2 Sharp Street Unit B, Hingham MA 02043

Crocker Design Group

January 26, 2021

Town of Weymouth
Attn: Conservation Commission
75 Middle Street
Weymouth, MA 02189

Re: Weathervane Development
Request for Certificate of Compliance
DEP FILE #81-756/81-963

On behalf of the Applicant, Bristol Brothers Development Corp., we are submitting the attached request for issuance of a Final Certificate of Compliance for Village at Weathervane. Enclosed are the following documents in support of the request in both hard copy and pdf format;

- Six (6) Copies of WPA form 8
- Six (6) Copies of the Engineers Certification
- Six (6) Copies of Exhibit A amended Order of Conditions (#81-963)
- Six (6) Copies of Exhibit B Order of Conditions (#81-756)
- Six (6) Copies of Exhibit C Groundwater Monitoring Program
- Six (6) Copies of Exhibit D Environmental Monitoring Reports by CHA and CEC
- Six (6) Copies of Exhibit E Turf Management Plan for Weathervane Golf Course

The Applicant came before this Commission in September of 2020 and received partial Certificates of Compliance (CoC) for the remaining portions of the project that were not otherwise addressed in prior Partial CoC's. Thus, the entirety of the project, including all aspects which includes The Villages at Weathervane (Residential), The Weathervane Golf Course and associated Clubhouse and parking lot are included in the Partial CoCs that have been issued the final remaining step to formally close out the project with the Commission is to now request a Final Certificate of Compliance be issued, which the Applicant is requesting through this submission.

As part of this final close-out process, the Applicant is also requesting the Commission find that the Applicant has satisfied the intent of Special Conditions # 81, #121 and # 122 of the amended Order of Conditions #81-963 (attached as Exhibit A) #81, #121 and #122. We have attached the previous order of conditions for reference #81-756 (Exhibit B) as well. These Special Conditions were associated with ongoing monitoring of potential impacts of golf course fertilizers at the time. We recall that the Commission's concerns at the time of issuance back in 2006 were also based on the original design relying on shallow wells surrounding the property for irrigation purposes and how the use of those wells could "draw" contaminants toward the wetlands. Ultimately, the shallow well design was not implemented for the project and instead, the irrigation needs were met through a combination of a bedrock well located on the opposite end of the project as well as stormwater collected from the development via Pond 4 (along Golf Hole #8) instead.

This project is also a bit unique in that the Golf Course was completed in 2006 and the Applicant is now, almost 15 years later, seeking the issuance of the CoC. Also, in 2016 and 2017, the Applicant engaged CHA and then CEC to perform the extensive sampling requirements as required by the Ground Water Monitoring Program (Exhibit C). The results of the exhaustive sampling generally indicate that the golf course has not, over the course of the 10 years since the course opened, caused any adverse impacts to the groundwater quality at the site. In addition, the costs of this type of sampling in perpetuity is neither financially practical nor feasible moving forward.

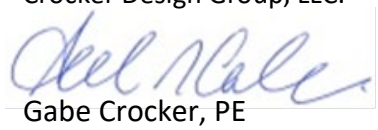
Based on the favorable results of the sampling/testing performed by CHA and CEC in 2016 & 2017, that the vast majority of the list were entirely "non detect" and those that were detected were at low levels which were consistent with historic (background) levels. A copy of these results and findings are attached as Exhibit D.

Ultimately, the favorable sampling results that have been performed for more than a decade since the course opened are the product of a thoughtful and well-executed Turf Management Plan (Exhibit E) by the Golf Course Turf Management Team. The applicant plans to continue utilizing this Turf Management Plan moving forward.

Based on the above, the Applicant respectfully requests the Commission find that the intent of these conditions has been satisfied and that future monitoring not be required.

We appreciate your time. If you have any questions, please do not hesitate to contact me at any time at 781-919-0808 or via email at gabecrocker@crockerdesigngroup.com. Thank you very much for your time.

Sincerely,
Crocker Design Group, LLC.



Gabe Crocker, PE

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 8A – Request for Certificate of Compliance

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

DEP File Number:

81-963
Provided by DEP

A. Project Information

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

Upon completion of the work authorized in an Order of Conditions, the property owner must request a Certificate of Compliance from the issuing authority stating that the work or portion of the work has been satisfactorily completed.

1. This request is being made by:

Bristol Brothers Development
Name

190 Old Derby Street, Suite 311
Mailing Address

Hingham | MA | 02043
City/Town | State | Zip Code

781-740-8660
Phone Number

2. This request is in reference to work regulated by a final Order of Conditions issued to:

James Bristol III
Applicant

9/10/2008 | 81-963/ 81-756
Dated | DEP File Number

3. The project site is located at:

Off Liberty Street | Weymouth
Street Address | City/Town

See Parcel List, Attached |
Assessors Map/Plat Number | Parcel/Lot Number

4. The final Order of Conditions was recorded at the Registry of Deeds for:

Bristol Brothers Development
Property Owner (if different)

Norfolk | 24614 | 277
County | Book | Page

Certificate (if registered land)

5. This request is for certification that (check one):

☒ the work regulated by the above-referenced Order of Conditions has been satisfactorily completed.

☐ the following portions of the work regulated by the above-referenced Order of Conditions have been satisfactorily completed (use additional paper if necessary).

☐ the above-referenced Order of Conditions has lapsed and is therefore no longer valid, and the work regulated by it was never started.

A. Project Information (cont.)

6. Did the Order of Conditions for this project, or the portion of the project subject to this request, contain an approval of any plans stamped by a registered professional engineer, architect, landscape architect, or land surveyor?

   ☒ Yes — If yes, attach a written statement by such a professional certifying substantial compliance with the plans and describing what deviation, if any, exists from the plans approved in the Order.

   ☐ No

B. Submittal Requirements

Requests for Certificates of Compliance should be directed to the issuing authority that issued the final Order of Conditions (OOC). If the project received an OOC from the Conservation Commission, submit this request to that Commission. If the project was issued a Superseding Order of Conditions or was the subject of an Adjudicatory Hearing Final Decision, submit this request to the appropriate DEP Regional Office (see http://www.mass.gov/eea/agencies/massdep/about/contacts/find-the-massdep-regional-office-for-your-city-or-town.html).

Exhibit A-

Amended Order of Conditions (#81-963)

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

DEP File Number: 81-963

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.

From: Weymouth
1. Conservation Commission

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

3. To: Applicant:

James	Bristol, III	Bristol Brothers Development
a. First Name	b. Last Name	c. Company

221 Ralph Talbot Street
d. Mailing Address

Weymouth	MA	02190
e. City/Town	f. State	g. Zip Code

4. Property Owner (if different from applicant):

a. First Name	b. Last Name	c. Company

d. Mailing Address

e. City/Town	f. State	g. Zip Code

5. Project Location:

Off Liberty Street	Weymouth
a. Street Address	b. City/Town
See Parcel List, Attachment C	
c. Assessors Map/Plat Number	d. Parcel/Lot Number

Latitude and Longitude, if known (note: electronic filers will click for GIS locator):

e. Latitude	f. Longitude

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

Norfolk County - See Parcel List Attachment C	
a. County	b. Certificate (if registered land)
c. Book	d. Page

7. Dates:

7/28/05	2/08/06	3/24/06
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):

Weathervane Golf Club/The Village at Weathervane (66 sheets)
a. Plan Title

Gale Associates	Thomas M. Henaghen, P.E.
b. Prepared By	c. Signed and Stamped by
March 1, 2006	1" = 40'
d. Final Revision Date	e. Scale

See Attachment B for drawing list and Attachment A for summary of submittals
f. Additional Plan or Document Title — g. Date

RECEIVED AND RECORDED
NORFOLK COUNTY
REGISTRY OF DEEDS
DEDHAM, MA
CERTIFY
William P O'Donnell
WILLIAM P. O'DONNELL, REGISTER

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

DEP File Number:
81-963

WPA Form 5 – Order of Conditions

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

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) — a. linear feet

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☒ Bank	906 (temporary) a. linear feet	906 b. linear feet	c. linear feet	d. linear feet
5. ☒ Bordering Vegetated Wetland	* 24,886 a. square feet	24,886 b. square feet	60,000 c. square feet	60,000 d. square feet
6. ☐ Land Under Waterbodies and Waterways	a. square feet	b. square feet	c. square feet	d. square feet
	e. cu.yd dredged	f. cu.yd dredged		

*Of this, 2,886 is temporary impacts, and 8,000 sq. ft is for long-term height management.

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

DEP File Number: 81-963

B. Findings (cont.)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
6. ☐ Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
7. ☐ Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
8. ☐ Riverfront area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	e. square feet	f. square feet	e. square feet	f. square feet

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

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

DEP File Number: 81-963

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 then two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MA DEP"]

"File Number 81-963"

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

DEP File Number: 81-963

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 DEP.

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. All work associated with this Order is required to comply with the Massachusetts Stormwater Policy Standards.

Special Conditions:

If you need more space for additional conditions, select box to attach a text document ☐

#19 - 123 (See Attachment E)

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

DEP File Number: 81-963

WPA Form 5 – Order of Conditions

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

NOT OFFICIAL NOT OFFICIAL

D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? ☒ Yes ☐ No
2. The Weymouth Conservation Commission hereby finds (check one that applies):
3. ☐ that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw specifically:

a. Municipal Ordinance or Bylaw _____ b. 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.

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

Weymouth Code of Ordinances, Section 7-301
a. Municipal Ordinance or Bylaw — b. Citation

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.

If you need more space for additional conditions, select box to attach a text document ☐

c. The special conditions relating to municipal ordinance or bylaw are as follows:

#19 – #123 (See Attachment E)

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

DEP File Number:
81-963

WPA Form 5 – Order of Conditions

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.

March 24, 2006
1. Date of Issuance

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

4
2. Number of Signers

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

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:

Notary Acknowledgement

Commonwealth of Massachusetts County of Norfolk

On this 22nd (Day) of March (Month) 2006 (Year)

Before me, the undersigned Notary Public, personally appeared Adrienne Gowen (Name of Document Signer)

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

Personal Knowledge
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 Town of Weymouth (City/Town) Conservation Commission

JOHN T. PARNABY NOTARY PUBLIC COMMONWEALTH OF MASSACHUSETTS MY COMM. EXPIRES FEBRUARY 23, 2007

Place notary seal and/or any stamp above

Signature of Notary Public

Printed Name of Notary Public: JOHN T PARNABY Notary Public

My Commission Expires (Date): My Commission Expires February 23, 2007

This Order is issued to the applicant as follows:

☒ by hand delivery on March 24, 2006 (Date)

☐ by certified mail, return receipt requested, on _____ (Date)

List of Attachments

Weathervane Golf Club and the Village at Weathervane

Amended Order of Conditions DEP File #81-756
New Order of Conditions DEP File #81-963

Attachment A: Project Narrative (3 pages)

Attachment B: Drawing List (1 page)

Attachment C: Parcel List (2 pages)

Attachment D: Proposed Work within 100-Foot Buffer Zone (1 page)

Attachment E: Special Conditions (17 pages)

NOT AN OFFICIAL COPY

Weathervane Golf Club and the Village at Weathervane

Amended Order of Conditions DEP File #81-756
New Order of Conditions DEP File #81-963

Attachment A: Project Narrative (3 pages)

NOT AN OFFICIAL COPY

Attachment A: Project Narrative

Weathervane Golf Course and the Village at Weathervane

Amended Order of Conditions DEP File #81-756
New Order of Conditions DEP File #81-963

Project Background

The original Notice of Intent for the Weathervane Golf Course and Village at Weathervane was filed in January 1998. An Order of Conditions was issued under DEP File #81-756, on May 3, 1999.

In July, 2005, the property owners submitted a new Notice of Intent to expand the golf course areas, redesign the clubhouse, and add an additional 31 housing units on newly-purchased land adjacent to the original project. The new Notice of Intent was assigned DEP File # 81-963.

After discussions with the Weymouth Conservation Commission and the Massachusetts Department of Environmental Protection, the applicants agreed to seek both an Amended Order of Conditions under File #81-756 to address changes to the existing permitted project, and a new Order of Conditions under File #81-963 to address work in the expanded areas.

It is the intention of the Weymouth Conservation Commission that the Amended Order and new Order be fully integrated. During review, the two file numbers have been treated as one comprehensive project. Although the Commission is issuing two separate documents, the special conditions and the final plan references for both documents are identical.

Summary of Documents Submitted

Notice of Intent Submission for "Weathervane Golf Course and the Village at Weathervane South Weymouth, Massachusetts" dated January 1998, and with filing drawings and other supporting information with latest revisions.

[1] "Notice of Intent Filing Drawings" by Welch Associates, February 1998.
(See separate sheet subject to revision whenever plans are amended)
[2] "Notice of Intent" by ENSR, January 1998.
[3] "Special Permit Assessment" by Abbellire Inc., February1998.
[4] "Environmental Impact Statement" by Abbellire Inc., February 1998.
[5] "Drainage Analysis and Design" by Gale Associates, Inc., January 1998, revised August 1998.
[6] "Nitrogen Loading Analysis - Revision 1" by ENSR, February 23, 1998.
[7] "Overall Erosion Control Plan" by Abbellire Inc., February 4, 1998.
[8] "Letter of Response - Items No. 1 and 3: Water Usage and Balance, " by W. L. Burbank, Abbellire Inc., March 25, 1998.
[9] "Letter of Response - Items No. 2: Detached Lots, " by W. L. Burbank, Abbellire Inc., March 25, 1998.
[10] "Letter of Response - Items No. 4 and 5: Turf Management Plan, " by W. L. Burbank, Abbellire Inc.,

March 25, 1998.

[11] "Letter of Response -Items No. 6: Water Resource Report," by W. L. Burbank, Abbellire Inc., March 25, 1998, revised May 26, 1998.

[12] "Letter of Response - Water Budget for Turf Irrigation," by W. L. Burbank, Abbellire Inc., April 18, 1998.

[13] "Summary of Revised Drainage Calculations," by Dale Harris, April 14, 1998.

[14] "RDA Plans," by Abbellire, Inc., September 30, 1996.

The new Notice of Intent (DEP File #81-963) was submitted in July, 2005. The amendment to DEP File #81-756 was filed on September 26, 2005. The key supporting documents for the amendment request and the new Notice of Intent are as follows:

[15] Notice of Intent for Weathervane Golf Club and the Village at Weathervane, Weymouth, MA, Gale Associeates, Inc., July 27, 2005

[16] Letter to request for amendment of Order of Conditions DEP file No. 081756, by Gale Associates, Inc., September 26, 2005.

[17] Wetland mitigation plan for golf course fly-over areas, weathervane golf club & the Village at Weathervane, Weymouth, Massachusetts, dated October 7, 2005 (revised on 11/6/05), by John F. McGrath, Jr.

[18] Groundwater monitoring program (Rev. 2), the Village at Weathervane and Golf Course, Weymouth, MA, February 2006

[19] Memorandum, response to Board of Health Review, by Carl Erickson, February 1, 2006.

[20] Memorandum, Update –Water use plan for irrigation, by James E. Bristol, III, January 23, 2006.

[21] Revised stormwater calculations, by Gale Associates, Inc., January 17, 2006.

[22] Revised integrated set of plans dated March 1, 2006 and listed in Attachment B.

Brief Summary of the Project

- Wetland resource areas for the proposed project were delineated and approved on October 10, 1996. The wetland border delineation was verified during the amendment review. Wetland flags were restored where activities would occur within 100-ft of the wetland.
- The Village at Weathervane and Golf Club comprises a residential community consisting of 150 single family condominium homes and a 9-hole golf course. The community is restricted to active adults who are 55 years or older. The community is being constructed under the Town of Weymouth's Planned Unit Development (PUD) zoning bylaw. The project was broken into two phases: Phase I includes 119 units of homes and the 9 hole golf course within the scope of filing of DEP # 081- 756; Phase II includes 31 units of houses, additional stormwater management facilities, and the new golf clubhouse with associated parking facilities, which is under the new filing (DEP #NE 81-0963).
- The total project site includes nearly 172 acres, of which 16.6 acres are impervious resulting from the construction of homes, roadways, and driveways; More than 122 acres will be pervious areas including 15.5 acres of primary and secondary rough, 1.24 acres of tees, 1.58 acres of greens, 16.65 fairway and lawn, and , and 87.03 acres of undisturbed area. About 35 acres of undisturbed land have been deeded to Town of Weymouth as conservation land.
- About 14,000 square feet of BVW will be altered for the access roadway. Two bridge culverts will be installed underneath the crossing and nearly 60,000 square feet of BVW will be created to compensate for

the BVW altered for the access roadway

- Two golf course fly-over areas on holes #3 and #5 will require edge pruning and long-term vegetation management in approximately 8,000 square feet of BVW. Mitigation plans for these areas are provided.
- Temporary wetland alteration of 3,792 square feet will be required for construction of a cart path, to replace culverts and to install a water line in the emergency access road.
- Approximately 42,710 square feet of disturbance has been approved within the 25-foot "non-disturbance zone" under the Weymouth Wetlands Protection Ordinance, including 25,648 square feet of disturbance for the replication area. Approximately 7,371 square feet of disturbance has been approved within the 50-foot local non-disturbance zone for construction of the clubhouse parking lot.
- A total of 449,000 square feet of 100-ft buffer zone will be altered.
- Access to the proposed project shall be from Liberty Street. Emergency only access shall be provided from a prior Land Courted Plan including Delia Walker Road which currently extends over a wetland corridor on a gravel way. No other alternative project was acceptable to the Commission, as other broader wetlands would have been adversely impacted.
- One golf course boardwalk crossing near hole number 4. The previously proposed boardwalk between hole 8 and hole 9 was eliminated under this amendment.
- Two crossings mitigation: a 15" PVC pipe under the existing gravel road crossing to the north of green #9 will be enhanced with a precast concrete box culvert (3ft x 2 ft); an existing gravel road crossing will be improved to an 18 ft width and a larger clearance height boardwalk crossing.
- An additional emergency access road will be added to the project in Phase II with improvement of an existing cart path by resurfacing and regrading and replacing an existing 12" culvert under the cart path with an open bottom 4' wide by 3' high box culvert and a 12" pipe culvert.
- Six stormwater management detention/ surface water harvesting ponds and one infiltration trench will be created for on-site flood control and water quality management.
- No other construction is allowed within the 100-ft buffer zone other than what is shown on the approved plans.
- All greens will be under-drained through a SubAir System or equivalent.

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Weathervane Golf Club and the Village at Weathervane

Amended Order of Conditions DEP File #81-756
New Order of Conditions DEP File #81-963

Attachment B: Drawing List (1 page)

DRAWING LIST

		REVISED
G-1	MASTER SITE PLAN	MARCH 1, 2006
G-2	NOTES, LEGEND AND PROJECT ZONING	MARCH 1, 2006
G-3	NOTES, LEGEND AND PROJECT ZONING	MARCH 1, 2006
G-4	NOTES, LEGEND AND PROJECT ZONING	MARCH 1, 2006
BRS-1	BOUNDRY RETRACEMENT SURVEY- SHEET 1	FEB. 2, 1998
BRS-2	BOUNDRY RETRACEMENT SURVEY- SHEET 2	FEB. 2, 1998
BRS-3	BOUNDRY RETRACEMENT SURVEY- SHEET 3	FEB. 2, 1998
ECS-1	EXISTING CONDITIONS PLAN - SHEET 1	MARCH 1, 2006
ECS-1A	EXISTING CONDITIONS PLAN - SHEET 1A	MARCH 1, 2006
ECS-2	EXISTING CONDITIONS PLAN - SHEET 2	MARCH 1, 2006
ECS-3	EXISTING CONDITIONS PLAN - SHEET 3	MARCH 1, 2006
ECS-4	EXISTING CONDITIONS PLAN - SHEET 4	MARCH 1, 2006
ECS-5	EXISTING CONDITIONS PLAN - SHEET 5	MARCH 1, 2006
ECS-6	EXISTING CONDITIONS PLAN - SHEET 6	MARCH 1, 2006
ECS-7	EXISTING CONDITIONS PLAN - SHEET 7	MARCH 1, 2006
ECS-8	EXISTING CONDITIONS PLAN - SHEET 8	MARCH 1, 2006
ECS-9	EXISTING CONDITIONS PLAN - SHEET 9	MARCH 1, 2006
ECS-10	EXISTING CONDITIONS PLAN - SHEET 10	MARCH 1, 2006
ECS-11	EXISTING CONDITIONS PLAN - SHEET 11	MARCH 1, 2006
C-1	CONSERVATION PLAN - SHEET 1	MARCH 1, 2006
C-1A	CONSERVATION PLAN - SHEET 1A	MARCH 1, 2006
C-2	CONSERVATION PLAN - SHEET 2	MARCH 1, 2006
C-3	CONSERVATION PLAN - SHEET 3	MARCH 1, 2006
C-4	CONSERVATION PLAN - SHEET 4	MARCH 1, 2006
C-5	CONSERVATION PLAN - SHEET 5	MARCH 1, 2006
C-6	CONSERVATION PLAN - SHEET 6	MARCH 1, 2006
C-7	CONSERVATION PLAN - SHEET 7	MARCH 1, 2006
C-8	CONSERVATION PLAN - SHEET 8	MARCH 1, 2006
C-9	CONSERVATION PLAN - SHEET 9	MARCH 1, 2006
C-10	LAYOUT AND MATERIALS PLAN - SHEET 1	MARCH 1, 2006
C-10A	LAYOUT AND MATERIALS PLAN - SHEET 1A	MARCH 1, 2006
C-11	LAYOUT AND MATERIALS PLAN - SHEET 2	MARCH 1, 2006
C-12	LAYOUT AND MATERIALS PLAN - SHEET 3	MARCH 1, 2006
C-13	LAYOUT AND MATERIALS PLAN - SHEET 4	MARCH 1, 2006
C-14	LAYOUT AND MATERIALS PLAN - SHEET 5	MARCH 1, 2006
C-15	LAYOUT AND MATERIALS PLAN - SHEET 6	MARCH 1, 2006
C-16	LAYOUT AND MATERIALS PLAN - SHEET 7	MARCH 1, 2006
C-17	LAYOUT AND MATERIALS PLAN - SHEET 8	MARCH 1, 2006
C-18	LAYOUT AND MATERIALS PLAN - SHEET 9	MARCH 1, 2006
C-19	UTILITY PLAN - SHEET 1	MARCH 1, 2006
C-19A	UTILITY PLAN - SHEET 1A	MARCH 1, 2006
C-20	UTILITY PLAN - SHEET 2	MARCH 1, 2006
C-21	UTILITY PLAN - SHEET 3	MARCH 1, 2006
C-22	UTILITY PLAN - SHEET 4	MARCH 1, 2006
C-23	UTILITY PLAN - SHEET 5	MARCH 1, 2006
C-24	UTILITY PLAN - SHEET 6	MARCH 1, 2006
C-25	UTILITY PLAN - SHEET 7	MARCH 1, 2006
C-26	UTILITY PLAN - SHEET 8	MARCH 1, 2006
C-27	UTILITY PLAN - SHEET 9	MARCH 1, 2006
C-28	GRADING AND DRAINAGE PLAN - SHEET 1	MARCH 1, 2006
C-28A	GRADING AND DRAINAGE PLAN - SHEET 1A	MARCH 1, 2006
C-29	GRADING AND DRAINAGE PLAN - SHEET 2	MARCH 1, 2006
C-30	GRADING AND DRAINAGE PLAN - SHEET 3	MARCH 1, 2006
C-31	GRADING AND DRAINAGE PLAN - SHEET 4	MARCH 1, 2006
C-32	GRADING AND DRAINAGE PLAN - SHEET 5	MARCH 1, 2006
C-33	GRADING AND DRAINAGE PLAN - SHEET 6	MARCH 1, 2006
C-34	GRADING AND DRAINAGE PLAN - SHEET 7	MARCH 1, 2006
C-35	GRADING AND DRAINAGE PLAN - SHEET 8	MARCH 1, 2006
C-36	GRADING AND DRAINAGE PLAN - SHEET 9	MARCH 1, 2006
C-37	PROFILE SHEET 1	MARCH 1, 2006
C-38	PROFILE SHEET 2	MARCH 1, 2006
C-39	PROFILE SHEET 3	MARCH 1, 2006
C-40	PROFILE SHEET 4	MARCH 1, 2006
C-41	PROFILE SHEET 5	MARCH 1, 2006
C-42	PROFILE SHEET 6	MARCH 1, 2006
C-43	DETAIL 1	MARCH 1, 2006
C-44	DETAIL 2	MARCH 1, 2006
C-45	DETAIL 3	MARCH 1, 2006
C-46	DETAIL 4	MARCH 1, 2006
C-47	DETAIL 5	MARCH 1, 2006

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Amended Order of Conditions DEP File #81-756
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Attachment C: Parcel List (2 pages)

	A	B	C	D	E	F
1	PARCEL DATA					
2						
3	MAP	BLOCK	LOT	CURRENT OWNER	DEED REFERENCE	PLAN REFERENCE
4						
5	46	534	6	BRISTOL, JAMES E III TR RJS NOMINEE TRUST	BK. 14256 / PG. 250	
6	46	535	1	TOWN OF WEYMOUTH	BK. 814 / PG. 127	
7	46	535	20	TOWN OF WEYMOUTH	BK. 814 / PG. 127	
8	46	535	84	TOWN OF WEYMOUTH	BK. 14281 / PG. 212	
9	46	535	88	TOWN OF WEYMOUTH	BK. 14281 / PG. 212	
10	46	535	89	TOWN OF WEYMOUTH	BK. 14281 / PG. 212	
11	51	535	79	BRISTOL, JAMES E III TR RJS NOMINEE TRUST	BK. 14256 / PG. 250	NONE
12	51	574	1	BRISTOL, JAMES E III TR RJS NOMINEE TRUST	BK. 14256 / PG. 250	NONE
13	51	574	2	BRISTOL, JAMES E III & DAVID B TRS RJS NOMINEE TRUST	BK. 14281 / PG. 205	PLAN BK. 48 / PLAN 2258
14	51	574	3	BRISTOL, JAMES E III & DAVID B TRS RJS NOMINEE TRUST	BK. 14256 / PG. 259	NONE
15	51	574	4	BRISTOL JAMES E III & DAVID B TRS-BLUEBERRY HILL NOMINEE TR	BK. 13939 / PG. 33	
16	51	576	1	WEATHERVANE DEVELOPMENT CORP	BK. 16993 / PG. 525	
17	51	576	2	WEATHERVANE DEVELOPMENT CORP	BK. 16993 / PG. 525	
18	51	576	3	TOWN OF WEYMOUTH		
19	51	576	4	WEATHERVANE DEVELOPMENT CORP	BK. 16993 / PG. 525	
20	51	576	5	TOWN OF WEYMOUTH		
21	51	576	6	BRISTOL, JAMES E III & DAVID B TRS RJS NOMINEE TRUST	BK. 14281 / PG. 205	PLAN BK. 48 / PLAN 2258
22	51	576	7	TOWN OF WEYMOUTH		
23	51	576	8	LARAMEE, RAYMOND A	BK. 4122 / PG. 25	NONE
24	51	576	9	BRISTOL, JAMES E III TR LIBBEY PARKWAY NOMINEE TRUST	BK. 14194 / PG. 486	NONE
25	51	576	10	LARAMEE, RAYMOND A	BK. 3685 / PG. 421	NONE
26	51	576	11	BRISTOL, JAMES E III & DAVID B TRS RJS NOMINEE TRUST	BK. 14281 / PG. 205	PLAN BK. 48 / PLAN 2258
27	51	576	12	BRISTOL, JAMES E III & DAVID B TRS RJS NOMINEE TRUST	BK. 14281 / PG. 205	PLAN BK. 48 / PLAN 2258

	A	B	C	D	E	F
28	51	576	14	BRISTOL, JAMES E III TR LIBBEY PARKWAY NOMINEE TRUST	BK. 14194 / PG. 486	NONE
29	51	576	15	BRISTOL, JAMES E III TR LIBBEY PARKWAY NOMINEE TRUST	BK. 14194 / PG. 486	NONE
30	51	576	19	BRISTOL, JAMES E III & DAVID B TRS RJS NOMINEE TRUST	BK. 16804 / PG. 129	PLAN BK. 48 / PLAN 2258
31	51	576	20	WEATHERVANE DEVELOPMENT CORP	BK. 21762 / PG. 180	PLAN BK. 48 / PLAN 2258
32	51	576	21	WEATHERVANE DEVELOPMENT CORP	BK. 20061 / PG. 90	PLAN BK. 48 / PLAN 2258
33	51	576	22	WEATHERVANE DEVELOPMENT CORP	BK. 21933 / PG. 171	NONE
34	51	576	28	BRISTOL, JAMES E III & DAVID B TRS RJS NOMINEE TRUST	BK. 14281 / PG. 205	PLAN BK. 48 / PLAN 2258
35	55	576	1	WEATHERVANE DEVELOPMENT CORP	BK. 16993 / PG. 525	
36	55	576	24	WEATHERVANE DEVELOPMENT CORP	BK. 20515 / PG. 521	NONE
37	55	576	46	WEATHERVANE DEVELOPMENT CORP	BK. 16993 / PG. 525	
38	55	607	1	WEATHERVANE DEVELOPMENT CORP	BK. 20515 / PG. 521	NONE
39	55	607	11	TOWN OF WEYMOUTH		NONE
40	55	607	44	BRISTOL, JAMES E III & DAVID B TRS RJS NOMINEE TRUST	BK. 14281 / PG. 205	PLAN BK. 48 / PLAN 2258
41	55	607	45	BRISTOL, JAMES E III TR LIBBEY PARKWAY NOMINEE TRUST	BK. 14194 / PG. 486	NONE
42	55	607	46	BRISTOL, JAMES E III & DAVID B TRS RJS NOMINEE TRUST	BK. 14281 / PG. 205	PLAN BK. 48 / PLAN 2258
43	51	608	2	RUSSO, OTTONE RUSSO, JEAN T (Town of Weymouth)	BK. 13520 / PG. 514	NONE
44	55	608	1	DIPITRO, GUISEPPE & MARIO ETAL TRS MODERN REALTY TRUST	BK. 566 / PG. 174	NONE

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Weathervane Golf Club and the Village at Weathervane

Amended Order of Conditions DEP File #81-756
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Attachment D: Proposed Work within 100-Foot Buffer Zone (1 page)

Proposed Work Within 100 Foot Wetland Buffer Zone	
Disturbance Area (S.F.)	**Description of Disturbance**
449,000	Limited project Site preparation Construction of House Unit 30 and associated site work Site work associated with maintenance building Revegetation at all levels Installation of utilities in emergency access road Golf tee and green golf construction Wetland replication Grading adjacent to clubhouse and parking lot construction Detention pond construction Sand bunker construction Golf cart path construction Site work and construction of Unit 31
Proposed Work Within 50 Foot Wetland Buffer Zone	
Disturbance Area (S.F.)	**Description of Disturbance**
7,371	Site preparation Grading adjacent to clubhouse and parking lot construction
Proposed Work Within 25 Foot Wetland Buffer Zone	
Disturbance Area (S.F.)	**Description of Disturbance**
42,710	Limited project Site preparation Wetland replication Drainage connection to wetlands Placement of compacted gravel approach fro emergency accessway Vegetation management at 1 - 2 foot height and add herbaceous layer as desired Approach to elevated boardwalk (50 linear feet x 10 feet wide)
Proposed Work Within Wetland Resource Areas	
Disturbance Area (S.F.)	**Description of Disturbance**
14,000	Fill for crossing (Limited Project)
8,000	Pruning and Planting Area
906	Removal of Bank (Seasonal Overflow)
2,886	Placement of public water service extension under gravel way and wetland Placement of 1 x 3 box culvert Replacement of existing structural fill as base for 20 foot wide emergency accessway Placement of process gravel for final drive surface
25,792	**Total (Wetland resource area disturbance)**

Weathervane Golf Club and the Village at Weathervane

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Attachment E: Special Conditions (17 pages)

SPECIAL CONDITIONS

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Weathervane Golf Club and the Village at Weathervane

Amended Order of Conditions DEP File #81-756
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PRE-CONSTRUCTION PROCEDURES

19. **Prior to the commencement** of any work on the project site, or within six (6) weeks of the date of this order, whichever comes first, this Order of Conditions shall be recorded at the Norfolk District Registry of Deeds, following which written notice of the recording reference shall be filed with the Commission pursuant to condition 8. Failure to do so shall be deemed cause to revoke this order.

20. **This order of Conditions shall not be deemed sufficient to authorize construction unless all other required permits from other local, state, and federal regulatory agencies have also been obtained or renewed.**

21. **In advance of any work** on this project the applicant shall notify the commission, and at the request of the commission, shall arrange an on-site conference with the contractor and the applicant to ensure that all of the conditions of this Order are understood and all other required permits are obtained, which include EPA NPDES Phase II permit, DEP WQC, and MEPA Notice of Project Change. Failure to do so shall be deemed cause to revoke this Order.

22. This Order shall be made a part of all contracts and subcontracts dealing with the work proposed, and shall supersede all other conflicting contract requirements.

23. **Prior to the commencement** of any work on the project site, the applicant shall inform the Commission in writing of the names, addresses, business and home phone numbers of both the project supervisor who shall be responsible for ensuring on-site compliance with this Order and his/her alternate. The applicant shall also notify the Commission in writing of any changes in this information in a timely manner.

24. Members of the Commission, or their respective agents, shall have the right to enter upon and inspect the premises to evaluate compliance with this Order of Conditions at any time during working hours.

25. **Prior to the commencement** of any work at the site, the applicant, with the consent of the Commission shall engage an environmental monitor to oversee project construction and ensure compliance with applicable environmental controls and permit conditions. The environmental monitor or equal professionals approved by the Commission shall regularly view the site and inspect the work in order to determine adherence to applicable pre-construction procedures, erosion and sedimentation controls, stabilization and revegetation measures, construction drainage controls and water quality monitoring requirements and keep a record on-site of conducted inspections for the Commission to review. During periods of active construction, the environmental monitor shall prepare written reports every month which summarize the status of construction work, environmental controls and compliance with applicable permit conditions. The environmental monitor's status reports shall be transmitted to the applicant and the Commission, on an approved time schedule and shall specifically identify any

deficiencies in compliance. In the event of any compliance deficiency, the Environmental Monitor shall forthwith conference with the applicant and the Commission to identify appropriate curative measures and establish a reasonable timetable for their implementation.

26. A copy of this Order of Conditions, as well as all construction and replication plans, shall be on site upon commencement of any site work and made available to any person doing work on the site.

27. The provisions of this Order shall apply to and be binding on the applicant, his employees and all successors and assigns in interest or control of the property described in the Notice of Intent and the accompanying plans. In addition to this Order being recorded, reference to this Order shall be made in all subsequent deeds of the property and in all deeds of any lots subdivided from the property whether issued prior to or subsequent to the issuance of this Order.

28. When ownership, title or control of this property transfers from one party to another, the existing owners of the properly shall explicitly inform the successor(s) in control or interest of the existence of this Order of Conditions. Once aware of the Order the successor(s) shall notify the Commission in writing of the transfer of ownership and/or control, stating that he/she/they have received, read and understood the Order. Notification to the Weymouth Conservation Commission shall be given within ninety (90) days of the date of transfer of ownership, control or interest.

29. The Commission authorizes its designated agent to act on its behalf in determining preconstruction compliance with Conditions **20, 21, 23, 25, 26, 38, 39, 43, 53, and 113.**

SCOPE AND SEQUENCE OF WORK

30. The Commission finds that the Notice of Intent and supporting documents submitted by the Applicant are in support of a Limited Project under MGL 310 CMR section 10.53(3)(e). They are sufficient to describe the site, the work proposed and the effect of the work on the interests identified in the Wetlands Protection Act in order for the Commission to issue this Order of Conditions.

31. This Order of Conditions authorizes construction of the project in accordance with the Notice of Intent, except as specifically modified herein. If, in any instance, the Notice of Intent and provisions of this Order differ, the Order shall control.

32. Accepted engineering, construction, and golf course shaping standards and procedures shall be followed in the completion of this project.

33. **The Applicant has submitted final Construction Plans and Documents** reflecting all recommended changes requested during the public hearing, and all pertinent review comments, for review and approval by the Commission. See Attachment A, Summary of Documents Submitted. The full set of plans and documents constitutes, and shall be clearly marked and dated as "Approved Documents,"

which shall be the basis for all construction and subsequent on-site operations and monitoring. The Applicant shall include in the project's Construction Documents, the Order of Conditions, and all other approvals and permits from **local, state, and federal agencies** having jurisdiction over the project, including the Town of Weymouth's Special Permit and Subdivision Findings and Conditions. The highlights of the approved documents are as follows:

- Grading & Drainage Control Plans (Plan C-28 through C-36) to ensure that erosion and siltation of undisturbed and expanded resource areas does not occur. The G & D Control Plans shall be used by all parties including the applicant, the Commission Agent or the designated representative for installation and review of all erosion and sediment control prior to the starting up of construction and maintenance during the construction. G & D plans include the locations of surface and ground water monitoring wells, catch basins, water quality inlets, drainage outfalls, inlet/outlet of detention basins, water flow conveyance swales, and wetland replication areas.

- Stormwater Pollution Prevention Plan (Sheet G-3).

- Construction Plans for all structures related to the golf course and subdivision roadways to assure the construction quality (Plans C-10 to C-47).

- Revegetation Plans that define areas of the site which will be treated as follows:

  ⇒ Seeded, including Test Plots, see Condition 59.

  ⇒ Overall Planting Plan which keys Plant Species selected from Exhibit E of the original Notice of Intent submitted by ENSR (January 1998).

33A. Runoff originating from the golf course shall be discharged to stormwater ponds or buffer areas, and shall not be discharged directly to wetland resource areas.

34. All work on the site authorized by this Order shall be undertaken in the sequence described in the Notice of Intent. Except as set forth herein, the applicant shall complete all work associated with the road construction phase of the project prior to commencing the individual lot development phase of the project. Notwithstanding the foregoing, individual lot development may commence prior to completion of all road and drainage construction, provided that the portion of the roadway necessary to serve such lot has been completed.

35. Any errors found in the plans or information submitted by the applicant shall be considered as changes and will require submission of corrected plans for approval by the Commission or its designated representative.

36. Any field changes found to be necessary, including compliance with directives of the Planning Board or Board of Health shall be considered as changes and shall require the approval of the Commission in

accordance with the project change review procedures of Condition 110.

37. Construction within areas 100-ft upgradient of vernal pool species breeding ground near Hole #9 shall be prohibited during spring breeding season (Late March to end May) to avoid harm to the vernal pool species.

EROSION AND SEDIMENT CONTROL

38. **Prior to any construction** activity on the project site, a limit-of-work line shall be established and marked in the field by a registered professional surveyor. A silt fence and/or hay bale barrier shall be installed upgradient of wetland resource areas at the limit-of-work line wherever work is occurring within the 100-foot buffer zone. An extra layer of protection (e.g., haybales or silt fence) shall be used in sensitive areas, including within 100 feet of vernal pool breeding grounds, inside of locally-regulated non-disturbance zones, in areas with concentrated flow or steep slopes, or other areas so designated by the Environmental Monitor or Conservation Commission. The limit-of-work line shall be inspected and approved by the Commission within ten (10) days following notice by the applicant.

39. The limit-of-work line shall be reviewed with the general contractor and any appropriate sub-contractors. All equipment operators and construction workers shall be informed that no construction activity is to occur beyond this line at any time.

40. The limit-of-work line shall be inspected in active work areas on a daily basis and shall be inspected across the entire site on a weekly basis. Any inadvertent transgression shall be restored within 24 hours following discovery. The limit-of-work line shall be maintained in good repair until all construction on the site's perimeter is complete and stabilized.

41. The silt fence and hay bales shall be entrenched a minimum of four inches into the soil to prevent underflow around and under the devices. The erosion control structures shall be inspected daily and maintained throughout the duration of the project. Removal of the silt fence and spread of hay bales may be recommended by the environmental monitor and approved by the Conservation Administrator.

42. Staked hay bales shall be used to control erosion at the tops of cut slopes. Catch basins shall be protected by staked hay bales and filter fabric or silt bags until such time as all disturbed soils have been stabilized.

43. **Prior to any work** on the project site, all trees within the limit of work that are greater than ten (10) inches in diameter that are to be saved shall be protected from inadvertent damage by installation of construction fence around the trees following approximately the drip line. Such measures shall be maintained until all earthwork and grading is complete. Trees that are not to be saved shall be cut and stumps removed, except 'snags' chosen by the golf superintendent as not a public liability to golfers and that generate habitat value.

44. A stabilized construction entrance shall be installed at the transitions from paved surfaces to unpaved

surfaces including Weathervane Drive to Clubhouse Drive and the roadway to each lot. A minimum of 6 inches of crushed stone 2 to 4 inches in diameter shall be spread over a layer of geotextile. A maintained washdown area shall also be provided and maintained prior to entrance on the public ways.

45. The contractor shall maintain a supply of hay bales, siltation fence, and crushed stone on the site in order to make emergency repairs. A minimum of 30 hay bales and 300 feet of silt fence shall be stored on-site for emergency use.

STABILZATION AND REVEGETATION

46. All disturbed soils shall be final graded and stabilized as soon as possible. For areas that have been rough graded but not final graded, paved, or landscaped within one week, a temporary vegetative cover or mulch shall be established. Jute matting and straw mulch shall be used if it is not feasible to establish a grass cover. Straw or hay mulch shall be applied over seeding sites, and anchored on slopes steeper than 4:1, except as deemed appropriate by the golf superintendent on the golf course's practice facility.

47. Areas exposed and subject to erosive forces for a limited time, such as cut and fill slopes, shall be stabilized using hay mulch and a tack emulsion. For slopes steeper than 3:1, curlex or a similar erosion control material matting shall be used in addition to the hay mulch, except as deemed appropriate by the golf superintendent on the golf course's practice facility.

48. All slopes created during construction that have a 3:1 slope or flatter shall be loamed and seeded. Any slope steeper than 3:1 shall be protected by the implementation of alternative stabilization measures, which shall include that use of geotextile with loam and seed, sod or rip-rap. Stabilization measures shall be designed in accordance with approved standard engineering or accepted golf course construction practices.

49. All areas shall be permanently stabilized following the completion of final grading. Permanent stabilization shall consist of paving, placement of crushed stone or establishment of a perennial grass or vegetated cover.

50. Permanent seeding shall be used in areas that have been graded to final grade and areas not to be paved or built on. For permanent seeding sites, a minimum of four inches of loam shall be spread evenly across the area and raked smooth. The soils shall have a pH between 6.5 and 8.5. Acidic soils below a pH of 6.5 shall be limed at a rate of 2.5 tons/acre. Fertilizer (10-20-20 Nitrogen: Phosphate: Potassium) may be applied at a rate of 500 pounds/acre. Lime and fertilizer shall be worked into the soils, and permanent seeding shall then follow. Straw or hay mulch shall be applied over seeding sites at a rate 90 bales/acre and anchored with a tack emulsion or a peg and twine network on slopes steeper than 4:1, or as defined by the golf course superintendent approved in advance by the Conservation Commission or its designated representative.

51. After all construction activities are completed and exposed soil areas are permanently stabilized, all temporary erosion control measures shall be removed at the recommendation of the Environmental Monitor and with approval of the Conservation Commission or its designated representative. Any accumulated sediments around the erosion control measures shall be removed and disposed of properly in an upland area.

STORMWATER MANAGEMENT DURING CONSTRUCTION

52. During construction, stormwater flows shall be directed to temporary sedimentation basins constructed in accordance with DEP Stormwater Management Policy. Swales or dikes shall be installed as required to direct runoff to the sedimentation basins. Hay bale check dams shall be installed in any swale, at intervals fifty (50) feet apart or less when the slope of the swale is 4% or steeper.

53. Detention basins shall be first constructed and function as sediment basins during construction. A temporary slotted riser pipe shall be installed in the basin and shall outlet into the dispersion berm prior to discharge into a vegetated buffer area. The basins shall be stabilized vegetatively. The outlet of the dispersion berm shall be a level lip at a compacted earthen berm lined with an erosion control matting lined with stones and followed by a seeded area to establish a dense stand of grass resistant to flowing water. Sedimentation basins shall be in place for each stage of development prior to the commencement of general earthwork within affected portions of the site. The applicant shall provide written notification to the Commission at least 10 days in advance of general site construction for the purpose of inspecting and approving the sedimentation basins.

54. If groundwater is encountered during trenching, a de-watering filter bag or hay bale corral lined with filter fabric shall be utilized to treat the discharge. The filter bag or hay bale corral shall be located in an upland area upgradient of the sedimentation basin or a naturally vegetated area with a minimum separation distance of twenty-five (50) feet to the nearest wetland or wetland resource area.

WETLAND REPLICATION AND WILDLFE HABITAT ENHANCEMENT

55. Construction of the wetland replication and restoration area, including grading, soil placement, and planting shall be done under the supervision of an experienced wetland scientist/engineer. The wetland scientist/engineer shall monitor the work for compliance with the guidelines defined in the Notice of Intent and Order of Conditions and with the Massachusetts Department of Environmental Protection's Inland Wetland Replication Guidelines, dated March 2002 as amended.

56. When lacking original wetland soil under some of the replication area, the surface shall initially be graded 12 inches below the final elevation to allow the placement of suitable organic soils. Following grading, a hydric soils mixture shall be placed in the wetland replication area to meet the final design elevation. A hydric soil mixture consisting of 3:1 topsoil and screened peat or leaf compost shall be used to provide a relatively high organic content.

57. Wetland replication shall be constructed according to the detailed planting program by ENSR and Abbellire (Appendix E of the original NOI) and revised grading plan. A vernal pool-type habitat shall be created close to the south portion of the replication area (Sheets C-31 and 34).

58. 25-ft strip of wildflower and grass mix planting shall be provided along the outer rim of the replication area with a row of shrubs along the upper limit of the replication area. Plants shall include Highbush blueberry and silky dogwood spaced 6 ft in center.

59. The wetland replacement area shall be monitored by a qualified wetland scientist to assess plant establishment and to determine whether the area meets the general performance standards required by the regulations at 310 CMR 10.55 (4) (b) and the Massachusetts Department of Environmental Protection's Inland Wetland Replication Guidelines. At each monitoring event, a soil core shall be taken to determine surface and groundwater hydrological conditions. The overall percent cover by vegetation shall be estimated for the restoration areas and the establishment of the planted species shall be recorded. All species present in the replacement area shall be listed in the inventory. Three permanent sample plots of size 10' X 10'shall be set up, and data (percent cover by species) shall be recorded. Monitoring shall occur according to the following schedule:

    - After final grading and placement of organic top soil
    - Four weeks after planting,
    - At the start (May) of the first growing season,
    - At the end (September) of the first growing season,
    - At the start (May) of the second growing season
    - At the end (September) of the second growing season.

60. During the two year monitoring of wetland replication, all invasive alien plants in the replication area shall be removed and disposed off site.

61. The Commission shall have the right to hire an independent expert, at the expense of the owner, to inspect the wetland replication area twice: once after final grading and placement of wetland soils, and once at the end of the second growing season. Following the two-year monitoring period, once monitoring determines that the wetlands replacement area has achieved the appropriate soil structure and hydrology and at least 75 percent cover by wetland plant species, monitoring may be terminated and a request for a Final or Partial Certificate of Compliance filed with Weymouth Conservation Commission.

62. The golf course fly-over area in the wetlands shall be operated and maintained in accordance with the approved mitigation plan by John F. McGrath November 6, 2005.

63. Final grading and planting of the replication area shall be completed by May 31, 2006.

64. A performance bond shall be obtained for the replication work, as specified in condition #113.

FUEL STORAGE AND DISPENSING

65. No construction vehicles or equipment shall be stored within a wetland resource area or within the 100-ft buffer zone established by the Wetland Protection Act. All construction vehicles shall be removed each evening and parked outside of the defined buffer zones.

66. All refueling and lubrication of construction vehicles and equipment shall be conducted at a designated location within the main construction staging area. A site plan of the refueling area, showing proposed storage tanks, spill containment and drainage controls shall be submitted to the Commission prior to the commencement of the project construction. Contractors shall not be allowed to refuel vehicles outside of this designated refueling area. Refueling of cranes used to erect the steel superstructures associated with lot development shall be the only exception to this rule.

67. Routine refueling of construction vehicles shall be conducted only during morning hours before vehicles are dispatched onto the site or in the late afternoon when vehicles returned to the designated refueling area.

68. Any temporary fuel storage tanks shall be kept within an impervious containment structure capable of containing a spill greater than the combined capacity of all storage tanks. All state, local, and federal requirements for storage of fuel must be met.

69. The refueling pad and storage tank containment area shall drain to an oil-water separator designed to intercept a maximum spill of 4,000 gallons. This oil/water separator shall be pumped out periodically and the contents removed and disposed of in accordance with all applicable local, state, and federal regulations.

70. Any construction vehicle operating on the site, or within the existing right of way shall be inspected at the beginning of each working day. Tanks, hoses and fittings shall be inspected for leaks. If found, the equipment shall be repaired immediately or removed from the site.

71. During and after work on this project there shall be no discharge or spillage of fuel, oil or other pollutants into any resource area. The applicant shall take all reasonable precautions to prevent the release of pollutants by ignorance, accident or vandalism.

STORMWATER MANAGEMENT

72. On-site stormwater management system conforms to all nine criteria of the MA DEP Stormwater Management Policy and NPDES Phase II requirements, which includes an operation and maintenance plan on Plan sheet G-3. **This condition shall survive the Order of Conditions and shall run with the title of the property.**

73. To the extent feasible, runoff from undeveloped areas both on and off-site shall be directed away from detention basins and allowed to discharge naturally through the site into the receiving wetlands. Existing drainage patterns shall be maintained to the maximum extent. Any undeveloped area runoff that has been captured in a collection system and not combined with parking lot runoff shall be discharged through a dispersion berm. Any runoff from unpaved area with natural growth of vegetation that has been combined with parking lot runoff shall be pretreated as parking lot runoff before discharging into detention/irrigation basins or wetlands.

74. Roof runoff shall bypass catch basins and be discharged into detention/irrigation basins as much as possible.

75. All parking lots and driveways shall be curbed to control the collection of runoff. All parking lot flows shall be collected in catch basins with sumps and oil traps. Catch basins shall not be collected in series, but manholes shall be utilized at drainage trunk line connection points and at turns in the line. Runoff collected in the drainage trunk lines shall pass through an oil/grit separator. All parking lot runoff for the golf course shall be directed to one of the detention basins. Closed culvert drainage system shall be designed to handle the 25-year design storm. All crossings and open channel flow conveyances shall be designed to handle the 100-year design storm.

76. Catch basins shall have oil traps, 4-ft sumps from the outlet inverts, and a 4-ft inside diameter. The oil traps shall be 1 foot long below the outlet invert. All catch basins shall discharge to a manhole, and shall not have direct connections to other catch basins.

77. Oil/grit (Water Quality Inlet) separator shall be utilized in the roadway, driveway and parking lot drainage system and sized to detain runoff from the first flush (first one inch) of stormwater runoff. Runoff from small storms or first flush flows of large storm events shall be diverted to the separator through low flow diversions in the manholes immediately upstream of the separators.

78. Swales shall be incorporated into the drainage design to convey runoff and enhance water quality. Swales shall be designed in accordance with the Massachusetts Highway Department Design Standards, and shall handle the 100-year design storm. Surface treatment for swales shall be based on specific design criteria. For velocities less than 3 ft/s, the swales shall be loamed and seeded with a grass mixture of rye and tall fescue. For anticipated velocities between 3 and 5 ft/s, swales shall be sodded. Where velocities greater than 5 ft/s are anticipated, the swale shall be stabilized with rip-rap or a geo-fabric and grass. These velocities are based on the 10-year storm flows. All vegetated swales shall be lined with erosion control fabric following construction to protect against erosion during the period of vegetative establishment.

79. Each detention basin used for irrigation shall have the outlet set 3 feet above the bottom of the flood control storage with a two-inch slot to the bottom of the flood control storage. Around the bottom of the flood storage, a 10 ft wide and one foot deep shallow vegetated zone shall be created around the margin of the basin above the irrigation pool. The shelf shall be planted with emergent plants.

SITE MAINTENANCE AND MONITORING

80. Catch basin grates shall be checked quarterly and following heavy rainfalls to verify that the inlet openings are not clogged by debris. Debris shall be removed from the grates and disposed of properly. Catch basin sumps and oil/grit separators shall be inspected and cleaned semi-annually of all accumulated sediments. Catch basins with hood traps and the oil chamber of the separators shall be inspected quarterly to check oil build-up and outlet obstructions. Material removed from catch basins shall be disposed of in accordance with all applicable regulations by a licensed contractor. Records of such cleaning shall be maintained on site for a minimum of three (3) years and shall be made available for inspection upon request of the Commission or the Board of Health. **The applicant shall annually submit a summary of catch basin cleaning procedures among other site maintenance activities to the Commission and the Board of Health. This condition shall survive the Order of Conditions and shall run with the title of the property.**

81. **The groundwater and surface monitoring program** shall be carried out in accordance with the approved plan to monitor the draw-down impact to the wetlands and the Old Swamp River downgradient of the irrigation wells and to assess the effectiveness of the stormwater treatment system in removing pollutants from site runoff during and following each stage of road construction, lot and golf course development. The final monitoring plan includes a statement of objective, reference to all relevant regulatory compliance requirements, sampling procedures, sampling locations, parameters to analyze, methods of analysis, and details of all quality assurance/quality control (QA/QC) procedures utilized. Records of such water quality monitoring shall be maintained on site for a minimum of ten (10) years and copies shall be submitted to the Commission and the Board of Health. The applicant shall annually submit a summary of water quality monitoring results among other site maintenance activities to the Commission and the Board of Health. **This condition shall survive the Order of Conditions and shall run with the title of the property.**

82. In case of high concentration of pollutants exceeding standards set in state and federal drinking water regulations or the background water quality, which ever is higher, the applicant or his successors shall immediately notify the Commission, the Board of Health, DPW, and relevant state and federal agencies, take actions as required by the monitoring program to reduce or eliminate the use of the contaminant, and provide remediation as soon as possible.

83. The parking lots shall be swept by vacuum sweepers monthly between the months of April and November. Records of such parking lot sweeping shall be maintained on site for a minimum of three (3) years and shall be made available for inspection upon request of the Commission or the Board of Health.

84. All outfall protection structures shall be inspected semi-annually and following major storm events to check for signs of erosion. Any necessary repairs shall be performed promptly. All outlet protection structures shall be inspected twice per year and cleaned to remove accumulated sediment. Records of such cleaning shall be maintained on site for a minimum of three (3) years and shall be made available for inspection upon request of the Commission. **This condition shall survive the Order of**

Conditions and shall run with the title of the property.

85. Drainage swales shall be checked for debris accumulation on a quarterly basis or following major storm events. Any debris accumulation shall be removed from the channel areas. Silt, sand and sediment, if significant accumulation occurs, shall be removed by hand annually. Care shall be taken to maintain vegetation growth within a swale. Grass shall be cut and weeds and brush removed or trimmed at regular intervals during the growing season. Trimmings shall be removed from the swale to prevent them from collecting in downgradient detention basins. Reseeding and weed control may need to be performed periodically to maintain healthy, dense vegetation and maintain the pollutant removal efficiency of the swale. Any channel erosion with swales shall be stabilized as soon as practical. Records of such cleaning shall be maintained on site for a minimum of three (3) years and shall be made available for inspection upon request of the Commission. **The applicant shall annually submit a summary of drainage swale cleaning procedures among other site maintenance activities to the Commission. This condition shall survive the Order of Conditions and shall run with the title of the property.**

86. Detention basins shall be checked monthly and immediately after heavy rainfall events to verify that outlets and inlets are not blocked by litter or other debris. Accumulated debris shall be removed as soon as possible. Basin slopes and embankments shall be checked for signs of erosion. Eroded slopes shall be stabilized promptly to eliminate future deterioration of the structure. Deeply accumulated sediments shall be removed from the basin periodically to ensure proper functioning of the structure. The containment dikes of the basin shall be checked periodically for signs of overtopping during wet season and after heavy rain. Records of such cleaning shall be maintained by the golf superintendent on site for a minimum of three (3) years and shall be made available for inspection upon the request of the Commission. **The Applicant shall annually submit a summary of detention basin cleaning procedures among other site maintenance activities to the Commission. This condition shall survive the Order of Conditions and shall run with the title of the property.**

87. Vegetative growth within the created ponds shall be monitored and maintained as needed. Tree growth on dikes shall be removed to maintain the structural integrity of the embankment. Records of such vegetation removal shall be maintained on site for a minimum of three (3) years and shall be made available for inspection upon request of the Commission. **The applicant shall annually submit a summary of detention basin cleaning procedures among other site maintenance activities to the Commission. This condition shall survive the Order of Conditions and shall run with the title of the property.**

88. Storage, use, handling and disposal of hazardous materials shall be in accordance with state and federal regulations, as well as Chapter 85 of the Code of the Town of Weymouth.

DE-ICING MATERIALS

89. Salt (sodium chloride) shall not be used on the site for de-icing purposes and signs of a minimum of two square feet stating such restriction shall be posted at all vehicle entrances. **This condition shall**

survive the Order of Conditions and shall run with the title of the property.

90. Sand containing the minimum amount of calcium chloride (or approved equivalent) needed for handling ice may be applied as part of the routine winter maintenance activities.

IRRIGATION AND WATER HARVEST ON-SITE

91. Irrigation and water harvesting shall be carried out based on the approved Water Use Plan and this Order of Conditions. In case of a conflict, the Orders of Condition shall prevail. **This condition shall survive the Orders of Condition and shall run with the title of the property.**

92. No town water shall be used for golf course irrigation at any time and under any conditions. **This condition shall survive the Order of Conditions and shall run with the title of the property.**

93. Pumping tests for all constructed water supply wells shall be conducted in summer (August to September) to investigate the impact zone and recovery rate. A report of the pumping test shall be submitted for review and approval by the Commission before the operation and issuing of a Certificate of Compliance.

94. Pumping of water supply wells shall be limited to no more than twice a day, and no more than 6 hours continuous pumping at each time. The total groundwater pumping rate shall not exceed 75,000 gpd for the first 3 years after the golf course is established and 46,000 gpd thereafter. The total volume of groundwater pumping shall not exceed six point seven five (6.75) million gallons over a consecutive 3-month period for the first 3 years after the golf course is established and four point one four (4.14) million gallons over a consecutive 3-month period thereafter. Daily pumping record shall be kept by the golf superintendent on site for a minimum of ten (10) years and shall be made available for inspection upon request of the Commission. **This condition shall survive the Order of Conditions and shall run with the title of the property.**

95. **Prior to the startup of the irrigation well,** a stilling monitoring well representing the operation of the irrigation well shall be installed in or near the irrigation well to enable the monitoring of water level drawdown during the operation of the irrigation well as required in the Order of Conditions. Also, the Conservation Commission shall approve a method for correlating water table elevations in the five groundwater monitoring wells with benchmark wells, such as the nearest USGS observation wells in similar hydrogeologic conditions. At a minimum, the applicant must monitor groundwater elevations in the five monitoring wells and the stilling well on a weekly basis between May 1st and October 15th, 2006. The irrigation well shall not be brought on line prior to September 1st, 2006. Subsequent to October 15th, 2006, and no later than February 15, 2007, the applicant shall provide a report which provides a narrative report, along with a graphical representation of the monitoring well data and benchmark well data. The report shall establish a mathematical method to correlate the monitoring well levels with the benchmark well levels. The report shall also identify response actions to be taken when monitoring well levels drop more than 12" below levels predicted by the mathematical model. The Conservation Commission shall have the authority to hire an independent expert, at the expense of

the applicant, to review the report.

96. Whenever water supply wells are pumped, the groundwater elevation in the stilling well shall be measured before and after the pumping. Records of the groundwater tables shall be kept together with the pumping records on-site for inspection. The water tables in other monitoring wells shall be monitored once a month during the period of time when irrigation is required. If the water table in any of the monitoring wells #1 - #5 drops more than 12" below the levels predicted from the baseline study (see Condition #95), pumping duration shall be reduced in accordance with the baseline report requirements. The adjustment in pump operation shall be reported to the Commission, and to the Board of Health, and the Department of Public Works.

97. Total irrigation rate from wells and ponds shall not exceed daily average of 85,000 gpd for the first three years after the golf course is established and 56,000 gpd thereafter. Daily irrigation volume shall be maintained on-site by the golf superintendent for a minimum of ten (10) years and shall be made available for inspection upon request of the Commission. **This condition shall survive the Order of Conditions and shall run with the title of the property.**

98. The irrigation sprinkler system should be only connected to the pump installed in the surface water ponds and not connected to the well directly. The irrigation well shall only be used to replenish the irrigation pond.

99. **Before the Certificate of Compliance for the golf course can be issued,** as-built plans of the internal golf course drainage system (including the underdrain system below golf tees and greens) and the golf course irrigation system shall be submitted to the Conservation Commission **to confirm compliance with Conditions 33A and 98.**

TURF MANAGEMENT

100. Turf management shall be carried out based on the "Turf Management Plan" prepared by Abbellire Inc., March 25, 1998 and with this Order of Conditions. In the case of a conflict, the Order of Conditions shall prevail.

101. Application rates of fertilizer and pesticides shall not cause water quality standard violation both in surface and ground water according to state and federal drinking water regulations, as well as town Ordinance and Regulations. All applications shall be recommended by the golf superintendent.

102. No pesticides and/or fertilizers shall be applied to the course 24 hours prior to a predicted rain storm. **This condition shall survive the Order of Conditions and shall run with the title of the property.**

103. An easy-to-follow management plan shall be derived and elaborated from the "Turf Management Plan" by the golf superintendent and submitted to the Commission **before the operation of the golf course.** A copy of the brief plan, the original "Turf Management Plan" and the Order of Conditions shall be

given and well explained to the Golf Course Management Team and maintained on site for quick reference. **This condition shall survive the Order of Conditions and shall run with the title of the property.**

104. All greens shall be under drained by Subair system or better.

BUFFER ZONE RESTRICTIONS

105. There shall be no new stockpiling of soil or other earth materials within fifty (50) feet of any resource area.

106. No above ground or underground storage of fuel oils or hazardous materials shall be allowed within the 100-ft buffer zone except for those explicitly shown on the referenced plans. **This condition shall survive the Order of Conditions and shall run with the title of the property.**

107. Pesticides and fertilizers shall not be used within 25 ft of a wetland resource area or 100-ft of a vernal pool. **This condition shall survive the Order of Conditions and shall run with the title of the property.**

108. No snow from the parking lot or roadways shall be dumped within the 100-ft buffer zone of a wetland. **This condition shall survive the Order of Conditions and shall run with the title of the property.**

109. There shall be no activity related to this project within 25 feet of any wetland resource area other than as shown on the referenced plans and described in the Notice of Intent.

LOT DEVELOPMENT

110. Individual lot development shall be consistent with and conform to the design criteria and performance standards set forth by the Weymouth Special Permit Case #98-1-2/9, as amended and clarified, the Notice of Intent, and this Order of Conditions.

PROJECT CHANGE REVIEW PROCEDURE

111. Any changes to the proposed work from that described in the Notice of Intent or changes differing from the conditions imposed by this Order must be submitted to the Commission for approval prior to their implementation. If the Commission finds said change to be insignificant in respect to its effect on protected wetland interests, the Commission shall recognize and ratify such change by notation to the case file. If the Commission finds the change to be significant in respect to its effect on protected wetland interests, the Commission may require a new Notice of Intent or call for another public hearing within 21 days, at the expense of the applicant, in order to take testimony from all interested parties. Within 21 days of the close of said public hearing, the commission shall issue an amended or new Order of Conditions.

112. Any errors found in the plans or information submitted by the Applicant shall be considered as changes

and project change review procedures set forth in this Order shall be followed.

ADMINISTRATIVE PROVISIONS

113. **Prior to construction**, a performance bond shall be established for the project in the amount of one hundred thousand dollars ($100,000) to ensure the quality and success of the wetland replication, the stormwater management system, and protection measures for sensitive environmental resources. The amount of the bond may be reduced by thirty (30) percent of the total after a partial Certificate of Compliance has been issued for the wetlands replication, and by forty (40) percent of the total after a partial Certificate of Compliance has been issued for the stormwater management work. The remainder of the bond shall be maintained over the 10-year post-compliance monitoring period, except that it may be further reduced by $10,000 after the third-year monitoring report is submitted and another $10,000 after the sixth-year monitoring report is submitted, upon approval of the Conservation Commission. The remainder of the bond may be eliminated upon approval of the Commission, once the final, tenth-year, post-construction compliance monitoring report is submitted, in accordance with Conditions 121 and 122 of this Order.

114. The Conservation Commission shall have the right to hire outside expert consultants, at the expense of the applicant, to review and inspect construction of the project and compliance with this Order of Conditions at each milestone:1). When wetland replication area is graded to design grade and placement of top organic soils; 2) In the second growing season after the replicaton area is planted; 3) When drainage system is constructed and as-built plan is completed; 4)When the golf course irrigation system and internal drainage system are installed and as-built plans are submitted for review; 5)When a baseline groundwater elevation report is submitted, in accordance with Condition #95; 6) At each stage of review of a partial or full Certificate of Compliance request.

115. This Order of Conditions shall apply to and be binding upon the applicant, its employees, and all successors and assigns in interest or control. In conjunction with the sale of any portion of the site covered by this Order of Conditions, the applicant shall submit to the Commission a signed statement by the buyer that he/she has been presented with a copy of this Order of Conditions.

116. Special conditions which survive this Order shall remain in effect in perpetuity and shall be specifically noted as such on the Certificate of Compliance.

117. The Commission shall consider phased Certificate(s) of Compliance for separate elements/areas of the project. The Applicant shall notify the commission when any one of the following areas are to be reviewed for consideration of Compliance:
    - The roadways and parking lot;
    - The wetland replication areas;
    - The whole golf course;

- House units constructed within the 100-foot wetland buffer zone;
- The detention ponds 1A/1B, 2, 3, 4, 5, 6, and,
- The infiltration trench under the clubhouse parking lot.

118. Upon completion of the project, or any discrete phase thereof, the Applicant may request a Certificate of Compliance (partial or final). The request shall be accompanied by the following items:

1) A written statement by a professional engineer or land surveyor registered in the Commonwealth of Massachusetts certifying compliance with the Notice of Intent, the approved plans, and this Order of Conditions and setting forth what deviations exist, if any; and

2) Two sets of as-built site plans prepared by a registered land surveyor or a registered professional engineer showing those activities for which the Certificate of Compliance is sought.

119. The Applicant shall meet all requirements set by the Weymouth Conservation Commission, the Weymouth Board of Health and Weymouth Fire and Police Departments regarding the storage of fossil fuels and storage of construction equipment, vehicles and chemical compounds during the entire period of construction through the issuance of the Certificate of Compliance for the golf play zones outside the resource areas.

120. Disposal of any monitoring or maintenance records shall be approved by appropriate Town Agencies.

POST-CONSTRUCTION COMPLIANCE STAGE

121. The applicant shall continue to provide the appropriate commitment from the Operational Budget of the Weathervane Golf Course to meet the Commission's on-site monitoring requirements. Commencing the day following total project construction compliance and continuing for a period of ten (10) years, funding shall pay for on-site monitoring consisting of site visits, photography, site reports, and follow-up consultation with , and for, the Commission. The monitoring shall cover: overall compliance with the Order of Conditions including operation and maintenance requirements, health of adjacent wetlands, status of replication area, functioning and condition of drainage systems, and groundwater and surface water quality.

122. Post-construction compliance monitoring to ensure the site post-construction operation/maintenance incompliance with this Order shall meet the following schedule:

- **Year 1:** From the date of the issuance of a final Certificate of Compliance for the golf course, post-construction compliance monitoring shall occur *monthly*;

- **Year 2-3:** Monitoring shall occur *quarterly.*
- **Year 3-6:** Monitoring shall occur *semi-annually.*
- **Year 7-10:** Monitoring shall occur *annually.*

123. The Commission's action on this project are taken under the Weymouth Code of Ordinances, Section 7-301, subject to compliance with the conditions and limitations imposed herein, and any work authorized hereafter shall be completed within one (1) year from the date of issuance of this Order. Any request for extension of this Order shall be made, in writing, not less than thirty (30) days before the expiration of this Order. An appeal of an Order issued under Weymouth Ordinance Section 7-301 may be taken in Superior Court.

All submissions pursuant to this Order shall be addressed as follows: Weymouth Conservation Commission, Town Hall, 75 Middle Street, MA 02189.

Exhibit B-

Order of Conditions (#81-756)

310 CMR 10.99

BK 14260PG359

DEP File No. NE-81-756
(To be provided by DEP)

Form 5

City/Town Weymouth, MA

Applicant Bristol Brothers Develop.
South Weymouth, MA

Commonwealth of Massachusetts

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Order of Conditions
Massachuetts Wetlands Protection Act
G.L. c. 131, §40

From Weymouth Conservation Commission Issuing Authority

To Bristol Brothers Development (Name of Applicant) ~~Bristol Brothers Development~~ (Name of property owner) *

Address 50 Pine St., S. Weymouth Address 50 Pine St., S Weymouth

This Order is issued and delivered as follows:

☐ by hand delivery to applicant or representative on _____ (date)

☒ by certified mail, return receipt requested on 5-29-99 (date)

This project is located at Liberty St., S Weymouth, MA

The property is recorded at the Registry of Norfolk County

Book current book Page see attached list

Certificate (if registered) _____

The Notice of Intent for this project was filed on 30 January 1998 (date)

The public hearing was closed on August 12, 1998 (date)

Findings

The commission has reviewed the above-referenced Notice of Intent and plans and has held a public hearing on the project. Based on the information available to the commission at this time, the commision has determined that the area on which the proposed work is to be done is significant to the following interests in accordance with the Presumptions of Significance set forth in the regulations for each Area Subject to Protection Under the Act (check as appropriate):

☒	Public water supply	☒	Flood Control	☐	Land containing shellfish
☐	Private water supply	☒	Storm damage prevention	☒	Fisheries
☒	Ground water supply	☒	Prevention of pollution	☒	Protection of Wildlife Habitat

Total Filing Fee Submitted $3,935.00 State Share $1,955.00 (1/2 fee in excess of $25)

City/Town Share $1,980.00

Total Refund Due $_____ City/Town Portion $_____ (1/2 total) State Portion$_____ (1/2 total)

*James E. Bristol, III, Trustee of RJS Nominee Trust, u/d/t dated January 21, 1994 and filed with Norfolk Registry District of the Land Court as Document No. 859824 on Certificate No. 157648 and with Norfolk Registry of Deeds as Instrument No. 64529 on June 30, 2000.

RECEIVED AND RECORDED
NORFOLK COUNTY
REGISTRY OF DEEDS
DEDHAM, MA
CERTIFY
BARRY T. HANNON, REGISTER

065291

00 JUL -5 AM 9:56

WELCH ASSOCIATES
LAND SURVEYORS
353 West Center Street
West Bridgewater, MA 02379
(508) 580-4696 FAX. (508) 580-4962

NOT AN OFFICIAL COPY

SCALE: 1"=100'

ACAD FILE: W950705C DATE: DECEMBER 23

PARCEL DATA

MAP	BLOCK	LOT	CURRENT OWNER	DEED REFERENCE	PLAN REFERENCE
55	607	44	TOWN OF WEYMOUTH	BK. 3934 PG. 9	PLAN BK. 23 PLAN 1030
55	607	45	MICHAEL J. MULCAHY, JR. & DIANA D. MULCAHY	BK. 8750 PG. 331	PLAN BK. 23 PLAN 1030
55	607	46	TOWN OF WEYMOUTH	BK. 3934 PG. 10	PLAN BK. 23 PLAN 1030
51	576	1	TOWN OF WEYMOUTH	BK. 2182 PG. 251	PLAN BK. 48 PLAN 2258
51	576	2	MICHAEL J. MULCAHY, JR. & DIANA D. MULCAHY	BK. 8501 PG. 465	PLAN BK. 48 PLAN 2258
51	576	3	TOWN OF WEYMOUTH	BK. 1380 PG. 266	NONE
51	576	4	ROY V. NELSON & SONS, INC.	BK. 7845 PG. 232	PLAN BK. 48 PLAN 2258
51	576	14	MICHAEL J. MULCAHY, JR. & DIANA D. MULCAHY	BK. 8501 PG. 465	PLAN BK. 48 PLAN 2258
51	576	28	TOWN OF WEYMOUTH	BK. 2314 PG. 25	PLAN BK. 48 PLAN 2258
51	576	15	MICHAEL J. MULCAHY, JR. & DIANA D. MULCAHY	BK. 8501 PG. 465	PLAN BK. 48 PLAN 2258
51	576	12	TOWN OF WEYMOUTH	BK. 2374 PG. 3	NONE
51	576	11	TOWN OF WEYMOUTH	BK. 5378 PG. 748	PLAN BK. 48 PLAN 2258
51	576	10	TOWN OF WEYMOUTH	BK. 3685 PG. 421	NONE
51	576	9	MICHAEL J. MULCAHY, JR. & DIANA D. MULCAHY	BK. 8501 PG. 465	PLAN BK. 48 PLAN 2258
51	576	8	TOWN OF WEYMOUTH	BK. 4122 PG. 25	NONE
51	576	7	TOWN OF WEYMOUTH	BK. 4110 PG. 51	NONE
51	576	6	TOWN OF WEYMOUTH	BK. 4155 PG. 743	NONE
51	576	5	TOWN OF WEYMOUTH	BK. 4110 PG. 50	NONE
51	535	79	MASS. EQUIPMENT & SUPPLY CORP.	CERT. #58829	L.C. PLAN #22495A
51	608	2	GENE RUSSO	BK. 3072 PG. 108	NONE
51	574	1	HILLSHIRE ESTATES, INC.	BK. 5002 PG. 186	NONE
51	574	2	DAVID F. ADAMSON	BK. 3116 PG. 428	NONE
51	574	3	ARTHUR E. ADAMSON	BK. 5077 PG. 237	NONE
51	574	4	ALEXANDER R. MURRAY	BK. 5893 PG. 457	NONE

TOWN C

Therefore, the commission hereby finds that the following conditions are necessary, in accordance with the Performance Standards set forth in the regulations, to protect those interests checked above. The commission orders that all work shall be performed in accordance with said 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.

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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.

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, by-laws 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 and both that date and the special circumstances warranting the extended time period are set forth 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, containing 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. No work shall be undertaken until all administrative appeal periods from this Order have elapsed or, if such an appeal has been filed, until all proceedings before the Department have been completed.

8. No work shall be undertaken until the Final order 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 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 to be done. The recording informatin shall be submitted to the commission on the form at the end of this Order prior to commencement of the 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, File Number NE-81-756"

10. Where the Department of Environmental Protection is requested to make a determination and to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before the Department.

11. Upon completion of the work described herein, the applicant shall forthwith request in writing that a Certificate of Compliance be issued stating that the work has been satisfactorily completed.

12. The work shall conform to the following plans and special conditions:

Plans: Title	Dated	Signed and Stamped by:	On File with:
		see attatched plan reference page	

Special Conditions (Use additional paper if necessary)

see attatched special conditions

(Leave Space Blank)

Notice of Intent Submission for "Weathervane Golf Course and the Villages at Weathervane South Weymouth, Massachusetts" dated January 1998, and with filing drawings and other supporting information with latest revisions.

[1] "Notice of Intent Filing Drawings" by Welch Associates, February 1998.
(See separate sheet subject to revision whenever plans are amended)

[2] "Notice of Intent" by ENSR, January 1998.
[3] "Special Permit Assessment" by Abbellire Inc., February1998.
[4] "Environmental Impact Statement" by Abbellire Inc., February 1998.
[5] "Drainage Analysis and Design" by Gale Associates, Inc., January 1998, revised August 1998.
[6] "Nitrogen Loading Analysis - Revision 1" by ENSR, February 23, 1998.
[7] "Overall Erosion Control Plan" by Abbellire Inc., February 4, 1998.
[8] "Letter of Response - Items No. 1 and 3: Water Usage and Balance, " by W. L. Burbank, Abbellire Inc., March 25, 1998.
[9] "Letter of Response - Items No. 2: Detached Lots, " by W. L. Burbank, Abbellire Inc., March 25, 1998.
[10] "Letter of Response - Items No. 4 and 5: Turf Management Plan, " by W. L. Burbank, Abbellire Inc., March 25, 1998.
[11] "Letter of Response -Items No. 6: Water Resource Report, " by W. L. Burbank, Abbellire Inc., March 25, 1998, revised May 26, 1998.
[12] "Letter of Response - Water Budget for Turf Irrigation," by W. L. Burbank, Abbellire Inc., April 18, 1998.
[13} "Summary of Revised Drainage Calculations," by Dale Harris, April 14, 1998.
[14] "RDA Plans," by Abbellire, Inc., September 30, 1996.

Brief Summary of the Project

- Wetland resource areas for the proposed project were delineated and approved on October 10, 1996.
- The proposed project is a 126-unit residential subdivision surrounded by a nine-hole golf course off Liberty Street in South Weymouth, MA.
- Special permit issued by Weymouth Planning Board.
- A total of 13.42 acres impervious area (roadways, driveways, and roofs), 38 acres of lawns (26.7 acres of golf course and 11.3 acres of residential lawn), and 2.25 acres of open water area will be created through the project.
- Access to the proposed project shall be from Liberty Street. Emergency only access shall be provided from a prior Land Courted Plan including Delia Walker Road which currently extends over a wetland corridor on a gravel way. No other alternative project was acceptable to the Commission as other, more broad wetlands would have been adversely impacted.
- About 20,000 ft^2 of BVW will be altered for access roadways, agreeable to the Weymouth Planning Board, in three areas: two travel corridors for the roadway, one travel corridor for the emergency road.
- Two bridge culverts will be installed underneath the access roadway crossing.
- Two golf course boardwalk crossings: one between hole 8 and hole 9; the other is near hole 4.
- Two crossings mitigation: a 15" PVC pipe under the existing gravel road crossing between hole 7 and 8 will be enhanced with a precast concrete box culvert (3ft x 2 ft); an existing gravel road crossing will be improved to an 18 ft width and a larger clearance height boardwalk crossing.
- About 48,000 ft^2 of BVW will be created to compensate for the BVW to be altered.

- Four stormwater management detention ponds will be created for on-site flood control and water quality management.
- Except for the access roadway, emergency gravelway, boardwalks, part of golf course, sections of parking lots, detention ponds, and wetland replication area, no other construction will be initiated within the 100-ft buffer zone.
- All greens will be under-drained through SubAir System.

DRAWING LIST

NOT		NOT
REV. 4-27-98	G-1	MASTER SITE PLAN
REV. 4-27-98	G-2	NOTES, LEGEND AND PROJECT ZONING
REV. 2-2-98	BRS-1	BOUNDRY RETRACEMENT SURVEY- SHEET 1
REV. 2-2-98	BRS-2	BOUNDRY RETRACEMENT SURVEY- SHEET 2
REV. 2-2-98	BRS-3	BOUNDRY RETRACEMENT SURVEY- SHEET 3
REV. 2-2-98	ECS-1	EXISTING CONDITIONS PLAN - SHEET 1
REV. 2-2-98	ECS-2	EXISTING CONDITIONS PLAN - SHEET 2
REV. 2-2-98	ECS-3	EXISTING CONDITIONS PLAN - SHEET 3
REV. 2-2-98	ECS-4	EXISTING CONDITIONS PLAN - SHEET 4
REV. 2-2-98	ECS-5	EXISTING CONDITIONS PLAN - SHEET 5
REV. 2-2-98	ECS-6	EXISTING CONDITIONS PLAN - SHEET 6
REV. 2-2-98	ECS-7	EXISTING CONDITIONS PLAN - SHEET 7
REV. 2-2-98	ECS-8	EXISTING CONDITIONS PLAN - SHEET 8
REV. 2-2-98	ECS-9	EXISTING CONDITIONS PLAN - SHEET 9
REV. 2-2-98	ECS-10	EXISTING CONDITIONS PLAN - SHEET 10
REV. 2-2-98	ECS-11	EXISTING CONDITIONS PLAN - SHEET 11
REV. 2-2-98	ECS-12	EXISTING CONDITIONS PLAN - SHEET 12
REV. 1-30-98	C-1	CONSERVATION PLAN - SHEET 1
REV. 1-30-98	C-2	CONSERVATION PLAN - SHEET 2
REV. 1-30-98	C-3	CONSERVATION PLAN - SHEET 3
REV. 1-30-98	C-4	CONSERVATION PLAN - SHEET 4
REV. 1-30-98	C-5	CONSERVATION PLAN - SHEET 5
REV. 1-30-98	C-6	CONSERVATION PLAN - SHEET 6
REV. 1-30-98	C-7	CONSERVATION PLAN - SHEET 7
REV. 1-30-98	C-8	CONSERVATION PLAN - SHEET 8
REV. 1-30-98	C-9	CONSERVATION PLAN - SHEET 9
REV. 4-27-98	C-10	LAYOUT AND MATERIALS PLAN - SHEET 1
REV. 4-27-98	C-11	LAYOUT AND MATERIALS PLAN - SHEET 2
REV. 4-27-98	C-12	LAYOUT AND MATERIALS PLAN - SHEET 3
REV. 4-27-98	C-13	LAYOUT AND MATERIALS PLAN - SHEET 4
REV. 4-27-98	C-14	LAYOUT AND MATERIALS PLAN - SHEET 5
REV. 4-27-98	C-15	LAYOUT AND MATERIALS PLAN - SHEET 6
REV. 4-27-98	C-16	LAYOUT AND MATERIALS PLAN - SHEET 7
REV. 4-27-98	C-17	LAYOUT AND MATERIALS PLAN - SHEET 8
REV. 4-27-98	C-18	LAYOUT AND MATERIALS PLAN - SHEET 9
REV. 4-27-98	C-19	UTILITY PLAN - SHEET 1
REV. 4-27-98	C-20	UTILITY PLAN - SHEET 2
REV. 4-27-98	C-21	UTILITY PLAN - SHEET 3
REV. 4-27-98	C-22	UTILITY PLAN - SHEET 4
REV. 4-27-98	C-23	UTILITY PLAN - SHEET 5
REV. 4-27-98	C-24	UTILITY PLAN - SHEET 6
REV. 4-27-98	C-25	UTILITY PLAN - SHEET 7
REV. 4-27-98	C-26	UTILITY PLAN - SHEET 8
REV. 4-27-98	C-27	UTILITY PLAN - SHEET 9
REV. 6-25-98	C-28	GRADING AND DRAINAGE PLAN - SHEET 1
REV. 2-27-98	C-29	GRADING AND DRAINAGE PLAN - SHEET 2
REV. 6-25-98	C-30	GRADING AND DRAINAGE PLAN - SHEET 3
REV. 6-25-98	C-31	GRADING AND DRAINAGE PLAN - SHEET 4
REV. 4-27-98	C-32	GRADING AND DRAINAGE PLAN - SHEET 5
REV. 6-25-98	C-33	GRADING AND DRAINAGE PLAN - SHEET 6
REV. 6-25-98	C-34	GRADING AND DRAINAGE PLAN - SHEET 7
REV. 4-27-98	C-35	GRADING AND DRAINAGE PLAN - SHEET 8
REV. 4-27-98	C-36	GRADING AND DRAINAGE PLAN - SHEET 9
REV. 4-27-98	C-37	PROFILE SHEET 1
REV. 4-27-98	C-38	PROFILE SHEET 2
REV. 4-27-98	C-39	PROFILE SHEET 3
REV. 4-27-98	C-40	PROFILE SHEET 4
REV. 4-27-98	C-41	PROFILE SHEET 5
REV. 4-27-98	C-42	PROFILE SHEET 6
REV. 6-25-98	C-43	DETAILS 1
REV. 4-27-98	C-44	DETAILS 2
REV. 4-27-98	C-45	DETAILS 3
REV. 4-27-98	C-46	DETAILS 4
REV. 6-25-98	C-46A	DETAILS 5

Special Conditions
Weathervane Golf Club and Village at Weathervane

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PRE-CONSTRUCTION PROCEDURES

13. **Prior to the commencement** of any work on the project site, or within six (6) weeks of the date of this order, whichever comes first, this Order of Conditions shall be recorded at the Norfolk District Registry of Deeds, following which written notice of the recording reference shall be filed with the Commission pursuant to condition 8. Failure to do so shall be deemed cause to revoke this order.

14. **In advance of any work** on this project the applicant shall notify the commission, and at the request of the commission, shall arrange an on-site conference with the contractor and the applicant to ensure that all of the conditions of this Order are understood.

15. This Order shall be made a part of all contracts and subcontracts dealing with the work proposed, and shall supersede all other conflicting contract requirements.

16. **Prior to the commencement** of any work on the project site, the applicant shall inform the Commission in writing of the names, addresses, business and home phone numbers of both the project supervisor who shall be responsible for ensuring on-site compliance with this Order and his/her alternate. The applicant shall also notify the Commission in writing of any changes in this information in a timely manor.

17. Members of the Commission, or their respective agents, shall have the right to enter upon and inspect the premises to evaluate compliance with this Order of Conditions.

18. **Prior to the commencement** of any work at the site, the applicant, with the consent of the Commission shall engage an environmental monitor to oversee project construction and ensure compliance with applicable environmental controls and permit conditions. The environmental monitor shall regularly view the site and inspect the work in order to determine adherence to applicable pre-construction procedures, erosion and sedimentation controls, stabilization and revegetation measures, construction drainage controls and water quality monitoring requirements. The environmental monitor shall prepare written reports on a regular basis which summarize the status of construction work, environmental controls and compliance with applicable permit conditions. The environmental monitor's status reports shall be transmitted to the applicant and the Commission, on an approved time schedule and shall specifically identify any deficiencies in compliance. In the event of any compliance deficiency, the Environmental Monitor shall forthwith conference with the applicant and the Commission to identify appropriate curative measures and establish a reasonable timetable for their implementation. A plan detailing the responsibilities of the environmental monitor shall be prepared and submitted to the Commission for review and approval by the Commission prior to the commencement of project construction.

19. A copy of this Order of Conditions, as well as all construction and replication plans, shall be on site upon commencement of any site work and made available to any person doing work on the site.

20. The provisions of this Order shall apply to and be binding on the applicant, his employees and all

successors and assigns in interest or control of the property described in the Notice of Intent and the accompanying plans. In addition to this Order being recorded, reference to this Order shall be made in all subsequent deeds of the property and in all deeds of any lots subdivided from the property whether issued prior to or subsequent to the issuance of this Order.

21. When ownership, title or control of this property transfers from one party to another, the existing owners of the properly shall explicitly inform the successor(s) in control or interest of the existence of this Order of Conditions. Once aware of the Order the successor(s) shall notify the Commission in writing of the transfer of ownership and/or control, stating that he/she/they have received, read and understood the Order. Notification to the Weymouth Conservation Commission shall be given within ninety (90) days of the date of transfer of ownership, control or interest.

22. The Commission authorizes its designated agent to act on its behalf in determining preconstruction compliance with Conditions **14, 15, 16, 18, 26, 30, 35,** and **68.**

SCOPE AND SEQUENCE OF WORK

23. The Commission finds that the Notice of Intent and supporting documents submitted by the Applicant are in support of a Limited Project under MGL 310 CMR section 10.53(3)(e). They are sufficient to describe the site, the work proposed and the effect of the work on the interests identified in the Wetlands Protection Act in order for the Commission to issue this Order of Conditions.

24. This Order of Conditions authorizes construction of the project in accordance with the Notice of Intent, except as specifically modified herein. If, in any instance, the Notice of Intent and provisions of this Order differ, the Order shall control.

25. Accepted engineering, construction, and golf course shaping standards and procedures shall be followed in the completion of this project.

26. **The Applicant shall submit final Construction Plans and Documents** reflecting all recommended changes requested during the public hearing, and all pertinent review comments, for review and approval by the Commission. The approved final plans and documents shall be stamped with "Approved Documents" for a easy identification of reference for future monitoring and inspection. At a minimum, the submission shall include the following:

    - Grading & Erosion Control Plans (in compliance with the Order of Conditions) which will ensure that erosion and siltation of undisturbed and expanded resource areas does not occur. The G & E Control Plans will assist the Commission Agent or the designated representative to review all erosion and sediment control prior to the starting up of construction.

    - Monitoring Plan and Supporting Documents (required for compliance with the Order of Conditions) which shall include the locations of surface and ground water monitoring wells, catch basins, water quality inlets, drainage outfalls, inlet/outlet of detention basins, water flow conveyance swales, and wetland replication areas.

- A final Permitted Set of Construction Plans for all structures related to the golf course and subdivision roadways shall be submitted to the Conservation Commission.

- Revegetation Plans that define areas of the site which will be treated as follows:

  ⇒ Seeded, including Test Plots, see Condition 50.

  ⇒ Overall Planting Plan which keys Plant Species selected from Exhibit E of the Notice of Intent submitted by ENSR or Abbellire.

- Drainage Plans and all related water management details which define the collection of the limited stormwater into drain inlets within areas between golf holes and underdrain tile below golf tees and greens which will be discharge within expanded resource buffers; and

- Once the Construction Documents have been reviewed and approved, a full set will constitute, and be clearly marked and dated as "Approved Documents," which will be the basis for all construction and subsequent on-site operations. The Applicant shall include in the project's Construction Documents, the Order of Conditions, and all other approvals and permits from **local, state, and federal agencies** having jurisdiction over the project, including the Weymouth Planning Board's Special Permit and Subdivision's Findings and Conditions.

27. All work on the site authorized by this Order shall be undertaken in the sequence described in the Notice of Intent. Except as set forth herein, the applicant shall complete all work associated with the road construction phase of the project prior to commencing the individual lot development phase of the project. Notwithstanding the foregoing, individual lot development may commence prior to completion of all road and drainage construction, provided that the portion of the roadway necessary to serve such lot has been completed.

28. Any errors found in the plans or information submitted by the applicant shall be considered as changes and will require submission of corrected plans for approval by the Commission or its designated representative.

29. Any field changes found to be necessary, including compliance with directives of the Planning Board or Board of Health shall be considered as changes and shall require the approval of the Commission or its designated representative.

EROSION AND SEDIMENT CONTROL

30. **Prior to any construction** activity on the project site, a limit-of-work line shall be established and marked in the field by a registered professional surveyor. A silt fence and hay bale barrier shall be installed upgradient of wetland resource areas and along the limit-of-work line in all sensitive areas as shown on the project plans and as described in the Notice of Intent. The limit-of-work line shall be inspected and approved by the Commission within ten (10) days of following notice by the applicant.

31. The limit-of-work line shall be reviewed with the general contractor and any appropriate sub-contractors. All equipment operators and construction workers shall be informed that no construction activity is to occur beyond this line at any time.

32. The limit-of-work line shall be inspected in active work areas on a daily basis and shall be inspected across the entire site on a weekly basis. Any inadvertent transgression shall be restored within 24 hours following discovery. The limit-of-work line shall be maintained in good repair until all construction on the site's perimeter is complete and stabilized.

33. The silt fence and hay bales shall be entrenched a minimum of four inches into the soil to prevent underflow around and under the devices. The erosion control structures shall be inspected daily and maintained throughout the duration of the project. Removal of the silt fence and spread of hay bales may be determined by the environmental monitor, when and where site measurement maintenance is required.

34. Staked hay bales shall be used to control erosion at the tops of cut slopes. Catch basins shall be protected by staked hay bales and filter fabric or silt bags until such time as all disturbed soils have been stabilized.

35. **Prior to any work** on the project site, all trees within the limit of work that are greater than ten (10) inches in diameter that are to be saved shall be protected from inadvertent damage by installation of construction fence around the trees following approximately the drip line. Such measures shall be maintained until all earthwork and grading is complete. Trees that are not to be saved shall be cut and stumps removed, except 'snags' chosen by the golf superintendent as not a public liability to golfers and generates habitat value.

36. A stabilized construction entrance shall be installed at the entrance from Liberty Street and the driveway to each lot. A minimum of 6 inches of crushed stone 2 to 4 inches in diameter shall be spread over a layer of geotextile. A maintained washdown shall also be provided and maintained prior to entrance on the public ways.

37. All erosion control shall be inspected daily, and repaired or replaced as needed. The contractor shall maintain a supply of hay bales, siltation fence, and crushed stone on the site in order to make emergency repairs. A minimum of 30 hay bales and 100 feet of silt fence shall be stored on-site for emergency use.

STABILZATION AND REVEGETATION

38. All disturbed soils shall be final graded and stabilized as soon as possible. For areas that have been rough graded but not final graded, paved, or landscaped within one week, a temporary vegetative cover or mulch shall be established. Jute matting and straw mulch shall be used if it is not feasible to establish a grass cover. Straw or hay mulch shall be applied over seeding sites, and anchored on slopes steeper than 4:1, except as deemed appropriate by the golf superintendent on the golf course's practice facility.

39. Areas exposed and subject to erosive forces for a limited time, such as cut and fill slopes, shall be stabilized using bay mulch and a tack emulsion. For slopes steeper than 3:1, curlex or a similar erosion control material matting shall be used in addition to the hay mulch, except as deemed appropriate by the golf superintendent on the golf course's practice facility.

40. All slopes created during construction that have a 2:1 slope or flatter shall be loamed and seeded. Any slope steeper than 2:1 shall be protected by the implementation of alternative stabilization measures, which shall include that use of geotextile with loam and seed, sod or rip-rap. Stabilization measures shall

be designed in accordance with approved standard engineering or accepted golf course construction practices.

41. All areas shall be permanently stabilized following the completion of final grading. Permanent stabilization shall consist of paving, placement of crushed stone or establishment of a perennial grass or vegetated cover.

42. Permanent seeding shall be used in areas that have been graded to final grade and areas not to be paved or built on. For permanent seeding sites, a minimum of four inches of loam shall be spread evenly across the area and raked smooth. The soils shall have a pH between 6.5 and 8.5. Acidic soils below a pH of 6.5 shall be limed at a rate of 2.5 tons/acre. Fertilizer (10-20-20 Nitrogen: Phosphate: Potassium) may be applied at a rate of 500 pounds/acre. Lime and fertilizer shall be worked into the soils, and permanent seeding shall then follow. Straw or hay mulch shall be applied over seeding sites at a rate 90 bales/acre and anchored with a tack emulsion or a peg and twine network on slopes steeper than 4:1, or as defined by the golf course superintendent approved in advance by the Conservation Commission or its designated representative.

43. After all construction activities are completed and exposed soil areas are permanently stabilized, all temporary erosion control measures shall be removed. Any accumulated sediments around the erosion control measures shall be removed and disposed of properly in an upland area.

CONSTRUCTION OF STORMWATER MANAGEMENT FACILITIES

44. During construction, stormwater flows shall be directed to temporary sedimentation basins constructed in accordance with DEP Stormwater Management Policy. Swales or dikes shall be installed as required to direct runoff to the sedimentation basins. Hay bale check dams shall be installed in any swale, at intervals fifty (50) feet apart or less when the slope of the swale is 4% or steeper.

45. Detention basins shall be first constructed and function as sediment basins during construction. A temporary slotted riser pipe shall be installed in the basin and shall outlet into the dispersion berm prior to discharge into a vegetated buffer area. The basins shall be stabilized vegetatively as per details referenced on a proved drawing. The outlet of the dispersion berm shall be a level lip at a compacted earthen berm lined with an erosion control matting with a stone and seeded to establish a dense stand of grass resistant to flowing water. Sedimentation basins shall be in place for each stage of development prior to the commencement of general earthwork within affected portions of the site. The applicant shall provide written notification to the Commission at least 10 days in advance of general site construction for the purpose of inspecting and approving the sedimentation basins.

46. If groundwater is encountered during trenching, a de-watering filter bag or hay bale corral shall be utilized to treat the discharge. The filter bag or hay bale corral shall be located in an upland area upgradient of the sedimentation basin or a naturally vegetated area with a minimum separation distance of twenty-five (25) feet to the nearest wetland or wetland resource area.

WETLAND REPLICATION AND WILDLFE HABITAT ENHANCEMENT

47. Construction of the wetland replication and restoration area, including grading, soil placement, and planting shall be done under the supervision of an experienced wetland scientist/engineer. The wetland scientist/engineer shall monitor the work for compliance with the guidelines defined in the Notice of Intent and Order of Conditions.

48. When lacking original wetland soil under some of the replication area, the surface shall initially be graded 12 inches below the final elevation to allow the placement of suitable organic soils. Following grading, a hydric soils mixture shall be placed in the wetland replication area to meet the final design elevation. A hydric soil mixture consisting of 3:1 topsoil and screened peat or leaf compost shall be used to provide a relatively high organic content.

49. Wetland replication shall be constructed according to the detailed planting program by ENSR and Abbellire. A vernal pool-type habitat shall be created close to the south portion of the replication area (Sheet C-31).

50. The wetland replacement area shall be monitored to assess plant establishment and to determine whether the area meets the general performance standards required by the regulations at 310 CMR 10.55 (4) (b). At each monitoring event, a soil core shall be taken to determine surface and groundwater hydrological conditions. The overall percent cover by vegetation shall be estimated for the restoration areas and the establishment of the planted species shall be recorded. All species present in the replacement area shall be listed in the inventory. Three permanent sample plots of size 10' X 10'shall be set up, and data (percent cover by species) shall be recorded. Monitoring shall occur according to the following schedule:

    - Four weeks after planting,
    - At the start (May) of the first growing season,
    - At the end (September) of the first growing season,
    - At the start (May) of the second growing season
    - At the end (September) of the second growing season.

51. Once monitoring determines that the wetlands replacement area has achieved the appropriate soil structure and hydrology and at least 75 percent cover by wetland plant species, monitoring may be terminated and a request for a Final or Partial Certificate of Compliance filed with Weymouth Conservation Commission.

FUEL STORAGE AND DISPENSING

52. No construction vehicles or equipment shall be stored within a wetland resource area or within the 100-ft buffer zone established by the Wetland Protection Act. All construction vehicles shall be removed each evening and parked outside of the defined buffer zones.

53. All refueling and lubrication of construction vehicles and equipment shall be conducted at a designated location within the main construction staging area. A site plan of the refueling area, showing proposed storage tanks, spill containment and drainage controls shall be submitted to the Commission prior to the

commencement of the project construction. Contractors shall not be allowed to refuel vehicles outside of this designated refueling area. Refueling of cranes used to erect the steel superstructures associated with lot development shall be the only exception to this rule.

54. Routine refueling of construction vehicles shall be conducted only during morning hours before vehicles are dispatched onto the site or in the late afternoon when vehicles returned to the designated refueling area.

55. Any temporary fuel storage tanks shall be kept within an impervious containment structure capable of containing a spill greater than the combined capacity of all storage tanks. All state, local, and federal requirements for storage of fuel must be met.

56. The refueling pad and storage tank containment area shall drain to an oil-water separator designed to intercept a maximum spill of 4,000 gallons. This oil/water separator shall be pumped out periodically and the contents removed and disposed of in accordance with all applicable local, state, and federal regulations.

57. Any construction vehicle operating on the site, or within the existing right of way shall be inspected at the beginning of each working day. Tanks, hoses and fittings shall be inspected for leaks. If found, the equipment shall be repaired immediately or removed from the site.

58. During and after work on this project there shall be no discharge or spillage of fuel, oil or other pollutants into any resource area. The applicant shall take all reasonable precautions to prevent the release of pollutants by ignorance, accident or vandalism.

STORMWATER MANAGEMENT

59. On-site stormwater management system shall conform to all nine criteria of the MA DEP Stormwater Management Policy, which includes a maintenance plan.

60. To the extent feasible, runoff from undeveloped areas both on and off-site shall be directed away from detention basins and allowed to discharge naturally through the site into the receiving wetlands. Existing drainage patterns shall be maintained to the maximum extent. Any undeveloped area runoff that has been captured in a collection system and not combined with parking lot runoff shall be discharged through a dispersion berm. Any undeveloped area runoff that has been combined with parking lot runoff shall be pretreated as parking lot runoff before discharging into detention/irrigation basins or wetlands.

61. Roof runoff shall bypass catch basins and be discharged into detention/irrigation basins as much as possible.

62. All parking lots and driveways shall be curbed to control the collection of runoff. All parking lot flows shall be collected in catch basins with sumps and oil traps. Catch basins shall not be collected in series, but manholes shall be utilized at drainage trunk line connection points and at turns in the line. Runoff collected in the drainage trunk lines shall pass through an oil/grit separator. All parking lot runoff for the golf course shall be directed to one of the detention basins. Closed culvert drainage system shall be designed to handle the 25-year design storm. All crossings and open channel flow conveyances shall be

designed to handle the 100-year design storm.

63. Catch basins shall have oil traps 4-ft sumps from the outlet inverts, and a 4-ft inside diameter. The oil traps shall be 1 foot long below the outlet invert. All catch basins shall discharge to a manhole, and shall not have direct connections to other catch basins.

64. Oil/grit (Water Quality Inlet) separator shall be utilized in the roadway, driveway and parking lot drainage system and sized to detain runoff from the first flush (first one inch) of stormwater runoff. Runoff from small storms or first flush flows of large storm events shall be diverted to the separator through low flow diversions in the manholes immediately upstream of the separators.

65. Swales shall be incorporated into the drainage design to convey runoff and enhance water quality. Swales shall be designed in accordance with the Massachusetts Highway Department Design Standards, and shall handle the 100-year design storm. Surface treatment for swales shall be based on specific design criteria. For velocities less than 3 ft/s, the swales shall be loamed and seeded with a grass mixture of rye and tall fescue. For anticipated velocities between 3 and 5 ft/s, swales shall be sodded. Where velocities greater than 5 ft/s are anticipated, the swale shall be stabilized with rip-rap or a geo-fabric and grass. These velocities are based on the 10-year storm flows. All vegetated swales shall be lined with erosion control fabric following construction to protect against erosion during the period of vegetative establishment.

66. Each detention basin shall have the outlet set 3 feet above the bottom of the flood control storage with a two-inch slot to the bottom of the flood control storage. Around the bottom of the flood storage, a 10 ft wide and one foot deep shallow vegetated zone shall be created around the margin of the basin above the irrigation pool. The shelf shall be planted with emergent plants.

SITE MAINTENANCE AND MONITROING

67. Catch basin grates shall be checked quarterly and following heavy rainfalls to verify that the inlet openings are not clogged by debris. Debris shall be removed from the grates and disposed of properly. Catch basin sumps and oil/grit separators shall be inspected and cleaned semi-annually of all accumulated sediments. Catch basins with hood traps and the oil chamber of the separators shall be inspected quarterly to check oil build-up and outlet obstructions. Material removed from catch basins shall be disposed of in accordance with all applicable regulations by a licensed contractor. Records of such cleaning shall be maintained on site for a minimum of three (3) years and shall be made available for inspection upon request of the Commission or the Board of Health. The applicant shall annually submit a summary of catch basin cleaning procedures among other site maintenance activities to the Commission and the Board of Health. This condition shall survive the Order of Conditions and shall run with the title of the property.

68. **A water quality and groundwater table monitoring program** shall be developed to monitor the draw-down impact to the wetlands and the Old Swamp River downgradient of the irrigation wells and to assess the effectiveness of the stormwater treatment system in removing pollutants from site runoff during and following each stage of road construction, lot and golf course development. This program shall be developed in concurrence with the EPA, Massachusetts DEP Division of Water Resources and the Town

of Weymouth to verify compliance with all applicable regulations and shall be submitted to the Commission and the Board of Health for approval when in final form **prior to the commencement of any work on the project site**. The final, detailed water quality monitoring plan shall include **a statement of objective, reference to all relevant regulatory compliance requirements, sampling procedures, sampling locations, parameters to analyze, methods of analysis, and details of all quality assurance/quality control (QA/QC) procedures utilized**. Records of such water quality monitoring shall be maintained on site for a minimum of ten (10) years and shall be submitted copies to the Commission and the Board of Health. The applicant shall annually submit a summary of water quality monitoring results among other site maintenance activities to the Commission and the Board of Health. This condition shall survive the Order of Conditions and shall run with the title of the property.

69. In case of high concentration of pollutants exceeding standards set in state and federal drinking water regulations, the applicant or his successors shall notify the Commission, the Board of Health, DPW, and relevant state and federal agencies and provide remediation as soon as possible.

70. The parking lots shall be swept by vacuum sweepers semi-annually. Records of such parking lot sweeping shall be maintained on site for a minimum of three (3) years and shall be made available for inspection upon request of the Commission or the Board of Health.

71. All outfall protection structures shall be inspected semi-annually and following major storm events to check for signs of erosion. Any necessary repairs shall be performed promptly. All outlet protection structures shall be inspected twice per year and cleaned to remove accumulated sediment. Records of such cleaning shall be maintained on site for a minimum of three (3) years and shall be made available for inspection upon request of the Commission. This condition shall survive the Order of Conditions and shall run with the title of the property.

72. Drainage swales shall be checked for debris accumulation on a quarterly basis or following major storm events. Any debris accumulation shall be removed from the channel areas. Silt, sand and sediment, if significant accumulation occurs, shall be removed by hand annually. Care shall be taken to maintain vegetation growth within a swale. Grass shall be cut and weeds and brush removed or trimmed at regular intervals during the growing season. Trimmings shall be removed from the swale to prevent them from collecting in downgradient detention basins. Reseeding and weed control may need to be performed periodically to maintain healthy, dense vegetation and maintain the pollutant removal efficiency of the swale. Any channel erosion with swales shall be stabilized as soon as practical. Records of such cleaning shall be maintained on site for a minimum of three (3) years and shall be made available for inspection upon request of the Commission. The applicant shall annually submit a summary of drainage swale cleaning procedures among other site maintenance activities to the Commission. This condition shall survive the Order of Conditions and shall run with the title of the property.

73. Detention basins shall be checked monthly and immediately after heavy rainfall events to verify that outlets and inlets are not blocked by litter or other debris. Accumulated debris shall be removed as soon as possible. Basin slopes and embankments shall be checked for signs of erosion. Eroded slopes shall be stabilized promptly to eliminate future deterioration of the structure. Deeply accumulated sediments shall be removed from the basin periodically to ensure proper functioning of the structure. The containment dikes of the basin shall be checked periodically for signs of overtopping during wet season and after heavy rain. Records of such cleaning shall be maintained by the golf superintendent on site for a minimum of three (3) years and shall be made available for inspection upon the request of the

Commission. The Applicant shall annually submit a summary of detention basin cleaning procedures among other site maintenance activities to the Commission. This condition shall survive the Order of Conditions and shall run with the title of the property.

74. Vegetative growth within the created ponds shall be monitored and maintained as needed. Tree growth on dikes shall be removed to maintain the structural integrity of the embankment. Records of such vegetation removal shall be maintained on site for a minimum of three (3) years and shall be made available for inspection upon request of the Commission. The applicant shall annually submit a summary of detention basin cleaning procedures among other site maintenance activities to the Commission. This condition shall survive the Order of Conditions and shall run with the title of the property.

75. Storage, use, handling and disposal of hazardous materials shall be in accordance with state and federal regulations, as well as Chapter 85 of the Code of the Town of Weymouth.

DE-ICING MATERIALS

76. Salt (sodium chloride) shall not be used on the site for de-icing purposes and signs of a minimum of two square feet stating such restriction shall be posted at all vehicle entrances. This condition shall survive the Order of Conditions and shall run with the title of the property.

77. Sand containing the minimum amount of calcium chloride (or approved equivalent) needed for handling ice may be applied as part of the routine winter maintenance activities.

IRRIGATION AND WATER HARVEST ON-SITE

78. No town water shall be used for golf course irrigation at any time and under any conditions. This condition shall survive the Order of Conditions and shall run with the title of the property.

79. Pumping tests for all constructed water supply wells shall be conducted in summer (August to September) to investigate the impact zone and recovery rate. A report of the pumping test shall be submitted for review and approval by the Commission before the operation and issuing of a Certificate of Compliance.

80. Pumping of water supply wells shall be limited to no more than twice a day, and no more than 6 hours continuous pumping at each time. The total groundwater pumping rate shall not exceed 25,000 gpd. The total volume of groundwater pumping shall not exceed two (2) million gallons per year. Daily pumping record shall be kept by the golf superintendent on site for a minimum of ten (10) years and shall be made available for inspection upon request of the Commission. This condition shall survive the Order of Conditions and shall run with the title of the property.

81. Whenever water supply wells are pumped, groundwater tables in monitoring wells shall be measured before and after the pumping. Records of the groundwater tables shall be kept together with the pumping records. If more than 12" drop in water table are detected before and after the pumping, pumping duration shall be reduced. The adjustment in pump operation shall be reported to the Commission, and to the Board of Health, and the Department of Public Works.

82. Total irrigation rate from wells and ponds shall not exceed daily average of 35,000 gpd. Daily irrigation volume shall be maintained on-site by the golf superintendent for a minimum of ten (10) years and shall be made available for inspection upon request of the Commission. This condition shall survive the Order of Conditions and shall run with the title of the property.

TURF MANAGEMENT

83. Turf management shall be carried out based on the "Turf Management Plan" prepared by Abbellire Inc., March 25, 1998.

84. Application rates of fertilizer and pesticides shall not cause water quality monitoring standard violation both in surface and ground water according to state and federal drinking water regulations, as well as town by-law. All applications shall be recommended by the golf superintendent.

85. An easy to follow management plan shall be derived and elaborated from the "Turf Management Plan" by the golf superintendent and submitted to the Commission before the operation of the golf course. A copy of the brief plan, the original "Turf Management Plan" and the Order of Conditions shall be given and well explained to the Golf Course Management Team and maintained on site for quick reference. This condition shall survive the Order of Conditions and shall run with the title of the property.

BUFFER ZONE RESTRICTIONS

86. There shall be no stockpiling of soil or other earth materials within fifty (50) feet of any resource area.

87. No above ground or underground storage of fuel oils or hazardous materials shall be allowed within the 100-ft buffer zone except for those explicitly shown on the referenced plans. This condition shall survive the Order of Conditions and shall run with the title of the property.

88. Pesticides and fertilizers shall not be used within 25 ft of a wetland resource area.

89. No snow from parking lot and roadway shall be dumped within 100-ft buffer zone of a wetland. This condition shall survive the Order of Conditions and shall run with the title of the property.

90. There shall be no activity related to this project within 25 feet of any wetland resource area other than as shown on the referenced plans and described in the Notice of Intent.

LOT DEVELOPMENT

91. Individual lot development shall be consistent with and conform to the design criteria and performance standards set forth in the Weymouth Planning Board's Special Permit Findings & Conditions, dated September 9, 1998, the Notice of Intent, and this Order or Conditions.

PROJECT CHANGE REVIEW PROCEDURE

92. Any changes to the proposed work from that described in the Notice of Intent or changes differing from the conditions imposed by this Order must be submitted to the Commission for approval prior to their implementation. If the Commission finds said change to be insignificant in respect to its effect on protected wetland interests, the Commission shall recognize and ratify such change by notation to the case file. If the Commission finds the change to be significant in respect to its effect on protected wetland interests, the Commission may require a new Notice of Intent or call for another public hearing within 21 days, at the expense of the applicant, in order to take testimony from all interested parties. Within 21 days of the close of said public hearing, the commission shall issue an amended or new Order of Conditions.

93. Any errors found in the plans or information submitted by the Applicant shall be considered as changes and project change review procedures set forth in this Order shall be followed.

ADMINISTRATIVE PROVISIONS

94. This Order of Conditions shall apply to and be binding upon the applicant, its employees, and all successors and assigns in interest or control. In conjunction with the sale of any portion of the site covered by this Order of Conditions, the applicant shall submit to the Commission a signed statement by the buyer that he/she has been presented with a copy of this Order of Conditions.

95. Special conditions which survive this Order shall remain in effect in perpetuity and shall be specifically noted as such on the Certificate of Compliance.

96. The Commission shall consider phased Certificate(s) of Compliance for separate elements/areas of the project. The Applicant shall notify the commission when any one of the following areas are to be reviewed for consideration of Compliance:

- The roadways and parking lot;
- The wetland replication areas;
- The golf play zones outside the resource and buffer areas;
- The detention basins 1 and 2;
- The detention basins 3 and 4.

97. Upon completion of the project, or any discrete phase thereof, the Applicant may request a Certificate of Compliance (partial or final). The request shall be accompanied by the following items:

1) A written statement by a professional engineer or land surveyor registered in the Commonwealth of Massachusetts certifying compliance with the Notice of Intent, the approved plans, and this Order of Conditions and setting for deviations, if any exist; and

2) Two sets of as-built site plans prepared by a registered land surveyor or a registered professional engineer showing those activities for which the Certificate of Compliance is sought.

98. The Applicant shall meet all requirements set by the Weymouth Conservation Commission, the

Weymouth Board of Health and Weymouth Fire and Police Departments regarding the storage of fossil fuels and storage of construction equipment, vehicles and chemical compounds during the entire period construction through the issuance of the Certificate of Compliance for the golf play zones outside the resource area (96 above).

99. Disposal of any monitoring or maintenance records shall be approved by appropriate Town Agencies.

Post Compliance Stage

100. The applicant shall continue to provide the appropriate commitment from the Operational Budget of the Weathervane Golf Course to meet the Commission's on-site monitoring requirements. Commencing the day following a total project compliance and continuing for a period of ten (10) years, funding shall pay for on-site monitoring consists of site visits, photography, site reports, and follow-up consultation with , and for, the Commission.

101. Monitoring shall meet the following schedule:

- **Year 1:** 12 months following completion of Golf Clubhouse, golf course construction monitoring shall occur *monthly*.
- **Year 2-3:** Monitoring shall occur *quarterly*.
- **Year 3-6:** Monitoring shall occur *semi-annually*.
- **Year 7-10:** Monitoring shall occur *annually*.

102. The Commission's action on this project are taken under the Weymouth Bylaw Chapter 119, subject to compliance with the conditions and limitations imposed herein, and any work authorized hereafter shall be completed within one (1) year from the date of issuance of this Order. Any request for extension of this Order shall be made, in writing, not less than thirty (30) days before the expiration of this Order. An appeal of an Order issued under Weymouth Bylaw Chapter 119 may be taken in Superior Court.

All submission pursuant to this Order shall be addressed as follows: Weymouth Conservation Commission, Town Hall, 75 Middle Street, MA 02189.

Issued By WEYMOUTH Conservation Commission

Signature(s)

NOT AN OFFICIAL COPY

NOT AN OFFICIAL COPY

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

On this 9th day of SEPTEMBER 1998, before me personally appeared Richard Waite, to me known to be the person described in and who executed the foregoing instrument and acknowledged that he/she executed the same as his/her free act and deed.

WILLIAM C. WOODWARD
Notary Public
My Commission Expires OCT 30, 1998

Notary Public

My commission expires

The applicant, the owner, any person agrrieved by this Order, any owner of land abutting the land upon which the proposed work is to be done, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the Department of Environmental Protection to issue a Superseding Order, providing the request is made by certified mail or hand delivery to the Department, with the appropriate filing fee and Fee Transmittal Form as provided in 310 CMR 10.03(7), within ten days from the date of issuance of this determination. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and the applicant.

Detach on dotted line and submit to the Weymouth Con/Comm prior to commencement of work.

....

To Weymouth Conservation Commission Issuing Authority

Please be advised that the Order of Conditions for the project at Off Liberty Street

File Number N.E. 81-756 has been recorded at the Registry of Norfolk and

has been noted in the chain of title of the affected property in accordance with General Condition 8 on

________________, 19__________.

If recorded land, the instrument number which identifies this transaction is ________________

If registered land, the document number which identifies this transaction is ________________

Signature ________________________________ Applicant

Exhibit C-

Groundwater Monitoring Program

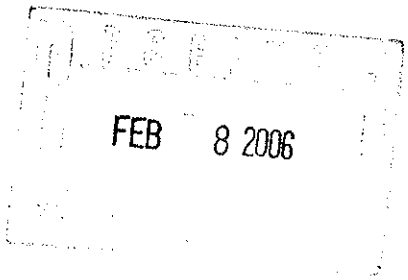
FINAL APPROVED MONITORING PROGRAM

BRISTOL BROS. DEVELOPMENT

MEMORANDUM

To: Mary Ellen Schloss
Weymouth Conservation Commission

Dr. Deshang Wang
Carr Research Laboratory, Inc.



From: Carl Erickson
Bristol Brother's Development Corporation

Date: February 1, 2006

Re: Groundwater Monitoring Program (Rev 2)

Attached for your records is a final copy of the groundwater monitoring program for the Weathervane Village Golf Course. The attached monitoring program incorporates the comments received from the Board of Health. Additional copies (3) are attached for you to distribute to other departments within the Town of Weymouth.

If you have questions, please feel free to call the office. The number is (781) 335-1500.

cc: Jim Bristol, w/out Attachment
Tom Henaghen, Gale Associates
John McGrath, Weathervane Environmental Monitor

Real Estate Development
221 Ralph Talbot Street • South Weymouth, MA 02190
Phone (781) 335-1500 • Fax (781) 740-4184

The Village at Weathervane and Golf Course
Weymouth, MA

Groundwater Monitoring Program

(Rev 2)

February 2006

The following procedures and guidelines are developed pursuant to the requirements of the Notice of Decision on Special Permit (Case #: 98-1-2/9) and the Order of Conditions issued by the Weymouth Conservation Commission (DEP File No: NE-81-756).

Table of Contents –

1) Objective Statement

The objective of the water quality and groundwater monitoring program is to ensure that there is not an adverse impact to the surrounding wetland environment resulting from maintenance, including irrigation and turf management, of the golf course located off Liberty Street in Weymouth. This will be accomplished through the installation of groundwater monitoring wells and sample analysis of the groundwater and surface water.

Refer to Attachment A for the site plan titled "Groundwater & Surface Water Monitoring Locations, dated 1/11/06" for locations of the wells and surface monitoring points. Also provided in Attachment A are the Northing and Easting locations, based on Weymouth GPS, of the wells. Groundwater wells are noted by "GW" and the surface water sample points are noted with "SWM". The plan also includes an additional upgradient well, GW-3, to monitor for potential off-site contaminents, if any, from the direction of the Weymouth Naval Air Station.

2) Applicable Regulatory Compliance

a) Monitoring wells were installed according to guidelines stated by the Massachusetts Department of Environmental Protection "Standard References for Monitoring Wells (WSC-310-91)". Refer to detail of well logs provided in Attachment B.

b) Samples to be taken in accordance with EPA or U.S. Geological Survey approved sampling protocol.

c) Samples to be analyzed in accordance with EPA or U.S. Geological Survey methods for chemical analysis.

3) Sampling Procedures

a) All surface and groundwater samples shall be collected using appropriate sampling methods and protocols, such as those by EPA or the U.S. Geological Survey.

b) Groundwater levels shall be recorded at the time of sampling.

c) Wells are to be purged of three to four well volumes before sample is taken.

d) Chain of custody forms are to be used to document sampling labels, locations, containers, and collection times.

4) Sampling Parameters and Response Actions

a) All monitoring wells and surface water locations will be sampled to establish baseline conditions. Surface water to be collected after rain event of 0.5 inches or more. Baseline data will be sampled in April and August to provide both wet and dry season data. After baseline data is established, monitoring well GW-3 will be tested every other year.

b) During the first two years of operation, monitoring wells and surface water locations are to be sampled for target chemicals two (2) times per year between April and October, except as noted above. Target chemicals are to include all pesticides, herbicides, nitrates, and ammonia. GW-3 (upgradient well for potential off-site contamination) will include VOC testing for its baseline.

c) Attachment C provides the testing methods and list of compounds/analytes to be tested.

d) Samples are to be shipped to the analytical laboratory within 24 hours. Chain of custody forms will be used to document sampling, shipping, and analytical times.

e) After a period of two years, water quality data will be compiled and reviewed. For those pesticides that have not been detected, the frequency of testing will be reduced to annually. Pesticides that have been detected will continue to be analyzed two times per year, as outlined above. Nitrogen and ammonia chemical tests will continue to be performed two times per year.

Pesticide Response Actions

f) If any pesticides are detected, re-sampling and analysis will be required on those wells, where detection exceeded limits, to confirm levels have exceeded limits.

g) If pesticide levels are confirmed, re-sampling will be done on a weekly basis until two consecutive sampling rounds show detection within acceptable limits.

h) During the re-sampling and testing, the use of the detected pesticide or the parent pesticide will be discontinued. If the pesticide is detected for two consecutive samplings, its use will be discontinued.

Nitrogen Response Actions

i) If total nitrogen levels reach 5 mg/L total nitrogen, or greater, re-sampling and analysis will be done to confirm test results.

j) If total nitrogen levels reach 5 mg/L total nitrogen, or greater, re-sampling and analysis will be done on a weekly basis until two consecutive sampling rounds are below 5 mg/L.

k) If total nitrogen levels above 5 mg/L are detected, the application of fertilizer will be decreased proportionate to the percentage of excess nitrogen concentrations.

Example: A concentration of 6.0 mg/L would represent a level 20% above the threshold of 5.0 mg/L. This detection level would require a 20% reduction in fertilizer applied in the area up gradient from the well.

5) Methods of Analysis

a) Samples are to be analyzed in accordance with EPA or U.S. Geological Survey methods for chemical analysis.

b) Target chemicals for analysis include all pesticides, herbicides, nitrates, and ammonia used on the golf course.

c) Attachment C provides the testing methods and list of compounds/analytes to be tested.

6) QA/QC Procedures

a) Laboratories used for testing are to maintain and provide proof of certification by the Commonwealth of Massachusetts.

7) Reporting and Notification

a) During the 1st three (3) years of testing, an annual report shall be issued indicating that chemical concentrations are at or below acceptable standards. Copies of the report are to be provided to:

Conservation Commission
Board of Health
Planning Board
c/o Weymouth Town Hall
75 Middle Street
East Weymouth, MA 02189

Department of Public Works
120 Winter Street
Weymouth, MA 02188

b) Notification of chemical concentrations that exceed acceptable limits will be issued to the departments noted above after confirmation of test results.

c) Follow-up notification will be issued to the departments after consecutive sampling shows no detection of the chemical (see 4e and 4h above).

Attachments

A. ***Groundwater & Surface Water Monitoring Locations, dated 1/11/06.***

B. ***Monitoring Well Installation Logs***

C. ***Testing Methods and List of Compounds/Analytes***

D. ***Baseline Collection and Analysis Report***

E. ***Sample Reports***
   Annual Notification Report
   Notification of Concentrations above Acceptable Limits

F. ***Water Quality Sampling Flow Chart***

ATTACHMENTS

A. Groundwater & Surface Water Monitoring Locations, dated 1/11/06.

ATTACHMENT A

	Location[1, 2]	
	Northing	Easting
GW-1	2886301.23	809582.50
GW-2	2885749.90	810520.90
GW-3	2885692.85	811394.92
GW-4	2886551.69	811579.85
GW-5	2887453.62	810135.08
SW-1	2888224.02	809492.76
SW-2	2887407.83	810217.92
SW-3	2886494.15	811537.94
IW-1	2886673.13	809147.59

GW = Groundwater Monitoring Well
SW = Surfacewater Monitoring Points
IW = Irrigation Well

[1] Well Locations are based on Town of Weymouth's GIS system.

[2] Surfacewater monitoring points are approximate.

B. Monitoring Well Installation Logs

CUST COPY

Massachusetts Department of Environmental Management
Office of Water Resources
Well Completion Report

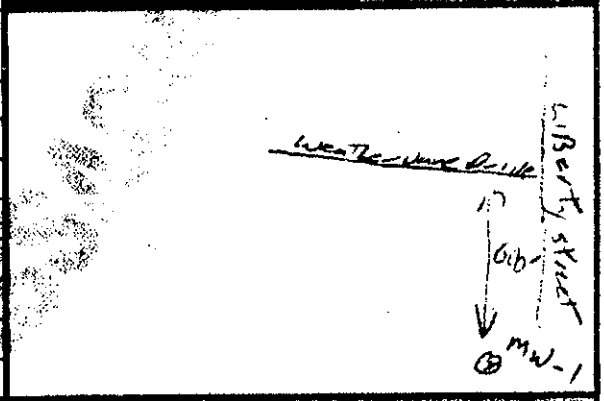
112076

TYPE OR PRINT ONLY

Address at Well Location: Weathervane Drive — Property Owner: Bristol Brass Development
Subdivision Name: The Village at Weathervane — Mailing Address: 221 Ralph Talbot Street
City/Town: Weymouth, MA — City/Town: Weymouth, MA
Assessors Map _____ Assessors Lot #: _____ — NOTE: Assessors Map and Lot # mandatory if no street address available
Board of Health permit obtained: Yes ☐ Not Required ☒ — Permit Number _____ Date Issued _____

☒ New Well ☐ Abandon ☐ Domestic ☐ Irrigation ☐ Cable ☒ Auger
☐ Deepen ☐ Recondition ☒ Monitoring ☐ Municipal ☐ Air Hammer ☐ Direct Push
☐ Replace ☐ Other _____ ☐ Industrial ☐ Other _____ ☐ Mud Rotary ☐ Other _____

From (ft)	To (ft)	WATER	Permeability: Slight	Permeability: Low	Unconsolidated: Clay	Silt	Sand	Gravel	Cobbles	Boulders	Other	Consolidated: Rock Type
–	14'	LS		X		X	X	X	X	X		
14'	18'			X		X	X	X	X			
18'											Refusal	



Total Depth Drilled 14'
Date Drilling Complete 11/16/05

From (ft)	To (ft)	Casing Type and Material	Size O.D. (in)	Well Seal Type
+2	2'	PVC sch 40	2"	Bentonite

From (ft)	To (ft)	Slot Size	Screen Type and Material	Screen Diameter
2'	17'	.010	PVC	2"

From (ft)	To (ft)	Material Description	Purpose
2'	17'	#1 Silica sand	
1'	2'	Bentonite	

Developed? ☒ Yes ☐ No
Fracture Enhancement? ☐ Yes ☐ No
Method surged
Disinfected? ☐ Yes ☒ No

Date	Method	Yield (GPM)	Time Pumped (hrs & min)	Drawdown to (Ft. BGS)	Time (hrs & min)	Recovery to (Ft. BGS)	Date Measured	Depth Below Ground Surface (FT)
							11/23/05	1'6"

Pump Description _____ Horsepower _____
Pump Intake Depth _____ (ft) Nominal Pump Capacity _____ (gpm)

MW-1

This well was drilled and/or abandoned under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge.

Driller: John McCue — Supervising Driller Signature: [signature] — Registration #: 10319
Firm: JA McCue — Date: 11/23/05 — Rig Permit #: 0006

CUST COPY

Massachusetts Department of Environmental Management
Office of Water Resources
Well Completion Report

112067

TYPE OR PRINT ONLY

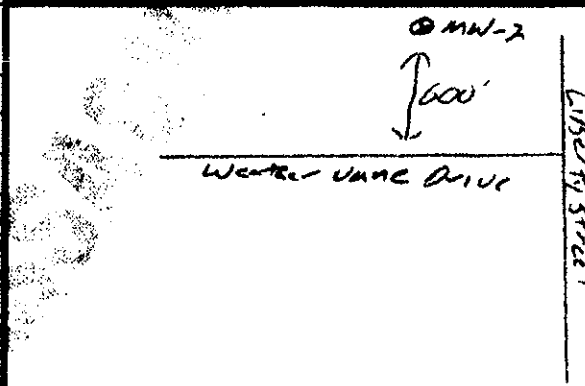
Address at Well Location: Weather Vane Drive
Property Owner: Bristol Bros Development
Subdivision Name: The Village at Weathervane
Mailing Address: 221 Ralph Talbot Street
City/Town: Weymouth MA
City/Town: Weymouth MA
Assessors Map ______ Assessors Lot #: ______
NOTE: Assessors Map and Lot # mandatory if no street address available
Board of Health permit obtained: Yes ☐ Not Required ☒ Permit Number ______ Date Issued ______

☒ New Well ☐ Abandon ☐ Deepen ☐ Recondition ☐ Replace ☐ Other ______

☐ Domestic ☐ Irrigation ☒ Monitoring ☐ Municipal ☐ Industrial ☐ Other ______

☐ Cable ☒ Auger ☐ Air Hammer ☐ Direct Push ☐ Mud Rotary ☐ Other ______

From (ft)	To (ft)	WATER	Permeability High	Permeability Low	Clay	Silt	Sand	Gravel	Cobbles	Boulders	Other (Unconsolidated)	Rock Type (Consolidated)
—	7	1'8"		X		X	X					



Total Depth Drilled 11'
Date Drilling Complete 11/16/05

From (ft)	To (ft)	Casing Type and Material	Size O.D. (in)	Well Seal Type
+2	1	PVC Sch 40	2"	Bentonite

From (ft)	To (ft)	Slot Size	Screen Type and Material	Screen Diameter
1'	11'	.010	PVC	2"

From (ft)	To (ft)	Material Description	Purpose
1	11'	#1 Filter Sand	
6"	1'	Bentonite	

Developed? ☒ Yes ☐ No
Fracture Enhancement? ☐ Yes ☐ No
Method surged
Disinfected? ☐ Yes ☒ No

Date	Method	Yield (GPM)	Time Pumped (hrs & min)	Drawdown to (Ft. BGS)	Time (hrs & min)	Recovery to (Ft. BGS)

Date Measured	Depth Below Ground Surface (FT)
11/23/05	1'8"

Pump Description ______ Horsepower ______
Pump Intake Depth ______ (ft) Nominal Pump Capacity ______ (gpm)

#MW-2

This well was drilled and/or abandoned under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge.

Driller: John McLue Supervising Driller Signature: [signature] Registration #: 013912
Firm: JA McLue Date: 11/23/05 Rig Permit #: 09016

CUST COPY

Massachusetts Department of Environmental Management
Office of Water Resources

112068

TYPE OR PRINT ONLY

Well Completion Report

Address of Well Location: Weathervane Ave. Property Owner: Bristol Brass Development

Subdivision Name: The Village at Weathervane Mailing Address: 321 Ralph Talbot Street

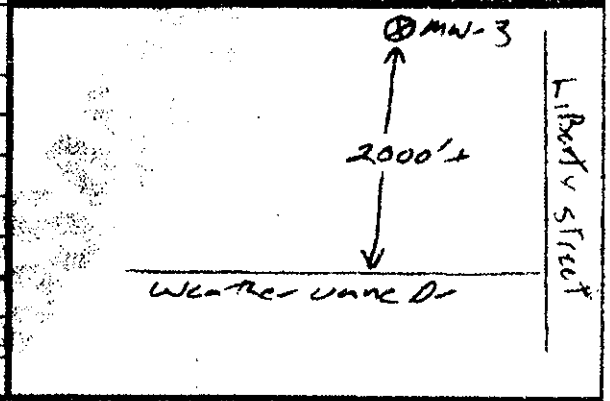
City/Town: Weymouth MA City/Town: Weymouth ma

Assessors Map _____ Assessors Lot #: _____ NOTE: Assessors Map and Lot # mandatory if no street address available

Board of Health permit obtained: Yes ☐ Not Required ☒ Permit Number _____ Date Issued _____

☒ New Well	☐ Abandon	☐ Domestic	☐ Irrigation	☐ Cable	☒ Auger
☐ Deepen	☐ Recondition	☒ Monitoring	☐ Municipal	☐ Air Hammer	☐ Direct Push
☐ Replace	☐ Other _____	☐ Industrial	☐ Other _____	☐ Mud Rotary	☐ Other _____

From (ft)	To (ft)	WATER	Permeability High	Permeability Low	Unconsolidated: Clay	Silt	Sand	Gravel	Cobbles	Boulders	Other	Consolidated: Rock Type
–	14	✓		X		O	X					
14'	16'			X		X	X	X	X			



Total Depth Drilled 16'

Date Drilling Complete 11/17/05

From (ft)	To (ft)	Casing Type and Material	Size O.D. (in)	Well Seal Type
+2	O	PVC	2"	Bentonite

From (ft)	To (ft)	Slot Size	Screen Type and Material	Screen Diameter
O	15'	.010	PVC	2"

FILTER PACK INFORMATION

From (ft)	To (ft)	Material Description	Purpose
1	15'	#1 Filter sand	

Developed? ☒ Yes ☐ No

Fracture Enhancement? ☐ Yes ☐ No

Method Surged

Disinfected? ☐ Yes ☒ No

Date	Method	Yield (GPM)	Time Pumped (hrs & min)	Drawdown to (Ft. BGS)	Time (hrs & min)	Recovery to (Ft. BGS)

Date Measured	Depth Below Ground Surface (FT)
11/23/05	8"

Pump Description _____ Horsepower _____

Pump Intake Depth _____ (ft) Nominal Pump Capacity _____ (gpm)

#MW-3

This well was drilled and/or abandoned under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge.

Driller: John McCue Supervising Driller Signature: J McCue Registration #: 03912

Firm: SA McCue Date: 11/23/05 Rig Permit #: 010106

CUST COPY

Massachusetts Department of Environmental Management
Office of Water Resources

Well Completion Report

112069

TYPE OR PRINT ONLY

Address at Well Location: Weathervane Drive Property Owner: Bristol Bros Development

Subdivision Name: Rawlings at Weathervane Mailing Address: 331 Ralph Talbot Street

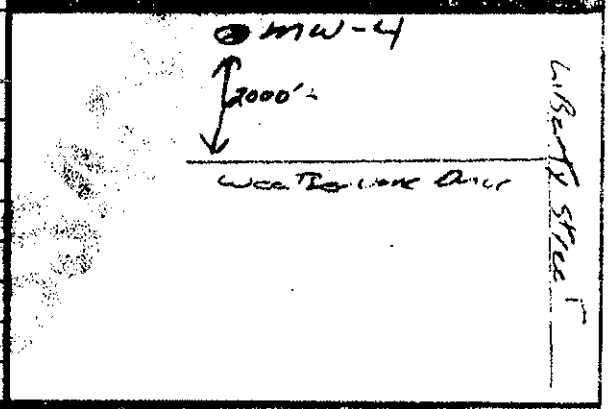
City/Town: Weymouth City/Town: Weymouth MA

Assessors Map _____ Assessors Lot #: _____ NOTE: Assessors Map and Lot # mandatory if no street address available

Board of Health permit obtained: Yes ☐ Not Required ☒ Permit Number _____ Date Issued _____

☒ New Well ☐ Deepen ☐ Replace	☐ Abandon ☐ Recondition ☐ Other	☐ Domestic ☒ Monitoring ☐ Industrial ☐ Irrigation ☐ Municipal ☐ Other
☐ Cable ☐ Air Hammer ☐ Mud Rotary	☐ Auger ☐ Direct Push ☐ Other	

From (ft)	To (ft)	WATER	Permeability High	Permeability Low	Unconsolidated: Clay	Silt	Sand	Gravel	Cobbles	Boulders	Other	Consolidated: Rock Type
4'	6'	1'		X		X	X	X				
6	19'					X	X					



Total Depth Drilled 19'

Date Drilling Complete 11/6/05

From (ft)	To (ft)	Casing Type and Material	Size O.D. (in)	Well Seal Type
+2	2'	PVC	2"	Bentonite

From (ft)	To (ft)	Slot Size	Screen Type and Material	Screen Diameter
2'	17'	.010	PVC	2"

From (ft)	To (ft)	Material Description	Purpose
2'	17'	#1 Filter Sand	
1'	2'	Bentonite	

Developed? ☒ Yes ☐ No

Fracture Enhancement? ☐ Yes ☐ No

Method surged

Disinfected? ☐ Yes ☒ No

Date	Method	Yield (GPM)	Time Pumped (hrs & min)	Drawdown to (Ft. BGS)	Time (hrs & min)	Recovery to (Ft. BGS)	Date Measured	Depth Below Ground Surface (FT)
							11/23/05	6"

Pump Description _____ Horsepower _____

Pump Intake Depth _____ (ft) Nominal Pump Capacity _____ (gpm)

#mw1-4

This well was drilled and/or abandoned under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge.

Driller: John McCue Supervising Driller Signature: [signature] Registration #: 01 3 9 2

Firm: J A McCue Date: 11/23/05 Rig Permit #: 0 1 0 0 6

CUST COPY

TYPE OR PRINT ONLY

Office of Water Resources

Well Completion Report

11CU11

Address at Well Location: Weather-vane Drive Property Owner: Bristol Bros Development

Subdivision Name: The Village at Weather-van Mailing Address: 321 Ralph Talbot St

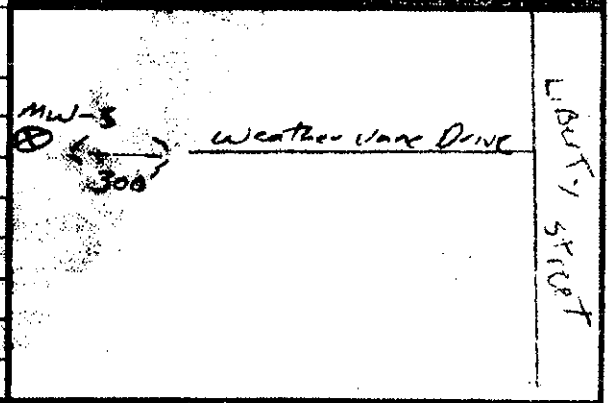
City/Town: Yarmouth City/Town: Weymouth

Assessors Map _____ Assessors Lot #: _____ NOTE: Assessors Map and Lot # mandatory if no street address available

Board of Health permit obtained: Yes ☐ Not Required ☒ Permit Number _____ Date Issued _____

☒ New Well ☐ Abandon ☐ Domestic ☐ Irrigation ☐ Cable ☐ Auger
☐ Deepen ☐ Recondition ☒ Monitoring ☐ Municipal ☐ Air Hammer ☐ Direct Push
☐ Replace ☐ Other _____ ☐ Industrial ☐ Other _____ ☐ Mud Rotary ☒ Other Wash Boring

From (ft)	To (ft)	WATER	Permeability High	Permeability Low	Unconsolidated: Clay	Silt	Sand	Gravel	Cobbles	Boulders	Other	Consolidated: Rock Type
—	9					X	X		X	X		



Total Depth Drilled 9'

Date Drilling Complete 11/17/05

From (ft)	To (ft)	Casing Type and Material	Size O.D. (in)	Well Seal Type
+2	2'	PVC	2"	Bentonite

From (ft)	To (ft)	Slot Size	Screen Type and Material	Screen Diameter
2'	9'	.010	PVC	2"

From (ft)	To (ft)	Material Description	Purpose
2'	9'	#1 Filter Sand	
1'	2'	Bentonite	

Developed? ☒ Yes ☐ No

Fracture Enhancement? ☐ Yes ☐ No

Method surged

Disinfected? ☐ Yes ☒ No

Date	Method	Yield (GPM)	Time Pumped (hrs & min)	Drawdown to (Ft. BGS)	Time (hrs & min)	Recovery to (Ft. BGS)	Date Measured	Depth Below Ground Surface (FT)
							11/23/05	2'6"

Pump Description _____ Horsepower _____

Pump Intake Depth _____ (ft) Nominal Pump Capacity _____ (gpm)

MW-5

This well was drilled and/or abandoned under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge.

Driller: John McCue Supervising Driller Signature: [signature] Registration #: 0 3 9 2

Firm: J A McCue Date: 11/23/05 Rig Permit #: 9996

NOTE: Well Completion Reports must be filed by the registered well driller within 30 days of well completion.

BOARD OF HEALTH COPY

C. Testing Methods and List of Compounds/Analytes

ATTACHMENT C

Weathervane Groundwater Monitoring
Testing Methods

AmeriSci 8 School Street Weymouth, MA 02189 (781) 337-9334	
Test	Method
Total Herbicide	EPA 8151 [a]
Total Pesticide	EPA 8081
Full VOC	EPA 8260
Metals (Priority Pollutant 13)	EPA 6010/7000
Ammonia	4500-NH3-F
Nitrate	EPA 300.0
Nitrite	EPA 300.0
Nitrogen (TKN)	EPA 351.1
Ortho Phosphate	4500-P-E

[a] Sub-Contract with 7 day turnaround.

Herbicides

SO-HERB8W	Test Code	Description	CAS Number	Units
	ZZ-HERB1W	2,4-D	95-75-7	ug/L
	ZZ-HERB2W	2,4,5-TP	93-72-1	ug/L
	ZZ-HERB3W	Dicamba	1918-00-9	ug/L
	ZZ-HERB4W	2,4,5-T	93-76-5	ug/L
	ZZ-HERB5W	2,4-DB	94-82-6	ug/L
	ZZ-HERB6W	Dalapon		ug/L
	ZZ-HERB7W	Dichloroprop		ug/L
	ZZ-HERB8W	Dinoseb		ug/L

Pesticides

OR-PEST	Test Code	Description	CAS Number	Units
	ZZ-8081-74	alpha-BHC	319-84-6	ug/L
	ZZ-8081-75	gamma-BHC (Lindane)	58-89-9	ug/L
	ZZ-8081-11	beta-BHC	319-85-7	ug/L
	ZZ-8081-4	Aldrin	309-00-2	ug/L
	ZZ-8081-41	Heptachlor	76-44-8	ug/L
	ZZ-8081-12	delta-BHC	319-86-8	ug/L
	ZZ-8081-42	Heptachlor Epoxide	1024-57-3	ug/L
	ZZ-8081-76	Endosulfan I	959-98-8	ug/L
	ZZ-8081-23	4,4'-DDE	72-55-9	ug/L
	ZZ-8081-31	Dieldrin	60-57-1	ug/L
	ZZ-8081-78	Endrin	72-20-8	ug/L
	ZZ-8081-22	4,4'-DDD	72-54-8	ug/L
	ZZ-8081-77	Endosulfan II	33213-65-9	ug/L
	ZZ-8081-38	Endrin Aldehyde	7421-93-4	ug/L
	ZZ-8081-24	4,4'-DDT	50-29-3	ug/L
	ZZ-8081-37	Endosulfan Sulfate	1031-07-8	ug/L
	ZZ-8081-85	Methoxychlor	72-43-5	ug/L
	ZZ-8081KET	Endrin Ketone	53494-70-5	ug/L
	ZZ-8081-18	Chlordane	57-74-9	ug/L
	ZZ-8081-60	Toxaphene	8001-35-2	ug/L
	ZZ-PESSUR1	TCMX (SURROGATE)		%
	ZZ-PESSUR2	DCB (SURROGATE)	2051-24-3	%

VOC - EPA 8260

OR-EPA8260	Test Code	Description	CAS Number	Units
	ZZ-8260-2	Dichlorodifluoromethane	75-71-8	ug/L
	ZZ-8260-31	Vinyl Chloride	75-01-4	ug/L
	ZZ-8260-10	Chloromethane	74-87-3	ug/L
	ZZ-8260-4	Bromomethane	74-83-9	ug/L
	ZZ-8260-7	Chloroethane	75-00-3	ug/L
	ZZ-8260-30	Trichlorofluoromethane	75-69-4	ug/L
	ZZ-8260-59	Acrolein	107-02-8	ug/L
	ZZ-8260-60	Acetone	67-64-1	ug/L
	ZZ-8260-17	1,1-Dichloroethylene	75-35-4	ug/L
	ZZ-8260-99	Iodomethane	74-88-4	ug/L
	ZZ-8260-98	Carbon Disulfide	75-15-0	ug/L
	ZZ-8260-23	Methylene Chloride	75-09-2	ug/L
	ZZ-8260-97	Acrylonitrile	107-13-1	ug/L
	ZZ-8260-96	Methyl-Tert-Butyl-Ether	1634-04-4	ug/L
	ZZ-8260-18	trans-1,2-Dichloroethylene	156-60-5	ug/L
	ZZ-8260-15	1,1-Dichloroethane	75-34-3	ug/L
	ZZ-8260-63	Vinyl Acetate	108-05-4	ug/L
	ZZ-8260-64	2-Butanone-(MEK)	78-93-3	ug/L
	ZZ-8260-32	2,2-Dichloropropane	590-20-7	ug/L
	ZZ-8260-43	cis-1,2-Dichloroethylene	107-06-2	ug/L
	ZZ-8260-9	Chloroform	67-66-3	ug/L
	ZZ-8260-33	Bromochloromethane	74-97-5	ug/L
	ZZ-8260-27	1,1,1-Trichloroethane	71-55-6	ug/L
	ZZ-8260-34	1,1-Dichloropropene	563-58-6	ug/L
	ZZ-8260-5	Carbon Tetrachloride	56-23-5	ug/L
	ZZ-8260-1	Benzene	71-43-2	ug/L
	ZZ-8260-16	1,2-Dichloroethane	107-06-2	ug/L
	ZZ-8260-29	Trichloroethylene	79-01-6	ug/L
	ZZ-8260-19	1,2-Dichloropropane	78-87-5	ug/L
	ZZ-8260-61	4-Methyl-2-Pentanone (MIBK)	108-10-1	ug/L
	ZZ-8260-8A	2-Chloroethyl vinyl ether	110-75-8	ug/L
	ZZ-8260-20	cis-1,3-Dichloropropene	10061-01-5	ug/L
	ZZ-8260-26	Toluene	108-88-3	ug/L
	ZZ-8260-21	trans-1,3-Dichloropropene	10061-02-6	ug/L
	ZZ-8260-40	Bromodichloromethane	75-27-4	ug/L
	ZZ-8260-37	Dibromomethane	74-95-3	ug/L
	ZZ-8260-28	1,1,2-Trichloroethane	79-00-5	ug/L
	ZZ-8260-39	1,2-Dibromoethane	106-93-4	ug/L
	ZZ-8260-62	2-Hexanone	591-78-6	ug/L
	ZZ-8260-38	1,3-Dichloropropane	78-87-5	ug/L
	ZZ-8260-25	Tetrachloroethylene	127-18-4	ug/L
	ZZ-8260-11	Dibromochloromethane	124-48-1	ug/L
	ZZ-8260-6	Chlorobenzene	108-90-7	ug/L
	ZZ-8260-41	1,1,1,2-Tetrachloroethane	79-00-5	ug/L
	ZZ-8260-22	Ethylbenzene	100-41-4	ug/L
	ZZ-8260-MX	M & P-XYLENE	1330-20-7	ug/L
	ZZ-8260-OX	O-XYLENE	1330-20-7	ug/L
	ZZ-8260-36	Styrene	100-42-5	ug/L
	ZZ-8260-3	Bromoform	75-25-2	ug/L
	ZZ-8260-42	Isopropylbenzene	98-82-8	ug/L
	ZZ-8260-24	1,1,2,2-Tetrachloroethane	79-34-5	ug/L
	ZZ-8260-TC	1,2,3-Trichloropropane	96-18-4	ug/L
	ZZ-8260-53	n-Propylbenzene	103-65-1	ug/L
	ZZ-8260-65	trans-1,4-Dichloro-2-butene	764-41-0	ug/L
	ZZ-8260-44	Bromobenzene	108-86-1	ug/L

VOC 8260 - continued

OR-EPA8260	Test Code	Description	CAS Number	Units
	ZZ-8260-45	2-Chlorotoluene	95-49-8	ug/L
	ZZ-8260-46	1,3,5-Trimethylbenzene	108-67-8	ug/L
	ZZ-8260-47	4-Chlorotoluene	106-43-4	ug/L
	ZZ-8260-48	tert-Butylbenzene	98-06-6	ug/L
	ZZ-8260-50	1,2,4-Trimethylbenzene	95-63-6	ug/L
	ZZ-8260-49	sec-Butylbenzene	135-98-8	ug/L
	ZZ-8260-51	4-Isopropyltoluene	99-87-6	ug/L
	ZZ-8260-13	1,3-Dichlorobenzene	541-73-1	ug/L
	ZZ-8260-14	1,4-Dichlorobenzene	106-46-7	ug/L
	ZZ-8260-52	n-Butylbenzene	104-51-8	ug/L
	ZZ-8260-12	1,2-Dichlorobenzene	95-50-1	ug/L
	ZZ-8260-54	1,2-Dibromo-3-Chloropropane	96-12-8	ug/L
	ZZ-8260-55	1,2,4-Trichlorobenzene	120-82-1	ug/L
	ZZ-8260-56	Hexachlorobutadiene	87-68-3	ug/L
	ZZ-8260-57	Naphthalene	91-20-3	ug/L
	ZZ-8260-58	1,2,3-Trichlorobenzene	87-61-6	ug/L
	ZZ-VOCSUR4	DIBROMOFLUOROMETHANE (SURR)	1868-53-7	%
	ZZ-VOCSUR2	TOLUENE-D8 (SURROGATE)	108-88-3	%
	ZZ-VOCSUR3	4-BROMOFLUOROBENZENE (SURR)		%

Metals

ME-LPPM	Test Code	Description	CAS Number	Units
	ME-ASI	Arsenic	7440-38-2	mg/L
	ME-SBI	Antimony	7440-36-0	mg/L
	ME-BEI	Beryllium	7440-41-7	mg/L
	ME-CDI	Cadmium	7440-43-9	mg/L
	ME-CRI	Chromium	7440-47-3	mg/L
	ME-CUI	Copper	7440-50-8	mg/L
	ME-PBI	Lead	7439-92-1	mg/L
	ME-HG	Mercury	7439-97-6	mg/L
	ME-NII	Nickel	7440-02-0	mg/L
	ME-AGI	Silver	7440-22-4	mg/L
	ME-SEI	Selenium	7782-49-2	mg/L
	ME-TLI	Thallium	7440-28-0	mg/L
	ME-ZNI	Zinc	7440-66-6	mg/L

D. Baseline Collection and Analysis Report

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Initial baseline data to be sampled and collected in April.

E. Sample Reports

Annual Notification Report

Notification of Concentrations above Acceptable Limits

SAMPLE ANNUAL NOTIFICATION REPORT

November 30, 2005

To: Weymouth Conservation Commission
Weymouth Board of Health
Weymouth Planning Board
Weymouth Department of Public Works

From: *Golf Superintendent*

Re: Annual Monitoring of Weathervane Golf Course

Attached please find copies of the groundwater sampling data obtained from the Weathervane Golf Course during 2005. This sampling data is provided pursuant to the requirements of the Notice of Decision on Special Permit (Case #: 98-1-2/9) and the Order of Conditions issued by the Weymouth Conservation Commission (DEP File No: NE-81-756), and the Groundwater Monitoring Program approved for the golf course.

Below is a summary of the data and findings:

- Samples were taken twice during 2005 from five groundwater monitoring wells (GW) and two surface monitoring locations. GW-1 and GW-5 are up gradient. GW-2, GW-3, and GW-4 are down gradient. GW-3 also serves to monitor potential contamination from the Weymouth Naval Air Station.

- Samples were analyzed in accordance with EPA methods for chemical analysis and performed by a Massachusetts certified lab.

- Target chemicals for analysis include all pesticides, herbicides, nitrates, and ammonia.

Based on the lab reports, no detectable quantities of herbicides/pesticides, nitrates or ammonia above acceptable state and federal regulations were determined. Turf management practices at the Weathervane Golf Course have not had an adverse impact to the groundwater.

SAMPLE NOTIFICATION of CONCENTRATIONS above LIMITS

November 30, 2005

To: Weymouth Conservation Commission
Weymouth Board of Health
Weymouth Planning Board
Weymouth Department of Public Works

From: *Golf Superintendent*

Re: Groundwater Notice of Detection at the Weathervane Golf Course

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Attached please find a copy of the groundwater sampling data obtained from the Weathervane Golf Course. This sampling data is provided pursuant to the requirements of the Notice of Decision on Special Permit (Case #: 98-1-2/9) and the Order of Conditions issued by the Weymouth Conservation Commission (DEP File No: NE-81-756), and the Groundwater Monitoring Program approved for the golf course.

The lab report indicates that total nitrogen levels of 6 mg/L were detected at one of the five groundwater monitoring wells (GW-2).

In response to this detection, the following actions have been implemented:

- A second sample was taken from GW-2 confirming the initial test results.
- The application of nitrogen fertilizer in the area of GW-2 has been reduced by 20%, the percentage amount detected above the limit of 5 mg/L.
- Sampling will continue on a weekly basis until nitrogen levels are within acceptable limits.

A follow-up/close-out notice will be issued after the response action noted above returns nitrogen levels to acceptable limits.

ATTACHMENTS

F. Water Quality Sampling Flow Chart

MEMORANDUM

To: Mary Ellen Schloss
Weymouth Conservation Commission

From: Carl Erickson
Bristol Brother's Development Corporation

Date: February 1, 2006

Re: Groundwater Monitoring Program
Response to Board of Health Review (1/24/06)

The following is provided in response to the review of the groundwater monitoring program by the Weymouth Board of Health. Responses are provided below to the questions/comments identified in their letter of January 24, 2006. This information is also incorporated and reflected in the final groundwater monitoring program.

1. Longitude and latitude coordinates for the groundwater monitoring wells and irrigation well onsite are provided below:

	Location	
	Northing	Easting
GW-1	2886301.23	809582.50
GW-2	2885749.90	810520.90
GW-3	2885692.85	811394.92
GW-4	2886551.69	811579.85
GW-5	2887453.62	810135.08
IW-1	2886673.13	809147.59

GW = Groundwater Monitoring Well
IW = Irrigation Well

Northing and easting data is based on Town of Weymouth GIS. A table with this information will be added to the monitoring program as Attachment A.

2. A full list of the analytes to be tested is attached. Also provided in the attachment is the method of testing. Groundwater samples will be submitted to Amerisci Lab in Weymouth for analysis. This information will be included in the monitoring program as Attachment C.

3. As part of the project review and permitting process, an additional well was recommended to identify potential sources of contaminents from the Naval Air Station (NAS). GW #3 is the closest location to identify any off-site contamination, if any, from the direction of the NAS. It does not conclusively confirm that contaminents are from the NAS, but rather it is intended to identify if contamination is coming from off-site rather. We propose to re-label this well in the monitoring program as an "upgradient" well for background levels.

If you have questions, please feel free to call the office. The number is (781) 335-1500.

cc: Dr. Deshang Wang, Carr Research Laboratory, Inc.
Jim Bristol, w/out Attachment
Tom Henaghen, Gale Associates
John McGrath, Weathervane Environmental Monitor

ATTACHMENT C

Weathervane Groundwater Monitoring
Testing Methods

AmeriSci 8 School Street Weymouth, MA 02189 (781) 337-9334	
Test	Method
Total Herbicide	EPA 8151 [a]
Total Pesticide	EPA 8081
Full VOC	EPA 8260
Metals (Priority Pollutant 13)	EPA 6010/7000
Ammonia	4500-NH3-F
Nitrate	EPA 300.0
Nitrite	EPA 300.0
Nitrogen (TKN)	EPA 351.1
Ortho Phosphate	4500-P-E

[a] Sub-Contract with 7 day turnaround.

Herbicides

SO-HERB8W	Test Code	Description	CAS Number	Units
	ZZ-HERB1W	2,4-D	95-75-7	ug/L
	ZZ-HERB2W	2,4,5-TP	93-72-1	ug/L
	ZZ-HERB3W	Dicamba	1918-00-9	ug/L
	ZZ-HERB4W	2,4,5-T	93-76-5	ug/L
	ZZ-HERB5W	2,4-DB	94-82-6	ug/L
	ZZ-HERB6W	Dalapon		ug/L
	ZZ-HERB7W	Dichloroprop		ug/L
	ZZ-HERB8W	Dinoseb		ug/L

Pesticides

OR-PEST	Test Code	Description	CAS Number	Units
	ZZ-8081-74	alpha-BHC	319-84-6	ug/L
	ZZ-8081-75	gamma-BHC (Lindane)	58-89-9	ug/L
	ZZ-8081-11	beta-BHC	319-85-7	ug/L
	ZZ-8081-4	Aldrin	309-00-2	ug/L
	ZZ-8081-41	Heptachlor	76-44-8	ug/L
	ZZ-8081-12	delta-BHC	319-86-8	ug/L
	ZZ-8081-42	Heptachlor Epoxide	1024-57-3	ug/L
	ZZ-8081-76	Endosulfan I	959-98-8	ug/L
	ZZ-8081-23	4,4'-DDE	72-55-9	ug/L
	ZZ-8081-31	Dieldrin	60-57-1	ug/L
	ZZ-8081-78	Endrin	72-20-8	ug/L
	ZZ-8081-22	4,4'-DDD	72-54-8	ug/L
	ZZ-8081-77	Endosulfan II	33213-65-9	ug/L
	ZZ-8081-38	Endrin Aldehyde	7421-93-4	ug/L
	ZZ-8081-24	4,4'-DDT	50-29-3	ug/L
	ZZ-8081-37	Endosulfan Sulfate	1031-07-8	ug/L
	ZZ-8081-85	Methoxychlor	72-43-5	ug/L
	ZZ-8081KET	Endrin Ketone	53494-70-5	ug/L
	ZZ-8081-18	Chlordane	57-74-9	ug/L
	ZZ-8081-60	Toxaphene	8001-35-2	ug/L
	ZZ-PESSUR1	TCMX (SURROGATE)		%
	ZZ-PESSUR2	DCB (SURROGATE)	2051-24-3	%

VOC - EPA 8260

	Test Code	Description	CAS Number	Units
OR-EPA8260	ZZ-8260-2	Dichlorodifluoromethane	75-71-8	ug/L
	ZZ-8260-31	Vinyl Chloride	75-01-4	ug/L
	ZZ-8260-10	Chloromethane	74-87-3	ug/L
	ZZ-8260-4	Bromomethane	74-83-9	ug/L
	ZZ-8260-7	Chloroethane	75-00-3	ug/L
	ZZ-8260-30	Trichlorofluoromethane	75-69-4	ug/L
	ZZ-8260-59	Acrolein	107-02-8	ug/L
	ZZ-8260-60	Acetone	67-64-1	ug/L
	ZZ-8260-17	1,1-Dichloroethylene	75-35-4	ug/L
	ZZ-8260-99	Iodomethane	74-88-4	ug/L
	ZZ-8260-98	Carbon Disulfide	75-15-0	ug/L
	ZZ-8260-23	Methylene Chloride	75-09-2	ug/L
	ZZ-8260-97	Acrylonitrile	107-13-1	ug/L
	ZZ-8260-96	Methyl-Tert-Butyl-Ether	1634-04-4	ug/L
	ZZ-8260-18	trans-1,2-Dichloroethylene	156-60-5	ug/L
	ZZ-8260-15	1,1-Dichloroethane	75-34-3	ug/L
	ZZ-8260-63	Vinyl Acetate	108-05-4	ug/L
	ZZ-8260-64	2-Butanone-(MEK)	78-93-3	ug/L
	ZZ-8260-32	2,2-Dichloropropane	590-20-7	ug/L
	ZZ-8260-43	cis-1,2-Dichloroethylene	107-06-2	ug/L
	ZZ-8260-9	Chloroform	67-66-3	ug/L
	ZZ-8260-33	Bromochloromethane	74-97-5	ug/L
	ZZ-8260-27	1,1,1-Trichloroethane	71-55-6	ug/L
	ZZ-8260-34	1,1-Dichloropropene	563-58-6	ug/L
	ZZ-8260-5	Carbon Tetrachloride	56-23-5	ug/L
	ZZ-8260-1	Benzene	71-43-2	ug/L
	ZZ-8260-16	1,2-Dichloroethane	107-06-2	ug/L
	ZZ-8260-29	Trichloroethylene	79-01-6	ug/L
	ZZ-8260-19	1,2-Dichloropropane	78-87-5	ug/L
	ZZ-8260-61	4-Methyl-2-Pentanone (MIBK)	108-10-1	ug/L
	ZZ-8260-8A	2-Chloroethyl vinyl ether	110-75-8	ug/L
	ZZ-8260-20	cis-1,3-Dichloropropene	10061-01-5	ug/L
	ZZ-8260-26	Toluene	108-88-3	ug/L
	ZZ-8260-21	trans-1,3-Dichloropropene	10061-02-6	ug/L
	ZZ-8260-40	Bromodichloromethane	75-27-4	ug/L
	ZZ-8260-37	Dibromomethane	74-95-3	ug/L
	ZZ-8260-28	1,1,2-Trichloroethane	79-00-5	ug/L
	ZZ-8260-39	1,2-Dibromoethane	106-93-4	ug/L
	ZZ-8260-62	2-Hexanone	591-78-6	ug/L
	ZZ-8260-38	1,3-Dichloropropane	78-87-5	ug/L
	ZZ-8260-25	Tetrachloroethylene	127-18-4	ug/L
	ZZ-8260-11	Dibromochloromethane	124-48-1	ug/L
	ZZ-8260-6	Chlorobenzene	108-90-7	ug/L
	ZZ-8260-41	1,1,1,2-Tetrachloroethane	79-00-5	ug/L
	ZZ-8260-22	Ethylbenzene	100-41-4	ug/L
	ZZ-8260-MX	M & P-XYLENE	1330-20-7	ug/L
	ZZ-8260-OX	O-XYLENE	1330-20-7	ug/L
	ZZ-8260-36	Styrene	100-42-5	ug/L
	ZZ-8260-3	Bromoform	75-25-2	ug/L
	ZZ-8260-42	Isopropylbenzene	98-82-8	ug/L
	ZZ-8260-24	1,1,2,2-Tetrachloroethane	79-34-5	ug/L
	ZZ-8260-TC	1,2,3-Trichloropropane	96-18-4	ug/L
	ZZ-8260-53	n-Propylbenzene	103-65-1	ug/L
	ZZ-8260-65	trans-1,4-Dichloro-2-butene	764-41-0	ug/L
	ZZ-8260-44	Bromobenzene	108-86-1	ug/L

VOC 8260 - continued

OR-EPA8260	Test Code	Description	CAS Number	Units
	ZZ-8260-45	2-Chlorotoluene	95-49-8	ug/L
	ZZ-8260-46	1,3,5-Trimethylbenzene	108-67-8	ug/L
	ZZ-8260-47	4-Chlorotoluene	106-43-4	ug/L
	ZZ-8260-48	tert-Butylbenzene	98-06-6	ug/L
	ZZ-8260-50	1,2,4-Trimethylbenzene	95-63-6	ug/L
	ZZ-8260-49	sec-Butylbenzene	135-98-8	ug/L
	ZZ-8260-51	4-Isopropyltoluene	99-87-6	ug/L
	ZZ-8260-13	1,3-Dichlorobenzene	541-73-1	ug/L
	ZZ-8260-14	1,4-Dichlorobenzene	106-46-7	ug/L
	ZZ-8260-52	n-Butylbenzene	104-51-8	ug/L
	ZZ-8260-12	1,2-Dichlorobenzene	95-50-1	ug/L
	ZZ-8260-54	1,2-Dibromo-3-Chloropropane	96-12-8	ug/L
	ZZ-8260-55	1,2,4-Trichlorobenzene	120-82-1	ug/L
	ZZ-8260-56	Hexachlorobutadiene	87-68-3	ug/L
	ZZ-8260-57	Naphthalene	91-20-3	ug/L
	ZZ-8260-58	1,2,3-Trichlorobenzene	87-61-6	ug/L
	ZZ-VOCSUR4	DIBROMOFLUOROMETHANE (SURR)	1868-53-7	%
	ZZ-VOCSUR2	TOLUENE-D8 (SURROGATE)	108-88-3	%
	ZZ-VOCSUR3	4-BROMOFLUOROBENZENE (SURR)		%

Metals

ME-LPPM	Test Code	Description	CAS Number	Units
	ME-ASI	Arsenic	7440-38-2	mg/L
	ME-SBI	Antimony	7440-36-0	mg/L
	ME-BBI	Beryllium	7440-41-7	mg/L
	ME-CDI	Cadmium	7440-43-9	mg/L
	ME-CRI	Chromium	7440-47-3	mg/L
	ME-CUI	Copper	7440-50-8	mg/L
	ME-PBI	Lead	7439-92-1	mg/L
	ME-HG	Mercury	7439-97-6	mg/L
	ME-NII	Nickel	7440-02-0	mg/L
	ME-AGI	Silver	7440-22-4	mg/L
	ME-SEI	Selenium	7782-49-2	mg/L
	ME-TLI	Thallium	7440-28-0	mg/L
	ME-ZNI	Zinc	7440-66-6	mg/L

NOTES:
1. ESTABLISHMENT OF GOLF HOLES WILL INCLUDE MINOR SITE GRADING, SURFICIAL ROCK REMOVAL, TREE CLEARING (ONLY AS NEEDED) PLACEMENT OF TOPSOIL AND TURF ESTABLISHMENT.
2. GOLF HOLES WILL CONFORM TO EXISTING TOPOGRAPHY TO THE EXTENT POSSIBLE TO MINIMIZE THE AMOUNT OF GRADING REQUIRED.
3. WORK WITHIN THE UNIT 31 PARCEL WILL BE RESTRICTED TO OUTSIDE THE 25'-NO DISTURB ZONE. ALL STORMWATER WILL DRAIN FROM THE SITE BY SHEET FLOW.

POND 6 (FORMERLY POND 4)
SWM-2
SEWER EASEMENT
EMERGENCY ACCESS EASEMENT
DEEP BEDROCK IRRIGATION WELL
IRRIGATION POND 5 (FORMERLY POND 3)
POND 1A
POND 1B
POND 4 (FORMERLY POND 1)
POND 2
POND 3
PRACTICE GREEN
COMMON AREA
SWAMP
RIVER

LEGEND:
- MW — GROUNDWATER MONITORING WELL
- SWM — SURFACE WATER MONITORING WELL
- SURFACE WATER FLOW DIRECTION

GALE
Gale Associates, Inc.
Engineers Architects Planners
163 LIBBEY PARKWAY | WEYMOUTH, MA
02189P 781.335.6465 F 781.335.6467
www.galeinc.com
Boston Baltimore Orlando San Francisco

PROJECT
WEATHERVANE GOLF COURSE
THE VILLAGE AT WEATHERVANE
WEYMOUTH, MA

OWNER
WEATHERVANE DEVELOPMENT
221 RALPH TALBOT STREET
WEYMOUTH, MA 02190

REVISIONS

NO.	DATE	DESCRIPTION
1	1-11-06	ADDED IRRIGATION WELL & MODIFIED SW LOCATIONS

CADD FILE	..._03GCLAYOUT
DESIGNED BY	TMH
DRAWN BY	CAB
CHECKED BY	TMH
DATE	10-18-05
DRAWING SCALE	1"=120'

GRAPHIC SCALE

SHEET TITLE

GROUNDWATER & SURFACE WATER MONITORING LOCATIONS

DRAWING NO.

PROJECT NO 711330

Water Quality Sampling Flow Chart

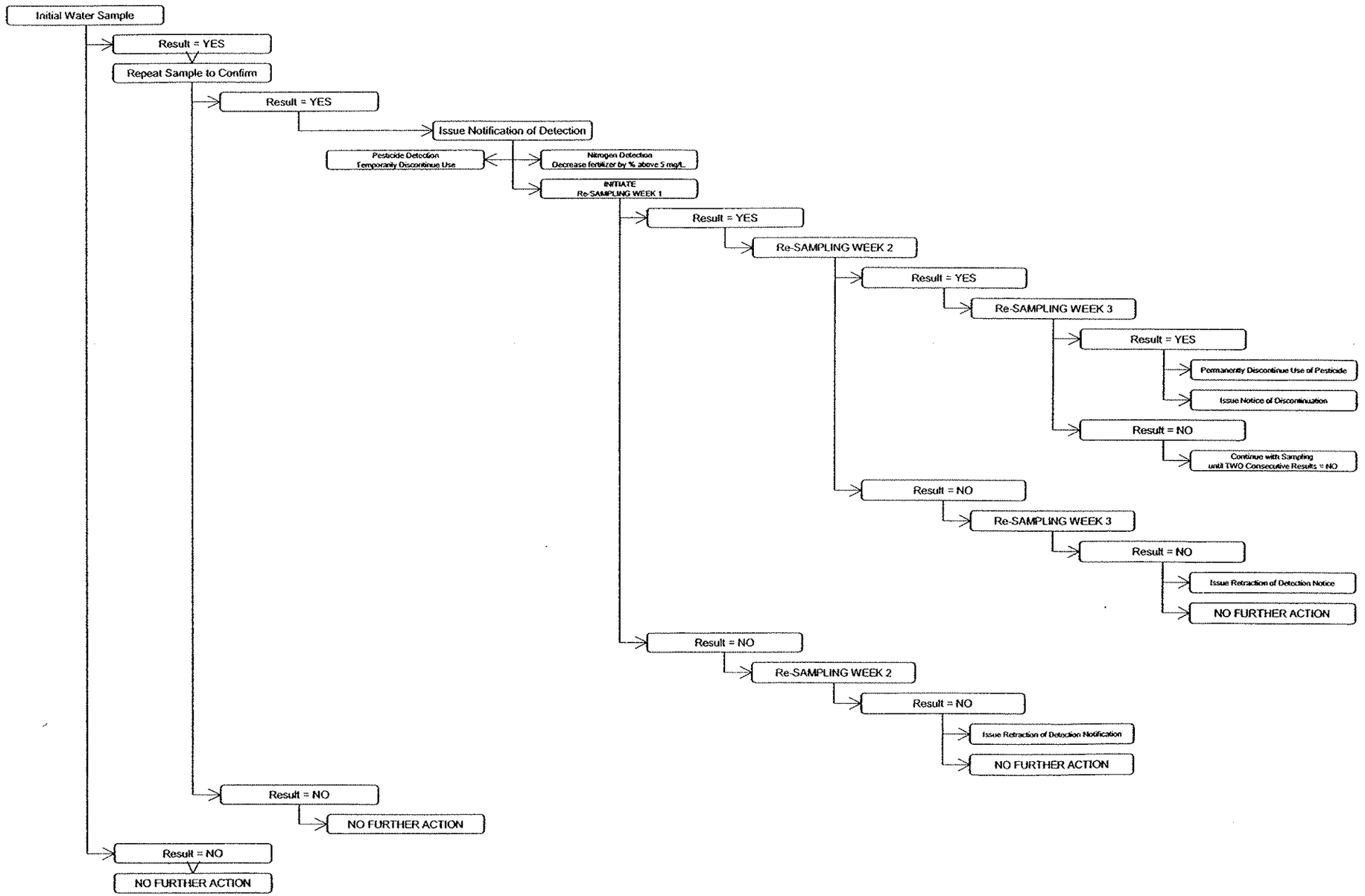

Exhibit D-

Environmental Monitoring Reports by CHA and CEC

Surface Water and Groundwater Fall 2016 - Sampling Report

Weathervane Golf Course & The Village at Weathervane

Weathervane Drive Weymouth, Massachusetts

CHA Project Number: 31541

Prepared for:
Mr. James Bristol
Bristol Brothers Development Corp.
190 Old Derby St (Suite 311)
Hingham MA 02043

101 Accord Park Drive
Norwell, MA, 02061
Phone: (781) 982-5400
Fax: (781) 982-5490

November 14, 2016

V:\Projects\NMA78\Proj1\31541\Reports\2016 Fall Sampling\2016-11-14Weathervane_GW&SW_Report.doc

Surface Water and Groundwater
Fall 2016 - Sampling Report

Weathervane Golf Course &
The Village at Weathervane
Weathervane Drive
Weymouth, Massachusetts

CHA Project Number: 31541

SIGNATURE PAGE

This report has been prepared and reviewed by the following qualified personnel employed by CHA.

Report Prepared By:

Amanda Cantara

Amanda Cantara
Scientist III

Report Reviewed By:

William Hoyerman, LSP
Associate Vice President

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LIST OF APPENDICES

1.0 INTRODUCTION

CHA Consulting, Inc. (CHA) has prepared this *Surface Water and Groundwater Fall 2016 - Sampling Report,* (Fall 2016 Report) on behalf of Bristol Brothers Development Corp.(BBD) in accordance with the Town of Weymouth Conservation Commission *Groundwater Monitoring Program (Rev2)* dated February 2006 for the property known as Weathervane Golf Course & The Village at Weathervane located at Weathervane Drive, Weymouth, Massachusetts (the Subject Property), as shown in Figures 1.

The Monitoring Program, as outlined in the Order of Conditions under MassDEP File #81-756 from May 1999 and various amendments requires the sampling and analysis of groundwater monitoring wells and surface water bodies with the objective of the water quality and groundwater monitoring program is to ensure that there is not an adverse impact to the surrounding wetland environment resulting from maintenance, including irrigation and turf management, of the gold course located off Liberty Street in Weymouth.

The objective of this *Fall 2016 Report* is to document with the town of Weymouth Conservation Commission the assessment actions conducted in October, 2016. CHA previously submitted the *Spring 2016 Sampling Report* in June 2016. All prior sampling was conducted and documented by BBD.

2.0 CONTACTS

The contact information is as follows:

Property Contact:

Ryan Bristol
Bristol Bros. Development
Weathervane Companies
Derby Management
190 Old Derby St (Suite 311)
Hingham MA 02043
781-249-1097 (cell)

Consultant:

Mr. William R. Hoyerman, LSP
CHA Consulting, Inc.
101 Accord Park Drive
Norwell, MA 02061
(781) 982-5400

3.0 FALL 2016 ASSESSMENT

Sampling methodology and groundwater data are discussed in the following sections. Groundwater analytical laboratory data is summarized in the attached Tables. A Site Plan titled Groundwater & Surface Water Monitoring Locations completed by Gale Associates on October 18, 2005 is included in Appendix A. Complete laboratory analytical reports are included in Appendix B. The following sections discuss the methodologies and data collected in October 2016.

The Fall 2016 sampling was conducted on October 25, 2016, based on NOAA Weather Archived data, 0.24–inches of precipitation occurred on October 22, 2016, although this may not be considered a "rain event" one surface water area, SW-2, had sufficient water to be sampled, while the remaining surface water areas were either dry or contained an insufficient amount of water for sampling. For the Spring 2016 sampling, CHA contacted Mary Ellen Schloss of the Town of Weymouth Conservation Commission to determine if sampling was appropriate without a "rain event". Ms. Schloss explained that oftentimes surface water is not present even after a "rain event", and that the intent of the requirement to sample after a "rain event" is to better assure that surface water sampling locations contained water. Given that the Boston region has been in a significant drought for the last few months, groundwater elevation readings are 1 to 1.5 feet lower than the Spring 2016 sampling and surface water was present at one location, CHA determined that sampling was appropriate, because the next time that surface water may be present at all locations may not occur until the Spring of 2017.

3.1 ASSESSMENT METHODOLOGIES

CHA Consulting, Inc. has conducted groundwater and surface water assessment during this period. The methodologies utilized by CHA to conduct these activities are described within this section of the report.

3.1.1 Collection of Groundwater Samples

Groundwater sampling was conducted in accordance with the appropriate MassDEP Active Policy: *Standard Reference for Monitoring Wells* WSC #310-91 (July 1994). Prior to well purging and sampling the well, the depth to the groundwater and the depth to the bottom of the well were measured using an electronic water level meter. The probe was slowly lowered into each monitoring well to determine the depth to groundwater. Groundwater sampling was conducted after each monitoring well was purged of at least three times the water volume of each well. Wells were purged using a submersible pump and sampling of all monitoring wells was completed using dedicated bailers. Metals samples were field filtered before acid preservation as per EPA and MassDEP protocols.

3.1.2 Collection of Surface Water Samples

Surface water samples were collected using an extendable handled swing sampler type, dip cup using dedicated collection containers at each surface water sampling location. The 1-liter dedicated pre cleaned laboratory grade sampling bottle was lowered into the water to allow water to enter and then submersed approximately 3-inches. Surface water samples were then directly transferred to pre-preserved laboratory grade sample containers dependent on the analysis required. Metals samples were field filtered before acid preservation as per EPA and MassDEP protocols.

3.1.3 Sample Handling & Preservation

All sampling was completed using dedicated Nitrile® gloves. Gloves were changed between each sampling location and media. All samples collected for laboratory analysis were placed in pre-cleaned laboratory grade glassware with Teflon®-lined covers or VOA vials dependent upon the analysis required. The samples were then stored on ice and delivered to the laboratory under standard Chain of Custody protocols. Samples were preserved in the field in accordance with United States Environmental Protection Agency (EPA) and MassDEP protocol, dependent on the select analytical parameters. Laboratory analysis was completed by Rhode Island Analytical Massachusetts Certification #M-RI1015.

3.2 FIELD DATA AND LABORATORY ANALYTICAL DATA REVIEW

The field data and laboratory analytical data obtained from these activities are described within this section of the report.

3.2.1 Field Data Results

Initial purging of monitoring wells determined heavy sediment loads after three well volumes were removed from each well except MW-2 where an insufficient volume of water could be recovered from the well to allow for proper purging or sampling.

	Depth to Water (feet)		Depth to Based	Volume Purged
MW I.D. #	Spring 2016	Fall 2016	(feet)	(gallons)
MW-1	3.12	4.64	20.21	10
MW-2	5.37	-	7.82	-
MW-3	3.52	3.22	17.34	8
MW-4	2.98	5.91	17.70	7
MW-5	4.77	6.40	11.01	2

No sheen was observed on any groundwater or surface water samples. All samples were relatively clear, minimal to no opacity, no observed staining and had a low volume of suspended solids and less than 1% sediment or solids.

3.2.2 Groundwater & Surface Water Analytical Results

Groundwater and surface water samples were analyzed for the following analysis using the appropriate SW 846 methods where applicable: Pesticides EPA 8081B; Herbicides EPA 8151; Volatile Organic Compounds EPA 8260; Nitrogen, as ammonia SM4500 Norg-D; Nitrate EPA 300.0; Nitrite EPA 300.0; Nitrogen as Kjeldahl (TKN) SM4500 ; Phosphate Ortho Method SM4500P-E ; 13 Priority Pollutant Metals (As, An, Be, Cd, Cr, Cu, Pb, Ni, Ag, Se, Th, Zn) Method 200.7, 6010/6020 & Hg Method 6020A, 6010C 7471B and digestion method 3020A.

No Volatile Organic Compounds (VOCs), pesticides or chlorinated herbicide compounds were detected in any of the groundwater or surface water samples collected. The samples did not require dilution by the laboratory for analysis therefore detection levels were at method levels, typically approximating one part per billion, however certain compounds had slightly higher values as per the specific method.

Metals and the various wet chemistry analysis nitrogen - as ammonia, nitrate and total kjeldahl nitrogen (TKN) were detected as would be expected because these compounds or metals are naturally occurring in groundwater and surface water and in some areas ubiquitous in both media. These results are discussed below.

None of the 13 Priority Pollutant Metals (As, An, Be, Cd, Cr, Cu, Hg, Pb, Ni, Ag, Se, Th, Zn) were detected in the surface water sample or MW-5. Arsenic, cadmium, and selenium were detected in groundwater samples, MW-1, MW-3, and MW-4. The levels detected were below both USEPA and MassDEP's drinking water standards.

Ortho-phosphate was not detected in any of the surface water or groundwater samples submitted. Nitrate as nitrogen was detected two groundwater samples, MW-1 and MW-5. The highest level detected was 0.91 mg/l which does not exceed the 5 mg/l limit cited as a Response Action limit in the Monitoring Program. Ammonia as nitrogen was detected in the one surface water sample, SWM-2 and two groundwater samples, MW-3 and MW-4. The highest level detected was 1.7 mg/l which does not exceed the 5 mg/l limit cited as a Response Action limit in the Monitoring Program. Total kjeldahl nitrogen (TKN) was detected in two groundwater samples, MW-3 and MW-4. The highest level detected was 2.2 mg/l which does not exceed the 5 mg/l limit cited as a Response Action limit in the Monitoring Program.

4.0 CONCLUSIONS

The Fall 2016 monitoring round has not detected any levels above stated criteria. Limited surface water sampling detected similar constituents and concentrations to prior sampling events. Groundwater sampling detected similar constituents and lower concentrations to prior sampling events.

TABLES

Weathervane Golf - Summary of Water Quality Data
MW-1

Sample Location:	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016
Pesticides-Water (ug/l)						
4,4'-DDD	ND	ND	ND	ND	<0.1	<0.05
4,4'-DDE	ND	ND	ND	ND	<0.1	<0.05
4,4'-DDT	ND	ND	ND	ND	<0.1	<0.05
Aldrin	ND	ND	ND	ND	<0.1	<0.05
alpha-BHC	ND	ND	ND	ND	<0.1	<0.05
beta-BHC	ND	ND	ND	ND	<0.1	<0.05
Chlordane	ND	ND	ND	ND	<0.5	<0.5
delta-BHC	ND	ND	ND	ND	<0.1	<0.05
Dieldrin	ND	ND	ND	ND	<0.1	<0.05
Endosulfan I	ND	ND	ND	ND	<0.1	<0.05
Endosulfan II	ND	ND	ND	ND	<0.1	<0.05
Endosulfan Sulfate	ND	ND	ND	ND	<0.1	<0.05
Endrin	ND	ND	ND	ND	<0.1	<0.05
Endrin Aldehyde	ND	ND	ND	ND	NT	NT
Endrin Ketone	ND	ND	ND	ND	<0.1	<0.05
gamma-BHC (Lindane)	ND	ND	ND	ND	<0.1	<0.02
Heptachlor	ND	ND	ND	ND	<0.1	<0.05
Heptachlor Epoxide	ND	ND	ND	ND	<0.1	<0.05
Hexachlorobenzene	NT	NT	NT	NT	<0.1	<0.05
Methoxychlor	ND	ND	ND	ND	<0.1	<0.05
Toxaphene	ND	ND	ND	ND	NT	NT
Chlorinated Herbicide-Water (ug/l)						
2,4,5-T	ND	ND	ND	ND	<1.0	<1.0
2,4,5-TP	ND	ND	ND	ND	<1.0	<1.0
2,4-D	ND	ND	ND	ND	<1.0	<1.0
2,4-DB	ND	ND	ND	ND	NT	NT
Dalapon	ND	ND	ND	ND	<1.0	<1.0
Dicamba	ND	ND	ND	ND	<1.0	<1.0
Dichloroprop	ND	ND	ND	ND	<1.0	<1.0
Dinoseb	ND	ND	ND	ND	<1.0	<1.0
Nitrogen/Orthophosphate (mg/l)						
Ammonia (as N)	ND	0.03	ND	0.21	0.13	<0.20
Nitrate (asN)	0.130	0.36	0.07	0.12	<0.25	0.91
Nitrite (as N)	ND	ND	ND	ND	<0.25	<0.25
Nitrogen, Kjeldahl(TKN)	0.120	0.19	1.23	1.99	<0.50	<0.5
Ortho Phosphate	0.030	ND	ND	ND	<0.05	<0.05
Priority Pollutant Metals (mg/l)						
Antimony	ND	ND	0.0014	ND	<0.002	<0.002
Arsenic	ND	0.0187	0.0307	0.149	<0.001	<0.001
Beryllium	ND	ND	ND	ND	<0.002	<0.001
Cadmium	ND	ND	ND	ND	0.0001	0.00027
Chromium	ND	ND	0.192	1.79	<0.050	<0.050
Copper	ND	ND	0.318	1.6	<0.010	<0.010
Lead	ND	ND	0.298	1.58	0.004	<0.001
Mercury	ND	ND	0.000389	ND	<0.0005	<0.0005
Nickel	ND	ND	ND	1.64	<0.050	<0.050
Selenium	ND	ND	ND	ND	<0.002	<0.002
Silver	ND	ND	ND	ND	<0.001	<0.001
Thallium	ND	ND	0.00128	0.00174	<0.001	<0.001
Zinc	ND	ND	0.682	5.36	<0.10	<0.10

Notes:
ND = Not Detected
NT = Not Tested
N/A= Not Applicable

Weathervane Golf - Summary of Water Quality Data
MW-1

Sample Location:	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016
Volatile Organic Compunds (ug/l)						
1,1,1,2-Tetrachloroethane	N/A	N/A	N/A	N/A	<1	<1
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	<1	<1
1,1,2,2-Tetrachlorethane	N/A	N/A	N/A	N/A	<1	<1
1,1,2-Trichloroethane	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloroethane	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloroethylene	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloropropene	N/A	N/A	N/A	N/A	<1	<1
1,2,3-Trichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
1,2,3-Trichloropropane	N/A	N/A	N/A	N/A	<1	<2
1,2,4-Trichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	<1	<1
1,2-Dibromo-3-Chloropropane	N/A	N/A	N/A	N/A	<2	<2
1,2-Dibromoethane	N/A	N/A	N/A	N/A	<1	<1
1,2-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
1,2-Dichloroethane	N/A	N/A	N/A	N/A	<1	<1
1,2-Dichloropropane	N/A	N/A	N/A	N/A	<1	<1
1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	<1	<1
1,3-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
1,3-Dichloropropane	N/A	N/A	N/A	N/A	<1	<1
1,4-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
2,2-Dichloropropane	N/A	N/A	N/A	N/A	<1	<1
2-Butanone-(MEK)	N/A	N/A	N/A	N/A	<10	<10
2-Chlorotoluene	N/A	N/A	N/A	N/A	<1	<1
2-Hexanone	N/A	N/A	N/A	N/A	<10	<10
4-Chlorotoluene	N/A	N/A	N/A	N/A	<1	<1
4-Methyl-2-Pentanone (MIBK)	N/A	N/A	N/A	N/A	<10	<10
Acetone	N/A	N/A	N/A	N/A	<10	<10
Benzene	N/A	N/A	N/A	N/A	<1	<1
Bromobenzene	N/A	N/A	N/A	N/A	<1	<1
Bromochloromethane	N/A	N/A	N/A	N/A	<1	<1
Bromodichlorormethane	N/A	N/A	N/A	N/A	<1	<1
Bromoform	N/A	N/A	N/A	N/A	<1	<1
Bromomethane	N/A	N/A	N/A	N/A	<1	<1
Carbon Disulfide	N/A	N/A	N/A	N/A	<5	<5
Carbon Tetrachloride	N/A	N/A	N/A	N/A	<1	<1
Chlorobenzene	N/A	N/A	N/A	N/A	<1	<1
Chloroethane	N/A	N/A	N/A	N/A	<5	<5
Chloroform	N/A	N/A	N/A	N/A	<1	<1
Chloromethane	N/A	N/A	N/A	N/A	<5	<5
cis-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	<1	<1
cis-1,3-Dichloropropene	N/A	N/A	N/A	N/A	<0.4	<0.4
Dibromochloromethane	N/A	N/A	N/A	N/A	<1	<1
Dibromomethane	N/A	N/A	N/A	N/A	<2	<2
Dichlorodifluoromethane	N/A	N/A	N/A	N/A	<5	<5
Diethyl ether	N/A	N/A	N/A	N/A	<10	<10
Diisopropyl ether (DIPE)	N/A	N/A	N/A	N/A	<5	<5
1,4-Dioxane	N/A	N/A	N/A	N/A	<100	<100
Ethyl Tertiary Butyl Ether	N/A	N/A	N/A	N/A	<5	<5
Ethylbenzene	N/A	N/A	N/A	N/A	<1	<1
Hexachlorobutadiene	N/A	N/A	N/A	N/A	<0.5	<0.5
Isopropylbenzene	N/A	N/A	N/A	N/A	<1	<1
M&P-Xylene	N/A	N/A	N/A	N/A	<2	<2
Methylene Chloride	N/A	N/A	N/A	N/A	<5	<5
Methyl-Tert-Butyl-Ether	N/A	N/A	N/A	N/A	<2	<2
Naphthalene	N/A	N/A	N/A	N/A	<1	<1
n-Butylbenzene	N/A	N/A	N/A	N/A	<1	<1
n-Propylbenzene	N/A	N/A	N/A	N/A	<1	<1
O-Xylene	N/A	N/A	N/A	N/A	<1	<1
p-Isopropyltoluene	N/A	N/A	N/A	N/A	<1	<1
sec-Butylbenzene	N/A	N/A	N/A	N/A	<1	<1
Styrene	N/A	N/A	N/A	N/A	<1	<1
tert-Butylbenzene	N/A	N/A	N/A	N/A	<1	<1
Tetrachloroethylene	N/A	N/A	N/A	N/A	<1	<1
Tetrahydrofuran	N/A	N/A	N/A	N/A	<10	<10
Toluene	N/A	N/A	N/A	N/A	<1	<1
trans-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	<2	<2
trans-1,3-Dichloropropene	N/A	N/A	N/A	N/A	<0.4	<0.4
Tertiary Amyl Methyl Ether	N/A	N/A	N/A	N/A	<5	<5
Trichloroethylene	N/A	N/A	N/A	N/A	<1	<1
Trichlorofluoromethane	N/A	N/A	N/A	N/A	<1	<1
Vinyl Chloride	N/A	N/A	N/A	N/A	<1	<1

Notes:
ND = Not Detected
NT = Not Tested
N/A = Not Applicable

Weathervane Golf - Summary of Water Quality Data
MW-3

Sample Location:	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016
Pesticides-Water (ug/l)						
4,4'-DDD	ND	ND	ND	ND	<0.1	<0.05
4,4'-DDE	ND	ND	ND	ND	<0.1	<0.05
4,4'-DDT	ND	ND	ND	ND	<0.1	<0.05
Aldrin	ND	ND	ND	ND	<0.1	<0.05
alpha-BHC	ND	ND	ND	ND	<0.1	<0.05
beta-BHC	ND	ND	ND	ND	<0.1	<0.05
Chlordane	ND	ND	ND	ND	<0.5	<0.5
delta-BHC	ND	ND	ND	ND	<0.1	<0.05
Dieldrin	ND	ND	ND	ND	<0.1	<0.05
Endosulfan I	ND	ND	ND	ND	<0.1	<0.05
Endosulfan II	ND	ND	ND	ND	<0.1	<0.05
Endosulfan Sulfate	ND	ND	ND	ND	<0.1	<0.05
Endrin	ND	ND	ND	ND	<0.1	<0.05
Endrin Aldehyde	ND	ND	ND	ND	NT	NT
Endrin Ketone	ND	ND	ND	ND	<0.1	<0.05
gamma-BHC (Lindane)	ND	ND	ND	ND	<0.1	<0.02
Heptachlor	ND	ND	ND	ND	<0.1	<0.05
Heptachlor Epoxide	ND	ND	ND	ND	<0.1	<0.05
Hexachlorobenzene	NT	NT	NT	NT	<0.1	<0.05
Methoxychlor	ND	ND	ND	ND	<0.1	<0.05
Toxaphene	ND	ND	ND	ND	NT	NT
Chlorinated Herbicide-Water (ug/l)						
2,4,5-T	ND	ND	ND	ND	<1.1	<1.0
2,4,5-TP	ND	ND	ND	ND	<1.1	<1.0
2,4-D	ND	ND	ND	ND	<1.1	<1.0
2,4-DB	ND	ND	ND	ND	NT	NT
Dalapon	ND	ND	ND	ND	<1.1	<1.0
Dicamba	ND	ND	ND	ND	<1.1	<1.0
Dichloroprop	ND	ND	ND	ND	<1.1	<1.0
Dinoseb	ND	ND	ND	ND	<1.1	<1.0
Nitrogen/Orthophosphate (mg/l)						
Ammonia (as N)	0.680	1.3	1.34	2.33	1.8	1.1
Nitrate (asN)	0.150	ND	ND	ND	<0.25	<0.25
Nitrite (as N)	ND	ND	ND	ND	<0.25	<0.25
Nitrogen, Kjeldahl(TKN)	0.840	1.6	5.82	6.34	2.6	1.3
Ortho Phosphate	0.010	0.02	ND	ND	<0.09	<0.05
Priority Pollutant Metals (mg/l)						
Antimony	ND	ND	ND	ND	<0.002	<0.002
Arsenic	ND	ND	0.00749	0.0913	0.003	0.0015
Beryllium	ND	ND	ND	ND	<0.002	<0.001
Cadmium	ND	ND	ND	ND	<0.0001	<0.0001
Chromium	ND	ND	ND	ND	<0.050	<0.050
Copper	ND	ND	0.047	0.96	<0.010	<0.010
Lead	ND	ND	0.032	0.195	<0.001	<0.001
Mercury	ND	ND	0.000448	ND	<0.0005	<0.0005
Nickel	ND	ND	ND	ND	<0.050	<0.050
Selenium	ND	ND	ND	ND	<0.002	<0.002
Silver	ND	ND	ND	ND	<0.001	<0.001
Thallium	ND	ND	ND	ND	<0.001	<0.001
Zinc	ND	ND	ND	ND	<0.10	<0.10

Notes:
ND = Not Detected
NT = Not Tested
N/A = Not Applicable

Weathervane Golf - Summary of Water Quality Data
MW-3

Sample Location:	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016
Volatile Organic Compunds (ug/l)						
1,1,1,2-Tetrachloroethane	ND	ND	N/A	N/A	<1	<1
1,1,1-Trichloroethane	ND	ND	N/A	N/A	<1	<1
1,1,2,2-Tetrachlorethane	ND	ND	N/A	N/A	<1	<1
1,1,2-Trichloroethane	ND	ND	N/A	N/A	<1	<1
1,1-Dichloroethane	ND	ND	N/A	N/A	<1	<1
1,1-Dichloroethylene	ND	ND	N/A	N/A	<1	<1
1,1-Dichloropropene	ND	ND	N/A	N/A	<1	<1
1,2,3-Trichlorobenzene	ND	ND	N/A	N/A	<1	<1
1,2,3-Trichloropropane	ND	ND	N/A	N/A	<2	<2
1,2,4-Trichlorobenzene	ND	ND	N/A	N/A	<1	<1
1,2,4-Trimethylbenzene	ND	ND	N/A	N/A	<1	<1
1,2-Dibromo-3-Chloropropane	ND	ND	N/A	N/A	<2	<2
1,2-Dibromoethane	ND	ND	N/A	N/A	<1	<1
1,2-Dichlorobenzene	ND	ND	N/A	N/A	<1	<1
1,2-Dichloroethane	ND	ND	N/A	N/A	<1	<1
1,2-Dichloropropane	ND	ND	N/A	N/A	<1	<1
1,3,5-Trimethylbenzene	ND	ND	N/A	N/A	<1	<1
1,3-Dichlorobenzene	ND	ND	N/A	N/A	<1	<1
1,3-Dichloropropane	ND	ND	N/A	N/A	<1	<1
1,4-Dichlorobenzene	ND	ND	N/A	N/A	<1	<1
2,2-Dichloropropane	ND	ND	N/A	N/A	<1	<1
2-Butanone-(MEK)	ND	ND	N/A	N/A	<10	<10
2-Chloroethyl vinyl ether	ND	ND	N/A	N/A	NT	NT
2-Chlorotoluene	ND	ND	N/A	N/A	<1	<1
2-Hexanone	ND	ND	N/A	N/A	<10	<10
4-Chlorotoluene	ND	ND	N/A	N/A	<1	<1
4-Isopropyltoluene	ND	ND	N/A	N/A	NT	NT
4-Methyl-2-Pentanone (MIBK)	ND	ND	N/A	N/A	<10	<10
Acetone	ND	ND	N/A	N/A	<10	<10
Acrolein	ND	ND	N/A	N/A	NT	NT
Acrylonitrile	ND	ND	N/A	N/A	NT	NT
Benzene	ND	ND	N/A	N/A	<1	<1
Bromobenzene	ND	ND	N/A	N/A	<1	<1
Bromochloromethane	ND	ND	N/A	N/A	<1	<1
Bromodichlorormethane	ND	ND	N/A	N/A	<1	<1
Bromoform	ND	ND	N/A	N/A	<1	<1
Bromomethane	ND	ND	N/A	N/A	<10	<1
Carbon Disulfide	ND	ND	N/A	N/A	<5	<5
Carbon Tetrachloride	ND	ND	N/A	N/A	<1	<1
Chlorobenzene	ND	ND	N/A	N/A	<1	<1
Chloroethane	ND	ND	N/A	N/A	<5	<5
Chloroform	ND	ND	N/A	N/A	<1	<1
Chloromethane	ND	ND	N/A	N/A	<5	<5
cis-1,2-Dichloroethylene	ND	ND	N/A	N/A	<1	<1
cis-1,3-Dichloropropene	ND	ND	N/A	N/A	<0.4	<0.4
Dibromochloromethane	ND	ND	N/A	N/A	<1	<1
Dibromomethane	ND	ND	N/A	N/A	<2	<2
Dichlorodifluoromethane	ND	ND	N/A	N/A	<5	<5
Diethyl ether	N/A	N/A	N/A	N/A	<10	<10
Diisopropyl ether (DIPE)	N/A	N/A	N/A	N/A	<5	<5
1,4-Dioxane	N/A	N/A	N/A	N/A	<100	<100
Ethyl Tertiary Butyl Ether	N/A	N/A	N/A	N/A	<5	<5
Ethylbenzene	ND	ND	N/A	N/A	<1	<1
Hexachlorobutadiene	ND	ND	N/A	N/A	<0.5	<0.5
Isopropylbenzene	ND	ND	N/A	N/A	<1	<1
Iodomethane	ND	ND	N/A	N/A	NT	NT
M&P-Xylene	ND	ND	N/A	N/A	<2	<2
Methylene Chloride	ND	ND	N/A	N/A	<5	<5
Methyl-Tert-Butyl-Ether	ND	ND	N/A	N/A	<2	<2
Naphthalene	ND	ND	N/A	N/A	<1	<1
n-Butylbenzene	ND	ND	N/A	N/A	<1	<1
n-Propylbenzene	ND	ND	N/A	N/A	<1	<1
O-Xylene	ND	ND	N/A	N/A	<1	<1
p-Isopropyltoluene	N/A	N/A	N/A	N/A	<1	<1
sec-Butylbenzene	ND	ND	N/A	N/A	<1	<1
Styrene	ND	ND	N/A	N/A	<1	<1
tert-Butylbenzene	ND	ND	N/A	N/A	<1	<1
Tetrachloroethylene	ND	ND	N/A	N/A	<1	<1
Tetrahydrofuran	N/A	N/A	N/A	N/A	<10	<10
Toluene	ND	ND	N/A	N/A	<1	<1
trans-1,2-Dichloroethylene	ND	ND	N/A	N/A	<2	<2
trans-1,3-Dichloropropene	ND	ND	N/A	N/A	<0.4	<0.4
trans-1,4-Dichloro-2-butene	ND	ND	N/A	N/A	NT	NT
Tertiary Amyl Methyl Ether	N/A	N/A	N/A	N/A	<5	<5
Trichloroethylene	ND	ND	N/A	N/A	<1	<1
Trichlorofluoromethane	ND	ND	N/A	N/A	<1	<1
Vinyl Acetate	ND	ND	N/A	N/A	NT	NT
Vinyl Chloride	ND	ND	N/A	N/A	<1	<1

Notes:
ND = Not Detected
NT = Not Tested
N/A = Not Applicable

Weathervane Golf - Summary of Water Quality Data
MW-4

Sample Location:	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016
Pesticides-Water (ug/l)						
4,4'-DDD	ND	ND	ND	ND	<0.1	<0.05
4,4'-DDE	ND	ND	ND	ND	<0.1	<0.05
4,4'-DDT	ND	ND	ND	ND	<0.1	<0.05
Aldrin	ND	ND	ND	ND	<0.1	<0.05
alpha-BHC	ND	ND	ND	ND	<0.1	<0.05
beta-BHC	ND	ND	ND	ND	<0.1	<0.05
Chlordane	ND	ND	ND	ND	<0.5	<0.5
delta-BHC	ND	ND	ND	ND	<0.1	<0.05
Dieldrin	ND	ND	ND	ND	<0.1	<0.05
Endosulfan I	ND	ND	ND	ND	<0.1	<0.05
Endosulfan II	ND	ND	ND	ND	<0.1	<0.05
Endosulfan Sulfate	ND	ND	ND	ND	<0.1	<0.05
Endrin	ND	ND	ND	ND	<0.1	<0.05
Endrin Aldehyde	ND	ND	ND	ND	NT	NT
Endrin Ketone	ND	ND	ND	ND	<0.1	<0.05
gamma-BHC (Lindane)	ND	ND	ND	ND	<0.1	<0.02
Heptachlor	ND	ND	ND	ND	<0.1	<0.05
Heptachlor Epoxide	ND	ND	ND	ND	<0.1	<0.05
Hexachlorobenzene	NT	NT	NT	NT	<0.1	<0.05
Methoxychlor	ND	ND	ND	ND	<0.1	<0.05
Toxaphene	ND	ND	ND	ND	NT	NT
Chlorinated Herbicide-Water (ug/l)						
2,4,5-T	ND	ND	ND	ND	<1.1	<1.0
2,4,5-TP	ND	ND	ND	ND	<1.1	<1.0
2,4-D	ND	ND	ND	ND	<1.1	<1.0
2,4-DB	ND	ND	ND	ND	NT	NT
Dalapon	ND	ND	ND	ND	<1.1	<1.0
Dicamba	ND	ND	ND	ND	<1.1	<1.0
Dichloroprop	ND	ND	ND	ND	<1.1	<1.0
Dinoseb	ND	ND	ND	ND	<1.1	<1.0
Nitrogen/Orthophosphate (mg/l)						
Ammonia (as N)	1.500	0.75	1.23	4.31	1.2	1.7
Nitrate (asN)	ND	0.34	ND	ND	<0.25	<0.25
Nitrite (as N)	ND	ND	ND	ND	<0.25	<0.25
Nitrogen, Kjeldahl(TKN)	1.900	0.95	1.98	8.16	1.5	2.2
Ortho Phosphate	0.020	ND	ND	ND	<0.05	<0.05
Priority Pollutant Metals (mg/l)						
Antimony	ND	ND	0.0081	ND	<0.002	<0.002
Arsenic	ND	0.0132	0.0308	0.0179	0.002	0.0019
Beryllium	ND	ND	ND	ND	<0.002	<0.001
Cadmium	ND	ND	ND	ND	0.0002	0.0013
Chromium	ND	ND	ND	ND	<0.050	<0.050
Copper	ND	ND	0.109	ND	<0.010	<0.010
Lead	ND	ND	0.029	0.135	<0.001	<0.001
Mercury	ND	ND	0.000333	ND	<0.0005	<0.0005
Nickel	ND	ND	ND	ND	<0.050	<0.050
Selenium	ND	ND	ND	ND	<0.002	0.0027
Silver	ND	ND	ND	ND	<0.001	<0.001
Thallium	ND	ND	ND	ND	<0.001	<0.001
Zinc	ND	ND	ND	ND	<0.10	<0.10

Notes:
ND = Not Detected
NT = Not Tested
N/A = Not Applicable

Weathervane Golf - Summary of Water Quality Data
MW-4

Sample Location:	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016
Volatile Organic Compunds (ug/l)						
1,1,1,2-Tetrachloroethane	N/A	N/A	N/A	N/A	<1	<1
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	<1	<1
1,1,2,2-Tetrachlorethane	N/A	N/A	N/A	N/A	<1	<1
1,1,2-Trichloroethane	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloroethane	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloroethylene	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloropropene	N/A	N/A	N/A	N/A	<1	<1
1,2,3-Trichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
1,2,3-Trichloropropane	N/A	N/A	N/A	N/A	<2	<2
1,2,4-Trichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	<1	<1
1,2-Dibromo-3-Chloropropane	N/A	N/A	N/A	N/A	<2	<2
1,2-Dibromoethane	N/A	N/A	N/A	N/A	<1	<1
1,2-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
1,2-Dichloroethane	N/A	N/A	N/A	N/A	<1	<1
1,2-Dichloropropane	N/A	N/A	N/A	N/A	<1	<1
1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	<1	<1
1,3-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
1,3-Dichloropropane	N/A	N/A	N/A	N/A	<1	<1
1,4-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
2,2-Dichloropropane	N/A	N/A	N/A	N/A	<1	<1
2-Butanone-(MEK)	N/A	N/A	N/A	N/A	<10	<10
2-Chlorotoluene	N/A	N/A	N/A	N/A	<1	<1
2-Hexanone	N/A	N/A	N/A	N/A	<10	<10
4-Chlorotoluene	N/A	N/A	N/A	N/A	<1	<1
4-Methyl-2-Pentanone (MIBK)	N/A	N/A	N/A	N/A	<10	<10
Acetone	N/A	N/A	N/A	N/A	<10	<10
Benzene	N/A	N/A	N/A	N/A	<1	<1
Bromobenzene	N/A	N/A	N/A	N/A	<1	<1
Bromochloromethane	N/A	N/A	N/A	N/A	<1	<1
Bromodichlorormethane	N/A	N/A	N/A	N/A	<1	<1
Bromoform	N/A	N/A	N/A	N/A	<1	<1
Bromomethane	N/A	N/A	N/A	N/A	<1	<1
Carbon Disulfide	N/A	N/A	N/A	N/A	<5	<5
Carbon Tetrachloride	N/A	N/A	N/A	N/A	<1	<1
Chlorobenzene	N/A	N/A	N/A	N/A	<1	<1
Chloroethane	N/A	N/A	N/A	N/A	<5	<5
Chloroform	N/A	N/A	N/A	N/A	<1	<1
Chloromethane	N/A	N/A	N/A	N/A	<5	<5
cis-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	<1	<1
cis-1,3-Dichloropropene	N/A	N/A	N/A	N/A	<0.4	<0.4
Dibromochloromethane	N/A	N/A	N/A	N/A	<1	<1
Dibromomethane	N/A	N/A	N/A	N/A	<2	<2
Dichlorodifluoromethane	N/A	N/A	N/A	N/A	<5	<5
Diethyl Ether	N/A	N/A	N/A	N/A	<10	<10
Diisopropyl ether (DIPE)	N/A	N/A	N/A	N/A	<5	<5
1,4-Dioxane	N/A	N/A	N/A	N/A	<100	<100
Ethyl Tertiary Butyl Ether	N/A	N/A	N/A	N/A	<5	<5
Ethylbenzene	N/A	N/A	N/A	N/A	<1	<1
Hexachlorobutadiene	N/A	N/A	N/A	N/A	<0.5	<0.5
Isopropylbenzene	N/A	N/A	N/A	N/A	<1	<1
M&P-Xylene	N/A	N/A	N/A	N/A	<2	<2
Methylene Chloride	N/A	N/A	N/A	N/A	<5	<5
Methyl-Tert-Butyl-Ether	N/A	N/A	N/A	N/A	<2	<2
Naphthalene	N/A	N/A	N/A	N/A	<1	<1
n-Butylbenzene	N/A	N/A	N/A	N/A	<1	<1
n-Propylbenzene	N/A	N/A	N/A	N/A	<1	<1
O-Xylene	N/A	N/A	N/A	N/A	<1	<1
sec-Butylbenzene	N/A	N/A	N/A	N/A	<1	<1
Styrene	N/A	N/A	N/A	N/A	<1	<1
tert-Butylbenzene	N/A	N/A	N/A	N/A	<1	<1
Tetrachloroethylene	N/A	N/A	N/A	N/A	<1	<1
Toluene	N/A	N/A	N/A	N/A	<1	<1
trans-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	<2	<2
trans-1,3-Dichloropropene	N/A	N/A	N/A	N/A	<0.4	<0.4
Tertiary Amyl Methyl Ether	N/A	N/A	N/A	N/A	<5	<5
Trichloroethylene	N/A	N/A	N/A	N/A	<1	<1
Trichlorofluoromethane	N/A	N/A	N/A	N/A	<1	<1
Vinyl Chloride	N/A	N/A	N/A	N/A	<1	<1

Notes:
ND = Not Detected
NT = Not Tested
N/A = Not Applicable

Weathervane Golf - Summary of Water Quality Data
MW-5

Sample Location:	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016
Pesticides-Water (ug/l)						
4,4'-DDD	ND	ND	ND	ND	<0.1	<0.05
4,4'-DDE	ND	ND	ND	ND	<0.1	<0.05
4,4'-DDT	ND	ND	ND	ND	<0.1	<0.05
Aldrin	ND	ND	ND	ND	<0.1	<0.05
alpha-BHC	ND	ND	ND	ND	<0.1	<0.05
beta-BHC	ND	ND	ND	ND	<0.1	<0.05
Chlordane	ND	ND	ND	ND	<0.5	<0.5
delta-BHC	ND	ND	ND	ND	<0.1	<0.05
Dieldrin	ND	ND	ND	ND	<0.1	<0.05
Endosulfan I	ND	ND	ND	ND	<0.1	<0.05
Endosulfan II	ND	ND	ND	ND	<0.1	<0.05
Endosulfan Sulfate	ND	ND	ND	ND	<0.1	<0.05
Endrin	ND	ND	ND	ND	<0.1	<0.05
Endrin Aldehyde	ND	ND	ND	ND	NT	NT
Endrin Ketone	ND	ND	ND	ND	<0.1	<0.05
gamma-BHC (Lindane)	ND	ND	ND	ND	<0.1	<0.02
Heptachlor	ND	ND	ND	ND	<0.1	<0.05
Heptachlor Epoxide	ND	ND	ND	ND	<0.1	<0.05
Hexachlorobenzene	NT	NT	NT	NT	<0.1	<0.05
Methoxychlor	ND	ND	ND	ND	<0.1	<0.05
Toxaphene	ND	ND	ND	ND	NT	NT
Chlorinated Herbicide-Water (ug/l)						
2,4,5-T	ND	ND	ND	ND	<1.0	<1.0
2,4,5-TP	ND	ND	ND	ND	<1.0	<1.0
2,4-D	ND	ND	ND	ND	<1.0	<1.0
2,4-DB	ND	ND	ND	ND	NT	NT
Dalapon	ND	ND	ND	ND	<1.0	<1.0
Dicamba	ND	ND	ND	ND	<1.0	<1.0
Dichloroprop	ND	ND	ND	ND	<1.0	<1.0
Dinoseb	ND	ND	ND	ND	<1.0	<1.0
Nitrogen/Orthophosphate (mg/l)						
Ammonia (as N)	ND	0.04	0.218	4.46	<0.1	<0.20
Nitrate (asN)	0.930	0.93	1.63	ND	0.98	0.78
Nitrite (as N)	0.010	ND	ND	ND	<0.25	<0.25
Nitrogen, Kjeldahl(TKN)	0.250	0.59	3.73	9.31	<0.50	<0.5
Ortho Phosphate	N/A	N/A	N/A	N/A	<0.05	<0.05
Priority Pollutant Metals (mg/l)						
Antimony	ND	ND	ND	ND	<0.002	<0.002
Arsenic	ND	0.0123	0.0309	0.0218	<0.001	<0.001
Beryllium	ND	ND	ND	ND	<0.002	<0.001
Cadmium	ND	ND	ND	ND	0.0001	<0.0001
Chromium	ND	ND	ND	ND	<0.050	<0.050
Copper	ND	ND	0.073	0.2	<0.010	<0.010
Lead	ND	ND	0.063	0.155	<0.001	<0.001
Mercury	ND	ND	0.000242	0.000387	<0.0005	<0.0005
Nickel	ND	ND	ND	ND	<0.050	<0.050
Selenium	ND	ND	ND	ND	<0.002	<0.002
Silver	ND	ND	ND	ND	<0.001	<0.001
Thallium	ND	ND	ND	ND	<0.001	<0.001
Zinc	ND	ND	ND	ND	<0.10	<0.10

Notes:
ND = Not Detected
NT = Not Tested
N/A = Not Applicable

Weathervane Golf - Summary of Water Quality Data
MW-5

Sample Location:	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016
Volatile Organic Compunds (ug/l)						
1,1,1,2-Tetrachloroethane	N/A	N/A	N/A	N/A	<1	<1
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	<1	<1
1,1,2,2-Tetrachlorethane	N/A	N/A	N/A	N/A	<1	<1
1,1,2-Trichloroethane	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloroethane	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloroethylene	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloropropene	N/A	N/A	N/A	N/A	<1	<1
1,2,3-Trichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
1,2,3-Trichloropropane	N/A	N/A	N/A	N/A	<2	<2
1,2,4-Trichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	<1	<1
1,2-Dibromo-3-Chloropropane	N/A	N/A	N/A	N/A	<2	<2
1,2-Dibromoethane	N/A	N/A	N/A	N/A	<1	<1
1,2-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
1,2-Dichloroethane	N/A	N/A	N/A	N/A	<1	<1
1,2-Dichloropropane	N/A	N/A	N/A	N/A	<1	<1
1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	<1	<1
1,3-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
1,3-Dichloropropane	N/A	N/A	N/A	N/A	<1	<1
1,4-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	<1
2,2-Dichloropropane	N/A	N/A	N/A	N/A	<1	<1
2-Butanone-(MEK)	N/A	N/A	N/A	N/A	<10	<10
2-Chlorotoluene	N/A	N/A	N/A	N/A	<1	<1
2-Hexanone	N/A	N/A	N/A	N/A	<10	<10
4-Chlorotoluene	N/A	N/A	N/A	N/A	<1	<1
4-Methyl-2-Pentanone (MIBK)	N/A	N/A	N/A	N/A	<10	<10
Acetone	N/A	N/A	N/A	N/A	<10	<10
Benzene	N/A	N/A	N/A	N/A	<1	<1
Bromobenzene	N/A	N/A	N/A	N/A	<1	<1
Bromochloromethane	N/A	N/A	N/A	N/A	<1	<1
Bromodichlorormethane	N/A	N/A	N/A	N/A	<1	<1
Bromoform	N/A	N/A	N/A	N/A	<1	<1
Bromomethane	N/A	N/A	N/A	N/A	<1	<1
Carbon Disulfide	N/A	N/A	N/A	N/A	<5	<5
Carbon Tetrachloride	N/A	N/A	N/A	N/A	<1	<1
Chlorobenzene	N/A	N/A	N/A	N/A	<1	<1
Chloroethane	N/A	N/A	N/A	N/A	<5	<5
Chloroform	N/A	N/A	N/A	N/A	<1	<1
Chloromethane	N/A	N/A	N/A	N/A	<5	<5
cis-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	<1	<1
cis-1,3-Dichloropropene	N/A	N/A	N/A	N/A	<0.4	<0.4
Dibromochloromethane	N/A	N/A	N/A	N/A	<1	<1
Dibromomethane	N/A	N/A	N/A	N/A	<2	<2
Dichlorodifluoromethane	N/A	N/A	N/A	N/A	<5	<5
Diethyl ether	N/A	N/A	N/A	N/A	<10	<10
Diisopropyl ether (DIPE)	N/A	N/A	N/A	N/A	<5	<5
1,4-Dioxane	N/A	N/A	N/A	N/A	<100	<100
Ethyl Tertiary Butyl Ether	N/A	N/A	N/A	N/A	<5	<5
Ethylbenzene	N/A	N/A	N/A	N/A	<1	<1
Hexachlorobutadiene	N/A	N/A	N/A	N/A	<0.5	<0.5
Isopropylbenzene	N/A	N/A	N/A	N/A	<1	<1
M&P-Xylene	N/A	N/A	N/A	N/A	<2	<2
Methylene Chloride	N/A	N/A	N/A	N/A	<5	<5
Methyl-Tert-Butyl-Ether	N/A	N/A	N/A	N/A	<2	<2
Naphthalene	N/A	N/A	N/A	N/A	<1	<1
n-Butylbenzene	N/A	N/A	N/A	N/A	<1	<1
n-Propylbenzene	N/A	N/A	N/A	N/A	<1	<1
O-Xylene	N/A	N/A	N/A	N/A	<1	<1
p-isopropyltoluene	N/A	N/A	N/A	N/A	<1	<1
sec-Butylbenzene	N/A	N/A	N/A	N/A	<1	<1
Styrene	N/A	N/A	N/A	N/A	<1	<1
tert-Butylbenzene	N/A	N/A	N/A	N/A	<1	<1
Tetrachloroethylene	N/A	N/A	N/A	N/A	<1	<1
Tetrahydrofuran	N/A	N/A	N/A	N/A	<10	<10
Toluene	N/A	N/A	N/A	N/A	<1	<1
trans-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	<2	<2
trans-1,3-Dichloropropene	N/A	N/A	N/A	N/A	<0.4	<0.4
Tertiary Amyl Methyl Ether	N/A	N/A	N/A	N/A	<5	<5
Trichloroethylene	N/A	N/A	N/A	N/A	<1	<1
Trichlorofluoromethane	N/A	N/A	N/A	N/A	<1	<1
Vinyl Chloride	N/A	N/A	N/A	N/A	<1	<1

Notes:
ND = Not Detected
NT = Not Tested
N/A = Not Applicable

Weathervane Golf - Summary of Water Quality Data
SW-2

Sample Location:	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2
Date:	4/24/2006	8/17/2006	5/27/2010	11/11/2010	6/17/2011	10/31/2011	8/3/2012	11/5/2012	4/9/2013	11/4/2013	4/27/2016	10/25/2016
Pesticides-Water (ug/l)												
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.05
4,4'-DDE	ND	ND	ND	ND	ND	ND	0.0322	ND	ND	ND	<0.1	<0.05
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	0.0578	0.0344	ND	<0.1	<0.05
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.05
alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.05
beta-BHC	ND	ND	ND	ND	ND	ND	0.0692	ND	ND	ND	<0.1	<0.05
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5
delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.05
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.05
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.05
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.05
Endosulfan Sulfate	ND	ND	ND	ND	ND	ND	0.0822	ND	ND	ND	<0.1	<0.05
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.05
Endrin Aldehyde	ND	ND	ND	ND	ND	ND	0.117	ND	ND	ND	NT	NT
Endrin Ketone	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	<0.1	<0.05
gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.02
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.05
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.05
Hexachlorobenzene	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.1	<0.05
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	0.0522	ND	ND	<0.1	<0.05
Toxaphene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT
Chlorinated Herbicide-Water (ug/l)												
2,4,5-T	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<1.0
2,4,5-TP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<1.0
2,4-D	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<1.0
2,4-DB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT
Dalapon	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<1.0
Dicamba	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<1.0
Dichloroprop	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<1.0
Dinoseb	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<1.0
Nitrogen/Orthophosphate (mg/l)												
Ammonia (as N)	0.070	0.05	0.29	0.15	0.359	0.211	0.216	0.419	0.232	0.46	0.31	0.21
Nitrate (asN)	0.220	ND	0.12	0.19	0.14	0.25	0.15	ND	1.24	ND	0.46	<0.25
Nitrite (as N)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.25	<0.25
Nitrogen, Kjeldahl(TKN)	0.480	0.61	1.1	0.51	0.78	0.601	0.96	0.97	0.647	1.7	<0.50	<0.5
Ortho Phosphate	ND	0.01	ND	ND	ND	0.01	0.63	0.06	ND	ND	<0.05	<0.05
Priority Pollutant Metals (mg/l)												
Antimony	ND	ND	ND	ND	0.00107	ND	ND	ND	ND	ND	<0.002	<0.002
Arsenic	ND	ND	ND	ND	ND	0.00509	ND	0.00102	ND	ND	<0.001	<0.001
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.002	<0.001
Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.0001	<0.0001
Chromium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.050	<0.050
Copper	ND	ND	0.001	0.002	ND	ND	ND	ND	ND	ND	<0.010	<0.010
Lead	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.001	<0.001
Mercury	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.0005	<0.0005
Nickel	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.050	<0.050
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.002	<0.002
Silver	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.001	<0.001
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.001	<0.001
Zinc	ND	ND	0.002	0.006	ND	ND	ND	ND	ND	ND	<0.10	<0.10

Notes:
ND = Not Detected
NT = Not Tested
N/A = Not Applicable

Weathervane Golf - Summary of Water Quality Data
SW-2

Sample Location:	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2
Date:	4/24/2006	8/17/2006	5/27/2010	11/11/2010	6/17/2011	10/31/2011	8/3/2012	11/5/2012	4/9/2013	11/4/2013	4/27/2016	10/25/2016
Volatile Organic Compunds (ug/l)												
1,1,1,2-Tetrachloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,1,2,2-Tetrachlorethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,1,2-Trichloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloropropene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,2,3-Trichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,2,3-Trichloropropane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	<2
1,2,4-Trichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,2-Dibromo-3-Chloropropane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	<2
1,2-Dibromoethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,2-Dichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,2-Dichloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,2-Dichloropropane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,3-Dichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,3-Dichloropropane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,4-Dichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
2,2-Dichloropropane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
2-Butanone-(MEK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10	<10
2-Chlorotoluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
2-Hexanone	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10	<10
4-Chlorotoluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
4-Methyl-2-Pentanone (MIBK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10	<10
Acetone	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10	<10
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Bromobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Bromochloromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Bromodichlorormethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Bromoform	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Bromomethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Carbon Disulfide	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	<5
Carbon Tetrachloride	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Chlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Chloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	<5
Chloroform	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Chloromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	<5
cis-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
cis-1,3-Dichloropropene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.4	<0.4
Dibromochloromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Dibromomethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	<2
Dichlorodifluoromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	<5
Diethyl ether	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10	<10
Diisopropyl ether (DIPE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	<5
1,4-Dioxane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<100	<100
Ethyl Tertiary Butyl Ether	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	<5
Ethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Hexachlorobutadiene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.5	<0.5
Isopropylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Iodomethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	NT
M&P-Xylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	<2
Methylene Chloride	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	<5
Methyl-Tert-Butyl-Ether	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	<2
Naphthalene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
n-Butylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
n-Propylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
O-Xylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
p-Isopropyltoluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
sec-Butylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Styrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
tert-Butylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Tetrachloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Tetrahydrofuran	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10	<10
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
trans-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	<2
trans-1,3-Dichloropropene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.4	<0.4
Tertiary Amyl Methyl Ether	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	<5
Trichloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Trichlorofluoromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Vinyl Chloride	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1

Notes:
ND = Not Detected
NT = Not Tested
N/A = Not Applicable

APPENDIX A

Groundwater & Surface Water Monitoring Locations Plan

NOTES:
1. ESTABLISHMENT OF GOLF HOLES WILL INCLUDE MINOR SITE GRADING, SURFICIAL ROCK REMOVAL, TREE CLEARING (ONLY AS NEEDED) PLACEMENT OF TOPSOIL AND TURF ESTABLISHMENT.
2. GOLF HOLES WILL CONFORM TO EXISTING TOPOGRAPHY TO THE EXTENT POSSIBLE TO MINIMIZE THE AMOUNT OF GRADING REQUIRED.
3. WORK WITHIN THE UNIT 31 PARCEL WILL BE RESTRICTED TO OUTSIDE THE 25'-NO DISTURB ZONE. ALL STORMWATER WILL DRAIN FROM THE SITE BY SHEET FLOW.

LEGEND:
- MW — GROUNDWATER MONITORING WELL
- SWM — SURFACE WATER MONITORING WELL
- SURFACE WATER FLOW DIRECTION

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PROJECT
WEATHERVANE GOLF COURSE
THE VILLAGE AT WEATHERVANE
WEYMOUTH, MA

OWNER
WEATHERVANE DEVELOPMENT
221 RALPH TALBOT STREET
WEYMOUTH, MA 02190

REVISIONS

NO.	DATE	DESCRIPTION
1	1-11-06	ADDED IRRIGATION WELL & MODIFIED SW LOCATIONS

CADD FILE	..._03GCLAYOUT
DESIGNED BY	TMH
DRAWN BY	CAB
CHECKED BY	TMH
DATE	10-18-05
DRAWING SCALE	1"=120'
GRAPHIC SCALE	

SHEET TITLE

GROUNDWATER & SURFACE WATER MONITORING LOCATIONS

DRAWING NO.

PROJECT NO. 711330

APPENDIX B

Analytical Laboratory Reports

LABORATORY REPORT

CHA Consulting, Inc.
Attn: Mr. William Hoyerman
101 Accord Park Drive
Norwell, MA 02061

Date Received: 10/26/16
Date Reported: 11/1/16
P.O. #:

Work Order #: 1610-25326
DESCRIPTION: PROJECT# 31541 WEATHERVANE GOLF COURSE

Enclosed are the analytical results and Chain of Custody for your project referenced above. The sample(s) were analyzed by our Warwick, RI laboratory . When applicable, subcontracted results are noted and reports are enclosed in their entirety.

All samples were analyzed within the established guidelines of US EPA and Massachusetts Contingency Plan (MCP) approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results or in a case narrative.

The Detection Limit is defined as the lowest level that can be reliably achieved during routine laboratory conditions.

These results only pertain to the samples submitted for this Work Order # and this report shall not be reproduced except in its entirety.

We certify that the following results are true and accurate to the best of our knowledge. If you have questions or need further assistance, please contact our Customer Service Department.

Approved by:

Sharon Baker

Laboratory Certification Numbers (as applicable to sample's origin state):
RI LAI00033, MA M-RI015, CT PH-0508, ME RI00015, NH 2070, NY 11726

Customer Name : CHA Consulting, Inc.

Work Order #: 1610-25326

MassDEP Analytical Protocol Certification Form

Laboratory Name: R.I. Analytical Laboratories Work Order #: 1610-25326
Project / Location: PROJECT# 31541 WEATHERVANE GOLF COURSE RTN :

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):

1610-25326-001 through 1610-25326-005

Matrices: [X] Groundwater/Surface Water [ ] Soil / Sediment [ ] Drinking Water [ ] Air [ ] Other

CAM Protocol (check all that apply below):

8260 VOC CAM II A [x]	7470/7471 Hg CAM III B [x]	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM III B	7010 Metals CAM III C	Mass DEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives	TO-15 VOC CAM IX B
6010 Metals CAM III A	6020 Metals CAM III D [x]	8082 PCB CAM V A	9014 Total Cn	6860 Perchlorate CAM VIII B	

Affirmative responses to Questions A through F are required for "Presumptive Certainty" status

A Were all samples received in a condition consistent with those described on the Chain -of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes
B Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes
C Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes
D Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for Acquisition and Reporting of Analytical Data?	Yes
E a. VPH, EPH and APH methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes

Responses to Questions G,H,I below are required for "Presumptive Certainty " status

G Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.	No [1]
H Were **all** QC performance standards specified in the CAM protocol(s) achieved?	No [1]
I Were results reported for the complete analyted list specified in the selected CAM protocol(s)?	No [1]

1 All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature: Yihai Ding Position: Technical Director

Printed Name: Yihai Ding Date: 11/2/10

Case Narrative

Date: 11/1/2016

CHA Consulting, Inc.
Attn: Mr. William Hoyerman

101 Accord Park Drive
Norwell, MA 02061

Project: PROJECT# 31541 WEATHERVANE GOLF COURSE

Work Order #: 1610-25326

The following exceptions were noted for this Work Order:

All samples were field filtered by the client except pesticides and herbicides.

The methods requested for OrthoPhosphate, Nitrate,Dissolved (as N), Dissolved Ammonia (as N), and Dissolved TKN (as N) are not listed in the table of contents for compendium of MCP analytical methods. Therefore, there is no guideline for presumptive certainty.

Pesticides by 8081

Question H - Sample -001(MW-1): Sample had failure of surrogate DCB due to matrix interference. Sample was run in duplicate and also exhibited the failure of DCB.

Volatile Organics by 8260

Question G - MCP GW-1 limits were not met for 1,2-Dibromoethane and 1,4-Dioxane due to method limitations.

Question H - The Laboratory Control Sample / Laboratory Control Sample Duplicate (10/27/16) had analytes recover outside the 70%-130% QC acceptance limits. Up to 10% of the analytes are allowed to recover outside of QC limits. The specific outliers include 2-Butanone(MEK) (132%, 138%). This analyte was not detected in the associated samples.

Dissolved Metals by 6010, 6020

Question I - Per the client's request, only a subset of the MCP analyte list for SW-846 Method 6010 Dissolved Metals is reported.

There were no additional exceptions or analytical issues to discuss concerning the testing requirements for the project.

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 001
Sample Description: MW-1
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 11:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
OrthoPhosphate	<0.05	0.05	mg/l	SM4500P-E 18-21ed	10/26/16	23:50	DET
Nitrate,Dissolved (as N)	0.91	0.05	mg/l	EPA 300.0	10/27/16	8:22	JJG
Dissolved Ammonia (as N)	<0.20	0.20	mg/l	EPA 350.2	10/31/16	15:30	NJJ
Dissolved TKN (as N)	<0.5	0.5	mg/l	EPA 351.3	10/27/16	22:17	APD
Herbicides							
2,4 -D	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:04	JEB
2,4,5 -TP (Silvex)	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:04	JEB
2,4,5 -T	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:04	JEB
Dalapon	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:04	JEB
Dicamba	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:04	JEB
Dichloroprop	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:04	JEB
Dinoseb	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:04	JEB
Surrogate			RANGE	SW-846 8151A Mod.	10/28/16	13:04	JEB
DCAA	83		30-150%	SW-846 8151A Mod	10/28/16	13:04	JEB
Extraction date	Extracted			SW-846 3510C	10/27/16	8:25	AK
Pesticides							
Aldrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
Alpha-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
Beta-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
Delta-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
Gamma-BHC	<0.02	0.02	ug/l	SW-846 8081	10/28/16	19:22	JBW
Chlordane	<0.5	0.5	ug/l	SW-846 8081	10/28/16	19:22	JBW
4-4'-DDD	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
4-4'-DDE	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
4-4'-DDT	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
Dieldrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
Endosulfan I	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
Endosulfan II	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
Endosulfan Sulfate	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
Endrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
Endrin Ketone	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
Heptachlor	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
Heptachlor epoxide	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
Hexachlorobenzene	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 001
Sample Description: MW-1
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 11:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Methoxychlor	<0.05	0.05	ug/l	SW-846 8081	10/28/16	19:22	JBW
Surrogate			RANGE	SW-846 8081B	10/28/16	19:22	JBW
Tetrachloro-m-xylene (TCMX)	70		30-150%	SW-846 8081B	10/28/16	19:22	JBW
Decachlorobiphenyl	23*		30-150%	SW-846 8081B	10/28/16	19:22	JBW
Volatile Organic Compounds							
Acetone	<10	10	ug/l	SW-846 8260C	10/27/16	16:02	WL
Tertiary Amyl Methyl Ether	<5	5	ug/l	SW-846 8260C	10/27/16	16:02	WL
Benzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Bromobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Bromochloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Bromoform	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Bromomethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Carbon Disulfide	<5	5	ug/l	SW-846 8260C	10/27/16	16:02	WL
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Chlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Chloroethane	<5	5	ug/l	SW-846 8260C	10/27/16	16:02	WL
Chloroform	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Chloromethane	<5	5	ug/l	SW-846 8260C	10/27/16	16:02	WL
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Dibromomethane	<2	2	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 001
Sample Description: MW-1
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 11:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
trans-1,2-Dichloroethylene	<2	2	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	10/27/16	16:02	WL
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	10/27/16	16:02	WL
Diethyl ether	<10	10	ug/l	SW-846 8260C	10/27/16	16:02	WL
Diisopropyl ether (DIPE)	<5	5	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,4-Dioxane	<100	100	ug/l	SW-846 8260C	10/27/16	16:02	WL
Ethyl Tertiary Butyl Ether	<5	5	ug/l	SW-846 8260C	10/27/16	16:02	WL
Ethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Hexachlorobutadiene	<0.5	0.5	ug/l	SW-846 8260C	10/27/16	16:02	WL
2-Hexanone	<10	10	ug/l	SW-846 8260C	10/27/16	16:02	WL
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	10/27/16	16:02	WL
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	10/27/16	16:02	WL
MTBE	<2	2	ug/l	SW-846 8260C	10/27/16	16:02	WL
Methylene Chloride	<5	5	ug/l	SW-846 8260C	10/27/16	16:02	WL
Naphthalene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Styrene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Tetrahydrofuran	<10	10	ug/l	SW-846 8260C	10/27/16	16:02	WL
Toluene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Trichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 001
Sample Description: MW-1
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 11:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
o-Xylene	<1	1	ug/l	SW-846 8260C	10/27/16	16:02	WL
m,p-Xylene	<2	2	ug/l	SW-846 8260C	10/27/16	16:02	WL
Surrogates			RANGE				
Dibromofluoromethane	103		86-118%	SW-846 8260C	10/27/16	16:02	WL
Toluene-d8	104		88-110%	SW-846 8260C	10/27/16	16:02	WL
4-Bromofluorobenzene	98		86-115%	SW-846 8260C	10/27/16	16:02	WL
1,2 Dichloroethane-d4	105		80-120%	SW-846 8260C	10/27/16	16:02	WL
Dissolved Metals Analyzed by ICPMS							
Antimony	<0.002	0.002	mg/l	SW-846 6020A	10/31/16	15:23	JRW
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:23	JRW
Beryllium	<0.001	0.000002	mg/l	SW-846 6020A	10/31/16	15:23	JRW
Cadmium	0.00027	0.0001	mg/l	SW-846 6020A	10/31/16	15:23	JRW
Lead	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:23	JRW
Selenium	<0.002	0.002	mg/l	SW-846 6020A	10/31/16	15:23	JRW
Silver	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:23	JRW
Thallium	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:23	JRW
Dissolved Metals							
Chromium	<0.050	0.050	mg/l	SW-846 6010C	10/31/16	21:07	RBR
Copper	<0.010	0.010	mg/l	SW-846 6010C	10/31/16	21:07	RBR
Mercury	<0.0005	0.0005	mg/l	SW-846 7470A	10/28/16	20:54	RAT
Nickel	<0.050	0.050	mg/l	SW-846 6010C	10/31/16	21:07	RBR
Zinc	<0.10	0.10	mg/l	SW-846 6010C	10/31/16	21:07	RBR
ICPMS Digestion (Dissolved)				SW-846 3020A	10/31/16	14:03	JRW
ICP Digestion (Dissolved)	Digested			SW-846 3010A	10/31/16	14:04	JRW
Mercury Digestion (Dissolved)	Digested			SW-846 7470A	10/28/16	20:06	MYE

The orthophosphate sample was field filtered by the client.

PEST * = Sample 25326-1 had failure of surrogate DCB due to matrix interference. Sample was run in duplicate and also exhibited the failure of DCB.

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 002
Sample Description: MW-3
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 13:20

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
OrthoPhosphate	<0.05	0.05	mg/l	SM4500P-E 18-21ed	10/26/16	23:50	DET
Nitrate,Dissolved (as N)	<0.25	0.05	mg/l	EPA 300.0	10/27/16	8:37	JJG
Dissolved Ammonia (as N)	1.1	0.20	mg/l	EPA 350.2	10/31/16	15:30	NJJ
Dissolved TKN (as N)	1.3	0.5	mg/l	EPA 351.3	10/28/16	8:30	APD
Herbicides							
2,4 -D	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:25	JEB
2,4,5 -TP (Silvex)	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:25	JEB
2,4,5 -T	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:25	JEB
Dalapon	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:25	JEB
Dicamba	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:25	JEB
Dichloroprop	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:25	JEB
Dinoseb	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:25	JEB
Surrogate			RANGE	SW-846 8151A Mod.	10/28/16	13:25	JEB
DCAA	88		30-150%	SW-846 8151A Mod	10/28/16	13:25	JEB
Extraction date	Extracted			SW-846 3510C	10/27/16	8:25	AK
Pesticides							
Aldrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
Alpha-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
Beta-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
Delta-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
Gamma-BHC	<0.02	0.02	ug/l	SW-846 8081	10/28/16	20:36	JBW
Chlordane	<0.5	0.5	ug/l	SW-846 8081	10/28/16	20:36	JBW
4-4'-DDD	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
4-4'-DDE	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
4-4'-DDT	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
Dieldrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
Endosulfan I	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
Endosulfan II	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
Endosulfan Sulfate	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
Endrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
Endrin Ketone	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
Heptachlor	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
Heptachlor epoxide	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
Hexachlorobenzene	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 002
Sample Description: MW-3
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 13:20

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Methoxychlor	<0.05	0.05	ug/l	SW-846 8081	10/28/16	20:36	JBW
Surrogate			RANGE	SW-846 8081B	10/28/16	20:36	JBW
Tetrachloro-m-xylene (TCMX)	76		30-150%	SW-846 8081B	10/28/16	20:36	JBW
Decachlorobiphenyl	60		30-150%	SW-846 8081B	10/28/16	20:36	JBW
Volatile Organic Compounds							
Acetone	<10	10	ug/l	SW-846 8260C	10/27/16	16:29	WL
Tertiary Amyl Methyl Ether	<5	5	ug/l	SW-846 8260C	10/27/16	16:29	WL
Benzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Bromobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Bromochloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Bromoform	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Bromomethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Carbon Disulfide	<5	5	ug/l	SW-846 8260C	10/27/16	16:29	WL
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Chlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Chloroethane	<5	5	ug/l	SW-846 8260C	10/27/16	16:29	WL
Chloroform	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Chloromethane	<5	5	ug/l	SW-846 8260C	10/27/16	16:29	WL
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Dibromomethane	<2	2	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 002
Sample Description: MW-3
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 13:20

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
trans-1,2-Dichloroethylene	<2	2	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	10/27/16	16:29	WL
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	10/27/16	16:29	WL
Diethyl ether	<10	10	ug/l	SW-846 8260C	10/27/16	16:29	WL
Diisopropyl ether (DIPE)	<5	5	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,4-Dioxane	<100	100	ug/l	SW-846 8260C	10/27/16	16:29	WL
Ethyl Tertiary Butyl Ether	<5	5	ug/l	SW-846 8260C	10/27/16	16:29	WL
Ethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Hexachlorobutadiene	<0.5	0.5	ug/l	SW-846 8260C	10/27/16	16:29	WL
2-Hexanone	<10	10	ug/l	SW-846 8260C	10/27/16	16:29	WL
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	10/27/16	16:29	WL
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	10/27/16	16:29	WL
MTBE	<2	2	ug/l	SW-846 8260C	10/27/16	16:29	WL
Methylene Chloride	<5	5	ug/l	SW-846 8260C	10/27/16	16:29	WL
Naphthalene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Styrene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Tetrahydrofuran	<10	10	ug/l	SW-846 8260C	10/27/16	16:29	WL
Toluene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Trichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 002
Sample Description: MW-3
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 13:20

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
o-Xylene	<1	1	ug/l	SW-846 8260C	10/27/16	16:29	WL
m,p-Xylene	<2	2	ug/l	SW-846 8260C	10/27/16	16:29	WL
Surrogates			RANGE				
Dibromofluoromethane	104		86-118%	SW-846 8260C	10/27/16	16:29	WL
Toluene-d8	105		88-110%	SW-846 8260C	10/27/16	16:29	WL
4-Bromofluorobenzene	97		86-115%	SW-846 8260C	10/27/16	16:29	WL
1,2 Dichloroethane-d4	105		80-120%	SW-846 8260C	10/27/16	16:29	WL
Dissolved Metals Analyzed by ICPMS							
Antimony	<0.002	0.002	mg/l	SW-846 6020A	10/31/16	15:28	JRW
Arsenic	0.0015	0.001	mg/l	SW-846 6020A	10/31/16	15:28	JRW
Beryllium	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:28	JRW
Cadmium	<0.0001	0.0001	mg/l	SW-846 6020A	10/31/16	15:28	JRW
Lead	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:28	JRW
Selenium	<0.002	0.002	mg/l	SW-846 6020A	10/31/16	15:28	JRW
Silver	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:28	JRW
Thallium	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:28	JRW
Dissolved Metals							
Chromium	<0.050	0.050	mg/l	SW-846 6010C	10/31/16	21:16	RBR
Copper	<0.010	0.010	mg/l	SW-846 6010C	10/31/16	21:16	RBR
Mercury	<0.0005	0.0005	mg/l	SW-846 7470A	10/28/16	20:57	RAT
Nickel	<0.050	0.050	mg/l	SW-846 6010C	10/31/16	21:16	RBR
Zinc	<0.10	0.10	mg/l	SW-846 6010C	10/31/16	21:16	RBR
ICPMS Digestion (Dissolved)				SW-846 3020A	10/31/16	14:03	JRW
ICP Digestion (Dissolved)	Digested			SW-846 3010A	10/31/16	14:04	JRW
Mercury Digestion (Dissolved)	Digested			SW-846 7470A	10/28/16	20:06	MYE

The orthophosphate sample was field filtered by the client.

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 003
Sample Description: MW-4
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 12:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
OrthoPhosphate	<0.05	0.05	mg/l	SM4500P-E 18-21ed	10/26/16	23:50	DET
Nitrate,Dissolved (as N)	<0.25	0.05	mg/l	EPA 300.0	10/27/16	8:52	JJG
Dissolved Ammonia (as N)	1.7	0.20	mg/l	EPA 350.2	10/31/16	15:30	NJJ
Dissolved TKN (as N)	2.2	0.5	mg/l	EPA 351.3	10/28/16	8:30	APD
Herbicides							
2,4 -D	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:46	JEB
2,4,5 -TP (Silvex)	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:46	JEB
2,4,5 -T	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:46	JEB
Dalapon	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:46	JEB
Dicamba	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:46	JEB
Dichloroprop	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:46	JEB
Dinoseb	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	13:46	JEB
Surrogate			RANGE	SW-846 8151A Mod.	10/28/16	13:46	JEB
DCAA	87		30-150%	SW-846 8151A Mod	10/28/16	13:46	JEB
Extraction date	Extracted			SW-846 3510C	10/27/16	8:25	AK
Pesticides							
Aldrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
Alpha-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
Beta-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
Delta-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
Gamma-BHC	<0.02	0.02	ug/l	SW-846 8081	10/28/16	21:13	JBW
Chlordane	<0.5	0.5	ug/l	SW-846 8081	10/28/16	21:13	JBW
4-4'-DDD	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
4-4'-DDE	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
4-4'-DDT	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
Dieldrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
Endosulfan I	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
Endosulfan II	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
Endosulfan Sulfate	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
Endrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
Endrin Ketone	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
Heptachlor	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
Heptachlor epoxide	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
Hexachlorobenzene	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 003
Sample Description: MW-4
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 12:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Methoxychlor	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:13	JBW
Surrogate			RANGE	SW-846 8081B	10/28/16	21:13	JBW
Tetrachloro-m-xylene (TCMX)	66		30-150%	SW-846 8081B	10/28/16	21:13	JBW
Decachlorobiphenyl	66		30-150%	SW-846 8081B	10/28/16	21:13	JBW
Volatile Organic Compounds							
Acetone	<10	10	ug/l	SW-846 8260C	10/27/16	16:56	WL
Tertiary Amyl Methyl Ether	<5	5	ug/l	SW-846 8260C	10/27/16	16:56	WL
Benzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Bromobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Bromochloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Bromoform	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Bromomethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Carbon Disulfide	<5	5	ug/l	SW-846 8260C	10/27/16	16:56	WL
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Chlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Chloroethane	<5	5	ug/l	SW-846 8260C	10/27/16	16:56	WL
Chloroform	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Chloromethane	<5	5	ug/l	SW-846 8260C	10/27/16	16:56	WL
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Dibromomethane	<2	2	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 003
Sample Description: MW-4
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 12:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
trans-1,2-Dichloroethylene	<2	2	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	10/27/16	16:56	WL
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	10/27/16	16:56	WL
Diethyl ether	<10	10	ug/l	SW-846 8260C	10/27/16	16:56	WL
Diisopropyl ether (DIPE)	<5	5	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,4-Dioxane	<100	100	ug/l	SW-846 8260C	10/27/16	16:56	WL
Ethyl Tertiary Butyl Ether	<5	5	ug/l	SW-846 8260C	10/27/16	16:56	WL
Ethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Hexachlorobutadiene	<0.5	0.5	ug/l	SW-846 8260C	10/27/16	16:56	WL
2-Hexanone	<10	10	ug/l	SW-846 8260C	10/27/16	16:56	WL
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	10/27/16	16:56	WL
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	10/27/16	16:56	WL
MTBE	<2	2	ug/l	SW-846 8260C	10/27/16	16:56	WL
Methylene Chloride	<5	5	ug/l	SW-846 8260C	10/27/16	16:56	WL
Naphthalene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Styrene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Tetrahydrofuran	<10	10	ug/l	SW-846 8260C	10/27/16	16:56	WL
Toluene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Trichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 003
Sample Description: MW-4
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 12:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
o-Xylene	<1	1	ug/l	SW-846 8260C	10/27/16	16:56	WL
m,p-Xylene	<2	2	ug/l	SW-846 8260C	10/27/16	16:56	WL
Surrogates			RANGE				
Dibromofluoromethane	103		86-118%	SW-846 8260C	10/27/16	16:56	WL
Toluene-d8	103		88-110%	SW-846 8260C	10/27/16	16:56	WL
4-Bromofluorobenzene	97		86-115%	SW-846 8260C	10/27/16	16:56	WL
1,2 Dichloroethane-d4	106		80-120%	SW-846 8260C	10/27/16	16:56	WL
Dissolved Metals Analyzed by ICPMS							
Antimony	<0.002	0.002	mg/l	SW-846 6020A	10/31/16	15:33	JRW
Arsenic	0.0019	0.001	mg/l	SW-846 6020A	10/31/16	15:33	JRW
Beryllium	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:33	JRW
Cadmium	0.0013	0.0001	mg/l	SW-846 6020A	10/31/16	15:33	JRW
Lead	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:33	JRW
Selenium	0.0027	0.002	mg/l	SW-846 6020A	10/31/16	15:33	JRW
Silver	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:33	JRW
Thallium	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:33	JRW
Dissolved Metals							
Chromium	<0.050	0.050	mg/l	SW-846 6010C	10/31/16	21:20	RBR
Copper	<0.010	0.010	mg/l	SW-846 6010C	10/31/16	21:20	RBR
Mercury	<0.0005	0.0005	mg/l	SW-846 7470A	10/28/16	20:59	RAT
Nickel	<0.050	0.050	mg/l	SW-846 6010C	10/31/16	21:20	RBR
Zinc	<0.10	0.10	mg/l	SW-846 6010C	10/31/16	21:20	RBR
ICPMS Digestion (Dissolved)				SW-846 3020A	10/31/16	14:03	JRW
ICP Digestion (Dissolved)	Digested			SW-846 3010A	10/31/16	14:04	JRW
Mercury Digestion (Dissolved)	Digested			SW-846 7470A	10/28/16	20:06	MYE

The orthophosphate sample was field filtered by the client.

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 004
Sample Description: MW-5
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 12:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
OrthoPhosphate	<0.05	0.05	mg/l	SM4500P-E 18-21ed	10/26/16	23:50	DET
Nitrate,Dissolved (as N)	0.78	0.05	mg/l	EPA 300.0	10/27/16	9:07	JJG
Dissolved Ammonia (as N)	<0.20	0.20	mg/l	EPA 350.2	10/31/16	15:30	NJJ
Dissolved TKN (as N)	<0.5	0.5	mg/l	EPA 351.3	10/28/16	8:30	APD
Herbicides							
2,4 -D	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	14:59	JEB
2,4,5 -TP (Silvex)	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	14:59	JEB
2,4,5 -T	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	14:59	JEB
Dalapon	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	14:59	JEB
Dicamba	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	14:59	JEB
Dichloroprop	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	14:59	JEB
Dinoseb	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	14:59	JEB
Surrogate			RANGE	SW-846 8151A Mod.	10/28/16	14:59	JEB
DCAA	84		30-150%	SW-846 8151A Mod	10/28/16	14:59	JEB
Extraction date	Extracted			SW-846 3510C	10/27/16	8:25	AK
Pesticides							
Aldrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
Alpha-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
Beta-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
Delta-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
Gamma-BHC	<0.02	0.02	ug/l	SW-846 8081	10/28/16	21:50	JBW
Chlordane	<0.5	0.5	ug/l	SW-846 8081	10/28/16	21:50	JBW
4-4'-DDD	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
4-4'-DDE	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
4-4'-DDT	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
Dieldrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
Endosulfan I	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
Endosulfan II	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
Endosulfan Sulfate	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
Endrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
Endrin Ketone	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
Heptachlor	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
Heptachlor epoxide	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
Hexachlorobenzene	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 004
Sample Description: MW-5
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 12:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Methoxychlor	<0.05	0.05	ug/l	SW-846 8081	10/28/16	21:50	JBW
Surrogate			RANGE	SW-846 8081B	10/28/16	21:50	JBW
Tetrachloro-m-xylene (TCMX)	71		30-150%	SW-846 8081B	10/28/16	21:50	JBW
Decachlorobiphenyl	55		30-150%	SW-846 8081B	10/28/16	21:50	JBW
Volatile Organic Compounds							
Acetone	<10	10	ug/l	SW-846 8260C	10/27/16	17:23	WL
Tertiary Amyl Methyl Ether	<5	5	ug/l	SW-846 8260C	10/27/16	17:23	WL
Benzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Bromobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Bromochloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Bromoform	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Bromomethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Carbon Disulfide	<5	5	ug/l	SW-846 8260C	10/27/16	17:23	WL
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Chlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Chloroethane	<5	5	ug/l	SW-846 8260C	10/27/16	17:23	WL
Chloroform	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Chloromethane	<5	5	ug/l	SW-846 8260C	10/27/16	17:23	WL
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Dibromomethane	<2	2	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 004
Sample Description: MW-5
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 12:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
trans-1,2-Dichloroethylene	<2	2	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	10/27/16	17:23	WL
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	10/27/16	17:23	WL
Diethyl ether	<10	10	ug/l	SW-846 8260C	10/27/16	17:23	WL
Diisopropyl ether (DIPE)	<5	5	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,4-Dioxane	<100	100	ug/l	SW-846 8260C	10/27/16	17:23	WL
Ethyl Tertiary Butyl Ether	<5	5	ug/l	SW-846 8260C	10/27/16	17:23	WL
Ethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Hexachlorobutadiene	<0.5	0.5	ug/l	SW-846 8260C	10/27/16	17:23	WL
2-Hexanone	<10	10	ug/l	SW-846 8260C	10/27/16	17:23	WL
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	10/27/16	17:23	WL
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	10/27/16	17:23	WL
MTBE	<2	2	ug/l	SW-846 8260C	10/27/16	17:23	WL
Methylene Chloride	<5	5	ug/l	SW-846 8260C	10/27/16	17:23	WL
Naphthalene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Styrene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Tetrahydrofuran	<10	10	ug/l	SW-846 8260C	10/27/16	17:23	WL
Toluene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Trichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 004
Sample Description: MW-5
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 12:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
o-Xylene	<1	1	ug/l	SW-846 8260C	10/27/16	17:23	WL
m,p-Xylene	<2	2	ug/l	SW-846 8260C	10/27/16	17:23	WL
Surrogates			RANGE				
Dibromofluoromethane	104		86-118%	SW-846 8260C	10/27/16	17:23	WL
Toluene-d8	104		88-110%	SW-846 8260C	10/27/16	17:23	WL
4-Bromofluorobenzene	98		86-115%	SW-846 8260C	10/27/16	17:23	WL
1,2 Dichloroethane-d4	106		80-120%	SW-846 8260C	10/27/16	17:23	WL
Dissolved Metals Analyzed by ICPMS							
Antimony	<0.002	0.002	mg/l	SW-846 6020A	10/31/16	15:39	JRW
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:39	JRW
Beryllium	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:39	JRW
Cadmium	<0.0001	0.0001	mg/l	SW-846 6020A	10/31/16	15:39	JRW
Lead	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:39	JRW
Selenium	<0.002	0.002	mg/l	SW-846 6020A	10/31/16	15:39	JRW
Silver	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:39	JRW
Thallium	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:39	JRW
Dissolved Metals							
Chromium	<0.050	0.050	mg/l	SW-846 6010C	10/31/16	21:25	RBR
Copper	<0.010	0.010	mg/l	SW-846 6010C	10/31/16	21:25	RBR
Mercury	<0.0005	0.0005	mg/l	SW-846 7470A	10/28/16	21:00	RAT
Nickel	<0.050	0.050	mg/l	SW-846 6010C	10/31/16	21:25	RBR
Zinc	<0.10	0.10	mg/l	SW-846 6010C	10/31/16	21:25	RBR
ICPMS Digestion (Dissolved)				SW-846 3020A	10/31/16	14:03	JRW
ICP Digestion (Dissolved)	Digested			SW-846 3010A	10/31/16	14:04	JRW
Mercury Digestion (Dissolved)	Digested			SW-846 7470A	10/28/16	20:06	MYE

The orthophosphate sample was field filtered by the client.

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 005
Sample Description: SWM-2
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 11:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
OrthoPhosphate	<0.05	0.05	mg/l	SM4500P-E 18-21ed	10/26/16	23:50	DET
Nitrate,Dissolved (as N)	<0.25	0.05	mg/l	EPA 300.0	10/27/16	9:22	JJG
Dissolved Ammonia (as N)	0.21	0.20	mg/l	EPA 350.2	10/31/16	15:30	NJJ
Dissolved TKN (as N)	<0.5	0.5	mg/l	EPA 351.3	10/28/16	8:30	APD
Herbicides							
2,4 -D	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	16:22	JEB
2,4,5 -TP (Silvex)	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	16:22	JEB
2,4,5 -T	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	16:22	JEB
Dalapon	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	16:22	JEB
Dicamba	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	16:22	JEB
Dichloroprop	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	16:22	JEB
Dinoseb	<1.0	1.0	ug/l	SW-846 8151A	10/28/16	16:22	JEB
Surrogate			RANGE	SW-846 8151A Mod.	10/28/16	16:22	JEB
DCAA	83		30-150%	SW-846 8151A Mod	10/28/16	16:22	JEB
Extraction date	Extracted			SW-846 3510C	10/28/16	7:25	AK
Pesticides							
Aldrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
Alpha-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
Beta-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
Delta-BHC	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
Gamma-BHC	<0.02	0.02	ug/l	SW-846 8081	10/28/16	22:27	JBW
Chlordane	<0.5	0.5	ug/l	SW-846 8081	10/28/16	22:27	JBW
4-4'-DDD	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
4-4'-DDE	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
4-4'-DDT	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
Dieldrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
Endosulfan I	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
Endosulfan II	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
Endosulfan Sulfate	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
Endrin	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
Endrin Ketone	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
Heptachlor	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
Heptachlor epoxide	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
Hexachlorobenzene	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 005
Sample Description: SWM-2
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 11:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Methoxychlor	<0.05	0.05	ug/l	SW-846 8081	10/28/16	22:27	JBW
Surrogate			RANGE	SW-846 8081B	10/28/16	22:27	JBW
Tetrachloro-m-xylene (TCMX)	72		30-150%	SW-846 8081B	10/28/16	22:27	JBW
Decachlorobiphenyl	55		30-150%	SW-846 8081B	10/28/16	22:27	JBW
Volatile Organic Compounds							
Acetone	<10	10	ug/l	SW-846 8260C	10/27/16	17:50	WL
Tertiary Amyl Methyl Ether	<5	5	ug/l	SW-846 8260C	10/27/16	17:50	WL
Benzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Bromobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Bromochloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Bromoform	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Bromomethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Carbon Disulfide	<5	5	ug/l	SW-846 8260C	10/27/16	17:50	WL
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Chlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Chloroethane	<5	5	ug/l	SW-846 8260C	10/27/16	17:50	WL
Chloroform	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Chloromethane	<5	5	ug/l	SW-846 8260C	10/27/16	17:50	WL
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Dibromomethane	<2	2	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 005
Sample Description: SWM-2
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 11:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
trans-1,2-Dichloroethylene	<2	2	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	10/27/16	17:50	WL
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	10/27/16	17:50	WL
Diethyl ether	<10	10	ug/l	SW-846 8260C	10/27/16	17:50	WL
Diisopropyl ether (DIPE)	<5	5	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,4-Dioxane	<100	100	ug/l	SW-846 8260C	10/27/16	17:50	WL
Ethyl Tertiary Butyl Ether	<5	5	ug/l	SW-846 8260C	10/27/16	17:50	WL
Ethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Hexachlorobutadiene	<0.5	0.5	ug/l	SW-846 8260C	10/27/16	17:50	WL
2-Hexanone	<10	10	ug/l	SW-846 8260C	10/27/16	17:50	WL
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	10/27/16	17:50	WL
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	10/27/16	17:50	WL
MTBE	<2	2	ug/l	SW-846 8260C	10/27/16	17:50	WL
Methylene Chloride	<5	5	ug/l	SW-846 8260C	10/27/16	17:50	WL
Naphthalene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Styrene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Tetrahydrofuran	<10	10	ug/l	SW-846 8260C	10/27/16	17:50	WL
Toluene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Trichloroethene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.

Work Order #: 1610-25326

Project Name: PROJECT# 31541 WEATHERVANE GOLF COURSE

Sample Number: 005
Sample Description: SWM-2
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 11:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
o-Xylene	<1	1	ug/l	SW-846 8260C	10/27/16	17:50	WL
m,p-Xylene	<2	2	ug/l	SW-846 8260C	10/27/16	17:50	WL
Surrogates			RANGE				
Dibromofluoromethane	103		86-118%	SW-846 8260C	10/27/16	17:50	WL
Toluene-d8	102		88-110%	SW-846 8260C	10/27/16	17:50	WL
4-Bromofluorobenzene	97		86-115%	SW-846 8260C	10/27/16	17:50	WL
1,2 Dichloroethane-d4	107		80-120%	SW-846 8260C	10/27/16	17:50	WL
Dissolved Metals Analyzed by ICPMS							
Antimony	<0.002	0.002	mg/l	SW-846 6020A	10/31/16	15:44	JRW
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:44	JRW
Beryllium	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:44	JRW
Cadmium	<0.0001	0.0001	mg/l	SW-846 6020A	10/31/16	15:44	JRW
Lead	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:44	JRW
Selenium	<0.002	0.002	mg/l	SW-846 6020A	10/31/16	15:44	JRW
Silver	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:44	JRW
Thallium	<0.001	0.001	mg/l	SW-846 6020A	10/31/16	15:44	JRW
Dissolved Metals							
Chromium	<0.050	0.050	mg/l	SW-846 6010C	10/31/16	21:41	RBR
Copper	<0.010	0.010	mg/l	SW-846 6010C	10/31/16	21:41	RBR
Mercury	<0.0005	0.0005	mg/l	SW-846 7470A	10/28/16	21:04	RAT
Nickel	<0.050	0.050	mg/l	SW-846 6010C	10/31/16	21:41	RBR
Zinc	<0.10	0.10	mg/l	SW-846 6010C	10/31/16	21:41	RBR
ICPMS Digestion (Dissolved)				SW-846 3020A	10/31/16	14:03	JRW
ICP Digestion (Dissolved)	Digested			SW-846 3010A	10/31/16	14:04	JRW
Mercury Digestion (Dissolved)	Digested			SW-846 7470A	10/28/16	20:06	MYE

The orthophosphate sample was field filtered by the client.

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
OrthoPhosphate	mg/l	<0.05	10/26/2016
TKN (as N)	mg/l	<0.50	10/27/2016
Volatile Organics by Method 8260			
Acetone	ug/l	<10	10/27/2016
Tertiary Amyl Methyl Ether	ug/l	<5	10/27/2016
Benzene	ug/l	<1	10/27/2016
Bromobenzene	ug/l	<1	10/27/2016
Bromochloromethane	ug/l	<1	10/27/2016
Bromodichloromethane	ug/l	<1	10/27/2016
Bromoform	ug/l	<1	10/27/2016
Bromomethane	ug/l	<1	10/27/2016
n-Butylbenzene	ug/l	<1	10/27/2016
Sec-butylbenzene	ug/l	<1	10/27/2016
tert-Butylbenzene	ug/l	<1	10/27/2016
Carbon Disulfide	ug/l	<5	10/27/2016
Carbon Tetrachloride	ug/l	<1	10/27/2016
Chlorobenzene	ug/l	<1	10/27/2016
Dibromochloromethane	ug/l	<1	10/27/2016
Chloroethane	ug/l	<5	10/27/2016
Chloroform	ug/l	<1	10/27/2016
Chloromethane	ug/l	<5	10/27/2016
2-Chlorotoluene	ug/l	<1	10/27/2016
4-Chlorotoluene	ug/l	<1	10/27/2016
1,2-Dibromo-3-Chloropropane	ug/l	<2	10/27/2016
1,2-Dibromoethane(EDB)	ug/l	<1	10/27/2016
Dibromomethane	ug/l	<2	10/27/2016
1,3-Dichlorobenzene	ug/l	<1	10/27/2016
1,2-Dichlorobenzene	ug/l	<1	10/27/2016
1,4-Dichlorobenzene	ug/l	<1	10/27/2016
n-Propylbenzene	ug/l	<1	10/27/2016
Dichlorodifluoromethane	ug/l	<5	10/27/2016
1,1-Dichloroethane	ug/l	<1	10/27/2016
1,2-Dichloroethane	ug/l	<1	10/27/2016
1,1-Dichloroethene	ug/l	<1	10/27/2016
cis-1,2-Dichloroethene	ug/l	<1	10/27/2016
trans-1,2-Dichloroethylene	ug/l	<2	10/27/2016
1,2-Dichloropropane	ug/l	<1	10/27/2016
1,3-Dichloropropane	ug/l	<1	10/27/2016
2,2-Dichloropropane	ug/l	<1	10/27/2016
1,1-Dichloropropene	ug/l	<1	10/27/2016
cis-1,3-Dichloropropene	ug/l	<0.4	10/27/2016
trans-1,3-Dichloropropylene	ug/l	<0.4	10/27/2016
Diethyl ether	ug/l	<10	10/27/2016
Diisopropyl ether (DIPE)	ug/l	<5	10/27/2016

1,4-Dioxane	ug/l	<100	10/27/2016
Ethyl Tertiary Butyl Ether	ug/l	<5	10/27/2016
Ethylbenzene	ug/l	<1	10/27/2016
Hexachlorobutadiene	ug/l	<0.5	10/27/2016
2-Hexanone	ug/l	<10	10/27/2016
Isopropylbenzene	ug/l	<1	10/27/2016
p-Isopropyltoluene	ug/l	<1	10/27/2016
2-Butanone(MEK)	ug/l	<10	10/27/2016
4-Methyl-2-pentanone(MIBK)	ug/l	<10	10/27/2016
MTBE	ug/l	<2	10/27/2016
Methylene Chloride	ug/l	<5	10/27/2016
Naphthalene	ug/l	<1	10/27/2016
1,1,2-Trichloroethane	ug/l	<1	10/27/2016
Styrene	ug/l	<1	10/27/2016
1,1,1,2-Tetrachloroethane	ug/l	<1	10/27/2016
1,1,2,2-Tetrachloroethane	ug/l	<1	10/27/2016
Tetrachloroethene	ug/l	<1	10/27/2016
Tetrahydrofuran	ug/l	<10	10/27/2016
Toluene	ug/l	<1	10/27/2016
1,2,4-Trichlorobenzene	ug/l	<1	10/27/2016
1,2,3-Trichlorobenzene	ug/l	<1	10/27/2016
1,1,1-Trichloroethane	ug/l	<1	10/27/2016
Trichloroethene	ug/l	<1	10/27/2016
Trichlorofluoromethane	ug/l	<1	10/27/2016
1,2,3-Trichloropropane	ug/l	<2	10/27/2016
1,2,4-Trimethylbenzene	ug/l	<1	10/27/2016
1,3,5-Trimethylbenzene	ug/l	<1	10/27/2016
Vinyl Chloride	ug/l	<1	10/27/2016
o-Xylene	ug/l	<1	10/27/2016
m,p-Xylene	ug/l	<2	10/27/2016
Surrogates	RANGE		10/27/2016
Dibromofluoromethane	86-118%	103	10/27/2016
Toluene-d8	88-110%	104	10/27/2016
4-Bromofluorobenzene	86-115%	99	10/27/2016
1,2 Dichloroethane-d4	80-120%	104	10/27/2016
Pesticide/PCB			
Aldrin	ug/l	<0.05	10/28/2016
Alpha-BHC	ug/l	<0.05	10/28/2016
Beta-BHC	ug/l	<0.05	10/28/2016
Delta-BHC	ug/l	<0.05	10/28/2016
Gamma-BHC	ug/l	<0.02	10/28/2016
Chlordane	ug/l	<0.05	10/28/2016
4-4'-DDD	ug/l	<0.05	10/28/2016
4-4'-DDE	ug/l	<0.05	10/28/2016
4-4'-DDT	ug/l	<0.05	10/28/2016
Dieldrin	ug/l	<0.05	10/28/2016
Endosulfan I	ug/l	<0.05	10/28/2016
Endosulfan II	ug/l	<0.05	10/28/2016
Endosulfan Sulfate	ug/l	<0.05	10/28/2016
Endrin	ug/l	<0.05	10/28/2016
Endrin Ketone	ug/l	<0.05	10/28/2016
Heptachlor	ug/l	<0.05	10/28/2016
Heptachlor epoxide	ug/l	<0.05	10/28/2016
Hexachlorobenzene	ug/l	<0.05	10/28/2016

Methoxychlor	ug/l	<0.05	10/28/2016
Surrogate	RANGE		10/28/2016
Tetrachloro-m-xylene (TCMX)	30-150%	78	10/28/2016
Decachlorobiphenyl	30-150%	65	10/28/2016
Herbicides			
2,4 -D	ug/l	<1.0	10/28/2016
2,4,5 -TP (Silvex)	ug/l	<1.0	10/28/2016
2,4,5 -T	ug/l	<1.0	10/28/2016
Dalapon	ug/l	<1.0	10/28/2016
Dicamba	ug/l	<1.0	10/28/2016
Dichloroprop	ug/l	<1.0	10/28/2016
Dinoseb	ug/l	<1.0	10/28/2016
Surrogate	RANGE		10/28/2016
DCAA	30-150%	76	10/28/2016
Herbicides			
2,4 -D	ug/l	<1.0	10/28/2016
2,4,5 -TP (Silvex)	ug/l	<1.0	10/28/2016
2,4,5 -T	ug/l	<1.0	10/28/2016
Dalapon	ug/l	<1.0	10/28/2016
Dicamba	ug/l	<1.0	10/28/2016
Dichloroprop	ug/l	<1.0	10/28/2016
Dinoseb	ug/l	<1.0	10/28/2016
Surrogate	RANGE		10/28/2016
DCAA	30-150%	79	10/28/2016
TKN (as N)	mg/l	<0.50	10/28/2016
TKN (as N)	mg/l	<0.50	10/28/2016
Ammonia (as N)	mg/l	<0.20	10/31/2016
Dissolved Metals			
Antimony (mg/l)	mg/l	<0.002	10/31/2016
Arsenic (mg/l)	mg/l	<0.001	10/31/2016
Beryllium	mg/l	<0.001	10/31/2016
Lead (mg/l)	mg/l	<0.001	10/31/2016
Selenium (mg/l)	mg/l	<0.002	10/31/2016
Silver (mg/l)	mg/l	<0.001	10/31/2016
Thallium (mg/l)	mg/l	<0.001	10/31/2016
Cadmium (mg/l)	mg/l	<0.0001	10/31/2016
Dissolved Metals			
Chromium	mg/l	<0.050	10/31/2016
Copper	mg/l	<0.010	10/31/2016
Nickel	mg/l	<0.050	10/31/2016
Zinc	mg/l	<0.10	10/31/2016
Dissolved Metals			
Mercury	mg/l	<0.0005	10/28/2016

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
OrthoPhosphate		0.75	0.745	99			0	10/26/2016
Pesticide/PCB								
Endrin Ketone		1.0	0.80	80	0.75	75	6	10/28/2016
Aldrin		1.0	0.79	79	0.83	83	5	10/28/2016
Alpha-BHC		1.0	0.80	80	0.82	82	2	10/28/2016
Beta-BHC		1.0	0.83	83	0.84	84	1	10/28/2016
Delta-BHC		1.0	0.79	79	0.76	76	4	10/28/2016
Gamma-BHC		1.0	0.81	81	0.83	83	2	10/28/2016
Chlordane		2.0	1.60	80	1.63	82	2	10/28/2016
4-4'-DDD		1.0	0.86	86	0.83	83	4	10/28/2016
4-4'-DDE		1.0	0.78	78	0.78	78	0	10/28/2016
4-4'-DDT		1.0	0.93	93	0.88	88	6	10/28/2016
Dieldrin		1.0	0.82	82	0.81	81	1	10/28/2016
Endosulfan I		1.0	0.88	88	0.90	90	2	10/28/2016
Endosulfan II		1.0	0.82	82	0.80	80	2	10/28/2016
Endosulfan Sulfate		1.0	0.82	82	0.77	77	6	10/28/2016
Endrin		1.0	0.85	85	0.83	83	2	10/28/2016
Heptachlor		1.0	0.86	86	0.89	89	3	10/28/2016
Heptachlor epoxide		1.0	0.82	82	0.85	85	4	10/28/2016
Hexachlorobenzene		1.0	0.83	83	0.87	87	5	10/28/2016
Methoxychlor		1.0	0.92	92	0.84	84	9	10/28/2016
Surrogate								10/28/2016
Tetrachloro-m-xylene (TCMX)			80		81			10/28/2016
Decachlorobiphenyl			58		58			10/28/2016
Herbicides								
2,4 -D		10	10.1	101	9.75	98	4	10/28/2016
2,4,5 -TP (Silvex)		10	9.70	97	9.46	95	3	10/28/2016
2,4,5 -T		10	10.9	109	10.6	106	3	10/28/2016
Dalapon		10	6.46	65	4.93	49	27	10/28/2016
Dicamba		10	8.82	88	8.39	84	5	10/28/2016
Dichloroprop		10	9.23	92	9.21	92	0	10/28/2016
Dinoseb		10	7.51	75	7.69	77	2	10/28/2016
Surrogate								
DCAA			85	0	80	0	0	10/28/2016
2,4 -D		10	9.63	96	9.67	97	0	10/28/2016
2,4,5 -TP (Silvex)		10	9.33	93	9.31	93	0	10/28/2016
2,4,5 -T		10	10.8	108	10.7	107	1	10/28/2016
Dalapon		10	7.67	77	7.82	78	2	10/28/2016
Dicamba		10	8.44	84	8.57	86	2	10/28/2016
Dichloroprop		10	8.67	87	8.63	86	0	10/28/2016
Dinoseb		10	7.31	73	7.75	78	6	10/28/2016
Surrogate								
DCAA			84	0	81	0	0	10/28/2016
Volatile Organics by Method 8260								
Acetone		500	600	120	630	126	5	10/27/2016
Tertiary Amyl Methyl Ether		50	49	98	48	96	2	10/27/2016
Benzene		50	49	98	47	94	4	10/27/2016
Bromobenzene		50	50	100	45	90	11	10/27/2016
Bromochloromethane		50	45	90	44	88	2	10/27/2016
Bromodichloromethane		50	48	96	47	94	2	10/27/2016

QA/QC Report

WO #: 1610-25326

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
Volatile Organics by Method 8260 (cont'd)								
Bromoform		50	53	106	52	104	2	10/27/2016
Bromomethane		50	58	116	54	108	7	10/27/2016
n-Butylbenzene		50	42	84	41	82	2	10/27/2016
Sec-butylbenzene		50	47	94	46	92	2	10/27/2016
tert-Butylbenzene		50	49	98	48	96	2	10/27/2016
Carbon Disulfide		50	39	78	38	76	3	10/27/2016
Carbon Tetrachloride		50	50	100	48	96	4	10/27/2016
Chlorobenzene		50	50	100	49	98	2	10/27/2016
Dibromochloromethane		50	53	106	52	104	2	10/27/2016
Chloroethane		50	53	106	51	102	4	10/27/2016
Chloroform		50	48	96	47	94	2	10/27/2016
Chloromethane		50	46	92	43	86	7	10/27/2016
2-Chlorotoluene		50	48	96	46	92	4	10/27/2016
4-Chlorotoluene		50	47	94	46	92	2	10/27/2016
1,2-Dibromo-3-Chloropropane		50	51	102	53	106	4	10/27/2016
1,2-Dibromoethane(EDB)		50	54	108	52	104	4	10/27/2016
Dibromomethane		50	51	102	50	100	2	10/27/2016
1,3-Dichlorobenzene		50	48	96	48	96	0	10/27/2016
1,2-Dichlorobenzene		50	48	96	49	98	2	10/27/2016
1,4-Dichlorobenzene		50	49	98	48	96	2	10/27/2016
n-Propylbenzene		50	47	94	46	92	2	10/27/2016
Dichlorodifluoromethane		50	65	130	59	118	10	10/27/2016
1,1-Dichloroethane		50	46	92	45	90	2	10/27/2016
1,2-Dichloroethane		50	47	94	46	92	2	10/27/2016
1,1-Dichloroethene		50	44	88	44	88	0	10/27/2016
cis-1,2-Dichloroethene		50	51	102	49	98	4	10/27/2016
trans-1,2-Dichloroethylene		50	50	100	48	96	4	10/27/2016
1,2-Dichloropropane		50	47	94	46	92	2	10/27/2016
1,3-Dichloropropane		50	49	98	48	96	2	10/27/2016
2,2-Dichloropropane		50	50	100	46	92	8	10/27/2016
1,1-Dichloropropene		50	48	96	47	94	2	10/27/2016
cis-1,3-Dichloropropene		50	50	100	49	98	2	10/27/2016
Diethyl ether		500	470	94	460	92	2	10/27/2016
Diisopropyl ether (DIPE)		50	44	88	43	86	2	10/27/2016
1,4-Dioxane		1000	990	99	1000	100	1	10/27/2016
Ethyl Tertiary Butyl Ether		50	47	94	46	92	2	10/27/2016
Ethylbenzene		50	47	94	46	92	2	10/27/2016
Hexachlorobutadiene		50	49	98	49	98	0	10/27/2016
2-Hexanone		500	560	112	540	108	4	10/27/2016
Isopropylbenzene		50	50	100	48	96	4	10/27/2016
p-Isopropyltoluene		50	49	98	47	94	4	10/27/2016
2-Butanone(MEK)		500	660	132	690	138	4	10/27/2016
4-Methyl-2-pentanone(MIBK)		500	530	106	520	104	2	10/27/2016
MTBE		50	49	98	48	96	2	10/27/2016

QA/QC Report

WO #: 1610-25326

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
Volatile Organics by Method 8260 (cont'd)								
Methylene Chloride		50	44	88	43	86	2	10/27/2016
Naphthalene		50	53	106	52	104	2	10/27/2016
1,1,2-Trichloroethane		50	50	100	49	98	2	10/27/2016
Styrene		50	49	98	49	98	0	10/27/2016
1,1,1,2-Tetrachloroethane		50	50	100	49	98	2	10/27/2016
1,1,2,2-Tetrachloroethane		50	51	102	50	100	2	10/27/2016
Tetrachloroethene		50	55	110	54	108	2	10/27/2016
Tetrahydrofuran		500	540	108	570	114	5	10/27/2016
Toluene		50	52	104	50	100	4	10/27/2016
1,2,4-Trichlorobenzene		50	49	98	48	96	2	10/27/2016
1,2,3-Trichlorobenzene		50	50	100	49	98	2	10/27/2016
1,1,1-Trichloroethane		50	51	102	48	96	6	10/27/2016
Trichloroethene		50	49	98	48	96	2	10/27/2016
Trichlorofluoromethane		50	55	110	52	104	6	10/27/2016
1,2,3-Trichloropropane		50	51	102	49	98	4	10/27/2016
1,2,4-Trimethylbenzene		50	49	98	47	94	4	10/27/2016
1,3,5-Trimethylbenzene		50	50	100	49	98	2	10/27/2016
Vinyl Chloride		50	53	106	51	102	4	10/27/2016
o-Xylene		50	51	102	49	98	4	10/27/2016
m,p-Xylene		100	100	100	97	97	3	10/27/2016
trans-1,3-Dichloropropylene		50	50	100	48	96	4	10/27/2016
Surrogates								
Dibromofluoromethane			101		99			
Toluene-d8			100		103			
4-Bromofluorobenzene			96		95			
1,2 Dichloroethane-d4			104		103			
Dissolved Metals								
Mercury		0.0020	0.0020	100	0.0020	100	0	10/28/2016
Dissolved Metals								
Chromium		1.00	0.956	96	0.984	98	3	10/31/2016
Copper		1.00	0.969	97	1.00	100	3	10/31/2016
Nickel		1.00	0.947	95	0.972	97	3	10/31/2016
Zinc		1.00	0.96	96	0.98	98	2	10/31/2016
Dissolved Metals								
Beryllium		0.10	0.12	120	0.12	120	0	10/31/2016
Antimony (mg/l)		0.100	0.099	99	0.10	100	1	10/31/2016
Arsenic (mg/l)		0.100	0.11	110	0.11	110	0	10/31/2016
Cadmium (mg/l)		0.10	0.12	120	0.11	110	9	10/31/2016
Lead (mg/l)		0.10	0.10	100	0.098	98	2	10/31/2016
Selenium (mg/l)		0.100	0.12	120	0.12	120	0	10/31/2016
Silver (mg/l)		0.100	0.10	100	0.11	110	10	10/31/2016
Thallium (mg/l)		0.100	0.12	120	0.11	110	9	10/31/2016

R.I. ANALYTICAL
Specialists in Environmental Services

CHAIN OF CUSTODY RECORD

41 Illinois Avenue
Warwick, RI 02888-3007
800-937-2580 • Fax: 401-738-1970

131 Coolidge St., Suite 105
Hudson, MA 01749-1331
800-937-2580 • Fax: 978-568-0078

09-01-16

Date Collected	Time Collected	Field Sample Identification	Grab or Composite	# of Containers & Type [C]	Preservation Code [P]	Matrix Code [M]	VOC	Nitrogen NH3, TKN	Pesticides	Herbicides	PPM-13 metals	Cortho (P)	Nitrogen, Nitrate-N
10/25/16	11:00	MW-1	G	3402V 3P	V NP N S	GW	X	X	X	X	X	X	X
10/25/16	13:20	MW-3	G	↓	↓	GW	X	X	X	X	X	X	X
10/25/16	12:45	MW-4	G	↓	↓	GW	X	X	X	X	X	X	X
10/25/16	12:00	MW-5	G	V	V	GW	X	X	X	X	X	X	X
10/25/16	11:30	SWM-2	G	3AG 2V 3P	NP HS N	SW	X	X	X	X	X	X	X

4 10/26/16

Client Information

Company Name: CHA Consulting, Inc.
Address: 101 Accord Park Drive, Suite One
City / State / Zip: Norwell, MA 02061
Telephone: (781) 982-5400 Fax: (781) 982-5486
Contact Person: Jonathan DeMeo

Project Information

Project Name: Weathervane Golf Course
P.O. Number: 31541 Project Number: 31541
Report To: William Hoyerman Phone: 781-982-5476 Fax: 781-982-5490
Sampled by: J DeMeo
Quote No: RIA 1604034
Email report to these addresses: Whoyerman@Chacompanies.com

Relinquished By	Date	Time	Received By	Date	Time
DeMeo	10/25/16	14:30		10-26-16	10:15
	10-25-16	1600		10/26	1600
	10/26	1730	Glenn Rich	10/26	1730

Turn Around Time

X Normal X EMAIL Report
5-7 Business days.
Rush – Date Due: / /

Project Comments

Circle if applicable: GW-1, GW-2, GW-3, S-1, S-2, S-3 MCP Data Enhancement QC Package? (Yes) No

Quote # RIA 1604034

Field filtered All samples Except Pesticides and Herbicides

0.3

Temp. Upon Receipt °C

Lab Use Only

✓ Sample Pick Up Only
✓ RIAL sampled; attach field hours
Shipped on ice
Workorder No: 1610-25326

Containers: P=Poly, G=Glass, AG=Amber Glass, V=Vial, St=Sterile Preservatives: A=Ascorbic Acid, NH4=NH_4Cl, H=HCl, M=MeOH, N=HNO_3, NP=None, S=H_2SO_4, SB=$NaHSO_4$, SH=NaOH, T=$Na_2S_2O_3$, Z=ZnOAc
Matrix Codes: GW=Groundwater, SW=Surface Water, WW=Wastewater, DW=Drinking Water, S=Soil, SL=Sludge, A=Air, B=Bulk/Solid, O=_____

R.I. ANALYTICAL
Specialists in Environmental Services

LABORATORY REPORT

CHA Consulting, Inc.
Attn: Mr. William Hoyerman
101 Accord Park Drive
Norwell, MA 02061

Date Received: 11/4/2016
Date Reported: 11/4/2016
P.O. Number

Work Order #: 1611-26050
Project Name: PROJECT #31541 WEATHERVANE GOLF COURSE

Enclosed are the analytical results and Chain of Custody for your project referenced above. The sample(s) were analyzed by our Warwick, RI laboratory unless noted otherwise. When applicable, indication of sample analysis at our Hudson, MA laboratory and/or subcontracted results are noted and subcontracted reports are enclosed in their entirety.

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results or in a case narrative.

The Detection Limit is defined as the lowest level that can be reliably achieved during routine laboratory conditions.

These results only pertain to the samples submitted for this Work Order # and this report shall not be reproduced except in its entirety.

We certify that the following results are true and accurate to the best of our knowledge. If you have questions or need further assistance, please contact our Customer Service Department.

Approved by:

Sharon Baker

Sharon Baker
MIS / Data Reporting

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.
Work Order #: 1611-26050
Project Name: PROJECT #31541 WEATHERVANE GOLF COURSE

Sample Number: 001
Sample Description: MW-1
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 11:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Nitrite (as N)	<0.25	0.25	mg/l	EPA 300.0	10/27/2016 8:22	JJG

Sample Number: 002
Sample Description: MW-3
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 13:20

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Nitrite (as N)	<0.25	0.25	mg/l	EPA 300.0	10/27/2016 8:37	JJG

Sample Number: 003
Sample Description: MW-4
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 12:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Nitrite (as N)	<0.25	0.25	mg/l	EPA 300.0	10/27/2016 8:52	JJG

Sample Number: 004
Sample Description: MW-5
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 12:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Nitrite (as N)	<0.25	0.25	mg/l	EPA 300.0	10/27/2016 9:07	JJG

R.I. Analytical Laboratories, Inc.

Laboratory Report

CHA Consulting, Inc.
Work Order #: 1611-26050
Project Name: PROJECT #31541 WEATHERVANE GOLF COURSE

Sample Number: 005
Sample Description: SWM-2
Sample Type : GRAB
Sample Date / Time : 10/25/2016 @ 11:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Nitrite (as N)	<0.25	0.25	mg/l	EPA 300.0	10/27/2016 9:22	JJG

R.I. ANALYTICAL
Specialists in Environmental Services

RELOG CHAIN OF CUSTODY

41 Illinois Avenue
Warwick, RI 02888-3007
800-937-2580 • Fax: 401-738-1970

131 Coolidge St., Suite 105
Hudson, MA 01749-1331
800-937-2580 • Fax: 978-568-0078

Date Collected	RIAL Workorder	Field Sample Identification	Grab or Composite	Matrix Code [M]	Nitrite	11-04-16
10/25/16	1610-25326-001	MW-1	G	GW	X	
10/25/16	1610-25326-002	MW-3	G	GW	X	
10/25/16	1610-25326-003	MW-4	G	GW	X	
10/25/16	1610-25326-004	MW-5	G	GW	X	
10/25/16	1610-25326-005	SWM-2	G	GW	X	

Client Information

Company Name:	CHA Consulting, Inc.
Address:	101 Accord Park Drive, Suite One
City / State / Zip:	Norwell, MA 02061
Telephone:	(781) 982-5400 Fax: (781) 982-5486
Contact Person:	Jonathan DeMeo

Project Information

Project Name:	Weathervane Golf Course		
P.O. Number:	31541	Project Number:	31541
Report To:	William Hoyerman	Phone: 781-982-5476	Fax: 781-982-5490
Sampled by:	J DeMeo	Email report:	whoyerman@chacompanies.com
Quote No:	RIA1604034		

Relinquished By	Date	Time	Received By	Date	Time
B. Fernandes	11/4/16	11:45	D. Hall	11-4-16	11:45

Turn Around Time

- Normal [X] EMAIL Report
- 5-7 Business days.
- Rush – Due Date:

Project Comments

List applicable Standards: MCP Data Enhancement Package? **No**

Relog request received by B. Fernandes on 11/4/16 from *.
This relog request sent by email to Kristen Mayo, Kristin Phalen & Login.

Lab Use Only

- [ ] Sample Pick Up Only
- [ ] RIAL sampled; attach field hours
- [ ] Shipped on ice

Relog Workorder: 1611-26050

Containers: P=Poly, G=Glass, AG=Amber Glass, V=Vial, St=Sterile Preservatives: A=Ascorbic Acid, NH4=NH_4Cl, H=HCl, M=MeOH, N=HNO_3, NP=None, S=H_2SO_4, SB=$NaHSO_4$, SH=NaOH, T=$Na_2S_2O_3$, Z=ZnOAc
Matrix Codes: GW=Groundwater, SW=Surface Water, WW=Wastewater, DW=Drinking Water, S=Soil, SL=Sludge, A=Air, B=Bulk/Solid, O= _____

September 27, 2017

Steve McCarthy
Bristol Bros Development Company
190 Old Derby Street
Suite 311
Hingham, Massachusetts 02043

Subject: Spring Groundwater & Surface Water Monitoring
The Village at Weathervane and Golf Course
Weymouth, Massachusetts
CEC Project 173-121

Dear Mr. McCarthy:

Civil & Environmental Consultants, Inc. (CEC) has prepared this summary of environmental monitoring conducted in the Spring of 2017 at the Weathervane Village Golf Course in Weymouth, Massachusetts (the Site). Groundwater and surface water samples were collected and analyzed in accordance with the Site's Water Quality and Groundwater Monitoring Program, pursuant to the requirements of the Notice of Decision on Special Permit (Case #: 98-1-2/9) and the Order of Conditions issued by the Weymouth Conservation Commission (DEP File No: NE-81-756).

GROUNDWATER & SURFACE WATER MONITORING

CEC was contracted to collect water samples for the Spring 2017 sampling event from five groundwater monitoring wells at the Weathervane Village Golf Course, identified as MW-1, MW-2, MW-3, MW-4, and MW-5, in addition three surface water points identified SWM-1, SWM-2, and SWM-3, in August of 2017.

Groundwater and surface water sampling was conducted on August 28, 2017 based on NOAA Weather Archived data, no precipitation occurred for three days prior to the August 28, 2017, sampling which does not meet the "rain event" recommendations of the permit, considering prior delays and seasonal conditions it was determined best to sample as soon as approval was provided. At the time of sampling the following locations were found to be dry; monitoring wells MW-2 & MW-5 and surface water SWM-1 & SWM-3, therefore no samples were collected at these locations.

Field Analysis

CEC first gauged each well for the water depth and depth to bottom of the well to determine a purge volume. Prior to sampling, wells were purged of three well volumes. The samples were transferred into appropriate glassware (pre-preserved if required) which were provided by the Con-Test Analytical Laboratory (Con-Test) of East Longmeadow, Massachusetts. Groundwater and surface water samples for dissolved metals were field-filtered using a 0.45 micron filter prior to preservation. The samples were immediately placed on ice for delivery to Con-Test under chain of custody and analyzed for volatile organic compounds (VOC by EPA Method 8260)[1], total

[1] VOC sample and analysis of MW-3 required every other year after baseline sampling.

herbicides (by EPA Method 8151), total pesticides (by EPA Method 8081), priority pollutant (13) metals (by EPA Method 6010/7000), Total Kjeldahl Nitrogen (TKN by EPA Method 351.1), ammonia (by Method 4500-NH3-F), nitrate & nitrite (by EPA Method 300.0), and ortho phosphate (by Method 4500-P-E). The groundwater field and analytical data is summarized in Table 1.

Groundwater & Surface Water Laboratory Results

A tabular summary of the laboratory results for this event, as well as tabulated vs. historic results, and the complete laboratory data, is enclosed with this report. A comparison of the data to Massachusetts Groundwater Quality Standards (GW-1), Reportable Concentration Standards (RCGW-1), and permit requirements that specify that nitrate as nitrogen and total kjeldahl nitrogen (TKN) do not exceed the 5 mg/l limit as cited as the Response Action limit in the Monitoring Program.

Orthophosphate, as P, was detected in monitoring well MW-3 at a concentration of 0.061 milligrams per liter (mg/L). Concentrations of orthophosphate, as P, were not detectable in monitoring wells MW-1 & MW-4 and surface water SWM-2. There is no applicable Massachusetts Groundwater Quality Standards (GW-1) or Reportable Concentration Standards (RCGW-1)

Samples collected from monitoring wells MW-3 and MW-4 had concentrations of ammonia above the applicable RCGW-1 standard of 1.0 mg/L, concentrations in these wells were found to be 1.7 mg/L and 1.4 mg/L, respectfully similar to historical concentrations. Ammonia, as N, was not detected in the other two sampling locations.

Samples collected from monitoring wells MW-1, MW-3, & MW-4, and surface water SWM-2 were found to have TKN concentrations of 1.1 mg/L, 2.8 mg/L, 1.7 mg/L, and 3.9 mg/L, respectfully. Because concentrations of TKN were not above 5.0 mg/L resampling was not required[2].

Samples collected from MW-3 had an arsenic concentration of 2.4 micrograms per liter (µg/L), which is well below both the RCGW-1 and GW-1 standards. Arsenic was not detected in any other sampling locations.

No herbicides, pesticides, or VOCs were detected in any of the samples collected during this monitoring event. Therefore resampling of pesticides was not completed nor required[3]. None of the VOC samples required dilution by the laboratory for analysis therefore detection levels were at method levels, typically approximating one part per billion; however certain compounds had slightly higher or lower values as per the 8260 method and capabilities of the gas chromatography.

[2] Section 4.i. of the facility Water Quality and Groundwater Monitoring Program, re-sampling is required if total nitrogen levels reach 5 mg/L.
[3] Section 4.f. of the facility Water Quality and Groundwater Monitoring Program, re-sampling is required if any pesticides are detected above regulatory limits.

CONCLUSION AND RECOMMENDATIONS

Only one analytical parameter, ammonia, was detected above any of the regulatory thresholds. Ammonia concentrations in monitoring wells MW-3 and MW-4 were detected above the RCGW-1 standard of 1.0 mg/L, which are comparable to historic values. However, this exceedance does not meet the Massachusetts Department of Environmental Protection's (DEP) definition of a release from the Site, because the definition of a "Release" excludes the normal application of fertilizer and the application of pesticides in a manner consistent with their labelling (*310 CMR 40.0006*). Therefore, we are not required to report this finding as a "Release Which Requires Notification Within 120 Days" (*310 CMR 40.0315*). Also; TKN, pesticides, and herbicides were not detected at levels which would require resampling under the facilities current Water Quality and Groundwater Monitoring Program.

Based on these results and a review of the historical groundwater and surface water analytical data, CEC recommends conducting your facilities "Fall" sampling event between October 1st and November 1st of 2017.

This report presents CEC's field observations, results, and opinions based upon conditions as they existed during the sampling and monitoring events. Environmental evaluations and conclusions are inherently limited as environmental conditions change with time. Conditions inferred to exist between sampling points may differ significantly from the conditions that actually exist there.

Thank you for your utilization of our field sampling services. Please do not hesitate to contact either of us with any questions or comments regarding the work performed.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

Brandon R. Patrick
Assistant Project Manager

William R. Hoyerman, LSP
Senior Project Manager

Enclosures:
Figures
Figure 1: Site Locus
Figure 2: Priority Resource Map
Tables
Table 1: Summary of Groundwater & Surface Water Analytical Results
Attachments
Attachment A: Water Quality Data Summary
Attachment B: Groundwater & Surface Water Monitoring Locations
Attachment C: Con-Test Laboratory Report No. 17H1508

FIGURES

SUBMITTAL & REVISION RECORD		
NO	DATE	DESCRIPTION
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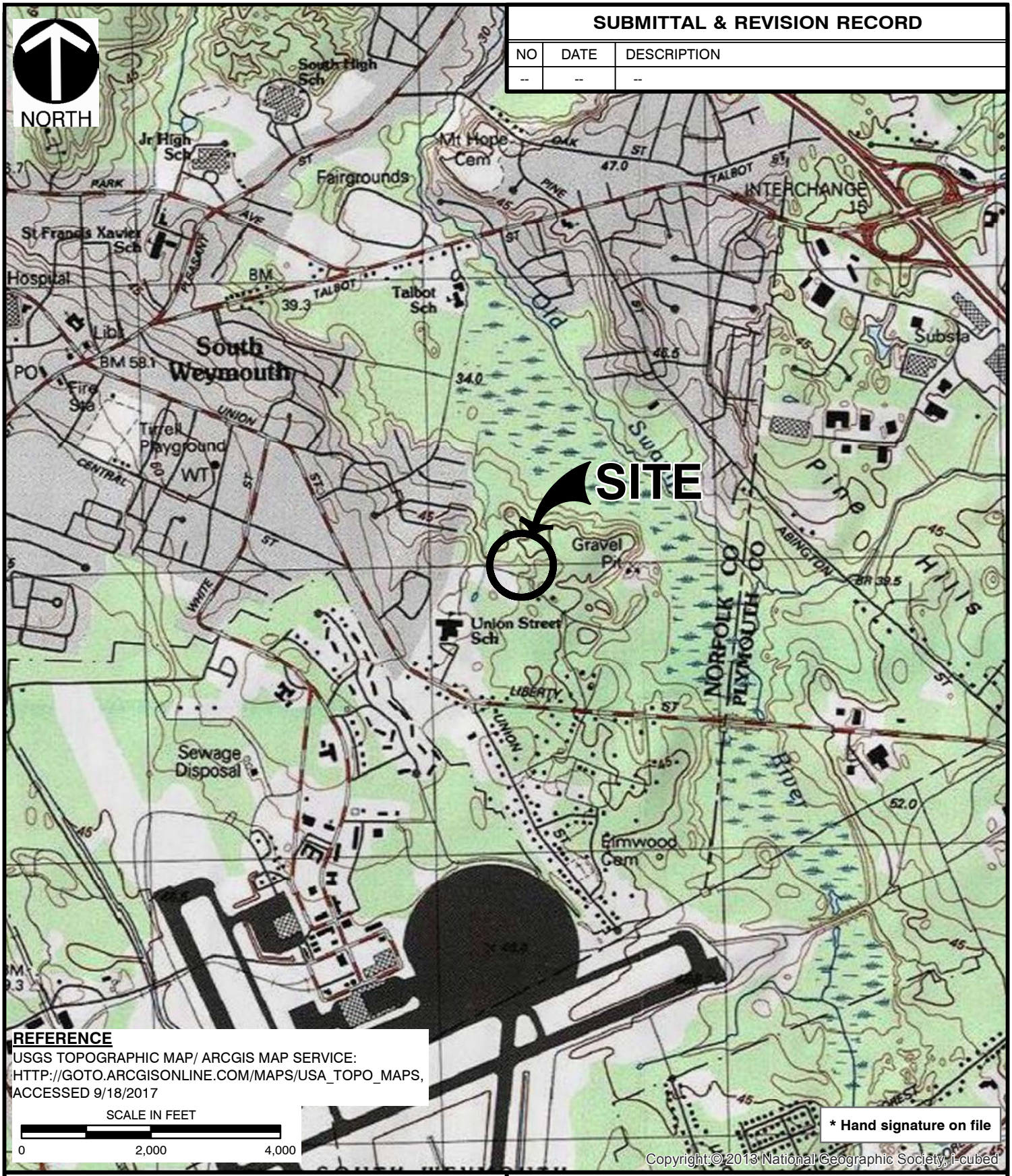


REFERENCE

USGS TOPOGRAPHIC MAP/ ARCGIS MAP SERVICE: HTTP://GOTO.ARCGISONLINE.COM/MAPS/USA_TOPO_MAPS, ACCESSED 9/18/2017

SCALE IN FEET

0 2,000 4,000

*** Hand signature on file**

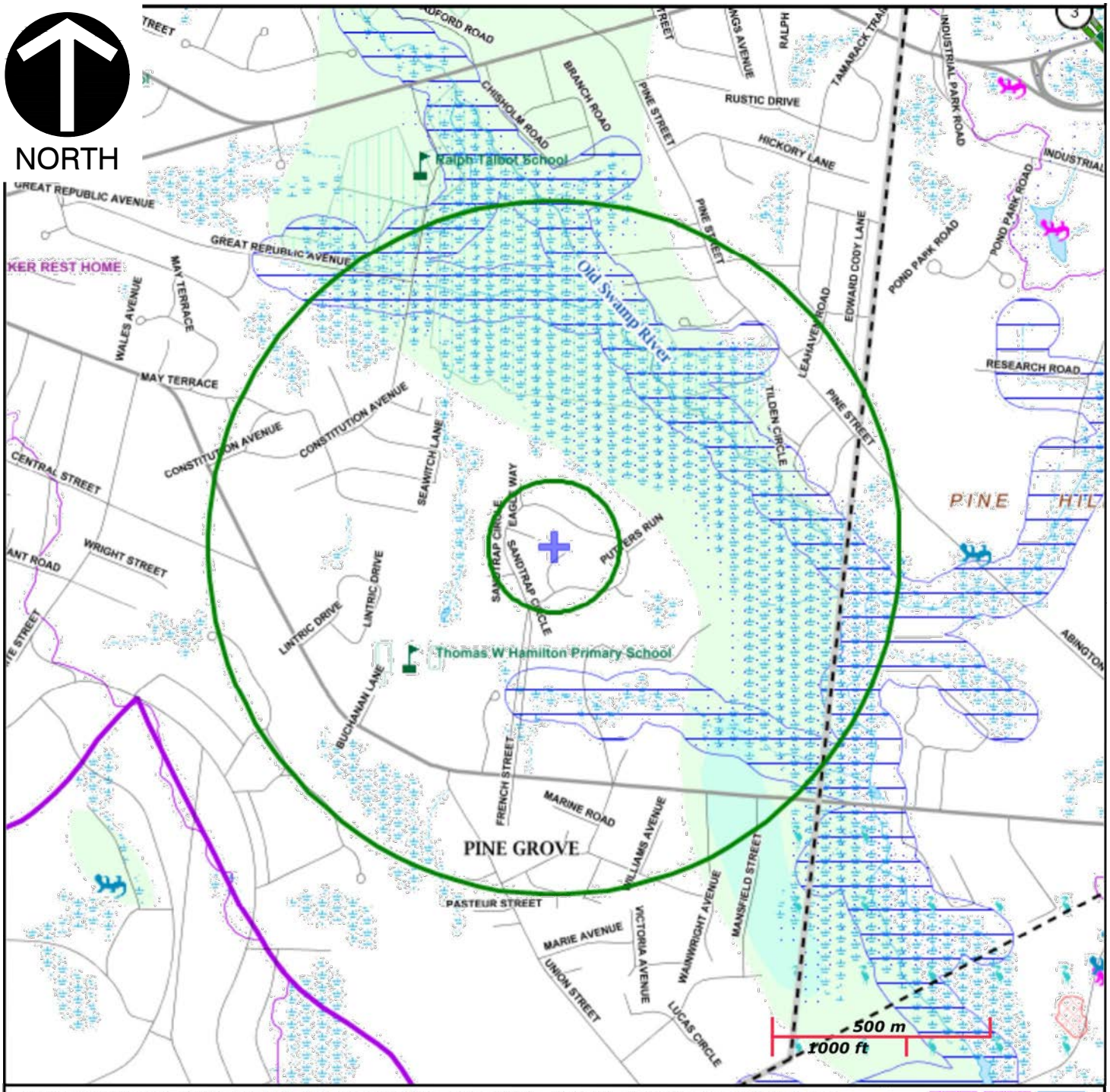
Civil & Environmental Consultants, Inc.
31 Bellows Road - Raynham, MA 02767
774-501-2176 • 866-312-2024
www.cecinc.com

BRISTOL BROS DEVELOPMENT CORPORATION

14 SANDTRAP CIRCLE
WEYMOUTH, MASSACHUSETTS

SITE LOCATION MAP

DRAWN BY:	RJF	CHECKED BY:	NPB	APPROVED BY:	*WRH	FIGURE NO:	1
DATE:	SEPTEMBER 2017	SCALE:	1 " = 2,000 '	PROJECT NO:	173-121		



* HAND SIGNATURE ON FILE

Civil & Environmental Consultants, Inc.
31 Bellows Road - Raynham, MA 02767
Ph: 774.501.2176 · 866.312.2024 · Fax: 774.501.2669
www.cecinc.com

BRISTOL BROS DEVELOPMENT CORPORATION

14 SANDTRAP CIRCLE
WEYMOUTH, MASSACHUSETTS

RESOURCE MAP

DRAWN BY:	RJF	CHECKED BY:	NPB	APPROVED BY:	*WRH	FIGURE NO.:	2
DATE:	SEPTEMBER 2017	DWG SCALE:		PROJECT NO:	173-446		

P:\2017\173-121\-CADD\Dwg\173121-EN01-Resource Map.dwg{LAYOUT1} LS:(9/18/2017 - bforgette) - LP: 9/18/2017 11:08 AM

TABLES

Table 1
Summary of Groundwater & Surface Water Analytical Results
Spring Sampling Event
The Village at Weathervane and Golf Course
Weymouth, Massachusetts

Sample ID	MW-1	MW-3	MW-4	SWM-2	*MCP*	
Sample Date	8/28/2017	8/28/2017	8/28/2017	8/28/2017	***Reportable Concentrations***	***Method 1 Cleanup Standards***
Sample Time	8:40 AM	10:20 AM	11:27 AM	9:22 AM		
Depth to Water (*ft*)	6.00	4.51	6.42	N/A	***RCGW-1***	***GW-1***
Depth to Bottom (*ft*)	19.60	16.65	18.67	N/A		
SM 21-22 4500 P E (mg/L)						
Orthophosphate as P	ND (0.050)	0.061	ND (0.050)	ND (0.050)	~	~
SM19-22 4500 NH3 C (mg/L)						
Ammonia as N	ND (0.30)	**1.7**	**1.4**	ND (0.30)	1	~
SM19-22 4500-N Org B,C-NH3 C (mg/L)						
Total Kjeldahl Nitrogen	1.1	2.8	1.7	3.9	~	~
SW-846 6020A-B (µg/L) Metals Digestion						
Arsenic	ND (2.0)	2.4	ND (2.0)	ND (2.0)	10	10
SW-846 7470A (mg/L) Metals Digestion						
Mercury	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	0.002	0.002
SW-846 8081B (µg/L) Pesticides						
4,4'-DDE	ND (0.040)	ND (0.040)	ND (0.040)	ND (0.20) *	0.05	0.05
Heptachlor Epoxide	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.25) *	0.2	0.2
SW-846 8151A (µg/L) Herbicides						
Herbicides (All)	ND	ND	ND	ND		
SW-846 8260C (µg/L) Volatile Organic Compounds						
1,2-Dibromoethane (Edb)	ND (0.50) *	NT	ND (0.50) *	ND (0.50) *	0.02	0.02
1,4-Dioxane	ND (50) *	NT	ND (50) *	ND (50) *	0.3	0.3

Notes:
Monitoring well and surface water locations that were dry at sampling are not shown on this table.
Only detectable concentrations are shown on this table.
"mg/L" = milligrams per liter
"µg/L" = micrograms per liter
An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit exceeds one or more of the regulatory criteria.
"ND" = Not detected above laboratory reporting limits shown in parenthesis.
"NT" = Not tested.
"~" = No UCL or Method 1 Standard available.
*"**BOLD**" = Value exceeds one or both of the MCP Standards.*

APPENDIX A
WATER QUALITY DATA SUMMARY

Table 1
Summary of Groundwater & Surface Water Analytical Results
Spring Sampling Event
The Village at Weathervane and Golf Course
Weymouth, Massachusetts

Sample ID	MW-1	MW-3	MW-4	SWM-2	*MCP*	
Sample Date	8/28/2017	8/28/2017	8/28/2017	8/28/2017	***Reportable Concentrations***	***Method 1 Cleanup Standards***
Sample Time	8:40 AM	10:20 AM	11:27 AM	9:22 AM		
Depth to Water (*ft*)	6.00	4.51	6.42	N/A	***RCGW-1***	***GW-1***
Depth to Bottom (*ft*)	19.60	16.65	18.67	N/A		
SM 21-22 4500 P E (mg/L)						
Orthophosphate as P	ND (0.050)	0.061	ND (0.050)	ND (0.050)	~	~
SM19-22 4500 NH3 C (mg/L)						
Ammonia as N	ND (0.30)	**1.7**	**1.4**	ND (0.30)	1	~
SM19-22 4500-N Org B,C-NH3 C (mg/L)						
Total Kjeldahl Nitrogen	1.1	2.8	1.7	3.9	~	~
SW-846 6020A-B (µg/L) Metals Digestion						
Arsenic	ND (2.0)	2.4	ND (2.0)	ND (2.0)	10	10
SW-846 7470A (mg/L) Metals Digestion						
Mercury	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	0.002	0.002
SW-846 8081B (µg/L) Pesticides						
4,4'-DDE	ND (0.040)	ND (0.040)	ND (0.040)	ND (0.20) *	0.05	0.05
Heptachlor Epoxide	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.25) *	0.2	0.2
SW-846 8151A (µg/L) Herbicides						
SW-846 8260C (µg/L) Volatile Organic Compounds						
1,2-Dibromoethane (Edb)	ND (0.50) *	NT	ND (0.50) *	ND (0.50) *	0.02	0.02
1,4-Dioxane	ND (50) *	NT	ND (50) *	ND (50) *	0.3	0.3

Notes :
Monitoring well and surface water locations that were dry at sampling are not shown on this table.
Only detectable concentrations are shown on this table.
"mg/L" = milligrams per liter
"µg/L" = micrograms per liter
An asterisk (*) following a detection limit indicates that the minimum laboratory reporting limit exceeds one or more of the regulatory criteria.
"ND" = Not detected above laboratory reporting limits shown in parenthesis.
"NT" = Not tested.
"~" = No UCL or Method 1 Standard available.
*"**BOLD** " = Value exceeds one or both of the MCP Standards.*

Weathervane Golf - Summary of Water Quality Data
MW-1

Sample Location:	**MW-1**	**MW-1**	**MW-1**	**MW-1**	**MW-1**	**MW-1**	**MW-1**
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016	8/28/2017
Pesticides-Water (µg/l)							
4,4'-DDD	ND	ND	ND	ND	<0.1	<0.05	<0.04
4,4'-DDE	ND	ND	ND	ND	<0.1	<0.05	<0.04
4,4'-DDT	ND	ND	ND	ND	<0.1	<0.05	<0.04
Aldrin	ND	ND	ND	ND	<0.1	<0.05	<0.05
alpha-BHC	ND	ND	ND	ND	<0.1	<0.05	<0.05
beta-BHC	ND	ND	ND	ND	<0.1	<0.05	<0.05
Chlordane	ND	ND	ND	ND	<0.5	<0.5	<0.2
delta-BHC	ND	ND	ND	ND	<0.1	<0.05	<0.05
Dieldrin	ND	ND	ND	ND	<0.1	<0.05	<0.002
Endosulfan I	ND	ND	ND	ND	<0.1	<0.05	<0.05
Endosulfan II	ND	ND	ND	ND	<0.1	<0.05	<0.08
Endosulfan Sulfate	ND	ND	ND	ND	<0.1	<0.05	<0.08
Endrin	ND	ND	ND	ND	<0.1	<0.05	<0.08
Endrin Aldehyde	ND	ND	ND	ND	NT	<0.05	<0.08
Endrin Ketone	ND	ND	ND	ND	<0.1	<0.05	<0.05
gamma-BHC (Lindane)	ND	ND	ND	ND	<0.1	<0.02	<0.03
Heptachlor	ND	ND	ND	ND	<0.1	<0.05	<0.05
Heptachlor Epoxide	ND	ND	ND	ND	<0.1	<0.05	<0.05
Hexachlorobenzene					<0.1	<0.05	<0.05
Methoxychlor	ND	ND	ND	ND	<0.1	<0.05	<0.5
Toxaphene	ND	ND	ND	ND	NT		NT
Chlorinated Herbicide-Water (µg/l)							
2,4,5-T	ND	ND	ND	ND	<1.0	<1.0	<0.095
2,4,5-TP	ND	ND	ND	ND	<1.0	<1.0	<0.048
2,4-D	ND	ND	ND	ND	<1.0	<1.0	<0.48
2,4-DB	ND	ND	ND	ND	NT	NT	<0.48
Dalapon	ND	ND	ND	ND	<1.0	<1.0	<1.2
Dicamba	ND	ND	ND	ND	<1.0	<1.0	<0.048
Dichloroprop	ND	ND	ND	ND	<1.0	<1.0	<0.48
Dinoseb	ND	ND	ND	ND	<1.0	<1.0	<0.24
MCPA	NT	NT	NT	NT	NT	NT	<48
MCPP	NT	NT	NT	NT	NT	NT	<48

Weathervane Golf - Summary of Water Quality Data
MW-1

Sample Location:	**MW-1**	**MW-1**	**MW-1**	**MW-1**	**MW-1**	**MW-1**	**MW-1**
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016	8/28/2017
Nitrogen/Orthophosphate (mg/l)							
Ammonia (as N)	ND	0.03	ND	0.21	0.13	<0.20	<0.30
Nitrate (asN)	0.130	0.36	0.07	0.12	<0.25	0.91	NT
Nitrite (as N)	ND	ND	ND	ND	<0.25		NT
Nitrogen, Kjeldahl(TKN)	0.120	0.19	1.23	1.99	<0.50	<0.50	1.1
Ortho Phosphate	0.030	ND	ND	ND	<0.05	<0.05	<0.05
Priority Pollutant Metals (mg/l)							
Antimony	ND	ND	0.0014	ND	<0.002	<0.002	<5
Arsenic	ND	0.0187	0.0307	0.149	<0.001	<0.001	<2
Beryllium	ND	ND	ND	ND	<0.002	<0.001	<2
Cadmium	ND	ND	ND	ND	0.0001	0.00027	<2.5
Chromium	ND	ND	0.192	1.79	<0.050	<0.050	<5
Copper	ND	ND	0.318	1.6	<0.010	<0.010	<25
Lead	ND	ND	0.298	1.58	0.004	<0.001	<5
Mercury	ND	ND	0.000389	ND	<0.0005	<0.0005	<0.00010
Nickel	ND	ND	ND	1.64	<0.050	<0.050	<25
Selenium	ND	ND	ND	ND	<0.002	<0.002	<25
Silver	ND	ND	ND	ND	<0.001	<0.001	<2.5
Thallium	ND	ND	0.00128	0.00174	<0.001	<0.001	<1
Zinc	ND	ND	0.682	5.36	<0.10	<0.10	<50

Weathervane Golf - Summary of Water Quality Data
MW-1

Sample Location:	**MW-1**	**MW-1**	**MW-1**	**MW-1**	**MW-1**	**MW-1**	**MW-1**
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016	8/28/2017
Volatile Organic Compunds (µg/l)							
1,1,1,2-Tetrachloroethane	N/A	N/A	N/A	N/A	<1	<1	<1
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	<1	<1	<1
1,1,2,2-Tetrachlorethane	N/A	N/A	N/A	N/A	<1	<1	<0.5
1,1,2-Trichloroethane	N/A	N/A	N/A	N/A	<1	<1	<1
1,1-Dichloroetheane	N/A	N/A	N/A	N/A	<1	<1	<1
1,1-Dichloroethylene	N/A	N/A	N/A	N/A	<1	<1	<1
1,1-Dichloroproene	N/A	N/A	N/A	N/A	<1	<1	<0.5
1,2,3-Trichlorobenzene	N/A	N/A	N/A	N/A	<1	<1	<2
1,2,3-Trichloropropane	N/A	N/A	N/A	N/A	<1	<1	<2
1,2,4-Trichlorobenzene	N/A	N/A	N/A	N/A	<1	<1	<1
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	<1	<1	<1
1,2-Dibromo-3-Chloropropane	N/A	N/A	N/A	N/A	<2	<2	<5
1,2-Dibromoethane	N/A	N/A	N/A	N/A	<1	<1	**<0.5**
1,2-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	<1	<1
1,2-Dichloroethane	N/A	N/A	N/A	N/A	<1	<1	<1
1,2-Dichloroprane	N/A	N/A	N/A	N/A	<1	<1	<1
1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	<1	<1	<1
1,3-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	<1	<1
1,3-Dichloropropane	N/A	N/A	N/A	N/A	<1	<1	<0.5
1,4-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	<1	<1
1,4-Dioxane	NT	NT	NT	NT	NT	NT	**<50**
2,2-Dichloropropane	N/A	N/A	N/A	N/A	<1	<1	<1
2-Butanone-(MEK)	N/A	N/A	N/A	N/A	<10	<10	<10
2-Chloroethyl vinyl ether	N/A	N/A	N/A	N/A	NT	NT	NT
2-Chlorotoluene	N/A	N/A	N/A	N/A	<1	<1	<1
2-Hexanone	N/A	N/A	N/A	N/A	<10	<10	<10
4-Chlorotoluene	N/A	N/A	N/A	N/A	<1	<1	<1
4-Isopropyltoluene	N/A	N/A	N/A	N/A	NT		NT
4-Methyl-2-Pentanone (MIBK)	N/A	N/A	N/A	N/A	<10	<10	<10
Acetone	N/A	N/A	N/A	N/A	<10	<10	<10
Acrolein	N/A	N/A	N/A	N/A	NT	NT	NT
Acrylonitrile	N/A	N/A	N/A	N/A	NT	NT	NT
Benzene	N/A	N/A	N/A	N/A	<1	<1	<1
Bromobenzene	N/A	N/A	N/A	N/A	<1	<1	<1
Bromochloromethane	N/A	N/A	N/A	N/A	<1	<1	<1
Bromodichlorormethane	N/A	N/A	N/A	N/A	<1	<1	<1
Bromoform	N/A	N/A	N/A	N/A	<1	<1	<2
Bromomethane	N/A	N/A	N/A	N/A	<1	<1	<5
Carbon Disulfide	N/A	N/A	N/A	N/A	<5	<5	<5
Carbon Tetrachloride	N/A	N/A	N/A	N/A	<1	<1	<1

Weathervane Golf - Summary of Water Quality Data
MW-1

Sample Location:	**MW-1**	**MW-1**	**MW-1**	**MW-1**	**MW-1**	**MW-1**	**MW-1**
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016	8/28/2017
Volatile Organic Compunds (µg/l)							
Chlorobenzene	N/A	N/A	N/A	N/A	<1	<1	<1
Chlorodibromomethane	NT	NT	NT	NT	NT	NT	<0.5
Chloroethane	N/A	N/A	N/A	N/A	<5	<5	<5
Chloroform	N/A	N/A	N/A	N/A	<1	<1	<2
Chloromethane	N/A	N/A	N/A	N/A	<5	<5	<5
cis-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	<1	<1	<1
cis-1,3-Dichloropropene	N/A	N/A	N/A	N/A	<0.4	<0.4	<0.4
Dibromochloromethane	N/A	N/A	N/A	N/A	<1	<1	NT
Dibromomethane	N/A	N/A	N/A	N/A	<2	<2	<1
Dichlorodifluoromethane	N/A	N/A	N/A	N/A	<5	<5	<2
Diethyl Ether	NT	NT	NT	NT	NT	NT	<2
Diisopropyl Ether	NT	NT	NT	NT	NT	NT	<0.5
Ethylbenzene	N/A	N/A	N/A	N/A	<1	<1	<1
Hexachlorobutadiene	N/A	N/A	N/A	N/A	<0.5	<0.5	<0.6
Isopropylbenzene	N/A	N/A	N/A	N/A	<1	<1	<1
lodomethane	N/A	N/A	N/A	N/A	NT	NT	NT
M&P-Xylene	N/A	N/A	N/A	N/A	<2	<2	<2
Methyl-Tert-Butyl-Ether	N/A	N/A	N/A	N/A	<5	<5	<1
Methylene Chloride	N/A	N/A	N/A	N/A	NT	<2	<5
Naphthalene	N/A	N/A	N/A	N/A	<1	<1	<2
n-Butylbenzene	N/A	N/A	N/A	N/A	<1	<1	<1
n-Propylbenzene	N/A	N/A	N/A	N/A	<1	<1	<1
O-Xylene	N/A	N/A	N/A	N/A	<1	<1	<1
P-Isopropyltoluene	NT	NT	NT	NT	NT	NT	<1
sec-Butylbenezene	N/A	N/A	N/A	N/A	<1	<1	<1
Styrene	N/A	N/A	N/A	N/A	<1	<1	<1
tert-Amyl Methyl Ether	NT	NT	NT	NT	NT	NT	<1
tert-Butylbenzene	N/A	N/A	N/A	N/A	<1	<1	<1
tert-Butylethyl Ether	NT	NT	NT	NT	NT	NT	<0.5
Tetrachloroethylene	N/A	N/A	N/A	N/A	<1	<1	<1
Tetrahydrofuran	NT	NT	NT	NT	NT	NT	<2
Toluene	N/A	N/A	N/A	N/A	<1	<1	<1
trans-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	<2	<2	<2
trans-1,3-Dichloropropene	N/A	N/A	N/A	N/A	<0.4	<0.4	<0.4
trans-1,4-Dichloro-2-butene	N/A	N/A	N/A	N/A	NT		NT
Trichloroethylene	N/A	N/A	N/A	N/A	<1	<1	<1
Trichlorofluoromethane	N/A	N/A	N/A	N/A	<1	<1	<2
Vinyl Acetate	N/A	N/A	N/A	N/A	NT		NT
Vinyl Chloride	N/A	N/A	N/A	N/A	<1	<1	<2

Weathervane Golf - Summary of Water Quality Data
MW-2

Sample Location:	MW-2	MW-2	MW-2	MW-2	MW-2
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	8/28/2017
Pesticides-Water (µg/l)					
4,4'-DDD	ND	ND	ND	ND	DRY
4,4'-DDE	ND	ND	ND	ND	DRY
4,4'-DDT	ND	ND	ND	ND	DRY
Aldrin	ND	ND	ND	ND	DRY
alpha-BHC	ND	ND	ND	ND	DRY
beta-BHC	ND	ND	ND	ND	DRY
Chlordane	ND	ND	ND	ND	DRY
delta-BHC	ND	ND	ND	ND	DRY
Dieldrin	ND	ND	ND	ND	DRY
Endosulfan I	ND	ND	ND	ND	DRY
Endosulfan II	ND	ND	ND	ND	DRY
Endosulfan Sulfate	ND	ND	ND	ND	DRY
Endrin	ND	ND	ND	ND	DRY
Endrin Aldehyde	ND	ND	ND	ND	DRY
Endrin Ketone	ND	ND	ND	ND	DRY
gamma-BHC (Lindane)	ND	ND	ND	ND	DRY
Heptachlor	ND	ND	ND	ND	DRY
Heptachlor Epoxide	ND	ND	ND	ND	DRY
Hexachlorobenzene					DRY
Methoxychlor	ND	ND	ND	ND	DRY
Toxaphene	ND	ND	ND	ND	DRY
Chlorinated Herbicide-Water (µg/l)					
2,4,5-T	ND	ND	ND	ND	DRY
2,4,5-TP	ND	ND	ND	ND	DRY
2,4-D	ND	ND	ND	ND	DRY
2,4-DB	ND	ND	ND	ND	DRY
Dalapon	ND	ND	ND	ND	DRY
Dicamba	ND	ND	ND	ND	DRY
Dichloroprop	ND	ND	ND	ND	DRY
Dinoseb	ND	ND	ND	ND	DRY

Weathervane Golf - Summary of Water Quality Data
MW-2

Sample Location:	**MW-2**	**MW-2**	**MW-2**	**MW-2**	**MW-2**
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	8/28/2017

Nitrogen/Orthophosphate (mg/l)

Ammonia (as N)	ND	0.04	0.256	0.45	DRY
Nitrate (asN)	0.200	0.27	0.96	ND	DRY
Nitrite (as N)	ND	ND	ND	ND	DRY
Nitrogen, Kjeldahl(TKN)	0.170	0.36	1.6	1.64	DRY
Ortho Phosphate	0.010	ND	ND	ND	DRY

Priority Pollutant Metals (mg/l)

Antimony	ND	ND	0.00187	ND	DRY
Arsenic	ND	0.0133	0.0256	0.00112	DRY
Beryllium	ND	ND	ND	ND	DRY
Cadmium	ND	ND	ND	ND	DRY
Chromium	ND	ND	0.152	ND	DRY
Copper	ND	ND	0.182	ND	DRY
Lead	ND	ND	0.244	ND	DRY
Mercury	ND	ND	0.00051	ND	DRY
Nickel	ND	ND	ND	ND	DRY
Selenium	ND	ND	ND	ND	DRY
Silver	ND	ND	ND	ND	DRY
Thallium	ND	ND	ND	ND	DRY
Zinc	ND	ND	0.492	ND	DRY

Weathervane Golf - Summary of Water Quality Data
MW-2

Sample Location:	MW-2	MW-2	MW-2	MW-2	MW-2
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	8/28/2017

Volatile Organic Compunds (µg/l)

1,1,1,2-Tetrachloroethane	N/A	N/A	N/A	N/A	DRY
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	DRY
1,1,2,2-Tetrachlorethane	N/A	N/A	N/A	N/A	DRY
1,1,2-Trichloroethane	N/A	N/A	N/A	N/A	DRY
1,1-Dichloroetheane	N/A	N/A	N/A	N/A	DRY
1,1-Dichloroethylene	N/A	N/A	N/A	N/A	DRY
1,1-Dichloroproene	N/A	N/A	N/A	N/A	DRY
1,2,3-Trichlorobenzene	N/A	N/A	N/A	N/A	DRY
1,2,3-Trichloropropane	N/A	N/A	N/A	N/A	DRY
1,2,4-Trichlorobenzene	N/A	N/A	N/A	N/A	DRY
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	DRY
1,2-Dibromo-3-Chloropropane	N/A	N/A	N/A	N/A	DRY
1,2-Dibromoethane	N/A	N/A	N/A	N/A	DRY
1,2-Dichlorobenzene	N/A	N/A	N/A	N/A	DRY
1,2-Dichloroethane	N/A	N/A	N/A	N/A	DRY
1,2-Dichloroprane	N/A	N/A	N/A	N/A	DRY
1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	DRY
1,3-Dichlorobenzene	N/A	N/A	N/A	N/A	DRY
1,3-Dichloropropane	N/A	N/A	N/A	N/A	DRY
1,4-Dichlorobenzene	N/A	N/A	N/A	N/A	DRY
1,4-Dioxane	NT	NT	NT	NT	DRY
2,2-Dichloropropane	N/A	N/A	N/A	N/A	DRY
2-Butanone-(MEK)	N/A	N/A	N/A	N/A	DRY
2-Chloroethyl vinyl ether	N/A	N/A	N/A	N/A	DRY
2-Chlorotoluene	N/A	N/A	N/A	N/A	DRY
2-Hexanone	N/A	N/A	N/A	N/A	DRY
4-Chlorotoluene	N/A	N/A	N/A	N/A	DRY
4-Isopropyltoluene	N/A	N/A	N/A	N/A	DRY
4-Methyl-2-Pentanone (MIBK)	N/A	N/A	N/A	N/A	DRY
Acetone	N/A	N/A	N/A	N/A	DRY
Acrolein	N/A	N/A	N/A	N/A	DRY
Acrylonitrile	N/A	N/A	N/A	N/A	DRY
Benzene	N/A	N/A	N/A	N/A	DRY
Bromobenzene	N/A	N/A	N/A	N/A	DRY
Bromochloromethane	N/A	N/A	N/A	N/A	DRY
Bromodichlorormethane	N/A	N/A	N/A	N/A	DRY
Bromoform	N/A	N/A	N/A	N/A	DRY
Bromomethane	N/A	N/A	N/A	N/A	DRY
Carbon Disulfide	N/A	N/A	N/A	N/A	DRY
Carbon Tetrachloride	N/A	N/A	N/A	N/A	DRY
Chlorobenzene	N/A	N/A	N/A	N/A	DRY

Sample Location:	MW-2	MW-2	MW-2	MW-2	MW-2
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	8/28/2017
Volatile Organic Compunds (µg/l)					
Chlorodibromomethane	NT	NT	NT	NT	DRY
Chloroethane	N/A	N/A	N/A	N/A	DRY
Chloroform	N/A	N/A	N/A	N/A	DRY
Chloromethane	N/A	N/A	N/A	N/A	DRY
cis-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	DRY
cis-1,3-Dichloropropene	N/A	N/A	N/A	N/A	DRY
Dibromochloromethane	N/A	N/A	N/A	N/A	DRY
Dibromomethane	N/A	N/A	N/A	N/A	DRY
Dichlorodifluoromethane	N/A	N/A	N/A	N/A	DRY
Diethyl Ether	NT	NT	NT	NT	DRY
Diisopropyl Ether	NT	NT	NT	NT	DRY
Ethylbenzene	N/A	N/A	N/A	N/A	DRY
Hexachlorobutadiene	N/A	N/A	N/A	N/A	DRY
Isopropylbenzene	N/A	N/A	N/A	N/A	DRY
lodomethane	N/A	N/A	N/A	N/A	DRY
M&P-Xylene	N/A	N/A	N/A	N/A	DRY
Methyl-Tert-Butyl-Ether	N/A	N/A	N/A	N/A	DRY
Methylene Chloride	N/A	N/A	N/A	N/A	DRY
Naphthalene	N/A	N/A	N/A	N/A	DRY
n-Butylbenzene	N/A	N/A	N/A	N/A	DRY
n-Propylbenzene	N/A	N/A	N/A	N/A	DRY
O-Xylene	N/A	N/A	N/A	N/A	DRY
P-Isopropyltoluene	NT	NT	NT	NT	DRY
sec-Butylbenezene	N/A	N/A	N/A	N/A	DRY
Styrene	N/A	N/A	N/A	N/A	DRY
tert-Amyl Methyl Ether	NT	NT	NT	NT	DRY
tert-Butylbenzene	N/A	N/A	N/A	N/A	DRY
tert-Butylethyl Ether	NT	NT	NT	NT	DRY
Tetrachloroethylene	N/A	N/A	N/A	N/A	DRY
Tetrahydrofuran	NT	NT	NT	NT	DRY
Toluene	N/A	N/A	N/A	N/A	DRY
trans-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	DRY
trans-1,3-Dichloropropene	N/A	N/A	N/A	N/A	DRY
trans-1,4-Dichloro-2-butene	N/A	N/A	N/A	N/A	DRY
Trichloroethylene	N/A	N/A	N/A	N/A	DRY
Trichlorofluoromethane	N/A	N/A	N/A	N/A	DRY
Vinyl Acetate	N/A	N/A	N/A	N/A	DRY
Vinyl Chloride	N/A	N/A	N/A	N/A	DRY

Weathervane Golf - Summary of Water Quality Data
MW-3

Sample Location:	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016	8/28/2017
Pesticides-Water (µg/l)							
4,4'-DDD	ND	ND	ND	ND	<0.1	<0.05	<0.04
4,4'-DDE	ND	ND	ND	ND	<0.1	<0.05	<0.04
4,4'-DDT	ND	ND	ND	ND	<0.1	<0.05	<0.04
Aldrin	ND	ND	ND	ND	<0.1	<0.05	<0.05
alpha-BHC	ND	ND	ND	ND	<0.1	<0.05	<0.05
beta-BHC	ND	ND	ND	ND	<0.1	<0.05	<0.05
Chlordane	ND	ND	ND	ND	<0.5	<0.5	<0.2
delta-BHC	ND	ND	ND	ND	<0.1	<0.05	<0.05
Dieldrin	ND	ND	ND	ND	<0.1	<0.05	<0.002
Endosulfan I	ND	ND	ND	ND	<0.1	<0.05	<0.05
Endosulfan II	ND	ND	ND	ND	<0.1	<0.05	<0.08
Endosulfan Sulfate	ND	ND	ND	ND	<0.1	<0.05	<0.08
Endrin	ND	ND	ND	ND	<0.1	<0.05	<0.08
Endrin Aldehyde	ND	ND	ND	ND	NT		<0.08
Endrin Ketone	ND	ND	ND	ND	<0.1	<0.05	<0.05
gamma-BHC (Lindane)	ND	ND	ND	ND	<0.1	<0.02	<0.03
Heptachlor	ND	ND	ND	ND	<0.1	<0.05	<0.05
Heptachlor Epoxide	ND	ND	ND	ND	<0.1	<0.05	<0.05
Hexachlorobenzene	NT	NT	NT	NT	<0.1	<0.05	<0.05
Methoxychlor	ND	ND	ND	ND	<0.1	<0.05	<0.5
Toxaphene	ND	ND	ND	ND	NT		NT
Chlorinated Herbicide-Water (µg/l)							
2,4,5-T	ND	ND	ND	ND	<1.1	<1.0	<0.096
2,4,5-TP	ND	ND	ND	ND	<1.1	<1.0	<0.048
2,4-D	ND	ND	ND	ND	<1.1	<1.0	<0.48
2,4-DB	ND	ND	ND	ND	NT		<0.48
Dalapon	ND	ND	ND	ND	<1.1	<1.0	<1.2
Dicamba	ND	ND	ND	ND	<1.1	<1.0	<0.048
Dichloroprop	ND	ND	ND	ND	<1.1	<1.0	<0.48
Dinoseb	ND	ND	ND	ND	<1.1	<1.0	<0.24
Nitrogen/Orthophosphate (mg/l)							
Ammonia (as N)	0.680	1.3	1.34	2.33	1.8	1.1	1.7
Nitrate (asN)	0.150	ND	ND	ND	<0.25	<0.25	NT
Nitrite (as N)	ND	ND	ND	ND	<0.25		NT
Nitrogen, Kjeldahl(TKN)	0.840	1.6	5.82	6.34	2.6	1.3	2.8
Ortho Phosphate	0.010	0.02	ND	ND	<0.09	<0.5	0.061

Weathervane Golf - Summary of Water Quality Data
MW-3

Sample Location:	**MW-3**	**MW-3**	**MW-3**	**MW-3**	**MW-3**	**MW-3**	**MW-3**
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016	8/28/2017
Priority Pollutant Metals (mg/l)							
Antimony	ND	ND	ND	ND	<0.002	<0.002	<5
Arsenic	ND	ND	0.00749	0.0913	0.003	0.0015	2.4
Beryllium	ND	ND	ND	ND	<0.002	<0.001	<2
Cadmium	ND	ND	ND	ND	<0.0001	<0.0001	<2.5
Chromium	ND	ND	ND	ND	<0.050	<0.050	<5
Copper	ND	ND	0.047	0.96	<0.010	<0.010	<25
Lead	ND	ND	0.032	0.195	<0.001	<0.001	<5
Mercury	ND	ND	0.00045	ND	<0.0005	<0.0005	<0.00010
Nickel	ND	ND	ND	ND	<0.050	<0.050	<25
Selenium	ND	ND	ND	ND	<0.002	<0.002	<25
Silver	ND	ND	ND	ND	<0.001	<0.001	<2.5
Thallium	ND	ND	ND	ND	<0.001	<0.001	<1
Zinc	ND	ND	ND	ND	<0.10	<0.10	<50

Sample Location:	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	11/2/2016	8/28/2017
Volatile Organic Compunds (µg/l)							
1,1,1,2-Tetrachloroethane	ND	ND	N/A	N/A	<1	<1	NT
1,1,1-Trichloroethane	ND	ND	N/A	N/A	<1	<1	NT
1,1,2,2-Tetrachlorethane	ND	ND	N/A	N/A	<1	<1	NT
1,1,2-Trichloroethane	ND	ND	N/A	N/A	<1	<1	NT
1,1-Dichloroetheane	ND	ND	N/A	N/A	<1	<1	NT
1,1-Dichloroethylene	ND	ND	N/A	N/A	<1	<1	NT
1,1-Dichloroproene	ND	ND	N/A	N/A	<1	<1	NT
1,2,3-Trichlorobenzene	ND	ND	N/A	N/A	<1	<1	NT
1,2,3-Trichloropropane	ND	ND	N/A	N/A	<2	<2	NT
1,2,4-Trichlorobenzene	ND	ND	N/A	N/A	<1	<1	NT
1,2,4-Trimethylbenzene	ND	ND	N/A	N/A	<1	<1	NT
1,2-Dibromo-3-Chloropropane	ND	ND	N/A	N/A	<2	<2	NT
1,2-Dibromoethane	ND	ND	N/A	N/A	<1	<1	NT
1,2-Dichlorobenzene	ND	ND	N/A	N/A	<1	<1	NT
1,2-Dichloroethane	ND	ND	N/A	N/A	<1	<1	NT
1,2-Dichloroprane	ND	ND	N/A	N/A	<1	<1	NT
1,3,5-Trimethylbenzene	ND	ND	N/A	N/A	<1	<1	NT
1,3-Dichlorobenzene	ND	ND	N/A	N/A	<1	<1	NT
1,3-Dichloropropane	ND	ND	N/A	N/A	<1	<1	NT
1,4-Dichlorobenzene	ND	ND	N/A	N/A	<1	<1	NT
2,2-Dichloropropane	ND	ND	N/A	N/A	<1	<1	NT
2-Butanone-(MEK)	ND	ND	N/A	N/A	<10	<10	NT
2-Chloroethyl vinyl ether	ND	ND	N/A	N/A	NT	NT	NT
2-Chlorotoluene	ND	ND	N/A	N/A	<1	<1	NT
2-Hexanone	ND	ND	N/A	N/A	<10	<10	NT
4-Chlorotoluene	ND	ND	N/A	N/A	<1	<1	NT
4-Isopropyltoluene	ND	ND	N/A	N/A	NT	NT	NT
4-Methyl-2-Pentanone (MIBK)	ND	ND	N/A	N/A	<10	<10	NT
Acetone	ND	ND	N/A	N/A	<10	<10	NT
Acrolein	ND	ND	N/A	N/A	NT	NT	NT
Acrylonitrile	ND	ND	N/A	N/A	NT	NT	NT
Benzene	ND	ND	N/A	N/A	<1	<1	NT
Bromobenzene	ND	ND	N/A	N/A	<1	<1	NT
Bromochloromethane	ND	ND	N/A	N/A	<1	<1	NT
Bromodichlorormethane	ND	ND	N/A	N/A	<1	<1	NT
Bromoform	ND	ND	N/A	N/A	<1	<1	NT
Bromomethane	ND	ND	N/A	N/A	<10	<1	NT
Carbon Disulfide	ND	ND	N/A	N/A	<5	<5	NT
Carbon Tetrachloride	ND	ND	N/A	N/A	<1	<1	NT
Chlorobenzene	ND	ND	N/A	N/A	<1	<1	NT
Chloroethane	ND	ND	N/A	N/A	<5	<5	NT
Chloroform	ND	ND	N/A	N/A	<1	<1	NT
Chloromethane	ND	ND	N/A	N/A	<5	<5	NT

Weathervane Golf - Summary of Water Quality Data
MW-3

Sample Location:	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	11/2/2016	8/28/2017
Volatile Organic Compunds (µg/l)							
cis-1,2-Dichloroethylene	ND	ND	N/A	N/A	<1	<1	NT
cis-1,3-Dichloropropene	ND	ND	N/A	N/A	<0.4	<0.4	NT
Dibromochloromethane	ND	ND	N/A	N/A	<1	<1	NT
Dibromomethane	ND	ND	N/A	N/A	<2	<2	NT
Dichlorodifluoromethane	ND	ND	N/A	N/A	<5	<5	NT
Ethylbenzene	ND	ND	N/A	N/A	<1	<1	NT
Hexachlorobutadiene	ND	ND	N/A	N/A	<0.5	<0.5	NT
Isopropylbenzene	ND	ND	N/A	N/A	<1	<1	NT
lodomethane	ND	ND	N/A	N/A	NT		NT
M&P-Xylene	ND	ND	N/A	N/A	<2	<2	NT
Methyl-Tert-Butyl-Ether	ND	ND	N/A	N/A	<5	<5	NT
Methylene Chloride	ND	ND	N/A	N/A	NT	<2	NT
Naphthalene	ND	ND	N/A	N/A	<1	<1	NT
n-Butylbenzene	ND	ND	N/A	N/A	<1	<1	NT
n-Propylbenzene	ND	ND	N/A	N/A	<1	<1	NT
O-Xylene	ND	ND	N/A	N/A	<1	<1	NT
sec-Butylbenezene	ND	ND	N/A	N/A	<1	<1	NT
Styrene	ND	ND	N/A	N/A	<1	<1	NT
tert-Butylbenzene	ND	ND	N/A	N/A	<1	<1	NT
Tetrachloroethylene	ND	ND	N/A	N/A	<1	<1	NT
Toluene	ND	ND	N/A	N/A	<1	<1	NT
trans-1,2-Dichloroethylene	ND	ND	N/A	N/A	<2	<2	NT
trans-1,3-Dichloropropene	ND	ND	N/A	N/A	<0.4	<0.4	NT
trans-1,4-Dichloro-2-butene	ND	ND	N/A	N/A	NT	NT	NT
Trichloroethylene	ND	ND	N/A	N/A	<1	<1	NT
Trichlorofluoromethane	ND	ND	N/A	N/A	<1	<1	NT
Vinyl Acetate	ND	ND	N/A	N/A	NT	NT	NT
Vinyl Chloride	ND	ND	N/A	N/A	<1	<1	NT

Weathervane Golf - Summary of Water Quality Data
MW-4

Sample Location:	**MW-4**	**MW-4**	**MW-4**	**MW-4**	**MW-4**	**MW-4**	**MW-4**
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016	8/28/2017
Pesticides-Water (µg/l)							
4,4'-DDD	ND	ND	ND	ND	<0.1	<0.05	<0.04
4,4'-DDE	ND	ND	ND	ND	<0.1	<0.05	<0.04
4,4'-DDT	ND	ND	ND	ND	<0.1	<0.05	<0.04
Aldrin	ND	ND	ND	ND	<0.1	<0.05	<0.05
alpha-BHC	ND	ND	ND	ND	<0.1	<0.05	<0.05
beta-BHC	ND	ND	ND	ND	<0.1	<0.05	<0.05
Chlordane	ND	ND	ND	ND	<0.5	<0.5	<0.2
delta-BHC	ND	ND	ND	ND	<0.1	<0.05	<0.05
Dieldrin	ND	ND	ND	ND	<0.1	<0.05	<0.002
Endosulfan I	ND	ND	ND	ND	<0.1	<0.05	<0.05
Endosulfan II	ND	ND	ND	ND	<0.1	<0.05	<0.08
Endosulfan Sulfate	ND	ND	ND	ND	<0.1	<0.05	<0.08
Endrin	ND	ND	ND	ND	<0.1	<0.05	<0.08
Endrin Aldehyde	ND	ND	ND	ND	NT		<0.08
Endrin Ketone	ND	ND	ND	ND	<0.1	<0.05	<0.05
gamma-BHC (Lindane)	ND	ND	ND	ND	<0.1	<0.05	<0.03
Heptachlor	ND	ND	ND	ND	<0.1	<0.05	<0.05
Heptachlor Epoxide	ND	ND	ND	ND	<0.1	<0.05	<0.05
Hexachlorobenzene					<0.1	<0.05	<0.05
Methoxychlor	ND	ND	ND	ND	<0.1	<0.05	<0.5
Toxaphene	ND	ND	ND	ND	NT	NT	NT
Chlorinated Herbicide-Water (µg/l)							
2,4,5-T	ND	ND	ND	ND	<1.1	<1.0	<0.095
2,4,5-TP	ND	ND	ND	ND	<1.1	<1.0	<0.048
2,4-D	ND	ND	ND	ND	<1.1	<1.0	<0.48
2,4-DB	ND	ND	ND	ND	NT	NT	<0.48
Dalapon	ND	ND	ND	ND	<1.1	<1.0	<1.2
Dicamba	ND	ND	ND	ND	<1.1	<1.0	<0.048
Dichloroprop	ND	ND	ND	ND	<1.1	<1.0	<0.48
Dinoseb	ND	ND	ND	ND	<1.1	<1.0	<0.24
Nitrogen/Orthophosphate (mg/l)							
Ammonia (as N)	1.500	0.75	1.23	4.31	1.2	1.7	1.4
Nitrate (asN)	ND	0.34	ND	ND	<0.25	<0.25	NT
Nitrite (as N)	ND	ND	ND	ND	<0.25	<0.25	NT
Nitrogen, Kjeldahl(TKN)	1.900	0.95	1.98	8.16	1.5	2.2	1.7
Ortho Phosphate	0.020	ND	ND	ND	<0.05	<0.05	<0.05

Sample Location:	**MW-4**	**MW-4**	**MW-4**	**MW-4**	**MW-4**	**MW-4**	**MW-4**
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016	8/28/2017
Priority Pollutant Metals (mg/l)							
Antimony	ND	ND	0.0081	ND	<0.002	<0.002	<5
Arsenic	ND	0.0132	0.0308	0.0179	0.002	0.0019	<2
Beryllium	ND	ND	ND	ND	<0.002	<0.001	<2
Cadmium	ND	ND	ND	ND	0.0002	0.0013	<2.5
Chromium	ND	ND	ND	ND	<0.050	<0.050	<5
Copper	ND	ND	0.109	ND	<0.010	<0.010	<25
Lead	ND	ND	0.029	0.135	<0.001	<0.001	<5
Mercury	ND	ND	0.000333	ND	<0.0005	<0.005	<0.00010
Nickel	ND	ND	ND	ND	<0.050	<0.050	<25
Selenium	ND	ND	ND	ND	<0.002	0.0027	<25
Silver	ND	ND	ND	ND	<0.001	<0.001	<2.5
Thallium	ND	ND	ND	ND	<0.001	<0.001	<1
Zinc	ND	ND	ND	ND	<0.10	<0.10	<50

Weathervane Golf - Summary of Water Quality Data
MW-4

Sample Location:	**MW-4**	**MW-4**	**MW-4**	**MW-4**	**MW-4**	**MW-4**	**MW-4**
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016	8/28/2017
Volatile Organic Compunds (µg/l)							
1,1,1,2-Tetrachloroethane	N/A	N/A	N/A	N/A	<1	NT	<1
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	<1	NT	<1
1,1,2,2-Tetrachlorethane	N/A	N/A	N/A	N/A	<1	NT	<0.5
1,1,2-Trichloroethane	N/A	N/A	N/A	N/A	<1	NT	<1
1,1-Dichloroetheane	N/A	N/A	N/A	N/A	<1	NT	<1
1,1-Dichloroethylene	N/A	N/A	N/A	N/A	<1	NT	<1
1,1-Dichloroproene	N/A	N/A	N/A	N/A	<1	NT	<0.5
1,2,3-Trichlorobenzene	N/A	N/A	N/A	N/A	<1	NT	<2
1,2,3-Trichloropropane	N/A	N/A	N/A	N/A	<2	NT	<2
1,2,4-Trichlorobenzene	N/A	N/A	N/A	N/A	<1	NT	<1
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	<1	NT	<1
1,2-Dibromo-3-Chloropropane	N/A	N/A	N/A	N/A	<2	NT	<5
1,2-Dibromoethane	N/A	N/A	N/A	N/A	<1	NT	**<0.5**
1,2-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	NT	<1
1,2-Dichloroethane	N/A	N/A	N/A	N/A	<1	NT	<1
1,2-Dichloroprane	N/A	N/A	N/A	N/A	<1	NT	<1
1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	<1	NT	<1
1,3-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	NT	<1
1,3-Dichloropropane	N/A	N/A	N/A	N/A	<1	NT	<0.5
1,4-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	NT	<1
1,4-Dioxane	N/A	N/A	N/A	N/A	NT	NT	**<50**
2,2-Dichloropropane	N/A	N/A	N/A	N/A	<1	NT	<1
2-Butanone-(MEK)	N/A	N/A	N/A	N/A	<10	NT	<10
2-Chloroethyl vinyl ether	N/A	N/A	N/A	N/A	NT	NT	NT
2-Chlorotoluene	N/A	N/A	N/A	N/A	<1	NT	<1
2-Hexanone	N/A	N/A	N/A	N/A	<10	NT	<10
4-Chlorotoluene	N/A	N/A	N/A	N/A	<1	NT	<1
4-Isopropyltoluene	N/A	N/A	N/A	N/A	NT	NT	NT
4-Methyl-2-Pentanone (MIBK)	N/A	N/A	N/A	N/A	<10	NT	<10
Acetone	N/A	N/A	N/A	N/A	<10	NT	<10
Acrolein	N/A	N/A	N/A	N/A	NT	NT	NT
Acrylonitrile	N/A	N/A	N/A	N/A	NT	NT	NT
Benzene	N/A	N/A	N/A	N/A	<1	NT	<1
Bromobenzene	N/A	N/A	N/A	N/A	<1	NT	<1
Bromochloromethane	N/A	N/A	N/A	N/A	<1	NT	<1
Bromodichlorormethane	N/A	N/A	N/A	N/A	<1	NT	<1
Bromoform	N/A	N/A	N/A	N/A	<1	NT	<2
Bromomethane	N/A	N/A	N/A	N/A	<1	NT	<5
Carbon Disulfide	N/A	N/A	N/A	N/A	<5	NT	<5
Carbon Tetrachloride	N/A	N/A	N/A	N/A	<1	NT	<1

Weathervane Golf - Summary of Water Quality Data
MW-4

Sample Location:	**MW-4**	**MW-4**	**MW-4**	**MW-4**	**MW-4**	**MW-4**	**MW-4**
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016	8/28/2017
Volatile Organic Compunds (µg/l)							
Chlorobenzene	N/A	N/A	N/A	N/A	<1	NT	<1
Chlorodibromomethane	N/A	N/A	N/A	N/A	NT	NT	<0.5
Chloroethane	N/A	N/A	N/A	N/A	<5	NT	<5
Chloroform	N/A	N/A	N/A	N/A	<1	NT	<2
Chloromethane	N/A	N/A	N/A	N/A	<5	NT	<5
cis-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	<1	NT	<1
cis-1,3-Dichloropropene	N/A	N/A	N/A	N/A	<0.4	NT	<0.4
Dibromochloromethane	N/A	N/A	N/A	N/A	<1	NT	NT
Dibromomethane	N/A	N/A	N/A	N/A	<2	NT	<1
Dichlorodifluoromethane	N/A	N/A	N/A	N/A	<5	NT	<2
Diethyl Ether	N/A	N/A	N/A	N/A	NT	NT	<2
Diisopropyl Ether	N/A	N/A	N/A	N/A	NT	NT	<0.5
Ethylbenzene	N/A	N/A	N/A	N/A	<1	NT	<1
Hexachlorobutadiene	N/A	N/A	N/A	N/A	<0.5	NT	<0.6
Isopropylbenzene	N/A	N/A	N/A	N/A	<1	NT	<1
lodomethane	N/A	N/A	N/A	N/A	NT	NT	NT
M&P-Xylene	N/A	N/A	N/A	N/A	<2	NT	<2
Methyl-Tert-Butyl-Ether	N/A	N/A	N/A	N/A	<5	NT	<1
Methylene Chloride	N/A	N/A	N/A	N/A	NT	NT	<5
Naphthalene	N/A	N/A	N/A	N/A	<1	NT	<2
n-Butylbenzene	N/A	N/A	N/A	N/A	<1	NT	<1
n-Propylbenzene	N/A	N/A	N/A	N/A	<1	NT	<1
O-Xylene	N/A	N/A	N/A	N/A	<1	NT	<1
P-Isopropyltoluene	N/A	N/A	N/A	N/A	NT	NT	<1
sec-Butylbenezene	N/A	N/A	N/A	N/A	<1	NT	<1
Styrene	N/A	N/A	N/A	N/A	<1	NT	<1
tert-Amyl Methyl Ether	N/A	N/A	N/A	N/A	NT	NT	<1
tert-Butylbenzene	N/A	N/A	N/A	N/A	<1	NT	<1
tert-Butylethyl Ether	N/A	N/A	N/A	N/A	NT	NT	<0.5
Tetrachloroethylene	N/A	N/A	N/A	N/A	<1	NT	<1
Tetrahydrofuran	N/A	N/A	N/A	N/A	NT	NT	<2
Toluene	N/A	N/A	N/A	N/A	<1	NT	<1
trans-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	<2	NT	<2
trans-1,3-Dichloropropene	N/A	N/A	N/A	N/A	<0.4	NT	<0.4
trans-1,4-Dichloro-2-butene	N/A	N/A	N/A	N/A	NT	NT	NT
Trichloroethylene	N/A	N/A	N/A	N/A	<1	NT	<1
Trichlorofluoromethane	N/A	N/A	N/A	N/A	<1	NT	<2
Vinyl Acetate	N/A	N/A	N/A	N/A	NT	NT	NT
Vinyl Chloride	N/A	N/A	N/A	N/A	<1	NT	<2

Weathervane Golf - Summary of Water Quality Data
MW-5

Sample Location:	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016	8/28/2017
Pesticides-Water (µg/l)							
4,4'-DDD	ND	ND	ND	ND	<0.1	<0.05	DRY
4,4'-DDE	ND	ND	ND	ND	<0.1	<0.05	DRY
4,4'-DDT	ND	ND	ND	ND	<0.1	<0.05	DRY
Aldrin	ND	ND	ND	ND	<0.1	<0.05	DRY
alpha-BHC	ND	ND	ND	ND	<0.1	<0.05	DRY
beta-BHC	ND	ND	ND	ND	<0.1	<0.05	DRY
Chlordane	ND	ND	ND	ND	<0.5	<0.5	DRY
delta-BHC	ND	ND	ND	ND	<0.1	<0.05	DRY
Dieldrin	ND	ND	ND	ND	<0.1	<0.05	DRY
Endosulfan I	ND	ND	ND	ND	<0.1	<0.05	DRY
Endosulfan II	ND	ND	ND	ND	<0.1	<0.05	DRY
Endosulfan Sulfate	ND	ND	ND	ND	<0.1	<0.05	DRY
Endrin	ND	ND	ND	ND	<0.1	<0.05	DRY
Endrin Aldehyde	ND	ND	ND	ND	NT		DRY
Endrin Ketone	ND	ND	ND	ND	<0.1	<0.05	DRY
gamma-BHC (Lindane)	ND	ND	ND	ND	<0.1	<0.02	DRY
Heptachlor	ND	ND	ND	ND	<0.1	<0.05	DRY
Heptachlor Epoxide	ND	ND	ND	ND	<0.1	<0.05	DRY
Hexachlorobenzene					<0.1	<0.05	DRY
Methoxychlor	ND	ND	ND	ND	<0.1	<0.05	DRY
Toxaphene	ND	ND	ND	ND	NT		DRY
Chlorinated Herbicide-Water (µg/l)							
2,4,5-T	ND	ND	ND	ND	<1.0	<1.0	DRY
2,4,5-TP	ND	ND	ND	ND	<1.0	<1.0	DRY
2,4-D	ND	ND	ND	ND	<1.0	<1.0	DRY
2,4-DB	ND	ND	ND	ND	NT		DRY
Dalapon	ND	ND	ND	ND	<1.0	<1.0	DRY
Dicamba	ND	ND	ND	ND	<1.0	<1.0	DRY
Dichloroprop	ND	ND	ND	ND	<1.0	<1.0	DRY
Dinoseb	ND	ND	ND	ND	<1.0	<1.0	DRY
Nitrogen/Orthophosphate (mg/l)							
Ammonia (as N)	ND	0.04	0.218	4.46	<0.1	1.7	DRY
Nitrate (asN)	0.93	0.93	1.63	ND	0.98	<0.25	DRY
Nitrite (as N)	0.01	ND	ND	ND	<0.25		DRY
Nitrogen, Kjeldahl(TKN)	0.25	0.59	3.73	9.31	<0.50	2.2	DRY
Ortho Phosphate	ND	ND	ND	ND	<0.05	<0.05	DRY

Sample Location:	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	10/25/2016	8/28/2017
Priority Pollutant Metals (mg/l)							
Antimony	ND	ND	ND	ND	<0.002	<0.002	DRY
Arsenic	ND	0.0123	0.0309	0.0218	<0.001	0.0019	DRY
Beryllium	ND	ND	ND	ND	<0.002	<0.001	DRY
Cadmium	ND	ND	ND	ND	0.0001	0.0013	DRY
Chromium	ND	ND	ND	ND	<0.050	<0.050	DRY
Copper	ND	ND	0.073	0.2	<0.010	<0.010	DRY
Lead	ND	ND	0.063	0.155	<0.001	<0.001	DRY
Mercury	ND	ND	0.000242	0.000387	<0.0005	<0.005	DRY
Nickel	ND	ND	ND	ND	<0.050	<0.050	DRY
Selenium	ND	ND	ND	ND	<0.002	0.0027	DRY
Silver	ND	ND	ND	ND	<0.001	<0.001	DRY
Thallium	ND	ND	ND	ND	<0.001	<0.001	DRY
Zinc	ND	ND	ND	ND	<0.10	<0.10	DRY

Weathervane Golf - Summary of Water Quality Data
MW-5

Sample Location:	**MW-5**	**MW-5**	**MW-5**	**MW-5**	**MW-5**	**MW-5**
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	8/28/2017
Volatile Organic Compunds (µg/l)						
1,1,1,2-Tetrachloroethane	N/A	N/A	N/A	N/A	<1	DRY
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	<1	DRY
1,1,2,2-Tetrachlorethane	N/A	N/A	N/A	N/A	<1	DRY
1,1,2-Trichloroethane	N/A	N/A	N/A	N/A	<1	DRY
1,1-Dichloroetheane	N/A	N/A	N/A	N/A	<1	DRY
1,1-Dichloroethylene	N/A	N/A	N/A	N/A	<1	DRY
1,1-Dichloroproene	N/A	N/A	N/A	N/A	<1	DRY
1,2,3-Trichlorobenzene	N/A	N/A	N/A	N/A	<1	DRY
1,2,3-Trichloropropane	N/A	N/A	N/A	N/A	<2	DRY
1,2,4-Trichlorobenzene	N/A	N/A	N/A	N/A	<1	DRY
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	<1	DRY
1,2-Dibromo-3-Chloropropane	N/A	N/A	N/A	N/A	<2	DRY
1,2-Dibromoethane	N/A	N/A	N/A	N/A	<1	DRY
1,2-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	DRY
1,2-Dichloroethane	N/A	N/A	N/A	N/A	<1	DRY
1,2-Dichloroprane	N/A	N/A	N/A	N/A	<1	DRY
1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	<1	DRY
1,3-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	DRY
1,3-Dichloropropane	N/A	N/A	N/A	N/A	<1	DRY
1,4-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	DRY
1,4-Dioxane	NT	NT	NT	NT	NT	DRY
2,2-Dichloropropane	N/A	N/A	N/A	N/A	<1	DRY
2-Butanone-(MEK)	N/A	N/A	N/A	N/A	<10	DRY
2-Chloroethyl vinyl ether	N/A	N/A	N/A	N/A	NT	DRY
2-Chlorotoluene	N/A	N/A	N/A	N/A	<1	DRY
2-Hexanone	N/A	N/A	N/A	N/A	<10	DRY
4-Chlorotoluene	N/A	N/A	N/A	N/A	<1	DRY
4-Isopropyltoluene	N/A	N/A	N/A	N/A	NT	DRY
4-Methyl-2-Pentanone (MIBK)	N/A	N/A	N/A	N/A	<10	DRY
Acetone	N/A	N/A	N/A	N/A	<10	DRY
Acrolein	N/A	N/A	N/A	N/A	NT	DRY
Acrylonitrile	N/A	N/A	N/A	N/A	NT	DRY
Benzene	N/A	N/A	N/A	N/A	<1	DRY
Bromobenzene	N/A	N/A	N/A	N/A	<1	DRY
Bromochloromethane	N/A	N/A	N/A	N/A	<1	DRY
Bromodichlorormethane	N/A	N/A	N/A	N/A	<1	DRY
Bromoform	N/A	N/A	N/A	N/A	<1	DRY
Bromomethane	N/A	N/A	N/A	N/A	<5	DRY
Carbon Disulfide	N/A	N/A	N/A	N/A	<5	DRY

Weathervane Golf - Summary of Water Quality Data
MW-5

Sample Location:	**MW-5**	**MW-5**	**MW-5**	**MW-5**	**MW-5**	**MW-5**
Date:	4/24/2006	8/17/2006	4/8/2013	11/4/2013	4/28/2016	8/28/2017
Volatile Organic Compunds (µg/l)						
Carbon Tetrachloride	N/A	N/A	N/A	N/A	<1	DRY
Chlorobenzene	N/A	N/A	N/A	N/A	<1	DRY
Chlorodibromomethane	NT	NT	NT	NT	NT	DRY
Chloroethane	N/A	N/A	N/A	N/A	<5	DRY
Chloroform	N/A	N/A	N/A	N/A	<1	DRY
Chloromethane	N/A	N/A	N/A	N/A	<5	DRY
cis-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	<1	DRY
cis-1,3-Dichloropropene	N/A	N/A	N/A	N/A	<0.4	DRY
Dibromochloromethane	N/A	N/A	N/A	N/A	<1	DRY
Dibromomethane	N/A	N/A	N/A	N/A	<2	DRY
Dichlorodifluoromethane	N/A	N/A	N/A	N/A	<5	DRY
Diethyl Ether	NT	NT	NT	NT	NT	DRY
Diisopropyl Ether	NT	NT	NT	NT	NT	DRY
Ethylbenzene	N/A	N/A	N/A	N/A	<1	DRY
Hexachlorobutadiene	N/A	N/A	N/A	N/A	<0.5	DRY
Isopropylbenzene	N/A	N/A	N/A	N/A	<1	DRY
lodomethane	N/A	N/A	N/A	N/A	NT	DRY
M&P-Xylene	N/A	N/A	N/A	N/A	<2	DRY
Methyl-Tert-Butyl-Ether	N/A	N/A	N/A	N/A	<5	DRY
Methylene Chloride	N/A	N/A	N/A	N/A	NT	DRY
Naphthalene	N/A	N/A	N/A	N/A	<1	DRY
n-Butylbenzene	N/A	N/A	N/A	N/A	<1	DRY
n-Propylbenzene	N/A	N/A	N/A	N/A	<1	DRY
O-Xylene	N/A	N/A	N/A	N/A	<1	DRY
P-Isopropyltoluene	NT	NT	NT	NT	NT	DRY
sec-Butylbenezene	N/A	N/A	N/A	N/A	<1	DRY
Styrene	N/A	N/A	N/A	N/A	<1	DRY
tert-Amyl Methyl Ether	NT	NT	NT	NT	NT	DRY
tert-Butylbenzene	N/A	N/A	N/A	N/A	<1	DRY
tert-Butylethyl Ether	NT	NT	NT	NT	NT	DRY
Tetrachloroethylene	N/A	N/A	N/A	N/A	<1	DRY
Tetrahydrofuran	NT	NT	NT	NT	NT	DRY
Toluene	N/A	N/A	N/A	N/A	<1	DRY
trans-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	<2	DRY
trans-1,3-Dichloropropene	N/A	N/A	N/A	N/A	<0.4	DRY
trans-1,4-Dichloro-2-butene	N/A	N/A	N/A	N/A	NT	DRY
Trichloroethylene	N/A	N/A	N/A	N/A	<1	DRY
Trichlorofluoromethane	N/A	N/A	N/A	N/A	<1	DRY
Vinyl Acetate	N/A	N/A	N/A	N/A	NT	DRY
Vinyl Chloride	N/A	N/A	N/A	N/A	<1	DRY

Weathervane Golf - Summary of Water Quality Data
SWM-1

Sample Location:	SWM-1	SWM-1	SWM-1	SWM-1	SWM-1	SWM-1
Date:	4/24/2006	10/31/2011	11/5/2012	4/9/2013	4/27/2016	8/28/2017
Pesticides-Water (µg/l)						
4,4'-DDD	ND	ND	ND	ND	<0.1	DRY
4,4'-DDE	ND	ND	ND	ND	<0.1	DRY
4,4'-DDT	ND	ND	ND	ND	<0.1	DRY
Aldrin	ND	ND	ND	ND	<0.1	DRY
alpha-BHC	ND	ND	ND	ND	<0.1	DRY
beta-BHC	ND	ND	ND	ND	<0.1	DRY
Chlordane	ND	ND	ND	ND	<0.5	DRY
delta-BHC	ND	ND	ND	ND	<0.1	DRY
Dieldrin	ND	ND	ND	ND	<0.1	DRY
Endosulfan I	ND	ND	ND	ND	<0.1	DRY
Endosulfan II	ND	ND	ND	ND	<0.1	DRY
Endosulfan Sulfate	ND	ND	ND	ND	<0.1	DRY
Endrin	ND	ND	ND	ND	<0.1	DRY
Endrin Aldehyde	ND	ND	0.164	ND	NT	DRY
Endrin Ketone	ND	ND	ND	ND	<0.1	DRY
gamma-BHC (Lindane)	ND	ND	ND	ND	<0.1	DRY
Heptachlor	ND	ND	ND	ND	<0.1	DRY
Heptachlor Epoxide	ND	ND	ND	ND	<0.1	DRY
Hexachlorobenzene					<0.1	DRY
Methoxychlor	ND	ND	0.0581	ND	<0.1	DRY
Toxaphene	ND	ND	ND	ND	NT	DRY
Nitrogen/Orthophosphate (mg/l)						
Ammonia (as N)	0.020	ND	ND	ND	<0.1	DRY
Nitrate (asN)	0.170	0.14	ND	ND	<0.25	DRY
Nitrite (as N)	ND	ND	ND	ND	<0.25	DRY
Nitrogen, Kjeldahl(TKN)	0.540	0.689	0.6	0.522	0.54	DRY
Ortho Phosphate	ND	ND	0.05	ND	<0.05	DRY

Weathervane Golf - Summary of Water Quality Data
SWM-1

Sample Location:	**SWM-1**	**SWM-1**	**SWM-1**	**SWM-1**	**SWM-1**	**SWM-1**
Date:	4/24/2006	10/31/2011	11/5/2012	4/9/2013	4/27/2016	8/28/2017
Chlorinated Herbicide-Water (µg/l)						
2,4,5-T	ND	ND	ND	ND	<1.1	DRY
2,4,5-TP	ND	ND	ND	ND	<1.1	DRY
2,4-D	ND	ND	ND	ND	<1.1	DRY
2,4-DB	ND	ND	ND	ND	NT	DRY
Dalapon	ND	ND	ND	ND	<1.1	DRY
Dicamba	ND	ND	ND	ND	<1.1	DRY
Dichloroprop	ND	ND	ND	ND	<1.1	DRY
Dinoseb	ND	ND	ND	ND	<1.1	DRY
Priority Pollutant Metals (mg/l)						
Antimony	ND	ND	0.0215	0.00275	<0.002	DRY
Arsenic	ND	ND	ND	ND	<0.001	DRY
Beryllium	ND	ND	ND	ND	<0.002	DRY
Cadmium	ND	ND	ND	ND	<0.0001	DRY
Chromium	ND	ND	ND	ND	<0.050	DRY
Copper	ND	ND	ND	ND	<0.010	DRY
Lead	ND	ND	ND	ND	<0.001	DRY
Mercury	ND	ND	ND	ND	<0.0005	DRY
Nickel	ND	ND	ND	ND	<0.050	DRY
Selenium	ND	ND	ND	ND	<0.002	DRY
Silver	ND	ND	ND	ND	<0.001	DRY
Thallium	ND	ND	ND	ND	<0.001	DRY
Zinc	ND	ND	ND	ND	<0.10	DRY

Weathervane Golf - Summary of Water Quality Data
SWM-1

Sample Location:	SWM-1	SWM-1	SWM-1	SWM-1	SWM-1	SWM-1
Date:	4/24/2006	10/31/2011	11/5/2012	4/9/2013	4/27/2016	8/28/2017
Volatile Organic Compunds (µg/l)						
1,1,1,2-Tetrachloroethane	N/A	N/A	N/A	N/A	<1	DRY
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	<1	DRY
1,1,2,2-Tetrachlorethane	N/A	N/A	N/A	N/A	<1	DRY
1,1,2-Trichloroethane	N/A	N/A	N/A	N/A	<1	DRY
1,1-Dichloroetheane	N/A	N/A	N/A	N/A	<1	DRY
1,1-Dichloroethylene	N/A	N/A	N/A	N/A	<1	DRY
1,1-Dichloroproene	N/A	N/A	N/A	N/A	<1	DRY
1,2,3-Trichlorobenzene	N/A	N/A	N/A	N/A	<1	DRY
1,2,3-Trichloropropane	N/A	N/A	N/A	N/A	<2	DRY
1,2,4-Trichlorobenzene	N/A	N/A	N/A	N/A	<1	DRY
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	<1	DRY
1,2-Dibromo-3-Chloropropane	N/A	N/A	N/A	N/A	<2	DRY
1,2-Dibromoethane	N/A	N/A	N/A	N/A	<1	DRY
1,2-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	DRY
1,2-Dichloroethane	N/A	N/A	N/A	N/A	<1	DRY
1,2-Dichloroprane	N/A	N/A	N/A	N/A	<1	DRY
1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	<1	DRY
1,3-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	DRY
1,3-Dichloropropane	N/A	N/A	N/A	N/A	<1	DRY
1,4-Dichlorobenzene	N/A	N/A	N/A	N/A	<1	DRY
1,4-Dioxane	NT	NT	NT	NT	NT	DRY
2,2-Dichloropropane	N/A	N/A	N/A	N/A	<1	DRY
2-Butanone-(MEK)	N/A	N/A	N/A	N/A	<10	DRY
2-Chloroethyl vinyl ether	N/A	N/A	N/A	N/A	NT	DRY
2-Chlorotoluene	N/A	N/A	N/A	N/A	<1	DRY
2-Hexanone	N/A	N/A	N/A	N/A	<10	DRY
4-Chlorotoluene	N/A	N/A	N/A	N/A	<1	DRY
4-Isopropyltoluene	N/A	N/A	N/A	N/A	NT	DRY
4-Methyl-2-Pentanone (MIBK)	N/A	N/A	N/A	N/A	<10	DRY
Acetone	N/A	N/A	N/A	N/A	<10	DRY
Acrolein	N/A	N/A	N/A	N/A	NT	DRY
Acrylonitrile	N/A	N/A	N/A	N/A	NT	DRY
Benzene	N/A	N/A	N/A	N/A	<1	DRY
Bromobenzene	N/A	N/A	N/A	N/A	<1	DRY
Bromochloromethane	N/A	N/A	N/A	N/A	<1	DRY
Bromodichlorormethane	N/A	N/A	N/A	N/A	<1	DRY
Bromoform	N/A	N/A	N/A	N/A	<1	DRY
Bromomethane	N/A	N/A	N/A	N/A	<1	DRY
Carbon Disulfide	N/A	N/A	N/A	N/A	<5	DRY
Carbon Tetrachloride	N/A	N/A	N/A	N/A	<1	DRY
Chlorobenzene	N/A	N/A	N/A	N/A	<1	DRY
Chlorodibromomethane	NT	NT	NT	NT	NT	DRY
Chloroethane	N/A	N/A	N/A	N/A	<5	DRY
Chloroform	N/A	N/A	N/A	N/A	<1	DRY
Chloromethane	N/A	N/A	N/A	N/A	<5	DRY
cis-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	<1	DRY

Weathervane Golf - Summary of Water Quality Data
SWM-1

Sample Location:	SWM-1	SWM-1	SWM-1	SWM-1	SWM-1	SWM-1
Date:	4/24/2006	10/31/2011	11/5/2012	4/9/2013	4/27/2016	8/28/2017
Volatile Organic Compunds (µg/l)						
cis-1,3-Dichloropropene	N/A	N/A	N/A	N/A	<0.4	DRY
Dibromochloromethane	N/A	N/A	N/A	N/A	<1	DRY
Dibromomethane	N/A	N/A	N/A	N/A	<2	DRY
Dichlorodifluoromethane	N/A	N/A	N/A	N/A	<5	DRY
Diethyl Ether	NT	NT	NT	NT	NT	DRY
Diisopropyl Ether	NT	NT	NT	NT	NT	DRY
Ethylbenzene	N/A	N/A	N/A	N/A	<1	DRY
Hexachlorobutadiene	N/A	N/A	N/A	N/A	<0.5	DRY
Isopropylbenzene	N/A	N/A	N/A	N/A	<1	DRY
lodomethane	N/A	N/A	N/A	N/A	NT	DRY
M&P-Xylene	N/A	N/A	N/A	N/A	<2	DRY
Methyl-Tert-Butyl-Ether	N/A	N/A	N/A	N/A	<5	DRY
Methylene Chloride	N/A	N/A	N/A	N/A	NT	DRY
Naphthalene	N/A	N/A	N/A	N/A	<1	DRY
n-Butylbenzene	N/A	N/A	N/A	N/A	<1	DRY
n-Propylbenzene	N/A	N/A	N/A	N/A	<1	DRY
O-Xylene	N/A	N/A	N/A	N/A	<1	DRY
P-Isopropyltoluene	NT	NT	NT	NT	NT	DRY
sec-Butylbenezene	N/A	N/A	N/A	N/A	<1	DRY
Styrene	N/A	N/A	N/A	N/A	<1	DRY
tert-Amyl Methyl Ether	NT	NT	NT	NT	NT	DRY
tert-Butylbenzene	N/A	N/A	N/A	N/A	<1	DRY
tert-Butylethyl Ether	NT	NT	NT	NT	NT	DRY
Tetrachloroethylene	N/A	N/A	N/A	N/A	<1	DRY
Tetrahydrofuran	NT	NT	NT	NT	NT	DRY
Toluene	N/A	N/A	N/A	N/A	<1	DRY
trans-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	<2	DRY
trans-1,3-Dichloropropene	N/A	N/A	N/A	N/A	<0.4	DRY
trans-1,4-Dichloro-2-butene	N/A	N/A	N/A	N/A	NT	DRY
Trichloroethylene	N/A	N/A	N/A	N/A	<1	DRY
Trichlorofluoromethane	N/A	N/A	N/A	N/A	<1	DRY
Vinyl Acetate	N/A	N/A	N/A	N/A	NT	DRY
Vinyl Chloride	N/A	N/A	N/A	N/A	<1	DRY

Weathervane Golf - Summary of Water Quality Data
SWM-2

Sample Location:	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**
Date:	4/24/2006	8/17/2006	5/27/2010	11/11/2010	6/17/2011	10/31/2011	8/3/2012	11/5/2012	4/9/2013	11/4/2013	4/27/2016	8/28/2017
Pesticides-Water (µg/l)												
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	0.04
4,4'-DDE	ND	ND	ND	ND	ND	ND	0.0322	ND	ND	ND	<0.1	**<0.2**
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	0.0578	0.0344	ND	<0.1	<0.2
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.25
alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.25
beta-BHC	ND	ND	ND	ND	ND	ND	0.0692	ND	ND	ND	<0.1	<0.25
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<1
delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.25
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.01
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.25
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.4
Endosulfan Sulfate	ND	ND	ND	ND	ND	ND	0.0822	ND	ND	ND	<0.1	<0.4
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.4
Endrin Aldehyde	ND	ND	ND	ND	ND	ND	0.117	ND	ND	ND	NT	NT
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.4
gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.15
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.25
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	**<0.25**
Hexachlorobenzene	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.1	<0.25
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	0.0522	ND	ND	<0.1	<2.5
Toxaphene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT
Chlorinated Herbicide-Water (µg/l)												
2,4,5-T	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<0.095
2,4,5-TP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<0.048
2,4-D	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<0.48
2,4-DB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	<0.48
Dalapon	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<1.2
Dicamba	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<0.048
Dichloroprop	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<0.48
Dinoseb	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<0.24
Nitrogen/Orthophosphate (mg/l)												
Ammonia (as N)	0.070	0.05	0.29	0.15	0.359	0.211	0.216	0.419	0.232	0.46	0.31	<0.3
Nitrate (asN)	0.220	ND	0.12	0.19	0.14	0.25	0.15	ND	1.24	ND	0.46	NT
Nitrite (as N)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.25	NT
Nitrogen, Kjeldahl(TKN)	0.480	0.61	1.1	0.51	0.78	0.601	0.96	0.97	0.647	1.7	<0.50	3.9
Ortho Phosphate	ND	0.01	ND	ND	ND	0.01	0.63	0.06	ND	ND	<0.05	<0.05
Priority Pollutant Metals (mg/l)												
Antimony	ND	ND	ND	ND	0.00107	ND	ND	ND	ND	ND	<0.002	<5
Arsenic	ND	ND	ND	ND	ND	0.00509	ND	0.00102	ND	ND	<0.001	<2
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.002	<2
Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.0001	<2.5
Chromium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.050	<5
Copper	ND	ND	0.001	0.002	ND	ND	ND	ND	ND	ND	<0.010	<25
Lead	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.001	<5
Mercury	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.0005	<0.00010
Nickel	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.050	<25
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.002	<25
Silver	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.001	<2.5
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.001	<1
Zinc	ND	ND	0.002	0.006	ND	ND	ND	ND	ND	ND	<0.10	<50

Weathervane Golf - Summary of Water Quality Data
SWM-2

Sample Location:	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**
Date:	4/24/2006	8/17/2006	5/27/2010	11/11/2010	6/17/2011	10/31/2011	8/3/2012	11/5/2012	4/9/2013	11/4/2013	4/27/2016	8/28/2017
Volatile Organic Compunds (µg/l)												
1,1,1,2-Tetrachloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,1,2,2-Tetrachlorethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<0.5
1,1,2-Trichloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloroetheane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,1-Dichloroproene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<0.5
1,2,3-Trichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<2
1,2,3-Trichloropropane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	<2
1,2,4-Trichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,2-Dibromo-3-Chloropropane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	<5
1,2-Dibromoethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	**<0.5**
1,2-Dichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,2-Dichloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,2-Dichloroprane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,3-Dichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,3-Dichloropropane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<0.5
1,4-Dichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
1,4-Dioxane	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	**<50**
2,2-Dichloropropane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
2-Butanone-(MEK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10	<10
2-Chloroethyl vinyl ether	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	NT
2-Chlorotoluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
2-Hexanone	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10	<10
4-Chlorotoluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
4-Isopropyltoluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	NT
4-Methyl-2-Pentanone (MIBK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10	<10
Acetone	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10	<10
Acrolein	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	NT
Acrylonitrile	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	NT
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Bromobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Bromochloromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Bromodichlorormethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Bromoform	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<2
Bromomethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<5
Carbon Disulfide	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	<5
Carbon Tetrachloride	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Chlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Chlorodibromomethane	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.5
Chloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	<5
Chloroform	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<2
Chloromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	<5
cis-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
cis-1,3-Dichloropropene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.4	<0.4
Dibromochloromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	NT
Dibromomethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	<1
Dichlorodifluoromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	<2
Diethyl Ether	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<2
Diisopropyl Ether	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.5
Ethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Hexachlorobutadiene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.5	<0.6

Weathervane Golf - Summary of Water Quality Data
SWM-2

Sample Location:	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**	**SWM-2**
Date:	4/24/2006	8/17/2006	5/27/2010	11/11/2010	6/17/2011	10/31/2011	8/3/2012	11/5/2012	4/9/2013	11/4/2013	4/27/2016	8/28/2017
Volatile Organic Compunds (µg/l)												
Isopropylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Iodomethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	NT
M&P-Xylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	<2
Methyl-Tert-Butyl-Ether	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	<1
Methylene Chloride	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	<5
Naphthalene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<2
n-Butylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
n-Propylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
O-Xylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
P-Isopropyltoluene	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<1
sec-Butylbenezene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Styrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
tert-Amyl Methyl Ether	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<1
tert-Butylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
tert-Butylethyl Ether	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.5
Tetrachloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Tetrahydrofuran	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<2
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
trans-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	<2
trans-1,3-Dichloropropene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.4	<0.4
trans-1,4-Dichloro-2-butene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	NT
Trichloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1
Trichlorofluoromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<2
Vinyl Acetate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	NT
Vinyl Chloride	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	<2

Weathervane Golf - Summary of Water Quality Data
SWM-3

Sample Location:	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**
Date:	4/24/2006	8/17/2006	5/27/2010	11/11/2010	6/17/2011	10/31/2011	8/3/2012	11/5/2012	4/9/2013	11/4/2013	4/27/2016	8/28/2017
Pesticides-Water (µg/l)												
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	ND	0.0346	ND	<0.1	DRY
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
Endosulfan Sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
Endrin Aldehyde	ND	ND	ND	ND	ND	ND	0.186	ND	ND	ND	NT	DRY
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
Hexachlorobenzene	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.1	DRY
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.1	DRY
Toxaphene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	DRY
Chlorinated Herbicide-Water (µg/l)												
2,4,5-T	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	DRY
2,4,5-TP	0.310	1.1	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	DRY
2,4-D	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	DRY
2,4-DB	ND	ND	ND	ND	ND	ND	100	ND	ND	ND	NT	DRY
Dalapon	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	DRY
Dicamba	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	DRY
Dichloroprop	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	DRY
Dinoseb	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	DRY
Nitrogen/Orthophosphate (mg/l)												
Ammonia (as N)	0.060	0.16	0.34	0.18	0.201	0.395	0.285	ND	ND	0.21	<0.10	DRY
Nitrate (asN)	0.200	0.05	0.09	ND	ND	0.29	8.72	1.75	ND	0.07	<0.25	DRY
Nitrite (as N)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.25	DRY
Nitrogen, Kjeldahl(TKN)	1.100	1.3	2.1	1.4	1.95	0.54	2.73	2.93	1.66	1.02	<0.50	DRY
Ortho Phosphate	0.050	0.08	0.05	0.02	0.12	0.07	1.1	0.6	ND	ND	<0.05	DRY
Priority Pollutant Metals (mg/l)												
Arsenic	ND	ND	ND	ND	0.00205	0.00341	ND	0.00299	0.00591	0.0015	<0.001	DRY
Antimony	ND	ND	ND	ND	0.00199	ND	0.00309	0.0387	0.0081	0.00438	<0.002	DRY
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.002	DRY
Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.0001	DRY
Chromium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.050	DRY
Copper	0.005	ND	0.003	0.003	ND	ND	ND	ND	ND	ND	<0.01	DRY
Lead	ND	ND	0.007	ND	ND	ND	ND	ND	ND	ND	<0.001	DRY
Mercury	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.0005	DRY
Nickel	ND	ND	0.002	0.002	ND	ND	ND	ND	ND	ND	<0.050	DRY
Silver	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.001	DRY
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.002	DRY
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.001	DRY
Zinc	ND	ND	0.007	0.025	ND	ND	ND	ND	ND	ND	<0.1	DRY

Sample Location:	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**
Date:	4/24/2006	8/17/2006	5/27/2010	11/11/2010	6/17/2011	10/31/2011	8/3/2012	11/5/2012	4/9/2013	11/4/2013	4/27/2016	8/28/2017
Volatile Organic Compunds (µg/l)												
1,1,1,2-Tetrachloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,1,2,2-Tetrachlorethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,1,2-Trichloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,1-Dichloroetheane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,1-Dichloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,1-Dichloroproene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,2,3-Trichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,2,3-Trichloropropane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	DRY
1,2,4-Trichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,2-Dibromo-3-Chloropropane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	DRY
1,2-Dibromoethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,2-Dichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,2-Dichloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,2-Dichloroprane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,3-Dichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,3-Dichloropropane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,4-Dichlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
1,4-Dioxane	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	DRY
2,2-Dichloropropane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
2-Butanone-(MEK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10	DRY
2-Chloroethyl vinyl ether	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	DRY
2-Chlorotoluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
2-Hexanone	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10	DRY
4-Chlorotoluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
4-Isopropyltoluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	DRY
4-Methyl-2-Pentanone (MIBK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10	DRY
Acetone	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10	DRY
Acrolein	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	DRY
Acrylonitrile	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	DRY
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Bromobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Bromochloromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Bromodichlorormethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Bromoform	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Bromomethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Carbon Disulfide	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	DRY
Carbon Tetrachloride	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Chlorobenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Chlorodibromomethane	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	DRY
Chloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	DRY
Chloroform	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Chloromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	DRY
cis-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
cis-1,3-Dichloropropene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.4	DRY
Dibromochloromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Dibromomethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	DRY
Dichlorodifluoromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	DRY
Diethyl Ether	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	DRY
Diisopropyl Ether	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	DRY

Weathervane Golf - Summary of Water Quality Data
SWM-3

Sample Location:	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**	**SWM-3**
Date:	4/24/2006	8/17/2006	5/27/2010	11/11/2010	6/17/2011	10/31/2011	8/3/2012	11/5/2012	4/9/2013	11/4/2013	4/27/2016	8/28/2017
Volatile Organic Compunds (µg/l)												
Ethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Hexachlorobutadiene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.5	DRY
Isopropylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Iodomethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	DRY
M&P-Xylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	DRY
Methyl-Tert-Butyl-Ether	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5	DRY
Methylene Chloride	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	DRY
Naphthalene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
n-Butylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
n-Propylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
O-Xylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
P-Isopropyltoluene	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	DRY
sec-Butylbenezene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Styrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
tert-Amyl Methyl Ether	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	DRY
tert-Butylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
tert-Butylethyl Ether	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	DRY
Tetrachloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Tetrahydrofuran	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	DRY
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
trans-1,2-Dichloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	DRY
trans-1,3-Dichloropropene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.4	DRY
trans-1,4-Dichloro-2-butene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	DRY
Trichloroethylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Trichlorofluoromethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY
Vinyl Acetate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NT	DRY
Vinyl Chloride	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	DRY

APPENDIX B
GROUNDWATER & SURFACE WATER MONITORING LOCATIONS

NOTES:
1. ESTABLISHMENT OF GOLF HOLES WILL INCLUDE MINOR SITE GRADING, SURFICIAL ROCK REMOVAL, TREE CLEARING (ONLY AS NEEDED) PLACEMENT OF TOPSOIL AND TURF ESTABLISHMENT.
2. GOLF HOLES WILL CONFORM TO EXISTING TOPOGRAPHY TO THE EXTENT POSSIBLE TO MINIMIZE THE AMOUNT OF GRADING REQUIRED.
3. WORK WITHIN THE UNIT 31 PARCEL WILL BE RESTRICTED TO OUTSIDE THE 25'-NO DISTURB ZONE. ALL STORMWATER WILL DRAIN FROM THE SITE BY SHEET FLOW.

LEGEND:
- MW — GROUNDWATER MONITORING WELL
- SWM — SURFACE WATER MONITORING WELL
- SURFACE WATER FLOW DIRECTION

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PROJECT
WEATHERVANE GOLF COURSE
THE VILLAGE AT WEATHERVANE
WEYMOUTH, MA

OWNER
WEATHERVANE DEVELOPMENT
221 RALPH TALBOT STREET
WEYMOUTH, MA 02190

REVISIONS

NO.	DATE	DESCRIPTION
1	1-11-06	ADDED IRRIGATION WELL & MODIFIED SW LOCATIONS

CADD FILE	..._03GCLAYOUT
DESIGNED BY	TMH
DRAWN BY	CAB
CHECKED BY	TMH
DATE	10-18-05
DRAWING SCALE	1"=120'
GRAPHIC SCALE	

SHEET TITLE

GROUNDWATER & SURFACE WATER MONITORING LOCATIONS

DRAWING NO.

PROJECT NO. 71330

APPENDIX C
CON-TEST LABORATORY REPORT NO. 17H1508

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 11, 2017

Bill Hoyerman
Civil & Environmental Consultants, Inc.
31 Bellows Road
Raynham, MA 02767

Project Location: Weathervane Golf Course
Client Job Number:
Project Number: 173-121
Laboratory Work Order Number: 17H1508

Enclosed are results of analyses for samples received by the laboratory on August 28, 2017. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

Table of Contents

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Civil & Environmental Consultants, Inc.
31 Bellows Road
Raynham, MA 02767
ATTN: Bill Hoyerman

REPORT DATE: 9/11/2017

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 173-121

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 17H1508

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Weathervane Golf Course

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-1	17H1508-01	Ground Water		SM 21-22 4500 P E	
				SM19-22 4500 NH3 C	
				SM19-22 4500-N Org B,C-NH3 C	
				SW-846 6020A-B	
				SW-846 7470A	
				SW-846 8081B	
				SW-846 8151A	
				SW-846 8260C	
MW-3	17H1508-02	Ground Water		SM 21-22 4500 P E	
				SM19-22 4500 NH3 C	
				SM19-22 4500-N Org B,C-NH3 C	
				SW-846 6020A-B	
				SW-846 7470A	
				SW-846 8081B	
				SW-846 8151A	
MW-4	17H1508-03	Ground Water		SM 21-22 4500 P E	
				SM19-22 4500 NH3 C	
				SM19-22 4500-N Org B,C-NH3 C	
				SW-846 6020A-B	
				SW-846 7470A	
				SW-846 8081B	
				SW-846 8151A	
				SW-846 8260C	
SWM-2	17H1508-04	Surface Water		SM 21-22 4500 P E	
				SM19-22 4500 NH3 C	
				SM19-22 4500-N Org B,C-NH3 C	
				SW-846 6020A-B	
				SW-846 7470A	
				SW-846 8081B	
				SW-846 8151A	
				SW-846 8260C	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 8151, samples were derivatized on 08/30/17.

For method 8151, sample analysis bracketed by LCS to monitor esterification. All recoveries in the bracketing LCS met method criteria.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

SM 21-22 4500 P E

Qualifications:

W-17

Samples analyzed for Ortho phosphate were not filtered within 15 minutes of sampling.

Analyte & Samples(s) Qualified:

Orthophosphate as P
17H1508-01[MW-1], 17H1508-02[MW-3], 17H1508-03[MW-4], 17H1508-04[SWM-2]

SM19-22 4500 NH3 C

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Ammonia as N
B185221-BS1

SW-846 8081B

Qualifications:

DL-03

Elevated reporting limit due to matrix.

Analyte & Samples(s) Qualified:

17H1508-04[SWM-2]

SW-846 8151A

Qualifications:

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

Dinoseb
17H1508-01[MW-1], 17H1508-02[MW-3], 17H1508-03[MW-4], 17H1508-04[SWM-2], B185093-BLK1, B185093-BS1, B185093-BSD1

Dinoseb [2C]
17H1508-01[MW-1], 17H1508-02[MW-3], 17H1508-03[MW-4], 17H1508-04[SWM-2], B185093-BLK1, B185093-BS1, B185093-BSD1

V-06

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Dalapon
B185093-BS1, B185093-BSD1

Dalapon [2C]
B185093-BS1, B185093-BSD1

MCPA [2C]
B185093-BS1, B185093-BSD1

MCPP
B185093-BS1, B185093-BSD1

MCPP [2C]
B185093-BS1, B185093-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

2,4-D
17H1508-01[MW-1], 17H1508-02[MW-3], 17H1508-03[MW-4], 17H1508-04[SWM-2]

Dalapon
17H1508-01[MW-1], 17H1508-02[MW-3], 17H1508-03[MW-4], 17H1508-04[SWM-2]

MCPP
17H1508-01[MW-1], 17H1508-02[MW-3], 17H1508-03[MW-4], 17H1508-04[SWM-2]

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

SW-846 8260C

Qualifications:

RL-07

Elevated reporting limit based on lowest point in calibration.
MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

Bromomethane
17H1508-01[MW-1], 17H1508-03[MW-4], 17H1508-04[SWM-2]

Carbon Disulfide
17H1508-01[MW-1], 17H1508-03[MW-4], 17H1508-04[SWM-2]

Chloromethane
17H1508-01[MW-1], 17H1508-03[MW-4], 17H1508-04[SWM-2]

Methylene Chloride
17H1508-01[MW-1], 17H1508-03[MW-4], 17H1508-04[SWM-2]

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane
17H1508-01[MW-1], 17H1508-03[MW-4], 17H1508-04[SWM-2], B185297-BLK1, B185297-BS1, B185297-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

Chloromethane
B185297-BS1, B185297-BSD1

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for “difficult analytes” where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-1 | Sampled: 8/28/2017 08:40

Sample ID: 17H1508-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
tert-Amyl Methyl Ether (TAME)	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Bromoform	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Bromomethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/31/17	9/1/17 19:19	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Chloromethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/31/17	9/1/17 19:19	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,2-Dichloroethane	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-1 | Sampled: 8/28/2017 08:40

Sample ID: 17H1508-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/31/17	9/1/17 19:19	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:19	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	108	70-130		9/1/17 19:19
Toluene-d8	101	70-130		9/1/17 19:19
4-Bromofluorobenzene	94.8	70-130		9/1/17 19:19

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-1 | Sampled: 8/28/2017 08:40

Sample ID: 17H1508-01

Sample Matrix: Ground Water

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
alpha-BHC [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
beta-BHC [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
delta-BHC [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
gamma-BHC (Lindane) [1]	ND	0.030	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
Chlordane [1]	ND	0.20	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
4,4'-DDD [1]	ND	0.040	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
4,4'-DDE [1]	ND	0.040	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
4,4'-DDT [1]	ND	0.040	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
Dieldrin [1]	ND	0.0020	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
Endosulfan I [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
Endosulfan II [1]	ND	0.080	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
Endosulfan sulfate [1]	ND	0.080	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
Endrin [1]	ND	0.080	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
Endrin ketone [1]	ND	0.080	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
Heptachlor [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
Heptachlor epoxide [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
Hexachlorobenzene [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB
Methoxychlor [1]	ND	0.50	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:07	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	60.3	30-150		9/9/17 13:07
Decachlorobiphenyl [2]	56.9	30-150		9/9/17 13:07
Tetrachloro-m-xylene [1]	94.3	30-150		9/9/17 13:07
Tetrachloro-m-xylene [2]	81.3	30-150		9/9/17 13:07

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-1 | Sampled: 8/28/2017 08:40

Sample ID: 17H1508-01

Sample Matrix: Ground Water

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	0.48	µg/L	1	V-20	SW-846 8151A	8/29/17	9/7/17 15:10	TG
2,4-DB [1]	ND	0.48	µg/L	1		SW-846 8151A	8/29/17	9/7/17 15:10	TG
2,4,5-TP (Silvex) [1]	ND	0.048	µg/L	1		SW-846 8151A	8/29/17	9/7/17 15:10	TG
2,4,5-T [1]	ND	0.095	µg/L	1		SW-846 8151A	8/29/17	9/7/17 15:10	TG
Dalalpon [1]	ND	1.2	µg/L	1	V-20	SW-846 8151A	8/29/17	9/7/17 15:10	TG
Dicamba [1]	ND	0.048	µg/L	1		SW-846 8151A	8/29/17	9/7/17 15:10	TG
Dichloroprop [1]	ND	0.48	µg/L	1		SW-846 8151A	8/29/17	9/7/17 15:10	TG
Dinoseb [1]	ND	0.24	µg/L	1	R-05	SW-846 8151A	8/29/17	9/7/17 15:10	TG
MCPA [1]	ND	48	µg/L	1		SW-846 8151A	8/29/17	9/7/17 15:10	TG
MCPP [1]	ND	48	µg/L	1	V-20	SW-846 8151A	8/29/17	9/7/17 15:10	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	55.1	30-150		9/7/17 15:10
2,4-Dichlorophenylacetic acid [2]	53.6	30-150		9/7/17 15:10

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-1 | Sampled: 8/28/2017 08:40

Sample ID: 17H1508-01

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	5.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:56	WSD
Arsenic	ND	2.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:56	WSD
Beryllium	ND	2.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:56	WSD
Cadmium	ND	2.5	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:56	WSD
Chromium	ND	5.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:56	WSD
Copper	ND	25	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:56	WSD
Lead	ND	5.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:56	WSD
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	9/5/17	9/6/17 9:08	TJK
Nickel	ND	25	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:56	WSD
Selenium	ND	25	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:56	WSD
Silver	ND	2.5	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:56	WSD
Thallium	ND	1.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:56	WSD
Zinc	ND	50	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:56	WSD

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-1 | Sampled: 8/28/2017 08:40

Sample ID: 17H1508-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	ND	0.30	mg/L	1		SM19-22 4500 NH3 C	8/30/17	8/30/17 16:55	EC
Orthophosphate as P	ND	0.050	mg/L	1	W-17	SM 21-22 4500 P E	8/29/17	8/29/17 10:30	MMH
Total Kjeldahl Nitrogen	1.1	1.0	mg/L	1		SM19-22 4500-N Org B,C-NH3 C	8/31/17	9/1/17 8:00	VAK

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-3 | Sampled: 8/28/2017 10:20

Sample ID: 17H1508-02

Sample Matrix: Ground Water

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
alpha-BHC [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
beta-BHC [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
delta-BHC [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
gamma-BHC (Lindane) [1]	ND	0.030	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
Chlordane [1]	ND	0.20	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
4,4'-DDD [1]	ND	0.040	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
4,4'-DDE [1]	ND	0.040	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
4,4'-DDT [1]	ND	0.040	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
Dieldrin [1]	ND	0.0020	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
Endosulfan I [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
Endosulfan II [1]	ND	0.080	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
Endosulfan sulfate [1]	ND	0.080	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
Endrin [1]	ND	0.080	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
Endrin ketone [1]	ND	0.080	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
Heptachlor [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
Heptachlor epoxide [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
Hexachlorobenzene [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB
Methoxychlor [1]	ND	0.50	µg/L	1		SW-846 8081B	9/1/17	9/9/17 13:34	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	71.0	30-150		9/9/17 13:34
Decachlorobiphenyl [2]	67.4	30-150		9/9/17 13:34
Tetrachloro-m-xylene [1]	83.8	30-150		9/9/17 13:34
Tetrachloro-m-xylene [2]	71.7	30-150		9/9/17 13:34

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-3 | Sampled: 8/28/2017 10:20

Sample ID: 17H1508-02

Sample Matrix: Ground Water

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	0.48	µg/L	1	V-20	SW-846 8151A	8/29/17	9/7/17 15:50	TG
2,4-DB [1]	ND	0.48	µg/L	1		SW-846 8151A	8/29/17	9/7/17 15:50	TG
2,4,5-TP (Silvex) [1]	ND	0.048	µg/L	1		SW-846 8151A	8/29/17	9/7/17 15:50	TG
2,4,5-T [1]	ND	0.096	µg/L	1		SW-846 8151A	8/29/17	9/7/17 15:50	TG
Dalalpon [1]	ND	1.2	µg/L	1	V-20	SW-846 8151A	8/29/17	9/7/17 15:50	TG
Dicamba [1]	ND	0.048	µg/L	1		SW-846 8151A	8/29/17	9/7/17 15:50	TG
Dichloroprop [1]	ND	0.48	µg/L	1		SW-846 8151A	8/29/17	9/7/17 15:50	TG
Dinoseb [1]	ND	0.24	µg/L	1	R-05	SW-846 8151A	8/29/17	9/7/17 15:50	TG
MCPA [1]	ND	48	µg/L	1		SW-846 8151A	8/29/17	9/7/17 15:50	TG
MCPP [1]	ND	48	µg/L	1	V-20	SW-846 8151A	8/29/17	9/7/17 15:50	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	57.7	30-150		9/7/17 15:50
2,4-Dichlorophenylacetic acid [2]	60.5	30-150		9/7/17 15:50

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-3 | Sampled: 8/28/2017 10:20

Sample ID: 17H1508-02

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	5.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:59	WSD
Arsenic	2.4	2.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:59	WSD
Beryllium	ND	2.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:59	WSD
Cadmium	ND	2.5	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:59	WSD
Chromium	ND	5.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:59	WSD
Copper	ND	25	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:59	WSD
Lead	ND	5.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:59	WSD
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	9/5/17	9/6/17 9:10	TJK
Nickel	ND	25	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:59	WSD
Selenium	ND	25	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:59	WSD
Silver	ND	2.5	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:59	WSD
Thallium	ND	1.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:59	WSD
Zinc	ND	50	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 9:59	WSD

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-3 | Sampled: 8/28/2017 10:20

Sample ID: 17H1508-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	1.7	0.30	mg/L	1		SM19-22 4500 NH3 C	8/30/17	8/30/17 16:55	EC
Orthophosphate as P	0.061	0.050	mg/L	1	W-17	SM 21-22 4500 P E	8/29/17	8/29/17 10:30	MMH
Total Kjeldahl Nitrogen	2.8	1.0	mg/L	1		SM19-22 4500-N Org B,C-NH3 C	8/31/17	9/1/17 8:00	VAK

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-4 | Sampled: 8/28/2017 11:27

Sample ID: 17H1508-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
tert-Amyl Methyl Ether (TAME)	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Bromoform	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Bromomethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/31/17	9/1/17 19:46	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Chloromethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/31/17	9/1/17 19:46	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,2-Dichloroethane	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-4 | Sampled: 8/28/2017 11:27

Sample ID: 17H1508-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/31/17	9/1/17 19:46	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 19:46	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	108	70-130		9/1/17 19:46
Toluene-d8	101	70-130		9/1/17 19:46
4-Bromofluorobenzene	94.0	70-130		9/1/17 19:46

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-4 | Sampled: 8/28/2017 11:27

Sample ID: 17H1508-03

Sample Matrix: Ground Water

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
alpha-BHC [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
beta-BHC [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
delta-BHC [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
gamma-BHC (Lindane) [1]	ND	0.030	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
Chlordane [1]	ND	0.20	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
4,4'-DDD [1]	ND	0.040	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
4,4'-DDE [1]	ND	0.040	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
4,4'-DDT [1]	ND	0.040	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
Dieldrin [1]	ND	0.0020	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
Endosulfan I [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
Endosulfan II [1]	ND	0.080	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
Endosulfan sulfate [1]	ND	0.080	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
Endrin [1]	ND	0.080	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
Endrin ketone [1]	ND	0.080	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
Heptachlor [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
Heptachlor epoxide [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
Hexachlorobenzene [1]	ND	0.050	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB
Methoxychlor [1]	ND	0.50	µg/L	1		SW-846 8081B	9/1/17	9/9/17 14:01	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	72.8	30-150		9/9/17 14:01
Decachlorobiphenyl [2]	69.2	30-150		9/9/17 14:01
Tetrachloro-m-xylene [1]	88.2	30-150		9/9/17 14:01
Tetrachloro-m-xylene [2]	75.5	30-150		9/9/17 14:01

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-4 | Sampled: 8/28/2017 11:27

Sample ID: 17H1508-03

Sample Matrix: Ground Water

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	0.48	µg/L	1	V-20	SW-846 8151A	8/29/17	9/7/17 16:30	TG
2,4-DB [1]	ND	0.48	µg/L	1		SW-846 8151A	8/29/17	9/7/17 16:30	TG
2,4,5-TP (Silvex) [1]	ND	0.048	µg/L	1		SW-846 8151A	8/29/17	9/7/17 16:30	TG
2,4,5-T [1]	ND	0.095	µg/L	1		SW-846 8151A	8/29/17	9/7/17 16:30	TG
Dalalpon [1]	ND	1.2	µg/L	1	V-20	SW-846 8151A	8/29/17	9/7/17 16:30	TG
Dicamba [1]	ND	0.048	µg/L	1		SW-846 8151A	8/29/17	9/7/17 16:30	TG
Dichloroprop [1]	ND	0.48	µg/L	1		SW-846 8151A	8/29/17	9/7/17 16:30	TG
Dinoseb [1]	ND	0.24	µg/L	1	R-05	SW-846 8151A	8/29/17	9/7/17 16:30	TG
MCPA [1]	ND	48	µg/L	1		SW-846 8151A	8/29/17	9/7/17 16:30	TG
MCPP [1]	ND	48	µg/L	1	V-20	SW-846 8151A	8/29/17	9/7/17 16:30	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	102	30-150		9/7/17 16:30
2,4-Dichlorophenylacetic acid [2]	61.5	30-150		9/7/17 16:30

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-4 | Sampled: 8/28/2017 11:27

Sample ID: 17H1508-03

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	5.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:03	WSD
Arsenic	ND	2.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:03	WSD
Beryllium	ND	2.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:03	WSD
Cadmium	ND	2.5	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:03	WSD
Chromium	ND	5.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:03	WSD
Copper	ND	25	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:03	WSD
Lead	ND	5.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:03	WSD
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	9/5/17	9/6/17 9:12	TJK
Nickel	ND	25	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:03	WSD
Selenium	ND	25	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:03	WSD
Silver	ND	2.5	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:03	WSD
Thallium	ND	1.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:03	WSD
Zinc	ND	50	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:03	WSD

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: MW-4 | Sampled: 8/28/2017 11:27

Sample ID: 17H1508-03

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	1.4	0.30	mg/L	1		SM19-22 4500 NH3 C	8/30/17	8/30/17 16:55	EC
Orthophosphate as P	ND	0.050	mg/L	1	W-17	SM 21-22 4500 P E	8/29/17	8/29/17 10:30	MMH
Total Kjeldahl Nitrogen	1.7	1.0	mg/L	1		SM19-22 4500-N Org B,C-NH3 C	8/31/17	9/1/17 8:00	VAK

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: SWM-2 | Sampled: 8/28/2017 09:22

Sample ID: 17H1508-04

Sample Matrix: Surface Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
tert-Amyl Methyl Ether (TAME)	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Bromoform	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Bromomethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/31/17	9/1/17 20:12	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Chloromethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/31/17	9/1/17 20:12	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,2-Dichloroethane	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: SWM-2 | Sampled: 8/28/2017 09:22

Sample ID: 17H1508-04

Sample Matrix: Surface Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/31/17	9/1/17 20:12	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	8/31/17	9/1/17 20:12	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	108	70-130		9/1/17 20:12
Toluene-d8	102	70-130		9/1/17 20:12
4-Bromofluorobenzene	96.6	70-130		9/1/17 20:12

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: SWM-2 | Sampled: 8/28/2017 09:22

Sample ID: 17H1508-04

Sample Matrix: Surface Water

Sample Flags: DL-03

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.25	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
alpha-BHC [1]	ND	0.25	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
beta-BHC [1]	ND	0.25	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
delta-BHC [1]	ND	0.25	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
gamma-BHC (Lindane) [1]	ND	0.15	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
Chlordane [1]	ND	1.0	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
4,4'-DDD [1]	ND	0.20	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
4,4'-DDE [1]	ND	0.20	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
4,4'-DDT [1]	ND	0.20	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
Dieldrin [1]	ND	0.010	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
Endosulfan I [1]	ND	0.25	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
Endosulfan II [1]	ND	0.40	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
Endosulfan sulfate [1]	ND	0.40	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
Endrin [1]	ND	0.40	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
Endrin ketone [1]	ND	0.40	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
Heptachlor [1]	ND	0.25	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
Heptachlor epoxide [1]	ND	0.25	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
Hexachlorobenzene [1]	ND	0.25	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB
Methoxychlor [1]	ND	2.5	µg/L	5		SW-846 8081B	9/1/17	9/9/17 14:28	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.2	30-150		9/9/17 14:28
Decachlorobiphenyl [2]	82.3	30-150		9/9/17 14:28
Tetrachloro-m-xylene [1]	92.1	30-150		9/9/17 14:28
Tetrachloro-m-xylene [2]	81.3	30-150		9/9/17 14:28

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: SWM-2 | Sampled: 8/28/2017 09:22

Sample ID: 17H1508-04

Sample Matrix: Surface Water

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	0.48	µg/L	1	V-20	SW-846 8151A	8/29/17	9/7/17 17:09	TG
2,4-DB [1]	ND	0.48	µg/L	1		SW-846 8151A	8/29/17	9/7/17 17:09	TG
2,4,5-TP (Silvex) [1]	ND	0.048	µg/L	1		SW-846 8151A	8/29/17	9/7/17 17:09	TG
2,4,5-T [1]	ND	0.095	µg/L	1		SW-846 8151A	8/29/17	9/7/17 17:09	TG
Dalalpon [1]	ND	1.2	µg/L	1	V-20	SW-846 8151A	8/29/17	9/7/17 17:09	TG
Dicamba [1]	ND	0.048	µg/L	1		SW-846 8151A	8/29/17	9/7/17 17:09	TG
Dichloroprop [1]	ND	0.48	µg/L	1		SW-846 8151A	8/29/17	9/7/17 17:09	TG
Dinoseb [1]	ND	0.24	µg/L	1	R-05	SW-846 8151A	8/29/17	9/7/17 17:09	TG
MCPA [1]	ND	48	µg/L	1		SW-846 8151A	8/29/17	9/7/17 17:09	TG
MCPP [1]	ND	48	µg/L	1	V-20	SW-846 8151A	8/29/17	9/7/17 17:09	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	59.0	30-150		9/7/17 17:09
2,4-Dichlorophenylacetic acid [2]	57.4	30-150		9/7/17 17:09

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: SWM-2 | Sampled: 8/28/2017 09:22

Sample ID: 17H1508-04

Sample Matrix: Surface Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	5.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:06	WSD
Arsenic	ND	2.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:06	WSD
Beryllium	ND	2.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:06	WSD
Cadmium	ND	2.5	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:06	WSD
Chromium	ND	5.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:06	WSD
Copper	ND	25	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:06	WSD
Lead	ND	5.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:06	WSD
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	9/5/17	9/6/17 9:13	TJK
Nickel	ND	25	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:06	WSD
Selenium	ND	25	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:06	WSD
Silver	ND	2.5	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:06	WSD
Thallium	ND	1.0	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:06	WSD
Zinc	ND	50	µg/L	5		SW-846 6020A-B	8/29/17	8/30/17 10:06	WSD

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weathervane Golf Course | Sample Description: | Work Order: 17H1508

Date Received: 8/28/2017

Field Sample #: SWM-2 | Sampled: 8/28/2017 09:22

Sample ID: 17H1508-04

Sample Matrix: Surface Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	ND	0.30	mg/L	1		SM19-22 4500 NH3 C	8/30/17	8/30/17 16:55	EC
Orthophosphate as P	ND	0.050	mg/L	1	W-17	SM 21-22 4500 P E	8/29/17	8/29/17 10:30	MMH
Total Kjeldahl Nitrogen	3.9	1.0	mg/L	1		SM19-22 4500-N Org B,C-NH3 C	8/31/17	9/1/17 8:00	VAK

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

SM 21-22 4500 P E

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17H1508-01 [MW-1]	B185109	50.0	50.0	08/29/17
17H1508-02 [MW-3]	B185109	50.0	50.0	08/29/17
17H1508-03 [MW-4]	B185109	50.0	50.0	08/29/17
17H1508-04 [SWM-2]	B185109	50.0	50.0	08/29/17

SM19-22 4500 NH3 C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17H1508-01 [MW-1]	B185221	100	100	08/30/17
17H1508-02 [MW-3]	B185221	100	100	08/30/17
17H1508-03 [MW-4]	B185221	100	100	08/30/17
17H1508-04 [SWM-2]	B185221	100	100	08/30/17

SM19-22 4500-N Org B,C-NH3 C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17H1508-01 [MW-1]	B185311	25.0	25.0	08/31/17
17H1508-02 [MW-3]	B185311	25.0	25.0	08/31/17
17H1508-03 [MW-4]	B185311	25.0	25.0	08/31/17
17H1508-04 [SWM-2]	B185311	25.0	25.0	08/31/17

Prep Method: SW-846 3005A Dissolved-SW-846 6020A-B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17H1508-01 [MW-1]	B185121	50.0	50.0	08/29/17
17H1508-02 [MW-3]	B185121	50.0	50.0	08/29/17
17H1508-03 [MW-4]	B185121	50.0	50.0	08/29/17
17H1508-04 [SWM-2]	B185121	50.0	50.0	08/29/17

Prep Method: SW-846 7470A Prep-SW-846 7470A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17H1508-01 [MW-1]	B185538	6.00	6.00	09/05/17
17H1508-02 [MW-3]	B185538	6.00	6.00	09/05/17
17H1508-03 [MW-4]	B185538	6.00	6.00	09/05/17
17H1508-04 [SWM-2]	B185538	6.00	6.00	09/05/17

Prep Method: SW-846 3510C-SW-846 8081B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17H1508-01 [MW-1]	B185405	1000	10.0	09/01/17
17H1508-02 [MW-3]	B185405	1000	10.0	09/01/17
17H1508-03 [MW-4]	B185405	1000	10.0	09/01/17
17H1508-04 [SWM-2]	B185405	1000	10.0	09/01/17

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3510C-SW-846 8151A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17H1508-01 [MW-1]	B185093	1050	5.00	08/29/17
17H1508-02 [MW-3]	B185093	1040	5.00	08/29/17
17H1508-03 [MW-4]	B185093	1050	5.00	08/29/17
17H1508-04 [SWM-2]	B185093	1050	5.00	08/29/17

Prep Method: SW-846 5030B-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17H1508-01 [MW-1]	B185297	5	5.00	08/31/17
17H1508-03 [MW-4]	B185297	5	5.00	08/31/17
17H1508-04 [SWM-2]	B185297	5	5.00	08/31/17

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B185297 - SW-846 5030B										
Blank (B185297-BLK1)				Prepared: 08/31/17 Analyzed: 09/01/17						
Acetone	ND	10	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	1.0	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							
2-Butanone (MEK)	ND	10	µg/L							
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	1.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	0.50	µg/L							
cis-1,3-Dichloropropene	ND	0.40	µg/L							
trans-1,3-Dichloropropene	ND	0.40	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							V-16
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.60	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B185297 - SW-846 5030B											
Blank (B185297-BLK1)				Prepared: 08/31/17 Analyzed: 09/01/17							
n-Propylbenzene	ND	1.0	µg/L								
Styrene	ND	1.0	µg/L								
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L								
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L								
Tetrachloroethylene	ND	1.0	µg/L								
Tetrahydrofuran	ND	2.0	µg/L								
Toluene	ND	1.0	µg/L								
1,2,3-Trichlorobenzene	ND	2.0	µg/L								
1,2,4-Trichlorobenzene	ND	1.0	µg/L								
1,1,1-Trichloroethane	ND	1.0	µg/L								
1,1,2-Trichloroethane	ND	1.0	µg/L								
Trichloroethylene	ND	1.0	µg/L								
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L								
1,2,3-Trichloropropane	ND	2.0	µg/L								
1,2,4-Trimethylbenzene	ND	1.0	µg/L								
1,3,5-Trimethylbenzene	ND	1.0	µg/L								
Vinyl Chloride	ND	2.0	µg/L								
m+p Xylene	ND	2.0	µg/L								
o-Xylene	ND	1.0	µg/L								
Surrogate: 1,2-Dichloroethane-d4	*26.9*		µg/L	25.0		107	70-130				
Surrogate: Toluene-d8	*25.4*		µg/L	25.0		102	70-130				
Surrogate: 4-Bromofluorobenzene	*23.1*		µg/L	25.0		92.4	70-130				
LCS (B185297-BS1)				Prepared: 08/31/17 Analyzed: 09/01/17							
Acetone	103	10	µg/L	100		103	40-160				†
tert-Amyl Methyl Ether (TAME)	9.11	0.50	µg/L	10.0		91.1	70-130				
Benzene	10.6	1.0	µg/L	10.0		106	70-130				
Bromobenzene	10.6	1.0	µg/L	10.0		106	70-130				
Bromochloromethane	11.4	1.0	µg/L	10.0		114	70-130				
Bromodichloromethane	10.2	1.0	µg/L	10.0		102	70-130				
Bromoform	9.35	1.0	µg/L	10.0		93.5	70-130				
Bromomethane	6.28	2.0	µg/L	10.0		62.8	40-160			L-14	†
2-Butanone (MEK)	105	10	µg/L	100		105	40-160				†
n-Butylbenzene	11.8	1.0	µg/L	10.0		118	70-130				
sec-Butylbenzene	11.1	1.0	µg/L	10.0		111	70-130				
tert-Butylbenzene	10.8	1.0	µg/L	10.0		108	70-130				
tert-Butyl Ethyl Ether (TBEE)	9.55	0.50	µg/L	10.0		95.5	70-130				
Carbon Disulfide	9.80	5.0	µg/L	10.0		98.0	70-130				
Carbon Tetrachloride	10.2	1.0	µg/L	10.0		102	70-130				
Chlorobenzene	9.90	1.0	µg/L	10.0		99.0	70-130				
Chlorodibromomethane	11.0	0.50	µg/L	10.0		110	70-130				
Chloroethane	9.72	2.0	µg/L	10.0		97.2	70-130				
Chloroform	10.5	2.0	µg/L	10.0		105	70-130				
Chloromethane	8.82	2.0	µg/L	10.0		88.2	40-160			V-20	†
2-Chlorotoluene	8.87	1.0	µg/L	10.0		88.7	70-130				
4-Chlorotoluene	9.82	1.0	µg/L	10.0		98.2	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	11.1	2.0	µg/L	10.0		111	70-130				
1,2-Dibromoethane (EDB)	10.7	0.50	µg/L	10.0		107	70-130				
Dibromomethane	10.3	1.0	µg/L	10.0		103	70-130				
1,2-Dichlorobenzene	10.7	1.0	µg/L	10.0		107	70-130				
1,3-Dichlorobenzene	10.6	1.0	µg/L	10.0		106	70-130				
1,4-Dichlorobenzene	10.3	1.0	µg/L	10.0		103	70-130				

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B185297 - SW-846 5030B											
LCS (B185297-BS1)				Prepared: 08/31/17 Analyzed: 09/01/17							
Dichlorodifluoromethane (Freon 12)	6.45	2.0	µg/L	10.0		64.5	40-160			L-14	†
1,1-Dichloroethane	11.3	1.0	µg/L	10.0		113	70-130				
1,2-Dichloroethane	10.4	1.0	µg/L	10.0		104	70-130				
1,1-Dichloroethylene	9.93	1.0	µg/L	10.0		99.3	70-130				
cis-1,2-Dichloroethylene	11.0	1.0	µg/L	10.0		110	70-130				
trans-1,2-Dichloroethylene	10.8	1.0	µg/L	10.0		108	70-130				
1,2-Dichloropropane	10.0	1.0	µg/L	10.0		100	70-130				
1,3-Dichloropropane	10.3	0.50	µg/L	10.0		103	70-130				
2,2-Dichloropropane	10.4	1.0	µg/L	10.0		104	70-130				
1,1-Dichloropropene	10.7	0.50	µg/L	10.0		107	70-130				
cis-1,3-Dichloropropene	9.38	0.40	µg/L	10.0		93.8	70-130				
trans-1,3-Dichloropropene	9.61	0.40	µg/L	10.0		96.1	70-130				
Diethyl Ether	9.25	2.0	µg/L	10.0		92.5	70-130				
Diisopropyl Ether (DIPE)	10.0	0.50	µg/L	10.0		100	70-130				
1,4-Dioxane	103	50	µg/L	100		103	40-160			V-16	†
Ethylbenzene	10.1	1.0	µg/L	10.0		101	70-130				
Hexachlorobutadiene	11.6	0.60	µg/L	10.0		116	70-130				
2-Hexanone (MBK)	106	10	µg/L	100		106	40-160				†
Isopropylbenzene (Cumene)	10.7	1.0	µg/L	10.0		107	70-130				
p-Isopropyltoluene (p-Cymene)	11.3	1.0	µg/L	10.0		113	70-130				
Methyl tert-Butyl Ether (MTBE)	10.5	1.0	µg/L	10.0		105	70-130				
Methylene Chloride	10.6	5.0	µg/L	10.0		106	70-130				
4-Methyl-2-pentanone (MIBK)	99.6	10	µg/L	100		99.6	40-160				†
Naphthalene	11.1	2.0	µg/L	10.0		111	70-130				
n-Propylbenzene	10.4	1.0	µg/L	10.0		104	70-130				
Styrene	9.88	1.0	µg/L	10.0		98.8	70-130				
1,1,1,2-Tetrachloroethane	9.53	1.0	µg/L	10.0		95.3	70-130				
1,1,2,2-Tetrachloroethane	10.2	0.50	µg/L	10.0		102	70-130				
Tetrachloroethylene	10.5	1.0	µg/L	10.0		105	70-130				
Tetrahydrofuran	11.0	2.0	µg/L	10.0		110	70-130				
Toluene	10.3	1.0	µg/L	10.0		103	70-130				
1,2,3-Trichlorobenzene	10.6	2.0	µg/L	10.0		106	70-130				
1,2,4-Trichlorobenzene	10.7	1.0	µg/L	10.0		107	70-130				
1,1,1-Trichloroethane	10.4	1.0	µg/L	10.0		104	70-130				
1,1,2-Trichloroethane	10.3	1.0	µg/L	10.0		103	70-130				
Trichloroethylene	10.4	1.0	µg/L	10.0		104	70-130				
Trichlorofluoromethane (Freon 11)	8.38	2.0	µg/L	10.0		83.8	70-130				
1,2,3-Trichloropropane	10.2	2.0	µg/L	10.0		102	70-130				
1,2,4-Trimethylbenzene	10.7	1.0	µg/L	10.0		107	70-130				
1,3,5-Trimethylbenzene	10.4	1.0	µg/L	10.0		104	70-130				
Vinyl Chloride	8.84	2.0	µg/L	10.0		88.4	70-130				
m+p Xylene	20.6	2.0	µg/L	20.0		103	70-130				
o-Xylene	10.1	1.0	µg/L	10.0		101	70-130				
Surrogate: 1,2-Dichloroethane-d4	*27.9*		µg/L	25.0		112	70-130				
Surrogate: Toluene-d8	*25.5*		µg/L	25.0		102	70-130				
Surrogate: 4-Bromofluorobenzene	*24.3*		µg/L	25.0		97.3	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B185297 - SW-846 5030B											
LCS Dup (B185297-BSD1)				Prepared: 08/31/17 Analyzed: 09/01/17							
Acetone	99.4	10	µg/L	100		99.4	40-160	3.67	20		†
tert-Amyl Methyl Ether (TAME)	8.76	0.50	µg/L	10.0		87.6	70-130	3.92	20		
Benzene	10.4	1.0	µg/L	10.0		104	70-130	1.71	20		
Bromobenzene	10.5	1.0	µg/L	10.0		105	70-130	1.33	20		
Bromochloromethane	11.2	1.0	µg/L	10.0		112	70-130	1.86	20		
Bromodichloromethane	10.2	1.0	µg/L	10.0		102	70-130	0.391	20		
Bromoform	9.27	1.0	µg/L	10.0		92.7	70-130	0.859	20		
Bromomethane	7.22	2.0	µg/L	10.0		72.2	40-160	13.9	20		†
2-Butanone (MEK)	98.5	10	µg/L	100		98.5	40-160	6.15	20		†
n-Butylbenzene	11.8	1.0	µg/L	10.0		118	70-130	0.763	20		
sec-Butylbenzene	11.2	1.0	µg/L	10.0		112	70-130	0.628	20		
tert-Butylbenzene	10.8	1.0	µg/L	10.0		108	70-130	0.0922	20		
tert-Butyl Ethyl Ether (TBEE)	9.20	0.50	µg/L	10.0		92.0	70-130	3.73	20		
Carbon Disulfide	9.39	5.0	µg/L	10.0		93.9	70-130	4.27	20		
Carbon Tetrachloride	10.4	1.0	µg/L	10.0		104	70-130	2.23	20		
Chlorobenzene	10.1	1.0	µg/L	10.0		101	70-130	1.60	20		
Chlorodibromomethane	10.7	0.50	µg/L	10.0		107	70-130	2.22	20		
Chloroethane	9.86	2.0	µg/L	10.0		98.6	70-130	1.43	20		
Chloroform	10.3	2.0	µg/L	10.0		103	70-130	1.44	20		
Chloromethane	9.72	2.0	µg/L	10.0		97.2	40-160	9.71	20	V-20	†
2-Chlorotoluene	8.93	1.0	µg/L	10.0		89.3	70-130	0.674	20		
4-Chlorotoluene	10.0	1.0	µg/L	10.0		100	70-130	1.82	20		
1,2-Dibromo-3-chloropropane (DBCP)	10.8	2.0	µg/L	10.0		108	70-130	3.01	20		
1,2-Dibromoethane (EDB)	10.4	0.50	µg/L	10.0		104	70-130	2.83	20		
Dibromomethane	10.2	1.0	µg/L	10.0		102	70-130	0.585	20		
1,2-Dichlorobenzene	10.4	1.0	µg/L	10.0		104	70-130	3.03	20		
1,3-Dichlorobenzene	10.6	1.0	µg/L	10.0		106	70-130	0.00	20		
1,4-Dichlorobenzene	10.2	1.0	µg/L	10.0		102	70-130	1.76	20		
Dichlorodifluoromethane (Freon 12)	6.41	2.0	µg/L	10.0		64.1	40-160	0.622	20	L-14	†
1,1-Dichloroethane	11.2	1.0	µg/L	10.0		112	70-130	1.24	20		
1,2-Dichloroethane	10.1	1.0	µg/L	10.0		101	70-130	2.05	20		
1,1-Dichloroethylene	9.98	1.0	µg/L	10.0		99.8	70-130	0.502	20		
cis-1,2-Dichloroethylene	10.8	1.0	µg/L	10.0		108	70-130	2.11	20		
trans-1,2-Dichloroethylene	10.5	1.0	µg/L	10.0		105	70-130	2.16	20		
1,2-Dichloropropane	9.96	1.0	µg/L	10.0		99.6	70-130	0.501	20		
1,3-Dichloropropane	9.84	0.50	µg/L	10.0		98.4	70-130	4.47	20		
2,2-Dichloropropane	10.3	1.0	µg/L	10.0		103	70-130	0.968	20		
1,1-Dichloropropene	10.8	0.50	µg/L	10.0		108	70-130	0.559	20		
cis-1,3-Dichloropropene	9.23	0.40	µg/L	10.0		92.3	70-130	1.61	20		
trans-1,3-Dichloropropene	9.18	0.40	µg/L	10.0		91.8	70-130	4.58	20		
Diethyl Ether	9.02	2.0	µg/L	10.0		90.2	70-130	2.52	20		
Diisopropyl Ether (DIPE)	9.48	0.50	µg/L	10.0		94.8	70-130	5.84	20		
1,4-Dioxane	91.7	50	µg/L	100		91.7	40-160	11.2	20	V-16	†
Ethylbenzene	10.4	1.0	µg/L	10.0		104	70-130	3.13	20		
Hexachlorobutadiene	11.2	0.60	µg/L	10.0		112	70-130	3.60	20		
2-Hexanone (MBK)	102	10	µg/L	100		102	40-160	3.18	20		†
Isopropylbenzene (Cumene)	10.7	1.0	µg/L	10.0		107	70-130	0.561	20		
p-Isopropyltoluene (p-Cymene)	11.2	1.0	µg/L	10.0		112	70-130	0.532	20		
Methyl tert-Butyl Ether (MTBE)	9.80	1.0	µg/L	10.0		98.0	70-130	7.09	20		
Methylene Chloride	10.5	5.0	µg/L	10.0		105	70-130	1.23	20		
4-Methyl-2-pentanone (MIBK)	97.6	10	µg/L	100		97.6	40-160	1.96	20		†
Naphthalene	10.6	2.0	µg/L	10.0		106	70-130	5.17	20		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B185297 - SW-846 5030B										
LCS Dup (B185297-BSD1)				Prepared: 08/31/17 Analyzed: 09/01/17						
n-Propylbenzene	10.3	1.0	µg/L	10.0		103	70-130	0.867	20	
Styrene	9.99	1.0	µg/L	10.0		99.9	70-130	1.11	20	
1,1,1,2-Tetrachloroethane	9.46	1.0	µg/L	10.0		94.6	70-130	0.737	20	
1,1,2,2-Tetrachloroethane	10.6	0.50	µg/L	10.0		106	70-130	3.18	20	
Tetrachloroethylene	10.6	1.0	µg/L	10.0		106	70-130	1.14	20	
Tetrahydrofuran	9.88	2.0	µg/L	10.0		98.8	70-130	10.4	20	
Toluene	10.4	1.0	µg/L	10.0		104	70-130	0.873	20	
1,2,3-Trichlorobenzene	10.1	2.0	µg/L	10.0		101	70-130	5.04	20	
1,2,4-Trichlorobenzene	10.5	1.0	µg/L	10.0		105	70-130	2.26	20	
1,1,1-Trichloroethane	10.3	1.0	µg/L	10.0		103	70-130	0.483	20	
1,1,2-Trichloroethane	10.3	1.0	µg/L	10.0		103	70-130	0.291	20	
Trichloroethylene	9.99	1.0	µg/L	10.0		99.9	70-130	3.83	20	
Trichlorofluoromethane (Freon 11)	8.57	2.0	µg/L	10.0		85.7	70-130	2.24	20	
1,2,3-Trichloropropane	10.0	2.0	µg/L	10.0		100	70-130	1.58	20	
1,2,4-Trimethylbenzene	10.7	1.0	µg/L	10.0		107	70-130	0.280	20	
1,3,5-Trimethylbenzene	10.4	1.0	µg/L	10.0		104	70-130	0.192	20	
Vinyl Chloride	8.98	2.0	µg/L	10.0		89.8	70-130	1.57	20	
m+p Xylene	20.9	2.0	µg/L	20.0		104	70-130	1.45	20	
o-Xylene	10.2	1.0	µg/L	10.0		102	70-130	0.887	20	
Surrogate: 1,2-Dichloroethane-d4	*27.0*		µg/L	25.0		108	70-130			
Surrogate: Toluene-d8	*25.5*		µg/L	25.0		102	70-130			
Surrogate: 4-Bromofluorobenzene	*24.3*		µg/L	25.0		97.0	70-130			

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B185405 - SW-846 3510C										
Blank (B185405-BLK1)				Prepared: 09/01/17 Analyzed: 09/09/17						
Aldrin	ND	0.050	µg/L							
Aldrin [2C]	ND	0.050	µg/L							
alpha-BHC	ND	0.050	µg/L							
alpha-BHC [2C]	ND	0.050	µg/L							
beta-BHC	ND	0.050	µg/L							
beta-BHC [2C]	ND	0.050	µg/L							
delta-BHC	ND	0.050	µg/L							
delta-BHC [2C]	ND	0.050	µg/L							
gamma-BHC (Lindane)	ND	0.030	µg/L							
gamma-BHC (Lindane) [2C]	ND	0.030	µg/L							
Chlordane	ND	0.20	µg/L							
Chlordane [2C]	ND	0.20	µg/L							
4,4'-DDD	ND	0.040	µg/L							
4,4'-DDD [2C]	ND	0.040	µg/L							
4,4'-DDE	ND	0.040	µg/L							
4,4'-DDE [2C]	ND	0.040	µg/L							
4,4'-DDT	ND	0.040	µg/L							
4,4'-DDT [2C]	ND	0.040	µg/L							
Dieldrin	ND	0.0020	µg/L							
Dieldrin [2C]	ND	0.0020	µg/L							
Endosulfan I	ND	0.050	µg/L							
Endosulfan I [2C]	ND	0.050	µg/L							
Endosulfan II	ND	0.080	µg/L							
Endosulfan II [2C]	ND	0.080	µg/L							
Endosulfan Sulfate	ND	0.080	µg/L							
Endosulfan Sulfate [2C]	ND	0.080	µg/L							
Endrin	ND	0.080	µg/L							
Endrin [2C]	ND	0.080	µg/L							
Endrin Aldehyde	ND	0.080	µg/L							
Endrin Aldehyde [2C]	ND	0.080	µg/L							
Endrin Ketone	ND	0.080	µg/L							
Endrin Ketone [2C]	ND	0.080	µg/L							
Heptachlor	ND	0.050	µg/L							
Heptachlor [2C]	ND	0.050	µg/L							
Heptachlor Epoxide	ND	0.050	µg/L							
Heptachlor Epoxide [2C]	ND	0.050	µg/L							
Hexachlorobenzene	ND	0.050	µg/L							
Hexachlorobenzene [2C]	ND	0.050	µg/L							
Methoxychlor	ND	0.50	µg/L							
Methoxychlor [2C]	ND	0.50	µg/L							
Surrogate: Decachlorobiphenyl	*1.31*		µg/L	2.00		65.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.24*		µg/L	2.00		62.1	30-150			
Surrogate: Tetrachloro-m-xylene	*1.85*		µg/L	2.00		92.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.56*		µg/L	2.00		77.9	30-150			

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B185405 - SW-846 3510C										
LCS (B185405-BS1)				Prepared: 09/01/17 Analyzed: 09/09/17						
Aldrin	0.92	0.050	µg/L	1.00		92.4	40-140			
Aldrin [2C]	0.88	0.050	µg/L	1.00		88.5	40-140			
alpha-BHC	0.91	0.050	µg/L	1.00		91.0	40-140			
alpha-BHC [2C]	0.82	0.050	µg/L	1.00		81.8	40-140			
beta-BHC	0.87	0.050	µg/L	1.00		86.8	40-140			
beta-BHC [2C]	0.79	0.050	µg/L	1.00		79.3	40-140			
delta-BHC	0.80	0.050	µg/L	1.00		79.6	40-140			
delta-BHC [2C]	0.75	0.050	µg/L	1.00		75.1	40-140			
gamma-BHC (Lindane)	0.95	0.030	µg/L	1.00		94.8	40-140			
gamma-BHC (Lindane) [2C]	0.86	0.030	µg/L	1.00		86.4	40-140			
4,4'-DDD	0.97	0.040	µg/L	1.00		96.9	40-140			
4,4'-DDD [2C]	0.96	0.040	µg/L	1.00		96.2	40-140			
4,4'-DDE	0.99	0.040	µg/L	1.00		98.6	40-140			
4,4'-DDE [2C]	0.99	0.040	µg/L	1.00		98.9	40-140			
4,4'-DDT	0.95	0.040	µg/L	1.00		94.9	40-140			
4,4'-DDT [2C]	0.93	0.040	µg/L	1.00		92.5	40-140			
Dieldrin	0.95	0.0020	µg/L	1.00		95.4	40-140			
Dieldrin [2C]	0.95	0.0020	µg/L	1.00		94.6	40-140			
Endosulfan I	0.91	0.050	µg/L	1.00		91.1	40-140			
Endosulfan I [2C]	0.91	0.050	µg/L	1.00		91.0	40-140			
Endosulfan II	0.91	0.080	µg/L	1.00		91.3	40-140			
Endosulfan II [2C]	0.93	0.080	µg/L	1.00		92.8	40-140			
Endosulfan Sulfate	0.73	0.080	µg/L	1.00		72.9	40-140			
Endosulfan Sulfate [2C]	0.70	0.080	µg/L	1.00		70.3	40-140			
Endrin	0.96	0.080	µg/L	1.00		96.4	40-140			
Endrin [2C]	0.97	0.080	µg/L	1.00		97.1	40-140			
Endrin Ketone	0.98	0.080	µg/L	1.00		98.0	40-140			
Endrin Ketone [2C]	0.95	0.080	µg/L	1.00		94.9	40-140			
Heptachlor	0.81	0.050	µg/L	1.00		81.2	40-140			
Heptachlor [2C]	0.88	0.050	µg/L	1.00		87.9	40-140			
Heptachlor Epoxide	0.90	0.050	µg/L	1.00		90.4	40-140			
Heptachlor Epoxide [2C]	0.89	0.050	µg/L	1.00		89.3	40-140			
Hexachlorobenzene	0.91	0.050	µg/L	1.00		91.0	40-140			
Hexachlorobenzene [2C]	0.82	0.050	µg/L	1.00		82.1	40-140			
Methoxychlor	0.95	0.50	µg/L	1.00		95.5	40-140			
Methoxychlor [2C]	0.94	0.50	µg/L	1.00		94.0	40-140			
Surrogate: Decachlorobiphenyl	*0.864*		µg/L	2.00		43.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.826*		µg/L	2.00		41.3	30-150			
Surrogate: Tetrachloro-m-xylene	*1.93*		µg/L	2.00		96.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.61*		µg/L	2.00		80.5	30-150			
LCS Dup (B185405-BSD1)				Prepared: 09/01/17 Analyzed: 09/09/17						
Aldrin	0.91	0.050	µg/L	1.00		90.9	40-140	1.59	30	
Aldrin [2C]	0.90	0.050	µg/L	1.00		89.6	40-140	1.29	30	
alpha-BHC	0.93	0.050	µg/L	1.00		92.7	40-140	1.90	30	
alpha-BHC [2C]	0.85	0.050	µg/L	1.00		84.9	40-140	3.72	30	
beta-BHC	0.87	0.050	µg/L	1.00		86.5	40-140	0.280	30	
beta-BHC [2C]	0.81	0.050	µg/L	1.00		81.4	40-140	2.64	30	
delta-BHC	0.89	0.050	µg/L	1.00		89.3	40-140	11.5	30	
delta-BHC [2C]	0.86	0.050	µg/L	1.00		86.0	40-140	13.5	30	
gamma-BHC (Lindane)	0.96	0.030	µg/L	1.00		96.2	40-140	1.53	30	
gamma-BHC (Lindane) [2C]	0.90	0.030	µg/L	1.00		89.6	40-140	3.64	30	

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B185405 - SW-846 3510C										
LCS Dup (B185405-BSD1)				Prepared: 09/01/17 Analyzed: 09/09/17						
4,4'-DDD	0.98	0.040	µg/L	1.00		97.8	40-140	0.969	30	
4,4'-DDD [2C]	0.98	0.040	µg/L	1.00		97.5	40-140	1.33	30	
4,4'-DDE	0.95	0.040	µg/L	1.00		95.3	40-140	3.39	30	
4,4'-DDE [2C]	0.96	0.040	µg/L	1.00		95.9	40-140	3.03	30	
4,4'-DDT	0.96	0.040	µg/L	1.00		96.3	40-140	1.50	30	
4,4'-DDT [2C]	0.94	0.040	µg/L	1.00		94.1	40-140	1.66	30	
Dieldrin	0.95	0.0020	µg/L	1.00		94.8	40-140	0.625	30	
Dieldrin [2C]	0.95	0.0020	µg/L	1.00		94.8	40-140	0.236	30	
Endosulfan I	0.90	0.050	µg/L	1.00		90.4	40-140	0.811	30	
Endosulfan I [2C]	0.91	0.050	µg/L	1.00		90.9	40-140	0.0649	30	
Endosulfan II	0.93	0.080	µg/L	1.00		92.6	40-140	1.48	30	
Endosulfan II [2C]	0.93	0.080	µg/L	1.00		93.0	40-140	0.135	30	
Endosulfan Sulfate	0.93	0.080	µg/L	1.00		93.3	40-140	24.6	30	
Endosulfan Sulfate [2C]	0.90	0.080	µg/L	1.00		90.0	40-140	24.6	30	
Endrin	0.96	0.080	µg/L	1.00		95.6	40-140	0.880	30	
Endrin [2C]	0.97	0.080	µg/L	1.00		96.8	40-140	0.224	30	
Endrin Ketone	0.97	0.080	µg/L	1.00		97.0	40-140	0.998	30	
Endrin Ketone [2C]	0.95	0.080	µg/L	1.00		95.3	40-140	0.455	30	
Heptachlor	0.82	0.050	µg/L	1.00		81.7	40-140	0.529	30	
Heptachlor [2C]	0.89	0.050	µg/L	1.00		88.6	40-140	0.860	30	
Heptachlor Epoxide	0.89	0.050	µg/L	1.00		88.8	40-140	1.81	30	
Heptachlor Epoxide [2C]	0.90	0.050	µg/L	1.00		90.0	40-140	0.732	30	
Hexachlorobenzene	0.90	0.050	µg/L	1.00		90.2	40-140	0.881	30	
Hexachlorobenzene [2C]	0.83	0.050	µg/L	1.00		83.0	40-140	1.10	30	
Methoxychlor	0.95	0.50	µg/L	1.00		95.0	40-140	0.488	30	
Methoxychlor [2C]	0.95	0.50	µg/L	1.00		95.2	40-140	1.36	30	
Surrogate: Decachlorobiphenyl	*0.951*		µg/L	2.00		47.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.909*		µg/L	2.00		45.4	30-150			
Surrogate: Tetrachloro-m-xylene	*1.87*		µg/L	2.00		93.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.59*		µg/L	2.00		79.5	30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B185093 - SW-846 3510C										
Blank (B185093-BLK1)				Prepared: 08/29/17 Analyzed: 09/07/17						
2,4-D	ND	0.50	µg/L							
2,4-D [2C]	ND	0.50	µg/L							
2,4-DB	ND	0.50	µg/L							
2,4-DB [2C]	ND	0.50	µg/L							
2,4,5-TP (Silvex)	ND	0.050	µg/L							
2,4,5-TP (Silvex) [2C]	ND	0.050	µg/L							
2,4,5-T	ND	0.10	µg/L							
2,4,5-T [2C]	ND	0.10	µg/L							
Dalapon	ND	1.2	µg/L							
Dalapon [2C]	ND	1.2	µg/L							
Dicamba	ND	0.050	µg/L							
Dicamba [2C]	ND	0.050	µg/L							
Dichloroprop	ND	0.50	µg/L							
Dichloroprop [2C]	ND	0.50	µg/L							
Dinoseb	ND	0.25	µg/L							R-05
Dinoseb [2C]	ND	0.25	µg/L							R-05
MCPA	ND	50	µg/L							
MCPA [2C]	ND	50	µg/L							
MCPP	ND	50	µg/L							
MCPP [2C]	ND	50	µg/L							
Surrogate: 2,4-Dichlorophenylacetic acid	*2.03*		µg/L	4.00		50.7	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*1.96*		µg/L	4.00		49.0	30-150			
LCS (B185093-BS1)				Prepared: 08/29/17 Analyzed: 09/07/17						
2,4-D	2.44	0.50	µg/L	2.50		97.6	40-140			
2,4-D [2C]	2.51	0.50	µg/L	2.50		100	40-140			
2,4-DB	2.21	0.50	µg/L	2.50		88.3	40-140			
2,4-DB [2C]	2.54	0.50	µg/L	2.50		102	40-140			
2,4,5-TP (Silvex)	0.237	0.050	µg/L	0.250		94.8	40-140			
2,4,5-TP (Silvex) [2C]	0.232	0.050	µg/L	0.250		92.8	40-140			
2,4,5-T	0.218	0.10	µg/L	0.250		87.4	40-140			
2,4,5-T [2C]	0.237	0.10	µg/L	0.250		95.0	40-140			
Dalapon	3.26	1.2	µg/L	6.25		52.2	40-140			V-06
Dalapon [2C]	3.03	1.2	µg/L	6.25		48.4	40-140			V-06
Dicamba	0.211	0.050	µg/L	0.250		84.4	40-140			
Dicamba [2C]	0.225	0.050	µg/L	0.250		89.9	40-140			
Dichloroprop	2.46	0.50	µg/L	2.50		98.6	40-140			
Dichloroprop [2C]	2.42	0.50	µg/L	2.50		96.9	40-140			
Dinoseb	0.957	0.25	µg/L	1.25		76.6	10-140			R-05
Dinoseb [2C]	0.993	0.25	µg/L	1.25		79.5	10-140			R-05
MCPA	238	50	µg/L	250		95.2	40-140			
MCPA [2C]	225	50	µg/L	250		90.1	40-140			V-06
MCPP	232	50	µg/L	250		92.6	40-140			V-06
MCPP [2C]	240	50	µg/L	250		96.0	40-140			V-06
Surrogate: 2,4-Dichlorophenylacetic acid	*1.99*		µg/L	4.00		49.8	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*2.09*		µg/L	4.00		52.3	30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD		RPD Limit	Notes
Batch B185093 - SW-846 3510C											
LCS Dup (B185093-BSD1)				Prepared: 08/29/17 Analyzed: 09/07/17							
2,4-D	2.54	0.50	µg/L	2.50		102	40-140	4.12		20	
2,4-D [2C]	2.63	0.50	µg/L	2.50		105	40-140	4.88		20	
2,4-DB	2.31	0.50	µg/L	2.50		92.4	40-140	4.47		20	
2,4-DB [2C]	2.62	0.50	µg/L	2.50		105	40-140	3.02		20	
2,4,5-TP (Silvex)	0.240	0.050	µg/L	0.250		96.0	40-140	1.35		20	
2,4,5-TP (Silvex) [2C]	0.239	0.050	µg/L	0.250		95.6	40-140	2.95		20	
2,4,5-T	0.218	0.10	µg/L	0.250		87.3	40-140	0.0435		20	
2,4,5-T [2C]	0.241	0.10	µg/L	0.250		96.6	40-140	1.70		20	
Dalapon	3.86	1.2	µg/L	6.25		61.7	40-140	16.8		20	V-06
Dalapon [2C]	3.58	1.2	µg/L	6.25		57.3	40-140	16.7		20	V-06
Dicamba	0.234	0.050	µg/L	0.250		93.7	40-140	10.6		20	
Dicamba [2C]	0.237	0.050	µg/L	0.250		94.9	40-140	5.44		20	
Dichloroprop	2.59	0.50	µg/L	2.50		104	40-140	5.11		20	
Dichloroprop [2C]	2.56	0.50	µg/L	2.50		103	40-140	5.71		20	
Dinoseb	0.619	0.25	µg/L	1.25		49.5	10-140	**43.0**	*	20	R-05
Dinoseb [2C]	0.652	0.25	µg/L	1.25		52.1	10-140	**41.6**	*	20	R-05
MCPA	244	50	µg/L	250		97.7	40-140	2.60		20	
MCPA [2C]	235	50	µg/L	250		93.9	40-140	4.19		20	V-06
MCPP	247	50	µg/L	250		98.8	40-140	6.40		20	V-06
MCPP [2C]	254	50	µg/L	250		102	40-140	5.77		20	V-06
Surrogate: 2,4-Dichlorophenylacetic acid	*2.11*		µg/L	4.00		52.8	30-150				
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*2.18*		µg/L	4.00		54.6	30-150				

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QUALITY CONTROL

Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B185121 - SW-846 3005A Dissolved										
Blank (B185121-BLK1)				Prepared: 08/29/17 Analyzed: 08/30/17						
Antimony	ND	5.0	µg/L							
Arsenic	ND	2.0	µg/L							
Beryllium	ND	2.0	µg/L							
Cadmium	ND	2.5	µg/L							
Chromium	ND	5.0	µg/L							
Copper	ND	25	µg/L							
Lead	ND	5.0	µg/L							
Nickel	ND	25	µg/L							
Selenium	ND	25	µg/L							
Silver	ND	2.5	µg/L							
Thallium	ND	1.0	µg/L							
Zinc	ND	50	µg/L							
LCS (B185121-BS1)				Prepared: 08/29/17 Analyzed: 08/30/17						
Antimony	519	10	µg/L	500		104	80-120			
Arsenic	524	4.0	µg/L	500		105	80-120			
Beryllium	520	4.0	µg/L	500		104	80-120			
Cadmium	520	5.0	µg/L	500		104	80-120			
Chromium	500	10	µg/L	500		100	80-120			
Copper	1010	50	µg/L	1000		101	80-120			
Lead	519	10	µg/L	500		104	80-120			
Nickel	510	50	µg/L	500		102	80-120			
Selenium	530	50	µg/L	500		106	80-120			
Silver	480	5.0	µg/L	500		96.1	80-120			
Thallium	481	2.0	µg/L	500		96.2	80-120			
Zinc	1100	100	µg/L	1000		110	80-120			
LCS Dup (B185121-BSD1)				Prepared: 08/29/17 Analyzed: 08/30/17						
Antimony	528	10	µg/L	500		106	80-120	1.76	20	
Arsenic	537	4.0	µg/L	500		107	80-120	2.58	20	
Beryllium	522	4.0	µg/L	500		104	80-120	0.405	20	
Cadmium	525	5.0	µg/L	500		105	80-120	1.06	20	
Chromium	513	10	µg/L	500		103	80-120	2.47	20	
Copper	1030	50	µg/L	1000		103	80-120	2.12	20	
Lead	524	10	µg/L	500		105	80-120	1.03	20	
Nickel	517	50	µg/L	500		103	80-120	1.45	20	
Selenium	546	50	µg/L	500		109	80-120	2.96	20	
Silver	488	5.0	µg/L	500		97.7	80-120	1.66	20	
Thallium	486	2.0	µg/L	500		97.2	80-120	1.03	20	
Zinc	1100	100	µg/L	1000		110	80-120	0.448	20	
Batch B185538 - SW-846 7470A Prep										
Blank (B185538-BLK1)				Prepared: 09/05/17 Analyzed: 09/06/17						
Mercury	ND	0.00010	mg/L							

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QUALITY CONTROL

Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B185538 - SW-846 7470A Prep										
LCS (B185538-BS1)				Prepared: 09/05/17 Analyzed: 09/06/17						
Mercury	0.00179	0.00010	mg/L	0.00200		89.5	80-120			
LCS Dup (B185538-BSD1)				Prepared: 09/05/17 Analyzed: 09/06/17						
Mercury	0.00186	0.00010	mg/L	0.00200		92.8	80-120	3.62	20	
Duplicate (B185538-DUP1)		**Source: 17H1508-01**		Prepared: 09/05/17 Analyzed: 09/06/17						
Mercury	ND	0.00010	mg/L		ND			NC	20	
Matrix Spike (B185538-MS1)		**Source: 17H1508-01**		Prepared: 09/05/17 Analyzed: 09/06/17						
Mercury	0.00171	0.00010	mg/L	0.00200	0.0000420	83.2	75-125			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B185109 - SM 21-22 4500 P E											
Blank (B185109-BLK1)				Prepared & Analyzed: 08/29/17							
Orthophosphate as P	ND	0.050	mg/L								
LCS (B185109-BS1)				Prepared & Analyzed: 08/29/17							
Orthophosphate as P	0.19	0.050	mg/L	0.196		97.6		70.9-115			
LCS Dup (B185109-BSD1)				Prepared & Analyzed: 08/29/17							
Orthophosphate as P	0.20	0.050	mg/L	0.196		101		70.9-115	3.18	6.97	
Batch B185221 - SM19-22 4500 NH3 C											
Blank (B185221-BLK1)				Prepared & Analyzed: 08/30/17							
Ammonia as N	ND	0.30	mg/L								
LCS (B185221-BS1)				Prepared & Analyzed: 08/30/17							
Ammonia as N	4.2	0.30	mg/L	5.00		**84.0**	*	85.2-110			L-07
LCS Dup (B185221-BSD1)				Prepared & Analyzed: 08/30/17							
Ammonia as N	4.5	0.30	mg/L	5.00		89.6		85.2-110	6.45	8.64	
Duplicate (B185221-DUP1)	**Source: 17H1508-02**			Prepared & Analyzed: 08/30/17							
Ammonia as N	1.7	0.30	mg/L		1.7				0.00	18.3	
Matrix Spike (B185221-MS1)	**Source: 17H1508-02**			Prepared & Analyzed: 08/30/17							
Ammonia as N	3.2	0.30	mg/L	2.00	1.7	77.0		68-128			
Batch B185311 - SM19-22 4500-N Org B,C-NH3 C											
Blank (B185311-BLK1)				Prepared: 08/31/17 Analyzed: 09/01/17							
Total Kjeldahl Nitrogen	ND	1.0	mg/L								
LCS (B185311-BS1)				Prepared: 08/31/17 Analyzed: 09/01/17							
Total Kjeldahl Nitrogen	19	1.0	mg/L	20.0		95.2		75.9-116			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.

DL-03	Elevated reporting limit due to matrix.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
RL-07	Elevated reporting limit based on lowest point in calibration. MA CAM reporting limit not met.
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
W-17	Samples analyzed for Ortho phosphate were not filtered within 15 minutes of sampling.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SM 21-22 4500 P E in Water	
Orthophosphate as P	CT,MA,NH,NY,RI,ME,VA
SM19-22 4500 NH3 C in Water	
Ammonia as N	NY,MA,CT,RI,VA,NC,ME
SM19-22 4500-N Org B,C-NH3 C in Water	
Total Kjeldahl Nitrogen	CT,MA,NH,NY,RI,NC,ME,VA
SW-846 6020A-B in Water	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,NC,ME,VA
Beryllium	CT,NH,NY,NC,ME,VA
Cadmium	CT,NH,NY,NC,ME,VA
Chromium	CT,NH,NY,NC,ME,VA
Copper	CT,NH,NY,NC,ME,VA
Lead	CT,NH,NY,NC,ME,VA
Nickel	CT,NH,NY,NC,ME,VA
Selenium	CT,NH,NY,NC,ME,VA
Silver	CT,NC,NH,NY,ME,VA
Thallium	CT,NH,NY,NC,ME,VA
Zinc	CT,NH,NY,NC,ME,VA
SW-846 7470A in Water	
Mercury	CT,NH,NY,NC,ME,VA
SW-846 8081B in Water	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8081B in Water	
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
SW-846 8151A in Water	
2,4-D	ME,NC,NH,CT,NY,VA
2,4-D [2C]	ME,NC,NH,CT,NY,VA
2,4-DB	ME,NC,NH,CT,NY,VA
2,4-DB [2C]	ME,NC,NH,CT,NY,VA
2,4,5-TP (Silvex)	ME,NC,NH,CT,NY,VA
2,4,5-TP (Silvex) [2C]	ME,NC,NH,CT,NY,VA
2,4,5-T	ME,NC,NH,CT,NY,VA
2,4,5-T [2C]	ME,NC,NH,CT,NY,VA
Dalapon	ME,NC,NH,CT,NY,VA
Dalapon [2C]	ME,NC,NH,CT,NY,VA
Dicamba	ME,NC,NH,CT,NY,VA
Dicamba [2C]	ME,NC,NH,CT,NY,VA
Dichloroprop	ME,NC,NH,CT,NY,VA
Dichloroprop [2C]	ME,NC,NH,CT,NY,VA
Dinoseb	ME,NC,NH,CT,NY,VA
Dinoseb [2C]	ME,NC,NH,CT,NY,VA
MCPA	NC,CT
MCPA [2C]	NC,CT
MCPP	NC,CT
MCPP [2C]	NC,CT
SW-846 8260C in Water	
Acetone	CT,NH,NY,ME
tert-Amyl Methyl Ether (TAME)	NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	NY,ME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
sec-Butylbenzene	NY,ME
tert-Butylbenzene	NY,ME
tert-Butyl Ethyl Ether (TBEE)	NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	NY,ME
4-Chlorotoluene	NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
Diisopropyl Ether (DIPE)	NH,NY,ME
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	CT,NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	NY,ME
p-Isopropyltoluene (p-Cymene)	CT,NH,NY,ME
Methyl tert-Butyl Ether (MTBE)	CT,NH,NY,ME
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,ME
Naphthalene	NH,NY,ME
n-Propylbenzene	CT,NH,NY,ME
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NH,NY,ME
1,2,4-Trichlorobenzene	CT,NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	NY,ME
1,3,5-Trimethylbenzene	NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2018
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2018
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2018
RI	Rhode Island Department of Health	LAO00112	12/30/2017
NC	North Carolina Div. of Water Quality	652	12/31/2017
NJ	New Jersey DEP	MA007 NELAP	06/30/2018
FL	Florida Department of Health	E871027 NELAP	06/30/2018
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2018
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2017
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2018
NC-DW	North Carolina Department of Health	25703	07/31/2018

17H1508

con-test ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 1_03242017

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Company Name: CEC
Address: 31 Bellows Road Raynham MA 02767
Phone: 774-501-7176
Project Name:
Project Location: Weathervane Golf Course
Project Number: 173-121
Project Manager: Brandon Patrick
Con-Test Quote Name/Number: 20170711
Invoice Recipient: Brandon Patrick bpatrick@cecinc.com
Sampled By: B. Patrick

Requested Turnaround Time
7-Day [X] 10-Day [ ]
Due Date:

Rush Approval Required
1-Day [ ] 3-Day [ ]
2-Day [ ] 4-Day [ ]

Data Delivery
Format: PDF [X] EXCEL [X]
Other:
CLP Like Data Pkg Required: [ ]
Email To: bpatrick@cecinc.com
Fax To #:

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	[1] Matrix Code	Conc Code	TKN	VOC	DP Metals + Mercury	Phosphate	Nitrogen As Ammonia	8151	8081 B
1	MW-1	8/28/17 0840			X	GW	U	X	X	X	X	X	X	X
2	MW-3	8-28-17 1020			X	GW	U	X		X	X	X	X	X
3	MW-4	8-28-17 1127			X	GW	U	X	X	X	X	X	X	X
4	SWM-2	8-28-17 0922			X	O	U	X	X	X	X	X	X	X

[2] Preservation Code	I	H	N	I	S	I	I							
[3] Container Code	P	V	P	P	P	A	A							

ANALYSIS REQUESTED

# of Containers

Dissolved Metals Samples
[X] Field Filtered
[ ] Lab to Filter

Orthophosphate Samples
[ ] Field Filtered
[ ] Lab to Filter

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define) SURFACE WATER

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

[3] Container Codes:
A = Amber Glass
G = Glass
P = Plastic
ST = Sterile
V = Vial
S = Summa Canister
T = Tedlar Bag
O = Other (please define)

Comments:

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time: 8-28-17 1420	
Received by: (signature) Paul Chaitoff	Date/Time: 8-28-17 1451	
Relinquished by: (signature) Paul Chaitoff	Date/Time: 8-28-17 1610	
Received by: (signature) Tom Mail	Date/Time: 8/28/17 1610	
Relinquished by: (signature) Tom Mail	Date/Time: 8/28/17 1725	
Received by: (signature) 2.6	Date/Time: 8/28/17 1725	

Detection Limit Requirements
MA
RCP
Other:

Special Requirements
[ ] MA MCP Required
MCP Certification Form Required
[ ] CT RCP Required
RCP Certification Form Required
[ ] MA State DW Required
PWSID #

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NELAC and AIHA-LAP, LLC Accredited

Project Entity
[ ] Government [ ] Municipality [ ] MWRA [ ] WRTA
[ ] Federal [ ] 21 J [ ] School
[ ] City [ ] Brownfield [ ] MBTA

Other
[ ] Chromatogram
[ ] AIHA-LAP,LLC

PCB ONLY
[ ] Soxhlet
[ ] Non Soxhlet

Table of Contents

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East Longmeadow, MA. 01028
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F: 413-525-6405
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Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client CEC

Received By JM Date 8/28/17 Time 1225

How were the samples received? In Cooler T No Cooler ____ On Ice T No Ice ____ Direct from Sampling ____ Ambient ____ Melted Ice ____

Were samples within Temperature? 2-6°C T By Gun # 1 Actual Temp - 2.6, 2.9 By Blank # ____ Actual Temp - ____

Was Custody Seal Intact? N/A Were Samples Tampered with? N/A

Was COC Relinquished ? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Project T Analysis T ID's T Sampler Name T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? N/A Who was notified? ____

Are there Rushes? N/A Who was notified? ____

Are there Short Holds? N/A Who was notified? ____

Is there enough Volume? T

Is there Headspace where applicable? T MS/MSD? N/A

Proper Media/Containers Used? T Is splitting samples required? N/A

Were trip blanks received? N/A On COC? N/A

Do all samples have the proper pH? Acid T Base ____

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.	16	1 Liter Plastic		16 oz Amb.	
HCL-	9	500 mL Amb.		500 mL Plastic	4	8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic	12	4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

Exhibit E-

Turf Management Plan for Weathervane Golf Course

WEATHERVANE DEVELOPMENT CORP.
221 RALPH TALBOT STREET
SOUTH WEYMOUTH, MA 02190

PHONE: 781-740-8600 - EMAIL: CGE.BRISBROS@COMCAST.NET FAX: 781-740-4184

MEMORANDUM

To: Mary Ellen Schloss
Conservation Administrator

From: Carl Erickson

Date: April 6, 2016

RE: DEP File No. 81-756 & 81-963
Enforcement Order #2
Submittal 001

Attached for your review are the following submittals under Enforcement Order #2 for the Weathervane Project (DEP File No. 81-756 & 81-963). As requested, 6 copies, in addition to the originals, are included with this submittal. We appreciate the extension of the deliverable date from April 1 to April 6.

The following is attached:

1. Buffer Planting Plan for Golden Bear Lane & Ben Hogan Landing

   After our site visit on March 17th, the planting limits and proposed conservation posts marked in the field were picked up by GPS and are shown on the attached buffer planting plans.

   At Golden Bear Lane, buffer plantings will include fifty (50) Blueberry Delight Juniper (Juniperus communis). The planting area is 1,265 square feet and the junipers will be planted 5 feet on center. In addition, seven (7) conservation post markings will be placed. The posts will be cedar with red placards noting "Conservation Area – No Disturbance Beyond This Area". Posts will have a 1 foot reveal, will be angled cut to ensure visibility of the placards. Additional placards can be placed on trees as needed.

   At Ben Hogan Landing, the buffer plantings will include a mix of Low Bush Blueberry (Vaccinium angustifolium); Massachusetts Bearberry (Arctostephylos uva ursi); and Hummingbird Summersweet (Clethra alnfolia). The planting area is 2,740 square feet and a total of 75 shrubs (25 each) will be planted with spacing 6 feet on center. Seven

Mike and I are available to meet with you if you would like to go over any of the attachments in more detail. Thank you again for the extension to make this submittal.

Attachments:

1. Buffer Restoration Planting Plan – Golden Bear Lane
2. Buffer Restoration Planting Plan – Ben Hogan Landing
3. Flyover Mitigation Plan 10-7-05 Revised 11-6-05 (Amended 04-01-16)
4. WGolf - Turf & IPM SUMMARY (04-2016)

cc: James E. Bristol, III
Mike West
Steve McCarthy

Weathervane Golf Club
PO Box 175 ♦ South Weymouth, MA 02190
Office: 781-335-1500 ♦ Fax: 781-740-4184

Weathervane Golf
TURF & INTEGRATED PEST MANAGEMENT
GUIDANCE DOCUMENT

Utilizing the ***PROTOCOLS FOR AN IPM SYSTEM ON GOLF COURSES*** issued by the UMass Extension Turf Program as a model and resource this Turf & IPM GUIDANCE DOCUMENT for Weathervane Golf Course was prepared. Additional guidance was developed from the ***Professional Guide for IPM in Turf in Massachusetts*** and **Best Management Practices, Publications and Resources** both issued through the UMass Extension Turf Program. The protocol and guidance documents by the UMass Extension Turf Program served as a tool to evaluate IPM practices at Weathervane Golf and as a model to outline and document this guidance document.

Integrated Pest Management (IPM) –

IPM is a decision making and management system that uses cultural practices to promote healthy turf grass which has a competitive advantage against pests and environmental stress. The system incorporates appropriate management strategies, most recent pesticide technology, and developments in agronomic techniques.

The objective is to increase pest management efficiency and to reduce the reliance on pesticides.

1. ***Mapping of the Property –***

WVane Golf Club has been mapped using both standard surveying equipment and GPS technology. This covers the basic course layout showing the position of greens, tees, fairways, bunkers and their relationship within the boundary of the course. As-built plans are available as needed for location of underdrains for tees and irrigation lines.

During permitting, wetland and environmentally sensitive areas were mapped and delineated. As part of the closeout, as-built conditions and sensitive areas were shown on the maps. See **Exhibit 1** for reference of the overall site map.

To further educate the public on the sensitive areas surround the golf course, scorecards remind golfers that sensitive areas (noted by green & red stakes along the course) are non-playable areas and are off-limits for golf play and foot traffic.

2. *Development & Maintenance of Knowledge Base*

An IPM program is based on identifying pest and agronomic problems and then attempting to address the cause of the problem. Identification of key problems in key locations is the first step in correcting problems. Industry trade and pest management guidance materials are maintained with the Superintendents records for knowledge reference as well as available online. See Exhibit 2 for reference of online fact sheets.

As a relatively new course, WGolf has not experience long term problem areas. Some smaller problem areas have been identified. These areas are noted in the Superintendents records. Long term, these will be reviewed as part of the management plan, and, if needed, mapped for reference.

3. *Development of Yearly Management Plan*

A yearly management plan is a critical component of a complete IPM system. This involves year-end assessment of pest management efforts to enable the Superintendent to determine which strategies have worked and to identify areas where refinements are needed.

Turf & IPM management practices will be reviewed during the off-season and if needed, revisions to the guidance document made.

4. *Monitoring of Pest & Stress Management Problems*

A crucial aspect of an IPM program is identifying pests and recurring problem areas, that if left unattended cause significant damage. Refer to Appendix I for monitoring guide, in addition to reference resources maintained by the Superintendent.

Daily observation and monitoring is done as part of routine course maintenance. Course staff is to note problems to the Superintendent to address and log for action – both immediate and future reference. Members at the course will also note problems to the staff which is then reported to the Superintendent.

Weekly monitoring is to be done by the Superintendent and maintained for reference. See Appendix II for monitoring log.

5. *Determining Action Thresholds*

Action thresholds are determined for each key pest to be managed. Initial action thresholds are noted in Appendix III. Other specific actions for WGolf are described below:

Weeds - Either liquid or granular pre-emergent weed control products are applied to greens, tees, fairways and rough in April or May. Weather and soil temperature is considered and will dictate exact timing to maximize effectiveness and to protect the surrounding environment. The action to control any weed breakout after that application will be to spot spray with a selective herbicide. The actual threshold for weed damage is subjective and varies from season to season; therefore, the Greens Superintendent will make the determination when to take action.

Insects - A liquid and/or granular insecticide is used to control insects at WVGC. This application is made roughly in mid-June and provides excellent control of insects throughout the season. Up to this point, white grubs have been the only insect observed causing root damage to turf at WV. 20-30 grubs per sq. ft. is roughly the threshold population where damage has been observed and action will need to be taken.

Diseases - At WGolf, diseases that are controlled preventatively are: Dollar Spot, Fusarium Blight, Snow Molds and Pythium Blight. These diseases are controlled with monthly fungicide applications made using the lowest application rates possible per the label. Curative applications are made when any disease appears on playable turf using the higher application rates per the label, but only to the area that is affected. The action threshold will be determined by the Superintendent.

6. *Equipment & Material Management*

Product reference documents are maintained by the Superintendent; this includes product labels or Material Safety Data Sheets (MSDS) to ensure proper application rates, increase efficacy of product use. Detailed records of pesticide and fertilizer applications are maintained with the Superintendent as required for an applicator's license.

Monthly calibration is performed on all sprayers and spreaders to ensure proper and safe application of fertilizer and pesticide products.

7. *Soil, Plant Tissue, and Water Tests*

Soil, plant tissue and water tests can supply needed information in the assessment of overall plant health, and to support refinement of a nutrient management program.

Soil testing is done on an as-needed basis and in response to problem areas. Irrigation water is tested as part of the Groundwater Monitoring Program for WGolf.

8. *Record of Weather and Environmental Conditions*

Weather conditions and soil temperatures play a role in determining pest activity and severity.

Formal record keeping of weather conditions has not been a part of the WGolf management program. Weather will be incorporated as part of the 2016 Turf & IPM program. Weekly online weather reports will be printed and filed with the Monitoring Log (Appendix II) for reference as part of the year-end review.

9. *Cultural Practices*

Proper implementation of cultural practices results in a healthy turf which is less likely to be susceptible to pest or environmental stresses. Practices utilized by WGolf include:

Mowing

- Mowing heights are kept as high as possible throughout the season;
- Greens mowers are checked and adjusted daily to ensure proper cut height;
- Blades & reels are kept sharp for proper cutting;
- Greens clippings are collected and removed during the cutting process;
- Fairway clippings are collected during times of high temperature stress.

Water Management

- Irrigation is programmed for early morning application to allow turf to dry as quickly as possible;
- Syringing of greens is implemented in summer time when heat stress is observed to direct water to affected areas to decrease the potential for stress and disease;
- Infrequent, but heavy watering schedules are preferred approach to promote healthy roots;

Fertilization

- Fertilizer products with low or zero analysis of phosphorous are chosen when fertilizer applications are planned. Most fertilizer companies that supply WGolf have removed phosphorous completely from their products because of environmental concerns. Potassium is only applied when soil sample tests have shown deficiencies and it needs to be added.
- Slow release nitrogen fertilizers are the preferred source of providing N to all turf at WGolf. This method prevents Nitrogen runoff and leaching to the surrounding environment and also prevents surge growth of turf resulting in less mowing.

Aeration

- Aeration is done to reduce compaction, improve soil profile and improve infiltration;

- Records are kept of aeration details (tine core diameter, core spacing, depth and area treated);

Topdressing

- Greens are top-dressed once a month during growing season with a 1.5 mil topdressing sand to maintain health, decrease stress and disease potential;
- Topdressing specification sheets are kept with the Superintendents records.

Thatch Management

- Thatch is controlled by dethatching, verti-cutting, topdressing, needle tine spiking and aeration.

Renovation & Flyover Management

- For 2016, WGolf will be creating a low maintenance turf buffer zone between the playable rough areas and the surrounding native/wetland areas on the entire perimeter of the course. This buffer zone will vary between 6' and 10' wide and consist of tall growing, low maintenance turf species like Hard Fescues, Big and Little Bluestem and Prairieview. This will create a distinct border that will prevent golfers and maintenance staff from negatively affecting the surrounding wetlands.
- Plant height at the flyover areas at the 3rd Tee, 5th Fairway and 6th Tee are to be maintained in accordance with the Flyover Management Plan (as amended). Plant growth shall be maintained at a height of up to 8 feet. See Attachment B to the Flyover Management Plan included with this Turf & IPM Guidance as a reference.

10. Weed & Herbicides, Disease & Fungicides, and Insect & Nematode Management

Practices aimed at reducing weed reproduction and reducing environmental stresses are utilized to favor turf growth development and reduce reliance on herbicides and pesticides.

Weeds & Herbicides

- Certified seed is used for reseeding and overseeding;
- When selecting an herbicide, consideration is given to efficacy, persistence, potential environmental impact and chemical class;
- Herbicide rotation is performed to reduce chemical resistance and past use is taken into consideration with herbicide selection;
- Herbicides are applied during venerable growth stages;
- Spot treating is done in late summer and other times as appropriate;
- Certain herbicides, when directed by product labeling, are watered in to activate chemical control and keep product from moving from affected areas.

Disease & Fungicides

- Fertilization and liming are timed to avoid disease critical periods;

- Irrigation is timed to minimize duration of leaf wetness;
- Thatch is managed on playable turf surfaces by mechanical means at least twice during the growing season;
- Dew is removed from all greens daily by hand-whipping in the AM and fairways are hose-dragged to remove dew when conditions are favorable to disease;
- Mechanical aeration is performed on areas that known to be compacted on a regular basis;
- When selecting an fungicide, consideration is given to preventative or curative use, persistence, efficacy and potential environmental impact and chemical class;
- Fungicide sales representatives are consulted on a regular basis when selecting a product to make the best and most educated selection;

Insects & Nematodes

- Pest identification is critical to the program to avoid the need for broad spectrum insecticide use;
- Spray water is tested and pH buffers used in tank mixes to ensure water is as balanced as possible;
- When selecting an insecticide, consideration is given to pesticide characteristics and developmental stage of insect, speed of action, persistence of problem, efficacy, potential environmental impact and chemical class;
- Nematodes have not been a problem at WGolf, conditions which favor nematode activity are reduced;
- If encountered, nematicides would not be applied without lab confirmation of pest and population.

EXHIBIT 1

HOLD FOR OVERALL COLORED SITE PLAN

EXHIBIT 2

Fact Sheets

UMass Extension
Turf Program

Diseases

Alternatives to PCNB for Snow Mold Control?
Anthracnose Foliar Blight and Basal Rot
Bacterial Wilt of Annual Bluegrass
Brown Patch, Yellow Patch, and other Rhizoctonia Leaf and Sheath Spot Diseases of Turfgrass
Brown Ring Patch
Dead Spot on Bentgrasses
Disease Management for Home Lawns
Dollar Spot
Fairy Ring and Localized Dry Spot
Gray Leaf Spot of Ryegrasses
Guidelines for the Use of Chlorothalonil for Anthracnose on Putting Greens in Massachusetts
Leaf Spot Diseases of Turf
Necrotic Ring Spot of Poa Species
Pythium Diseases of Turf
Pythium Induced Root Dysfunction
Red Thread and Pink Patch
Summer Patch of Bluegrasses
Take-All Patch of Bentgrasses
The Snow Molds
Why is it so Difficult to Control Anthracnose?

Insects and Mites

Annual Bluegrass Weevil Monitoring Techniques
Ants in Lawns
Beneficial Lawn Insects
Billbugs in Lawns
Can Merit™ or Mach 2™ be Justified in an IPM Program?
Chinch Bugs
Current Insecticide Approaches for White Grub Control
Cutworms
Monitoring Lawn Insects
Sod Webworms
White Grub Identification
Why Do Insecticides Fail?

Nematodes

Assessing the Role of Nematodes in Turfgrass Decline
Nematodes on Golf Greens
Plant Parasitic Nematodes of Turfgrasses

APPENDIX I

PEST MONITORING GUIDES

WEED MONITORING GUIDE

Weeds germinate at different times of the growing season. Therefore scouting should be done at different times based on weed type. Plan weed scoutings after period of peak germination. Scouting in late summer or early fall is most effective since all weed types are present and easily identified. Scouting for annual bluegrass can be effective in the spring when seedheads are present.

Type of Weed	Period of Peak Germination	Comments
Crabgrass and other annual grass weeds	April to mid June	Germination occurs when soil temperatures are 53 to 58°F at a depth of 1 inch for a week
Summer annual broadleaf weeds	April to June	
Winter annual broadleaf weeds and annual bluegrass	August to October	May develop seed heads in fall if weather is favorable
Perennial broadleaf weeds	May to June August to September	

DISEASE MONITORING GUIDE

Weather and time of season play an important role in disease occurrence and severity. Weather can indicate the time when disease symptoms are most likely to occur. Nitrogen fertility may directly affect disease occurrence and severity. "High" means that when nitrogen fertility is high, occurrence and severity of disease would increase.

Disease	Weather Season	Nitrogen Fertility	Disease Reduced by Keeping Leaves Dry	Disease Symptoms and Diagnostic Hints
Typhula blight (gray snow mold)	Cold Nov. to April	High	Yes	Small to medium patches, gray mycelium, brown sclerotia, snow cover required for development

(Continued on next page)

Disease	Weather Season	Nitrogen Fertility	Disease Reduced by Keeping Leaves Dry	Disease Symptoms and Diagnostic Hints
Fusarium patch (pink snow mold)	Cold/cool Oct. to May	High	Yes	Small spots that may coalesce, pink mycelium after snow, greasy, salmon to red-brown colored spots in absence of snow, no sclerotia, easily streaked
Yellow patch	Cool Nov. to April	High	Yes	Medium to large patches or yellow rings, usually no mycelium
Red thread	Cool/warm April to Oct.	Low	Yes	Red or pink mycelium or "thread" growing from tips of infected blades, straw-colored lesions, pink puffs or spores
Rust	Cool/warm July to Oct.	Low	Yes	Rusty colored powdery spores on leaf blades and leaf sheaths
Powdery mildew	Cool/warm July to Sept.	High	Yes	White superficial powdery fungus on surface of leaves
Anthracnose	Cool/hot May to Oct.	Low	Yes	Small to irregular spots, yellow leaf lesions with black centers, black hair-like setae on leaves or crowns
Leaf spots	Cool/warm March to May Sept. to Nov.	High	Yes	Oval or eye-shaped chocolate-brown spots often with tan centers
Pythium root rot	Cool/warm/hot March to Nov.	No effect	No	Wilted, rotten or straw-colored
Fairy ring	Cool/warm/hot April to Oct.	No effect	No	Small to very large rings or arcs of extra green, wilted or dead turf, mushroomy smell to thatch, mushrooms, puffballs or mat of white mycelium in thatch may be associated with rings or arcs

(Continued on next page)

Disease	Weather Season	Nitrogen Fertility	Disease Reduced by Keeping Leaves Dry	Disease Symptoms and Diagnostic Hints
Take-all patch	Cool/hot March to June Sept. to Nov.	No effect	No	Medium patches or rings, no mycelium on leaves, roots often brown and decayed, bentgrass
Dollar spot	Warm June to Sept.	Low	Yes	Small spots, straw-colored lesions that extend across leafblade, white mycelium when turf is wet
Necrotic ring spot	Warm June to Sept.	No effect	No	Medium patches or rings, no mycelium on leaves, roots often brown and decayed, *Poa annua*
Pythium blight	Hot June to Aug.	High	Yes	Small spots, greasy brown to reddish, gray-white, cottony mycelium in early morning, easily streaked
Brown patch	Hot July to Sept.	High	Yes	Large patches, irregular-shaped lesion with thin brown margins, grayish smoke rings at outer edge when turf is wet
Summer patch	Hot July/August	No effect	No	Medium patches or rings, leaves turn yellow or brown starting at tip, no mycelium on leaves, roots often brown and decayed, *Poa annua*

COLLECTING DIAGNOSTIC SAMPLE

Collect a 4-6" sample from the "leading edge" of a problem including roots and soil to a depth of at least 2" and foliage showing the symptoms. Keep the sample moist and cool, but do not water or seal tightly in plastic. Wrap the sample in several layers of newspaper and pack it snugly in a sturdy box. If you suspect an unusual problem, take a sample before spraying a fungicide. It is often difficult to make an accurate diagnosis after a fungicide has been applied. Accurate disease diagnosis requires both a representative sample and sufficient information about the cultural practices and environmental conditions, therefore, a turf disease case history sheet must be submitted with the sample. For a Disease Case History Sheet, contact Dr. Gail Schumann, 413-545-3413 or www.umass.edu/umext/turf.

INSECT MONITORING GUIDE

Insect	Turf Areas to Monitor	When to Monitor	Sampling
Annual bluegrass weevil	Annual bluegrass; greens, tees, collars, fairways	**Adults** — April to May, July to Sept. **Larvae** — June to Sept.	**Adult** — Soapy flush **Larvae** — Visual inspection (soil/thatch core, float)
Black turfgrass ataenius	Greens, tees, collars, fairways	**Adults** — April to May, late July to Aug. **Larvae** — late May to Sept.	**Adult** — Soapy flush **Larvae** — Soil flush
Cutworms	Greens, tees, (occasionally fairways)	**Adults** — May to Sept. **Larvae** — Late May to Sept.	**Adult** — Blacklight trap **Larvae** — Soapy flush
White grubs	All turf	**Adults** — Mid-June to Sept. **Larvae** — March to May, July to Dec.	**Adult** — Pheromone traps (oriental beetle, Japanese beetle) **Larvae** — Soil sample
Billbugs	All turf, esp. fairways and roughs	**Adults** — May to early June **Larvae** — June to Aug.	**Adult** — Soapy flush **Larvae** — Visual inspection (soil/thatch core, float)
Ants	All turf, esp. fairways and tees	**Adults** — Late April to late Sept.	**Adult** — Count active mounds per unit area

SAMPLING TECHNIQUES

Soapy Flush — Add 1 to 2 tablespoons of lemon-scented liquid dish detergent to 1 gallon of water, pour over area 2 ft. by 2 ft. Caterpillars, earthworms and adults of some species will be irritated and crawl to the surface within 5 mintues (usually quicker). If sampling in mid-summer, thoroughly rinse the area with plain water after counting insects to avoid scalding turf.

Visual Inspection — Take a sample with a cup cutter, gently break apart turf and thatch, and look for insects. Place all material in dishpan with luke warm water. Insects will float to surface.

Soil Sample — Take a soil sample with a cup cutter to a depth of 2-4 inches. Break apart soil, looking for eggs (pearly white, spherical, 1/16 to 1/8 inch diameter) or grubs (cream colored, c-shaped, 3 pairs of legs just behind brown head).

UMASS EXTENSION

NEMATODE MONITORING GUIDE

Symptoms caused by nematodes are not unique to nematodes. Wilting, turf decline, reduced vigor and shortened roots are all symptoms that result from nematode injury; however, compaction, root and crown disease, drought and other stresses will result in the same symptoms. For this reason, **it is essential to have the soil and/or roots assayed to determine if nematodes are the cause of the problem.**

Nematode	Season	Symptoms (also see above text)
ECTOPARASITIC NEMATODES **Lance** **Needle** **Ring** **Spiral** **Stubby root** **Stunt**	May to October	Ectoparasitic nematodes do not cause unique symptoms on roots. Although Stubby root and Needle may cause swelling of the root tips, this is difficult to see.
ENDOPARASITIC NEMATODES **Cyst**	May to October	Cysts can be found attached to plant roots if roots are washed gently.
Root-knot	May to October	Swelling and galls develop on roots.
Lesion	May to October	Small lesions may occur on roots.

COLLECTING SAMPLE FOR NEMATODE ASSAY

When damage is evident, collect a sample from the affected area and, for the purpose of comparison, a sample from an adjacent unaffected area. When no damage is evident and the purpose of sampling is to monitor populations over the season or from season to season, samples should be taken from an area no larger than 500 sq. ft. and repeat samples should be taken from same area. Collecting a composite sample (15 to 20 subsamples, using a 3/4- to 1-inch soil probe, or similar device, at a depth of 4 inches throughout the site) will yield the most accurate estimation of nematode populations. The sample (at least 1/2 pint) should be placed in a container, such as a plastic bag and clearly labeled with sample number. Sample should be refrigerated or delivered as soon as possible after collection. For a Disease Turf Case History Sheet, contact Dr. Robert Wick, 413-545-1045 or www.umass.edu/umext/turf.

APPENDIX II

RECORD OF WEEKLY MONITORING

Week Ending: _____

Weeds:	**Location:**	**Comments and Action Taken:**
1. _____	_____	_____
2. _____	_____	_____
Diseases:		
1. _____	_____	_____
2. _____	_____	_____
Insects:		
1. _____	_____	_____
2. _____	_____	_____
Nematodes:		
1. _____	_____	_____
2. _____	_____	_____

Abiotic:

1. Scalping
2. Application uniformity
3. Grain
4. Poor air circulation
5. Trafficked areas
6. Moisture stress
7. Germination
8. Fertility
9. Thatch
10. Excessive wear
11. Overwatering
12. Turf establishment
13. Shade
14. Compaction
15. Turf vigor/health

Problem number:	**Location:**	**Comments and Action Taken:**
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____

Tasks to be completed: _____

_____

Date of bloom of key bio-indicator plants: _____

(This record keeping sheet can be copied and used at will as part of the development, implementation and verification of an IPM system.)

APPENDIX III

ACTION THRESHOLD GUIDELINES

WEEDS

No general action threshold guidelines are available at present. However, weed species action thresholds can be established for a specific use area on a specific course. The action level may vary from species to species. Preventive control may be used based on scouting information and weed species.

DISEASES

List diseases that are treated preventively and curatively. For curative treatments, determine disease levels that require treatment on greens, tees and fairways.

INSECTS

Below are action threshold guidelines for some turf insects. However, these guidelines should be viewed as starting points only. For example, some golf courses may lose turf with 4 or 5 grubs per square foot, while others (with abundant water, higher mowing heights, low traffic) may sustain populations of 25 to 30 grubs per square foot with no apparent damage.

Insect	General Action Threshold (no./sq ft.)	Comments
Annual bluegrass weevil	Spring generation 30 to 80 larvae Summer generation 10 to 40 larvae	Summer generation higher where grass is under less stress or there is little annual bluegrass
Black turfgrass ataenius	Spring generation 30 to 80 grubs Summer generation 15 to 40 grubs	Higher spring generation populations have been observed
Cutworms	Highly variable	
White grubs	May beetles, 2 to 4 European chafer, 3 to 8 Asiatic garden beetles and masked chafers, 12 to 20 Oriental and Japanese beetles, 6 to 20	Depends on grub species and population of skunks, crow and racoons, etc. in the area
Ants	Highly variable	

NEMATODES

Nematicides should not be applied without lab confirmation of pest and population. The best time to apply nematicide is in the first two weeks of June. This will insure suppression of nematodes before populations peak, and reduce nematode pressure during the stressful months of July and August. In most cases, nematicide applications after August 1st are difficult to justify. An exception is for cyst nematodes. Juveniles emerge around mid-April, and the 1st of August. To control cyst nematodes, nematicide should be applied by mid-April and about the 1st of August.

Nematode	Threshold Levels (no. 100 cc of soil)
ECTOPARASITIC NEMATODES	
Needle	100-200
Lance	400-800
Stunt	800-1,500
Spiral	>3,000
Ring	>4,000
Stubby root	100-300
ENDOPARASITIC NEMATODES	
Cyst	
Cysts	25-50
Juveniles	500-1,000
Root knot	
Juveniles	500-1,000
Lesion	100-200

APPENDIX IV

RECORD OF PESTICIDE AND FERTILIZER APPLICATION

Applicator:_____ **License #:**_____ **Time:**_____ **Date:**_____

PRODUCT INFORMATION

	PRODUCT	ACTIVE INGREDIENT	FORMULATION	RATE	EPA REG. #	LOT #	AMOUNT USED
1.							
2.							
3.							

APPLICATION INFORMATION

EQUIPMENT

Sprayer:_____ **Spreader/setting:**_____ **Spray Vol. (GPA):**_____ **Date Calibrated:**_____

PEST

Target Pest:_____ **Growth stage (if applicable):**_____

LOCATION OF TREATMENT

Total area treated:_____

Greens_____ **Tees**_____ **Approach**_____ **Fairways**_____ **Rough**_____ **Other**_____

WEATHER AT TIME OF APPLICATION

Temperature:_____ **Presence of Dew: YES NO** **Wind speed and direction:**_____

Time application remained wet:_____

RAINFALL/IRRIGATION:

Before: YES NO **After: YES NO** **Amount before:**_____ **Amount after:**_____

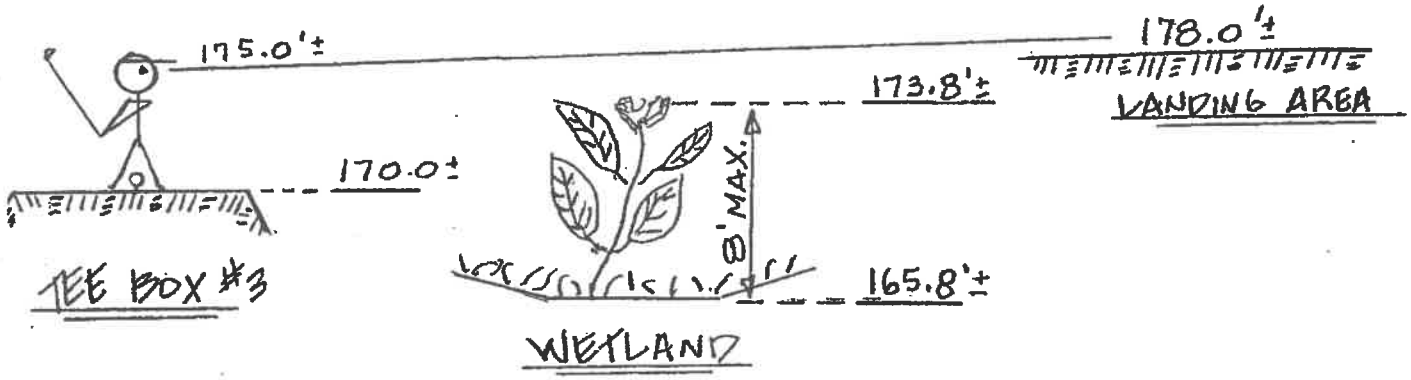
Description of weather:_____

Comments:_____

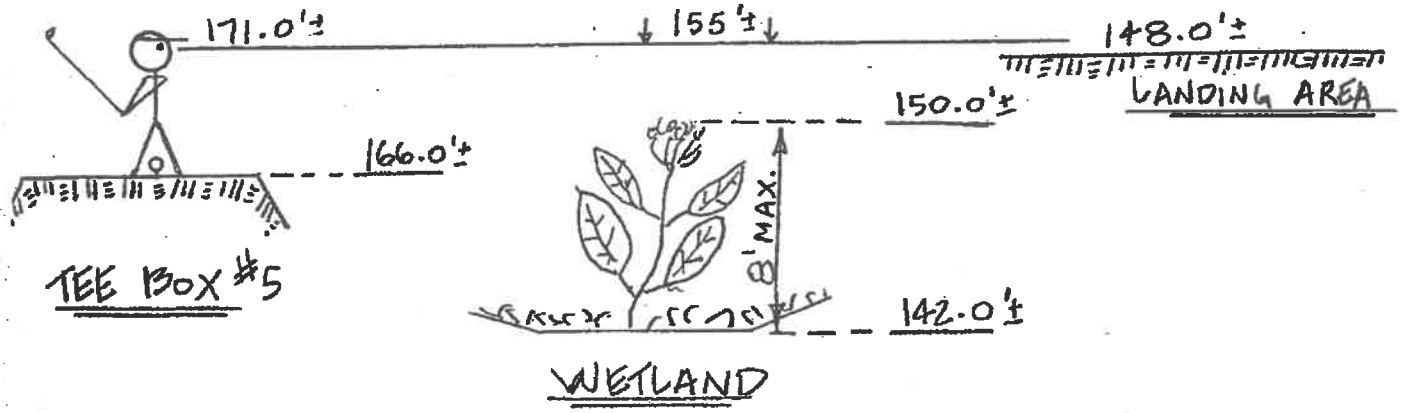
(This record keeping sheet can be copied and used at will as part of the development, implementation and verification of an IPM system.)

ATTACHMENT B
Profile Views for Fly-over Areas (NTS)
Weathervane Golf Club, Weymouth, MA
November 6, 2005

Golf Hole # 3
(NTS)



Golf Hole # 5
(NTS)



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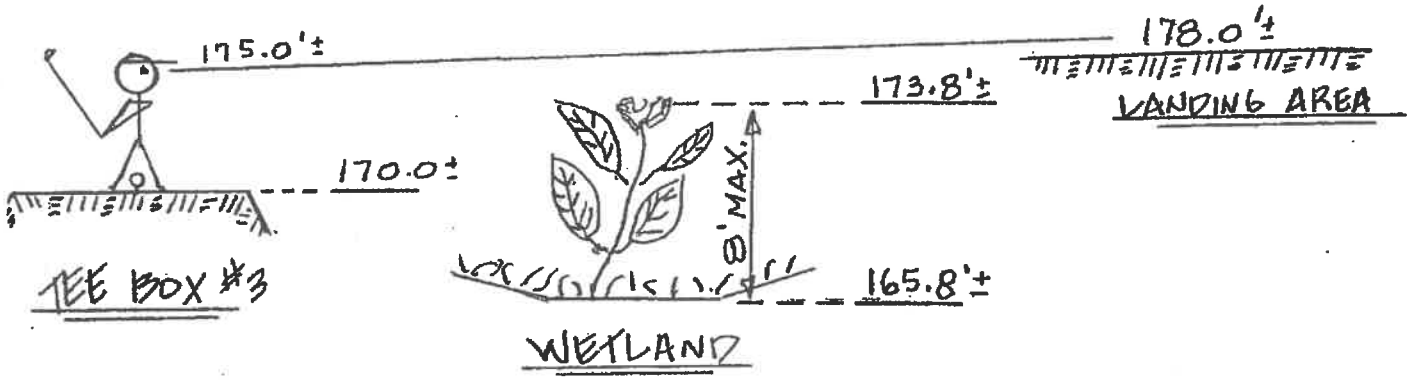

Golf Hole # 5