



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

MassDEP File Number:

002-1024

A. General Information

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



1. From: Amesbury
 Conservation Commission

2. This issuance is for (check one): a. Order of Conditions b. Amended Order of Conditions

3. To: Applicant:

<u>Robert</u>	<u>Desmarais</u>	
a. First Name	b. Last Name	
<u>Town of Amesbury, DPW</u>		
c. Organization		
<u>62 Friend Street</u>		
d. Mailing Address		
<u>Amesbury</u>	<u>MA</u>	<u>01913</u>
e. City/Town	f. State	g. Zip Code

4. Property Owner (if different from applicant):

<u>Commonwealth of Massachusetts</u>		
a. First Name	b. Last Name	
c. Organization		
d. Mailing Address		
e. City/Town	f. State	g. Zip Code

5. Project Location:

<u>Townwide</u>	<u>Amesbury</u>
a. Street Address	b. City/Town
<u>N/A</u>	<u>N/A</u>
c. Assessors Map/Plat Number	d. Parcel/Lot Number
Latitude and Longitude, if known:	
e. Latitude	f. Longitude

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):

a. County	b. Certificate Number (if registered land)
c. Book	d. Page

7. Dates:

<u>6.21.10</u>	<u>9.20.10</u>	<u>9.21.10</u>
a. Date Notice of Intent Filed	b. Date Public Hearing Closed	c. Date of Issuance

8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):

<u>Watershed and Waterway Management Plan for Amesbury, Massachusetts</u>		
a. Plan Title		
<u>Robert Desmarais, DPW Director</u>	c. Signed and Stamped by	
b. Prepared By		
<u>September, 2010</u>	e. Scale	
d. Final Revision Date		
<u>Watershed Plan with Beach Locations (scale 1" = 600')</u>	<u>8.20.09</u>	
f. Additional Plan or Document Title	g. Date	



B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act. Check all that apply:

- a. Public Water Supply b. Land Containing Shellfish c. Prevention of Pollution
- d. Private Water Supply e. Fisheries f. Protection of Wildlife Habitat
- g. Groundwater Supply h. Storm Damage Prevention i. Flood Control

2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

- a. the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

Denied because:

- b. the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect these interests, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

3. Buffer Zone Impacts: Shortest distance between limit of project disturbance and wetland boundary (if available)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. <input checked="" type="checkbox"/> Bank	N/A a. linear feet	b. linear feet	c. linear feet	d. linear feet
5. <input checked="" type="checkbox"/> Bordering Vegetated Wetland	N/A a. square feet	b. square feet	c. square feet	d. square feet
6. <input checked="" type="checkbox"/> Land Under Waterbodies and Waterways	a. square feet N/A e. c/y dredged	b. square feet f. c/y dredged	c. square feet	d. square feet



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

MassDEP File Number:

002-1024

B. Findings (cont.)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
7. <input checked="" type="checkbox"/> Bordering Land Subject to Flooding	N/A			
Cubic Feet Flood Storage	a. square feet	b. square feet	c. square feet	d. square feet
	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. <input type="checkbox"/> Isolated Land Subject to Flooding				
Cubic Feet Flood Storage	a. square feet	b. square feet		
	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9. <input checked="" type="checkbox"/> Riverfront area	N/A			
Sq ft within 100 ft	a. total sq. feet	b. total sq. feet		
	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

10. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. <input type="checkbox"/> Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. <input type="checkbox"/> Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. <input type="checkbox"/> Coastal Beaches	a. square feet	b. square feet	c. c/y nourishmt.	d. c/y nourishmt.
14. <input type="checkbox"/> Coastal Dunes	a. square feet	b. square feet	c. c/y nourishmt.	d. c/y nourishmt.
15. <input type="checkbox"/> Coastal Banks	a. linear feet	b. linear feet		
16. <input type="checkbox"/> Rocky Intertidal Shores	a. square feet	b. square feet		
17. <input type="checkbox"/> Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. <input type="checkbox"/> Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. <input type="checkbox"/> Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	a. c/y dredged	b. c/y dredged		
21. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		



C. General Conditions Under Massachusetts Wetlands Protection Act

(only applicable to approved projects)

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. the work is a maintenance dredging project as provided for in the Act; or
 - b. the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.
6. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
7. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
8. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to this Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
9. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]

"File Number 002-1024 "



WPA Form 5 – Order of Conditions

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

C. General Conditions Under Massachusetts Wetlands Protection Act

10. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
11. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
12. The work shall conform to the plans and special conditions referenced in this order.
13. Any change to the plans identified in Condition #12 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
14. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
15. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.
16. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
17. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.
18. **The work associated with this Order is (1) is not (2) subject to the Massachusetts Stormwater Policy Standards. If the work is subject to the Stormwater Policy, the following conditions apply to this work and are incorporated into this Order:**
 - a) No work, including site preparation, land disturbance, construction and redevelopment, shall commence unless and until the construction period pollution prevention and erosion and sedimentation control plan required by Stormwater Standard 8 is approved in writing by the issuing authority. Until the site is fully stabilized, construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan, and if applicable, the Stormwater Pollution Plan required by the National Discharge Elimination System Construction General Permit.



WPA Form 5 – Order of Conditions

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

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs until written approval is received from the issuing authority. To request written approval, the following must be submitted: illicit discharge compliance statement required by Stormwater Standard 10 and as-built plans signed and stamped by a registered professional engineer certifying the site is fully stabilized; all construction period stormwater BMPs and any illicit discharges to the stormwater management system have been removed; and all post-construction stormwater BMPs were installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure they are not damaged and will function properly.
- c) Prior to requesting a Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall submit to the issuing authority an Operation and Maintenance (O & M) Compliance Statement for the Stormwater BMPs. This Statement shall identify the responsible party for implementing the Operation and Maintenance Plan and also state that: 1. "Future responsible parties shall be notified in writing of their continuing legal responsibility to operate and maintain the stormwater management BMPs and implement the Pollution Prevention Plan; and 2. The Operation and Maintenance Plan for the stormwater BMPs is complete and will be implemented upon receipt of the Certificate."
- d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Discharge Elimination System Multi-Sector General Permit.
- e) Unless and until another party accepts responsibility, the issuing authority shall presume that the responsible party for maintaining each BMP is the landowner of the property on which the BMP is located. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement acceptable to the issuing authority evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.
- f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the Operation and Maintenance Plan section of the approved Stormwater Report, and the Massachusetts Stormwater Handbook.
- g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three years including inspections, repairs, replacement and disposal (for disposal the log shall indicate the type of material and the disposal location);
 2. Make this log available to MassDEP and the Conservation Commission upon request; and
 3. Allow members and agents of the MassDEP and the Conservation Commission to enter and inspect the premises to evaluate and ensure that the responsible party complies with the Operation and Maintenance requirements for each BMP set forth in the Operations and Maintenance Plan approved by the issuing authority.
- h) All sediments or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.



WPA Form 5 – Order of Conditions

002-1024

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

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

j) The stormwater management system approved in the Final Order of Conditions shall not be changed without the prior written approval of the issuing authority. Areas designated as qualifying pervious areas for purpose of the Low Impact Site Design Credit shall not be altered without the prior written approval of the issuing authority.

k) Access for maintenance of stormwater BMPs shall not be obstructed or blocked. Any fencing constructed around stormwater BMPs shall include access gates. Fence(s) shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? Yes No

2. The Amesbury hereby finds (check one that applies):
Conservation Commission

a. that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw specifically:

1. Municipal Ordinance or Bylaw

2. Citation

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

b. that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

1. Municipal Ordinance or Bylaw

2. Citation

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

See Attachment to Order of Conditions



F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request of Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant. Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order or Determination, or providing written information to the Department prior to issuance of a Superseding Order or Determination.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

Section G, Recording Information is available on the following page.



WPA Form 5 – Order of Conditions

002-1024

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

G. Recording Information

This Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Amesbury

Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Amesbury

Conservation Commission

Please be advised that the Order of Conditions for the Project at:

Townwide

Project Location

002-1024

MassDEP File Number

Has been recorded at the Registry of Deeds of:

Essex South

County

Book

Page

for:

Commonwealth of Massachusetts

Property Owner

and has been noted in the chain of title of the affected property in:

Book

Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

ATTACHMENT TO ORDER OF CONDITIONS

Applicant: Robert Desmarais, Director, Amesbury Department of Public Works
Site Address: Town-wide
DEP File: 002-1024

Pursuant to Massachusetts Wetlands Protection Act (M.G.L. chapter 131, §40) and its implementing regulations (310 CMR, § 10.00) and the Town of Amesbury Wetlands Protection Ordinance and its implementing regulations:

This Order permits: An update to the Town of Amesbury Watershed and Waterways Management Plan (Plan). The Plan is authorized to serve as a formal policy for the operation and management of the watershed including four lakes and seven water control structures located within the town. The Plan gives direction and guidance for the seasonal and daily operation of the waterways that is consistent with practices over the last ten years, the notable exception being the addition of a winter drawdown plan for weed control in the four lakes.

The approved work is a limited project pursuant to CMR 10.53 (i) for maintenance of a reservoir. The only work authorized is the operation of water control structures adjacent to reservoirs. The water levels in the various water bodies shall be maintained as they have been pursuant to Amesbury Conservation Commission and Massachusetts Department of Environmental Protection authorization for the last 10 years. The authorized “winter draw-down,” which is the most significant alternation to the current Plan, is intended to control and reduce the amount of vegetation with the lakes and ponds. The need for winter weed control draw-down has been documented and is warranted due to the over abundance of vegetation in the water bodies.

All work shall conform to the following:

Notice of Intent filed by: Robert Desmarais, Director
Town of Amesbury – Department of Public Works
62 Friend Street
Amesbury, MA 01913

1) Site plans prepared by: Town of Amesbury
Department of Public Works /Engineering

Entitled: Watershed Plan with Beach Locations
Amesbury, MA
Project: Watershed
CADD No. SHED-09.DWG
Scale: 1” = 600’
DR. BY: RLD
Date: 8.10.09
Sheet 1 of 1

I. GENERAL CONDITIONS:

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures shall be deemed cause to revoke or modify this Order of Conditions ("Order").
2. Approval of this application does not constitute compliance with any law or regulation other than MGL Chapter 131, Section 40, Wetlands Regulations CMR 10.00 and Amesbury Wetlands Protection Ordinance ("Ordinance") and its implementing regulations ("Regulations") as promulgated by the Town of Amesbury Conservation Commission (ACC).
3. This Order shall apply to any successor in interest or successor in control of the property.
4. The work authorized hereunder shall be completed within **three (3) years** from the date of this Order.
5. This Order may be extended by the issuing authority for one or more periods of up to one year each upon application to the issuing authority at least **thirty (30) days** prior to the expiration date of the Order.
6. A sign shall be displayed at the site not less than two (2) feet or more than three (3) square feet in size bearing the words,

"MA DEP File Number 002-1024"

7. The Amesbury Conservation Commission (ACC) reserves the right to impose additional conditions on this project including but not limited to additional or modified erosion control / siltation controls during construction, if it deems that site conditions warrant such measures to mitigate potential impacts.
8. A copy of this Order and the plan approved in this Order shall be available on site at all times when work is in progress.
9. If the subject parcel is sold or the development rights are transferred to any other person, the applicant shall be required to submit to the ACC a signed and notarized letter of acknowledgement from the buyer or their assignees stating that they have been provided copies of all permits associated with the proposed project, including this Order, and that they understand their responsibility associated with the construction of this project under those permits, including this Order.
10. The applicant shall be required to pay in full any outstanding invoices from the Commission's peer review consultant for this project.
11. The ACC shall require site inspection from time to time during the construction phase by its construction observation consultant. The consultant shall observe and monitor erosion control measures on site, construction of stormwater management system and any site work within the jurisdictional areas of the ACC. The applicant shall be required to pay for the Commission's consultant services and set up a construction observation account with the Town of Amesbury. No site preparation or construction shall be allowed until the applicant has submitted an initial amount of \$1000/- towards the consultant services.
12. Any modification to the approved site plan shall require review and approval by the ACC. Prior to consideration of any such request, the wetland resource area shall be re-flagged or the originally approved flagging shall be established in the field. The applicant shall be required to submit the modification in request in writing along with all the necessary forms and supporting documents in a timely manner for the Commission's consideration. The ACC may require all

modification requests to be reviewed by its peer review consultant and the applicant shall submit the necessary funds to the ACC for the consultant services. The Commission shall review the request and decide if an Amended Order is required.

13. Any change that requires modification of approved plans within the jurisdictional area or changes to the erosion control plan or to the stormwater management system shall require an Amended Order unless the Commission decides otherwise at its regularly posted public meeting. If the ACC decides that a change is of sufficient magnitude that it shall require the imposition of additional conditions to ensure adequate protection of the resource area and / or the interests covered under the Bylaw and Regulations, an Amended Order shall be required and a new public hearing shall be required.
14. Any requests for modification or amendment of the Order shall not be considered or reviewed if the Order has expired or there is an outstanding Enforcement Order on the subject parcel.

II. PRE-CONSTRUCTION CONDITIONS:

15. If required, prior to the pre-construction meeting and commencement of any activity on this site, the boundaries of all wetland resource areas shall be identified by flagging, spaced at intervals not greater than 25-feet apart. Wetland flags shall be checked and replaced as necessary and maintained until a Certificate of Compliance is issued for the project.
16. Prior to the pre-construction meeting and commencement of any activity on this site, all erosion control devices approved under this Order shall be properly installed as shown on approved plan. If required, erosion control barriers shall consist of entrenched silt fence backed by double-staked hay bales. The ACC and/or its Agent shall inspect and approve such installation at a pre-construction meeting. The erosion control devices must remain in place until the Commission or its Agent has authorized their removal. All workers must be instructed not to work beyond this limit.
17. **Once the above mentioned pre-construction requirements are complete, the applicant shall contact the Conservation Department prior to site preparation or construction and shall arrange an on-site PRE-CONSTRUCTION MEETING with a representative from the ACC and/or its agent, the project supervisor, the contractor responsible for work, the engineer, wetland scientist (if applicable), and the applicant to ensure all of the Conditions of this Order are understood. Please contact the Amesbury Conservation Department office at (978) 388-8110 ext. 317 at least seventy-two (72) hours prior to any activity to arrange the pre-construction meeting.**
18. Inform all contractors and subcontractors of the conditions and provisions of this Order. This Order shall be included in all construction contracts and subcontracts dealing with the work, and shall supersede other contract requirements.

III. CONSTRUCTION CONDITIONS:

19. A copy of the recorded Order shall be provided to the Building Inspector at the time of making application for Building Permit along with a set of approved plans.
20. Prior to making application for building permits, copies of all recorded legal documents shall be provided to the Commission for their records.
21. Accepted engineering and Best Management Practices for construction standards shall be followed in the conduct of all work. All site improvements shall be installed as per approved

plans and engineering details shown on them. Any modifications or deviations from approved plans shall only be made upon approval from the Commission.

22. No alteration or activity shall occur beyond the limit or work as defined by the siltation barriers shown on the approved plan.
23. All waste generated by, or associated with, the construction activity shall be contained within the construction area, and away from the resource area. There shall be no stump dumps, burying of stumps or any material onsite. The applicant shall maintain a dumpster (or other suitable means) at the site for the storage and removal of such construction material off-site. However, no trash dumpsters will be allowed within 50-feet to the Bordering Vegetated (BVW) or riparian bank.
24. All stockpiles shall be enclosed by erosion control consisting of hay bales and entrenched silt fence. There shall be no stockpiling outside the approved limit of work.
25. Any damage caused as a direct result of this project to any wetland resource areas shall be the responsibility of the applicant to repair, restore and / or replace. Sedimentation or erosion into these areas shall be considered damage to wetland resource areas. If sediment reaches these areas, the Commission and/or its agents shall be contacted and a plan for abatement of the problem and proposed restoration / mitigation measures shall be submitted for approval and implementation. If the applicant fails to address the failure or damage as required by the Commission in a timely manner, it shall be deemed as a violation under the Regulations.
26. The limit of work and area of no alteration on individual lots shall be marked by permanent structures as approved by the ACC. A certified plot plan shall be submitted to the ACC along with a certificate from a professional engineer showing the exact location of these permanent structures relative to the lot lines.

IV. AFTER CONSTRUCTION:

27. **Upon completion of the project, the applicant shall submit the following to the Amesbury Conservation Commission to Request for a Certificate of Compliance (COC):**
 - a. WPA Form 8A- Request for a Certificate of Compliance;
 - b. A letter from the applicant requesting the Certificate of Compliance with the following information included:
 - i. Name and address of current landowner;
 - ii. The name and address of the individual or other entity to whom the COC is to be issued;
 - iii. The street address and lot number for the project; and DEP file #
 - iv. "As-Built" plans prepared, sign, and stamped by a Registered Professional Civil Engineer (and / or Registered Professional Land Survey) of the Commonwealth, for public record.
28. The applicant shall make request for Certificate of Compliance as provided for under Section 7.12 of the Amesbury Wetlands Regulations, as amended.

V. PERPETUAL CONDITIONS:

The following conditions are ongoing and do not expire with the issuance of the Certificate of Compliance:

29. Water quality to the adjacent Bordering Vegetated Wetlands (BVW) shall not differ significantly following the completion of the project from the pre-development conditions. There shall be no sedimentation into the resource areas from discharge pipes or surface runoff leaving the site. This shall be a continuing condition in perpetuity.
30. Fertilizers utilized for landscaping and lawn care shall be slow release, low-nitrogen types (<5%), and shall not be used within 25-feet of a resource area. Pesticides and herbicides shall not be used within 100-feet of a wetland resource area. This condition shall survive the Order of Conditions and shall run with the title of the property.
31. Any Deed for all or any portion of the property subject to this Order shall contain the following language. "This property is subject to a non-disturbance zone in which no alteration of land or vegetation may occur. The non-disturbance zone is shown on the plan entitled " _____ (title of plans) _____ recorded at the Essex South Registry of Deeds, at Book _____, Page _____, and/or registered with the Land Registration Office of the Essex County Registry District as Document No. _____ as described in the Order of Conditions recorded in the same Registry at Book _____, Page _____, and/or in the same Registry District as Document _____. In accordance with said Order of Conditions, this language shall be incorporated in full into all future deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer, whereby an interest in and/or a right to use the property or a portion thereof is conveyed (a "Deed").



WPA Form 5 – Order of Conditions

002-1024

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

E. Issuance

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

9.21.10

1. Date of Issuance

Please indicate the number of members who will sign this form:

This Order must be signed by a majority of the Conservation Commission.

2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Signatures:

[Handwritten signatures in black and blue ink]

Notary Acknowledgement

Commonwealth of Massachusetts County of

Essex

On this 21st Day of

September
Month

2010
Year

Before me, the undersigned Notary Public, personally appeared

Michael Bik

Name of Document Signer

proved to me through satisfactory evidence of identification, which was/were

Drivers License

Description of evidence of identification

to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose.

As member of

Amesbury
City/Town

Conservation Commission

[Handwritten signature of Rita Shauna Becotte]
Signature of Notary Public
Rita Shauna Becotte
Printed Name of Notary Public

3.25.16

My Commission Expires (Date)

Place notary seal and/or any stamp above

This Order is issued to the applicant as follows:

by hand delivery on

by certified mail, return receipt requested, on

Date

Date

9.22.10

ATTACHMENT TO ORDER OF CONDITIONS

Applicant: Robert Desmarais, Director, Amesbury Department of Public Works
Site Address: Town-wide
DEP File: 002-1024

Pursuant to Massachusetts Wetlands Protection Act (M.G.L. chapter 131, §40) and its implementing regulations (310 CMR, § 10.00) and the Town of Amesbury Wetlands Protection Ordinance and its implementing regulations:

This Order permits: An update to the Town of Amesbury Watershed and Waterways Management Plan (Plan). The Plan is authorized to serve as a formal policy for the operation and management of the watershed including four lakes and seven water control structures located within the town. The Plan gives direction and guidance for the seasonal and daily operation of the waterways that is consistent with practices over the last ten years, the notable exception being the addition of a winter drawdown plan for weed control in the four lakes.

The approved work is a limited project pursuant to CMR 10.53 (i) for maintenance of a reservoir. The only work authorized is the operation of water control structures adjacent to reservoirs. The water levels in the various water bodies shall be maintained as they have been pursuant to Amesbury Conservation Commission and Massachusetts Department of Environmental Protection authorization for the last 10 years. The authorized “winter draw-down,” which is the most significant alternation to the current Plan, is intended to control and reduce the amount of vegetation with the lakes and ponds. The need for winter weed control draw-down has been documented and is warranted due to the over abundance of vegetation in the water bodies.

All work shall conform to the following:

Notice of Intent filed by: Robert Desmarais, Director
Town of Amesbury – Department of Public Works
62 Friend Street
Amesbury, MA 01913

1) Site plans prepared by: Town of Amesbury
Department of Public Works /Engineering

Entitled: Watershed Plan with Beach Locations
Amesbury, MA
Project: Watershed
CADD No. SHED-09.DWG
Scale: 1” = 600’
DR. BY: RLD
Date: 8.10.09
Sheet 1 of 1

2) Management Plan by:

**Town of Amesbury
Department of Public Works in Cooperation with the
Amesbury Lakes and Waterways Commission**

Entitled:

**Watershed and Waterway Management Plan for Town
of Amesbury, Massachusetts**

Ver: 2.2

Date: May 5, 1999 as amended September, 2010

I. GENERAL CONDITIONS:

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures shall be deemed cause to revoke or modify this Order of Conditions ("Order").
2. Approval of this application does not constitute compliance with any law or regulation other than MGL Chapter 131, Section 40, Wetlands Regulations CMR 10.00 and Amesbury Wetlands Protection Ordinance ("Ordinance") and its implementing regulations ("Regulations") as promulgated by the Town of Amesbury Conservation Commission (ACC).
3. This Order shall apply to any successor in interest or successor in control of the property.
4. The work authorized hereunder shall be completed within **three (3) years** from the date of this Order.
5. This Order may be extended by the issuing authority for one or more periods of up to one year each upon application to the issuing authority at least **thirty (30) days** prior to the expiration date of the Order.
6. A sign shall be displayed at the site not less than two (2) feet or more than three (3) square feet in size bearing the words,

"MA DEP File Number 002-1021"

7. The Amesbury Conservation Commission (ACC) reserves the right to impose additional conditions on this project including but not limited to additional or modified erosion control / siltation controls during construction, if it deems that site conditions warrant such measures to mitigate potential impacts.
8. A copy of this Order and the plan approved in this Order shall be available on site at all times when work is in progress.
9. If the subject parcel is sold or the development rights are transferred to any other person, the applicant shall be required to submit to the ACC a signed and notarized letter of acknowledgement from the buyer or their assignees stating that they have been provided copies of all permits associated with the proposed project, including this Order, and that they understand their responsibility associated with the construction of this project under those permits, including this Order.
10. The applicant shall be required to pay in full any outstanding invoices from the Commission's peer review consultant for this project.

11. The ACC shall require site inspection from time to time during the construction phase by its construction observation consultant. The consultant shall observe and monitor erosion control measures on site, construction of stormwater management system and any site work within the jurisdictional areas of the ACC. The applicant shall be required to pay for the Commission's consultant services and set up a construction observation account with the Town of Amesbury. No site preparation or construction shall be allowed until the applicant has submitted an initial amount of \$1000/- towards the consultant services.
12. Any modification to the approved site plan shall require review and approval by the ACC. Prior to consideration of any such request, the wetland resource area shall be re-flagged or the originally approved flagging shall be established in the field. The applicant shall be required to submit the modification in request in writing along with all the necessary forms and supporting documents in a timely manner for the Commission's consideration. The ACC may require all modification requests to be reviewed by its peer review consultant and the applicant shall submit the necessary funds to the ACC for the consultant services. The Commission shall review the request and decide if an Amended Order is required.
13. Any change that requires modification of approved plans within the jurisdictional area or changes to the erosion control plan or to the stormwater management system shall require an Amended Order unless the Commission decides otherwise at its regularly posted public meeting. If the ACC decides that a change is of sufficient magnitude that it shall require the imposition of additional conditions to ensure adequate protection of the resource area and / or the interests covered under the Bylaw and Regulations, an Amended Order shall be required and a new public hearing shall be required.
14. Any requests for modification or amendment of the Order shall not be considered or reviewed if the Order has expired or there is an outstanding Enforcement Order on the subject parcel.

II. PRE-CONSTRUCTION CONDITIONS:

15. If required, prior to the pre-construction meeting and commencement of any activity on this site, the boundaries of all wetland resource areas shall be identified by flagging, spaced at intervals not greater than 25-feet apart. Wetland flags shall be checked and replaced as necessary and maintained until a Certificate of Compliance is issued for the project.
16. Prior to the pre-construction meeting and commencement of any activity on this site, all erosion control devices approved under this Order shall be properly installed as shown on approved plan. If required, erosion control barriers shall consist of entrenched silt fence backed by double-staked hay bales. The ACC and/or its Agent shall inspect and approve such installation at a pre-construction meeting. The erosion control devices must remain in place until the Commission or its Agent has authorized their removal. All workers must be instructed not to work beyond this limit.
17. **Once the above mentioned pre-construction requirements are complete, the applicant shall contact the Conservation Department prior to site preparation or construction and shall arrange an on-site PRE-CONSTRUCTION MEETING with a representative from the ACC and/or its agent, the project supervisor, the contractor responsible for work, the engineer, wetland scientist (if applicable), and the applicant to ensure all of the Conditions of this Order are understood. Please contact the Amesbury Conservation Department office at (978) 388-8110 ext. 317 at least seventy-two (72) hours prior to any activity to arrange the pre-construction meeting.**
18. Inform all contractors and subcontractors of the conditions and provisions of this Order. This Order shall be included in all construction contracts and subcontracts dealing with the work, and shall supersede other contract requirements.

III. CONSTRUCTION CONDITIONS:

19. A copy of the recorded Order shall be provided to the Building Inspector at the time of making application for Building Permit along with a set of approved plans.
20. Prior to making application for building permits, copies of all recorded legal documents shall be provided to the Commission for their records.
21. Accepted engineering and Best Management Practices for construction standards shall be followed in the conduct of all work. All site improvements shall be installed as per approved plans and engineering details shown on them. Any modifications or deviations from approved plans shall only be made upon approval from the Commission.
22. No alteration or activity shall occur beyond the limit or work as defined by the siltation barriers shown on the approved plan.
23. All waste generated by, or associated with, the construction activity shall be contained within the construction area, and away from the resource area. There shall be no stump dumps, burying of stumps or any material onsite. The applicant shall maintain a dumpster (or other suitable means) at the site for the storage and removal of such construction material off-site. However, no trash dumpsters will be allowed within 50-feet to the Bordering Vegetated (BVW) or riparian bank.
24. All stockpiles shall be enclosed by erosion control consisting of hay bales and entrenched silt fence or silt sock. There shall be no stockpiling outside the approved limit of work.
25. Any damage caused as a direct result of this project to any wetland resource areas shall be the responsibility of the applicant to repair, restore and / or replace. Sedimentation or erosion into these areas shall be considered damage to wetland resource areas. If sediment reaches these areas, the Commission and/or its agents shall be contacted and a plan for abatement of the problem and proposed restoration / mitigation measures shall be submitted for approval and implementation. If the applicant fails to address the failure or damage as required by the Commission in a timely manner, it shall be deemed as a violation under the Regulations.
26. The limit of work and area of no alteration on individual lots shall be marked by permanent structures as approved by the ACC. A certified plot plan shall be submitted to the ACC along with a certificate from a professional engineer showing the exact location of these permanent structures relative to the lot lines.

IV. AFTER CONSTRUCTION:

27. Upon completion of the project, the applicant shall submit the following to the Amesbury Conservation Commission to Request for a Certificate of Compliance (COC):
 - a. WPA Form 8A- Request for a Certificate of Compliance;
 - b. A letter from the applicant requesting the Certificate of Compliance with the following information included:
 - i. Name and address of current landowner;
 - ii. The name and address of the individual or other entity to whom the COC is to be issued;

- iii. The street address and lot number for the project; and DEP file #
 - iv. "As-Built" plans prepared, sign, and stamped by a Registered Professional Civil Engineer (and / or Registered Professional Land Survey) of the Commonwealth, for public record.
28. The applicant shall make request for Certificate of Compliance as provided for under Section 7.12 of the Amesbury Wetlands Regulations.

V. PERPETUAL CONDITIONS:

The following conditions are ongoing and do not expire with the issuance of the Certificate of Compliance:

29. Water quality to the adjacent Bordering Vegetated Wetlands (BVW) shall not differ significantly following the completion of the project from the pre-development conditions. There shall be no sedimentation into the resource areas from discharge pipes or surface runoff leaving the site. This shall be a continuing condition in perpetuity.
30. Fertilizers utilized for landscaping and lawn care shall be slow release, low-nitrogen types (<5%), and shall not be used within 25-feet of a resource area. Pesticides and herbicides shall not be used within 100-feet of a wetland resource area. This condition shall survive the Order of Conditions and shall run with the title of the property.
31. Any Deed for all or any portion of the property subject to this Order shall contain the following language. "This property is subject to a non-disturbance zone in which no alteration of land or vegetation may occur. The non-disturbance zone is shown on the plan entitled " ____ (title of plans) _____ recorded at the Essex South Registry of Deeds, at Book _____, Page _____, and/or registered with the Land Registration Office of the Essex County Registry District as Document No. ____ as described in the Order of Conditions recorded in the same Registry at Book _____, Page _____, and/or in the same Registry District as Document _____. In accordance with said Order of Conditions, this language shall be incorporated in full into all future deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer, whereby an interest in and/or a right to use the property or a portion thereof is conveyed (a "Deed").

**Exhibit
Final Approved Plans
and Documentation**

Notice of Intent filed by:

Robert Desmarais, Director
Town of Amesbury
Department of Public Works
Town Hall, 62 Friend Street
Amesbury, MA 10913

1) Site plans prepared by:

Town of Amesbury
Department of Public Works /Engineering

Entitled:

Watershed Plan with Beach Locations
Amesbury, MA
Project: Watershed
CADD No. SHED-09.DWG
Scale: 1" = 600'
DR. BY: RLD
Date: 8.10.09
Sheet 1 of 1

2) Management Plan by:

Town of Amesbury
Department of Public Works in Cooperation with the
Amesbury Lakes and Waterways Commission

Entitled:

Watershed and Waterway Management Plan for Town of
Amesbury, Massachusetts
Ver: 2.2
Date: May 5, 1999 as amended September, 2010



TOWN OF AMESBURY, MASSACHUSETTS
 DEPARTMENT OF PUBLIC WORKS - ENGINEERING
 TOWN OF AMESBURY

WATERSHED PLAN WITH BEACH LOCATIONS



NO.	DATE	DR. BY	CK. BY	APP. BY	DESCRIPTION
A P P R O V E D					



SHEET 1 OF 1

PROJECT WATERSHED	CADD NO. SHED-09.DWG	SCALE: 1" = 600'	DR. BY PM	CK. BY RLD	DATE 8/10/2009
----------------------	-------------------------	---------------------	--------------	---------------	-------------------

WATERSHED and WATERWAY MANAGEMENT PLAN

FOR

TOWN OF AMESBURY, MASSACHUSETTS

by

Amesbury Department of Public Works

and

In cooperation with
The Amesbury Lakes & Waterways Commission

TABLE OF CONTENTS

- 1.0 PURPOSE AND AUTHORITY
- 2.0 DEFINITIONS
- 3.0 WATERSHED ORGANIZATION
- 4.0 TIMELINES
- 5.0 SITE DESCRIPTIONS
 - 5.1 Upper Powow River
 - 5.2 Lower Powow River
 - 5.3 Tuxbury Pond
 - 5.4 Lake Attitash
 - 5.5 Meadowbrook Pond
 - 5.6 Lake Gardner
 - 5.7 Merrimack River
- 6.0 WATER CONTROL STRUCTURES
 - 6.1 History of Water Control Structures
 - 6.2 State Line Dam
 - 6.3 Newton Road Weir on the Powow River
 - 6.4 Tuxbury Pond Dam
 - 6.5 Birches Dam at Lake Attitash
 - 6.6 Arch Brook Outlet Structure and Culvert at Meadowbrook Pond
 - 6.7 Lake Gardner Dam
 - 6.8 Crib Dam
 - 6.9 Summary of Control Structures
- 7.0 TYPICAL OPERATION PROCEDURES
 - 7.1 Historical Procedures
 - 7.2 Current Spring Procedures (March 1 through April 30)
 - 7.3 Current Summer Procedures (May 1 through September 15)
 - 7.4 Current Fall Procedures (September 16 through November 30)
 - 7.5 Current Winter Procedures (December 1 through February 28)
 - 7.6 Summary of Target Elevations for Annual Watershed Management

- 7.7 Hydrologic Operational Considerations
- 7.8 Seasonal Management Objectives
- 8.0 FLOOD OPERATION PROCEDURES
- 9.0 PREVENTATIVE MAINTENANCE
 - 9.1 Dam Maintenance
 - 9.2 Water Body Maintenance
 - 9.3 Watershed Maintenance
- 10.0 CHAIN OF COMMAND
- 11.0 SUMMARY

ATTACHMENTS

Lakes and Waterways Districts

Order of Conditions

Natural Heritage & Endangered Species Program correspondence

Formatted: Indent: First line: 0.5"

1.0 PURPOSE AND AUTHORITY

This document is intended to be a formal policy for the operation and management of the watershed, lakes, rivers and water control structures located within the Town of Amesbury. This policy will supersede any and all policies the Town currently uses, written or unwritten. The purpose of this management plan is to protect the public safety, to insure an adequate supply of water to meet the needs of the Amesbury Water Treatment Plant (WTP), to protect wetlands resources, to maximize water quality, to minimize the impact of seasonal water level fluctuations on abutting properties, and to preserve historical recreational uses in the watershed. This plan focuses on waterways tributary to the Town's drinking water intake, continues along the primary waterways, and terminates at the confluence with the Merrimack River.

Authority to implement procedures recommended in this management plan is granted through the Amesbury Conservation Commission, since the majority of watersheds and waterways are located within jurisdiction of the Massachusetts Wetlands Protection Act and the Amesbury Wetlands Bylaws. By the Commission issuing an Order of Conditions and accepting the contents of this plan, it allows for the legal authority to proceed with the recommendations contained herein. A current Order of Conditions shall be maintained at all times. Following the three year duration of the Order of Conditions, it shall be renewed (every year) for continued implementation of the unchanged management plan. Should revisions be necessary, then the Conservation Commission shall decide whether a new Order of Conditions is necessary.

2.0 DEFINITIONS

The following is a list of definitions used throughout this document.

Acre-feet: Is the volumetric measurement of water for every 12-inch depth, per acre.

Conservation Commission: A municipal board with the mission to enforce State and local wetlands protection laws.

Dam: Typically an earthen embankment with outlet structures used to impound water.

Department of Environmental Protection: The regulatory agency for the Commonwealth of Massachusetts responsible for enforcement of State environmental general laws.

Impoundment: A body of water created by a dam and sometimes referred to as reservoir, lake or pond.

Million Gallons per Day (MGD): The measurement of water flow in gallons within one day.

Spillway: A structure typically part of a dam which allows water to flow from the impoundment.

Watershed: The land area having tributary drainage to a surface water body.

Water Treatment Plant (WTP): A facility that processes raw water and provides clean water sufficient for human consumption.

Weir: Adjustable structure used to impede and control the flow of water out of an impoundment.

3.0 WATERSHED ORGANIZATION

The Town of Amesbury is comprised of five (5) water districts as delineated in the figure provided in the Appendix. The districts roughly coincide with the natural features of the various watersheds in the Town rather than any political districts.

District 1 contains the area tributary to drinking water intake for the Town. This district contains Lake Attitash, Meadowbrook Pond, Tuxbury Pond and a portion of the Powow River. The district is located in western Amesbury and terminates at the Newton Road dam where water is taken for the public water supply.

District 2 is downstream of the drinking water supply but remains part of the Powow River watershed. The district contains Lake Gardner and the Great Marsh and is located in central Amesbury.

District 3 is a tributary watershed to the Powow River. This district contains a few streams which lead to Clark's Pond and eventually, the Powow River. This is a rural area located in the northeast portion of Amesbury.

District 4 contains the urban portion of the town with the Powow River making its final journey to the confluence with the Merrimack River.

District 5 is in southern Amesbury and abuts the Merrimack River. This area is also very rural and contains minor water bodies of concern.

4.0 TIMELINES

This document is a work in progress. The document will need to be updated as structures are repaired or altered, as well as when operational, hydraulic or environmental data becomes available. As it stands, this document is to be used as a framework from which changes can be made. The information below pertains to all structures as they exist at the time of the update to this document.

5.0 SITE DESCRIPTION

The following paragraphs briefly describe each of the significant waterways in Town. There are many other smaller streams and ponds which are not covered by this management plan (including but not limited to Clarks Pond, Bailey Pond, and Pattens Pond). An inability to manage these water ways and lesser flow volume, are the reasons for not including them. Where height features are described in elevation, the National Geodetic Vertical Datum of 1929 (NGVD29) was used.

5.1 Upper Powow River

The upper Powow River flows for approximately 6,000 linear feet, with an average width of 40 feet, a mean depth of 6 feet and a total volume of 33 acre-feet. The Powow River has a watershed of over 50 square miles. The upper Powow River begins where the river enters Amesbury from New Hampshire and ends at Lake Gardner.

Currently used as the Town's primary source for raw drinking water, the WTP maintains a raw water intake in the river. A certain level of water over the intake is required to ensure a flow of water into the WTP. This water level is maintained by the Newton Road Weir, which currently impounds water to 36" over the intake. The river is fed from Tuxbury Pond as well as Lake Attitash and Meadowbrook Pond via the Arch Brook culvert which outlets into the small stream between Meadowbrook and the Powow River. The river has a well-defined main channel that meanders

considerably from Tuxbury Pond to the Newton Road weir. The watershed mostly lies in New Hampshire, and is fed from a series of impoundments. The dam structure at Trickling Falls in Kingston, New Hampshire is upstream of Tuxbury Pond and controls flow from New Hampshire to Massachusetts. During dry seasons, the flow from Trickling Falls significantly reduces, forcing the Town to rely on water impounded within Amesbury as well as two Town well heads for water supply needs.

The river is also used as a recreational resource including boating and fishing. The river has been stocked with trout annually by the Division of Fisheries and Wildlife. Wildlife is characterized by a variety of waterfowl including: Canadian Geese; Great Blue Herons; Osprey; amphibians; reptiles and fishes as well as several woodland species.

5.2 Lower Powow River

The lower Powow River begins at the base of the Lake Gardner Dam and ends at the confluence with the Merrimack River. This portion of the river travels through downtown Amesbury, past the Mill Yard, under US I-495 and then discharges into the Merrimack River. There is one control structure on the lower Powow River which is the Crib Dam. This dam is located within the Mill Yard, just upstream of Market Street, and is used to control the flow of water through the downtown area.

5.3 Tuxbury Pond

Tuxbury Pond has an area of 108 acres, a mean depth of 4.25 feet, and a maximum depth of 8 feet and a total volume of 459 acre-feet (*Aquatic Control Technology Report, November 18, 1994*).

Tuxbury Pond is primarily used as an impoundment for drinking water supply. The Town owns and operates the Tuxbury Pond Dam to provide adequate water for the WTP. Potable water demand regularly draws Tuxbury Pond down 30 inches over the course of a normal summer. A 2 foot drawdown will expose approximately 20% of the pond bottom and remove 47% of the total volume of water (*Aquatic Control Technologies*). Tuxbury Pond is used for boating and fishing recreation. Wildlife is abundant in and around the pond.

The land under Tuxbury Pond is privately owned. Work required in the pond watershed and bed, requires permission of the respective owners or immediate access can occur during an emergency.

5.4 Lake Attitash

Lake Attitash has an area of 360 acres, a mean depth of 14 feet, and a maximum depth of 30 feet and a total volume of 5,040 acre-feet (*Lake Attitash Water Quality Study, May 1977-April 1978*).

Lake Attitash is also used as an impoundment for drinking water and is considered a secondary water supply source. The Town currently withdraws water from Lake Attitash, through Meadowbrook, and into the Powow River. Currently, the Town attempts to maintain Lake Attitash at its normal pool during the summer months and uses only the natural releases from the Birches Dam and Arch Brook Culvert as part of the Town water supply. This occurs regularly as the Arch Brook Culvert outlets into the Powow River upstream of the WTP. The Town also lowers Lake Attitash to an elevation of 95.0' between the approximate dates of September 16 and November 30 in the fall for spring flow storage. Lake Attitash has one outlet structure, The Birches Dam, which outlets directly into Meadowbrook Pond. The Birches Dam is used to control the flow of water between Lake Attitash and Meadowbrook.

Lake Attitash is used extensively for recreation including boating, swimming and fishing. The significant number of existing residences surrounding Lake Attitash limits wildlife habitat in the area. The Back River area and the undeveloped area near Indian Head Park offer extensive wildlife habitat. The lake is a stopover for many migratory birds and has resident ducks, Osprey and occasional Bald Eagles. It also has an extensive fish population and has a history of being stocked by the State with game fish. Lake Attitash is classified as a "great pond" and is therefore considered property of the Commonwealth of Massachusetts. The Town still has rights to the water within the lake and recreational water use is open to the public via the State boat ramp in Merrimac, Massachusetts.

Lake Attitash lies in both Amesbury and Merrimac Massachusetts. Approximately $\frac{3}{4}$ of the water acreage lies in Amesbury and approximately $\frac{2}{3}$ of the shoreline lies in Amesbury.

5.5 Meadowbrook Pond

Meadowbrook Pond has an area of 75 acres, a mean depth of 2 feet, and a maximum depth of 4.5 feet and a total volume of 150 acre-feet (*office records*).

Meadowbrook is also used as an impoundment for drinking water supply. Meadowbrook has two (2) water control structures controlling the flow of water from the pond into Tuxbury Pond or directly to the Powow River. The stop logs at the Arch Brook Culvert Outlet Structure are used to control the flow of water out of Meadowbrook Pond and Lake Attitash, into the river. The State Line Dam is used to control the flow of water between Meadowbrook Pond and Tuxbury Pond.

Meadowbrook is currently maintained approximately 4 to 6 inches lower than Tuxbury Pond and Lake Attitash.

5.6 Lake Gardner

Lake Gardner encompasses approximately 93 acres within the Town. Powow River feeds the lake from the north and the river continues from the lake discharge at the Lake Gardner Dam. The dam was constructed in 1872 by the Salisbury Mills Corporation. Many acres of farmland were flooded upon completion of the dam and the eventual full volume storage created the current Lake Gardner. The need for hydro power declined and the dam was sold to the Town of Amesbury in 1964.

In the early 1800's, ice was harvested from the lake. Current uses are more recreational and include boating, fishing and swimming at public and private beaches.

5.7 Merrimack River

The Merrimack River is formed by the confluence of the Pemigewasset and Winnepesaukee Rivers in Franklin, NH. The river flows for approximately 128 miles before it discharges to the Atlantic Ocean in Newburyport. The river passing through Amesbury is tidal and has an influence on water elevations in the Lower Powow River up to the Market Square area. The Merrimack River watershed covers an area of approximately 5,010 square miles, making it the fourth largest watershed in New England.

The Merrimack River has significant water elevation changes due to tidal fluctuations and stormwater runoff. High water elevations will only affect property owners along the river and has no influence on the general operation of the Town's watershed. In addition, there are no control mechanisms that the Town could use to manipulate river flow.

6.0 WATER CONTROL STRUCTURES

6.1 History of Water Control Structures

The Powow River has had a significant part in the history of Amesbury. The large drop in water elevation through the Market Square area provided the opportunity to harness a source of power and spur mill works, ship building and carriage manufacturing back in the 16th, 17th and 18th centuries. Industry owners (mills) used to manipulate the water between Lake Attitash, Meadowbrook and Tuxbury Pond to provide continuous flow necessary to power the manufacturing facilities. This included the operation and maintenance of dams and spillways. In fact, one of the first hydro powered saw mills in North America were operated in the Upper Mill Yard. Ownership and operation of these structures have since been conveyed to the Town and as such, presents the need for this watershed management plan.

6.2 State Line Dam

The State Line Dam is a 35 foot long earthen embankment dam with a concrete spillway located near the center of the structure. A 50 foot long, 18 feet by 3.5 feet, granite block culvert crossing under Kimball Road connects Meadowbrook and Tuxbury Pond. It crosses under Kimball Road at the state boarder with New Hampshire. The culvert has an open channel approximately 14 feet wide. Stop logs within the concrete spillway are used to regulate flow and water elevations between the two water bodies. This dam is the link that allows the Town to adjust or maintain Lake Attitash, Meadowbrook Pond, and Tuxbury Pond at approximately the same or varied elevations. The stop logs have maximum and minimum elevations of 98.85 feet and 92.9 feet. The pond water level is typically kept at a normal pool elevation 96.44 feet. Flow through this structure is infrequent throughout the year as Tuxbury Pond is maintained at an approximate normal pool elevation of 96.6 feet.

6.3 Newton Road Weir on the Powow River

The Newton Road Weir, which impounds water for the WTP, is a 193 foot long timber and sheet pile structure. The crest of the sheet pile portion is at elevation 89.6 feet, and the elevation of the wooden portion is 90.5 feet. A 3 foot stop log bay extends to the bottom of the river channel. A temporary repair was completed by the Town in 2004 to reduce the approximate three (3) million gallons per day (MGD) leakage of surface water which passed through a breach in the weir during the summer. This breach was the cause that exacerbated the problems for Tuxbury Pond resulting in longer periods of low water.

6.4 Tuxbury Pond Dam

Tuxbury Pond Dam was completely removed and reconstructed in 2001 and consists of a structure comprised of two major elements; an earthen embankment which comprises the left portion of the dam and a concrete spillway which comprises the right portion of the dam. The dam is approximately 204 feet long, with a maximum structural height of approximately 9 feet. The embankment portion of the dam is approximately 125 feet long with a riprap armored 3H:1V upstream slope. The crest of the embankment has an approximate grass covered width of 30 feet and the downstream 3H:1V slope is grass covered. The spillway portion of the dam consists of a 79 foot long concrete spillway divided into 11 bays with 64 feet of total flow length. The two rightmost bays and the six left most bays contain 6 foot aluminum downward operating weir gates set at the normal pool elevation of 96.6 feet. The three remaining bays contain a 6 foot aluminum upward operating sluice gate placed between two, 5 foot bays of timber stop logs. The invert elevation for the upward gate and stop log bays are set at 89.56 feet. The Department of Conservation and Recreation (DCR) classifies the dam as a *“large size class II hazard structure”*.

6.5 Birches Dam at Lake Attitash

The Birches Dam consists of an earthen embankment with a 6.5 foot wide culvert with 48 inch stop log bay to control flow between Lake Attitash and Meadowbrook. This dam is approximately 60 feet long and has a maximum height of 6.5 feet. The crest of the dam consists of the asphalt roadway surface of Birchmeadow Road, averaging approximately 23 feet in width. The maximum elevation of the stop log bay is 98.88 feet, and a minimum elevation of 93.0 feet.

6.6 Arch Brook Outlet Structure and Culvert at Meadowbrook Pond

The dam at Arch Brook is a 36 inch culvert under Kimball Road, with a 34 inch wide stop log bay controlling the flow out of Meadowbrook. The current maximum elevation of the stop logs is 96.44 feet, and a minimum elevation of 92.3 feet.

6.7 Lake Gardner Dam

The Lake Gardner Dam is a 750 foot long, earthen dam with a granite core and a maximum height of 25 feet. Discharge waters flow over a 78.5 foot long gravity spillway and through a 16 foot wide concrete sluiceway controlled by three adjustable gates. In addition to the overflow spillway and sluiceway, a low level outlet with a 24 inch valve is located on the left side of the sluiceway. The dam was installed in 1872 by the Hamilton Wollen Company. It has been reported that the dam was purchased by the Merrimack Valley Power and Building Company in 1916 and modified to provide power. The structure was privately owned and operated until 1964 when the Town of Amesbury obtained ownership of the dam. The sluiceway and gates have the ability to low water to elevation 77.40 feet.

The Lake Gardener Dam is used to control the flow of water through Market Square. It also can be used to maintain sufficient stormwater storage volume while providing a water area and depth sufficient for recreational uses.

The Lake Gardner Dam is located just north of High Street and on the southern end of the lake.

6.8 Crib Dam

The Crib Dam is located in the Upper Mill Yard and controls flow downstream of Lake Gardner, on the Lower Powow River. This is wood pile and board dam with a new slide gate flow control. The dam also has an emergency spillway which allows the release of additional water if necessary.

6.9 Summary of Control Structures

The following table provides a summary of controlled water surface elevations at each structure.

STRUCTURE	GATE AND BOARD ELEVATIONS			SPILLWAY CREST
	Max	Normal Pool	Min	
State Line Dam	98.85	96.44	92.90	none
Newton Road Weir	90.30	89.6	86.70	89.6
Tuxbury Pond Dam	100.00	96.56	89.56	96.56
Birches Dam	98.88	96.75	93.00	none
Arch Brook Dam	98.85	96.44	92.30	none
Lake Gardner Dam	94.40	86.40	77.40	86.4
Crib Dam	-	70.71	-	-

7.0 TYPICAL OPERATION PROCEDURES

7.1 Historical Procedures

The Town's previous practice, prior to the replacement of the Tuxbury Pond Dam, was to utilize the first 30 inch from Tuxbury Pond as a sole source for public water supply. During seasonal flow conditions, Lake Attitash and Meadowbrook were not utilized as a water supply until Tuxbury Pond was lowered to an elevation of 94.25 feet. The previous winter drawdown policy reduced the levels of Lake Attitash and Meadowbrook to elevation 92.75 feet for greater weed and flood control. These operation procedures were discontinued following the promulgation of this plan in 1999.

7.2 Current Spring Procedures (March 1 through April 30)

- At this time, Lake Attitash and Meadowbrook bypass Tuxbury Pond and discharge directly to the Powow River through Arch Brook Outlet Structure and Culvert.
- Tuxbury Pond is self regulating during this time and adjusted as necessary to control varying flow conditions.

7.3 Current Summer Procedures (May 1 through September 15)