

# OHIO WATER POLLUTION CONTROL LOAN FUND WATER RESOURCE RESTORATION SPONSOR PROGRAM

## PROGRAM YEAR 2012 PROJECT NOMINATION FORM

To be eligible for a loan from the WPCLF, each WRRSP project must be nominated and placed on the project priority list. To nominate a project, complete this form and submit it to the Ohio EPA, Division of Environmental and Financial Assistance. This is NOT an application for WRRSP funding, but requests specific information needed to prioritize each project. Incomplete forms will be returned for completion and the project will not be placed on the project priority list until such time as a complete nomination form has been submitted **by the published deadline for submission of nominations**. Please direct any questions to Steve Malone at (614) 644-2798.

### WRRSP IMPLEMENTER INFORMATION

Please provide the information below so we can contact you concerning your project.

#### WRRSP Implementer/Steward

The City of Aurora

#### Project/Resource Name

Aurora Branch Chagrin River Restoration

#### Implementer/Steward Address

Address 130 South Chillicothe Road

City Aurora OH Zip 44202

#### Contact Person Name and Title

Mayor Lynn McGill

#### Telephone

(330) 562-6131

#### Contact Person E-Mail Address

mayor@auroraoh.com

### WRRSP SPONSOR INFORMATION

To receive WPCLF funding, each WRRSP project must be associated with a sponsoring community whose construction project is eligible for funding during Program Year 2012. For Program Year 2012, identifying a WRRSP Sponsor is optional at the time you submit this Nomination Form. If a Sponsor or Sponsors are already known, please provide the following information. Attach additional pages as needed.

Is there a WRRSP Sponsor Project identified for this WRRSP project?		No
	X	Yes (indicate Sponsor Community and Project below)
	Community: Northeast Ohio Regional Sewer District	
		Project:

### PROJECT LOCATION

To assure an accurate rating of your proposed project, provide the information that relates to the location of the WRRSP project you plan to implement. Fill in all information that applies to your project. Without the information requested below, your nomination cannot be processed.

Legislative District(s) (include district numbers)	County(ies)	USGS Hydrologic Unit Code Please use 14 digit HUC	Watershed Name(s)
U.S.: 14	Portage	04110003020 030	Upper Aurora Branch of Chagrin
State Senate: 28			River – Aurora Branch upstream
State House: 68			of McFarland Creek

Indicate the type(s) of water resource(s) which is(are) the focus of this WRRSP project.

Resource Type	Resource Name	Antidegradation Tier	Aquatic Life Use
Stream/River	Upper Aurora Branch – Chagrin River	Tier 2	WWH
Stream/River	Unnamed Headwater Tributaries		
Wetland(s)*	Category 2/3 Wetlands	Tier 2	WWH
Lake			
Other*			

Latitude/Longitude Centroid (in decimal degrees)		All WRRSP property boundaries need to be submitted to Ohio EPA-DEFA as a shapefile (ArcMap-ESRI) in Ohio State Plane South Zone (coordinate system), NAD 1983 (datum), with units set to feet.
Latitude:	41° 18' 22.33" N	
Longitude:	-81° 18' 10.33" W	

For current Antidegradation Tier information go to [http://www.epa.ohio.gov/portals/35/rules/01-05\\_eff030701.pdf](http://www.epa.ohio.gov/portals/35/rules/01-05_eff030701.pdf)

For current Aquatic Life Use information go to [http://www.epa.ohio.gov/dsw/rules/3745\\_1.aspx](http://www.epa.ohio.gov/dsw/rules/3745_1.aspx)

\* Note: Please attach ORAM forms. All wetland scores are subject to Ohio EPA review.

## PROJECT TYPE

Characterize your project using the following general categories. If proposing more than one project type (e.g., natural channel design and wetlands restoration), select each category that applies.

**What type of activities will be involved in this project?** Check all that apply and fill in the blanks.

<input checked="" type="checkbox"/>	<b>Wetlands Protection</b>	acreage:	15	<b>Category 2 - 3</b>
<input type="checkbox"/>	<b>Wetlands Restoration</b>	acreage:		
<input checked="" type="checkbox"/>	<b>Dam or Levee Removal or Modification</b>	acreage:		1 Dam
<input checked="" type="checkbox"/>	<b>Stream/Riparian Protection</b>	acreage:		Linear feet: 14,100'
<input checked="" type="checkbox"/>	<b>In-Stream Habitat Restoration</b>	acreage:		Linear feet: 500'
<input checked="" type="checkbox"/>	<b>Streambank Restoration</b>	acreage:	33	Linear feet: 6,300 LF (right + left banks) Breakdown: 3,600' right bank 2,700' left bank
<input checked="" type="checkbox"/>	<b>Natural Channel Design</b>	acreage:		Linear feet (before implementation):0 post 900' LF
<input type="checkbox"/>	<b>Other (specify):</b>	acreage:		

The project will provide complete protection of aquatic habitat sufficient to maintain the designated uses of the benefited water resource as defined under Ohio Water Quality Standards.

<input type="checkbox"/>	This project will provide complete protection by itself
<input type="checkbox"/>	This project implements a Total Maximum Daily Load (TMDL) Plan or a Watershed Action Plan (WAP)
<input type="checkbox"/>	This project will provide complete protection in conjunction with other projects which are committed to be undertaken
<i>Please attach information that describes: (a) the other projects, (b) the other funding sources identified for or committed to these projects, and (c) the time frame for implementation. If available, please also provide the name of the watershed plan in your attachment.</i>	

The project will provide complete restoration of aquatic habitat sufficient to meet the designated uses of the benefited water resource as defined under Ohio Water Quality Standards.

<input checked="" type="checkbox"/>	This project will provide complete restoration by itself
<input checked="" type="checkbox"/>	This project implements a Total Maximum Daily Load (TMDL) Plan or a Watershed Action Plan (WAP)
<input checked="" type="checkbox"/>	This project will provide complete restoration in conjunction with other projects which are committed to be undertaken
<i>Please attach information that describes: (a) the other projects, (b) the other funding sources identified for or committed to these projects, and (c) the time frame for implementation. If available, please also provide the name of the watershed plan in your attachment.</i>	

## PROJECT SUMMARY

Provide a brief description/summary of the proposed project. Summary should be limited to no more than one or two paragraphs and include the "who, what, where, when and why" of the project. Please be brief – do not attach any additional pages.

The **Aurora Branch Chagrin River Restoration** project involves acquisition by the City of Aurora of portions of the existing Aurora Golf Club, an 18-hole golf course located within the City limits and restoration of streams on the property. The site lies in Portage County and within the Upper Aurora Branch of the Chagrin River Watershed. The location of the project is shown on the maps in Exhibit A and the boundary of the 186-acre portion to be purchased is shown in Exhibit B.

The project includes preservation of over 8,000 linear feet of the Aurora Branch of the Chagrin River and over 6,800 linear feet of headwater streams, removal of one dam, and restoration of 3,600 linear feet of the Aurora Branch of the Chagrin River and 900 linear feet of headwater stream. Finally this project will restore nearly 33 acres of existing mowed and manicured golf course to a forest riparian corridor and floodplain. This project will implement one of the action items included in the Chagrin River Watershed Action Plan (2006, revised, 2010, "WAP"). The plan lists restoration of the river through the Aurora Country Club as an action item and specifically calls for removal of the golf course infrastructure and restoration of the riparian corridor. The property also includes approximately 15 acres of Category 2-3 wetlands. ORAM forms and a restoration concept plan are included in Exhibit B.

The project will protect the adjacent Aurora Audubon Sanctuary, a 165-acre preserve that was the first bird sanctuary established in the State of Ohio. This property, which harbors state-listed species, is designated as a State Nature Preserve and managed in partnership with ODNR. The subject project will provide significant buffer for the preserve as well as expanded habitat along the river. In addition the Aurora Branch of the Chagrin River is a designated State Scenic River just downstream of the project site. Restoration of the Aurora Branch and the riparian corridor may allow for expansion of this scenic river designation upstream of State Route 84.

**For projects involving land acquisition funded with WRRSP funds, you must attach a windshield appraisal of property values to the nomination form.**

**PROJECT SCHEDULE**

So that the WPCLF can assure the necessary project reviews and documents can be completed in time for the WRRSP project to be funded with its sponsoring loan project, please indicate the date you will complete each task. Please follow the minimum time intervals between each scheduled task. **Schedules with less than the minimum time intervals below may be rejected or returned for revisions.** Loans are approved on the last Thursday of January through October, and the second Thursday of December.

**NOTE:** if any of the following tasks have already been completed, please indicate this with a "C" and include the actual completion date.

<b>WRRSP PROJECT SCHEDULE</b>	<b>Date</b>
<b><i>Prior to Loan Award</i></b>	
1. Submit an executed resolution of support from the sponsoring entity (no later than 15 days after the beginning of the new program year)	March 15, 2012
2. Submit an executed Sponsorship Agreement (no later than 30 days after the beginning of the new program year)	March 30, 2012
3. Submit an approvable restoration/protection plan (no later than 90 days prior to task 7)	September 8, 2012
4. Submit a draft environmental covenant (no later than 90 days prior to task 7)	September 8, 2012
5. Submit complete easement/land acquisition appraisals (no later than 90 days prior to task 7)	September 8, 2012
6. Submit 4 original executed environmental covenants (no later than 15 days prior to task 7)	November 23, 2012
7. Date of Sponsor's Construction Loan (last Thursday of January through October, and the second Thursday of December)	December 13, 2012
<b><i>After Loan Award</i></b>	
8. If land and/or property rights are being acquired with WRRSP funds, date of closing on acquisition	April 8, 2013
9. If land and/or property rights are being acquired with WRRSP funds, date of covenant recording	April 8, 2013
10. (Restoration Projects Only) Date final detailed plans submitted	February 8, 2013
11. (Restoration Projects Only) Initiation of construction	May 15, 2013
12. Completion of sponsoring municipal wastewater treatment system project	TBD
13. Completion of WRRSP project implementation (must be completed within one year after task 12)	April 8, 2013
14. Expected achievement of project goals	April 8, 2013
15. Submit first annual report (Jan 15 starting one year after recording of covenant)	January 15, 2014

**TOTAL PROJECT COST AND REQUESTED WRRSP AMOUNT**

Please identify the estimated total project costs by Project Type. Please identify the **total** project cost, regardless of whether you are requesting a WPCLF loan for the total amount. **NOTE: The costs for appraisals are NOT reimbursable.**

	Requested WRRSP Amount	Total Project Implementation Cost
Stream/Riparian Protection	\$ 3,500,000	\$ 3,500,000
Wetlands Protection	\$400,000	\$400,000
Dam or Levee Removal or Modification	\$96,250	\$96,250
In-Stream Habitat Restoration	\$57,250	\$57,250
Streambank Restoration	\$438,250	\$438,250
Natural Channel Design	\$183,250	\$183,250
Wetlands Restoration		
Other (specify): Due diligence, boundary marking, signage, plan	\$75,000	\$85,000
<b>Totals</b>	<b>\$4,750,000</b>	<b>\$4,760,000</b>

**PROJECT SCORING INFORMATION**

The details used to determine a priority score for your project are requested on pages 4 through 11 of this Nomination Form. Failure to complete these additional pages as instructed means that your Project Nomination is incomplete. Incomplete forms will be returned and the project will not be placed on the project priority list until such time as a complete nomination form has been submitted. A complete Nomination Form must be submitted by the published deadline.

**SUBMITTAL AUTHORIZATION**

I hereby certify that I am authorized by my elected or appointed position to submit this nomination on behalf of the applicant identified above, the information is complete and accurate to the best of my knowledge and represents the information to be used to determine the priority of this project for funding.

I also acknowledge that WRRSP projects are subject to the placement of an environmental covenant on all acquisitions and on the areas where restoration was funded. I have read the covenant and have the legal authority to execute this covenant.

<p><u>LYNN McGILL</u></p> <p>Name (please print)</p>	<p><u>MAYOR</u></p> <p>Title</p>
<p><u>Lynn McGill</u></p> <p>Signature</p>	<p><u>9/15/2011</u></p> <p>Date</p>

**PLEASE COMPLETE AND SEND WITH ALL ATTACHMENTS TO:**

[DEFAMAIL@epa.state.oh.us](mailto:DEFAMAIL@epa.state.oh.us)  
 OR  
 Ohio Environmental Protection Agency  
 Division of Environmental and Financial Assistance  
 PO Box 1049  
 Columbus, Ohio 43216-1049  
 ATTN.: Dave Reiff



**WPCLF PROGRAM YEAR 2012  
WRRSP PROJECT SCORING INFORMATION**

*Do not attach a Watershed Action Plan (WAP), Total Maximum Daily Load (TMDL) report, Remedial Action Plan (RAP) report, or other report or plan as a substitute for completing these descriptions. Please limit each description to the length requested for each. Do not attach additional pages unless instructed.*

**STATUS OF WATER RESOURCES**

Provide and append the following metrics (if available) as they apply to the water resource(s) in your project area. If the data is not available, indicate "not available" – do not leave blank

Resource Name	Metric	Existing Value	Value After WRRSP Implementation
Aurora Branch Chagrin River	HHEI (Headwater Habitat Evaluation Index)	Not available	Not available
	QHEI (Qualitative Habitat Evaluation Index)	<b>77</b>	<b>Attainment</b>
	LCI (Lake Condition Index)	Not available	Not available
	ORAM (Ohio Rapid Assessment Method)	Not available	Not available
Aurora Branch Chagrin River Restoration	HHEI (Headwater Habitat Evaluation Index)	Not available	Not available
	QHEI (Qualitative Habitat Evaluation Index)	Not available	Not available
	LCI (Lake Condition Index)	Not available	Not available
	ORAM (Ohio Rapid Assessment Method)	<b>62.5</b>	<b>Cat 2/3</b>
	HHEI (Headwater Habitat Evaluation Index)		
	QHEI (Qualitative Habitat Evaluation Index)		
	LCI (Lake Condition Index)		
	ORAM (Ohio Rapid Assessment Method)		

Indicate the sources and causes of impairments, if any, to the water resource(s) which are the focus of the project by filling in the tables below.

Sources of Impairment	Existing Source Check as many sources as apply.	Sources Addressed by the WRRSP <i>Check as many sources as apply. Indicate C for sources completely addressed or P for those sources partially addressed.</i>
Agriculture / Silviculture		
Construction Activity		
Contaminated Sediments		
Dam / Impoundment	X	C
Drainage / Wetland Filling		
Land disposal		
Marina(s)		
Mining		
Point Sources (Municipal or Industrial)		
Stream Habitat Modification	X	C
Urban Runoff/Development	X	P

Causes of Impairment	Existing Cause Check as many sources as apply.	Causes Addressed by the WRRSP <i>Check as many sources as apply. Indicate C for sources completely addressed or P for those sources partially addressed.</i>
Bacteria / Pathogens		
DO / Organic enrichment / un-ionized ammonia/ nutrients.	X	C
Filling and Draining		
Hydromodification	X	C
Inorganic Pollutants		
Invasive Species		
Organic Pollutants		
Siltation / Sediment	X	P
Thermal Modification	X	P

**Using the information and indicies provided on the previous page, relate the sources/causes of impairment/threats to water resources, including both point and nonpoint sources, to the attainment/non-attainment of the aquatic life use designation(s) in the project area.**

The section of the Aurora Branch of the Chagrin River that flows through the property is in partial or non attainment of WWH. Ohio EPA's 305(b) and 303(d) report identifies causes in this segment as mercury, unionized ammonia, chlorine, organic enrichment, thermal modifications, flow alteration, noxious aquatic plants, and other habitat modifications. Sources are identified as major industrial point sources, package plants, highway/road/bridge/sewer line construction, drainage/filling of wetlands due to development, natural, upstream impoundments, and onsite wastewater systems (HSTS). Ohio EPA's Study, "Biological and Water Quality Study of the Chagrin River and Selected Tributaries 2003-04" sampling noted that 42% of sites in the Aurora Branch were impaired which was a slight improvement compared to 60% during 1995 survey. Page 86 of this report states "Most of the problems facing the Chagrin basin are found within the hydrologic unit comprising the watershed upstream from and including the Aurora Branch. Channelization of the Chagrin River headwaters, organic enrichment of the Aurora Branch, and toxicity from algal blooms in Sunny Lake are the main problems." Since the 2003-2004 sampling, the City of Aurora has completed several projects to improve water quality in the Aurora Branch, including preservation of the Spring Hill Wetlands Property (2010 WRRSP), Harmon Homestead Restoration Project (2011 award of 319 Project, construction slated for summer 2012), implementation of recommendations from the Save Sunny Lake report, including work on Sunny Lake and sewer connections to the Sunny Lake boathouse. These activities and this proposed acquisition and restoration will restore the Aurora Branch to full attainment of its WWH status. While the sinuosity of the river through the site is fairly good, several sections have been channelized and entrenched. The stream also suffers from flow impairments due to conversion of the natural forested floodplains to fairways and related course infrastructure, including ponds, bridges, and tile drainage. The golf operation also threatens the Category 2-3 wetlands by introducing nutrient-rich run-off and sediments to these resources.

**PROJECT AREA**

*Please provide a brief narrative description of each of the following features for the project area.*

**Describe the current physical characteristics and features of the project watershed and/or subwatersheds.**

*Include size, general soil types, unique features, land cover and land uses and trends with particular emphasis on those that may be influencing water quality. Limit the description to the space provided.*

The Chagrin River watershed has a drainage area of 267 square miles and flows through portions of Cuyahoga, Geauga, Lake and Portage Counties. The property lies in a sub-watershed known as Aurora Branch Upstream of McFarland Creek. At this location the Aurora Branch of the Chagrin River drains approximately 12.5 square miles.

The soils on site consists generally of glacial and alluvial till deposits. The primary soils present include hydric soils such as Orville, Tioga, Holly, and Sebring Silt Loams and Ellsworth Silt Loam. The moderate permeability of the hydric soils along the stream will allow for excellent quality wetland development once the area is not maintained and the riparian corridor is restored. Currently the stream on site has been impacted by channelization, tile drainage, and riparian vegetation removal as the site was converted from a natural forested wetland riparian corridor to golf course.

Land protection in the Chagrin River headwaters has been a primary focus for the City of Aurora and many local land conservation groups. The property directly abuts to the western side of the 165-acre Aurora Audubon Sanctuary owned by the Audubon Society of Greater Cleveland. The Aurora Sanctuary has cited among its most imminent threats growing development pressures on neighboring land. To better protect it and Chagrin River water quality, the City recently purchased a 153-acre property, the Spring Hill Wetlands, utilizing 2011 WRRSP funding, located adjacent to the eastern border of the Sanctuary (Exhibit A: Protected Properties Map). Together, that project and the subject one will provide significant buffer to the sanctuary while also protecting aquatic resources on each site. In addition, the City of Aurora has done significant work on Sunny Lake to minimize nutrient inputs from the boathouse septic system and sedimentation caused by carp and a lack of buffer area around the pond. In 2011, the City was granted a 319 grant to complete a stream and wetland restoration upstream of Sunny Lake to further minimize nutrient and sediment loading to the lake and downstream resources.

According to the Chagrin River WAP, as of 2004, nearly 23% of Aurora's land had been developed and 11.8% was protected open space. The remaining 65.4% is developable under current zoning. Residential development in Cleveland's outer suburban communities in the Chagrin River headwaters, such as Aurora, has rapidly increased in recent decades. While the current economic recession has slowed the pace of this sprawl development, a revival of demand, particular for housing, can be expected in this area once the economy improves. The City of Aurora participated in the Chagrin River Watershed Balanced Growth Plan by designating Priority Conservation and Development Areas, incorporating these designations into the City's Master Plan, and adopting zoning codes to support these designations, such as riparian and wetland setbacks, comprehensive stormwater management and conservation development.

The Chagrin River TMDL has indicated that primary causes of impairment in the watershed are organic enrichment, nutrients, bacteria, flow alteration and degraded habitats. Major sources of impairment are identified in the TMDL as land development, suburbanization, wetland filling, removal of riparian vegetation, urban storm water and non-point sources. The TMDL specifically identifies recommended solutions to include storm water management, protection and restoration of riparian and headwater areas, and promoting balanced growth.

**Describe the current status of property ownership. Specify whether the current owner(s) is (are) a public or private entity(ies).**

*Please provide a brief narrative description. Limit the description to the space provided. Indicate if options (or other preliminary purchase agreements) have been secured on proposed acquisitions.*

The Trust for Public Land (TPL) is assisting the City of Aurora with the acquisition of the property which is owned by Aurora Recreation, LLC, a private entity. TPL and the landowner have executed a Letter of Intent and are working on converting the agreement to a full purchase option. TPL will purchase the property at fair market value as supported by an appraisal. The Letter of Intent provides for an option expiration date of January 31, 2013, if the project ranks for WRRSP 2012 funding.

Of particular importance is that in May 2011, the owners secured a commercial rezoning of a portion of the property and are currently making plans for the closure of the golf course clubhouse area for redevelopment. As such, WRRSP funding will not be providing the reason for the owners to shutter the operations. The economic realities of three 18-hole golf courses in Aurora, operating within two miles of each other, are simply no longer feasible. The current owners purchased the property with full intention to shut it down for a large scale redevelopment.

Once TPL purchases the property it will be immediately transferred to the City of Aurora for permanent ownership, riparian restoration and protection, and stewardship. An existing oil/gas lease with six wells will continue under the existing terms of the lease. These have no detrimental impact on the quality or restoration potential of the site.

**Provide a detailed description of the project implementation site(s).**

*Include a description of site-specific physical and environmental conditions. Limit the description to the space provided. Also attach photographs and a copy of the applicable portion(s) of a USGS quadrangle map with the specific project location(s) indicated. Corridor projects must indicate geographic boundaries and targeted parcels. (In general, for corridor projects the parcels targeted should not cost more than 3 times the WRRSP dollars requested).*

The 186-acre property is located in Aurora, Ohio and lies includes the main stem and headwaters of the Aurora Branch of the Chagrin River. The Property contains approximately 15 acres of Category 2-3 shrub/scrub wetlands and more than 8,300 lineal feet of the mainstem of the Aurora Branch and 5,800 linear feet of primary headwater streams. This project will restore an additional 900 linear feet of headwater stream, remove one dam, restore 3,500 linear feet of the Aurora Branch of the Chagrin River, and 33 acres of forested riparian corridor and floodplain. A large portion of the Chagrin River starting just north of the site is designated a State Scenic River.

The topography of the site is flat to gently rolling. The land has been significantly altered for its current use as an 18-hole golf course. A topographic map of the property is included in Exhibit A and photographs of the property are included within Exhibit B. The primary soils on site include hydric soils in the riparian corridor including Orville, Tioga, Holly, and Sebring Silt Loams and Ellsworth Silt Loam soils on the slopes and upland areas.

A local road known as Trails End cuts through the site from the NNW corner to the center of the golf course. Clubhouse facilities have been built along the westernmost portion of the road. Approximately 23 residences have also been built on residential lots lining the road as it winds through the course, and additional residential development is planned. None of the club facilities nor the residential development area are included in the acreage to be acquired.

Residential development is also found immediately west and south of the course. To the east lies the aforementioned Aurora Audubon Sanctuary. Southeast the land cover has intermittent parcels of woodlands and large-lot residential as well as Sunny Lake. Large-lot residential also dominates north of a railway line that runs along the northern border of the property. These parcels' frontage lies along State Route 82.

As noted above, there is an existing oil/gas lease with six wells that will continue operating under the existing terms of the lease. Restoration will be planned and implemented in a manner that their continued operation, until the lease expires, will have no detrimental impact on the overall quality or restoration potential of the site.

NOTE: Funded WRRSP projects will be required to submit property restoration boundaries in an ArcMap ESRI shape file or an ArcMap ESRI compatible electronic file.

**If known, list any plants or animals of interest that will benefit from this project (e.g. rare, threatened, endangered, and special interest species, declining populations, special ecological communities, etc.).**

*Please provide a brief narrative description. Limit the description to no longer than one paragraph*

While no state-listed species have been identified on the site, the adjacent Aurora Audubon Sanctuary contains smaller fringed gentian (*Gentianopsis procera*), a state Potentially-threatened wildflower. The Ohio NHI database (Exhibit C) also identifies three other potentially threatened species within one mile of the project site.

The Sanctuary also harbors a variety of owls and hawks, including great-horned and barred owls, ospreys, eagles, and red-shouldered, Cooper's and sharp-shinned hawks. The Sanctuary has been designated an Important Bird Area by BirdLife International.

According to the Chagrin River WAP, the portion of the Aurora Branch in this area supported five species of freshwater mussels, but populations of these are in significant decline. The subject project, which includes riverine restoration that will expand natural habitat and improve water quality will help recovery of these aquatic species.

Prior to 1987, the Aurora Branch was designated as CWH. Ohio EPA sampling in 1987 indicated a clear WWH community. Ohio EPA's 1991 data showed partial attainment of the WWH status. After the 2003-2004 sampling, the downstream stream segments between Smith and McFarland Creeks were re-designated.

**Provide a narrative description of any information on the project or project area not otherwise requested which would facilitate a better understanding of the proposed project.**

*As applicable, include information regarding the history of the area or past modifications, and benefits of the project that go beyond water quality (e.g., "This area is the largest patch of contiguous Beech-Maple Forest in NE Ohio..."). Limit the description to no longer than one paragraph.*

The property is designated as a Priority Conservation Area (PCA) in the Chagrin River Watershed Balanced Growth Plan (2009). This plan was endorsed by the State of Ohio on September 28, 2009 and is available on CRWP's website at [www.crwp.org](http://www.crwp.org). The City of Aurora has also included these Priority Conservation and Development Areas designations in their Master Plan and has adopted zoning for stormwater management, riparian and wetland setbacks, and conservation development. Although the City has good development codes, no zoning would require the restoration of stream resources on the Aurora Country Club property if it was developed to its underlying residential zoning density. Thus even with these regulations in place, the Aurora Branch of the Chagrin River is not likely to attain the WWH water quality standards if this property is developed. This project provides an opportunity to build on the foundation of good planning, open space acquisition, and restoration that the City of Aurora has undertaken to date. The purchase and restoration have been specifically identified as an action item to achieve the goals of the Chagrin River WAP and restore the most impacted area of the Chagrin River watershed.

**PROJECT DESCRIPTION, PURPOSE, AND GOALS**

*Please provide a brief narrative description of each of the following items to help quantify the anticipated benefits from the proposed project.*

**Provide a Problem/Issue Statement which specifies the need for the project, specifically focusing on habitat integrity within the project area and taking into account the information provided under "Status of Water Resources" and "Project Area."**

*Please limit the problem/issue statement to no longer than one paragraph.*

The Aurora Branch mainstem running through the property is in partial or non-attainment of its WWH aquatic life use due to direct habitat alteration for golf course use. The creation of fairways and other golf course infrastructure has caused flow impairments/hydromodifications, increased nutrient inputs, riparian corridor vegetation removal, and thermal modification. The golfing operation also threatens the 13 acres of Category 2-3 wetlands on the property. While the landowning entity is working towards a sale with TPL, it is not conservation-minded. If the City and TPL cannot raise the necessary funds to buy the property, it will be placed on the open market with significant risk of conversion to yet another use that will further impair Chagrin River water quality. Conversely, the protection and restoration of this property, associated streams and riparian corridors, along with other efforts of the City of Aurora, can restore this significant reach of the Aurora Branch of the Chagrin River to full attainment of WWH standards.



**State the Project Goal, specifically focusing on habitat integrity within the project area.**

*Goals must focus on restoration or preservation of high quality aquatic habitat as opposed to storm water controls, agricultural BMPs, or recreational or upland conservation activities. Projects should focus on one continuous stream segment, water body, wetland or wetland complex. Goals must include measurable indicators, with appropriate indicators of success. Relate the goal to sources of impairment/threats to attainment on the waterbody in question, and how full restoration will be achieved by the proposed project when these are also taken into account.*

The primary goal of this project is to permanently protect a 186-acre parcel that includes Category 2-3 wetlands, 8,400 linear feet of the Upper Aurora Branch of the Chagrin River, removal of one dam/impoundment, 5,800 linear feet of headwater stream, and 33 acres of forested floodplain riparian corridor. Purchase of the land for conservation purposes will end its current use as a golf course, which adds nutrient enrichments to the river, and will pre-empt its redevelopment as a residential subdivision, which would increase sedimentation and stormwater run-off.

This restoration will to address sources of impairments of dam/impoundment/ stream habitat modification, urban runoff by restoring the stream, floodplain, and riparian corridor to a more natural state. Completion of this project will address the causes of impairment by reducing nutrients, restoring natural stream flow/morphology, reducing sediment and siltation by reforesting the riparian corridor and stabilizing streambanks, and reducing thermal impacts to downstream CWH segments by providing shading.

The indicators of this project's success will be 1) closing on the purchase of the site, and the transfer of the property from TPL to the City, a public natural resource steward, which will manage and protect the property in perpetuity, and 2) completion of proposed restoration of the streams and natural riparian corridor/floodplain (Stream Restoration Concept Plan is included in Exhibit B).

**Provide Objectives to Support the Goal.**

*Objectives should contain technical solutions. Relate the objectives to sources of impairment/threats to attainment on the waterbody in question, and how full restoration or protection will be achieved by the proposed project when these are also taken into account.*

One of the primary objectives of site protection will be accomplished through the direct purchase of the property. The purchase will ensure protection of the on-site and downstream aquatic resources in the Upper Aurora Branch-Chagrin River watershed which are currently threatened by organic enrichment, nutrients, bacteria, flow alteration and degraded habitats. The proposed project will reduce nutrient enrichment by attenuating the golfing operation. If WRRSP funding is awarded, a restrictive covenant will be placed on the deed to ensure and document long-term site protection.

Another objective is to significantly improve habitat while also increasing stormwater filtration by removing flow impairments. As shown on the restoration concept map and plan given in Exhibit B, the City will reforest fairways along the riparian corridor, remove structures from the Aurora Branch that impede flow, enhance habitat features such as rock riffle structures, stabilize 6,300 linear feet of streambank, and restore 900 linear feet of headwater streams in existing fairways and in an existing impoundment.

Finally, if funding is awarded, the City will prepare a Protection Implementation Plan to guide its stewardship of the property and will outline in much greater detail the design and cost of the restoration portion of the project. The Chagrin River Watershed Partners, Inc. (CRWP) will work with the City of Aurora and TPL to ensure the stream restoration concept plan is developed into a robust final design that will meet the project goals.

**Identify any special condition which would restrict or improve potential restoration, protection, or enhancement efforts on the proposed project site(s).**

*Please provide information that will be helpful in predicting the success of the project. For example, does this action build upon previous restoration efforts or is this an isolated project downstream from a proposed shopping mall? Is the project area adjacent to existing preserved land? Does the project represent one step or phase in a series of actions that need to happen to complete a protection/restoration effort? This is also the place to indicate any urgency to acquire property due to impending development impacts.*

As noted above, the project is adjacent to the Aurora Audubon Sanctuary. The City is intent on providing further protection for the sanctuary. This was evidenced by the City's recent purchase in June of the 153-acre Spring Hill Wetlands property located just east and upstream of the sanctuary. This purchase was completed in part with 2011 WRRSP funding.

The property is already zoned R-2, with a portion recently rezoned to Commercial/Retail. It indicates the landowner's desire to maximize the development potential of the site. The R-2 zoning permits .33 residences per acre, which means that, theoretically, up to 55 homes could be built on the land being purchased. Allowing space for road infrastructure and required setbacks would likely reduce this number quite a bit, but still development of dozens of homes on the site is possible under current zoning. If the City cannot raise the funds to purchase the site, the landowner intends to close the golf course and redevelop the property. The likelihood of residential conversion is considered to be high. Trails End Road already provides access to the interior of the site. This road could be extended and additional feeder roads connected to it. Moreover, the site already offers beautiful mature trees as landscaping and open fairways for building sites that do not require clearing. These attributes make residential development of the site less costly, and the end product more desirable, presenting a developer with greater potential margins. Thus, there is urgency to purchase and protect this site, as it is considerably at risk of falling into a developer's hands.

**Provide a brief description of the project-specific educational and outreach effort that you will implement to insure the general public is aware of the project and the benefits that will result.**

*The description should be limited to two or three paragraphs and include specific efforts and activities, such as publications, project signs, canoe floats, volunteer events, etc. that will be completed to support project specific education and outreach. The WRRSP Program will only pay for an educational sign that at a minimum explains the water quality benefits of the project, and the funding source.*

The City and TPL will coordinate press releases as the acquisition is completed. The applicant will prominently promote the project within its newsletters, press releases, and websites. The water quality benefits and project funding will be featured on all publicity. CRWP will also promote this project to its Board of Trustees and in the organization's Annual Report. Signage will be erected on the Property highlighting the importance of the Ohio EPA and WRRSP program in its protection.

The City provides nature education programs at the Moebius Nature Center. Programming that promotes the importance of proper stewardship of wetland habitats and stream resources throughout the Aurora Branch watershed will be offered at the site. The City will also permit The Audubon Society of Greater Cleveland to use the site for its educational programming and research.

A limited amount of infrastructure will be developed on the property to support access to the site for education and research purposes. These improvements will include no more than a small parking area, a kiosk, and trails, many of which will use the existing golf course cart path, and in upland areas only. If the project ranks for WRRSP funding, the location of the parking lot and trails will be included, contingent upon Ohio EPA approval, on the encumbrance map as part of the environmental covenant.

**Please provide a brief narrative summary of the methods and resources that will be used to conduct post project monitoring to ensure that the project goals and restoration efforts are being maintained in perpetuity.**

*The summary should include information relating to general management of the property, the frequency of monitoring, the qualifications of staff that will be involved, how invasive species will be controlled, and the mechanism of enforcing use restrictions.*

The property will be considered a conservation area and subject to use restrictions outlined in a recorded environmental covenant. Prior to the property's purchase the City will develop a management and monitoring plan. This will be incorporated into the Protection Implementation Plan that will be submitted for Ohio EPA review and approval prior to purchase. The management plan will detail permitted/non-permitted uses for the property, natural resource protection and restoration methods, and site monitoring. The City Arborist and CRWP will be consulted to determine best management practices for optimizing biodiversity and protection of wetlands.

The City of Aurora has a dedicated Parks and Recreation Department, GIS personnel, and arborist. These professionally-trained staff are fully capable of effectively stewarding the City's conservation properties. The City staff and safety forces will provide continuous monitoring to prevent outside encroachment upon property boundaries or damage to the site's natural resources.

If WRRSP restoration funds are awarded, the City plans to restore aquatic resources on the site. A restoration concept plan for the property has been prepared by the Chagrin River Watershed Partners and is included in Exhibit B. The plan will be expanded into a full design plan and included in the Protection Implementation Plan that will be submitted for Ohio EPA's review and approval before closing on the purchase.

**Please provide information about your organization's qualifications and experience in conducting and maintaining restoration and/or protection projects.**

*Please provide a brief narrative description in the space provided and append information if necessary.*

The City of Aurora is a leader among municipalities in its protection of key natural resource properties. The City maintains a progressive Parks and Recreation Department overseeing over 1,200 acres of City-owned property. These include the 366-acre Aurora Wetlands Preserve, 600-acre Sunny lake Park, 135-acre Harmon Farm Preserve, 95-acre Chesnes Preserve, and 44-acre Moebius Nature Preserve. Over the years the City of Aurora has built a reputation as a staunch advocate and strong protector of these areas acquired for their natural resource values. Many of the properties are encumbered with legally binding environmental covenants and conservation easements that the City actively enforces.

The City's partner in the acquisition process, The Trust for Public Land, has 38 years of experience in assisting public agencies to acquire land for conservation and public park use. Since 1972, it has closed more than 4,150 land transactions. The City and TPL's Ohio staff have worked together previously on the Aurora Wetlands acquisition and the currently in-process Spring Hill Wetlands acquisition.

CRWP is a non-profit technical organization founded by the cities, villages, townships, counties, and park districts of the Chagrin River watershed, including the City of Aurora. We provide land use assistance to our 36 member communities and park districts as they attempt to grow while minimizing the impacts of development on the watershed and Lake Erie. We also assist member communities with land protection and restoration projects that will improve or maintain the habitat integrity of the watershed.

**PROJECT READINESS**

*This question is intended to provide information which will show how soon this project could be implemented if it is selected for funding.*

**Indicate any studies and/or preliminary tasks which should be completed prior to full implementation of this project.**

*Are there studies or associated projects which must be completed before the actual protection, restoration, or mitigation project can be initiated? If so, please list these and estimate the time required for each one.*

Chagrin River Watershed Partners has completed a Preliminary Restoration Concept Plan and budget. This will be expanded to a Complete Restoration Plan if WRRSP funding is received.

The Trust for Public Land is currently working on the pre-purchase due diligence including an environmental assessment, survey and title report. The appraisal is completed. All due diligence will be completed prior to closing.

The WRRSP Project Implementation and Protection Plan will be developed in conjunction with Ohio EPA if WRRSP funding is received.

**PROJECT COSTS**

Please provide below an estimate of the costs to implement the project. ***PLEASE NOTE that administrative expenses, nomination preparation expenses, appraisal expenses, operational personnel, endowments, future expense funds, costs attributable to the value of a business and estimates of lost income, food, lobbying, and travel are ALL INELIGIBLE for WRRSP funding***

Project Component	Cost \$
<b>Property Cost</b>	
Fee Simple Land Costs <b>NOTE: will require full narrative appraisals</b>	3,900,000
Easement Land Costs <b>NOTE: will require full narrative appraisals</b>	
Appraisal <b>NOTE: must be selected from list of ODNR prequalified appraisers</b> The list is available at: <a href="http://www.epa.ohio.gov/defa/09wrrsp.aspx">http://www.epa.ohio.gov/defa/09wrrsp.aspx</a>	
Closing Costs	5,000
Title Search	2,000
Environmental Assessments	15,000
Other:	
<b>Acquisition Expenses Subtotal</b>	<b>3,922,000</b>
<b>Planning and Design</b>	
Protection/Restoration Plan Preparation	15,000
Design Preparation (includes design, engineering and permitting)	80,000
Other Eligible Costs *	
<b>Planning and Implementation Subtotal</b>	<b>95,000</b>
<b>Habitat Restoration (list with estimated costs and link to outcome)</b>	
Headwater Stream Restoration through Natural Channel Design	162,000
Streambank/Riparian/Floodplain Restoration	417,000
Dam Removal	75,000
In Channel Restoration: Rock Riffle Construction and bridge demolition	36,000
<b>Habitat Restoration Costs Subtotal</b>	<b>690,000</b>
<b>Other Miscellaneous Project Costs</b>	
Permits, legal services, required surveys	30,000
Materials, equipment and supplies *	
Boundary markers	10,000
Sign indicating WPCLF/WRRSP funding with an educational component	5,000
<b>Other Project Costs Subtotal</b>	<b>45,000</b>
<b>Project Costs Ineligible for WRRSP participation:</b> appraisal	8,000
<b>Total Estimated Project Cost</b>	<b>\$4,760,000</b>

\* Thoroughly describe and justify these costs so an eligibility determination can be completed prior to these costs being included in the project total on the WPCLF Project Priority List. Nominations submitted without this justification will be deemed incomplete. Attach justification as needed on separate pages.

**Identify the source of the cost estimates, and indicate how your project costs are reasonable, considering monetary and non-monetary factors.**

*Please provide a brief narrative description. Limit the description to no longer than one paragraph.*

The option agreement between TPL and landowner provides for TPL to purchase the property at Fair Market Value. The \$3,900,000 figure given in the budget is based on a Restricted-Use appraisal (Summary in Exhibit D). A full narrative self-contained appraisal of the property will be prepared if the project is awarded funding.

Due diligence costs are based on TPL's experience in real estate transactions of conservation properties.

Restoration costs are estimated by CRWP and Davey Tree Expert Co. Environmental Services, as based on prior restoration experience with very similar types of stream restoration projects.

**Are funds potentially available for implementation of this project from other sources?**

*Is any portion of the project likely to be funded from some other source besides Ohio EPA? If so, indicate the possible funding source(s) such as Clean Ohio Fund, ODNR, NRCS, private organizations, foundations, etc. Indicate if you are planning to use any portion of this project as a mitigation bank (in which case no WRRSP restoration funds should be requested.) Please provide a brief narrative description. Limit the description to no longer than one paragraph.*

WRRSP funding in the amount of \$4,750,000 is requested to fund the acquisition, planning, design, and restoration. No other grant sources are available to cover the purchase price and restoration activities within the time needed to complete the acquisition. TPL will cover due diligence costs, including appraisals, not covered in the WRRSP budget.

In addition, the City of Aurora, CRWP, and TPL will each contribute a significant amount of time, labor materials, and project management expertise as in-kind contribution to ensure project success. Each has established a significant track record under the WRRSP program and will again ensure project success if funded.

The project site will not be utilized as a mitigation bank.

# **EXHIBITS INDEX**

**Exhibit A: General location map**

**Topographic map**

**Map showing attainment status**

**Protected Properties Map**

**Chagrin River Watershed Balanced Growth Plan Map  
of Priority Conservation Areas and Priority Development  
Areas in the City of Aurora**

**Exhibit B: Stream Restoration Concept Plan**

**Photographs of Existing Conditions**

**Wetland ORAMS**

**Exhibit C: Biological Data**

**Exhibit D: Summary of Appraisal**

# **Exhibit A**

**General Location Map**

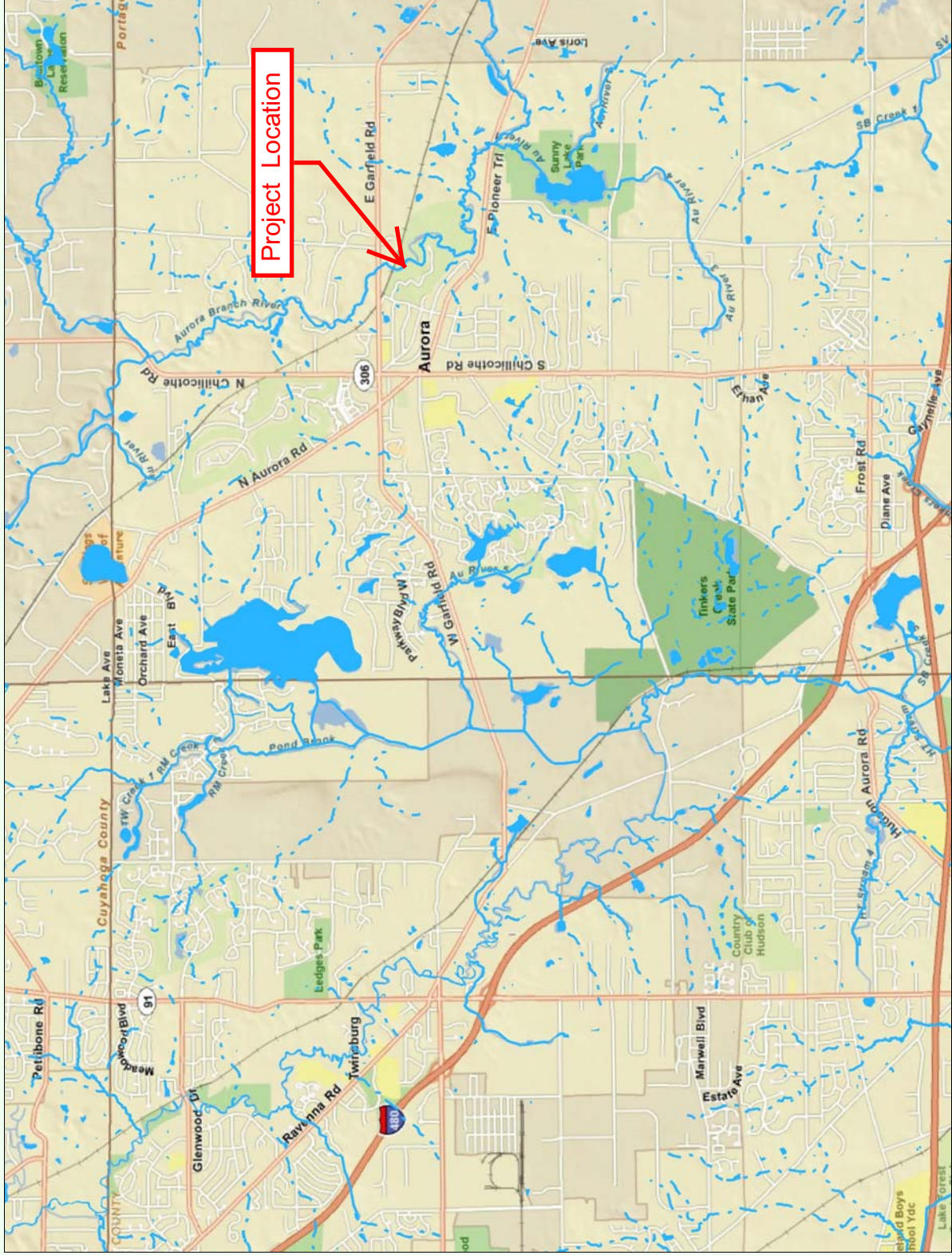
**Topographic Map**

**Attainment Map**

**Protected Properties Map**

**Chagrin River Watershed Balanced Growth Plan Map  
of Priority Conservation Areas and  
Priority Development Areas in the City of Aurora**

# Aurora Audubon Expansion General Location Map



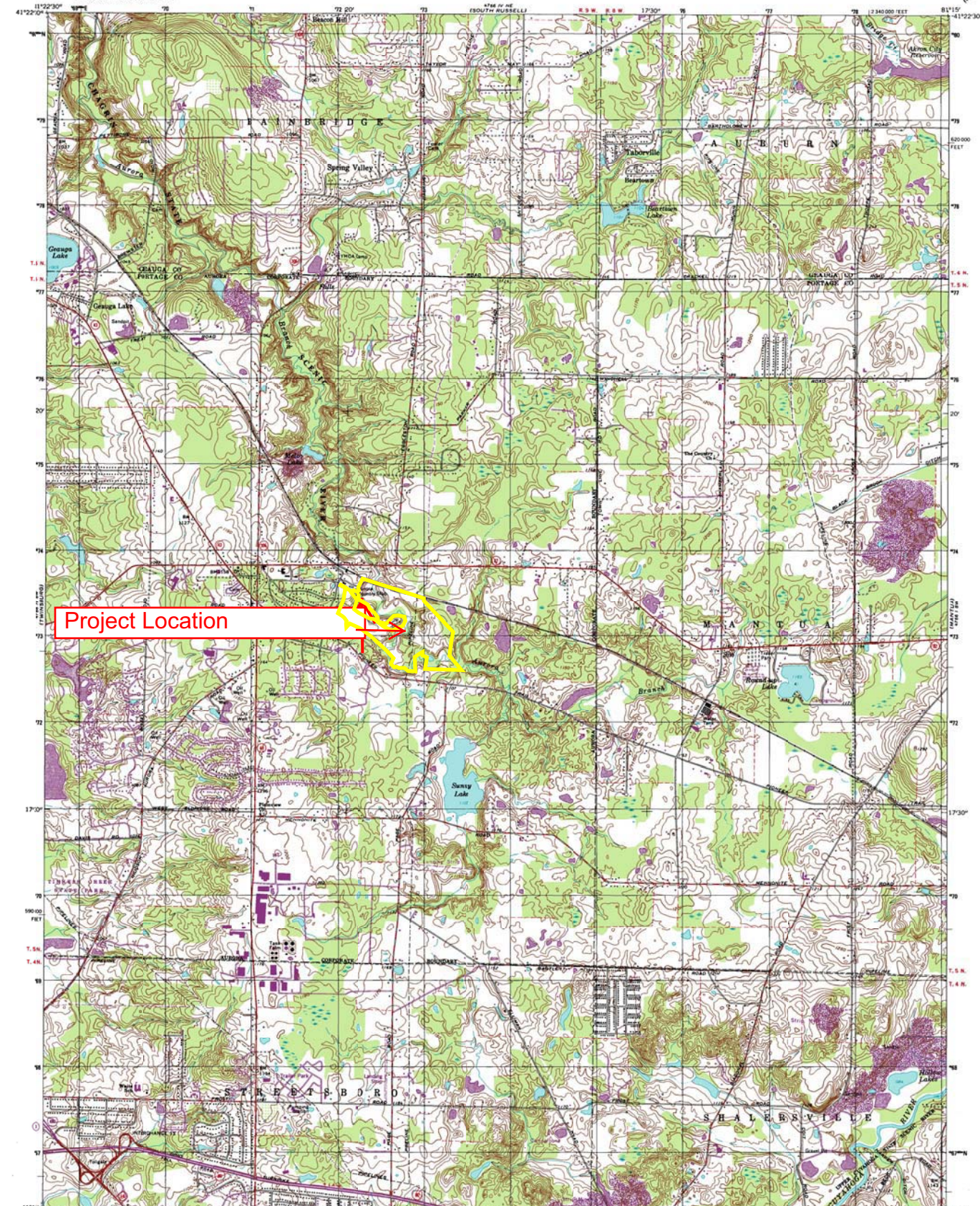
## Legend

- Detailed Waterbodies**
- Waterbody
  - Ditch/Canal
- Detailed Rivers / Streams**
- Stream
  - - - Intermittent Stream
  - Ditch/Canal
- World Street Map**



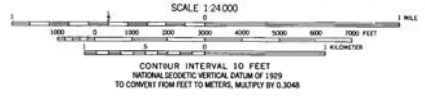
Map Notes:

0 1.33 2.7 Miles



Project Location

Produced by the United States Geological Survey  
Topography compiled 1952. Planimeter derived from imagery taken 1952. Photoinspected using imagery dated 1994; no major culture or drainage changes observed. Survey control current as of 1952. Boundaries, other than corporate, unverified 1997  
North American Datum of 1983 (NAD 83). Projection and 10 000-foot ticks: Ohio coordinate system, north zone  
Lambert conformal conic  
1000-meter Universal Transverse Mercator grid, zone 17  
North American Datum of 1983 (NAD 83) is shown by dashed corner ticks. The values of the shift between NAD 27 and NAD 83 for 7.5-minute intersections are obtained from National Geologic Survey NADCON software  
Cities and areas within the Connecticut Western Reserve. Land lines established by private subdivision of the Connecticut Western Reserve  
There may be private subdivisions within the boundaries of the National or State reservations shown on this map  
Information shown in purple may not meet USGS content standards and may conflict with previously mapped contours



ROAD CLASSIFICATION

Primary highway, hard surface	Light-duty road, hard or improved surface
Secondary highway, hard surface	Unimproved road
Interstate Route	U. S. Route
	State Route

AURORA, OHIO

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS FOR SALE BY U.S. GEOLOGICAL SURVEY, P.O. BOX 25086, DENVER, COLORADO 80225. A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST.

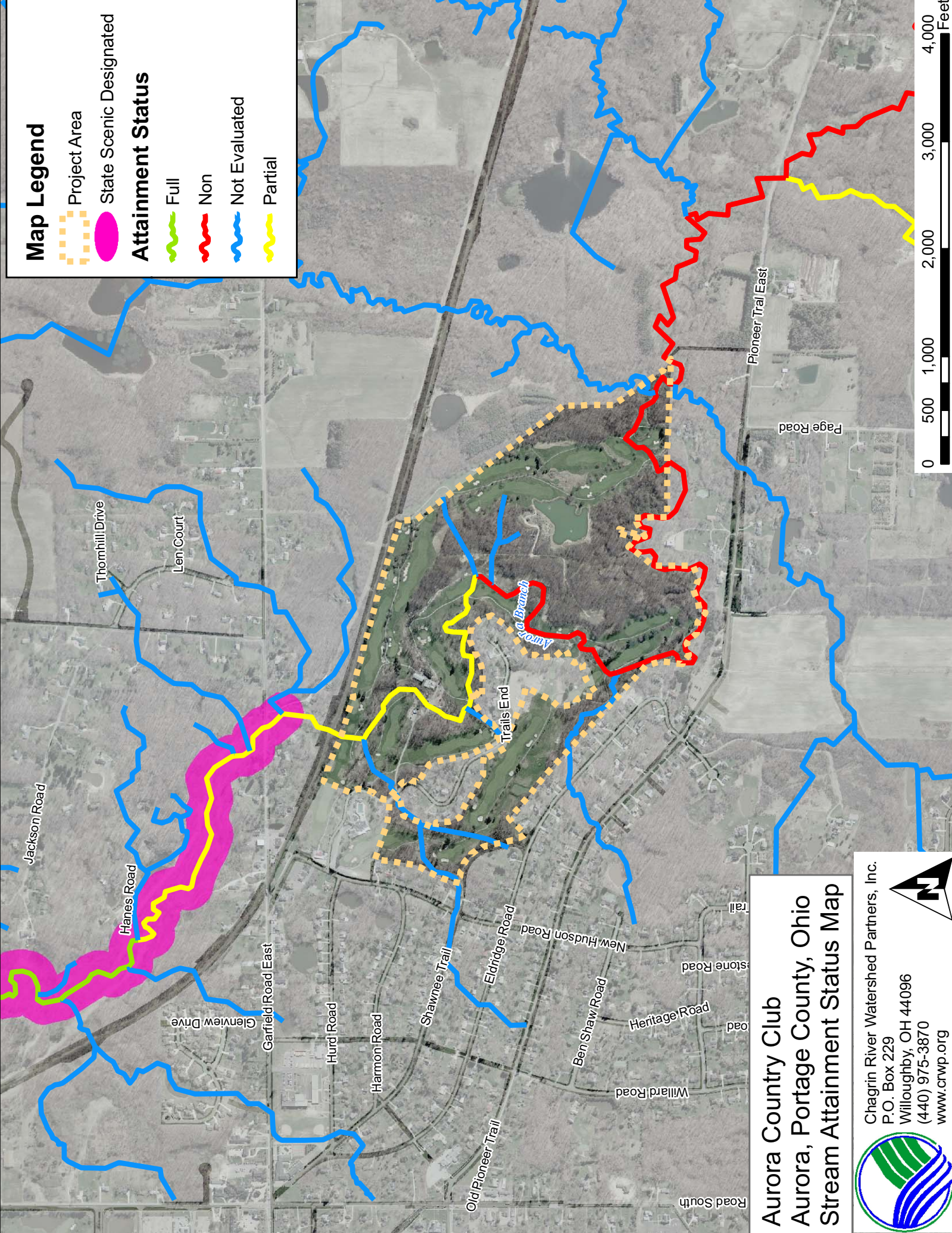
1994  
DMA 4786 IV 81-SERIES 9892






# Map Legend


- Project Area
- State Scenic Designated
- Attainment Status
  - Full
  - Non
  - Not Evaluated
  - Partial

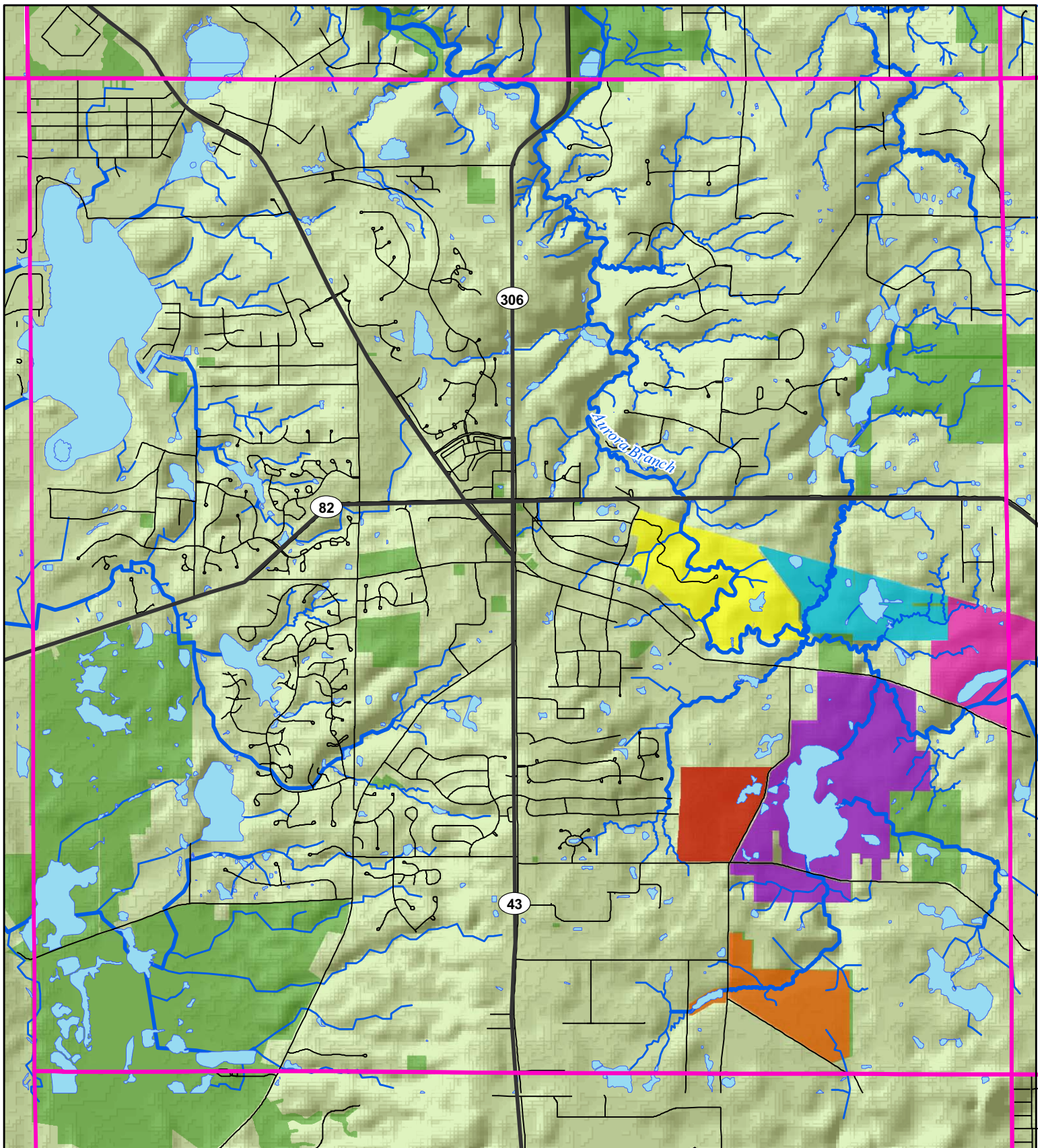


**Aurora Country Club**  
**Aurora, Portage County, Ohio**  
**Stream Attainment Status Map**







Chagrin River Watershed Partners, Inc.  
P.O. Box 229  
Willoughby, OH 44096  
(440) 975-3870  
[www.crwpp.org](http://www.crwpp.org)



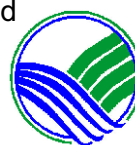
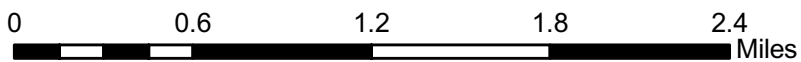


### Protected Lands within the City of Aurora

-  Other Parks, Conserved Land, & City-Owned Vacant Properties
-  Audubon Aurora Sanctuary
-  Audubon Molnar Sanctuary

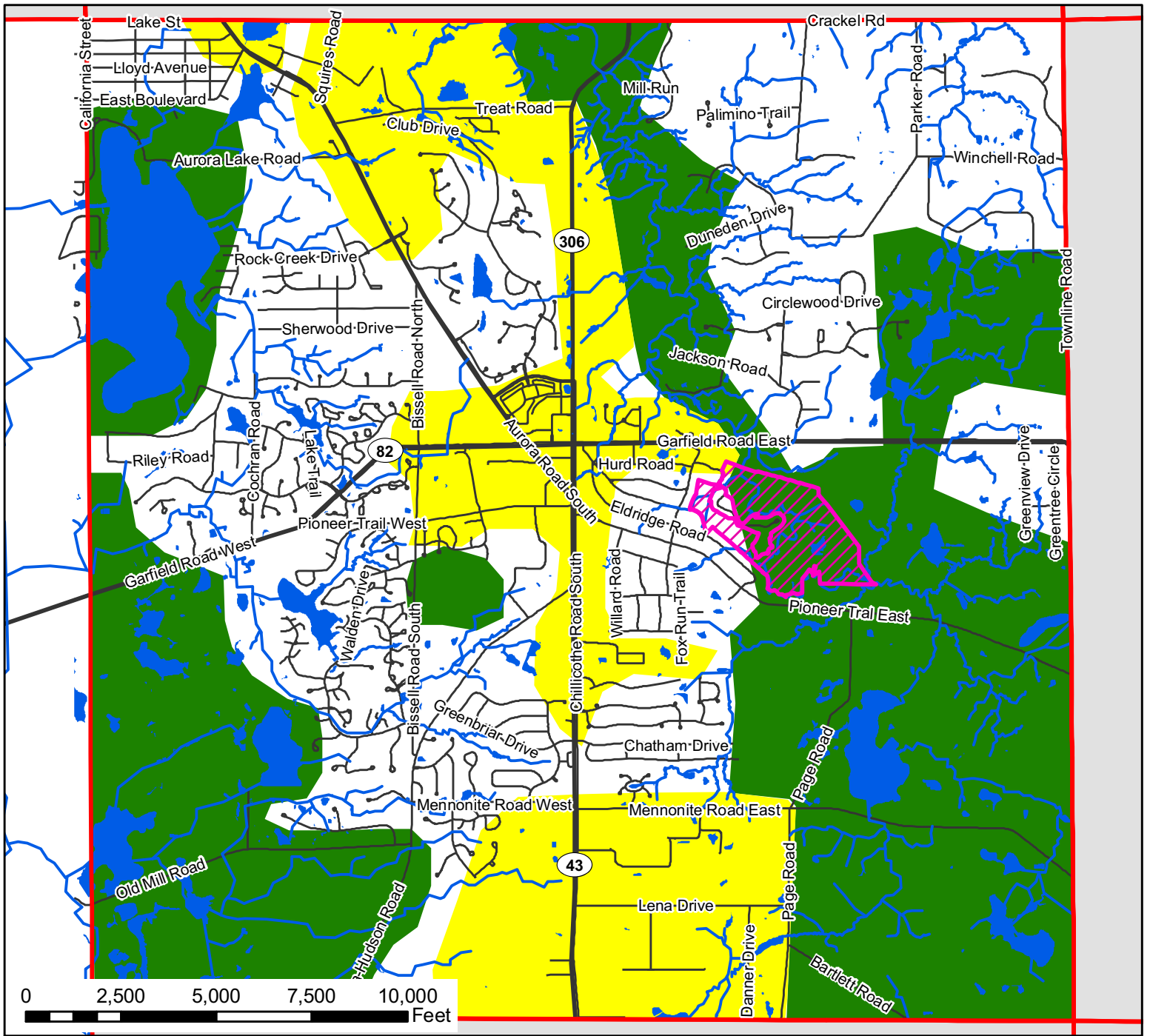
-  Spring Hill Wetlands
-  Harmon Homestead
-  Sunny Lake

-  Aurora Country Club



Chagrin River Watershed Partners, Inc.  
 P.O. Box 229  
 Willoughby, OH 44094  
 (440) 975-3870  
[www.crowp.org](http://www.crowp.org)



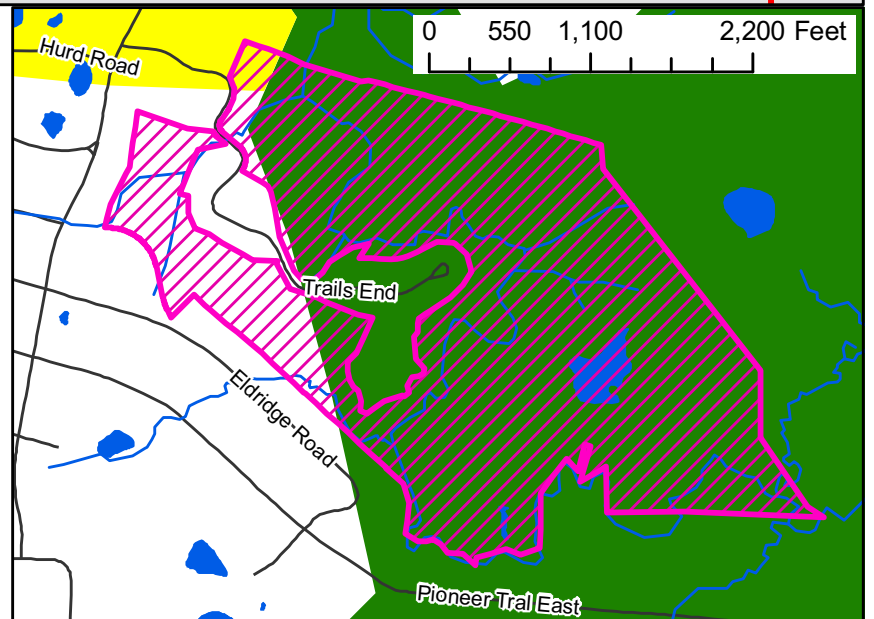


## City of Aurora PCA/PDAs

-  Project Area
-  Municipal Boundaries
-  Rivers and Streams
-  PDAs
-  PCAs



Chagrin River Watershed Partners, Inc.  
 P.O. Box 229  
 Willoughby, OH 44124  
 (440) 975-3870  
 www.crw.org



# **Exhibit B**

**Stream Restoration Concept Plan**

**Photographs of Existing Conditions**

**Wetland ORAMs**

# Restoration Concepts and Narrative for Aurora Country Club

## Current Conditions

The Chagrin River Watershed Action Plan (WAP) includes an extensive inventory of the water quality data for the Chagrin River and its tributaries. Based on the data from the inventory, the WAP details implementation measures to preserve, restore, and retrofit areas of the watershed to ensure the health and integrity of the Chagrin River. The Aurora Branch of the Chagrin River upstream of McFarland Creek (HUC 04110003-020-030) has been identified as being in partial and non attainment of WWH. Within this subwatershed, numerous pollution sources and problems have been attributed to wastewater treatment sources, point source discharges, stream bank modification, upstream impoundments, habitat alteration, drainage and filling of wetlands, and storm water runoff due to changing land use. Ohio EPA's Technical Support Document, "Biological and Water Quality Study of the Chagrin River and Selected Tributaries 2003-04" sampling noted "excess nutrients, sedimentation, and organic enrichment with possible periodic toxicity occurred in Aurora Branch due to impacts from small sewer treatment plants, Sunny Lake, or nonpoint source inputs (urban runoff from storm sewers or septic tanks. This study further noted that 42% of sites in the Aurora Branch were impaired which was a slight improvement compared to 60% during 1995 survey. Page 86 of this report states "Most of the problems facing the Chagrin basin are found within the hydrologic unit comprising the watershed upstream from and including the Aurora Branch. Channelization of the Chagrin River headwaters, organic enrichment of the Aurora Branch, and toxicity from algal blooms in Sunny Lake are the main problems."

Since the 2003-2004 sampling, the City of Aurora has completed several projects to improve water quality in the Aurora Branch, including preservation of the Spring Hill Wetlands Property (2010 WRRSP), Harmon Homestead Restoration Project (2011 319 Project, construction slated for summer 2012), implementation of recommendations from the Save Sunny Lake Committee final report from June 2007 (<http://www.auroraoh.com/combds/savesunnylake/Save%20Sunny%20Lake%20Committee%20Minutes/2007%20Minutes/Final%20Report%20-%20Save%20Sunny%20Lake%20Park%20Committee.pdf>). Recommendations from this report that have been implemented include:

- Stabilize Sunny Lake Shoreline.
- Drain lake and remove carp, grass carp, and bluegill from the lake.
- Restore the southern tributary to Sunny Lake. Funding received to restore upstream segments on the Harmon Property.
- Evaluate the restroom facilities at Sunny Lake Park. Sanitary sewer was extended to serve this facility.

On the Aurora Country Club property, the Aurora Branch of the Chagrin River has been identified as being in partial and non attainment. This portion of stream is approximately 8,300 linear feet and confined within the Aurora Country Club property. The City of Aurora and the Trust for Public Land are investigating the purchase of this property (approximately 186 acres) to restore forest connectivity, reduce non-point source stormwater pollution, and to remove impoundments within the Aurora Branch of the Chagrin River.

The total project area for this restoration and protection project is approximately 186 acres. Currently there are 15 acres of category 2 and 3 wetlands, 5,800 linear feet of headwater stream and 8,300 linear feet of the Aurora Branch of the Chagrin River.

## Proposed Restoration

This project will restore an additional 900 linear feet of headwater stream, remove one dam, restore 3,500 linear feet of the Aurora Branch of the Chagrin River, and 33 acres of forested riparian corridor and floodplain. The conceptual restoration plan is attached in Exhibit B.

Restoration efforts will focus on restoring a natural stream corridor through bioengineering on streambanks, removal of tile, current structures, and steel sheet pile, . Restoring the riparian area to native woodland will help shade the Aurora Branch, stabilize the banks, prevent erosion, control runoff, and significantly reduce the amounts of nutrients and other chemicals from entering the stream.

The conceptual restoration plan focuses on four specific tasks detailed below: planning and design; ; dam removal and headwater stream restoration, Aurora Branch of Chagrin River restoration; and riparian restoration. The objectives for this restoration project include:

- Convert 33 acres of existing golf course turf to forest floodplain and riparian corridor.
- Restore 350 linear feet of headwater stream by removing fill and tile drainage in existing fairway.
- Remove 1 dam and restore 550 linear feet of headwater stream in area of existing upland impoundment.
- Stabilize stream banks and restore floodplain connectivity on over 3,500 linear feet of the mainstem of the Aurora Branch of the Chagrin River.

## Task 1: Planning, Design, Engineering, Permitting, Monitoring and Project Oversight

For planning and design purposes, the project site will be carefully studied. Natural resources currently existing on the site will be inventoried and evaluated in an effort to preserve and enhance high quality wetlands, identify non-desirable

vegetation, locate in-stream impairments and obstructions, and develop a detailed restoration and management plan. Coordination with federal, state, and local governing agencies will be necessary to prepare the restoration and management plan, and the appropriate level and type of permits will be identified and secured as part of Task 1. Detailed surveys, wetland delineation, geomorphic survey, hydrological studies, post construction monitoring, and the involvement of a professional engineer are all accounted for in this figure. The City of Aurora will also contract with the Chagrin River Watershed Partners, Inc. (CRWP) to assist with project oversight, review of final Restoration and Management Plan, and implementation of the restoration activities (\$5,000 subcontract). CRWP has provided project management and oversight for other stream restoration projects in the Chagrin River watershed.

### **Task 2: Dam Removal and Headwater Stream Restoration using Natural Channel Design Concepts**

As noted in Exhibit B, two headwater streams are proposed for restoration. One stream is in the location of the existing pond. For this area, the dam is proposed to be breached and replaced with a restored stream channel using natural channel design concepts. The second stream restoration is proposed where the existing headwater stream is headcutting towards the fairway where several tile drains are discharging into the ravine. Removal of this impoundment and restoration of a natural stream channels will address the causes and sources of impairment including impoundments, hydromodification, nutrients, dissolved oxygen, and thermal modification.

### **Task 3: Aurora Branch Restoration – Estimated Cost**

Approximately 8,300 linear feet of the Aurora Branch of the Chagrin River flows through the Aurora Country Club property. This reach of stream contains 13 structures ranging from bridges for the cart path to a section of steel sheet pile, a flood overflow structure, and several rock check dams that impede natural channel morphology. This portion of the stream contains limited riparian buffer and is in partial and non attainment of its WWH stream designation.

The restoration plan includes removal of structures that impede natural stream morphology, removal of seven bridges and the flood overflow structure, and installation of rock riffle habitat structures. These structures will consist of natural stone appropriately sized for stream size and flow rates. These structures will provide in-stream habitat diversity, habitat for macroinvertebrates and fish, and aeration to the stream. In addition, these structures will prevent down-cutting and/or head-cutting that has occurred due to existing stream impoundments or that may occur during the removal of the impoundments. Approximately 3,500 linear feet of the Aurora Branch have direct channel modifications, modified stream banks on one or both sides of the stream, or are entrenched with little to no floodplain access. A detailed design will evaluate the stream channel morphology and stream bank treatments. Stream banks will be evaluated for erosion and stream bank height and may be lowered to facilitate floodplain connection or stabilized with bioengineering techniques such as root wads, branch layering, or willow posting. By connecting the stream to a vegetated floodplain and stabilizing stream banks, the water quality of the Aurora Branch will improve by addressing sources of impairment including hydromodification, siltation and thermal modification.

### **Task 4: Turf and Riparian Restoration – Estimated Cost**

Approximately 87 acres of turf exists on the Aurora Country Club property. This turf has been maintained through mowing and fertilization, thus providing no water quality benefits to the Aurora Branch of the Chagrin River. Through restoration of a forested floodplain and riparian corridor and allowing upland area to go through a natural meadow succession, this turf area will be transformed to provide riparian habitat and floodplain benefits that are currently lacking.

As shown on the conceptual plan, approximately 33 acres of riparian corridor will be planted with native trees and shrubs. This area includes the entirety of the 100 year floodplain along the Aurora Branch of Chagrin River where existing shrubs and trees are not present. These plants include but are not limited to the following shrubs, and trees:

- Redosier Dogwood (*Cornus stolonifera*)
- Grey Stem Dogwood (*Cornus racemosa*)
- Silky Dogwood (*Cornus amomum*)
- Green Twig Dogwood (*Cornus rugosa*)
- Sandbar Willow (*Salix interior*)
- Dwarf Willow (*Salix x cottetii*)
- Purpleosier Willow (*Salix purpurea*)
- Bottonbush (*Cephalanthus occidentalis*)
- Eastern Cottonwood (*Populus deltoides*)
- Silver Maple (*Acer saccharinum*)
- American sycamore (*Platanus occidentalis*)
- Shagbark Hickory (*Carya ovata*)
- Hackberry (*Celtis occidentalis*)
- Black Willow (*Salix nigra*)

Restoring the forested floodplain and riparian corridor will assist with exclusion of geese, eliminate fertilizer and herbicide runoff, and reduce sediment loads, all of which contribute to increased bacteria levels and algal blooms within the Aurora Branch of the Chagrin River.

## Project Timeline

The proposed timeline includes a general description and timeline activities that will need to be completed in order to ensure project success.

1. **Contract with qualified stream restoration consultant to develop a full restoration and planting plan:** The City of Aurora will hire a contractor assist with the design and permitting of a fully developed riparian corridor and stream restoration plan. Contractor selection and review of developed plans must meet the requirements and expectations of Ohio EPA, NEORSD, City of Aurora, and CRWP. Aurora will contract with consultant in April 2012 and submit draft plans to partners for review and comment in August 2012.
2. **Permit Coordination:** October 2012  
The City of Aurora and selected contractor will coordinate with agencies during the restoration and planting plan and obtain any necessary permits.
3. **Stream and riparian restoration activities:** May 2013 – October 2013
  - Restoration activities to be completed.
4. **Monitoring:** First Annual Report submitted January 2014 with yearly reporting as required
  - Complete full biological monitoring

## Proposed Restoration Budget










The following budget table details the restoration budget including oversight and coordination completed by CRWP.

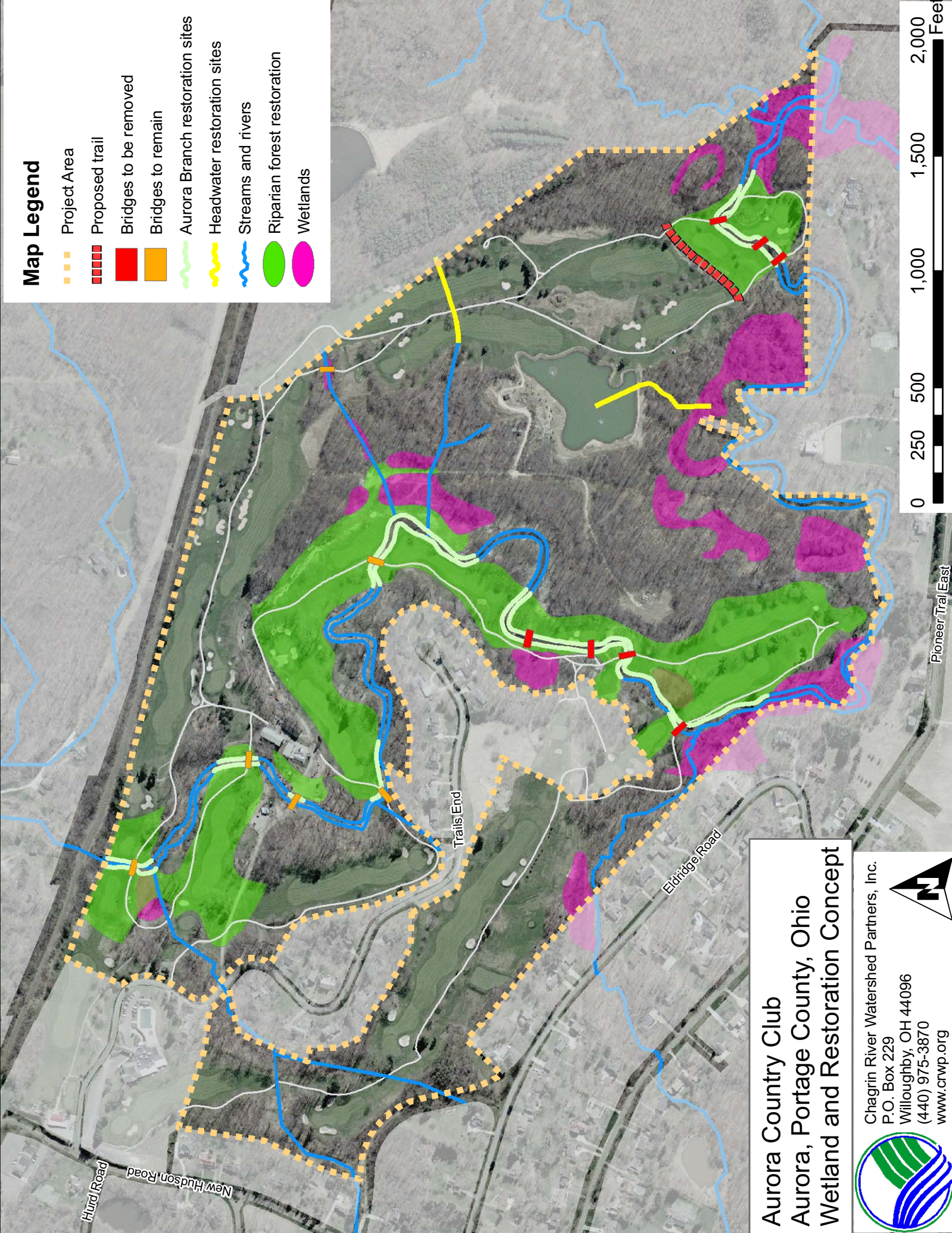
Design	1 Design	Lump Sum	\$80,000	Design Subcontractor
Project Management and Technical Assistance	150 hours	\$33.33/hour	\$5,000	Subcontract with CRWP to assist with grant management, development and review of restoration and planting plan, and education materials.
Dam Removal	1 Dam	\$75,000	\$75,000	Removal of Dam impoundment
Headwater Stream Restoration through Natural Channel Design	900 Linear feet	\$180/linear foot	\$162,000	Restore of 900 LF of natural Stream channel design through existing pond and fairway.
Stream bank restoration	6,300 linear feet	\$40/linear foot	\$252,000	Removal of non-natural materials from stream bank and stream bank restoration and stabilization activities.
In Channel Restoration: Flood overflow structure and bridge and footer demolition	8 structures	\$1,500/structure	\$12,000	Removal of 7 bridges and 1 overflow structure
In Channel Restoration: Rock Riffle Construction	12 structures	\$2,000/structure	\$24,000	Installation of in stream rock riffle structures to provide grade control and habitat features
Riparian and floodplain restoration	33 acres	\$5,000/acre	\$165,000	Riparian and floodplain planting with native trees and shrubs.
		<u>TOTAL</u>	<u>\$ 775,000</u>	

## Summary


Each of the components of this proposed restoration plan in concert with the work already completed or proposed by the City of Aurora will address the causes and sources of impairment and the WWH stream designation has a high probability of being attained. The restoration of a natural stream channel, removal of channel obstructions and impoundment, and riparian corridor with floodplain excavation and tile removal will improve water quality by recreating natural stream flow, moderating water temperature, increasing aquatic and terrestrial habitat, reducing sedimentation from stream bank erosion, and absorbing nutrient rich runoff. This project also implements recommendations in the State-endorsed *Chagrin River Watershed Action and Chagrin River Watershed Balanced Growth Plans* and the *Total Maximum Daily Loads for the Chagrin River*.

# Map Legend


-  Project Area
-  Proposed trail
-  Bridges to be removed
-  Bridges to remain
-  Aurora Branch restoration sites
-  Headwater restoration sites
-  Streams and rivers
-  Riparian forest restoration
-  Wetlands



**Aurora Country Club**  
**Aurora, Portage County, Ohio**  
**Wetland and Restoration Concept**



Chagrin River Watershed Partners, Inc.  
 P.O. Box 229  
 Willoughby, OH 44096  
 (440) 975-3870  
[www.crwpp.org](http://www.crwpp.org)





**Photographs of Existing Site Conditions:**



Photographs of Existing Site Conditions (cont.):



**Photographs of Existing Site Conditions (cont.):**



**Photographs of Existing Site Conditions (cont.):**





August 12, 2010

Corporate Headquarters

1500 North Mantua Street

P.O. Box 5193

Kent, OH 44240-5193

330•673•5685

Toll Free 1•800•828•8312

FAX: 330•673•0860

**Kim Kimlin**  
Field Representative  
The Trust for Public Land - Ohio Office  
1422 Euclid Avenue, Suite 340  
Cleveland, Ohio 44115

RE: *Ohio Rapid Assessment Method (ORAM) Forms*—Aurora Country Club,  
Aurora, Ohio

Dear Ms. Kimlin:

Enclosed are Ohio Rapid Assessment Method (ORAM) forms for the Aurora Country Club. I visited the site on August 9, 2010. Two potential Category 3 wetlands (Wetlands A and B) were identified. The general size and location of these wetlands based on my field visit as well as aerial photointerpretation is shown on the enclosed map. Also enclosed are photographs of Wetlands A and B as well as general site photographs.

Other wetlands are shown on the map; these are not potential Category 3 wetlands. Recent logging of the site has significantly reduced the ORAM score of all wetlands on the site. Although not Category 3 wetlands, these wetlands still provide important functions such as cleansing of surface water runoff from the golf course before it reaches the river.

Following is a description of each potential Category 3 wetland:

**Wetland A.** Wetland A is a complex of lowland woods and scrub/shrub wetlands within the floodplain of the Aurora Branch Chagrin River. Because this wetland contains shrubs and smaller trees, it has escaped some of the logging damage. This wetland contains diverse, well-developed plant communities and provides an important buffer between the golf course and river. Wetland A scored 62.5 on the ORAM form, placing it between Category 2 and 3. The Ohio Environmental Protection Agency (EPA) considers wetlands falling between Category 2 and 3 to be Category 3 wetlands.

**Wetland B.** Wetland B is similar to Wetland A and contains a mixture of trees and shrubs along the river. There are also small upland areas included in this wetland. Wetland B also provides an important natural buffer between the golf course and adjacent residential areas and the river. Wetland B scored 61.5 on the ORAM, placing it between Category 2 and Category 3, which is assumed to be Category 3 by Ohio EPA.

Kim Kimlin  
Field Representative  
August 12, 2010  
Page 2.

The Aurora Branch Chagrin River flows through this property. This is an important component of the headwaters of the Chagrin River. The Aurora Branch is designated as an Ohio scenic river from State Route 82 north, which is just downstream from the Aurora Country Club.

It has been a pleasure assisting you with this project. If you have any questions, please call me at 330-673-5685, ext. 8033. Thank you.

Sincerely,



Todd Crandall, Senior Wetlands Biologist  
Natural Resource Consulting

Enclosures

## Photographs

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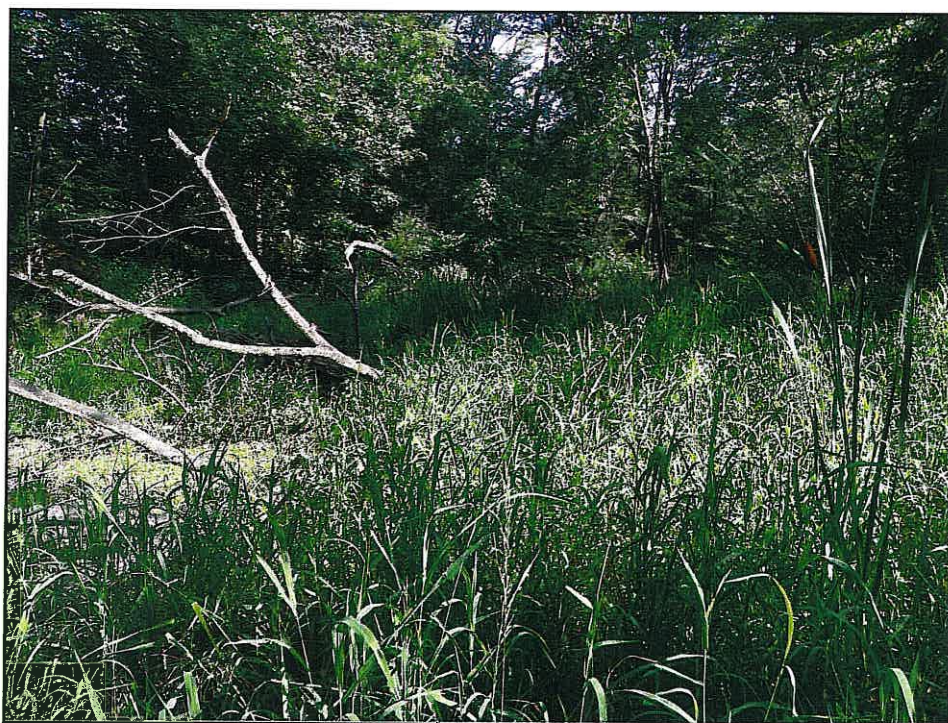
**Photograph 1 (8-9-10).** The Aurora Branch Chagrin River flows through the property. Some areas have a natural riparian corridor and associated wetlands.



**Photograph 2 (8-9-10).** This is another view of the Aurora Branch Chagrin River showing a natural riparian area.



**Photograph 3 (8-9-10).** Wetland A contains scrub/shrub wetlands.



**Photograph 4 (8-9-10).** Wetland B is a large wetland associated with the Aurora Branch Chagrin River.





**Photograph 5 (8-9-10).** There are several small streams with associated wetlands on the property.

## Background Information Form

<b>Name:</b>	Todd Crandall	<b>Date:</b>	August 9, 2010
<b>Affiliation:</b>	Davey Resource Group		
<b>User Address:</b>	1500 North Mantua Street, Kent, Ohio 44240		
<b>Phone:</b>	1-800-828-8312		
<b>e-mail address</b>	<a href="mailto:Todd.Crandall@davey.com">Todd.Crandall@davey.com</a>		
<b>Wetlands Name</b>	Wetland A		
<b>Location of Wetlands including address if available</b>	Aurora Country Club, Aurora, Ohio		
		<b>Sources of information used (check all that apply)</b>	
UTM		Site Visit	<input checked="" type="checkbox"/>
USGS Quad	Aurora	USGS Topo	<input checked="" type="checkbox"/>
Hydrologic Unit Code	4110003	NWI Map	<input checked="" type="checkbox"/>
Wetland Size (acres)	> 3 acres	OWI Map	<input type="checkbox"/>
<b>How was size estimated?</b>  Wetlands Assessment		Aerial Photo	<input checked="" type="checkbox"/>
		Soil Survey	<input checked="" type="checkbox"/>
		ODNR - DNAP	<input checked="" type="checkbox"/>
		Delineation Report/Map	<input checked="" type="checkbox"/>
<b>Photograph</b> See Attached Photographs			
See Attached Photographs			
final score:	62.5	Provisional Wetland Category:	Category 2 or 3

### Narrative Rating Questions

<b>Name:</b> Todd Crandall	<b>Date:</b> August 9, 2010
<b>Wetlands Name</b> Wetland A	

<b>1: Critical Habitat</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>2: Threatened or Endangered Species</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>3: Documented High Quality Wetland</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>4: Significant Breeding or Concentration Area (waterfowl)</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>5: Category 1 Wetlands (hydrologically isolated)</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>6: Bogs</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>7: Fens</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>8a: "Old Growth Forest"</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>8b: Mature Forested Wetlands</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>9a: Lake Erie Coastal and Tributary Wetlands</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>9b: Hydrology result of Erosion Control Measures (Lake Erie)</b>	<input type="checkbox"/> NO	<input type="checkbox"/> YES
<b>9c: Hydrology unrestricted</b>	<input type="checkbox"/> NO	<input type="checkbox"/> YES
<b>9d: Native Species Predominate</b>	<input type="checkbox"/> NO	<input type="checkbox"/> YES
<b>9e: Non-native Species Predominate</b>	<input type="checkbox"/> NO	<input type="checkbox"/> YES
<b>10: Oak Openings</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>11: Relict Wet Prairies</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES

<b>Site:</b> Aurora Country Club, Aurora, Ohio	<b>Date:</b> August 9, 2010
<b>Wetlands:</b> Wetland A	<b>Rater:</b> Todd Crandall

3	3
Subtotal	Points

**Metric 1. Wetland Area (size). (max 6 pts)**

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

14	11
Subtotal	Points

**Metric 2. Upland buffers and surrounding land use. (max 14 pts)**

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

36.5	22.5
Subtotal	Points

**Metric 3. Hydrology. (max 30 pts)**

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> dike	<input type="checkbox"/> filling/grading
<input type="checkbox"/> tile	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other- list

51.5	15
Subtotal	Points

**Metric 4. Habitat Alteration and Development. (max 20 pts.)**

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

51.5 subtotal this page

<b>Site:</b> Aurora Country Club, Aurora, Ohio	<b>Date:</b> August 9, 2010
<b>Wetland:</b> Wetland A	<b>Rater:</b> Todd Crandall

51.5 subtotal first page

51.5	0
Subtotal	Points

**Metric 5. Special Wetlands. (max 10 pts.)**

*Check all that apply and score as indicated*

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

62.5	11
Subtotal	Points

**Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)**

**6a. Wetland Vegetation Communities**

Score all present using 0 to 3 scale

- Aquatic bed
- 1 Emergent
- 2 Shrub
- 1 Forest
- Mudflats
- Open water
- Other (list)

**6b. Horizontal (plan view) interspersions**

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

**6c. Coverage of invasive plants.**

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

**6d. Microtopography**

Score all present using 0 to 3 scale

- 1 Vegetated hummocks/tussocks
- 2 Coarse woody debris >15 cm (6")
- Standing dead > 25 cm (10") dbh
- 2 Amphibian breeding pools

**Vegetation Community Cover Scale**

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

**Narrative Description of Vegetation Quality**

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

**Mudflat and Open Water Class Quality**

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

**Microtopography Cover Scale**

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

**62.5 GRAND TOTAL (max 100 pts)**

Provisional Wetland Category: Category 2 or 3

## SCORING BOUNDARY WORKSHEET

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries". For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Unit if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in Properly Establishing Scoring Boundaries	Done?	Not Applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a mitigation site, conservation site, etc.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be related such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, <i>i.e.</i> , areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc. are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		x
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

### Background Information Form

<b>Name:</b>	Todd Crandall	<b>Date:</b>	August 9, 2010
<b>Affiliation:</b>	Davey Resource Group		
<b>User Address:</b>	1500 North Mantua Street, Kent, Ohio 44240		
<b>Phone:</b>	1-800-828-8312		
<b>e-mail address</b>	<a href="mailto:Todd.Crandall@davey.com">Todd.Crandall@davey.com</a>		
<b>Wetlands Name</b>	Wetland B		
<b>Location of Wetlands including address if available</b>	Aurora Country Club, Aurora, Ohio		
		<b>Sources of information used (check all that apply)</b>	
UTM		Site Visit	<input checked="" type="checkbox"/>
USGS Quad	Aurora	USGS Topo	<input checked="" type="checkbox"/>
Hydrologic Unit Code	4110003	NWI Map	<input checked="" type="checkbox"/>
Wetland Size (acres)	> 3 acres	OWI Map	<input type="checkbox"/>
<b>How was size estimated?</b>  Wetlands Assessment		Aerial Photo	<input checked="" type="checkbox"/>
		Soil Survey	<input checked="" type="checkbox"/>
		ODNR - DNAP	<input checked="" type="checkbox"/>
		Delineation Report/Map	<input checked="" type="checkbox"/>
<b>Photograph</b> See Attached Photographs			
See Attached Photographs			
final score:	61.5	Provisional Wetland Category:	Category 2 or 3

### Narrative Rating Questions

<b>Name:</b> Todd Crandall	<b>Date:</b> August 9, 2010
<b>Wetlands Name</b> Wetland B	

<b>1: Critical Habitat</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>2: Threatened or Endangered Species</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>3: Documented High Quality Wetland</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>4: Significant Breeding or Concentration Area (waterfowl)</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>5: Category 1 Wetlands (hydrologically isolated)</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>6: Bogs</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>7: Fens</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>8a: "Old Growth Forest"</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>8b: Mature Forested Wetlands</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>9a: Lake Erie Coastal and Tributary Wetlands</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>9b: Hydrology result of Erosion Control Measures (Lake Erie)</b>	<input type="checkbox"/> NO	<input type="checkbox"/> YES
<b>9c: Hydrology unrestricted</b>	<input type="checkbox"/> NO	<input type="checkbox"/> YES
<b>9d: Native Species Predominate</b>	<input type="checkbox"/> NO	<input type="checkbox"/> YES
<b>9e: Non-native Species Predominate</b>	<input type="checkbox"/> NO	<input type="checkbox"/> YES
<b>10: Oak Openings</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<b>11: Relict Wet Prairies</b>	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES



<b>Site:</b> Aurora Country Club, Aurora, Ohio	<b>Date:</b> August 9, 2010
<b>Wetlands:</b> Wetland B	<b>Rater:</b> Todd Crandall

3	3
Subtotal Points	

**Metric 1. Wetland Area (size). (max 6 pts)**

*Select one size class and assign score.*

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

14	11
Subtotal Points	

**Metric 2. Upland buffers and surrounding land use. (max 14 pts)**

*2a. Calculate average buffer width (select one, do not double check)*

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

*2b. Intensity of surrounding land use (select one or double check & average)*

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

35.5	21.5
Subtotal Points	

**Metric 3. Hydrology. (max 30 pts)**

*3a. Sources of Water. Score all that apply.*

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

*3d. Duration inundation/saturation.*

*(select one or double check & average)*

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

*3b. Connectivity. Score all that apply.*

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

*3e. Modifications to natural hydrologic regime.*

*(select one or double check & average)*

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

*3c. Maximum water depth. Select only 1.*

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> dike	<input type="checkbox"/> filling/grading
<input type="checkbox"/> tile	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other- list

50.5	15
Subtotal Points	

**Metric 4. Habitat Alteration and Development. (max 20 pts.)**

*4a. Substrate disturbance. Score one or double check and average.*

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

*4c. Habitat alteration. Score one or double check and average.*

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

*4b. Habitat development. Select one.*

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

50.5	subtotal this page
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<b>Site:</b> Aurora Country Club, Aurora, Ohio	<b>Date:</b> August 9, 2010
<b>Wetland:</b> Wetland B	<b>Rater:</b> Todd Crandall

50.5 subtotal first page

50.5	0
Subtotal	Points

**Metric 5. Special Wetlands. (max 10 pts.)**

*Check all that apply and score as indicated*

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

61.5	11
Subtotal	Points

**Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)**

**6a. Wetland Vegetation Communities**

Score all present using 0 to 3 scale

- Aquatic bed
- 1 Emergent
- 2 Shrub
- 1 Forest
- Mudflats
- Open water
- Other (list)

**6b. Horizontal (plan view) interspersions**

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

**6c. Coverage of invasive plants.**

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

**6d. Microtopography**

Score all present using 0 to 3 scale

- 1 Vegetated hummocks/tussocks
- 1 Coarse woody debris >15 cm (6")
- 1 Standing dead > 25 cm (10") dbh
- 1 Amphibian breeding pools

**Vegetation Community Cover Scale**

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

**Narrative Description of Vegetation Quality**

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

**Mudflat and Open Water Class Quality**

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

**Microtopography Cover Scale**

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

**61.5 GRAND TOTAL (max 100 pts)**

Provisional Wetland Category: Category 2 or 3

## SCORING BOUNDARY WORKSHEET

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries". For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Unit if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in Properly Establishing Scoring Boundaries	Done?	Not Applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a mitigation site, conservation site, etc.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be related such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, <i>i.e.</i> , areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc. are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		x
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

# **Exhibit C**

## **Biological Data**



# Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

## Division of Wildlife

James A. Marshall, Acting Chief

2045 Morse Rd., Bldg. G-3

Columbus, OH 43229-6693

Phone: (614) 265-6300

August 9, 2010

Kim Kimlin  
Trust for Public Land  
1422 Euclid Ave., Suite 340  
Cleveland, OH 44115

Dear Kim:

I have reviewed our Biodiversity Database maps and files for the Aurora Country Club project area, including a one mile radius, at 50 Trail End in Aurora, Portage County, and on the Aurora Quad. The numbers/letters on the list below correspond to the areas marked on the accompanying map. Common name, scientific name and status are given for each species.

### Aurora Quad

- A. Chagrin State Scenic River
- B. Novak Audubon Wildlife Sanctuary State Nature Preserve - Audubon Society of Greater Cleveland
- C. Aurora Sanctuary State Nature Preserve - Audubon Society of Greater Cleveland
- 1. *Wolffiella gladiata* - Wolffiella, potentially threatened
- 2. *Carex pallescens* - Pale Sedge, potentially threatened
- 3. *Wolffiella gladiata* - Wolffiella, potentially threatened
- 4. *Wolffiella gladiata* - Wolffiella, potentially threatened
- 5. *Potamogeton natans* - Floating Pondweed, potentially threatened
- 6. *Gentianopsis crinita* - Fringed Gentian, potentially threatened

If this project is located within 1000 feet of a state designated scenic river, the approval of the Director of ODNR may be required in accordance with Ohio Revised Code section 1517.16. Please contact Scenic River Program Manager Bob Gable at 614-265-6814 for further information.

We are unaware of any geologic features, animal assemblages, state wildlife areas, parks or forests, national wildlife refuges, parks or forests, or other protected natural areas within a one mile radius of the project area.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas.

Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

Debbie Woischke, Ecological Analyst  
Ohio Biodiversity Database Program



Aurora Quad,  
Portage Co.

BOUNDARY

CORPORATE

B

6

5

4

3

2

1

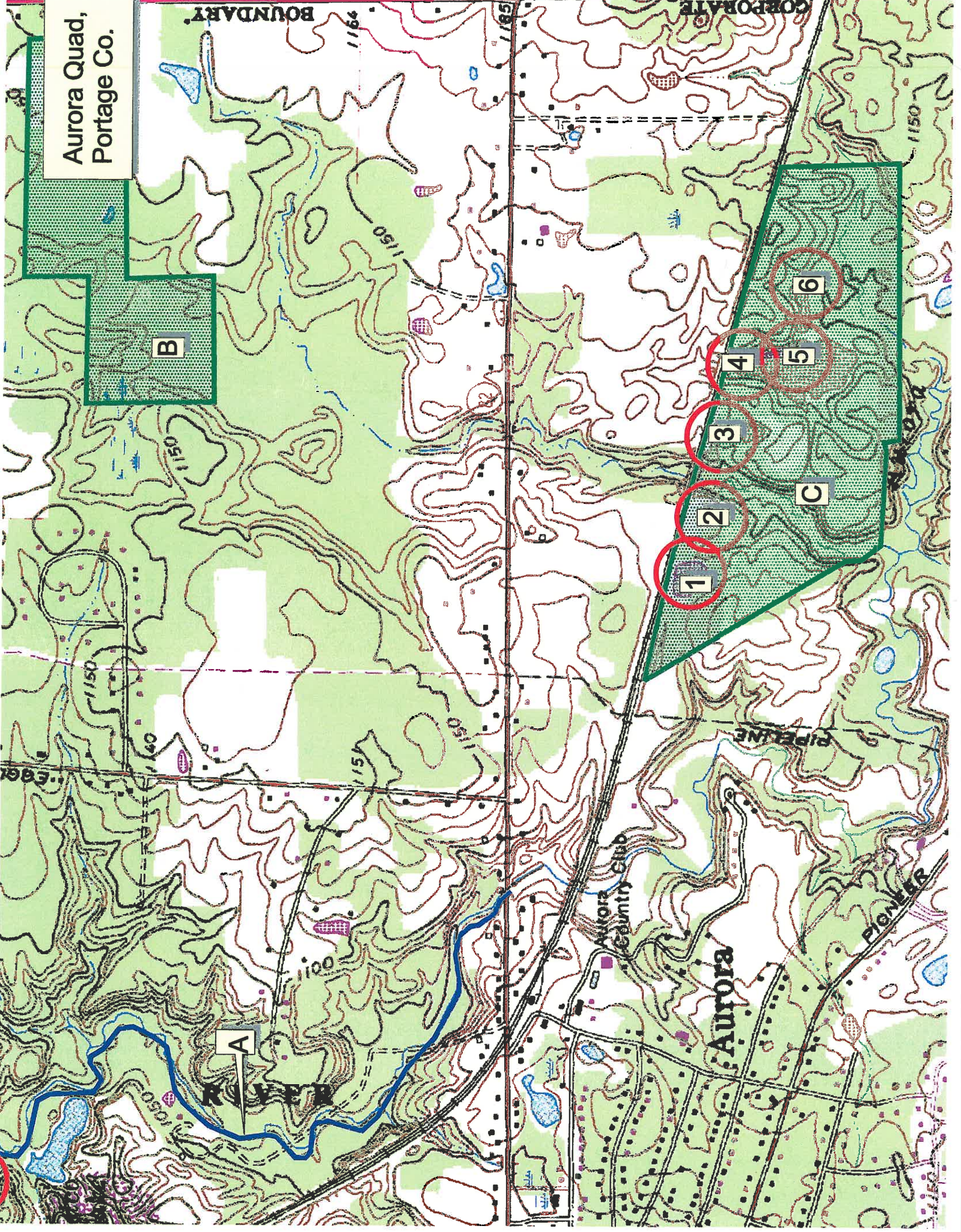
C

A

Aurora Club

Aurora

PIPELINE



# **Exhibit D**

## **Appraisal Summary**

**RESTRICTED USE  
APPRAISAL REPORT OF:**

**Aurora Recreation LLC Property  
Trails End  
Aurora, Portage County, Ohio  
PPN: 03-032-00-00-017-000 et al**

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**Value as of September 6, 2011**

**FOR**

**Mr. David Vasarhelyi  
Project Manager  
Trust for Public Land  
1422 Euclid Avenue - Suite 340  
Cleveland, Ohio 44115**

**PREPARED BY**

**Paul O. Van Curen  
Paul O. Van Curen & Co.  
12768 Chillicothe Road, 2<sup>nd</sup> Floor  
Chesterland, Ohio 44026**

**DATE**

**September 12, 2011**



**PAUL O. VAN CUREN & CO.**  
**Real Estate Appraisals & Consulting**  
**12768 Chillicothe Road 2<sup>nd</sup> Floor**  
**Chesterland, Ohio 44026**  
**440.729.0729 e-mail pvcco@aol.com**

**LETTER OF TRANSMITTAL**

**To:** Mr. David Vasarhelyi  
Project Manager  
Trust for Public Land  
1422 Euclid Avenue - Suite 340  
Cleveland, Ohio 44115

**Date:** September 12, 2011

**Property:** Aurora Recreation LLC Property  
Trails End  
Aurora, Portage County, Ohio  
PPN: 03-032-00-00-017-000 et al

After inspection of the above property, and based upon the facts and opinion contained in the attached report, it is the opinion of the undersigned that the market value of the property as described herein and subject to the assumptions, limitations and comments appearing in the report, as of **September 6, 2011**, is:

**THREE MILLION NINE HUNDRED THOUSAND DOLLARS**

**(\$3,900,000)**

**RESTRICTED USE  
APPRAISAL REPORT OF:**

**Aurora Recreation LLC Property  
Trails End  
Aurora, Portage County, Ohio  
PPN: 03-032-00-00-017-000 et al**

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**Identification/Property Description**

The property being appraised consists of part of the Aurora Golf Course, a public golf course, on the north, south, east and west sides of Trails End in the City of Aurora, Portage County, Ohio. As shown on the plot plan on the following page, the parcel is irregular in shape with frontages of about 842.99' on the east side of Trails End, about 170' on the west side of Trails End, about 562.37' on the north side of Trails End and about 364.53' on the south side of Trails End, a north line of about 2,600', a south line in many segments and an east line in 7 segments with an overall length of about 2,986.85'. Area is approximately 194.5 acres.

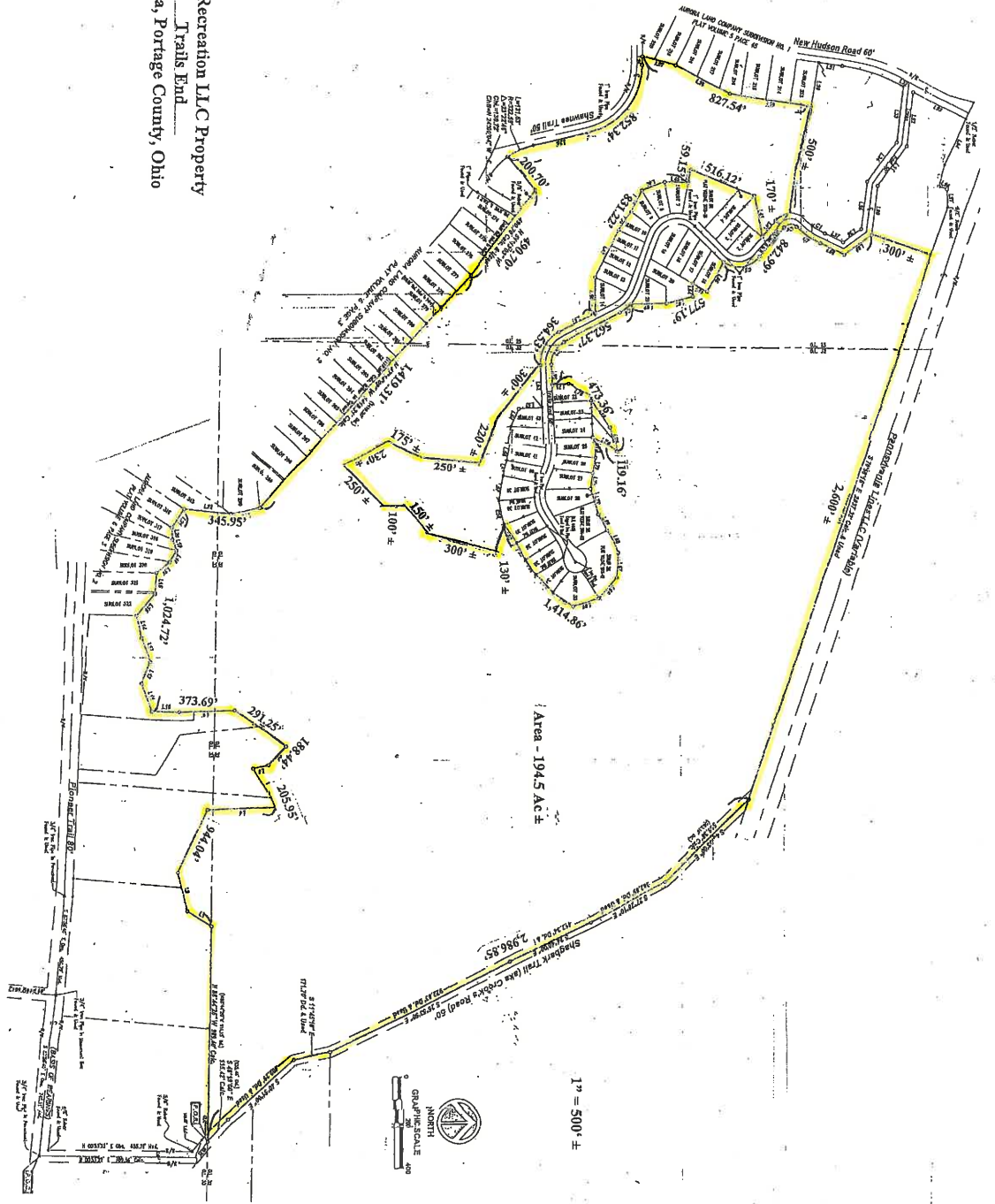
Permanent Parcel Number on Portage County records are 03-032-00-00-017-000 and 03-025-20-00-008-001 in the name of Aurora Recreation LLC, since 05/18/2009.

The subject parcel is rolling in topography and is very scenic, with the Aurora Branch of the Chagrin River meandering about 7,400' throughout the property. The subject property includes all of the golf holes except for the beginning of Hole 1 and the end of Hole 18. An approximately 3 acre lake is in the southeast part of the property. The property is generally wooded with the exception of the fairways.

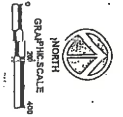
According to the FEMA Flood Insurance Rate Maps, most of the parcel is in a Zone C area of minimal flooding. Some of the low areas along the Aurora Branch of the Chagrin River are in Zone A 100 Year Flood Zone. A copy of the Portage County GIS Flood Zone map, which is based on the FEMA Flood Insurance Rate Map, is in the Addenda of this report.

PAUL O. VAN CUREN & CO.

Aurora Recreation LLC Property  
Trails End  
Aurora, Portage County, Ohio



1" = 500' ±



**Identification/Property Description (Continued)**

Improvements include a 1 story frame halfway house constructed in 1950 and with an area of 700 square feet (in average condition), a 1 story frame maintenance/office building constructed in 2002 and with an area of 4,000 square feet (in average to good condition), a 1 story frame pole barn/maintenance building constructed in 1985 and with an area of 3,200 square feet (in average condition), and a 1 story masonry maintenance building constructed in 1974 and with an area of 1,800 square feet (in average condition), and a small shelter. Land improvements include the (nearly) 18-hole golf course, including 9 various types of cart bridges (and one bridge for heavier equipment) over the Aurora Branch of the Chagrin River, asphalt cart paths, an irrigation/sprinkling system.

**Sales History**

The property last transferred on 05/18/2009 with a Deed of Receiver from Bill Frazier, solely in his capacity as court appointed Receiver for Aurora Golf & Country Club, Inc., and A.C.C., Inc., to Aurora Recreation LLC. The sale price was \$3,100,000. This was a sale out of receivership and was not an arm's length transaction. The property has not been listed for sale within the past 12 months.

### **Purpose, Use and Scope of the Appraisal**

This is a Restricted Appraisal Report which is intended to comply with the reporting requirements set forth under Standards Rule 2-2(c) of the Uniform Standards of Professional Appraisal Practice for a Restricted Appraisal Report. As such, it presents no discussions of the data, reasoning, and analyses that were used in the appraisal process to develop the appraiser's opinion of value. Supporting documentation concerning the data, reasoning, and analyses is retained in the appraiser's file. The depth of discussion contained in this report is specific to the needs of the client and for the intended use stated below. The appraiser is not responsible for unauthorized use of this report.

Purpose of this appraisal is to estimate the market value of the property, as of **September 6, 2011.**

The intended use of the appraisal is for sale purposes and grand funding. The intended user is the client, The Trust for Public Land.

To develop the opinion of value, the appraisers met all of the requirements of the Uniform Standards of Professional Appraisal Practice, and utilized all applicable approaches to value. We inspected the property and its environs on 09/06/2011, researched the market for sales and listings of comparable properties, researched public records and confirmed where possible the data gathered for analysis in the course of this appraisal. This appraisal assignment is within the appraiser's level of expertise and experience.

The property which is the subject of this appraisal consists only of real property.

## **Purpose, Use and Scope of the Appraisal (Continued)**

Market value is defined as:

"MARKET VALUE: Market value is the major focus of most real property appraisal assignments. Both economic and legal definitions of market value have been developed and refined. A current economic definition agreed upon by federal financial institutions in the United States of America is:

The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and seller are typically motivated;
2. Both parties are well informed or well advised, and acting in what they consider their best interests;
3. A reasonable time is allowed for exposure in the open market.
4. Payment is made in terms of cash in United States dollars or in terms of financial arrangements comparable thereto; and
5. The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.

Substitution of any other currency for United States dollars in the fourth condition is appropriate in other countries or in reports addressed to clients from other countries. Persons performing appraisal services that may be subject to litigation are cautioned to seek the exact legal definition of market value in the jurisdiction in which the services are being performed."<sup>3</sup>

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<sup>3</sup>

UNIFORM STANDARDS OF PROFESSIONAL APPRAISAL PRACTICE

## **Marketing and Exposure Time**

Marketing time is an estimate of how long it would take to sell an interest in real property after the date of an appraisal. Exposure time is an estimate of how long a property would have been on the market before the date of the appraisal. These concepts have been defined as follows:

Marketing time - "... is an estimate of the amount of time it might take to sell an interest in real property at its estimated market value during the period immediately after the effective date of the appraisal; the anticipated time required to expose the property to a pool of prospective purchasers and to allow appropriate time for negotiation, the exercise of due diligence, and the consummation of a sale at a price supportable by concurrent market conditions. Marketing time differs from exposure time, which is always presumed to precede the effective date of the appraisal."<sup>4</sup>

Exposure time is - "The estimated length of time the property interest being appraised would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of the appraisal, a retrospective estimate based upon an analysis of past events assuming a competitive and open market. Exposure time is always presumed to occur prior to the effective date of the appraisal. The overall concept of reasonable exposure encompasses not only adequate, sufficient and reasonable time but also adequate, sufficient, and reasonable effort. Exposure time is different for various types of real estate and value ranges and under various market conditions."<sup>5</sup>

The subject property is a net approximately 194.5 acre golf course that is zoned for single family residential use. The residential market has been slow, especially since the mortgage industry problem, beginning in 2007. If appropriately priced, we believe that both a marketing and exposure time of twelve (12) months is appropriate.

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<sup>4</sup> IBID.

<sup>5</sup> IBID.

## **Zoning, Utilities and Taxes**

The subject property is zoned R-2 Single Family Residential, which permits single family dwellings and some institutional uses. Minimum lot size is 3 acres, with a minimum width at the building line of 250'. Setbacks are 100' front, 50' side and 40' rear. Maximum height is 35'. Up to three lots can be accessed with a private drive.

Residential Conservation Development (i.e. cluster-type development) is a conditional use. The minimum project area is 25 acres. Minimum open space is 40%, with no more than 20% developed for recreation uses. The open space does not include roads, parking areas, driveways, setbacks, and small fragmented areas (less than 75' in any direction). Setbacks from existing public right-of-way are not less than 75'. Minimum separation from buildings is 20'. No structures can be located in the flood way, wetland, wetland buffer, or riparian buffer area. A buffer area of at least 20' width from all edges of wetlands is required and wetlands must be preserved in its natural state (no regarding or mowing, except as approved). No building can be constructed closer than 35' to a wetland. Riparian buffers of at least 50' are required along the banks of a river or perennial stream channel. Maximum overall number of dwelling units permitted in a residential conservation development shall be the statistical maximum density permitted in the district, provided that the Planning Commission may require a lower density based on site conditions and other provisions of this code. In this case, the density would be 3 acres per unit. Given the subject net area (in Aurora) of approximately 194.5 acres, the Residential Conservation Development option would allow up to 64 units on the subject property.

Available utilities include electric, city water, gas, telephone and storm/sanitary sewers. Trails End is a 2 lane asphalt surface with shoulders and roadside ditches.



**Zoning, Utilities and Taxes (Continued)**

2010 assessed tax information is:

Land	\$401,550
Building	<u>\$268,940</u>
Total	\$670,490

Annual Taxes \$37,282.20

Based on the 35% level of assessment, this indicates the county auditor's estimated market value of approximately \$1,915,700, which includes land and significant buildings which are not part of this appraisal.

**Highest and Best Use**

Highest and best use as though vacant is for single family residential development.

Highest and best use as improved is for a continuation of the present golf course use as an interim use until the real estate market improves, and then, for single family residential development.

**Valuation Conclusion**

Coming to the subject property, we are dealing with a public golf course with an area of approximately 194.5 acres. It has a very good location in the heart of Aurora, combined with very scenic settings overlooking about 7,400' of the Aurora Branch of the Chagrin River, and access to city water and sanitary sewer. In comparison with the above sales after adjusting for differences in time, location and physical characteristics, we value the subject property at \$20,000 per acre for the land with the buildings and improvements merged and included. Accordingly,

$$194.5 \text{ Acres @ } \$20,000 = \$3,890,000$$

Round To

**Valuation as of September 6, 2011 - \$3,900,000**