specified in Part 1.B.1 of this permit.

Production Area Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirements [1]	
		Average Monthly	Maximum Daily	Measurement Frequency [2]	Sample Type
Rainfall/Precipitation[3]	Inches	----	Report	Each Discharge Event	Total
Flow	GPD	----	Report	Each Discharge Event	Estimate[4]
pH [5]	SU	----	6.5-8.3	Each Discharge Event	Grab
Oil and Grease (O&G)	mg/L	----	Report	Each Discharge Event	Grab
Total Suspended Solids TSS)	mg/L	----	Report	Each Discharge Event	Grab
BOD_5	mg/L	----	Report	Each Discharge Event	Grab
Dissolved Oxygen	mg/L	----	Report	Each Discharge Event	Grab
Fecal Coliform[6]	MPN or CFU per 100 ml	----	Report	Each Discharge Event	Grab
E.Coli[6]	MPN or CFU per 100 ml	----	Report	Each Discharge Event	Grab
Aluminum, Total Recoverable	mg/L	----	Report	Each Discharge Event	Grab

Footnotes:

1. Samples taken in compliance with the monitoring requirements specified above shall be taken at a point representative of the discharge through the outfall, prior to mixing with the receiving water. All samples shall be tested in accordance with the procedures in 40 C.F.R. Part136, unless specified elsewhere in the permit.
2. Sampling frequency of each overflow discharge event is defined as sampling during any rainfall event when there is a discharge.
3. Report the data from a rain gauge located at the CAFO, concurrent with any overflow discharge. Report the intensity, duration, and amount of precipitation for each rainfall event for which there is an overflow discharge on the discharge monitoring report ("DMR") cover letter. Intensity shall be reported in units of inches/hour and amount of rainfall shall be reported in units of inches.
4. Flow shall be estimated for each overflow discharge at the discharge point located at the end of the pipe, prior to discharging into the receiving water.
5. See Part I.A.6 of this permit for additional pH requirements.
6. The maximum daily monitoring result for fecal coliform and E. Coli shall be expressed as a

geometric mean. The units may be expressed as MPN for samples tested using the Most Probable Number method, or CFU when using the Membrane Filter method.

PART I. A. Effluent Limitations and Monitoring Requirements (continued)

2. a. Stormwater associated with industrial activity – Production Area and former Production Area Outfalls (Production Area Roof Runoff and Non-Production Area Runoff)

During the period beginning on the effective date of this permit and lasting through its expiration date, the permittee is authorized to discharge stormwater associated with an industrial activity to Sales Creek through **Outfall Serial Numbers 003, 004, 005, 006 and 007**. Such discharge shall: 1) be limited and monitored by the permittee as specified below; 2) not cause a violation of the Massachusetts Surface Water Quality Standards for the receiving water; and 3) be controlled by the best management practices ("BMPs") described in Part I.C. of this permit, Stormwater Pollution Prevention Plan Requirements.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirements [1, 2]	
		Average Monthly	Maximum Daily	Measurement Frequency [3]	Sample Type
Rainfall/Precipitation[4]	Inches	----	Report	Monthly	Total
Flow	GPD	----	Report	Monthly	Estimate[5]
Total Suspended Solids (TSS)	mg/L	----	Report	Monthly	Grab
pH [6]	SU	----	6.5-8.3	Monthly	Grab
Fecal Coliform[7]	MPN or CFU per 100 ml	----	Report	Monthly	Grab
E.Coli[7]	MPN or CFU per 100 ml	----	Report	Monthly	Grab

Footnotes:

[1.] Samples taken in compliance with the monitoring requirements specified above shall be taken at a point representative of the discharge through the outfall, prior to mixing with the receiving water. All samples shall be tested in accordance with the procedures in 40 CFR Part 136, unless specified elsewhere in this permit.

[2.] Stormwater samples shall be taken during wet weather conditions. Wet weather conditions are defined as a rainfall event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (i.e., greater than 0.1 inch rainfall) rainfall event. Grab sample(s) shall be taken during the first thirty minutes of the discharge. If collection of grab sample(s) during the first thirty minutes is impracticable, grab sample(s) may be taken as soon after that as possible, and the permittee shall submit with the DMR a description of why the

collection of the grab sample(s) during the first thirty minutes was impracticable. When the permittee is unable to collect grab sample(s) due to adverse climatic conditions, the permittee must submit, in lieu of sampling data, a description of why the grab sample(s) could not be collected, including available documentation of the event. Adverse weather conditions which may prohibit the collection of sample(s) include weather conditions that pose a danger to personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of sample(s) impracticable (extended frozen conditions, specified storm event did not occur during sampling period, etc.). A "no discharge" code shall be entered on the DMR for those sampling periods during which there is no discharge.

[3.] Monthly sampling frequency is defined as the taking of one sample during wet weather conditions (as defined above in Footnote [2.]) each calendar month. If there are no wet weather conditions in a calendar month, the permittee shall record "no discharge" on its DMR.

[4.] Report the data from a rain gauge located at the CAFO, concurrent with each rainfall event. Report the intensity, duration, and amount of rainfall for the rainfall event on the DMR cover letter. Intensity shall be reported in units of inches/hour and amount of rainfall shall be reported in units of inches. Measurement of the duration of a rainfall event shall begin at the start of a rain event greater than 0.1 inches in magnitude and end when the rain event ends.

[5.] Flow shall be estimated for each rainfall event at the discharge point located at the end of the pipe, prior to discharging into the receiving water.

[6.] See Part I.A.6 of this permit for additional pH requirements

[7.] The maximum daily monitoring result for fecal coliform and E. Coli shall be expressed as a geometric mean. The units may be expressed as MPN for samples tested using the Most Probable Number method, or CFU when using the Membrane Filter method.

2.b. Stormwater associated with industrial activity – Racetrack Area Outfalls

During the period beginning on the effective date of this permit and lasting through its expiration date, the permittee is authorized to discharge stormwater associated with an industrial activity to Sales Creek through **Outfall Serial Numbers 008, 009, 010 and 011**. Such discharge shall: 1) be limited and monitored by the permittee as specified below; 2) not cause a violation of the Massachusetts Surface Water Quality Standards for the receiving water; and 3) be controlled by the best management practices ("BMPs") described in Part I.C. of this permit, Stormwater Pollution Prevention Plan Requirements.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirements [1, 2]	
		Average Monthly	Maximum Daily	Measurement Frequency [3]	Sample Type
Rainfall/Precipitation[4]	Inches	----	Report	Monthly	Total
Flow	GPD	----	Report	Monthly	Estimate[5]
pH [6]	SU	----	6.5-8.3	Monthly	Grab
Total Suspended Solids (TSS)	mg/L	----	Report mg/L	Monthly	Grab

Footnotes:

[1.] Samples taken in compliance with the monitoring requirements specified above shall be taken at a point representative of the discharge through the outfall, prior to mixing with the receiving water. All samples shall be tested in accordance with the procedures in 40 CFR Part 136, unless specified elsewhere in this permit.
[2.] Stormwater samples shall be taken during wet weather conditions. Wet weather conditions are defined as a rainfall event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (i.e., greater than 0.1 inch rainfall) rainfall event. Grab sample(s) shall be taken during the first thirty minutes of the discharge. If collection of grab sample(s) during the first thirty minutes is impracticable, grab sample(s) can be taken as soon after that as possible, and the permittee shall submit with its DMR a description of why the collection of the grab sample(s) during the first thirty minutes was impracticable. When the permittee is unable to collect grab sample(s) due to adverse climatic conditions, the permittee must submit, in lieu of sampling data, a description of why the grab sample(s) could not be collected, including available documentation of the event. Adverse weather conditions which may prohibit the collection of sample(s) include weather conditions that pose a danger to personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of sample(s) impracticable (extended frozen conditions, specified storm event did not occur during sampling period, etc.). A "no discharge" code shall be entered on its DMR for those sampling periods during which there is no discharge.
[3.] The monthly sampling frequency is defined as taking one sample during wet weather conditions (as defined above in Footnote [2.]) each calendar month. If there are no wet weather conditions in a particular calendar month, the permittee shall record "no discharge" on its DMR.
[4.] Report the data from a rain gauge located at the CAFO, concurrent with each rainfall event. Report the intensity, duration, and amount of precipitation for the rainfall event on the DMR cover letter. Intensity shall be reported in units of inches/hour and amount of rainfall shall be reported in units of inches. Measurement of the duration of a rainfall event shall begin at the start of a rainfall event greater than 0.1 inches in magnitude and end when the rainfall event ends.
[5.] Flow shall be estimated for each rainfall event at the discharge point located at the end of the pipe, prior to discharging into the receiving water.
[6.] See Part I.A.6 of this permit for additional pH requirements

PART I. A. Effluent Limitations and Monitoring Requirements (continued)

3. Dry Weather Monitoring

During the period beginning on the effective date of this permit and lasting through its expiration date, the permittee is required to conduct weekly visual inspections **of all outfalls (001-011)** during dry weather and if a discharge is observed during the weekly visual inspections or at any other time, the discharge is required to be monitored as specified below:

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirements [1,2]	
		Average Monthly	Maximum Daily	Measurement Frequency [3]	Sample Type
Flow	GPD	----	Report	Each Discharge Event	Estimate[3]
Total Suspended Solids (TSS)	mg/L	----	Report	Each Discharge Event	Grab
pH [4]	SU	----	6.5-8.3	Each Discharge Event	Grab
Aluminum, Total Recoverable	mg/L	----	Report	Each Discharge Event	Grab
Fecal Coliform[5]	MPN or CFU per 100 ml	----	Report	Each Discharge Event	Grab
E.Coli[5]	MPN or CFU/100ml	----	Report	Each Discharge Event	Grab
Total Phosphorous	mg/L	----	Report	Each Discharge Event	Grab
Nitrogen-Ammonia	mg/L	----	Report	Each Discharge Event	Grab

Footnotes:

1. Samples taken in compliance with the monitoring requirements specified above shall be taken at a point representative of the discharge through the outfall, prior to mixing with the receiving waters. All samples shall be tested in accordance with the procedures in 40 CFR 136, unless specified elsewhere in the permit.

2. Dry weather discharge samples shall be taken during dry weather conditions. Dry weather conditions are defined as any time when there is no precipitation and no snow melt, and is at least 24 hours after the end of a rainfall event that was greater than 0.1 inches in magnitude. If the flow is continuous, sampling frequency of one time during dry weather conditions is required and report continuous discharge on the DMR. If there is no dry weather flow in a particular calendar month, report no discharge on the DMR.

3. Dry-weather flow shall be estimated on a weekly basis at the discharge point located at the end of the pipe, prior to discharging into the receiving water.

4. See Part I.A.6 of this permit for additional pH requirements

5. The maximum daily monitoring result for fecal coliform and E. Coli shall be expressed as a geometric mean. The units may be expressed as MPN for samples tested using the Most Probable Number method, or CFU when using the Membrane Filter method.

PART I. A. Other Effluent Limitations and Monitoring Requirements

4. Notwithstanding all other conditions contained in Part I.A. of this permit, any discharge of floating solids, visible oil sheen or foam, other than in trace amounts, is prohibited.

5. The discharge shall not cause an objectionable discoloration, odor, or turbidity to the receiving waters.

6. The pH of the effluent shall not be less than 6.5 Standard Units (SU), nor greater than 8.3 SU at any time, and no more 0.2 units outside the natural background range.

7. The effluent shall not contain materials in concentration or in combinations which are hazardous or toxic to aquatic life or which would impair the uses designated by the classification of the receiving water.

8. If the permit is modified or reissued, it shall be revised to reflect all currently applicable requirements of the CWA and in accordance with of 40 CFR §§122.62 and 122.63.

9. All existing manufacturing, commercial, mining and silvicultural dischargers must notify EPA as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) One hundred micrograms per liter (100 µg/l);
(2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrite; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or
(4) Any other notification level established by EPA in accordance with 40 CFR §122.44(f).

b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 µg/l);
(2) One milligram per liter (1 mg/l) for antimony;
(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7).
(4) Any other notification level established by EPA in accordance with 40 C.F.R. §122.44(f).

c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

10. Toxics Control

a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

11. Prohibitions

a. Animals confined at Suffolk's CAFO shall not be allowed to come into direct contact with waters of the United States.

b. There shall be no discharge from Suffolk's CAFO of rainfall runoff from manure or litter or feed storage piles, dumpsters, or other storage devices into waters of the United States.

c. The land application of manure, litter or process wastewater at Suffolk's CAFO is prohibited under this permit.

d. Suffolk shall not expand its CAFO operations, either in size or numbers of animals, prior to amending or enlarging the waste handling procedures and structures to accommodate any additional wastes that will be generated by the expanded operations.

e. No manure, litter, or process wastewater storage and handling structure shall be abandoned at Suffolk's CAFO. Closure of all such structures shall occur as promptly as practicable after the permittee has ceased to operate, or, if the permittee has not ceased to operate, within 12 months after the date on which the use of the structure ceased. Closure of a manure, litter, or process wastewater storage and handling structure shall be in compliance with the requirements found at Part 1.A.13. of this permit.

f. In the event that Suffolk closes its CAFO in accordance with Part I.A.13. of this permit, any stormwater discharge to waters of the United States from the facility's former Production Area containing concentrations of bacteria in excess of water quality standards is prohibited.

g. This permit does not authorize discharges of pollutants from the Production Area of Suffolk's CAFO to surface waters during dry weather conditions and such dry weather discharges are prohibited.

h. All discharges to Suffolk's process wastewater retention structure shall be composed only of (1) manure, litter, or process wastewater from the proper operation and maintenance of the CAFO; and (2) stormwater from the Production Area. The disposal of other materials into the process wastewater retention structure at Suffolk's CAFO facility is prohibited.

12. Other Legal Requirements

a. No condition of this permit shall release the permittee from any responsibility or requirements under federal, state or local statutes or regulations.

b. Stormwater discharges that are not addressed under the effluent limitations in Part I.A. above remain subject to applicable industrial or construction storm water discharge requirements.

13. Facility Closure

The following conditions shall apply to the closure of lagoons and other earthen or synthetic lined basins and other manure, litter, or process wastewater storage and handling structures:

a. Closure of Lagoons and Other Surface Impoundments

(1) Lagoons and other earthen or synthetic lined basins shall be maintained at all times until closed in compliance with this section.

(2) All lagoons and other earthen or synthetic lined basins must be properly closed if the permittee ceases operation. In addition, any lagoon or other earthen or synthetic lined basin that is not in use for a period of twelve (12) consecutive months must be properly closed unless the CAFO is financially viable, intends to resume use of the structure at a later date, and either:
i. Maintains the structure as though it were actively in use, to prevent compromise of structural integrity; or

ii. Removes manure and wastewater to a depth of one foot or less and refills the structure with clean water to preserve the integrity of the synthetic or earthen liner. In either case, the permittee shall notify EPA, in writing, of the action taken, and shall conduct routine inspections, maintenance, and recordkeeping as though the structure were in use. Prior to restoration of use of the structure, the permittee shall notify EPA, in writing, and provide the opportunity for inspection. The permittee shall properly handle and dispose of the water used to preserve the integrity synthetic or earthen liner during periods of non-use in accordance with the NMP.

(3) All closure of lagoons and other earthen or synthetic lined basins shall be consistent with the Massachusetts Natural Resources Conservation Service (NRCS) Technical Standard Number 360. Consistent with this standard the permittee shall remove all waste materials to the maximum extent practicable and dispose of them in accordance with all applicable requirements of this permit and other applicable law.

(4) Completion of closure for lagoons and other earthen or synthetic lined basins shall occur as promptly as practicable after the permittee ceases to operate or, if the permittee has not ceased operations, twelve (12) months from the date on which the use of the structure ceased, unless the lagoons or basins are being maintained for possible future use in accordance with the requirements above.

b. Closure Procedures for Other Manure, Litter, or Process Wastewater Storage and Handling Structures

(1) No other manure, litter, or process wastewater storage and handling structure shall be abandoned. Closure of all such structures shall occur as promptly as practicable after the permittee has ceased to operate, or, if the permittee has not ceased to operate, within twelve (12) months after the date on which the use of the structure ceased. To close a manure, litter, or process wastewater storage and handling structure, the permittee shall remove all manure, litter, or process wastewater and dispose of it in accordance with the permittee's NMP, or document its

transfer from the permitted CAFO in accordance with off-site transfer requirements specified in Part I.A.14 of this permit, unless otherwise authorized by EPA.

14. Transfer of manure, litter or process wastewater to other persons

Requirements for the transfer of manure, litter or process wastewater to other persons are as follows. In cases where CAFO-generated manure, litter, or process wastewater is sold or transferred in any way to another person or other legal entity, Suffolk must comply with the following conditions:

i. Maintain records showing the date and amount of manure, litter, and/or process wastewater that leaves the permitted CAFO;
ii Record the name and address of the recipient;
iii. Provide the recipient(s) with representative information on the nutrient content of the manure, litter, and/or process wastewater; and,
iv. Retain records on-site for a period of five (5) years and submit to the permitting authority upon request.

15. In the event that any discharge from the CAFO causes or contributes to an exceedance of applicable water quality standards, Suffolk must take corrective action.

16. If a change in the ownership of Suffolk's CAFO occurs, Suffolk must submit to EPA the written notification required in Part II. D.1.c. of the permit. The notice must be submitted to EPA at the address specified in Part I.E.3. EPA will notify the current and new permittee(s) if the transfer of permit coverage is granted.

PART I.B.

1. Permit Terms and Conditions for Nutrient Management

a. Suffolk has developed a Nutrient and Stormwater Management Plan (NMP) that is designed to prevent the discharge of pollutants from the Production Area at Suffolk Downs to Sales Creek. The NMP is a written document that is required to be consistent with the effluent limitations and conditions of this permit and the federal CAFO requirements found at 40 CFR §§122.42(e)(1) and (2) and the applicable 40 CFR Part 412 effluent limitations and standards.

(1) Suffolk shall modify its NMP, if and as necessary, to reflect the best management practices, operation and maintenance procedures and infrastructure improvements implemented at Suffolk Downs to fulfill the requirements of this permit. Changes to Suffolk's NMP are subject to the procedural requirements of 40 C.F.R. §122.42(e)(6).

(2) If Suffolk makes changes to an NMP previously submitted to EPA, Suffolk must submit to EPA, within ten days of the date the NMP is revised, the revised NMP along with an identification of the NMP revisions.

(3) The NMP shall be signed by the owner/operator or other signatory authority in accordance with the requirements identified in 40 CFR §§122.22.

b. The following permit terms and conditions were derived from Suffolk's NMP and from 40 C.F.R. §§122.42(e)(1) and (2) and the applicable 40 CFR Part 412 effluent limitations and standards. These terms and conditions are enforceable requirements of this permit.

(1) Manure/Bedding Management Practices

The following best management practices (BMPs) shall be implemented for the management of manure and bedding within the CAFO's Production Area. Suffolk shall implement these BMPs at all times that any horses are stabled at the CAFO until the end of the annual racing season occurs and the post season cleanup procedures under Part 1.B.1.b.(5) of this permit have been fully and adequately completed.
(i) Horses shall be stabled only within the Stable Area.

(ii) Manure dumpsters shall be located in the vicinity of both the stables and the grain/bedding distribution area.

(iii) All manure dumpsters shall include weighted flip-top covers.

(iv) All manure storage dumpsters shall be covered or closed except when adding or removing contents.

(v) All manure dumpsters shall be labeled in English and Spanish stating that manure dropped on the ground must be cleaned up and placed in the dumpsters immediately upon observation of such manure by stable workers or track personnel.

(vi) All manure and bedding materials removed from any area within the Stable Area, and all feed/bedding material removed for disposal from the grain/bedding distribution area shall be placed immediately upon such removal into the manure dumpsters.

(vii) At all times during transport, the containers used during transport of manure/bedding materials to the dumpsters shall be covered with an impervious material.

(viii) Manure dumpsters shall be inspected daily for punctures and leaks. If punctures or leaks are observed, the dumpster shall be immediately removed from service for repair, and a serviceable dumpster shall be provided.

(ix) An adequate number of manure dumpsters shall be provided to prevent uncontained stockpiling of manure/waste feed and bedding materials. Stockpiling of manure/waste feed and bedding materials, other than in a dumpster, is prohibited.

(x) Manure dumpsters shall be emptied into manure trailers as required, ensuring that dumpsters are not overfilled.

(xi) A manure trailer shall at all times be available and contain sufficient space to receive material from the manure dumpsters.

(xii) All manure trailers shall be covered at all times while on site, including times when the trailers are not actively being filled as well as during transport.

(xiii) All manure trailers shall be transported to a composting facility at a frequency that ensures that trailer capacity is not exceeded.

(xiv) Adequate solid waste dumpsters shall be provided throughout the Production Area for the disposal of general solid waste.

(xv) Manure, bedding and feed materials shall not be disposed of in the solid waste dumpsters.

(xvi) No waste of any kind other than manure, bedding or feed materials shall be disposed of in the manure dumpsters or in the manure trailers.

(xvii) Manure, bedding materials and process wastewater shall be sampled and tested at least annually for nutrients. Manure sampling and testing shall be conducted in accordance with protocols set forth in guidance developed by the University of Massachusetts, Cornell University, or other guidance recognized and considered applicable by the University of Massachusetts. Suffolk shall take steps to ensure that all samples collected are representative samples. The samples shall be sent for analysis as soon after collection as practicable and, where necessary, specific preservation procedures shall be utilized to prevent the degradation of the sample. If manure is transferred off-site, Suffolk shall provide the results of the sampling to the recipient.

(2) Wash Water Management Practices and Hoses

(i) Horse washing shall be conducted only in the CAFO's designated washing areas located within the Production Area.

(ii) Wash water (e.g., buckets of soapy water) shall be disposed of only in the designated washing areas.

(iii) Only track-supplied hoses may be used at the CAFO. Leaking hoses may not be used and shall be replaced immediately.

(iv) Hoses may only be used for the following purposes: filling drinking water buckets for horses; washing horses in the designated washing areas; cooling horses in the designated washing areas; and sprinkling shed-rows or walking machine areas for purposes of controlling dust.

(v) Hoses may be used outside of the designated washing areas only for the purpose of controlling dust in shed rows or walking machine areas and shall be disconnected immediately after use.

(vi) Suffolk shall conduct daily visual inspections for leaks or other malfunctions of all water lines, including drinking water and cooling water lines, at all times that horses are stabled at the CAFO until the completion of the CAFO's annual post-season cleanup identified in Part I.B.1.b.(5) of this permit.

(3) Mortality Handling Management Practices

(i) The CAFO's mortality shed shall be maintained to prevent any stormwater contact with mortalities.

(ii) All mortalities must be placed immediately within the mortality shed.

(iii) Suffolk shall ensure that mortalities are removed within 48 hours by a contractor who possesses all required permits and/or licenses applicable to the proper disposition of animal mortalities.

(iv) Mortalities shall not be disposed of in any liquid manure or process wastewater system that is not specifically designed to treat animal mortalities. Dead animals shall be disposed of in a manner to prevent contamination of waters of the United States or creation of a public health hazard.

(4) Other Management Practices

(i) Year-round Practices

(a) Chemical, hazardous, toxic or veterinary medical materials shall be used and disposed in accordance with manufacturer's directions and applicable regulations. Suffolk shall ensure that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or stormwater storage or treatment system unless the system is specifically designed to treat such chemicals or contaminants. All potentially hazardous or toxic chemicals shall be handled and disposed of in a manner sufficient to prevent pollutants from entering the manure, litter, or process wastewater retention structures at the CAFO facility or waters of the United States, Suffolk shall implement spill prevention and response procedures to ensure effective response to spills and leaks if they were to occur.

(b) Horses shall not be allowed to enter the waters of the United States, including but not limited to Sales Creek or the adjacent wetlands.

(c) Except for vehicles associated with veterinary services or track operations, vehicles may not be parked in the Production Area except during short-term deliveries. Suffolk shall ensure that unauthorized vehicles parked within the Production Area are towed as expeditiously as practicable. Vehicles may not be washed or undergo maintenance within the Production Area.

(d) Suffolk shall correct in a timely manner all deficiencies in relation to the requirements of this permit that are indentified during required daily and weekly inspections required by this permit.

(ii) Other In-season Practices

The following practices shall be followed during any period when horses are stabled at the CAFO until the end of the annual racing season occurs and the post season cleanup procedures under Part 1.B.1.b.(5) of this permit have been fully and adequately completed.

(a) Each horse owner's stall-allotment contract shall contain a notice setting forth Suffolk's anti-pollution policies and requirements.

(b) On a daily basis during the first 30 days of the racing season, and weekly thereafter, Suffolk shall announce over its public address system that Suffolk has established and implemented anti-pollution policies and requirements, and Suffolk shall direct all horse owners to review and adhere to them.

(c) Suffolk shall publish and enforce pollution prevention rules, including specific daily instructions, for horse owners, stable workers, and track personnel. Those rules shall at a minimum include all best management practices and other requirements contained in PART I.B. of this permit, Permit Terms and Conditions for Nutrient Management.

(d) Suffolk's pollution prevention rules shall be in English and Spanish.

(e) Suffolk's pollution prevention rules shall be presented at mandatory training sessions for new track personnel, owners, and stable personnel.

(5) Post Season Cleanup Procedures

Suffolk shall follow the following procedures at the end of the annual racing season, when horses are no longer stabled at the CAFO, and such procedures shall constitute the requirements for post-season cleanup of the CAFO's Production Area:

(i) Stables shall be cleaned of manure and bedding materials. All manure and bedding materials shall be placed in temporary dumpsters until disposed of in manure trailers. Manure and/or bedding materials located on pervious surfaces shall be raked and placed in temporary manure dumpsters until disposed of in manure trailers. Paved areas shall be swept. Areas that cannot be swept using a street sweeper shall be swept by hand.

(ii) All manure dumpsters shall be emptied by disposing of the contents into manure trailers. Once emptied, the dumpsters' covers shall be closed.

(iii) Stables and stall doors shall be closed.

(6) Production Area Process Wastewater Retention Structure and Collection System Operation and Maintenance

(i) Wastewater Retention Structure

(a) Suffolk shall operate and maintain the CAFO's process wastewater retention structure and collection system identified in Part I.A.1.a. of this permit in accordance and consistent with all structural, operational and maintenance requirements for that system contained in this permit.

(b) Suffolk shall install a depth marker in the wastewater retention structure. The depth marker must clearly indicate the minimum capacity necessary to contain all process wastewater generated at the CAFO and the direct precipitation and the runoff from the 25-year, 24 hour rainfall event.

(c) Suffolk shall conduct and document weekly inspections of the wastewater retention structure for evidence of subsidence, erosion, cracking or tree growth on the embankment, damage to the emergency spillway, the emergence of invasive or damaging species, and obstructions within the diversion swales. Inspections shall include documentation of the retention structure's elevation including sediment and liquid, as indicated by the depth marker within the pond.

(d) Suffolk shall remove upon observation any accumulated trash and debris in the retention structure. Sediment within the retention structure shall be removed prior to the depth of sediment reaching the "maximum sediment depth" indicator on the depth marker. Sediment shall be disposed of in compliance with federal, state and local requirements.

(e) After sediment removal or after an inspection indicates maintenance is required, any necessary maintenance shall be initiated as expeditiously as practicable and before the next anticipated rain event of 0.25 inches or greater to ensure the continued effectiveness of the wastewater retention structure. If maintenance is delayed due to adverse climatic conditions that pose a danger to personnel (i.e. flooding, high winds, hurricane, tornado, etc.) or otherwise make maintenance impracticable, maintenance shall occur as expeditiously as practicable after the adverse climatic conditions cease.

(f) At least twice during the annual growing season (at least once during spring and once during fall) Suffolk shall mow the vegetation on the side slopes of the wastewater retention structure to a height no greater than six inches and no less than three inches.

(g) Suffolk shall keep on site and properly maintain a rain gauge. Suffolk shall keep a log of each measurable rain event.

(ii) Pump Station

(a) Suffolk shall inspect the following on a monthly basis: wet wells for build-up of solids and grease; suction port for blockage; valves to ensure proper closure of valves; and floats for proper operation. A monthly inspection form shall be completed and maintained for each inspection.

Any necessary repairs or adjustments shall be made as expeditiously as practicable and shall be documented in the inspection report.

(b) On a monthly basis, Suffolk shall inspect and exercise the electrical control panel, including the light and alarm systems. A monthly inspection form shall be completed and maintained for each inspection. Any necessary repairs or adjustments shall be made as expeditiously as practicable and shall be documented in the inspection report.

(c) On a monthly basis, Suffolk shall note and record hours from the hour meters on each motor. A monthly inspection form shall be completed and maintained for each inspection. Any necessary repairs or adjustments shall be made as expeditiously as practicable and shall be documented in the inspection report.

(d) Suffolk shall perform all maintenance as recommended by the relevant manufacturer.

(7) Clean Water Diversion System

(i) The CAFO's Production Area and associated wastes shall be isolated from run-on from surface drainage flows originating from outside the Production Area by means of ditches, dikes, berms, terraces, or other such structures or practices that are designed to carry peak flows expected for rainfall events up to and including when a 25-year, 24-hour rainfall event occurs. Clean water and flood waters must be diverted from contact with feedlots, stables, horse washing stations, and manure and/or process wastewater storage systems or be managed as contaminated process wastewater. Clean water includes, among other things, rain falling on the roofs of structures at the CAFO, runoff from adjacent lands, or other sources.

(ii) The clean water diversion swale associated with the CAFO's process wastewater retention structure shall be inspected weekly. A weekly visual inspection form shall be completed and maintained for each inspection. Any necessary repairs or adjustments shall be made as expeditiously as practicable and shall be documented in the inspection report.

(iii) The perimeter of the Production Area shall be inspected weekly during dry weather and during all rainfall events (anticipated to be greater than 0.25 inches) in order to verify that process wastewater is not exiting the Production Area and stormwater originating from outside the Production Area is not entering the Production Area. A weekly visual inspection form shall be completed and maintained for each inspection. Any necessary repairs or adjustments shall be made as expeditiously as practicable and shall be documented in the inspection report.

(iv) Gutters and downspouts shall be inspected weekly during dry weather and during all rainfall events (anticipated to be greater than 0.25 inches) for indications of damage such as cracks or dents that would allow clean water to break out of the clean water diversion system or indications of blockage resulting in overflow of the gutters. A weekly inspection form shall be completed and maintained for each inspection. Any necessary repairs or adjustments shall be made as expeditiously as practicable and shall be documented in the inspection report.

(v) Suffolk shall conduct weekly visual inspections of all Production Area stormwater diversion devices, runoff diversion structures, and devices channeling contaminated stormwater to the wastewater and manure storage and containment structures. A weekly inspection form shall be completed and maintained for each inspection. Disposal of accumulated sediments and debris from these devices, structures, catch basins and stone trench drains shall be disposed of in accordance with all applicable local, state and federal regulations.

(8) Emergency Planning

In case of an emergency spill, leak, or failure of the process wastewater system, Suffolk shall implement the following:
(i) If there is a discharge of process wastewater, Suffolk shall undertake all reasonable efforts to minimize, reduce, eliminate and prevent the discharge and to prevent the discharge from reaching waters of the United States.

(ii) If necessary, Suffolk shall contact local emergency agencies.

(iii) Suffolk shall comply with the discharge notification requirements at Part I.E.1 of the permit.

(9) Compliance Officer Duties and Employee Compliance Training

Suffolk shall designate at least one environmental compliance officer. The officer's duties shall include, at a minimum, the following:

(i) Monitor compliance with all environmental requirements and policies applicable to the CAFO, including but not limited to the Production Area, including but not limited to inspections of stables, grain/bedding storage facilities, trailer parking areas, and the mortality shed.

(ii) Monitor compliance with Suffolk's requirements for handling manure and bedding. Issue immediate directions to personnel who fail to comply with such requirements, and fine/penalize personnel as required by Suffolk's applicable environmental policies.

(iii) Monitor stormwater outfalls as required and record results on Outfall Visual Monitoring Logs.

(iv) Issue fines and/or penalties (as required by Suffolk's internal policy) for non-compliance with horse washing rules.

(v) Take dry- and wet-weather samples from designated outfalls. Coordinate and control chain of custody and testing of samples with the lab used by Suffolk to analyze the samples.

(vi) Periodically review Suffolk's environmental compliance policies and rules. Recommend improvements as warranted.

(vii) Provide training for Suffolk's track employees, stable workers and horse owners in relation to Suffolk's environmental compliance policies and rules.

(viii) Review Suffolk's written mortality records weekly and ensure that such records are accurate and complete. Should any record show that a mortality has not been removed from the CAFO within 48 hours, investigate the cause of non-compliance and take all appropriate remedial measures.

(10) Employee Compliance Training

Employees responsible for compliance with this permit must be regularly trained and informed of any information pertinent to the proper operation and maintenance of the CAFO and waste disposal. Training shall include topics such as procedures for the off-site transfer of manure, proper operation and maintenance of the CAFO, good housekeeping practices and material management practices, necessary record-keeping requirements, and spill response and clean up. Suffolk is responsible for determining the appropriate training frequency for different levels of personnel. Suffolk shall create and maintain documentation of all instances of employee training.

(11) Record Keeping Requirements

Suffolk shall create and maintain, at a minimum, the following records for five (5) years and shall make them available for inspection and copying upon request by EPA and/or MassDEP:

(i) A copy of Suffolk's most current NMP.
(ii) Results of all weekly and monthly visual monitoring and inspections required by this permit.
(iii) Laboratory analysis of any dry and wet weather sampling or monitoring required by this permit.
(iv) A log of all measurable rain events.
(v) Documentation indicating the dates and amounts of manure or process wastewater removed or transferred to another party from the CAFO facility and the name and address of the entity receiving the manure or process wastewater.
(vi) Results of any manure nutrient testing.
(vii) Documentation indicating when the results of manure nutrient testing were provided to the composting facility to which Suffolk sends its manure.
(viii) As applicable, the date and number of dumpsters repaired.
(ix) The dates and results of all inspections and maintenance or corrective activities performed in relation to any and all requirements of this permit. Deficiencies not corrected within 30 days must be accompanied by an explanation of the factors preventing more immediate correction.
(x) The date and number of mortalities placed in the mortalities shed, and invoices indicating the number, date, and entity receiving mortalities for proper disposal.
(xi) Dates when mandatory training sessions on Suffolk's environmental requirements and policies were performed, and the names and number of attendees.
(xii) A record of internal enforcement actions initiated for violations of Suffolk's environmental requirements and policies.
(xiii) Records of process wastewater analyses.
(xiv) Records of the date, time, and estimated volume of any overflow of process wastewater from the CAFO facility's wastewater retention structure and/or collection system.
(xv) Weekly records of the depth of the manure, sediment and process wastewater in the process wastewater retention structure as indicated by the system's depth marker.

(xvi) Engineering design and construction plans documenting that Suffolk has sufficient storage capacity to ensure compliance with the effluent limitations specified in Part I.A.1.a. (1) and (2) of this permit.
(xvii) Any other records necessary to document any of the requirements of this permit.

PART I.C. Stormwater Pollution Prevention Plan (SWPPP) Requirements

1. Suffolk shall develop, implement, and maintain a Stormwater Pollution Prevention Plan (SWPPP) designed to reduce, or prevent, the discharge of pollutants in stormwater to Sales Creek and the adjacent wetlands. The SWPPP shall be a written document that is consistent with the terms of this permit. Additionally, the SWPPP shall serve as a tool to document the permittee's compliance with the terms of this permit. Development guidance and a recommended format for the SWPPP are available on the EPA website for the Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activities (http://cfpub.epa.gov/npdes/stormwater/msgp.cfm).

2. The SWPPP shall be completed or updated and certified by Suffolk within 90 days after the effective date of this permit. Suffolk shall certify that the SWPPP has been completed or updated and that it meets the requirements of this permit. The certification shall be signed in accordance with the requirements identified in 40 CFR §122.22. A copy of this initial certification shall be sent to EPA and MassDEP within one hundred and twenty (120) days of the effective date of this permit.

3. The SWPPP shall be prepared in accordance with good engineering practices and shall be consistent with the general provisions for SWPPPs included in the most current version of the MSGP. In the current MSGP (effective May 27, 2009), the general SWPPP provisions are included in Part 5. Specifically, the SWPPP shall document the selection, design, and installation of control measures and contain the elements listed below:

a. A pollution prevention team with collective and individual responsibilities for developing, implementing, maintaining, revising and ensuring compliance with the SWPPP.

b. A site description which includes the activities at the facility; a general location map showing the facility, receiving waters, and outfall locations; and a site map showing the extent of significant structures and impervious surfaces, directions of stormwater flows, and locations of all existing structural control measures, stormwater conveyances, pollutant sources (identified in Part I.C.3.c. below), stormwater monitoring points, stormwater inlets and outlets, and industrial activities exposed to precipitation such as, storage, disposal, material handling.

c. A summary of all pollutant sources which includes a list of activities exposed to stormwater, the pollutants associated with these activities, a description of where spills have occurred or could occur, a description of non-stormwater discharges, and a summary of any existing stormwater discharge sampling data.

d. A description of all stormwater controls, both structural and non-structural.

e. A schedule and procedure for implementation and maintenance of the control measures described above and for the quarterly inspections and best management practices (BMPs) described below.

4. The SWPPP shall document the appropriate best management practices (BMPs) implemented or to be implemented at the facility to minimize the discharge of pollutants in stormwater to waters of the United States and to satisfy the non-numeric effluent limitations included in this permit. At a minimum, these BMPs shall be consistent with the control measures described in the most current version of the MSGP. In the current MSGP (effective May 27, 2009), these control measures, which are non-numeric technology based effluent limitations, are described in Part 2. and Part 8.J.8. Specifically, BMPs must include the following elements.

a. Minimizing exposure of manufacturing, processing, and material storage areas to stormwater discharges.
b. Good housekeeping measures designed to maintain areas that are potential sources of pollutants.
c. Preventative maintenance programs to avoid leaks, spills, and other releases of pollutants in stormwater discharged to receiving waters.
d. Spill prevention and response procedures to ensure effective response to spills and leaks if or when they occur.
e. Erosion and sediment controls designed to stabilize exposed areas and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants.
f. Runoff management practices to divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff.
g. Proper handling procedures for salt or materials containing chlorides that are used for snow and ice control.

5. All areas with industrial materials or activities exposed to stormwater and all structural controls used to comply with effluent limits in the permit shall be inspected, at least once per quarter, by qualified personnel with one or more members of the stormwater pollution prevention team. Inspections shall begin during the 1st full quarter after the effective date of the permit. EPA considers quarters as follows: January to March; April to June; July to September; and October to December. For each inspection required herein, the facility must complete an inspection report. At a minimum, the inspection report must include:

a. The date and time of the inspection and at which location any samples were collected;
b. If samples were collected, the name(s) and signature(s) of the inspector(s)/sample collector(s);
c. If applicable, why it was not possible to take sample within the first 30 minutes of discharge;
d. Weather information and a description of any discharges occurring at the time of the inspection;
e. Results of observations of stormwater discharges, including any observed discharges of pollutants and the probable sources of those pollutants;
f. Any control measures needing maintenance, repairs or replacement; and,
g. Any additional control measures needed to comply with the permit requirements.

6. Suffolk shall amend and update the SWPPP within fourteen (14) days of any changes at the facility that result in a significant effect on the potential for the discharge of pollutants to the waters of the United States. Such changes may include, but are not limited to: a change in design, construction, operation, or maintenance, materials storage, or activities at the facility; a release of a reportable quantity of pollutants as described in 40 CFR Part 302; or a determination by Suffolk or EPA that the SWPPP appears to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with industrial activity. Any amended or new versions of the SWPPP shall be re-certified and signed by Suffolk in accordance with the requirements identified in 40 CFR §122.22.

7. Suffolk shall certify at least annually that the previous year's inspections and maintenance activities were conducted, results were recorded, records were maintained, and that the facility is in compliance with the SWPPP. If the facility is not in compliance with any aspect of the SWPPP, the annual certification shall state the non-compliance and the remedies which are being or will be undertaken. Such annual certifications also shall be signed in accordance with the requirements identified in 40 CFR §122.22. Suffolk shall keep a copy of the current SWPPP and all SWPPP certifications (the initial certification, re-certifications, and annual certifications) signed during the effective period of this permit at the facility and shall make it available for inspection by EPA and MassDEP. In addition, the permittee shall document in the SWPPP any violation of numerical or non-numerical stormwater effluent limits with a description of the corrective actions taken.

PART I.D. REOPENER CLAUSES

1. This permit shall be modified, or alternately, revoked and reissued, to comply with any applicable standard or limitation promulgated or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

a. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

b. Controls any pollutants not limited in the permit.

PART I. E DISCHARGE MONITORING AND NOTIFICATION REQUIREMENTS

1. Notification of Discharges Resulting from Manure, Litter, and Process Wastewater Storage, Handling and On-site Transport

If, for any reason, there is a discharge of pollutants to a water of the United States that is not authorized under this permit, including discharges associated with process wastewater storage, handling and/or on-site transportation, Suffolk is required to (1) make immediate oral notification within 24-hours to EPA Region 1, Office of Environmental Stewardship, Water Enforcement Branch at 671-918-1850 or 888-372-7341; and (2) notify EPA and MassDEP in writing within 5 working days of the discharge from the facility at the addresses listed in Part I.E.2. of the permit. In addition, Suffolk shall keep a copy of the notification submitted to EPA

together with the other records required by this permit. The discharge notification shall include the following information:

a. A description of the discharge and its cause, including a description of the flow path to the receiving water body and an estimate of the flow and volume discharged.

b. The period of non-compliance, including exact dates and times, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate and prevent recurrence of the discharge.

2. Monitoring Requirements for All Discharges

For a period of one year from the effective date of the permit, the permittee may either submit monitoring data and other reports to EPA in hard copy form or report electronically using NetDMR, a web-based tool that allows permittees to electronically submit discharge monitoring reports (DMRs) and other required reports via a secure internet connection. Specific requirements regarding submittal of data and reports in hard copy form and for submittal using NetDMR are described below:

a. Submittal of Reports Using NetDMR

NetDMR is accessed from: http://www.epa.gov/netdmr. **Beginning no later than one year after the effective date of this permit**, the permittee shall begin submitting DMRs and reports required under this permit electronically to EPA using NetDMR, unless the facility is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs and reports ("opt out request").

DMRs shall be submitted electronically to EPA no later than the 15th day of the month following the completed reporting period. All reports required under the permit shall be submitted to EPA, including the MassDEP Monthly Operations and Maintenance Report, as an electronic attachment to the DMR. Once a permittee begins submitting reports using NetDMR, it will no longer be required to submit hard copies of DMRs or other reports to EPA and will no longer be required to submit hard copies of DMRs to MassDEP. However, permittees shall continue to send hard copies of reports other than DMRs (including Monthly Operation and Maintenance Reports) to MassDEP until further notice from MassDEP.

b. Submittal of NetDMR Opt Out Requests

Opt out requests must be submitted in writing to EPA for written approval at least sixty (60) days prior to the date a facility would be required under this permit to begin using NetDMR. This demonstration shall be valid for twelve (12) months from the date of EPA approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to EPA unless the permittee submits a renewed opt out request and such request is approved by EPA. All opt out requests should be sent to the following addresses:

Attn: NetDMR Coordinator
U.S. Environmental Protection Agency, Water Technical Unit
5 Post Office Square, Suite 100 (OES04-4)
Boston, MA 02109-3912

and

Massachusetts Department of Environmental Protection
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

c. Submittal of Reports in Hard Copy Form

Monitoring results shall be summarized for each calendar month and reported on separate hard copy Discharge Monitoring Report Form(s) (DMRs) postmarked no later than the 15th day of the month following the completed reporting period. MassDEP Monthly Operation and Maintenance Reports shall be submitted as an attachment to the DMRs. Signed and dated originals of the DMRs, and all other reports or notifications required herein or in Part II shall be submitted to the Director at the following address:

U.S. Environmental Protection Agency
Water Technical Unit (OES04-01)
5 Post Office Square - Suite 100
Boston, MA 02109-3912

Duplicate signed copies of all reports or notifications required above shall be submitted to the State at the following addresses:

Massachusetts Department of Environmental Protection - CERO
Bureau of Waste Prevention
627 Main St.
Worcester, MA 01608

and

Massachusetts Department of Environmental Protection
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

Any verbal reports, if required in Parts I.A.E. of this permit, shall be made to both EPA-New England and to MassDEP.

3. Annual Report Requirements

a. Suffolk shall prepare and submit an annual report, not later than January 31 of each calendar year, covering the previous 12 calendar months (January 1 to December 31). The annual report shall be submitted to EPA and MassDEP at the addresses listed below:

US EPA- New England
5 Post Office Square, Suite 100
Boston, MA 02109-912
ATTN: NPDES CAFO Coordinator OEP-06-4

and

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, MA 01608

b. The annual report must include, at a minimum, the following information, ***as applicable***:

i. The maximum number of horses at the CAFO facility during the year, whether in open confinement or housed under roof;
ii. An estimate of the amount of total manure, litter and process wastewater generated by the CAFO facility in the previous 12 months (tons and/or gallons);
iii. An estimate of the amount of total manure, litter and process wastewater transferred off-site to other parties by Suffolk during the previous 12 months (tons and/or gallons);
iv. The total number of acres for land application covered by the NMP;
v. The total number of acres under Suffolk's control that were used for land application of manure, litter and process wastewater during the previous twelve (12) months;
vi. a summary of all manure, litter and process wastewater discharges from the Production Area that have occurred during the previous twelve (12) months, including date, time, and approximate volume;
vii. A statement indicating whether the current version of Suffolk's NMP was developed or approved by a certified nutrient management planner;
viii. Actual crops planted and actual yields for each field for the preceding twelve (12) months;
ix. Based on sampling results, the actual nitrogen and phosphorous content for all manure, litter and process wastewater that was land applied;
x. Results of calculations conducted in accordance with 40 CFR § 122.42(e)(5)(i)(B) (for the Linear Approach) and 40 CFR § 122.42(e)(5)(ii)(D) (for the Narrative Rate Approach) for manure, litter and process wastewater that was land applied; and,
xi. Amount of manure, litter, and process wastewater applied to each field during the preceding twelve (12) months.

c. If Suffolk uses the Narrative Rate Approach to address rates of land application of manure, litter or process wastewater, the annual report shall also contain:

i. The results of any soil testing for nitrogen and phosphorus conducted during the preceding twelve (12) months;
ii. The data used in calculations conducted in accordance with 40 CFR § 122.42(e)(5)(ii)(D); and,
iii. The amount of any supplemental fertilizer applied during the preceding twelve (12) months.

PART I. F. STATE PERMIT CONDITIONS

1. This authorization to discharge includes two separate and independent permit authorizations. The two permit authorizations are (i) a federal National Pollutant Discharge Elimination System (NPDES) permit issued by the U.S. Environmental Protection Agency (EPA) pursuant to the federal Clean Water Act, 33 U.S.C. §§1251 et seq.; and (ii) an identical state surface water discharge permit issued by the Commissioner of the Massachusetts Department of Environmental Protection pursuant to the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53, and 314 C.M.R. 3.00. All of the requirements contained in this authorization, as well as the standard conditions contained in 314 CMR 3.19, are hereby incorporated by reference into this state surface water discharge permit.

2. This authorization also incorporates the state water quality certification issued by MassDEP under Section 401(a) of the federal Clean Water Act, 40 C.F.R. 124.53, M.G.L. c. 21, § 27 and 314 CMR 3.07. All of the requirements (if any) contained in MassDEP's water quality certification for the permit are hereby incorporated by reference into this state surface water discharge permit as special conditions pursuant to 314 CMR 3.11.

3. Each agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the agency taking such action, and shall not affect the validity or status of this permit as issued by the other agency, unless and until each agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared invalid, illegal or otherwise issued in violation of state law such permit shall remain in full force and effect under federal law as a NPDES Permit issued by the EPA. In the event this permit is declared invalid, illegal or otherwise issued in violation of federal law, this permit shall remain in full force and effect under state law as a permit issued by the Commonwealth of Massachusetts.

PART II STANDARD NPDES CAFO CONDITIONS

A. GENERAL CONDTIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit non-compliance constitutes a violation of the Clean Water Act (CWA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

a. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirements.

b. The CWA provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any of such sections in a permit issued under Section 402, or any requirement imposed in a pretreatment program approved under Section 402 (a)(3) or 402 (b)(8) of the CWA is subject to a civil penalty not to exceed $25,000 per day for each violation. Any person who negligently violates such requirements is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both. Any person who knowingly violates such requirements is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

c. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

Note: See 40 CFR §122.41(a)(2) for complete "Duty to Comply" regulations.

2. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or notifications of planned changes or anticipated noncompliance does not stay any permit condition.

3. Duty to Provide Information

The permittee shall furnish to the Regional Administrator, within a reasonable time, any information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

4. Reopener Clause

The Regional Administrator reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the CWA in order to bring all discharges into compliance with the CWA.

For any permit issued to a treatment works treating domestic sewage (including "sludge-only facilities"), the Regional Administrator or Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under Section 405 (d) of the CWA. The Regional Administrator or Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or contains a pollutant or practice not limited in the permit.

Federal regulations pertaining to permit modification, revocation and reissuance, and termination are found at 40 CFR §§122.62, 122.63, 122.64, and 124.5.

5. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the CWA, or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

6. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges.

7. Confidentiality of Information

a. In accordance with 40 CFR Part 2, any information submitted to EPA pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the

information will be treated in accordance with the procedures in 40 CFR Part 2 (Public Information).

b. Claims of confidentiality for the following information will be denied:
(1) The name and address of any permit applicant or permittee
(2) Permit applications, permits, and effluent data as defined in 40 CFR §2.302(a)(2).

c. Information required by NPDES application forms provided by the Regional Administrator under 40 CFR §122.21 may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

8. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee must apply for and obtain a new permit. The permittee shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Regional Administrator. (The Regional Administrator shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

9. State Authorities

Nothing in Part 122, 123, or 124 precludes more stringent State regulation of any activity covered by these regulations, whether or not under an approved State program.

10. Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, nor does it relieve the permittee of its obligation to comply with any other applicable Federal, State, or local laws and regulations.

B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of storm water pollution prevention plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

4. Bypass

a. Definitions
(1) *Bypass* means the intentional diversion of waste streams from any portion of a treatment facility.

(2) *Severe property damage* means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can be reasonably expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass not exceeding limitations

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of Paragraphs B.4.c. and 4.d. of this section.

c. Notice
(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph D.1.e. of this part (twenty-four hour reporting).

d. Prohibition of bypass

Bypass is prohibited, and the Regional Administrator may take enforcement action against a permittee for bypass, unless:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2)There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been

installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

(3) i) The permittee submitted notices as required under Paragraph 4.c. of this section.
ii) The Regional Administrator may approve an anticipated bypass, after considering its adverse effects, if the Regional Administrator determines that it will meet the three conditions listed above in paragraph 4.d. of this section.

e. Any bypass allowed by Part V.A.10 of this permit must, where practicable, be released to vegetated fields for filtering, or captured in secondary containment to minimize discharges to waters of the United States.

5. Upset

a. Definition. *Upset* means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph B.5.c. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the cause(s) of the upset;
(2) The permitted facility was at the time being properly operated;
(3) The permittee submitted notice of the upset as required in paragraphs D.1.a. and 1.e. (twenty-four hour notice); and
(4) The permittee complied with any remedial measures required under B.3. above.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

C. MONITORING REQUIREMENTS

1. Monitoring and Records

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 5 years from the date of the sample, measurement, report or application except for the information concerning storm water discharges which must be retained for a total of 6 years. This retention period may be extended by request of the Regional Administrator at any time.

c. Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;
(2) The individual(s) who performed the sampling or measurements;
(3) The date(s) analyses were performed;
(4) The individual(s) who performed the analyses;
(5) The analytical techniques or methods used; and
(6) The results of such analyses.

d. Monitoring results must be conducted according to test procedures approved under 40 CFR Part 136 unless other test procedures have been specified in the permit.

e. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

2. Inspection and Entry

The permittee shall allow the Regional Administrator or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

D. REPORTING REQUIREMENTS

1. Reporting Requirements

a. Planned Changes. The permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR§122.29(b); or

(2) The alteration or addition could significantly change the nature or increase the quantities of the pollutants discharged. This notification applies to pollutants which are subject neither to the effluent limitations in the permit, nor to the notification requirements at 40 CFR§122.42(a)(1).

(3) The alteration or addition results in a significant change in the permittee's manure use or disposal practices, and such alteration, addition or change may justify the application of permit conditions different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved nutrient management plan.

b. Anticipated noncompliance. The permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

c. Transfers. This permit is not transferable to any person except after notice to the Regional Administrator. The Regional Administrator may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the CWA. (See 40 CFR Part 122.61; in some cases, modification or revocation and reissuance is mandatory.)

d. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(1)Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.

(2)If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in the permit, the results of the monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

(3) Calculations for all limitations which require averaging or measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

e. Twenty-four hour reporting.

(1) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances.

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(2) The following shall be included as information which must be reported within 24 hours under this paragraph.

(a) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR §122.41(g).)
(b) Any upset which exceeds any effluent limitation in the permit.
(c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Regional Administrator in the permit to be reported within 24 hours. (See 40 CFR §122.44(g).

(3) The Regional Administrator may waive the written report on a case-by-case basis for reports under Paragraph D.1.e. if the oral report has been received within 24 hours.

f. Compliance Schedules. Reports of compliance or noncompliance with, any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

g. Other noncompliance. The permittee shall report all instances of noncompliance not reported under Paragraphs D.1.d., D.1.e., and D.1.f. of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in Paragraph D.1.e. of this section.

h. Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, it shall promptly submit such facts or information.

2. Signatory Requirement

a. All applications, reports, or information submitted to the Regional Administrator shall be signed and certified. (See 40 CFR §122.22)

b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 2 years per violation, or by both.

3. Availability of Reports

Except for data determined to be confidential under Paragraph A.8. above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Regional Administrator. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA.

E. DEFINITIONS AND ABBREVIATIONS

1. Definitions for Individual NPDES Permits including CAFO and Storm Water Requirements

Administrator means the Administrator of the United States Environmental Protection Agency, or authorized representative.

Applicable standards and limitations means all, State, interstate, and Federal standards and limitations to which a "discharge", a "sewage sludge use or disposal practice", or a related activity is subject to, including "effluent limitations", water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices", pretreatment standards, and "standards for sewage sludge use and disposal" under Sections 301, 302, 303, 304, 306, 307, 308, 403, and 405 of the CWA.

Application means the EPA standard national forms for applying for a permit, including any additions, revisions, or modifications to the forms; or forms approved by EPA for use in "approved States", including any approved modifications or revisions.

Average means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For total and/or fecal coliforms and Escherichia coli, the average shall be the geometric mean.

Average monthly discharge limitation means the highest allowable average of "daily discharges" over a calendar month calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

Average weekly discharge limitation means the highest allowable average of "daily discharges" measured during the calendar week divided by the number of "daily discharges" measured during the week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Best Professional Judgment (BPJ) means a case-by-case determination of Best Practicable Treatment (BPT), Best Available Treatment (BAT), or other appropriate technology-based standard based on an evaluation of the available technology to achieve a particular pollutant reduction and other factors set forth in 40 CFR §125.3 (d).

Composite Sample means a sample consisting of a minimum of eight grab samples of equal volume collected at equal intervals during a 24-hour period (or lesser period as specified in the section on Monitoring and Reporting) and combined proportional to flow, or a sample consisting of the same number of grab samples, or greater, collected proportionally to flow over that same time period.

Contiguous zone means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone.

Continuous discharge means a "discharge" which occurs without interruption throughout the operating hours of the facility except for infrequent shutdowns for maintenance, process changes, or similar activities.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, and Pub. L. 97-117; 33 USC §§1251 et seq.

Daily Discharge means the discharge of a pollutant measured during the calendar day or any other 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Discharge Monitoring Report Form (DMR) means the EPA standard national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by "approved States" as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

Director normally means the person authorized to sign NPDES permits by EPA or the State or an authorized representative. Conversely, it also could mean the Regional Administrator or the State Director as the context requires

Discharge of a pollutant means:
(a) Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source", or
(b) Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation (See "Point Source" definition).

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

Effluent limitation means any restriction imposed by the Regional Administrator on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point sources" into "waters of the United States", the waters of the "contiguous zone", or the ocean.

Effluent limitation guidelines means a regulation published by the Administrator under Section 304(b) of CWA to adopt or revise "effluent limitations".

EPA means the United States "Environmental Protection Agency".
Flow-weighted composite sample means a composite sample consisting of a mixture of aliquots where the volume of each aliquot is proportional to the flow rate of the discharge.

Facility or activity means any NPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

Grab Sample – An individual sample collected in a period of less than 15 minutes.

Hazardous Substance means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the CWA.

Indirect Discharger means a non-domestic discharger introducing pollutants to a publicly owned treatment works.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.

Maximum daily discharge limitation means the highest allowable "daily discharge" concentration that occurs only during a normal day (24-hour duration).

Municipality means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribe organization, or a designated and approved management agency under Section 208 of the CWA.

National Pollutant Discharge Elimination System means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the CWA. The term includes an "approved program".

New Discharger means any building, structure, facility, or installation:

(a) From which there is or may be a "discharge of pollutants";
(b) That did not commence the "discharge of pollutants" at a particular "site" prior to August 13, 1979;
(c) Which is not a "new source"; and
(d) Which has never received a finally effective NPDES permit for discharges at that "site".

This definition includes an "indirect discharger" which commences discharging into "waters of the United States" after August 13, 1979. It also includes any existing mobile point source (other than an offshore or coastal oil and gas exploratory drilling rig or a coastal oil and gas exploratory drilling rig or a coastal oil and gas developmental drilling rig) such as a seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a "site" for which it does not have a permit; and any offshore rig or coastal mobile oil and gas exploratory drilling rig or coastal mobile oil and gas developmental drilling rig that commences the discharge of pollutants after August 13, 1979, at a "site" under EPA's permitting jurisdiction for which it is not covered by an individual or general permit and which is located in an area determined by the Regional Administrator in the issuance of a final permit to be in an area of biological concern. In determining whether an area is an area of biological concern, the Regional Administrator shall consider the factors specified in 40 CFR §§125.122 (a) (1) through (10).

An offshore or coastal mobile exploratory drilling rig or coastal mobile developmental drilling rig will be considered a "new discharger" only for the duration of its discharge in an area of biological concern.

New source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants", the construction of which commenced:

(a) After promulgation of standards of performance under Section 306 of CWA which are applicable to such source, or
(b) After proposal of standards of performance in accordance with Section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.

NPDES means "National Pollutant Discharge Elimination System".

Owner or operator means the owner or operator of any "facility or activity" subject to regulation under the NPDES programs.

Permit means an authorization, license, or equivalent control document issued by EPA or an "approved" State.

Person means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to any pipe ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff (see 40 CFR §122.2).

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. §§2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

(a) Sewage from vessels; or
(b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well is used either to facilitate production or for disposal purposes is approved by the authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

Primary industry category means any industry category listed in the NRDC settlement agreement (Natural Resources Defense Council et al. v. Train, 8 E.R.C. 2120 (D.D.C. 1976), modified 12 E.R.C. 1833 (D. D.C. 1979)); also listed in Appendix A of 40 CFR Part 122.

Privately owned treatment works means any device or system which is (a) used to treat wastes from any facility whose operation is not the operator of the treatment works or (b) not a "POTW".

Publicly Owned Treatment Works (POTW) means any facility or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality". This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

Regional Administrator means the Regional Administrator, EPA, Region I, Boston, Massachusetts.

Secondary Industry Category means any industry which is not a "primary industry category".

Section 313 water priority chemical means a chemical or chemical category which:

(1) is listed at 40 CFR §372.65 pursuant to Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986);

(2) is present at or above threshold levels at a facility subject to EPCRA Section 313 reporting requirements; and

(3) satisfies at least one of the following criteria:
(i) are listed in Appendix D of 40 CFR Part 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols), or Table V (certain toxic pollutants and hazardous substances);
(ii) are listed as a hazardous substance pursuant to Section 311(b)(2)(A) of the CWA at 40 CFR §116.4; or
(iii) are pollutants for which EPA has published acute or chronic water quality criteria.

Septage means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

Sewage Sludge means any solid, semisolid, or liquid residue removed during the treatment of municipal wastewater or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced wastewater treatment, scum, septage, portable toilet pumpings, Type III Marine Sanitation Device pumpings (33 CFR Part 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.

Sewage sludge use or disposal practice means the collection, storage, treatment, transportation, processing, monitoring, use, or disposal of sewage sludge.

Significant materials includes, but is not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets, raw materials used in food processing or production, hazardous substance designated under section 101(14) of CERCLA, any chemical the facility is required to report pursuant to EPCRA Section 313, fertilizers, pesticides, and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

Significant spills includes, but is not limited to, releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the CWA (see 40 CFR §110.10 and §117.21) or Section 102 of CERCLA (see 40 CFR § 302.4).

Sludge-only facility means any "treatment works treating domestic sewage" whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to Section 405(d) of the CWA, and is required to obtain a permit under 40 CFR §122.1(b)(3).

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands.

Storm Water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Time-weighted composite means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.

Toxic pollutants means any pollutant listed as toxic under Section 307 (a)(1) or, in the case of "sludge use or disposal practices" any pollutant identified in regulations implementing Section 405(d) of the CWA.

Treatment works treating domestic sewage means a POTW or any other sewage sludge or wastewater treatment devices or systems, regardless of ownership (including federal facilities), used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated for the disposal of sewage sludge. This definition does not include septic tanks or similar devices.

For purposes of this definition, "domestic sewage" includes waste and wastewater from humans or household operations that are discharged to or otherwise enter a treatment works. In States where there is no approved State sludge management program under Section 405(f) of the CWA, the Regional Administrator may designate any person subject to the standards for sewage sludge use and disposal in 40 CFR Part 503 as a "treatment works treating domestic sewage", where he or she finds that there is a potential for adverse effects on public health and the environment from poor sludge quality or poor sludge handling, use or disposal practices, or where he or she finds that such designation is necessary to ensure that such person is in compliance with 40 CFR Part 503.

Waste Pile means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

Waters of the United States means:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of tide;

(b) All interstate waters, including interstate "wetlands";

(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands", sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
(1) Which are or could be used by interstate or foreign travelers for recreational or other purpose;
(2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or,
(3) Which are used or could be used for industrial purposes by industries in interstate commerce;

(d) All impoundments of waters otherwise defined as waters of the United States under this definition;

(e) Tributaries of waters identified in Paragraphs (a) through (d) of this definition;

(f) The territorial sea; and

(g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in Paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds as defined in 40 CFR §423.11(m) which also meet the criteria of this definition) are not waters of the United States.

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

2. Definitions for NPDES CAFO Permits

Animal feeding operation (AFO) means a lot or facility (other than an aquatic animal production facility) where the following conditions are met: (i) animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of forty-five (45) days or more in any 12-month period, and (ii) crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

Agricultural land is land on which a food crop, feed crop, or fiber crop is grown. This includes range land and land used as pasture.

Agronomic rate is the whole sludge application rate (dry weight basis) designed: (1) to provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop or vegetation grown on the land; and (2) to minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to ground water

Concentrated animal feeding operation (CAFO) means an AFO which is defined as a Large CAFO or Medium CAFO by 40 CFR 122.23(b)(4) and (6), or that is designated as a CAFO.

Cover crop is a small grain crop, such as oat, wheat, or barley, not grown for harvest.

E. coli means the bacterial count (Parameter 1) at 40 CFR 136.3 in Table 1A, which also cites the approved methods of analysis.

Fecal coliform means the bacterial count (Pramter 1 at 40 CFR Part 136.3 in Table 1A), which also cites the approved methods of analysis.

Feed crops are crops produced primarily for consumption by animals.

Fiber crops are crops such as flax and cotton.

Food crops are crops consumed by humans. These include, but are not limited to, fruits, vegetables and tobacco.

Land application means the application of manure, litter, or process wastewater onto or incorporated into the soil.

Land application area means land under the control of a CAFO owner or operator, whether it is owned, rented, or leased, to which manure, litter, or process wastewater from the production area is or may be applied. 40 CFR §412.2(e).

Large CAFO means an AFO that stables or confines as many as or more than the numbers of animals specified in any of the following categories: (i) 700 mature dairy cattle, whether milked or dry; (ii)1,000 veal calves; (iii)1,000 cattle other than mature dairy cows or veal calves. Cattle includes but is not limited to heifers, steers, bulls and cow/calf pairs; (iv) 2,500 swine each weighing 55 pounds or more; (v)10,000 swine each weighing less than 55 pounds; (vi) 500 horses; (vii) 10,000 sheep or lambs; (viii) 55,000 turkeys; (ix) 30,000 laying hens or broilers, if the AFO uses a liquid manure handling system; (x)125,000 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system; (xi) 82,000 laying hens, if the AFO uses other than a liquid manure handling system; (xii) 30,000 ducks (if the AFO uses other than a liquid manure handling system); or (xiii) 5,000 ducks (if the AFO uses a liquid manure handling system).

Liquid manure handling system means a system that collects and transports or moves waste material with the use of water, such as in washing of pens and flushing of confinement facilities. This would include the use of water impoundments for manure and/or wastewater treatment.

Manure is defined to include manure, litter, bedding, compost and raw materials or other materials commingled with manure or set aside for land application or other use.

MA NRCS Conservation Practice Standard 590 means Massachusetts Natural Resource Conservation Service, Conservation Practice Standard for Nutrient Management Code 590.

Medium CAFO means any AFO that stables or confines as many or more than the numbers of animals specified in any of the following categories: (i) 200 to 699 mature dairy cattle, whether milked or dry cows; (ii) 300 to 999 veal calves; (iii) 300 to 999 cattle other than mature dairy cows or veal calves. Cattle includes but is not limited to heifers, steers, bulls and cow/calf pairs; (iv) 750 to 2,499 swine each weighing 55 pounds or more; (v) 3,000 to 9,999 swine each weighing less than 55 pounds; (vi)150 to 499 horses, (vii) 3,000 to 9,999 sheep or lambs, (viii) 16,500 to 54,999 turkeys, (ix) 9,000 to 29,999 laying hens or broilers, if the AFO uses a liquid manure handling system; (x) 37,500 to 124,999 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system; (xi) 25,000 to 81,999 laying hens, if the AFO uses other than a liquid manure handling system; (xii) 10,000 to 29,999 ducks (if the AFO uses other than a liquid manure handling system); or (xiii) 1,500 to 4,999 ducks (if the AFO uses a liquid manure handling system) **and** either one of the following conditions are met (a) pollutants are discharged into waters of the United States through a man-made ditch, flushing system, or other similar man-made device; or (b) pollutants are discharged directly into waters of the United States which originate outside of and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the operation.

Overflow means the discharge of manure or process wastewater resulting from the filling of wastewater or manure storage structures beyond the point at which no more manure, process wastewater, or stormwater can be contained by the structure. 40 CFR §412.2(g).

Pasture is land on which animals feed directly on feed crops such as legumes, grasses, grain stubble or stover.

Process wastewater means water directly or indirectly used in the operation of the CAFO for any or all of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other AFO facilities; direct contact swimming, washing, or spray cooling of animals; or dust control. Process wastewater also includes any water which comes into contact with or is a constituent of raw materials, products, or byproducts including manure, litter, feed, milk, eggs, or bedding. 40 CFR § 412.2(d).

Production area means that part of an AFO that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The animal containment area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes but is not limited to feed silos, silage bunkers, and bedding materials. The waste containment area includes but is not limited to settling basins, and areas within berms and diversions which separate uncontaminated storm water. Also included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities. 40 CFR § 412.2(h).

Runoff is rainwater, leachate or other liquid that drains overland on any part of a land surface and runs off the land surface.

Small CAFO means an AFO that is designated as a CAFO and is not a Medium CAFO.

Setback means a specified distance from waters of the United States or potential conduits to waters of the United States where manure, litter, and process wastewater may not be land applied. Examples of conduits to surface waters include but are not limited to: Open tile line intake structures, sinkholes, and agricultural well heads.

Ten (10)-year, 24-hour rainfall event, 25-year, 24-hour rainfall event, 50-year, 24 hour and 100-year, 24-hour rainfall event mean precipitation events with a probable recurrence interval of once in ten years, or twenty five years, or fifty years, one hundred years, respectively, as defined by the National Weather Service in Technical Paper No. 40, "Rainfall Frequency Atlas of the United States," May, 1961, or equivalent regional or State rainfall probability information developed from this source. 40 CFR § 412.2(j).

Total solids are the materials in sewage sludge that remains as residue when the sewage sludge is dried at103 to 105 degrees Celsius.

Vegetated buffer means a narrow, permanent strip of dense perennial vegetation established parallel to the contours of and perpendicular to the dominant slope of the field for the purposes

of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching waters of the United States.

3. Commonly Used Abbreviations

BOD_5	Five-day biochemical oxygen demand unless otherwise specified
Coliform	
Coliform, Fecal	Total fecal coliform bacteria
Coliform, Total	Total coliform bacteria
cfu	colony forming units
DO	Dissolved oxygen
lbs/day	Pounds per day
mg/l	Milligram(s) per liter
Nitrogen	
Total N	Total nitrogen
NH_3-N	Ammonia nitrogen as nitrogen
NO_3-N	Nitrate as nitrogen
NO_2-N	Nitrite as nitrogen
NO_3-O_2	Combined nitrate and nitrite nitrogen as nitrogen
TKN	Total Kjeldahl nitrogen as nitrogen
NMP	Nutrient Management Plan
Oil & Grease	Freon extractable material
pH	A measure of the hydrogen ion concentration. A measure of the acidity or alkalinity of a liquid or material
Surfactant	Surface-active agent
Temp. °F	Temperature in degrees Fahrenheit
Total P	Total phosphorus
TSS or NFR	Total suspended solids or total nonfilterable residue
Turb. or Turbidity	Turbidity measured by the Nephelometric Method (NTU)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
FIVE POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES PURSUANT TO THE CLEAN WATER ACT (CWA)

NPDES PERMIT NUMBER: **MA0040282**

PUBLIC NOTICE START AND END DATES: March 1, 2013 - March 30, 2013

NAME AND MAILING ADDRESS OF APPLICANT**:**

STERLING SUFFOLK RACECOURSE, LLC.
111 WALDEMAR AVENUE
EAST BOSTON, MA 02128

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

STERLING SUFFOLK RACECOURSE, LLC
111 WALDEMAR AVENUE
EAST BOSTON, MA 02128

RECEIVING WATER: Sales Creek; State Basin Code MA-70-10

RECEIVING WATER CLASSIFICATION: Class SA/ORW

SIC CODE: 7948

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I. PROPOSED ACTION

On September 29, 2008, Sterling Suffolk Racecourse, LLC (Suffolk) applied to the U.S. Environmental Protection Agency (EPA) for a National Pollutant Discharge Elimination System (NPDES) permit under the federal Clean Water Act (CWA or Act), 33 U.S.C. § 1251 *et seq.,* and to the Massachusetts Department of Environmental Protection (MassDEP) for a surface water discharge permit under the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26 through 53, for discharges from the Suffolk Downs Racecourse facility (Suffolk Downs) to Sales Creek. Suffolk Downs is a concentrated animal feeding operation (CAFO) facility that discharges to waters of the United States and of the Commonwealth, and is accordingly subject to the requirements of the CWA and the Massachusetts Clean Waters Act. Upon review of the permit application and other relevant information, EPA and MassDEP propose to authorize the discharge in accordance with the terms and conditions of the draft permit.

Suffolk Downs generates three wastewater streams. The facility's Production Area (i.e., horse stables, horse exercise area, temporary mortality holding shed, and manure storage areas) generates contaminated *process wastewater* (i.e., any water which comes into contact with, for example, manure or other wastes), which is collected in an on-site wastewater storage pond prior to disposal at the Massachusetts Water Resource Authority's (MWRA) Deer Island treatment plant. Under extreme weather conditions (which are defined in the draft permit and applicable AFO regulations), Suffolk is authorized to discharge the *overflow of process wastewater* from the wastewater storage pond to Sales Creek. Suffolk also generates and discharges *industrial stormwater* from both the Production Area and non-production areas of the facility to Sales Creek. Suffolk does not land apply process wastewater or manure on-site; therefore, EPA's land application regulations for Large CAFO s are not applicable to Suffolk nor are the regulations included in the draft permit.

I. TYPE OF FACILITY

A. Site History and Facility Description

Suffolk Downs is an approximately 161-acre thoroughbred horse racetrack located in East Boston and Revere, Massachusetts. The facility was constructed in 1935 and horse racing began on July 10, 1935. The only time since 1935 that racing did not occur at Suffolk Downs was during the 1990 and 1991 racing seasons. In the early 1960s, Suffolk conducted significant renovations to the grandstand buildings and grounds. According to the City of Revere's 1997 infrastructure report, the installation of the existing culverts associated with Sales Creek within the boundaries of Suffolk Downs was completed in 1982.

Suffolk Downs includes two racetracks (a 1-mile dirt track and a 7/8-mile grass track), a grandstand, clubhouse, ancillary buildings, and parking areas. Horses are stabled at Suffolk Downs from about March 31 until about November 20 of each year. For each year since at least calendar year 2002, more than 500 horses have been stabled at Suffolk Downs for at least 199 days per year. The stable area includes 32 stable buildings, approximately 1200 horse stalls, feed and bedding storage areas, approximately 115 satellite manure storage dumpsters located throughout the stables, a grain/bedding storage area, a consolidated manure tractor trailer storage

area, an animal mortality storage area (Suffolk Downs averages 15-25 dead horses per year), animal walkways, horse exercising equipment and approximately 70 crushed stone pad horse washing stations.

Approximately 100-200 cubic yards of manure is generated daily when horses are stabled at Suffolk Downs. Manure, bedding materials and excess feed are transported from the stalls to approximately 115 dumpsters located throughout the stable area. Some manure and other waste materials spill onto the ground during the transfer into the dumpsters. A forklift collects the full dumpsters and brings them to a staging area, where the dumpsters are emptied into manure consolidation trailers. According to Suffolk's permit application, every other day during the racing season, approximately 66 tons of manure is transported to an off-site compost facility.

Suffolk Downs is bisected by Sales Creek, a small (0.008 square mile) water body. Sales Creek enters the facility through a culvert and surfaces in the infield of the racetrack before being culverted again and draining (from the west side of Bennington Avenue) to Belle Island Inlet, designated an outstanding resource water (ORW) under Massachusetts Surface Water Quality Standards ("MA WQS"), to Winthrop Bay to Boston Harbor to Massachusetts Bay. Although Sales Creek is tidally connected to Belle Isle Inlet, the Bennington Street tandem tidal gate shuts out incoming tidal surges but allows Sales Creek runoff to flow into Belle Isle Inlet unimpeded.[1] The tidal gate and Belle Isle Inlet/Sales Creek Pump Station are located less than 500 feet from Suffolk's property line. See Map 1. According to the City of Revere's Division of Waterways, the construction of the pumping station was completed in 1982.

Between April 2011 and April 2012, Suffolk made significant changes to the Production Area north of Sales Creek and ceased all Production Area activities south of Sales Creek. These changes reduced the size of the Production Area used to house and care for thoroughbred horses from 27 acres to approximately 23 acres and included the construction of a dedicated sewer system and an approximately 1.2 acre process wastewater storage pond located within the racetrack infield. The storage pond contains the Production Area's contaminated runoff from at-grade areas (15.2 acres). As part of the 2011-2012 facility improvements, Suffolk also installed berms and re-graded the site to prevent process wastewater from exiting the Production Area and to keep off-site stormwater from entering the Production Area. The boundary and layout of the reconfigured Production Area is shown in Figure 1 of this Fact Sheet.

In order to further minimize the amount of runoff generated within the Production Area (and managed as process wastewater), Suffolk constructed a clean water diversion system at the close of the 2011 racing season. The clean water diversion system is designed to collect roof stormwater runoff from stable buildings and divert it to a dedicated drainage system that discharges to Sales Creek. Suffolk's August 2012 Nutrient and Stormwater Management Plan, Section 5.0, Production Area Roof Runoff Separation Plan, Attachment 1 of this Fact Sheet, describes the improvements to the roof runoff system in detail.

During the winter of 2011-2012, Suffolk constructed a process wastewater management system within the racetrack infield that includes a wastewater storage pond that satisfies the requirement

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[1] See "Receiving Water Description" at IV.B. of this Fact Sheet.

of the large horse Concentrated Animal Feeding Operation (CAFO) effluent limitation guideline set forth at 40 C.F.R. Part 412, Subpart A. See Section II.C, NPDES Permitting History, of the Fact Sheet and Suffolk's August 2012 Nutrient and Stormwater Management Plan, Section 4.0, Production Area Process Wastewater Management Plan (Attachment 1 of the Fact Sheet) for more information on the process wastewater system.

B. Facility Classification under Clean Water Act and Implementing Regulations

1. Facility is a Large Horse Concentrated Animal Feeding Operation (CAFO)

The CWA's NPDES program regulates the discharge of pollutants from point sources to waters of the United States. CAFOs from which pollutants are discharged are point sources under Section 502(14) of the Act, 33 U.S.C. § 1362(14). EPA's regulations define "CAFO" to include, *inter alia,* any "animal feeding operation" that confines more than 500 horses. 40 C.F.R. §§ 122.23(b)(2) and 122.23(b)(4)(vi). In turn, EPA's regulations define "animal feeding operation" to include any lot or facility where (a) animals have been, are or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and (b) crops, vegetation forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility. 40 C.F.R. § 122.23(b)(1).

As stated earlier, horses are stabled at Suffolk Downs from about March 31 until about November 20 of each year and, since at least calendar year 2002, more than 500 horses have been stabled there for at least 199 days per year. Crops, vegetation, forage growth, and post-harvest residues are not sustained in the normal growing season over any portion of the facility. Because greater than 500 horses are maintained at the facility for more than 45 days per year, and crops, vegetation, forage growth or post-harvest residues are not sustained in the normal growing season at Suffolk Downs, the facility qualifies as a "CAFO" and more specifically as a "Large CAFO" as defined at 40 C.F.R. § 122.23(b)(4), and is subject to, *inter alia*, the requirements of 40 C.F.R. §§ 122.23 and 122.42(e), as well as the Large Horse CAFO NELG at 40 C.F.R. Part 412.

2. Facility is Engaged in "Industrial Activity" Under Applicable Storm Water Permitting Regulations

In addition to being regulated under applicable CAFO regulations, Large Horse CAFOs are subject to the industrial storm water permitting requirements at 40 C.F.R. § 122.26. NPDES storm water regulations at 40 C.F.R. § 122.26 (b)(14) define eleven categories of "storm water discharge associated with industrial activity." Facilities engage in "industrial activity" pursuant to 40 C.F.R. § 122.26 (b)(14)(i) if, among other things, they are subject to storm water effluent limitations guidelines. As a Large Horse CAFO, Suffolk Downs is subject to the storm water effluent limitation guidelines set forth at 40 C.F.R. § 412.13 and is accordingly required to comply with applicable industrial storm water permitting requirements. *See* NPDES Storm Water Program Question and Answer Document Volume 1, Page 1 (EPA 833-F-93-002, March 1992). CAFOs subject to EPA's CAFO regulations (40 C.F.R. § 122.23) and EPA's industrial activity storm water regulations (40 C.F.R. § 122.26) may have both sets of requirements included in a single NPDES permit or in two separate permits, one for wastewater discharges and

the other for stormwater discharges. In this case, EPA is including both requirements in one permit.

C. NPDES Permitting and Relevant Enforcement History

Suffolk has never received an NPDES permit to authorize the existing discharges from the facility to waters of the United States. On May 1, 2008, EPA issued an Administrative Order (AO) under the Clean Water Act Section 309(a)(3) to address Suffolk's unauthorized discharges of pollutants into Sales Creek. Suffolk was ordered, among other things, to apply for an NPDES permit. Subsequently, on September 30, 2008, Suffolk submitted to EPA an NPDES permit application, which included a Nutrient Management Plan (NMP), for its CAFO operation.

On November 17, 2009, EPA issued to Suffolk a Notice of Deficiency that required, among other things, that Suffolk's NMP specify how the facility will achieve compliance with the effluent limitations guideline in 40 C.F.R. § 412.13, requiring implementation of the best available technology economically achievable (BAT), i.e., that "there shall be no discharge of process wastewater pollutants into waters of the United States, except when rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated and maintained to contain all process-generated wastewater plus the runoff from a 25-year, 24-hour rainfall event at the location of the point source." On May 22, 2012, Suffolk submitted an NMP to EPA that documents the best management practices Suffolk has and will implement to protect water quality and to comply with the CAFO regulations and large horse CAFO effluent limitation guidelines. On August 22, 2012, the Department of Justice (on behalf of EPA) and Suffolk entered into a Consent Decree that addressed the CWA violations that were the subject of EPA's enforcement action.

Over the course of resolving the enforcement action, between April 2011 and April 2012, Suffolk has implemented a number of infrastructure improvements to the Production Area, including the construction of a process wastewater storage pond that is designed to meet the requirements of the Large Horse CAFO effluent limitations guideline at 40 C.F.R. § 412.13 and the installation of a clean roof water diversion system that collects and diverts stable roof stormwater runoff to a dedicated drainage system. Suffolk also constructed and implemented upgrades to the existing racetrack stormwater management system, including the construction of four sand filters that will provide additional treatment for runoff originating from the dirt racetrack before it enters Sales Creek, and a sediment forebay, located within the track maintenance area south of Sales Creek. Additionally, Suffolk constructed three infiltration islands and a drop inlet to convey non-production area stormwater flow from the facility's northern aisle parking lot and roadways to Suffolk's dedicated stormwater drainage system. See Suffolk's August 2012 Nutrient Management and Stormwater Plan (Attachment 1 of this Fact Sheet) for more specific information on the wastewater management improvements that Suffolk has constructed and implemented.

III. QUANTITATIVE AND QUALITATIVE DESCRIPTION OF EXISTING DISCHARGES AND SUMMARY OF AUTHORIZED DISCHARGES COVERED BY THE DRAFT PERMIT

A. Existing Discharges

To develop the draft permit, EPA reviewed and used quantitative descriptions of the effluent parameters in wet weather discharges of pollutants from Suffolk to Sales Creek contained in the monthly discharge reports submitted by Suffolk to EPA. Four data sets, each from different time periods between September 1, 2008 and April 23, 2012, were used in EPA's analysis.

The first set of data includes both dry and wet weather monitoring for the period September 1, 2008 through November 30, 2010. A summary of the discharge status report data is provided in Attachment 2 of the Fact Sheet.[2]

On June 29, 2010, EPA requested, under CWA Section 308(a), that Suffolk conduct additional monthly dry weather and wet weather sampling for pH, nutrients, total aluminum and total copper at four outfalls. The second set of data that EPA considered in the development of the draft permit is the additional wet weather monitoring data for the period of August 23, 2010 through November 17, 2010. A summary of this additional wet weather monitoring data is provided in Attachment 3 of the Fact Sheet.

In its June 29, 2010 letter, EPA further requested that Suffolk conduct a one-time dry weather sampling event in an effort to identify toxic and priority pollutants which may be present in the surface runoff due to current or past uses of the site. The October, 2010 toxicity and priority pollutant test results are summarized in Part IV.B.3.iv. of the Fact Sheet.

Lastly, EPA reviewed and used the wet weather monitoring data submitted by Suffolk for the time period of June 2011 through April 2012. This is the time period during which Suffolk constructed and installed the process wastewater storage pond and collection system and the stormwater improvement projects referenced previously in the Fact Sheet. A summary of this monitoring data is provided in Attachment 4 of the Fact Sheet.

It should be noted that at the time the draft permit was developed, EPA had not received any discharge status report data from Suffolk for any discharges from the facility that may have occurred since Suffolk constructed, installed and implemented the facility improvements discussed in detail below.

1. CAFO-Regulated Discharges from the Facility

On August 1, 2012, MassDEP issued a Boston Sewer Connection Permit that allows Suffolk to discharge up to 150,000 gallons per day of process wastewater from its wastewater storage pond to the MWRA sewer system, eliminating this wastewater contribution to Sales Creek except during certain extreme rainfall events. Suffolk has constructed the process wastewater storage

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[1] The May 1, 2008 EPA-issued Administrative Order requires Suffolk to submit monthly Discharge Status Reports to EPA that include the results of sample analysis of discharges from 8 outfalls and/or sample locations.

pond and reconfigured its Production Area to eliminate discharges of process wastewater to surface waters from all storm events smaller than the 50-year, 24-hours rainfall event, which significantly exceeds the 25-year, 24-hour rainfall event required by the Large Horse CAFO NELG. The storage pond includes an impermeable clay liner that limits discharge of process wastewater to groundwater. Underdrains installed below the storage pond prevent damage to the liner that could otherwise result from a potential temporary rise in the groundwater level. The storage pond includes two spillways (Outfalls 001 and 002) to manage discharges from extreme rainfall events exceeding the capacity of the storage pond. The spillways are reinforced with riprap and are directed to existing drainage swales that discharge to Sales Creek.

Whenever extreme weather conditions do cause an overflow of process wastewater from the Production Area's wastewater storage pond, the overflow is discharged into Sales Creek, through Outfalls 001 and 002. The two outfalls are located on the northern bank of Sales Creek where Sales Creek flows above ground in the Track Area infield. Table 1 of the Fact Sheet identifies the facility's outfalls.

Table 1 - Suffolk Downs Post-Construction Outfall Nomenclature and Locations

NPDES PERMIT NOMENCLATURE	SUFFOLK OUTFALL NOMENCLATURE	Outfall Location and Description
001	PWP-1	Sediment basin drainage channel located on the northern bank of Sales Creek where Sales Creek flows above ground in the Track Area in-field. Discharge: overflow from Production Area wastewater storage pond.
002	PWP-2	Sediment drainage swale located on the northern bank of Sales Creek (downstream of PWP-1) where Sales Creek flows above ground in the Track Area in-field. Discharge: Overflow from Production Area wastewater storage pond.
003	SD-3	Outfall (flow-through pit) located in the wetlands adjacent to Sales Creek, to the east of the racetrack and to the southeast of the mortality holding area. Discharge: Production Area (roof runoff) stormwater.
004	SD-4	Outfall located on the southern bank of Sales Creek just prior to where Sales Creek first flows beneath the north-western portion of the racetrack. Outfall located directly across from outfall SD-5. Discharge: Non-Production Area stormwater from the grandstand, paved track maintenance area and paved parking area.
005	SD-5	Outfall pipe located on the northern bank of Sales Creek, just prior to where Sales Creek first flows beneath the north-western portion of the racetrack. Discharge: Production Area (roof runoff) stormwater
	SD-6: Outfall eliminated 3/30/12	Drainage swale located on northern bank of Sales Creek that drains the southeastern portion of the Production Area.

NPDES PERMIT NOMENCLATURE	SUFFOLK OUTFALL NOMENCLATURE	OUTFALL LOCATION & DESCRIPTION
006	SD-10 – 24" pipe	Outfall pipes located on the eastern bank of Sales Creek immediately south of Route 145. Discharge: Production Area (roof runoff) and Non-Production Area (northern aisle parking and roadway) stormwater runoff.
007	SD-7/BMP1 Sediment Forebay Discharge	Sediment forebay located west of Sales Creek within the Track Maintenance Area. Discharge: Non-Production Area runoff from the racetrack entrance, track maintenance area, parking area and racetrack material stockpile area.
008	BMP-2 sand filter	Sediment basin drainage swale located on the southwest bank of Sales Creek where Sales Creek flows above ground in the Track Area in-field. Discharge: Track Area industrial stormwater.
009	BMP-3 sand filter	Sediment basin drainage swale located on the northwest bank of Sales Creek where Sales Creek flows above ground in the Track Area in-field. Discharge: Track Area industrial stormwater.
010	BMP-4 sand filter	Sediment basin drainage swale located on the northeast bank of Sales Creek where Sales Creek flows above ground in the Track Area in-field. Discharge: Track Area industrial stormwater.
011	BMP-5/SD 13 sand filter	Sediment basin drainage swale located on the southeast side of Sales Creek where Sales Creek flows above ground in the Track Area in-field and towards Walley Street. Discharge: Track Area industrial stormwater.

The Production Area generates an average volume of approximately 147,000 cubic feet (1.1 million gallons) of process wastewater per month.[3] Production Area process-generated wastewaters include, but are not limited to, Production Area contaminated stormwater, stable wash water that comes in contact with manure, litter and feed in the horse stalls and in the manure storage areas, as well as contaminated stormwater from the animal mortality area, and contain bacteria, phosphorus, nitrogen, TSS, sediments, and aluminum. The process wastewater system's piping is designed to convey anticipated volume from the 10-year storm event when flowing full. Flows exceeding the 10-year storm event may result in pipe surcharges, but all surcharges will be contained within the pipe network or immediate surface areas with no discharge outside of the Production Area.

[3] Suffolk's August 2012 Nutrient and Stormwater Management Plan estimates that the Production Area will generate an average of approximately 147,000 cubic feet or 1.1 million gallons of contaminated runoff volume per month, calculated as follows: **Monthly runoff volume** = Precipitation average x reduction rate x area x conversion factors; Runoff Volume = (3.5 inches/month) x (0.76 inches runoff/ inches rainfall) x (15.2 Acres) x (43,560 ft^2/acre) x (1 ft/12 in) = ***147,000* cubic feet/month runoff volume.** (147,700 FT^3 x 7.48052 gallons = 1,099,636 gallons = **1.1 million gallons/month runoff volume**.

The perimeter of the Production Area is graded and/or bermed to prevent process wastewater from exiting the Production Area and to keep non-Production Area stormwater from flowing into the Production Area. All process wastewater is collected, conveyed and stored in the process wastewater storage pond, located within the racetrack infield, immediately north of Sales Creek. Suffolk's process wastewater system includes dedicated process wastewater drains, the wastewater storage pond, and a pump station and associated force main. Dedicated drains convey process wastewater from the Production Area to the wastewater storage pond for flow equalization, which in turn is pumped to the Boston Water and Sewer Commission's (BWSC) sanitary sewer system within Walley Street for eventual discharge from the MWRA's Deer Island wastewater treatment plant.

The wastewater storage pond is designed to contain the anticipated run-off volume from the Production Area as well as direct precipitation to the storage pond, from a 50-year, 24-hour storm event with no discharge to Sales Creek or groundwater. This design significantly exceeds the 25-year, 24-hour large horse CAFO effluent limitation guideline at 40 C.F.R. § 412.13. The wastewater storage pond has a storage capacity of approximately 307,000 cubic feet (cf), excluding the volume associated with one foot of freeboard (51,000 cf) and six inches of accumulated sediment/operational storage (17,000 cf).

STORAGE STRUCTURE	Storage Period (days)	Total Capacity (gallons)	Total Capacity (cf)
Storage Pond	60 days	2,296,520 gal	307,000 cf

Suffolk has reduced the facility's historical monthly amount of Production Area stormwater runoff volume by approximately 40% (0.85 million gallons/month) through the installation of stable building roof gutters and a dedicated roof runoff drainage system that discharges stormwater to Sales Creek. (See the discussion at III.A.2.a.i. Production Area Roof Runoff). The anticipated monthly Production Area runoff volume (147,000 cubic feet) compares favorably with the 307,000 cubic feet of total storage volume provided by the storage pond and indicates that based on the average monthly runoff, the storage pond could contain approximately 60-days of runoff.

During the 2009 season, Suffolk transferred approximately 19,170 tons of manure to a composting facility, estimated by Suffolk to conservatively be at least 99 percent of the manure generated at the facility. A conservative assumption is that the remaining approximately 193 tons/year of manure will enter the stormwater management system. Using an estimated annual stormwater manure loading rate of 193 tons/year and an industry standard stable waste density of 30 lbs/cf, the pond can be expected to receive approximately 12,900 cf/yr of stable waste. The current total sediment storage volume provided in the pond is approximately 17,000 cf, more than 130% the expected annual volume. A depth marker is located in the storage pond with indicators of the maximum depth of sediment accumulation and the minimum capacity necessary to contain the maximum runoff and direct precipitation from the 25-year rainfall event.

As mentioned, process wastewater from the storage pond is pumped to the BWSC sewer system, except under extreme weather events. More specifically, process wastewater contained within the storage pond is pumped to the BWSC sewer system via a duplex wastewater pumping station. Flows from the pond enter the station through an intake structure. The intake structure is located within the pond and has multiple intakes outfitted with oil/debris control hoods. The multiple intakes ensure adequate flow to the pump station while the hoods prevent trash and other debris from fouling pumps as well as providing spill control. The pump station is a wet well/dry well configuration with two 160 gallons per minute (gpm) variable frequency drive pumps located in a dry well adjacent to a wet well. The wet well houses floats and system controls while the dry well houses pumps and related valves. The pumps have been sized to provide maximum operational flexibility with each pump discharging to independent 3" force mains. Independent force mains are required to manage friction losses over the desired wide range of operational discharges. Pump station controls have been designed to provide for discharges ranging from 80 gpm to 320 gpm based on holding pond elevation. Lower discharge rates are intended to maintain pond volumes during normal rain events while higher discharge rates are intended to evacuate the pond in advance and following large events. At peak flow, the pump station is capable of evacuating the entire wastewater storage pond volume in just under five days. The effluent in the BWSC sewer system flows by gravity to the MWRA's Constitution Beach combined sewer overflow (CSO) facility and eventually to the Deer Island treatment plant.

The MWRA, through its Sewer Use Discharge Permit, has reserved the right to suspend discharges from Suffolk during periods of high precipitation in an effort to reduce or prevent CSO activations within the MWRA system. However, the large wastewater storage pond volume (which is designed for a 50-year 24-hour rain event and significantly exceeds the 25-year, 24-hour large horse CAFO ELG) and robust pumping system should be adequate to bridge gaps in service for all but the most extreme rain events. It is likely that in those instances when extreme weather events cause an overflow of pollutants from the process wastewater storage pond (Outfalls 001 and 002) to Sales Creek, there will be sufficient capacity available in the storage pond to contain the first flush of stormwater occurring during the rain event[4], which is calculated to be 49,658 cubic feet of runoff or approximately 16% of the of the storage pond's total storage capacity. (Runoff volume coefficient for impervious cover x rainfall amount x area x conversion factors; 0.9 x 1 inch x 15.2 acres x 43,560 ft^2/acre x 1 ft/12 in = 49,658 cf).

Suffolk does not currently land apply manure on-site; therefore, there is no CAFO regulated land application area at Suffolk.

2. Stormwater Discharges from the Facility

Prior to the 2011-2012 reconfiguration of the Production Area, Outfalls 003, 004, 005, 006 and 007 were located within the Production Area and these outfalls discharged Production Area process wastewater (commingled process wastewater, contaminated stormwater and silt and soil) from both the stable area and the Racetrack Area's dirt racetrack. Historically, these discharges consistently contributed to exceedances of applicable water quality criteria for bacteria and/or

[4] The first flush is the initial surface runoff of a rainstorm (from an area with a high proportion of impervious surfaces) and typically contains a more concentrated pollutant load compared to the remainder of the storm.

total suspended solids during wet weather events. See Attachments 2 and 4 of the Fact Sheet. At this time EPA does not have sufficient effluent data to fully characterize discharges from these outfalls for the time since Suffolk's Production Area process wastewater storage pond and the process wastewater and "clean stormwater" (see discussion below) diversion systems became operational, but based on the nature and extent of site upgrades and the imposition of new pollutant controls, they are presumably much reduced in terms of both effluent volume and pollutant load to the receiving waters. Also, the draft permit contains BMPs and SWPPP requirements that should further reduce and/or eliminate pollutant loads through these outfalls.

a. Clean Stormwater Diversion System Discharges

i. Production Area Roof Runoff: Stormwater runoff from the roofs of buildings located within the stable area of the Production Area is collected and diverted to a dedicated drain system for eventual discharge to Sales Creek via Outfall 003, located in the wetlands adjacent to Sales Creek; and Outfall 005, located on the northern bank of Sales Creek, just prior to where Sales Creek first flows beneath the north-western portion of the racetrack; and Outfall 006, located on the eastern bank of Sales Creek, immediately south of Route 145. The diversion system includes standard gutters on all stable area buildings where installation is practicable. The gutters flow to piped downspouts and connect to dedicated drainage infrastructure, which is sized to convey runoff volumes for the 25-year 24-hour storm event without discharge to at-grade portions of the stable area. Prior to the initiation of the use of the diversion system, portions of the existing drain system used as a component of the diversion system were cleaned of accumulated sediments.

ii. Non-Production Area Stormwater Runoff: Stormwater runoff from the northern drive aisle, adjacent to Winthrop Avenue, and northern drive dedicated stable parking lot is directed toward three infiltration islands, which include a drop inlet. When infiltration capacity is exceeded, the stormwater flow enters the drop inlet and discharges to Outfall 006 via the diversion system.

b. Racetrack Area Stormwater Discharges

The Racetrack Area consists of the one mile dirt racetrack, the 7/8 mile turf racetrack, the track area infield, and the track maintenance area, all of which are located outside of the Production Area. The Racetrack Area's discharge consists of stormwater runoff that contains silt, sediments and fine particulates from the facility's dirt racetrack. Historically, the Racetrack Area discharges contained significant levels of total suspended solids (TSS), which increases the turbidity of the receiving water and causes visible discoloration of Sales Creek. In 2012 Suffolk constructed a Racetrack Area stormwater management system that includes four sand filters located with the racetrack infield to address the high levels of TSS in discharges from the dirt racetrack. Stormwater from the racetrack proper flows towards the inside of the track and enters an open concrete drainage swale. The concrete drainage swale discharges through pipes to sand filters that include an 18-inch sediment forebay and an overflow structure (or the stormwater pond located within the southern portion of the track infield). The sand filters discharge to Sales Creek through four existing discharge points, Outfalls 008, 009, 010 and 011, that were used by the track's previous drainage system.

Stormwater runoff from the grandstand, paved parking area and the paved track maintenance area is discharged to Sales Creek through Outfall 004, which is located on the southern bank of Sales Creek, just prior to where Sales Creek first flows beneath the north-western portion of the racetrack.

A sediment forebay, located west of Sales Creek and within the track maintenance area, receives stormwater flows from the racetrack's northwestern entrance. It also receives flows from a portion of the paved track maintenance area, a parking area west of the track maintenance area, and the racetrack surfacing materials stockpile area. The forebay includes four stone check dams and discharges stormwater into Sales Creek through Outfall 007.

IV. PERMIT BASIS AND EXPLANATION OF EFFLUENT LIMIT DERIVATIONS

The effluent limitations, monitoring requirements, and implementation schedule may be found in Part I (Effluent Limitations and Monitoring Requirements) of the draft permit.

A. General Basis of Permit Requirements

The Clean Water Act, 33 U.S.C. § 1251 *et seq.*, prohibits the discharge of pollutants to waters of the United States without authorization from a National Pollutant Discharge Elimination System (NPDES) permit. *See* 33 U.S.C. §§ 1311(a) and 1342(a). NPDES permits are used to implement the CWA's technology- and water quality-based requirements on a site-specific basis through the imposition of numeric and non-numeric (i.e., BMP-based) effluent limitations and conditions (e.g., maintenance, monitoring and reporting). Where technology-based effluent limits are not sufficiently stringent to ensure that applicable State water quality standards will be attained in the receiving water, CWA § 303(b)(1)(C) and implementing NPDES regulations (40 C.F.R. § 122.44(d)) require the imposition of water quality-based effluent limits as stringent as necessary to ensure compliance with such standards. The regulations governing the NPDES permit program are generally found at 40 C.F.R. Parts 122, 124, 125, and 136. Concentrated animal feeding operations are subject to the CAFO requirements at 40 C.F.R. §§ 122.23 and 122.42(e). Manure, litter and/or process wastewater discharges from CAFOs are subject to the NELGs found at 40 C.F.R. Part 412.

The CWA covers certain types of stormwater discharges, among them those associated with industrial activity. Under Section 402(p)(2) of the Act, all stormwater discharges associated with industrial activity that discharge stormwater through a municipal separate storm sewer system (MS4) or discharge directly to waters of the United States are required to obtain an NPDES permit. The regulations at 40 C.F.R. § 122.26(b)(14)(i-xi) identify categories of facilities that are considered to be engaging in "industrial activity." Those categories include, but are not limited to, "[f]acilities subject to stormwater effluent limitations guidelines," which are required to apply for NPDES permits for stormwater discharges. The regulations define "stormwater discharges associated with industrial activity" as discharges from any conveyance used for collecting and conveying stormwater and that is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. Under CWA § 402(p)(3)(A), NPDES permits for stormwater discharges associated with industrial activity are to require compliance with all

applicable provisions of Sections 301 and 402 of the CWA, *i.e.*, all applicable technology-based and water quality-based requirements of the Act.

1. Technology-Based Requirements

The CWA imposes a number of technology standards requiring the use of particular levels of pollution control technology. Federal technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (see 40 C.F.R. § 125 Subpart A). Technology-based discharge standards include: (a) the best practicable control technology currently available (BPT) standard for a limited number of "conventional pollutants" and metals, (b) the best conventional control technology (BCT) standard for other conventional pollutants; and (c) the best available technology economically achievable (BAT) standard for toxic and non-conventional pollutants. See 33 U.S.C. §§ 1311(b)(1)(A), 1311(b)(2)(A), and 1311(b)(2)(E). Which of the CWA's technology standards apply to a given facility is determined by a variety of factors, such as the type of pollutant at issue and the type of facility in question. The CWA requires compliance with BPT, BCT and BAT effluent limits no later than March 31, 1989. *See* 33 U.S.C. § 1311(b)(1)(A) and (2); 40 CFR § 125.3(a)(2). Thus, the statutory deadline for achieving compliance with effluent limits based on these standards has already passed and compliance is required immediately. NPDES permits may not include compliance schedules and deadlines that would purport to extend these statutory compliance deadlines. *See* 40 C.F.R. § 122.47(a)(1).

EPA has two alternative methods for giving effect to the CWA's technology standards. First, EPA can approach the matter on an industrial category-wide basis (e.g., for CAFOs or paper mills). Industrial categories may, in turn, be broken down into sub-categories based on factors such as the type of processes used or the location of the facilities (e.g., effluent limitations may be tailored for different types of CAFOs or paper mills). EPA then determines the pollution reduction method(s) that satisfies the applicable technology standard for that industrial category (e.g., BAT or BCT), and sets the effluent limitations for particular pollutants based on the use of that method. These industrial category-wide (or sub-category-wide) effluent limitations are referred to as National Effluent Limitation Guidelines (NELGs). Once a pertinent NELG has been developed, it is used to determine the limits to be included in individual facility permits. *See* 40 C.F.R. § 125.3(c)(1).

Second, when EPA has not developed an NELG for a particular industry, or for a particular pollutant discharged by an industry for which NELGs have otherwise been promulgated, EPA uses its Best Professional Judgment (BPJ) to develop permit limits based on a case-by-case, site-specific application of the relevant technology standard. *See* 33 U.S.C. § 1342(a)(1)(B); 40 C.F.R. § 125.3(c)(2). As one court has explained, "BPJ limits constitute case-specific determinations of the appropriate technology-based limitations for a particular point source." *NRDC v. EPA*, 859 F.2d 156, 199 (D.C. Cir. 1988).

EPA has promulgated technology-based National Effluent Guidelines for Concentrated Animal Feeding Operations (CAFO) Point Source Category, Subpart A, Horses and Sheep. Specifically, the NELG prohibits the discharge of process wastewater pollutants into U.S. waters, except whenever rain events cause an overflow of process wastewater from a facility that is designed, constructed, operated, and maintained to contain all of process wastewater, including the runoff

from a 25-year, 24-hour rain event at the location of the CAFO facility in question. If those conditions have been met at a CAFO facility, then any process wastewater pollutants in the overflow may be discharged into waters of the U.S in accordance with the technology-based ELG.

2. Water Quality-Based Requirements

Water quality-based limitations are required in NPDES permits when effluent limits and other requirements and standards more stringent than technology-based requirements are necessary to maintain or achieve compliance with State or Federal water quality requirements. *See* 33 U.S.C. § 1311(b)(1)(C); 40 C.F.R. § 122.44(d)(1). State water quality standards (WQS) have three components: (a) beneficial designated uses for water bodies or segments of water bodies; (b) instream numeric and/or narrative water quality criteria intended to protect the assigned designated uses; and (c) antidegradation requirements intended to ensure that once a particular level of water quality is attained it will not be degraded, except under very limited circumstances, and to protect especially high quality or important water bodies. *See* 40 CFR § 131.12; 310 CMR 4.04(3). The Massachusetts Surface Water Quality Standards, found at 314 CMR 4.00, include each of these three elements.

The Commonwealth of Massachusetts assigns each of the water bodies under its jurisdiction, and in some cases specific segments of these water bodies, to a particular water quality classification (e.g., Class A, Class B or Class C). Each water quality classification is assigned a particular set of designated uses and accompanying water quality criteria. Massachusetts also has a number of water quality criteria that apply to all its waters, including narrative water quality criteria requiring restrictions on the discharge of toxic constituents and mandating the use of EPA criteria established pursuant to Section 304(a) of the CWA unless the water quality standards specify a different criterion for the specific pollutant or the Commonwealth establishes site-specific criteria.

NPDES permits must address any pollutant or pollutant parameter (conventional, non-conventional, toxic and whole effluent toxicity) that is or may be discharged at a level that causes, contributes, or has a “reasonable potential” to cause or contribute to an excursion above any water quality standard. *See* 40 C.F.R. § 122.44(d)(1). An excursion occurs if the projected or actual in-stream concentration of a pollutant discharge exceeds the applicable criterion or interferes with maintenance of applicable designated uses. In determining whether there is a reasonable potential for an excursion, EPA considers (a) existing controls on point and non-point sources of pollution; (b) pollutant concentrations and variability in the effluent and receiving water; (c) the sensitivity of the test species used in toxicity testing; (d) known water quality impacts of processes on wastewater; and, (e) where appropriate, dilution of the effluent in the receiving water. *Id.*

3. Antidegradation Requirements

Federal regulations found at 40 C.F.R. § 131.12 require states to develop and adopt a statewide antidegradation policy as part of their water quality standards, to ensure the maintenance and protection of existing instream water uses and the level of water quality necessary to protect the

existing uses. Antidegradation policies are also supposed to maintain the quality of waters which exceed levels necessary to support propagation of fish, shellfish, and wildlife and to support recreation in and on the water, subject to limited exceptions. The Massachusetts Antidegradation Policy is found at 314 CMR 4.04.

The antidegradation requirements of the Massachusetts WQS provide heightened protection for Outstanding Resource Waters (ORWs). As previously mentioned, Suffolk Downs discharges wastewater to Sales Creek, which is classified as an ORW under the Massachusetts WQS. *See* 314 CMR 4.06(1)(d)(2), 4.06(5) and 4.06 (Tables and Figures: Table 15 (Boston Harbor Drainage Area: Belle Isle Inlet and tributaries thereto -- Qualifiers "Outstanding Resource Waters"). Sales Creek and Belle Isle Inlet are included in the area designated by the Commonwealth as the Rumney Marshes Area of Critical Environmental Concern (ACEC)[5.] The Rumney Marshes ACEC is an extensive and biologically significant salt marsh system that is located within the northern Greater Boston area.

Massachusetts' antidegradation requirements restrict both new (or increased) and existing discharges of pollutants to ORWs. While Suffolk is not proposing new or increased pollutant discharges, its existing discharges still must satisfy antidegradation requirements. Specifically, the Commonwealth's regulations provide that:

> [a]ny person having an existing discharge to these waters shall cease said discharge and connect to a Publicly Owned Treatment Works (POTW) unless it is shown by said person that such a connection is not reasonably available or feasible. Existing discharges not connected to a POTW shall be provided with the highest and best practical method of waste treatment determined by the Department as necessary to protect and maintain the outstanding resource water. 314 CMR 4.04(3)(a).

Therefore, Suffolk's existing discharges of pollutants to Sales Creek must cease and be redirected to a POTW unless such redirection is "not reasonably available or feasible," in which case such pollutant discharges must receive the "highest and best practical method of waste treatment" that MassDEP determines is needed to protect and maintain the ORW. In MassDEP's antidegradation policy document, entitled, "Implementation Procedures for the Antidegradation Provisions of the Massachusetts Surface Water Quality Standards, 314 CMR 4.00" (10/21/09) (MassDEP Antidegradation Implementation Procedures), the State explains that "[t]he purpose of this requirement is to minimize any degradation and to ensure that water quality remains as close to natural background conditions as feasible." *Id.* at 6.[6] On September 24, 2012, the

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[5] Executive Office of Environmental Affair's Designation of Portions of the Cities of the Boston, Lynn and Revere, and the Towns of Saugus and Winthrop as the Rumney Marshes Area of Critical Environmental Concern, August 22, 1988.

[4] MassDEP's 2009 Antidegradation Implementation Procedures supercedes its 1992 document entitled, "Antidegradation Review Procedure For Discharge Requiring A Permit Under 314 CMR 3.03." Nevertheless, the 1992 document is of interest in that its discussion of the antidegradation protections for ORWs is consistent with the 2009 document, but adds some additional detail regarding the "highest and best practical method of waste treatment"

Commonwealth of Massachusetts determined that, *inter alia*, the proposed discharge meets applicable antidegradation requirements under Massachusetts WQS. The Commonwealth's determination states that the discharges covered by the terms and conditions of the draft permit, coupled with the significant pollution abatement and control efforts required by both the draft permit and the August 22, 2012 federal Consent Agreement between Suffolk and EPA to improve Suffolk's management and treatment of stormwater will result in the improvement of water quality necessary to meet and protect existing uses of the receiving waters and have no significant potential to impair any existing or designated uses.

4. Applicable Water Quality Standards

The Commonwealth of Massachusetts has designated Sales Creek as a Class SA Outstanding Resource Water (ORW). Because of their outstanding socio-economic, recreational, ecological and/or aesthetic values, ORWs are afforded higher protection to maintain their existing uses and water quality. It is important to note that the 2010 errata sheet for the Mystic River Watershed 2004-2008 Water Quality Assessment Report states that "(A)lthough Sales Creek is currently classified in the SWQS as a Class SA/ORW since it is a tributary to Belle Isle Inlet, it is separated from Belle Isle Inlet by a tide gate and does not function as a tidal system. It is recommended that this waterbody be reclassified in the next revision of the SWQS as a Class B/ORW." Until the State formally reclassifies Sales Creek to a Class B water body, the draft permit must contain effluent limits that meet the Class SA water quality standards. For pollutants with different limits for discharge to Class SA and Class B waterbodies, the draft permits contains both limits (i.e., bacteria limits for both fecal coliform, the Class SA requirement, and E.Col, the Class B requirement).

Class SA waters "are designated as an excellent habitat for fish, other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact. In certain waters, excellent habitat for fish, other aquatic life and wildlife may include, but is not limited to, seagrass. In approved areas, SA waters shall also be suitable for shellfish harvesting with depuration. These waters shall have excellent aesthetic value." The Massachusetts water quality standards for bacteria for Class SA waters designated for shellfishing states that "fecal coliform shall not exceed a geometric mean Most Probable Number (MPN) of 14 organisms per 100 ml, nor shall more than 10% of the samples exceed an MPN of 28 per 100 ml, or other values of equivalent protection based on sampling and analytical methods used by the Massachusetts Division of Marine Fisheries and approved by the National Shellfish Sanitation Program in the latest revision of the *Guide For The Control of Molluscan Shellfish*

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requirement. Specifically, the 1992 document states (at p. 7) that 314 CMR 4.05(3)'s restrictions on existing discharges to ORWs mean:

> … that existing discharges will be connected to POTW's where possible. Where it is not possible, treatment levels higher than those required by the technology-based review may be imposed. The purpose of this higher treatment is to provide the highest water quality possible so that the ORW is at minimal risk of degradation and to insure that water quality remains as close as natural background conditions as possible.

(more stringent regulations may apply, see 314 CMR 4.06(1)(d)(5))." *See* 314 CMR 4.0, Table 15.

Class B waters are designated as a habitat for fish, other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary (*e.g.*, swimming) and secondary (*e.g.*, fishing and boating) contact recreation. *See* 314 C.M.R. §§ 4.05(3)(b) and 4.06 (Table 15). Under Massachusetts WQS, such waters must have consistently good aesthetic value and, where designated, must be suitable as a source of public water supply with appropriate treatment, as well as for irrigation and other agricultural uses. *See* 314 C.M.R. § 4.05(3)(b). They must also be free of floating, suspended or settleable solids that are aesthetically objectionable or could impair uses, *id*. at § 4.05(3)(b)(5), and changes to color or turbidity of the waters that are aesthetically objectionable or use-impairing are also prohibited. *Id*. at § 4.05(3)(b)(6). Dissolved oxygen levels in Class B waters must not be less than 5.0 mg/l, and pH must fall within the range of 6.5-8.3 s.u. and not more than 0.5 units outside the background range. *Id*. at §§ 4.05(3)(b)(1) and (3). Massachusetts water quality standards for recreational use of Class B waters for bacteria are: "[T] he geometric mean of all *E. coli* samples taken within the most recent six months shall not exceed 126 colonies/100 ml typically based on a minimum of five samples and no single sample shall exceed 235 colonies/100 ml"; alternatively, "[T]he geometric mean of all *Enterococci* samples taken within the most recent six months shall not exceed 33 colonies/100 ml typically based on a minimum of five samples and no single sample shall exceed 61 colonies/100 ml."

In addition to criteria specific to classified waters, Massachusetts imposes minimum narrative criteria applicable to *all* surface waters, including aesthetics ("free from pollutants in concentrations or combinations that settle to form objectionable deposits; float as debris, scum or other matter to form nuisances; produce objectionable odor, color, taste or turbidity; or produce undesirable or nuisance species of aquatic life"); bottom pollutants and alterations ("free from pollutants in concentrations or combinations or from alterations that adversely affect the physical or chemical nature of the bottom, interfere with the propagation of fish or shellfish, or adversely affect populations of non-mobile or sessile benthic organisms."); and nutrients ("unless naturally occurring, all surface waters shall be free from nutrients in concentrations that would cause or contribute to impairment of existing or designated uses…"). *See* 314 C.M.R § 4.05(5)(a),(b) and (c).

B. Receiving Water Description

1. Background

The receiving water, Sales Creek, (Boston Harbor/Mystic River Watershed/Segment MA71-12), is a Class SA/ORW[7] small freshwater tidally connected tributary of Belle Isle Inlet (Segment MA71-14). Belle Isle Inlet is a Class SA/ORW, and flows into Winthrop Bay (Segment MA70-10) to Boston Harbor. The creek's surface area is 0.008 square miles. The creek runs from the headwaters at Route 145 in Revere, less than ¼ mile from Suffolk's Production Area, to the tidegate/confluence with Belle Isle Inlet. Although Sales Creek is tidally connected to Belle Isle

[7] See Sales Creek Class SA/Class B discussion at IV.A.4. of the Fact Sheet.

Inlet, the Bennington Street tandem tidal gate shuts out incoming tidal surges but allows Sales Creek runoff to flow into Belle Isle Inlet unimpeded. The tidal gate and Belle Isle Inlet/Sales Creek Pump Station are located less than 500 feet from the Suffolk's property line. See Map 1.

According to the November, 2011 Final Massachusetts year 2010 Integrated List of Waters, CN 360.1, Sales Creek is a category 3 waterbody, no uses assessed (insufficient data were available to assess aquatic life, fish consumption, primary and secondary contact, and aesthetic uses). The Belle Isle Inlet is impaired for fish consumption due to PCB in fish tissue, source unknown, and for shellfish, due to a Massachusetts Department of Marine Fisheries prohibition and fecal coliform, source unknown. EPA has not authorized any continuous non-storm water discharges to Sales Creek upstream of the discharge. Global Revco Terminal LLC, (MA0003298) a petroleum bulk storage facility, has been authorized to discharge stormwater to the headwaters of Sales Creek.

Sales Creek (the receiving water for Suffolk's wastewater discharges) is located within the Rumney Marshes Area of Critical Environmental Concern (ACEC). An ACEC receives special recognition by the Commonwealth because of the quality, uniqueness, and significance of its natural and cultural resources. ACEC designation creates a framework for enhanced local, regional, and the Commonwealth's stewardship of these critical resources. The purpose of the ACEC Program is to preserve, restore, and enhance critical environmental resources and resource areas of the Commonwealth. The goals of the program are to identify and designate these ecological areas, to increase the level of protection for ACECs, and to facilitate and support the stewardship of ACECs. Rumney Marsh is a biologically significant salt marsh adjacent to the facility which provides habitat for a wide range of aquatic species and native and migratory birds. Due to the historical alteration of this wetland, there are ongoing efforts to restore portions of this salt marsh and the related intertidal areas.

2. Available Dilution

State water quality standards establish the hydrologic condition at which water quality criteria must be applied. For rivers and streams the hydrologic condition is the lowest observed mean river flow for seven consecutive days recorded over a 10 year recurrence interval (7Q10) (314 CMR § 4.03(3)). Water quality-based limits are then based on a dilution factor calculated using the permitted flow of the facility and the low flow condition in the receiving water. Streamstats, a USGS program, was used to calculate the runoff area and low flow for Sales Creek. According to Streamstats, the assimilative capacity of the receiving waters is extremely limited. There is no appreciable dilution at the point of discharge due to the small watershed area. Streamstats calculated the 7Q10 of Sales Creek to be 0.0102 cubic feet per second or 26,879 cubic feet per month (0.0066 MGD). Suffolk estimates its production area runoff flow to be 260,700 cubic feet per month (0.0989 MGD). The dilution factor (0.0989 + 0.0066/0.989) is 1.07 or 1.1.

3. Water Quality Impairments

Under Section 303(d) of the CWA, states are required to develop information on the quality of their water resources and report this information to the EPA, the U. S. Congress, and the public. In Massachusetts, the responsibility for monitoring the waters within the Commonwealth,

identifying those waters that are impaired, and developing a plan to bring them into compliance with Massachusetts WQS, resides with the MassDEP. The MassDEP evaluated and developed a comprehensive list of the assessed waters and the most recent list was published in the *Massachusetts Year 2010 Integrated List of Waters*. The Commonwealth has not assessed Sales Creek's uses, nor has it developed a TMDL for that water. The Massachusetts Year 2008 Integrated List of Waters (MassDEP, December 2008 and March 2010) identifies Winthrop Bay and Belle Isle Inlet (the closest water bodies to Sales Creek evaluated by MassDEP) as impaired. Fish consumption and shellfish uses are impaired in both water bodies, due to PCB in fish tissue and fecal coliform, respectively. The state has indentified Winthrop Bay as requiring a TMDL due to the presence of pathogens, which are not considered to be present due to natural causes. Further, Winthrop Bay is impaired for primary contact due to elevated enterococci bacteria from municipal separate storm sewer systems and unspecified urban stormwater discharges.

i. *Total Suspended Solids*

Historically, the discharges from Suffolk's Production Area and Racetrack Area contain significant levels of total suspended solids (silt, sediment and particulate fines) which increase the turbidity of the receiving water and causes visible discoloration of Sales Creek in violation of the narrative (non-numeric) water quality standards for color, turbidity and solids set forth at 314 C.M.R 4.005(3)(b).

A review of Attachment 2 of this Fact Sheet, Suffolk's Discharge Status Report Data Summary for the period September 2008 through November 2010, shows that during dry weather sampling the facility occasionally exceeds the benchmark concentration of 100 mg/l for TSS contained in EPA's 2008 Stormwater Multi-Section General Permit for Industrial Activity (MSGP), Part 8, Section J, Subsector J.1.[8], and during wet weather, the facility frequently exceeds the benchmark concentration for TSS. A review of Attachment 4, Suffolk's wet weather discharge status report data summary for the period June 2011-April 2012, shows that the facility continues to frequently exceed the MSGP benchmark concentration for TSS. Wet weather TSS exceedance data for the periods September 2008-November 2010, June 2011-April 2012 is provided below. Data is listed under EPA permit outfall number with Suffolk's sampling nomenclature in parentheses.

Wet Weather TSS Exceedance Data - 9/2008-11/2010

Outfall Number	Maximum	Average	# of Times Exceeded
003(SD-3)	960 mg/l	108 mg/l	18/55
005 (SD-5)	6,700 mg/l	397 mg/l	44/55
007 (SD-7)	770 mg/l	110 mg/l	15/52
006 (SD-10)	480 mg/l	105 mg/l	20/54

[8] See also Part IV. 2. a. of the Fact Sheet for further discussion on the TSS benchmark concentration.

6/2011-4/2012

Outfall Number	Maximum	Average	# of Times Exceeded
003(SD-3)	820 mg/l	148 mg/l	6/19
005 (SD-5)	1,800 mg/l	438 mg/l	14/19
007 (SD-7)	2,000 mg/l	223 mg/l	7/19
006 (SD-10)	530 mg/l	132 mg/l	8/19

At the time that this draft permit was prepared, there was no discharge status report data available for discharges from the facility that have occurred since Suffolk constructed, installed and implemented the facility improvements discussed in detail in Section III.A of this Fact Sheet. It is anticipated that those improvements (clean water diversion system, infiltrations system, sediment forebay, drainage swales, sand filters and overflow structure) and the implementation of the best management practices included in the permit will greatly reduce the level of TSS in Suffolk's discharge.

ii. Bacteria

Historically, numerous dry weather discharges from the facility exceed the Massachusetts water quality standard for bacteria and during wet weather, the facility's discharges consistently exceeded the Massachusetts water quality standards for bacteria. For wet weather discharges, both the E.Coli limit (no single sample shall exceed 235 cfu/100 ml) and the fecal coliform level (28 cfu/100 ml) were grossly exceeded in discharges from all outfalls. Discharges from the individual outfalls exceeded the standards within a range of 58 to 96 percent of the total number of sampling events. Wet weather bacteria exceedance data for the periods September 2008-November 2010 and June 2011-April 2012 is provided below. Data is listed under EPA permit outfall number with Suffolk's sampling nomenclature in parentheses.

Wet Weather E.coli (cfu/100ml) Exceedance Data - 9/2008-11/2010

Outfall Number	Maximum	Average	# of Times Exceeded
003 (SD-3)	780,000	38,929	36/54
004 (SD-4)	68,000	9,371	38/55
005 (SD-5)	1,100,000	106,550	50/55
007 (SD-7)	440,000	22,166	53/51
006 (SD-10)	430,000	30,997	51/54

6/2011-4/2012

Outfall Number	Maximum	Average	# of Times Exceeded
003 (SD-3)	240,000	48,205	14/19
004 (SD-4)	240,000	41,976	16/19
005 (SD-5)	820,000	190,408	17/19
007 (SD-7)	63,000	18.036	18/19
006 (SD-10)	1,410,000	115,698	17/19

Wet Weather Fecal Coliform (cfu/100ml) Exceedance Data - 9/2008-11/2010

Outfall Number	Maximum	Average	# of Times Exceeded
003 (SD-3)	190,000	21,237	44/53
004 (SD-4)	53,000	6,812	45/53
005 (SD-5)	2,000,000	124,400	51/55
007 (SD-7)	10,000,000	210,514	50/50
006 (SD-10)	430,000	32,638	53/54

6/2011-4/2012

Outfall Number	Maximum	Average	# of Times Exceeded
003 (SD-3)	180,000	38,765	14/19
004 (SD-4)	180,000	38,485	17/19
005 (SD-5)	5000,000	138,094	17/19
007 (SD-7)	76,000	18,036	17/19
006 (SD-10)	180,000	47,385	18/19

At the time that this draft permit was prepared, there was no discharge status report data available for discharges from the facility that have occurred since Suffolk constructed, installed and implemented the facility improvements discussed in detail in Section III.A of this Fact Sheet. It is anticipated that those improvements (40% reduction in stormwater runoff volume, the operation of the newly constructed Production Area wastewater process wastewater collection and storage system and the issuance of a discharge permit from the MWRA that allows Suffolk to discharge the process wastewater storage pond to the Deer Island wastewater treatment plant) will greatly reduce the volume of process wastewater being discharged into Sales Creek from Suffolk Downs.

Most, if not all, Production Area discharges to Sales Creek will be eliminated. Suffolk has designed and constructed its Production Area to prevent any dry weather process wastewater discharge from the Production Area, and to contain all process-generated wastewater plus the runoff from a 50-year, 24-hour storm event for its location. This level of control significantly exceeds the requirements of the Large Horse CAFO effluent guideline. The draft permit imposes manure management BMPs and requires that Suffolk operate and maintain the wastewater pond in accordance and consistent with the structural, operational and maintenance requirements contained in Part I.B.1.b.(6) of the draft permit. Further in those cases where there is an overflow of pollutants from the wastewater storage pond to Sales Creek, the first flush of pollutants (the initial surface runoff from a storm event that commonly contains elevated pollutant concentrations) should be contained within the retention structure's storage volume equivalent of the 50-year, 24-hour storm.

Lastly, the application of the no discharge large horse CAFO NELG satisfies the federal water quality-based requirements of the CWA with respect to CAFO-regulated discharges. The NELG is a performance standard of "no discharge" from the Production Area subject to an exception for discharges attributable to unusual rain fall events if certain conditions are met. The exception

provides recognition of the fact that the basic technology for preventing discharges from feedlots requires containment and/or storage facilities. Containment and storage facilities have physical limitations on their capacity to accommodate excessive quantities of rainfall, resulting in occasional unavoidable overflows.

iii. Aluminum

Race horses are fitted with aluminum horse shoes and aluminum is routinely detected in the effluent of discharges from racetracks. Historically, during wet weather Suffolk's discharges consistently exceeded the acute aluminum water quality criteria of 0.75 mg/l. Data below is taken from Attachment 3, Additional Wet Weather Sampling Data, August 23-November 17, 2010 and Attachment 4, Wet Weather Sampling Data, June 12, 2011-April 23, 2012 (Construction Period). Data is listed under EPA permit outfall number with Suffolk's sampling nomenclature in parentheses.

Wet Weather Aluminum (mg/l) Exceedance Data - August-November 2010

Outfall Number	Maximum	Average	# of Times Exceeded
003 (SD-3)	9	3.5	2/4
005 (SD-5)	200	51.8	5/5
007 (SD-7)	10	3.8	5/5

June 2011-April 2012

Outfall Number	Maximum	Average	# of Times Exceeded
003 (SD-3)	16	3.3	8/16
005 (SD-5)	50	9.4	17/17
007 (SD-7)	34	4.5	13/17

At the time that this draft permit was prepared, there was no discharge status report data available for discharges from the facility that have occurred since Suffolk constructed, installed and implemented the facility improvements discussed in detail in Section III.A of this Fact Sheet. It is anticipated that those improvements (e.g., sand filters) will greatly reduce the level of aluminum in Suffolk's discharge.

iv. Whole Wet Effluent Toxicity and Priority Pollutant Analysis

Whole effluent toxicity (WET) testing is conducted to assess whether certain effluents are discharged in a combination which produces a toxic amount of pollutants in the receiving water. Toxicity testing is used in conjunction with pollutant specific control procedures to control the discharge of toxic pollutants.

Toxic pollutants in toxic amounts are prohibited by the Massachusetts water quality standards which state, in part, that "all surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife." NPDES regulations under 40 C.F.R. §§ 122.44(d)(l)(iv) and (v) require WET effluent limits in a permit when the permitting

authority determines that a discharge causes, has the reasonable potential to cause or contributes to an in-stream excursion above a State's narrative or numeric criterion within an applicable State water quality standard for toxicity. On June 29, 2010, EPA required Suffolk to conduct a priority pollutant analysis and freshwater acute whole wet effluent toxicity test on Production Area effluent from Outfall 005 (SD-5). The results of an LC_{50} toxicity test reveal whether the toxicity of the effluent causes mortality in 50% or fewer test organisms. Suffolk's November 29, 2010 report results, measured by the WET test using the daphnid, Ceriodaphnia dubia, and the fathead minnow, Pimephales promelas, as the test organisms, indicate that the effluent samples passed the WET test with an LC50 result of >100%. Volatile organics, semi-volatile organics and pesticides were not detected in the effluent samples. Therefore, additional WET testing is not required under the draft permit. The complete test results are included in the Administrative Record of the draft permit.

C. Proposed Permit Effluent Limitations and Conditions

1. CAFO-Regulated Discharges from the Facility

a. Technology-based Effluent Limitations

i. National Effluent Limitation Guidelines Applicable to Large Horse and Sheep CAFOs - Production Area

Large Horse CAFOs are subject to the NELGs at 40 C.F.R. Part 412, Subpart A (Subpart A). Subpart A applies to discharges from a CAFO's "production areas." Subpart A requires the application of Best Practicable Control Technology currently available (BPT) which prohibits discharges of process wastewater pollutants to navigable waters except whenever rain events, either chronic or catastrophic, cause an overflow of process wastewater from a facility designed, constructed and operated to contain all process generated wastewaters plus the runoff from a 10-year, 24-hour rain event for the location of the point source. Subpart A also requires the application of the Best Available Technology Economically Achievable (BAT), which prohibits discharges of process waste water pollutants into U.S. waters except whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated, and maintained to contain all process-generated wastewaters plus the runoff from a 25-year, 24-hour rainfall event at the location of the point source.

As described previously in this Fact Sheet, in order to meet the Subpart A effluent guidelines and Part I.A.1 of the draft permit, Suffolk has designed and constructed its Production Area to (1) prevent any dry weather process wastewater discharge from the Production Area and (2) contain all process-generated wastewater plus the runoff from the 25-year, 24-hour rainfall event for its location. In fact, Suffolk's process wastewater collection system is designed to contain all process-generated wastewater plus the runoff from a 50-year, 24-hour rainfall event, which exceeds the design capacity requirements of Subpart A. Therefore, the draft permit authorizes the discharge of process wastewater from Outfalls 001 and 002 to Sales Creek whenever rainfall events cause an overflow of process-generated wastewater from Suffolk's process wastewater storage structure, provided that Suffolk operates and maintains the storage structure as required in the draft permit. See Section III.A.1. of the Fact Sheet for more information on the process

wastewater storage pond and collection system.

b. Water Quality-Based Effluent Limitations

The Massachusetts Surface Water Quality Standards, found at 314 CMR 4.00, consist of three parts: (1) beneficial designated uses for a water-body or a segment of a water-body; (2) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s); and (3) anti-degradation requirements to ensure that once a use is attained it will not be degraded.

i. Water Quality-based Effluent Limitations and Standards – Production Area and Authorized Overflow from the Production Area

Compliance with the Large Horse CAFO NELG satisfies the CWA's water quality-based requirements for those discharges that are prohibited by the NELG. In Suffolk's case, all Production Area discharges are prohibited except those that occur whenever rainfall events cause an overflow of process wastewater from Suffolk's process wastewater storage structure, provided that Suffolk operates and maintains the storage structure as required by the draft permit.

The NELG is a performance standard of "no discharge" from the Production Area is subject to an exception for discharges attributable to unusual rain fall events if certain conditions are met. The exception provides recognition of the fact that the basic technology for preventing discharges from feedlots requires containment and/or storage facilities. Containment and storage facilities have physical limitations on their capacity to accommodate excessive quantities of rainfall, resulting in occasional unavoidable overflows. Dry weather discharges are never allowed nor are discharges caused by poor management, even if it is raining.

The draft permit contains the following minimum design specifications applicable to Suffolk's process wastewater storage structure, based upon EPA's CAFO technical guidance document "Managing Manure Nutrients at Concentrated Animal Feeding Operations" December 2004, Chapter 2, Section B.1:

- the volume of manure, litter, process wastewater, and other wastes accumulated during the storage period;
- normal precipitation less evaporation during the storage period;
- normal runoff during the storage period;
- the direct precipitation from the 25-year, 24-hour storm;
- the runoff from the 25-year, 24-hour storm event from the production area;
- residual solids after liquid has been removed,
- sediment load in the runoff from the Production Area; and,
- necessary freeboard to maintain structural integrity of the storage system.

The draft permit also specifies the maximum length of time between emptying events for Suffolk's wastewater collection system, which is the sixty (60) day storage period used by Suffolk to calculate the design volume of the collection system.

EPA has determined that the technology-based effluent limitations contained in the draft permit are sufficiently stringent to satisfy the CWA's water quality-based requirements and that, based on currently available data, there is no reasonable potential for any overflow discharge allowed by the ELG to cause, or contribute to, an excursion above Massachusetts WQS. Most, if not all, Production Area discharges to Sales Creek will be prevented because (1) Suffolk has constructed a process wastewater storage pond and collection system that exceeds the volume of stormwater runoff (50-year/24-hour storm event) that is required by the NELG (25- year/24-hour storm event); and (2) Part 1.B of the draft permit requires that Suffolk implement the BMPs and procedures necessary to achieve the applicable effluent limitations and standards found at Part 1.A of the draft permit. Further, in those cases where there is an overflow of pollutants from the wastewater storage pond to Sales Creek, the first flush of pollutants (the initial surface runoff from a storm event that commonly contains elevated pollutant concentrations) should be contained within the retention structure's storage volume equivalent of the 50-year, 24-hour storm. With this said, the draft permit requires that each discharge event be monitored, documented and reported to EPA and MassDEP on the monthly discharge monitoring reports so that the effluent can be properly characterized. The monitoring requirements are for the purpose of monitoring whether water quality standards are met and to determine, in the future, if more stringent effluent limitations should be required in Suffolk's NPDES permit.

c. Dry Weather Monitoring

Dry weather discharges from all outfalls (Outfall Numbers 001-011) are prohibited. Part I.A.3 of the draft permit requires Suffolk to conduct weekly visual inspections of all outfalls during dry weather and, if a discharge is observed during regular visual inspections or at any other time, Suffolk is required to monitor and report the maximum daily flow, total suspended solids, E.Coli, pH, total aluminum, total phosphorous and nitrogen-ammonia for each dry weather condition discharge, as well as to report the total number of dry weather condition discharges per month to EPA and MassDEP with its monthly DMR report.

d. Prohibitions

Part I.A.11 of the draft permit details eight (8) prohibitions at Suffolk's CAFO which require that Suffolk ensure that confined animals do not come into direct contact with surface water and that there is no discharge of rainfall runoff from manure or litter or feed storage piles, dumpsters, or other storage devices into surface waters. The land application of manure, litter or process wastewater at Suffolk's CAFO is prohibited under this permit. Suffolk shall not expand its CAFO operations, either in size or numbers of animals, prior to amending or enlarging the waste handling procedures and structures to accommodate any additional wastes that will be generated by the expanded operations. No manure, litter, or process wastewater storage and handling structure shall be abandoned at Suffolk's CAFO and the closure of all such structures shall occur as promptly as practicable after the permittee has ceased to operate, or, if the permittee has not ceased to operate, within 12 months after the date on which the use of the structure ceased. The closure of a manure, litter, or process wastewater storage and handling structure requirements are found at Part 1.A.13. of the draft permit. All dry weather discharges of pollutants from Suffolk's

Production Area to surface waters are prohibited. All discharges to Suffolk's process wastewater storage pond shall be composed only of (1) manure, litter, or process wastewater from the proper operation and maintenance of the CAFO; and (2) stormwater from the Production Area.

e. Facility Closure

Part I.A.13 of the draft permit contains the closure requirements for lagoons, other surface impoundments and other manure, litter or process wastewater storage and handling structures. The facility closure requirements address maintenance of lagoons, impoundments and other structures prior to closure, closure schedules, compliance with the Massachusetts Natural Resources Conservation Service Technical Standard Number 360, and waste material removal and disposal requirements

f. Nutrient Management Plan Requirements

Pursuant to 40 CFR §122.42(e)(1), an NPDES permit issued to a CAFO must include a requirement that the CAFO implement a Nutrient Management Plan (NMP) that, at a minimum, contains best management practices necessary to meet the specific requirements of 40 CFR §122.42(e) (1) and applicable effluent limitations and standards, including those specified in the CAFO NELG at 40 C.F.R. Part 412. The goal of an NMP is to minimize the CAFO's impact on water quality. CAFOs are agricultural operations where animals are kept and raised in confined situations. Feed is brought to the animals rather than the animals grazing or otherwise seeking feed in pastures. CAFOs generally congregate animals, feed, manure, dead animals, and production operations on a small land area referred to as the Production Area. Manure and wastewater from CAFOs have the potential to contribute pollutants such as nitrogen and phosphorus, organic matter, sediment, pathogens, heavy metals, hormones, antibiotics, and ammonia to the environment. Animal waste can enter water bodies from spills or breaks of waste storage structures, due to accidents or excessive rain, and non-agricultural application of manure to crop land.

An NMP describes the practices and procedures that will be implemented at the CAFO to meet Production Area and land application area requirements that apply to the specific CAFO operation. NMPs for large CAFOs must describe how the operation will achieve the discharge limits and specific management practices required in the permit. The Draft Permit contains specific best management practices and other requirements derived from Suffolk's NMP, and EPA's CAFO regulations at 40 C.F.R. §122.42(e) (1) and 40 C.F.R. Part 412, Subpart A.

Suffolk does not land apply manure, litter, or process wastewater nor does Suffolk's NMP contain protocols to land apply process wastewater in accordance with site-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the process wastewater. Therefore, the draft permit prohibits Suffolk from the land application of manure, litter or process wastewater. In the future, should Suffolk want to land apply manure, litter or process wastewater, Suffolk must submit to EPA, for its review and approval, EPA Form 2B, CAFO Discharge Permit Application and an NMP that meets the requirements of 40 C.F.R. § 122.42(e) and the applicable NEGL at 40 C.F.R. Part 412.

i. Schedule

Suffolk is required to implement the terms and conditions of its NMP which are incorporated into Part I.B. of the draft permit. The NMP shall be modified as necessary to reflect the best management practices, operation and maintenance procedures and infrastructure improvements implemented by the facility to fulfill and/or maintain the requirements of this draft permit. In accordance with 40 C.F.R. § 122.42(e)(6), whenever Suffolk makes any changes to its NMP, Suffolk must submit the revised NMP to EPA as soon as it is revised, and must identify any changes from the previous version. EPA will review the changes to Suffolk's NMP and follow applicable procedural requirements under 40 C.F.R. § 122.42(e)(6).

ii. NMP Content

Suffolk's NMP and the terms and conditions of its NMP which are incorporated into the draft permit are designed to prevent the discharge of pollutants from the Production Area at Suffolk Downs to Sales Creek and adjacent wetlands. The NMP and the terms and conditions of Suffolk's NMP that have been incorporated into the draft permit are consistent with the federal CAFO requirements found at 40 C.F.R. § 122.42(e) and the applicable 40 C.F.R. Part 412 effluent limitations and standards. Suffolk's NMP also contains the soil and manure sampling requirements of the Massachusetts Natural Resources Conservation Service (NRCS) Conservation Practice Standard Code 590.

iii. Terms of the NMP

In Part I.B of the draft permit EPA has incorporated the best management practices (BMPs) and procedures necessary to achieve the applicable effluent limitations and standards found at Part 1.A. of the permit. The BMPs found in Part I.B. of this draft permit are designed to ensure that Suffolk's facility meets at least the following minimum requirements for NMPs identified at 40 CFR § 122.42(e)(1):

a. Adequate storage of manure, litter, and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities. Storage capacity must be sufficient to meet minimum requirements of Part I.A.1 and I.A.4.(a) of the permit. [40 CFR §122.42(e)(1)(i)]

b. Clean water must be diverted, as appropriate, from the Production Area. Clean water includes rain falling on the roofs of facilities, runoff from adjacent land, and rainwater from other sources. Clean water that comes into contact with manure or process wastewater must be managed as contaminated process wastewater. [40 CFR §122.42(e)(1)(iii)]

c. Chemicals and other contaminants handled on-site must not be disposed of in any manure, litter, process wastewater, or stormwater storage or treatment system unless specifically designed to treat such chemicals or contaminants. [40 CFR §122.42(e)(1)(v)]

d. Site specific BMPs and conservation practices must be implemented to control runoff of pollutants to waters of the United States. [40 CFR §122.42(e)(1)(vi)]

e. Protocols for appropriate testing of manure, litter, and process wastewater. [40 CFR §122.42(e)(1)(vii)]

f. Proper disposal of dead animals within 48 hours in a manner that protects water quality. [40 CFR §122.42(e)(1)(ii)]

g. Direct contact of confined animals with waters of the United States must be prevented. [40 CFR §122.42(e)(1)(iv)]

h. Recordkeeping requirements documenting that Suffolk is implementing its NMP and complying with this draft permit. [40 CFR §122.42(e)(1)(ix)]

iv. Off-site Transfer of Manure, Litter or Process Wastewater Requirements

In cases where CAFO-generated manure, litter, or process wastewater is sold or given away to other persons, the draft permit requires Suffolk to maintain records (for five years) showing the date and amount of manure, litter or process wastewater transferred to another person and the name and address of the recipient. Suffolk must also provide the recipient(s) with the most current nutrient content analysis of the manure, litter or wastewater. [40 C.F.R. § 122.42(e)(3)].

2. Other Regulated Discharges from the Facility

a. Discharges of Storm Water Associated with Industrial Activity

Prior to Suffolk's 2011-2012 reconfiguration of its Production Area, Outfalls 003, 004, 005, 006 and 007 were located within Suffolk's Production Area and discharged process wastewater, contaminated stormwater, and silt and soil from both the Production Area's stable area and the Racetrack Area's dirt racetrack. Since the reconfiguration of the Production Area and the installation of a number of wastewater and stormwater improvements, Outfalls 003, 005 and 006 discharge Production Area industrial stormwater and Outfalls 004 and 007 discharge non-Production Area stormwater. Suffolk also constructed four sand filters within the Racetrack infield that discharge stormwater runoff from the dirt racetrack through Outfalls 008, 009, 010 and 011.

Nationally, sediment and siltation from CAFOs are known to contribute to the impairment of water quality, and prior to Suffolk's 2011-2012 process wastewater and stormwater management improvements, the discharges from Suffolk's Production Area and Racetrack Area caused visible discoloration in Sales Creek in violation of the Massachusetts water quality standard for solids. At the time that this draft permit was prepared, there was no discharge status report data available for stormwater discharges that have occurred at the facility since process wastewater and stormwater management improvements have been implemented, including a sediment forebay and four sand filters to control total suspended solids (TSS) in the discharge.

Suffolk's industrial stormwater discharges do not fall within the description of industrial activities eligible for coverage under EPA's 2008 Stormwater Multi-Sector General Permit for Industrial Activities (MSGP). EPA has not promulgated a national industrial stormwater effluent

limitation guideline for large horse CAFOs. However, Suffolk's stormwater discharges are nonetheless regulated as storm water discharges associated with industrial activity and must therefore be authorized through this individual NPDES permit. See 40 CFR §122.26(b)(14)(i). In exercising its BPJ, EPA reviewed the MSGP to determine the appropriate and analogous non-numeric technology-based limitations for the facility. EPA has determined that the stormwater discharge from Suffolk is similar in consistency to the discharge of sand and gravel mining facilities covered under Part 8, Sector J, Subsector J.1 of the MSGP. Sand and gravel mining is an industry activity where sediment and turbidity in the discharge are significant pollutants of concern. Section 8.J.8. of the MSGP contains monitoring requirements and a benchmark concentration of 100 mg/l for TSS. In the MSGP this concentration is not an effluent limitation, but rather an indication of the effectiveness of the facility's Stormwater Pollution Plan (SWPPP, see Part C.2.a.i. below.) Pursuant to CWA Section 402(a)(1)(B) and 40 C.F.R. § 125.3(c), the non-numeric technology-based effluent limitations designed to address the historically high level of TSS in Suffolk's stormwater discharges have been incorporated in the draft permit based on a BPJ basis.

i. Stormwater Pollution Prevention Plan (SWPPP)

Suffolk engages in activities which could result in the discharge of pollutants to waters of the United States either directly or indirectly through stormwater runoff. To control the activities which could contribute pollutants to waters of the United States, potentially violating Massachusetts WQS, the draft permit requires the facility to develop, implement and maintain a Stormwater Pollution Prevention Plan (SWPP) documenting the application of BMPs appropriate for this facility.

The goal of the SWPPP is to reduce, or prevent, the discharge of pollutants through the stormwater system. The SWPPP serves to document the selection, design and installation of structural BMPs (i.e., the four sand filters located within the racetrack in-field) and other BMPs. Additionally, the SWPPP requirements in the draft permit are intended to facilitate a systematic approach by which the permittee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the draft permit. The SWPPP shall be prepared in accordance with good engineering practices and identify potential sources of pollutants, which may reasonably be expected to affect the quality of stormwater discharges associated with industrial activity from the facility. The SWPPP documents the appropriate BMPs implemented or to be implemented at the facility to satisfy the non-numeric limitations in the draft permit. The SWPPP contains measures with which Suffolk must comply pursuant to the draft permit and which supplement the express individual terms and conditions of the draft permit. Consequently, the SWPPP is an enforceable element of this permit.

Implementation of the SWPPP involves the following four main steps:

1. Form a team of qualified facility personnel who will be responsible for developing and updating the SWPPP and assisting the environmental compliance officer in the plan's implementation;
2. Assess the potential stormwater pollution sources;

3. Select and implement appropriate management practices and controls for these potential pollution sources; and,
4. Periodically reevaluate the effectiveness of the SWPPP in preventing stormwater contamination and in complying with the various terms and conditions contained in the draft permit.

To minimize preparation time of the SWPPP, the permittee may, for example, reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans [under Section 311 of the CWA and 40 CFR Part 112], Corporate Management Practices, Suffolk's Nutrient and Stormwater Management Plan, etc., and may incorporate any part of such plans into the SWPPP by reference. Provided these references address specific pollution prevention requirements and the goals of the SWPPP, they can be attached to the SWPPP for review and inspection by EPA and MassDEP personnel. Although relevant portions of other environmental plans, as appropriate, can be built into the SWPPP, ultimately however, it is important to note that the SWPPP should be a comprehensive, stand-alone document. See Part I.C. of the draft permit for specific SWPPP requirements.

3. Additional Technology- and Water Quality-based Effluent Limitations

a. Production Area - Outfalls 001, 002

<u>Flow</u>

Consistent with the effluent limit guideline (ELG) exception for discharges from Large Horse CAFOs (40 CFR Part 412) no flow limits have been set for the Production Area collection system overflow, since Suffolk's collection system is designed and operated to accommodate all process waste water, including runoff from all rainfall events exceeding a 25-year, 24-hour rainfall event. The draft permit requires Suffolk to report the total number of discharge events per month. The draft permit also requires that, for each discharge event, Suffolk monitor and report the flow volume of the system overflow on the monthly discharge monitoring report (DMR). Acceptable means of measuring this flow are use of continuous flow meters, weirs or a calculated estimation based on site conditions. The draft permit also requires reporting of weather data from a rain gauge located at the facility concurrent with each rain event that results in a discharge. Suffolk is required to report the intensity, duration, and amount of precipitation for the rain event on the DMR cover letter. Intensity shall be reported in units of inches/hour and amount of rainfall shall be reported in units of inches. Measurement of the duration of a rain event shall begin at the start of a rain event greater than 0.1 inches in magnitude and end when the rain event ends.

In addition, Part I.A.3 of the draft permit requires Suffolk to conduct weekly visual inspections of all Production Area outfalls during dry weather and, if a discharge is observed during regular visual inspections or at any other time, Suffolk is required to report the maximum daily flow for each dry weather condition discharge and the total number of dry weather condition discharges per month to EPA and MassDEP with its monthly DMR report.

Total Suspended Solids (TSS)

Total suspended solids (TSS) include all particles suspended in water which will not pass through a filter. Runoff carrying silt, dirt and eroded soil is often a source of suspended solids. Nationally, sediment and siltation from CAFOs are known to contribute to the impairment of water quality. Although there is a history of discharges from the facility's Production Area that cause visible discoloration in Sales Creek, Suffolk has made numerous improvements to its process wastewater management system (See Section III. A of this Fact Sheet) that should greatly reduce the level of TSS in its discharge.

Massachusetts has a narrative water quality standard for solids that states, "[t]hese waters shall be free from floating, suspended and settleable solids in concentrations and combinations that would impair any use assigned to this Class, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom." EPA has determined that until the Production Area process wastewater storage pond and runoff collection system is fully operational, there is insufficient effluent data from which to assess the reasonable potential for the discharge to cause or contribute to an excursion above the applicable water quality standards. Therefore, for each overflow discharge of Production Area wastewater pollutants, the draft permit establishes a monitoring requirement for TSS, monitored at a frequency of once per overflow discharge event and whenever a dry weather discharge is observed from any of the existing outfalls.

Oil and Grease (O&G)

According to Massachusetts Water Quality Standards (314 CMR 4.05(4)(a)(7) and (3.)(b)(7)), Class SA water bodies shall be free from oil, grease and petrochemicals and Class B water bodies shall be free from oil, grease and petrochemicals that produce a visible film on the surface of the water, impart an oily taste to the water or an oily or other undesirable taste to the edible portion of aquatic life, coat the banks or bottom of the water course, or are deleterious or become toxic to aquatic life. A concentration of oil and grease of 15 mg/L is recognized as the level at which many oils produce a visible sheen. EPA has determined that until the Production Area process wastewater storage pond and runoff collection system is fully operational, there is insufficient effluent data from which to assess the reasonable potential for the discharge to cause or contribute to an excursion above the applicable water quality standards. Therefore, for each overflow discharge of Production Area wastewater pollutants, the draft permit establishes a monitoring requirement for O&G, monitored at a frequency of once per overflow discharge event.

pH

The Massachusetts Surface Water Quality Standards at 314 CMR 4.05(4)(a)(3) requires that the pH of Class SA water bodies be in the range of 6.5 to 8.3 standard units (s.u.) with not more than 0.2 s.u outside of the receiving water background range. For Class B inland waters, the Massachusetts Surface Water Quality Standards at 314 CMR 4.05 (3)(b)3 require that the pH be in the range of 6.5 to 8.3 s.u. with not more than 0.5 s.u. outside of the receiving water background range. The water quality standards also require there be no change from background

conditions that would impair any use assigned to this class. Based on monitoring results summarized in Attachment 3 of this Fact Sheet, the pH of the discharge consistently falls within the water quality standard ranges (a minimum of 6.5 s.u. to a maximum of 7.8 s.u). Therefore, for each overflow discharge of Production Area wastewater pollutants, the draft permit establishes a monitoring requirement for pH, monitored at a frequency of once per overflow discharge event and whenever a dry weather discharge is observed from any of the existing outfalls.

Dissolved Oxygen (DO)

The Massachusetts Surface Water Quality Standards at 314 CMR 4.05(4)(a)(1) requires that the dissolved oxygen level of the discharge to Class SA water bodies shall not be less than 6.0 mg/l. Where natural background conditions are lower, DO shall not be less than natural background. Natural seasonal and daily variations that are necessary to protect existing and designated uses shall be maintained. For Class B warm water fisheries, the Massachusetts Water Quality Standards (314 CMR 4.05(3)(b)(1)), requires that the dissolved oxygen level of the discharge shall not be less than 5.0 mg/l. EPA has determined that until the Production Area process wastewater storage pond and runoff collection system is fully operational, there is insufficient effluent data from which to assess the reasonable potential for the discharge to cause or contribute to an excursion above the applicable water quality standards. Therefore, for each overflow discharge of Production Area wastewater pollutants, the draft permit establishes a monitoring requirement for DO, monitored at a frequency of once per overflow discharge event.

Biochemical Oxygen Demand (BOD_5)

Biochemical oxygen demand (BOD_5) is a measure of the amount of oxygen required to degrade organic matter in water. According to the American Society of Agricultural Engineers ASAE D384.1 and the Midwest Plan Service MWPS-18, a 1,000 pound horse excretes 51 pounds of wet raw manure a day, and that manure has a BOD_5 level of 1.7 lbs/day. The majority of the raw manure generated at Suffolk Downs is collected and transferred off-site for disposal. The remaining Production Area solid organic material becomes comingled with the large volume of Production Area process wastewater and collected in the process wastewater storage pond. Except during extreme weather events, the process wastewater contained in the storage pond will be discharged directly to the public sewer system. The storage pond is an anaerobic, which will reduce the BOD_5 level of manure. Further, it is expected that the level of BOD_5 in the manure will be diluted by the high volume of liquid waste contained in the storage pond.

EPA has determined that until the Production Area process wastewater storage pond and runoff collection system is fully operational, there is insufficient effluent data from which to assess the reasonable potential for the discharge to cause or contribute to an excursion above the applicable water quality standards. Therefore, for each overflow discharge of Production Area wastewater pollutants, the draft permit establishes a monitoring requirement for BOD_5, monitored at a frequency of once per overflow discharge event. The NPDES permit Writer's Handbook indicates that grab samples are appropriate when the flow and characteristics of the waste stream being sampled are relatively constant. The discharges from the process wastewater storage pond are not expected to vary over time and a grab sample is appropriate.

Bacteria

The primary pollutants of concern from CAFOs are manure and manure pathogens. Historically, during wet weather and prior to the completion of the 2011-2012 major renovation and construction projects at Suffolk to improve process wastewater and stormwater management, discharges from the Production Area to Sales Creek grossly and consistently exceed the Massachusetts Surface Water Quality Standards at 314 CMR 4.05.(3)(b)4 and (4)(a)(4)(a) for bacteria.

As previously described throughout the Fact Sheet, Suffolk's recently constructed process wastewater collection system and retention structure meets the application of the no discharge Large Horse CAFO NELG and satisfies the federal water quality-based requirements of the CWA with respect to CAFO-regulated discharges. The NELG is a performance standard of "no discharge" from the Production Area subject to an exception for discharges attributable to unusual rainfall event if certain conditions are met. The exception provides recognition of the fact that the basic technology for preventing discharges from feedlots requires containment and/or storage facilities. Containment and storage facilities have physical limitations on their capacity to accommodate excessive quantities of rainfall, resulting in occasional unavoidable overflows.

As described throughout this Fact Sheet, most, if not all, Production Area discharges to Sales Creek will be prevented because Suffolk has constructed a process wastewater storage structure and collection system (that discharges to the MWRA's Deer Island wastewater treatment facility) that will retain up to a 50-year, 24-hour storm event, a volume that greatly exceeds the NELG requirement of containment of the volume from a 25-year, 24-hour storm and provides twice the protection required to meet the Commonwealth's maximum extent practicable (MEP) standard through use of best management practices. The draft permit requires that Suffolk operate and maintain the storage structure in accordance and consistent with the structural, operational and maintenance requirements contained in Part I.B.1.b. (6) of the draft permit. Further, in those cases where there is an overflow of pollutants from the wastewater storage structure to Sales Creek, the first flush of pollutants (the initial surface runoff from a storm event that commonly contains elevated pollutant concentrations) should be contained within the retention structure's storage volume equivalent of the 50-year, 24-hour storm. For these reasons, EPA and MassDEP have determined that the inclusion of bacteria limits in the permit is not warranted and that the proposed monitoring requirements are sufficient.

The draft permit requires that monitoring for both fecal coliform (Class SA requirement) and E. coli (Class B requirement) be conducted per discharge event for overflow discharges of Production Area wastewater pollutants and whenever a dry weather discharge is observed from any of the existing outfalls. This requirement applies year round.

Aluminum

EPA's National Recommended Water Quality Criteria for aluminum in freshwater (with pH from 6.5 to 9.0) are 0.750 mg/l CMC (acute) and 0.087 mg/l CCC (chronic). Historically and

prior to Suffolk's 2011-2012 process wastewater and stormwater improvements, wet weather discharges from the Production Area (Outfalls 003, 005 and 007[9]) consistently exceed the acute aluminum water quality criteria of 0.750 mg/l. See Section B.3 of this Fact Sheet, Water Quality Impairments, and Attachment 4 to this Fact Sheet. EPA has determined that until the Production Area process wastewater storage pond and runoff collection system is fully operational, there is insufficient effluent data from which to assess the reasonable potential for the discharge to cause or contribute to an excursion above the applicable water quality standards. The draft permit requires monitoring for aluminum during each rain event that causes an overflow of wastewater pollutants from the Production Area and whenever a dry weather discharge is observed from any of the existing outfalls.

Nutrients – Phosphorous and Nitrogen

Animal waste contains significant quantities of nutrients, particularly nitrogen and phosphorous. Manure nitrogen occurs in several forms, including ammonia and nitrate, which can produce adverse environmental impacts when transported in excess quantities to the environment. Ammonia is of environmental concern because it is toxic to aquatic life and it exerts direct biological oxygen demand (BOD) on the receiving water, thereby reducing dissolved oxygen levels and the ability of water bodies to support aquatic life. Phosphorous is of concern in fresh surface waters because it is a nutrient that can lead to eutrophication and the resulting adverse impacts - fish kills, reduced biodiversity, objectionable odors and growth of toxic organisms. The Massachusetts Surface Water Quality Standards (314 CMR 4.00) do not contain numeric criteria for total phosphorus and nitrogen. The narrative criteria for nutrients is found at 314 CMR 4.05(5)(c), which states that nutrients "shall not exceed the site specific limits necessary to control accelerated or cultural eutrophication." EPA has determined that the intermittent discharge of nutrients in the overflow from the Production Area process wastewater storage pond during extreme rainfall events does not pose a reasonable potential for the discharge to cause or contribute to an excursion above the applicable state water quality standards. However, the draft permit does require monitoring for total phosphorous and nitrogen-ammonia whenever a dry weather discharge is observed from any of the existing outfalls.

b. Stormwater associated with an Industrial Activity - Production Area and former Production Area Outfalls 003, 004, 005, 006, and 007

Flow

Part I.A.2.a of the draft permit requires that Suffolk monitor its industrial stormwater flow from the Production Area (Outfalls 003, 005, and 006) as well as both the Racetrack Area and other non-Production Area locations (Outfalls 004 and 007) one time during wet weather conditions for each month of the year. The draft permit also requires that the flow be estimated at the discharge point located at the end of the pipe, prior to discharging into the receiving water. The draft permit furthermore requires reporting of weather data from a rain gauge located at the

[9] Outfalls 003 and 005 now discharge Production Area roof runoff and outfall 007 discharges non-Production Area runoff. EPA has determined that there is no reasonable potential for aluminum to be present in these discharges.

facility concurrent with the rainfall event when monitoring occurs. Suffolk is required to report the intensity, duration, and amount of rainfall for the rain event on the DMR cover letter. Intensity is required to be reported in units of inches/hour and amount of rainfall is required to be reported in units of inches. Measurement of the duration of a rain event shall begin at the start of a rain event greater than 0.1 inches in magnitude and end when the rain event ends.

Total Suspended Solids (TSS)

As described earlier, TSS includes all particles suspended in water which will not pass through a filter. Runoff carrying silt, dirt and eroded soil is often a source of suspended solids. Nationally, sediment and siltation from CAFOs are known to contribute to the impairment of water quality. Although there is a history of discharges from Outfalls 003, 004, 005, 006 and 007 that cause visible discoloration in Sales Creek (See Section IV.B.3.i of this Fact Sheet, Water Quality Impairments, and Attachments 2 and 4 of this Fact Sheet) during the winter of 2012, Suffolk made a number of process wastewater and stormwater management improvements at the facility. The improvements include the installation of a process wastewater management system that discharges most of the time to the MWRA wastewater treatment facility, separating out the process wastewater and stormwater discharges, and the installation of a stormwater management system that should reduce the amount of silt and solids in both the Production Area and non-Production Area stormwater runoff. Data to support this assumption was not available to EPA during permit development.

Massachusetts has a narrative water quality standard for solids that states, "[t]hese waters shall be free from floating, suspended and settleable solids in concentrations and combinations that would impair any use assigned to this Class, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom." Additionally, the MSGP contains a TSS benchmark concentration of 100 mg/l. (See Part IV.C.2.a. of this Fact Sheet for the MSGP discussion). EPA has determined that until the Production Area process wastewater and runoff collection system is fully operational, there is insufficient effluent data from which to assess the reasonable potential for the discharge to cause or contribute to an excursion above applicable state water quality standards. Therefore, the draft permit requires Suffolk to monitor for TSS one time during wet weather conditions for each month of the year.

Bacteria

As stated previously, the primary pollutants of concern from CAFOs are manure and manure pathogens. Manure is generated and stored throughout the Production Area and although manure is not stored at the Racetrack Area, it is likely that manure is present in the area. Historically, during wet weather, and prior to the completion of Suffolk's 2011-2012 facility wastewater and stormwater management improvement projects, the Production Area process wastewater and stormwater runoff co-mingled prior to discharging into Sales Creek. The co-mingled discharge consistently exceeded the Massachusetts Surface Water Quality Standards for bacteria.

Suffolk has made a number of process wastewater and stormwater management improvements at the facility, including separating out the process wastewater and stormwater discharges, the

construction of a process wastewater storage structure that discharges most of the time to the MWRA wastewater treatment facility, and the installation of a series of sand filters to further settle out conventional pollutants, including E.coli, in stormwater before it is discharged to Sales Creek. EPA has determined that until the Production Area process wastewater and runoff collection system is fully operational, there is insufficient effluent data from which to assess the reasonable potential for the discharge to cause or contribute to an excursion above the applicable state water quality standards. Therefore, the draft permit establishes year-round, monthly wet-weather monitoring requirements for both fecal coliform and E.coli.

Nutrients – Nitrogen and Phosphorus

Animal waste contains significant quantities of nutrients, particularly nitrogen and phosphorous. Manure nitrogen occurs in several forms, including ammonia and nitrate, which can produce adverse environmental impacts when transported in excess quantities to the environment. Ammonia is of environmental concern because it is toxic to aquatic life and it exerts direct BOD on the receiving water, thereby reducing dissolved oxygen levels and the ability of water bodies to support aquatic life. Phosphorous is of concern in fresh surface waters because it is a nutrient that can lead to eutrophication and the resulting adverse impacts – fish kills, reduced biodiversity, objectionable odors and growth of toxic organisms.

As stated previously, (1) Suffolk has made a number of process wastewater and stormwater management improvements at the facility, including separating out the process wastewater and stormwater discharges, and, (2) EPA has determined that the intermittent discharge of nutrients in the overflow from the Production Area process wastewater storage pond during extreme rainfall events does not pose a reasonable potential for the discharge to cause or contribute to an excursion above the applicable state water quality standard and therefore wet weather monitoring of nutrients is not required.

c. Stormwater associated with an Industrial Activity - Racetrack Area
Outfalls 008, 009, 010, 011

Flow

Part I.A.2.b. of the draft permit requires that Suffolk monitor its industrial stormwater flow from the Racetrack Area one time during wet weather conditions for each month of the year. The draft permit also requires that the flow be estimated at the discharge point located at the end of the pipe, prior to discharging into the receiving water. The draft permit also requires reporting of weather data from a rain gauge located at the facility concurrent with the rain event when monitoring occurs. Suffolk is required to report the intensity, duration, and amount of rainfall for the rain event on the DMR cover letter. Intensity is required to be reported in units of inches/hour and the amount of rainfall is required to be reported in units of inches. Measurement of the duration of a rain event shall begin at the start of a rain event greater than 0.1 inches in magnitude and end when the rain event ends.

Total Suspended Solids (TSS)

As described earlier, TSS includes all particles suspended in water which will not pass through a filter. Runoff carrying silt, dirt and eroded soil is often a source of suspended solids. Nationally, sediment and siltation from CAFOs are known to contribute to the impairment of water quality. Although there is a history of discharges from the facility's dirt racetrack that cause visible discoloration in Sales Creek (See Section IV.B.3.i of this Fact Sheet, Water Quality Impairments, and Attachments 2 and 4 of this Fact Sheet) during the winter of 2012, Suffolk made major wastewater and stormwater management improvements at the facility. Improvements include the the construction of four sand filters within the Racetrack area infield specifically to reduce the amount of silt and solids in the stormwater runoff from the racetrack proper.
The draft permit establishes a TSS monitoring requirement for Outfalls 008-011. This monitoring is consistent with the requirement to meet the Massachusetts narrative water quality standard for solids that states, "[t]hese waters shall be free from floating, suspended and settleable solids in concentrations and combinations that would impair any use assigned to this Class, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom." Therefore, the draft permit requires Suffolk to monitor for TSS one time during wet weather conditions for each month of the year.

V. MONITORING AND REPORTING

A. Monitoring Requirements for all Discharges

The effluent monitoring and reporting requirements included in the draft permit have been established to yield data representative of the discharge. These requirements have been established under Section 308 and 402 of the CWA and implementing regulations, including 40 C.F.R. §§ 122.41 (j), 122.44 (i) and 122.48.

The draft permit includes revised provisions related to Discharge Monitoring Report (DMR) submittals to EPA and the State. The draft permit requires that, no later than one year after the effective date of the permit, Suffolk begin submitting all monitoring data and other reports required by the permit to EPA using the electronic system called NetDMR (instead of in hard copy), unless Suffolk is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs and other reports ("opt-out request"). In the interim (until one year from the effective date of the permit), Suffolk may either submit monitoring data and other reports to EPA in hard copy form, or report electronically using NetDMR.

NetDMR is a national web-based tool for regulated CWA permittees to submit DMRs electronically via a secure Internet application to U.S. EPA through the Environmental Information Exchange Network. NetDMR allows participants to discontinue mailing hard copy forms under 40 CFR § 122.41 and § 403.12. NetDMR is accessed from the following url: http://www.epa.gov/netdmr. Further information about NetDMR, including contacts for EPA Region 1, is provided at this website address.

EPA currently conducts free training on the use of NetDMR, and anticipates that the availability of this training will continue to assist permittees with the transition to use of NetDMR. To participate in upcoming trainings, visit http://www.epa.gov/netdmr for contact information for permittees in the Commonwealth of Massachusetts. The draft permit requires Suffolk to report monitoring results obtained during each calendar month, using NetDMR, no later than the 15th day of the month following the completed monthly reporting period. All reports required under the draft permit are required to be submitted to EPA as an electronic attachment to the DMR. Once Suffolk begins submitting electronic reports using NetDMR, Suffolk will no longer be required to submit hard copies of DMRs or hard copies of other reports to EPA and will no longer be required to submit hard copies of DMRs to MassDEP. However, Suffolk must continue to send hard copies of reports other than DMRs to MassDEP until otherwise notified by MassDEP.

The draft permit also includes an "opt-out request" process, described above. If Suffolk believes that it cannot use NetDMR due to technical or administrative infeasibility, or other reasonable basis, Suffolk must demonstrate that the asserted reason precludes the use of NetDMR. Suffolk must submit the justification, in writing, to EPA at least sixty (60) days prior to the date the facility would otherwise be required to begin using NetDMR. Opt-outs become effective upon the date of written approval by EPA and are valid for twelve (12) months from the date of EPA approval. The opt-outs expire at the end of this twelve (12) month period. Upon expiration of the opt-out, Suffolk would be required to submit DMRs and other reports to EPA using NetDMR, unless Suffolk were to have submitted a renewed opt-out request sixty (60) days prior to expiration of its existing opt-out, and if such a request were to be approved by EPA.

Until electronic reporting using NetDMR begins, or if Suffolk receives written approval from EPA to continue to submit hard copies of DMRs and other reports, the draft permit requires that submittal of DMRs and other reports continue in hard copy format. The draft permit requires that hard copies of DMRs be postmarked no later than the 15th day of the month following the completed monthly reporting period.

B. CAFO Annual Reporting Requirements

The draft permit requires Suffolk to prepare and submit an annual report for the previous 12 months. The annual report is due to EPA and MassDEP on January 31 of each calendar year for the preceding months of January through December. The report must include the number of animals confined at the facility; an estimation of the total amount of manure, litter and process wastewater generated at the facility in the past 12 months; an estimate of the total amount of manure, litter and process wastewater transferred to other persons in the past 12 months; the dates and times and estimated volumes of all discharges from the Production Area in the past 12 months; and a statement of whether a certified nutrient management planner developed or approved Suffolk's nutrient management plan. CAFOs that land apply manure, litter and process wastewater are required to report additional information specific to their land application practices. However, because Suffolk has chosen not to land apply manure, litter or process wastewater at the Facility, and is therefore not authorized by the draft permit to do so, Suffolk's annual report need not contain such information at this time. See 40 C.F.R. § 122.42(e)(4).

VI. ENDANGERED SPECIES ACT

Section 7(a) of the Endangered Species Act of 1973 (ESA), as amended, grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical (a "critical habitat"). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) administers the Section 7 consultations for freshwater species. The National Marine Fisheries Service (NMFS) administers the Section 7 consultations for marine species and anadromous fish.

The federal action being considered in this case is EPA's proposed issuance of an NPDES permit to Sterling Suffolk Race Course to allow the discharge of stormwater and, under extreme weather events, Production Area process wastewater overflow from a 50-year, 24-hour rainfall event into the receiving water, Sales Creek. Sales Creek (State Basin Code MA-70-10) is a currently classified as a Class SA [10] and a tributary of Belle Isle Inlet, a Class SA water body. See attached Map 1. Although Sales Creek is tidally connected to Belle Isle Inlet, the Bennington Street tandem tidal gate shuts out incoming tidal surges but allows Sales Creek runoff to flow into Belle Isle Inlet unimpeded.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, and plants to determine if any such listed species might potentially be impacted by the issuance of this NPDES permit. See Attachment 5, US Fish & Wildlife Species Listings and Occurrences for Massachusetts. Coastal areas of Massachusetts provide habitat for a number of federally protected marine species, including: mammals (whales: North Atlantic Right, Humpback, Fin, Sei, Sperm, Blue – all endangered); reptiles (sea turtles: Kemp's Ridley, Leatherback, Green – all endangered; Loggerhead – Threatened but proposed for listing as endangered). In addition, the shortnose sturgeon is an anadromous fish species listed as endangered that may be found in certain coastal areas of Massachusetts. However, EPA does not consider the area influenced by the authorized discharges from Suffolk's CAFO facility to be suitable habitat for the species listed above. Based on the normal distribution of these species, it is extremely unlikely that there would be any NMFS listed species in the vicinity of Sales Creek and Belle Isle Inlet. EPA has made the determination that no protected species are present in any area influenced by the discharge CAFO.

VII. ESSENTIAL FISH HABITAT

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with the NMFS if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat" (EFH). The Amendments define EFH as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," (16 U.S.C. § 1802

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[10] See Sales Creek Class SA/Class B discussion at IV.A.4. of the Fact Sheet.

(10)). "Adverse impact" means any impact which reduces the quality and/or quantity of EFH (50 CFR § 600.910 (a)). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

EFH is only designated for species for which federal fisheries management plans exist (16 U.S.C. § 1855(b) (1) (A)). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999. Attachment 6 is a list of the EFH species and applicable lifestage(s) for Boston Harbor estuaries. A review of the relevant EFH information provided by NMFS indicates that EFH has been designated for 16 managed species within the NMFS boundaries encompassing the outfall locations at Suffolk's Facility. The area supports 12 of the 16 listed species during three or more of their life stage categories (i.e., eggs, larvae, juveniles, adults and spawning adults).

EPA has made the preliminary determination that while the discharge of industrial stormwater and, under extreme weather conditions, Production Area process wastewater from the facility could potentially cause an adverse impact to essential fish habitat. A potential direct or indirect impact exists due to historic elevated levels of pathogens and TSS in the discharge. However, there are several factors expected to minimize any potential adverse impacts on EFH resulting from Suffolk's future discharges, including the nature of the discharges, the locations of the outfalls, and mixing in receiving waters. For example, the discharges from the facility flow intermittently and are directly related to very large (greater than 50-year, 24-hour) storm events. The facility's outfalls discharge to Sales Creek and become further diluted as they mix within the tidal currents of Winthrop Bay and Boston Harbor. It is therefore unlikely that EFH are subject to immediate undiluted contact with any of the discharges from the facility's outfalls. Furthermore, the discharges are restricted by the draft permit's limitations and standards. Discharges are limited to extreme weather events, and for such discharges the draft permit contains monitoring requirements that are designed to ensure that Massachusetts Surface Water Quality Standards are met for the receiving Class SA and/or B water. The draft permit establishes monitoring of process wastewater effluent for flow, pH, TSS, fecal coliform, E.Coli, oil and grease, BOD_5, dissolved oxygen and aluminum.

EPA has determined that the limits and conditions contained in the draft permit minimize adverse effects to EFH for the following reasons:

- The discharge, when permitted, will be subject to new pollutant controls that will significantly improve effluent quality and decrease effluent quantity;

- Suffolk has completed the installation of a process wastewater collection and retention system that complies with the Large Horse CAFO NELG "Production Area no discharge criteria," and is authorized to discharge to the process wastewater to the MWRA wastewater treatment facility so that most, if not all, Production Area discharges to Sales Creek and the adjacent wetlands will be prevented;

- Suffolk has completed the installation of a stormwater management system, including four sand filters, a sediment forebay and three infiltration islands, which should reduce

the amount of suspended solids in the facility's stormwater discharges to Sales Creek at or below the draft permit's stormwater benchmark concentration for TSS.

- The draft permit is written to ensure the discharge complies with applicable state water quality standards, including water quality criteria designed to achieve the uses designated for the receiving water. Class B[11] waters are designated as a habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. The limitations, conditions, and monitoring requirements contained in the draft permit are designed to meet applicable state water quality standards, and therefore will minimize impacts to aquatic organisms, including EFH species;

- The draft permit contains substantially increased monitoring requirements. As part of the permit application process, EPA required Suffolk to conduct whole effluent toxicity (WET) testing of its Production Area process wastewater discharge. WET testing confirmed that the aggregate of known or unknown pollutants in the effluent are not toxic to aquatic organisms.

The conditions and limitations contained in the draft permit are designed to meet applicable water quality standards and protect all aquatic life, including species with EFH designation. Any impacts from Suffolk's CAFO facility on EFH species, their habitat and forage, have been minimized. Further mitigation is not warranted. Should adverse impacts to EFH be detected as a result of this permit action, or if new information is received that changes the basis for EPA's conclusions, NMFS will be contacted and an EFH consultation will be re-initiated.

VIII. COASTAL ZONE MANAGEMENT (CZM) CONSISTENCY REVIEW

Suffolk's CAFO facility discharge is within the defined CZM boundaries. Under EPA regulations:

> The Coastal Zone Management Act, 16 U.S.C. 1451 et seq. section 307(c) of the Act and implementing regulations (15 CFR part 930) prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State Coastal Zone Management program, and the State or its designated agency concurs with the certification (or the Secretary of Commerce overrides the State's nonconcurrence). 40 CFR § 122.49 (d).

Suffolk has submitted a letter to the Massachusetts Coastal Zone Management Program stating that the activities at its facility comply with the enforceable policies of the approved Massachusetts coastal management program and will be conducted in a manner consistent with such policies. The Commonwealth of Massachusetts will review the draft permit and a final permit will only be issued after CZM concurs with Suffolk's certification.

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[11] See Sales Creek Class SA/Class B discussion at IV.A.4. of the Fact Sheet.

IX. STATE CERTIFICATION REQUIREMENTS

EPA may not issue a permit unless the MassDEP certifies that the effluent limitations and conditions contained in the permit are stringent enough to ensure compliance with all applicable requirements of the CWA and with all applicable requirements of state law, including the Massachusetts Surface Water Quality Standards, or unless state certification is waived. EPA has requested permit certification by the Commonwealth of Massachusetts pursuant to CWA Section 401(a)(1) and 40 CFR § 124.53 and expects that the Commonwealth will certify the draft permit.

X. STATE PERMIT CONDITIONS

The NPDES Permit is issued jointly by the U. S. Environmental Protection Agency and the Massachusetts Department of Environmental Protection under federal and state law, respectively. As such, all the terms and conditions of the permit are, therefore, incorporated into and constitute a discharge permit issued by the MassDEP Commissioner.

XI. ADMINISTRATIVE RECORD, PUBLIC COMMENT PERIOD, HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISION

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the U.S. EPA, Office of Ecosystem Protection Attn: Ms. Austine Frawley, 5 Post Office Square (OEP06-4), Boston, Massachusetts 02109-3912 or via email to Frawley.austine@epa.gov. T**he comments should reference the name and permit number of the facility for which they are being provided**.

Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to EPA and MassDEP. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public meeting may be held if the criteria stated in 40 C.F.R. § 124.12 are satisfied. In reaching a final decision on the draft permit, the EPA will respond to all significant comments and make these responses available to the public at EPA's Boston office. Following the close of the comment period, and after any public hearings, if such hearings are held, the EPA will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within thirty (30) days following the notice of final permit decision, permits may be appealed to the Environmental Appeals Board in the manner described at 40 CFR § 124.19.

XII. EPA and MASSDEP CONTACTS

Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays, from the EPA and MassDEP contacts below:

Ms. Austine Frawley, EPA New England - Region I
Five Post Office Square, OEP 06-4
Boston, MA 02109-3912
Telephone: (617) 918-1065 FAX: (617) 918-0065
email: frawley.austine@epa.gov

David Ferris, Director
Massachusetts Wastewater Management Program
Massachusetts Department of Environmental Protection
One Winter Street
Boston, MA 02108
Telephone: (617) 654-6514 FAX: (617) 556-1049
email: David.Ferris@state.ma.us

XIII. ATTACHMENTS

Attachment 1, Suffolk's August 2012 Nutrient & Stormwater Management Plan
Attachment 2, Discharge Status Report Data Summary, September 2008 to November 2010
Attachment 3, Additional Wet Weather Sampling Data, July 2010 to November 2010
Attachment 4, Discharge Status Report Data Summary, June 2011 to April 23, 2012
Attachment 5, US Fish & Wildlife Species Listings and Occurrences for Massachusetts
Attachment 6, NOAA Summary of Essential Fish Habitat Designations, Boston Harbor
Figure 1, Sterling Suffolk Racecourse, Site Plan, Existing Conditions
Map 1, Rumney Marshes ACEC and Sterling Suffolk Racecourse

February 2013
DATE

Ken Moraff, Acting Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

Nutrient & Stormwater Management Plan

Suffolk Downs Racecourse
111 Waldemare Avenue
East Boston, Massachusetts

Prepared for:
Sterling Suffolk Racecourse LLC
August 2012

Table of Contents

List of Attachments

1.0 Introduction

This Nutrient & Stormwater Management Plan (NSMP) describes the Best Management Practices (BMPs) for the protection of water quality at Suffolk Downs Racecourse's (the Facility) Production Area and Non-Production Area. This NSMP is intended to meet the requirements of 40 CFR 122.429(e) as well as the effluent limitations resulting from use of the best available technology economically achievable (BAT) as described in 40 CFR 412.13. Modifications to this NSMP will be made in accordance with 40 CFR 122.42(e)(6).

2.0 Site Description

The Facility is primarily used as a thoroughbred horse racetrack. It is located on approximately 161 acres of land located in East Boston and Revere, Massachusetts (Figure 1). Approximately 110 acres are used for the racetrack, buildings ancillary to the racetrack, stables, parking and related uses. The Facility has an enclosed grandstand and clubhouse covering approximately 130,000 square feet. The Facility also has a one-mile dirt racetrack and a 7/8 mile turf racetrack. Figure 2 depicts the Facility's Production Area and Non-Production Area covered by this NSMP.

The Production Area includes the portion of the Facility that is used for caring for horses as well as the process wastewater holding pond. The approximately 14 acre portion of the Production Area used for caring for horses includes stables, a manure storage area, horse-exercising equipment, and an area for temporary holding of mortalities (the Stable Area). The portion of the Production Area associated with the process wastewater holding pond (the Holding Pond) is approximately 1.2 acres and is located within the racetrack infield. The Stable Area includes 32 stable buildings with approximately 1,200 horse stalls and 70 crushed-stone pads for washing of horses and disposal of wash water (the Washing Areas). Existing grades and/or berms prevent process wastewater from exiting the Production Area and keep off-site stormwater from entering the Production Area. During the 2009 season, the Facility generated approximately 19,170 tons of manure/bedding waste.

Sales Creek flows southeasterly through the site passing through twin 96-inch culverts under the racetrack to an open channel traversing the racetrack infield where it flows under the back straight via twin 96-inch drains and discharges to an open channel between the track and Bennington Street immediately east of the site. Sales Creek is protected from tidal flows originating in Belle Isle Inlet by the Bennington Street tide gates and a pumping station. During lower tides Sales Creek flows directly to Belle Isle Inlet via culverts under Bennington Street. During higher tides flow in Sales Creek is pumped to the Inlet by the Bennington Street pump station which is owned and operated by the Massachusetts Department of Conservation and Recreation.

The portion of Sales Creek that passes through the site was constructed as a drainage ditch around the time of filling of the site. Vegetated wetlands fringe Sales Creek and become more extensive east of the site between the eastern track maintenance road and the MBTA's Blue Line track. Sales Creek is part of the Rumney Marshes Area of Critical Environmental Concern (ACEC).

3.0 Pollution Prevention Measures Plan

Listed below are the best management practices to be implemented within the Production Area.

3.1 Manure/Bedding Management Practices

These practices shall be followed for the management of manure and bedding within the Production Area at all times beginning when any horse is stabled at the Facility, and continuing until the Facility has completed its annual post-season cleanup:

1. Horses shall be stabled only within the Stable Area.
2. Temporary manure dumpsters shall be located in the vicinity of the stables and the grain/bedding distribution area.
3. All temporary manure dumpsters shall include weighted flip-top covers.
4. All temporary manure dumpsters shall be labeled in English and Spanish stating that manure dropped on the ground must be cleaned up and placed in the dumpsters.
5. Areas outside of the stables shall be raked and swept clean of manure and bedding material on a regular basis.
6. All manure, bedding materials cleaned from any stable area, and feed/bedding material cleaned from the grain/bedding distribution area, shall be placed in the temporary manure dumpsters.
7. All containers used during transport of manure/bedding materials to the temporary dumpsters shall be covered with an impervious material during transport.
8. Temporary manure dumpsters shall be inspected daily for punctures and leaks. If punctures or leaks are observed, (a) the dumpster shall be immediately removed from service for repair and (b) a serviceable dumpster shall be provided.
9. An adequate number of temporary manure dumpsters shall be provided to prevent uncontained stockpiling of manure/waste feed and bedding materials.
10. Temporary manure dumpsters shall be emptied into manure trailers daily.
11. A manure trailer shall be constantly available to receive material from the temporary manure dumpsters.
12. All manure trailers shall be covered while on site, while not actively being filled, as well as during transport.
13. All manure trailers shall be transported to a composting facility at a frequency that ensures that trailer capacity is not exceeded.
14. Adequate solid waste dumpsters shall be provided throughout the Production Area for the disposal of general solid waste.
15. Manure, bedding and feed materials shall not be disposed in the solid waste dumpsters.

16. No solid waste other than manure, bedding or feed materials shall be disposed in the temporary manure dumpsters or the manure trailers.
17. Manure/bedding materials shall be tested annually for nitrogen and phosphorous content. Manure testing shall be conducted in accordance with University of Massachusetts, Cornell University, or other guidance if recognized by the University of Massachusetts. The results shall be provided to the composting facility.

3.2 Wash Water Management Practices

1. Horse washing shall be conducted only in the Facility's designated Washing Areas.
2. Wash water (e.g., buckets of soapy water) shall be disposed only in the Washing Areas.
3. Only track-supplied hoses may be used at the Facility. Leaking hoses may not be used, and shall be replaced immediately
4. Hoses may be used only for the following purposes: (a) filling water buckets for horses, (b) washing horses in the Washing Areas, (c) cooling horses in the Washing Areas, and (d) sprinkling shed-rows or walking machine areas for purposes of controlling dust.
5. Hoses may be used outside of Washing Areas only for purposes of controlling dust in shed-rows or walking machine areas, and shall be disconnected immediately after use.

3.3 Mortality Handling Management Practices

1. Mortality shed shall be maintained to prevent any stormwater contact with mortalities.
2. All mortalities must be placed immediately within the mortality shed.
3. Mortalities shall be removed within 48 hours by a contractor who possesses all required permits and/or licenses applicable for the disposition of animal mortalities. Contractor shall dispose mortalities in accordance with all applicable disposal regulations.

3.4 Other Management Practices

3.4.1 Year-round Practices

1. Chemical, hazardous, toxic or veterinary medical materials shall be used and disposed in accordance with manufacturer's directions and applicable regulations.
2. Horses shall not be allowed to enter the waters of the United States, including but not limited to Sales Creek or adjacent wetlands.
3. Except for those associated with veterinary services or track operations, vehicles may not be parked in the Production Area except during short-term deliveries. Unauthorized vehicles parked within the Production Area will be towed. Vehicles may not be washed or undergo maintenance within the Production Area.

3.4.2 Other In-season Practices

These practices shall be followed during any period when horses are stabled at the Facility until the completion of post-season cleanup:

1. Each owner's stall-allotment contract shall contain a notice setting forth the track's anti-pollution policies and requirements.
2. On a daily basis during the first 30 days of the racing season, and weekly thereafter, the track shall announce over the public address system that the track has implemented anti-pollution policies and requirements, and direct all owners to review and adhere to them.
3. The track shall publish and enforce pollution prevention rules, including specific daily instructions for owners, stable workers, and track personnel.
    a. The rules shall be in English and Spanish.
    b. The rules shall include the following enforcement policies:
        i. A written warning for the first offense.
        ii. A written warning and mandatory retraining for any second offense.
        iii. A $500 fine and mandatory retraining for any third offense.
        iv. For any fourth offense, an order to leave the Facility and not return.
    c. The rules shall be presented at mandatory training sessions, to be given quarterly for new track personnel, owners, and stable personnel.
4. The track shall make compliance with the rules a condition of each owner's annual stall-rental contract.

3.4.3 Post Season Cleanup Procedures

These procedures shall be followed for post-season cleanup of the Production Area:

1. Stables shall be cleaned of manure and bedding materials.
2. Manure and/or bedding materials located on pervious surfaces shall be raked and placed in temporary manure dumpsters.
3. Paved areas shall be swept. Areas that cannot be swept using a street sweeper shall be swept by hand.
4. All manure dumpsters shall be emptied and the covers shall be closed.
5. Stables and stall doors shall be closed.

4.0 Production Area Process Wastewater Management Plan

The Facility's process wastewater system includes dedicated process wastewater drains, a holding pond within the track infield, and a pump station and associated force main. The drains

convey process wastewater from the Stable Area to the holding pond, which in turn is pumped to the Boston Water and Sewer Commission's (BWSC) sanitary sewer system within Walley Street. The process wastewater system is depicted on the plans included in Attachment A.

The process wastewater system is designed to eliminate discharges of process wastewater to surface waters for all storms smaller than the 25-year 24-hour design storm which represents the application of best available technology economically achievable (BAT). The holding pond is capable of containing the expected volume of runoff from a 50-year 24-hour storm event, which exceeds the 25-year 24-hour effluent limitations set forth in 40 CFR §412.13(b). Runoff from the Stable Area is directed to the holding pond for flow equalization, and pumped to the BWSC's sanitary sewer. To protect the pumping system accumulated trash and debris must be removed from the pond in accordance with the operation and maintenance plan described is Section 7.1 below. Existing grades and/or berms prevent process wastewater from exiting the Production Area and keep off-site stormwater from entering the Production Area.

4.1 Process Wastewater System Design

The process wastewater system associated with the Stable Area directs process wastewater through a dedicated sewer system to the holding pond located in the track infield, immediately north of Sales Creek. The perimeter of the Stable Area is graded to prevent runoff from discharging to non-Production Area locations, and vice versa. Refer to Sheet C-101 through Sheet C-105 for details of the process wastewater system.

The process wastewater system's piping is designed to convey anticipated volume from the 10-year storm event when flowing full. Flows exceeding the 10-year storm event may result in pipe surcharges, but all surcharges will be contained within the pipe network or immediate surface areas with no discharge outside of the Production Area. In order to reduce the amount of process wastewater generated at the site gutters have been installed on buildings within the Stable Area and have been designed to convey flows from the 25-year storm event without spilling into the process wastewater system. See Section 5 for additional details.

The holding pond includes an impermeable clay liner that limits discharge of process wastewater to groundwater. Underdrains installed below the holding pond prevent damage to the liner that could otherwise result from a potential temporary rise in the groundwater level. The holding pond includes two spillways to manage discharges from storm events exceeding the capacity of the holding pond. The spillways are reinforced with riprap and are directed to existing drainage swales.

A depth marker is located in the holding pond with indicators of the maximum depth of sediment accumulation and the minimum capacity necessary to contain the maximum runoff and direct precipitation from the 25-year storm event.

Process wastewater contained within the holding pond is pumped to the BWSC sewer system via a duplex wastewater pumping station. Flows from the pond enter the station through an intake structure. The intake structure is located within the pond and has multiple intakes outfitted with

oil/debris control hoods. The multiple intakes ensure adequate flow to the pump station while the hoods prevent trash and other debris from fouling pumps as well as provide spill control.

The pump station is a wet well/dry well configuration with two 160 gallons per minute (gpm) variable frequency drive pumps located in a dry well adjacent to a wet well. The wet well houses floats and system controls while the dry well houses pumps and related valves. The pumps have been sized to provide maximum operational flexibility with each pump discharging to independent 3" force mains. Independent force mains are required to manage friction losses over the desired wide range of operational discharges. Pump station controls have been designed to provide for discharges ranging from 80 gpm to 320 gpm based on holding pond elevation. Lower discharge rates are intended to maintain pond volumes during normal rain events while higher discharge rates are intended to evacuate the pond in advance and following large events. At peak flow, the pump station is capable of evacuating the entire holding pond volume in just under five days.

4.1.1 Holding Pond Storage Capacity

All process wastewater is collected, conveyed, and stored in the holding pond. The holding pond is designed to contain the anticipated run-off volume from the stable area as well as direct precipitation to the holding pond, from the 50-year 24-hour storm event with no discharge to Sales Creek or groundwater. The holding pond has a storage capacity of approximately 307,000 cubic feet (cf), excluding the volume associated with one foot of freeboard (51,000 cf) and six inches of accumulated sediment/operational storage (17,000 cf).

- ***Total Storage Volume = 307,000 cubic feet***
- ***25-Year 24-Hour Storm Event Volume = 261,000 cubic feet***

The hydrologic model and analysis of the holding pond is provided in Attachment B.

4.1.2 Holding Pond Operational Analysis

Although the holding pond is sized to hold the volume of runoff generated from the Production Area, it is useful to determine if operational limitations may reduce the actual capacity of the system. To assess this, a month's operation has been evaluated to determine how the system will act under typical conditions.

The average normal monthly precipitation for Boston Logan International Airport is 3.5 inches according to the National Oceanic and Atmospheric Administration (NOAA), based upon data from 1971 – 2000. However, not all rainfall ends up as runoff, but rather gets absorbed, evaporates or otherwise gets contained in local depressions within a catchment area. To estimate a "Runoff Reduction Rate," the system's performance during a 2-year 24-hour storm event was used to approximate typical conditions. Model analysis indicates that 76% of total rainfall during a 2-year event ends up as runoff, yielding a 24% Runoff Reduction Rate. This provides a conservative estimate since larger storm events yield higher percentages of runoff and a 2-year event is a far larger event than an average monthly event.

Monthly Runoff Volume = Precipitation Average x Reduction Rate x Area x Conversion Factors

Runoff Volume = (3.5 inches / month) x (0.76 "runoff / "rainfall) x (15.2 Acres) x (43,560 ft / acre) x (1 ft / 12 in)

- ***Monthly Runoff Volume = 147,000 cubic feet / month***

The Production Area is anticipated to produce approximately 147,000 cubic feet of runoff volume per month. This compares favorably with the 307,000 cubic feet of total storage volume provided by the holding pond and indicates that based on the average monthly runoff, the holding pond could contain approximately 60-days of runoff.

Given the connection to public sewer, solid organic stable waste can be discharged directly, eliminating the need to provide a significant settling volume. The proposed sediment storage/operational volume will be used primarily for the control of debris and floatables. A comparison to annual manure loading provides a conservative method for evaluating the suitability of the proposed sediment storage/operational volume.

During the 2009 season, the Facility transferred approximately 19,170 tons of manure to a composting facility, estimated conservatively to be at least 99 percent of the manure generated at the Facility. A conservative assumption is that the remaining approximately 193 tons/year of manure will enter the stormwater management system. Using an estimated annual stormwater manure loading rate of 193 tons/year and an industry standard stable waste density of 30 lbs/cf, the ponds can be expected to receive approximately 12,900 cf/yr of stable waste. The current total sediment storage volume provided in the pond is approximately 17,000 cf, more than 130% the expected annual volume.

4.1.3 Effluent Discharge

As discussed earlier, process wastewater stored in the holding pond is pumped to the BWSC sewer system. Flows from the BWSC sewer system flow by gravity to the Massachusetts Water Resources Authority's (MWRA) Constitution Beach combined sewer overflow (CSO) facility and eventually to the Deer Island Treatment Facility. The MWRA, through its Sewer Use Discharge Permit, has reserved the right to suspend discharges from Suffolk Downs during periods of high precipitation in an effort to reduce or prevent CSO activations within the MWRA system. The large holding pond volume and robust pumping system will be adequate to bridge gaps in service for all but the most extreme storm events.

4.2 Land Application Preparation

In the future, process wastewater may be applied to the track infield. In order to prepare for the possible land application of process wastewater the following activities will occur during the first growing season following the completion of the construction of the process wastewater system, the production area roof runoff separation system, and other clean water diversion components.

- Grab samples of process wastewater shall be taken from the process wastewater holding pond on a monthly basis and analyzed for nitrogen and phosphorous.
- Soil samples from within the potential land application area shall be taken and analyzed for standard nutrient availability. The collection and analysis of samples shall be performed in accordance with the University of Massachusetts and/or Cornell University guidance or standard industry practice if recognized by the University of Massachusetts.

Based upon the results of the process wastewater and soil nutrient analysis a target crop will be selected for growth in the land application area. Following crop selection, a Land Application Plan shall be developed in compliance with 40 CFR §122.42(e)(1) and will include:

- a description of future sampling protocols
- irrigation rates
- operation, maintenance, and inspection procedures.

The Land Application Plan shall be submitted to the appropriate regulatory authorities for approval and inclusion in this Nutrient & Stormwater Management Plan. Land application will not be conducted until approval of the Land Application Plan is received from the appropriate regulatory authorities.

5.0 Production Area Roof Runoff Separation Plan

Roof runoff from buildings within the Stable Area may be discharged directly to the drainage system provided there is no contact with manure, waste feed or bedding materials prior to discharge. The proposed clean water diversion system collects clean roof runoff and diverts it to a dedicated drain system for eventual discharge to surface waters via existing drain outfalls. Separation of clean roof runoff reduces the volume of process wastewater generated within the production area by more than 40%. The clean water diversion system includes standard gutters on all Stable Area buildings where installation is practicable. The gutters flow to piped downspouts and connect to dedicated drainage infrastructure. Drainage and process wastewater systems are shown on the attached plans. The clean water diversion system is depicted on the plans included in Attachment A.

The dedicated drainage infrastructure is sized to convey runoff volumes for the 25-year 24-hour storm event without discharge to at-grade portions of the Stable Area. Refer to Sheet C-101 through Sheet C-105 for details of the roof runoff separation plan.

Prior to the initiation of the use of the clean water diversion system, portions of the existing drain system used as a component of the clean water diversion system were cleaned of accumulated sediments. The dislodged sediments and debris were disposed of in accordance with applicable regulations. These drains included:

- the 18-inch drain within the northern drive aisle that discharges at SD-10
- the eastern portion of the 10-inch drain within the center drive aisle and the drain west of Washburn Avenue that discharges to SD-3

6.0 Non-Production Area Stormwater Management Plan

The Non-Production Area stormwater management systems include four sand filters, a sediment forebay, and three infiltration islands. Refer to Sheet C-101 through Sheet C-105 for details of the Non-Production Area stormwater BMPs (Attachment A).

Sand Filters. Stormwater from the racetrack proper flows towards the inside of the track and enters an open concrete drainage swale. The concrete drainage swale discharges through pipes to sand filters that include an 18-inch sediment forebay and an overflow structure (or the stormwater pond located within the southern portion of the track infield). The sand filters discharge to existing discharge points used by the track's previous drainage system.

Design information for each of the proposed sand filters is provided below.

Sand Filter Location	Contributing Area (acres)	Runoff Curve No.	Treatment Volume (inches)	Required Sand Filter Capacity (cf)	Forebay Volume (cf)	Sand Filter Volume (cf)
BMP-2	2.41	70	1.0	6,142	1,314	6,205
BMP-3	1.63	70	1.0	4,138	900	4,250
BMP-4	1.03	70	1.0	2,613	576	2,720
BMP-5	1.27	70	1.0	3,223	702	3,315

Sediment Forebay. A sediment forebay located west of Sale Creek within the track maintenance area receives stormwater flows from the racetrack's northwestern entrance. It also receives flows from a portion of the paved maintenance area, a parking area west of the maintenance area, and the racetrack surfacing materials stockpile area. The forebay includes four stone check dams.

Forebay Location	Contributing Impervious Area (acres)	Forebay Sizing Requirement (in/imperv. acre)	Required Forebay Volume (cf)	Forebay Volume (cf)
BMP-1	6.05	0.1	2,196	7,560

Infiltration Islands. Three infiltration islands receive flow from the northern drive aisle adjacent to Winthrop Avenue. The infiltration islands include a drop inlet surrounded by stone infiltration media approximately 42 inches in width and 34 inches in depth. When infiltration capacity is exceeded, flow will enter the drop inlet and be directed to the clean water diversion system.

Infiltration Island Location	Contributing Area (acres)	Infiltration Island Storage Volume (cf)	Rainfall Volume Treated (inches)
BMP-6	0.5	182	0.1
BMP-7	0.6	182	0.1
BMP-8	0.5	182	0.1

7.0 Operation, Inspection, and Maintenance Plan

7.1 Process Wastewater System

7.1.1 Process Wastewater Holding Pond

In addition to the inspection and maintenance requirements listed below inspection and maintenance logs shall be kept. Inspection and maintenance logs are provided in Attachment C. Inspections shall occur weekly.

- Inspect holding pond for evidence of subsidence, erosion, cracking or tree growth on the embankment, damage to the emergency spillway, the emergence of invasive or damaging species, and obstructions within the diversion swales. The inspection shall note the pond's elevation as indicated by the depth marker within the pond.
- Sediment within the pond shall be removed prior to the depth of sediment reaching the "maximum sediment depth" indictor on the depth marker.
- After sediment removal or after an inspection indicates maintenance is required, any maintenance shall be initiated as soon as possible and before the next anticipated rain event of 0.25 inches or greater, or whenever practicable to maintain the continued effectiveness of the pond.
- At least twice during the growing season, once in spring and once in fall, the side slopes shall be mowed to a height no greater than six inches and no less than three inches.

7.1.2 Pump Station

In addition to the inspection and maintenance requirements listed below an inspection/ maintenance log shall be kept. Inspection and maintenance logs are included in Attachment C. Inspection shall be performed on a monthly basis.

- Inspect wet wells for build-up of solids and grease, suction port for blockage, check valves to ensure proper closure of valve, and floats for proper operation.
- Inspect and exercise the electrical control panel, including the light and alarm systems.

- Note and record hours from hour meters on each motor.
- Perform maintenance as recommended by the manufacturer.

7.2 Clean Water Diversion System

In addition to the inspection and maintenance requirements listed below an inspection/maintenance log shall be kept. Inspection and maintenance logs are included in Attachment C.

- The clean water diversion swale associated with the holding pond shall be inspected in accordance with the requirements set forth in Section 7.1.1.
- The perimeter of the Stable Area shall be inspected weekly during dry weather and during rain events (anticipated to be greater than 0.25 inches) in order to verify that process wastewater is not exiting the Production Area and off-site stormwater is not entering the Production Area.
- Gutters and downspouts shall be inspected weekly during dry weather and during rain events (anticipated to be greater than 0.25 inches) for indications of damage such as cracks or dents that would allow clean water to break out of the clean water diversion system or indications of blockage resulting in overflow of the gutters.

7.3 Non-Production Area Stormwater System

In addition to the inspection and maintenance requirements listed below an inspection/maintenance log shall be kept. Inspection and maintenance logs are included in Attachment C.

7.3.1 Sediment Forebay

- For the first three months following construction, the sediment forebay shall be inspected after storm events resulting in 0.25 inches or greater of precipitation, but no less than once per month, to confirm the functionality of the sediment forebay. Required maintenance shall be initiated as soon as possible and before the next anticipated rain event of 0.25 inches or greater, or whenever practicable to maintain the continued effectiveness of the sediment forebay.
- Following the first three months of inspections, the sediment forebay shall be inspected once per month to confirm the functionality of the sediment forebay. Trapped sediments must be removed before sediment deposits reach 50 percent of the check dam height. Required maintenance shall be initiated as soon as possible and before the next anticipated rain event of 0.25 inches or greater, or whenever practicable to maintain the continued effectiveness of the sediment forebay.

- All sediments shall be handled and disposed in accordance with local, state, and federal guidelines and regulations.

7.3.2 Sand Filter

- For the first three months following construction, the sand filters shall be inspected after storm events resulting in 0.25 inches or greater of precipitation, but no less than once per month, to confirm the functionality of the sand filters. Required maintenance shall be initiated as soon as possible and before the next anticipated rain event of 0.25 inches or greater, or whenever practicable to maintain the continued effectiveness of the sand filters.

- Following the first three months of inspections, the sand filters shall be inspected once per month and shall be cleaned as needed. Required maintenance shall be initiated as soon as possible and before the next anticipated rain event of 0.25 inches or greater, or whenever practicable to maintain the continued effectiveness of the sand filters.

- Trapped sediments within the forebay must be removed before sediment deposits reach 50 percent of the check dam height.

- All sediments will be handled and disposed in accordance with local, state, and federal guidelines and regulations.

7.3.3 Infiltration Islands

- For the first three months following construction, the infiltration islands will be inspected after storm events resulting in 0.25 inches or greater of precipitation, but no less than once per month, to confirm the functionality of the infiltration islands. Required maintenance shall be initiated as soon as possible and before the next anticipated rain event of 0.25 inches or greater, or whenever practicable to maintain the continued effectiveness of the infiltration islands.

- Following the first three months of inspections, the infiltration islands shall be inspected once per month and shall be cleaned as needed. Required maintenance shall be initiated as soon as possible and before the next anticipated rain event of 0.25 inches or greater, or whenever practicable to maintain the continued effectiveness of the infiltration islands.

- All sediments will be handled and disposed in accordance with local, state, and federal guidelines and regulations.

7.4 Other Inspections

- While horses are present at the Facility and until post-season cleanup is complete, inspect above ground water lines for leaks on a daily basis. The dates when required maintenance

tasks were undertaken and the person who completed the maintenance shall be recorded on the General Maintenance Log included in Attachment C.

8.0 Compliance Officer

The track shall designate at least one environmental compliance officer. The officer(s) shall have these duties:

1. Monitor compliance with all environmental requirements and policies applicable to the Production Area, including inspections of stables, grain/bedding storage facilities, trailer parking areas, and mortality holding area.
2. Monitor compliance with track's requirements for handling manure and bedding. Issue immediate directions to personnel who fail to comply with such requirements, and fine/penalize personnel as required.
3. Monitor stormwater outfalls and record results as required under the Monitoring Plan. During visual monitoring, if a discharge is observed, officer(s) shall attempt to identify the source, address if possible, and note identification and correction efforts in the monitoring log.
4. Issue fines/penalties as required for non-compliance with horse washing rules.
5. Take dry- and wet-weather samples from designated outfalls. Coordinate testing with lab. Control custody of samples as required.
6. Review the track's pollution prevention rules. Recommend improvements as warranted.
7. Coordinate and provide annual training on the track's pollution prevention rules.
8. Provide remedial training on the track's pollution prevention rules.
9. Review the track's written mortality records weekly. Assure that records are complete. Should records show that a mortality has not been removed within 24 hours, investigate cause of non-compliance and take remedial measures (including fines and penalties, if necessary).

9.0 Monitoring Requirements

9.1 Weekly Visual Monitoring

Weekly visual monitoring of all outfalls to surface waters from the Production Area and Non-Production Area, including the outfalls near sample locations SD-3, SD-4, SD-5, SD-7 (BMP-1), SD-10 and SD-13 (BMP-5), which are depicted in Figure 2, shall be conducted. A monitoring log shall be maintained containing the following information for each outfall required to be monitored: the date and time of the visual observation; a characterization of any precipitation during the observation (using the terms "none," "light," "moderate," or "heavy"); a characterization of the amount of precipitation in the past 24 hours (using the terms as above); a

statement of whether or not a discharge was observed; and the name of the person making the observation. Monitoring records shall be maintained at the Facility's offices and shall be available for inspection or copying upon request by an authorized representative of EPA or MassDEP.

9.2 Dry-Weather Sampling

All outfalls to surface waters from the Production Area and Non-Production Area, including, but not limited to, sample locations SD-3, SD-4, SD-5, SD-7 (BMP-1), SD-10, SD-13 (BMP-5), PWP-1, and PWP-2, which are depicted in Figure 2, shall be sampled once each month. In addition, during each dry-weather sample event, upstream and downstream locations in Sales Creek, identified as SD-12 and SD-2 (which are depicted in Figure 2), shall be sampled. For the purpose of this Section, "dry weather" is defined as any day in which no greater than 0.1 inch of precipitation has fallen within the 48 hours preceding the sample event. For each of the locations identified as SD-3, SD-4, SD-5, SD-7 (BMP-1), SD-10, SD-13 (BMP-5), PWP-1 and PWP-2, should there be no discharge on the day selected for dry-weather sampling, "No Discharge" shall be indicated on the monitoring log for such location and no sample for testing from that location shall be submitted. All submitted samples shall be analyzed for E. coli, total suspended solids ("TSS"), nitrogen-ammonia, and total phosphorus, except for SD-7 (BMP-1) and SD-13 (BMP-5), where only TSS need be analyzed.

9.3 Wet-Weather Sampling

Each sample location listed in Section 9.2 above shall be sampled during one rainfall event per month that is expected to result in precipitation of 0.1 inch or greater. For each of the locations identified as SD-3, SD-4, SD-5, SD-7 (BMP-1), SD-10, SD-13 (BMP-5), PWP-1 and PWP-2, should there be no discharge on the day selected for wet-weather sampling, "No Discharge" shall be indicated on the monitoring log for such location and no sample for testing from that location shall be submitted. All submitted samples shall be analyzed for E. coli, TSS, nitrogen-ammonia, and total phosphorus, except for SD-7 (BMP-1) and SD-13 (BMP-5), where only TSS need be analyzed.

10.0 Emergency Planning

In case of an emergency spill, leak, or failure of the process wastewater system, the Facility shall implement the following:

1. If there is a discharge of process wastewater, make all reasonable efforts to stop the discharge and prevent the discharge from reaching surface waters.
2. If necessary, contact local emergency agencies.
3. Contact EPA as soon as possible, and no later than 24 hours after the start of the emergency, with a detailed description of the volume released, any affected surface

waters, any obvious damage (employee injury, fish kill, or property damage), and the current status of the containment efforts.

4. A written report must also be provided to EPA not later than 5 days after the start of the emergency, that includes a description of the discharge and its cause; the period of the discharge, including exact dates and times, and if the discharge has not been contained or stopped, the anticipated time it is expected to continue to discharge; and steps taken or planned to reduce, eliminate and prevent reoccurrence of the discharge.

11.0 Record Keeping Requirements

Record keeping forms are included in Attachment C. The Facility shall maintain the following records for 5 years and make them available for inspection or copying upon request by an authorized representative of EPA or MassDEP:

1. A copy of this NSMP.
2. Results of weekly and monthly visual monitoring.
3. Laboratory analysis of dry and wet weather sampling.
4. Documentation indicating the dates and amounts of manure removed from the Facility and the entity receiving the manure.
5. Results of the manure nutrient testing.
6. Documentation indicating when the results of manure nutrient testing were provided to the composting facility.
7. The date and number of dumpsters repaired on a given day.
8. The dates and results of all inspections and maintenance/corrective activities preformed.
9. The date and number of mortalities, and invoices indicating the number, date, and entity receiving mortalities.
10. Dates when mandatory training sessions were performed and number of attendees.
11. A record of enforcement actions initiated.
12. Records of the date, time, and estimated volume of any overflow.
13. Records of process wastewater testing.
14. Records of the date, time, and estimated volume of any overflow.

12.0 Reporting Requirements

An annual report must be submitted to the EPA and MassDEP which includes:

1. The maximum number of horses stabled or confined and fed or maintained at the Facility at any one time, and the number of horses stabled or confined and fed or maintained at the Facility for a total of 45 days or more during the previous 12 months.

2. Estimated amount of total manure, litter, and process wastewater generated by the CAFO in the previous 12 months.
3. Estimated amount of total manure, litter, and process wastewater transferred to other person(s) by the CAFO in the previous 12 months.
4. Summary of all manure, litter, and process wastewater discharges from the production area that have occurred in the previous 12 months, including date, time, and approximate volume.
5. A statement indicating whether the current version of the CAFO's nutrient management plan was developed or approved by a certified nutrient management planner.

13.0 Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

JOHN F. RIZZO

Printed Name

CFO

Title

10/11/12

Date

Attachment A

Figures & Plan Sheets

TETRATECH

One Grant Street
Framingham, MA 01701-9005
508.903.2000
www.tetratech.com

1 inch = 1,500 feet

0 750 1,500
Feet

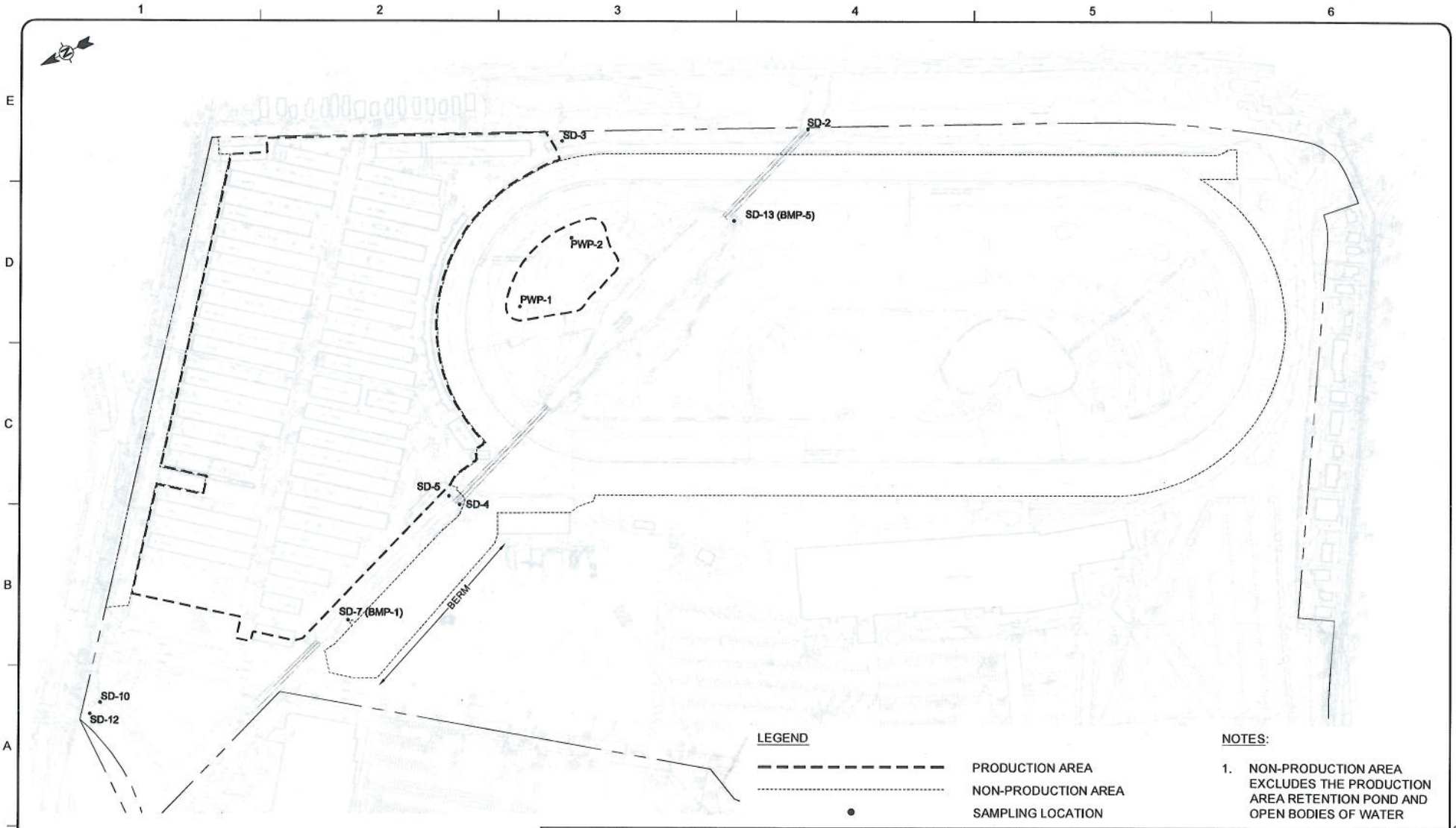
N

Notes:
Base Map:
MassGIS

Suffolk Downs Racecourse
East Boston/Revere, Massachusetts

Figure 1

Locus Map



LEGEND

PRODUCTION AREA

NON-PRODUCTION AREA

SAMPLING LOCATION

NOTES:

1. NON-PRODUCTION AREA EXCLUDES THE PRODUCTION AREA RETENTION POND AND OPEN BODIES OF WATER

0 125 250 500

SCALE: 1" = 250'

TETRA TECH

www.tetratech.com

One Grant Street
Framingham, Massachusetts 01701
Phone: 508-903-2000 Fax: 508-903-2001

MARK	DATE	DESCRIPTION	BY

Sterling Suffolk Racecourse LLC

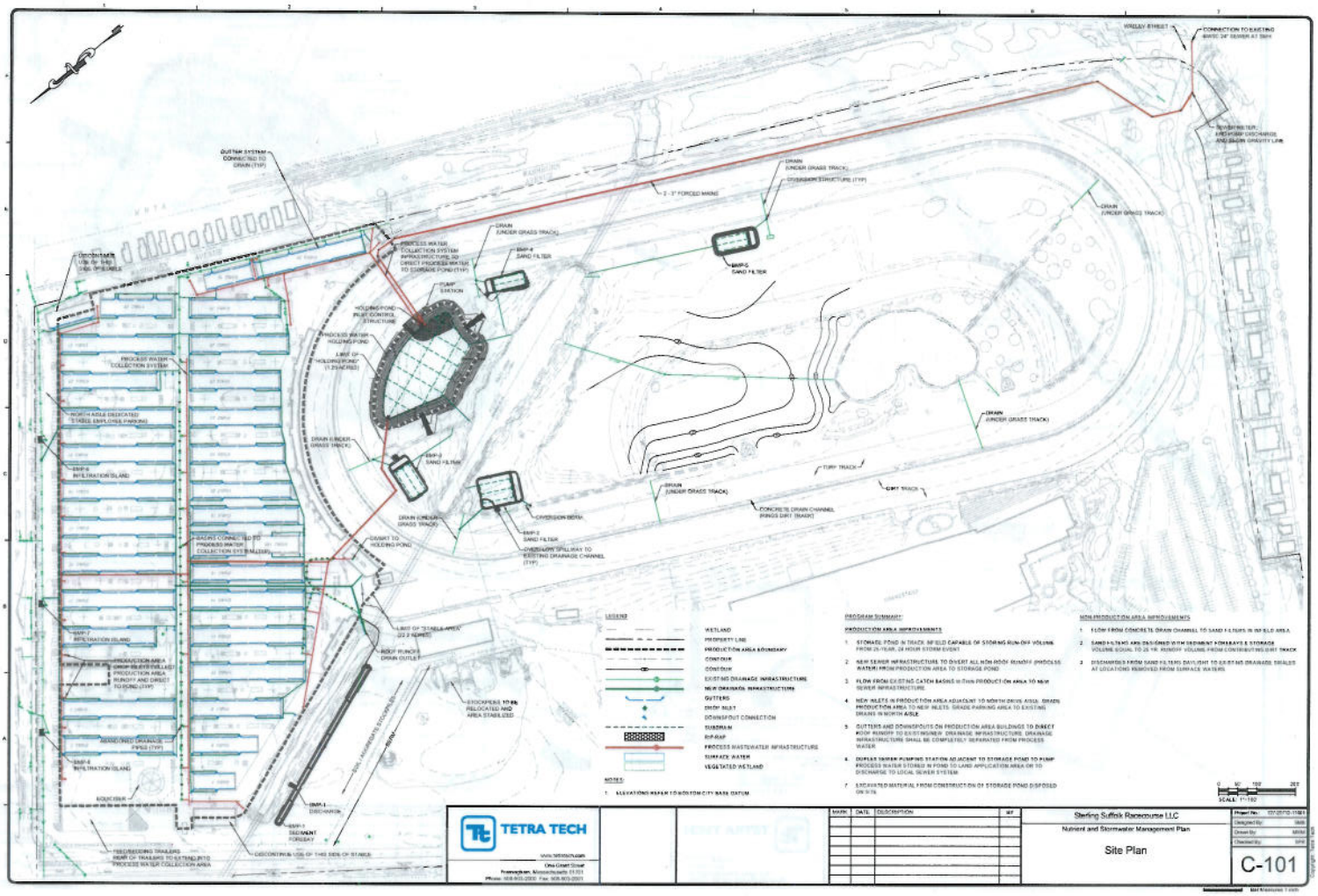
Nutrient and Stormwater Management Plan

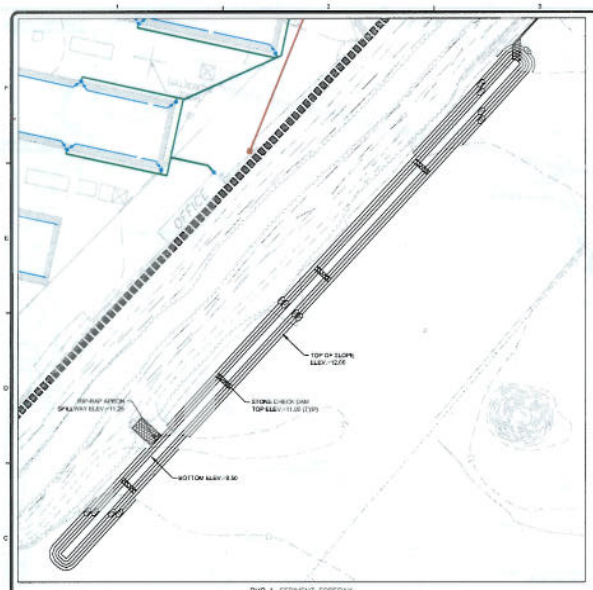
Production Area / Non-Production Area Boundary and Sample Locations

Project No.: 127-20712-11001
Designed By: MWM
Drawn By: MWM
Checked By: SPR

Figure 2

Bar Measures 1 inch


WALLEY STREET
CONNECTION TO EXISTING 48"/30" 24" SEWER AT SMH
WATER METER, BACKFLOW DISCHARGE AND SEWER GRAVITY LINE
GUTTER SYSTEM CONNECTED TO DRAIN (TYP)
DISCONTINUOUS LOG OF THIS SIDE OF STABLES
2 - 3" FORCED MAINS
DRAIN (UNDER GRASS TRACK)
DIVERSION STRUCTURE (TYP)
PROCESS WATER COLLECTION SYSTEM INFRASTRUCTURE SO DIRECT PROCESS WATER TO STORAGE POND (TYP)
BMP-4 SAND FILTER
BMP-5 SAND FILTER
PUMP STATION
HOLDING POND INLET CONTROL STRUCTURE
PROCESS WATER HOLDING POND
LIMIT OF HOLDING POND (1.25 ACRES)
PROCESS WATER COLLECTION SYSTEM
NORTH AISLE DEDICATED STABLE EMPLOYEE PARKING
BMP-6 INFILTRATION ISLAND
DRAIN (UNDER GRASS TRACK)
BMP-3 SAND FILTER
TURF TRACK
DIRT TRACK
CONCRETE DRAIN CHANNEL (RINGS DIRT TRACK)
DIVERSION BERM
BMP-2 SAND FILTER
OVERFLOW SPILLWAY TO EXISTING DRAINAGE CHANNEL (TYP)
GRAVEL TO HOLDING POND
STABLES CONNECTED TO PROCESS WATER COLLECTION SYSTEM (TYP)
LIMIT OF STABLE AREA (22.2 ACRES)
ROOF RUNOFF DRAIN OUTLET
BMP-7 INFILTRATION ISLAND
PRODUCTION AREA (UNDER INLETS FOR LAST PRODUCTION AREA RUNOFF AND DIRECT TO POND (TYP)
STOCKPILES TO BE RELOCATED AND AREA STABILIZED
ABANDONED DRAINAGE PIPES (TYP)
BMP-8 INFILTRATION ISLAND
AQUICULTURE
BMP-1 DISCHARGE
BMP-1 SEDIMENT FOREBAY
DISCONTINUOUS LOG OF THIS SIDE OF STABLES
FEED/BEDDING TRAILERS MUST BE TRAILERS TO EXTEND INTO PROCESS WATER COLLECTION AREA
LEGEND
WETLAND
PROPERTY LINE
PRODUCTION AREA BOUNDARY
CONTOUR
EXISTING DRAINAGE INFRASTRUCTURE
NEW DRAINAGE INFRASTRUCTURE
GUTTERS
DROP INLET
DOWNSPOUT CONNECTION
SUBDRAIN
RIP-RAP
PROCESS WASTEWATER INFRASTRUCTURE
SURFACE WATER
VEGETATED WETLAND
NOTES:
1. ELEVATIONS MEASURED TO BOSTON CITY BASE DATUM
PROGRAM SUMMARY:
PRODUCTION AREA IMPROVEMENTS
1. STORAGE POND IN TRACK INFIELD CAPABLE OF STORING RUN-OFF VOLUME FROM 25-YEAR, 24 HOUR STORM EVENT
2. NEW SEWER INFRASTRUCTURE TO DIVERT ALL NON-ROOF RUNOFF (PROCESS WATER) FROM PRODUCTION AREA TO STORAGE POND
3. FLOW FROM EXISTING CATCH BASINS in THIS PRODUCTION AREA TO NEW SEWER INFRASTRUCTURE
4. NEW INLETS IN PRODUCTION AREA ADJACENT TO NORTH DRIVE AISLE. DRAIN PRODUCTION AREA TO NEW INLETS. GRADE PARKING AREA TO EXISTING DRAINS IN NORTH AISLE
5. GUTTERS AND DOWNSPOUTS ON PRODUCTION AREA BUILDINGS TO DIRECT ROOF RUNOFF TO EXISTING/NEW DRAINAGE INFRASTRUCTURE. DRAINAGE INFRASTRUCTURE SHALL BE COMPLETELY SEPARATED FROM PROCESS WATER
6. DUPLEX SEWER PUMPING STATION ADJACENT TO STORAGE POND TO PUMP PROCESS WATER STORED IN POND TO LAND APPLICATION AREA OR TO DISCHARGE TO LOCAL SEWER SYSTEM
7. EXCAVATED MATERIAL FROM CONSTRUCTION OF STORAGE POND DISPOSED ON SITE
NON-PRODUCTION AREA IMPROVEMENTS
1. FLOW FROM CONCRETE DRAIN CHANNEL TO SAND FILTERS IN INFIELD AREA
2. SAND FILTERS ARE DESIGNED WITH SEDIMENT FOREBAYS & STORAGE VOLUME EQUAL TO 25 YR. RUNOFF VOLUME FROM CONTRIBUTING DIRT TRACK
3. DISCHARGES FROM SAND FILTERS DAYLIGHT TO EXISTING DRAINAGE SWALES AT LOCATIONS REMOVED FROM SURFACE WATERS
0 50 100 200
SCALE: 1"=100'
TETRA TECH
www.tetratech.com
One Grant Street
Framingham, Massachusetts 01701
Phone: 508.903.2000 Fax: 508.903.2001
MARK | DATE | DESCRIPTION | BY
Sterling Suffolk Racecourse LLC
Nutrient and Stormwater Management Plan
Site Plan
Project No. 117-2570-11001
Designed By: MHB
Drawn By: MHM
Checked By: SPR
C-101



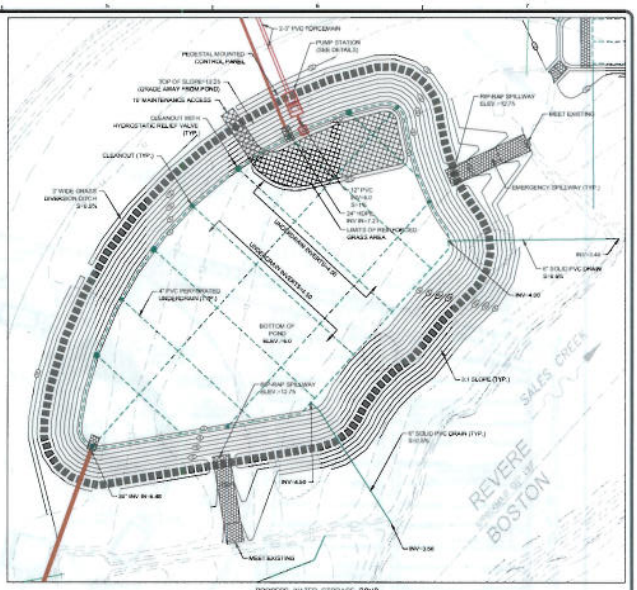
BMP 1–SEDIMENT FOREBAY
SCALE: 1"=30'

LEGEND

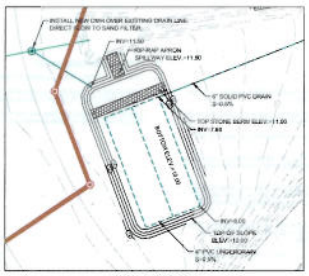
- WETLAND
- PROPERTY LINE
- PRODUCTION AREA BOUNDARY
- CONTOUR
- CONTOUR
- EXISTING DRAINAGE INFRASTRUCTURE
- NEW DRAINAGE INFRASTRUCTURE
- GUTTERS
- DROP INLET
- DOWNSPOUT CONNECTION
- SUBDRAIN
- RIP-RAP
- PROCESS WASTE WATER INFRASTRUCTURE
- SURFACE WATER
- VEGETATED WETLAND

NOTES:

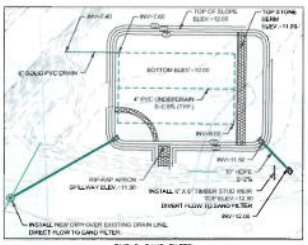
1. ELEVATIONS REFER TO BOSTON CITY BASE DATUM



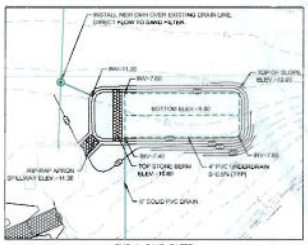
PROCESS WATER STORAGE POND
SCALE: 1"=30'



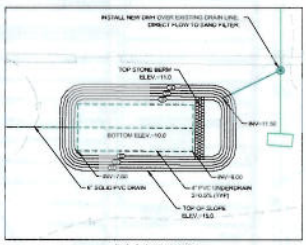
BMP 3–SAND FILTER
SCALE: 1"=30'



BMP 2–SAND FILTER
SCALE: 1"=30'



BMP 4–SAND FILTER
SCALE: 1"=30'



BMP 5–SAND FILTER
SCALE: 1"=30'

0 15 30 60
SCALE: 1"=30'

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One Grant Street
Framingham, Massachusetts 01701
Phone: 508.893.2000 Fax: 508.893.2001

MARK	DATE	DESCRIPTION	BY

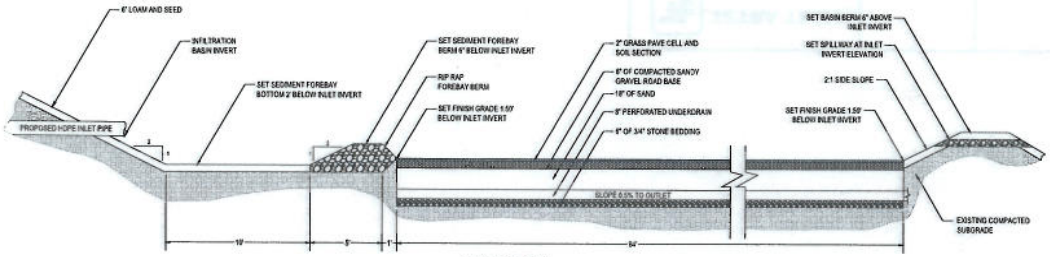
Sterling Suffolk Racecourse LLC
Nutrient and Stormwater Management Plan

BMP Details

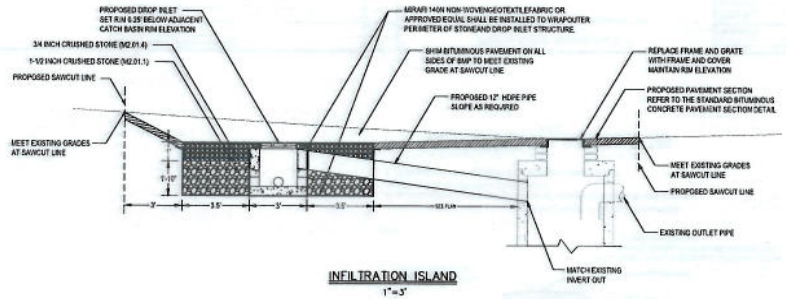
Project No. 127-00710-11001
Designed By: SMB
Drawn By: MRM
Checked By: SPK

C-102

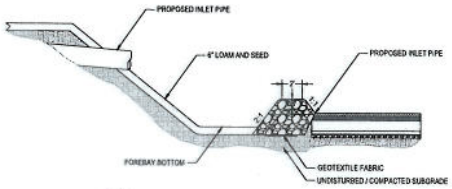
Bar Measures 1 inch



SAND FILTER
1"=4'

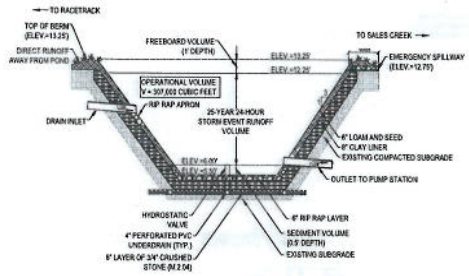


INFILTRATION ISLAND
1"=3'

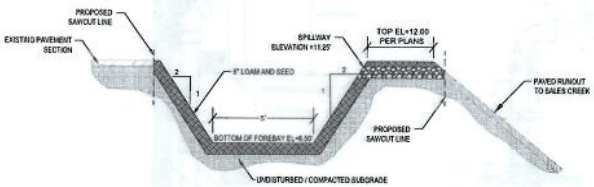


NOTE:
REFER TO SAND FILTER SECTION FOR FOREBAY BOTTOM AND TOP OF BERM ELEVATIONS.

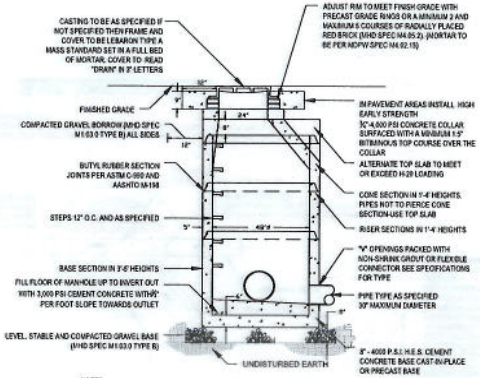
RIP RAP FOREBAY BERM IN SAND FILTERS
N.T.S.



PROCESS WATER STORAGE POND
N.T.S.



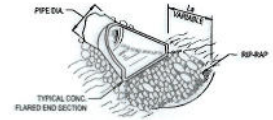
SEDIMENT FOREBAY
N.T.S.



NOTES:
1. MANHOLES SHALL BE 48" INSIDE DIAMETER (I.D.) UNLESS OTHERWISE INDICATED ON PLANS. FOR I.D. SIZES GREATER THAN 48" REFER TO TABLE BELOW FOR THICKNESS REQUIREMENTS.
2. EXCAVATION TO ALLOW FOR FREE TRAVEL OF COMPACTION EQUIPMENT.
3. ALL COMPACTION TO A MINIMUM 95 PERCENT DRY DENSITY DETERMINED BY ASTM D1557. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. ALL PRECAST TO MEET OR EXCEED ASTM C-478 AND AASHTO M 199 SPECIFICATIONS.
5. REINFORCED STEEL TO MEET OR EXCEED ASTM A185 AND H-20 LOADING REQUIREMENTS.
6. ALL PRECAST CONCRETE TO BE 4,000 PSI MINIMUM AND MEET ASTM C-478 (6.1).
7. IF NO STEPS ARE SPECIFIED THAN AS THE LOCAL MUNICIPALITY REQUIRES OR IF NO MUNICIPALITY REQUIREMENTS THEN COPOLYMER POLYPROPYLENE COATED REINFORCED PER ASTM C-478 AND OSH (STD 1-1.9).
8. CONTRACTOR TO CONFIRM WITH CITY OR TOWN DPW THAT BRICK INVERTS ARE NOT A REQUIREMENT.
9. FILL ALL INTERNAL AND EXTERNAL HOLES WITH NON-SHRINK GROUT.

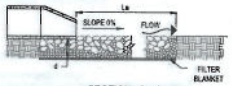
I.D.	BASE THICKNESS (MIN.)	WALL THICKNESS (MIN.)
3'	8"	6"
4'	8"	7"
8'	10"	8"
10'	10"	10"

PRECAST CONCRETE DRAIN MANHOLE
N.T.S.



ISOMETRIC VIEW

PLAN



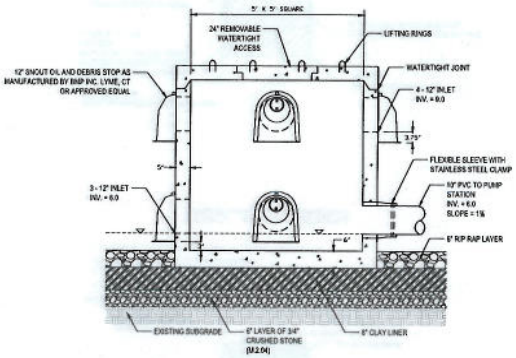
SECTION A–A

NOTES:

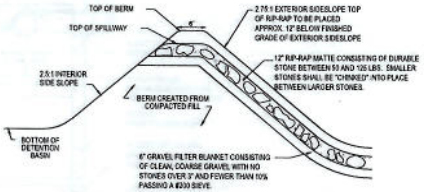
SEE APPROPRIATE PLAN OR SCHEDULE FOR DIMENSIONS

1. Le IS THE LENGTH OF THE RIP RAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
3. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIP RAP AND SOIL FOUNDATION.

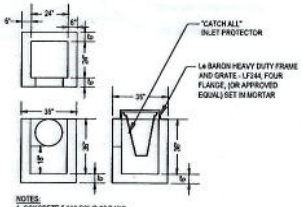
RIP RAP APRON – OUTLET CHANNEL
N.T.S.



HOLDING POND INLET CONTROL STRUCTURE
N.T.S.



EMERGENCY SPILLWAY
N.T.S.



NOTES:
1. CONCRETE 5,000 PSI @ 28 DAYS
2. REINFORCEMENT ASTM A-615 GRADE 60, 1" MIN. COVER
3. DESIGNED FOR H-20 LOADING
4. USE SOTUATE PRECAST Co. DROP INLET 7X2' OR APPROVED EQUAL

DROP INLET DETAIL
N.T.S.

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www.tetratech.com
One Grant Street
Framingham, Massachusetts 01701
Phone: 508-903-2000 Fax: 508-903-2001

MARK	DATE	DESCRIPTION	BY

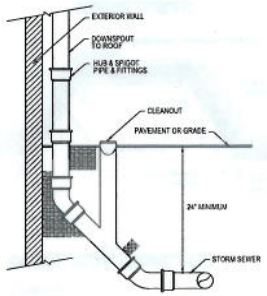
Sterling Suffolk Racecourse LLC
Nutrient and Stormwater Management Plan
Construction Details

Project No.:	127-20712-11001
Designed By:	SMB
Drawn By:	MWM
Checked By:	SPR

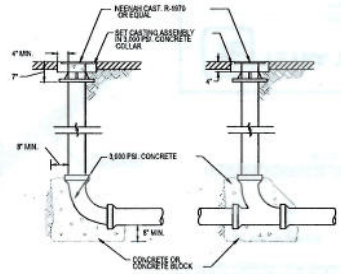
C-103

Bar Measures 1 Inch

5/18/2012 11:07:13 AM - P:\127\127-20712-11001\CAD\SHEETFILES\NSMPC-103-DETAILS.DWG - MOYEN, MATTHEW

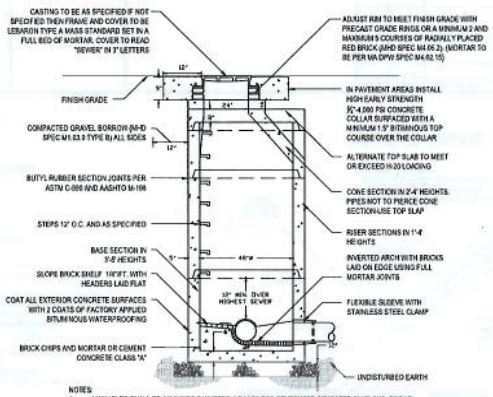


DOWNSPOUT CONNECTION
N.T.S.



NOTE:
CLEANOUT TOP SHALL BE ENCLOSED IN CASTING AND/OR FABRICATED COVER ASSEMBLY.

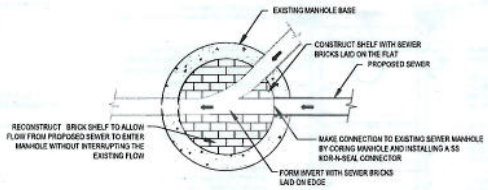
CLEANOUTS
N.T.S.



NOTES:
1. MANHOLES SHALL BE 48" INSIDE DIAMETER (I.D.) UNLESS OTHERWISE INDICATED ON PLANS. FOR I.D. SIZES GREATER THAN 48" REFER TO TABLE BELOW FOR THICKNESS REQUIREMENTS.
2. EXCAVATION TO ALLOW FOR FREE TRAVEL OF COMPACTION EQUIPMENT.
3. ALL COMPACTION TO A MINIMUM 95 PERCENT DRY DENSITY DETERMINED BY ASTM D1557. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. ALL PRECAST TO MEET OR EXCEED ASTM C-478 AND AASHTO M 199 SPECIFICATIONS.
5. REINFORCED STEEL TO MEET OR EXCEED ASTM A185 AND H-20 LOADING REQUIREMENTS.
6. ALL PRECAST CONCRETE TO BE 4,000 PSI MINIMUM AND MEET ASTM C-478 (6.1).
7. IF NO STEPS ARE SPECIFIED THAN AS THE LOCAL MUNICIPALITY REQUIRES OR IF NO MUNICIPALITY REQUIREMENTS THEN COPOLYMER POLYPROPYLENE COATED REINFORCED PER ASTM C-478 AND DSH (STD 1-1.9).
8. CONTRACTOR TO CONFIRM WITH CITY OR TOWN DPW THAT BRICK INVERTS ARE NOT A REQUIREMENT.
9. FILL ALL INTERNAL AND EXTERNAL HOLES WITH NON-SHRINK GROUT.

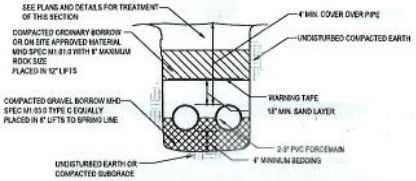
I.D.	BASE THICKNESS (MIN.)	WALL THICKNESS (MIN.)
3'	6"	6"
4'	8"	7"
8'	10"	8"
10'	10"	10"

PROCESS WATER MANHOLE
N.T.S.



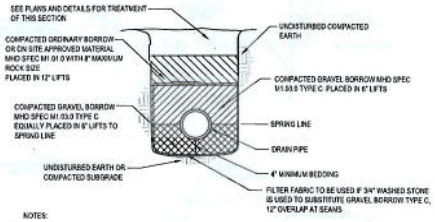
NOTE:
CONTRACTOR TO VERIFY STRUCTURAL INTEGRITY OF THE EXISTING SEWER MANHOLE. THE CONTRACTOR SHALL CARRY A LUMP SUM ALTERNATE FOR RECONSTRUCTION OF THE MANHOLE IF CONDITIONS DICTATE

SEWER CONNECTION DETAIL
N.T.S.



NOTES:
1. TRENCH EXCAVATION WIDTH TO ALLOW FOR FREE TRAVEL OF COMPACTION EQUIPMENT
2. ALL COMPACTION TO A MINIMUM 95 PERCENT DRY DENSITY DETERMINED BY ASTM D1557 SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS
3. AVOID HEAVY EQUIPMENT LOADS OVER PIPE DURING CONSTRUCTION

FORCE MAIN TRENCH
N.T.S.



NOTES:
1. TRENCH EXCAVATION WIDTH TO ALLOW FOR FREE TRAVEL OF COMPACTION EQUIPMENT
2. ALL COMPACTION TO A MINIMUM 95 PERCENT DRY DENSITY DETERMINED BY ASTM D1557 SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS
3. AVOID HEAVY EQUIPMENT LOADS OVER PIPE DURING CONSTRUCTION

DRAIN/SEWER PIPE BEDDING DETAIL
N.T.S.

TETRA TECH
www.tetratech.com
One Grant Street
Framingham, Massachusetts 01701
Phone: 508-903-2000 Fax: 508-903-2001

MARK	DATE	DESCRIPTION	BY

Sterling Suffolk Racecourse LLC
Nutrient and Stormwater Management Plan
Construction Details

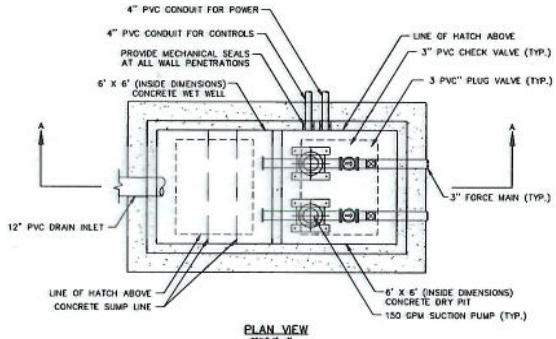
Project No.:	127-20712-11001
Designed By:	SNB
Drawn By:	MWM
Checked By:	SPR

C-104

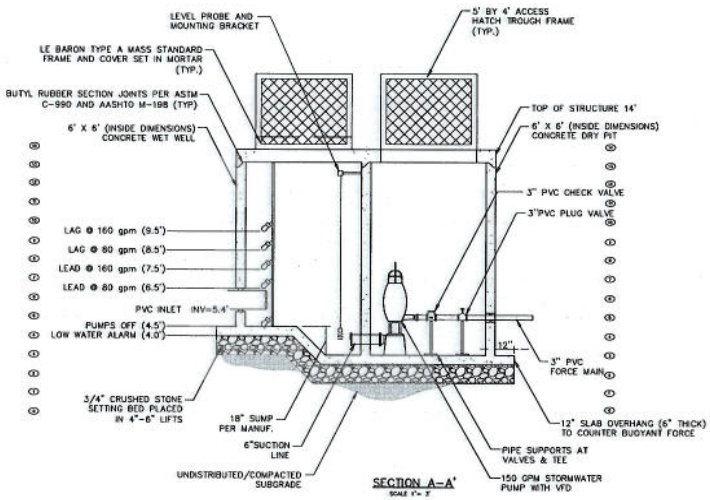
Bar Measures 1 Inch

PROCESS WATER PUMP SCHEDULE

TAG NO.	NO. REQ'D	TYPE	RATING POINT			MIN. DISCH. SIZE	DRIVE TYPE	TYPE SEAL	MOTOR					REMARKS
			CAP. GPM	MIN. HEAD FT.	MIN. EFF.				MAX. HP	RPM	VOLTS	PHASE	ENCL	
PW-1	2	SUCTION	150 150	58 58	33% 33%	3"	DIRECT	TANDEM MECH.	23	3510	460	3	NEMA 4X	PUMPS SHALL BE MANUFACTURED BY: HAYES PUMPS: PHONE (978) 318-4210 FLYGT PUMPS: PHONE (781) 935-6515



PLAN VIEW
SCALE 1"= 3'



SECTION A-A'
SCALE 1"= 3'

PUMP STATION NOTES

1. CONTRACTOR IS TO COORDINATE LOCATIONS OF ELECTRIC HAND HOLES IN ACCORDANCE WITH OWNER AND THE ELECTRICAL PLANS.

2. THE CONTRACTOR SHALL CONSULT THE ELECTRICAL PLANS FOR THE LOCATION AND SIZE OF POWER SUPPLY CONDUITS, CONTROLS AND BACKUP POWER SYSTEMS.

3. PIPE PENETRATIONS TO BE LOCATED 18" MIN. FROM VERTICAL JOINTS IN WET WELL.

4. PROVIDE WALL SLEEVES FOR ALL OPENINGS IN WET WELL. SEAL WITH RUBBER BOOT CONNECTIONS.

5. MAKE ALL PENETRATIONS IN WET WELL GAS TIGHT.

6. ALL PIPING, DISCHARGE ELBOWS, BOLTS, LIFTING CHAINS, FLOAT POLES AND OTHER WETTED METALLIC PARTS WITHIN THE WET WELL AND VALVE CHAMBER SHALL BE CONSTRUCTED OF CAST IRON.

7. CONCRETE STRUCTURE SHALL BE CAPABLE OF WITHSTANDING AN H-20 LOAD. THE CONTRACTOR SHALL SUBMIT DESIGN PLANS STAMPED BY A MASSACHUSETTS LICENSED PROFESSIONAL ENGINEER CERTIFYING THE DESIGN.

8. EACH TANK SHALL BE ASSEMBLED IN SUCH A MANNER THAT THE TANK IS LOWERED INTO PLACE, POSITIONED AND LEVELED BEFORE THE NEXT SECTION IS INSTALLED. ALL JOINT SURFACES SHALL BE GUARANTEED WATERTIGHT AND SEALED WITH THE MANUFACTURER'S RECOMMENDED SEAL AND GASKET.

9. THE SUBGRADE AREA BENEATH EACH TANK SHALL BE MADE READY FOR PLACEMENT OF THE GRAVEL BASE COURSE BY REMOVAL OF ANY ORGANIC OR OTHERWISE UNSUITABLE SOILS AND MATERIALS. THE BASE COURSE SHALL CONSIST OF TWO LEVEL COURSES OF GRAVEL FOR A TOTAL DEPTH OF 12 INCHES COMPACTED TO 95% OF MAXIMUM DRY DENSITY.

10. THE BACKFILL AROUND EACH TANK SHALL CONSIST OF SAND, GRAVEL OR SELECT COMMON FILL FREE OF ORGANIC DEBRIS, FROZEN EARTH, STONES OR COBBLES OVER THREE INCHES IN SIZE. ALL BACKFILL SHALL BE PROPERLY COMPACTED TO PREVENT SETTLEMENT AND CREATION OF VOIDS.

TETRA TECH
www.tetratech.com
One Grant Street
Framingham, Massachusetts 01701
Phone: 508-903-2000 Fax: 508-903-2001

MARK	DATE	DESCRIPTION	BY

Sterling Suffolk Racecourse LLC

Nutrient and Stormwater Management Plan

Process Wastewater Pump Station Details

Project No.:	127-29712-13001
Designed By:	SMB
Drawn By:	MWM
Checked By:	SPR

C-105

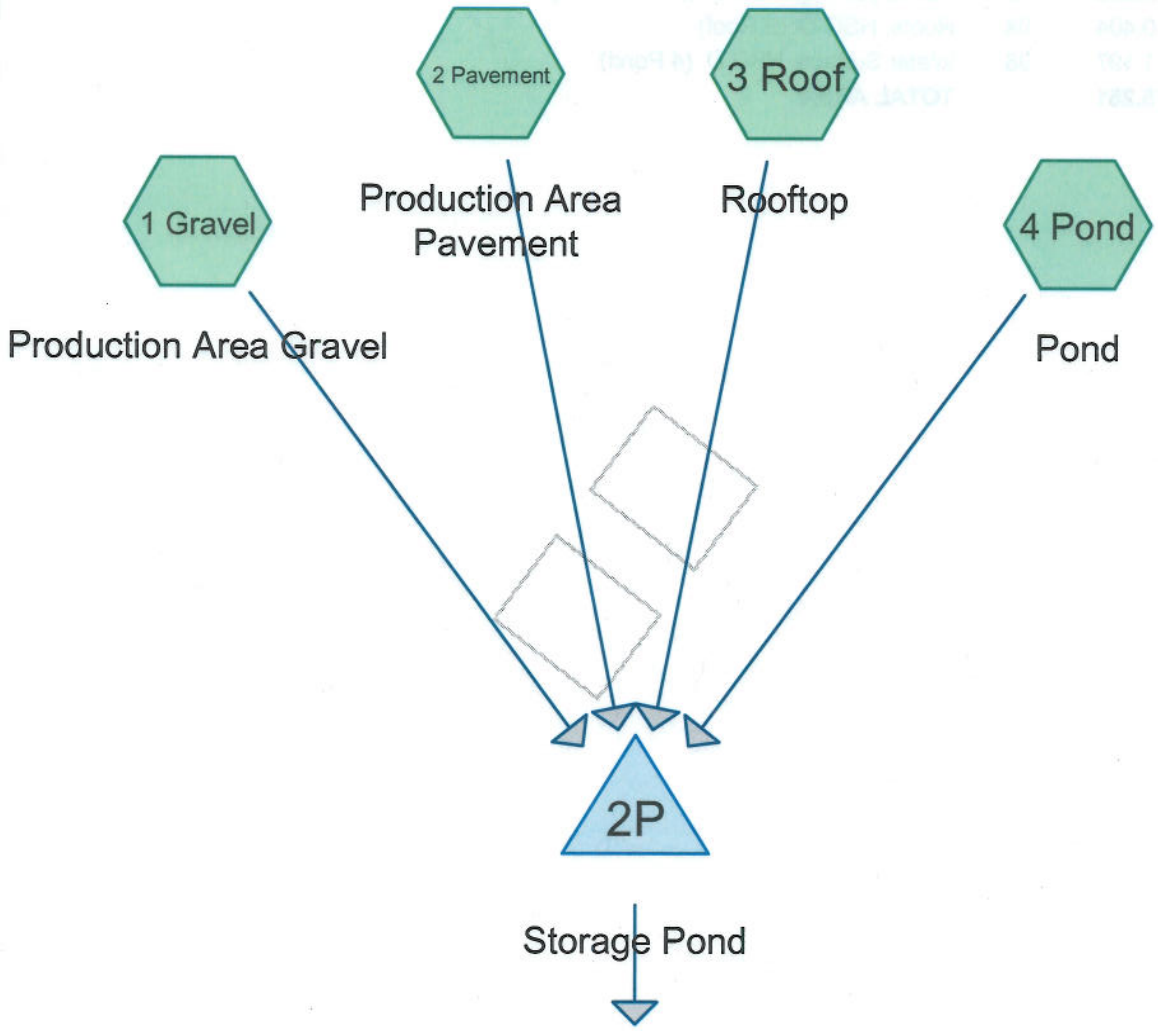
Bar Measures 1 inch

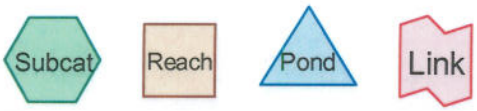
Attachment B

Stormwater Management System Analysis

SD 25 year Report

5/24/12





Drainage Diagram for 2011-09-07-Pond
Prepared by {enter your company name here}, Printed 9/7/2011
HydroCAD® 9.00 s/n 00983 © 2009 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
8.362	89	Dirt roads, HSG D (1 Gravel)
5.298	98	Paved parking, HSG D (2 Pavement)
0.404	98	Roofs, HSG D (3 Roof)
1.197	98	Water Surface, HSG D (4 Pond)
15.261		**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Goup	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
15.261	HSG D	1 Gravel, 2 Pavement, 3 Roof, 4 Pond
0.000	Other	
15.261		**TOTAL AREA**

Time span=0.00-200.00 hrs, dt=0.01 hrs, 20001 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1 Gravel: Production Area Runoff Area=364,259 sf 0.00% Impervious Runoff Depth=4.25"
Tc=5.0 min CN=89 Runoff=41.70 cfs 2.963 af

Subcatchment 2 Pavement: Production Area Runoff Area=230,785 sf 100.00% Impervious Runoff Depth=5.26"
Tc=5.0 min CN=98 Runoff=29.56 cfs 2.323 af

Subcatchment 3 Roof: Rooftop Runoff Area=17,600 sf 100.00% Impervious Runoff Depth=5.26"
Tc=0.0 min CN=98 Runoff=2.65 cfs 0.177 af

Subcatchment 4 Pond: Pond Runoff Area=52,134 sf 100.00% Impervious Runoff Depth=5.26"
Tc=5.0 min CN=98 Runoff=6.68 cfs 0.525 af

Pond 2P: Storage Pond Peak Elev=11.83' Storage=260,865 cf Inflow=79.48 cfs 5.989 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 15.261 ac Runoff Volume = 5.989 af Average Runoff Depth = 4.71"
54.79% Pervious = 8.362 ac 45.21% Impervious = 6.899 ac

Summary for Subcatchment 1 Gravel: Production Area Gravel

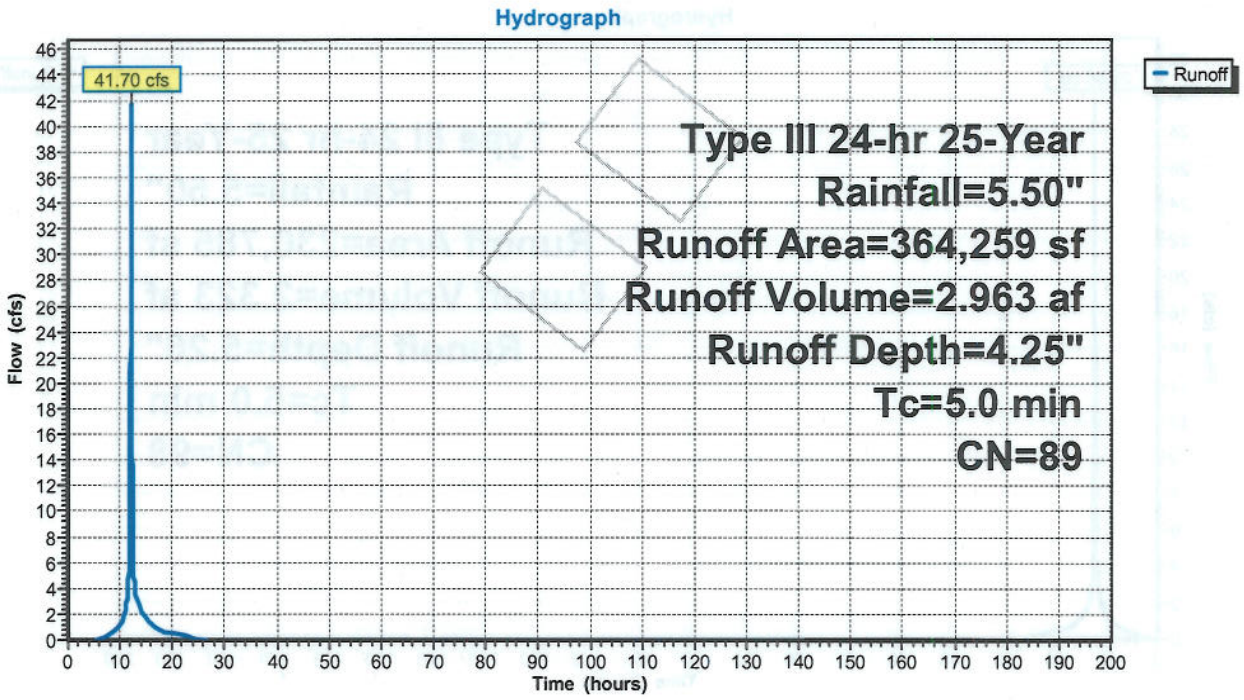
Runoff = 41.70 cfs @ 12.07 hrs, Volume= 2.963 af, Depth= 4.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-200.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
364,259	89	Dirt roads, HSG D
364,259		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 1 Gravel: Production Area Gravel



Summary for Subcatchment 2 Pavement: Production Area Pavement

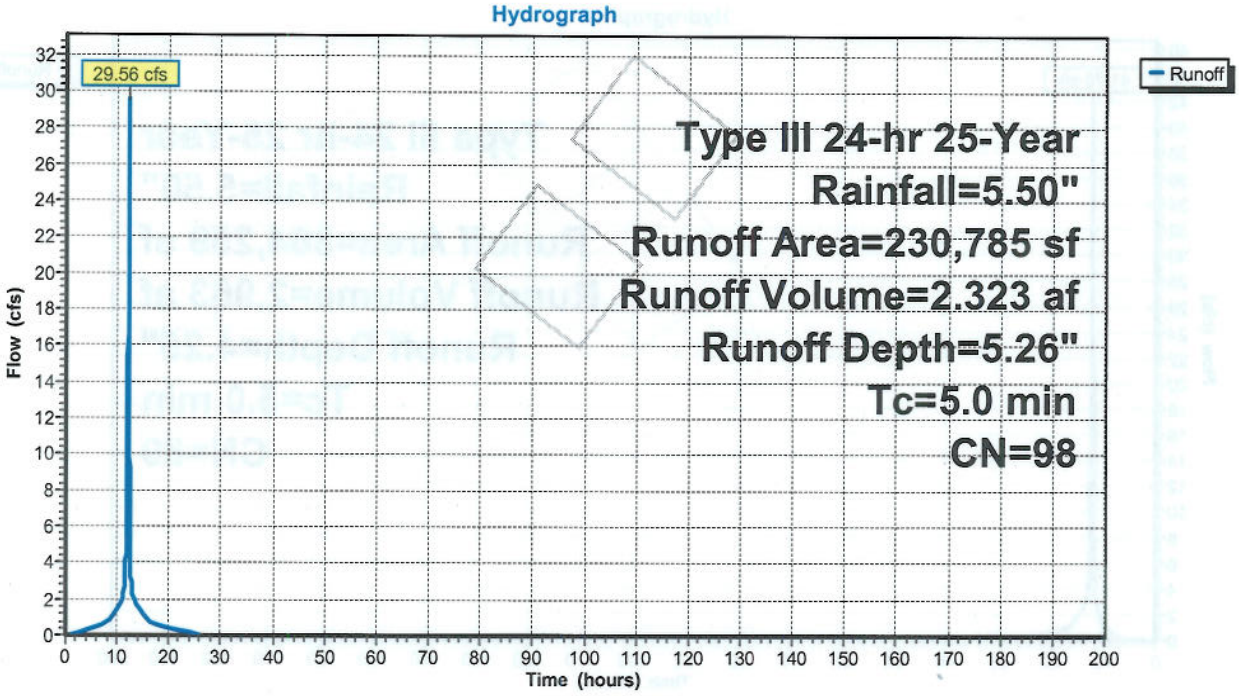
Runoff = 29.56 cfs @ 12.07 hrs, Volume= 2.323 af, Depth= 5.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-200.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
230,785	98	Paved parking, HSG D
230,785		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2 Pavement: Production Area Pavement



Summary for Subcatchment 3 Roof: Rooftop

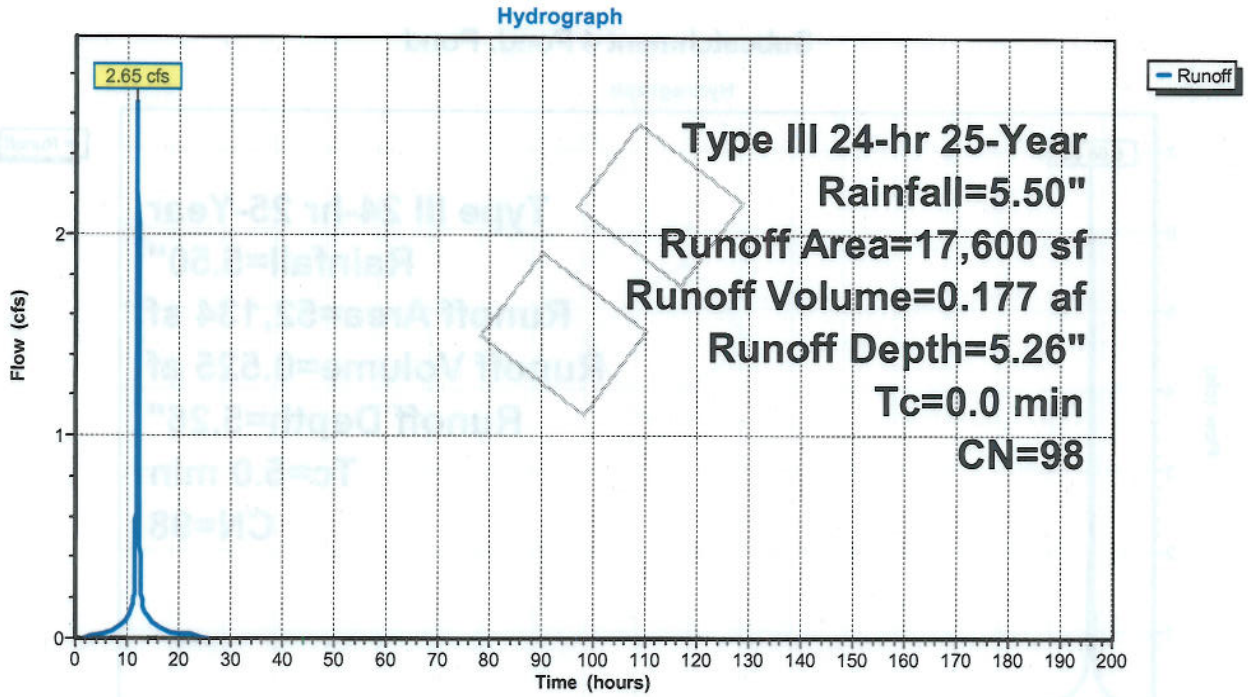
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 2.65 cfs @ 12.00 hrs, Volume= 0.177 af, Depth= 5.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-200.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
17,600	98	Roofs, HSG D
17,600		100.00% Impervious Area

Subcatchment 3 Roof: Rooftop



Summary for Subcatchment 4 Pond: Pond

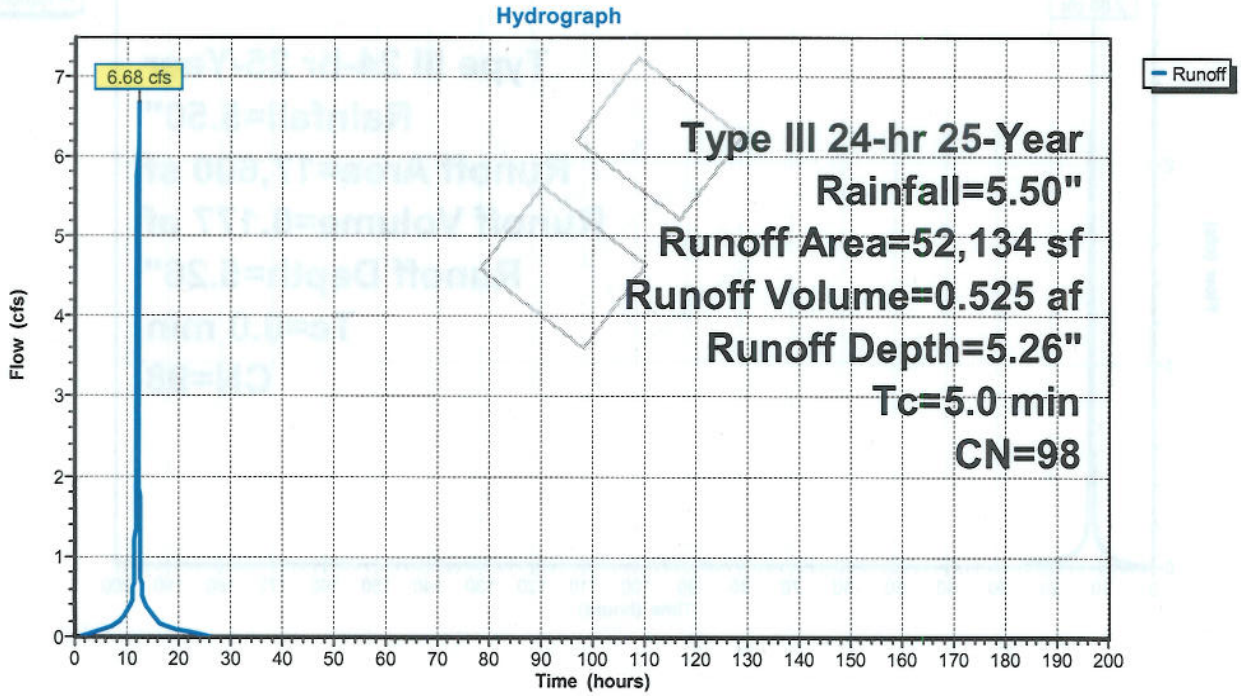
Runoff = 6.68 cfs @ 12.07 hrs, Volume= 0.525 af, Depth= 5.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-200.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
52,134	98	Water Surface, HSG D
52,134		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4 Pond: Pond



Summary for Pond 2P: Storage Pond

Inflow Area = 15.261 ac, 45.21% Impervious, Inflow Depth = 4.71" for 25-Year event
Inflow = 79.48 cfs @ 12.07 hrs, Volume= 5.989 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-200.00 hrs, dt= 0.01 hrs
Peak Elev= 11.83' @ 24.29 hrs Surf.Area= 49,057 sf Storage= 260,865 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

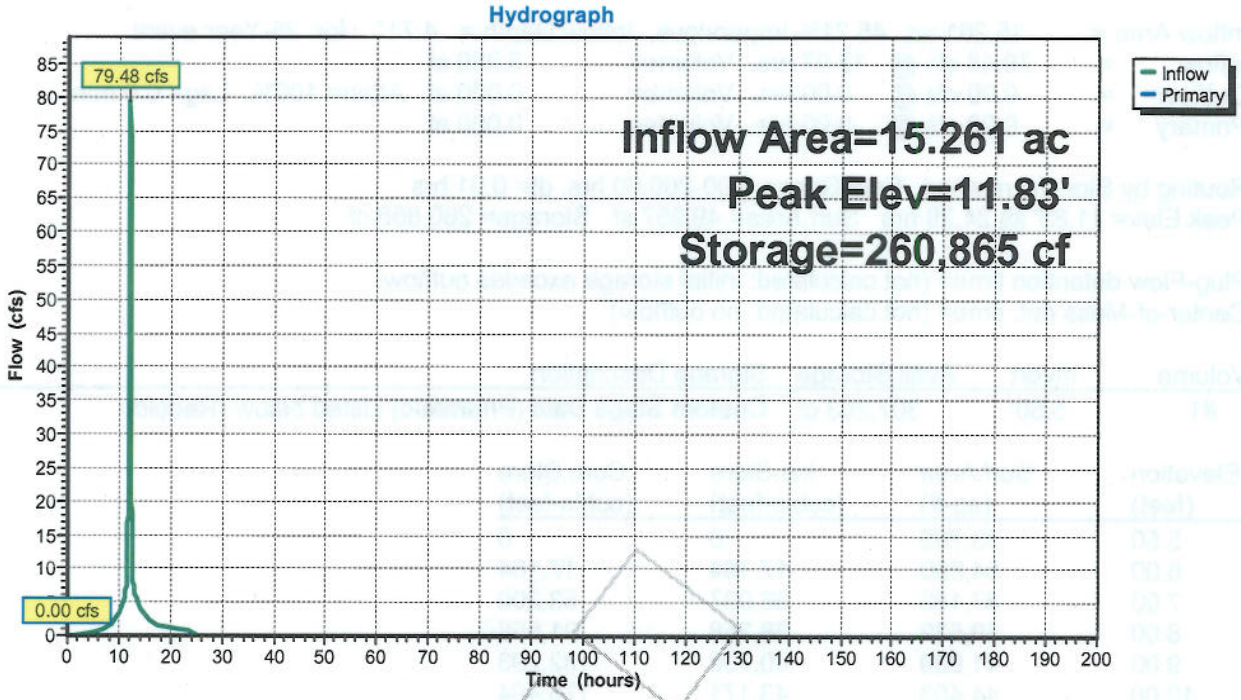
Volume	Invert	Avail.Storage	Storage Description
#1	5.50'	307,203 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.50	33,765	0	0
6.00	34,890	17,164	17,164
7.00	37,183	36,037	53,200
8.00	39,532	38,358	91,558
9.00	41,939	40,736	132,293
10.00	44,403	43,171	175,464
11.00	46,923	45,663	221,127
12.00	49,500	48,212	269,339
12.75	51,471	37,864	307,203

Device	Routing	Invert	Outlet Devices
#1	Primary	12.75'	**15.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=5.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 2P: Storage Pond



Attachment C

Forms

Sterling Suffolk Racecourse LLC
111 Waldemar Avenue
East Boston, MA

Daily Visual Waterline Inspection Log

Date	Initials of Inspector	Leaks Observed?	If Leak Observed Provide Location of Leak
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	

Sterling Suffolk Racecourse LLC
111 Waldemar Avenue
East Boston, MA

Weekly Visual Monitoring Log

Monitoring Date: **Name of Observer:**

Monitoring Location	Time of Observation	Precip. During Monitoring		Amount of Precip. for Past 24 Hours		Discharge of Water Observed	Comments
SD-3		☐ None ☐ Light	☐ Moderate ☐ Heavy	☐ None ☐ Light	☐ Moderate ☐ Heavy	☐ Yes ☐ No	
SD-4		☐ None ☐ Light	☐ Moderate ☐ Heavy	☐ None ☐ Light	☐ Moderate ☐ Heavy	☐ Yes ☐ No	
SD-5		☐ None ☐ Light	☐ Moderate ☐ Heavy	☐ None ☐ Light	☐ Moderate ☐ Heavy	☐ Yes ☐ No	
SD-7		☐ None ☐ Light	☐ Moderate ☐ Heavy	☐ None ☐ Light	☐ Moderate ☐ Heavy	☐ Yes ☐ No	
SD-10		☐ None ☐ Light	☐ Moderate ☐ Heavy	☐ None ☐ Light	☐ Moderate ☐ Heavy	☐ Yes ☐ No	
SD-13		☐ None ☐ Light	☐ Moderate ☐ Heavy	☐ None ☐ Light	☐ Moderate ☐ Heavy	☐ Yes ☐ No	

Sterling Suffolk Racecourse LLC
111 Waldemar Avenue
East Boston, MA

Inspection Schedule

Inspections Performed By:

Component	Frequency	Date	Results	Comments
Process Wastewater Holding Pond	Weekly		Cleaning/Repair Needed? ☐ Yes ☐ No Pond Elevation_____	
Pump Station	Monthly		Maintenance Required? ☐ Yes ☐ No	Pump 1 hours_____ Pump 2 hours_____
Stable Area Perimeter	Weekly and during rain events anticipated to be >0.25 inches		Berms/Diversions in place and functioning? ☐ Yes ☐ No	
Stable Gutters and Downspouts	Weekly and during rain events anticipated to be >0.25 inches		Damage or overflow observed? ☐ Yes ☐ No	
Sediment Forebay[1]	Monthly		Trapped sediments ≥ 50% of check dam height? ☐ Yes ☐ No Other damage observed? ☐ Yes ☐ No	
Sand Filters[1]	Monthly		Forebay sediments ≥ 50% of check dam height? ☐ Yes ☐ No	
Infiltration Islands[1]	Monthly		Cleaning required? ☐ Yes ☐ No	

Note: In addition to the frequencies listed in the above table, initial inspections as identified in Section 7.3 must also be documented.

Sterling Suffolk Racecourse LLC
111 Waldemar Avenue
East Boston, MA

General Maintenance Log

Component	Date	Maintenance Performed	Performed By (Initials)

Sterling Suffolk Racecourse LLC
111 Waldemar Avenue
East Boston, MA

Discharge Sampling Field Notes

Date: **Dry-weather or Wet-weather?** ☐ Dry ☐ Wet

Sampling Personnel:

Observed Weather During Sampling:

Forecasted Rain Event:

Reported Rainfall for Event: **Reported Rainfall for Past 48 Hours:**

Sampling Location	Time Sampled	Comments	Observed Production Area Activities During Sampling

Sterling Suffolk Racecourse LLC
111 Waldemar Avenue
East Boston, MA

Overflow Documentation

Date	Start and Stop Time of Overflow	Estimated Volume of Overflow

Sterling Suffolk Racecourse LLC
111 Waldemar Avenue
East Boston, MA

Manure Dumpster Repair Log

Date	Number of Dumpsters Repaired	Date	Number of Dumpsters Repaired

Sterling Suffolk Racecourse LLC
111 Waldemar Avenue
East Boston, MA

Mortality Log

Date	Number of Mortalities	Date Mortalities Were Removed

September 2008 - November 2010

MA0040282 Fact Sheet Attachment 2

Client ID SD- 3 Outfall 003

Date Collected	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)	BOD, 5 day (mg/l)
9/6/2008	190,000	780,000	300	<0.400	9.2
9/9/2008	4,100	4,800	120	3.8	15
9/26/2008	2,800	3,100	24	0.527	4.1
10/26/2008	26,000	50,000	170	1.03	12
10/28/2008	110,000	220,000	390	2.64	22
11/15/2008	150	170	40	2.85	14
11/25/2008	3,200	3,600	93	0.114	3
12/10/2008	1,100	1,300	95	2.36	14
12/12/2008	270	320	330	0.077	<5.0
1/7/2009	<9.0	<9.0	27	3.3	14
2/19/2009	3	<2.0	6.5	0.529	3.5
2/23/2009	56	54	81	0.188	<2.0
3/29/2009	5	100	49	0.749	5.3
4/3/2009	170	180	31	2.08	13
4/6/2009	670	2,700	280	0.186	<2.0
4/11/2009	48	120	11	0.482	4.3
4/21/2009	490	860	16	0.162	3.2
5/6/2009	10,000	17,000	43	0.484	5.2
6/9/2009	10	10	38	4.42	15
6/12/2009	>20000	>20000	960	0.582	12
6/19/2009	13,000	15,000	18	0.372	2.6
6/22/2009	200	2,600	11	0.617	2.9
6/29/2009	11,000	53,000	47	0.891	4.4
7/2/2009	12,000	27,000	28	0.557	6.6
7/7/2009	150,000	200,000	120	0.737	9.3
7/21/2009	29,000	26,000	20	0.618	9.3
7/23/2009	9,000	8,500	40	3.86	14
7/31/2009	81,000	100,000	100	1.06	5.7
8/29/2009	140,000	150,000	450	0.38	<2.0
9/12/2009	62,000	89,000	63	0.352	5.7
10/3/2009	37,000	47,000	130	0.626	18
10/7/2009	1,400	2,300	27	1.58	15
10/18/2009	36	63	47	3.78	13
10/24/2009	190	120	24	0.701	8.7
10/28/2009	13,000	4,100	260	0.936	17
11/14/2009	18	27	58	4.7	24
11/20/2009	3,100	5,600	110	0.827	7.8
11/27/2009	2,200	3,000	120	0.191	2.6
12/3/2009	250	550	150	0.327	3.7

12/9/2009	1,100	1,400	88	0.136	2.5
12/14/2009	<10	<10	16	0.536	4.7
12/27/2009	<10	18	12	0.258	<2.0
1/25/2010	36	99	130	0.271	2.8
2/24/2010	2	2	12	0.307	<2.0
3/15/2010	-	-	59	5.14	17
3/23/2010	550	590	130	0.085	<2.0
3/29/2010	2	5	14	0.163	<2.0
4/17/2010	420	320	27	0.439	3.3
5/8/2010	120	220	93	4.27	15
5/18/2010	-	18	9.5	1.85	3.7
8/23/2010	89,000	87,000	24	3.62	12
10/6/2010	2,700	1,700	9.5	0.661	4.2
10/15/2010	29,000	25,000	90	0.36	4.8
11/4/2010	640	3,200	52	4.97	21
11/17/2010	8,500	8,700	220	0.229	6.6

SD-3 Data Summary	**Fecal Coliform (MF) (col/100ml)**	**E. Coli (MF) (col/100ml)**	**Total Suspended Solids (mg/l)**	**Nitrogen, Ammonia (mg/l)**	**BOD, 5 day (mg/l)**
Minimum	2	2	7	0.08	<2
Maximum	190,000	780,000	960	5	24
Average	21,337	38,929	108	1	9
Standard Deviation	43,532	117,748	154	2	6

June, July, Sept 2010 no wet weather events

September 2008 - November 2010

MA0040282 Fact Sheet Attachment 2

Client ID SD- 4 Outfall 004

Date Collected	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)	BOD, 5 day (mg/l)
9/6/2008	45	27	24	0.535	<2.0
9/9/2008	27,000	63,000	76	0.641	2.6
9/26/2008	2,000	2,000	15	2.47	46
10/26/2008	6,000	13,000	25	1.23	<2.0
10/28/2008	2,400	7,400	20	0.57	3
11/15/2008	35,000	44,000	26	0.515	<2.0
11/25/2008	1,300	1,300	10	0.7	<2.0
12/10/2008	190	320	7	1.2	<2.0
12/12/2008	120	81	120	<0.075	<2.0
1/7/2009	<9.0	9	38	0.341	3.8
2/19/2009	<2.0	<2.0	16	3.4	4.2
2/23/2009	270	520	32	0.189	<2.0
3/29/2009	450	780	14	0.332	<2.0
4/3/2009	600	730	12	1.17	3
4/6/2009	830	100	190	0.168	<2.0
4/11/2009	<9.0	<9.0	29	5.76	3.1
4/21/2009	<9.0	<9.0	25	4.73	3.4
5/6/2009	360	3,000	<5.0	0.834	2.5
6/9/2009	10	550	18	2.86	88
6/12/2009	14,000	24,000	34	0.32	<2.0
6/19/2009	1,600	4,400	<5.0	0.722	2.4
6/22/2009	8,600	25,000	10	1.26	<2.0
6/29/2009	3,300	6,600	160	1.64	3
7/2/2009	23	33	32	7.43	3
7/7/2009	53,000	68,000	75	0.644	2.6
7/21/2009	9,300	18,000	24	0.48	3.2
7/23/2009	2,200	7,000	8.6	1.24	<2.0
7/31/2009	4,800	8,300	9.8	0.459	<2.0
8/29/2009	20,000	20,000	20	0.293	<2.0
9/12/2009	5,700	8,200	16	0.38	<2.0
10/3/2009	30,000	28,000	68	0.265	<2.0
10/7/2009	23,000	23,000	98	0.345	3.7
10/18/2009	3,400	3,400	170	0.392	<2.0
10/24/2009	50	36	18	2.4	<2.0
10/28/2009	13,000	24,000	200	0.328	<2.0
11/14/2009	63	18	9.4	0.602	4
11/20/2009	2,600	3,700	97	0.184	<2.0
11/27/2009	590	560	25	0.2	<2.0
12/3/2009	260	390	19	0.368	<2.0

12/9/2009	770	960	29	0.202	<2.0
12/14/2009	18	140	6.9	1.44	4.1
12/27/2009	18	120	11	0.921	<2.0
1/25/2010	260	400	46	0.244	<2.0
2/24/2010	-	18	9.7	0.399	<2.0
3/15/2010	90	99	140	0.657	3.4
3/23/2010	680	1,200	60	0.148	<2.0
3/29/2010	2,800	3,600	11	0.499	<2.0
4/17/010	860	630	18	0.516	<2.0
5/8/2010	-	170	11	1.2	5.3
5/18/2010	330	90	<5	0.698	<2.0
8/23/2010	4,900	17,000	<5	0.73	<2.0
10/6/2010	19,000	>24,000	22	0.209	<2.0
10/15/2010	10,000	20,000	45	0.181	<2.0
11/4/2010	11,000	55	76	0.325	4.2
11/17/2010	11,000	24,000	130	0.099	-

SD-4 Data Summary	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)	BOD, 5 day (mg/l)
Minimum	<2	<2	<5.0	<0.075	<2
Maximum	53,000	68,000	200	7	88
Average	6,812	9,371	47	1	9
Standard Deviation	10,918	15,270	51	1	20

September 2008 - November 2010

MA0040282 Fact Sheet Attachment 2

Client ID SD- 5 Outfall 005

Date Collected	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)	BOD, 5 day (mg/l)
9/6/2008	980,000	1,100,000	410	0.718	15
9/9/2008	160,000	460,000	600	1.6	25
9/26/2008	26,000	52,000	120	3.79	36
10/26/2008	64,000	82,000	120	0.936	10
10/28/2008	140,000	170,000	620	<1.60	26
11/15/2008	29,000	27,000	340	1.04	26
11/25/2008	13,000	32,000	180	0.308	<5.0
12/10/2008	2,000	2,800	290	0.483	6.8
12/12/2008	300	460	240	<0.075	<2.0
1/7/2009	9	9	29	0.228	3.3
2/19/2009	2	5	11	0.994	4.6
2/23/2009	310	480	120	0.169	<2.0
3/29/2009	1,200	1,400	160	0.185	3
4/3/2009	2,800	6,200	130	0.524	6.1
4/6/2009	2,100	3,000	420	0.242	<2.0
4/11/2009	28	46	34	2.61	5.8
4/21/2009	880	2,000	29	1	3.6
5/6/2009	34,000	38,000	110	0.532	8.8
6/9/2009	6,900	31,000	230	5.65	240
6/12/2009	260,000	310,000	300	0.659	13
6/19/2009	150,000	160,000	330	1.16	17
6/22/2009	110,000	150,000	260	1.68	7.4
6/29/2009	96,000	190,000	140	1.52	25
7/2/2009	200,000	280,000	1000	3.3	34
7/7/2009	2,000,000	180,000	250	0.585	11
7/21/2009	190,000	260,000	300	1.57	22
7/23/2009	60,000	75,000	64	2.71	8.2
7/31/2009	130,000	130,000	280	0.669	9.8
8/29/2009	190,000	210,000	680	0.385	<2.0
9/12/2009	140,000	200,000	560	0.506	21
10/3/2009	110,000	110,000	500	0.582	12
10/7/2009	48,000	98,000	200	0.833	21
10/18/2009	46,000	37,000	370	0.866	16
10/24/2009	22,000	35,000	300	2	24
10/28/2009	160,000	220,000	1700	0.114	26
11/4/2009	2,500	6,000	160	1.94	18
11/20/2009	27,000	33,000	250	0.357	7.7
11/27/2009	2,600	3,200	190	0.172	<2.0
12/3/2009	3,600	27,000	150	0.306	<2.0

12/9/2009	4,900	5,000	230	0.154	<2.0
12/14/2009	<10	72	37	2.13	8.2
12/27/2009	63	110	51	0.686	3.2
1/25/2010	300	410	160	0.215	<2.0
2/24/2010	240	450	45	0.247	<2.0
3/15/2010	63	320	100	0.362	<2.0
3/23/2010	320	520	360	-	-
3/29/010	1,100	2,000	180	0.354	2.4
4/17/2010	2,600	2,700	76	0.507	4.8
5/8/2010	3,400	5,200	160	1.73	17
5/18/2010	1,400	3,300	66	2.02	11
8/23/2010	1,000,000	770,000	6,700	1.46	16
10/6/2010	90,000	>24,000	350	0.346	9.2
10/15/2010	86,000	120,000	200	0.29	<2.0
11/4/2010	50,000	110,000	550	0.695	17
11/17/2010	67,000	11,000	420	0.253	-

SD-5 Data Summary	**Fecal Coliform (MF) (col/100ml)**	**E. Coli (MF) (col/100ml)**	**Total Suspended Solids (mg/l)**	**Nitrogen, Ammonia (mg/l)**	**BOD, 5 day (mg/l)**
Minimum	2	5	11	<0.075	<2.0
Maximum	2,000,000	1,100,000	6,700	6	240
Average	124,400	106,550	397	1	20
Standard Deviation	322,330	194,770	908	1	36

September 2008 - November 2010

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Client ID SD- 7 Outfall 007

Date Collected	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)	BOD, 5 day (mg/l)
9/6/2008	10,000,000	440,000	140	<0.400	5.4
9/9/2008	8,900	11,000	19	<0.400	6.4
9/26/2008	-	-	-	-	-
10/26/2008	11,000	13,000	38	0.283	6.6
10/28/2008	8,800	16,000	59	<0.400	4.8
11/15/2008	2,700	2,900	28	0.19	<2.0
11/25/2008	2,000	2,700	160	<0.075	<5.0
12/10/2008	6,800	6,900	36	0.122	3.1
12/12/2008	780	650	130	0.085	<2.0
1/7/2009	-	-	-	-	-
2/19/2009	1,200	1,500	25	0.192	3
2/23/2009	10,000	12,000	69	0.132	<2.0
3/29/2009	3,100	4,300	49	0.151	3.3
4/3/2009	2,500	6,300	77	0.096	6.8
4/6/2009	12,000	20,000	770	0.232	<2.0
4/11/2009	680	870	22	0.164	3
4/21/2009	810	1,700	17	0.187	2.5
5/6/2009	2,900	4,100	44	0.123	3.5
6/9/2009	-	-	-	-	-
6/12/2009	13,000	16,000	27	0.39	5.8
6/19/2009	16,000	14,000	7.5	0.091	<2.0
6/22/2009	3,700	6,000	<5.0	<0.075	4.2
6/29/2009	46,000	59,000	19	<0.075	7.4
7/2/2009	70,000	88,000	190	0.406	3.9
7/7/2009	21,000	30,000	47	0.22	4.9
7/21/2009	20,000	25,000	15	0.211	3.5
7/23/2009	89,000	130,000	14	0.238	2.7
7/31/2009	42,000	49,000	41	0.142	3
8/29/2009	5,600	8,300	18	0.174	2.5
9/12/2009	4,900	14,000	65	0.246	<2.0
10/3/2009	20,000	21,000	100	0.318	3.4
10/7/2009	10,000	18,000	78	0.254	4.2
10/18/2009	2,700	2,900	48	0.233	<2.0
10/24/2009	2,800	2,800	25	<0.075	5.2
10/28/2009	5,000	4,400	360	0.142	<2.0
11/14/2009	1,600	2,100	37	0.551	3.8
11/20/2009	8,800	6,400	600	0.439	6.7
11/27/2009	2,000	2,500	140	0.185	<2.0
12/3/2009	1,100	1,100	180	0.174	<5.0

12/9/2009	1,100	860	300	0.216	<10
12/14/2009	440	630	53	0.216	<2.0
12/27/2009	36	27	29	0.406	<2.0
1/25/2010	-	18	210	0.194	<2.0
2/24/2010	900	1,100	73	0.203	<2.0
3/15/2010	-	-	100	0.306	<2.0
3/23/2010	7,200	8,400	300	0.121	<2.0
3/29/2010	5,300	6,600	180	0.134	<2.0
4/19/20107	2,400	4,300	70	0.347	4.8
5/8/2010	820	730	83	0.784	5.5
5/18/2010	420	460	48	0.426	3.7
8/23/2010	21,000	25,000	110	0.595	2.7
10/6/2010	16,000	24,000	23	0.128	<2.0
10/15/2010	4,300	4,400	96	0.271	<2.0
11/4/2010	5,100	8,200	51	0.259	3.3
11/17/2010	1,300	1,300	190	0.165	-

SD-7 Data Summary	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)	BOD, 5 day (mg/l)
Minimum	36	18	<5.0	<0.075	<2.0
Maximum	10,000,000	440,000	770	1	7
Average	210,514	22,166	110	0	4
Standard Deviation	1,412,801	64,009	143	0	1

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Client ID SD- 10 Outfall 006 & 007

Date Collected	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)	BOD, 5 day (mg/l)
9/6/2008	430,000	430,000	130	<0.400	7.1
9/9/2008	170,000	120,000	85	0.511	18
9/26/2008	93,000	99,000	29	2.7	8.3
10/26/2008	46,000	46,000	56	0.672	11
10/28/2008	30,000	42,000	130	0.53	17
11/15/2008	29,000	27,000	120	0.564	16
11/25/2008	12,000	17,000	180	0.144	<5.0
12/10/2008	2,800	3,200	160	0.377	8
12/12/2008	620	670	200	0.118	<2.0
1/7/2009	200	280	130	0.294	8.3
2/19/2009	20	23	26	2.24	9.5
2/23/2009	160	180	140	0.244	7.4
3/29/2009	560	460	310	0.218	6.7
4/3/2009	910	3,100	93	0.262	12
4/6/2009	1,200	2,700	180	0.25	3.9
4/11/2009	55	50	18	1.84	4
4/21/2009	810	2,400	140	0.381	3.5
5/6/2009	20,000	28,000	88	0.342	5.6
6/9/2009	490	690	240	5.08	29
6/12/2009	>20000	>20000	480	0.406	15
6/19/2009	2,000	40,000	50	0.487	6.4
6/22/2009	11,000	19,000	11	0.79	3
6/29/2009	12,000	26,000	45	1.22	7.1
7/2/2009	54,000	46,000	220	0.434	8.9
7/7/2009	42,000	89,000	100	0.415	6.9
7/21/2009	39,000	28,000	82	1.22	16
7/23/2009	9,600	15,000	60	0.959	9.3
7/31/2009	44,000	63,000	140	0.697	6.8
8/29/2009	65,000	69,000	170	0.319	8.6
9/12/2009	52,000	68,000	42	0.418	5.4
10/3/2009	41,000	50,000	120	0.429	5.9
10/7/2009	29,000	38,000	68	0.572	10
10/18/2009	14,000	19,000	120	0.45	8.4
10/24/2009	3,800	6,900	89	1.24	17
10/28/2009	-	-	-	-	-
11/14/2009	7,200	11,000	99	0.696	18
11/20/2009	32,000	32,000	72	0.403	7.1
11/27/2009	3,800	5,700	62	0.131	3.1
12/3/2009	20,000	8,000	140	0.159	5.7

12/9/2009	3,600	3,700	86	0.18	3.5
12/14/2009	360	480	44	1.5	20
12/27/2009	780	2,600	96	0.721	9.4
1/25/2010	710	860	51	0.861	5.5
2/24/2010	3,300	4,000	51	0.355	4.9
3/15/2010	160	300	55	0.525	6.5
3/23/2010	350	700	54	0.17	<2.0
3/29/2010	500	820	66	0.603	5.6
4/17/2010	530	940	20	0.384	7.7
5/8/2010	22,000	29,000	140	0.731	12
5/18/2010	1,400	3,100	26	0.744	6.7
8/23/2010	210,000	>24,000	81	0.614	8.3
10/6/2010	47,000	>24,000	94	0.24	6.3
10/15/2010	9,900	17,000	43	0.182	<2.0
11/4/2010	34,000	44,000	89	0.472	11
11/17/2010	76,000	17,000	74	0.14	3.2

SD-10 Data Summary	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)	BOD, 5 day (mg/l)
Minimum	20	23	11	0.12	<2.0
Maximum	430,000	430,000	480	5	29
Average	32,638	30,997	105	1	9
Standard Deviation	68,487	63,537	80	1	5

SUFFOLK DOWNS DRY WEATHER MONITORING
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Client ID SD- 3 Outfall 003

Date Collected	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)
9/17/2008	210	260	23	0.606
10/14/2008	350	300	12	0.682
11/3/2008	140	150	11	1.6
12/23/2008	-	-	-	-
1/22/2009	-	-	-	-
2/6/2009	-	-	-	-
2/28/2009	<2.0	<2.0	69	2.48
3/16/2009	<9.0	<9.0	32	0.348
4/10/2009	7	5	12	0.172
5/12/2009	130	150	24	0.725
7/6/2009	3400	3300	23	0.315
8/4/2009	490	630	14	0.413
9/2/2009	420	380	23	0.548
10/23/2009	110	120	20	0.568
11/4/2009	36	36	15	0.256
12/8/2009	<2.0	<2.0	<5.0	0.39
1/6/2010	-	-	-	-
2/9/2010	-	-	-	-
3/8/2010	2	-	7.5	0.743
4/5/2010	-	-	9.5	0.489
5/11/2010	200	240	20	0.816
6/9/2010	4,300	7300	19	0.584
7/1/2010	320	430	21	3.74
8/2/2010	26,000	>24,000	34	4.51
9/1/2010	1,200	3200	18	1.71
10/12/2010	1,000	980	25	2
11/2/2010	220	610	28	4.05

SD-3 Data Summary	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)
Minimum	<2	5	7.5	0.172
Maximum	26000	7300	69	4.51
Average	2141	1131	22	1
Standard Deviation	6072	1937	13	1

September 2008 - November 2010

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Client ID SD- 4 Outfall 004

Date Collected	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)
9/17/2008	-	-	-	-
12/15/2008	-	-	-	-
11/3/2008	3	<2.0	56	5.92
12/23/2008	-	-	-	-
1/22/2009	-	-	-	-
2/6/2009	-	-	-	-
2/28/2009	26	29	23	0.598
3/16/2009	<9.0	<9.0	46	9.37
4/10/2009	<9.0	<9.0	48	9.44
5/12/2009	<9.0	<9.0	47	10
7/6/2009	<9.0	<9.0	29	10.4
8/4/2009	<9.0	<9.0	34	8.28
9/2/2009	3	3	40	11.4
10/23/2009	<9.0	<9.0	27	11.2
11/4/2009	<9.0	<9.0	32	10.6
12/8/2009	<2.0	<2.0	36	9.17
1/6/2010	-	-	44	11.9
2/9/2010	-	-	46	11.8
3/8/2010	-	-	0	9.19
4/5/2010	-	-	22	5.84
5/11/2010	-	-	37	9.71
6/9/2010	5	-	30	7.65
7/1/201	-	-	29	10.8
8/2/2010	-	<1	22	11.9
9/1/2010	-	3.1	31	9.28
10/12/2010	54	730	25	4.55
11/2/2010	-	11	38	12.4

SD-4Data Summary	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)
Minimum	<2	<2.0	0	0.598
Maximum	54	730	56	12.4
Average	18	155	34	9
Standard Deviation	22	321	13	3

September 2008 - November 2010
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Client ID SD- 5 Outfall 005

Date Collected	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)
9/17/2008	2400	3000	82	3.78
10/14/2008	2100	4300	130	6
11/3/2008	-	-	-	-
12/23/2008	-	-	46	6.4
1/22/2009	<9.0	<9.0	52	5.97
2/6/2009	<2.0	<2.0	56	5.29
2/28/2009	<2.0	<2.0	60	1.12
3/16/2009	7	2	270	5.14
4/10/2009	<9.0	<9.0	55	5.29
5/12/2009	11	3	53	5.28
7/6/2009	3600	3800	69	5.87
8/4/2009	28000	24000	79	5.6
9/2/2009	2000	1300	66	6
10/23/2009	2	<9.0	56	6.05
11/4/2009	260	370	200	5.4
12/8/2009	<2.0	2	48	5.18
1/16/2010	-	-	40	4.24
2/9/2010	-	-	33	3.33
3/8/2010	-	3	43	4.28
4/5/2010	2	0	46	4.74
5/11/2010	27	45	48	4.51
6/9/2010	33	8	46	4.23
7/1/2010	20	15	44	5.06
8/2/2010	72	170	44	5.24
9/1/2010	640	1300	63	5.19
10/12/2010	21,000	8200	77	3.92
11/2/2010	-	14	37	5.9

SD-5 Data Summary	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)
Minimum	<2.0	<2.0	33	1.12
Maximum	28000	24000	270	6.4
Average	3761	2585	71	5
Standard Deviation	8272	5782	53	1

September 2008 - November 2010

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Client ID SD- 10 Outfalls 006

Date Collected	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)
9/17/2008	380	570	17	3.68
10/14/2008	31	33	14	8.61
11/3/2008	86	46	7	4.44
12/23/2008	-	-	19	4.51
1/22/2009	<9.0	<9.0	23	5.29
2/6/2009	<2.0	2	30	4.74
2/28/2009	27	72	180	0.773
3/16/2009	<9.0	<9.0	22	5.61
4/10/2009	2	<9.0	26	3.86
5/12/2009	54	23	26	5.83
7/6/2009	960	660	28	5.05
8/4/2009	470	300	19	6.4
9/2/2009	260	130	16	4.2
10/23/2009	5	13	16	5.33
11/4/2009	31	16	15	4.09
12/8/2009	12	<2.0	18	3.32
1/16/2010	-	-	35	6.09
2/9/2010	-	-	20	5.91
3/8/2010	16	2	30	6.34
4/5/2010	42	30	23	5.58
5/11/2010	91	66	15	4.45
6/9/2010	3600	4700	46	4.62
7/1/2010	630	780	13	5.94
8/2/2010	2400	1700	23	5.95
9/1/2010	320	310	26	5.99
10/12/2010	720	1200	21	4.84
11/2/2010	18	18	28	6.33

SD-10 Data Summary	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)
Minimum	<2.0	<2.0	7	0.773
Maximum	3600	4700	180	8.61
Average	484	534	28	5
Standard Deviation	900	1084	31	1

August 23, 2010 - November 17, 2010
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Client ID SD-3 Outfall 003

Date Collected	pH	Nitrogen, Nitrate/Nitrite	Nitrogen Total Kjeldahl mg/l	Total Phosphorous mg/l	Total Aluminum mg/l
8/23/2010	6.5	0.22	5.3	0.445	-
10/6/2010	6.9	1.7	2.3	0.898	0.38
10/15/2010	6.8	0.66	1.4	0.833	4.3
11/4/2010	6.8	0.51	5.7	0.522	0.45
11/17/2010	6.8	0.19	1.9	1.14	9

SD-3 Data Summary	pH	Nitrogen, Nitrate/Nitrite	Nitrogen Total Kjeldahl mg/l	Total Phosphorous mg/l	Total Aluminum mg/l
Minimum	6.5	0.19	1.4	0.445	0.38
Maximum	6.9	1.7	5.7	1.14	9
Average	7	1	3.3	0.8	3.5
Standard Deviation	0	1	2.0	0.3	4.1
Standard Deviation	0	1	2.0	0.3	4.1

No wet weather July 2010; Sept 2010

Client ID SD-5 Outfall 003

Date Collected	pH	Nitrogen, Nitrate/Nitrite	Nitrogen Total Kjeldahl mg/l	Total Phosphorous mg/l	Total Aluminum mg/l
8/23/2010	7.4	0.39	10	11.5	200
10/6/2010	7.5	0.24	2.9		16
10/15/2010	7.1	0.35	1.9	1.39	8.2
11/4/2010	7.2	0.74	2.5	3.01	20
11/17/2010	7	0.27	2.6	1.74	15

SD-5 Data Summary	pH	Nitrogen, Nitrate/Nitrite	Nitrogen Total Kjeldahl mg/l	Total Phosphorous mg/l	Total Aluminum mg/l
Minimum	7	0.24	1.9	1.39	8.2
Maximum	7.5	0.74	10	11.5	200
Average	7	0	4.0	4.4	51.8
Standard Deviation	0	0	3.4	4.8	82.9
Standard Deviation	0	0	0.4	0.9	4.9

August 23, 2010 - November 17, 2010
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	Client ID	SD-6	Outfall	Eliminated	3/30/2012	Outfall	Eliminated
Total Copper mg/l	**Date Collected**	**pH**	**Nitrogen, Nitrate/Nitrite**	**Nitrogen Total Kjeldahl mg/l**	**Total Phosphorous mg/l**	**Total Aluminum mg/l**	**Total Copper mg/l**
0.015	8/23/2010	6.7	0.75	2.9	3.58	19	0.062
0.029	10/6/2010	7.8	0.39	2.7		13	0.0342
0.019	10/15/2010	7.3	0.56	1.6	1.48	9.7	0.0285
0.001	11/4/2010	7	2.2	3	1.71	5.8	0.0407
0.266	11/17/2010	7.2	0.4	1.8	1.16	10	0.03

Total Copper mg/l	**SD-6 Data Summary**	**pH**	**Nitrogen, Nitrate/Nitrite**	**Nitrogen Total Kjeldahl mg/l**	**Total Phosphorous mg/l**	**Total Aluminum mg/l**	**Total Copper mg/l**
0.001	Minimum	6.7	0.39	1.6	1.16	5.8	0.0285
0.266	Maximum	7.8	2.2	3	3.58	19	0.062
0.1	Average	7	1	2.4	2.0	11.5	0.0
0.1	Standard Deviation	0	1	0.7	1.1	4.9	0.0
0.1	Standard Deviation	0	1	0.7	0.3	3.0	0.0

	Client ID	SD-7		Outfall 007			
Total Copper mg/l	**Date Collected**	**pH**	**Nitrogen, Nitrate/Nitrite**	**Nitrogen Total Kjeldahl mg/l**	**Total Phosphorous mg/l**	**Total Aluminum mg/l**	**Total Copper mg/l**
0.412	8/23/2010	6.5	0.595	1.2	0.147	1.5	
0.0439	10/6/2010	7.2	0.25	0.48	0.137	1.5	0.0075
0.236	10/15/2010	7.1	0.29	0.99	0.423	3.9	0.0135
0.0561	11/4/2010	7.5	-	0.57	0.319	2.3	0.0134
0.0449	11/17/2010	7.1	0.26	1.8	0.556	10	0.0382
Total Copper mg/l	**SD-7Data Summary**	**pH**	**Nitrogen, Nitrate/Nitrite**	**Nitrogen Total Kjeldahl mg/l**	**Total Phosphorous mg/l**	**Total Aluminum mg/l**	**Total Copper mg/l**
0.0439	Minimum	6.5	0.25	0.48	0.137	1.5	0.0075
0.412	Maximum	7.5	0.595	1.8	0.556	10	0.0382
0.2	Average	7	0	1.0	0.3	3.8	0.0
0.2	Standard Deviation	0	0	0.5	0.2	3.6	0.0
0.1	Standard Deviation	0	0	0.6	0.2	3.8	0.0

SUFFOLK DOWNS WET WEATHER MONITORING
June 12, 2011 - April 23, 2012 (Construction Period)
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Client ID SD- 3 Outfall 003

Date Collected	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)	BOD, 5 day (mg/l)
6/12/2011	23,000	20,000	9	0.378	ND
6/22/2011	47,000	170,000	97	3.67	20
7/1/2011	no scheduled wet	weather	events		
8/7/2011	160,000	160,000	820	0.302	ND
8/9/2011	180,000	240,000	580	0.429	ND
8/15/2011	12,000	1,500	20	0.893	7.1
9/6/2011	6,600	8,200	11	1.23	9.5
9/24/2011	46,000	55,000	220	0.196	ND
10/13/2011	56,000	24,000	36	0.275	0.8
10/19/2011	43,000	39,000	240	0.381	8.1
10/27/2011	1,700	550	29	6.7	11
11/10/2011	260	260	48	2.67	11
11/16/2011	21	170	43	3.3	21
11/23/2011	ND	<10	30	4.57	23
11/30/2011	2,400	1,100	260	0.213	ND
12/7/2011	2,500	2,000	66	0.199	2.9
12/27/2011	ND	<10	20	0.585	9
1/12/2012	ND	<1	57	5.69	
1/27/2012	1,000	1,300	170	0.386	ND
2/29/2012	no wet weather	events this	month		
3/31/2012	no wet weather	events this	month		
4/23/2012	ND	<1	48	6.05	25
SD-3 Data Summary	**Fecal Coliform (MF) (col/100ml)**	**E. Coli (MF) (col/100ml)**	**Total Suspended Solids (mg/l)**	**Nitrogen, Ammonia (mg/l)**	**BOD, 5 day (mg/l)**
Minimum	21	170	9	0.20	0.80
Maximum	180,000	240,000	820	7	25
Average	38,765	48,205	148	2	12
Standard Deviation	57,010	76,924	214	2	8

June 12, 2011 - April 23, 2012 (Construction Period)
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Client ID SD- 4 Outfall 004

Date Collected	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)	BOD, 5 day (mg/l)
6/12/2011	14,000	14,000	ND	0.108	ND
6/22/2011	13,000	58,000	58	0.476	3.6
7/1/2011	no scheduled wet	weather	events		
8/7/2011	24,000	27,000	180	0.092	ND
8/9/2011	180,000	25,000	260	0.256	3.8
8/15/2011	160,000	240,000	97	0.301	ND
9/6/2011	70,000	92,000	8.7	0.694	ND
9/24/2011	60,000	77,000	8.9	0.132	ND
10/13/2011	Discharge	submerged	no sample taken		
10/19/2011	130,000	140,000	110	0.528	3.3
10/27/2011	18,000	11,000	13	0.943	ND
11/10/2011	4,500	17,000	24	0.671	2.9
11/16/2011	1,600	24,000	21	0.328	4.4
11/23/2011	680	1,900	20	0.329	ND
11/30/2011	4,700	11,000	200	0.102	ND
12/7/2011	8,200	4,400	ND	0.453	ND
12/27/2011	18	74	23	0.831	2.8
1/12/2012	30	120	ND	0.651	
1/27/2012	8	73	ND	0.74	ND
2/29/2012	no wet weather	events this	month		
3/31/2012	no wet weather	events this	month		
4/23/2012	4,000	13,000	ND	0.522	2.8
SD-4 Data Summary	**Fecal Coliform (MF) (col/100ml)**	**E. Coli (MF) (col/100ml)**	**Total Suspended Solids (mg/l)**	**Nitrogen, Ammonia (mg/l)**	**BOD, 5 day (mg/l)**
Minimum	8	73	9	0	3
Maximum	180,000	240,000	260	1	4
Average	38,485	41,976	79	0	3
Standard Deviation	58,477	62,351	85	0	1

June 12, 2011 - April 23, 2012 (Construction Period)
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Client ID SD- 5 Outfall 005

Date Collected	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)	BOD, 5 day (mg/l)
6/12/2011	180,000	20,000	100	0.286	ND
6/22/2011	140,000	140,000	210	0.643	7.4
7/1/2011	no scheduled wet	weather	events		
8/7/2011	390,000	410,000	180	0.254	6.5
8/9/2011	289,000	240,000	800	0.473	ND
8/15/2011	500,000	820,000	1800	0.66	ND
9/6/2011	86,000	>240,000	58	0.613	6.7
9/24/2011	250,000	520,000	96	0.295	3.5
10/13/2011	220,000	140,000	260	0.329	7
10/19/2011	140,000	240,000	1600	0.604	22
10/27/2011	95,000	665,000	160	1.28	17
11/10/2011	24,000	2,500	260	1.09	17
11/16/2011	20,000	24,000	76	0.501	9.7
11/23/2011	2,200	4,900	120	0.182	3.9
11/30/2011	5,200	7,300	750	0.272	6.8
12/7/2011	6,000	2,300	140	0.144	3.1
12/27/2011	ND	200	310	2.13	9.3
1/12/2012	ND	<100	1200	0.388	11
1/27/2012	160	280	170	2.13	3.5
2/29/2012	no wet weather	events this	month		
3/31/2012	no wet weather	events this	month		
4/23/2012	36	460	24	0.982	4.9
SD-5 Data Summary	**Fecal Coliform (MF) (col/100ml)**	**E. Coli (MF) (col/100ml)**	**Total Suspended Solids (mg/l)**	**Nitrogen, Ammonia (mg/l)**	**BOD, 5 day (mg/l)**
Minimum	36	200	24	0	3
Maximum	500,000	820,000	1,800	2	22
Average	138,094	190,408	438	1	9
Standard Deviation	150,291	261,277	539	1	6

June 12, 2011 - April 23, 2012 (Construction Period)

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Client ID SD- 7 Outfall 007

Date Collected	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)	BOD, 5 day (mg/l)
6/12/2011	14,000	20,000	72	0.18	ND
6/22/2011	5,500	19,000	39	0.496	4.8
7/1/2011	no scheduled wet	weather	events		
8/7/2011	66,000	49,000	130	0.126	3.3
8/9/2011	21,000	15,000	44	0.216	3.7
8/15/2011	>20,000	63,000	40	0.222	ND
9/6/2011	10,000	14,000	16	0.139	4.4
9/24/2011	25,000	17,000	27	0.104	ND
10/13/2011	15,000	16,000	35	0.144	2.4
10/19/2011	24,000	24,000	33	0.258	6.9
10/27/2011	2,400	3,000	69	0.339	7.6
11/10/2011	8,100	730	580	0.979	16
11/16/2011	740	500	58	0.158	5.2
11/23/2011	590	630	63	0.188	5.9
11/30/2011	76,000	48,000	130	0.077	ND
12/7/2011	12,000	14,000	140	ND	4.3
12/27/2011	450	960	390	0.186	ND
1/12/2012	ND	<100	2000	0.502	ND
1/27/2012	2,000	1,800	150	0.201	ND
2/29/2012	no wet weather	events this	month		
3/31/2012	no wet weather	events this	month		
4/23/2012	No Discharge				
SD-7 Data Summary	**Fecal Coliform (MF) (col/100ml)**	**E. Coli (MF) (col/100ml)**	**Total Suspended Solids (mg/l)**	**Nitrogen, Ammonia (mg/l)**	**BOD, 5 day (mg/l)**
Minimum	450	500	16	0	2
Maximum	76,000	63,000	2,000	1	16
Average	17,674	18,036	223	0	6
Standard Deviation	22,432	18,803	466	0	4

June 12, 2011 - April 23, 2012 (Construction Period)
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Client ID SD- 10 Outfall 006

Date Collected	Fecal Coliform (MF) (col/100ml)	E. Coli (MF) (col/100ml)	Total Suspended Solids (mg/l)	Nitrogen, Ammonia (mg/l)	BOD, 5 day (mg/l)
6/12/2011	49,000	20,000	61	0.262	ND
6/22/2011	33,000	27,000	82	0.451	6.4
7/1/2011	no scheduled wet	weather	events		
8/7/2011	180,000	1,410,000	180	0.225	6.5
8/9/2011	100,000	110,000	250	0.269	4.2
8/15/2011	180,000	160,000	160	0.305	5.7
9/6/2011	48,000	87,000	36	0.319	6.5
9/24/2011	120,000	200,000	64	0.172	5.4
10/13/2011	55,000	92,000	100	0.264	5.2
10/19/2011	35,000	49,000	180	0.286	6.8
10/27/2011	30,000	18,000	95	0.812	8
11/10/2011	7,900	8,700	100	0.496	16
11/16/2011	4,200	4,400	100	0.319	13
11/23/2011	670	1,000	57	0.207	3.6
11/30/2011	3,200	3,600	150	0.105	3.6
12/7/2011	3,700	4,100	150	0.24	7
12/27/2011	81	98	34	1.38	7.7
1/12/2012	ND	310	530	0.894	11
1/1/2712	81	160	40	0.522	4.2
2/29/2012	no wet weather	events this	month		
3/31/2012	no wet weather	events this	month		
4/23/2012	3,100	2,900	130	0.653	14
SD-10 Data Summary	**Fecal Coliform (MF) (col/100ml)**	**E. Coli (MF) (col/100ml)**	**Total Suspended Solids (mg/l)**	**Nitrogen, Ammonia (mg/l)**	**BOD, 5 day (mg/l)**
Minimum	81	98	34	0.11	3.60
Maximum	180,000	1,410,000	530	1	16
Average	47,385	115,698	132	0	7
Standard Deviation	59,330	318,981	113	0	4

June 2011 - April 23, 2012 (Construction Period)
MA0040282 Fact Sheet Attachment 4 Continued

Client ID SD-3 Outfall 003

Date Collected	pH	Nitrogen, Nitrate/Nitrite	Nitrogen Total Kjeldahl mg/l	Total Phosphorous mg/l	Total Aluminum mg/l	Total Copper mg/l
6/12/2011	6.4	0.46	1.2	0.366	1.3	
7/1/2011	No	scheduled wet	weather events			
8/7/2011	6.5	0.18	3.6	2.31	16	0.076
8/9/2011	6.4	0.29	2.2	1.37	12	0.036
8/15/2011	6.4	0.24	3.5	0.838	0.18	0.023
9/6/2011	6.6	0.36	2.6	0.854	ND[1]	0.019
9/24/2011	5.8	0.22	1.2	1.09	2.5	0.015
10/13/2011	6.4	0.8	1.4	0.458	0.69	0.027
10/19/2011	6.5	0.29	1.9	0.981	1.6	0.018
10/27/2011	6.7	0.1	1.8	0.393	0.12	ND
11/10/2011	0.6	0.1	3.6	0.855	ND	ND
11/16/2011	6.6	ND	4.6	0.672	ND	ND
11/23/2011	6.4	ND	5.1	0.465	ND	ND
11/30/2011	6.3	0.28	2	1.3	2	0.032
12/7/2011	6.3	0.33	0.96	0.293	1.3	0.011
12/27/2011	6.2	ND	4	0.402	0.1	ND
1/12/2012	6.6	ND	6.3	0.145		
1/27/2012	7	0.35	1.8	0.66	1.8	0.114
2/29/2012	No wet	weather events	this month			
3/7/2012	No wet	weather events	this month			
4/23/2012	Additional	Sampling No	Longer Required	1 year sample	period expired	

SD-3 Data Summary	pH	Nitrogen, Nitrate/Nitrite	Nitrogen Total Kjeldahl mg/l	Total Phosphorous mg/l	Total Aluminum mg/l	Total Copper mg/l
Maximum	7	0.8	6.3	2.31	16	0.114
Average	6	0	2.8	0.8	3.3	0.0
Standard Deviation	1.44	0.18	1.55	0.53	5.13	0.03
Standard Deviation	1.48	0.18	1.54	0.53	5.34	0.03

[1]ND = not dected
No wet weather July 2010, February 2012, March 2012
WQ Criteria chronic:
CU 0.009 mg/l
AL 0.87 mg/l
P 0.1 mg/l

June 2011 - April 23, 2012 (Construction Period)
MA0040282 Fact Sheet Attachment 4 Continued

Client ID SD-5 Outfall 005

Date Collected	pH	Nitrogen, Nitrate/Nitrite	Nitrogen Total Kjeldahl mg/l	Total Phosphorous mg/l	Total Aluminum mg/l	Total Copper mg/l
6/12/2011	6.8	0.25	1.5	0.763	6.8	0.019
7/1/2011	No	scheduled wet	weather events			
8/7/2011	7	0.16	2.6	1.8	11	0.046
8/9/2011	6.7	0.31	3.3	2.61	24	0.067
8/15/2011	7	ND	4.4	4.57	50	.129`
9/6/2011	6.7	0.37	1.8	0.76	1	0.013
9/24/2011	6.0	0.2	0.91	0.818	1.4	0.013
10/13/2011	6.6	0.26	1.9	1.17	2.4	0.024
10/19/2011	7.0	0.604	4.1	4.83	11	0.065
10/27/2012	6.7	0.97	2.3	1.19	4.6	0.023
11/10/2011	6.7	0.84	2.7	1.54	3.5	0.03
11/16/2011	6.3	0.73	2.4	0.784	4.7	0.022
11/23/2011	6.4	0.52	1.5	0.682	4.6	0.017
11/30/2011	6.3	0.56	3.3	2.44	4.1	0.049
12/7/2011	6.4	0.14	1.4	0.705	2.5	0.019
12/27/2011	6.2	0.31	3.8	0.883	1.4	0.022
1/12/2012	7.0	0.41	6.6	2.88	26	0.698
1/27/2012	7.0	0.31	3.4	0.365	1.2	0.052
2/29/2012	No wet	weather events	this month			
3/7/2012	No wet	weather events	this month			
4/23/2012	Additional	Sampling No	Longer Required	1 year sample	period	expired

SD-5 Data Summary	pH	Nitrogen, Nitrate/Nitrite	Nitrogen Total Kjeldahl mg/l	Total Phosphorous mg/l	Total Aluminum mg/l	Total Copper mg/l
Maximum	7	0.97	6.6	4.83	50	0.698
Average	7	0	2.8	1.7	9.4	0.1
Standard Deviation	0.32	0.25	1.41	1.35	12.85	0.17
Standard Deviation	0.33	0.25	1.41	1.37	13.25	0.17

June 2011 - April 23, 2012 (Construction Period)
MA0040282 Fact Sheet Attachment 4 Continued

Client ID	SD-6	Outfall	Eliminated	3/30/2012		
Date Collected	**pH**	**Nitrogen, Nitrate/Nitrite**	**Nitrogen Total Kjeldahl mg/l**	**Total Phosphorous mg/l**	**Total Aluminum mg/l**	**Total Copper mg/l**
6/12/2011	6.7	0.24	0.68	0.401	1.6	ND
7/1/2011	No	scheduled wet	weather events			
8/7/2011	6.8	0.19	1.4	0.829	5	0.021
8/9/2011	6.8	0.49	1.9	0.853	4.3	0.018
8/15/2011	6.9	0.66	1.2	1.31	5.1	0.02
9/6/2011	6.7	0.99	1.2	0.662	0.51	0.013
9/24/2011	6	0.36	0.95	0.607	0.82	ND
10/13/2011	7	0.58	6.6	4.09	3.1	0.045
10/19/2011	7.4	0.75	2.5	1.62	2.4	0.03
10/27/2011	6.8	1.7	1.4	0.983	3.3	0.016
11/10/2011	6.9	1.5	1.7	1.47	3	0.027
11/16/2011	6.4	0.228	1	2.1	3.5	0.018
11/23/2011	6.6	0.43	2.2	1.41	9.7	0.036
11/30/2011	4400	4600	390	1.43	3	0.036
12/7/2011	6.4	0.23	0.66	0.316	1.3	ND
12/27/2011	6.4	0.45	1.4	0.921	2.7	0.014
1/12/2012	6.8	0.38	3.1	1.46	11	0.131
1/27/2012	7	0.81	1.1	0.464	0.95	0.029
2/29/2012	No wet	weather events	this month			
3/7/2012	No wet	weather events	this month			
3/3/2012	Outfall	Eliminated				

SD-6 Data Summary	**pH**	**Nitrogen, Nitrate/Nitrite**	**Nitrogen Total Kjeldahl mg/l**	**Total Phosphorous mg/l**	**Total Aluminum mg/l**	**Total Copper mg/l**
Maximum	4400	4600	390	4.09	11	0.131
Average	265.15	271.18	24.65	1.23	3.60	0.03
Standard Deviation	1065.53	1115.51	94.16	0.89	2.89	0.03
Standard Deviation	1098.32	1149.84	97.04	0.89	2.94	0.03

SUFFOLK DOWNS ADDITIONAL WET WEATHER DATA
June 2011 - April 23, 2012 (Construction Period)
MA0040282 Fact Sheet Attachment 4 Continued

Client ID SD-7 Outfall 007

Date Collected	pH	Nitrogen, Nitrate/Nitrite	Nitrogen Total Kjeldahl mg/l	Total Phosphorous mg/l	Total Aluminum mg/l	Total Copper mg/l
6/12/2011	6.8	0.35	0.91		3.7	0.014
7/1/2011	No	scheduled wet	weather events			
8/7/2011	6.4	0.23	0.84	0.365	4.6	0.025
8/9/2011	6.7	0.15	1.1	0.224	1.3	0.011
8/15/2011	6.8	0.43	0.9	0.224	1.4	ND
9/6/2011	6.6	0.29	0.6	0.166	0.6	ND
9/24/2011	5.8	0.16	0.38	0.16	0.61	ND
10/13/2011	6.7	0.13	0.59	0.367	0.66	ND
10/19/2011	6.7	0.27	0.8	0.203	0.79	ND
10/27/2011	2,400	3,000	69	0.167	1.7	ND
11/10/2011	7	0.46	1.9	1.46	11	0.047
11/16/2011	6.2	0.23	0.89	0.22	2.1	0.012
11/23/2011	6.4	0.27	0.79	0.265	2.7	0.01
11/30/2011	6.2	0.13	0.57	0.375	1.1	0.013
12/7/2011	6.5	0.18	1.5	0.37	5.1	0.02
12/27/2011	6.5	0.32	1.5	0.964	3.3	0.033
1/12/2012	7.2	0.43	7.2	6.35	34	0.39
1/27/2012	7	0.38	1.2	0.606	1.7	0.043
2/29/2012	No wet	weather events	this month			
3/7/2012	No wet	weather events	this month			
4/23/2012	Additional	Sampling No	Longer Required	1 year sample	period	expired

SD-7 Data Summary	pH	Nitrogen, Nitrate/Nitrite	Nitrogen Total Kjeldahl mg/l	Total Phosphorous mg/l	Total Aluminum mg/l	Total Copper mg/l
Maximum	2400	3000	69	6.35	34	0.39
Average	147	177	5.3	0.8	4.5	0.056
Standard Deviation	580.486	727.540	16.480	1.525	8.023	0.111
Standard Deviation	598.355	749.932	16.980	1.525	8.283	0.117

Species Reports

Environmental Conservation Online System

Listings and occurrences for Massachusetts

Notes:

- This report shows the listed species associated in some way with this state.
- This list does not include experimental populations and similarity of appearance listings.
- This list includes non-nesting sea turtles and whales in State/Territory coastal waters.
- This list includes species or populations under the sole jurisdiction of the National Marine Fisheries Service.
- Click on the highlighted scientific names below to view a Species Profile for each listing.

Summary of Animals listings

Animal species listed in this state and that occur in this state (18 species)

Status	Species
E	Beetle, American burying (***Nicrophorus americanus***)
T	Plover, piping except Great Lakes watershed (***Charadrius melodus***)
E	Plymouth Red-Bellied Turtle (***Pseudemys rubriventris bangsi***)
E	Sea turtle, hawksbill (***Eretmochelys imbricata***)
E	Sea turtle, Kemp's ridley (***Lepidochelys kempii***)
E	Sea turtle, leatherback (***Dermochelys coriacea***)
T	Sea turtle, loggerhead (***Caretta caretta***)
E	Sturgeon, shortnose (***Acipenser brevirostrum***)
E	Tern, roseate northeast U.S. nesting pop. (***Sterna dougallii dougallii***)
T	Tiger beetle, northeastern beach (***Cicindela dorsalis dorsalis***)
T	Tiger beetle, Puritan (***Cicindela puritana***)
T	Turtle, bog (=Muhlenberg) northern (***Clemmys muhlenbergii***)
E	Wedgemussel, dwarf (***Alasmidonta heterodon***)
E	Whale, blue (***Balaenoptera musculus***)
E	Whale, finback (***Balaenoptera physalus***)
E	Whale, humpback (***Megaptera novaeangliae***)
E	Whale, right (***Balaena glacialis (incl. australis)***)
E	Whale, Sei (***Balaenoptera borealis***)

Animal species listed in this state that do not occur in this state (3 species)

Status	Species
E	Butterfly, Karner blue (***Lycaeides melissa samuelis***)
E	Puma (=cougar), eastern (***Puma (=Felis) concolor couguar***)
E	Wolf, gray Lower 48 States, except MN and where EXPN. Mexico. (***Canis lupus***)

Animal listed species occurring in this state that are not listed in this state (1 species)

Status	Species
T	Sea turtle, green except where endangered (***Chelonia mydas***)

Summary of Plant listings

Plant species listed in this state and that occur in this state (3 species)

Status	Species
E	Bulrush, Northeastern (***Scirpus ancistrochaetus***)
E	Gerardia, sandplain (***Agalinis acuta***)
T	Pogonia, small whorled (***Isotria medeoloides***)

Plant species listed in this state that do not occur in this state (2 species)

Status	Species
T	Amaranth, seabeach (***Amaranthus pumilus***)
E	Chaffseed, American (***Schwalbea americana***)

Last updated: February 22, 2011

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FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Taunton
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague
	Dwarf wedgemussel	Endangered	Mill River	Whately
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hadley, Hatfield, Amherst and Northampton
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, Wareham, Halifax, and Pembroke
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
Suffolk	Piping Plover	Threatened	Coastal Beaches	Winthrop
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster

-Eastern cougar and gray wolf are considered extirpated in Massachusetts.
-Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
-Critical habitat for the Northern Red-bellied Cooter is present in Plymouth County.

Revised 06/22/2009

Summary of Essential Fish Habitat (EFH) Designations

Name of Estuary/ Bay/ River: Boston Harbor, Massachusetts

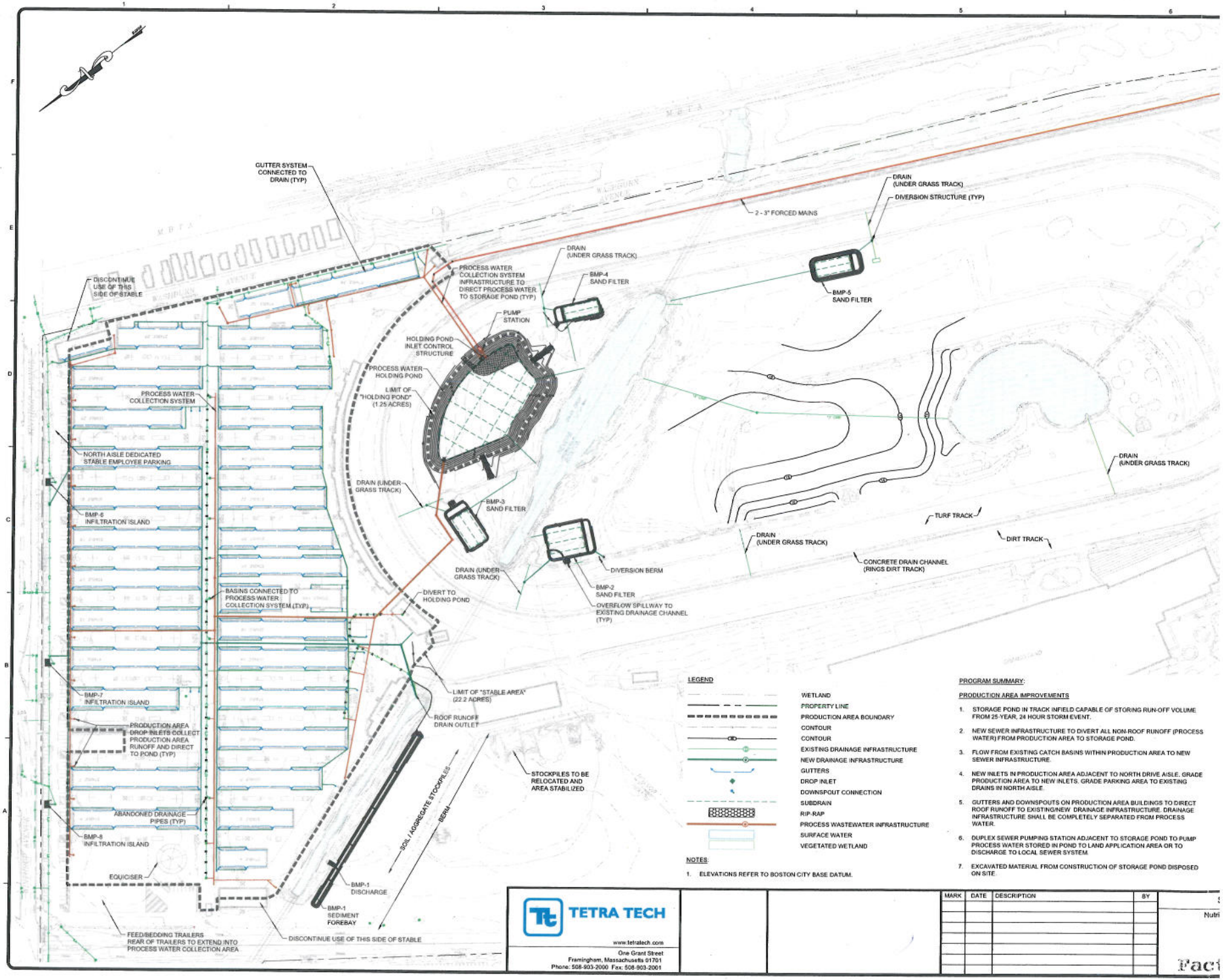
MA0040282 Fact Sheet Attachment b
NOAA Summary of EFH

10□ x 10□ latitude and longitude squares included in this bay or estuary or river (southeast corner boundaries):

4220/7100; 4210/7050; 4210/7100

Species	Eggs	Larvae	Juveniles	Adults	Spawning Adults
Atlantic salmon *(Salmo salar)*					
Atlantic cod *(Gadus morhua)*	S	S	M,S	M,S	S
haddock *(Melanogrammus aeglefinus)*	S	S			
pollock *(Pollachius virens)*	S	S	M,S		
whiting *(Merluccius bilinearis)*	S	S	M,S	M,S	
offshore hake *(Merluccius albidus)*					
red hake *(Urophycis chuss)*		S	S	S	
white hake *(Urophycis tenuis)*	S	S	S	S	
redfish *(Sebastes fasciatus)*	n/a				
witch flounder *(Glyptocephalus cynoglossus)*					
winter flounder *(Pleuronectes americanus)*	M,S	M,S	M,S	M,S	M,S
yellowtail flounder *(Pleuronectes ferruginea)*	S	S	S	S	S
windowpane flounder *(Scopthalmus aquosus)*	M,S	M,S	M,S	M,S	M,S
American plaice *(Hippoglossoides platessoides)*	S	S	S	S	S
ocean pout *(Macrozoarces americanus)*			S	S	
Atlantic halibut *(Hippoglossus hippoglossus)*	S	S	S	S	S
Atlantic sea scallop *(Placopecten magellanicus)*					
Atlantic sea herring *(Clupea harengus)*		S	M,S	M,S	
monkfish *(Lophius americanus)*					
bluefish *(Pomatomus saltatrix)*			M,S	M,S	

long finned squid *(Loligo pealei)*	n/a	n/a			
short finned squid *(Illex illecebrosus)*	n/a	n/a			
Atlantic butterfish *(Peprilus triacanthus)*	S	S			
Atlantic mackerel *(Scomber scombrus)*	M,S	M,S	M,S	M,S	
summer flounder *(Paralicthys dentatus)*					
scup *(Stenotomus chrysops)*					
black sea bass *(Centropristus striata)*					
surf clam *(Spisula solidissima)*	n/a	n/a			
ocean quahog *(Artica islandica)*	n/a	n/a			
spiny dogfish *(Squalus acanthias)*	n/a	n/a			
tilefish *(Lopholatilus chamaeleonticeps)*					


GUTTER SYSTEM CONNECTED TO DRAIN (TYP)
DISCONTINUE USE OF THIS SIDE OF STABLE
PROCESS WATER COLLECTION SYSTEM
NORTH AISLE DEDICATED STABLE EMPLOYEE PARKING
BMP-6 INFILTRATION ISLAND
BMP-7 INFILTRATION ISLAND
PRODUCTION AREA DROP INLETS COLLECT PRODUCTION AREA RUNOFF AND DIRECT TO POND (TYP)
ABANDONED DRAINAGE PIPES (TYP)
BMP-8 INFILTRATION ISLAND
EQUICISER
FEED/BEDDING TRAILERS REAR OF TRAILERS TO EXTEND INTO PROCESS WATER COLLECTION AREA
BASINS CONNECTED TO PROCESS WATER COLLECTION SYSTEM (TYP)
DISCONTINUE USE OF THIS SIDE OF STABLE
BMP-1 SEDIMENT FOREBAY
BMP-1 DISCHARGE
SOIL / AGGREGATE STOCKPILES
BERM
STOCKPILES TO BE RELOCATED AND AREA STABILIZED
ROOF RUNOFF DRAIN OUTLET
LIMIT OF "STABLE AREA" (22.2 ACRES)
DIVERT TO HOLDING POND
DRAIN (UNDER GRASS TRACK)
BMP-3 SAND FILTER
DRAIN (UNDER GRASS TRACK)
HOLDING POND INLET CONTROL STRUCTURE
PROCESS WATER HOLDING POND
LIMIT OF "HOLDING POND" (1.25 ACRES)
PUMP STATION
PROCESS WATER COLLECTION SYSTEM INFRASTRUCTURE TO DIRECT PROCESS WATER TO STORAGE POND (TYP)
DRAIN (UNDER GRASS TRACK)
BMP-4 SAND FILTER
DIVERSION BERM
BMP-2 SAND FILTER
OVERFLOW SPILLWAY TO EXISTING DRAINAGE CHANNEL (TYP)
2 - 3" FORCED MAINS
DRAIN (UNDER GRASS TRACK)
DIVERSION STRUCTURE (TYP)
BMP-5 SAND FILTER
DRAIN (UNDER GRASS TRACK)
TURF TRACK
DIRT TRACK
CONCRETE DRAIN CHANNEL (RINGS DIRT TRACK)
DRAIN (UNDER GRASS TRACK)
LEGEND
WETLAND
PROPERTY LINE
PRODUCTION AREA BOUNDARY
CONTOUR
CONTOUR
EXISTING DRAINAGE INFRASTRUCTURE
NEW DRAINAGE INFRASTRUCTURE
GUTTERS
DROP INLET
DOWNSPOUT CONNECTION
SUBDRAIN
RIP-RAP
PROCESS WASTEWATER INFRASTRUCTURE
SURFACE WATER
VEGETATED WETLAND
NOTES:
1. ELEVATIONS REFER TO BOSTON CITY BASE DATUM.
PROGRAM SUMMARY:
PRODUCTION AREA IMPROVEMENTS
1. STORAGE POND IN TRACK INFIELD CAPABLE OF STORING RUN-OFF VOLUME FROM 25-YEAR, 24 HOUR STORM EVENT.
2. NEW SEWER INFRASTRUCTURE TO DIVERT ALL NON-ROOF RUNOFF (PROCESS WATER) FROM PRODUCTION AREA TO STORAGE POND.
3. FLOW FROM EXISTING CATCH BASINS WITHIN PRODUCTION AREA TO NEW SEWER INFRASTRUCTURE.
4. NEW INLETS IN PRODUCTION AREA ADJACENT TO NORTH DRIVE AISLE. GRADE PRODUCTION AREA TO NEW INLETS. GRADE PARKING AREA TO EXISTING DRAINS IN NORTH AISLE.
5. GUTTERS AND DOWNSPOUTS ON PRODUCTION AREA BUILDINGS TO DIRECT ROOF RUNOFF TO EXISTING/NEW DRAINAGE INFRASTRUCTURE. DRAINAGE INFRASTRUCTURE SHALL BE COMPLETELY SEPARATED FROM PROCESS WATER.
6. DUPLEX SEWER PUMPING STATION ADJACENT TO STORAGE POND TO PUMP PROCESS WATER STORED IN POND TO LAND APPLICATION AREA OR TO DISCHARGE TO LOCAL SEWER SYSTEM.
7. EXCAVATED MATERIAL FROM CONSTRUCTION OF STORAGE POND DISPOSED ON SITE.
TETRA TECH
www.tetratech.com
One Grant Street
Framingham, Massachusetts 01701
Phone: 508-903-2000 Fax: 508-903-2001
MARK
DATE
DESCRIPTION
BY
Nutri
Fact
5/18/2012 11:14:06 AM - PJ20712\27-20712-1100\CAD\SHEETFILES\NSMP\C-101-SITE PLAN.DWG - MOYEN, MATTHEW

TETRATECH

One Grant Street
Framingham, MA 01701-9005
508.903.2000
www.tetratech.com

1 inch = 1,500 feet

0 750 1,500
Feet

N

Suffolk Downs Racecourse
East Boston/Revere, Massachusetts

MA0040282 Fact Sheet Map 1

Notes:
Base Map:
MassGIS

Locus Map

MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL PROTECTION
COMMONWEALTH OF MASSACHUSETTS
1 WINTER STREET
BOSTON, MASSACHUSETTS 02108

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY
OFFICE OF ECOSYSTEM PROTECTION
REGION I
BOSTON, MASSACHUSETTS 02109

JOINT PUBLIC NOTICE OF A DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO THE WATERS OF THE UNITED STATES UNDER SECTIONS 301 AND 402 OF THE CLEAN WATER ACT, AS AMENDED, AND UNDER SECTIONS 27 AND 43 OF THE MASSACHUSETTS CLEAN WATERS ACT, AS AMENDED, AND REQUEST FOR STATE CERTIFICATION UNDER SECTION 401 OF THE CLEAN WATER ACT.

DATE OF NOTICE: March 1, 2013

PERMIT NUMBER: **MA0040282**

PUBLIC NOTICE NUMBER: MA-006-13

NAME AND MAILING ADDRESS OF APPLICANT:

John Rizzo, Chief Financial Officer
Sterling Suffolk Racecourse, LLC
111 Waldemar Avenue
East Boston, MA 02128

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

Sterling Suffolk Racecourse, LLC
111 Waldemar Avenue
East Boston, MA 02128

RECEIVING WATER: Sales Creek

PREPARATION OF THE DRAFT PERMIT:

The U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) have cooperated in the development of a permit for the above identified facility. The effluent limits and permit conditions imposed have been drafted to assure compliance with the Clean Water Act, 33 U.S.C. sections 1251 et seq., the Massachusetts Clean Waters Act, G.L. c. 21, §§ 26-53, 314 CMR 3.00 and State Surface Water Quality Standards at 314 CMR 4.00. EPA has formally requested that the State certify this draft permit pursuant to Section 401 of the Clean Water Act and expects that the draft permit will be certified.

INFORMATION ABOUT THE DRAFT PERMIT:

A fact sheet (describing the type of facility; type and quantities of wastes; a brief summary of the basis for the draft permit conditions; and significant factual, legal and policy questions considered in preparing this draft permit) and the draft permit may be obtained at no cost at http://www.epa.gov/region1/npdes/draft_permits_listing_ma.html or by writing or calling EPA's contact person named below:

Ms. Austine Frawley
U.S. Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100 (OEP 6-4)
Boston, MA 02109-3912
Telephone: (617) 918-1065

The administrative record containing all documents relating to this draft permit is on file and may be inspected at the EPA Boston office mentioned above between 9:00 a.m. and 5:00 p.m., Monday through Friday, except holidays.

PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

All persons, including applicants, who believe any condition of this draft permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by **March 30, 2013**, to the U.S. EPA, 5 Post Office Square, Boston, Massachusetts 02109-3912. Any person, prior to such date, may submit a request in writing to EPA and the State Agency for a public hearing to consider this draft permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on this draft permit, the Regional Administrator will respond to all significant comments and make the responses available to the public at EPA's Boston office.

FINAL PERMIT DECISION:

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice.

DAVID FERRIS, DIRECTOR
MASSACHUSETTS WASTEWATER
MANAGEMENT PROGRAM
MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL PROTECTION

KEN MORAFF, ACTING DIRECTOR
OFFICE OF ECOSYSTEM PROTECTION
ENVIRONMENTAL PROTECTION
AGENCY – REGION 1