

westonandsampson.com

55 Walkers Brook Drive, Suite 100 Reading, MA 01867 tel: 978.532.1900

## Notice of Intent



December 2024

#### BEAVER BROOK DOG PARK

PREPARED FOR: CITY OF WORCESTER

SUBMITTED TO: WORCESTER CONSERVATION COMMISSION





55 Walkers Brook Drive, Suite 100, Reading, MA 01867 Tel: 978.532.1900

December 11, 2024

Worcester Conservation Commission 455 Main Street, Room 404 Worcester, MA 01608

Via email: planning@worcesterma.gov

Re: NOI Filing

Beaver Brook Dog Park

Worcester, MA

Dear Members of the Commission:

On behalf of the City of Worcester, Weston & Sampson Engineers, Inc. is hereby submitting electronically the Notice of Intent submittal (including plans) to fulfill the requirements of the Massachusetts Wetlands Protection Act, M.G.L. Chapter 131, Section 40 submittal requirements and the City of Worcester submittal requirements. This submittal is a formal Notice of Intent for the Beaver Brook Dog Park project.

As part of the filing, we have attached the following:

Appendix A: Project Description
Appendix B: Stormwater Report
Appendix C: Project Maps

Appendix D: Applicable Technical Specifications

Appendix E: Abutters Information
Appendix F: Wetlands Memorandum

If you have any questions regarding this submittal, please contact me at (978) 532-1900.

Very truly yours,

**WESTON & SAMPSON** 

Alexandra Gaspar

Project Environmental Scientist



# **Massachusetts Department of Environmental Protection**Bureau of Resource Protection - Wetlands

## WPA Form 3 - Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number
Worcester

City/Town

#### Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information	Α.	General	Information
------------------------	----	---------	-------------

15 Mann Street		Worcester	01602
a. Street Address		b. City/Town	c. Zip Code
ا منائد ما مصطام	a cristo a di co	42.261471	-71.826682
Latitude and Lo	ngitude:	d. Latitude	e. Longitude
14-033-0001B			
f. Assessors Map/P	at Number	g. Parcel /Lot Number	
Applicant:			
Robert		Antonelli	
a. First Name		b. Last Name	
City of Worceste	er Department of Public W	/orks & Parks	
c. Organization			
20 East Worces	ter Street		
d. Street Address			
Worcester		MA	01604
e. City/Town		f. State	g. Zip Code
508-929-1300		dpw@worcesterma.go	= :
h. Phone Number	i. Fax Number	j. Email Address	-
a. First Name		b. Last Name	
a. First Name c. Organization		b. Last Name	
		b. Last Name	
c. Organization		b. Last Name	g. Zip Code
c. Organization d. Street Address	i. Fax Number		g. Zip Code
c. Organization  d. Street Address  e. City/Town		f. State	g. Zip Code
c. Organization d. Street Address e. City/Town h. Phone Number Representative		f. State j. Email address	g. Zip Code
c. Organization  d. Street Address  e. City/Town  h. Phone Number		f. State	g. Zip Code
c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative  Alexandra  a. First Name	(if any):	f. State j. Email address  Gaspar	g. Zip Code
c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative  Alexandra  a. First Name		f. State j. Email address  Gaspar	g. Zip Code
c. Organization  d. Street Address e. City/Town h. Phone Number Representative Alexandra a. First Name Weston & Samp c. Company	(if any): oson Engineers, Inc	f. State j. Email address  Gaspar	g. Zip Code
c. Organization  d. Street Address e. City/Town h. Phone Number Representative Alexandra a. First Name Weston & Samp c. Company	(if any):	f. State j. Email address  Gaspar	g. Zip Code
c. Organization  d. Street Address e. City/Town h. Phone Number Representative Alexandra a. First Name Weston & Samp c. Company 55 Walkers Brod d. Street Address	(if any): oson Engineers, Inc	f. State  j. Email address  Gaspar b. Last Name	
c. Organization  d. Street Address e. City/Town h. Phone Number Representative Alexandra a. First Name Weston & Samp c. Company 55 Walkers Brod d. Street Address Reading	(if any): oson Engineers, Inc	f. State j. Email address  Gaspar	01867
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c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative  Alexandra a. First Name  Weston & Samp c. Company  55 Walkers Brod d. Street Address  Reading e. City/Town  978-532-1900	oson Engineers, Inc	f. State  j. Email address  Gaspar b. Last Name  MA f. State gaspara@wseinc.com	01867
c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative  Alexandra  a. First Name  Weston & Samp  c. Company  55 Walkers Brod  d. Street Address  Reading  e. City/Town  978-532-1900  h. Phone Number	oson Engineers, Inc ok Drive, Suite 100 i. Fax Number	f. State  j. Email address  Gaspar b. Last Name  MA f. State gaspara@wseinc.com j. Email address	01867
c. Organization  d. Street Address e. City/Town h. Phone Number Representative Alexandra a. First Name Weston & Samp c. Company 55 Walkers Brod d. Street Address Reading e. City/Town 978-532-1900 h. Phone Number Total WPA Fee	oson Engineers, Inc	f. State  j. Email address  Gaspar b. Last Name  MA f. State gaspara@wseinc.com j. Email address	01867
c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative  Alexandra  a. First Name  Weston & Samp  c. Company  55 Walkers Brod  d. Street Address  Reading  e. City/Town  978-532-1900  h. Phone Number	(if any):  pson Engineers, Inc  pk Drive, Suite 100  i. Fax Number  Paid (from NOI Wetland F	f. State  j. Email address  Gaspar b. Last Name  MA f. State gaspara@wseinc.com j. Email address  Fee Transmittal Form):	01867



# **Massachusetts Department of Environmental Protection**Bureau of Resource Protection - Wetlands

## WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

rovided by MassDEP:
MassDEP File Number
Document Transaction Number
Worcester
City/Town

#### A. General Information (continued)

	(00)					
6.	General Project Description:					
	Dog Park improvements					
7a.	a. Project Type Checklist: (Limited Project Types see Section A. 7b.)					
	1. Single Family Home	2. Residential Subdivision				
	3. Commercial/Industrial	4. Dock/Pier				
	5. Utilities	6. Coastal engineering Structure				
	7. Agriculture (e.g., cranberries, forestry)	B. Transportation				
	9. 🛛 Other					
7b.	Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?					
	1. Yes No  If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)					
	2. Limited Project Type					
	If the proposed activity is eligible to be treated as an I CMR10.24(8), 310 CMR 10.53(4)), complete and atta Project Checklist and Signed Certification.					
8.	Property recorded at the Registry of Deeds for:					
	Worcester					
	-	b. Certificate # (if registered land) 0000				
	c. Book	d. Page Number				
В.	. Buffer Zone & Resource Area Impac	cts (temporary & permanent)				
1.	☐ Buffer Zone Only – Check if the project is located					
2.	Vegetated Wetland, Inland Bank, or Coastal Reso Inland Resource Areas (see 310 CMR 10.54-10.5 Coastal Resource Areas).					
	Check all that apply below. Attach narrative and any sproject will meet all performance standards for each of					

standards requiring consideration of alternative project design or location.



For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

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### B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)		
a. 🗌 Bank	1. linear feet	2. linear feet		
b. Bordering Vegetated Wetland	1. square feet	2. square feet		
c. Land Under Waterbodies and	1. square feet	2. square feet		
Waterways	3. cubic yards dredged			
Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)		
d. 🛛 Bordering Land	28,922	20,957		
Subject to Flooding	1. square feet	2. square feet		
•	0	0		
	3. cubic feet of flood storage lost	4. cubic feet replaced		
e. Isolated Land Subject to Flooding	1. square feet			
_	2. cubic feet of flood storage lost	3. cubic feet replaced		
f. Riverfront Area	1. Name of Waterway (if available) - spe	cify coastal or inland		
2. Width of Riverfront Area	(check one):			
25 ft Designated Densely Developed Areas only				
☐ 100 ft New agricultural projects only				
200 ft All other proj	ects			
3. Total area of Riverfront Are	ea on the site of the proposed project	ct: square feet		
4. Proposed alteration of the	Riverfront Area:	oquaro root		
a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.		
5. Has an alternatives analys	is been done and is it attached to the	is NOI? Yes No		
6. Was the lot where the activ	rity is proposed created prior to Aug	ust 1, 1996? ☐ Yes ☐ No		
. Coastal Resource Areas: (See 310 CMR 10.25-10.35)				

Note: for coastal riverfront areas, please complete Section B.2.f. above.

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#### B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users:
Include your
document
transaction
number
(provided on your
receipt page)
with all
supplementary
information you
submit to the
Department.

	Resource Area		Size of Proposed Alteration	Proposed Replacement (if any)	
	a. Designated Port Areas		Indicate size under Land Under the Ocean, below		
	b. 🗌	Land Under the Ocean	1. square feet		
			2. cubic yards dredged		
	с. 🗌	Barrier Beach	Indicate size under Coastal	Beaches and/or Coastal Dunes below	
	d. 🗌	Coastal Beaches	1. square feet	2. cubic yards beach nourishment	
	е. 🗌	Coastal Dunes	1. square feet	2. cubic yards dune nourishment	
			Size of Proposed Alteration	Proposed Replacement (if any)	
	f. 🗌	Coastal Banks	1. linear feet		
	g. 🗌	Rocky Intertidal Shores	1. square feet	<del></del>	
	h. 🗌	Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation	
	i. 🗌	Land Under Salt Ponds	1. square feet		
			2. cubic yards dredged	<del></del>	
	j. 🗌	Land Containing Shellfish	1. square feet	<del></del>	
	k. 🗌	Fish Runs		Banks, inland Bank, Land Under the Under Waterbodies and Waterways,	
	. $\Box$		1. cubic yards dredged		
	I	Land Subject to Coastal Storm Flowage	1. square feet	<u> </u>	
4.					
		e feet of BVW	b. square fe	et of Salt Marsh	
5.	_	oject Involves Stream Cros			
a number of new etreem ereceings			h number o	f replacement stream crossings	
<ul> <li>a. number of new stream crossings</li> </ul>			D. Hamber O		



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IVIE	assachus	etts Wetlan	ds Protection Act I	M.G.L.	c. 131, §40	Worcester	
_	041		. 04			City/Town	
C.	Other A	Applicab	le Standards ar	nd Re	quirements	1	
	complete		an Ecological Restora : Ecological Restora		•	•	
Str	eamlined	l Massachu	setts Endangered S	Specie	s Act/Wetlands	Protection Act	Review
1.	the most r Natural He Massachu	ecent Estima eritage and E usetts Natura	oposed project located ted Habitat Map of Sta ndangered Species Pr <i>Heritage Atlas</i> or go to ate.ma.us/PRI_EST_H	ate-Liste rogram ( :o	d Rare Wetland \ NHESP)? To vie	Wildlife published I	by the
	a. Yes	⊠ No	If yes, include proof	f of mai	ling or hand del	ivery of NOI to:	
	August 20		Natural Heritage a Division of Fisher 1 Rabbit Hill Roa Westborough, M	ries and d		Program	
	CMR 10.1 complete somplete somplete	8). To qualify Section C.1.c Section C.2.f eting Section	o subject to Massachu for a streamlined, 30- , and include requeste , if applicable. If MESA 1 of this form, the NHE y (unless noted excepti	-day, ME ed mater A supple ESP will	SA/Wetlands Provials with this Noti mental information require a separation	otection Act review ce of Intent (NOI); on is not included v te MESA filing whice	v, please OR with the NOI,
	c. Submit	Supplementa	I Information for Enda	ingered	Species Review*		
	1.	] Percentage	/acreage of property to	o be alte	ered:		
	(a)	) within wetla	nd Resource Area	p	ercentage/acreage		
	(b)	outside Res	ource Area	p	ercentage/acreage		
	2.	Assessor's	Map or right-of-way p	lan of si	te		
2.	wetlands j	urisdiction, sl ation clearing	ntire project site, include nowing existing and pr g line, and clearly dema	roposed arcated	conditions, existillimits of work **	ng and proposed	
	(a) $\square$	Project des	scription (including des	crintion	of impacts outsid	le of wetland resou	irce area &

Photographs representative of the site

buffer zone)

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<sup>\*</sup> Some projects not in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see https://www.mass.gov/maendangered-species-act-mesa-regulatory-review).

Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

<sup>\*\*</sup> MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



3.

# **Massachusetts Department of Environmental Protection**Bureau of Resource Protection - Wetlands

## WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provi	ded by MassDEP:
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	Worcester
_	
	City/Town

### C. Other Applicable Standards and Requirements (cont'd)

(c) MESA filing fee (fee information available at <a href="https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review">https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review</a> ).  Make check payable to "Commonwealth of Massachusetts - NHESP" and <i>mail to NHESP</i> at above address			
Projects altering 10 or more acres of land, also sub	mit:		
(d) Vegetation cover type map of site	) ☐ Vegetation cover type map of site		
(e) Project plans showing Priority & Estima	ated Habitat boundaries		
(f) OR Check One of the Following			
1. Project is exempt from MESA review.  Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, <a href="https://www.mass.gov/service-details/exemptions-from-review-for-projectsactivities-in-priority-habitat">https://www.mass.gov/service-details/exemptions-from-review-for-projectsactivities-in-priority-habitat</a> ; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)			
2. Separate MESA review ongoing.	a. NHESP Tracking # b. Date submitted to NHESP		
3. Separate MESA review completed. Include copy of NHESP "no Take" dete Permit with approved plan.	rmination or valid Conservation & Management		
For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?			
a. Not applicable – project is in inland resource area only b. Yes No			
If yes, include proof of mailing, hand delivery, or ele	ectronic delivery of NOI to either:		
South Shore - Cohasset to Rhode Island border, and the Cape & Islands:	North Shore - Hull to New Hampshire border:		
Division of Marine Fisheries - Southeast Marine Fisheries Station Attn: Environmental Reviewer B36 South Rodney French Blvd. New Bedford, MA 02744 Email: dmf.envreview-south@mass.gov  Division of Marine Fisheries - North Shore Office Attn: Environmental Reviewer 30 Emerson Avenue Gloucester, MA 01930 Email: dmf.envreview-north@mass.gov			
Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.			
c. Is this an aquaculture project?	d. 🗌 Yes 🔲 No		
If yes, include a copy of the Division of Marine Fish	eries Certification Letter (M.G.L. c. 130, § 57).		

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#### **Massachusetts Department of Environmental Protection** Bureau of Resource Protection - Wetlands

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_	Document Transaction Number
	Worcester
	City/Town

#### C. Other Applicable Standards and Requirements (cont'd)

	4.	Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?			
Online Users: Include your document		a.   Yes No  If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations).   Note: electronic filers click on Website.			
transaction		b. ACEC			
number (provided on your receipt page) with all	5.	Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?			
supplementary information you		a. 🗌 Yes 🔯 No			
submit to the Department.	6.	Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?			
		a. ☐ Yes ⊠ No			
	7.	Is this project subject to provisions of the MassDEP Stormwater Management Standards?			
		<ul> <li>a. </li> <li>Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:</li> <li>1. </li> <li>Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)</li> </ul>			
		2. 🛮 A portion of the site constitutes redevelopment			
		3. Proprietary BMPs are included in the Stormwater Management System.			
		b. No. Check why the project is exempt:			
		1. Single-family house			
		2. Emergency road repair			
		3. Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.			
	D.	Additional Information			
		This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).			
		Applicants must include the following with this Notice of Intent (NOI). See instructions for details.			
		<b>Online Users:</b> Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.			
		1. Subject to SGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)			

Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative

to the boundaries of each affected resource area.

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2.



# Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands WPA Form 3 - Notice of Intent Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

rovid	ded by MassDEP:	
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(	City/Town	

D. Ad	ditional information (conf'd)			
3.	3. A Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.			
4. 🛛	4. 🗵 List the titles and dates for all plans and other materials submitted with this NOI.			
В	Beaver Brook Dog Park			
	. Plan Title		<del></del>	
	Veston & Sampson Engineers, Inc.	Brandon Kunkel, RLA		
	. Prepared By	c. Signed and Stamped by		
	December 2024	1" = 20'		
d.	. Final Revision Date	e. Scale		
f.	Additional Plan or Document Title		g. Date	
5.	If there is more than one property owner, plisted on this form.	please attach a list of these	property owners not	
6.	Attach proof of mailing for Natural Heritage	e and Endangered Species	Program, if needed.	
7.	7. Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.			
8.	8. Attach NOI Wetland Fee Transmittal Form			
9. 🛛	9. Attach Stormwater Report, if needed.			
E. Fee	<u> </u>			
	Fee Exempt: No filing fee shall be assessed of the Commonwealth, federally recognized authority, or the Massachusetts Bay Trans	ed Indian tribe housing autho		
	cants must submit the following information (i Fransmittal Form) to confirm fee payment:	n addition to pages 1 and 2	of the NOI Wetland	
2. Mun	nicipal Check Number	3. Check date		
4. Stat	e Check Number	5. Check date		
6 Pavi	or name on check: First Name	7. Pavor name on check: I	ast Name	

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#### F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

MAC/hu/n	10/31/24	
1. Signature of Applicant	2. Date	
3. Signature of Property Owner (if different)	4. Date 12/6/2024	
5. Signature of Representative (if any)	6. Date	

#### For Conservation Commission:

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

#### For MassDEP:

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

#### Other:

If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

# APPENDIX A PROJECT DESCRIPTION

#### PROJECT DESCRIPTION

#### Background

The City of Worcester is proposing to improve the existing Beaver Brook Dog Park at 15 Mann Street in Worcester, Massachusetts. The project will provide updated surfacing and park amenities.

#### **Site Description**

The Beaver Brook Dog Park is bordered by Chandler Street (Route 122) to the north, Mann Street to the west, an existing parking lot for park athletic facilities to the south, and Beaver Brook to the East.

Wetland resource areas observed on site include areas protected under the Wetland Protection Act (WPA). The local Worcester Wetland Ordinance resource areas include: 15-foot, 30-foot, 50-foot and 100-foot Wetland Buffer Zones to Bank, 25-foot Riverfront Area, and 100-foot Stormwater Protection Areas (SPZ).

#### Scope of Work

The project proposes the following improvements to the park:

- Water service connection with winterization blow out, and meter and backflow preventer cabinet on 15" depth concrete pad
- Water bottle filler on 4" depth concrete pad
- Rice Stone (stone size: 1/8" Min. to ½" Max.) and Pea Stone (stone size: 1/2" Max.) within existing fence line
- Site furnishings such as:
  - -Dog play equipment (required footings below existing grade)
  - -Trash receptacles on existing concrete pad
  - -Benches on existing concrete pad

All existing trees, fences, concrete mower strips, walkways and concrete pads will be protected during construction.

Within the existing fence line, the project will remove and dispose 12" depth of existing lawn and topsoil, excluding lawn areas within dripline of existing trees. Outside of existing tree drip lines, the 12" depth excavated area will be comprised of 6" of compacted dense graded crushed stone, and 6" of pea/ rice stone on top, separated by geotextile fabric. Stone will be evenly graded to match adjacent surfaces. Within drip line of existing tree, 6" of pea or rice stone will be placed on existing grade separated by geotextile fabric. The stone will taper from 6" depth to 3" depth from the trunk of tree.

A water line connection from Mann Street will be installed to feed a new water bottle filler on a concrete pad along existing asphalt walkway. A meter and backflow preventer cabinet on a 15" depth concrete pad will be installed along existing walkway. The water line will be 1" from water service connection to meter, and ¾" from meter to water bottle filler.

Dog Play equipment will be installed within pea/rice stone areas with footings below existing grade. Benches and trash receptacles will be installed on existing concrete pads.

#### **Environmental Considerations**

The proposed project falls within resource areas protected by both the MA Wetlands Protection Act as well as the City of Worcester Wetland Regulations. This includes the City of Worcester 50' Buffer, the 100' Buffer, and the FEMA Floodzone. No work is proposed in the City of Worcester 15' or 30' buffer, or the 25' Riverfront Area.

#### MA Wetlands Protection Act Jurisdiction

This proposed project will include impact to Land Subject to Flooding, a resource regulated under the Massachusetts Wetlands Protection Act (WPA). The performance standards for each resource area are addressed below:

Resource Area	Temporary	Permanent	Description of Temp/Perm	
	Impact	Impact	Impact Occurring	
50' Buffer	1,435 SF	876 SF	Addition of Pea Stone Surfacing	
100' Buffer	5,751 SF	1,580 SF	Addition of Pea Stone and Rice	
	(7,186 SF Total)	(2,456 SF Total)	Stone Surfacing. Placement of	
			trash receptacle and bench on	
			concrete pad.	
FEMA Floodzone	20.957 SF	7,965 SF	Addition of Pea Stone and Rice	
(el.485)			Stone Surfacing. Placement of	
			trash receptacle and bench on	
			concrete pad. Installation of	
			new dog play equipment.	
TOTAL	20,957 SF	7,965 SF		

#### Bordering Land Subject to Flooding

A total of 27,204 SF of impact will occur within Bordering Land Subject to Flooding. This impact is a result of addition of Pea Stone and Rice Stone Surfacing, placement of trash receptacle and bench on concrete pad and installation of new dog play equipment.

1. Compensatory storage shall be provided for all flood storage volume that will be lost as the result of a proposed project within Bordering Land Subject to Flooding, when in the judgment of the issuing authority said loss will cause an increase or will contribute incrementally to an increase in the horizontal extent and level of flood waters during peak flows. Compensatory storage shall mean a volume not previously used for flood storage and shall be incrementally equal to the theoretical volume of flood water at each elevation, up to and including the 100-year flood elevation, which would be displaced by the proposed project. Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or water body. Further, with respect to waterways, such compensatory volume shall be provided within the same reach of the river, stream, or creek.

Not applicable. No flood storage will be lost as part of this project as proposed grades are remaining the same as existing grades.

2. Work within Bordering Land Subject to Flooding, including that work required to provide the above-specified compensatory storage, shall not restrict flows so as to cause an increase in flood stage or velocity.

The proposed work will not restrict flow so as to cause an increase in flood stage or velocity, no flood storage will be lost as part of this project.

3. Work in those portions of bordering land subject to flooding found to be significant to the protection of wildlife habitat shall not impair its capacity to provide important wildlife habitat functions. Except for work which would adversely affect vernal pool habitat a project or projects on a single lot, for which Notice(s) of Intent is filed on or after November 1, 1987, that (cumulatively) alter(s) up to 10% or 5,000 square feet (whichever is less) of land in this resource area found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. Additional alterations beyond the above threshold, or altering vernal pool habitat, may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures contained in 310 CMR 10.60.

Not applicable. Work is not occurring in land significant to the protection of wildlife habitat.

City of Worcester Wetland Regulations Jurisdiction

Work will occur within the 100' Buffer and the Stormwater Protection Zone, both resources protected by the City of Worcester Wetlands Regulations. Below please find the performance standards for these resources as well as for the proposed erosion and sediment control.

#### **Erosion and Sediment Control**

Any proposed alteration shall not expose or cause soil to be exposed so that uncontrolled erosion occurs. Evidence of this condition may include the formation of gullys, the cutting back of existing banks by stormwater flow or the presence of visible sediment in the runoff. Erosion shall be mitigated by a combination of the following means as appropriate to the specific site:

(a) Limit erosion by minimizing the amount of exposed ground and the length of time it is exposed.

The amount of exposed ground and length of exposure will be limited during the project. Erosion controls consisting of silt fence, stabilized construction entrance, and inlet sediment control will be utilized around the limit of work.

(b) Reduce the steepness and length of slopes on the site.

The existing slopes on site are not considered steep, these slopes will remain as is throughout the project as there is no change in grade proposed.

(c) Divert flows away from disturbed areas during construction.

There will be no flows as part of this project.

(d) Protect exposed surfaces through vegetative or other stabilizing cover.

The majority of the surface on site is currently exposed. Exposed surfaces will be stabilized through Rice Stone and Pea Stone Surfacing.

(e) Decrease the velocity of runoff through check dams, slope breaks, berms, a and improved (i.e., vegetation, rip rap) drainage surfaces.

No change in runoff is anticipated as part of this project.

(f) Trap sediment in basins and behind barriers (i.e., staked hay bales and fencing). The barriers are to be keyed into the ground to prevent sediment from passing under them.

Silt fencing will be used throughout the duration of the project.

(g) Maintain and adjust erosion and sediment control measures continuously during construction

Noted. Erosion and sediment control measures will be maintained as adjusted as necessary during construction.

#### Activities within the Buffer Zone

- A. <u>Structures and Improvements to Land</u> Except as may be allowed, no permanent or temporary foundation, building, road, sidewalk, bridge, sign, billboard or other permanent or temporary structure shall be placed within 30 feet of any resource area, unless,
- 1. It is a component of a qualified limited project under the state Wetlands Protection Act and the regulations promulgated pursuant thereto; or
- 2. It is a component of any storm water, flood control, water conservation, erosion control or soil conservation project otherwise approved.

Not applicable. All work is occurring outside of the 30' buffer zone.

- B. <u>Construction Activities</u> Except as may be allowed below, no grading, filling, excavation, removal of vegetation or other construction activity (hereinafter, collectively the work) shall be allowed within fifteen feet (15') of any resource area, unless,
- 1. The Work is required to provide access to a resource area where a discretionary taking has been allowed under section 4.1 of these regulations; or
- 2. The Work is a component of any of the activities cited in (1) or (2) of subsection (A), above.

Not applicable. All work is occurring outside the 15' buffer zone.

- C. <u>Discretionary Allowances</u> The structures. Improvements and Work otherwise prohibited under subsections (A) and (B), above, may be allowed by the Conservation Commission if the applicant demonstrates and the Commission finds:
- 1. Alternatives to the applicant's proposal have been considered, and no reasonable alternative is available; and
- 2. The project scope and design minimize work in close proximity to any resource area; and
- 3. The particular site conditions (including, but not limited to slope, soil type and hydrology) will allow prevention of wetlands damage from such work; and
- 4. The work will not lead to further encroachments on the resource area after completion of the project; and
- 5(A) the structure, improvement or activity is a component of any project to provide public access to and within the resource area after completion of the project;
- (B) the permitted activity will not materially impair significant conservation interests and is consistent with the interests and purpose of the wetlands protection ordinance.

Not applicable as no work is occurring within the 30' or 15' buffer zone to a resource area

D. <u>Burden of Proof</u> - The applicant shall have the burden of proof that the work proposed in its notice of intent and for which approval is sought under subsection (C), above, satisfies all of the necessary findings set forth therein. Failure to provide adequate evidence shall be sufficient grounds for the Commission to deny or condition the applicant's proposal.

Noted. This project meets all performance standards noted in the MA Wetlands Protection Act and the City of Worcester Wetland Regulations, as described above.

- E. <u>Waiver</u> Notwithstanding anything to the contrary in subsection (C), above, the Commission, upon request thereof, and after a public hearing on such request, may waive any of the provisions of this Section 4.2.4 upon making the following findings:
- 1. There are no reasonable conditions or alternatives that would otherwise allow the project to proceed in compliance with these regulations; and
- 2. A waiver is necessary to accommodate the project, which will provide a significant general public benefit and will not materially impair significant wetlands interests.

Not Applicable. No waiver is required for this project.

#### Activities within the Stormwater Protection Zone

Work occurring in the Stormwater Protection Zone includes the placement of Rice Stone and Pea Stone surfacing, installation of dog play equipment, and the addition of a trash receptacle and bench on existing concrete pads.

All projects within the SPZ that are presumed to alter downstream resource areas shall meet the following general performance standards:

(a) erosion and sediment controls must be provided according to a plan conforming to the provisions of section 3.2 herein and approved by the Conservation Commission;

or

Proper erosion and sediment controls will be utilized throughout the project. Controls will conform to the provisions of section 3.2. Proposed controls will include inlet sediment control and silt fence.

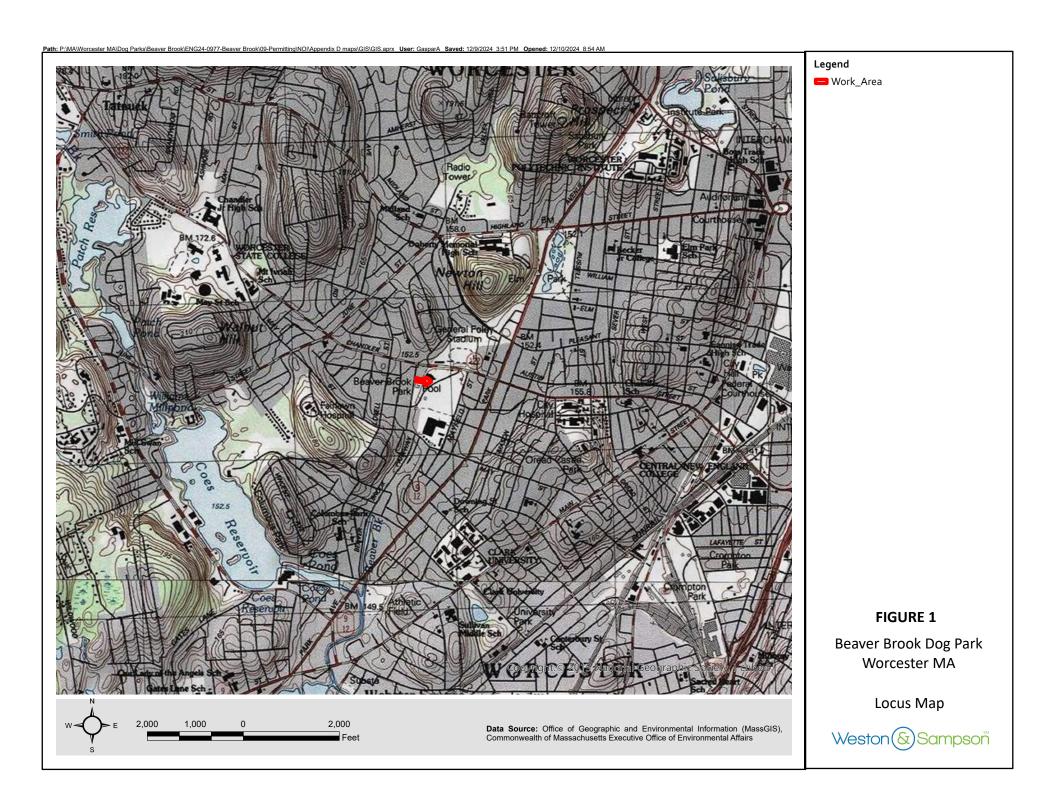
(b) The general performance of erosion controls shall be considered adequate if there is no visibly silted effluent entering the stormwater system;

Noted.

(c) for projects resulting in the conversion of five thousand (5,000) square feet or more of pervious surface to impervious surface, measures shall be provided to mitigate peak rates of runoff and minimize discharge of pollutants to the stormwater system.

Not applicable. This project will not convert over 5,000 SF of pervious surface to impervious surface. There will be 12 SF in new impervious surface.

# APPENDIX C PROJECT MAPS



#### Legend

Work\_Area

Hydraulic Connection

— Hydrologic Connection

#### Streams

- Perennial Stream
- Intermittent Stream

**DEP Wetland Areas** 

- Marsh/Bog
- Wooded marsh
- **15%** Cranberry Bog
- Salt Marsh
- Open Water
- Reservoir (with PWSID)
- Tidal Flats
- ^⁻ Beach/Dune

**ACECs** 

**ACECs** 

NHESP Estimated Habitats of Rare

- NHESP Estimated Habitats of Rare
- NHESP Priority Habitats of Rare Species

NHESP Certified Vernal Pools

- \* NHESP Certified Vernal Pools
- \* NHESP Potential Vernal Pools

**Outstanding Resource Waters** 

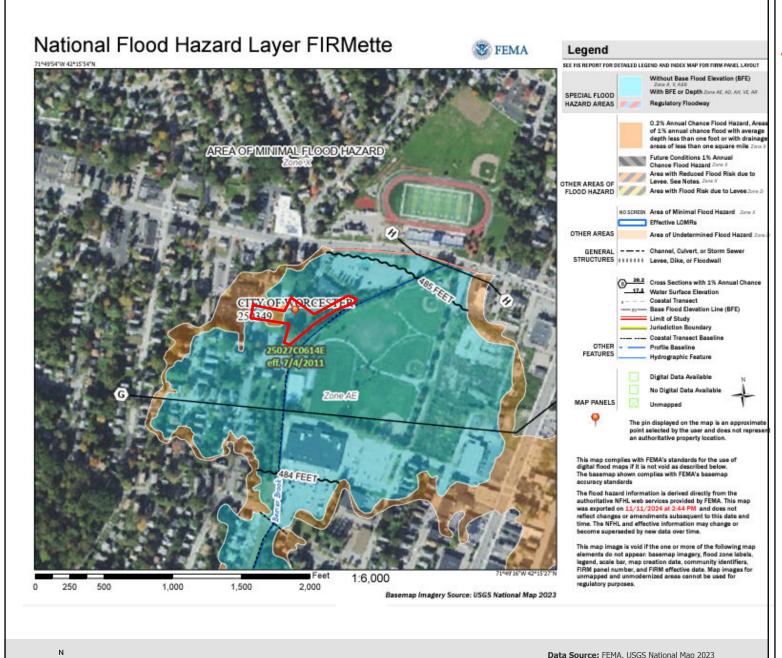
- Public Water Supply Contributor
- ORW for ACEC
- ORW for both Water Supply and Other

#### FIGURE 2

Beaver Brook Dog Park Worcester MA Environmental Receptors Map



150
Data Source: Office of Geographic and Environmental Information (MassGIS),
Commonwealth of Massachusetts Executive Office of Environmental Affairs



#### Legend

Investigation Area

#### FIGURE 3

Beaver Brook Dog Park Worcester MA

**FEMA Map** 



# APPENDIX D TECHNICAL SPECIFICATIONS

#### **SECTION 01 12 16**

#### SCOPE AND SEQUENCE OF WORK

#### PART 1 – GENERAL

#### 1.01 WORK INCLUDED:

The City of Worcester-DPW proposes amenities added to Beaver Brook Dog Park. The main improvements to the park consist of the installation of varying stone surfaces, within existing footprint, water connections from Mann Street, and site elements which include:

- 1. Pea Stone
- 2. Rice Stone
- 3. Water Bottle Filling Station
- 4. Dog park play equipment
- 5. Backflow Preventer Cabinet
- 6. Benches

#### <u>PART 2 - PRODUCTS</u> (NOT APPLICABLE)

#### PART 3 - EXECUTION

#### 3.01 GENERAL:

- A. The Contractor shall be responsible for scheduling its activities and the activities of any subcontractors involved, to meet the completion date, or milestones, established for the contract. Scheduling of the work shall be coordinated with the Owner and Engineer.
- B. The Construction Sequence Requirements shall be used by the Contractor to form a complete schedule for the project, which shall be coordinated with the Owner and Engineer. Prior to performing any work at the site, the Contractor shall submit a detailed plan to the Engineer for review. The plan shall describe the proposed sequence, methods, and timing of the work.

#### **END OF SECTION**

#### SECTION 01 14 19.16

#### **DUST CONTROL**

#### PART 1 - GENERAL

#### 1.01 DESCRIPTION:

This section of the specification covers the control of dust via calcium chloride and water, complete.

#### PART 2 - PRODUCTS

#### 2.01 CALCIUM CHLORIDE:

- A. Calcium chloride shall conform to the requirements of AASHTO-M 144, Type I or Type II and Specification for Calcium Chloride, ASTM D98. The calcium chloride shall be packaged in moisture proof bags or in airtight drums with the manufacturer, name of product, net weight, and percentage of calcium chloride guaranteed by the manufacturer legibly marked on each container.
- B. Calcium chloride failing to meet the requirements of the specifications or that which has become caked or sticky in shipment, may be rejected by the Engineer.

#### 2.02 WATER:

A. Water shall not be brackish and shall be free from oil, acid, and injurious alkali or vegetable matter.

#### PART 3 - EXECUTION

#### 3.01 APPLICATION:

- A. Calcium chloride shall be applied when ordered by the Engineer and only in areas which will not be adversely affected by the application. See Section 01 57 19, ENVIRONMENTAL PROTECTION.
- B. Calcium chloride shall be uniformly applied at the rate of 1-1/2 pounds per square yard or at any other rate as required by the Engineer. Application shall be by means of a

- mechanical spreader, or other approved methods. The Engineer shall determine the number and frequency of applications.
- C. Water may be sprinkler applied with equipment including a tank with gauge-equipped pressure pump and a nozzle-equipped spray bar.
- D. Water shall be dispersed through the nozzle under a minimum pressure of 20 pounds per square inch, gauge pressure.

**END OF SECTION** 

#### **SECTION 01 57 19**

#### **ENVIRONMENTAL PROTECTION**

#### PART 1 – GENERAL

#### 1.01 DESCRIPTION:

- A. The work covered by this section of the specifications consists of furnishing all labor, materials, tools and equipment and performing all work required for the prevention of environmental pollution during and as a result of construction operations under this contract.
- B. The requirements set forth in this section of the specifications apply to cross-country areas, river and stream crossings, and construction in and adjacent to wetlands, unless otherwise specifically stated.
- C. All work under this Contract shall be in accordance with the Conservation Commissions' Orders of Conditions as well as any conditional requirements applied, all of which are attached to Section 00 31 43, PERMITS.
- D. Prior to commencement of work, the Contractor shall meet with representatives of the Engineer to develop mutual understandings relative to compliance of the environmental protection program.

#### 1.02 RELATED WORK:

- A. Section 01 14 19.16, DUST CONTROL
- B. Section 01 33 23, SUBMITTALS
- C. Section 31 00 00, EARTHWORK
- D. Section 31 11 00, CLEARING AND GRUBBING
- E. Section 31 23 19, DEWATERING
- F. Section 31 50 00, SUPPORT OF EXCAVATION

#### 1.03 SUBMITTALS:

A. The Contractor shall submit details and literature fully describing environmental protection methods to be employed in carrying out construction activities within 100 feet of wetlands or across areas designated as wetlands.

#### PART 2 - PRODUCTS

#### 2.01 SILT FENCE:

- A. The silt fence shall consist of a 3-foot wide continuous length sediment control fabric, stitched to a mesh backing, and stapled to preweathered oak posts installed as shown on the drawings. The oak posts shall be 1-1/4-inches by 1-1/4-inches (Minimum Dimension) by 48-inches and shall be tapered. The bottom edge of the silt fence shall be buried as shown on the drawings.
- B. The silt fence shall be DOT Silt Fence PPDM3611, as manufactured by U.S. Silt & Site Supply/Getsco, Concord, NH, or approved equal.

#### C. Silt fence properties:

Physical Properties	Test Method	Minimum Value
Grab Strength, lbs.	ASTM-D-4632	124
Grab Elongation, %	ASTM-D-4632	15
Mullen burst, psi	ASTM-D-3786	300
Puncture, lbs.	ASTM-D-4833	65
Trapezoidal Tear, lbs.	ASTM-D-4533	65
UV Resistance2, %3	ASTM-D-4355	80@500 hrs.
AOS, US Sieve No.	ASTM-D-4751	30
Flow Rate, gal/min/sq ft	ASTM-D-4491	10
Permittivity,(1/sec)gal/min/sq ft	ASTM-D-4491	$0.05 \text{ sec}^{-1}$

#### 2.02 CATCH BASIN PROTECTION:

A. To trap sediment and to prevent sediment from clogging drainage systems, catch basin protection in the form of a siltation sack (Siltsack as manufactured by ACF Environmental, Inc. or approved equal) shall be provided as approved by the Engineer.

#### PART 3- EXECUTION

#### 3.01 NOTIFICATION AND STOPPAGE OF WORK:

A. The Engineer will notify the Contractor in writing of any non-compliance with the provisions of the Order of Conditions. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or its authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails to act promptly, the Owner may order stoppage of all or part of the work through the Engineer until satisfactory corrective action has been taken. No claim for an extension of time or for excess costs or damage incurred by the Contractor as a result of time lost due to any stop work orders shall be made unless it was later determined that the Contractor was in compliance.

#### 3.02 AREA OF CONSTRUCTION ACTIVITY:

A. Insofar as possible, the Contractor shall confine its construction activities to those areas defined by the plans and specifications. All land resources within the project boundaries and outside the limits of permanent work performed under this contract shall be preserved in their present condition or be restored to a condition after completion of construction at least equal to that which existed prior to work under this contract.

#### 3.03 PROTECTION OF WATER RESOURCES:

- A. The Contractor shall not pollute streams, lakes or reservoirs with fuels, oils, bitumens, calcium chloride, acids or other harmful materials. It is the Contractor's responsibility to comply with all applicable Federal, State, County and Municipal laws regarding pollution of rivers and streams.
- B. Special measures should be taken to insure against spillage of any pollutants into public waters.

#### 3.04 CONSTRUCTION IN AREAS DESIGNATED AS WETLANDS ON THE DRAWINGS:

- A. Insofar as possible, the Contractor shall make every effort to minimize disturbance within areas designated as wetlands or within 100-feet of wetland resource areas. Total easement widths shall be limited to the widths shown.
- B. The Contractor shall perform its work in such a way that these areas are left in the condition existing prior to construction.
- C. The elevations of areas designated as wetlands shall not be unduly disturbed by the Contractor's operations outside of the trench limits. If such disturbance does occur, the Contractor shall take all measures necessary to return these areas to the elevations which existed prior to construction.
- D. In areas designated as wetlands, the Contractor shall carefully remove and stockpile the top 24 inches of soil. This topsoil material shall be used as backfill for the trench excavation top layer. The elevation of the trench shall be restored to the preconstruction elevations wherever disturbed by the Contractor's operation.
- E. The Contractor shall use a trench box, sheeting or bracing to support the excavation in areas designated as wetlands.
- F. Excavated materials shall not be permanently placed or temporarily stored in areas designated as wetlands. Temporary storage areas for excavated material shall be as required by the Engineer.

- G. The use of a temporary gravel roadway to construct the pipeline in the wetlands area is not acceptable. The Contractor will be required to utilize timber or rubber matting to support its equipment in these areas. The timber or rubber matting shall be constructed in such a way that it is capable of supporting all equipment necessary to install the pipeline. The timber or rubber matting shall be constructed of materials and placed in such a way that when removed the material below the matting will not be unduly disturbed, mixed or compacted so as to adversely affect recovery of the existing plant life.
- H. Bentonite dams shall be placed in wetlands to prevent drainage. Locations for dams are as indicated on the drawings or as required by the Engineer.
- I. During construction, easements within wetlands shall be lined with a continuous siltation fence barrier

#### 3.05 PROTECTING AND MINIMIZING EXPOSED AREAS:

- A. The Contractor shall limit the area of land which is exposed and free from vegetation during construction. In areas where the period of exposure will be greater than two (2) months, temporary vegetation, mulching or other protective measures shall be provided as specified.
- B. The Contractor shall take account of the conditions of the soil where temporary cover crop will be used to insure that materials used for temporary vegetation are adaptive to the sediment control. Materials to be used for temporary vegetation shall be approved by the Engineer.

#### 3.06 LOCATION OF STORAGE AREAS:

- A. The location of the Contractor's storage areas for equipment and/or materials shall be upon cleared portions of the job site or areas to be cleared as a part of this project, and shall require written approval of the Engineer. Plans showing storage facilities for equipment and materials shall be submitted for approval of the Engineer.
- B. No excavated materials or materials used in backfill operations shall be deposited within a minimum distance of one hundred (100) feet of any watercourse or any drainage facility. Adequate measures for erosion and sediment control around the downstream perimeter of stockpiles shall be employed to protect any downstream areas from siltation.
- C. There shall be no storage of equipment or materials in areas designated as wetlands.
- D. The Engineer may designate a particular area or areas where the Contractor may store materials used in its operations.

E. Storage areas in cross-country locations shall be restored to pre-construction conditions with the planting of native species of trees and shrubs.

#### 3.07 PROTECTION OF LANDSCAPE:

- A. The Contractor shall not deface, injure, or destroy trees or shrubs nor remove or cut them without written authority from the Owner. No ropes, cables, or guys shall be fastened to or attached to any existing nearby trees for anchorages unless specifically authorized by the Engineer. Excavating machinery and cranes shall be of suitable type and be operated with care to prevent injury to trees which are not to be removed, particularly overhanging branches and limbs. The Contractor shall, in any event, be responsible for any damage resulting from such use.
- B. Branches, limbs, and roots shall not be cut except by permission of the Engineer. All cutting shall be smoothly and neatly done without splitting or crushing. When there is unavoidable injury to branches, limbs and trunks of trees, the injured portions shall be neatly trimmed and covered with an application of grafting wax or tree healing paint as directed.
- C. Where, in the opinion of the Engineer, trees may possibly be defaced, bruised, injured, or otherwise damaged by the Contractor's equipment or by its blasting or other operations, the Engineer may require the Contractor to adequately protect such trees by placing boards, planks, poles or fencing around them. Any trees or landscape feature scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition at the expense of the Contractor. The Engineer will decide what method of restoration shall be used, and whether damaged trees shall be treated and healed or removed and disposed of under the provisions of Section 31 11 00, CLEARING AND GRUBBING.
- D. Cultivated hedges, shrubs, and plants which could be injured by the Contractor's operations shall be protected by suitable means or shall be dug up, balled and temporarily replanted and maintained. After construction operations have been substantially completed, they shall be replanted in their original positions and cared for until growth is re-established. If cultivated hedges, shrubs, and plants are injured to such a degree as to affect their growth or diminish their beauty or usefulness, they shall be replaced by items of a kind and quality at least equal to that existing at the start of the work.

#### 3.08 CLEARING AND GRUBBING:

A. The Contractor shall clear and grub only on the Owner's land or the Owner's easements, and only the area required for construction operations, as approved by the Engineer. Removal of mature trees (4-inches or greater DBH) will not be allowed on temporary easements.

B. The Contractor shall not remove trees in the Owner's temporary easements without permission of the Engineer.

#### 3.09 DISCHARGE OF DEWATERING OPERATIONS:

- A. Any water that is pumped and discharged from the trench and/or excavation as part of the Contractor's water handling shall be filtered by an approved method prior to its discharge into a receiving water or drainage system.
- B. Under no circumstances shall the Contractor discharge water to the areas designated as wetlands. When constructing in a wetlands area, the Contractor shall discharge water from dewatering operations directly to the nearest drainage system, stream, or waterway after filtering by an approved method.
- C. The pumped water shall be filtered through filter fabric and baled hay, a vegetative filter strip or a vegetated channel to trap sediment occurring as a result of the construction operations. The vegetated channel shall be constructed such that the discharge flow rate shall not exceed a velocity of more than 1 foot per second. Accumulated sediment shall be cleared from the channel periodically.

#### 3.10 DUST CONTROL:

- A. During the progress of the work, the Contractor shall conduct its operations and maintain the area of its activities, including sweeping and sprinkling of streets as necessary, to minimize creation and dispersion of dust. If the Engineer decides it is necessary to use calcium chloride for more effective dust control, the Contractor shall furnish and spread the material, as directed. Calcium chloride shall be as specified under Section 01 14 19.16, DUST CONTROL.
- B. Calcium Chloride shall not be used for dust control within a drainage basin or in the vicinity of any source of potable water.

#### 3.11 SEPARATION AND REPLACEMENT OF TOPSOIL:

A. Topsoil shall be carefully removed from cross-country areas where excavations are to be made, and separately stored to be used again as required. The topsoil shall be stored in an area acceptable to the Engineer and adequate measures shall be employed to prevent erosion of said material.

#### 3.12 ERECTION AND MAINTENANCE OF SILT FENCE:

A. Where indicated on the drawings or where required by the Engineer, the Contractor shall erect and maintain a temporary silt fence. In areas designated as wetlands, the Contractor shall line the limits of the construction easement with a silt fence. The silt fence shall be used specifically to contain sediment from runoff water and to minimize environmental damage caused by construction.

#### 3.13 CATCH BASIN PROTECTION:

- A. Catch basin protection shall be used for every catch basin, shown on the plans or as required by the Engineer, to trap sediment and prevent it from clogging drainage systems and entering wetlands. Siltation sack shall be securely installed under the catch basin grate. Care shall be taken to keep the siltation sack from breaking apart or clogging. All deposited sediment shall be removed periodically and at times prior to predicted precipitation to allow free drainage flow. Prior to working in areas where catch basins are to be protected, each catch basin sump shall be cleaned of all debris and protected. The Contractor shall properly dispose of all debris at no additional cost to the Owner.
- B. All catch basin protection shall be removed by the Contractor after construction is complete.

**END OF SECTION** 

#### **SECTION 01 74 13**

#### **CLEANING UP**

#### PART 1 - GENERAL

#### 1.01 DESCRIPTION:

The Contractor must employ at all times during the progress of its work adequate cleanup measures and safety precautions to prevent injuries to persons or damage to property. The Contractor shall immediately, upon request by the Engineer provide adequate material, equipment and labor to clean up and make safe any and all areas deemed necessary by the Engineer.

#### 1.02 RELATED WORK:

A. Section 01 57 19 ENVIRONMENTAL PROTECTION

#### PART 2 - PRODUCTS

Not applicable

#### PART 3 - EXECUTION

#### 3.01 DAILY CLEANUP:

- A. The Contractor shall clean up, at least daily, all refuse, rubbish, scrap and surplus material, debris and unneeded construction equipment resulting from the construction operations and sweep the area. The site of the work and the adjacent areas affected thereby shall at all times present a neat, orderly and workmanlike appearance.
- B. Upon written notification by the Engineer, the Contractor shall within 24 hours clean up those areas, which in the Engineer's opinion are in violation of this section and the above referenced sections of the specifications.
- C. If in the opinion of the Engineer, the referenced areas are not satisfactorily cleaned up, all other work on the project shall stop until the cleanup is satisfactory.

#### 3.02 MATERIAL OR DEBRIS IN DRAINAGE FACILITY

A. Where material or debris has washed or flowed into or has been placed in existing watercourses, ditches, gutters, drains, pipes, structures, such material or debris shall be entirely removed and satisfactorily disposed of during progress of the work, and the ditches, channels, drains, pipes, structures, and work shall, upon completion of the work, be left in a clean and neat condition.

#### 3.03 REMOVAL OF TEMPORARY BUILDINGS, STRUCTURES AND EQUIPMENT:

A. On or before completion of the work, the Contractor shall, unless otherwise specifically required or permitted in writing, tear down and remove all temporary buildings and structures it built; shall remove all temporary works, tools and machinery or other construction equipment it furnished; shall remove all rubbish from any grounds which it has occupied; shall remove silt fences and hay bales used for trapping sediment; and shall leave the roads and all parts of the property and adjacent property affected by its operations in a neat and satisfactory condition.

#### 3.04 RESTORATION OF DAMAGED PROPERTY:

A. The Contractor shall restore or replace, when and as required, any property damaged by its work, equipment or employees, to a condition at least equal to that existing immediately prior to the beginning of operations. To this end the Contractor shall do as required all necessary highway or driveway, walk and landscaping work. Materials, equipment, and methods for such restoration shall be as approved by the Engineer.

#### 3.05 FINAL CLEANUP:

- A. Before acceptance by the Owner, the Contractor shall perform a final cleanup to bring the construction site to its original or specified condition. This cleanup shall include removing all trash and debris off of the premises. Before acceptance, the Engineer shall approve the condition of the site.
- B. Before acceptance by the Owner, the Contractor shall perform a final cleanup to bring the building to a "like new" condition. This cleanup shall include removing all trash and debris from the premises; sweeping and mopping of all floors; washing of all walls, windows and doors; cleaning and polishing of all finish metal surfaces; cleaning of all equipment, utilizing proper solvents for removal of oil and grease; cleaning of dirt and debris out of all mechanical and electrical cabinets; and all other related work required to render the building suitable for use. Before acceptance, the Engineer shall approve the condition of the building.

END OF SECTION

# **PLANS**